WATERS AND WETLANDS EVALUATION REPORT

For

County	Bryan & Marshall	JP Number	33873(04)	Project Number	J3-3873(004)
Road Number	US-70	Water Body Name		Lake Texoma	
ROW Date		Let Date	Not programmed	Project Length	4.45 Miles
Project General Location		5 miles east of Kingston, and 10 miles west of Durant, OK			
Project Statement		Bridge and Approaches on US-70 Over Lake Texoma (Roosevelt Bridge)			

Prepared for:
Oklahoma Department of Transportation
Environmental Programs Division
200 NE 21st Street
Oklahoma City, OK 73105

Prepared by:

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Company/Agency Name	Garver
Address	6100 S. Yale Avenue, Suite 1300
City, State Zip	Tulsa, Oklahoma 74136

Report Date:	February 4, 2022
Field Date:	December 1-2, 2021

PROJECT OVERVIEW

Project Type (Choose one)	**Check √**
Bridge and Approaches or bridge widening/structure extension	√
Grade, Drain, Surface and Bridge	
Grade, Drain and Surface	
Asphalt Overlay Resurfacing	
Widen and Resurface existing lanes	
Pavement Reconstruction or rehabilitation	
Bridge Rehabilitation	
Safety Improvements (Cable Barrier, Guardrail, signage)	
Intersection Modifications	
Safe Routes to School (Describe)	
Enhancements (Describe)	
Other (Describe)	

Description of the **existing** bridge/roadway

The existing bridge on US-70 over Lake Texoma (NBI 10965) is a 24-foot-wide, 87-span bridge consisting of a Warren through truss central span, 63 steel girders spans, and 23 tower spans. The bridge has a sufficiency rating of 42.3 and is at risk of becoming structurally deficient. The bridge is classified as functionally obsolete. The vertical clearance on the truss span is 14 feet 9 inches, which does not meet today's standards. The bridge has been determined eligible for listing in the National Register of Historic Places. The US-70 approach roadway is 38 feet wide, consisting of two 12-foot-wide driving lanes and 7-foot-wide shoulders. The existing average annual daily traffic (AADT) on US-70 is 8,500 vehicles per day (vpd) with a 20-year future projected AADT of 13,200 vpd. The purpose of this project is to correct the narrow, at-risk bridge, provide adequate vertical clearance, and accommodate existing and future traffic demand.

Description of **proposed** improvements **SPECIFIC TO THIS PROJECT**

Because the bridge is an eligible historic resource, several alternatives to improve the existing bridge are under consideration. These alternatives include rehabilitation (including a widened option), reuse as part of a one-way pair, reuse as a pedestrian/bicycle facility, and preservation as a historic monument. The last three options include construction of a new bridge on new alignment to the south. Should none of these alternatives be determined prudent or feasible, replacement options will be considered. In order to meet the purpose and need for the project, the new bridge should provide four 12-foot driving lanes and 8 to 10-foot paved shoulders. New right-of-way (ROW) would be required. The roadway would remain open during construction.

Project Environmental Study Footprint

Project Location		**Environmental Study Footprint**	
Section Range & Township	Lat/Long (NAD 83)	Dimensions	Acreage
S25, S26, S35 & S36, T6S, R6E S27-34, T6S, 7E	Center of NBI 10965: 34.001542, -96.618735 West End: 33.997445, -96.644033 East End: 33.998229, -96.567467	Beginning approximately 800 feet east of the US-70 and Johnson Road intersection and extending 4.45 miles, widths vary from 159 feet to 445 feet from the center of the roadway. At the lake bumpout, widths vary from 158 feet to 1,327 feet from the center of the roadway.	404

Environmental Study Footprint Soils (NRCS Soil Survey Map)

Map Unit Name	**Percent Slope**	**Drainage Class**	**Hydric Rating**		**Description**
			YES	**NO**	
10 – Bernow fine sandy loam, severely eroded	3 to 8	Well drained		√	Sandy and loamy alluvium soils. Common landform is paleoterraces.
13 – Boxville fine sandy loam	1 to 3	Well drained		√	Loamy and/or clayey alluvium soils. Common landform is stream terraces.
14 – Boxville fine sandy loam	3 to 8	Well drained		√	Loamy and/or clayey alluvium. Common landform is stream terraces.
42 – Karma fine sandy loam	1 to 3	Well drained		√	Loamy alluvium soils. Common landform is paleoterraces.
52 – Larton loamy fine sand	3 to 5	Well drained		√	Loamy and sandy alluvium and/or eolian deposits. Common landform is paleoterraces.
68 - Pits	-	-		√	Mine spoil or earthy fill. Common landform is not specified.
79 – Woodson silt loam	0 to 1	Somewhat poorly drained		√	Silty and/or clayey alluvium soils. Common landform is paleoterraces.
W – Water	-	-		√	Common landform is valleys.

Map Unit Name	Percent Slope	Drainage Class	Hydric Rating		Description
			YES	NO	
8 – Durant clay loam, eroded	1 to 5	Moderately well drained		√	Clayey residuum weathered from shale and/or claystone. Common landform is ridges.
12 – Ferris-Tarrant complex	5 to 12	Well drained		√	Ferris (70% composition) soil is calcareous clayey residuum weathered from shale. Tarrant (20% composition) soils are clayey residuum weathered from limestone. Common landform is hillslopes on hills.
SwiE – Swink very cobbly clay loam	2 to 15	Well drained		√	Residuum weathered from limestone soils. Common landform is ridges.

Environmental Study Footprint General Description and Vegetation Present

The study area is located over Lake Texoma west of Durant in Bryan and Marshall Counties, Oklahoma. The study area primarily contains Lake Texoma, roadway, watercourses, upland wooded habitat, riparian, palustrine scrub-shrub (PSS) wetlands, and tall grass habitat. The remainder of the study area is occupied by ROW. According to the 1982 Platter, Okla.-Tex., the 1967 Little City, Okla., the 1967 Kingston North, Okla., and the 1982 Kingston South, Okla.-Tex. 7.5-minute U.S. Geological Survey (USGS) topographic quadrangles, one perennial waterbody (Lake Texoma), four perennial coves (of Lake Texoma), and one intermittent stream (unnamed tributary to Lake Texoma) occur within the study area. Field work was conducted December 1-2, 2021. According to the closest weather station (Newberry Creek, KOKMEAD9) to the study area, the area received no precipitation within the two weeks prior to December 1st. Two USGS-mapped perennial waterbodies (Lake Texoma and OW 3b), one perennial cove, one perennial overflow pond, one intermittent stream, four ephemeral streams, and six PSS wetlands were delineated within the study footprint.

Vegetation present within the upland wooded habitat predominately consists of American elm (*Ulmus americana*), sugar-berry (*Celtis laevigata*), common buttonbush (*Cephalanthus occidentalis*), willow oak (*Quercus phellos*), eastern red-cedar (*Juniperus virginiana*), osage-orange (*Maclura pomifera*), deciduous holly (*Ilex decidua*), peatree (*Sesbania herbacea*), eastern cottonwood (*Populus deltoides*), northern red oak (*Quercus rubra*), spotted crane's-bill (*Geranium maculatum*), horsebrier (*Smilax rotundifolia*), bushy bluestem (*Andropogon glomeratus*), Alabama supplejack (*Berchemia scandens*), henbit deadnettle (*Lamium amplexicaule*), common chickweed (*Stellaria media*), nodding wild rye (*Elymus canadensis*), tapered rosette grass (*Dichanthelium acuminatum*), aster (*Symphyotrichum* spp.), fringed greenbrier (*Smilax bona-nox*), sedge (*Carex* spp.), and southern dewberry (*Rubus trivialis*). Vegetation present within the riparian habitat predominately consists of honey-locust (*Gleditsia triacanthos*), common buttonbush, green ash (*Fraxinus pennsylvanica*), black willow (*Salix nigra*), eastern red- cedar, sedge, spotted crane's-bill, aster, Johnson grass (*Sorghum*

halepense), southern dewberry, nodding wild rye, tumble windmill grass (*Chloris verticillata*), tall false rye grass (*Schedonorus arundinaceus*), little barley (*Hordeum pusillum*), Bermuda grass (*Cynodon dactylon*), heliotrope (*Heliotropium* spp.), tapered rosette grass, speedwell (*Veronica* spp.), rough cocklebur (*Xanthium strumarium*), and hogwort (*Croton capitatus*). Vegetation present within the PSS wetlands consists of black willow, common buttonbush, sedge, and southern dewberry. Vegetation present within the tallgrass habitat consists of American elm, common buttonbush, Bermuda grass, southern dewberry, hogwort, tapered rosette grass, and aster. Vegetation present within the ROW habitat includes Bermuda grass, aster, crown grass (*Paspalum* spp.), spotted crane's-bill, and Johnson grass.

WATERS AND WETLANDS EVALUATION

Data Sources Reviewed (list)

USGS 7.5 minute Quad	**NWI Map**	**USACE Wetland Regional Supplement**	**Additional Resources Reviewed**
1982 Platter, Okla.-Tex., 1967 Little City, Okla., 1967 Kingston North, Okla., 1982 Kingston South, Okla.-Tex.	1990 Platter, Okla.-Tex., 1990 Little City, Okla., 1990 Kingston North, Okla., 1990 Kingston South, Okla.-Tex.	Great Plains Region	Google Earth; NRCS Web Soil Survey; USDA Plant Database; USGS Water Resources

Wetlands and Ponds Summary Table

Field Sites	Type of Wetland or Pond	Cowardin Classification	Potential Jurisdictional Status	Acres within Environmental Study Footprint
Wetland 1	Palustrine Scrub-Shrub	PSS1J	Likely	0.06
Wetland 2	Palustrine Scrub-Shrub	PSS1J	Likely	1.31
Wetland 3	Palustrine Scrub-Shrub	PSS1J	Likely	0.25
Wetland 4	Palustrine Scrub-Shrub	PSS1J	Likely	0.35
Wetland 5	Palustrine Scrub-Shrub	PSS1J	Likely	0.95
Wetland 6	Palustrine Scrub-Shrub	PSS1J	Likely	0.38
Lake Texoma (OW 3a)	Lacustrine Limnetic Aquatic Bed	L1UBHh	Likely	211.11
Lake Texoma Cove (OW 3c)	Lacustrine Limnetic Aquatic Bed	L1UBHh	Likely	3.52

Field Sites	Type of Wetland or Pond	Cowardin Classification	Potential Jurisdictional Status	Acres within Environmental Study Footprint
Lake Texoma Overflow (OW 3d)	Lacustrine Limnetic Aquatic Bed	L1UBHh	Likely	2.62

Streams and Drainages Summary Table

Field Sites	Stream Name	USGS Mapped Status	Potential Jurisdictional Status	Acres within Environmental Study Footprint	Linear Feet within Environmental Study Footprint
OW 1	Unnamed Tributary to Lake Texoma	Not Mapped	Likely	0.003	49
OW 2	Unnamed Tributary to Lake Texoma	Not Mapped	Likely	0.04	431
OW 3b	Unnamed Tributary to Lake Texoma	Perennial	Likely	0.06	267
OW 4a	Unnamed Tributary to Lake Texoma	Not Mapped	Likely	0.003	38
OW 4b	Unnamed Tributary to Lake Texoma	Not Mapped	Likely	0.02	136
OW 5	Unnamed Tributary to Lake Texoma	Not Mapped	Likely	0.01	118

Streams and other linear aquatic features

OW 1 – An unnamed tributary to Lake Texoma, is not a USGS-mapped feature but was observed as an ephemeral stream during the field investigation. An estimated total of 49 linear feet (0.003 acre) of OW 1 occurs within the study footprint where it flows south to north. This short stream begins at a culvert and ends at the highly disturbed section of the lake cove where extensive trees clearing, and erosion activities have occurred from the construction east of the feature. The minimum ordinary high water mark (OHWM) was observed to be 1 foot wide, the maximum OHWM was observed to be 3 feet wide, and the average OHWM was observed to be 2 feet wide.

The estimated OHWM depth is between 1 and 2 inches. The riparian zone consists mainly of wooded and scrub-shrub vegetation. The streambanks are low, steep, disturbed, and streambank erosion potential is high. No water was observed, and the stream substrate is primarily clay loam. OW 1 likely receives water from precipitation and OW 2. During the field investigation, drift material in the channel was observed. No aquatic organisms were observed. Dominant riparian plant species observed include common buttonbush, honey-locust, sedge, aster, southern dewberry, and spotted crane's-bill. This feature is likely subject to regulation by the U.S. Army Corps of Engineers (USACE) as it is an ephemeral stream that flows into a USGS-mapped cove of a Traditional Navigable Water (TNW; Lake Texoma).

OW 2 – An unnamed tributary to Lake Texoma, is not a USGS-mapped feature but was observed as an ephemeral stream during the field investigation. An estimated total of 431 linear feet (0.04 acre) of OW 2 occurs within the study footprint where it flows west to east into OW 1. The stream channel is lined with rip rap. The minimum OHWM was observed to be 3 feet wide, the maximum OHWM was observed to be 8 feet wide, and the average OHWM was observed to be 5 feet wide. The estimated OHWM depth is between 1 and 2 inches. The riparian zone consists mainly of sapling and scrub-shrub vegetation. The streambanks are low, gently sloped, lined with rip rap, and streambank erosion potential is low. No water was observed. OW 2 likely receives water from precipitation and roadway runoff. During the field investigation, rock ledges, root wads, and drift material in the channel were observed. No aquatic organisms were observed. Dominant riparian plant species observed include black willow, green ash, eastern red-cedar, southern dewberry, Johnson grass, and nodding wild rye. This feature is likely subject to regulation by the USACE as it is an ephemeral tributary to a USGS-mapped cove of a TNW (Lake Texoma).

OW 3b – A USGS-mapped perennial cove of Lake Texoma, was observed as a perennial stream feature during the field investigation. An estimated total of 267 linear feet (0.06 acre) of OW 3b occurs within the study footprint. This stream is located east of Lake Texoma and south of US-70. The minimum OHWM was observed to be 1 foot wide, the maximum OHWM was observed to be 30 feet wide, and the average OHWM was observed to be 11 feet wide. The estimated OHWM depth is between 1 and 2 inches. The riparian zone consists mainly of wooded and scrub-shrub vegetation. The streambanks are low, have a 4:1 slope, are not well vegetated, and streambank erosion potential is moderate. Water was clear reddish brown, and the stream substrate is primarily clay loam. OW 3b likely receives back water from Lake Texoma, groundwater, roadway runoff, and precipitation. During the field investigation, wetlands were observed along both banks (Wetland 2). Large fish were observed during the field investigation. Dominant riparian plant species observed include black willow, common buttonbush, southern dewberry, and tapered rosette grass. This feature is likely subject to regulation by the USACE as it is a USGS-mapped perennial stream of a USGS-mapped TNW (Lake Texoma).

OW 4a – An unnamed tributary to Lake Texoma, is not a USGS-mapped feature but was observed as an ephemeral stream during the field investigation. A reinforced concrete pipe (RCP) under US-70 conveys water from OWs 4a, 4b, and 5 south into OW 3b. An estimated total of 38 linear feet (0.003 acre) of OW 4a occurs within the study footprint where it flows northeast to southwest. The minimum OHWM was observed to be 1 foot wide, the maximum OHWM was observed to be 8 feet wide, and the average OHWM was observed to be 4 feet wide.

The estimated OHWM depth is between 1 and 1.5 inches. The riparian zone consists mainly of scrub-shrub vegetation with a dense herbaceous layer. The streambanks are well vegetated, low, and streambank erosion potential is low. The stream substrate is primarily clay. OW 4a likely receives water from precipitation. No aquatic organisms were observed. Dominant riparian plant species observed include black willow, common buttonbush, Bermuda grass, spotted crane's-bill, southern dewberry, and hogwort. This feature is likely subject to regulation by the USACE as it is an ephemeral tributary to a USGS-mapped perennial cove of a TNW (Lake Texoma).

OW 4b – An unnamed tributary to Lake Texoma, is not a USGS-mapped feature but was observed as an intermittent stream during the field investigation. An RCP under US-70 conveys water from OWs 4a, 4b, and 5 south into OW 3b. An estimated total of 136 linear feet (0.02 acre) of OW 4b occurs within the study footprint. OW 4 occurs both west and east of the RCP and flows west to east and east to west, respectively. The minimum OHWM was observed to be 3 foot wide, the maximum OHWM was observed to be 12 feet wide, and the average OHWM was observed to be 6 feet wide. The estimated OHWM depth is between 2 and 5 inches. The riparian zone consists mainly of scrub-shrub vegetation with a dense herbaceous layer. The streambanks are well vegetated, low, and streambank erosion potential is low. Water color was clear yellowish brown, and the stream substrate is primarily clay. OW 4b likely receives water from precipitation and a potential spring at the far west end of the feature. During the field investigation, rock ledges, roots, drift material, and algae in the channel were observed. No aquatic organisms were observed. Dominant riparian plant species observed include black willow, common buttonbush, Bermuda grass, spotted crane's-bill, southern dewberry, and hogwort. This feature is likely subject to regulation by the USACE as it is an ephemeral tributary to a USGS-mapped perennial cove of a TNW (Lake Texoma).

OW 5 – An unnamed tributary to Lake Texoma, is not a USGS-mapped feature but was observed as an ephemeral stream during the field investigation. An estimated total of 118 linear feet (0.01 acre) of OW 5 occurs within the study footprint where it flows north to south. The headwaters of OW 5 begin within the study area and the stream ends at the confluence of OW 4. The minimum OHWM was observed to be 2 feet wide, the maximum OHWM was observed to be 6 feet wide, and the average OHWM was observed to be 3 feet wide. The estimated OHWM depth is between 1 and 1.5 inches. The riparian zone consists mainly of scrub-shrub vegetation with a dense herbaceous layer. The streambanks are well vegetated, low, and streambank erosion potential is low. The majority of the stream is dry; however, water is present near the confluence with OW 4. The water was clear brown, and the stream substrate is primarily clay. OW 5 likely receives water from precipitation. During the field investigation, undercut banks and roots in the channel were observed. No aquatic organisms were observed. Dominant riparian plant species observed include common buttonbush, sedge, aster, southern dewberry, and hogwort. This feature is likely subject to regulation by the USACE as it is an ephemeral tributary to a USGS-mapped cove of a TNW (Lake Texoma).

Wetlands and ponds

Wetland 1 – This wetland is an NWI-mapped feature and is classified as a L1UBHh (Lacustrine, Limnetic, Unconsolidated Bottom, Permanently Flooded, Diked/Impounded Wetland); however, it was observed as a PSS1J (Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Intermittently Flooded Wetland) during the field investigation. This wetland is located west of Lake Texoma and north of US-70. Wetland 1 has been disturbed from excavation activities to the east. This feature displayed geomorphic position, a FAC-neutral test, and soils that exhibited a depleted matrix. Vegetation observed includes common buttonbush. Approximately 0.06 acre occurs within the footprint. This feature is likely subject to regulation by the USACE as it abuts a USGS-mapped perennial cove (outside of the study area) of Lake Texoma, a TNW.

Wetland 2 – This wetland is an NWI-mapped feature and is classified as a L1UBHh; however, it was observed as a PSS1J during the field investigation. This wetland is located east of Lake Texoma and south of US-70. Wetland 2 was observed as a fringe PSS wetland on both banks of OW 3b. This feature displayed sediment deposits, geomorphic position, a FAC-neutral test, and soils with a depleted matrix. Vegetation observed includes buttonbush. Approximately 1.31 acres occur within the footprint. This feature is likely subject to regulation by the USACE as it abuts a USGS-mapped perennial cove of Lake Texoma, a TNW.

Wetland 3 – This wetland is a NWI-mapped feature and is classified as a L1UBHh; however, it was observed as a PSS1J during the field investigation. This wetland is located south of US-70 and west of Wetland 2. This feature displayed geomorphic position, a FAC-neutral test, and soils with a depleted matrix. Vegetation observed include black willow, common buttonbush, and sedge. Approximately 0.25 acre occurs within the footprint. This feature is likely subject to regulation by the USACE as it abuts a USGS-mapped perennial cove (outside of the study area) of Lake Texoma, a TNW.

Wetland 4 – A small section of this wetland is classified as a L1UBHh on the NWI map; however, it was observed as a PSS1J during the field investigation. This wetland is located north of US-70 and directly abuts the west side of OW 3c. This feature displayed a high water table, saturated soils, geomorphic position, a FAC-neutral test, and soils with a depleted matrix. Vegetation observed include common buttonbush and sedge. Approximately 0.35 acre occurs within the footprint. This feature is likely subject to regulation by the USACE as it abuts a USGS-mapped perennial cove of Lake Texoma, a TNW.

Wetland 5 – A small section of this wetland is classified as a L1UBHh on the NWI map; however, it was observed as a PSS1J during the field investigation. This wetland is located sound of US-70 and was observed as a PSS fringe wetland on the east side of OW 3d. This feature displayed a sparsely vegetated concave surface, geomorphic position, a FAC-neutral test, and soils with a depleted matrix. Vegetation observed include black willow, common buttonbush, sedge, and southern dewberry. Approximately 0.95 acre occurs within the footprint. This feature is likely subject to regulation by the USACE as it abuts a USGS-mapped perennial Relatively Permanent Water (RPW; OW 3d) that has a direct surface water connection to Lake Texoma, a TNW.

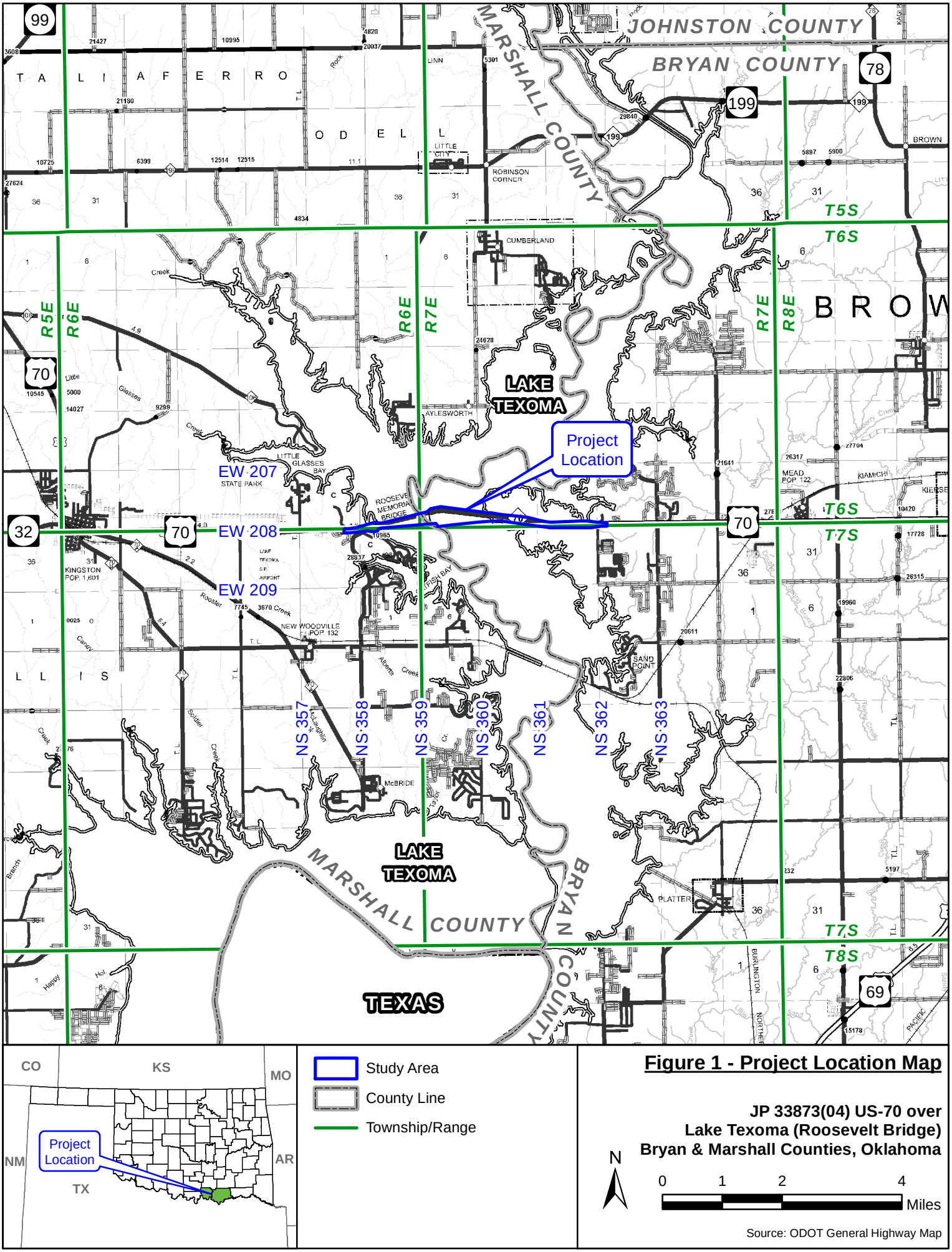
Wetland 6 – A small section of this wetland is classified as a L1UBHh on the NWI map; however, it was observed as a PSS1J during the field investigation. This wetland is located sound of US-70 and was observed as a PSS fringe wetland on the west side of OW 3d. This feature displayed geomorphic position, a FAC-neutral test, and soils with a depleted matrix. Vegetation observed include black willow, common buttonbush, and southern dewberry. Approximately 0.38 acre occurs within the footprint. This feature is likely subject to regulation by the USACE as it abuts a USGS-mapped perennial RPW that flows into Lake Texoma, a TNW.

OW 3a – Lake Texoma, is a NWI-mapped perennial lake and is classified and observed during the field investigation as a L1UBHh. An estimated total of 211.11 acres of OW 3 occurs within the study footprint. This feature spans the majority of the study area. The estimated water depth is between 2 and 67 feet. The west shoreline is rocky with tree debris and the east shoreline is sandy. The lake substrate is clay, cobble, and gravel. OW 3 receives water from the Red and Washita Rivers, precipitation, groundwater, and tributaries. During the field investigation, rock ledges, root wads, drift material, and algae in the lake were observed. No aquatic organisms were observed but it is assumed that multiple fish, reptile, amphibian, and mussel species are present. Dominant plant species observed along the banks include eastern cottonwood, common buttonbush, black willow, eastern red-cedar, sedge, aster, and Johnson grass. This feature is likely subject to regulation by the USACE as it is a TNW.

OW 3c – A NWI-mapped perennial cove of Lake Texoma, is classified and observed during the field investigation as a L1UBHh. An estimated total of 3.52 acres of OW 3c occurs within the study footprint. This cove is located north of north of US-70. The estimated water depth is between 2 and 8 feet. Water was clear dark brown, and the substrate is primarily loam. OW 3c receives back water from Lake Texoma, groundwater, and precipitation. During the field investigation, a wetland along the west bank (Wetland 4) was observed. No aquatic organisms were observed but it is assumed that multiple fish, reptile, amphibian, and mussel species are present. Dominant plant species observed along the banks include black willow, common buttonbush, heliotrope, speedwell, rough cocklebur, and tapered rosette grass. This feature is likely subject to regulation by the USACE as it is a perennial cove of a USGS-mapped TNW (Lake Texoma).

OW 3d – A NWI-mapped perennial waterbody, is classified and observed during the field investigation as a L1UBHh. A reinforced concrete bridge (RCB) under US-70 conveys water between OW 3d and OW 3c. An estimated total of 2.62 acres of OW 3d occurs within the study footprint. This lake overflow is located south of US-70. The estimated water depth is between 1 and 2.5 feet. Water was clear dark brown, and the substrate is primarily loam. OW 3d likely receives back water from Lake Texoma, groundwater, and precipitation. During the field investigation, wetlands along the east and west banks were observed. No aquatic organisms were observed during the field investigation. Dominant plant species observed along the banks include black willow, common buttonbush, osage-orange, aster, fringed greenbrier, southern dewberry, sedge, and tapered rosette grass. This feature is likely subject to regulation by the USACE as it is a perennial overflow of a USGS-mapped TNW (Lake Texoma).

FIGURES



Study Area

County Line

Township/Range

Figure 1 - Project Location Map

JP 33873(04) US-70 over Lake Texoma (Roosevelt Bridge)
Bryan & Marshall Counties, Oklahoma

N

0 1 2 4 Miles

Source: ODOT General Highway Map

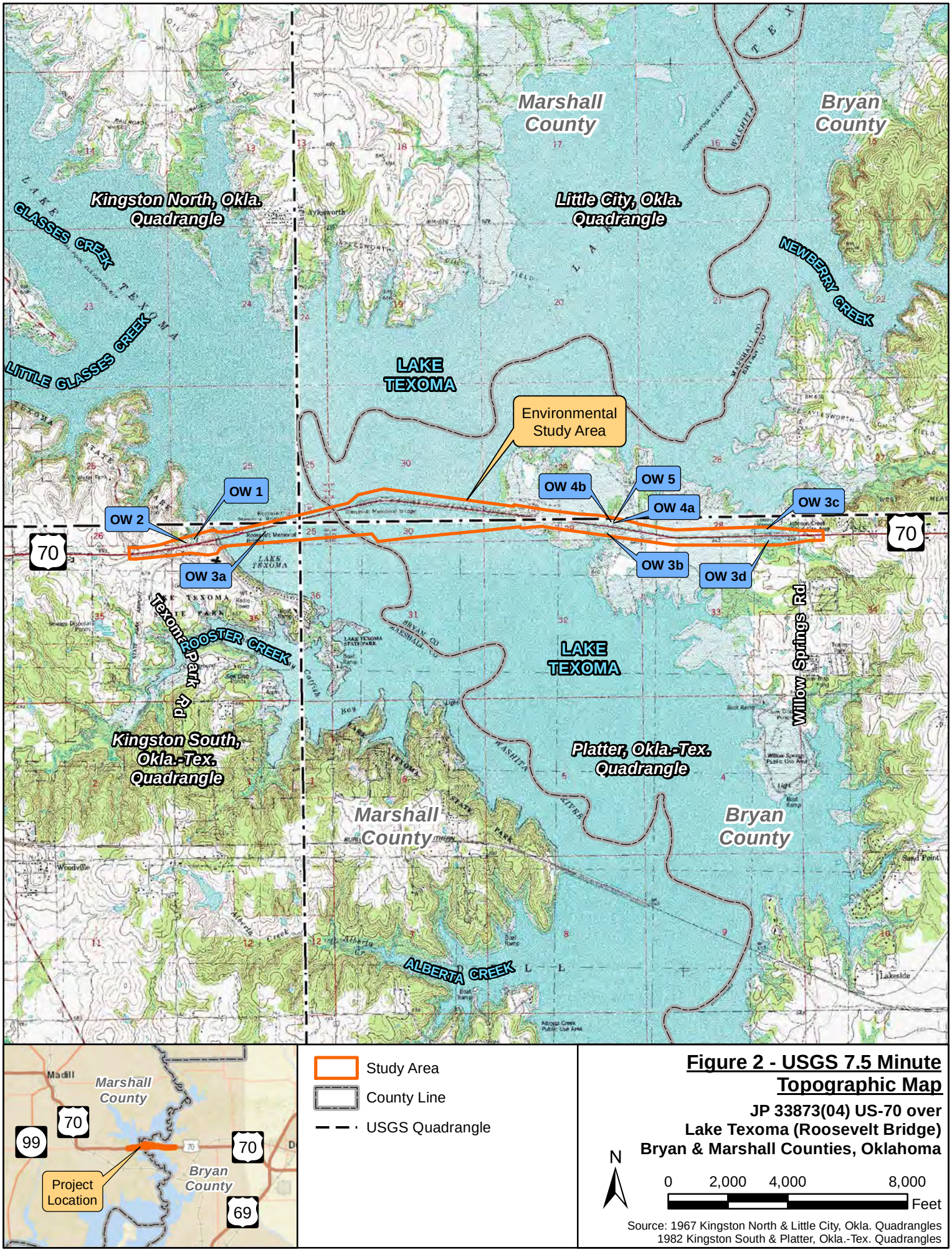
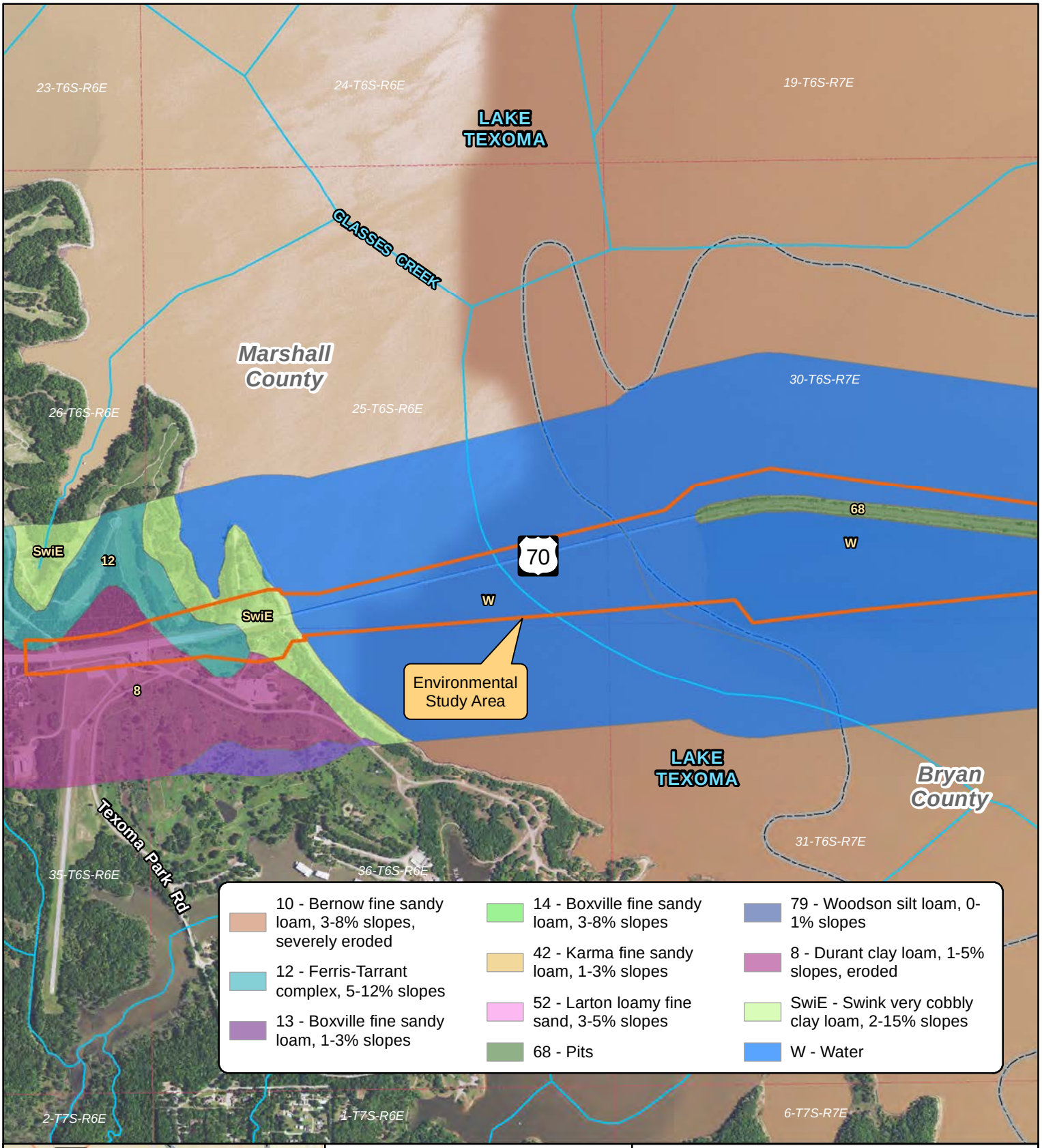
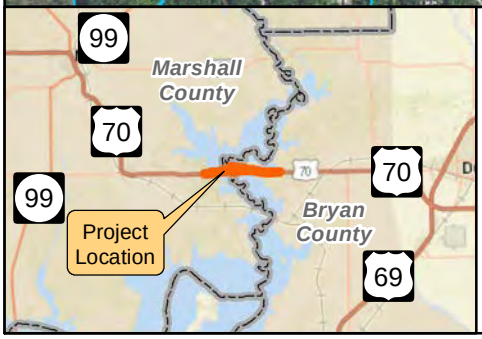


Figure 2 - USGS 7.5 Minute Topographic Map

JP 33873(04) US-70 over Lake Texoma (Roosevelt Bridge)
Bryan & Marshall Counties, Oklahoma

Source: 1967 Kingston North & Little City, Okla. Quadrangles
1982 Kingston South & Platter, Okla.-Tex. Quadrangles





Study Area
County Line
Section Line
USGS Stream

Figure 3a - NRCS Soil Survey Map

JP 33873(04) US-70 over Lake Texoma (Roosevelt Bridge)
Bryan & Marshall Counties, Oklahoma

N

0 750 1,500 3,000 Feet

Sources: USDA NAIP 2021 Digital Orthophotography
USDA-NRCS 2021 Soil Survey Geographic Database (SSURGO)

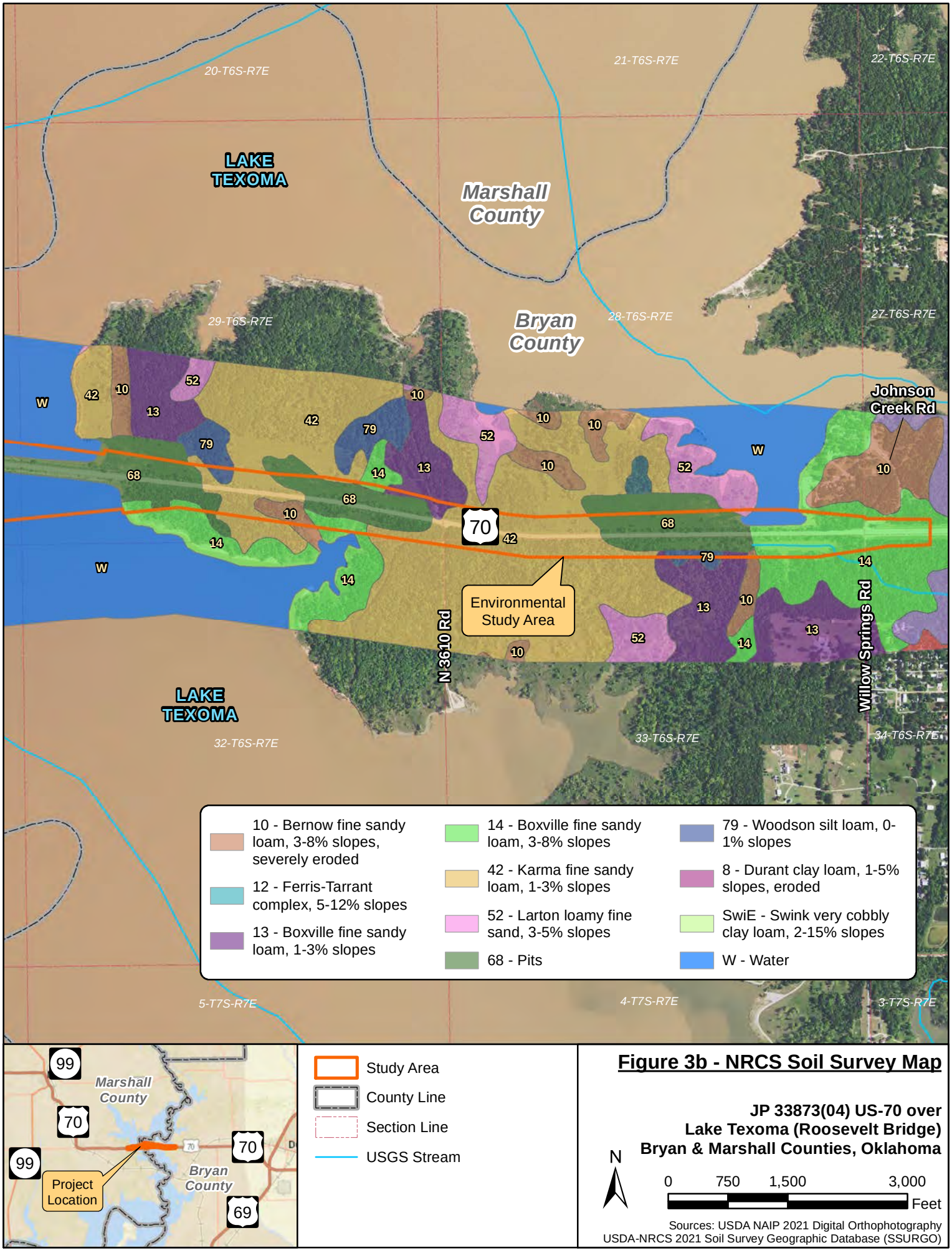


Figure 3b - NRCS Soil Survey Map

JP 33873(04) US-70 over
Lake Texoma (Roosevelt Bridge)
Bryan & Marshall Counties, Oklahoma

N

0 750 1,500 3,000 Feet

Sources: USDA NAIP 2021 Digital Orthophotography
USDA-NRCS 2021 Soil Survey Geographic Database (SSURGO)

Figure 4a - USFWS National Wetland Inventory (NWI) Map

JP 33873(04) US-70 over Lake Texoma (Roosevelt Bridge)
Bryan & Marshall Counties, Oklahoma

Sources: USDA NAIP 2021 Digital Orthophotography
USFWS NWI 2021 Wetland Mapper Data

Figure 4b - USFWS National Wetland Inventory (NWI) Map

JP 33873(04) US-70 over Lake Texoma (Roosevelt Bridge)
Bryan & Marshall Counties, Oklahoma

Sources: USDA NAIP 2021 Digital Orthophotography
USFWS NWI 2021 Wetland Mapper Data

Figure 5a - Aquatic Resources Site Map

JP 33873(04) US-70 over Lake Texoma (Roosevelt Bridge)
Bryan & Marshall Counties, Oklahoma

Source: USDA NAIP 2021 Digital Orthophotography

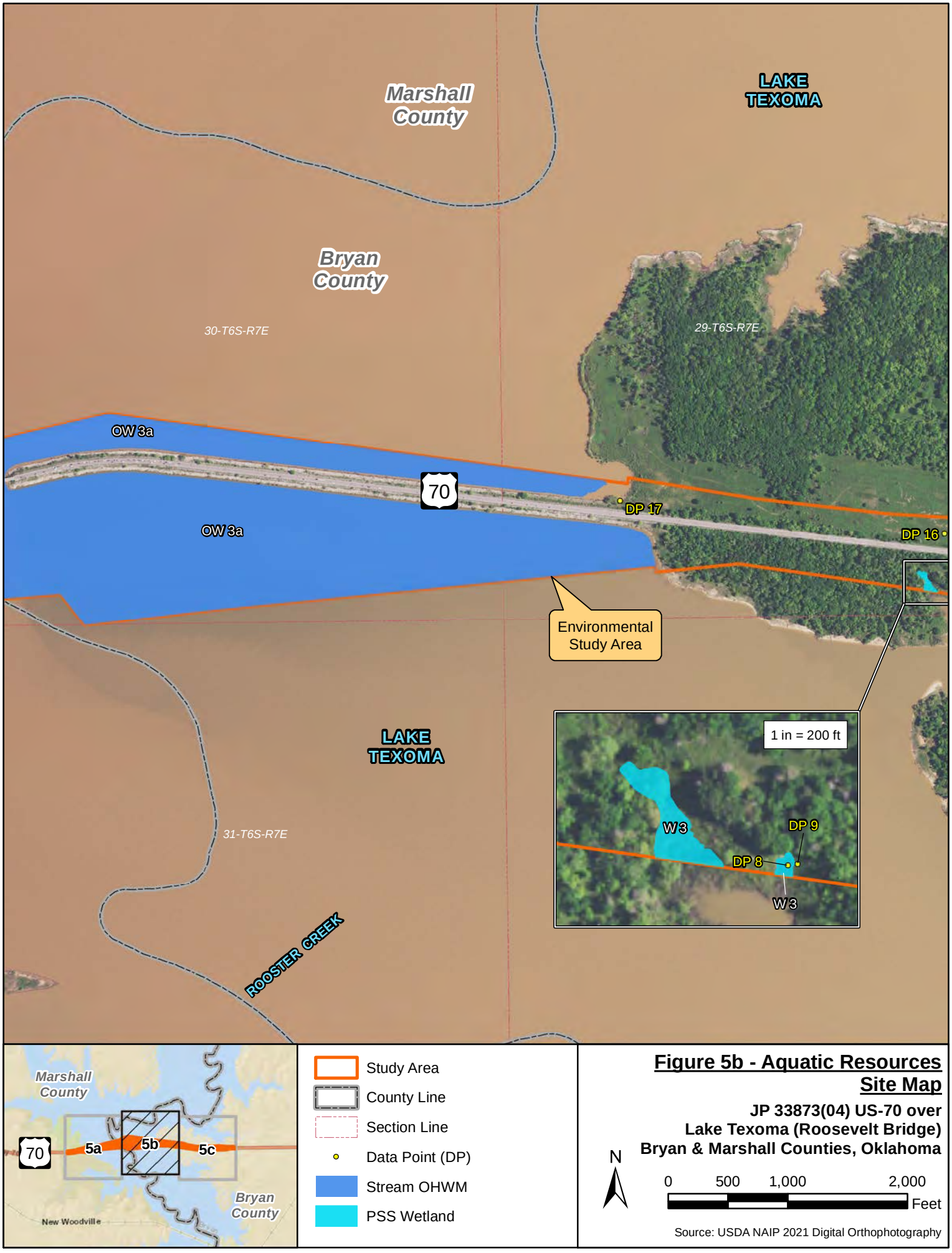


Figure 5b - Aquatic Resources Site Map

JP 33873(04) US-70 over Lake Texoma (Roosevelt Bridge)
Bryan & Marshall Counties, Oklahoma

Source: USDA NAIP 2021 Digital Orthophotography

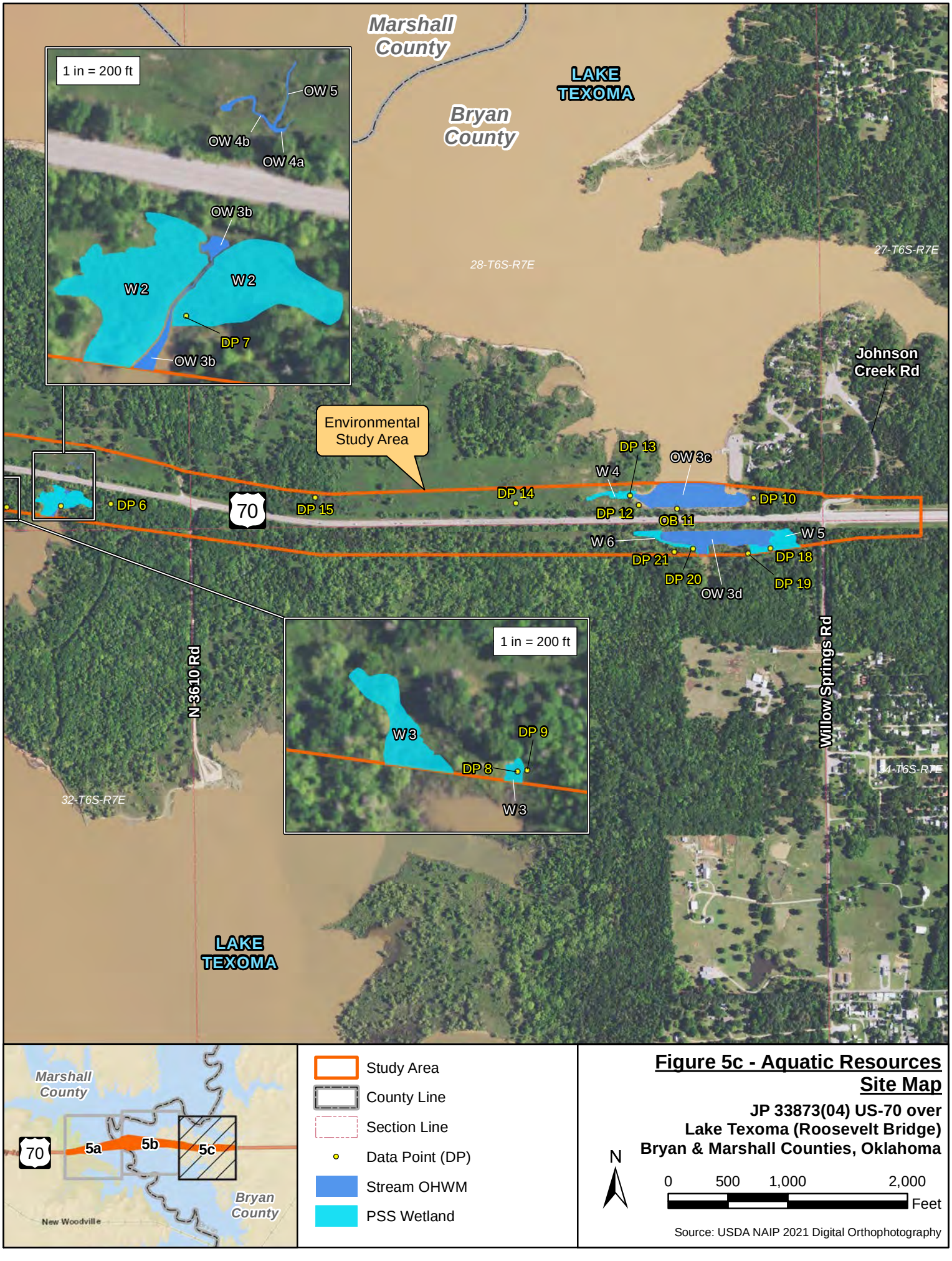


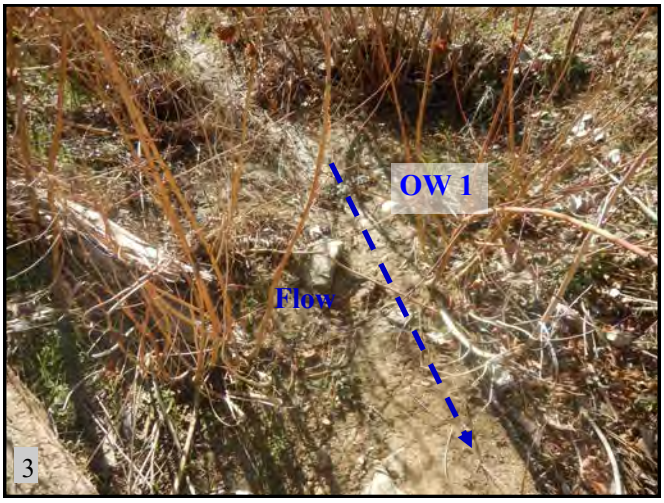
Figure 5c - Aquatic Resources Site Map

JP 33873(04) US-70 over Lake Texoma (Roosevelt Bridge)
Bryan & Marshall Counties, Oklahoma

Source: USDA NAIP 2021 Digital Orthophotography

▲(PS 1): Typical view of US-70, west of Lake Texoma. View is to the west.

▲(PS 1): Typical view of US-70, west of Lake Texoma. View is to the east.



▲(PS 2): View of OW 1, a small ephemeral stream that drains into a cove. View is upstream to the south.

▲(PS 2): View of OW 1 and the disturbed riparian habitat. View is downstream to the north.

▲(PS 2): View of disturbed habitat from construction to the east. No stream characteristics were observed.

▲(PS 2): View of disturbed habitat from construction to the east. No stream characteristics were observed.

Bryan & Marshall Counties, OK
J/P No. 33873(04)

On-site photographs taken December 1-2, 2021
Garver Project No. 20T03060

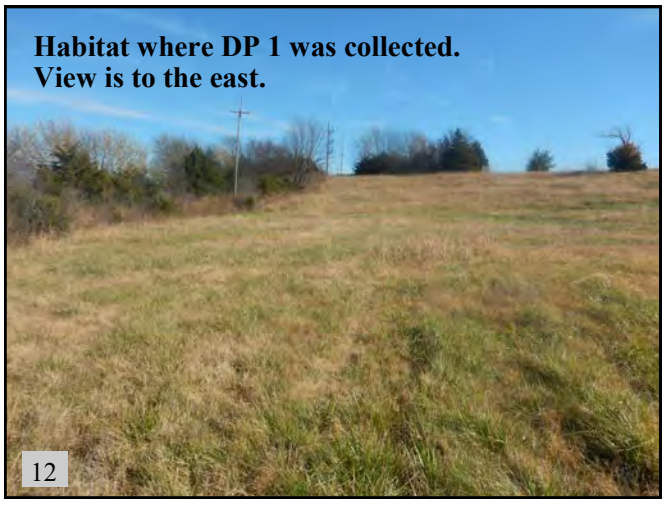
▲(PS 2): View of Wetland 1, a small PSS wetland. View is to the east.

▲(PS 2): View of hydric soils collected at DP 2 from Wetland 1.

▲(PS 2): View of OW 2, a rock lined ephemeral stream that flows into OW 1. View is upstream to the west.

▲(PS 2): View of OW 2, a rock lined ephemeral stream that flows into OW 1. View is downstream to the north.

▲(PS 2): View of wooded habitat around OWs 1 and 2. View is to the north.



▲(PS 3): View of upland herbaceous habitat located south of US-70 and west of Lake Texoma.

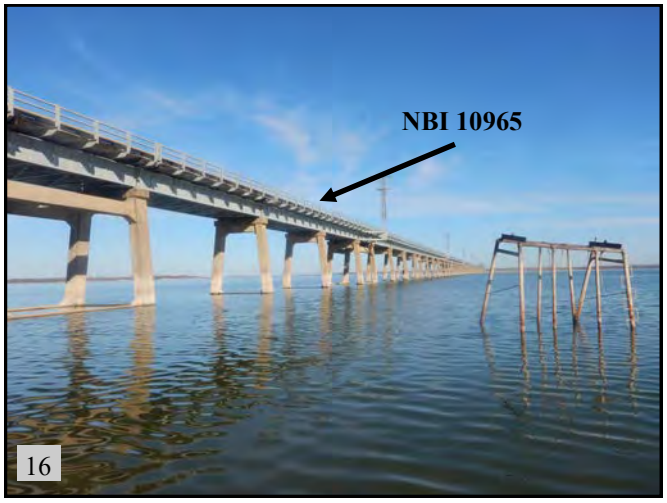
Bryan & Marshall Counties, OK
J/P No. 33873(04)

On-site photographs taken December 1-2, 2021
Garver Project No. 20T03060

▲(PS 3): View of nonhydric soils collected at DP 1.

▲(PS 4): View of shoreline and riparian habitat along the west bank of Lake Texoma. View is to the south.

▲(PS 4): View of shoreline and riparian habitat along the west bank of Lake Texoma (OW 3a).



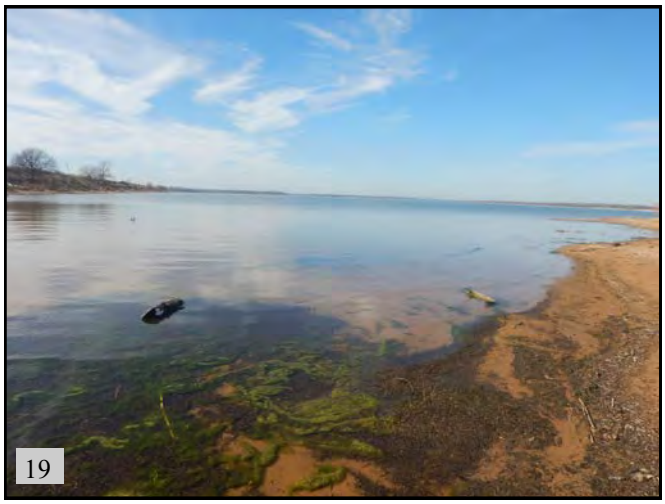
▲(PS 4): View of the Roosevelt Bridge and Lake Texoma (OW 3a). View is to the east.

▲(PS 4): View of upland wooded habitat at DP 5. View is to the east.

▲(PS 4): View of the Roosevelt Bridge from the west side of Lake Texoma. View is to the east.

Bryan & Marshall Counties, OK
J/P No. 33873(04)

On-site photographs taken December 1-2, 2021
Garver Project No. 20T03060



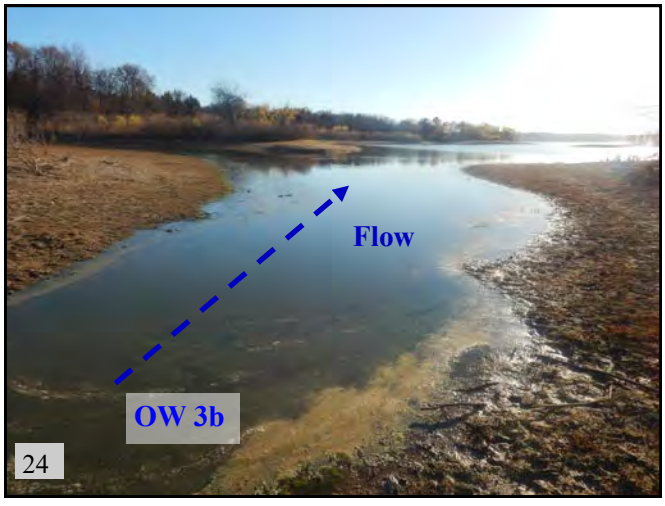
▲(PS 5): View of Lake Texoma (OW 3a) taken from the east side of the lake. View is to the west.

▲(PS 5): View of habitat along the east bank of Lake Texoma. View is to the west.

▲(PS 5): View of area, on the east bank of Lake Texoma, where DP 17 was collected (circled).

▲(PS 5): View of nonhydric soils collected at DP 17.

▲(PS 6): View of perennial stream, OW 3b. View is upstream to the northeast.



▲(PS 6): View of OW 3b that flows into Lake Texoma. View is downstream to the southwest.

Bryan & Marshall Counties, OK
J/P No. 33873(04)

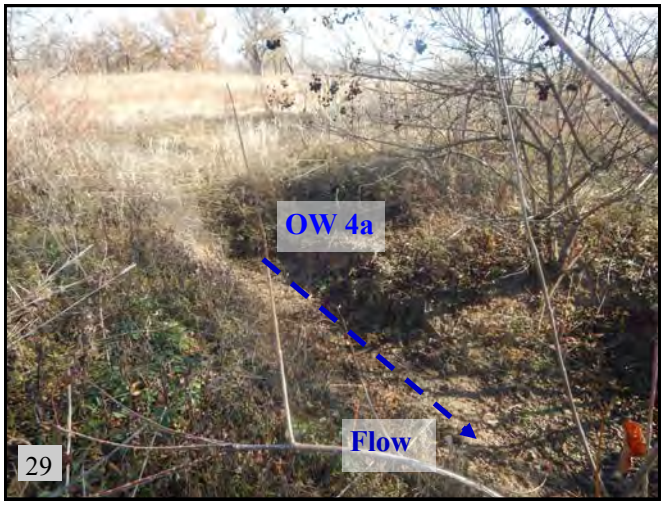
On-site photographs taken December 1-2, 2021
Garver Project No. 20T03060

▲(PS 6): View of Wetland 2, a large PSS wetland around OW 3b. View is to the west.

▲(PS 6): View of hydric soils excavated at Wetland 2 at DP 7.

▲(PS 6): View of Wetland 3, a PSS wetland located west of Wetland 2. View is to the north.

▲(PS 6): View of hydric soils excavated at Wetland 3 at DP 8.



▲(PS 7): View of headwaters of OW 4a. View is upstream to the northeast.

▲(PS 7): View of flooded structure that OW 4a, 4b, and OW 5 flow into. View is to the south.

Bryan & Marshall Counties, OK
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On-site photographs taken December 1-2, 2021
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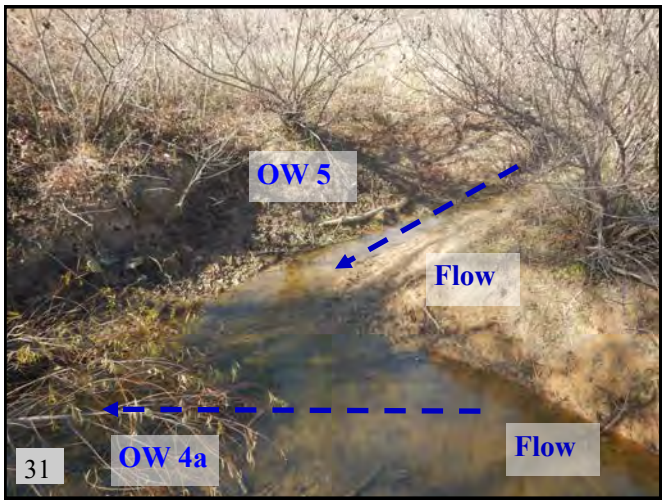
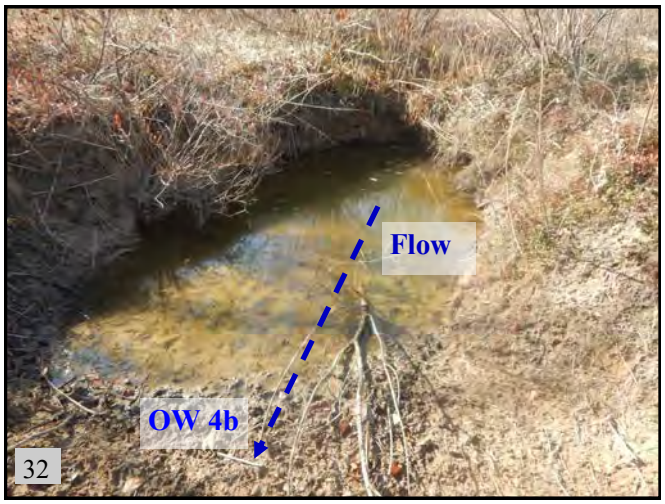
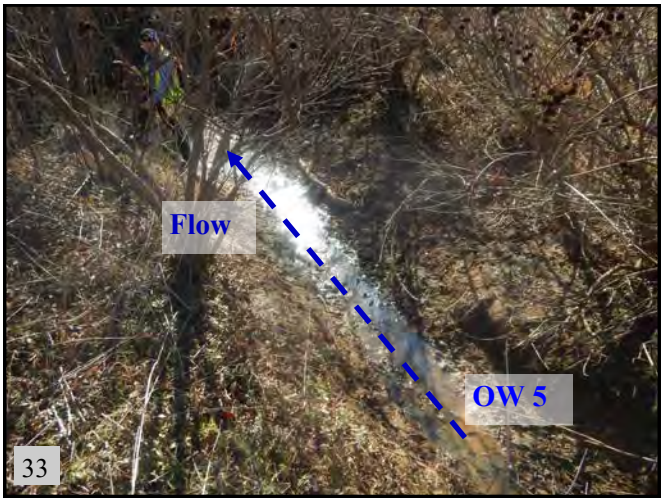


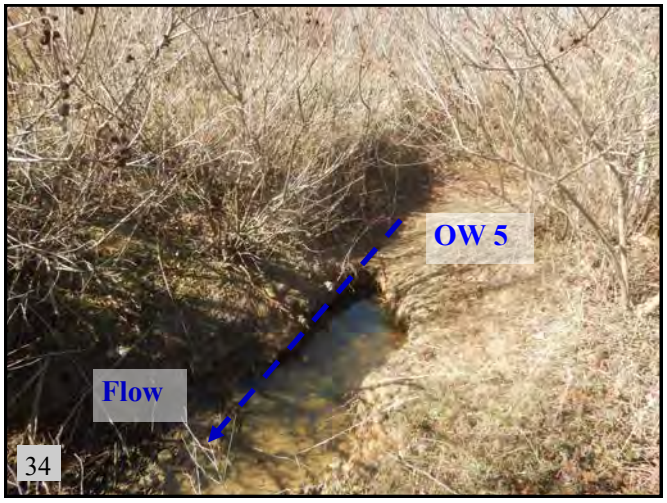
▲(PS 7): View of OW 4a and OW 5 confluence.



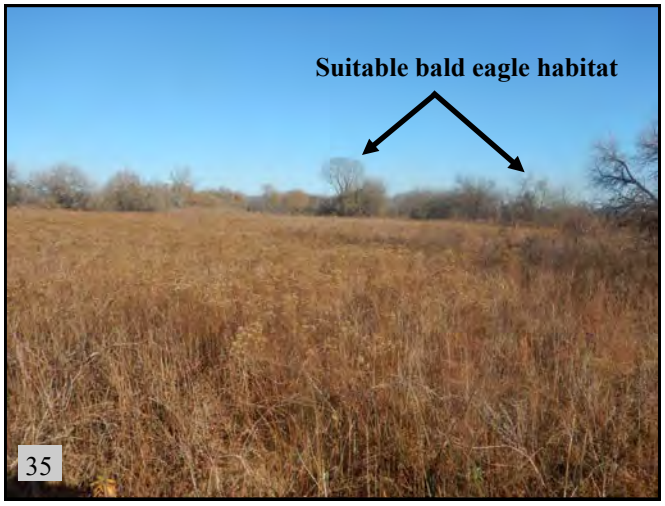
▲(PS 7): Headwaters and potential spring at OW 4b. View is upstream to the west.



▲(PS 7): View of OW 5, an ephemeral stream. View is downstream to the south.



▲(PS 7): View of OW 5 and riparian habitat. View is to the north.



▲(PS 8): View of tall grass habitat at DP 14, which is suitable ABB habitat. View is to the north.

▲(PS 8): View of wooded habitat at DP 15, which is suitable ABB habitat. View is to the north.

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▲(PS 9): View of the west section of OW 3c, a perennial cove of Lake Texoma. View is to the east.

▲(PS 9): View of Wetland 4, a linear PSS wetland. View is to the north.

▲(PS 9): View of hydric soils collected at DP 13 at Wetland 4.

▲(PS 9): View of streambed and riparian habitat of OW 3c. View is to the west.

▲(PS 10): View of the east section of OW 3c, a perennial cove of Lake Texoma. View is to the west.

▲(PS 10): View of habitat along OW 3c. View is to the east.

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On-site photographs taken December 1-2, 2021
Garver Project No. 20T03060

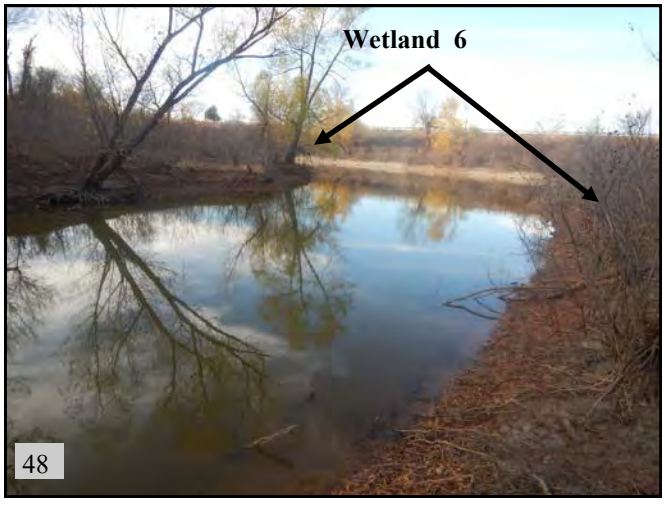
▲(PS 11): View of Wetland 5, a large PSS wetland on the east side of OW 3d. View is to the north.

▲(PS 11): View of hydric soils collected at DP 18 at Wetland 5.

▲(PS 11): View of OW 3d, a large perennial lake overflow area south of US-70. View is to the west.

▲(PS 11): View of OW 3d. View is to the north.

▲(PS 11): View of upland herbaceous habitat south of OW 3d and west of Wetland 5. View is to the north.



▲(PS 12): View of Wetland 6, a fringe PSS around OW 3d. View is to the north.

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J/P No. 33873(04)

On-site photographs taken December 1-2, 2021
Garver Project No. 20T03060

▲(PS 12): View of Wetland 6 section on the east side of OW 3d. View is to the north.

▲(PS 12): View of Wetland 6 section on the west side of OW 3d. View is to the west.

▲(PS 12): View of hydric soils collected at DP 20 at Wetland 6.

▲(PS 12): View of the west section of OW 3d and fringe Wetland 6. View is to the west.

Bryan & Marshall Counties, OK
J/P No. 33873(04)

On-site photographs taken December 1-2, 2021
Garver Project No. 20T03060

Print Form

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US-70 Over Lake Texoma (Roosevelt Bridge) City/County: Marshall Sampling Date: 12/1/2021

Applicant/Owner: The Oklahoma Department of Transportation (ODOT) State: OK Sampling Point: DP 1

Investigator(s): Megan Philips-Schaap & Lacee Stanley Section, Township, Range: Sec. 36, T6S, R6E

Landform (hillslope, terrace, etc.): open grassland Local relief (concave, convex, none): concave Slope (%): 5-10

Subregion (LRR): Southwestern Prairies (LRR J) Lat: 33.997502 Long: -96.636705 Datum: WGS 84

Soil Map Unit Name: 12: Ferris-Tarrant complex, 5 to 12 percent slopes NWI classification: NA

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

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

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

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

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

Remarks:

This point was determined not to be within a wetland due to the lack of all three wetland criteria.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None observed*			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. *None observed*			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Tumble windmill grass (Chloris verticillata)**	40	Yes	UPL
2. *Bermuda grass (Cynodon dactylon)*	30	Yes	FACU
3. *Tall false rye grass (Schedonorus arundinaceus)*	20	No	FACU
4. *Little barley (Hordeum pusillum)*	15	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	105% = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. *None observed*			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✗

Remarks:

No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FAC− or drier).
*Plant species does not have a wetland indicator according to USDA, assume upland.

SOIL

Sampling Point: DP 1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 5/3	90	10YR 5/8	10	C	M	clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks:

No positive indication of hydric soils was observed. This area is not subject to ponding.

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Water Table Present? Yes _____ No ✗ Depth (inches): > 14"

Saturation Present? (includes capillary fringe) Yes _____ No ✗ Depth (inches): > 14"

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

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

Remarks:

No positive indication of wetland hydrology was observed.

Print Form

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US-70 Over Lake Texoma (Roosevelt Bridge) City/County: Marshall Sampling Date: 12/1/2021

Applicant/Owner: The Oklahoma Department of Transportation (ODOT) State: OK Sampling Point: DP 2

Investigator(s): Megan Philips-Schaap & Lacee Stanley Section, Township, Range: Sec. 25, T6S, R6E

Landform (hillslope, terrace, etc.): lake terrace Local relief (concave, convex, none): concave Slope (%): 15-20

Subregion (LRR): Southwestern Prairies (LRR J) Lat: 33.999011 Long: -96.637000 Datum: WGS 84

Soil Map Unit Name: SwiE: Swink very cobbly clay loam, 2 to 15 percent slopes NWI classification: L1UBHh

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

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

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

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

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

Remarks:

This point was determined to be within a wetland due to the presence of all 3 wetland criteria.
Wetland 1

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1. *None observed*			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Common buttonbush (Cephalanthus occidentalis)*	70	Yes	OBL
2.			
3.			
4.			
5.			
	70% = Total Cover		
Herb Stratum (Plot size: _____)			
1. *None observed*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. *None observed*			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100%

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✗ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✗ No _____

Remarks:

A positive indication of hydrophytic vegetation was observed (Rapid Test for Hydrophytic Vegetation).

SOIL

Sampling Point: DP 2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 5/1	85	10YR 6/6	15	C	M	clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✗ No ___

Remarks:

A positive indication of hydric soil was observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Water Table Present? Yes ___ No ✗ Depth (inches): > 14"

Saturation Present? (includes capillary fringe) Yes ___ No ✗ Depth (inches): > 14"

Wetland Hydrology Present? Yes ✗ No ___

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

Remarks:

A positive indication of wetland hydrology was observed (at least two secondary indicators).

Print Form

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US-70 Over Lake Texoma (Roosevelt Bridge) City/County: Marshall Sampling Date: 12/1/2021

Applicant/Owner: The Oklahoma Department of Transportation (ODOT) State: OK Sampling Point: DP 3

Investigator(s): Megan Philips-Schaap & Lacee Stanley Section, Township, Range: Sec. 25, T6S, R6E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): slope Slope (%): 10-15

Subregion (LRR): Southwestern Prairies (LRR J) Lat: 33.998849 Long: -96.637108 Datum: WGS 84

Soil Map Unit Name: SwiE: Swink very cobbly clay loam, 2 to 15 percent slopes NWI classification: NA

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

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

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

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

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

Remarks:

This point was determined not to be within a wetland due to the lack of wetland hydrology.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Sugar-berry (Celtis laevigata)*	10	Yes	FAC
2.			
3.			
4.			
	10%	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Deciduous holly (Ilex decidua)*	10	Yes	FAC
2.			
3.			
4.			
5.			
	10%	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Spotted crane's-bill (Geranium maculatum)*	25	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	25%	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. *Horsebrier (Smilax rotundifolia)*	35	Yes	FAC
2. *Alabama supplejack (Berchemia scandens)*	15	No	FAC
	50%	= Total Cover	

% Bare Ground in Herb Stratum 75%

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✗ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✗ No _____

Remarks:

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

SOIL

Sampling Point: DP 3

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

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

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: rock

Depth (inches): 6"

Hydric Soil Present? Yes ✗ No ___

Remarks:

A positive indication of hydric soils was observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Water Table Present? Yes ___ No ✗ Depth (inches): > 6"

Saturation Present? (includes capillary fringe) Yes ___ No ✗ Depth (inches): > 6"

Wetland Hydrology Present? Yes ___ No ✗

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

Remarks:

No positive indication of wetland hydrology was observed.

Print Form

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US-70 Over Lake Texoma (Roosevelt Bridge) City/County: Marshall Sampling Date: 12/1/2021

Applicant/Owner: The Oklahoma Department of Transportation (ODOT) State: OK Sampling Point: OB 4

Investigator(s): Megan Philips-Schaap & Lacee Stanley Section, Township, Range: Sec. 25, T6S, R6E

Landform (hillslope, terrace, etc.): wooded Local relief (concave, convex, none): concave Slope (%): 5-10

Subregion (LRR): Southwestern Prairies (LRR J) Lat: 33.998631 Long: -96.637492 Datum: WGS 84

Soil Map Unit Name: SwiE: Swink very cobbly clay loam, 2 to 15 percent slopes NWI classification: NA

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

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

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

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

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

Remarks:

Hydrophytic vegetation and wetland hydrology were not observed at this data point. Soils were not collected at this observation point.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Eastern red-cedar (Juniperus virginiana)*	25	Yes	UPL
2. *Eastern cottonwood (Populus deltoides)*	20	Yes	FAC
3. *Northern red oak (Quercus rubra)*	15	Yes	FACU
4.			
	60%	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Peatree (Sesbania herbacea)*	10	Yes	FACW
2. *Eastern red-cedar (Juniperus virginiana)*	10	Yes	UPL
3.			
4.			
5.			
	20%	= Total Cover	
Herb Stratum (Plot size: _____)			
1. *None observed*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	_____	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1. *None observed*			
2.			
	_____	= Total Cover	

% Bare Ground in Herb Stratum 100%

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✗

Remarks:

No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FAC− or drier).

SOIL

Sampling Point: OB 4

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

Soils were not excavated

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

Soils were not collected at this observation point.

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✗

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

Remarks:

No positive indication of wetland hydrology was observed.

Print Form

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US-70 Over Lake Texoma (Roosevelt Bridge) City/County: Marshall Sampling Date: 12/1/2021

Applicant/Owner: The Oklahoma Department of Transportation (ODOT) State: OK Sampling Point: DP 5

Investigator(s): Megan Philips-Schaap & Lacee Stanley Section, Township, Range: Sec. 36, T6S, R6E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): slope Slope (%): 15-20

Subregion (LRR): Southwestern Prairies (LRR J) Lat: 33.997921 Long: -96.634393 Datum: WGS 84

Soil Map Unit Name: SwiE - Swink very cobbly clay loam, 2 to 15 percent slopes NWI classification: NA

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

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

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

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

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

Remarks:

This point was determined not to be within a wetland due to the lack of all three wetland criteria.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Eastern red-cedar (Juniperus virginiana)*	40	Yes	UPL
2. *American elm (Ulmus americana)*	30	Yes	FAC
3.			
4.			
	70%	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Eastern red-cedar (Juniperus virginiana)*	10	Yes	UPL
2. *American elm (Ulmus americana)*	10	Yes	FAC
3.			
4.			
5.			
	20%	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Spotted crane's-bill (Geranium maculatum)*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	5%	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. *Southern dewberry (Rubus trivialis)*	5	Yes	FACU
2.			
	5%	= Total Cover	

% Bare Ground in Herb Stratum 95%

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✗

Remarks:

No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FAC− or drier).

SOIL

Sampling Point: DP 5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/3	100	-	-	-	-	clay loam	
4-12	10YR 5/8	40	-	-	-	-	clay loam	
	10YR 5/3	40	-	-	-	-	clay loam	
	white	20	-	-	-	-	clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✗

Remarks:

No positive indication of hydric soils was observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Water Table Present? Yes _____ No ✗ Depth (inches): > 12"

Saturation Present? (includes capillary fringe) Yes _____ No ✗ Depth (inches): > 12"

Wetland Hydrology Present? Yes _____ No ✗

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

Remarks:

No positive indication of wetland hydrology was observed.

Print Form

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US-70 Over Lake Texoma (Roosevelt Bridge) City/County: Bryan Sampling Date: 12/1/2021

Applicant/Owner: The Oklahoma Department of Transportation (ODOT) State: OK Sampling Point: DP 6

Investigator(s): Megan Philips-Schaap & Lacee Stanley Section, Township, Range: Sec. 29, T6S, R7E

Landform (hillslope, terrace, etc.): wooded Local relief (concave, convex, none): concave Slope (%): 20-25

Subregion (LRR): Southwestern Prairies (LRR J) Lat: 33.998769 Long: -96.589769 Datum: WGS 84

Soil Map Unit Name: 68: Pits NWI classification: NA

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

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

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

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

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

Remarks:

This point was determined not to be within a wetland due to the lack of all three wetland criteria.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Willow oak (Quercus phellos)*	2	No	FACW
2. *Sugar-berry (Celtis laevigata)*	2	No	FAC
3.			
4.			
	4%	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1. *None observed*			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bushy bluestem (Andropogon glomeratus)*	35	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	35%	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. *Southern dewberry (Rubus trivialis)*	60	Yes	FACU
2.			
	60%	= Total Cover	

% Bare Ground in Herb Stratum 65%

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✗

Remarks:

No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FAC− or drier).

SOIL

Sampling Point: DP 6

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-3	10YR 3/3	100	-	-	-	-	clay loam	
3-12	5YR 5/8	100	-	-	-	-	sa cl lo	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✗

Remarks:

No positive indication of hydric soils was observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Water Table Present? Yes _____ No ✗ Depth (inches): > 12"

Saturation Present? (includes capillary fringe) Yes _____ No ✗ Depth (inches): > 12"

Wetland Hydrology Present? Yes _____ No ✗

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

Remarks:

No positive indication of wetland hydrology was observed.

Print Form

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US-70 Over Lake Texoma (Roosevelt Bridge) City/County: Bryan Sampling Date: 12/1/2021

Applicant/Owner: The Oklahoma Department of Transportation (ODOT) State: OK Sampling Point: DP 7

Investigator(s): Megan Philips-Schaap & Lacee Stanley Section, Township, Range: Sec. 29, T6S, R7E

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 15-20

Subregion (LRR): Southwestern Prairies (LRR J) Lat: 33.998740 Long: -96.591142 Datum: WGS 84

Soil Map Unit Name: 14: Boxville fine sandy loam, 3 to 8 percent slopes NWI classification: L1UBHh

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

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

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

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

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

Remarks:

This point was determined to be within a wetland due to the presence of all 3 wetland criteria.
Wetland 2

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None observed*			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Common buttonbush (Cephalanthus occidentalis)*	90	Yes	OBL
2.			
3.			
4.			
5.			
	90% = Total Cover		
Herb Stratum (Plot size: _____)			
1. *None observed*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. *None observed*			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100%

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✗ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✗ No _____

Remarks:

A positive indication of hydrophytic vegetation was observed (Rapid Test for Hydrophytic Vegetation).

SOIL

Sampling Point: DP 7

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 5/1	80	5YR 4/6	20	C	M	sa cl lo	
4-16	10YR 5/1	85	5YR 5/8	15	C	M	sa cl lo	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✗ No ___

Remarks:

A positive indication of hydric soil was observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Water Table Present? Yes ___ No ✗ Depth (inches): > 16"

Saturation Present? (includes capillary fringe) Yes ___ No ✗ Depth (inches): > 16"

Wetland Hydrology Present? Yes ✗ No ___

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

Remarks:

A positive indication of wetland hydrology was observed (at least one primary indicator).

Print Form

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US-70 Over Lake Texoma (Roosevelt Bridge) City/County: Bryan Sampling Date: 12/1/2021

Applicant/Owner: The Oklahoma Department of Transportation (ODOT) State: OK Sampling Point: DP 8

Investigator(s): Megan Philips-Schaap & Lacee Stanley Section, Township, Range: Sec. 29, T6S, R7E

Landform (hillslope, terrace, etc.): lake terrace Local relief (concave, convex, none): concave Slope (%): 15-20

Subregion (LRR): Southwestern Prairies (LRR J) Lat: 33.998719 Long: -96.592691 Datum: WGS 84

Soil Map Unit Name: 14: Boxville fine sandy loam, 3 to 8 percent slopes NWI classification: L1UBHh

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

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

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

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

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

Remarks:

This point was determined to be within a wetland due to the presence of all 3 wetland criteria.
Wetland 3

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None observed*			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Black willow (Salix nigra)*	35	Yes	FACW
2. *Common buttonbush (Cephalanthus occidentalis)*	30	Yes	OBL
3.			
4.			
5.			
	65% = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Sedge (Carex spp.)**	40	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	40% = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. *None observed*			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 60%

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✗ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✗ No _____

Remarks:

A positive indication of hydrophytic vegetation was observed (Rapid Test for Hydrophytic Vegetation).

SOIL

Sampling Point: DP 8

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 5/2	85	5YR 4/6	15	C	M	clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✗ No ___

Remarks:

A positive indication of hydric soil was observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Water Table Present? Yes ___ No ✗ Depth (inches): > 16"

Saturation Present? (includes capillary fringe) Yes ___ No ✗ Depth (inches): > 16"

Wetland Hydrology Present? Yes ✗ No ___

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

Remarks:

A positive indication of wetland hydrology was observed (at least two secondary indicators).

Print Form

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US-70 Over Lake Texoma (Roosevelt Bridge) City/County: Bryan Sampling Date: 12/1/2021

Applicant/Owner: The Oklahoma Department of Transportation (ODOT) State: OK Sampling Point: DP 9

Investigator(s): Megan Philips-Schaap & Lacee Stanley Section, Township, Range: Sec. 29, T6S, R7E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): slope Slope (%): 20

Subregion (LRR): Southwestern Prairies (LRR J) Lat: 33.998723 Long: -96.592638 Datum: WGS 84

Soil Map Unit Name: 14: Boxville fine sandy loam, 3 to 8 percent slopes NWI classification: NA

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

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

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

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

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

Remarks:

This point was determined not to be within a wetland due to the lack of all three wetland criteria.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None observed*			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. *None observed*			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Tapered rosette grass (Dichanthelium acuminatum)*	20	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	20% = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. *Southern dewberry (Rubus trivialis)*	60	Yes	FACU
2.			
	60% = Total Cover		

% Bare Ground in Herb Stratum 80%

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✗

Remarks:

No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FAC− or drier).

SOIL

Sampling Point: DP 9

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-10	5YR 5/8	100	-	-	-	-	sandy clay	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✗

Remarks:

No positive indication of hydric soils was observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Water Table Present? Yes _____ No ✗ Depth (inches): > 10"

Saturation Present? (includes capillary fringe) Yes _____ No ✗ Depth (inches): > 10"

Wetland Hydrology Present? Yes _____ No ✗

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

Remarks:

No positive indication of wetland hydrology was observed.

Print Form

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US-70 Over Lake Texoma (Roosevelt Bridge) City/County: Bryan Sampling Date: 12/2/2021

Applicant/Owner: The Oklahoma Department of Transportation (ODOT) State: OK Sampling Point: DP 10

Investigator(s): Megan Philips-Schaap & Lacee Stanley Section, Township, Range: Sec. 28, T6S, R7E

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 20-25

Subregion (LRR): Southwestern Prairies (LRR J) Lat: 33.998695 Long: -96.572049 Datum: WGS 84

Soil Map Unit Name: 14: Boxville fine sandy loam, 3 to 8 percent slopes NWI classification: L1UBHh

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

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

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

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

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

Remarks:

This point was determined not to be within a wetland due to the lack of hydric soils.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Black willow (Salix nigra)*	15	Yes	FACW
2.			
3.			
4.			
	15%	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Common buttonbush (Cephalanthus occidentalis)*	15	Yes	OBL
2.			
3.			
4.			
5.			
	15%	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Heliotrope (Heliotropium spp.)**	5	Yes	FACW
2. *Speedwell (Veronica spp.)***	5	Yes	OBL
3. *Tapered rosette grass (Dichanthelium acuminatum)*	5	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	15%	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1. *None observed*			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 85%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✗ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✗ No _____

Remarks:

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC). *3 species of Heliotropium are listed in the USACE State of OK 2018 Wetland Plant List. 100% have a FACW (n=2) or OBL (n=1) indicator status. **4 species of Veronica are listed in the USACE State of OK 2018 Wetland Plant List. 75% have a FACW (n=1) or OBL (n=2) indicator status.

SOIL

Sampling Point: DP 10

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	10YR 4/6	100	-	-	-	-	sa cl lo	
6-18	10YR 5/6	100	-	-	-	-	sa cl lo	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✗

Remarks:

No positive indication of hydric soils was observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Water Table Present? Yes _____ No ✗ Depth (inches): > 18"

Saturation Present? (includes capillary fringe) Yes _____ No ✗ Depth (inches): > 18"

Wetland Hydrology Present? Yes ✗ No _____

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

Remarks:

A positive indication of wetland hydrology was observed (at least two secondary indicators).

Print Form

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US-70 Over Lake Texoma (Roosevelt Bridge) City/County: Bryan Sampling Date: 12/2/2021

Applicant/Owner: The Oklahoma Department of Transportation (ODOT) State: OK Sampling Point: OB 11

Investigator(s): Megan Philips-Schaap & Lacee Stanley Section, Township, Range: Sec. 28, T6S, R7E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): slope Slope (%): 20-25

Subregion (LRR): Southwestern Prairies (LRR J) Lat: 33.998478 Long: -96.574172 Datum: WGS 84

Soil Map Unit Name: 14: Boxville fine sandy loam, 3 to 8 percent slopes NWI classification: L1UBHh

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

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

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

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

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

Remarks:

Hydrophytic vegetation and wetland hydrology were not observed at this data point. Soils were not collected at this observation point.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None observed*			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15' linear)			
1. *Common buttonbush (Cephalanthus occidentalis)*	25	Yes	OBL
2.			
3.			
4.			
5.			
	25% = Total Cover		
Herb Stratum (Plot size: _____)			
1. *None observed*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. *None observed*			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100%

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✗ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✗ No _____

Remarks:

A positive indication of hydrophytic vegetation was observed (Rapid Test for Hydrophytic Vegetation).

SOIL

Sampling Point: OB 11

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

Soils were not excavated.
Entire area is rock.

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

Soils were not collected at this observation point.

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes _____ No ✗

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

Remarks:

No positive indication of wetland hydrology was observed.

Print Form

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US-70 Over Lake Texoma (Roosevelt Bridge) City/County: Bryan Sampling Date: 12/2/2021

Applicant/Owner: The Oklahoma Department of Transportation (ODOT) State: OK Sampling Point: DP 12

Investigator(s): Megan Philips-Schaap & Lacee Stanley Section, Township, Range: Sec. 28, T6S, R7E

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 20-25

Subregion (LRR): Southwestern Prairies (LRR J) Lat: 33.998573 Long: -96.575228 Datum: WGS 84

Soil Map Unit Name: 68: Pits NWI classification: L1UBHh

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

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

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

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

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

Remarks:

This point was determined not to be within a wetland due to the lack of hydric soils.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None observed*			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Common buttonbush (Cephalanthus occidentalis)*	15	Yes	OBL
2.			
3.			
4.			
5.			
	15% = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Rough cockleburr (Xanthium strumarium)*	2	No	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	2% = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. *None observed*			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 98%

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✗ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✗ No _____

Remarks:

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC)

SOIL

Sampling Point: DP 12

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/4	100	-	-	-	-	clay loam	
4-16	7.5YR 5/8	100	-	-	-	-	sa cl lo	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✗

Remarks:

No positive indication of hydric soils was observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Water Table Present? Yes _____ No ✗ Depth (inches): > 16"

Saturation Present? (includes capillary fringe) Yes _____ No ✗ Depth (inches): > 16"

Wetland Hydrology Present? Yes ✗ No _____

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

Remarks:

A positive indication of wetland hydrology was observed (at least two secondary indicators).

Print Form

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US-70 Over Lake Texoma (Roosevelt Bridge) City/County: Bryan Sampling Date: 12/2/2021

Applicant/Owner: The Oklahoma Department of Transportation (ODOT) State: OK Sampling Point: DP 13

Investigator(s): Megan Philips-Schaap & Lacee Stanley Section, Township, Range: Sec. 28, T6S, R7E

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 10-20

Subregion (LRR): Southwestern Prairies (LRR J) Lat: 33.998795 Long: -96.575464 Datum: WGS 84

Soil Map Unit Name: 68: Pits NWI classification: L1UBHh

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

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

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

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

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

Remarks:

This point was determined to be within a wetland due to the presence of all 3 wetland criteria.
Wetland 4

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None observed*			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Common buttonbush (Cephalanthus occidentalis)*	55	Yes	OBL
2.			
3.			
4.			
5.			
	55% = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Sedge (Cyperus spp.)**	25	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	25% = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. *None observed*			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 75%

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✗ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✗ No _____

Remarks:

A positive indication of hydrophytic vegetation was observed (Rapid Test for Hydrophytic Vegetation).
*25 species of Cyperus are listed in the USACE State of OK 2018 Wetland Plant List. 64% have a FACW (n=11) or OBL (n=5) indicator status.

SOIL

Sampling Point: DP 13

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 4/2	80	10YR 5/8	20	C	M	clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✗ No ___

Remarks:

A positive indication of hydric soil was observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Water Table Present? Yes ✗ No ___ Depth (inches): 14"

Saturation Present? (includes capillary fringe) Yes ✗ No ___ Depth (inches): surface

Wetland Hydrology Present? Yes ✗ No ___

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

Remarks:

A positive indication of wetland hydrology was observed (at least one primary indicator).

Print Form

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US-70 Over Lake Texoma (Roosevelt Bridge) City/County: Bryan Sampling Date: 12/2/2021

Applicant/Owner: The Oklahoma Department of Transportation (ODOT) State: OK Sampling Point: DP 14

Investigator(s): Megan Philips-Schaap & Lacee Stanley Section, Township, Range: Sec. 28, T6S, R7E

Landform (hillslope, terrace, etc.): open tall grass Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): Southwestern Prairies (LRR J) Lat: 33.998657 Long: -96.578612 Datum: WGS 84

Soil Map Unit Name: 68: Pits NWI classification: NA

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

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

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

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

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

Remarks:

This point was determined not to be within a wetland due to the lack of all three wetland criteria.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None observed*			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Common buttonbush (Cephalanthus occidentalis)*	5	Yes	OBL
2.			
3.			
4.			
5.			
	5% = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Southern dewberry (Rubus trivialis)*	70	Yes	FACU
2. *Bermuda grass (Cynodon dactylon)*	15	No	FACU
3. *Aster (Symphyotrichum spp.)**	15	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. *None observed*			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✗

Remarks:

No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FAC− or drier).
*27 species of Symphyotrichum are listed in the USACE State of OK 2018 Wetland Plant List. 74% have a FAC (n=6), FACW (n=8) or OBL (n=6) indicator status.

SOIL

Sampling Point: DP 14

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 4/6	100	-	-	-	-	clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✗

Remarks:

No positive indication of hydric soils was observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Water Table Present? Yes _____ No ✗ Depth (inches): > 12"

Saturation Present? (includes capillary fringe) Yes _____ No ✗ Depth (inches): > 12"

Wetland Hydrology Present? Yes _____ No ✗

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

Remarks:

No positive indication of wetland hydrology was observed.

Print Form

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US-70 Over Lake Texoma (Roosevelt Bridge) City/County: Bryan Sampling Date: 12/2/2021

Applicant/Owner: The Oklahoma Department of Transportation (ODOT) State: OK Sampling Point: DP 15

Investigator(s): Megan Philips-Schaap & Lacee Stanley Section, Township, Range: Sec. 28, T6S, R7E

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

Subregion (LRR): Southwestern Prairies (LRR J) Lat: 33.998848 Long: -96.584140 Datum: WGS 84

Soil Map Unit Name: 42: Karma fine sandy loam, 1 to 3 percent slopes NWI classification: NA

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

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

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

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

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

Remarks:

This point was determined not to be within a wetland due to the lack of hydric soils and wetland hydrology.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *American elm (Ulmus americana)*	45	Yes	FAC
2. *Sugar-berry (Celtis laevigata)*	25	Yes	FAC
3.			
4.			
	70%	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *American elm (Ulmus americana)*	5	Yes	FAC
2.			
3.			
4.			
5.			
	5%	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Sedge (Carex spp.)**	40	Yes	OBL
2. *Nodding wild rye (Elymus canadensis)*	35	Yes	FACU
3. *Henbit deadnettle (Lamium amplexicaule)***	10	No	UPL
4. *Common chickweed (Stellaria media)*	10	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	95%	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. *Alabama supplejack (Berchemia scandens)*	10	Yes	FAC
2. *Horsebrier (Smilax rotundifolia)*	5	Yes	FAC
	15%	= Total Cover	

% Bare Ground in Herb Stratum 5%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 86% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✗ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✗ No _____

Remarks:

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC)
*83 species of Carex are listed in the USACE State of OK 2018 Wetland Plant List. 72% have a FACW (n=24) or OBL (n=36) indicator status.
**Plant species does not have a wetland indicator according to USDA, assume upland.

SOIL

Sampling Point: DP 15

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 4/2	100	-	-	-	-	sandy loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✗

Remarks:

No positive indication of hydric soils was observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Water Table Present? Yes _____ No ✗ Depth (inches): > 12"

Saturation Present? (includes capillary fringe) Yes _____ No ✗ Depth (inches): > 12"

Wetland Hydrology Present? Yes _____ No ✗

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

Remarks:

No positive indication of wetland hydrology was observed.

Print Form

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US-70 Over Lake Texoma (Roosevelt Bridge) City/County: Bryan Sampling Date: 12/2/2021

Applicant/Owner: The Oklahoma Department of Transportation (ODOT) State: OK Sampling Point: DP 16

Investigator(s): Megan Philips-Schaap Section, Township, Range: Sec. 29, T6S, R7E

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 10-15

Subregion (LRR): Southwestern Prairies (LRR J) Lat: 34.000050 Long: -96.592835 Datum: WGS 84

Soil Map Unit Name: 68: Pits NWI classification: NA

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

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

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

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

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

Remarks:

This point was determined not to be within a wetland due to the lack of all three wetland criteria.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None observed*			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *American elm (Ulmus americana)*	40	Yes	FAC
2.			
3.			
4.			
5.			
	40% = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Southern dewberry (Rubus trivialis)*	60	Yes	FACU
2. *Hogwort (Croton capitatus)**	15	No	UPL
3. *Aster (Symphyotrichum spp.)***	15	No	FACW
4. *Tapered rosette grass (Dichanthelium acuminatum)*	15	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
	105% = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. *None observed*			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✗

Remarks:

No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FAC−or drier). *Plant species does not have a wetland indicator according to USDA, assume upland. **27 species of Symphyotrichum are listed in the USACE State of OK 2018 Wetland Plant List.

74% have a FAC (n=6), FACW (n=8) or OBL (n=6) indicator status.

SOIL

Sampling Point: DP 16

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	100	-	-	-	-	sa cl lo	
2-12	10YR 6/3	70	10YR 5/8	30	C	M	sa cl lo	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✗

Remarks:

No positive indication of hydric soils was observed. Area is not subject to ponding.

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)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) (**where not tilled**)
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Water Table Present? Yes _____ No ✗ Depth (inches): > 12"

Saturation Present? (includes capillary fringe) Yes _____ No ✗ Depth (inches): > 12"

Wetland Hydrology Present? Yes _____ No ✗

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

Remarks:

No positive indication of wetland hydrology was observed.

Print Form

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US-70 Over Lake Texoma (Roosevelt Bridge) City/County: Bryan Sampling Date: 12/2/2021

Applicant/Owner: The Oklahoma Department of Transportation (ODOT) State: OK Sampling Point: DP 17

Investigator(s): Megan Philips-Schaap & Lacee Stanley Section, Township, Range: Sec. 29, T6S, R7E

Landform (hillslope, terrace, etc.): lake terrace Local relief (concave, convex, none): concave Slope (%): 25-30

Subregion (LRR): Southwestern Prairies (LRR J) Lat: 34.000904 Long: -96.601766 Datum: WGS 84

Soil Map Unit Name: 68: Pits NWI classification: NA

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

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

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

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

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

Remarks:

This point was determined not to be within a wetland due to the lack of hydric soils.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Black willow (Salix nigra)*	45	Yes	FACW
2.			
3.			
4.			
	45%	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Common buttonbush (Cephalanthus occidentalis)*	40	Yes	OBL
2. *Black willow (Salix nigra)*	15	Yes	FACW
3.			
4.			
5.			
	55%	= Total Cover	
Herb Stratum (Plot size: _____)			
1. *None observed*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	_____	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1. *None observed*			
2.			
	_____	= Total Cover	

% Bare Ground in Herb Stratum 100%

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✗ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✗ No _____

Remarks:

A positive indication of hydrophytic vegetation was observed (Rapid Test for Hydrophytic Vegetation).

SOIL

Sampling Point: DP 17

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	10YR 3/1	100	-	-	-	-	clay loam	
6-16	10YR 2/2	100	-	-	-	-	clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✗

Remarks:

No positive indication of hydric soils was observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Water Table Present? Yes _____ No ✗ Depth (inches): > 16"

Saturation Present? (includes capillary fringe) Yes _____ No ✗ Depth (inches): > 16"

Wetland Hydrology Present? Yes ✗ No _____

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

Remarks:

A positive indication of wetland hydrology was observed (at least two secondary indicators).

Print Form

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US-70 Over Lake Texoma (Roosevelt Bridge) City/County: Bryan Sampling Date: 12/2/2021

Applicant/Owner: The Oklahoma Department of Transportation (ODOT) State: OK Sampling Point: DP 18

Investigator(s): Megan Philips-Schaap & Lacee Stanley Section, Township, Range: Sec. 33, T6S, R7E

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 25-30

Subregion (LRR): Southwestern Prairies (LRR J) Lat: 33.997535 Long: -96.571608 Datum: WGS 84

Soil Map Unit Name: 14: Boxville fine sandy loam, 3 to 8 percent slopes NWI classification: NA

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

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

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

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

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

Remarks:

This point was determined to be within a wetland due to the presence of all 3 wetland criteria.
Wetland 5

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Black willow (Salix nigra)*	30	Yes	FACW
2.			
3.			
4.			
	30%	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Common buttonbush (Cephalanthus occidentalis)*	30	Yes	OBL
2.			
3.			
4.			
5.			
	30%	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Southern dewberry (Rubus trivialis)*	5	Yes	FACU
2. *Sedge (Carex spp.)**	2	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	7%	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1. *None observed*			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 93%

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✗ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✗ No _____

Remarks:

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).
*83 species of Carex are listed in the USACE State of OK 2018 Wetland Plant List. 72% have a FACW (n=24) or OBL (n=36) indicator status.

SOIL

Sampling Point: DP 18

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16	10YR 4/1	80	10YR 5/6	20	C	M/PL	clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✗ No ___

Remarks:

A positive indication of hydric soil was observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Water Table Present? Yes ___ No ✗ Depth (inches): > 16"

Saturation Present? (includes capillary fringe) Yes ___ No ✗ Depth (inches): > 16"

Wetland Hydrology Present? Yes ✗ No ___

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

Remarks:

A positive indication of wetland hydrology was observed (at least two secondary indicators).

Print Form

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US-70 Over Lake Texoma (Roosevelt Bridge) City/County: Bryan Sampling Date: 12/2/2021

Applicant/Owner: The Oklahoma Department of Transportation (ODOT) State: OK Sampling Point: DP 19

Investigator(s): Megan Philips-Schaap & Lacee Stanley Section, Township, Range: Sec. 33, T6S, R7E

Landform (hillslope, terrace, etc.): lake terrace Local relief (concave, convex, none): concave Slope (%): 5-10

Subregion (LRR): Southwestern Prairies (LRR J) Lat: 33.997430 Long: -96.572232 Datum: WGS 84

Soil Map Unit Name: 14: Boxville fine sandy loam, 3 to 8 percent slopes NWI classification: NA

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

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

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

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

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

Remarks:

This point was determined not to be within a wetland due to the lack of all three wetland criteria.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Osage-orange (Maclura pomifera)*	30	Yes	FACU
2.			
3.			
4.			
	30%	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Common buttonbush (Cephalanthus occidentalis)*	2	No	OBL
2.			
3.			
4.			
5.			
	2%	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Aster (Symphyotrichum spp.)**	40	Yes	FACW
2. *Southern dewberry (Rubus trivialis)*	25	Yes	FACU
3. *Tapered rosette grass (Dichanthelium acuminatum)*	20	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	85%	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1. *None observed*			
2.			
	_____	= Total Cover	

% Bare Ground in Herb Stratum 15%

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✗

Remarks:

No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FAC− or drier).
*27 species of Symphyotrichum are listed in the USACE State of OK 2018 Wetland Plant List. 74% have a FAC (n=6), FACW (n=8) or OBL (n=6) indicator status.

SOIL

Sampling Point: DP 19

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 5/4	100	-	-	-	-	clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✗

Remarks:

No positive indication of hydric soils was observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Water Table Present? Yes _____ No ✗ Depth (inches): > 12"

Saturation Present? (includes capillary fringe) Yes _____ No ✗ Depth (inches): > 12"

Wetland Hydrology Present? Yes _____ No ✗

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

Remarks:

No positive indication of wetland hydrology was observed.

Print Form

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US-70 Over Lake Texoma (Roosevelt Bridge) City/County: Bryan Sampling Date: 12/2/2021

Applicant/Owner: The Oklahoma Department of Transportation (ODOT) State: OK Sampling Point: DP 20

Investigator(s): Megan Philips-Schaap & Lacee Stanley Section, Township, Range: Sec. 33, T6S, R7E

Landform (hillslope, terrace, etc.): lake terrace Local relief (concave, convex, none): concave Slope (%): 15-20

Subregion (LRR): Southwestern Prairies (LRR J) Lat: 33.997556 Long: -96.573750 Datum: WGS 84

Soil Map Unit Name: 14: Boxville fine sandy loam, 3 to 8 percent slopes NWI classification: L1UBHh

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

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

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

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

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

Remarks:

This point was determined to be within a wetland due to the presence of all 3 wetland criteria.
Wetland 6

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Black willow (Salix nigra)*	25	Yes	FACW
2.			
3.			
4.			
	25%	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Common buttonbush (Cephalanthus occidentalis)*	50	Yes	OBL
2.			
3.			
4.			
5.			
	50%	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Southern dewberry (Rubus trivialis)*	25	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	25%	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1. *None observed*			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 75%

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✗ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✗ No _____

Remarks:

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

SOIL

Sampling Point: DP 20

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	85	5YR 4/6	15	C	M	clay loam	
4-16	7.5YR 6/2	90	7.5YR 5/8	10	C	M	sandy clay	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✗ No ___

Remarks:

A positive indication of hydric soil was observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Water Table Present? Yes ___ No ✗ Depth (inches): > 16"

Saturation Present? (includes capillary fringe) Yes ___ No ✗ Depth (inches): > 16"

Wetland Hydrology Present? Yes ✗ No ___

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

Remarks:

A positive indication of wetland hydrology was observed (at least two secondary indicators).

Print Form

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: US-70 Over Lake Texoma (Roosevelt Bridge) City/County: Bryan Sampling Date: 12/2/2021

Applicant/Owner: The Oklahoma Department of Transportation (ODOT) State: OK Sampling Point: DP 21

Investigator(s): Megan Philips-Schaap & Lacee Stanley Section, Township, Range: Sec. 33, T6S, R7E

Landform (hillslope, terrace, etc.): scrub-shrub Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): Southwestern Prairies (LRR J) Lat: 33.997488 Long: -96.574261 Datum: WGS 84

Soil Map Unit Name: 14: Boxville fine sandy loam, 3 to 8 percent slopes NWI classification: NA

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

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

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

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

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

Remarks:

This point was determined not to be within a wetland due to the lack of hydric soils and wetland hydrology.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None observed*			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Common buttonbush (Cephalanthus occidentalis)*	15	Yes	OBL
2.			
3.			
4.			
5.			
	15% = Total Cover		
Herb Stratum (Plot size: 5')			
1. *Aster (Symphyotrichum spp.)**	35	Yes	FACW
2. *Sedge (Carex spp.)***	30	Yes	OBL
3. *Southern dewberry (Rubus trivialis)*	30	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	95% = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1. *Fringed greenbrier (Smilax bona-nox)*	15	Yes	FACU
2.			
	15% = Total Cover		

% Bare Ground in Herb Stratum 5%

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✗ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✗ No _____

Remarks:

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC)

*27 species of Symphyotrichum are listed in the USACE State of OK 2018 Wetland Plant List. 74% have a FAC (n=6), FACW (n=8) or OBL (n=6) indicator status.

**83 species of Carex are listed in the USACE State of OK 2018 Wetland Plant List. 72% have a FACW (n=24) or OBL (n=36) indicator status.

SOIL

Sampling Point: DP 21

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-4	10YR 4/2	98	10YR 5/8	2	C	M	sandy loam	faint
4-18	10YR 5/4	100	-	-	-	-	sandy loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✗

Remarks:

No positive indication of hydric soils was observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Water Table Present? Yes _____ No ✗ Depth (inches): > 18"

Saturation Present? (includes capillary fringe) Yes _____ No ✗ Depth (inches): > 18"

Wetland Hydrology Present? Yes _____ No ✗

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

Remarks:

No positive indication of wetland hydrology was observed.