

Wetland Delineation Report

**Port of Catoosa
Inola Industrial Rail Facility
Rogers County, Oklahoma**

Prepared for:

Port of Catoosa

Report Date: October, 2020

Prepared By:



EXPERIENCE | Transportation

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Table of Contents

Summary	2
Project Information	2
1.1 Project Location	2
1.2 Project Description	3
1.3 Desktop Investigation.....	3
1.3.1 Hydric Soils	3
1.3.2 NWI Wetlands.....	3
1.3.3 NHD Flowline.....	3
1.3.4 Other Resources	4
1.4 Field Investigation.....	4
1.4.1 Field Data	4
1.4.2 Discussion	4
1.4.3 Resource Impacts	7
1.5 Threatened and Endangered Species	7
References.....	10

Tables

Table 1: Water Resource Impacts

Table 2: Threatened and Endangered Species

Appendices

Appendix A: Figures:

 Figure 1: Project Location Map

 Figure 2: Topographic Map

 Figure 3: Hydric Soils Map

 Figure 4: NWI/NHD Features Map

 Figure 5: Delineation Maps

Appendix B: Routine Wetland Delineation Forms

Appendix C: Site Photographs

Wetland Delineation Report

Rogers County, Oklahoma

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Summary

This report has been prepared in order to document potential waters of the U.S. (WOTUS) for the Port of Catoosa Inola Industrial Rail Facility located in Rogers County, Oklahoma. The study areas for the project are based on the potential project area of impact. A field investigation of the study area was conducted on August 4 and 5, 2020 to determine possible locations of WOTUS. The delineation was completed in accordance with methods set forth in the *Corps of Engineers Wetlands Delineation Manual* (1987) and *Midwest Regional Supplement (Version 2.0)*. Four channels (one perennial and three ephemeral drainage classes), five open water areas (one ditch maintaining water and four ponds), and eight wetlands were delineated during the site visit. Supplementary observations were made for threatened and endangered species habitat in the project study area. No particularly suitable species habitat was observed.

Project Information

1.1 Project Location

The project area is located in Rogers County, Oklahoma, south of the town of Inola. Portions of the project development are located inside of the town limits of Inola. The project area delineation was completed on August 4 and 5, 2020, and generally includes all potential project impact areas, as described in the project description. The project study area encompasses three distinct segments. The eastern segment includes a proposed connection to the Union Pacific Railroad (UPRR) Wagoner Subdivision between Mile Post (MP) 594.76 and MP 595.18, extending to the existing rail spur to the east of South 4220 Road at Latitude 36.125222° and Longitude -95.493770°. The middle segment extends from the west side of South 4210 Road at Latitude 36.125221° and Longitude -95.511815° to the east side of South 4200 Road at Latitude 36.125213° and Longitude -95.531774°. The third segment includes a loop track to the west of South 4200 Road and south of the facility access road,

centered on Latitude 36.116738° and Longitude -95.538628°. The project study area is located in Public Land Survey System (PLSS) Sections 15, 17, 18, and 19 of Township 19 North, Range 17 East. A location map is available as Figure 1, and a topographic map of the area is provided as Figure 2. Supporting figures are located in Appendix A.

1.2 Project Description

This project involves construction of a new industrial rail facility connected to an existing rail spur from the UPRR Wagoner Subdivision. Proposed improvements of the existing rail structure includes construction of two drop and pull tracks of approximately 5,000 track-feet each, a wye track of approximately 2,000 track-feet, one loop track with approximately 8,000 clear (usable) track-feet, upgrades to the existing spur track, replacement of an existing mainline turnout with a #15 power turnout, installation of three centralized traffic control switches, and signaling. All activities are to occur in the existing right of way (ROW).

1.3 Desktop Investigation

A desktop review was conducted prior to the field investigation in order to identify potential environmental resources in the vicinity of the study area. Topographic imagery, aerial imagery, hydrography datasets, and wetland data were reviewed and referred to during the field delineation. Resources reviewed showed the potential for wetlands and channels in the study area.

1.3.1 *Hydric Soils*

Hydric soil data was obtained from the Web Soil Survey Mapping and Data tool hosted by the Natural Resources Conservation Service (NRCS). According to the hydric soil report there are two soil types with minor hydric components in the study area: Taloka silt loam, 0 to 1 percent slopes and Verdigris clay loam, 0 to 2 percent slopes, frequently flooded. Taloka silt loam, 0 to 1 percent slopes is a somewhat poorly drained soil consisting of loamy and clayey alluvium and/or loamy clayey colluvium over residuum weathered from sandstone and shale. Verdigris clay loam, 0 to 2 percent slopes, frequently flooded is a well drained soil consisting of silty alluvium. These soils do not meet hydric criteria despite some hydric inclusions. Hydric soils in the project vicinity are shown on Figure 3.

1.3.2 *NWI Wetlands*

U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) was utilized for preliminary waters of the U.S. review. NWI data identified Riverine, Freshwater Pond, and Freshwater Emergent Wetland features in the study area. NWI data in the study area is based on interpretation of color infrared imagery from 1980. NWI wetland locations are shown in Figure 4.

1.3.3 *NHD Flowline*

The U. S. Geological Survey (USGS) National Hydrography Dataset (NHD) was reviewed in order to identify preliminary locations of channels within the project area. The desktop review showed two perennial and two intermittent features intersecting the study area. One intermittent feature corresponds to Inola Creek. The other features are unnamed. The NHD imagery is shown in Figure 4.

1.3.4 Other Resources

Other resources reviewed as part of the desktop investigation included U.S. Department of Agriculture (USDA) National Agriculture Imagery Program (NAIP) aerial imagery, Google Earth aerial imagery, and USGS Topographic Mapping.

1.4 Field Investigation

1.4.1 Field Data

A field investigation of the anticipated project area was conducted on August 4 and 5, 2020, in accordance with methods set forth in the *1987 Corps of Engineers Wetlands Delineation Manual* and *Midwest Regional Supplement* to determine locations of waters of the U.S. According to the U.S. Drought Monitor, conditions for the week of August 4 were reported as normal for the project area. Precipitation in the project area saw approximately 2.5 inches of precipitation in the week leading up to the site visit, as recorded by observations from the Tulsa international airport, located approximately 20 miles west of the project site. Four channels (one perennial and three ephemeral drainage classes), five open water areas (one ditch maintaining water and four ponds), and eight wetlands were delineated during the site visit. Delineation Data Forms are located in Appendix B. Site photographs of the features described is located in Appendix C.

1.4.2 Discussion

The study area generally consisted of rail transit corridor, road transit corridor, utility corridor, and agricultural land used for cattle. The study area is heavily influenced by anthropogenic uses. Resources identified are discussed below.

Channel 1

Channel 1 is located at in the northeast section of the project area adjacent to the UPRR mainline track. Channel 1 is an ephemeral channel flowing from east to west through a culvert under the UPRR track. The channel terminates in an apparent upland farm pond outside of the study area further west. The drainage class of this channel is ephemeral. Outside of rail ROW, the channel appears to have been impacted by the presence of cattle (erosion, disturbed banks). No wetland fringe was observed in association with this channel. Approximately 470 linear feet were identified in the study area. Channel 1 is not associated with any NWI or NHD data. This channel does not exhibit any apparent connection to WOTUS.

Channel 2 (Inola Creek)

Channel 2 corresponds to Inola Creek. Inola Creek crosses through the study area in two locations. Inola Creek crosses the existing track infrastructure approximately 850 feet east of South 4200 Road. The creek is also present in the southeast portion of the study area associated with the proposed loop track. Inola Creek is a perennial feature, ranging between 20 and 30 feet in width in the study area. The middle section of the study area contained approximately 1130 linear feet. The loop track portion of the study area contained approximately 2,650 linear feet. The creek was observed to be incised, with minimal opportunities for out of bank flooding. No wetland fringe was observed in association with the creek within the study area.

Channel 3

Channel 3 is an ephemeral feature extending from an upland excavated farm pond (Open Water 3). The creek flows from the farm pond to Inola Creek to the south. The channel is approximately 1,350 linear feet in length. Channel 3 is not associated with any NWI or NHD data. The channel appears to have been impacted by the presence of cattle (erosion, disturbed banks). No wetland fringe was observed in association with this channel.

Channel 4

Channel 4 is an ephemeral feature extending from an upland excavated farm pond (Open Water 4). The creek flows from the farm pond to Inola Creek to the southeast. Channel 4 is associated with an NHD channel line. The channel appears to have been impacted by the presence of cattle (erosion, disturbed banks). No wetland fringe was observed in association with this channel. The channel OHWM ceases to be apparent before connecting to the farm pond. The NHD layer channel extends further west than the observed channel. The channel is approximately 1,300 linear feet in length. The NHD layer may be associated with landscape features that were historically present, but have been modified through agricultural and other development.

Open Water 1

Open Water 1 is a low area holding water in a ditch located on either side of the existing rail. The eastern boundary of this ditch area is approximately 900 feet southwest of South 4200 Road. The two sections of Open Water 1 are connected through a culvert underneath the track. Open water 1 receives drainage from a pond and waterway to the northwest through a road culvert, and drains to a pond to the southeast, outside of the study area. The total area of this water feature is 0.58 acre. Open Water 1 is not associated with any NWI or NHD layer. The receiving drainage area does not appear to connect to the closest known WOTUS, Inola Creek. A review of aeriels across multiple years indicates the ditch represents a low area that is regularly ponded with water.

Open Water 2

Open Water 2 is a ponded area located in the southwest portion of the study area. This ponded area is connected to Wetland 5, to the west through a culvert under a dirt access road. The water feature is 0.36 acre in size. Wetland 6 is a small fringe wetland along the northwest bank of Open Water 2. This feature is associated with an NWI list of Freshwater Pond. This designation is consistent with site observations.

Open Water 3

Open Water 3 is an upland farm pond created by the placement of an earth berm in a topographic drainage location. Channel 3 extends from this pond generally to the east then south to Inola Creek. The water feature is 0.51 acre in size. This location is not associated with any NHD or NWI information.

Open Water 4

Open Water 4 is an upland farm pond created by the placement of an earth berm in a topographic drainage location. This pond exhibits drainage through a vegetated swale to the east towards Channel 4. The water feature is 0.48 acre in size. NHD and NWI identify this area as corresponding to a channel. Wetland 7 is located at the west end of the pond.

Open Water 5

Open Water 5 is a freshwater pond located in a topographically low area. This feature is separated from Open Water 4 by a dirt access road. No water conveyance structure was observed that would connect the two features. The water feature is 0.26 acre in size. NHD and NWI identify this area as corresponding to a channel. Wetland 8 is located on the west side of the feature. No channel was observed extending further north and west from this area, as indicated by NWI and NHD data.

Wetland 1

Wetland 1 is a Palustrine Emergent Wetland located in a low area of a ditch on either side of the existing track line. Total observed wetland area is 0.35 acre. The wetland is located at Latitude 36.125239°, Longitude -95.513257°. This wetland is not associated with any NWI or NHD data, and does not exhibit any connectivity to other WOTUS in the area.

Wetland 2

Wetland 2 is a Palustrine Emergent Wetland located in a low area north of the existing rail line. NWI and NHD data indicate the presence of a channel and a freshwater pond at this location. The observed wetland area is 0.59 acres. The wetland is located at Latitude 36.125516°, Longitude -95.521459°. The wetland extends further northeast outside of the study area. Hydrology at this location appears to be driven by inadequate cross track drainage. This wetland may be connected to an unnamed tributary to Inola Creek.

Wetland 3

Wetland 3 is a Palustrine Scrub Shrub Wetland located in a ditch between the rail and adjacent access road. The wetland is connected to Wetland 4 through a culvert to the west and to Open Water 1 to the east. The wetland is 0.21 acre in size. The wetland is located at Latitude 36.122070°, Longitude -95.537968°. This wetland is not associated with any NWI or NHD data. This wetland does not exhibit any direct connection to assumed WOTUS.

Wetland 4

Wetland 4 is a Palustrine Emergent Wetland located in a ditch area at a low point to the north of the existing rail and in part adjacent to an access road to the north. The wetland is 0.26 acre in size. The wetland is located at Latitude 36.121152°, Longitude -95.539405°. This wetland is not associated with any NWI or NHD data. This wetland does not exhibit any direct connection to assumed WOTUS.

Wetland 5

Wetland 5 is a Palustrine Emergent Wetland located in a low drainage swale on the west side of the loop track study area. The wetland swale extends generally north to south across the entirety of the study area. The area of wetland in the study area is 1.17 acre. The north extent of Wetland 5 is at Latitude 36.119396°, Longitude -95.540921°. The south extent was mapped to Latitude 36.112497°, Longitude -95.540624°. The wetland extends outside of the study area, and may be connected to other WOTUS. The northernmost portion of the wetland did not meet criteria for hydric vegetation or hydrology, but was included due to historic identification as a WOTUS and presence of hydric soil indicators. This features was considered a jurisdictional WOTUS in a past evaluation. Wetland 5 is connected to Open Water 2 through a culvert under a dirt access road.

Wetland 6

Wetland 6 is a Palustrine Emergent Wetland present as a fringe on the north side of Open Water 2. The area of the wetland is 0.02 acre. The wetland is located at Latitude 36.116058°, Longitude -95.540134°.

Wetland 7

Wetland 7 is a Palustrine Emergent Wetland present as a fringe on the west side of Open Water 4. The area of the wetland is 0.05 acre. The wetland is located at Latitude 36.11823°, Longitude -95.538526°. Wetland conditions appear to be present due to a low area between a dirt access road and the adjacent farm pond.

Wetland 8

Wetland 8 is a Palustrine Emergent Wetland present as a fringe on the west side of Open Water 5. The area of the wetland is 0.01 acre. The wetland is located at Latitude 36.118568°, Longitude -95.538713°. Topographic conditions supporting wetland hydrology appear to be due to the location of the dirt access road crossing the area.

1.4.3 Resource Impacts

Data on the location of potential WOTUS was collected early in the design phase to maximize avoidance of water features in the potential project area. Preliminary design has included placement of infrastructure in such a way as to minimize the placement of fill in potential WOTUS identified. Preliminary design estimates impacts to 0.03 acre of ephemeral waterways, 0.05 acre of open water (ditch location), and 0.36 acre of wetlands. Table I identifies the impact areas and expected jurisdictional status. Jurisdictional status was assessed under the Navigable Waters Protection Rule. It is expected that a Section 404 permit from the USACE will be required for project activities. Impacts would fall under the thresholds for inclusion in the Nationwide Permit program due to fill placement of less than 0.5 acre. Project activities would qualify for Nationwide Permit #14 for Linear Transportation Projects.

Table I: Water Resource Impacts

Waterbody	Linear Feet	Acreage	Jurisdictional
Channel 1	104	0.01	Not Likely
Channel 3	134	0.01	Not Likely
Channel 4	168	0.01	Not Likely
Open Water 1	107	0.05	Not Likely
Wetland 1	841	0.25	Not Likely
Wetland 2	150	0.11	Potentially

Note: All acreages are rounded to the 100th and may not sum accurately due to rounding errors.

1.5 Threatened and Endangered Species

A review of threatened and endangered species that could be potentially impacted by the project was performed using the USFWS Information for Planning and Consultation (IPAC) website on

January 1, 2019 prior to site field investigations, and again on October 19, 2020. A total of eight threatened or endangered species were listed on the IPAC Species List as potentially present in the project vicinity. Table 2 provides a list of the species provided by IPAC and critical habitat information. Potential species habitat was observed and catalogued during the wetland delineation process for the purpose of determining the likelihood of species presence.

Table 2: Threatened and Endangered Species Listed by IPAC as being of potential concern

Common Name	Scientific Name	Federal Status	Critical Habitat
Mammals			
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Threatened	Not designated
Insects			
American Burying Beetle	<i>Nicrophorus americanus</i>	Endangered	Not Designated
Birds			
Red Knot	<i>Calidris canutus rufa</i>	Threatened	Not Designated
Whooping Crane	<i>Grus Americana</i>	Endangered	Not Present
Least Tern	<i>Sterna antillarum</i>	Endangered	Not Designated
Piping Plover	<i>Charadrius melodus</i>	Threatened	Not present
Clams			
Neosho Mucket	<i>Lampsilis rafinequeana</i>	Endangered	Not Present
Rabbitsfoot	<i>Quadrula cylindrica cylindrica</i>	Threatened	Not Designated

All habitat in the project study area was observed to have been altered anthropogenic influences. The eastern study area is comprised of railroad ROW, maintained utility corridor, and cattle grazing area. Vegetation in this area included grass habitat that is either grazed or mowed to a short length and shrubs and trees adjacent to the railroad track. One ephemeral stream was observed. The central study area included maintained utility corridor and railroad ROW. Vegetation included maintained grass areas in the utility corridor and shrub and tree species adjacent to the railroad track. Wetland and stream areas are present in this corridor as well. The western portion of the study area includes railroad ROW, crop production and cattle grazing fields, riparian corridor, and ruderal areas that were previously developed. Wetlands are present in the study area, but have been formed or disturbed by past excavation and damming. No particularly suitable habitat was observed during the site investigation.

Northern Long-eared Bat: During the winter months, northern long-eared bats hibernate in caves or mines. During their active season, these bats seek suitable roost and forage habitat in forest and woodland areas that include, but are not limited to, peeling tree bark (exfoliating bark), tree crevices, or decaying cavities. Potential roost trees must be at least three inches diameter at breast height. Other preferred habitat includes linear features such as fencerows, riparian forests or other wooded corridors. Females of the species are known to return to the same maternity roost trees for the rearing of pups over multiple years. No suitable caves or mines were observed in the study area. Maternity roost trees are not expected to be present in the area. Suitable tree roost habitat may be present in areas of tree clearing. Any potential harm to the species may be avoided through timing of tree removal.

American Burying Beetle: American burying beetles are thought to be habitat generalists. They may have a slight preference for grasslands and open understory oak hickory forests. The primary requirement for the species is availability of carrion the size of a dove or chipmunk. Carrion availability may be the greatest factor in determining where the species can survive. American burying beetles may be more likely to be found in areas of low human activity/disturbance. The proposed project action area is predominantly located in transportation corridors, maintained utility corridors, and cattle grazing fields. The project action area is likely to be of low suitability due to regular disturbance.

Red Knot: The red knot is a shorebird found in coastal habitats including marine and estuarine locations with large areas of exposed intertidal sediments. Preferred wintering and migration microhabitats include muddy or sandy coastal areas, usually at the mouths of bays and estuaries, tidal flats, and unimproved tidal inlets. Preferred migratory stop over areas include inland saline lakes. Forage areas include mudflats where their bills are used to probe the substrate for mollusks, invertebrates, and seeds. Red Knots may utilize inland freshwater habitats. Fewer than five individuals are reported in Oklahoma annually. There is no evidence of the species utilizing shallow wetlands, ponds, or streams in Oklahoma. No suitable stopover habitat is in or adjacent to the project action area.

Whooping Crane: Whooping cranes breed and nest along lake margins or among rushes and sedges in marshes and meadows. The water in the preferred wetland habitat may be anywhere from 8 to 10 inches (20-25 cm) to as much as 18 inches (46 cm) deep. Preferred habitat includes ponds with border growths of bulrushes and cattails. Migrating birds are seen in Oklahoma along rivers, in grain fields, or in shallow wetlands. Wetlands present in the project action area are relatively small, and likely don't provide particularly enticing stopover opportunities. No particularly suitable habitat for the Whooping Crane was observed in the project action area.

Least Tern: The USFWS indicates this species should only be considered for tower or wind turbine and wind farm projects. This species was therefore not considered further.

Piping Plover: Piping plovers are shorebirds that typically use wide, flat, open, sandy beaches with little grass or other vegetation. Forage areas include mudflats and sandbars hosting invertebrates. No suitable sandbar or mudflat areas are within or adjacent to the project action area.

Neosho Mucket: The Neosho Mucket is a freshwater mussel found in riverine habitats. The species prefers shallow clean flowing water in fine to medium gravel substrates. Suitable habitat for this species may be present in Inola Creek. The creek is outside of the action area, and so there is no likelihood of encountering the Neosho Mucket during project activities.

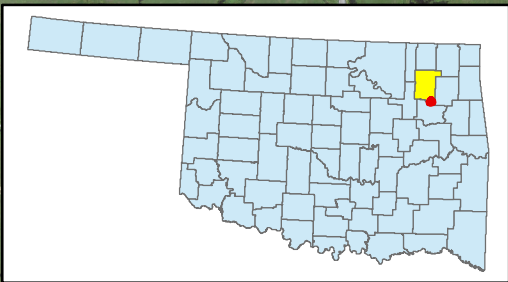
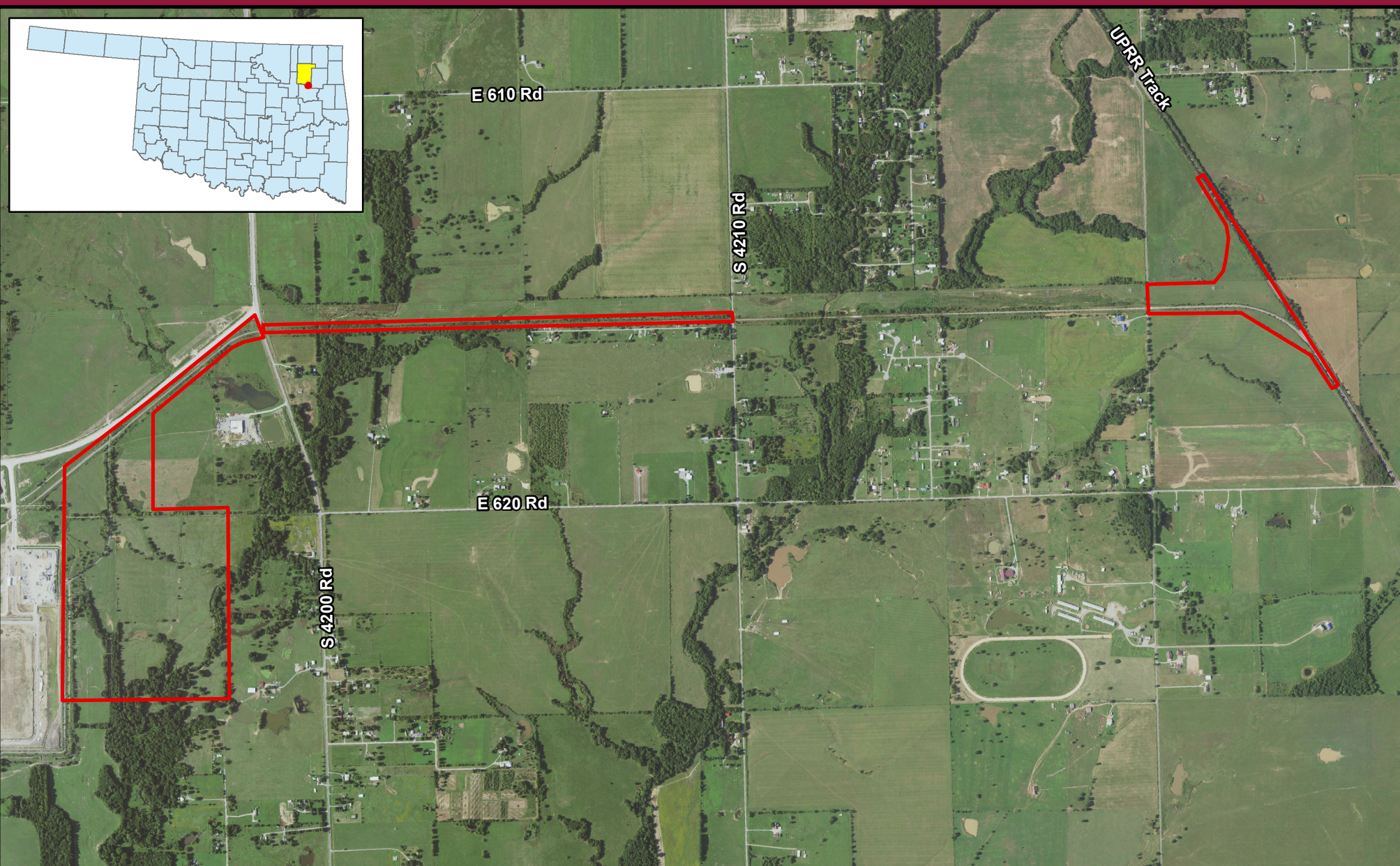
Rabbitsfoot: The rabbitsfoot is a freshwater mussel found in riverine habitats. The species is found in small to medium sized streams and some larger navigable rivers. It typically occurs in shallow areas along the bank and adjacent runs and shoals where water velocity is reduced. Preferred bottom substrates include sand and gravel. . Suitable habitat for this species may be present in Inola Creek. The creek is outside of the action area, and so there is no likelihood of encountering the rabbitsfoot during project activities.


References

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Appendix A

Figures



 Study Area

**Figure 1:
Project Location Map**

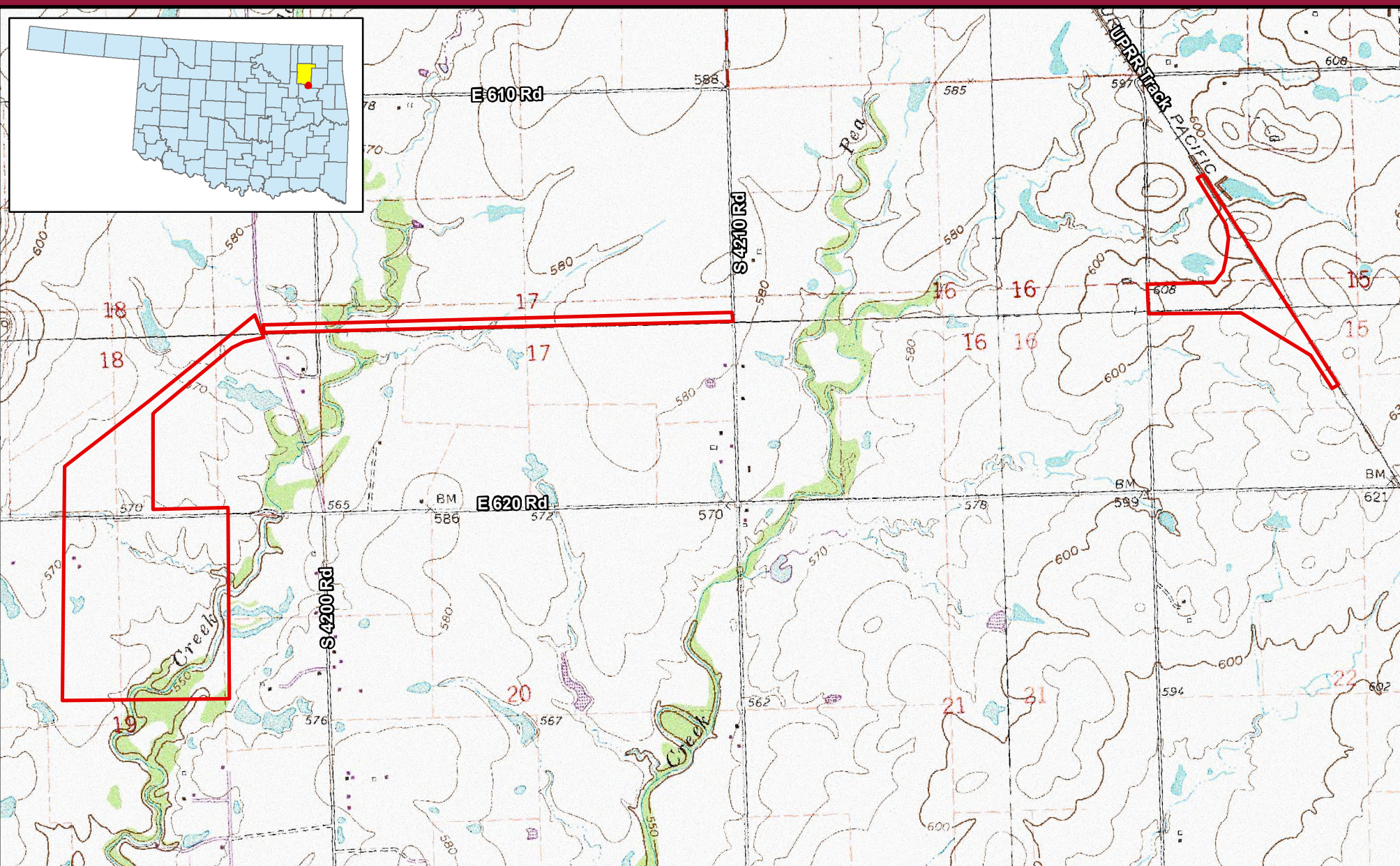



0 0.25 0.5 Miles

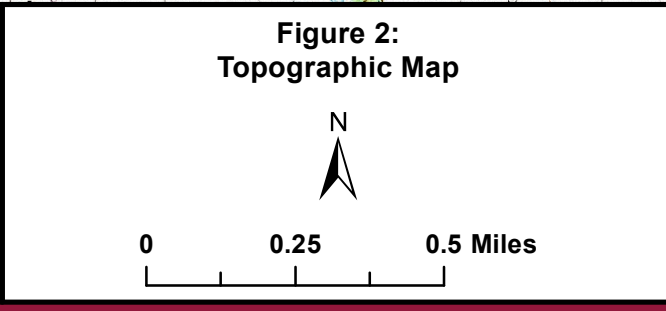



Date: October, 2020

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma
Section: 15, 17, 18, and 19
Township: 19 North, Range: 17 East
Aerial Source: NAIP 2019 Imagery: Rogers County



 Study Area



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Date: October, 2020

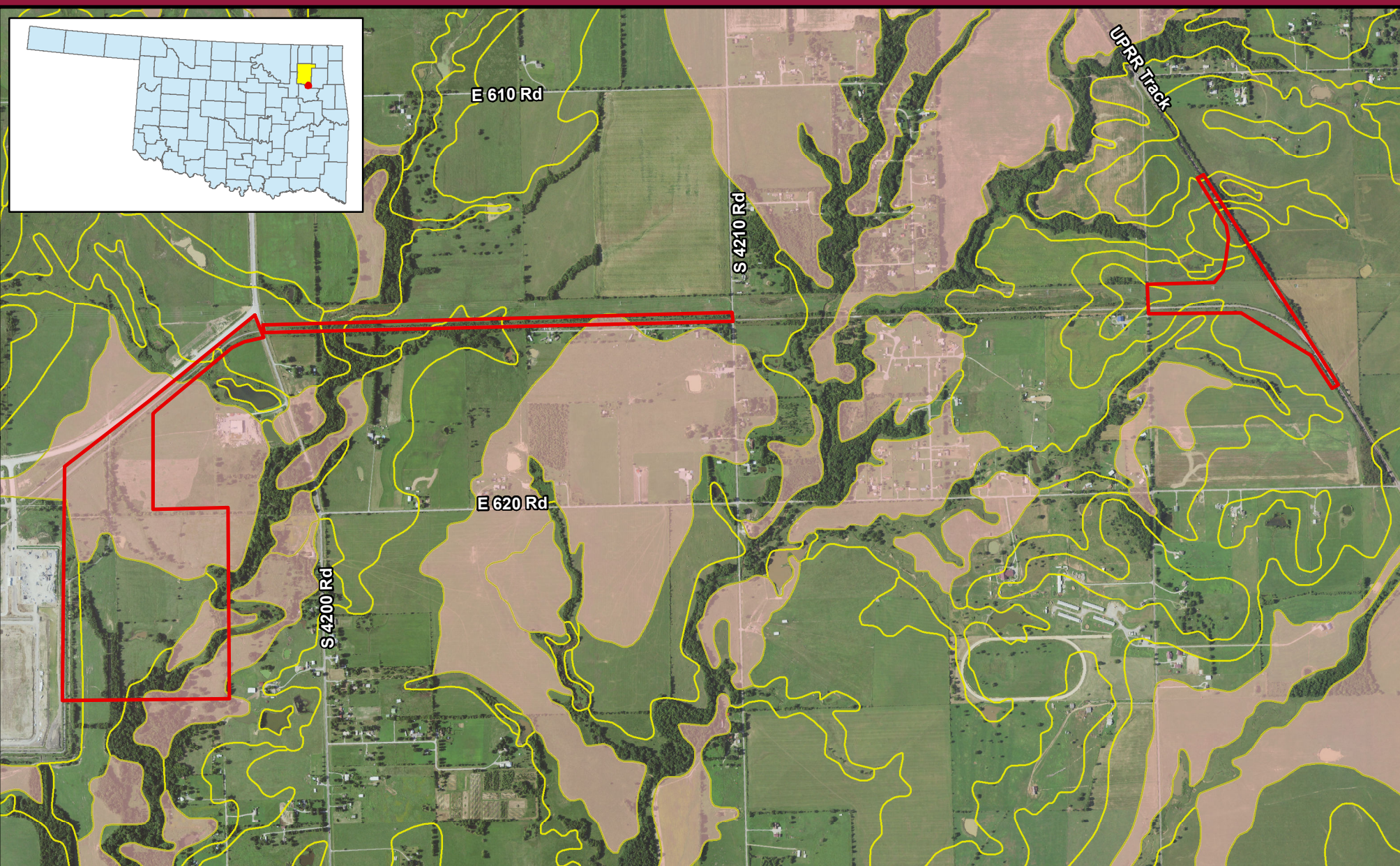
Port of Catoosa Inola Industrial Rail Facility

Rogers County, Oklahoma

Section: 15, 17, 18, and 19

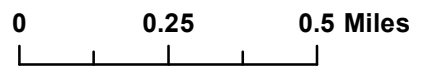
Township: 19 North, Range: 17 East

USGS 1:24,000 7.5 Minute Series Topographic Quadrangle:
Inola, Chouteau NW, Catoosa SE, Neodesha



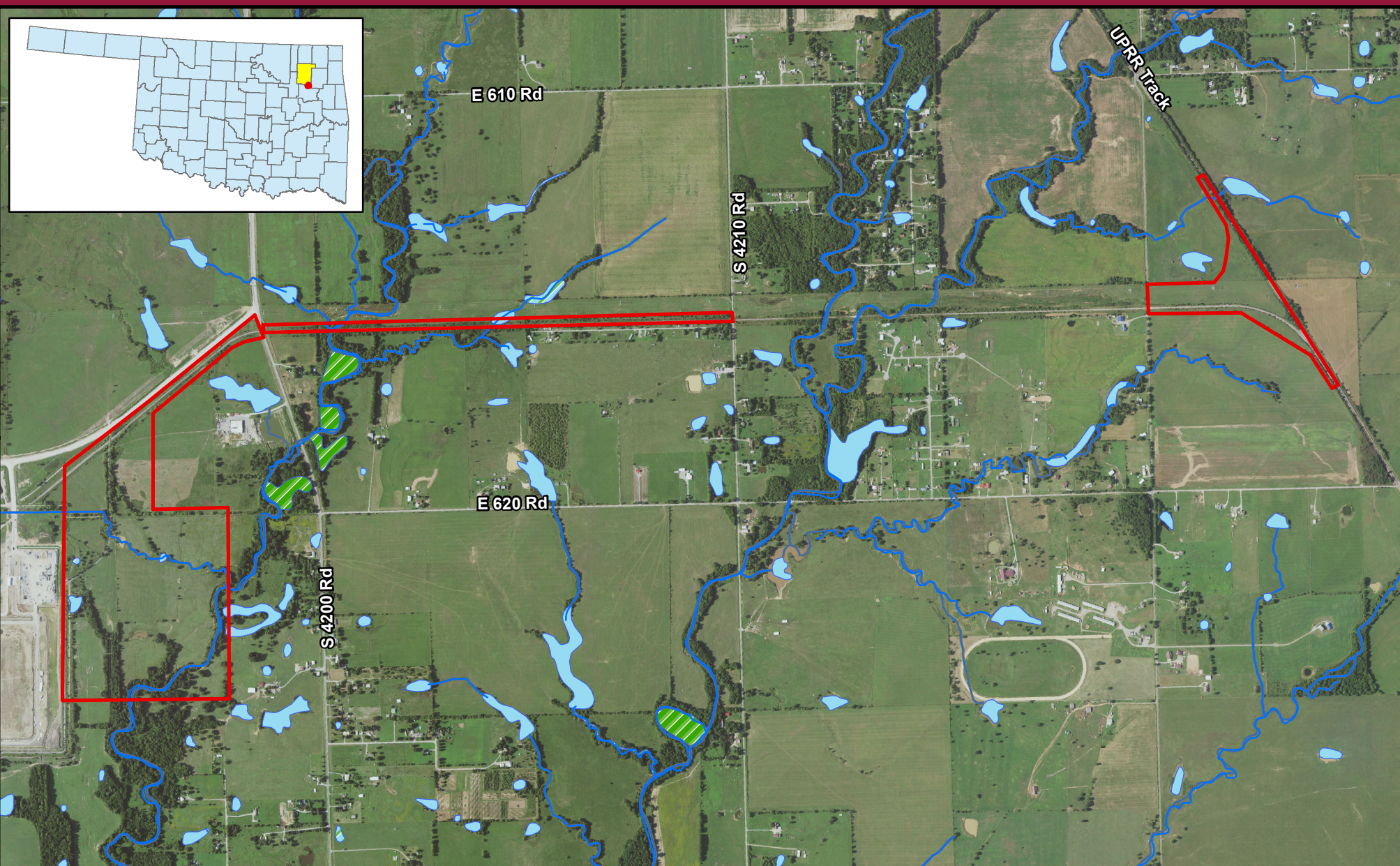
- Study Area
- Soil Boundary
- Hydric Soil
- Soils with Hydric Components

**Figure 3:
Hydric Soils Map**



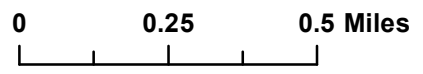
Date: October, 2020

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma
Section: 15, 17, 18, and 19
Township: 19 North, Range: 17 East
Aerial Source: NAIP 2019 Imagery: Rogers County



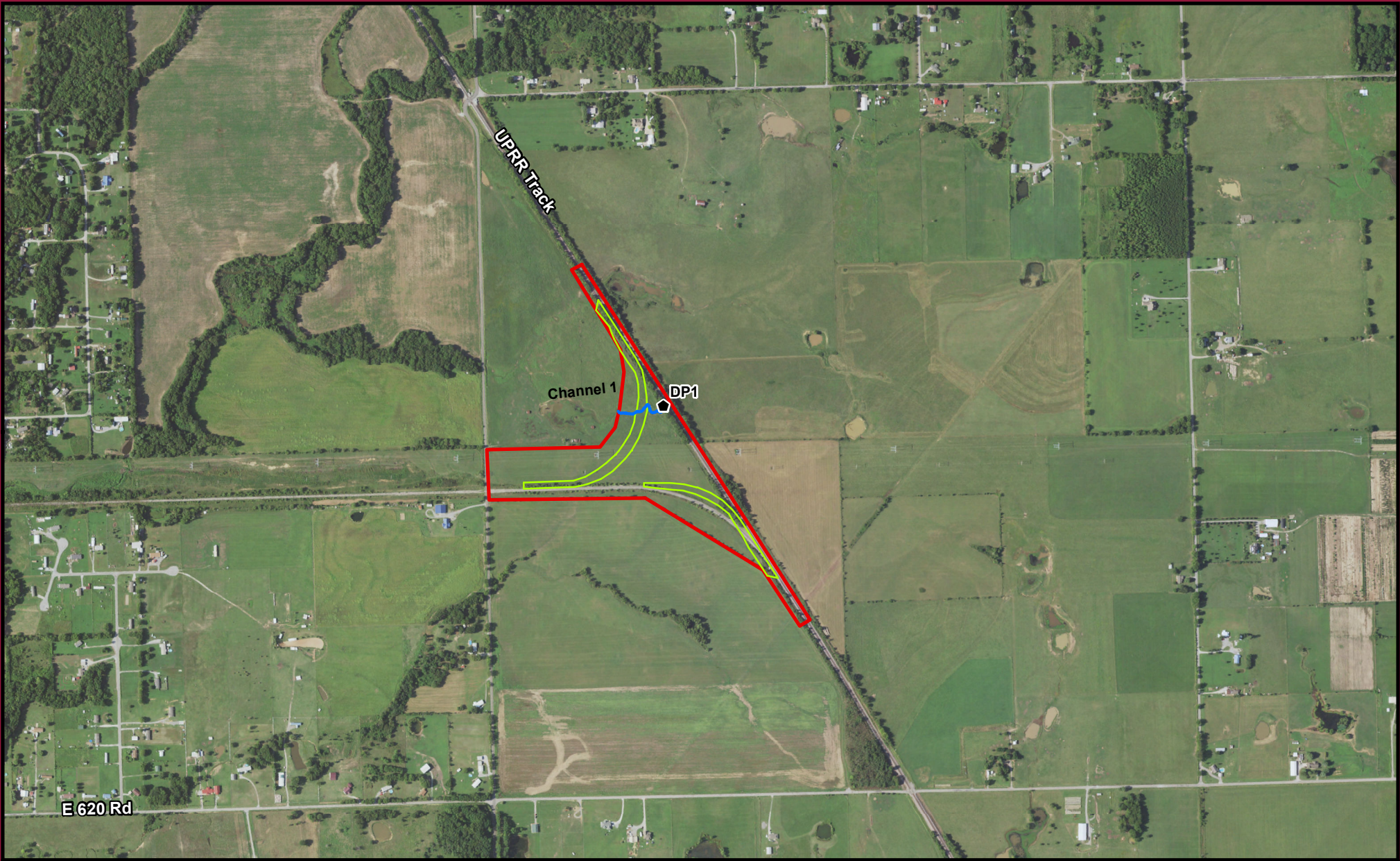
- Study Area
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Open Water
- Riverine
- NHD Channel

**Figure 4:
NWI/NHD Features Map**



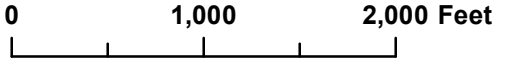
Date: October, 2020

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma
Section: 15, 17, 18, and 19
Township: 19 North, Range: 17 East
Aerial Source: NAIP 2019 Imagery: Rogers County



- Study Area
- Preliminary Construction Limits
- Data Points (DP)
- OHWM
- Emergent Wetland
- Open Water
- Shrub Wetland

**Figure 5a:
Delineation Map - East**



Date: October, 2020

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma
Section: 15, 17, 18, and 19
Township: 19 North, Range: 17 East
Aerial Source: NAIP 2019 Imagery: Rogers County



- Study Area
- Preliminary Construction Limits
- Data Points (DP)
- OHWM
- Emergent Wetland
- Open Water
- Shrub Wetland

**Figure 5b:
Delineation Map - Central**



0 1,000 2,000 Feet



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Date: October, 2020

Port of Catoosa Inola Industrial Rail Facility

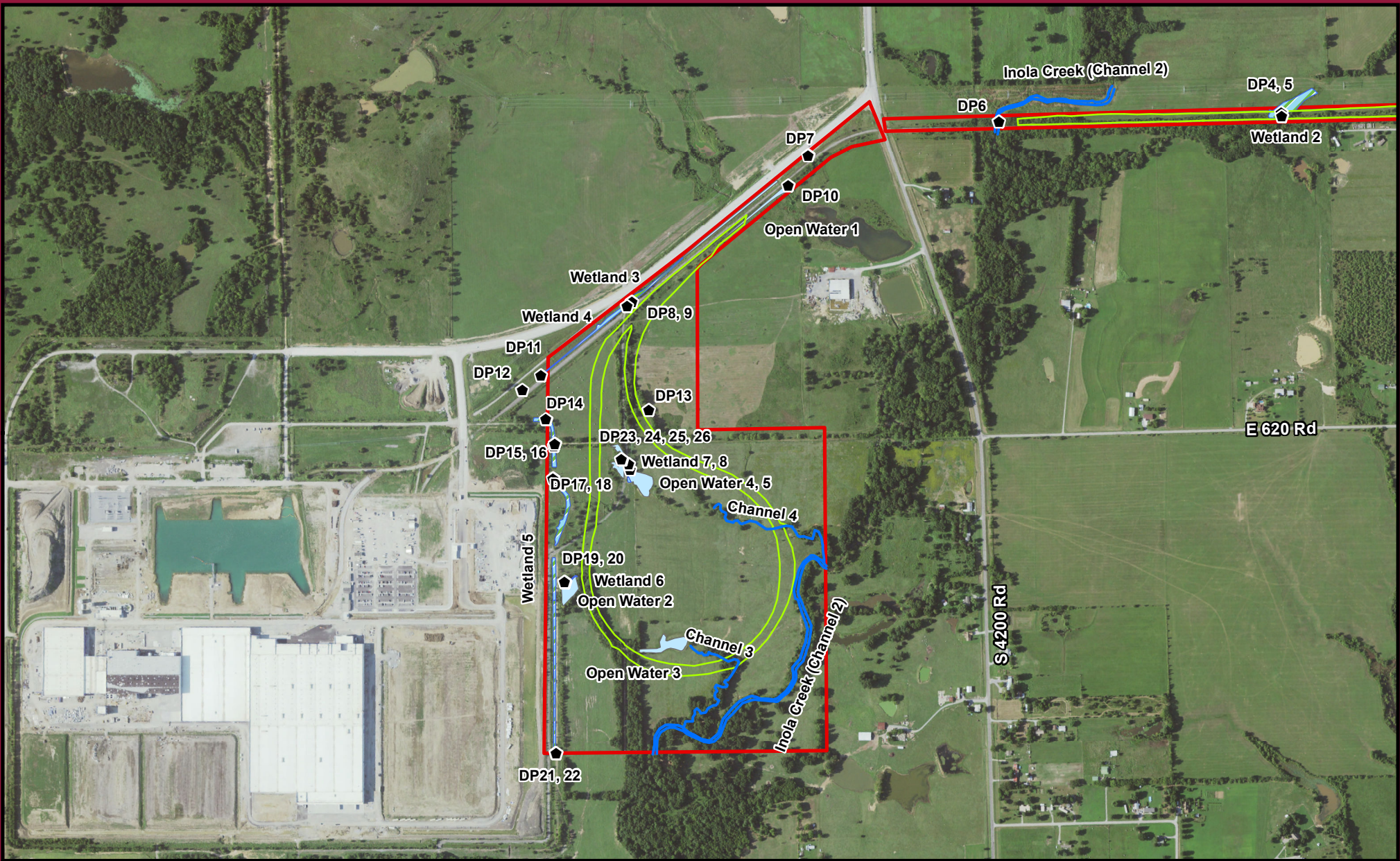
Rogers County, Oklahoma

Section: 15, 17, 18, and 19

Township: 19 North, Range: 17 East

Aerial Source:

NAIP 2019 Imagery: Rogers County



- Study Area
- Preliminary Construction Limits
- Data Points (DP)
- OHWM
- Emergent Wetland
- Open Water
- Shrub Wetland

**Figure 5c:
Delineation Map - West**



0 1,000 2,000 Feet



EXPERIENCE | Transportation

Date: October, 2020

Port of Catoosa Inola Industrial Rail Facility

Rogers County, Oklahoma

Section: 15, 17, 18, and 19

Township: 19 North, Range: 17 East

Aerial Source:

NAIP 2019 Imagery: Rogers County

Appendix B

Routine Wetland Determination Forms

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP1
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 15, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): streambank Local relief (concave, convex, none): None
 Slope (%): _____ Lat: 36.126871 Long: -95.489262 Datum: NAD 83
 Soil Map Unit Name: Dennis-Bates complex, 3 to 5 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>		
Wetland Hydrology Present?	Yes _____ No <u>X</u>		
Remarks: This point represents the upland bank of an ephemeral stream.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>Celtis occidentalis</u>	5	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)	
2. <u>Ulmus rubra</u>	5	Y	FAC	Total Number of Dominant Species Across All Strata: <u>6</u> (B)	
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>83.33%</u> (A/B)	
4. _____					
5. _____					
	10	= Total Cover		Prevalence Index worksheet:	
Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____	
1. <u>Celtis occidentalis</u>	20	Y	FAC	OBL species _____ x 1 = <u>0</u>	
2. <u>Cornus drummondii</u>	5	Y	FAC	FACW species _____ x 2 = <u>0</u>	
3. _____				FAC species _____ x 3 = <u>0</u>	
4. _____				FACU species <u>0</u> x 4 = <u>0</u>	
5. _____				UPL species _____ x 5 = <u>0</u>	
	25	= Total Cover		Column Totals: <u>0</u> (A) <u>0</u> (B)	
Herb Stratum (Plot size: _____)				Prevalence Index = B/A = <u>0.00</u>	
1. <u>Geum canadense</u>	5	Y	FAC	Hydrophytic Vegetation Indicators:	
2. _____				<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
3. _____				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
4. _____				<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
5. _____				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
6. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. _____					
9. _____				Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
10. _____					
	5	= Total Cover			
Woody Vine Stratum (Plot size: _____)					
1. <u>Lonicera japonica</u>	10	Y	FACU		
2. <u>Toxicodendron radicans</u>	3	N	FAC		
	13	= Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: DP1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/3	100					Silt loam	
6-16	10YR 5/3	80	7.5YR 4/6	20	C	M	Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Hard packed earth
 Depth (inches): 16

Hydric Soil Present? Yes _____ No X

Remarks:

No hydric soil indicators present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No hydrology indicators present.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP2
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 17, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): concave
 Slope (%): _____ Lat: 36.125219 Long: -95.511864 Datum: NAD 83
 Soil Map Unit Name: Choteau silt loam, 1 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: This point represents an isolated wetland located in an railroad ditch.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	0	= Total Cover		
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <i>Typha angustifolia</i>	80	Y	OBL	
2. <i>Eleocharis palustris</i>	10	N	OBL	
3. <i>Cyperus odoratus</i>	2	N	FACW	
4. <i>Cyperus species*</i>	2	N		
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
	94	= Total Cover		
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	0	= Total Cover		

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = 0
 FACW species _____ x 2 = 0
 FAC species _____ x 3 = 0
 FACU species _____ x 4 = 0
 UPL species _____ x 5 = 0
 Column Totals: 0 (A) 0 (B)
 Prevalence Index = B/A = 0.00

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (Include photo numbers here or on a separate sheet.)
 *Species not identified due to lack of an inflorescence.

SOIL

Sampling Point: DP2

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Soil is assumed to be hydric due to a combination of obligate vegetation and surface water.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP3
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 17, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): embankment Local relief (concave, convex, none): None
 Slope (%): _____ Lat: 36.125228 Long: -95.511728 Datum: NAD 83
 Soil Map Unit Name: Choteau silt loam, 1 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks: This point represents the upland outpost for the wetland associated with DP2.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.00%</u> (A/B)	
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
0 = Total Cover				Prevalence Index worksheet:	
Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____	
1. <i>Celtis occidentalis</i>	2	N	FAC	OBL species _____	x 1 = <u>0</u>
2. <i>Prunus americana</i>	2	N	UPL	FACW species _____	x 2 = <u>0</u>
3. <i>Morus alba</i>	2	N	FAC	FAC species <u>21</u>	x 3 = <u>63</u>
4. _____	_____	_____	_____	FACU species <u>80</u>	x 4 = <u>320</u>
5. _____	_____	_____	_____	UPL species <u>2</u>	x 5 = <u>10</u>
6 = Total Cover				Column Totals: <u>103</u> (A)	<u>393</u> (B)
Herb Stratum (Plot size: _____)				Prevalence Index = B/A = <u>3.82</u>	
1. <i>Sorghum halepense</i>	80	Y	FACU	Hydrophytic Vegetation Indicators:	
2. <i>Apocynum cannabinum</i>	15	N	FAC	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
3. _____	_____	_____	_____	<input type="checkbox"/> 2 - Dominance Test is >50%	
4. _____	_____	_____	_____	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
5. _____	_____	_____	_____	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
6. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
95 = Total Cover				Hydrophytic Vegetation Present?	
Woody Vine Stratum (Plot size: _____)				Yes _____	No <u>X</u>
1. <i>Toxicodendron radicans</i>	2	_____	FAC		
2. _____	_____	_____	_____		
2 = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: DP3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10YR 3/3	100					Loamy clay	
14-15	10YR 4/4	100					Loamy clay	
15-18	10YR 3/3	100					Loamy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No hydric soil indicators present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No hydrology indicators present.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP4
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 17, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): Drainage swale Local relief (concave, convex, none): concave
 Slope (%): _____ Lat: 36.125349 Long: -95.521737 Datum: NAD 83
 Soil Map Unit Name: Dennis silt loam, 3 to 5 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: This point represents a wetland located in a low drainage area.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Celtis occidentalis</u>	5	Y	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.67%</u> (A/B)														
2. <u>Salix nigra</u>	2	N	OBL															
3. _____																		
4. _____																		
5. _____																		
<u>7</u> = Total Cover				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>0</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = <u>0</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species _____	x 3 = <u>0</u>																	
FACU species _____	x 4 = <u>0</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>0</u> (A)	<u>0</u> (B)																	
<u>5</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: _____)																		
1. <u>Ulmus americana</u>	5	Y	FACW															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>5</u> = Total Cover																		
Herb Stratum (Plot size: _____)																		
1. <u>Carex lurida</u>	15	Y	OBL	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. <u>Solidago canadensis</u>	15	Y	FACU															
3. <u>Elymus virginicus</u>	20	Y	FACW															
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>50</u> = Total Cover																		
Woody Vine Stratum (Plot size: _____)																		
1. <u>Toxicodendron radicans</u>	5	Y	FAC															
2. _____																		
<u>5</u> = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

Hydrophytic Vegetation Present? Yes X No _____

SOIL

Sampling Point: DP4

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 4/1	90	7.5YR 4/5	10	C	M	Loamy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Hydrology indicators are present. Surface water is adjacent to this point.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP5
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 17, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): bottomland Local relief (concave, convex, none): None
 Slope (%): _____ Lat: 36.125270 Long: -95.521723 Datum: NAD 83
 Soil Map Unit Name: Dennis silt loam, 3 to 5 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: This point represents the upland outpost for the wetland associated with DP4	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Gleditsia triacanthos</u>	10	Y	FACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75.00%</u> (A/B)														
2. <u>Ulmus americana</u>	5	Y	FACW															
3. <u>Celtis occidentalis</u>	3	N	FAC															
4. _____																		
5. _____																		
	18	= Total Cover		Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>0</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = <u>0</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species _____	x 3 = <u>0</u>																	
FACU species _____	x 4 = <u>0</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>0</u> (A)	<u>0</u> (B)																	
Sapling/Shrub Stratum (Plot size: _____)																		
1. <u>Ulmus americana</u>	15	Y	FACW															
2. <u>Cornus drummondii</u>	3	N	FAC															
3. _____																		
4. _____																		
5. _____																		
	18	= Total Cover																
Herb Stratum (Plot size: _____)																		
1. <u>Carex lurida</u>	2	N	OBL															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
	2	= Total Cover																
Woody Vine Stratum (Plot size: _____)																		
1. <u>Toxicodendron radicans</u>	20	Y	FAC															
2. _____																		
	20	= Total Cover																

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____
--	-----------------------

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP5

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Hard packed earth
 Depth (inches): 6

Hydric Soil Present? Yes _____ No X

Remarks:

No hydric soil indicators present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No hydrology indicators present.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP6
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 17, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): streambank Local relief (concave, convex, none): none
 Slope (%): _____ Lat: 36.125313 Long: -95.528914 Datum: NAD 83
 Soil Map Unit Name: Verdigris silty clay loam, 0 to 2 percent slopes, frequently flooded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: This point represents the upland bank of Inola Creek. The creek appears to be deeply incised from it's banks, with little opportunity for regular out of bank flooding.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	0 = Total Cover			
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	0 = Total Cover			
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <i>Sorghum halepense</i>	50	Y	FACU	
2. <i>Ambrosia trifida</i>	20	Y	FAC	
3. <i>Abutilon theophrasti</i>	20	Y	FACU	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
	90 = Total Cover			
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	0 = Total Cover			

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 3 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = <u>0</u>
FACW species _____	x 2 = <u>0</u>
FAC species <u>20</u>	x 3 = <u>60</u>
FACU species <u>70</u>	x 4 = <u>280</u>
UPL species _____	x 5 = <u>0</u>
Column Totals: <u>90</u> (A)	<u>340</u> (B)

Prevalence Index = B/A = 3.78

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP6

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 3/2	100					Silt loam	
10-20	10YR 4/4	100					Silt loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No hydric soil indicators present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No hydrology indicators present.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP7
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 18, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): concave
 Slope (%): _____ Lat: 36.124715 Long: -95.533792 Datum: NAD 83
 Soil Map Unit Name: Choteau silt loam, 1 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: This point represents an upland area in a ditch at a culverted location between the rail and the adjacent roadway. Wetland vegetation is present, but may not be regularly established, based on signs of recent excavation/construction.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	0 = Total Cover			
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	0 = Total Cover			
Herb Stratum (Plot size: _____)				
1. <i>Typha angustifolia</i>	20	Y	OBL	
2. <i>Juncus torreyi</i>	10	Y	FACW	
3. <i>Cyperus odoratus</i>	10	Y	FACW	
4. <i>Lythrum californicum</i>	5	N	OBL	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
	45 = Total Cover			
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	0 = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 3 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00% (A/B)

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

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

SOIL

Sampling Point: DP7

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 4/1	10					Loamy clay	
	10YR 5/4	80	7.5YR 4/6	10	C	M	Loamy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Soil in this area appears to have been disturbed during recent construction.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No hydrology indicators present.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP8
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 18, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): concave
 Slope (%): _____ Lat: 36.121786 Long: -95.538370 Datum: NAD 83
 Soil Map Unit Name: Taloka silt loam, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: This point represents a wetland located in a ditch between the rail and roadway.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Salix interior</u>	10	Y	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>85.71%</u> (A/B)														
2. <u>Celtis occidentalis</u>	5	Y	FAC															
3. _____																		
4. _____																		
5. _____																		
<u>15</u> = Total Cover				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>1</u></td> <td>x 4 = <u>4</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>1</u> (A)</td> <td><u>4</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.00</u>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species <u>1</u>	x 4 = <u>4</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>1</u> (A)	<u>4</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = <u>0</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species _____	x 3 = <u>0</u>																	
FACU species <u>1</u>	x 4 = <u>4</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>1</u> (A)	<u>4</u> (B)																	
<u>24</u> = Total Cover																		
<u>24</u> = Total Cover																		
<u>10</u> = Total Cover																		
<u>15</u> = Total Cover																		
<u>15</u> = Total Cover																		

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP8

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 4/2	95	7.5YR 4/5	5	C	M	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Gravel
 Depth (inches): 4

Hydric Soil Present? Yes X No

Remarks:

Hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No X Depth (inches):
 Water Table Present? Yes X No Depth (inches): 1
 Saturation Present? (includes capillary fringe) Yes X No Depth (inches): Surface

Wetland Hydrology Present? Yes X No

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

Remarks:

Hydrology indicators are present. Surface water is adjacent to the data point.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP9
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 18, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): Roadside Local relief (concave, convex, none): None
 Slope (%): _____ Lat: 36.121698 Long: -95.538492 Datum: NAD 83
 Soil Map Unit Name: Taloka silt loam, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>		
Wetland Hydrology Present?	Yes _____ No <u>X</u>		
Remarks: This point represents the upland outpost for the wetland associated with DP8.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <i>Salix interior</i>	5	Y	FACW	
2. <i>Rubus oklahomus</i>	5	Y	FACU	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
10 = Total Cover				
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <i>Sorghum halepense</i>	70	Y	FACU	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
70 = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet.)

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = <u>0</u>
FACW species _____	x 2 = <u>0</u>
FAC species <u>5</u>	x 3 = <u>15</u>
FACU species <u>75</u>	x 4 = <u>300</u>
UPL species _____	x 5 = <u>0</u>
Column Totals: <u>80</u> (A)	<u>315</u> (B)

Prevalence Index = B/A = 3.94

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP10
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 18, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): none
 Slope (%): _____ Lat: 36.124107 Long: -95.534321 Datum: NAD 83
 Soil Map Unit Name: Eram-Verdigris complex, 0 to 12 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: This point represents an upland area at the end of an open water ditch. The open water ditch area is present on both sides of the track.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. <i>Cornus drummondii</i>	5	Y	FAC	
2. <i>Diospyros virginiana</i>	5	Y	FAC	
3. <i>Rubus oklahomus</i>	5	Y	FACU	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
15 = Total Cover				
<u>Herb Stratum</u> (Plot size: _____)				
1. <i>Sorghum halepense</i>	80	Y	FACU	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
80 = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. <i>Vitis vulpina</i>	20	Y	FAC	
2. <i>Lonicera japonica</i>	20	Y	FACU	
_____	_____	_____	_____	
40 = Total Cover				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 6 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = <u>0</u>
FACW species _____	x 2 = <u>0</u>
FAC species <u>30</u>	x 3 = <u>90</u>
FACU species <u>105</u>	x 4 = <u>420</u>
UPL species _____	x 5 = <u>0</u>
Column Totals: <u>135</u> (A)	<u>510</u> (B)

Prevalence Index = B/A = 3.78

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP10

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10YR 3/2	100						
14-18	10YR 4/3	80	7.5YR 4/6	20	C	M		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Redoximorphic features are present, but technical hydric soil definitions are not met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No hydrology indicators present.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP11
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 18, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave
 Slope (%): _____ Lat: 36.120313 Long: -95.540726 Datum: NAD 83
 Soil Map Unit Name: Taloka silt loam, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: This point represents an emergent wetland located in a drainage swale between the track and nearby roadway.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot size: _____)				
1. <i>Agrostis hyemalis</i>	20	Y	FAC	
2. <i>Juncus torreyi</i>	10	Y	FACW	
3. <i>Juncus interior</i>	5	N	FAC	
4. <i>Lythrum californicum</i>	10	Y	OBL	
5. <i>Pycnanthemum tenuifolium</i>	2	N	FAC	
6. <i>Ambrosia psilostachya</i>	2	N	FACU	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
49 = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 3 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	10	x 2 =	20
FAC species	27	x 3 =	81
FACU species	2	x 4 =	8
UPL species	_____	x 5 =	0
Column Totals:	49 (A)		119 (B)

Prevalence Index = B/A = 2.43

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

SOIL

Sampling Point: DP11

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4/1	80	7.5YR 4/6	15	C	M	Clay loam	
			10YR 7/2	5	C	M	Clay loam	
6-16	10YR 6/2	60					Loamy clay	
	10YR 7/6	40					Loamy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Hydrology indicators are present. Saturation is present at the surface, but does not extend into the soil matrix.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP12
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 18, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): Drainage swale Local relief (concave, convex, none): None
 Slope (%): _____ Lat: 36.120020 Long: -95.541205 Datum: NAD 83
 Soil Map Unit Name: Taloka silt loam, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes _____	No _____			
Remarks: This point represents the upland outpost for the wetland associated with DP11					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>4</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25.00%</u> (A/B)	
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
0 = Total Cover				Prevalence Index worksheet:	
Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____	
1. _____	_____	_____	_____	OBL species _____	x 1 = <u>0</u>
2. _____	_____	_____	_____	FACW species _____	x 2 = <u>0</u>
3. _____	_____	_____	_____	FAC species <u>15</u>	x 3 = <u>45</u>
4. _____	_____	_____	_____	FACU species <u>35</u>	x 4 = <u>140</u>
5. _____	_____	_____	_____	UPL species _____	x 5 = <u>0</u>
0 = Total Cover				Column Totals: <u>50</u> (A)	<u>185</u> (B)
Herb Stratum (Plot size: _____)				Prevalence Index = B/A = <u>3.70</u>	
1. <i>Sorghum halepense</i>	10	Y	FACU	Hydrophytic Vegetation Indicators:	
2. <i>Schedonorus arundinaceus</i>	10	Y	FACU	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
3. <i>Ambrosia psilostachya</i>	10	Y	FACU	<input type="checkbox"/> 2 - Dominance Test is >50%	
4. <i>Agrostis hyemalis</i>	10	Y	FAC	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
5. <i>Juncus interior</i>	5	N	FAC	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
6. <i>Solidago altissima</i>	5	N	FACU	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
50 = Total Cover				Hydrophytic Vegetation Present?	
Woody Vine Stratum (Plot size: _____)				Yes _____ No <u>X</u>	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
0 = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: DP12

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4/1	98	7.5YR 4/6	2	C	M	Silt loam	
12-16	10YR 4/6	100					Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes _____ No _____

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

Remarks:

No hydrology indicators present.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP13
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 18, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): Field Local relief (concave, convex, none): concave
 Slope (%): _____ Lat: 36.119545 Long: -95.538012 Datum: NAD 83
 Soil Map Unit Name: Taloka silt loam, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>		
Wetland Hydrology Present?	Yes _____ No <u>X</u>		
Remarks: This point represents an upland low area flagged for review as a potential drainage location. No OHWM was observed and no wetland is present.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Celtis occidentalis</u>	10	Y	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.33%</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>10</u> = Total Cover				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>110</u></td> <td>x 4 = <u>440</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>125</u> (A)</td> <td><u>495</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.96</u>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>110</u>	x 4 = <u>440</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>125</u> (A)	<u>495</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = <u>0</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>110</u>	x 4 = <u>440</u>																	
UPL species <u>5</u>	x 5 = <u>25</u>																	
Column Totals: <u>125</u> (A)	<u>495</u> (B)																	
<u>35</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: _____)																		
1. <u>Symphoricarpos orbiculatus</u>	30	Y	FACU															
2. <u>Prunus americana</u>	5	N	UPL															
3. _____																		
4. _____																		
5. _____																		
<u>35</u> = Total Cover																		
Herb Stratum (Plot size: _____)																		
1. <u>Schedonorus arundinaceus</u>	80	Y	FACU															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>80</u> = Total Cover																		
Woody Vine Stratum (Plot size: _____)																		
1. _____																		
2. _____																		
<u>0</u> = Total Cover																		

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP13

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Hard packed earth and roots
 Depth (inches): Surface

Hydric Soil Present? Yes _____ No X

Remarks:

Unable to penetrate surface soils for soil examination. Soils assumed to be non-hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No hydrology indicators present.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP14
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 18, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): Drainage swale Local relief (concave, convex, none): concave
 Slope (%): _____ Lat: 36.119408 Long: -95.54063 Datum: NAD 83
 Soil Map Unit Name: Urban Land NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks: This point represents an area previously identified as a potential water of the U.S. No OHWM or wetland was observed at this location. It is assumed that area drainage conditions have changed in a way that precludes wetland conditions.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Ulmus americana</u>	3	N	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.33%</u> (A/B)														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>3</u> = Total Cover				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>15</u></td> <td>x 1 = <u>15</u></td> </tr> <tr> <td>FACW species <u>3</u></td> <td>x 2 = <u>6</u></td> </tr> <tr> <td>FAC species <u>27</u></td> <td>x 3 = <u>81</u></td> </tr> <tr> <td>FACU species <u>85</u></td> <td>x 4 = <u>340</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>130</u> (A)</td> <td><u>442</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.40</u>	Total % Cover of:	Multiply by:	OBL species <u>15</u>	x 1 = <u>15</u>	FACW species <u>3</u>	x 2 = <u>6</u>	FAC species <u>27</u>	x 3 = <u>81</u>	FACU species <u>85</u>	x 4 = <u>340</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>130</u> (A)	<u>442</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>15</u>	x 1 = <u>15</u>																	
FACW species <u>3</u>	x 2 = <u>6</u>																	
FAC species <u>27</u>	x 3 = <u>81</u>																	
FACU species <u>85</u>	x 4 = <u>340</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>130</u> (A)	<u>442</u> (B)																	
<u>5</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: _____)																		
1. <u>Prunus virginiana</u>	5	Y	FACU															
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>5</u> = Total Cover																		
Herb Stratum (Plot size: _____)																		
1. <u>Bromus pubescens</u>	80	Y	FACU															
2. <u>Setaria pumila</u>	10	N	FAC															
3. <u>Ambrosia trifida</u>	2	N	FAC															
4. <u>Lythrum californicum</u>	5	N	OBL															
5. <u>Lythrum alatum</u>	10	N	OBL															
6. <u>Iva annua</u>	5	N	FAC															
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>112</u> = Total Cover																		
Woody Vine Stratum (Plot size: _____)																		
1. <u>Toxicodendron radicans</u>	10	Y	FAC															
2. _____																		
<u>10</u> = Total Cover																		
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 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 <u>X</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: DP14

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4/1	95	7.5YR 4/6	5	C	M	Loamy clay	
6-10	10YR 4/1	70	7.5YR 4/6	10	C	M	Loamy clay	
	10YR 6/6	20					Loamy clay	
10-12	10YR 6/6	100					Loamy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Rock
Depth (inches): 12

Hydric Soil Present? Yes X No

Remarks:

Hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes No X

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

Remarks:

Geomorphic position is present in this location, but no further hydrology indicators were observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP15
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 19, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): drainage swale Local relief (concave, convex, none): convex
 Slope (%): _____ Lat: 36.118850 Long: -95.540448 Datum: NAD 83
 Soil Map Unit Name: Urban Land NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: This point represents an emergent wetland located in an old drainage swale.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <i>Persicaria hydropiperoides</i>	80	Y	OBL	
2. <i>Typha angustifolia</i>	10	Y	OBL	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
90 = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
 Total Number of Dominant Species Across All Strata: 2 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>90</u>	x 1 = <u>90</u>
FACW species _____	x 2 = <u>0</u>
FAC species _____	x 3 = <u>0</u>
FACU species _____	x 4 = <u>0</u>
UPL species _____	x 5 = <u>0</u>
Column Totals: <u>90</u> (A)	<u>90</u> (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP15

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Soil is assumed to be hydric due to a combination of obligate vegetation and surface water.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 4
 Water Table Present? Yes X No _____ Depth (inches): Surface
 Saturation Present? Yes X No _____ Depth (inches): Surface
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP16
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 19, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): none
 Slope (%): _____ Lat: 36.118897 Long: -95.540422 Datum: NAD 83
 Soil Map Unit Name: Urban Land NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks: This point represents the upland outpost for the wetland associated with DP 15. A dirt road and culvert are at this location.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>4</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.00%</u> (A/B)	
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
<u>0</u> = Total Cover				Prevalence Index worksheet:	
Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of:	Multiply by:
1. _____	_____	_____	_____	OBL species _____	x 1 = <u>0</u>
2. _____	_____	_____	_____	FACW species _____	x 2 = <u>0</u>
3. _____	_____	_____	_____	FAC species <u>20</u>	x 3 = <u>60</u>
4. _____	_____	_____	_____	FACU species <u>35</u>	x 4 = <u>140</u>
5. _____	_____	_____	_____	UPL species <u>5</u>	x 5 = <u>25</u>
<u>0</u> = Total Cover				Column Totals: <u>60</u> (A)	<u>225</u> (B)
Herb Stratum (Plot size: _____)				Prevalence Index = B/A = <u>3.75</u>	
1. <u>Solidago altissima</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators:	
2. <u>Elymus canadensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
3. <u>Poa pratensis</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<input type="checkbox"/> 2 - Dominance Test is >50%	
4. _____	_____	_____	_____	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
5. _____	_____	_____	_____	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
6. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. _____	_____	_____	_____		
9. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	
10. _____	_____	_____	_____		
<u>45</u> = Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. <u>Toxicodendron radicans</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>		
2. <u>Passiflora incarnata</u>	<u>5</u>	<u>N</u>	<u>NI</u>		
<u>15</u> = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: DP16

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Rock
 Depth (inches): Surface

Hydric Soil Present? Yes _____ No X

Remarks:

Soil could not be observed due to high concentrations of ballast and gravel at the surface. Soil is assumed to be non-hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No hydrology indicators present.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP17
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 19, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): drainage swale Local relief (concave, convex, none): concave
 Slope (%): _____ Lat: 36.118099 Long: -95.540417 Datum: NAD 83
 Soil Map Unit Name: Urban Land NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: This point represents a continuation of the wetland identified at DP 15. This wetland crosses through an old drainage structure.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				
1. <u>Salix interior</u>	2	N	FACW	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
2 = Total Cover				
<u>Herb Stratum</u> (Plot size: _____)				
1. <u>Ludwigia peploides</u>	20	Y	OBL	
2. <u>Persicaria hydropiperoides</u>	20	Y	OBL	
3. <u>Typha latifolia</u>	10	Y	OBL	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
50 = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 3 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>50</u>	x 1 = <u>50</u>
FACW species _____	x 2 = <u>0</u>
FAC species _____	x 3 = <u>0</u>
FACU species _____	x 4 = <u>0</u>
UPL species _____	x 5 = <u>0</u>
Column Totals: <u>50</u> (A)	<u>50</u> (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP17

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Soil is assumed to be hydric due to a combination of obligate vegetation and surface water.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 4
 Water Table Present? Yes X No _____ Depth (inches): Surface
 Saturation Present? Yes X No _____ Depth (inches): Surface
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Hydric soil indicators are present.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP18
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 19, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): field Local relief (concave, convex, none): None
 Slope (%): _____ Lat: 36.118183 Long: -95.540488 Datum: NAD 83
 Soil Map Unit Name: Urban Land NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks: This point represents the upland outpost for the wetland associated with DP18.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0.00%</u> (A/B)
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
<u>0</u> = Total Cover				Prevalence Index worksheet:	
Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____	
1. <i>Cornus drummondii</i>	<u>2</u>	<u>N</u>	<u>FAC</u>	OBL species _____	x 1 = <u>0</u>
2. _____	_____	_____	_____	FACW species _____	x 2 = <u>0</u>
3. _____	_____	_____	_____	FAC species <u>12</u>	x 3 = <u>36</u>
4. _____	_____	_____	_____	FACU species <u>70</u>	x 4 = <u>280</u>
5. _____	_____	_____	_____	UPL species <u>15</u>	x 5 = <u>75</u>
<u>2</u> = Total Cover				Column Totals:	<u>97</u> (A) <u>391</u> (B)
Herb Stratum (Plot size: _____)				Prevalence Index = B/A = <u>4.03</u>	
1. <i>Schedonorus arundinaceus</i>	<u>60</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators:	
2. <i>Vernonia baldwinii</i>	<u>10</u>	<u>N</u>	<u>UPL</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
3. <i>Lespedeza cuneata</i>	<u>5</u>	<u>N</u>	<u>UPL</u>	<input type="checkbox"/> 2 - Dominance Test is >50%	
4. <i>Bromus pubescens</i>	<u>10</u>	<u>N</u>	<u>FACU</u>	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
5. _____	_____	_____	_____	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
6. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. _____	_____	_____	_____		
9. _____	_____	_____	_____	Hydrophytic Vegetation Present?	
10. _____	_____	_____	_____	Yes _____ No <u>X</u>	
<u>85</u> = Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. <i>Toxicodendron radicans</i>	<u>10</u>	<u>Y</u>	<u>FAC</u>		
2. _____	_____	_____	_____		
<u>10</u> = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: DP18

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 4/1	90	7.5YR 4/6	10	C	M	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Rock
 Depth (inches): 2

Hydric Soil Present? Yes X No

Remarks:

Soil profile is assumed to continue deeper than the obstructive layer.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes No X

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

Remarks:

No hydrology indicators present.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP19
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 19, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): pond bank Local relief (concave, convex, none): None
 Slope (%): _____ Lat: 36.116025 Long: -95.540254 Datum: NAD 83
 Soil Map Unit Name: Urban Land NWI classification: PUBHh

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		
Remarks: This point represents an emergent wetland fringe on the bank of an open water pond. The pond is separated from the wetland to the east by a dirt road, and connected through a culvert.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot size: _____)				
1. <i>Persicaria hydropiperoides</i>	90	Y	OBL	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
90 = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>90</u>	x 1 = <u>90</u>
FACW species _____	x 2 = <u>0</u>
FAC species _____	x 3 = <u>0</u>
FACU species _____	x 4 = <u>0</u>
UPL species _____	x 5 = <u>0</u>
Column Totals: <u>90</u> (A)	<u>90</u> (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP19

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Soil is assumed to be hydric due to a combination of obligate vegetation and surface water.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP20
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 19, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): field Local relief (concave, convex, none): none
 Slope (%): _____ Lat: 36.116044 Long: -95.540257 Datum: NAD 83
 Soil Map Unit Name: Urban Land NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks: This point represents the upland outpost for the wetland associated with DP20					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>Quercus species*</u>	10	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2. <u>Populus deltoides</u>	5	Y	FAC	Total Number of Dominant Species Across All Strata: <u>5</u> (B)	
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20.00%</u> (A/B)	
4. _____					
5. _____					
	15	= Total Cover			
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:	
1. <u>Prunus americana</u>	40	Y	UPL	Total % Cover of: _____ Multiply by: _____	
2. <u>Diospyros virginiana</u>	5	N	FAC	OBL species _____	x 1 = <u>0</u>
3. _____				FACW species <u>5</u>	x 2 = <u>10</u>
4. _____				FAC species <u>10</u>	x 3 = <u>30</u>
5. _____				FACU species <u>75</u>	x 4 = <u>300</u>
	45	= Total Cover		UPL species <u>40</u>	x 5 = <u>200</u>
				Column Totals: <u>130</u> (A)	<u>540</u> (B)
				Prevalence Index = B/A = <u>4.15</u>	
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1. <u>Schedonorus arundinaceus</u>	60	Y	FACU	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Elymus virginicus</u>	5	N	FACW	<input type="checkbox"/> 2 - Dominance Test is >50%	
3. <u>Ambrosia psilostachya</u>	5	N	FACU	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
4. _____				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
	70	= Total Cover		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?	
1. <u>Campsis radicans</u>	5	Y	FACU	Yes _____	No <u>X</u>
2. _____					
	5	= Total Cover			

Remarks: (Include photo numbers here or on a separate sheet.)
 *This species was not identified to species level. It is assumed to be FACU based on location and surrounding vegetation.

SOIL

Sampling Point: DP20

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 3/2	95	7.5YR 4/6	5	C	M	Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No hydrology indicators present.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP21
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 19, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): drainage swale Local relief (concave, convex, none): concave
 Slope (%): _____ Lat: 36.112514 Long: -95.540597 Datum: NAD 83
 Soil Map Unit Name: Urban Land NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: This point represents a wetland located in an old drainage area, associated with DP17 and DP15. The wetland continues south outside of the study area.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	0 = Total Cover			
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	0 = Total Cover			
Herb Stratum (Plot size: _____)				
1. <i>Panicum hydropiperoides</i>	80	Y	OBL	
2. <i>Ambrosia psilostachya</i>	1	N	FACU	
3. <i>Iva annua</i>	10	N	FAC	
4. <i>Lycopus americanus</i>	3	N	OBL	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
	94 = Total Cover			
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	0 = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species <u>83</u>	x 1 =	<u>83</u>	
FACW species _____	x 2 =	<u>0</u>	
FAC species <u>10</u>	x 3 =	<u>30</u>	
FACU species <u>1</u>	x 4 =	<u>4</u>	
UPL species _____	x 5 =	<u>0</u>	
Column Totals: <u>94</u> (A)		<u>117</u> (B)	

Prevalence Index = B/A = 1.24

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0¹
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

SOIL

Sampling Point: DP21

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Soil is assumed to be hydric due to a combination of obligate vegetation and surface water.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

Secondary Indicators (minimum of two required)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 1
 Water Table Present? Yes X No _____ Depth (inches): Surface
 Saturation Present? Yes X No _____ Depth (inches): Surface
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP22
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 19, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): Road embankment Local relief (concave, convex, none): None
 Slope (%): _____ Lat: 36.112506 Long: -95.540583 Datum: NAD 83
 Soil Map Unit Name: Urban Land NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks: This point represents the upland outpost for the wetland associated with DP21					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____
1. _____	_____	_____	_____	OBL species _____ x 1 = <u>0</u>
2. _____	_____	_____	_____	FACW species _____ x 2 = <u>0</u>
3. _____	_____	_____	_____	FAC species <u>22</u> x 3 = <u>66</u>
4. _____	_____	_____	_____	FACU species <u>5</u> x 4 = <u>20</u>
5. _____	_____	_____	_____	UPL species <u>40</u> x 5 = <u>200</u>
0 = Total Cover				Column Totals: <u>67</u> (A) <u>286</u> (B)
Herb Stratum (Plot size: _____)				Prevalence Index = B/A = <u>4.27</u>
1. <i>Iva annua</i>	20	Y	FAC	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <i>Oenothera filiformis</i>	10	N	NI	
3. <i>Grindelia ciliata</i>	5	N	UPL	
4. <i>Lespedeza cuneata</i>	5	N	UPL	
5. <i>Dichantheium laxiflorum</i>	20	Y	UPL	
6. <i>Melilotus officinalis</i>	5	N	FACU	
7. <i>Ambrosia trifida</i>	2	N	FAC	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
67 = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: DP22

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Hard packed earth
 Depth (inches): 2

Hydric Soil Present? Yes X No

Remarks:

Hydric soil features may be present due to previous disturbance.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes No X

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

Remarks:

No hydrology indicators present.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP23
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 19, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): Pond bank Local relief (concave, convex, none): None
 Slope (%): _____ Lat: 36.118328 Long: -95.538521 Datum: NAD 83
 Soil Map Unit Name: Taloka silt loam, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: This point represents a wetland located on the edge of a farm pond. The farm pond is created by an artificial berm to the east.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
	<u>0</u> = Total Cover																	
Sapling/Shrub Stratum (Plot size: _____)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
	<u>0</u> = Total Cover																	
Herb Stratum (Plot size: _____)																		
1. <u>Ludwigia peploides</u>	60	Y	OBL															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
	<u>60</u> = Total Cover																	
Woody Vine Stratum (Plot size: _____)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
	<u>0</u> = Total Cover																	
Remarks: (Include photo numbers here or on a separate sheet.)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00%</u> (A/B)														
				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>60</u></td> <td>x 1 = <u>60</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>60</u> (A)</td> <td><u>60</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.00</u>	Total % Cover of:	Multiply by:	OBL species <u>60</u>	x 1 = <u>60</u>	FACW species _____	x 2 = <u>0</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>60</u> (A)	<u>60</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>60</u>	x 1 = <u>60</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species _____	x 3 = <u>0</u>																	
FACU species _____	x 4 = <u>0</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>60</u> (A)	<u>60</u> (B)																	
				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
				Hydrophytic Vegetation Present? Yes <u>X</u> No _____														
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														

SOIL

Sampling Point: DP23

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Roots
 Depth (inches): 6

Hydric Soil Present? Yes X No

Remarks:

Hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes X No

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

Remarks:

Hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP24
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 19, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): field Local relief (concave, convex, none): none
 Slope (%): _____ Lat: 36.118433 Long: -95.538552 Datum: NAD 83
 Soil Map Unit Name: _____ NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks: This point represents the upland outpost for the wetland associated with DP23.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot size: _____)				
1. <i>Poa pratensis</i>	10	N	FAC	
2. <i>Digitaria ciliaris</i>	60	Y	FACU	
3. <i>Iva annua</i>	5	N	FAC	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
75 = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = <u>0</u>
FACW species _____	x 2 = <u>0</u>
FAC species <u>15</u>	x 3 = <u>45</u>
FACU species <u>60</u>	x 4 = <u>240</u>
UPL species _____	x 5 = <u>0</u>
Column Totals: <u>75</u> (A)	<u>285</u> (B)

Prevalence Index = B/A = 3.80

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

SOIL

Sampling Point: DP24

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/2	95	7.5YR 4/6	5	C	M	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Hard packed earth
 Depth (inches): 6

Hydric Soil Present? Yes X No

Remarks:

Hydric soil indicators are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes No X

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

Remarks:

No hydrology indicators present.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP25
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 19, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____
 Slope (%): _____ Lat: 36.118532 Long: -95.538710 Datum: NAD 83
 Soil Map Unit Name: Taloka silt loam, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: This point represents a small wetland fringe surrounding a pond.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Celtis occidentalis</u>	10	Y	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00%</u> (A/B)														
2. <u>Populus deltoides</u>	5	Y	FAC															
3. _____																		
4. _____																		
5. _____																		
<u>15</u> = Total Cover				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>80</u></td> <td>x 1 = <u>80</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>95</u> (A)</td> <td><u>110</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.16</u>	Total % Cover of:	Multiply by:	OBL species <u>80</u>	x 1 = <u>80</u>	FACW species <u>15</u>	x 2 = <u>30</u>	FAC species _____	x 3 = <u>0</u>	FACU species _____	x 4 = <u>0</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>95</u> (A)	<u>110</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>80</u>	x 1 = <u>80</u>																	
FACW species <u>15</u>	x 2 = <u>30</u>																	
FAC species _____	x 3 = <u>0</u>																	
FACU species _____	x 4 = <u>0</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>95</u> (A)	<u>110</u> (B)																	
<u>0</u> = Total Cover																		
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																		
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																		
Hydrophytic Vegetation Present? Yes <u>X</u> No _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: DP25

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Soil is assumed to be hydric due to a combination of obligate vegetation and surface water.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 1
 Water Table Present? Yes X No _____ Depth (inches): Surface
 Saturation Present? Yes X No _____ Depth (inches): Surface
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Port of Catoosa Development Site City/County: Rogers County Sampling Date: 8/4/2020
 Applicant/Owner: Port of Catoosa State: OK Sampling Point: DP26
 Investigator(s): KR Kropp, A Young Section, Township, Range: Section 19, Township 19 North, Range 17 East
 Landform (hillslope, terrace, etc.): Wooded embankment Local relief (concave, convex, none): None
 Slope (%): _____ Lat: 36.118541 Long: -95.538739 Datum: NAD 83
 Soil Map Unit Name: _____ NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>		
Wetland Hydrology Present?	Yes _____ No <u>X</u>		
Remarks: This point represents the upland outpost for the wetland associated with DP 25			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Celtis occidentalis</u>	10	Y	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.67%</u> (A/B)														
2. <u>Ulmus rubra</u>	10	Y	FAC															
3. _____																		
4. _____																		
5. _____																		
20 = Total Cover				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>60</u></td> <td>x 4 = <u>240</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>85</u> (A)</td> <td><u>315</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.71</u>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = <u>0</u>	FACW species _____	x 2 = <u>0</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>60</u>	x 4 = <u>240</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>85</u> (A)	<u>315</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = <u>0</u>																	
FACW species _____	x 2 = <u>0</u>																	
FAC species <u>25</u>	x 3 = <u>75</u>																	
FACU species <u>60</u>	x 4 = <u>240</u>																	
UPL species _____	x 5 = <u>0</u>																	
Column Totals: <u>85</u> (A)	<u>315</u> (B)																	
65 = Total Cover																		
Sapling/Shrub Stratum (Plot size: _____)																		
1. <u>Cornus drummondii</u>	5	N	FAC															
2. <u>Rubus oklahomus</u>	5	N	FACU															
3. <u>Juniperus virginiana</u>	5	N	FACU															
4. <u>Symphoricarpos orbiculatus</u>	50	Y	FACU															
5. _____																		
65 = Total Cover																		
Herb Stratum (Plot size: _____)																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
0 = Total Cover																		
Woody Vine Stratum (Plot size: _____)																		
1. _____																		
2. _____																		
0 = Total Cover																		
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																		
Hydrophytic Vegetation Present? Yes <u>X</u> No _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: DP26

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)

- 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)

Indicators for Problematic Hydric Soils³:

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No hydric soil indicators present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No hydrology indicators present.

Appendix C

Site Photographs



Photo 1: View of Channel 1 from the UPRR ROW. Facing west.



Photo 2: View of Channel 2 and DP 1. Facing south.

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma

Photo Documentation



Photographer:
KR Kropp

Date of Photograph:
August 4, 2020

Date:
October 19, 2020



Photo 3: View of the UPRR ROW in an area marked on the NHD layer. No channel features were observed at this location. Facing east.



Photo 4: View from the UPRR ROW in an area marked on the NHD layer. No channel features were observed at this location. Facing east.

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma

Photo Documentation



Photographer:
KR Kropp

Date of Photograph:
August 4, 2020

Date:
October 19, 2020



Photo 5: View of the maintained greenspace on the south side of the existing wye track connection to the UPRR mainline. Facing southeast.



Photo 6: View of Wetland 1 on the north side of the existing rail line. Facing west.

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma

Photo Documentation



Photographer:
KR Kropp

Date of Photograph:
August 4, 2020

Date:
October 19, 2020



Photo 7: View of Wetland 1 on the south side of the existing rail. Facing east.



Photo 8: View of the upland outpoint (DP3) for Wetland 1. Facing west.

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma

Photo Documentation



Photographer:
KR Kropp

Date of Photograph:
August 4, 2020

Date:
October 19, 2020



Photo 9: View of Wetland 2 (DP4). Facing west.



Photo 10: View of Wetland 2 (DP4). Facing northeast.

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma

Photo Documentation



Photographer:
KR Kropp

Date of Photograph:
August 4, 2020

Date:
October 19, 2020



Photo 11: View of the upland outpost for Wetland 2 (DP5). Facing south.



Photo 12: View of a triple pipe culvert approximately 500 feet west of Wetland 2. A channel is present on the south side of the track in this area, outside of the study area. Facing southwest.

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma

Photo Documentation



Photographer:
KR Kropp

Date of Photograph:
August 4, 2020

Date:
October 19, 2020



Photo 13: View of Inola Creek outside of the study area. Facing west.



Photo 14: View of the crossing over Inola Creek from the south side of the bridge. Facing north.

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma

Photo Documentation



Photographer:
KR Kropp

Date of Photograph:
August 4, 2020

Date:
October 19, 2020



Photo 15: View of Inola Creek on the north side of the existing rail line. Facing northeast.



Photo 16: View of the vegetation on the upland bank of Inola Creek at DP6. Facing west.

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma

Photo Documentation



Photographer:
KR Kropp

Date of Photograph:
August 4, 2020

Date:
October 19, 2020



Photo 17: View of Open Water 1 between the rail and roadway. Facing southwest.



Photo 18: View of Wetland 3 (DP8) located southwest of Open Water 1. Facing northeast.

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma

Photo Documentation



Photographer:
KR Kropp

Date of Photograph:
August 4, 2020

Date:
October 19, 2020



Photo 19: View of the upland outpost (DP9) for Wetland 3. Facing north.



Photo 20: View of DP10 looking towards Open Water 2 on the south side of the rail. Facing southwest.

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma

Photo Documentation



Photographer:
KR Kropp

Date of Photograph:
August 4, 2020

Date:
October 19, 2020



Photo 21: View of Wetland 4 (DP 11) at the base of the rail ballast. Facing northeast.



Photo 22: View of the upland outpost for Wetland 4 (DP12). Facing northeast.

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma

Photo Documentation



Photographer:
KR Kropp

Date of Photograph:
August 4, 2020

Date:
October 19, 2020



Photo 23: View of the upland area associated with DP 13. Facing southwest.



Photo 24: View of the area associated with DP14, considered part of Wetland 5. Facing Southeast.

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma

Photo Documentation



Photographer:
KR Kropp

Date of Photograph:
August 4, 2020

Date:
October 19, 2020



Photo 25: View of the portion of Wetland 5 associated with DP15. Facing south.



Photo 26: View of the upland outpost for DP15 at DP16.

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma

Photo Documentation



Photographer:
KR Kropp

Date of Photograph:
August 4, 2020

Date:
October 19, 2020



Photo 27: View of Wetland 5 in the area associated with DP 17. Facing southeast.



Photo 28: View of the upland outpost for DP 17 at DP 18. Facing east.

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma

Photo Documentation



Photographer:
KR Kropp

Date of Photograph:
August 4, 2020

Date:
October 19, 2020



Photo 29: View of Wetland 5 from the midpoint at a break through a culvert. Facing north.



Photo 30: View of the access road separating sections of Wetland 5. Facing north.

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma

Photo Documentation



Photographer:
KR Kropp

Date of Photograph:
August 4, 2020

Date:
October 19, 2020



Photo 31: View of Wetland 5 in the southern extents of the study area at DP 21. Facing north.



Photo 32: View of the upland outpost for DP 21 at DP 22. Facing northeast.

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma

Photo Documentation



Photographer:
KR Kropp

Date of Photograph:
August 4, 2020

Date:
October 19, 2020



Photo 33: View looking across Open Water 2 towards Wetland 6 (DP19) and the upland bank (DP20). Facing northeast.



Photo 34: View of Open Water 3, an artificially impounded pond. Facing east.

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma

Photo Documentation



Photographer:
KR Kropp

Date of Photograph:
August 4, 2020

Date:
October 19, 2020



Photo 35: View of Inola Creek (Channel 2) at the southern edge of the study area. Facing east.



Photo 36: View of Channel 4. Facing west.

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma

Photo Documentation



Photographer:
KR Kropp

Date of Photograph:
August 4, 2020

Date:
October 19, 2020



Photo 37: View of Open Water 4. Facing east.



Photo 38: View of Wetland 7 at DP23. Facing southeast.

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma

Photo Documentation



Photographer:
KR Kropp

Date of Photograph:
August 4, 2020

Date:
October 19, 2020



Photo 39: View of the upland outpost for Wetland 7 (DP24). Facing northeast.



Photo 40: View of Open Water 5. Facing south.

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma

Photo Documentation



Photographer:
KR Kropp

Date of Photograph:
August 4, 2020

Date:
October 19, 2020



Photo 41: View of Wetland 8 at DP25. Facing north.



Photo 42: View of the upland outpost adjacent to Wetland 8 at DP 26. Facing northwest.

Port of Catoosa Inola Industrial Rail Facility
Rogers County, Oklahoma

Photo Documentation



Photographer:
KR Kropp

Date of Photograph:
August 4, 2020

Date:
October 19, 2020