Environmental Information Document/Environmental Report – Chickasaw Wastewater Treatment Plant Expansion Project

Project No. 200-11458-20001
February 29, 2024

PRESENTED TO	PRESENTED BY
Oklahoma Water Resources Board 3800 N. Classen Blvd. Oklahoma City, OK 73118	**City of Bartlesville, Oklahoma** 401 S. Johnstone Avenue Bartlesville, OK 74003

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ACRONYMS/ABBREVIATIONS

Acronyms/Abbreviations	Definition
AADF	Average annual daily flow
ACH	Air changes per hour
ANSA	American National Standards Association
AOR	Actual oxygen requirement
ASTM	American Society for Testing and Materials
Bartlesville	City of Bartlesville
BOD	Biochemical oxygen demand
CEC	Constituents of emerging concern
CMU	Concrete masonry unit
CWWTP	Chickasaw Wastewater Treatment Plant
DAF	Dissolved air floatation
DAFT	Dissolved air floatation thickener
DMRs	Discharge Monitoring Reports
EID	Environmental Information Document
EPDM	Ethylene propylene diene monomer
FEB	Flow equalization basin
FPM	Fluoroelastomer
fps	Feet per second
GBT	Gravity belt thickener
gpcd	Gallon per capita per day
gpm	Gallon per minute
hp	Horsepower
HPDE	High-density polyethylene
HRT	Hydraulic residence time
HVAC	Heating, ventilation, and air conditioning
IBC	International Building Code
IFAS	Integrated fixed film activated sludge
lbs/day	Pounds per day
LP-HO	Low Pressure-High Output
LP-LO	Low Pressure-Low Output
IPR	Indirect potable reuse
MAU	Make-up air unit
MCC	Motor control centers
MG	Million gallons
MGD	Million gallons per day
mg/L	Milligrams per liter

Acronyms/Abbreviations	Definition
MLE	Modified Ludzack-Ettinger
MLR	Mixed liquor return
MLSS	Mixed liquor suspended solids
MM	Maximum month
NFPA	National Fire Prevention Association
NG	Natural gas
NOAA	National Oceanic and Atmospheric Administration
NPSH	Net positive suction head
OAC	Oklahoma Administration Code
O&M	Operations and maintenance
ODEQ	Oklahoma Department of Environmental Quality
ODOC	Oklahoma Department of Commerce
OM&R	Operation, maintenance, and replacement
OPCC	Opinion of probable construction cost
OPDES	Oklahoma Pollutant Discharge Elimination System
ORP	Oxidation reduction potential
OWRB	Oklahoma Water Resources Board
PD	Positive displacement
PEMB	Pre-engineered metal building
ppd	Parts per deciliter
psi	Pounds per square inch
PVC	Polyvinyl chloride
RAS	Return activated sludge
RDT	Rotary drum thickeners
SCADA	Supervisory control and data acquisition
scfm	Standard cubic feet per minute
SOR	Surface overflow rate
SOTE	Standard oxygen transfer efficiency
TBF	Traveling bridge filters
TSS	Total suspended solids
UV	Ultraviolet
UVT	Ultraviolet transmittance
VAV	Variable air volume
VFD	Variable frequency drive
WAS	Waste activated sludge
WLA	Wasteload allocation
WSE	Water surface elevation
WWTP	Wastewater treatment plant

1.0 PROJECT SCOPE

The ***purpose*** of the proposed action is to expand and improve functional handling capacity of the City of Bartlesville's wastewater treatment plant. The ***need*** for the proposed action is to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD). The implementation of indirect potable reuse (IPR) is included in this project, which will allow the City of Bartlesville to become more resilient and effective in water use and conservation.

The City of Bartlesville engaged the consulting engineering firm Tetra Tech to perform design, bid, and construction phase services for the overall Chickasaw Wastewater Treatment Plant Expansion project and included following key elements:

- New administration building,
- Chickasaw lift station improvements,
- Chickasaw flow equalization basin improvements,
- New headworks structure,
- Primary clarifier rehabilitation and improvements,
- Aeration basin improvements and modifications,
- New blower improvements and air piping modifications,
- New circular final clarifiers and conversion of existing rectangular clarifiers to sludge storage,
- New Return Activated Sludge / Waste Activated Sludge pumping,
- New effluent filtration and backwash systems,
- Conversion to ultraviolet disinfection systems,
- New backup generator improvements,
- New WAS thickening building with new rotating drum thickeners,
- Anaerobic digester rehabilitation and improvements and new additional anaerobic digester,
- Gravity belt thickener building improvements,
- Indirect potable reuse side-stream incorporation improvements,
- Plant-wide electrical and SCADA upgrades

In 2010, The City of Bartlesville authorized Tetra Tech to complete a wastewater facility plan study which developed and outlined recommended capital improvements to the Bartlesville wastewater treatment facilities and a portion of the collection system, specifically the Limestone-Chickasaw conveyance corridor. The 2010 facility plan study projected a need for additional treatment capacity at the CWWTP and throughout the conveyance corridor in order to handle flows through 2040. Between 2017 - 2019, Tetra Tech prepared an amendment to the 2010 facility plan study in the form of technical memorandums (TM 1 through TM 4) that aimed to incorporate more current information and cover a planning period through 2050. Additionally, the amendment incorporated the concept of reuse by utilizing the CWWTP effluent to augment the Caney River for a more drought-resilient raw water supply. TM 1 updated the projections of flow and wasteload over the planning period. TM 2 assessed the existing CWWTP and provided two (2) alternatives for treating the anticipated increase in flows. TM 3 assessed the existing Limestone-Chickasaw conveyance corridor and provided two (2) alternatives for conveying the anticipated increase in flows. TM 4 summarized the findings, provided cost analysis, and made a recommendation. Of the alternatives evaluated in the amendment, the City elected to maintain all flows at the existing CWWTP. The resulting proposed project will upgrade and expand the existing CWWTP to allow all flows to be treated over the planning period. The project includes additional improvements that are required due to aging infrastructure and DEQ regulations. The City will obtain a State Revolving Funds loan through OWRB and supplement with local funding as needed.

2.0 PROJECT PLANNING AREA

This EID has been prepared to identify, describe, and evaluate the potential environmental impacts to the human environment associated with the proposed expansion of and improvements to the Chickasaw Wastewater Treatment plant. The proposed project consists of the construction and/or implementation of the following elements: a new administration building, lift station improvements, FEB improvements, new headworks structure, primary clarifier rehab and improvements, aeration basin improvements/modifications, new blower improvements and air piping modifications, new circular final clarifiers and conversion of existing rectangular clarifiers to sludge storage, new return activated sludge and waste activated sludge pumping, new effluent filtration and backwash systems, conversion to ultraviolet disinfection systems, new backup generator improvements, new WAS thickening building with new rotating drum thickeners, anaerobic digester rehab and improvements, new additional anaerobic digester, gravity belt thickener building improvements, future indirect potable reuse side-stream incorporation improvements, plant-wide electrical and SCADA upgrades. Photographs of the proposed action area are provided in ***Appendix A***. The facets of the proposed project associated with this EID involve soil excavation, surficial earth disturbance, and vegetation removal. Vegetation management will consist of trimming limbs of living trees and underbrush as well as clearing of the areas within and adjacent to the facility improvement site. Tree removal within the prospective floodwater basin north of the Caney River would be approximately 17 acres and the tree removal areas within the wastewater treatment plant expansion area would encompass 2 acres. It should be noted, the current design does not include development of the floodwater storage basin north of the Caney River but the site is discussed herein for informational purposes should floodwater storage be required. The total project area encompasses approximately 45 acres of a mixture of open livestock pastures with scattered trees and forested riparian areas. All exposed soils within the construction areas would be restored upon completion. The general location of the project is shown on ***Figure 1*** in ***Appendix A***. Below are summaries of the facets, design objectives, and their service areas.

2.1 PROJECT EXTENTS

The proposed project extents are located in Bartlesville, Oklahoma. The proposed project is located in Sections 6 & 7, Township 17 North, Range 13 East on the existing and new WWTP properties and proposed floodwater storage basin in Bartlesville, Washington County, Oklahoma. The project extents can be visualized in ***Exhibit A.***

2.2 GROWTH AND POPULATION TRENDS

Prior to developing alternatives for the south interceptor, Tetra Tech was tasked with sizing the expansion of the WWTP and floodwater storage basin to accommodate both the current population and future growth. The current population of Bartlesville is approximately 37,290 people based on the United States Census website for July 1st, 2020. Tetra Tech projected flows for 2050 using a future population of 41,441 based on Oklahoma Department of Commerce (ODOC) projections of population growth in Washington County. Using the projected population growth rates and expected capacity needs, the sewer basin size was calculated and designed to accommodate the expected population increases and future flow rate capacity requirements.

2.3 CURRENT AND PROJECTED WASTEWATER FLOW

Historical data from 2001 to 2020 was utilized to develop flow projections for the planning period through 2050. Over the entire 20-year period, the average per capita flow was 197 gallons per capita per day (gpcd), and the average rainfall during the period was 39.1 inches, which is slightly below the normal annual rainfall total of 39.2 inches. To confirm the true average per capita flow under average rainfall conditions, a line was fitted to the per capita flow and rainfall data. ***Figure 1*** shows a plot of the raw data, the fitted line (red dash), and the intercepts (light blue) of the average annual rainfall of 39.2 inches. The fitted line results in a per capita flow of 112 gpcd with no rainfall (the y-intercept). This is a reasonable per capita flow value for a community with the demographics of Bartlesville and supports the quality of the data and fitted line. At the average rainfall of 39.2 inches per year, the average annual per capita flow from the fitted line is 198 gpcd. Using the per capita flow rate of 198 gpcd, combined with the aforementioned 2050 design population of 41,441, the projected annual average daily flow for the design year of 2050 is 8.21 MGD.

Conditions experienced during the maximum month of the year are estimated for use in the design of particular unit processes in treatment plants (e.g., units with long retention times such as biological treatment units). Such flows are estimated using the ratio of the average annual flow to the average day of the maximum month. During the 20-year period surveyed, the ratio for flow varied from as low as 1.14 to as high as 1.92 with an average of 1.44. The ratio of the 95th Percentile average day flow of maximum month (12.744 MGD) to the annual average daily flow (7.093 MGD) is 1.80. A peaking factor of 1.6 represents an average of these two methods and is assumed appropriate for use in the design. Using this peaking factor and the projected 2050 annual average flow of 8.21 MGD, the projected average daily flow of maximum month in 2050 is 13.14 MGD.

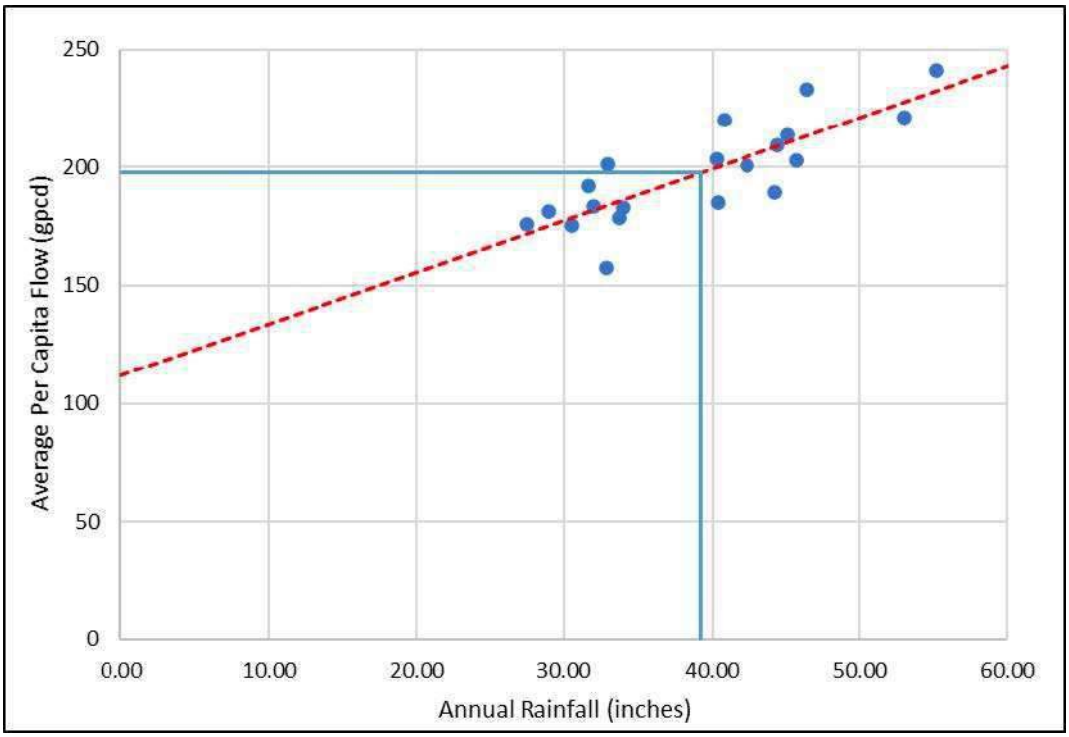


Figure 1 - Annual Average Per Capita Flow vs. Annual Rainfall (2001-2020)

The peak daily flows from 2001 to 2020 represent the historical flows processed at the Chickasaw WWTP but do not represent process capacity or permit compliance at peak flow rates. The peaking factor of the historical peak flow (31.021 MGD in 2019) to the annual average daily flow (7.093 MGD) is 4.37. Using this peaking factor and the projected annual average flow of 8.21 MGD, the projected peak flow in 2050 is 35.88 MGD.

According to Tetra Tech, it will be extremely cost prohibitive to design the proposed treatment facilities to handle a projected peak flow of 35.88 MGD and be in permit compliance with respect to discharge mass limits. A peaking factor of 2.5 is assumed reasonable for peak process flow that sustains no more than one week during any month. Effluent filtration is provided to comply with the permit effluent mass limits.

Therefore, for the proposed design, the peak process flow will be limited to a peaking factor of 2.5 or a peak flow of 20.5 MGD. Flows higher than this rate will be diverted to the FEB or stored in FEBs located within Bartlesville's collection system infrastructure (Limestone FEB, Tuxedo FEB). Bartlesville is in the process of completing the Limestone-Shawnee Corridor collection system improvements that would add additional FEB capacity to the collection system. The projected flow summary and summary of flow and load design criteria are summarized in ***Table 1*** and ***Table 2*** below.

Table 1 - Chickasaw WWTP Projected Flow Summary

Parameter	Peaking Factor	2050 Projected Flow (MGD)
Average Annual Daily Flow (AADF)	-	8.21
Average Day of Maximum Month Flow (MM)	1.6	13.20
Peak Process Flow with Effluent Filtration	2.5	20.50

Using the proposed design flow values presented in the table above, Tetra Tech applied the historical MM and Peak Day peaking factors to determine the following proposed design parameters:

Table 2 - Summary of Flow and Load Design Criteria

Parameter	Historical Value	Proposed Design Conditions 2050
Flow, MGD		
Average Annual Daily (AADF)	7.63	8.21
Average Day of Max. Month	11.66	13.20
Peak	26.94	20.50
Influent BOD, lbs/day		
Average Annual Daily	10,270	11,050
Average Day of Max. Month	16, 120	17,340
Peak	30,250	32,550
Influent TSS, lbs/day		
Average Annual Daily	16,220	17,400
Average Day of Max. Month	30,570	32,790
Peak	88,030	94,430
Influent NH_3-N_2, lbs/day		
Average Annual Daily	897	965
Average Day of Max. Month	1,241	1,335
Peak	9,986	10,743
Wastewater Temperature, (o)C		
Minimum	11.0	11.0
Average	20.0	20.0
Maximum	28.0	28.0

2.4 ENVIRONMENTAL CONCERNS IN SERVICE AREA

Multiple potential environmental concerns were considered during design of the proposed action and are addressed within this EID. All precautionary and/or preventative measures to avoid or minimize potential adverse environmental impacts identified through this EID will be incorporated into the final engineering/construction plans for contractor implementation. The primary environmental concerns would be related to potential impacts to cultural resources, waters of the United States, threatened and endangered species/wildlife, erosion control/sedimentation, and accidental discharges of petroleum products. Other potential environmental areas of concern have also identified and are addressed herein. EEC provided project scoping letters to city, county, state, federal and tribal entities whereby comments were requested relative to their respective administrative responsibilities were requested regarding the proposed action. The provided scoping letters and received responses are located in ***Appendix B***. Discussion and evaluation of the respective public interest review factors are provided in ***Section 5.0*** below.

2.5 COMMUNITY ENGAGEMENT

The City of Bartlesville has received broad support from community leaders including the Bartlesville Chamber of Commerce, Bartlesville Development Authority, Bartlesville Fire Department, City of Dewey, Washington County RWD #2, Osage County RDW #1, and Washington County RWD #5. Bartlesville has the support of its City Council and state elected leaders. The City has conducted multiple public information meetings and received positive feedback in support of the project. Bartlesville has presented the project concept in multiple council meetings that are televised for public benefit. These presentations have received no adverse comments. The City believes there will not be any significant opposition to the acceptance and implementation of the project.

3.0 EXISTING FACILITIES AND NEED FOR PROJECT

3.1 CONDITION OF EXISTING FACILITIES

Generally, the facility currently meets current system demands along with Federal, State, and local regulations regarding the water pollution control standards. However, the issues and/or concerns relative to each which necessitate replacement of the existing structures and overall site expansion is detailed in the Engineering Report prepared by Tetra Tech, which is provided under separate cover to OWRB. The existing Chickasaw WWTP has capacity limitations and process efficiency to consistently meet current effluent discharge permit requirements. The WWTP is under ODEQ Consent Order 19-200-Addendm A that requires plant improvements to be completed by September 1, 2030, to achieve compliance. Therefore, the proposed improvements are necessary and required. A copy of Consent Order 19-200 is included in the Engineering Report. The identification and discussion of the project alternatives considered, including those not selected, during the engineering and design phase are provided in Section 4.0 below.

Other areas of concern include; the existing system and technology are more than 30-years old and does not provide efficient means for process control and energy conservation. The proposed project will provide redundancy and process controls to achieve permit compliance and optimize energy usage. Under a separate project (Limestone Corridor Collection System Improvements project), Bartlesville will implement collection system improvements to address most effective way to convey the I/I flow to the treatment plant.

3.2 HEALTH AND SAFETY

No health and safety issues are expected to be present during or after project construction. Safety concerns centered around the construction area will be addressed and controlled during WWTP renovation by the selected contractor and City. The project is proposed to ensure effective waste treatment, water quality improvement, efficient material handling, and compliance with all regulations including the ODEQ consent order. Construction related materials storage, handling, installation, and operations will be conducted as required by standard OSHA requirements. Bartlesville maintains Risk and Resiliency Assessment for its water system in accordance with the America's Water Infrastructure Act (AWIA) of 2018. Please note the Water System is not part of the scope of the project.

3.2.1 Accessibility

The new administration building is considered a public space. The facility design for the new administration building will be designed to comply with the ADAAG 2010 requirements in full as an accessible facility in compliance with the Americans with Disabilities Act (ADA).

Other areas within the WWTP are considered employee work areas that are used as part of the facility operation, and are not accessible to the public. These may include pump stations, electrical buildings, and other areas. These areas are only required to comply with sections 206.2.8, 207.1 and 215.3 of the ADA requirements. These employee work areas shall be designed and constructed so that individuals with disabilities can approach, enter, and exit the employee work area. But the areas themselves are not required to be fully accessible. These areas will meet these requirements by incorporating design elements such as: a door at grade that is minimum 2'-10" wide, with a sidewalk to the door.

The purpose and scope of the project only pertain to the Wastewater Treatment Plant deficiencies and capacity needs. The proposed wastewater treatment expansion includes security measures to include 1) perimeter fencing, 2) controlled access to plant process area, and 3) Video monitoring and SCADA alarms.

Accessibility to the administrative office and other public spaces by handicapped persons associated with the existing WWTP has been incorporated into the new facility design for Americans with Disabilities Act (ADA) compliance. However, the WWTP process areas are not considered occupiable with respect to ADA and are not typically designed for ADA access.

3.3 GROWTH CAPACITY

3.3.1 Sewer Basin Capacity and System O&M

The WWTP expansion is planned for an increase in capacity to meet projected flows of the year 2050. The proposed project capacity expansion design requirements considered the overall the wastewater collection system infiltration and inflow as described in Section 2.3 of ER. The projected flow calculations for the sewer basin is listed in ***Section 2.3***, above. Increasing the sewer basin size as a part of this project is a cost-conscious decision that benefits the City and the public in the future. The proposed improvements are anticipated to be constructed and fully operational during 2030, and allowing for a 20-year planning horizon, the proposed capacity should meet the projected growth needs through 2047-2050 time period.

Relative to inefficient design(s) of the existing facility, currently operating plant equipment is more than 30-years old, with limited aeration and clarification capacities. The rectangular clarifiers are deficient in their hydraulics and solids handling capability. The proposed project will correct these deficiencies by creating new round(ed) basins and structures which will improve the aeration and clarification processes as well as more efficient movement or handling of fluids, sludge, and solids.

O&M problem elimination efforts evaluated prior to adding additional capacity were considered limited to non-functional due to the block and corner features associated with the aeration and clarification systems. Essentially, the original plant design is inefficient but improved design changes to correct or improve the identified issues would have resulted in more than minor renovation in order to utilize the existing, inefficient, and aged infrastructure equipment. The cost benefit analysis, when considering the projected facility treatment demands, indicated the more cost-effective solution would be to implement the overall facility upgrade/modification as proposed. The proposed project will replace existing equipment (as part of the plant capacity increase) in the primary clarifier and the aeration basin to enhance O&M, process control, improve efficiencies and overall energy use.

3.4 WATER SYSTEM & SANITARY SEWER SYSTEM AVAILABILITY

Bartlesville owns and operates its own water system. In addition to serving its citizens, Bartlesville also supplies treated water to surrounding cities and rural water districts. One aspect of the proposed project is to provide water reuse (Category 6 reuse) within the wastewater treatment plant using the treated effluent. Another aspect of the project is to provide IPR by directing a dedicated IPR effluent train to supplement the Caney River flow and provide resiliency to the Caney River raw water supply during drought emergency conditions. The existing sewer system & treatment at plant will not detrimentally affect the existing collection system. Instead, the new facility design and operational processes will provide means to better receive and treat current and projected flows from the collection system to effluent discharge permit requirements. The proposed project will correct existing sewer system and

treatment plant deficiencies, and provide additional capacity to effectively and efficiently treat all flows received from the sanitary sewer system and in compliance with the ODEQ discharge permit requirements.

4.0 ALTERNATIVES CONSIDERED

Tetra Tech developed two conceptual design alternatives to meet each project facet design objective and evaluated the potential implications or ramifications to the overall wastewater treatment system in the event no action is taken. The following sections provide a summary of each alternative considered. Tetra Tech prepared a well-defined and detailed discussion on alternatives considered and the rationale supporting rejection of the considered and selection of the preferred alternatives in the Engineering Report. Therefore, specific details for each are not reiterated within this EID. Rather a summary of the alternatives considered is presented below.

4.1 SUMMARY OF ALTERNATIVES CONSIDERED

4.1.1 No Action Alternative

Under the No Action Alternative, the existing Chickasaw WWTP would operate in its current condition and limited capacity. Provisions for increased organic and hydraulic handling capacity of the existing WWTP would not occur, and inefficient processes would continue to hamper the plant's ability to meet discharge permit requirements. If no action is taken, the DEQ consent order requirements to correct plant and system deficiencies would not occur, resulting in further enforcement action. Additionally, the limited capacity of the WWTP would not be able to keep up with the anticipated growth of the service population, resulting in further overloads at the plant and additional permit violations. The No Action Alternative is not considered acceptable for this project since it does not meet the project purpose and goals which are to correct existing plant deficiencies, discharge permit violations, and meet the requirements of the DEQ consent order, and to provide additional capacity to meet the projected 20-year growth needs.

4.1.2 Alternative 1

Tetra Tech proposed that the Considered Action Alternative (CAA) 1 would maintain the current practice of transporting and treating all flows at the Chickasaw WWTP. The current CWWTP requires updates to meet current ODEQ standards and to meet the projected flow increases for the 2050 planning year. The existing plant is currently rated for 7 MGD; however, under this alternative, the average design capacity would be increased to 8.21 MGD to meet the year 2050 flow conditions.

This alternative would expand and upgrade the current WWTP. A list of the recommended major improvements is given below. A full summary of recommended and necessary improvements can be found in the Engineering Report.

- New headwords screening and grit removal
- Additional primary clarifier
- Additional aeration
- New secondary clarifiers
- UV disinfection (replace existing disinfection using chlorine gas)
- Additional effluent pumping
- Additional anerobic digestion
- Sludge dewatering
- New Administration and Laboratory building

4.1.3 Alternative 2

CAA 2 maintains the existing CWWTP at a reduced treatment capacity and constructs a new wastewater treatment facility to the south of the City of Bartlesville. The projected flows would be split with 5.23 MGD going to the CWWTP and the remaining 2.98 MGD moving to the new southern treatment plant. CWWTP would receive flows from the Chickasaw, Shawnee, and Woodland basins. The new plant would receive flows from the Shawnee and Rice Creek Basins. No exhibit was prepared for this considered action alternative.

In this alternative, a capacity increase for the CWWTP is not required. Instead, upgrades will include process enhancement and improvements to bring it into compliance with current DEQ standards. In addition, a new 3 MGD WWTP would be constructed on the south part of the City.

4.1.4 Selected Alternative - Proposed Action Alternative (PAA)

After careful consideration of environmental impacts, land requirements, construction problems, estimation of probable cost, and other advantages and disadvantages of both alternatives including non-cost factors, Tetra Tech recommends Alternative 1 as the PAA. The PAA design exhibit is provided at ***Appendix A***. This option offers the most flexibility in utilizing the treated effluent to augment Caney River water supply during drought and would serve as a long-term resilient raw water supply for Bartlesville. Under this alternative, the CWWTP would be expanded and upgraded to meet the 2050 projected flows. Up to 4.1 MGD of treated effluent would be pumped from the CWWTP to a new discharge location 7 river-miles upstream of the City's raw water intake to augment the raw water supply during times of drought providing for greater water resiliency and reduced decency of Caney River flows.

5.0 ENVIRONMENTAL IMPACTS OF SELECTED ALTERNATIVE

This section presents the general description of the conditions and resources relevant to the proposed action. Existing conditions and anticipated environmental impacts associated with the proposed action alternative are described for the socioeconomic, physical, aquatic, cultural, and biological environment within the proposed action areas that may be affected. Construction of the expanded existing WWTP would require soil disturbance and/or permanent displacement and removal/conversion of existing herbaceous and woody vegetation associated with the clearing and grading prior to site construction activities. Excavation and shaping of the potentially-needed floodwater storage basin north of the Caney River would also result in soil and vegetation removal prior to basin excavation and shaping, if required. The proposed construction/grading plan would be performed in accordance with standard engineering/construction guidelines and practices.

5.1 LAND USE

Land use within the proposed action area consisted of farmstead, grazing pastures, grassland, and woodlands. The survey area is described as a mixture of open herbaceous field, overgrazed pasture, forested wetlands, and forested riparian zones along the banks of the Caney River, existing WWTP facility, and adjacent properties.

Direct Impacts

The proposed action alternatives would result in direct impacts to approximately 26 acres of previously developed and partially developed land within and adjacent to the existing WWTP. Compensatory flood water storage will also be required whereby approximately 17 acres of floodplain area north of the Caney River would be excavated if necessary to provide adequate flood water storage compensation to offset the calculated floodplain displacement associated with facility expansion. Permanent impacts are expected at the existing and expanded WWTP site as well as conversion of habitats at the temporary floodwater storage basin. Trees will be removed and the area within and immediately adjacent thereto will be maintained by mowing and/or herbicide application on a routine basis. Tree plantings are not proposed however exposed soils will be revegetated upon project completion.

Indirect Impacts

No indirect impacts or long-term adverse effects to the current land use are expected.

5.2 GROWTH AREAS AND POPULATION TRENDS/PROJECTIONS

5.2.1 Social Environment

According to the poverty guidelines published by the US Department of Health and Human Services (HHS), the 2023 HHS poverty guidelines (Federal Register, January 19, 2023) for a family of four with an annual household income of $30,000 is considered to be the poverty level. An annual income of $14,580 is considered to be in the poverty level for an individual. U.S. Census Bureau data was used to identify the social characteristics at the city level. ***Table 5.1*** provides the summary information.

Direct Impacts

No adverse direct impacts are anticipated by the preferred action alternatives on the social and economic environments. The social and economic environments are expected to follow historic trends in the project area

vicinity. The proposed action may temporarily increase noise levels however no people or residential areas are located adjacent to or near the action area. Temporary noise levels increases are not expected to be excessive and would be short in duration. Quality of life improvements should be expected as a result of the proposed action through increase functionality of the City's wastewater treatment system to prevent service disruptions associated with facility failures due to the degraded condition of the existing infrastructure. Temporary monetary benefit may also be realized by the selected construction contractor business, their employees, and by local businesses that provide materials and services to construction-related enterprises. Additional monetary benefits may also be realized by food and lodging establishments on a temporary basis from construction personnel patronage.

Indirect Impacts

No indirect adverse impacts should result from the proposed action.

Table 3 - City of Bartlesville, OK Demographics	
Population	
Population estimates, July 1, 2021, (V2021)	**37,384**
Population estimates base, April 1, 2020, (V2021)	37,197
Population, percent change - April 1, 2020	0.5%
Population, Census, April 1, 2020	37,290
Age	
Persons under 5 years, percent	6.9%
Persons under 18 years, percent	24.5%
Persons 65 years and over, percent	18.6%
Female persons, percent	51.5%
Race and Hispanic Origin	
White alone, percent	73.9%
Black or African American alone, percent(a)	3.5%
American Indian and Alaska Native alone, percent(a)	8.3%
Asian alone, percent(a)	2.9%
Native Hawaiian and Other Pacific Islander alone %	0.0%
Two or More Races, percent	8.6%
Hispanic or Latino, percent(b)	6.9%
White alone, not Hispanic or Latino, percent	70.8%
Population Characteristics	
Veterans, 2017-2021	2,099
Foreign born persons, percent, 2017-2021	5.0%
Housing	
Owner-occupied housing unit rate, 2015-2019	68.2%
Median value owner-occupied housing units, 2015-2019	$126,400
Median selected monthly owner costs -with a mortgage, 2015-2019	$1,187
Median selected monthly owner costs -without a mortgage, 2015-2019	$414
Median gross rent, 2017-2021	$789
Families & Living Arrangements	
Households, 2017-2021	14,443
Persons per household, 2017-2021	2.52
Living in same house 1 year ago, percent of persons age 1 year+, 2017-2021	85.0%

Education	
High school graduate or higher, percent of persons age 25 years+, 2017-2021	91.0%
Bachelor's degree or higher, percent of persons age 25 years+, 2017-2021	32.5%
Health	
With a disability, under age 65 years, percent, 2016-2020	11.9%
Persons without health insurance, under age 65 years, percent	16.2%
Economy	
In civilian labor force, total, percent of population age 16 years+, 2017-2021	58.6%
In civilian labor force, female, percent of population age 16 years+, 2017-2021	53.6%
Total accommodation and food services sales, 2017 ($1,000)(c)	85,366
Total health care and social assistance receipts/revenue, 2017 ($1,000)(c)	282,550
Total retail sales, 2017 ($1,000)(c)	657,246
Total retail sales per capita, 2017(c)	$18,017
Transportation	
Mean travel time to work (minutes), workers age 16 years+, 2017-2021	18.2
Income & Poverty	
Median household income (in 2019 dollars), 2016-2020	$54,768
Per capita income in past 12 months (in 2019 dollars), 2016-2020	$31,005
Persons in poverty, percent	15.0%

5.2.2 Environmental Justice

Executive Order (EO) 12898 “Federal Actions to Address Environmental Justice in Minority and Low-Income Populations” (February 11, 1994) states that if possible, no federal actions should place any adverse environmental, economic, social, or health effects on minority or low-income groups.

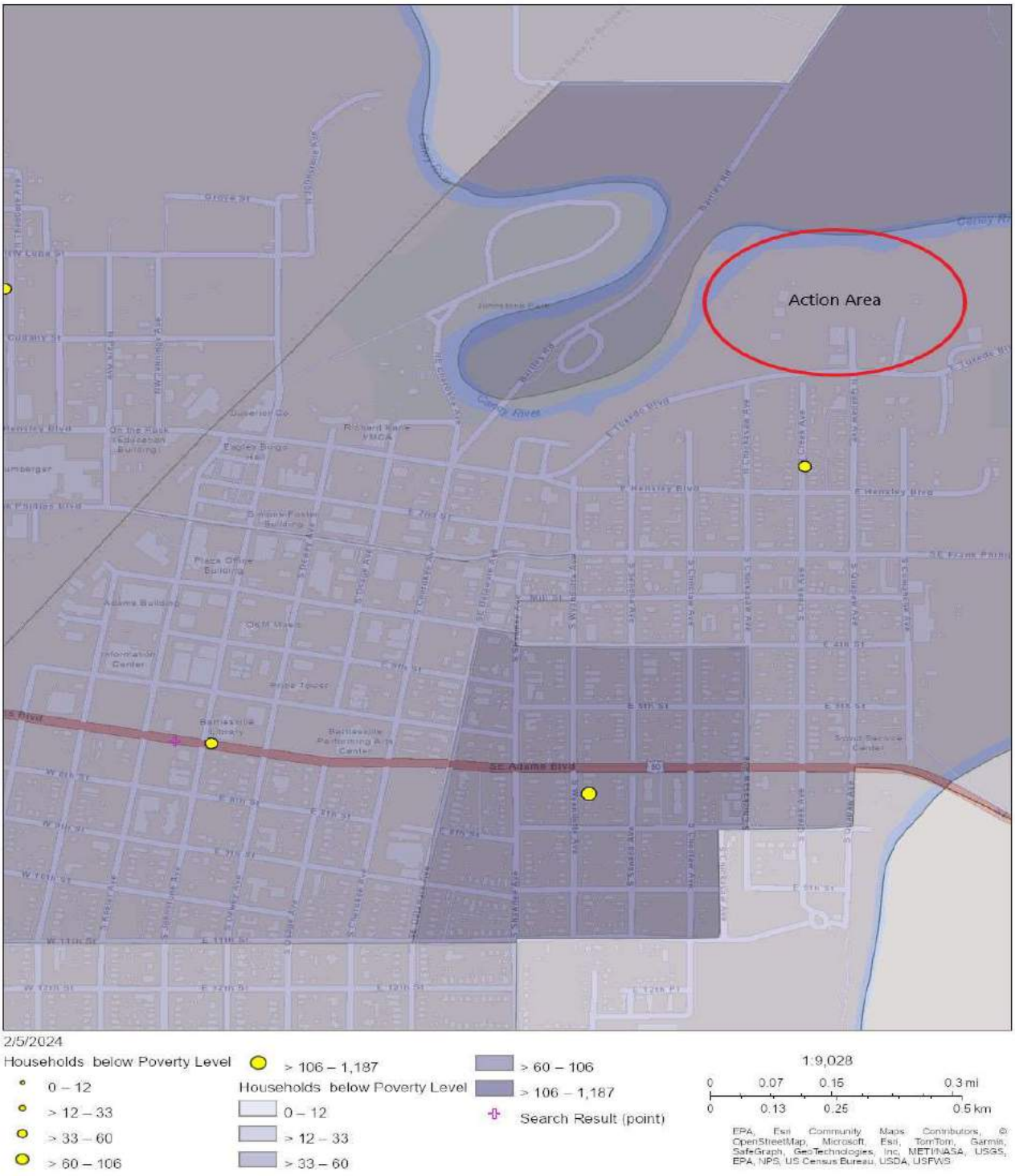
Direct Impacts

The USEPA Environmental Justice Screening and Mapping Tool, EJSCREEN (Version 2.1), was used to broadly assess the proposed action concerning effects on minority and low-income populations. Results from the EJSCREEN indicate that the proposed action does not appear to have any environmental justice concerns. No homes or minority groups are located within the assessment area. The proposed action would not displace any residential development or affect any minority groups or low-income families. The EJSCREEN Maps depicting areas of Low Income or Below Poverty and People of Color around the action area are provided below.

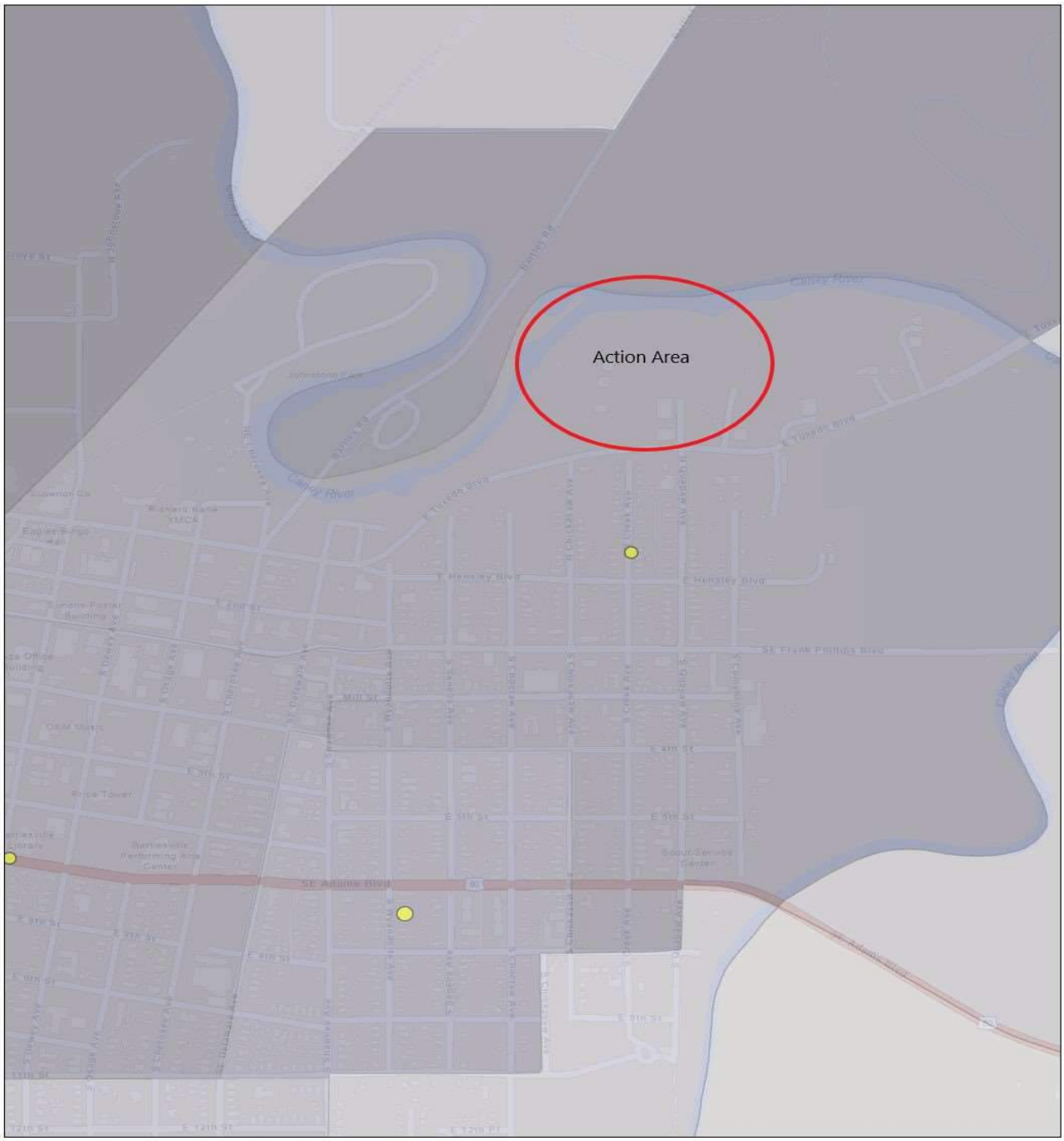
Indirect Impacts

No indirect impacts to minority or low-income populations are anticipated.

EJ Below Poverty



EJ People of Color & Below Poverty



2/5/2024

People of Color (National Percentiles)
- Less than 50 percentile
- 50 - 60 percentile
- 60 - 70 percentile

Households below Poverty Level
- 0 – 12
- > 12 – 33
- > 33 – 60
- > 60 – 106
- > 106 – 1,187

Households below Poverty Level
- 0 – 12
- > 12 – 33
- > 33 – 60
- > 60 – 106
- > 106 – 1,187

1:9,028

0 0.07 0.15 0.3 mi
0 0.13 0.25 0.5 km

EPA, Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

5.2.3 Protection of Children

Executive Order 13045 pertains to "Protection of Children for Environmental Health and Safety Risks", April 21, 1997. This mandate requires that federal agencies are to identify and assess environmental health and safety risks that may affect children. EO 13045 states that to the extent permitted by law and appropriate, each federal agency shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children and ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.

Direct Impacts
The project passes through previously developed areas on City and privately owned property. The project will be undertaken using safety precaution measures and safety barriers. All development sites will be manned by construction and/or City personnel during construction periods and public access will be prohibited.

Indirect Impacts

No indirect impacts have been identified or are anticipated.

5.3 NATURAL RESOURCES

5.3.1 Soils

The Natural Resource Conservation Service (NRCS) Web Soil Survey for Washington County was used to broadly assess the soils within the proposed action area. Five soil units are located within the proposed project area and included:

- Okemah silt loam, 0 to 1 percent slopes
- Osage clay, 0 to 1 percent slopes, occasionally flooded
- Shidler stony silty clay loam, 1 to 20 percent slopes
- Verdigris clay loam, 0 to 1 percent slopes, occasionally flooded
- Verdigris silt loam, 0 to 1 percent slopes, frequently flooded

5.3.1.1 Farmland Soils

The Natural Resource Conservation Service (NRCS) administers the Farmland Protection Policy Act (FPPA 1981) to ensure that federal programs minimize unnecessary and irreversible conversion of farmland soils to nonagricultural uses. The National Resources Conservation Service Stillwater office was contacted with regard to any impacts the proposed project may have on farmland soils. Documentation is provided in ***Appendix B***.

Direct Impacts

NRCS reviewed the subject project information and determined that the proposed project will not impact any easements, watersheds, or prime farmland soils as defined by the Farmland Protection Policy Act. Prime farmland is not present and no other easements relative to the Farm Protection Policy Act have been identified. Therefore, the FPPA does not apply. The soils report associated with the action area is provided at ***Appendix B***.

Indirect Impacts

Indirect impacts to surface waters could result from waterborne soil loss attributed to the proposed action. Silt fencing, hay bale barriers or other sediment trapping devices would be installed down gradient of areas of disturbance to dissipate velocities of surface water runoff and trap fugitive sediment. All disturbed soils will be re-vegetated upon progressive completion of the project.

5.3.2 Vegetation

The U.S. Fish and Wildlife Service (USFWS) defines an ecosystem as a geographic area and all its living components, their physical surroundings, and the natural cycles that sustain them. The project area is located within the Osage Questas ecoregion (40b) of Oklahoma (Woods et al, 2005). This ecoregion consists of an irregular to undulating plain that is underlain by interbedded westward-dipping sandstone, shale, and limestone. Natural vegetation is mostly tall grass prairie. The eastern portion of this ecoregion is a mix of tall grass prairie and oak-hickory forest. The construction corridors transition across previously developed and partially developed land within

and adjacent to the existing WWTP. The majority of the WWTP assessment area is described as mostly open livestock pastures with scattered trees and forested riparian areas. The central portion of the proposed floodwater storage basin north of the Caney River is predominantly an open herbaceous field dominated by Johnsongrass. The north, east, and southern perimeters of the proposed basin are primarily forested and include multiple depression wetland features. The dominant woody species consisted of green ash, hackberry, honey locust, box elder, Osage orange, persimmon, and scattered Shumard oak trees. Sapling and shrub species included green brier, coral berry, poison ivy, and Virginia creeper.

Direct Impacts

Direct effects within the action area would consist of temporary and permanent impacts. Temporary impacts would be associated with site preparations adjacent to permanent structures or features. Soils and herbaceous vegetation in these areas would be restored and replanted. Permanent impacts would result from conversion of existing habitats to structures and impervious surfaces associated primarily with the WWTP facility improvement. All exposed soils within the construction areas would be restored upon completion. The survey area is approximately 45 acres in size. Tree removal within the floodwater basin would be approximately 17 acres and the tree removal areas within WWTP expansion area would encompass 2 acres. Private and governmental property or right of way maintenance, herbicide application, and/or mowing are expected to continue in the undisturbed areas as well as the new facilities upon project completion. Permanent impacts are expected at the existing and expanded WWTP site as well as conversion of habitats at the temporary floodwater storage basin. Removal and/or displacement of herbaceous and woody vegetation would result from the proposed action. The modified WWTP grounds will be maintained by mowing and/or herbicide application on a routine basis. Revegetation of the disturbed areas within the proposed action area is proposed as compensatory mitigation to restore the affected areas of vegetation (***Section 6.0***). However; tree replacement, other than potential planting of landscape/ornamental trees or shrubs, is not proposed. No invasive or noxious species as identified on the Oklahoma Invasive Plants Watch List were observed within the action area during the onsite field surveys. The most current list of invasive species is provided in ***Appendix B***. Care should be taken by the selected contractor to ensure the vegetation used to restore exposed soils upon construction is free of noxious plant seed or stock.

Indirect Impacts

Indirect impacts to vegetation are not anticipated. However, if resulting adverse effects to vegetation are discovered upon project completion, the City will evaluate the potential solutions to rectify incidental affects to the extent possible.

5.4 WATER & RELATED RESOURCES

Surface Water

The Bartlesville US Geological Survey (USGS) topographic map and aerial imagery of the project area were initially reviewed to identify surface water resources with the action area. The topographic map indicated the presence of surface water resources and the initial onsite waters of the United States (WOUS) survey completed by EEC determined that nineteen (19) wetland areas were present within the original PAA action area. A second supplemental onsite survey was conducted on a separate but adjoining property north of the Caney River where an additional eighteen (18) wetland areas associated with the second prospective floodwater storage basin. The locations, descriptions, and characterizations of the identified aquatic resources are graphically depicted at ***Appendix A Figures 2 & 3*** as well as the provided in the Waters of the US Delineation report of surveys located at ***Appendix C***. It should be noted, the northernmost potential floodwater detention area has been removed from the overall proposed action. However, the Waters of the US survey report includes all aquatic resources identified within the overall assessment area and is therefore provided here for consistency and transparency. None of the identified aquatic resources are shown as impaired waterways. Potential erosion control and stormwater management concerns have been identified and will be addressed through development and implementation of a Storm Water Pollution Prevention Plan as required by Section 402 of the Clean Water Act. The project engineer will prepare and provide said plan to the contractor to avoid and minimize potential impacts to water quality. The following table provides a summary of the feature type, linear footage, acreage, and the centroid location coordinates for each aquatic feature:

Table 4
Identified Aquatic Features

Site Number	Feature Type	Acres	Latitude	Longitude
FS-1	Wetland	0.12	36.7565	-95.9637
FS-2	Wetland	0.11	36.7572	-95.9626
FS-3	Wetland	0.31	36.7618	-95.9595
FS-4	Wetland	0.05	36.7614	-95.9596
FS-5	Wetland	0.05	36.7597	-95.9593
FS-6	Wetland	0.02	36.7598	-95.9592
FS-7	Wetland	0.06	36.7598	-95.9592
FS-8	Wetland	0.10	36.7593	-95.9588
FS-9	Wetland	0.12	36.7595	-95.9593
FS-10	Wetland	0.02	36.7595	-95.9595
FS-11	Wetland	0.02	36.7596	-95.9597
FS-12	Wetland	0.03	36.7594	-95.9599
FS-13	Wetland	0.02	36.7593	-95.9597
FS-14	Wetland	0.013	36.7592	-95.9594
FS-15	Wetland	0.12	36.7590	-95.9587
FS-16	Wetland	0.14	36.7588	-95.9593
FS-17.1	Wetland	0.015	36.7585	-95.9601
FS-17.2	Wetland	0.02	36.7585	-95.9599
FS-17.3	Wetland	0.104	36.7584	-95.9592
FS-17.4	Wetland	0.095	36.7582	-95.9589
FS-18	Wetland	0.05	36.7589	-95.9603
FS-19	Wetland	0.06	36.7591	-95.9599
	Total	**1.647**		

Table 5
Additional Identified Aquatic Features

Site Number	Assessment Area Parcel	Feature Type	Acres	Latitude	Longitude
FS-1	South	Wetland	0.04	36.7623	-95.9608
FS-2	South	Wetland	0.02	36.7625	-95.9604
FS-3	South	Wetland	0.01	36.7629	-95.9601
FS-4	South	Wetland	0.01	36.7629	-95.9599
FS-5	South	Wetland	0.02	36.7632	-95.9596
FS-6	South	Wetland	0.02	36.7632	-95.9598
FS-7	South	Wetland	0.09	36.7632	-95.9600
FS-8	South	Wetland	0.02	36.7633	-95.9596
FS-9	South	Wetland	0.01	36.7634	-95.9598
FS-10	South	Wetland	0.02	36.7636	-95.9602
FS-11	North	Wetland	0.01	36.7646	-95.9584
FS-12	North	Wetland	0.35	36.7653	-95.9586
FS-13	North	Wetland	0.11	36.7659	-95.9585
FS-14	North	Wetland	0.02	36.7673	-95.9583
FS-15	North	Wetland	0.19	36.7654	-95.9593
FS-16	North	Wetland	0.07	36.7664	-95.9591
FS-17	North	Wetland	0.03	36.7669	-95.9588
FS-18	North	Wetland	0.99	36.7668	-95.9594
		Total	**2.02**		

Table 6
Total Combined Acreage

Parcel Surveyed	Total Acreage
WWTP and Detention Areas	1.647
Additional Flood Storage Areas	2.02
Total	**3.667**

Direct Impacts

Based on coordination with the project engineer and preliminary design plan review, no aquatic resources would be affected. The two identified wetland areas within the existing WWTP expansion area would be avoided during construction (***Appendix A Figure 4***). The southernmost initial floodwater storage area immediately north of the Caney River would not be affected since use of said area as flood water detention would not be required based on the removal of the proposed flood protection berm from around the WWTP. Formal coordination with the US Army Corps of Engineers (USACE) has not been initiated by the City or engineer for reasons similar to those above. In the event project design plans change which would affect WOUS or wetlands, coordination with the USACE and the Section 404 of the Clean Water Act permit review process would be initiated, if necessary.

Indirect Impacts

The proposed action may cause temporary minor increases in turbidity to receiving surface water or wetland resources during construction. The stormwater pollution prevent plan will incorporate silt fencing and hay bale barriers or similar measures to be installed down gradient of disturbed soil areas to dissipate velocities of surface water runoff and trap waterborne sediment.

Groundwater

The Oklahoma Department of Environmental Quality (ODEQ) data viewer was used to broadly assess groundwater resources beneath land within the proposed action. No major or minor aquifers are present beneath the action area. Unnamed consistent or inconsistent ground water resources are anticipated to be shallow and likely obtained within the sandstone units the Quarternary alluvium bands.

Direct Impacts

The proposed action will result in minimal disturbance of land within the local watershed or underlying aquifer. Potential groundwater impacts associated with this project should have a negligible, if any, effect on groundwater recharge.

Indirect Impacts

No indirect impacts are expected due to the shallow excavation of utility line trenches. All trenches will be backfilled without using impervious materials and groundwater flow patterns should return to pre-disturbance conditions. Impervious surfaces associated with the expanded WWTP will shed water to receiving drainages and adjacent uplands for return to surface and subsurface water resources.

Public Water Supplies

The ODEQ data viewer was used to identify the presence of public water supplies wells, public water supply intakes, and wellhead protection areas that could be affected by the proposed action.

Direct Impacts

No public water supply intakes or systems are present within or near the proposed action area and no direct impacts are expected.

Indirect Impacts

Based on no evidence of public water supply systems or facilities, no indirect impacts are expected.

Scenic River Areas

The proposed action is not located within a county (Adair, Cherokee, Delaware, Sequoyah, or McCurtain) that contains scenic waters.

Direct Impacts

No impacts to scenic river areas would occur.

Indirect Impacts

No indirect impacts to scenic river areas would occur.

Sole Source Aquifers

The ODEQ data viewer was accessed to identify the location of any sole source aquifers in Oklahoma. No sole source aquifers are located within or near the proposed action area.

Direct Impacts

No direct impacts to sole source aquifers should occur.

Indirect Impacts

No indirect impacts to aquifers are anticipated.

5.4.1 Floodplains

The protection of floodplains and floodways is required by Executive Order 11988 to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of floodplains to avoid direct or indirect support of floodplain development. Coordination with the City of Bartlesville and Washington County Floodplain Administrators confirmed the proposed action would be located within floodplain areas. The proposed action is located on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map Number 40119CO235F map panel dated May 16, 2007.

Direct Impacts

Under the original new WWTP facility design, which included a floodwater protection berm, was calculated to result in potential displacement of Caney River floodplain (***Appendix A Figure 5***). The flood protection berm around the modified WWTP was the primary causative factor for potential floodplain displacement and/or predicted impact to the 100-year base flood elevation. Under the original design scenario, the City and engineer considered options to offset any potential floodplain displacement. The considered options included facility modification, partial redesign, and excavation of new flood water storage basins north of the Caney River. Through their collective evaluations, the City elected to remove construction of the flood water protection berm component from around the expanded facility. By doing so, base flood elevation impacts are no longer expected. The project would also involve burial of piping infrastructure and not result in the restriction or displacement of floodplains. No direct floodplain impacts are now anticipated from the proposed action. Based on the new facility design, the new or upgraded WWTP features would not displace or would be buried below the 100-year floodplain and therefore negated the need for the flood protection berm around the new facility as well as the need for additional flood storage north of the Caney River. All work associated with the proposed action would conform to applicable state or local floodplain protection standards. The City or their selected contractor will prepare and submit a completed application for a Floodplain Development Permit to the Washington County Floodplain Administrator. A Notice of Intent will be completed and provided to the ODEQ prior to construction. Since no floodplain impacts would now occur, neither the City, engineer, or City Floodplain Administrator (FPA) initiated coordination with the Federal Emergency Management Agency (FEMA). Although a comment request letter was sent to the City FPA, no response was received.

Indirect Impacts

No indirect impacts are anticipated or have been identified.

5.4.2 Wetlands

The USACE Wetlands Delineation Manual (Environmental Laboratory, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (USACE 2010) were referenced in concert to identify wetlands within the action area. Wetland areas, if observed, were to be identified using the routine on-site (level 2) method, as described in Section D of the 1987 USACE Wetlands Delineation Manual. The identification of wetlands consists of a three-parameter approach that involves determining the presence of hydrophytic vegetation, hydric soils, and wetland hydrology. EEC performed two WOUS and wetland delineation surveys within the proposed action area and the reports of survey are provided in ***Appendix C***.

Direct Impacts

EEC performed a Waters of the US delineation within the existing WWTP site expansion area and the two prospective flood water storage basin areas north of the Caney River, which identified an additional eighteen (18) wetland areas across the northern and southern parcels. As discussed in Section 5.4 above, no impacts to wetlands would occur.

Indirect Impacts

The proposed action may cause temporary minor increases in turbidity to surface water or wetland resources during construction. The stormwater pollution prevent plan will incorporate silt fencing and hay bale barriers or similar measures to be installed down gradient of disturbed soil areas to dissipate velocities of surface water runoff and collect waterborne sediment prior to entering downgradient or adjacent aquatic resources.

5.5 FISH AND WILDLIFE

The species of wildlife expected to use or be present within the proposed action area may include such species as white-tailed deer (*Odocoileus virginianus*), fox squirrel (*Sciurus niger*), cottontail rabbit (*Sivilagus floridanus*), raccoon (*Procyon lotor*), mink (*Mustela vison*), opossum (*Didelphis virginiana*), skunk (*Mephitis mephitis*), and beaver (*Castor canadensis*). Various avian species comprised of raptors, waterfowl, neo-tropical migrants, as well as a variety of herpetofauna including timber rattle snakes (*Crotalus horridus*), copperhead (*Agkistrodon contortrix*), water snakes (*Nerodia sp*.), amphibians, salamanders, lizards, skinks, tortoise and turtles are present in and/or migrate through the general area. Predatory mammals including the coyote (*Canis latrans*) are expected in average density while the numbers of grey fox (*Urocyon cinereoargenteus*) are expected to be low despite the presence of suitable habitat. Local bobcat (*Lynx rufus*) populations are anticipated to be below average. The typical fish species that may use the local water resources within the project area could include sunfish, catfish, and forage species including minnows and shiners. However, no streams capable of supporting viable populations of game, forage, and rough fish were not identified within the assessment corridor and none would be affected. The proposed action construction period is anticipated to occur in the fall of 2024 and/or winter of 2025 during periods of low water flows/levels. Further, tree removal activities would occur during periods when the potentially present bat species would not be present in Oklahoma.

Direct Impacts

Direct impacts to fish and wildlife would be short term, localized and cease when the proposed action is completed. Direct impacts would result in herbaceous areas at and adjacent to the existing WWTP. Minor tree removal may removal may be required, however impacts should be limited to a relatively few number of mature trees and saplings. Tree clearing in the proposed flood water detention area north of the river would not occur. Additionally, the flood protection berm around the WWTP has also been removed from the project thus avoiding tree removal. Animal species and their respective uses are expected to be varied, opportunistic, and relative to the preferred or utilized habitats for each. Based on the observed habitat characteristics, the most predominant species expected to be present or utilize the proposed action would consist of small mammals and birds. The diversity of bird species varies between summer and winter migrants; however, no nests were observed during the initial field surveys. Predatory or omnivorous animals such as coyote, skunk, raccoon, and snakes are expected to utilize both areas primarily during foraging. The habitat quality is subjectively described as fair to excellent relative to the wide range of species known to occur within or adjacent to the project area. For example, white-tailed deer may use the area for cover and foraging due to its seclusion, restricted access, and vegetative structure. Fox squirrels are expected to be present in average numbers based on the presence of hard-mast bearing trees.

Avian species utilize the action area and appear to be relegated primarily to neo-tropical migrants. However, raptorial birds such as hawks and owls can effectively use the open, forested, and/or transition areas for hunting. Herpetofauna are expected throughout the action area but their presence and abundance will be predicated on the specific habitats along the action area corridor. Habitats providing multiple vegetative strata may be more utilized by herpetofauna as opposed to open herbaceous fields used for hay production or bio-solids injection. Further, their presence would also be a function of the species and forage requirements. The overall impacts to terrestrial species are expected to be minor and temporary. The majority of the terrestrial species should be able to flee the proposed work areas prior to construction. Some nesting habitat for avian species may be removed.

Impacts to fish and wildlife species overall are expected to be minor and temporary. However, more than sufficient areas of suitable and/or preferred habitat is available adjacent or in very close proximity to the proposed action area for terrestrial species to utilize for cover, nesting, denning, and/or foraging.

Indirect Impacts

Indirect impacts could result to fish and wildlife during temporary displacement or vacating the construction areas while fleeing species relocate to alternatively undisturbed areas. Similarly, indirect impacts may occur during the period required for disturbed soils to become revegetated. However, based on the substantially reduced earthen impact area footprint, any such impacts would be very minor especially considering the current land use and low-quality habitat within the action area.

5.5.1 Threatened and Endangered Species

In accordance with the Endangered Species Act of 1973, federal agencies are required to consult and/or coordinate with the USFWS to address potential impacts to federally-listed threatened and endangered (T&E) species relative to a proposed action. EEC initiated said coordination on behalf of the City and acquired the official list of T&E species which could be present in or migrate through the proposed action area. EEC subsequently conducted field surveys to identify and characterize exhibit habitats and determine potential impacts relative to the listed species and prepared a biological assessment (BA) located in ***Appendix D***. The BA was provided to the USACE to facilitate their review and compliance with Section 7 of the Endangered Species Act as part of the Section 404 of the Clean Water Act permit review process. The USACE was considered the federal agency responsible for this coordination and as such would initiate Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) as required on behalf of the City and OWRB. The official list of threatened and endangered species potentially present within or adjacent to the proposed action was obtained from the USFWS Information, Planning, and Conservation (IPaC) decision support system (***Appendix B***) and the excepted species list is shown in ***Table 5.5***. Additionally, EEC contacted the Oklahoma Biological Survey and requested species of concern occurrence records information. No known or recorded species occurrences were identified within the proposed action area. Documentation is provided in ***Appendix B***.

Table 7 - Federally Listed T&E Species

Species/Critical Habitat	Listing Status	Habitat Requirements	Status within Action Area
Red Knot (*Calidris canutus rufa)*	Threatened	Coastal areas, mudflats on lakes or reservoirs, and may use sandbars along the major river systems for forage and resting areas. Species does not nest in OK.	There is proposed critical habitat for this species. However, none is present within or near the action area.
Neosho Mucket (*Lampsilis rafinesqueana*)	Endangered	Typically found in shallow riffles, or areas with swift currents, along the Illinois river.	There is final critical habitat for this species. However, none is present within or near the action area.
Rabbitsfoot (*Quadrula cylindrica cylindrica*)	Threatened	Suitable habitat for the Rabbitsfoot occurs in small to medium-sized streams and some large rivers. Typically found in a mixture of sand and gravel substrate.	There is final critical habitat for this species. However, none is present within or near the action area.
Monarch Butterfly *(Danaus plexippus)*	Candidate	Milkweed plants are especially important for caterpillars, but adult butterflies feed on nectar from flowering plants like goldenrod, asters, and gayfeather.	Potentially suitable foraging habitat present. However, no milkweed plants were observed.
American Burying Beetle *(Nicrophorus americanus)*	Threatened	Breeding habitat: undisturbed, mature oak-hickory forests with substantial litter layers and deep, loose soils over grasslands or bottomland forests. Feeding habitat: undisturbed grasslands, grazed pasture, riparian zones, and oak-hickory forest, as well as a variety of various soil types.	Potentially suitable habitat present.
Northern Long-eared Bat (*Myotis septentrionalis*)	Endangered	During summer, northern bats roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees. Forages among mature hardwood canopy.	Potentially suitable foraging habitat present. Potential roost trees present along the Caney River within action area.

USFWS, 2022

American Burying Beetle

The proposed action lies within the historic range of the ABB. Suitable habitat exists within the action area and was observed within most of the project area. ABB surveys were not required. No ABB surveys were conducted. Based on the recent down-listing of the ABB from endangered to threatened and the development of effects determination keys under Section 4(d) of the ESA, it was determined no surveys would be required and the proposed action would qualify for an exemption of take under the Section 4(d) Rule exemption.

Piping Plover

Similar to the least tern, piping plovers transition across Oklahoma during migration and use suitable aquatic resources for temporary stopovers. However, piping plovers do not nest in Oklahoma. The aquatic resources within or immediately adjacent to the project area do not provide suitable habitat for the piping plover and the proposed action would have No Effect on this species.

Red Knot

This species migrates through Oklahoma in the spring and fall. Migratory habitat requirements for the red knot include coastal areas, mudflats on lakes or reservoirs, and may use sandbars along the major river systems for forage and resting areas. No suitable aquatic resources were identified within or immediately adjacent to the action area. The proposed action would have a No Effect determination for the red knot.

Neosho Mucket

The Neosho Mucket is associated with shallow riffles and runs comprising gravel substrate and moderate to swift currents. This species generally consumes algae, bacteria, detritus, and microscopic animals. There is final critical habitat for this species; however, none is present within or near the action area. The proposed action would have a No Effect determination for the Neosho Mucket.

Rabbitsfoot

The rabbitsfoot is a freshwater clam with an elongate shell approximately 4-6 inches in length. Its color can vary from dark brown to light green. Multiple knobs are often evident on the shell of the rabbitsfoot. Rabbitsfoot mussels tend to select areas with sandy or gravel bottoms, often in side-channels with slower flow near the shore. The rabbitsfoot was historically found in the Verdigris, Neosho, Spring, Illinois, Blue and Little Rivers in Oklahoma. Populations currently remain in the Verdigris, Illinois, and Little rivers. While the rabbitsfoot still exist in the Spring and Neosho rivers, they are considered very rare or extirpated in the Oklahoma portion. Due to modification of the Verdigris River from construction of Oologah Reservoir and the McClellan-Kerr Navigation System, rabbitsfoot populations in that river have become reduced and isolated due to inundation of formerly-occupied habitat. Rabbitsfoot mussels prefer shallow areas with sand and gravel along the bank and next to shoals, which provide a refuge in fastmoving rivers. They are found in 13 states from Pennsylvania to Oklahoma. Rabbitsfoot rely on approximately a dozen species of shiners for its larva (glochidia) host. There is final critical habitat for this species. However, none is present within or near the action area. The proposed action would have a No Effect determination for the rabbitsfoot mussel.

Monarch Butterfly

The Monarch butterfly is a visually beautiful invertebrate that is native to North America. The thin, black veins and striking orange wings that are peppered with small white spots are indicative to this species. They are a relatively large butterfly that measures 3.5 inches to 4 inches long. Milkweed plants are vital to the caterpillars, while the adults feed on the nectar of flowering goldenrod, asters and gayfeather plants. Habitats for potential Monarch butterfly presence or usage were not observed and no host or forage plants for this species were observed; therefore, the impact determination for the Monarch butterfly would be No Effect.

Northern Long-eared Bat

The northern long-eared bat is a medium-sized bat about 3 to 3.7 inches in length but with a wingspan of 9 to 10 inches. This bat is distinguished by its long ears, particularly as compared to other bats in its genus, Myotis, which are actually bats noted for their small ears (Myotis means mouse-eared). The northern long- eared bat is found across much of the eastern and north central United States and all Canadian provinces from the Atlantic coast west to the southern Northwest Territories and eastern British Columbia. The species' range includes 37 states. White-nose syndrome, a fungal disease known to affect bats, is currently the predominant threat to this bat, especially throughout the Northeast where the species has declined by up to 99 percent from pre-white-nose syndrome levels at many hibernation sites. Although the disease has not yet spread throughout the northern long- eared bat's entire range (white-nose syndrome is currently found in at least 25 of 37 states where the northern long- eared bat occurs), it continues to spread. No acoustic bat presence was observed within the action area. The proposed action would have a No Effect determination for the Northern Long-eared Bat.

The Species Conclusion Table (***Table 5.6***) below provides the documentation and rationale relative to the potential affect to each of the federally-listed species:

Table 8 – T&E Species Conclusion Table

Species/Critical Habitat	Habitat Presence Determination	USFWS Consultation	ESA Determination
Piping Plover	No Suitable Habitat Present	Not Required	No Effect
Red Knot	No Suitable Habitat Present	Not Required	No Effect
Neosho Mucket	No Suitable Habitat Present	Not Required	No Effect
Rabbitsfoot	No Suitable Habitat Present	Not Required	No Effect
Monarch Butterfly	No Suitable Habitat Present	Not Required	No Effect
American Burying Beetle	Suitable Habitat Present	Completed. ABB Key.	Section 4(d)
Northern Long-eared Bat	Potentially Suitable Foraging Habitat Present but avoided	Not Required	No Effect

Bald Eagle

Although the Bald Eagle (*Haliaeetus leucocephalus*) has been removed from the threatened and endangered species list, the eagle continues to be protected by the Bald and Golden Eagle Protection Act. The bald eagle prefers large trees or high cliffs along large waterways for perching and nesting purposes. Fish are the preferred diet of eagles, but they also eat small mammals, waterfowl, turtles, and dead animals. Preferred foraging areas include quiet coastal areas, rivers, or lakeshores with large, tall trees.

Direct Impacts

Limited potential or suitable habitat was identified within the action area for the bald eagle and generally associated with creeks or rivers and larger ponds adjacent to the corridor. No bald eagles or nests were observed during the site visit. This project is not expected to impact the bald eagle.

Indirect Impacts

No indirect impacts to the bald eagle have been identified or are anticipated.

Migratory Birds

Migratory bird species are protected under the Migratory Bird Treaty Act (MBTA) as amended. The MBTA prohibits the take of any migratory bird without authorization for the USFWS.

Suitable nesting habitats within the action area appeared to be primarily associated with forested areas exhibiting functional and undisturbed habitat components. The primary species potentially nesting in said areas may include perching birds, neo-tropical migrants, turkey, cranes, egrets, and/or raptors. While potentially suitable nesting habitat was present, no bird nests were observed within the action area during biological assessment field surveys.

Direct Impacts

Suitable nesting habitat is present within the project area; however, no bird nests were observed within the study area. No active swallow nests were observed within the action area. Construction is encouraged to occur between August 15 and March 31 to avoid the nesting season to avoid potential impact to migratory birds. Suitable habitat for non-migratory ground nesting birds may be minimally present but is anticipated to be restricted to very small patches and/or isolated areas. Adverse impacts to the continued overall existence of populations of multiple various species is not expected. Construction is encouraged to occur during the non-nesting season to minimize potential impacts. Adverse effects could occur to migratory or non-migratory birds associated with tree removal operations within the Boomer Creek riparian zone. The acreage of tree removal would be approximately 19 acres resulting in minor potential impacts.

Indirect Impacts

Indirect impacts to raptorial birds could occur from the temporary displacement of forage species vacating the immediate construction corridors. However, sufficient hunting habitat for these birds is present immediately adjacent to the action area. Temporary impacts to herbaceous habitats may affect the foraging and/or nesting patterns of bird species within the narrow construction corridor. However, based on the low density of only marginally suitable habitat which could be utilized, adverse impacts to these bird species are not anticipated.

5.6 CULTURAL RESOURCES

Section 106 of the National Historic Preservation Act of 1966 (Section 106), as amended, protects those properties that are listed or eligible for listing in the National Register of Historic Places (NRHP). In Oklahoma, the State Historic Preservation Office (SHPO) includes two entities that share responsibilities for Section 106 coordination; the Oklahoma Archeological Survey (OAS) and Oklahoma Historical Society (OHS).

5.6.1 SHPO Consultation

EEC provided scoping letters to the OAS to determine the need for cultural resource surveys. OAS stated a field archeological survey would be required in areas where the proposed utility lines would potentially affect areas that were not previously disturbed. A cultural resource survey was subsequently conducted in the months of April and June 2022 during which one new historic archaeological site was encountered. The report of survey is not included in the EID due to concerns of disseminating potentially sensitive information as required by the respective agencies and/or tribal nations. Section 106 consultation with the OAS and OHS was conducted by the OWRB. Completion of said coordination provided concurrence from both agencies the proposed project would not affect any historic properties or cultural resources. Documentation is provided in ***Appendix B***.

Direct Impacts

Based on the results of the field archeological survey and concurrence of findings received from OAS and OHS, no direct impacts to cultural resources or historic properties would occur.

Indirect Impacts

No indirect impacts have been identified or are expected.

5.6.2 Tribal Consultation

The Bureau of Indian Affairs was contacted concerning any Native American Tribal interest of the proposed action area. Additionally, the U.S. Department of Housing and Urban Development Tribal Directory Assessment Tool (TDAT) was used to identify Native American tribes that may have an interest in the proposed action area. Eight Native American tribes were provided scoping letters relative to the proposed action as listed below:

- Alabama-Quassarte Tribal Town
- Apache Tribe of Oklahoma
- Cherokee Nation
- Cheyenne and Arapaho Tribes of Oklahoma
- Caddo Nation of Oklahoma
- Muscogee (Creek) Nation
- Osage Nation
- Wichita and Affiliated Tribes (Wichita, Keechi, Waco, & Tawakonie)

Direct Impacts

No comments or concerns relative to potential affects to tribal resources were received. No tribally-sensitive materials were identified or discovered during the field archeology survey. No direct impacts to resources of Native American tribal concern are expected.

Indirect Impacts

No indirect impacts are expected.

5.7 AIR QUALITY

The Clean Air Act (CAA) requires the USEPA to identify National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. Ambient air quality monitoring stations exist at various locations throughout Oklahoma. The NAAQS were established for ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_x), sulfur dioxide (SO_x), and particulate matter (PM_{10}) and ($PM_{2.5}$). Areas that meet the national standards for the criteria air pollutants are in attainment. Areas that exceed the national standards are in nonattainment. Under the CAA, the EPA has classified air basins as being in attainment or nonattainment for each of the criteria pollutants and whether or not the standards have been achieved. Air quality in Oklahoma is measured and regulated by the Oklahoma Department of Environmental Quality, Air Quality Division (***Table 5.7***). Currently, Washington County, Oklahoma is in attainment with regard to the NAAQS with respect to the criteria pollutants CO, SO_2, O_3, $NO_{2.5}$, PM_{10}, and Pb (Ashford, 2018). Additionally, the Environmental Protection Agency's Green Book website was used to assess the air quality in Oklahoma. The Green Book shows no areas of nonattainment for Criteria Pollutants in Oklahoma (EPA, 2018). Washington County is in attainment for the NAAC pollutants.

Table 9 - National Ambient Air Quality Standards

Pollutant		Primary/Secondary	Averaging Time	Level
Carbon Dioxide		Primary	8-hour	9 ppm
			1-hour	35 ppm
Lead		Primary and Secondary	Rolling 3-month avg	0.15µg/m^3 (1)
Nitrogen Dioxide		Primary	1-hour	100 ppb
		Primary and Secondary	Annual	53 ppb (2)
Ozone		Primary and Secondary	8-hour	0.070 ppm (3)
Particulate Pollution	PM 2.5	Primary	Annual	12 µg/m^3
		Secondary	Annual	15 µg/m^3
		Primary and Secondary	24-hour	35 µg/m3
	PM 10	Primary and Secondary	24-hour	150 µg/m^3
Sulfur Dioxide		Primary	1-hour	0.075 ppb(4)
		Secondary	3-hour	0.5 ppm

(1) In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which

implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m3 as a calendar quarter average) also remain in effect.
(2) The level of the annual NO2 standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.
(3) Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O3 standards additionally remain in effect in some areas. Revocation of the previous (2008) O3 standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards.
(4) The previous SO2 standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2)any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous SO2 standards or is not meeting the requirements of a SIP call under the previous SO2 standards (40 CFR 50.4(3)). A SIP call is an EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the required NAAQS.
Source: USEPA Office of Air and Radiation, 2016.

Direct Impacts

Construction Related Emissions

The proposed project could generate local temporary short-term direct impacts on air quality during construction. Sources of dust could also be generated from vehicular traffic and construction-related equipment during operation. The implementation of the following recommendations regarding the construction period of the project include:

- Use ultra-low sulfur fuel (< 15 ppm) in all diesel engines.
- Use add-on controls such as catalysts and particulate traps where suitable.
- Minimize engine idling (e.g., 5-10 minutes/hour).
- Use equipment that runs on clean, alternative fuels as much as possible.
- Use updated construction equipment that was either manufactured after 1996 or retrofit to meet the 1996 emissions standards.
- Prohibit engine tampering and require continuing adherence to manufacturers' recommendations.
- Maintain engines in top running condition tuned to manufacturers' specifications.
- Phase project construction to minimize exposed surface areas.
- Reduce speeds to 10 and 15 mpg in construction zones.
- Conduct unannounced site inspections to ensure compliance.
- Locate haul truck routes and staging areas away from sensitive population centers.

Washington County is classified as in attainment with regard to the NAAQS pollutants. The emission levels of the anticipated construction equipment are expected to be minimal based on the relatively few numbers of construction equipment needed to accomplish the construction process and the EPA-mandated emission control systems required on said equipment. Minor increases may result during times where simultaneous operation of multiple types of equipment occur. However, these periods are expected to be periodic allowing sufficient time for atmospheric assimilation and should not result in adverse air quality situations. The project owner or their selected contractors will implement dust control measures that will effectively eliminate and or minimize dust during construction activities. No long term or adverse impacts are anticipated

Operational Related Emission

Criteria emission sources during proposed action operation would not occur.

Indirect Impacts

No indirect impact to air quality is anticipated.

5.8 HAZARDOUS WASTE - ENVIRONMENTAL DUE DILIGENCE

A hazardous materials assessment was also performed by EEC within the proposed action area and also included the standard search radii for any known recognized environmental conditions. Environmental Data Resources, Inc (EDR) was utilized to ascertain the state, federal, and tribal database information to facilitate the hazardous material assessment. No hazardous, toxic, or radiologic waste sites were identified within the project study corridor through EDR. No regulated facilities were identified or observed within or near the proposed action area.

No stained soil or distressed vegetation was observed within the survey corridor. The hazardous material assessment report is provided at ***Appendix D.***

Direct Impacts

Construction of the proposed action would not result in direct impacts on or disturbance to any known hazardous, toxic, or radiological wastes.

Indirect Impacts

Indirect impacts could result from the operation of construction equipment or storage of equipment, fuels, or lubrication products. Accidental spills of petroleum products or hazardous materials spills could also occur. The City will require all contractors to prepare and implement an operational and storage plan to prevent such leakage or spills and to report any such occurrence immediately upon notice. The contractors will be made responsible for prevention measures as well as cleanup and/or removal of such spillage as well as properly handling/disposing of contaminated soils, as deemed necessary by City.

5.9 GEOLOGY

The proposed action area is located in the Claremore Cuesta Plains region of Oklahoma (Curtis and Hamm, 1979) comprised of resistant Pennsylvanian sandstones and limestones dipping gently westward, forming cuestas between broad shale plains. The Oklahoma Department of Environmental Quality (ODEQ) data viewer was utilized to further identify geologic strata and description. The action area is located within the Quarternary Alluvium predominantly comprised of sand, silt, clay, and gravel. Thickness ranges from 30 to 80 feet along major streams and from 0 to 60 feet along minor streams.

Direct Impacts

Although shallow rock strata may be directly disturbed by the proposed action this would not create any long-term impacts to the geologic environment.

Indirect Impacts

No indirect impacts are expected from the construction of the proposed action.

5.10 CLIMATE CHANGE

Climate change is an important national and global concern. There is general agreement that the earth's climate is currently changing and anthropogenic (human-caused) greenhouse gas (GHG) emissions have been documented as contributing to this change. Carbon dioxide (CO2) makes up the largest anthropogenic component of these GHG emissions. However, there is no scientific methodology for attributing specific climatological changes to a particular project's emissions. The CEQ GHG emissions guidance requires action agencies to consider: (1) The potential effects of a proposed action on climate change as indicated by assessing GHG emissions (e.g., to include, where applicable, carbon sequestration); and, (2) The effects of climate change on a proposed action and its environmental impacts. This guidance recommends agencies quantify a proposed agency action's projected direct and indirect GHG emissions; use projected GHG emissions (to include, where applicable, carbon sequestration implications associated with the proposed agency action) as a proxy for assessing potential climate change effects; recommends agencies include a qualitative analysis and explain the basis for determining that quantification is not reasonably available because tools, methodologies, or data inputs are not reasonably available to support calculations for a quantitative analysis; discusses methods to appropriately analyze reasonably foreseeable direct, indirect, and cumulative GHG emissions and climate effects; considers reasonable alternatives for short- and long-term effects and benefits in the alternatives and mitigation analysis; advises agencies to use available information rather than undertaking new research, and provides examples of existing sources of scientific information; recommends using information developed during the NEPA review to consider alternatives that would make the actions and affected communities more resilient to the effects of a changing climate; outlines special considerations for agencies analyzing biogenic carbon dioxide sources and carbon stocks associated with land and resource management actions under NEPA; and using the agencies expertise and experience to consider an environmental effect and prepare an analysis based on the available information.

Direct Impacts

Operation of modern construction equipment using the most current technology and systems would reduce carbon and other emissions to the extent possible. Therefore, greenhouse gas emissions from construction of the proposed action are expected to be minor and similar to other small construction projects. No emissions significantly contributing to climate change are expected resultant from the proposed action. Ecological changes in Oklahoma due to climate change are predicted to include warming temperatures and increased severity of both floods and drought over the next several decades.

Indirect Impacts

No indirect adverse impacts have been identified or are anticipated. Replacement of deteriorated and/or leaking utility lines may further restrict emissions associated with potentially trapped carbon and/or methane gas.

5.11 NOISE

Noise, defined as unwanted or excessive sound, is an undesirable by-product of our modern way of life. From these known effects of noise, criteria were established to help protect the public health and safety and prevent disruption of certain human activities. The criteria is based on such known impacts of noise on people such as speech interference, sleep interference, physiological responses, hearing loss and annoyance. The time-varying characteristics of environmental noise are analyzed statistically to determine the duration and intensity of noise exposure. In an urban environment, noise is made up of two distinct parts. One is ambient or background noise. Wind noise and distant traffic noise make up the acoustical environment surrounding the project. These sounds may not be consciously recognized but combine to produce a non-irritating ambient sound level. This background sound level varies throughout the day, being lowest at night and highest during the day. The other component of noise is intermittent and louder than the background noise. Transportation, construction, and local industrial noise are examples of these noise types.

Direct Impacts

Minimal direct impacts may result from construction equipment operation during implementation of the proposed action but is not expected to result in adverse impacts. Sources of noise would include machinery to conduct conventional trenching, utility line installation, site restoration, and trucks used to transport materials. Typically, pipeline installation noise can be minimized by implementing time of day restrictions for construction operations adjacent to noise sensitive areas such as adjacent homes. It should be noted the proposed action is not located within or near any special noise sensitive areas or residential areas. One residence is located approximately 0.25 mile west of the western project terminus. Further, the PAA is situated within the auditory range of the existing WWTP which generates background noise. This background noise is expected to somewhat mask direct construction equipment related noise levels near the eastern project end. Wildlife within and adjacent to the action area have likely adapted to such noise-generating operations and adverse impacts resulting from the proposed action are not expected. Noise level increases or changes in frequency are expected as a result of the PAA. The existing residential areas adjacent to the PAA are not expected to realize any substantial noise impacts.

Indirect Impacts

No indirect noise impacts to the human environment are expected from the proposed action relative to construction noise. Temporary, sporadic, and spatially disseminated noise impacts from construction activities may be experienced by wildlife species but the effect is not expected to be more than minimal and temporary.

5.12 CUMULATIVE EFFECTS

Three types of impacts are routinely assessed with proposed federal actions and are defined by the Council on Environmental Quality (CEQ) regulations (40 CFR § 1500-1508). Direct impacts are defined as effects that are caused by the action and occur at the same place and time. Indirect impacts are defined as effects that are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable. Indirect effects may include growth induced effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems (40 CFR § 1508.8).

Direct and indirect impacts have been addressed throughout this section. Cumulative impacts are defined as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other action (CFR 40 § 1508.7). Cumulative impacts include the direct and indirect impacts of a project together with the reasonably foreseeable future actions of others. The cumulative impacts that result from an action may be undetectable but can add to other disturbances and eventually lead to a measurable environmental change. The assessment of cumulative impacts is required by the CEQ. For any given resource, a cumulative impact would only potentially exist if the resource were also directly impacted by the proposed action. The anticipated direct, indirect, and cumulative impacts identified as a potential result of the proposed action are discussed in below. No other ongoing or reasonably foreseeable future actions were identified in the vicinity of the proposed action or tangential thereto that may affect environmental resources.

Resource Impact Analysis

The following provides the evaluation rationale and the potential need for mitigation to avoid, minimize, or offset expected impacts relative to the level of affect for the referenced resources:

Land Resources or Uses

The proposed action would not appreciably modify the surface topography or subsurface stratigraphy of the action area. Changes to the action area would not influence land resources in other areas. No land use changes are anticipated. The proposed action would follow all appropriate permitting procedures; therefore, implementation of the proposed action would not result in cumulatively considerable adverse effects to land resources or uses.

Water Resources

The proposed action would not directly impact surface water or wetland resources. However, construction of the PAA could indirectly affect receiving drainages associated with a temporary increase in sedimentation to the local watershed from stormwater runoff. The proposed project will comply with the Clean Water Act as it relates to stormwater non-point source (Section 402) and point-source (Section 404) discharges, if any. The proposed action will comply with the Oklahoma Department of Environmental Quality requirements to prepare a stormwater management pollution plan in accordance with general permit OKR10 which authorizes discharges of storm water associated with construction activity. Resultant from the PAA, compliance with the ODEQ Consent Order will be addressed and the stated issues resolved. No cumulative impacts are anticipated to water resources.

Air Quality

Washington County is in attainment for criteria pollutants established by the EPA. The proposed action is not expected to create adverse impacts to air quality based on the rationale stated above. Construction equipment will incorporate emission controls systems and fugitive dust will be controlled by contractor watering trucks to the extent possible. Therefore, no cumulatively considerable adverse effects to air quality are anticipated.

Biological Resources

The PAA could affect suitable habitat for one of the federally-listed species, the ABB. Surveys were not required and concurrence with the determination of No Effect under the Section 4(d) Rule appears appropriate based on the ABB Impact Determination Keys. None of the other T&E species would be affected. The action area does not contain any unique or sensitive ecosystems or biological communities. Terrestrial and aquatic species would be able to have unrestricted movement to adjacent undisturbed areas in advance of and during construction. Both aquatic and terrestrial habitat will be restored upon project completion. Implementation of the proposed action should not result in cumulatively adverse effects to biological resources.

Vegetation

The PAA was selected and will be designed to minimize the existing vegetative structure removal. All disturbed herbaceous vegetation will be replanted/restored using native species. Tree replacement is not proposed since the action area corridor will be mowed and maintained for the duration of the new infrastructure service life. All disturbed vegetation will be allowed to regenerate upon project completion. No cumulative effects to vegetation are anticipated.

Cultural Resources

Identified cultural resources would be avoided. Protection measures for potential impacts to unknown cultural resources that may be inadvertently discovered are included in ***Section 6.0.*** No cumulatively considerable adverse effects to cultural resources would occur as a result of the proposed action.

Socioeconomic Conditions

The proposed action would provide a positive cumulative socioeconomic impact, improve local resident's utility service, and upgrade the City's sanitary collection/treatment system. Therefore, no adverse cumulative socioeconomic effects would result.

Land Use

The proposed action would not result in any changes to the local land use patterns. No cumulatively adverse land use effects have been identified or are expected.

Visual Resources

The proposed action is not located in a designated scenic area or an area of high aesthetic value. With the implementation of BMP's, the proposed action would result in no cumulative adverse effects to the existing visual resources.

Hazardous Materials

Preventative maintenance measures will be required of the construction contractor(s) to ensure all equipment is in proper condition and does not result in leakage of fuels or lubricants. Storage of all fuels and lubricants onsite will be restricted to specific areas outside the mapped floodplain where precautionary and preventative measures or site management practices can be employed to capture accidental spills or leakages. Equipment storage areas providing similar leakage/spill capture will also be specified for machinery not actively used.

Table 5.8 presents a comparison of potential impacts to the social and natural environment.

Table 10 – Resource Impact Matrix

Resource	Beneficial Impact	No Impact	Minimal Adverse Impact	Adverse Impact	Significant Adverse Impact	Mitigation/Preventative Measure(s) Proposed
Land Use		•				
Social Environment	•					
Economic Environment	•					
Aesthetics		•				
Environmental Justice		•				
Protection of Children		•				
Soils			•			•
Farmland		•				
Floodplains		•				
Wetlands		•				•
Surface Water (Water Quality)		•				•
Groundwater		•				
Vegetation			•			•
Fish and Wildlife			•			•
Threatened & Endangered Species		•				
Cultural Resource		•				•
Air Quality			•			•
Hazardous Material		•				•
Geology		•				
Cumulative Impacts		•				

6.0 MANAGEMENT AND MITIGATION MEASURES

Mitigation and/or preventative measures to be implemented during construction of the proposed are summarized below. Mitigation is defined by CFR 1508.20 as:

(a) Avoiding the impact altogether by not taking a certain action or parts of an action.
(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
(c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
(d) Reducing or eliminating the impact over time by preservation and maintenance during the life of the action.
(e) Compensating for the impact by replacing or providing substitute resources or environments.

Water Quality

Mitigation measures will be implemented as part of the design and construction of the PAA to reduce impacts resulting from stormwater runoff. The project proponent will comply with all requirements of the Clean Water Act as required by the state Water Quality Certification (Section 401), the National Pollutant Discharge Elimination System (NPDES) as required by Section 402 and by obtaining and complying with all conditions of the Section 404 of the Clean Water Act permit. Required permit authorizations have been or would be obtained prior to construction to ensure impact avoidance and/or minimization as well as regulatory compliance. During all land disturbing activities, Best Management Practices (BMPs) would be followed to ensure sediment control. The sediment control devices will be used to trap sediment as runoff leaves the area caused by storm water induced erosion to prevent accelerated erosion to the extent practicable. The BMPs would be designed specific to the site and maintained during the construction process. The temporary control devices will be removed after vegetation is established.

Air Quality

The project proponent or their contractor will prepare a dust control plan to minimize fugitive dust generated from construction. These measures may include stabilization of expose earth with vegetation, mulch, pavement, or other cover as early as possible, application of stabilization agents such as water, covering of any stockpiled material, and the use of covered haul trucks. Proactive dust control measures will effectively eliminate and or minimize dust during construction activities to the extent possible.

Vegetation

Mitigation measures will be implemented to restore any affected environment to its original or natural state to the extent practicable. The identified BMP's will be employed during all project phases. Vegetation removal would be required to construct the proposed action. Replacement of the affected vegetation is proposed and would be accomplished through installation of native herbaceous species providing the most benefit for wildlife, habitat, and aesthetics. A suggested planting ratio of native grass species to forbs should be 70% grasses and 30% forbs. The planting (seeding) rate would be determined based on the selected species and required aerial coverage. Depending on the seasonal timing of seeding, planting area slope, and topography, a light straw mulching (or mulch blankets) may be utilized to increase germination rates and disturbed soil stability. Additional compensatory mitigation measures are proposed to offset the expected temporary and/or permanent adverse impacts to fish, wildlife, and their habitat include:

- Revegetation of exposed soil areas using native species;
- Placement of silt fences, hay bale barriers, fiber rolls, as appropriate and where necessary.
- Restore disturbed soils with native herbaceous vegetation while ensuring no invasive of noxious species are present in acquired stock or seed.
- Identify and remove any invasive plant species that may germinate on disturbed or recently restore soils.

Biological Resources

Implementation of the following mitigation measures to avoid or minimize potential adverse effects include:

- If construction begins during the nesting season for birds of prey and migratory birds (between February 1 and October 1), a preconstruction bird survey for nesting sites will be conducted within the project site no more than

14 days prior to commencement with construction activities. The qualified biologist will document and submit the results of the preconstruction survey in a letter to the ODVA within 30 days following the survey. If no active nests or roosts are identified during the preconstruction survey, then no further mitigation is required. If any active nests are identified during the preconstruction survey within the project site, a buffer zone will be established around the nests. A qualified biologist will monitor nests weekly during construction to evaluate potential nesting disturbance by construction activities. The biologist will demarcate the buffer zone with construction tape or pin flags within 100 feet of the active nest and maintain the buffer zone until the end of the breeding season or until the young have fledged. Guidance from the USFWS will be requested if establishing a 100-foot buffer zone is impractical if the nestlings within the active nest appear disturbed.

- Utilize pedestrian or light weight vehicles to walk or drive the action area immediately in advance of construction activities to encourage any present wildlife to vacate the area.
- Restore affected habitats to pre-construction conditions and contour to the extent practicable.

Cultural Resources

In the event of an inadvertent discovery of archaeological resources shall be subject to Section 106 of the National Historic Preservation Act as amended (36 CFR 800), the Native American Graves Protection and Repatriation Act (NAGPRA)(25 USC 3001 et seq.), and the Archaeological Resources Protection Act of 1979 (16 U.S.C. 470aa-mm). Specifically, procedures for post review discoveries without prior planning pursuant to 36 CFR 800.13 shall be followed. The purpose of the following mitigation measures is to minimize the potential adverse effect of construction activities to previously unknown archaeological or paleontological resources in the case of inadvertent discovery:

- All work shall be halted until a professional archaeologist, or paleontologist if the find is of a paleontological nature, can assess the significance of the find.
- If any archaeological find is determined to be significant by the archaeologist, or paleontologist as appropriate, then representatives of the Tribe shall meet with the archaeologist, or paleontologist, to determine the appropriate course of action, including the development of a Treatment Plan, if necessary.
- All significant cultural or paleontological materials recovered shall be subject to scientific analysis, professional curation, and a report prepared by the professional archaeologist, or paleontologist, according to current professional standards.
- If human remains are discovered during ground-disturbing activities on Tribal lands, pursuant to NAGPRA, the Tribal Official and agency representative shall be contacted immediately. No further disturbance shall occur until the Tribal Official and agency representative have made the necessary findings as to the origin and disposition.

Hazardous Materials

No hazardous materials or recognized environmental conditions were identified within the proposed action area. The PAA would not result in the removal of any oil and gas wells or associated features. All removed materials will be disposed of in accordance with all regulations. Accidental spills of petroleum products or hazardous materials spills could occur during construction of the PAA. The project proponent will require all contractors to report such accidental spills immediately upon notice of occurrence. The contractors will be made responsible for cleanup and/or removal of such spillage as well as contaminated soils, as deemed necessary by the project proponent.

7.0 REFERENCES

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8.0 APPLICABLE ENVIRONMENTAL LAWS AND REGULATIONS

APPLICABLE ENVIRONMENTAL LAWS AND REGULATIONS	
Archeological and Historical Preservation Act	1974, 16 U.S.C. 469, et seq
Clean Air Act, as amended	1990, 42 U.S.C. 7609, et seq
Clean Water Act, as amended	1977, U.S.C. 1251, et seq
Endangered Species Act, as amended	1973, 16 U.S.C. 1531, et seq
Federal Water Project Recreation Act, as amended	1965, 16 U.S.C. 460-1-12, et seq
Fish and Wildlife Coordination Act, as amended	1934, 16 U.S.C. 661, et seq
Land and Water Conservation Fund Act, as amended	1965, 16 U.S.C. 661, et seq
National Historic Preservation Act, as amended	1966, 16 U.S.C. 470a, et seq
National Environmental Policy Act, as amended	1969, 42 U.S.C. 4321, et seq
Native American Graves Protection & Repatriation Act	1990, 25 U.S.C. 3001-13, et seq
Rivers and Harbors Act	1899, 33 U.S.C. 401, et seq
Watershed Protection and Flood Prevention Act	1954, 16 U.S.C. 1001, et seq
Floodplain Management	1977, Executive Order 11988
Protection of Wetlands	1977, Executive Order 11990
Environmental Justice	1994, Executive Order 12898
Environmental Health and Safety Risks	1997, Executive Order 13045
Federal Facilities on Historic Properties	1996, Executive Order 13006
Accommodation of Native American Sacred Sites	1996, Executive Order 13007
Farmland Protection Policy Act	1981, 7 U.S.C. 4201, et seq
National Invasive Species Act	1966, 16 U.S.C. 4701, et seq
Invasive Species	1999, Executive Order 13112
Non-indigenous Aquatic Nuisance Species Prevention and Control Act	1990, 16 U.S.C. 4701, et seq

9.0 DOCUMENT AUTHORSHIP AND CONTRIBUTION

Eagle Environmental Consulting, Inc.

Steven Votaw, President. Steven Votaw has 33 years of experience in biological and ecological studies. Mr. Votaw is the President of Eagle Environmental Consulting, Inc. (24+ years) and has been the Project Manager on various environmental impact statements, environmental site assessments, biological resource evaluations, wetland delineations, and threatened and endangered species surveys. Mr. Votaw was previously a Senior Regulatory Project Manager (10 years) with the U.S. Army Corps of Engineers and Fisheries Technician with the Oklahoma Department of Wildlife Conservation (2 years). Mr. Votaw received a Bachelor of Science degree in Fisheries Management and Wildlife Biology from Northeastern Oklahoma State University with post-graduate work in environmental science.

Sean Votaw, Biologist. Sean has 8 years of experience in biological and ecological surveys as well as wetland and waterway delineations, Phase I environmental site assessments and NEPA document preparation. Mr. Votaw received a Bachelor of Science degree in Fish and Wildlife Biology from Northeastern Oklahoma State University.

Jeff London, **National Resource and GIS Specialist**. Jeff London has 47 years of experience in the environmental field. Mr. London was previously a Lake and Project Manager for the U.S. Army Corps of Engineers (32 years). Mr. London was responsible for managing the O&M, recreation, and natural resource programs. He also served as an outdoor recreation planner and project manager for District-wide recreation, environmental and interagency support programs. Additionally, he uses Geographic Information System (GIS) and CAD technology to analyze and display environmental features in support of noise, biological, and ecological studies and NEPA documentation. Mr. London received a Bachelor of Science degree in forestry from Oklahoma State University with postgraduate work in GIS.

Jessica Darnell, Technical Document Manager. Jessica has 7 years of experience composing and editing NEPA documents and technical scientific reports including biological and ecological assessments, waters of the United States Delineations, and Phase I environmental site assessments. Ms. Darnell holds a bachelor's degree from the University of Central Oklahoma where she graduated with Summa Cum Laude honors and a Master's Degree from Shenandoah University where she graduated with a 4.0 GPA Honors.

Holt Consulting Services. James Holt earned his Bachelor of Arts in Anthropology cum laude from the University of Oklahoma in 2004, and his Master of Arts in Anthropology from the University of Tulsa in 2007. James' professional interest and specializations are in lithic use wear analysis and landscape archaeology. James began his career working in museums, specializing in exhibit preparation, artifact analysis, object condition reporting, and database construction and management. James has worked for several Native American tribes in cultural and historic preservation roles. Starting in 2010, James worked as a field archaeologist specializing in NHPA Section 106 and NEPA compliance permitting, preparing reports for a diverse range of project types including communications towers, public utility right-of-way, road construction and expansion, pipelines, energy infrastructure, Federal projects, and public land management activities for Holt Consulting Services, LLC which he has owned and operated since 2011. James is listed on the Register of Professional Archaeologists (RPA #35061493) and meets the Secretary of Interior's Professional Qualification Standards for Archaeology.

Tetra Tech. Engineering Report.

APPENDIX A

PROPOSED ACTION MAPS AND REPRESENTATIVE PHOTOGRAPHS

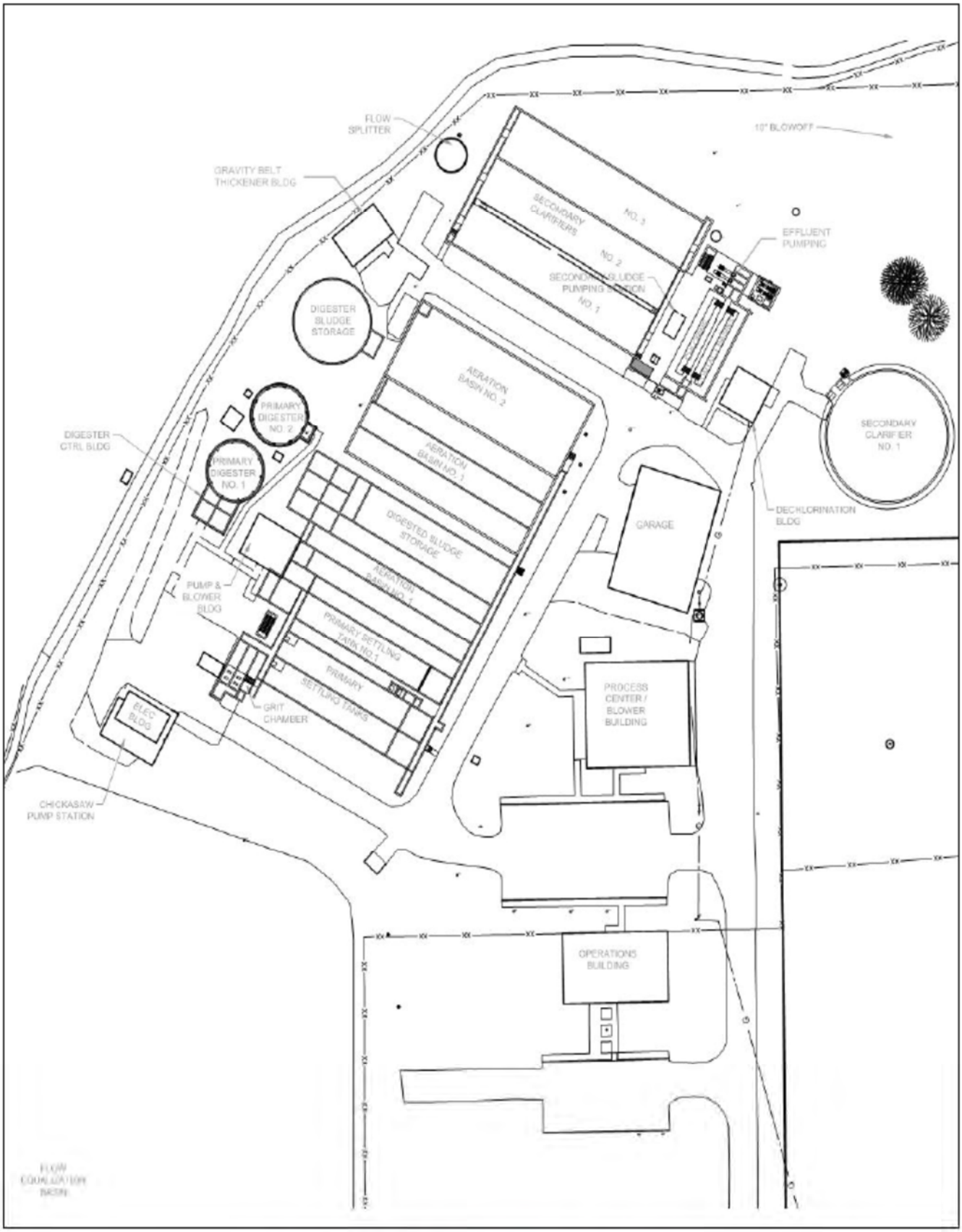


Figure 3-1: Chickasaw WWTP Site Plan – Existing

FINAL SETTLING TANKS NO. 1 THROUGH NO. 3 TO BE CONVERTED TO AERATION BASIN NO. 3

PROPOSED UV DISINFECTION (TO REPLACE CHLORINE CONTACT BASIN)

PROPOSED IPR UV BUILDING

PROPOSED IPR FILTER

PROPOSED SECONDARY CLARIFIER FLOW SPLITTER

PROPOSED RAS / WAS PUMP STATION

GRAVITY BELT THICKENER BUILDING

DIGESTED SLUDGE STORAGE

DECHLORINATION BLDG

AERATION BASIN NO. 3

AERATION BASIN NO. 2

AERATION BASIN NO. 1

PRIMARY DIGESTER NO. 2

PRIMARY DIGESTER NO. 1

DIGESTER CTRL BLDG

EXISTING SECONDARY CLARIFIER NO. 4

PROPOSED SECONDARY CLARIFIER

PROPOSED SECONDARY CLARIFIER

DIGESTED SLUDGE STORAGE

GARAGE

PROPOSED OPDES/IPR FLOW SPLITTER

PUMP & BLOWER BLDG

PRIMARY SETTLING TANK NO. 1

EXISTING SETTLING TANK NO. 2

EXISTING SETTLING TANK NO. 3

ELEC BLDG

PROCESS CENTER / BLOWER BUILDING

PROPOSED GENERATOR

CHICKASAW PUMP STATION

PROPOSED HEADWORKS BUILDING

PROPOSED ADMINISTRATION BUILDING

N

0 20' 40' 80'

SCALE: 1" = 40'

TETRA TECH
www.tetratech.com
7645 E 63rd STREET, SUITE 301
TULSA, OKLAHOMA 74133
PH:(918) 249-3909

MARK	DATE	DESCRIPTION	BY

CITY OF BARTLESVILLE

CHICKASAW WWTP AND COLLECTION SYSTEM IMPROVEMENTS

CIVIL SITE PLAN

PROJ: 200-11458-20001
DESN:
DRWN:
CHKD:

C-101

Bar Measures 1 inch, otherwise drawing not to scale

EAGLE ENVIRONMENTAL CONSULTING

0 1 2 4 6 8 Miles

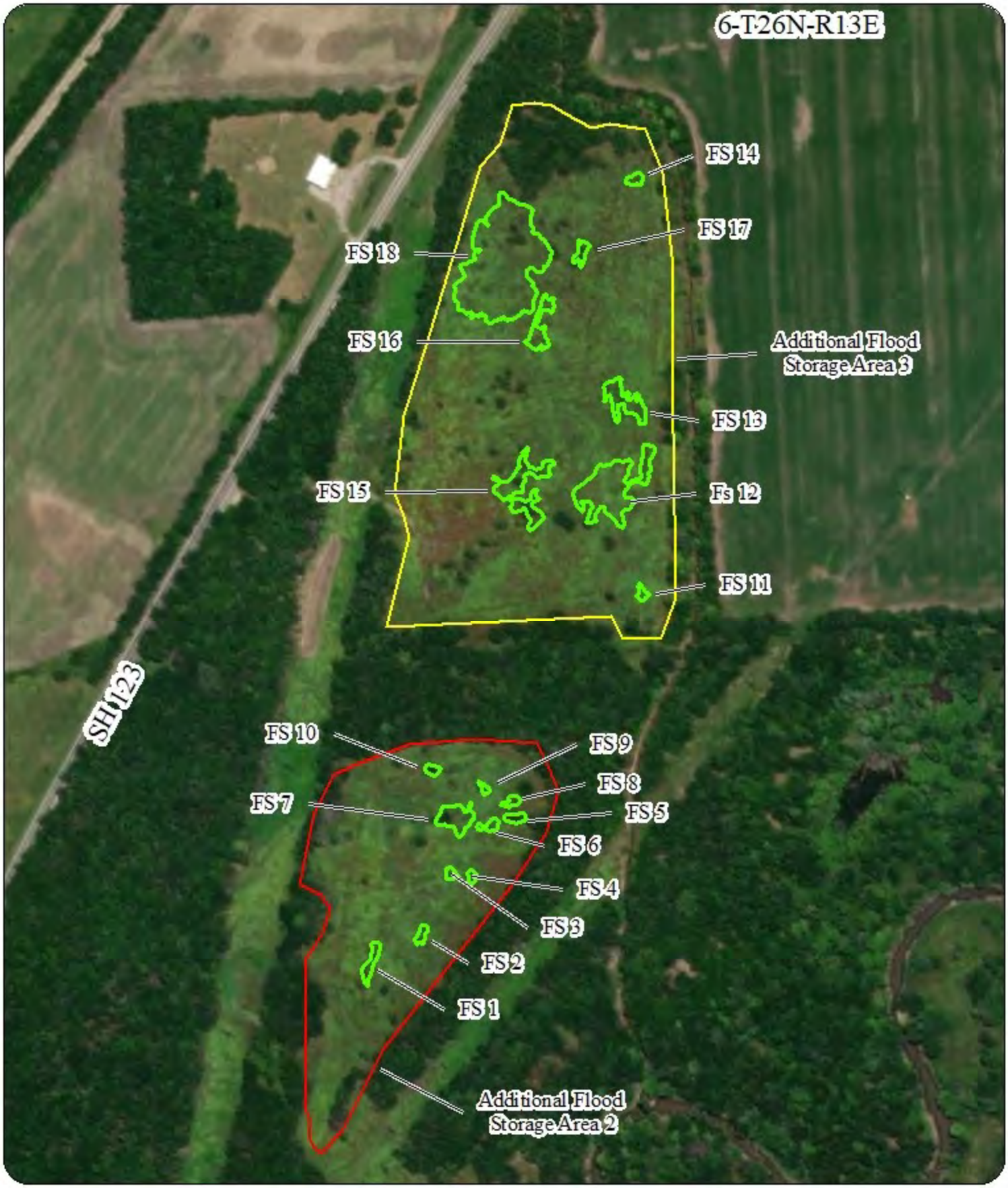
Legend

- Project Location
- County Boundary

N

Figure 1
Project Location Map

Bartlesville WWTP Additional
Flood Storage Areas
Bartlesville, Washington County, OK

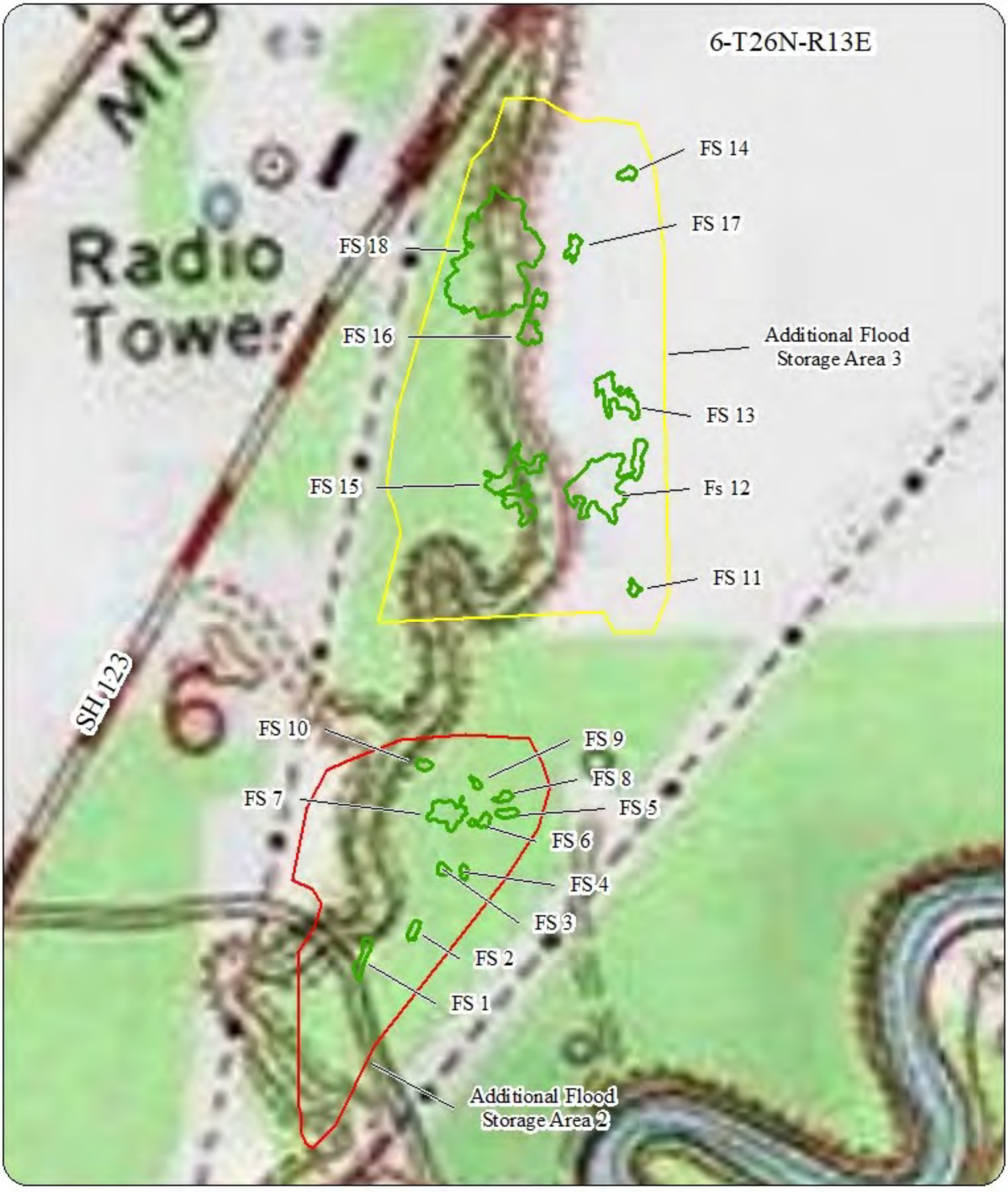


EAGLE ENVIRONMENTAL CONSULTING

Scale: 1 in = 300 Ft

Legend
- North Area
- South Area
- Wetlands

Figure 2
Wetlands of the US Location Map
Bartlesville WWTP Additional Flood Storage Areas
Bartlesville, Washington County, OK



EAGLE ENVIRONMENTAL CONSULTING

Scale: 1 in = 300 Ft

Legend
- North Area
- South Area
- Wetlands

Figure 3
Wetlands of the US Location Map
Bartlesville WWTP Additional Flood Storage Areas
Bartlesville, Washington County, OK

EAGLE ENVIRONMENTAL CONSULTING

Scale: 1 in = 250 Ft

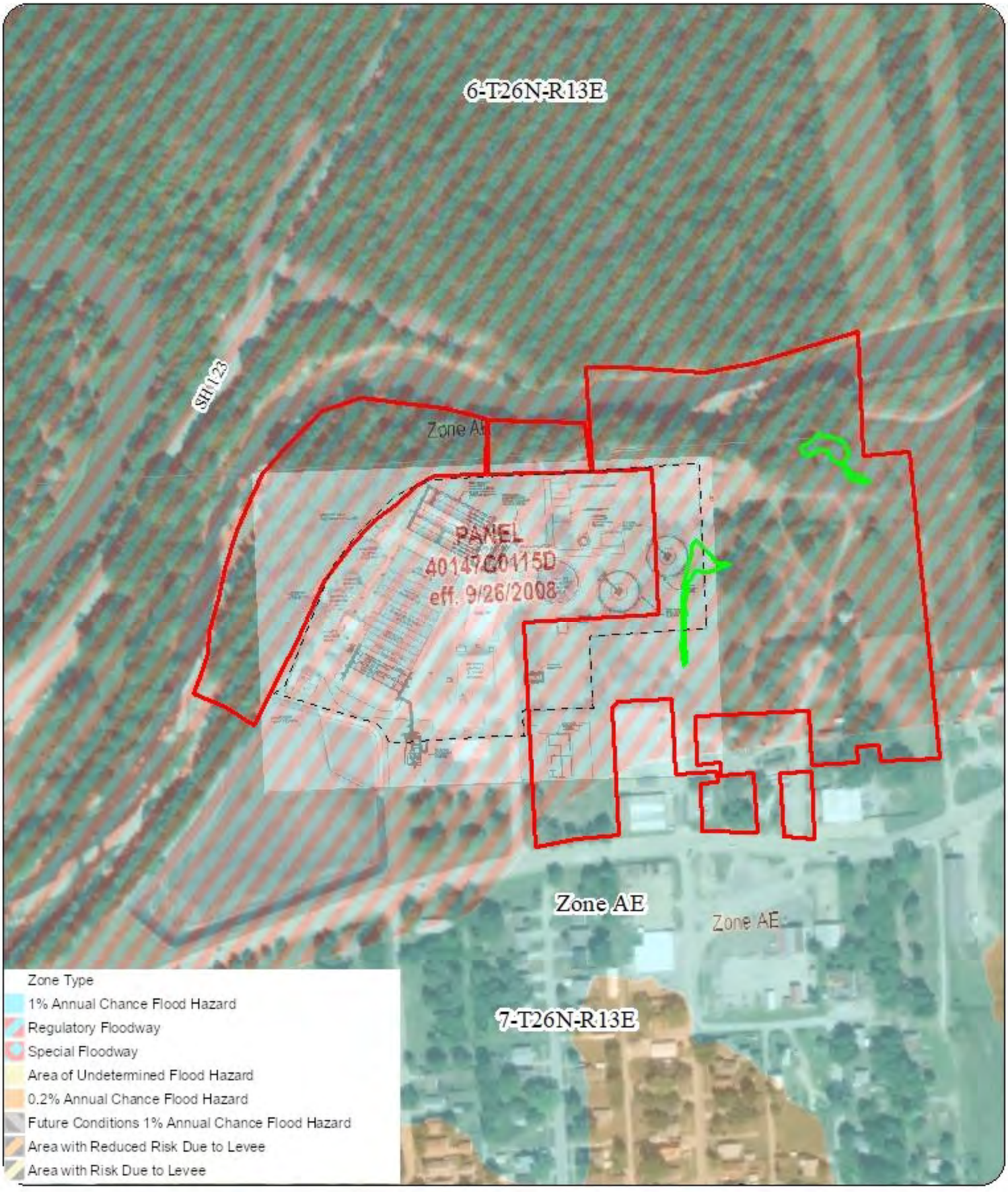
Legend

WWTP Expansion Areas

Wetlands

Figure 4
Wetlands of the US Map

City of Bartlesville
Chickasaw WWTP Expansion
Bartlesville, Washington County, OK



EAGLE ENVIRONMENTAL CONSULTING

Scale: 1 in = 300 Ft

Legend

WWTP Expansion Area

Boundary Fence

N

Figure 5
Floodplain Map

City of Bartlesville
Chickasaw WWTP Expansion
Bartlesville, Washington County, OK

APPENDIX B

AGENCY / TRIBAL COORDINATION
and
PUBLIC ENGAGEMENT

February 3, 2022

Ms. Jonna Polk, Project Leader
U.S. Fish and Wildlife Service
9014 E. 21st Street
Tulsa, Oklahoma 74129

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Ms. Polk,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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- Conversion to ultraviolet disinfection systems,
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- Flood protection improvements (levee around perimeter of WWTP).

The project area includes approximately 26 acres of previously developed and partially developed land within and adjacent to the proposed floodwater protection levee surrounding the WWTP. Compensatory flood water storage will also be required whereby approximately 29 acres of floodplain area north of the Caney River would be excavated to the extent necessary to provide adequate flood water storage compensation to offset the calculated floodplain displacement associated with facility expansion and flood protection levee. The project is located in Sections 6 & 7, Township 26 North, Range 13 East, Washington County, OK.

To assist in the early identification of potential environmental impacts, we request your comments regarding your areas of expertise. We would appreciate your comments by March 4, 2022. Replies should be addressed to Steve Votaw, Eagle Environmental Consulting, Inc, P.O. Box 335, Vinita, OK 74301 or by e-mail at steve@eagle-env.com. Thank you for your cooperation and prompt response.

Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: OKProjectReview@fws.gov

P.O. Box 335
Vinita, Oklahoma 74301
918-272-7656

9 North 9th St.
Fort Smith, Arkansas 72913
918-244-9595

February 3, 2022

Mr. Micah Siemens
Bartlesville Floodplain Administrator
401 S. Johnstone Ave.
Bartlesville, OK 74003

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Mr. Siemens,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: mayescountyem@yahoo.com

February 3, 2022

Mr. Andrew Commer
Chief of Regulatory Division, U.S. Army Corps of Engineers
2488 E. 81st Street
Tulsa, OK 74137-4290

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Mr. Commer,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: ceswt-ro@usace.army.mil

P.O. Box 335
Vinita, Oklahoma 74301
918-272-7656

9 North 9th St.
Fort Smith, Arkansas 72913
918-244-9595

February 3, 2022

Mr. Jon A. Roberts, Senior Manager
Office of External Affairs, OK Dept. of Environmental Quality
P.O. Box 1677
Oklahoma City, Oklahoma 73101

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Mr. Roberts,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: Jon.Roberts@deq.ok.gov

P.O. Box 335
Vinita, Oklahoma 74301
918-272-7656

9 North 9th St.
Fort Smith, Arkansas 72913
918-244-9595

February 3, 2022

Mr. Todd D. Fagin
Oklahoma Biology Survey
111 E. Chesapeake Street
Norman, Oklahoma, 73019

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Mr. Fagin,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: tfagin@ou.edu

P.O. Box 335
Vinita, Oklahoma 74301
918-272-7656

9 North 9th St.
Fort Smith, Arkansas 72913
918-244-9595

February 3, 2022

Ms. Julie Cunningham, Executive Director
Oklahoma Water Resources Board
3800 North Classen Blvd
Oklahoma City, Oklahoma 73118

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Ms. Cunningham,

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Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: bill.cauthron@owrb.ok.gov

February 3, 2022

Mr. Steve Glascow, State Resource Conservationist
U.S. Natural Resources of Conservation Service
100 USDA, Suite 206
Stillwater, Oklahoma 77074

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Mr. Glascow,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: steven.glasgow@usda.gov

February 3, 2022

Mr. Brooks Tramell, Wetlands Program Coordinator
Oklahoma Concervation Commission
2800 N Lincoln Blvd
Oklahoma City, Oklahoma 73105

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Mr. Tramell,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: brooks.tramell@conservation.ok.gov; sarah.gilmer@conservation.ok.gov

February 3, 2022

Mr. David P. Brown, Associate Director
Oklahoma Geological Survey
100 E. Boyd St., Suite N131
Norman, Oklahoma 73019

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Mr. Brown,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

- New administration building,
- Chickasaw lift station improvements,
- Chickasaw flow equalization basin improvements,
- New headworks structure,
- Primary clarifier rehabilitation and improvements,
- Aeration basin improvements and modifications,
- New blower improvements and air piping modifications,
- New circular final clarifiers and conversion of existing rectangular clarifiers to sludge storage,
- New Return Activated Sludge / Waste Activated Sludge pumping,
- New effluent filtration and backwash systems,
- Conversion to ultraviolet disinfection systems,
- New backup generator improvements,
- New WAS thickening building with new rotating drum thickeners,
- Anaerobic digester rehabilitation and improvements and new additional anaerobic digester,
- Gravity belt thickener building improvements,
- Future indirect potable reuse side-stream incorporation improvements,
- Plant-wide electrical and SCADA upgrades, and
- Flood protection improvements (levee around perimeter of WWTP).

The project area includes approximately 26 acres of previously developed and partially developed land within and adjacent to the proposed floodwater protection levee surrounding the WWTP. Compensatory flood water storage will also be required whereby approximately 29 acres of floodplain area north of the Caney River would be excavated to the extent necessary to provide adequate flood water storage compensation to offset the calculated floodplain displacement associated with facility expansion and flood protection levee. The project is located in Sections 6 & 7, Township 26 North, Range 13 East, Washington County, OK.

To assist in the early identification of potential environmental impacts, we request your comments regarding your areas of expertise. We would appreciate your comments by March 4, 2022. Replies should be addressed to Steve Votaw, Eagle Environmental Consulting, Inc, P.O. Box 335, Vinita, OK 74301 or by e-mail at steve@eagle-env.com. Thank you for your cooperation and prompt response.

Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: jwalter@ou.edu

P.O. Box 335
Vinita, Oklahoma 74301
918-272-7656

9 North 9th St.
Fort Smith, Arkansas 72913
918-244-9595

February 3, 2022

Director Jason Lewis
U.S. Geological Survey Oklahoma Water Science Center
202 NW 66th Street
Oklahoma City, Oklahoma 73116

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Mr. Lewis,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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- Flood protection improvements (levee around perimeter of WWTP).

The project area includes approximately 26 acres of previously developed and partially developed land within and adjacent to the proposed floodwater protection levee surrounding the WWTP. Compensatory flood water storage will also be required whereby approximately 29 acres of floodplain area north of the Caney River would be excavated to the extent necessary to provide adequate flood water storage compensation to offset the calculated floodplain displacement associated with facility expansion and flood protection levee. The project is located in Sections 6 & 7, Township 26 North, Range 13 East, Washington County, OK.

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Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: jmlewis@usgs.gov

P.O. Box 335
Vinita, Oklahoma 74301
918-272-7656

9 North 9th St.
Fort Smith, Arkansas 72913
918-244-9595

February 3, 2022

Mr. Robert Houston, Staff Director
Office of Communities, Tribes and Environmental Assessment
U.S. EPA Region 6, 1201 Elm Street, Suite 500, Mail Code: ORACN
Dallas, TX 75270-2102

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Mr. Houston,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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To assist in the early identification of potential environmental impacts, we request your comments regarding your areas of expertise. We would appreciate your comments by March 4, 2022. Replies should be addressed to Steve Votaw, Eagle Environmental Consulting, Inc, P.O. Box 335, Vinita, OK 74301 or by e-mail at steve@eagle-env.com. Thank you for your cooperation and prompt response.

Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: Houston.Robert@epa.gov

P.O. Box 335
Vinita, Oklahoma 74301
918-272-7656

9 North 9th St.
Fort Smith, Arkansas 72913
918-244-9595

February 3, 2022

Mr. J.D. Strong. Director
Oklahoma Department of Wildlife Conservation
P.O. Box 53465
Oklahoma City, Oklahoma 73152

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Director Strong,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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To assist in the early identification of potential environmental impacts, we request your comments regarding your areas of expertise. We would appreciate your comments by March 4, 2022. Replies should be addressed to Steve Votaw, Eagle Environmental Consulting, Inc, P.O. Box 335, Vinita, OK 74301 or by e-mail at steve@eagle-env.com. Thank you for your cooperation and prompt response.

Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: rhonda.hurst@odwc.ok.gov

P.O. Box 335
Vinita, Oklahoma 74301
918-272-7656

9 North 9th St.
Fort Smith, Arkansas 72913
918-244-9595

February 3, 2022

Mr. Eddie Streeter
Bureau of Indian Affairs
P.O. Box 8002
Muskogee, Oklahoma 74402

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Mr. Streeter,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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To assist in the early identification of potential environmental impacts, we request your comments regarding your areas of expertise. We would appreciate your comments by March 4, 2022. Replies should be addressed to Steve Votaw, Eagle Environmental Consulting, Inc, P.O. Box 335, Vinita, OK 74301 or by e-mail at steve@eagle-env.com. Thank you for your cooperation and prompt response.

Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: eddie.streeter@bia.gov

P.O. Box 335
Vinita, Oklahoma 74301
918-272-7656

9 North 9th St.
Fort Smith, Arkansas 72913
918-244-9595

February 3, 2022

Mr. Vernon Seaman
Indian Nations Council of Government
2 West 2nd Street, Suite 800
Tulsa, OK 74103-3116

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Mr. Seaman,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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To assist in the early identification of potential environmental impacts, we request your comments regarding your areas of expertise. We would appreciate your comments by March 4, 2022. Replies should be addressed to Steve Votaw, Eagle Environmental Consulting, Inc, P.O. Box 335, Vinita, OK 74301 or by e-mail at steve@eagle-env.com. Thank you for your cooperation and prompt response.

Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: vseaman@incog.org

February 3, 2022

Ms. Bonnie Moats
Oklahoma Water Resources Board
3800 N. Classen Blvd.
Oklahoma City, OK 73118

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Ms. Moats,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: Bonnie.Moats@owrb.ok.gov

February 3, 2022

Oklahoma Dept. of Tourism and Recreation
State Liaison Officer
Land and Water Conservation Division
900 North Stiles Avenue
Oklahoma City, OK 73104

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Greetings,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: contact@travelok.com

P.O. Box 335
Vinita, Oklahoma 74301
918-272-7656

9 North 9th St.
Fort Smith, Arkansas 72913
918-244-9595

January 22, 2024

Ms. Karen Skaar
National Park Service

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Ms. Skaar,

Eagle Environmental Consulting, Inc. preparing an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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- Plant-wide electrical and SCADA upgrades,
- Flood protection improvements (levee around perimeter of WWTP).

The project area includes approximately 26 acres of previously developed and partially developed land within and adjacent to the proposed floodwater protection levee surrounding the WWTP. The project area location map is attached for your reference. Compensatory flood water storage will also be required whereby approximately 29 acres of floodplain area north of the Caney River would be excavated to the extent necessary to provide adequate flood water storage compensation to offset the calculated floodplain displacement associated with facility expansion and flood protection levee. The project is located in Sections 6 & 7, Township 26 North, Range 13 East, Washington County, OK. To assist in the early identification of potential environmental impacts, we request your comments regarding your areas of expertise. We would appreciate your comments by February 22, 2024. Replies should be addressed to Steve Votaw, Eagle Environmental Consulting, Inc, P.O. Box 335, Vinita, OK 74301 or by e-mail at steve@eagle-env.com. Thank you for your cooperation and prompt response.

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: Karen_skaar@nps.gov

Attachment

P.O. Box 335
Vinita, Oklahoma 74301
918-272-7656

9 North 9th St.
Fort Smith, Arkansas 72901
918-244-9595

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
2488 EAST 81ST STREET
TULSA, OKLAHOMA 74137-4290

February 4, 2022

Regulatory Office

Mr. Steven R. Votaw, President
Eagle Environmental Consulting, Inc.
PO Box 335
Vinita, OK 74301

Dear Mr. Votaw:

Please reference your correspondence, dated February 3, 2022, regarding the City of Bartlesville's proposed Chickasaw Wastewater Treatment Plant (WWTP) Expansion Project located in Sections 6 and 7, Township 26 North, Range 13 East, Washington County, Oklahoma.

If the proposed action, including both the project area in the vicinity of the existing WWTP and the floodwater storage compensation area, would result in the placement or redistribution of any dredge and/or fill material in wetlands or other waters (e.g. Caney River, Coon Creek, and/or their tributaries), please resubmit that portion of your project, with a delineation of wetlands and other waters, so that we may determine the appropriate permitting action under Section 404 of the Clean Water Act.

Thank you for the opportunity to comment on the subject project at this pre-application stage of project development. In regard to project design, please fully consider and implement all appropriate and practicable opportunities for avoidance and minimization of impacts to aquatic resources.

Your project has been assigned Identification Number SWT-2022-00069. Please refer to this number during future correspondence. If further assistance is required, contact Mr. David Carraway via email, at david.w.carraway@usace.army.mil or, via phone, at (918) 669-7618.

Sincerely,

Ed Parisotto

For Andrew R. Commer
Chief, Regulatory Office

From: Seaman, Vernon
To: steve@eagle-env.com
Subject: RE: Bartlesville Chickasaw WWTP Expansion
Date: Monday, February 7, 2022 11:19:01 AM
Attachments: image004.png

INCOG has received and reviewed the proposal to perform the necessary surveys and data collection efforts to complete the EID for the WWTP updates and expansion. INCOG has no concerns or issues as long as construction activities are properly permitted and the necessary discharge permits abided by.

As always, all construction activities must be in compliance with the Endangered Species Act (ESA). There are also regulations regarding New Construction within the Boundaries of Historic Properties (National Historic Preservation Act) and specific Native American sites that must be considered if applicable. Finally, an OKR10 Stormwater Construction Permit will be required if more than one acre will be disturbed. Thank you for notifying INCOG of these planned activities. Vernon Seaman

Vernon Seaman
Manager of Environmental & Energy Planning
INCOG
2 West Second St., Suite 800
Tulsa, OK 74103
918-579-9451
vseaman@incog.org

From: steve@eagle-env.com <steve@eagle-env.com>
Sent: Thursday, February 03, 2022 10:32 PM
To: Seaman, Vernon <vseaman@incog.org>
Subject: Bartlesville Chickasaw WWTP Expansion

Hello,

Please find the attached scoping letter and exhibit for your review and comment. We are contacting you as part of our regulatory/resource agency public coordination effort relative to the proposed project area. We look forward to your response. Thank you.

Steven R. Votaw
President

EAGLE ENVIRONMENTAL CONSULTING

P.O. Box 335
Vinita, OK 74301
☎ 918-272-7656
http://www.eagle-env.com

From: Glasgow, Steven - NRCS, Stillwater, OK
To: steve@eagle-env.com
Subject: RE: [External Email]Bartlesville Chickasaw WWTP Expansion
Date: Friday, February 4, 2022 7:19:59 AM
Attachments: image006.png

Per your request, we have reviewed the subject project information and determined that the proposed project will not impact any easements, watersheds or prime farmland soils as defined by the Farmland Protection Policy Act.

We do note that project does impact Floodplains and advise contact made with appropriate agencies dealing with floodplains.

Steve Glasgow
State Resource Conservationist

100 USDA, Suite 206 | Stillwater, Ok. 74074 | O: 405.742.1235 | C: 405.612.7800

NRCS Natural Resources Conservation Service

Helping People Help the Land...

From: steve@eagle-env.com <steve@eagle-env.com>
Sent: Thursday, February 3, 2022 10:32 PM
To: Glasgow, Steven - NRCS, Stillwater, OK <steven.glasgow@usda.gov>
Subject: [External Email]Bartlesville Chickasaw WWTP Expansion

Hello,

Please find the attached scoping letter and exhibit for your review and comment. We are contacting you as part of our regulatory/resource agency public coordination effort relative to the proposed project area. We look forward to your response. Thank you.

Steven R. Votaw
President

EAGLE ENVIRONMENTAL CONSULTING

P.O. Box 335
Vinita, OK 74301

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Washington County, Oklahoma

BVille WWTP Expansion

February 5, 2024

Preface

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

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

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

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

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

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

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Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

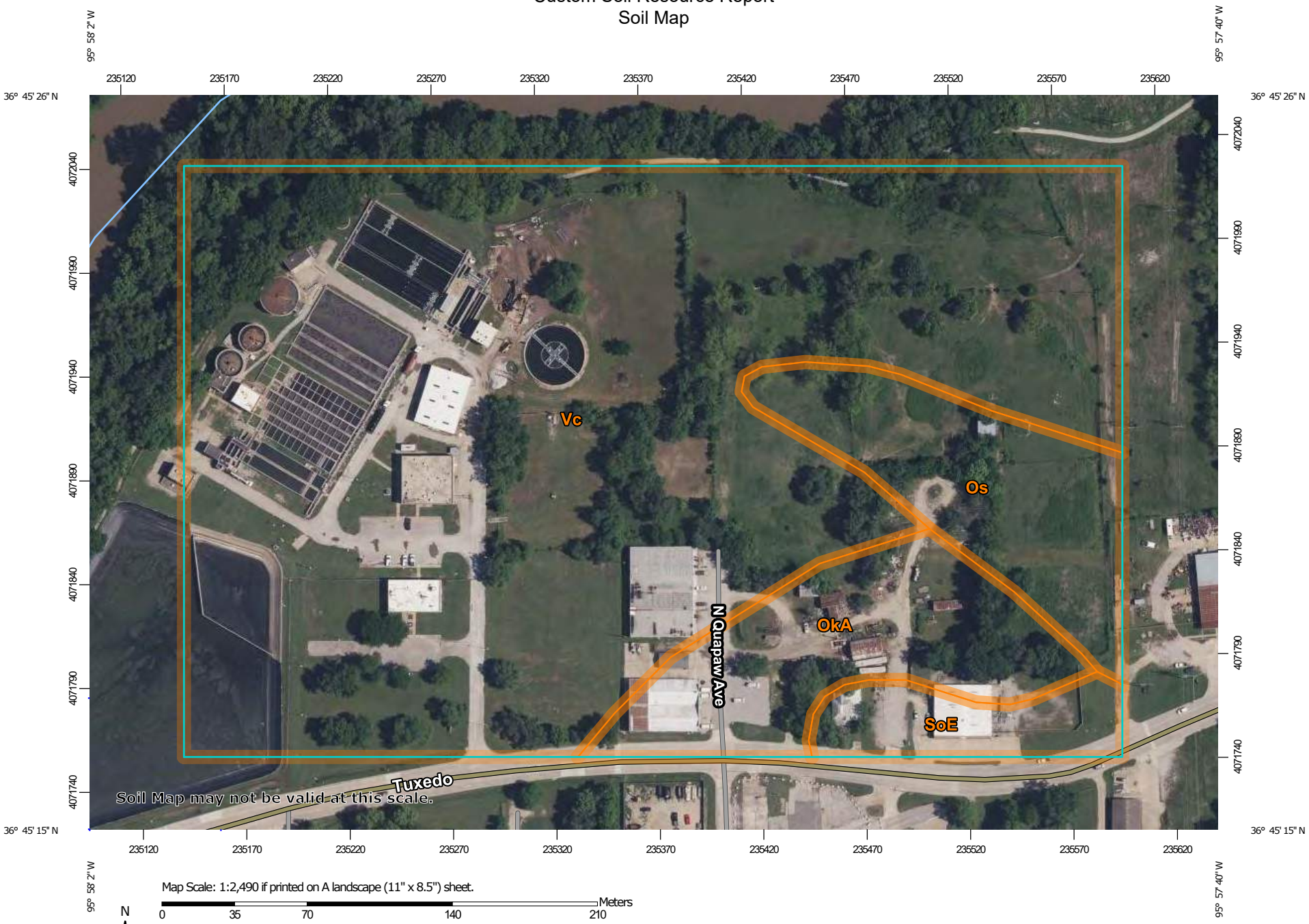
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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

Soil Map

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

Custom Soil Resource Report
Soil Map



Map Scale: 1:2,490 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

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

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

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

Soil Survey Area: Washington County, Oklahoma
Survey Area Data: Version 17, Sep 8, 2023

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

Date(s) aerial images were photographed: May 11, 2022—May 14, 2022

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
OkA	Okemah silt loam, 0 to 1 percent slopes	3.4	10.5%
Os	Osage clay, 0 to 1 percent slopes, occasionally flooded	3.0	9.5%
SoE	Shidler stony silty clay loam, 1 to 20 percent slopes	1.2	3.8%
Vc	Verdigris clay loam, 0 to 1 percent slopes, occasionally flooded	24.4	76.3%
Totals for Area of Interest		**32.0**	**100.0%**

Map Unit Descriptions

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

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

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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

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

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

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

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

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

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

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

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

Washington County, Oklahoma

OkA—Okemah silt loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2vwfz
Elevation: 610 to 920 feet
Mean annual precipitation: 37 to 46 inches
Mean annual air temperature: 57 to 64 degrees F
Frost-free period: 190 to 220 days
Farmland classification: All areas are prime farmland

Map Unit Composition

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

Description of Okemah

Setting

Landform: Paleoterraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey and loamy colluvium or alluvium over clayey residuum weathered from shale

Typical profile

A1 - 0 to 14 inches: silt loam
A2 - 14 to 18 inches: silty clay loam
Bt - 18 to 47 inches: silty clay
BC - 47 to 79 inches: silty clay

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Gypsum, maximum content: 2 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: C/D
Ecological site: R112XY103KS - Loamy Upland
Hydric soil rating: No

Minor Components

Parsons

Percent of map unit: 5 percent
Landform: Divides
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R112XY101KS - Claypan Upland
Hydric soil rating: No

Pharoah

Percent of map unit: 5 percent
Landform: Paleoterraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: R112XY102KS - Clayey Upland
Hydric soil rating: No

Summit

Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, convex
Across-slope shape: Concave
Ecological site: R112XY103KS - Loamy Upland
Hydric soil rating: No

Os—Osage clay, 0 to 1 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2tgsx
Elevation: 740 to 800 feet
Mean annual precipitation: 37 to 42 inches
Mean annual air temperature: 55 to 61 degrees F
Frost-free period: 185 to 255 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Osage

Setting

Landform: Flood plains

Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium

Typical profile

A - 0 to 18 inches: clay
Bssg - 18 to 60 inches: clay
Bg - 60 to 79 inches: clay

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum content: 3 percent
Maximum salinity: Nonsaline (0.0 to 1.8 mmhos/cm)
Sodium adsorption ratio, maximum: 12.0
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Ecological site: R112XY124KS - Wet Floodplain
Hydric soil rating: Yes

Minor Components

Verdigris

Percent of map unit: 5 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R112XY125KS - Loamy Floodplain
Hydric soil rating: No

Wynona

Percent of map unit: 3 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R112XY124KS - Wet Floodplain
Hydric soil rating: Yes

Hepler

Percent of map unit: 1 percent
Landform: Flood-plain steps
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear

Ecological site: R112XY122OK - Wet Terrace
Hydric soil rating: No

Osage, ponded

Percent of map unit: 1 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R112XY124KS - Wet Floodplain
Hydric soil rating: Yes

SoE—Shidler stony silty clay loam, 1 to 20 percent slopes

Map Unit Setting

National map unit symbol: 2zgwk
Elevation: 620 to 950 feet
Mean annual precipitation: 31 to 48 inches
Mean annual air temperature: 57 to 64 degrees F
Frost-free period: 190 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Shidler

Setting

Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy residuum weathered from cherty limestone

Typical profile

A - 0 to 8 inches: stony silty clay loam
R - 8 to 79 inches: bedrock

Properties and qualities

Slope: 1 to 20 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 6 to 20 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R112XY106OK - Shallow Limestone Upland
Hydric soil rating: No

Minor Components

Aliceville

Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R112XY102KS - Clayey Upland
Hydric soil rating: No

Summit

Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, convex
Across-slope shape: Concave
Ecological site: R112XY103KS - Loamy Upland
Hydric soil rating: No

Vc—Verdigris clay loam, 0 to 1 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2tgsn
Elevation: 510 to 890 feet
Mean annual precipitation: 37 to 45 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 178 to 235 days
Farmland classification: All areas are prime farmland

Map Unit Composition

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

Description of Verdigris

Setting

Landform: Flood plains

Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty alluvium

Typical profile

A - 0 to 20 inches: clay loam
C - 20 to 79 inches: silty clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C
Ecological site: R112XY125KS - Loamy Floodplain
Hydric soil rating: No

Minor Components

Osage, hydric

Percent of map unit: 5 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R112XY124KS - Wet Floodplain
Hydric soil rating: Yes

Cleora

Percent of map unit: 4 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R112XY125KS - Loamy Floodplain
Hydric soil rating: No

Tullahassee

Percent of map unit: 1 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R112XY125KS - Loamy Floodplain
Hydric soil rating: No

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OKLAHOMA CONSERVATION COMMISSION

Our Land • Our Heritage • Our Future

February 4, 2022

Steve Votaw
President
Eagle Environmental Consulting, Inc.
PO Box 335
Vinita, OK 74301

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Mr. Votaw:

Your request for a wetland determination for the referenced project, as described in your letter of February 3, 2022 has been reviewed using the Soil Survey of Washington County and the U.S. Fish and Wildlife Service National Wetland Inventory maps. A hydric soil was indicated both within the project area and proposed compensatory flood water storage area. Additionally, an area classified as wetland was identified at the site. Due to the potential impact on wetland resources, an on-site investigation may be needed. If you have not already done so, the Oklahoma Conservation Commission (OCC) recommends you contact the U.S. Army Corps of Engineers (USACE) for a determination and further instruction. Their address and phone number is:

U.S. Army Corps of Engineers
Mr. Andrew Commer
Chief of Regulatory Branch
2488 E 81st St.
Tulsa, OK 74137
918/669-7400

If this project meets the requirements of the USACE, then OCC has no additional concerns. If you have any further questions or concerns, please contact me at 405/534-6997.

Sincerely,

Brooks R Tramell

Brooks Tramell
Wetlands Program Coordinator
Water Quality Division

cc: Wetlands File

OBS Ref. 2022-052-BUS-EAG

Dear Mr. Votaw, Feb. 4, 2022

We have reviewed occurrence information on federal and state threatened, endangered or candidate species, as well as non-regulatory rare species and ecological systems of importance currently in the Oklahoma Natural Heritage Inventory database for the following location you provided:

Sec. 6 and 7-T26N-R13E, Washington County

We found 2 occurrence(s) of relevant species within the vicinity of the project location as described.

Species Name	Common Name	Federal Status
Haliaeetus leucocephalus	**Bald Eagle**	**protected**
County	***TRS***	***Count***
Washington	Sec. 36-T27N-R12E	2

Additionally, absence from our database does not preclude such species from occurring in the area.

If you have any questions about this response, please send me an email, or call us at the number given below.

Although not specific to your project, you may find the following links helpful.

ONHI, guide to ranking codes for endangered and threatened species:
http://www.oknaturalheritage.ou.edu/content/biodiversity-info/ranking-guide/

Information regarding the Oklahoma Natural Areas Registry:
https://okregistry.wordpress.com/

Todd Fagin
Oklahoma Natural Heritage Inventory
(405) 325-4700
tfagin@ou.edu

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
Phone: (918) 581-7458 Fax: (918) 581-7467

In Reply Refer To: January 22, 2024
Project code: 2024-0039268
Project Name: Bartlesville WWTP Expansion part 1

Subject: Consistency letter for 'Bartlesville WWTP Expansion part 1' project for a No Effect determination for the American burying beetle

Dear Lindy Clay:

The U.S. Fish and Wildlife Service (Service) received on **January 22, 2024** your effect determination(s) for the 'Bartlesville WWTP Expansion part 1' (the Action) using the American burying beetle (*Nicrophorus americanus*) determination key within the Information for Planning and Consultation (IPaC) system.

The Service developed this system in accordance with the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.)
Based on your consideration of the Action and the assistance in the Service's American burying beetle determination key, you have determined that your proposed action will have No Effect on the American burying beetle.

Your agency has met consultation requirements for these species by informing the Service of your "no effect" determination. No further consultation for this project is required for the American burying beetle. This consistency letter confirms you may rely on effect determinations you reached by considering the American burying beetle DKey to satisfy agency consultation requirements under Section 7(a) (2) of the Endangered Species Act of 1973 (87 Stat. 884, as amended 16 U.S.C. 1531 et seq.; ESA).

Coordination with your local Ecological Services Office is complete for the American burying beetle. If your project may affect additional listed species, please contact your local Ecological Services Field Office for assistance with those species. Thank you for considering Federally-listed species during your project planning.

This letter covers only the American burying beetle. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Alligator Snapping Turtle *Macrochelys temminckii* Proposed Threatened
- Monarch Butterfly *Danaus plexippus* Candidate

- Piping Plover *Charadrius melodus* Threatened
- Rabbitsfoot *Quadrula cylindrica cylindrica* Threatened
- Rufa Red Knot *Calidris canutus rufa* Threatened
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered

If your project may affect additional listed species, you must evaluate additional DKeys for other species, or submit a request for consultation for the additional species to your local Ecological Services Field Office.

The Service recommends that your agency contact the Service or re-evaluate the project in IPaC if: 1) the scope or location of the proposed project is changed significantly, 2) new information reveals that the action may affect listed species or designated critical habitat; 3) the action is modified in a manner that causes effects to listed species or designated critical habitat; or 4) a new species is listed or critical habitat designated. If any of the above conditions occurs, additional consultation should take place before project changes are final or resources committed.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Bartlesville WWTP Expansion part 1

2. Description

The following description was provided for the project 'Bartlesville WWTP Expansion part 1':

> Bartlesville is looking to expand their WWTP to help with the IPR they have. They are also under consent orders from ODEQ to bring their plant into compliance.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.75608205,-95.96479107037115,14z

QUALIFICATION INTERVIEW

1. Is the action authorized, funded, or being carried out by a Federal agency?

   Yes

2. Have you determined that the proposed action will have “no effect” on the American burying beetle? (If you are unsure select "No")

   Yes

PROJECT QUESTIONNAIRE

Please select the activity that best matches your proposed action.

1. Soil disturbance related to urban expansion or construction of structures

If you chose 13 above, please describe below. If you did not choose 13 above, please type "0".

0

IPAC USER CONTACT INFORMATION

Agency: Oklahoma Water Resources Board
Name: Lindy Clay
Address: 3800 N Classen
City: Oklahoma City
State: OK
Zip: 73118
Email lindy.clay@owrb.ok.gov
Phone: 4056517345

JULIE CUNNINGHAM
EXECUTIVE DIRECTOR

KEVIN STITT
GOVERNOR

OKLAHOMA
Water Resources Board

OKLAHOMA WATER RESOURCES BOARD
Planning & Management Division
Oklahoma City, OK

PUBLIC NOTICE REVIEW

___ We have no comments to offer. _X_ We offer the following comments.

WE RECOMMEND THAT YOU CONTACT THE LOCAL FLOODPLAIN ADMINISTRATOR FOR POSSIBLE PERMIT REQUIREMENTS FOR THIS PROJECT. THE OWRB WEB SITE, www.owrb.ok.gov, contains a directory of floodplain administrators and is located under forms/floodplain management/floodplain administrators, listed alphabetically by name of community. If this development would fall on state owned or operated property, a floodplain development permit is required from OWRB. The Chapter 55 Rules and permit application for this requirement can be found on the OWRB web site listed above. If this project is proposed in a non-participating community, try to ensure that this project is completed so that it is reasonably safe from flooding and so that it does not flood adjacent property if possible. Permitting Section said, "No information for water rights needed."

Reviewer: _Miranda Thomas, CFM_____ DATE _2/8/2022

Project Name: The proposed project is for improvement to the existing Wastewater Treatment Plant, located at Sec 6 & 7, T26N, R13E, Washington Co, Oklahoma.

FIRM Name: Steven Votaw, Eagle Environmental Consulting, INC
Cc: Kevin Wofford, City of Vinita FPA

* Otoe-Missouria Tribe and Red Rock participate in the NFIP and have a floodplain development permitting system. See paragraph above.

From:	Blue, Sharleen R CIV USARMY CESWT (USA) on behalf of CESWT-RO SWT
To:	steve@eagle-env.com; Carraway, David W CIV USARMY CESWT (USA)
Cc:	CESWT-RO SWT
Subject:	SWT-2022-69 / RE: [URL Verdict: Neutral][Non-DoD Source] Bartlesville Chickasaw WWTP Expansion
Date:	Friday, February 4, 2022 8:42:28 AM
Attachments:	image004.png BVille WWTP - Agency Scoping Letter - USACE.pdf Chickasaw WWTP Expansion Scoping Exhibit.jpg

Dear Mr. Votaw:

Your project has been assigned to Regulatory project manager Mr. David Carraway and generated into our Regulatory system as project number: SWT-2022-69. Please refer to this project number in any future correspondence.

Thank you,

Regulatory Office | Tulsa District Corps of Engineers
2488 East 81st Street | Tulsa, OK 74137-4290
Office 918-669-7400 | Fax 918-669-4306
CESWT-RO@usace.army.mil | www.swt.usace.army.mil/Missions/Regulatory

You are invited to complete our Regulatory Service Survey at:
https://regulatory.ops.usace.army.mil/customer-service-survey/

From: steve@eagle-env.com <steve@eagle-env.com>
Sent: Thursday, February 3, 2022 10:33 PM
To: CESWT-RO SWT <ceswt-ro@usace.army.mil>
Subject: [URL Verdict: Neutral][Non-DoD Source] Bartlesville Chickasaw WWTP Expansion

Hello,

Please find the attached scoping letter and exhibit for your review and comment. We are contacting you as part of our regulatory/resource agency public coordination effort relative to the proposed project area. We look forward to your response. Thank you.

Steven R. Votaw
President

EAGLE ENVIRONMENTAL CONSULTING

P.O. Box 335
Vinita, OK 74301
☎ 918-272-7656

From:	Jon Roberts on behalf of DEQ EnvReviews
To:	steve@eagle-env.com
Subject:	Environmental Impact Reviews
Date:	Friday, February 18, 2022 9:48:35 AM
Attachments:	image001.png

Dear Mr. Votaw:

In response to your requests, we have completed a general environmental impact review for the projects listed below.

Projects

1. Letter dated February 3, 2022 – Cherokee Nation Tahlequah Hospital, Tahlequah, Cherokee County, OK [35.91141, -94.94533]
2. Letter dated February 3, 2022 – Chickasaw WWTP Expansion, Bartlesville, Washington County, OK [36.75807, -95.96041]

Adverse Environmental Impacts Under DEQ Jurisdiction

None anticipated.

Additional Regulatory Considerations

A. For Project #1, since the property is on Trust land, EPA has jurisdictional authority regarding stormwater permitting. Please visit the EPA website at https://www.epa.gov/npdes/submitting-notice-intent-noi-notice-termination-not-or-low-erosivity-waiver-lew-under/ for any stormwater permitting questions.

B. For Project #2, please note that prior to beginning any construction activity disturbing more than one acre, you must submit an NOI and obtain authorization under OKR10, construction stormwater. If you need assistance, please contact DEQ's Stormwater Unit at (405) 702-6100.

C. For Project #2, please note that water and wastewater infrastructure projects that will require a construction permit from DEQ's Water Quality Division include the following:

- Construction of new water and wastewater treatment facilities;
- Modifications and upgrades to existing facilities;
- Construction of new water distribution and wastewater collection lines;
- Relocation of existing water distribution and wastewater collection lines.

Projects that do not require a construction permit include:

- Replacement of existing equipment with same type and size equipment;
- Replacement of existing water and wastewater lines with the same size line in the same location.

Please contact DEQ's Water Quality Division (Construction Permitting Section) if you have specific questions about these projects or need further clarification. Rocky Chen is the Manager of this section and can be reached at (405) 702-8140 or rocky.chen@deq.ok.gov.

Note: This is a summary of the most common regulatory requirements that may be applicable to these projects. Other regulatory requirements may apply.

Additional recommendations to consider may be found at https://go.usa.gov/xFE4c.

For future projects, please include GPS coordinates in decimal degrees (DD.DDDDD) and continue including street addresses, section/township/range, or other location information.

Please submit future requests to https://go.usa.gov/xFf7g or EnvReviews@deq.ok.gov by attaching a single pdf file containing your request and any attachments.

Thank you for the opportunity to provide our comments. If you have any questions or need clarification, please contact me.

Regards,

Jon Roberts | Env. Programs Manager III
Office of Continuous Improvement | Department of Environmental Quality
p. 405-702-7111
Oklahoma.gov | deq.ok.gov

January 22, 2024

Ms. Karen Skaar
National Park Service

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Ms. Skaar,

Eagle Environmental Consulting, Inc. preparing an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

- New administration building,
- Chickasaw lift station improvements,
- Chickasaw flow equalization basin improvements,
- New headworks structure,
- Primary clarifier rehabilitation and improvements,
- Aeration basin improvements and modifications,
- New blower improvements and air piping modifications,
- New circular final clarifiers and conversion of existing rectangular clarifiers to sludge storage,
- New Return Activated Sludge / Waste Activated Sludge pumping,
- New effluent filtration and backwash systems,
- Conversion to ultraviolet disinfection systems,
- New backup generator improvements,
- New WAS thickening building with new rotating drum thickeners,
- Anaerobic digester rehabilitation and improvements and new additional anaerobic digester,
- Gravity belt thickener building improvements,
- Future indirect potable reuse side-stream incorporation improvements,
- Plant-wide electrical and SCADA upgrades,
- Flood protection improvements (levee around perimeter of WWTP).

The project area includes approximately 26 acres of previously developed and partially developed land within and adjacent to the proposed floodwater protection levee surrounding the WWTP. The project area location map is attached for your reference. Compensatory flood water storage will also be required whereby approximately 29 acres of floodplain area north of the Caney River would be excavated to the extent necessary to provide adequate flood water storage compensation to offset the calculated floodplain displacement associated with facility expansion and flood protection levee. The project is located in Sections 6 & 7, Township 26 North, Range 13 East, Washington County, OK. To assist in the early identification of potential environmental impacts, we request your comments regarding your areas of expertise. We would appreciate your comments by February 22, 2024. Replies should be addressed to Steve Votaw, Eagle Environmental Consulting, Inc, P.O. Box 335, Vinita, OK 74301 or by e-mail at steve@eagle-env.com. Thank you for your cooperation and prompt response.

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: Karen_skaar@nps.gov

Attachment

P.O. Box 335
Vinita, Oklahoma 74301
918-272-7656

9 North 9th St.
Fort Smith, Arkansas 72901
918-244-9595

steve@eagle-env.com

From: Skaar, Karen S <karen_skaar@nps.gov>
Sent: Monday, February 5, 2024 9:29 AM
To: steve@eagle-env.com
Subject: Re: [EXTERNAL] City of Bartlesville, OK WWTP Expansion Comment Request

Good morning,
The National Park Service (NPS) has no resources impacted by the proposal and therefore has no comments on the project as proposed.
Thank you,

Karen Skaar (she/hers)
Environmental Protection Specialist
National Park Service Intermountain Region
(303) 349-4160
karen_skaar@nps.gov | NPS IMR Internal SharePoint

"The Earth is the Mother of All People" - Chief Joseph - Nez Perce

---

From: steve@eagle-env.com <steve@eagle-env.com>
Sent: Friday, February 2, 2024 11:55 AM
To: Skaar, Karen S <karen_skaar@nps.gov>
Subject: [EXTERNAL] City of Bartlesville, OK WWTP Expansion Comment Request

Ms. Skaar,

Please allow me to follow up on the receipt of our comment request letter dated Jan 22, 2024 and status of your review. The project proponent is asking when the draft-final environmental information document (EID) will be provided back to the OK Water Resources Board. Your response is the last documentation we need to submit the EID for public notice and project for public hearing. Can you please assist us and let me know if you or NPS have any comments (or questions) regarding the proposed project? Thank you.

Steven R. Votaw
President

P.O. Box 335
Vinita, OK 74301
☎ 918-272-7656
http://www.eagle-env.com

JULIE CUNNINGHAM
EXECUTIVE DIRECTOR

KEVIN STITT
GOVERNOR

OKLAHOMA
Water Resources Board

July 19, 2022

Kary L. Stackelbeck, Ph.D., State Archaeologist
Oklahoma Archeological Survey
111 E. Chesapeake
Norman, OK 73019

Re: Request for Review and Comment on Bartlesville Municipal Authority, ORF-23-0023-CW, Cultural Resources Survey

Dear Dr. Stackelbeck:

The Oklahoma Water Resources Board (OWRB), delegated by the Environmental Protection Agency as the Responsible Official for compliance with the procedural requirements of National Environmental Policy Act (NEPA) (40CRF Part 6) for wastewater treatment construction grants under Title II of the Clean Water Act (CWA), formally requests review and comment pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's (ACHP's) regulations for the following project(s):

Attached please find the Cultural Resources Survey Report completed by Holt Consulting Services, LLC for the Bartlesville Municipal Authority for construction of Wastewater Treatment Plant Improvements funded with a loan from the Oklahoma Clean Water State Revolving Fund administered by the OWRB. The report states, "Based upon the results of this archaeological investigation, the proposed Bartlesville WWTP Project should have no effect on local cultural resources and a finding of No Effect is recommended based on the lack of impact to any listed or eligible properties. Clearance to proceed with the project should be granted.".

We request an expeditious review of this project. Please mail or fax your response along with any mitigative measures, if any, within the next 30 days. If you have any questions, please contact Claire Milligan, Environmental Specialist at 405-530-8800.

Sincerely,

Lindy Clay, Environmental Programs Manager
Financial Assistance Division

Enclosures: Cultural Resources Report, SHPO Comments to Draft CR Report

Oklahoma Archeological Survey
THE UNIVERSITY OF OKLAHOMA

RECEIVED
FEB 25 2022
Oklahoma Water Resources Board

February 21, 2022

Oklahoma Water Resources Board
Attn: Lindy Clay
Environmental Programs Manager
3800 N. Classen Boulevard
Oklahoma City, Oklahoma 73118

Re: OAS FY22-0934 OWRB Bartlesville Municipal Authority Proposed WWTP Improvements.
Legal Description: NE ¼ Section 7 & SE ¼ Section 6, T26N, R13E, Washington County, Oklahoma.

Dear Ms. Clay:

The Community Assistance Program staff of the Oklahoma Archeological Survey has reviewed the above referenced project to identify areas that may potentially contain prehistoric or historic archeological materials (historic properties). The location of your project has been crosschecked with the state site files containing approximately 26,000 archaeological sites, which are currently recorded for the state of Oklahoma. **No sites are listed in your project area but based on the topographic and hydrologic setting of your project, archeological materials are likely to be encountered. An archaeological field inspection is considered necessary prior to project construction to identify significant archaeological resources that may exist in the project area.** This environmental review and evaluation is performed in order to locate, record, and preserve Oklahoma's prehistoric and historic cultural heritage in cooperation with the State Historic Preservation's Office and the Oklahoma Historical Society, The responsible federal agency or their official delegate must also have a letter from that office to document consultation pursuant to Section 106 of the National Historic Preservation Act.

This environmental review and evaluation is done in cooperation with the State Historic Preservation Office, Oklahoma Historical Society. The responsible federal agency or their official delegate must also have a letter from that office to document consultation pursuant to Section 106 of the National Historic Preservation Act.

In addition to our review comments, under 36CFR Part 800.3 you are reminded of your responsibility to consult with the appropriate Native American tribe/groups to identify any concerns they may have pertaining to this undertaking and potential impacts to properties of traditional and/or ceremonial value.

Sincerely,

Caitlin M. Baker
Staff Archaeologist

Kary L. Stackelbeck. PhD
State Archaeologist

: dkg
cc: SHPO

JULIE CUNNINGHAM
EXECUTIVE DIRECTOR

KEVIN STITT
GOVERNOR

OKLAHOMA
Water Resources Board

July 19, 2022

Lynda Ozan, Deputy SHPO
Oklahoma Historical Society
State Historical Preservation Office
800 Nazih Zuhdi
Oklahoma City, OK 73105

Re: Request for Review and Comment on Bartlesville Municipal Authority, ORF-23-0023-CW, Cultural Resources Survey

Dear Ms. Ozan:

The Oklahoma Water Resources Board (OWRB), delegated by the Environmental Protection Agency as the Responsible Official for compliance with the procedural requirements of National Environmental Policy Act (NEPA) (40CRF Part 6) for wastewater treatment construction grants under Title II of the Clean Water Act (CWA), formally requests review and comment pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's (ACHP's) regulations for the following project(s):

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We request an expeditious review of this project. Please mail or fax your response along with any mitigative measures, if any, within the next 30 days. If you have any questions, please contact Claire Milligan, Environmental Specialist at 405-530-8800.

Sincerely,

Lindy Clay, Environmental Programs Manager
Financial Assistance Division

Enclosures: Cultural Resources Report, OAS Comments to Draft CR Report

Holt Consulting Services, LLC

9524 E. 81st St., Suite B – Tulsa, OK 74133

(918) 808-8530 James@HoltCRM.com

www.HoltCRM.com

Archaeological Survey Report for Bartlesville Wastewater Treatment Plant Expansion Project in Bartlesville, Washington County, OK

Holt Consulting Services, LLC Project Number: 2022-36-OK

Conducted for: Eagle Environmental Consulting

Project Name: Bartlesville WWTP Project

Project Legal Location: Portions of S/2 of Sec 6 and Portions of N/2 of Sec 7, T26N R13E

USGS Quad map: Bartlesville North, OK

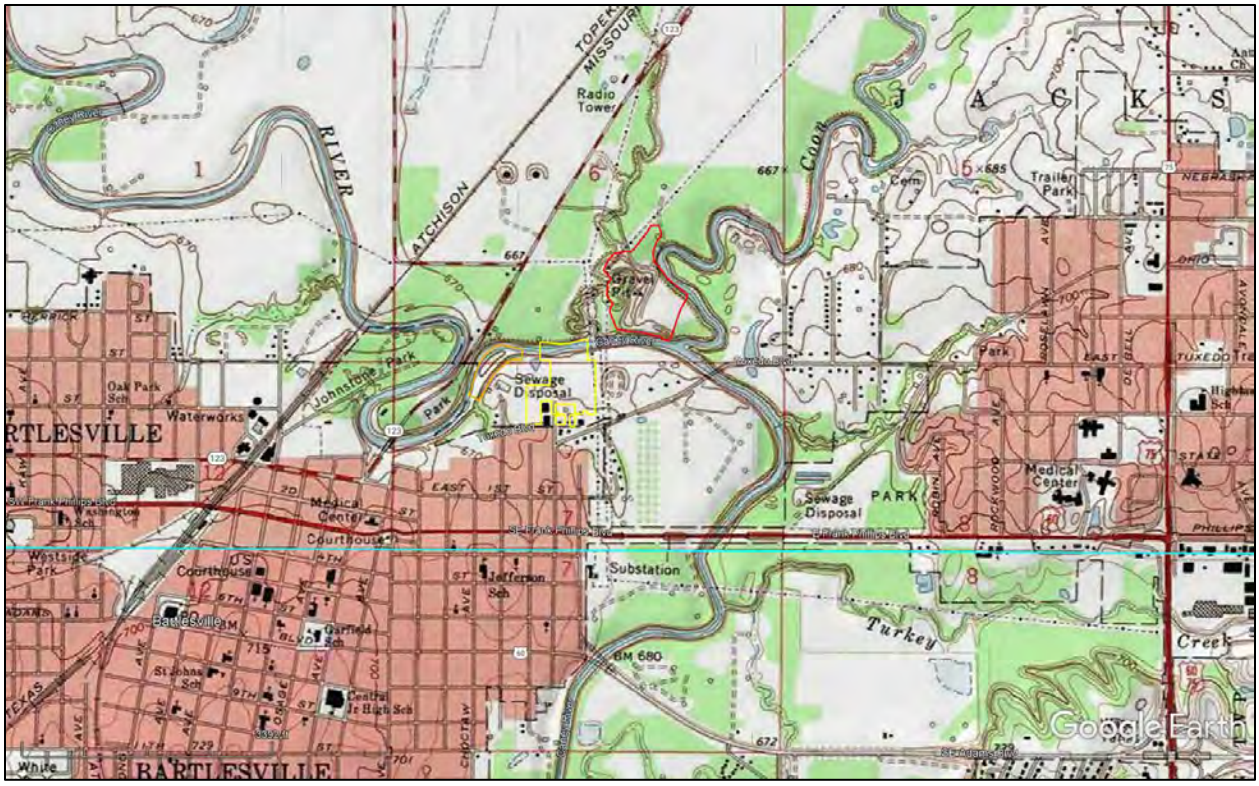
Land Status: Private, City of Bartlesville-owned

Surveyed by: James R. Holt, MA RPA, Ashley B. Brown, MA, and Matt Oliver, BA
on February 24, 28, and April 4, 11, 19, and June 7, 2022

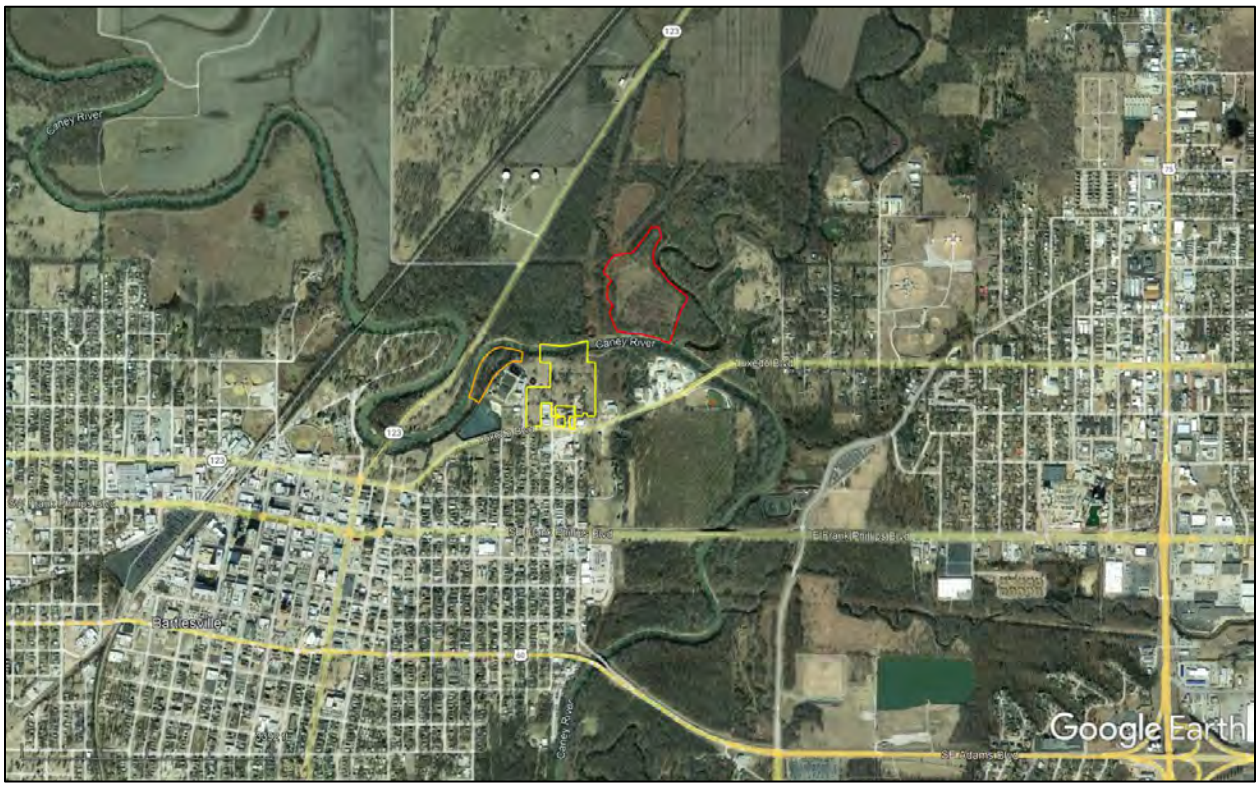
Acres Surveyed: 44.8

Report Prepared by: James R. Holt on June 10, 2022

Notice: This report was prepared for review by approved parties only and is not intended for public release. All information contained (including maps and imagery) is confidential. Permission must be sought from Eagle Environmental Consulting, the Oklahoma Archaeological Survey, the Oklahoma SHPO, and the Oklahoma Historical Society prior to public release, and all maps and site references must first be removed lacking such permission.



Project location, Bartlesville North, OK Quad



Project location, 2015 aerial image.

Project Summary / Abstract

An archaeological survey of the proposed Bartlesville Wastewater Treatment Plant (WWTP) Expansion Project was performed on April 4, 11, 19, and June 7, 2022, by James R. Holt, MA RPA, Ashley B. Brown, MA, and Matt Oliver, BA of Holt Consulting Services, LLC. The project is located on private and city-owned property in Washington County, Oklahoma.

The archaeological survey consisted of a standard format file search, field survey, and report preparation performed upon request of Mr. Steve Votaw of Eagle Environmental Consulting. Mr. Votaw may be reached at (918) 272-7656, PO Box 335 Vinita, OK 74301. The purpose of the investigation was to ensure that no significant or eligible cultural resources would be disturbed by the proposed construction of expanded wastewater management infrastructure. An intensive survey consisting of regular 30-m interval transects and 40 shovel test pits were dug to check for unknown surface and subsurface cultural artifacts and features. One new historic archaeological site was encountered and recorded in the course of fieldwork.

The recommendations contained in this report are subject to review by the SHPO, State Archaeologist, and various interested tribes and consulted parties.

Introduction

The Bartlesville WWTP Project consists of approximately 44.8 acres of property, divided into three distinct areas, which is the area of potential effect (APE) of the project, located in Bartlesville, OK. The APE was investigated using standard field methodology including regular 30-m surface transects and shovel test pits (STP) planned at approximately 100-m intervals and dug where conditions allowed. The two portions of the APE south of the Caney River were intensively shovel tested while the area north of the Caney River was less intensively shovel tested due to the presence of a historic mine or gravel pit that resulted in the removal and displacement of the soil and was the location of the historic site. One new historic archaeological site was found and recorded in the course of the investigation.

Environmental Setting

The project is located immediately east and north of downtown Bartlesville, Oklahoma, in the terraces above the floodplain of the Caney River. Bartlesville sits on the eastern edge of the Osage Hills. This area is characterized by hills that slope gently upward to the north and east. These hills, the ecoregion Flint Hills, are produced by differences in the bedrock, which consist of rising cherty limestone and sandstone ridges and smooth, flat expanses of shale. Tall- and mixed-grass prairies typically predominate in this area, interrupted only by extensions in the river basins from the ecoregion to the east, the Cross timbers, made up of oak savannah, scrubby oak forest, and eastern redcedar (Woods *et al.* 2005). Because this region straddles two different environmental types, fluctuations in vegetation have occurred in the past. Forested areas would have expanded with increased, and contracted with decreased, rainfall. However, bedrock in the area limits the amount of expansion that could occur, since limestone and shale do not retain enough moisture to support the needs of full-grown trees. The late Pleistocene was largely cooler with less severe temperature swings between seasons. By the Holocene, conditions were much drier for a couple of thousand years with a moist climate returning to the area about the time of the Plains Woodland occupations (Hall 1988). The fluctuation shifted again to a drier climate around 1000 years ago, continuing to dry out until its peak during the Plains Village occupations (c. 400-600 years ago) (Hall 1988). Today, croplands are more limited than are found in the Central Great Plains to the west due to the shallow, stony soils. Instead, rangeland and grassland are common throughout the area (Woods *et al.* 2005). Deer, raccoons, opossum, ducks, geese, turtles, fish, and other vertebrate animals are common in the forests and streams of the area. Currently, the Oklahoma Climatological Survey reports normal annual precipitation as approximately 25 - 45 inches, and the vegetation at the site is mixed.

According to the National Resources Conservation Service (NRCS) Soil Survey, the soil at the project location generally consists of Osage Clay, Verdigris clay loam, and Dennis silt loam on 0-3% slopes. All three soil types generally consist of alluvial clay and loam soils above clayey substrata which represent the transition to B-horizon soils.

Cultural History

The State of Oklahoma has a long history of human habitation, beginning in Paleo-Indian times (c. 15,500 years ago) with continued occupations through to modern era (Wyckoff and Brooks eds, 1983). While there is mounting evidence of pre-clovis (prior to 15,500 years ago) settling of North America (Fagundes et al., 2008; Gilbert et al., 2008; Halligan et al 2016), it does not have academic consensus and none of that evidence comes out of Oklahoma (Poinar et al. 2009; Morrow 2012). During the Paleo-Indian period, large portions of North America were traversed by nomadic hunter-gatherer groups who subsisted primarily on the now-extinct megafauna of the Pleistocene epoch. In following the herds upon which they subsisted, the Paleo-Indian hunter-gatherers spread across North America, eventually traveling as far south as western South America (Kelly and Todd, 1988).

Evidence for the earliest Paleo-Indian occupation of Oklahoma comes from several sites in western Oklahoma, including the Cooperton site and the Domebo site (Gilbert and Brooks, 2000). Both sites are comprised of disarticulated mammoth bones, with associated tools indicating human consumption of the animal.

The Archaic period represented substantive change in the peoples of the Great Plains. After significant climate change, in which the region became warmer and drier and the Ice Age megafauna became extinct, indigenous peoples began focusing their subsistence on modern animal species (such as bison and deer) and increased their reliance on plant foods (Henry, 1998). These changes resulted in the production and use of a wider range of tools, including ground stone axes and grinders, bone awls, and wooden atlatls (Hofman, 1989).

In general, on the Great Plains, the Plains Woodland period is thought to extend from approximately 1950-950b.p. (Vehik 1985) and in many ways seen as a continuation from the Archaic period with a few key changes. During this time, there is the beginning of a ceramic technology, the adoption of cultigens (maize, beans, and squash), the introduction the bow and arrow, and the elaboration of ground stone tools (Johnson and Johnson 1998). People throughout this period were mostly mobile hunter/gatherers; however, with the emergence of horticulture towards the end of the Plains Woodland, groups became more sedentary as

reflected in larger settlements with semi-permanent housing structures. (Johnson and Johnson 1998: 214-217). While the bow and arrow were beginning to be used, the dominant projectile point remained dart points, most likely cast by an atlatl. In Oklahoma, the Plains Woodland period was marked by early farming, accompanied by the first usage of pottery in North America. Scrapers and hoes, manos and metates (grinding stones), and ground stone axes and adzes were all typical artifacts of the Plains Woodland period (Gilbert and Brooks, 2000). An example of the Plains Woodland period to in Oklahoma is the Pruitt site in Murray County. Excavated in 1966 by Barr, the site established the Pruitt complex, which defines the southern Plains Woodland occupation (Hartley, 1974). Its characteristics include cord-marked pottery, stemmed and corner-notched projectile points, shell and stone scrapers and hoes, and some bone tools such as awls and flint-knapping tools. Radio-carbon dates from the site suggest that this occupation occurred sometime between the 7th and 9th centuries AD, but occupation at the site continued beyond these dates (Hartley, 1974).

During the following Plains Village period which dates to approximately 950-500b.p. (Vehik 1985, Henry 1977), a dramatic shifts occurred in the life ways of the inhabitants of the region. With a greater reliance on horticulture, groups became more sedentary, with seasonal or even more permanent settlements accompanied by larger and more substantial structures (Drass 1998). There also appears to have been a trend of the coalescence of villages into fewer, larger communities; some of which in the central and northern plains appear to exhibit fortifications. In the Southern Plains, while people were farming, they still relied heavily on hunting and gathering (Drass 1998). The greater emphasis on horticulture during the period is thought to have accounted for the greater abundance of ceramic containers for storage of food-stuff. The greater focus on ceramic technology is reflected in a shift in the use of shell and mica temper over sand, although sand temper is still used. In the Southern Plains it appears that this change in the use of shell temper is much more pronounced as there is virtually no sand temper found during these later times (Johnson and Johnson 1998). By this time, people are also relying more on bow and arrows than darts, although dart points still show up throughout the period (Henry 1977). In Oklahoma, Plains Village cultures are characterized by permanent housing structures, agriculture, bison hunting, and the production of smaller, more

triangular projectile points (Bell, 1961). The most common projectile points are arrow points of Fresno and Washita varieties. Two other chipped stone tools that are frequently recovered during this time also include scrapers (snub-nosed made from Alibates) and diamond-beveled knives. As for ceramics, most are globular in shape (George 1982). There is a wider range of representation for this period than the preceding cultural stages, and several late prehistoric complexes have been defined. These include the Washita River and Custer occupations of western Oklahoma, the Antelope Creek and Optima occupations of the Texas and Oklahoma panhandles, and the Henrietta occupation of central and north Texas (Bell, 1961).

Contact was first made with the indigenous peoples of Oklahoma in 1541 when European explorers reached the central United States (Rasmussen, 2000). During the next several generations, the French and Spanish explorers encountered various tribal groups, and conflict began to occur between the Native Americans and Europeans (Tennant, 1936). This interaction is exemplified by the Spanish Fort site located on the Red River between Jefferson County, Oklahoma and Montague County, Texas. The site is comprised of two fortified towns on the river which served as a trading center for French settlers and the Comanche and Taovayas Wichita (Vehik, 2002). In 1759, in response to military conflict between natives and the Spanish, the outpost was attacked by Spanish forces led by Colonel Diego Ortiz Parrilla. However, the site withstood the attack, and Parrilla was killed in the battle (Vehik, 2002).

In the early 19th Century, white expansion continued. After the Louisiana Purchase of 1803, Oklahoma was acquired as a United States territory, and the country began to put pressure on native peoples to either conform to white society or leave their traditional lands for the western territories. The territory that was to become Oklahoma was initially administered through the Missouri Territory, but as Missouri was becoming a state in 1819, most of Oklahoma became part of the Arkansas Territory (Odell, 2002). The 1820's saw many French and American settlers and trappers moving into the area and several forts (Fort Smith along the Arkansas, Fort Gibson and Towson) were all built to aid in protection and trade (Odell, 2002). After the passage of the Indian Removal Act in 1830, 60 tribes native to the eastern United States were forcibly driven out of their homelands and into Oklahoma (Wright, 1977). The

infamous Trail of Tears ended in Oklahoma with devastating losses to the indigenous populations.

Washington County has evidence of human occupation dating back to the Paleo-Indian period up to the modern day (May, 2009). The land was part of the traditional range of several native groups, including the Osage and Wichita. The Osage trace their origins to the east through oral history and archaeological evidence, originating in the Ohio River Valley before making their way to Eastern Missouri during the Woodland Village Phase. Following the collapse of the Mississippian Mound Builder culture, the Osage and other associated Dhegiha Siouan speakers moved west and south, generally along the Osage and Marais des Cygnes Rivers in Missouri and Kansas by the time of contact with the French in the late 17th Century (Tucker, 1942; Library of Congress, 2010). The Osage used modern-day Osage County as part of their western territory, with nearly permanent villages occupied by large numbers of Osages along the Arkansas River (Wilson, 1985). The Osage used a system of trails connecting their villages in Missouri to the plains region that were well-established by the 15th Century, with hunting bands and war parties using the trails to transit between east and west. The Osage surrendered their Missouri territory in the treaties of 1818 and 1825, receiving land in southern Kansas in return. The Drum Creek Treaty spelled out the process of selling the Osage's Kansas reservation, and their subsequent purchase of a portion of Cherokee land in Indian Territory. Beginning in 1870, the Osage began the process of purchasing Osage County from the Cherokee following the implementation of the Cherokee Reconstruction Treaty of 1866, with the sale completed and most of the tribe moved into their new reservation by 1874 (Wilson, 1985). Washington County was ceded by the Osage in 1825 prior to their settlement in Kansas, and the land was granted to the Western Cherokee by the Treaty of New Echota, signed in 1835 (May, 2009). Washington County was part of the Saline District from 1840 to 1856, and the Cooweescoowee District from 1856 until 1906 (May, 2009). Nelson Carr established a grist mill at a site approximately 110 meters to the southwest of the proposed route corridor. The mill was later purchased by Jacob Bartles, who gave his name to the new town that grew around the mill (May, 2009).

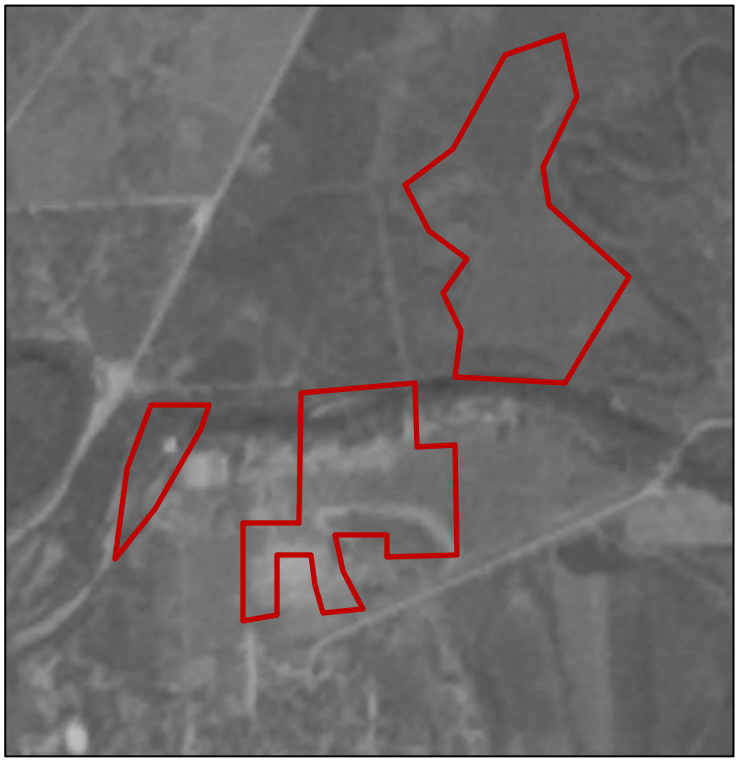
Pre-field Investigation and Records Check

The records of the Oklahoma Archaeological Survey were consulted on March 21, 2022 regarding the presence or absence of known sites in the study area with six previously reported sites within 1-mile of the project boundaries (see table below). Also, the NRHP database maintained by the Oklahoma SHPO was consulted to determine if any listed properties could be impacted by the development of the property, with five listed properties, one listed historic district, three districts determined to be eligible, and three properties determined to be eligible located within 1-mile of the APE. The "SH-123 Cherokee Avenue Bridge & Bartlesville Water Company Dam District" is a historic district determined as eligible under criteria A and C, a small corner of which is included in part of the APE for this project.

Site 34-WN-	Description
114	Site is the Carr-Bartles Mill location, an early corn and wheat grinding mill built on the bend of the Caney River in 1870 and subsequently expanded until demolition in approximately 1915. Site recorded by O'Shea in 2005 and updated by Cargill in 2013. NR status is listed as not assessed, but is likely eligible or potentially eligible thanks to the historical nature of the mill in relation to the establishment of Bartlesville as a key town in northern and northeast Oklahoma.
126	Reported in 2013 and revisited in 2018 by Cargill and Myers as consisting of a 20th Century residential structure and cistern on the north side of downtown Bartlesville. The site was found to be destroyed in the 2018 revisit and is therefore not eligible for the NRHP.
131	Reported in 2018 by Cargill and Botone as a park and campground dating back to the early 20th Century containing deposits of brick, glass, ceramic, and various plastic and metal. The site was determined to be an inventory site, ineligible for the NRHP.
132	Site reported by Cargill, Myers, Botone, and Botone in 2018 as a cluster of demolished buildings on the old townsite of Bartlesville. Site was reported to have brick, ceramic, glass, metal, and assorted plastics. Site determined to be an inventory site.
133	Site reported by Holt in 2019 as consisting of a red brick chimney standing in the woods off of SH123. The site was determined to be an inventory site.
134	Site reported by Holt in 2019 as consisting of a cluster of ruined brick structures off the side of SH123 that might have been a commercial facility or gas station. Site was determined to be an inventory site.

Sites within 1-mile

Government Land Office (GLO) plat maps from 1898 were consulted to determine if any historic structures were shown that could be affected by the project. These maps showed several structures near the APE, but none shown in the boundaries of the APE. Aerial photographs of the site from 1954, 1971, 1995, 2003, 2006, 2010, 2011, 2013, and 2015 were consulted. The 1954 shows development primarily to the south and west, but indications of development are visible on the south side of the river, near the location of the existing wastewater treatment plant and the proposed expansion to the east, but the clarity of the image is such that no specific structures are discernable in this image. The 1971 aerial image is clearer, and structures are visible along the south edge of the proposed expansion area east of the existing WWTP along Tuxedo Blvd, and the compensatory floodwater storage area proposed on the north side of the Caney River can be seen to be an active mine or quarry at this date. The 1995 aerial image shows the mine no longer active, but the outline can be clearly seen on the north side of the river, and the expansion area of the WWTP can be seen to contain two new small structures within the boundaries of the expansion. Subsequent images show no major changes visible from the 1995 image within the APE boundaries.

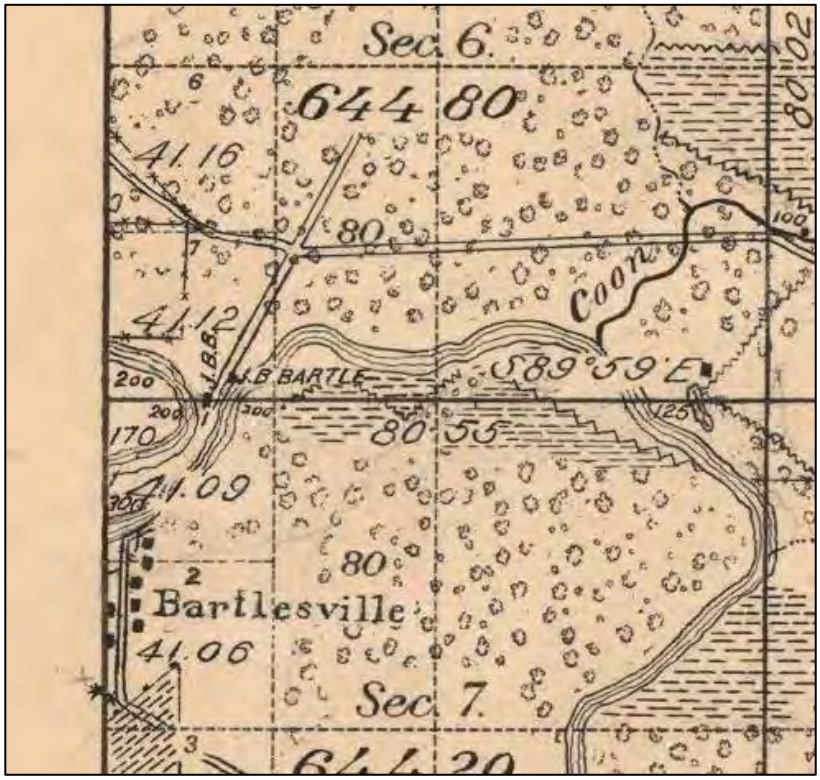


1954 aerial image of the APE

1971 aerial image of the APE

1995 aerial image of the APE.

2010 aerial image of the APE



1898 GLO map of the APE

Field Methods and Analytical Techniques

A combination of regular 30-meter and irregular traverses were walked across the project APE to check for surface features. A total of 40 formal shovel test pits (STPs) were attempted within the APE along the transects and near the new site for delineation. The area called the Compensatory Flood Water Storage Area, which enclosed 23.3 acres on the north side of the Caney River, was found to be a former gravel mine or pit that was dug out thoroughly in the 1960's through the 1980's, was tested at a reduced rate due to the known and visible disturbance within the mine which removed the native soils. The STPs in this area were dug to determine the amount of buried historic deposits present for the purposes of site reporting. Shovel tests were conducted to the following specifications: all shovel tests were dug to an approximate diameter of 30-cm and down a minimum of 80-cm or to 20-cm into sterile (B-horizon) soils unless water, bedrock, or some other obstruction prevented further excavation. All shovel tests were recorded using UTM units on the WGS84 datum, and exemplar shovel test images were taken.

Field conditions on the days of survey were a combination of sunny and cloudy days, generally with temperatures in the 60s and 70s Fahrenheit. Surface visibility was variable, with some areas of dense grasses or undergrowth obscuring the ground and other areas with near 100% surface visibility due to forest conditions or in the former gravel mine.

Results of Archaeological Field Investigations

The City of Bartlesville WWTP Project APE included approximately 44.8 acres of land and was subjected to a standard fieldwork methodology consisting of 30-m interval pedestrian transects and a pattern of shovel test pits at an interval of approximately 100-m along the transect lines to check for both surface and subsurface features and artifacts. The APE was broken into three partitions; an area adjacent on the east to the existing WWTP and enclosing 16.56 acres, an area of riverbank adjacent to the west of the existing WWTP enclosing 4.95 acres, and an area on the opposite side of the Caney River called the "Compensatory Flood Water Storage Area" enclosing 23.3 acres. All three areas are irregularly shaped with portions of each impacted by 20th Century construction to some extent.

The two portions of the overall APE adjacent to the existing WWTP facility were extensively checked for prehistoric and historic sites and deposits with regular 30-m interval transects and 30 shovel tests placed at 100-m intervals along transects walked. The irregular shape of the APE parcels created irregularly shaped transects, but all areas of these portions of the APE were thoroughly investigated and all areas were shovel tested. STP 1 through 25 were placed in the parcel to the east of the existing WWTP, all were negative for any cultural remains outside of buried paving gravel. It appeared many of the shovel tests were dug through soils deposited by the regular floods of the Caney River, with gravel and stone encountered well below surface level, in all cases efforts were made to reach sterile substrata. On the ground surface, two small metal buildings were recorded on HPRI forms with the only other modern features noted are sewer access portals located within the APE portion. These two buildings were placed in their locations between 1971 and 1995 based on aerial photographs consulted, though their exact date of construction could not be determined via documentary research. Both structures are used for agricultural storage reasons, neither were architecturally or historically significant and so were determined to be ineligible for the NRHP by any existing criteria. STP 26 through 29 were placed in the APE portion immediately west of the existing WWTP facility along the banks and terraces of the Caney River. One of the five STPs could not be dug simply due to the steepness of the bank combined with the narrowness of the land parcel resulting in the inability to relocate the test. The other four STPs in this area were also negative for buried cultural remains. The only surface finds in this area were rubbish deposited by the river, fishermen, and modern people using the nearby trail system. This piece of the APE overlapped a small area of a historic district determined to be eligible due to the proximity to the old Carr-Bartles Mill, located on the other side of the river from the APE. No historic deposits associated with this era were found in the course of this investigation. There were other modern facilities used for cattle or horse farming, vehicles parked near the south edge of the APE, and a mobile home.

The two APE portions near the existing WWTP and STPs dug within these areas.

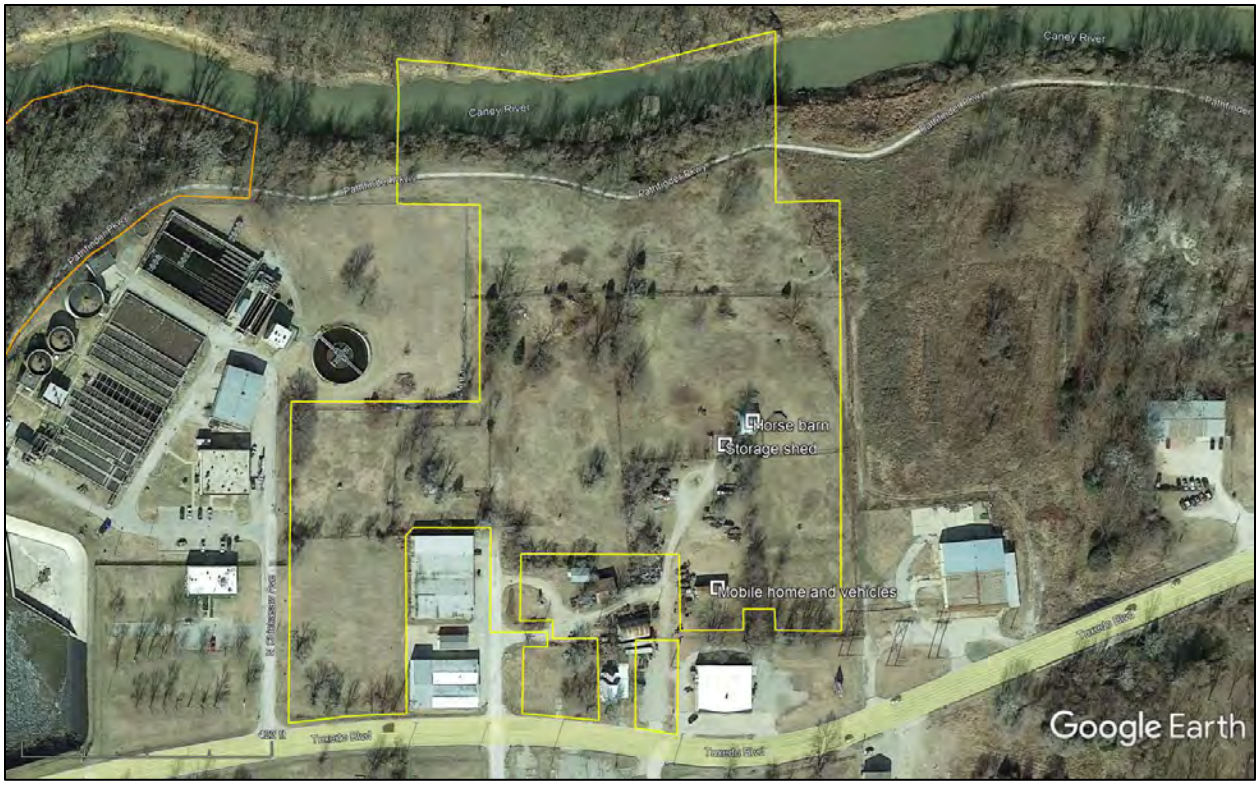
Overview of the area proposed for the WWTP expansion, facing northwest.

View of the APE near the existing WWTP facility.

Overview of the eastern portion of the APE planned for the WWTP expansion.

The standing structure used as a barn, documented on an HPRIF

Standing structure used for storage, documented on an HPRIF



Locations of the barn, shed, and mobile home with parked vehicles on a 2015 aerial

View of the riverbank portion of the APE, facing north.

View of the riverbank portion of the APE, facing south.

Looking uphill at the existing WWTP facility from the riverbank, facing east.

STP 11

The third portion of the APE is located on the north side of the Caney River and is planned to be altered to serve as a flood water storage area to compensate for the changes made to the riverbanks when the WWTP expansion is constructed. This area is indicated on topographic maps as a "gravel pit" which is backed up by aerial photographs from 1971 and 1995. In the 1971 image, the quarry is active, with clear ground and embankments visible in the aerial image. In the 1995 aerial image, the quarry appears to be inactive, but the full extent of the mining activity is visible by the difference in vegetation and the alteration of a small intermittent drainage present along the west side of the APE/quarry. The entire supposed quarry was reported as a historic archaeological site, 34-WN-138, with numerous surface deposits associated with the mining activity and subsequent use as an illegal dump for local modern inhabitants. The mining deposits included roads, culverts, grading machinery, stone and gravel fragments, prominent linear piles of mining debris, and prominent embankments on the south, east, and north sides of the APE. Beyond the APE, the trees were noted to be

cleared, the stream to the west of the quarry was re-routed and portions buried by mining debris. The entire quarry was included in the site designation at the recommendation of the State Historic Preservation Office (SHPO), even the areas beyond the APE boundaries and documented by aerial photographs. The site is recommended as an Inventory Site due to the lack of integrity, and the lack of any historical connection to a historically significant person or event. Ten STPs were dug in this area, entirely to check for any subsurface integrity associated with the site. The quarrying activity resulted in the removal of all of the soil and any associated integrity for historic or prehistoric sites that might have existed prior to the mining activity. One of the shovel tests found buried plastic well below surface depth, from either the mining or from subsequent dumping or river flooding. Surface deposits from dumping included the remnants of furniture, mattresses, appliances, carpets, brick, porcelain, plastics, and a wide variety of other garbage.

The Compensatory Flood Water Storage Area portion of the APE, north of the river with STP locations shown.

Overview of the Compensatory Flood Water Storage Area portion of the APE, facing SE

View of two of the linear mining mounds with a low spot in between, a tree growing there.

Mining embankment near the north edge of the APE.

Modern dumping rubbish, likely the remains of a mattress or couch.

Grading machinery abandoned in the former quarry.

Southern edge of the Compensatory Flood Water Storage Area portion of the APE.

STP 37. Note the gray color and debris in the hole in the form of paving gravel and possibly a brick fragment buried in the mining remains.

Reported boundaries of site WN-138 with datum and STP locations shown.

Aerial photographs of WN-138 from 1971 (left) and 1995 (right) showing the extent of the disturbance at those dates. Note the change in the drainage on the west side of the mine and the clear removal of much material from the mining.

Recommendations

Based upon the results of this archaeological investigation, the proposed Bartlesville WWTP Project should have no effect on local cultural resources and a finding of No Effect is recommended based on the lack of impact to any listed or eligible properties. Clearance to proceed with the project should be granted. All construction personnel should be made aware of the possibility of encountering cultural resources in the process of disturbing the soils. If any unknown cultural resources are encountered, work should immediately cease until a determination of their significance can be made.

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Appendix 1: Shovel Test Table

All UTM in Z15

STP#	Easting Z15	Northing	Width cm	Depth cm	Description and Comments (all units cm)
1	235302	4071767	32	61	0-61: Very dark brown clay with sandstone at 61. Possibly disturbed.
2	235307	4071867	34	33	0-33: medium brown silty loam with commercial gravel at 33. Noted gravel pad ~10m to west.
3	235334	4071800	33	60	0-60: very dark black-brown clay with rock chunk at 60. Dense rock layer. Possibly disturbed.
4	235338	4071900	35	25	0-25: Yellow brown silt clay with rock at 25.
5	235387	4071889	36	21	0-21: Medium brown silt loam with small stones, rock layer at 21.
6	235432	4071777	33	26	0-26: Medium brown silt loam with commercial gravel at 25. Gravel pad noted to the west.
7	235434	4071869	35	20	0-20: Medium brown silt loam, gravel at 20.
8	235435	4071988	34	29	0-29: Medium brown silt loam, rock at 29.
9	235407	4071940	34	11	0-11: Medium brown silt loam, commercial gravel at 11.
10	235386	4072029	31	20	0-20: Medium brown silt loam, rock at 20.
11	235462	4071843	36	75	0-28: medium brown and red silty clay; 28-51: medium brown silt; 51-75: gray clay with gravel.

12	235465	4071943	36	36	0-36: Medium brown silt loam, rock at 36.
13	235465	4072033	34	25	0-25: Medium brown silt loam, wet. Rock at 20.
14	235499	4072021	32	49	0-49: brown-gray silt, becoming more clayey after 35. Bedrock at 49.
15	235497	4071916	30	54	0-10: Dark brown clay loam; 10-32: medium brown silt; 32-54: light gray clay.
16	235501	4071828	35	72	0-52: dark brown silty clay; 52-72: red and brown mottled clay.
17	235530	4071825	36	71	0-25: Medium brown silty clay; 25-53: dark brown silty clay; 53-71: mottled dark brown to red silty clay.
18	235533	4071925	33	72	0-21: Brown silty loam; 21-49: Medium brown clayey silt loam; 49-72: Light brown silty clay with mottled red-yellow clay.
19	235538	4072025	34	52	0-52: brown-gray silt, becoming more clayey after 35. Bedrock at 52.
20	235567	4072009	35	76	0-71: Medium brown to dark brown silt loam; 71-76: mottled brown-red clay.
21	235565	4071907	30	81	0-22: Medium brown silt loam; 22-68: Medium brown silt loam; 68-81: Mottled red-yellow-gray clay with sandstone.
22	235569	4071846	34	61	0-19: Medium brown-gray silt loam; 19-61: gray clay with sandstone gravel. Possibly disturbed due to loose matrix.
23	235572	4071800	32	55	0-35: Medium brown to gray silty loam; 35-55: dark brown to gray silty clay.

24	235439	4071909	35	31	0-31: Medium brown silt loam, rock at 31.
25	235523	4071973	36	82	0-11: Dark brown silt loam; 11-25: Medium brown silt loam; 25-72: gray-brown silt; 72-82: medium brown mottled red clay.
26	235264	4072049	34	59	0-59: Very dark brown clay on low river terrace that frequently floods.
27	235180	4072055	40	83	0-20: Dark brown silt loam; 20-75: medium brown silt; 75-83: light brown sandy silt.
28	235126	4071990	38	85	0-63: medium to light brown sandy silt; 63-85: light brown silt clay.
29	235098	4071904	0	0	30+% slope on riverbank, could not relocate within 5m.
30	235174	4072013	34	66	0-66: Medium brown silt loam, very wet, on low river terrace that frequently floods.
31	235846	4072541	34	35	In Mine Site. 0-35: medium gray gritty silt. Plastic wrap encountered at 35cm.
32	235799	4072452	35	75	0-10: dark brown gritty silt; 10-63: medium brown gritty gray clay; 63-75: medium brown-yellow clay.
33	235704	4072414	31	30	0-30: medium brown gritty silty clay. Modern concrete fragments, with rock at 30.
34	235682	4072306	31	22	0-22: medium brown silty clay with fragmented rock. Concrete piles 10m west.
35	235725	4072163	33	41	0-41: medium brown silty clay with fragmented rock. Rock at 41.

36	235836	4072141	30	43	0-43: Medium brown silty clay with fragmented rock. Rock at 43.
37	235819	4072271	31	55	0-10: Dark brown gritty clay; 10-55: mottled gray brown clay with gravel.
38	235855	4072360	32	65	0-16: dark brown-gray gritty silt; 16-54: mottled med brown to gray clay; 54-65: medium brown clay.
39	235946	4072263	36	60	0-42: mottled brown gritty clay with areas of yellow and light gray clay with gravel; 42-60: pale brown clay.
40	235912	4072194	32	31	0-31: medium brown gritty silt with rock fragments. Rock at 31.

Shovel test locations in the APE on a 2015 aerial photo (north is to the top).

Shovel test locations in the APE shown on Bartlesville North 1971 topographic map. (North is to the top)

Appendix 2: Site Form for WN-138 and Two HPRI Forms

OKLAHOMA ARCHEOLOGICAL SITE SURVEY FORM

Field Code **SITS# 34** WN-138

1. Site Name BARTLESVILLE QUARRY SITE **County** WASHINGTON

---

2. Site Location

Zone: 15S **UTM** 4072340 **N** **UTM** 235790 **E**

Legal Description

	QQQ		QQ	NE	Q	Section 6	Township 26N	Range 13E
	QQQ		QQ	SE	Q	Section 6	Township 26N	Range 13E
	QQQ		QQ		Q	Section	Township	Range

Quad Name (s): BARTLESVILLE NORTH

Quad Date (revised): 1971 (1980)

Other Locational References (i.e., benchmarks, road intersections, bridges, etc., please give distance and bearing to site):

SITE IS LOCATED BETWEEN OK HIGHWAY 123, THE CANEY RIVER, AND COON CREEK BETWEEN 40 AND 485 METERS EAST OF THE HIGHWAY.

---

3. Owner(s) of Property

Name: CITY OF BARTLESVILLE

Street and Number: 401 S JOHNSTONE AVE

City/Town, State: BARTLESVILLE, OK

Zip: 74003

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4. Site Surveyed by:

Recorded by: JAMES HOLT, MA RPA

Date Recorded (mm/dd/year): 04/19/22

Person-Hours Spent at Site: 10.0

5. Cultural Affiliation - Cultural Periods: (check all that apply)

Unassigned prehistoric ☐

Paleoindian:
- Early ☐
- Middle ☐
- Late ☐

Archaic:
- Early ☐
- Middle ☐
- Late ☐

Woodland:
- Eastern – maybe eastern? ☐
- Plains ☐

Village Farming/Mississippi ☐

Plains Village ☐

Protohistoric/Historic Ind. ☐

Historic non-Indian ☑

Archaeological Cultures, Phases, etc., represented:

HISTORIC ERA INDUSTRIAL AND MINING

How was cultural affiliation determined (diagnostic artifacts, radiocarbon dates, etc):

HISTORIC SOURCES, ARTIFACTS

6. Historic Phase Identification (Ethnic): (Check appropriate group)

1. Choctaw ☐	9. Kiowa-Apache ☐	17. Cheyenne ☐	25. Missouri-Otos ☐
2. Cherokee ☐	10. Kickapoo ☐	18. Caddo ☐	26. Iowa ☐
3. Saux-Fox ☐	11. Pawnee ☐	19. Shawnee ☐	27. Anglo-American ☑
4. Pottawatomie ☐	12. Arapaho ☐	20. Delaware ☐	28. French ☐
5. Seminole ☐	13. Ottawas ☐	21. Creek ☐	29. Spanish ☐
6. Comanche ☐	14. Wichita ☐	22. Dakotas ☐	30. Other ☐
7. Apache ☐	15. Quapaw ☐	23. Chickasaw ☐	
8. Kiowa ☐	16. Osage ☐	24. 12 & 17 ☐	

How was historic identification determined?:

HISTORIC SOURCES, ARTIFACTS

7. Historic Site Range (check one)**:**

0. Missing data; unknown	☐	5. 1890-1929	☐
1. pre-1800	☐	6. 1930-1950	☐
2. 1800-1830	☐	7. 1800-1900	☐
3. 1830-1859	☐	8. 1800 - present	☐
4. 1860-1889	☐	9. 1900 - present	☑

8. Inferred Site Type: (check all that apply)

Prehistoric Categories		***Historic Categories***	
Open habitation w/o mounds	☐	Historic farmstead/homestead	☐
Open habitation with mounds	☐	Historic mill/industrial	☐
Earth mound (not midden mound)	☐	Historic fort or other military	☐
Mound complex	☐	Dugout	☐
Stone mounds/rock piles Burned	☐	Historic trash dump	☑
Rock concentrations Non-mound	☐	School house	☐
Earthworks	☐	Trading post	☐
Rock shelter	☐	Historic town/settlement	☐
Cave	☐	Historic irrigation/land modification	☐
Quarry	☐	Church	☐
Workshop	☐	Historic Cemetery	☐
Petroglyph/pictograph	☐	Transportation	☐
Burials	☐	Post office	☐
Specialized activity sites	☐	Reservoir/dam	☐
Rock alignments (tepee rings)	☐	Bridge	☐
Isolated animal remains	☐	Cattle camp/trail	☐
Kill site	☐	Boundary marker	☐
		Mission	☐
Other		Historic oil well/pipeline	☐
		Historic quarry	☑

9. Type of Midden Present: (check one)

Don't know	☐	Earth	☐	Rock	☐
Absent	☑	Shell	☐		

10. Description of Cultural Material (quantity and identify artifacts):

NUMEROUS PIECES OF MINING DEBRIS IN THE FORM OF STONE, EMBANKMENTS, CULVERTS, ROADS, AND SCATTERED DUMPED TRASH WHICH INCLUDED MATTRESS FRAMES, PORCELAIN AND CERAMIC, GLASS, METAL, AND SCRAPS OF UPHOLSTERED FABRIC.

~350 **# Artifacts** 0 **# Artifacts Collected**

Name and address of owner of other collections from site:

NA

11. Artifact Repository:

NA

12. Evidence of Recent Vandalism Observed? (yes or no) YES

13. Site Condition: (check one):

1. disturbed	☐	5. 76-99% disturbed	☐
2. <25 disturbed	☐	6. destroyed	☐
3. 26-50 disturbed	☐	7. disturbed, % unknown	☑
4. 51-75 disturbed	☐		

14. Current Land Use: (check all that apply)

Cultivated field	☐	Modern Cemetery	☐	Residential	☐
Pasture	☐	Mining	☑	Military	☐
Woods, forest	☐	Inundated	☐	Logging/fire break	☐
Scrub/secondary growth	☐	Industrial	☐	Landfill	☐
Road/trail	☐	Recreation	☐	Oil field	☐
Ditch/dike/borrow pit	☐	Commercial	☐	Modern dump	☑
				Other	

15. Ground Surface Visibility:

1. < -25% ☐	3. 26-50% ☐	5. 76-90% ☐
2. 11-25% ☑	4. 51-75% ☐	6. 91-100% ☐

Survey Conditions: (wet, dry, windy, sunny, overcast)

COOL, DRY, LIGHT WINDS, TEMPS IN THE 60'S F

16. Physiographic Division: (check one)

1. High Plains	☐	6. Sandstone Hills	☐
2. Gypsum Hills	☐	7. Prairie Plains	☑
3. Wichita Mountains	☐	8. Ozark Plateau	☐
4. Red Bed Plains	☐	9. Ouachita Mountains	☐
5. Arbuckle Mountains	☐	10. Red River Plains	☐

17. Landform Type: (check one)

1. Floodplain	☐
2. Terrace	☑
3. Hillside -Valley wall	☐
4. Dissected uplands	☐
5. Undissected uplands	☐
6. Other landform	

18. Locality Type: (check one)**:**

1. Level	☑	6. Slope	☐
2. Knoll - low land	☐	7. Bluff crest	☐
3. Blowout	☐	8. Bluff base	☐
4. Ridge - upland	☐	9. Other locality	
5. Mesa	☐		

19. Soils: Order/Great Group**:** MOLLISOLS / HAPLUDOLLS

Series: VERDIGRIS CLAY LOAM

Parent Material: ALLUVIUM AND LIMESTONE

20. Elevation/Slope/View Shed:

Elevation amsl: 675 FT

Slope (degrees): <5 degrees

Slope Facing Direction: South

View Degree: 360 degress

View Distance: Poor (<1 miles)

21. Natural Vegetation: (check one)

1. Short grasses	☐	6. Mesquite	☐
2. Tall grasses	☐	7. Juniper-pinion	☐
3. Mixed grasses	☑	8. Oak-hickory forest	☑
4. Cross Timber	☐	9. Oak-pine	☐
5. Shin-Oak	☐	10. Loblolly pine forest	☐

22. Site Area:

Square meters: 240,000

Basis for area estimate:

1. Taped ☐ 2. Paced ☐ 3. Visual Estimate ☐ 4. GIS ☑

5. Other (explain)

23. Description of Site:

Give physical description of the site and its setting, including dimensions, features, nature of materials and artifact concentrations. Include **color photos** of the site that reflect its current condition and a copy of a **USGS 1:24,000 topographic map** with site location and boundaries marked. Include a smaller inset map at a larger scale if necessary to more legibly display the site's boundaries. Include a sketch map if appropriate of any subsurface probing/testing that was conducted. The use of a GIS-based or similar computerized mapping is preferred. Non-professional archaeologists who do not have access to computer-based mapping software may contact OAS for assistance.

SITE CONSISTS OF A MID-20TH CENTURY MINE OR QUARRY AS INDICATED BY HISTORIC TOPOGRAPHIC MAPS AND EXAMINATION OF HISTORIC AERIAL PHOTOGRAPHS. THE QUARRY WAS APPARENTLY DEVELOPED IN PHASES STARTING IN THE SOUTHEAST OF THE SITE AND WORKING WEST AND THEN NORTH AS TIME WENT ON. THE FIRST CLEAR EVIDENCE OF THE QUARRY IN OPERATION IS FROM A JANUARY 1971 AERIAL PHOTOGRAPH SHOWING THE SOUTHEASTERN AREA OF THE QUARRY DUG OUT. THE 1971 AND PHOTOREVISED 1980 TOPO MAPS OF THE AREA BOTH SHOW THE LOCATION MARKED AS "GRAVEL PIT" WITH THE SAME GENERAL BOUNDARIES IN PLACE, SUGGESTING THAT THE NORTHERN AREAS OF THE MINE WERE LIKELY DEVELOPED DURING THE 1980'S. BY THE 1995 AERIAL PHOTOGRAPH, THE MINE APPEARS INACTIVE AND BEGINNING TO HAVE PLANT GROWTH RESUME, WHICH CONTINUES THROUGH THE PRESENT DAY AS SECONDARY FOREST RECLAIMS THE SITE WITH TALL STANDS OF JOHNSON GRASS PRESENT THROUGH THE NEWER PORTIONS OF THE MINE FURTHER FROM THE RIVER AND CREEKS. IN OLDER MAPS AND PHOTOGRAPHS, A SMALL UNNAMED TRIBUTARY CREEK BOUNDS THE MINE ON THE WEST AND THE MINING ACTIVITY APPEARS TO HAVE CUT OFF AND FILLED IN A MOCCASIN BEND IN THE CREEK, STRAIGHTENING IT. IN-FIELD OBSERVATIONS COULD NOT SEE ANY CHANNEL ASSOCIATED WITH THIS BEND SUGGESTING IT WAS FULLY ALTERED BY HUMAN ACTIVITY. WITHIN THE HISTORIC MINE, THERE ARE HUNDREDS OF INDIVIDUAL ARTIFACTS AND FEATURES OBSERVED; NUMEROUS METAL CULVERTS ALONG THE DEGRADED ROADS, SMALL FRAGMENTS OF MINED STONE, STEEP WALLS AND EMBANKMENTS CREATED FROM EXCAVATING DOWN, AND ROADS USED TO ACCESS AND TRANSPORT THE MATERIALS. SUBSEQUENT YEARS HAVE APPARENTLY CONVERTED THE SITE INTO A DUMPING LOCATION FOR LOCAL PEOPLE WITH A VARIETY OF DUMPED MATERIAL OBSERVED INCLUDING TIRES, PORCELAIN AND CERAMIC FRAGEMNTS, MATTRESSES, FURNITURE AND APPLIANCES, TOYS, PLASTIC, WOOD, CONCRETE, AND EVEN UPHOLSTERED FABRIC FROM FURNITURE. ALL IN FRAGMENTARY AND DISPERSED ARRAY, LIKELY IMPACTED BY THE REGULAR FLOODS OF THE CANEY RIVER. SOILS FROM SHOVEL TESTING SHOWED A MIXED MATRIX OF DISTURBED GRITTY SOIL AND SMALL AREAS OF FLOOD-DEPOSITED SILT AND CLAY. TEN SHOVEL TESTS WERE DUG IN THE SOUTHEASTERN PORTION OF THE HISTORIC QUARRY/MINE (WITHIN THE APE OF AN INVESTIGATION FOR THE CITY WASTEWATER TREATMENT PLANT) AND ALL WERE CONSISTENT IN THIS SOIL. THERE WERE AT LEAST SIX ELONGATED PILES OF SOIL DEBRIS IDENTIFIED WITHIN THE SOUTHEASTERN PORTION OF THE MINE SITE, LIKLEY SOIL REMOVED FROM FURTHER NORTH AS THE MINE EXPANDED. THESE PILES WERE BETWEEN 1 AND 3 METERS IN HEIGHT FROM THE SURROUNDING GROUND, AND THE SPACE BETWEEN THEM WERE LOWERED AND COLLECTED WATER. THE RETURN OF WOODLAND MADE VIEWING IN THE AREA DIFFICULT.

24. Description of Subsurface Testing:

TEN SHOVEL TESTS WERE DUG WITHIN THE SOUTHEASTERN PORTION OF THE OVERALL SITE, WHICH WAS THE APE FOR THE INVESTIGATION WHICH IDENTIFIED THE SITE. ALL TEN WERE REASONABLY CONSISTENT IN NOTING THE FINE GRITTY SOIL IN LINEAR MOUNDS AND UNEVEN GROUND SURFACE FROM MECHANICAL ALTERATION.

25. Drainage: (check one)

1. Arkansas	☐	10. Muddy Boggy	☐
2. Beaver - N. Canadian	☐	11. Neosho	☐
3. Canadian	☐	12. North Fork Red	☐
4. Caney	☑	13. Poteau	☐
5. Cimarron	☐	14. Red	☐
6. Deep Fork	☐	15. Salt Fork Arkansas	☐
7. Illinois	☐	16. Salt Fork Red	☐
8. Kiamichi	☐	17. Verdigris	☐
9. Little R. (McCurtain County)	☐	18. Washita	☐

26. Nearest Natural Source of Water: (check one)

1. Permanent stream/creek	☐	6. River	☑
2. Intermittent stream	☐	7. Slough oxbow lake	☐
3. Permanent spring	☐	8. Relic stream channel	☐
4. Intermittent spring/seep/bog/marsh	☐	9. Water well (historic sites)	☐
5. Natural lake	☐		

27. Distance to Water (meters):

Distance to Permanent: 10

Distance to Seasonal: 10

28. Investigation Type: (check one)

1. Reconnaissance (survey) ☐
2. Intensive (survey & testing) ☑
3. Excavation ☐
4. Volunteered report ☐

29. Statement of Site Integrity:

THE MINE EMBANKMENTS ARE EASILY IDENTIFIED, AND THERE IS MINING DEBRIS IN GOOD QUANTITY WITHIN THE SITE. THE SUBSEQUENT USE AS A LOCAL DUMP HAS MIXED THE CONTENTS TO AN EXTENT THAT DETERMINING WHETHER THE MODERN ARTIFACTS ARE FROM MINING OR DUMPING. THE MINING PROCESS LEFT NO BUILDINGS OR PERMANENT STRUCTURES BEHIND ASIDE FROM THE ROADS USED TO ENTER AND REMOVE MATERIALS DURING USE. THERE IS LITTLE TO NO INTEGRITY REMAINING ASIDE FROM THE PHYSICAL SIGNS OF MINING IN THE FORM OF THE EMBANKMENTS, ROADS, AND SOME STONE DEBRIS LEFT BEHIND. IN SHORT, THERE IS NOT SUFFICIENT INTEGRITY REMAINING TO LEARN IMPORTANT NEW DETAILS REGARDING THE HISTORY OF THIS MINE/QUARRY OR OF MINING AND QUARRYING IN NE OKLAHOMA IN GENERAL.

30. Statement of Site Significance:

THE SITE RETAINS NO INTEGRITY PHYSICALLY, AND RETAINS NO CONNECTION TO A SIGNIFICANT INDIVIDUAL OR EVENT ASSOCIATED WITH LOCAL HISTORY TO RECOMMEND SIGNIFICANCE.

Significance Status: (check one)

National Register Property	☐
Eligible for National Register	☐
Nominated to National Register by SHPO	☐
Considered eligible but not nominated by SHPO	☐
Inventory site	☑
National Register status not assessed	☐

31. Forthcoming Report on the Site:

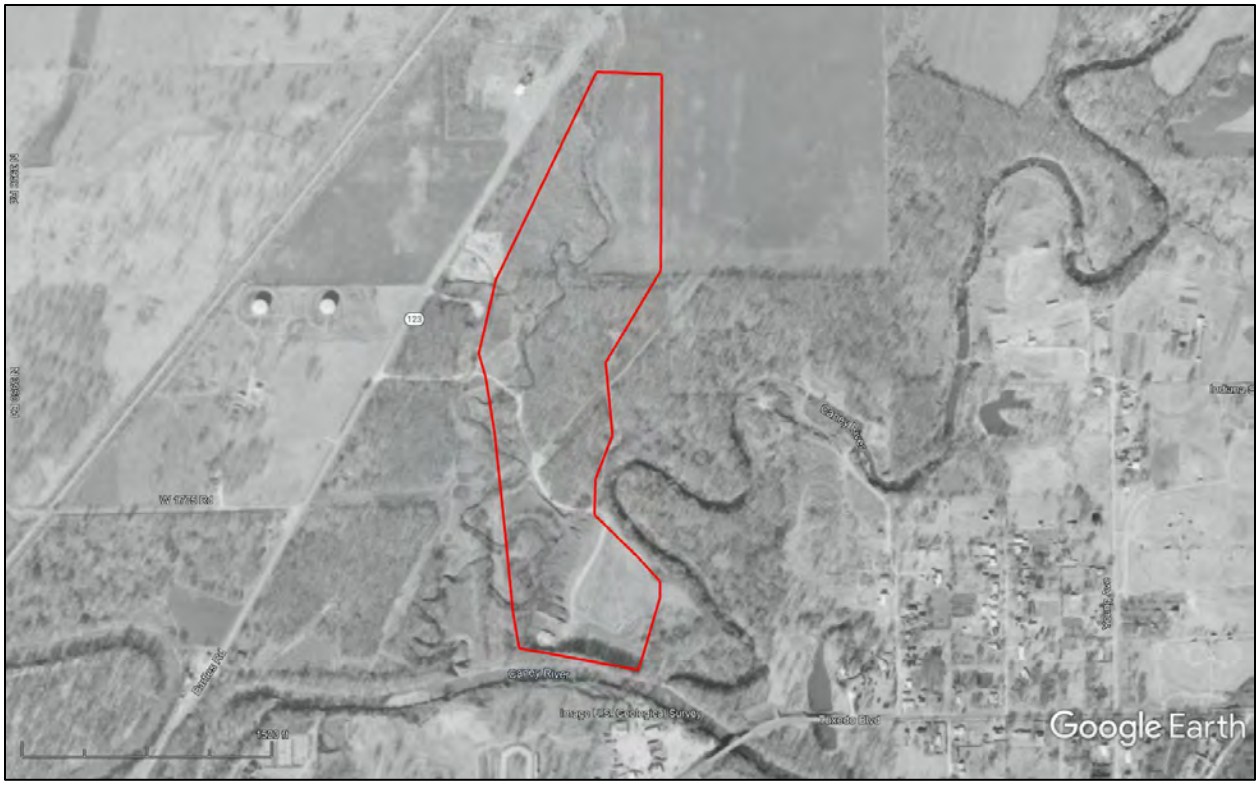
Title: 2022-36-OK City of Bartlesville Wastewater Treatment Plant and Compensatory Flood Water Storage Area in Bartlesville, Washington County, OK for Eagle Environmental Consulting, Inc.

Author(s): James R. Holt, MA RPA

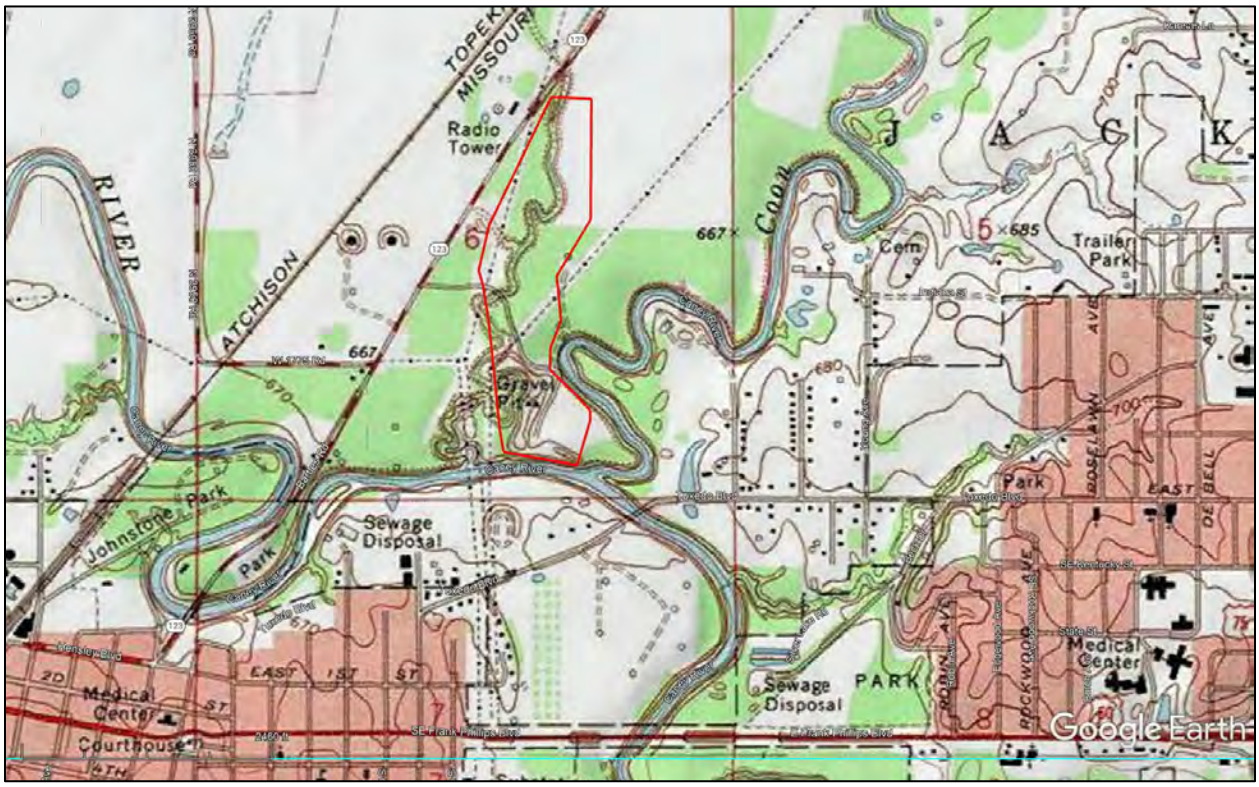
Maps and Photographs

2015 aerial photograph of the site boundaries

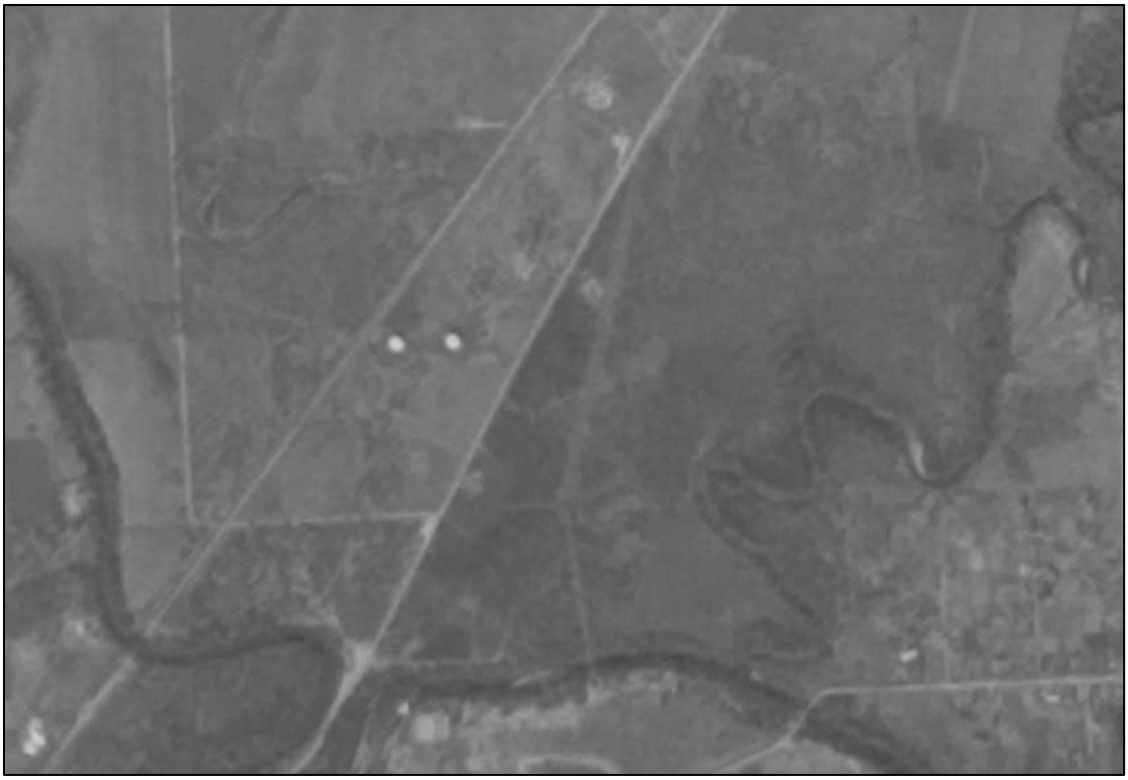
1995 aerial image of the site boundaries



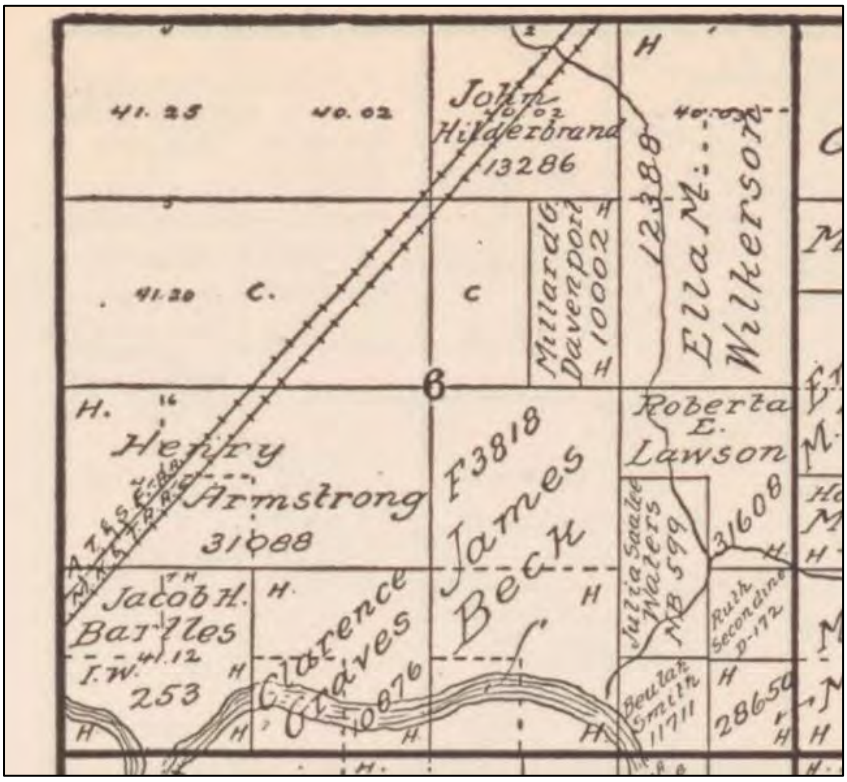
1971 aerial image of the site (note the southeastern area has been developed, but the north has not at this date).



1971 (PR 1980) Bartlesville North 1:24,000 scale topographic map of the site boundaries.



1954 aerial photograph of the site prior to use as a mine.



1909 Cherokee allotment map showing allotment information.

Chain of title		
Date	Grantor	Grantee
1830's	US Govt	Cherokee Nation
1907?	Cherokee Nation	James Beck
1909	James beck	Mrs. J.A. Wood
?	Mrs. J.A. Wood	A.D. Morton
?	A.D. Morton	L.A. & J.C. Bixler
?	L.A. & J.C. Bixler	D.B. Mason
?	D.B. Mason	Alfred H. Ramage
?	Alfred H. Ramage	C.P. Shertzer
1925	C.P. Shertzer	John Shertzer
1925	C.P. Shertzer	Washington Co.
1953	W.G. Shertzer	N. Brown
1975	N. Brown	CGP Family Trust
1992	CGP Family Trust	Curtis Brown
2006	C. Brown	K. Brown
2012	K. Brown	Trust 2100 Rev. Liv. Trust
2021	Trust 2100 Rev. Liv. Trust	City of Bartlesville

General overview from the south facing north.

Mine embankment with limestone slabs visible, facing east.

Space between 2 of the linear piles or mounds, facing west.

Metal road culvert

Gravel mining debris

Dumped tire, brick, concrete, and metal

Dumped degraded fabric or carpet

Dumped metal mattress or couch frame and spring coils

Dumped gravel grader or crusher

Shovel test from within the site boundaries with mining gravel and gritty gray soil

HISTORIC PRESERVATION RESOURCE IDENTIFICATION FORM

PLEASE TYPE ALL DATA IN UPPERCASE - FIELDS IN RED ARE REQUIRED

1. PROPERTY NAME: BARTLESVILLE WWTP EXPANSION AREA

2. RESOURCE NAME: METAL BARN

3. ADDRESS: NORTH OF TUXEDO BLVD APPROX 530' AND 400' EAST OF QUAPAW AVE

4. CITY: BARTLESVILLE 5. VICINITY: V

6. COUNTY NAME: WASHINGTON

7. LOT: NA 8. BLOCK: NA 9. PLAT NAME: NA

10. SECTION: 7 11. TOWNSHIP: 26N 12. RANGE: 13E

13. LATITUDE (NORTH): (ENTER AS: "dd.ddddd") 36.756024

14. LONGITUDE (WEST): (ENTER AS: "-dd.ddddd") 95.962496

15. UTM ZONE: 15 16. NORTHINGS: 4071901 17. EASTINGS: 235536

18. RESOURCE TYPE: BUILDING

19. HISTORIC FUNCTION: AGRICULTURAL OUTBUILDING

20. CURRENT FUNCTION: AGRICULTURAL OUTBUILDING

21. AREA OF SIGNIFICANCE, PRIMARY: AGRICULTURE

22. AREA OF SIGNIFICANCE, SECONDARY:

23. DESCRIPTION OF SIGNIFICANCE:

THIS RESOURCE IS RECOMMENDED NOT ELIGIBLE FOR INCLUSION IN THE NRHP UNDER A, B, OR C AS IT LACKS SUFFICIENT ASSOCIATION, DESIGN CONT

24. DOCUMENTATION RESOURCE:

1954, 1971, 1995, 2003, 2004, 2005, 2006, 2010, 2011, 2013, 2015 AERIAL PHOTOGRAPHS

25. NAME OF PREPARER: JAMES R HOLT

59. SURVEY PROJECT NO 26. PROJECT NAME: BARTLESVILLE WWTP EXPANSION

27. DATE OF PREPARATION: JUNE 2022 28. PHOTOGRAPHS YES

29. YEAR: 2022

30. ARCHITECT/BUILDER: UNKNOWN

31. YEAR BUILT: CA 1975

32. ORIGINAL SITE: YES

33. DATE MOVED: NA

34. FROM WHERE: NA

35. ACCESSIBLE: YES

36. ARCHITECTURAL STYLE: NO STYLE

37. OTHER ARCHITECTURAL STYLE: NA

38. FOUNDATION MATERIAL: CONCRETE

39. ROOF TYPE: SEMI-CIRCLE

40. ROOF MATERIAL: STEEL

41. WALL MATERIAL, PRIMARY: METAL

42. WALL MATERIAL, SECONDARY: NONE LISTED

43. WINDOW TYPE: NA

44. WINDOW MATERIAL: NO DATA

45. DOOR TYPE: ROLL UP

46. DOOR MATERIAL: STEEL

47. EXTERIOR FEATURES: EXTERIOR LOFT ON BACK SIDE OF BUILDING

48. INTERIOR FEATURES: HORSE STALLS

49. DECORATIVE DETAILS: NONE

50. CONDITION OF RESOURCE: POOR (BADLY IN NEED OF MAINTENANCE)

51. DESCRIPTION OF RESOURCE:

THIS IS A CORRUGATED METAL SHED USED AS A HORSE STABLE WITH AN EXTERIOR LOFT BUILT ON THE BACK. CONCRETE FLOOR AND WING WALLS.

52. COMMENTS:

UNABLE TO DETERMINE SPECIFIC DATE OF CONSTRUCTION, BUILDING DOES NOT APPEAR PRIOR TO 1995 IN AERIAL PHOTOGRAPHS

53. ATTACH LOCATION MAP

54. LISTED ON NATIONAL REGISTER: NO

55. NATIONAL REGISTER ENTRY:

56. CONTINUATION

CONT FROM 23. DISTINCTION, AND INTEGRITY.

HISTORIC PRESERVATION RESOURCE IDENTIFICATION FORM

PLEASE TYPE ALL DATA IN UPPERCASE - FIELDS IN RED ARE REQUIRED

1. PROPERTY NAME: BARTLESVILLE WWTP EXPANSION AREA

2. RESOURCE NAME: METAL SHED

3. ADDRESS: NORTH OF TUXEDO BLVD APPROX 500' AND 400' EAST OF QUAPAW AVE

4. CITY: BARTLESVILLE 5. VICINITY: V

6. COUNTY NAME: WASHINGTON

7. LOT: NA 8. BLOCK: NA 9. PLAT NAME: NA

10. SECTION: 7 11. TOWNSHIP: 26N 12. RANGE: 13E

13. LATITUDE (NORTH): (ENTER AS: "dd.ddddd") 36.755926

14. LONGITUDE (WEST): (ENTER AS: "-dd.ddddd") 95.962590

15. UTM ZONE: 15 16. NORTHINGS: 4071890 17. EASTINGS: 235527

18. RESOURCE TYPE: BUILDING

19. HISTORIC FUNCTION: STORAGE

20. CURRENT FUNCTION: STORAGE

21. AREA OF SIGNIFICANCE, PRIMARY: NO DATA

22. AREA OF SIGNIFICANCE, SECONDARY: NO DATA

23. DESCRIPTION OF SIGNIFICANCE:

THIS RESOURCE IS RECOMMENDED NOT ELIGIBLE FOR INCLUSION IN THE NRHP UNDER A, B, OR C AS IT LACKS SUFFICIENT ASSOCIATION, DESIGN CONT

24. DOCUMENTATION RESOURCE:

1954, 1971, 1995, 2003, 2004, 2005, 2006, 2010, 2011, 2013, 2015 AERIAL PHOTOGRAPHS

25. NAME OF PREPARER: JAMES R HOLT

59. SURVEY PROJECT NO 26. PROJECT NAME: BARTLESVILLE WWTP EXPANSION

27. DATE OF PREPARATION: JUNE 2022 28. PHOTOGRAPHS YES

29. YEAR: 2022

30. ARCHITECT/BUILDER: UNKNOWN

31. YEAR BUILT: CA 1975

32. ORIGINAL SITE: YES

33. DATE MOVED: NA

34. FROM WHERE: NA

35. ACCESSIBLE: YES

36. ARCHITECTURAL STYLE: NO STYLE

37. OTHER ARCHITECTURAL STYLE: NA

38. FOUNDATION MATERIAL: WOOD

39. ROOF TYPE: PITCHED

40. ROOF MATERIAL: STEEL

41. WALL MATERIAL, PRIMARY: METAL

42. WALL MATERIAL, SECONDARY: NONE LISTED

43. WINDOW TYPE: NA

44. WINDOW MATERIAL: NO DATA

45. DOOR TYPE: NAILED PANEL

46. DOOR MATERIAL: STEEL

47. EXTERIOR FEATURES: NONE

48. INTERIOR FEATURES: UNKNOWN

49. DECORATIVE DETAILS: NONE

50. CONDITION OF RESOURCE: POOR (BADLY IN NEED OF MAINTENANCE)

51. DESCRIPTION OF RESOURCE: THIS IS A CORRUGATED METAL SHED USED AS A STORAGE SHED CONTAINING UNKNOWN MATERIAL WITH VARIOUS MATERIALS LEANING OUTSIDE.

52. COMMENTS: UNABLE TO DETERMINE SPECIFIC DATE OF CONSTRUCTION, BUILDING DOES NOT APPEAR PRIOR TO 1995 IN AERIAL PHOTOGRAPHS

53. ATTACH LOCATION MAP

54. LISTED ON NATIONAL REGISTER: NO

55. NATIONAL REGISTER ENTRY:

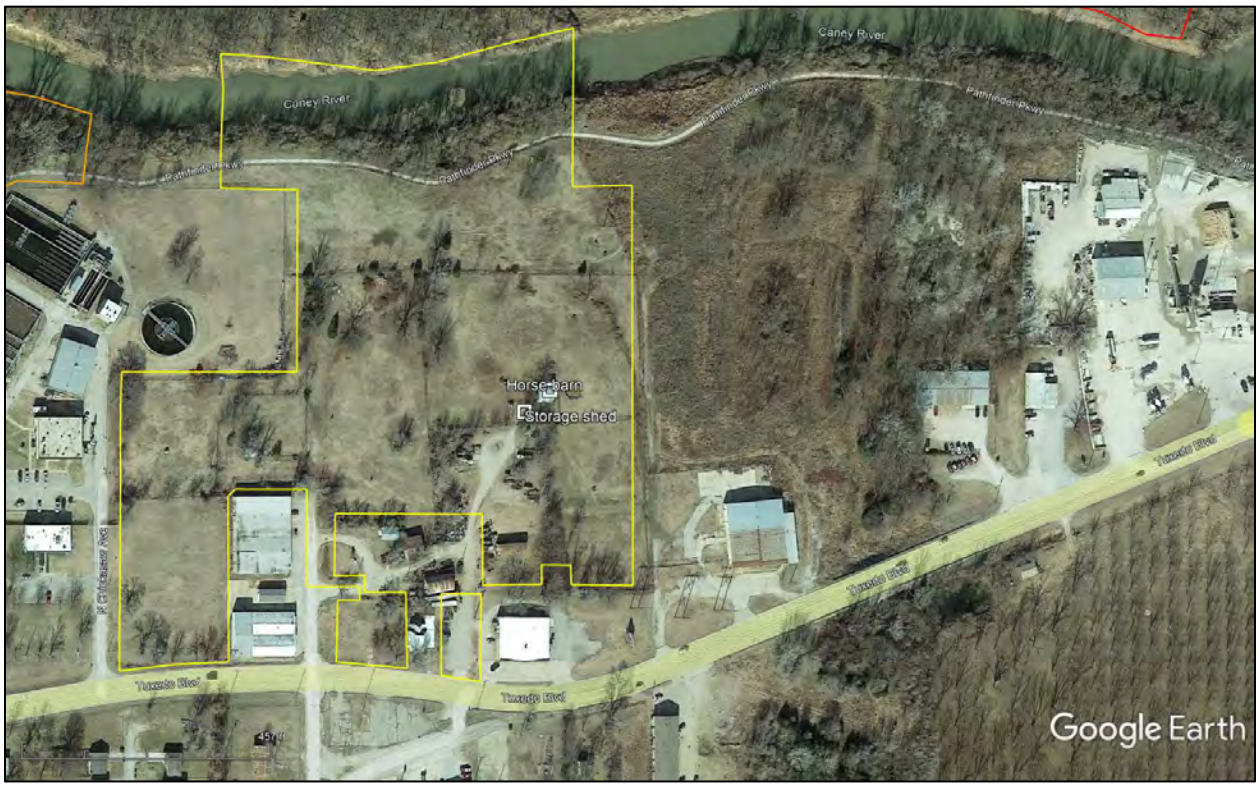
56. CONTINUATION: CONT FROM 23. DISTINCTION, AND INTEGRITY.

Property Name: Bartlesville WWTP Expansion Area Horse Barn
Location: Approximately 1300 E Tuxedo Blvd Bartlesville, OK
Photographer: James Holt
Date: June 7, 2022
Location of digital image: Pasture
Description: Looking E
Photograph No.: 1 of 4

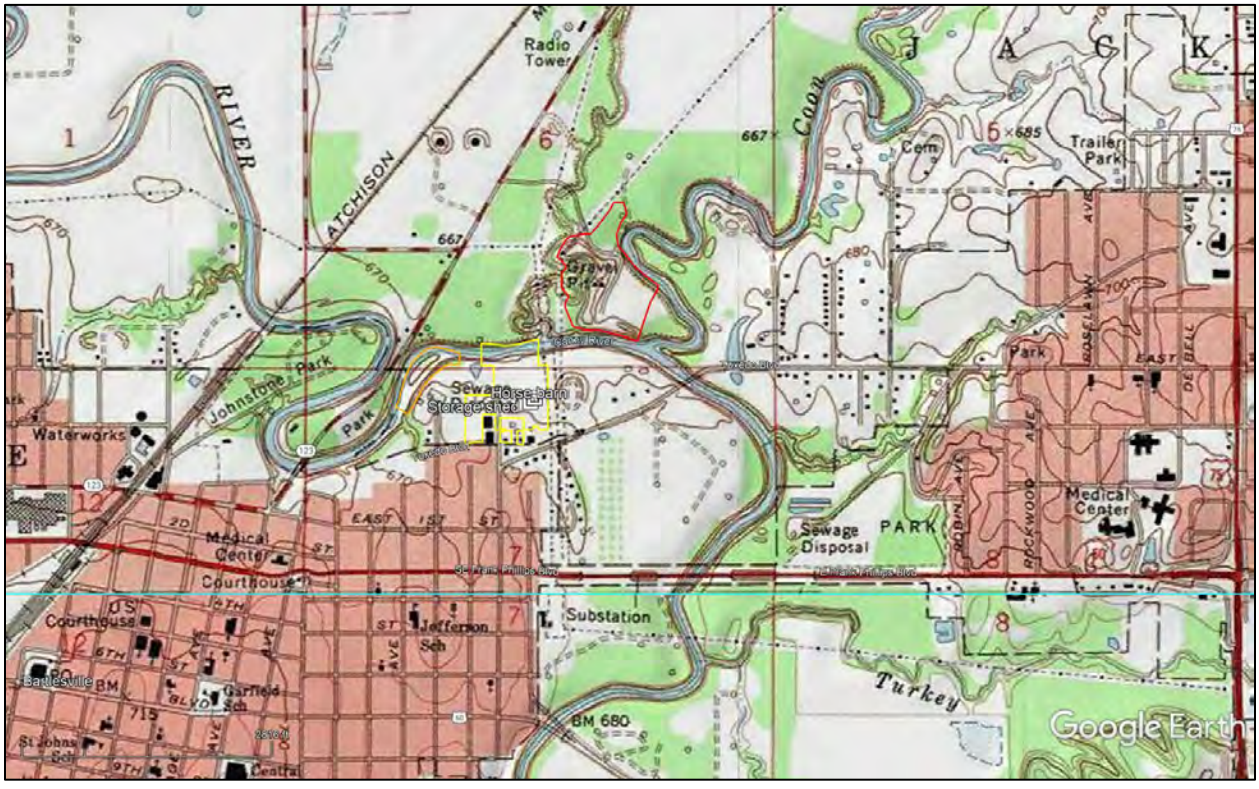
Property Name: Bartlesville WWTP Expansion Area Horse Barn
Location: Approximately 1300 E Tuxedo Blvd Bartlesville, OK
Photographer: James Holt
Date: June 7, 2022
Location of digital image: Pasture
Description: Looking W
Photograph No.: 2 of 4

Property Name: Bartlesville WWTP Expansion Area Storage Shed
Location: Approximately 1300 E Tuxedo Blvd Bartlesville, OK
Photographer: James Holt
Date: June 7, 2022
Location of digital image: Pasture
Description: Looking E
Photograph No.: 3 of 4

Property Name: Bartlesville WWTP Expansion Area Horse Barn
Location: Approximately 1300 E Tuxedo Blvd Bartlesville, OK
Photographer: James Holt
Date: June 7, 2022
Location of digital image: Pasture
Description: Looking SE
Photograph No.: 4 of 4



Aerial photograph of the location of the two structures in Bartlesville, OK



Location of the two structures on Bartlesville North (1971) 1:24,000 scale topographic map

Oklahoma Archeological Survey

THE UNIVERSITY OF OKLAHOMA

August 26, 2022

Oklahoma Water Resource Board
Financial Assistance Division
Attn: Lindy Clay
Environmental Programs Manager
3800 N. Classen Blvd
Oklahoma City, OK 73118

Re: OAS FY22-2183 (FY22-0934) *Archaeological Survey Report for Bartlesville Wastewater Treatment Plant Expansion Project in Bartlesville.* Report by James R. Holt (Holt Consulting). Legal Description: Section 7, T26N, R13E, Washington County, Oklahoma.

Dear Ms. Clay:

This agency received the above-referenced cultural resources report in association with the proposed Bartlesville Wastewater Treatment Plant Expansion project in Washington County for review and comment. From the information provided, we understand that Holt Consulting staff surveyed the 44.8-acre project Area of Potential Effects (APE) between February 24 and June 7, 2022. One new historic archaeological site 34WN138 was identified within the APE as part of this survey. Holt Consulting does not specifically articulate a recommendation regarding the eligibility of 34WN138 for listing on the National Register of Historic Places (NRHP); however, they do recommend a finding of *No Effect on Historic Properties* for the undertaking.

I concur with the findings and recommendations as they pertain to precontact archaeological resources and defer opinion on the NRHP-eligibility of 34WN138 and overall project effects to the Historical Archaeologist with the State Historic Preservation Office.

This review has been conducted in cooperation with the State Historic Preservation Office, Oklahoma Historical Society. You must also have a letter from that office to document your consultation pursuant to Section 106 of the National Historic Preservation Act.

Sincerely,

Kary L. Stackelbeck, Ph.D.
State Archaeologist

cc: SHPO

Oklahoma Historical Society *Founded May 27, 1893*
State Historic Preservation Office
Oklahoma History Center • 800 Nazih Zuhdi Drive • Oklahoma City, OK 73105-7917
(405) 521-6249 • Fax (405) 522-0816 • www.okhistory.org/shpo/shpom.htm

August 5, 2022

RECEIVED
AUG 09 2022
Oklahoma Water Resources Board

Ms. Lindy Clay, Env. Programs Manager
Oklahoma Water Resources Board
3800 N. Classen Blvd. – Inter-Agency
Oklahoma City, OK 73118

RE: File #0939-22; Bartlesville Municipal Authority OWRB Project #ORF02300023-CW, CRS Report by Holt; including Barn, Shed & Site 34WN138; Washington County

Dear Ms. Clay:

We have received and reviewed the documentation submitted on the referenced project. Additionally, we have examined the information contained in the Oklahoma Landmarks Inventory (OLI) files and other materials on historic resources available in our office. We find that there are no known historic properties affected within the referenced project's area of potential effect.

In addition to our review, you must contact the Oklahoma Archeological Survey (OAS), 111 East Chesapeake, #102, Norman OK 73019-5111 (#405/325-7211, FAX #405/325-7604), to obtain a determination about the presence of prehistoric resources that may be eligible for the National Register of Historic Places. Should the OAS conclude that there are no prehistoric archaeological sites or other types of "historic properties," as defined in 36 CFR Part 800.16(l), which are eligible for inclusion in the National Register of Historic Places within the project area and that such sites are unlikely to occur, we concur with that opinion.

The OAS may conclude that an additional on-site investigation of all or part of the project impact area is necessary to determine the presence of archaeological resources. In the event that such an investigation reveals the presence of prehistoric archaeological sites, we will defer to the judgment of the OAS concerning whether or not any of the resources should be considered "historic properties" under the Section 106 review process. If sites dating from the historic period are identified during the survey or are encountered during implementation of the project, additional assessments by the SHPO will be necessary.

Please note that this project is located within the reservation boundaries of the Cherokee Nation and is therefore on tribal lands as defined in the National Historic Preservation Act (NHPA) and the Section 106 regulations (36 CFR Part 800).

Should further correspondence pertaining to this project be necessary, please reference the above file #. If you have any questions, please contact Kristina Wyckoff, Hist. Archaeologist, at 405/521-6381. Thank you.

Sincerely,

Lynda Ozan
Deputy State Historic
Preservation Officer

LO:pm

cc: Ms. Elizabeth Toombs, Cherokee Nation

Oklahoma Archeological Survey
THE UNIVERSITY OF OKLAHOMA

RECEIVED
FEB 25 2022
Oklahoma Water Resources Board

February 21, 2022

Oklahoma Water Resources Board
Attn: Lindy Clay
Environmental Programs Manager
3800 N. Classen Boulevard
Oklahoma City, Oklahoma 73118

Re: OAS FY22-0934 OWRB Bartlesville Municipal Authority Proposed WWTP Improvements.
Legal Description: NE ¼ Section 7 & SE ¼ Section 6, T26N, R13E, Washington County, Oklahoma.

Dear Ms. Clay:

The Community Assistance Program staff of the Oklahoma Archeological Survey has reviewed the above referenced project to identify areas that may potentially contain prehistoric or historic archeological materials (historic properties). The location of your project has been crosschecked with the state site files containing approximately 26,000 archaeological sites, which are currently recorded for the state of Oklahoma. **No sites are listed in your project area but based on the topographic and hydrologic setting of your project, archeological materials are likely to be encountered. An archaeological field inspection is considered necessary prior to project construction to identify significant archaeological resources that may exist in the project area.** This environmental review and evaluation is performed in order to locate, record, and preserve Oklahoma's prehistoric and historic cultural heritage in cooperation with the State Historic Preservation's Office and the Oklahoma Historical Society, The responsible federal agency or their official delegate must also have a letter from that office to document consultation pursuant to Section 106 of the National Historic Preservation Act.

This environmental review and evaluation is done in cooperation with the State Historic Preservation Office, Oklahoma Historical Society. The responsible federal agency or their official delegate must also have a letter from that office to document consultation pursuant to Section 106 of the National Historic Preservation Act.

In addition to our review comments, under 36CFR Part 800.3 you are reminded of your responsibility to consult with the appropriate Native American tribe/groups to identify any concerns they may have pertaining to this undertaking and potential impacts to properties of traditional and/or ceremonial value.

Sincerely,

Caitlin M. Baker
Staff Archaeologist

Kary L. Stackelbeck. PhD
State Archaeologist

: dkg
cc: SHPO

Oklahoma Historical Society *Founded May 27, 1893*
State Historic Preservation Office
Oklahoma History Center • 800 Nazih Zuhdi Drive • Oklahoma City, OK 73105-7917
(405) 521-6249 • Fax (405) 522-0816 • www.okhistory.org/shpo/shpom.htm

March 1, 2022

Ms. Lindy Clay, Env. Programs Manager
OWRB – Inter-Agency
3800 North Classen Blvd.
Oklahoma City, OK 73118

RE: File #0939-22; Bartlesville Municipal Authority Proposed Wastewater Treatment Plant Improvements, #ORF-23-0003-CW

Dear Ms. Clay:

We have received and reviewed the documentation submitted on the referenced project in Washington County. Additionally, we have examined the information contained in the Oklahoma Landmarks Inventory (OLI) files and other materials on historic resources available in our office. We find that there are no known historic properties affected within the referenced project's area of potential effect.

In addition to our review, you must contact the Oklahoma Archeological Survey (OAS), 111 E. Chesapeake, #102, Norman OK 73019-5111 (#405/325-7211, FAX #405/325-7604), to obtain a determination about the presence of prehistoric resources that may be eligible for the National Register of Historic Places. Should the OAS conclude that there are no prehistoric archaeological sites or other types of "historic properties," as defined in 36 CFR Part 800.16(l), which are eligible for inclusion in the National Register of Historic Places within the project area and that such sites are unlikely to occur, we concur with that opinion.

The OAS may conclude that an on-site investigation of all or part of the project impact area is necessary to determine the presence of archaeological resources. In the event that such an investigation reveals the presence of prehistoric archaeological sites, we will defer to the judgment of the OAS concerning whether or not any of the resources should be considered "historic properties" under the Section 106 review process. If sites dating from the historic period are identified during the survey or are encountered during implementation of the project, additional assessments by the State Historic Preservation Office will be necessary.

Should further correspondence pertaining to this project be necessary, please reference the above underlined file number. If you have any questions, please contact Kristina Wyckoff, Historical Archaeologist, at 405/521-6381. Thank you.

Sincerely,

Lynda Ozan
Deputy State Historic
Preservation Officer

LO:pm

February 3, 2022

Dr. Andrea Hunter
Director & Tribal Historic Preservation Officer
The Osage Nation
627 Grandview Avenue
Pawhuska, Oklahoma 74056

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Dr. Hunter,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

- New administration building,
- Chickasaw lift station improvements,
- Chickasaw flow equalization basin improvements,
- New headworks structure,
- Primary clarifier rehabilitation and improvements,
- Aeration basin improvements and modifications,
- New blower improvements and air piping modifications,
- New circular final clarifiers and conversion of existing rectangular clarifiers to sludge storage,
- New Return Activated Sludge / Waste Activated Sludge pumping,
- New effluent filtration and backwash systems,
- Conversion to ultraviolet disinfection systems,
- New backup generator improvements,
- New WAS thickening building with new rotating drum thickeners,
- Anaerobic digester rehabilitation and improvements and new additional anaerobic digester,
- Gravity belt thickener building improvements,
- Future indirect potable reuse side-stream incorporation improvements,
- Plant-wide electrical and SCADA upgrades, and
- Flood protection improvements (levee around perimeter of WWTP).

The project area includes approximately 26 acres of previously developed and partially developed land within and adjacent to the proposed floodwater protection levee surrounding the WWTP. Compensatory flood water storage will also be required whereby approximately 29 acres of floodplain area north of the Caney River would be excavated to the extent necessary to provide adequate flood water storage compensation to offset the calculated floodplain displacement associated with facility expansion and flood protection levee. The project is located in Sections 6 & 7, Township 26 North, Range 13 East, Washington County, OK.

To assist in the early identification of potential environmental impacts, we request your comments regarding your areas of expertise. We would appreciate your comments by March 4, 2022. Replies should be addressed to Steve Votaw, Eagle Environmental Consulting, Inc, P.O. Box 335, Vinita, OK 74301 or by e-mail at steve@eagle-env.com. Thank you for your cooperation and prompt response.

Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: ahunter@osagenation-nsn.gov

February 3, 2022

Robin Williams
Tribal Historic Preservation Officer
Wichita and Affiliated Tribes
P.O. Box 729
Anadarko, Oklahoma 73005

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Preservation Officer Williams,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: THPO@wichitatribe.com

February 3, 2022

Ms. Tamara Francis
Tribal Historic Presveration Officer
Caddo Nation of Oklahoma
P.O. Box 487
Binger, OK 73009

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Ms. Francis,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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To assist in the early identification of potential environmental impacts, we request your comments regarding your areas of expertise. We would appreciate your comments by March 4, 2022. Replies should be addressed to Steve Votaw, Eagle Environmental Consulting, Inc, P.O. Box 335, Vinita, OK 74301 or by e-mail at steve@eagle-env.com. Thank you for your cooperation and prompt response.

Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: tffourkiller.cn@gmail.com

February 3, 2022

Ms. Elizabeth Toombs
Cherokee Nation Tribal Historic Preservation Office
P.O. Box 948
Tahlequah, OK 74465

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Ms. Toombs,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: elizabeth-toombs@cherokee.org

P.O. Box 335
Vinita, Oklahoma 74301
918-272-7656

9 North 9th St.
Fort Smith, Arkansas 72913
918-244-9595

February 3, 2022

Mr. Ben Yahola
TPHO, Alabama-Quassarte Tribal Town
PO Box 187
Wetumka, OK 74883

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Mr. Yahola,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: Ben.Yahola@alabama-quassarte.org

February 3, 2022

Mr. Bobby Komardley
Chairman, Apache Tribe of Oklahoma
PO Box 1330
Anadarko, OK 73005

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Mr. Komardley,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: bkomardley@outlook.com

February 3, 2022

Mr. Max Bear
THPO, Cheyenne and Arapaho Tribes, Oklahoma
700 Black Kettle Blvd.
Concho, OK 73022

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Mr. Bear,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: mbear@c-a-tribes.org

February 3, 2022

Ms. Corain Lowe-Zepeda
THPO, Muscogee (Creek) Nation
PO Box 580
Okmulgee, OK 74447

RE: Chickasaw WWTP Expansion Project, Bartlesville, Washington County, OK

Dear Ms. Lowe-Zepeda,

Eagle Environmental Consulting, Inc. proposes to perform the necessary surveys and data collection effort leading to the completion of an Environmental Information Document (EID) addressing the potential environmental impacts to private land and properties owned by the City of Bartlesville adjacent to and near the existing Bartlesville Chickasaw Waste Water Treatment Plant (WWTP). The action agency will be the Oklahoma Water Resources Board (OWRB). The proposed project would involve WWTP expansion and upgrades to increase the capacity of the Chickasaw WWTP from 7.0 to 8.2 million gallons per day (MGD) average daily design flow. Key design elements would include:

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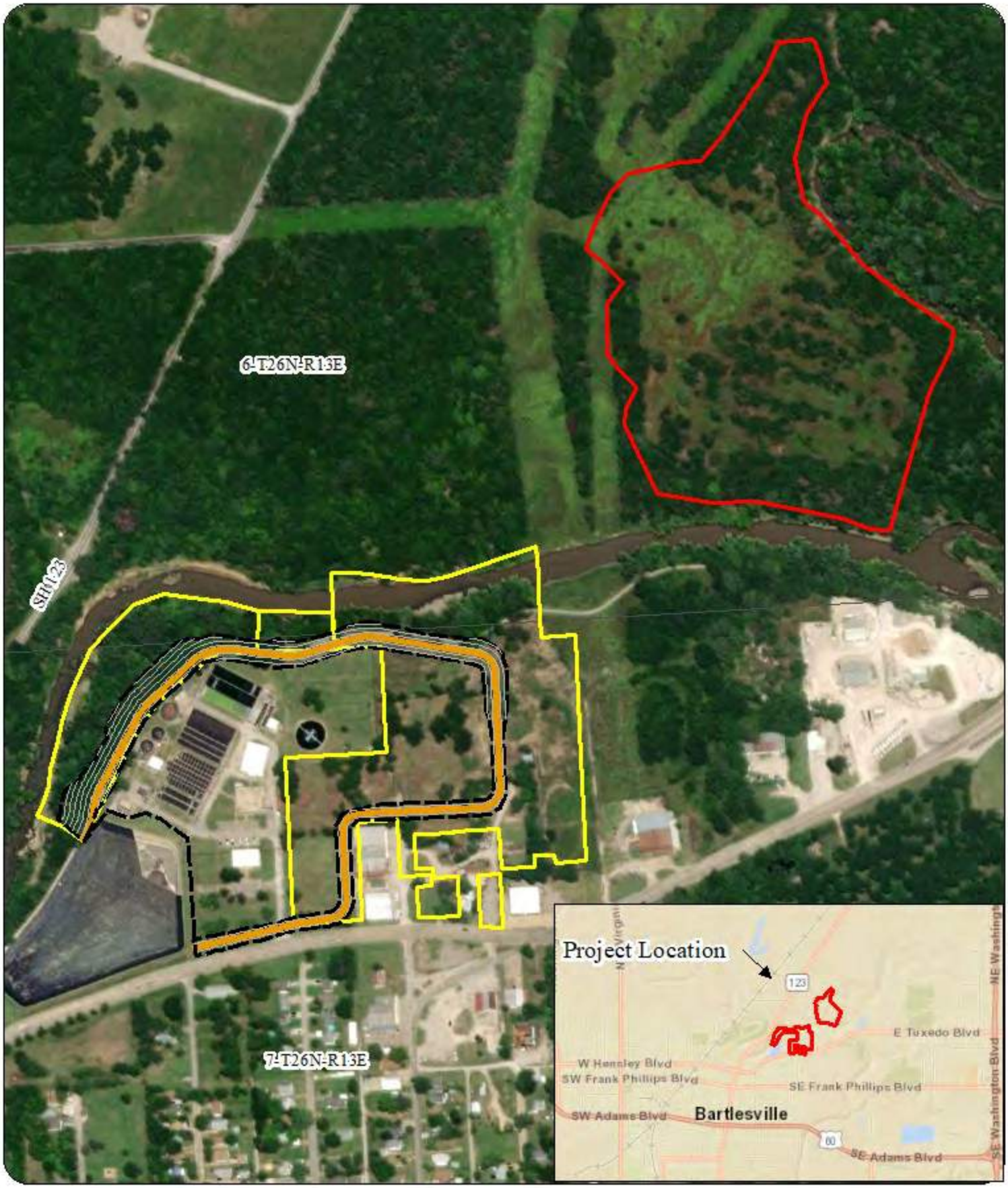
Sincerely,

EAGLE ENVIRONMENTAL CONSULTING, INC.

Steven R. Votaw
President

Via email: section106@mcn-nsn.gov



EAGLE ENVIRONMENTAL CONSULTING

0 100 200 400 600 800 Feet

Scale: 1 in = 400 Ft

Legend

- Project Area
- Flood Water Storage Area
- Proposed Flood Levee
- Access Road

N

Scoping Letter Exhibit

Chickasaw WWTP
Expansion Project
City of Bartlesville
Washington County, OK

APPENDIX C

WETLANDS AND WATERWAY DELINEATION REPORT OF SURVEY

WATERS OF THE US DELINEATION

City of Bartlesville Wastewater Treatment Plant Expansion & Detention Basin
Bartlesville, Washington County, Oklahoma

Prepared for:

401 South Johnstone Avenue
Bartlesville, OK 74003

Prepared by:

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May 2022

Steven R. Votaw
President

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1.0 Introduction

Eagle Environmental Consulting, Inc. (EEC) conducted a Waters' of the United States and wetland delineation survey associated with the proposed Waste Water Treatment Plant expansion and floodwater detention basin development project to identify and demarcate potentially jurisdictional waterways and/or wetlands within the project area. The project area is located in Sections 6 & 7, Township 17 North, Range 13 East in Bartlesville, Washington County, Oklahoma. The field survey was performed to collect and record physical characteristics of aquatic areas potentially considered jurisdictional by the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act. Each aquatic resource was identified and/or investigated according to the diagnostic field indicators used to confirm presence and determine the preliminary jurisdictional status. The project area location map is provided at ***Figure 1***.

Figure 1
General Location Map
Waste Water Treatment Plant
City of Bartlesville
Bartlesville, Washington County, Oklahoma

2.0 General Survey Area Description

The surveyed area is located in the Osage Questas ecoregion (40b) of Oklahoma (Woods et al., 2005). This ecoregion consists of an irregular to undulating plain that is underlain by interbedded westward-dipping sandstone, shale, and limestone. Natural vegetation is mostly tall grass prairie. The eastern portion of this ecoregion is a mix of tall grass prairie and oak - hickory forest. Land use and land cover in this ecoregion consists mostly of rangeland, grassland, cropland and woodland in rugged areas. The assessment areas are described as former livestock holding/grazing area adjacent to the existing WWTP and open field and/or scattered forested areas associated with the detention basin.

3.0 Wetland and Waterway Delineation Methodology

The USACE Wetlands Delineation Manual (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (USACE 2010) were referenced in concert to identify wetlands. Wetland areas, if observed, would be identified using the routine on-site (level 2) method, as described in Section D of the 1987 USACE Wetlands Delineation Manual. The identification of wetlands consists of a three-parameter approach that involves determining the presence of hydrophytic vegetation, hydric soils, and wetland hydrology. Where differences in the two documents occur, the Regional Supplement takes precedence over the 1987 Corps Manual.

Hydrophytic plant communities are determined after species identification based on the wetland status indicators of the dominant plant species present within the sample plot. In accordance with the USACE delineation manual, plant species that have a wetland indicator status of facultative (FAC), facultative wetland (FACW), or obligate (OBL) represent hydrophytic vegetation. Wetland hydrology implies a hydrologic regime involving periodic inundation or saturation within the upper portions of the soil profile (for sufficient duration) during the growing season. Onsite indicators used as evidence of wetland hydrology include inundation, saturation, sediment deposition, drift lines, water marks, and scouring. Hydric soils are determined based on criteria established by the Soil Conservation Service (USDA, 2000) and described in the regional supplement. Indicators of hydric soils predominantly include soil color and redoximorphic (redox) concentrations (reddish mottles). Soil matrix and mottle color, when appropriate, are identified according to Munsell Soil Color Charts (Kollormorgen, 2000). In most circumstances, all three parameters must be present for the area to be a wetland. Data sampling points are established in representative areas within the wetland areas and in the adjacent uplands. Vegetation, soils, and hydrology characteristics are recorded on data forms for each sampling point and boundaries are established based on the results of the individual sample plots, after further refining as necessary.

Potentially jurisdictional waters of the United States, other than wetlands, were also to be defined if observed. These areas include creek channels, rivers, ponds, and/or lakes. These characteristics include, but are not limited to, a line impressed on a bank, defined bed and bank, shelving, ordinary high water mark, changes in soil characteristics, destruction of terrestrial vegetation, and presence of debris (33 CFR Part 328). Waterways are identified and located according to size, flow patterns, watershed characteristics, presence of an ordinary high water mark, and drainage basin.

4.0 Survey Findings

Waters of the United States

The onsite survey was conducted to identify and locate those areas exhibiting the required wetland parameters and onsite characteristics for waters of the United States, if observed. Data were collected for each investigated area to characterize and describe the observed indicators. The descriptions for the identified area(s) are provided below according to Field Site (FS) number. Nineteen (19) wetlands were identified during the field survey that were determined to meet the required scientific criteria. The Caney River borders both assessment areas but will not be affected. No streams or ponds were identified. Photographs of the investigated area is provided at **Appendix A**. The waters of the US location map is provided in ***Figure 2***.

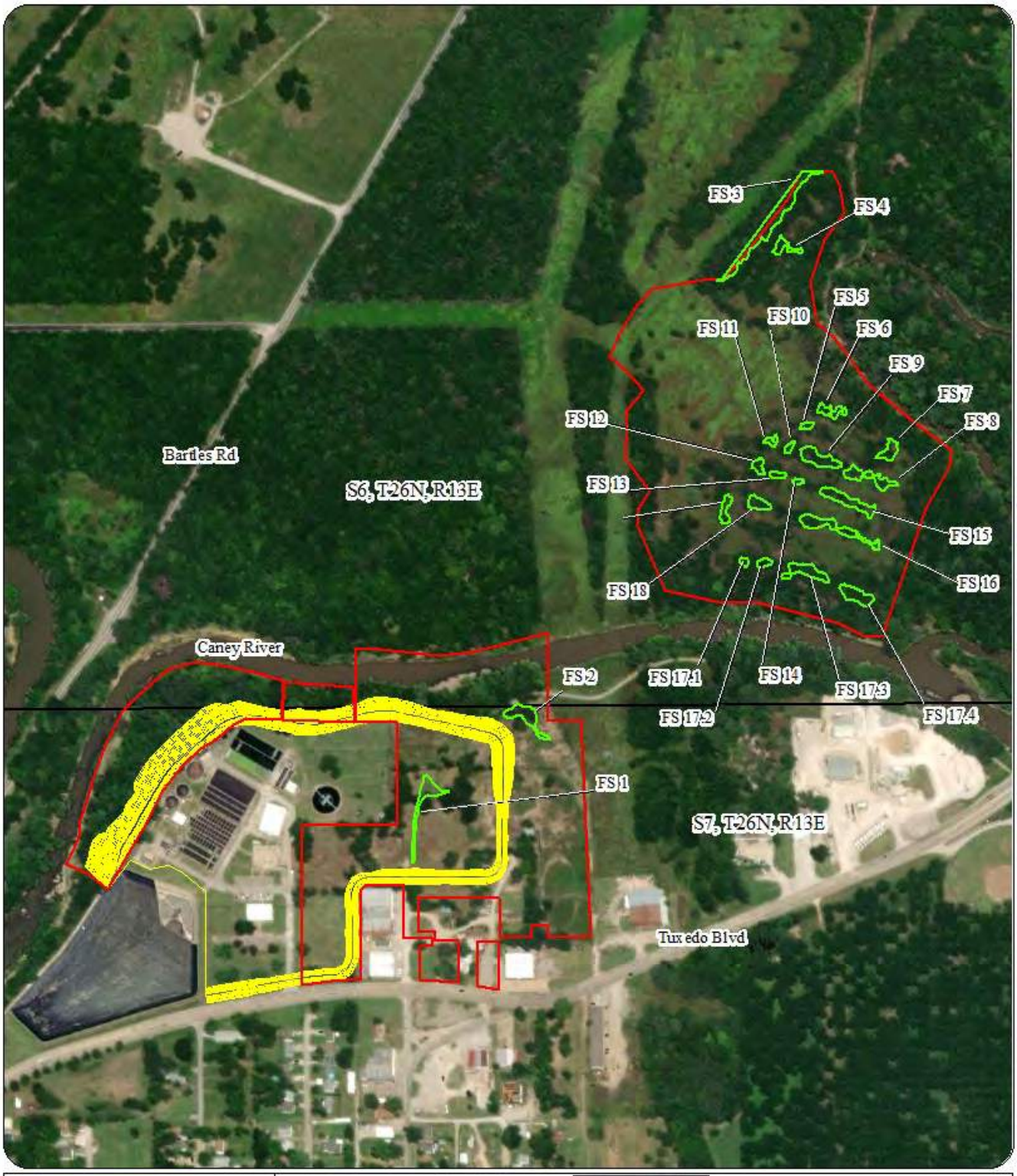

Figure 2
Waters of the US Location Map

Waster Water Treatment Plant
City of Bartlesville
Bartlesville, Washington County, Oklahoma

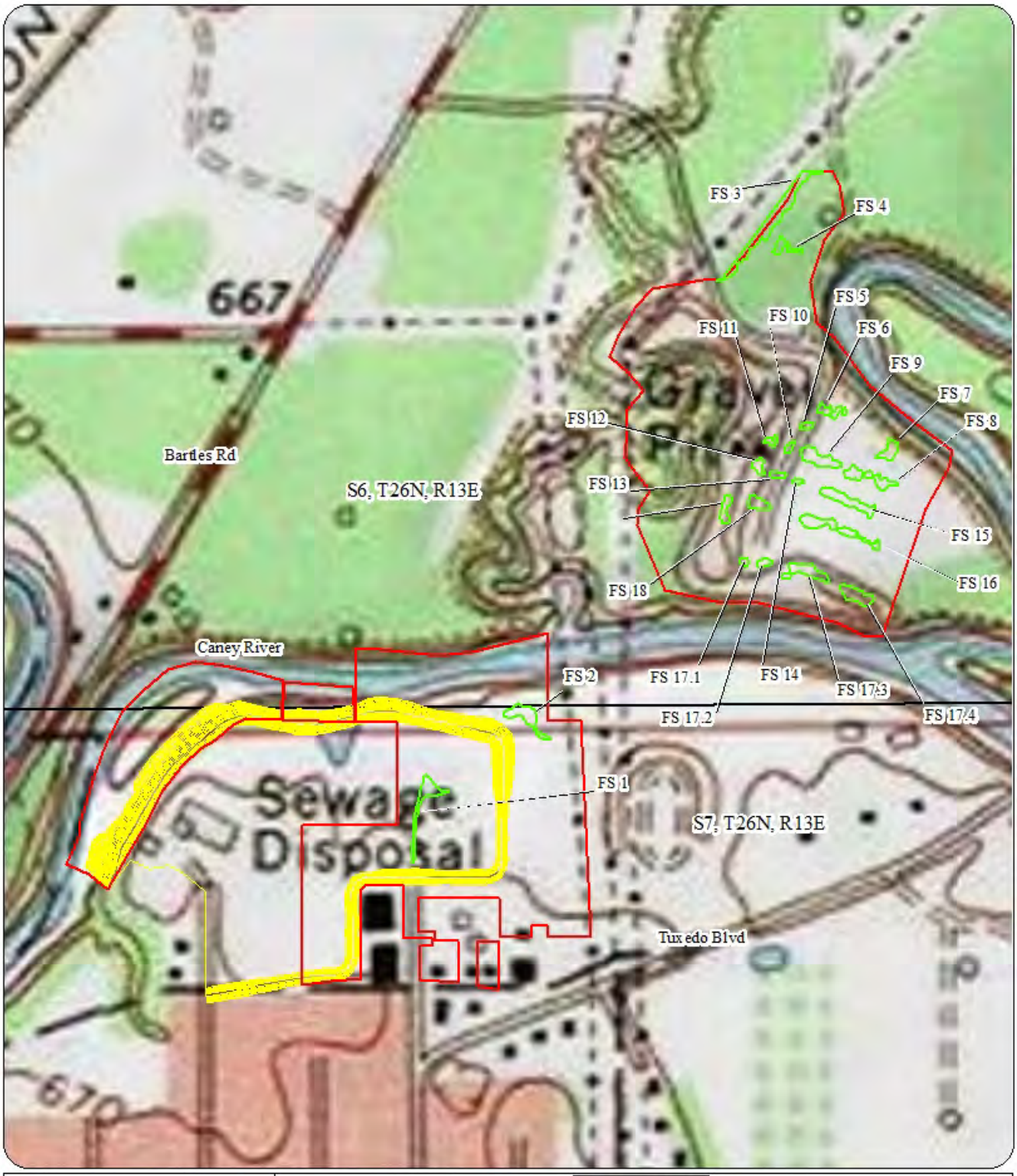

Figure 3
Waters of the US Location Map

Waster Water Treatment Plant
City of Bartlesville
Bartlesville, Washington County, Oklahoma

Field Site Descriptions

FS 1 is 0.12-acre herbaceous wetland situated in a drainage swale and dominated by creeping spikerush. Hydric soils were confirmed in the 10YR 3/1 silt loam matrix based on the presence of a presence of 2.5YR 3/6 redoximorphic features identified as concentrations. The area was partially inundated and saturated at a depth of 4 inches below ground surface (bgs).

FS 2 is a 0.11-acre predominantly sapling shrub wetland situated within a relatively flat drainage area. Few trees were present within the overall area however; their percentage of cover was less than 20%. The dominant herbaceous vegetation consisted of corn salad, curly dock, golden rod, and little barley. Woody vegetation dominants included green ash saplings and 1 mature ash tree along with two honey locust trees. Hydric soils were evidenced by 2.5 YR 4/6 redoximorphic features identified as concentrations and oxidized rhizospheres within the upper 12 inches of the 10YR 2/1 silt loam matrix. Hydrology indicators included oxidized rhizospheres and drift

FS-3 is a 0.31-acre forested wetland situated within the floodplain of the Caney River and Coon Creek dominated by green ash trees, hackberry saplings, and Frank's sedge. Hydric soils were confirmed in the 10YR 2/1 silt loam matrix based on the presence of a presence of 2.5YR 4/6 redoximorphic features identified as concentrations. Indicators of wetland hydrology included cracked soils, inundation, saturation, and water marks.

FS 4 is a 0.05-acre forested depression wetland dominated by young green ash trees and saplings along with Frank's sedge. Hydric soils were confirmed in the 10YR 2/1 silt loam matrix based on the presence of a presence of 2.5YR 4/6 redoximorphic features identified as concentrations. Indicators of wetland hydrology included cracked soils, saturation, and water marks.

FS 5 and 6 are, 0.02-acre and 0.05-acre (respectively), forested depression wetlands dominated by young green ash trees, fescue sedge, and Pennsylvania smartweed. Hydric soils were confirmed in the 10YR 2/1 silt loam matrix based on the presence of a presence of 2.5YR 4/6 redoximorphic features between 8 and 12 inches and identified as concentrations. Indicators of wetland hydrology included cracked soils, saturation, and water marks.

FS 7 is a 0.06-acre forested depression wetland dominated by green ash trees and fox sedge. Hydric soils were confirmed within the 10YR 2/1 silt loam matrix as evidenced by a presence of 2.5YR 4/6 redoximorphic features identified as concentrations. Indicators of wetland hydrology included inundation, saturation, and water marks.

FS 8 is a 0.10-acre forested depression wetland dominated by green ash trees, flat-stemmed spike rush, and fescue sedge. Hydric soils were confirmed within the 10YR 2/1 silt loam matrix as evidenced by a presence of 2.5YR 4/6 redoximorphic features identified as concentrations. Indicators of wetland hydrology included inundation, saturation, and water marks.

FS 9 is a 0.12-acre forested depression wetland dominated by green ash trees, Frank's sedge, and fox sedge. Hydric soils were confirmed within the 10YR 2/1 silt loam matrix as evidenced by a presence of 2.5YR 4/6 redoximorphic features identified as concentrations. Indicators of wetland hydrology included inundation, saturation, and water marks.

FS 10 is a 0.02-acre forested depression wetland dominated by green ash trees, fox sedge, and pale dock. Hydric soils were confirmed within the 10YR 2/1 silt loam matrix as evidenced by a presence of 2.5YR 4/6 redoximorphic features identified as concentrations. Indicators of wetland hydrology included inundation, saturation, and water marks.

FS 11, 12, and 13 are, 0.02-acre, 0.03-acre, and 0.02-acre (respectively), forested depression wetlands dominated by green ash trees, Pennsylvania smartweed, goldenrod, and pale dock. Hydric soils were confirmed within the 10YR 2/1 silt loam matrix as evidenced by a presence of 2.5YR 4/6 redoximorphic features identified as concentrations. Indicators of wetland hydrology included inundation, saturation and water marks.

FS 14 is a 0.013-acre forested depression wetlands dominated by green ash trees, tapertip rush, fescue sedge, and smartweed. Hydric soils were confirmed within the 10YR 2/1 silt loam matrix as evidenced by a presence of 2.5YR 4/6 redoximorphic features identified as concentrations. Indicators of wetland hydrology included inundation, saturation and water marks.

FS 15 is a 0.12-acre forested depression wetlands dominated by green ash trees, flat-stemmed spikerush, and fescue sedge. Hydric soils were confirmed within the 10YR 2/1 silt loam matrix as evidenced by a presence of 2.5YR 4/6 redoximorphic features identified as concentrations. Indicators of wetland hydrology included inundation, saturation and water marks.

FS 16 is a 0.14-acre forested depression wetlands dominated by green ash trees, flat-stemmed spikerush, and fescue sedge. Hydric soils were confirmed within the 10YR 2/1 silt loam matrix as evidenced by a presence of 2.5YR 4/6 redoximorphic features identified as concentrations. Indicators of wetland hydrology included inundation, saturation and water marks.

FS 17.1, 17.2, 17.3, 17.4 are, 0.015-acre, 0.02-acre, 0.104-acre, 0.095-acre (respectively), forested depression wetlands dominated by green ash trees/ saplings, and Pennsylvania smartweed. Hydric soils were confirmed within the 10YR 4/1 silt loam matrix as evidenced by a presence of 2.5YR 4/6 redoximorphic features identified as concentrations. Indicators of wetland hydrology included inundation, saturation and water marks.

FS 18 is a 0.05-acre predominantly herbaceous depression wetland dominated by fescue sedge and goldenrod. Hydric soils were confirmed within the 10YR 2/1 silt loam matrix as evidenced by a presence of 2.5YR 4/6 redoximorphic features identified as concentrations in the matrix. Hydrology indicators included inundation, saturation, and water marks.

FS 19 is a 0.06-acre forested wetland depression dominated by green ash honey locust trees. In the herbaceous layer, flat-stemmed spikerush and Pennsylvania smartweed were the dominant vegetation observed. Hydric soils were confirmed withing the 10YR 2/1 silt loam matrix as evidenced by a presence of 2.5YR 4/6 redoximorphic features identified as concentrations in the matrix. Indicators of hydrology included inundation, saturation and water marks.

5.0 Conclusion

The subject wetland and waterway delineation was performed to identify the presence of jurisdictional waterways and/or wetlands within the proposed project area. Nineteen (19) wetlands were identified, recorded, and delineated during the field survey. The following table provides a summary of the feature type, linear footage, acreage and the centroid location coordinates for each aquatic feature:

Identified Aquatic Features					
Site Number	**Feature Type**	**Feet**	**Acres**	**Latitude**	**Longitude**
FS-1	Wetland	--	0.12	36.7565	-95.9637
FS-2	Wetland	--	0.11	36.7572	-95.9626
FS-3	Wetland	--	0.31	36.7618	-95.9595
FS-4	Wetland	--	0.05	36.7614	-95.9596
FS-5	Wetland	--	0.05	36.7597	-95.9593
FS-6	Wetland	--	0.02	36.7598	-95.9592
FS-7	Wetland	--	0.06	36.7598	-95.9592
FS-8	Wetland	--	0.10	36.7593	-95.9588
FS-9	Wetland	--	0.12	36.7595	-95.9593
FS-10	Wetland	--	0.02	36.7595	-95.9595
FS-11	Wetland	--	0.02	36.7596	-95.9597
FS-12	Wetland	--	0.03	36.7594	-95.9599
FS-13	Wetland		0.02	36.7593	-95.9597
FS-14	Wetland		0.013	36.7592	-95.9594
FS-15	Wetland		0.12	36.7590	-95.9587
FS-16	Wetland		0.14	36.7588	-95.9593
FS-17.1	Wetland		0.015	36.7585	-95.9601
FS-17.2	Wetland		0.02	36.7585	-95.9599
FS-17.3	Wetland		0.104	36.7584	-95.9592
FS-17.4	Wetland		0.095	36.7582	-95.9589
FS-18	Wetland		0.05	36.7589	-95.9603
FS-19	Wetland		0.06	36.7591	-95.9599
Total		**--**	**1.647**		

6.0 References

Oklahoma Color Digital Ortho-Quadrangle Maps. 2022.

Title 33. Code of Federal Regulations. Part 328. *Definitions of Waters of the United States.*

U.S. Army Corps of Engineers. 1987. *Corps of Engineers Wetlands Delineation Manual.* Technical Report Y-87-1, Environmental Laboratory, Vicksburg, MS.

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U.S. Department of Agriculture. 2012. Field Indicators of Hydric Soils of the United States. Soil Conservation Service.

United States Department of Agriculture, Soil Conservation Service. 1981. Land Resource Regions and Major Land Resource Areas of the United States. Agriculture Handbook 296.

United States Geological Survey. 7.5-minute topographic map.

Woods, A.J., Omernik, J.M., Butler, D.R., Ford, J.G., Henley, J.E., Hoagland, B.W., Arndt, D.S., and Moran, B.C., 2005, Ecoregions of Oklahoma (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,250,000).

Appendix A

Representative Site Photographs

FS 1:

FS 3:

FS 2:

FS 4:

FS 5:

FS 6:

FS 7:

FS 8:

FS 9:

FS 10:

FS 11:

FS 12:

FS 13:

FS 14:

FS 15:

FS 16:

FS 17.1:

FS 17.2:

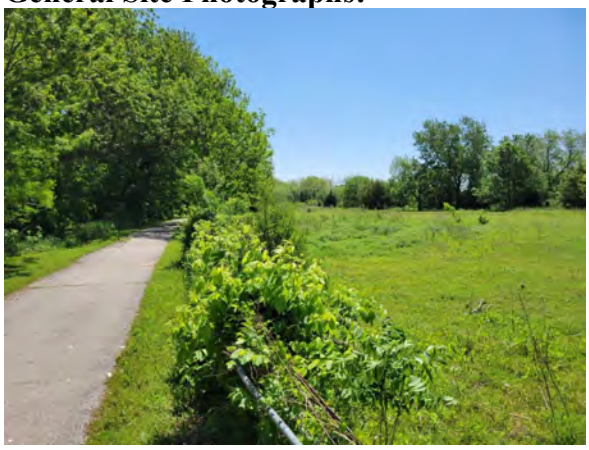
FS 17.3:

FS 17.4:

FS 18:

FS 19:

General Site Photographs:



Appendix B

Wetland Data Collection Forms

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall City/County: Bartlesville, Washington Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS 1

Investigator(s): SRV Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): convace

Slope (%): 1 Lat: 36.7565 Long: -95.9637 Datum: nad 83

Soil Map Unit Name: Verdigris clay loam, 0 to 1 percent slopes NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: ____)			
1. *Eleocharis palustris*	80	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	80 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =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: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/1	80	2.5YR 3/6	20	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

HYDROLOGY

Wetland Hydrology Indicators:

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

- x Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	x	No		Depth (inches): 1
Water Table Present?	Yes		No	x	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	x	No		Depth (inches): 4

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

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall City/County: Bartlesville, Washington Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS 2

Investigator(s): SRV Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): convace

Slope (%): 1 Lat: 36.7572 Long: -95.9626 Datum: NAD 83

Soil Map Unit Name: Verdigris clay loam, 0 to 1 percent slopes NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	10	Yes	FACW
2. *Gleditsia triacanthos*	10	Yes	FACU
3.			
4.			
5.			
	20	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1. *Fraxinus pennsylvanica*	20	Yes	FACW
2.			
3.			
4.			
5.			
	20	=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Valerianella locusta*	30	Yes	UPL
2. *Rumex crispus*	10	No	FAC
3. *Solidago gigantea*	15	Yes	FACW
4. *Hordeum pusillum*	10	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
	65	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	45	x 2 =	90
FAC species	20	x 3 =	60
FACU species	10	x 4 =	40
UPL species	30	x 5 =	150
Column Totals:	105 (A)		340 (B)
Prevalence Index = B/A =			3.24

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/1	85	2.5YR 4/6	15	C	M	Loamy/Clayey	Prominent redox concentrations

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

[2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

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)
- x 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)
- x 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)
- X 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** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall City/County: Bartlesville, Washington Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS 3

Investigator(s): SRV Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): convace

Slope (%): 1 Lat: 36.7618 Long: -95.9595 Datum: NAD 83

Soil Map Unit Name: Osage clay, 0 to 1 percent slopes NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	80	Yes	FACW
2.			
3.			
4.			
5.			
	80	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1. *Celtis occidentalis*	15	Yes	FAC
2.			
3.			
4.			
5.			
	15	=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Carex frankii*	70	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	80	x 2 =	160
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	165 (A)		275 (B)

Prevalence Index = B/A = 1.67

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 3

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 2/1	80	2.5YR 4/6	20	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

HYDROLOGY

Wetland Hydrology Indicators:

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

- x Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- x 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)
- x 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)

- x 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	x	No		Depth (inches): 1
Water Table Present?	Yes		No	x	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	x	No		Depth (inches): 3

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

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall City/County: Bartlesville, Washington Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS 4

Investigator(s): SRV Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): convace

Slope (%): 1 Lat: 36.7614 Long: -95.9596 Datum: NAD 83

Soil Map Unit Name: Osage clay, 0 to 1 percent slopes NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	80	Yes	FACW
2.			
3.			
4.			
5.			
	80	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1. *Fraxinus pennsylvanica*	10	Yes	FACW
2.			
3.			
4.			
5.			
	10	=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Carex frankii*	10	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	10	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	90	x 2 =	180
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		190 (B)

Prevalence Index = B/A = 1.90

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 2/1	80	2.5YR 4/6	20	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- x 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)
- x 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)

- x 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)
- X 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 x	No ___	Depth (inches): 4

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

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall City/County: Bartlesville, Washington Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS 5

Investigator(s): SRV Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): convace

Slope (%): 1 Lat: 36.7597 Long: -95.9593 Datum: NAD 83

Soil Map Unit Name: Verdigris clay loam, 0 to 1 percent slopes NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	80	Yes	FACW
2.			
3.			
4.			
5.			
	80	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Carex festucacea*	15	Yes	FACW
2. *Persicaria pensylvanica*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	25	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	105	x 2 =	210
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		210 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	100					Loamy/Clayey	
8-12	10YR 2/1	90	2.5YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- x 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)
- x 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)

- x 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)
- X 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): 2

(includes capillary fringe)

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

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall City/County: Bartlesville, Washington Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS 6

Investigator(s): SRV Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): convace

Slope (%): 1 Lat: 36.7598 Long: -95.9592 Datum: NAD 83

Soil Map Unit Name: Verdigris clay loam, 0 to 1 percent slopes NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	80	Yes	FACW
2.			
3.			
4.			
5.			
	80	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Carex festucacea*	15	Yes	FACW
2. *Persicaria pensylvanica*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	25	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	105	x 2 =	210
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		210 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 6

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	100					Loamy/Clayey	
8-12	10YR 2/1	90	2.5YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- x 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)
- x 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)

- x 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)
- X 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): 2

(includes capillary fringe)

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

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall City/County: Bartlesville, Washington Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS 7

Investigator(s): SRV Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): convace

Slope (%): 1 Lat: 36.7598 Long: -95.9592 Datum: NAD 83

Soil Map Unit Name: Verdigris clay loam, 0 to 1 percent slopes NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	60	Yes	FACW
2.			
3.			
4.			
5.			
	60	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Carex vulpinoidea*	20	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	20	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	80 (A)		160 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 7

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1	100					Loamy/Clayey	
6-10	10YR 2/1	70	2.5YR 4/6	30	C	M	Loamy/Clayey	Prominent redox concentrations
10-14	10YR 2/1	100					Loamy/Clayey	

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

[2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

HYDROLOGY

Wetland Hydrology Indicators:

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

- x Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- x 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)
- x 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes x	No ___	Depth (inches): 1		
Water Table Present?	Yes ___	No x	Depth (inches): ___		
Saturation Present? (includes capillary fringe)	Yes x	No ___	Depth (inches): 1	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall City/County: Bartlesville, Washington Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS 8

Investigator(s): SRV Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): convace

Slope (%): 1 Lat: 36.7593 Long: -95.9588 Datum: NAD 83

Soil Map Unit Name: Verdigris clay loam, 0 to 1 percent slopes NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	70	Yes	FACW
2.			
3.			
4.			
5.			
	70	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Eleocharis compressa*	75	Yes	FACW
2. *Carex festucacea*	25	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	170	x 2 =	340
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	170 (A)		340 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 8

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 2/1	80	2.5YR 4/6	20	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

HYDROLOGY

Wetland Hydrology Indicators:

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

- x Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- x 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)
- x 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes x	No ___	Depth (inches): 1		
Water Table Present?	Yes ___	No x	Depth (inches): ___		
Saturation Present? (includes capillary fringe)	Yes x	No ___	Depth (inches): 0	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall City/County: Bartlesville, Washington Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS 9

Investigator(s): SRV Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): convace

Slope (%): 1 Lat: 36.7595 Long: -95.9593 Datum: NAD 83

Soil Map Unit Name: Verdigris clay loam, 0 to 1 percent slopes NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	60	Yes	FACW
2.			
3.			
4.			
5.			
	60	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Carex vulpinoidea*	20	Yes	FACW
2. *Carex festucacea*	30	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	50	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	110	x 2 =	220
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		220 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 9

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 2/1	70	2.5YR 4/6	30	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

HYDROLOGY

Wetland Hydrology Indicators:

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

- x Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- x 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)
- x 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)
- X FAC-Neutral Test (D5)

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes x No ___ Depth (inches): 1

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

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall City/County: Bartlesville, Washington Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS 10

Investigator(s): SRV Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): convace

Slope (%): 1 Lat: 36.7595 Long: -95.9595 Datum: NAD 83

Soil Map Unit Name: Verdigris clay loam, 0 to 1 percent slopes NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	30	Yes	FACW
2.			
3.			
4.			
5.			
	30	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Carex vulpinoidea*	30	Yes	FACW
2. *Rumex altissimus*	40	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 10

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 2/1	70	2.5YR 4/6	30	C	M	Loamy/Clayey	Prominent redox concentrations

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

[2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

HYDROLOGY

Wetland Hydrology Indicators:

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

- x Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- x 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)
- x 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	x	No		Depth (inches): 2
Water Table Present?	Yes		No	x	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	x	No		Depth (inches): 1

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

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall City/County: Bartlesville, Washington Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS 11

Investigator(s): SRV Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): convace

Slope (%): 1 Lat: 36.7596 Long: -95.9597 Datum: NAD 83

Soil Map Unit Name: Verdigris clay loam, 0 to 1 percent slopes NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	50	Yes	FACW
2.			
3.			
4.			
5.			
	50	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Persicaria pensylvanica*	10	No	FACW
2. *Solidago gigantea*	30	Yes	FACW
3. *Rumex crispus*	20	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	60	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	90	x 2 =	180
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		240 (B)

Prevalence Index = B/A = 2.18

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 11

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 2/1	90	2.5YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

HYDROLOGY

Wetland Hydrology Indicators:

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

- x Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- x 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)
- x 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes x	No ___	Depth (inches): 1		
Water Table Present?	Yes ___	No x	Depth (inches): ___		
Saturation Present? (includes capillary fringe)	Yes x	No ___	Depth (inches): 0	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall City/County: Bartlesville, Washington Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS 12

Investigator(s): SRV Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): convace

Slope (%): 1 Lat: 36.7594 Long: -95.9599 Datum: NAD 83

Soil Map Unit Name: Verdigris clay loam, 0 to 1 percent slopes NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	50	Yes	FACW
2.			
3.			
4.			
5.			
	50	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Persicaria pensylvanica*	10	No	FACW
2. *Solidago gigantea*	30	Yes	FACW
3. *Rumex crispus*	20	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	60	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	90	x 2 =	180
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		240 (B)

Prevalence Index = B/A = 2.18

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 12

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 2/1	90	2.5YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

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

[2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

HYDROLOGY

Wetland Hydrology Indicators:

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

- x Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- x 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)
- x 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	x	No		Depth (inches): 1
Water Table Present?	Yes		No	x	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	x	No		Depth (inches): 0

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

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall City/County: Bartlesville, Washington Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS 13

Investigator(s): SRV Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): convace

Slope (%): 1 Lat: 36.7593 Long: -95.9597 Datum: NAD 83

Soil Map Unit Name: Verdigris clay loam, 0 to 1 percent slopes NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	50	Yes	FACW
2.			
3.			
4.			
5.			
	50	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Persicaria pensylvanica*	10	No	FACW
2. *Solidago gigantea*	30	Yes	FACW
3. *Rumex crispus*	20	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	60	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	90	x 2 =	180
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		240 (B)

Prevalence Index = B/A = 2.18

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 13

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 2/1	90	2.5YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

HYDROLOGY

Wetland Hydrology Indicators:

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

- x Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- x 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)
- x 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes x	No ___	Depth (inches): 1		
Water Table Present?	Yes ___	No x	Depth (inches): ___		
Saturation Present? (includes capillary fringe)	Yes x	No ___	Depth (inches): 0	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall City/County: Bartlesville, Washington Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS 14

Investigator(s): SRV Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): convace

Slope (%): 1 Lat: 36.7592 Long: -95.9594 Datum: NAD 83

Soil Map Unit Name: Verdigris clay loam, 0 to 1 percent slopes NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	50	Yes	FACW
2.			
3.			
4.			
5.			
	50	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Juncus acuminatus*	50	Yes	OBL
2. *Carex festucacea*	30	Yes	FACW
3. *Persicaria pensylvanica*	20	Yes	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	150 (A)		250 (B)

Prevalence Index = B/A = 1.67

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 14

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	80	2.5YR 4/6	20	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

HYDROLOGY

Wetland Hydrology Indicators:

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

- x Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- x 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)
- x 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	x	No		Depth (inches): 2
Water Table Present?	Yes		No	x	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	x	No		Depth (inches): 0

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

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall City/County: Bartlesville, Washington Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS 15

Investigator(s): SRV Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): convace

Slope (%): 1 Lat: 36.7590 Long: -95.9587 Datum: NAD 83

Soil Map Unit Name: Verdigris clay loam, 0 to 1 percent slopes NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	70	Yes	FACW
2.			
3.			
4.			
5.			
	70	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Eleocharis compressa*	60	Yes	FACW
2. *Carex festucacea*	30	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	160	x 2 =	320
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	160 (A)		320 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 15

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 2/1	75	2.5YR 4/6	25	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

HYDROLOGY

Wetland Hydrology Indicators:

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

- x Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- x 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)
- x 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes x	No ___	Depth (inches): 1		
Water Table Present?	Yes ___	No x	Depth (inches): ___		
Saturation Present? (includes capillary fringe)	Yes x	No ___	Depth (inches): 0	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall City/County: Bartlesville, Washington Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS 16

Investigator(s): SRV Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): convace

Slope (%): 1 Lat: 36.7588 Long: -95.9593 Datum: NAD 83

Soil Map Unit Name: Verdigris clay loam, 0 to 1 percent slopes NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	20	Yes	FACW
2.			
3.			
4.			
5.			
	20	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Eleocharis compressa*	10	Yes	FACW
2. *Carex festucacea*	30	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	40	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 16

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/1	85	2.5YR 4/6	15	C	M	Loamy/Clayey	Prominent redox concentrations

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

[2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

HYDROLOGY

Wetland Hydrology Indicators:

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

- x Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- x 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)
- x 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)
- X FAC-Neutral Test (D5)

Field Observations:

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

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

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall City/County: Bartlesville, Washington Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS 17.1

Investigator(s): SRV Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): convace

Slope (%): 1 Lat: 36.7585 Long: -95.9601 Datum: NAD 83

Soil Map Unit Name: Verdigris clay loam, 0 to 1 percent slopes NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	20	Yes	FACW
2.			
3.			
4.			
5.			
	20	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1. *Fraxinus pennsylvanica*	70	Yes	FACW
2.			
3.			
4.			
5.			
	70	=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Persicaria pensylvanica*	15	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	15	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	105	x 2 =	210
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		210 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 17.1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 4/1	90	2.5YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

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

[2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

HYDROLOGY

Wetland Hydrology Indicators:

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

- x Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- x 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)
- x 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	x	No		Depth (inches): 1
Water Table Present?	Yes		No	x	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	x	No		Depth (inches): 2

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

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall City/County: Bartlesville, Washington Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS 17.2

Investigator(s): SRV Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): convace

Slope (%): 1 Lat: 36.7585 Long: -95.95985 Datum: NAD 83

Soil Map Unit Name: Verdigris clay loam, 0 to 1 percent slopes NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	20	Yes	FACW
2.			
3.			
4.			
5.			
	20	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1. *Fraxinus pennsylvanica*	70	Yes	FACW
2.			
3.			
4.			
5.			
	70	=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Persicaria pensylvanica*	15	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	15	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	105	x 2 =	210
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		210 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 17.2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 4/1	90	2.5YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

HYDROLOGY

Wetland Hydrology Indicators:

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

- x Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- x 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)
- x 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes x	No ___	Depth (inches): 1		
Water Table Present?	Yes ___	No x	Depth (inches): ___		
Saturation Present? (includes capillary fringe)	Yes x	No ___	Depth (inches): 2	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall City/County: Bartlesville, Washington Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS 17.3

Investigator(s): SRV Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): convace

Slope (%): 1 Lat: 36.7584 Long: -95.9592 Datum: NAD 83

Soil Map Unit Name: Verdigris clay loam, 0 to 1 percent slopes NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	20	Yes	FACW
2.			
3.			
4.			
5.			
	20	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1. *Fraxinus pennsylvanica*	65	Yes	FACW
2.			
3.			
4.			
5.			
	65	=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Persicaria pensylvanica*	15	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	15	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 17.3

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 4/1	85	2.5YR 4/6	15	C	M	Loamy/Clayey	Prominent redox concentrations

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

[2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

HYDROLOGY

Wetland Hydrology Indicators:

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

- x Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- x 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)
- x 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	x	No		Depth (inches): 1
Water Table Present?	Yes		No	x	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	x	No		Depth (inches): 2

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

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall | City/County: Bartlesville, Washington | Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville | State: OK | Sampling Point: FS 17.4

Investigator(s): SRV | Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): convace

Slope (%): 1 | Lat: 36.7582 | Long: -95.9589 | Datum: NAD 83

Soil Map Unit Name: Verdigris clay loam, 0 to 1 percent slopes | NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	20	Yes	FACW
2.			
3.			
4.			
5.			
	20	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1. *Fraxinus pennsylvanica*	70	Yes	FACW
2.			
3.			
4.			
5.			
	70	=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Persicaria pensylvanica*	15	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	15	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	105	x 2 =	210
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		210 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 17.4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/1	90	2.5YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

HYDROLOGY

Wetland Hydrology Indicators:

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

- x Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- x 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)
- x 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes x	No ___	Depth (inches): 2		
Water Table Present?	Yes ___	No x	Depth (inches): ___		
Saturation Present? (includes capillary fringe)	Yes x	No ___	Depth (inches): 0	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall City/County: Bartlesville, Washington Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS 18

Investigator(s): SRV Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): convace

Slope (%): 1 Lat: 36.7589 Long: -95.9603 Datum: NAD 83

Soil Map Unit Name: Verdigris clay loam, 0 to 1 percent slopes NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	20	Yes	FACW
2.			
3.			
4.			
5.			
	20	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Carex festucacea*	30	Yes	FACW
2. *Solidago gigantea*	20	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	50	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	70	x 2 =	140
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		140 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 18

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 4/1	85	2.5YR 4/6	15	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

HYDROLOGY

Wetland Hydrology Indicators:

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

- x Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- x 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)
- x 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes x	No ___	Depth (inches): 1		
Water Table Present?	Yes ___	No x	Depth (inches): ___		
Saturation Present? (includes capillary fringe)	Yes x	No ___	Depth (inches): 0	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Bartlesville WWTP Outfall City/County: Bartlesville, Washington Sampling Date: 5/12/22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS 19

Investigator(s): SRV Section, Township, Range: S6, T26N, R13E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): convace

Slope (%): 1 Lat: 36.7591 Long: -95.9599 Datum: NAD 83

Soil Map Unit Name: Verdigris clay loam, 0 to 1 percent slopes NWI classification:

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	40	Yes	FACW
2. *Gleditsia triacanthos*	20	Yes	FACU
3.			
4.			
5.			
	60	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Eleocharis compressa*	40	Yes	FACW
2. *Persicaria pensylvanica*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	50	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=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: 4 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	90	x 2 =	180
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	110 (A)		260 (B)

Prevalence Index = B/A = 2.36

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS 19

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/1	90	2.5YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

HYDROLOGY

Wetland Hydrology Indicators:

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

- x Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- x 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)
- x 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes x	No ___	Depth (inches): 1		
Water Table Present?	Yes ___	No x	Depth (inches): ___		
Saturation Present? (includes capillary fringe)	Yes x	No ___	Depth (inches): 0	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

WATERS OF THE US DELINEATION

City of Bartlesville Wastewater Treatment Plant
Additional Floodwater Basins
Bartlesville, Washington County, Oklahoma

Prepared for:

401 South Johnstone Avenue
Bartlesville, OK 74003

Prepared by:

P.O. Box 335
Vinita, Oklahoma 74301
918-272-7656

9 North 9th Street
Ft. Smith, Arkansas 72901
918-244-9595

September 2022

Steven R. Votaw
President

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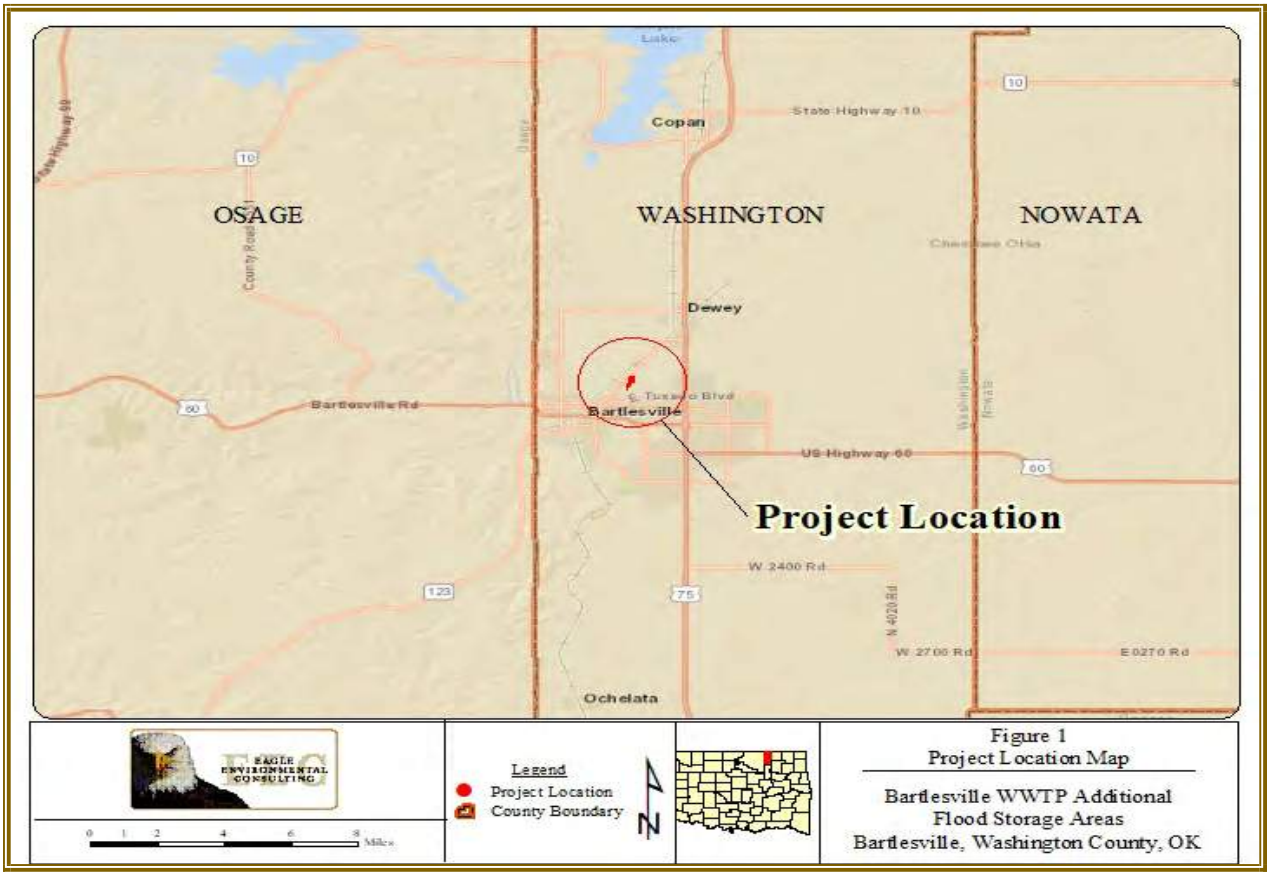
1.0 Introduction

Eagle Environmental Consulting, Inc. (EEC) conducted a Waters' of the United States and wetland delineation survey associated with two prospective flood water storage basin areas as part of the proposed Waste Water Treatment Plant expansion and floodwater detention basin development project on behalf of the City of Bartlesville. The survey was performed to identify and demarcate potentially jurisdictional waterways and/or wetlands within the prospective areas. The evaluated parcels are located in Sections 6, Township 26 North, Range 13 East in Washington County, Oklahoma. The field survey was performed to collect and record physical characteristics of aquatic areas potentially considered jurisdictional by the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act. Each aquatic resource was identified and/or investigated according to the diagnostic field indicators used to confirm presence and determine the preliminary jurisdictional status. The project area location map is provided at ***Figure 1***.



2.0 General Survey Area Description

The surveyed area is located in the Osage Questas ecoregion (40b) of Oklahoma (Woods et al., 2005). This ecoregion consists of an irregular to undulating plain that is underlain by interbedded westward-dipping sandstone, shale, and limestone. Natural vegetation is mostly tall grass prairie. The eastern portion of this ecoregion is a mix of tall grass prairie and oak - hickory forest. Land use and land cover in this ecoregion consists mostly of rangeland, grassland, cropland and woodland in rugged areas. The assessment areas are described as disturbed depositional areas with no obvious land use.

3.0 Wetland and Waterway Delineation Methodology

The USACE Wetlands Delineation Manual (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (USACE 2010)

were referenced in concert to identify wetlands. Wetland areas, if observed, would be identified using the routine on-site (level 2) method, as described in Section D of the 1987 USACE Wetlands Delineation Manual. The identification of wetlands consists of a three-parameter approach that involves determining the presence of hydrophytic vegetation, hydric soils, and wetland hydrology. Where differences in the two documents occur, the Regional Supplement takes precedence over the 1987 Corps Manual.

Hydrophytic plant communities are determined after species identification based on the wetland status indicators of the dominant plant species present within the sample plot. In accordance with the USACE delineation manual, plant species that have a wetland indicator status of facultative (FAC), facultative wetland (FACW), or obligate (OBL) represent hydrophytic vegetation. Wetland hydrology implies a hydrologic regime involving periodic inundation or saturation within the upper portions of the soil profile (for sufficient duration) during the growing season. Onsite indicators used as evidence of wetland hydrology include inundation, saturation, sediment deposition, drift lines, water marks, and scouring. Hydric soils are determined based on criteria established by the Soil Conservation Service (USDA, 2000) and described in the regional supplement. Indicators of hydric soils predominantly include soil color and redoximorphic (redox) concentrations (reddish mottles). Soil matrix and mottle color, when appropriate, are identified according to Munsell Soil Color Charts (Kollormorgen, 2000). In most circumstances, all three parameters must be present for the area to be a wetland. Data sampling points are established in representative areas within the wetland areas and in the adjacent uplands. Vegetation, soils, and hydrology characteristics are recorded on data forms for each sampling point and boundaries are established based on the results of the individual sample plots, after further refining as necessary.

Potentially jurisdictional waters of the United States, other than wetlands, were also to be defined if observed. These areas include creek channels, rivers, ponds, and/or lakes. These characteristics include, but are not limited to, a line impressed on a bank, defined bed and bank, shelving, ordinary high water mark, changes in soil characteristics, destruction of terrestrial vegetation, and presence of debris (33 CFR Part 328). Waterways are identified and located according to size, flow patterns, watershed characteristics, presence of an ordinary high water mark, and drainage basin.

4.0 Survey Findings

Waters of the United States

The onsite survey was conducted to identify and locate those areas exhibiting the required wetland parameters and onsite characteristics for waters of the United States, if observed. Data were collected for each investigated area to characterize and describe the observed indicators. The descriptions for the identified area(s) are provided below according to Field Site (FS) number. Eighteen (18) wetlands were identified during the field survey that were determined to meet the required scientific criteria. The Caney River and Coon Creek floodplains border both assessment areas. Based on topographic map review of the assessment areas, a USGS-mapped channel feature formerly transitioned north to south across both parcels. The original land surface of the evaluated parcels appears to have been distinctly modified through fill material placement, increasing the ground surface elevations and displacing/relocating the former channel feature prior to 1995. Nearly all of the identified wetlands were situated in depression features surrounded by uplands. No streams or ponds were identified. EEC was unable to confirm the identified features were situated in their original undisturbed floodplain setting or associated with the mapped soil type. Most of the soil types evaluated were disturbed to some degree, however the soil structure in the A horizons appeared to resemble the mapped series. However nearly all soils evaluated exhibited disturbance, rock, and/or other soil types. It was not conclusive the identified features were remnants of original, undisturbed, floodplain wetlands present prior to the apparent 1995 floodplain fill activities. Further, the identified wetlands may not be hydrologically connected to the Caney River or Coon Creek, except perhaps during significant flood events. Photographs of the delineated features are provided at ***Appendix A***. The waters of the US location map is provided in ***Figures 2 & 3***.

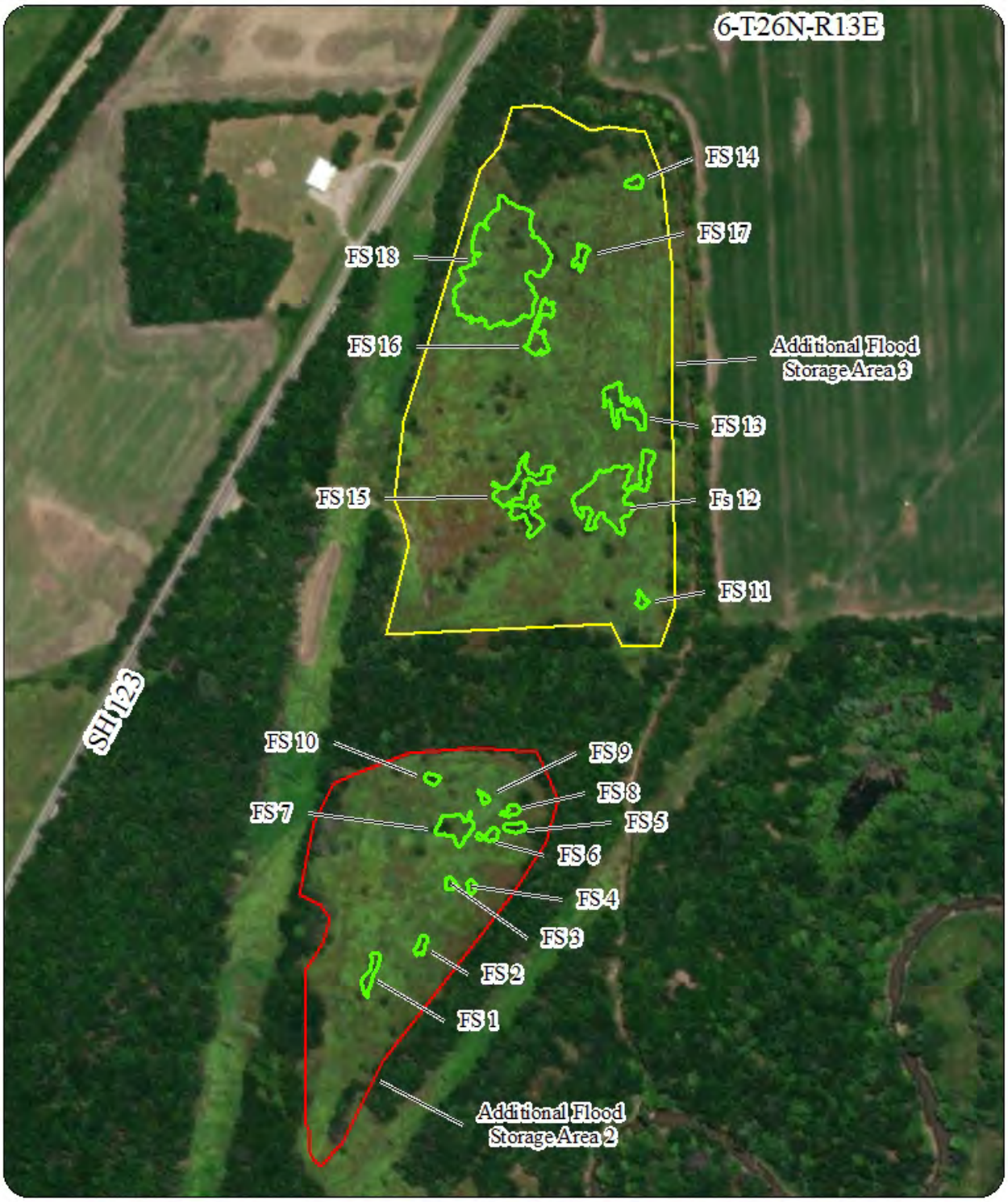
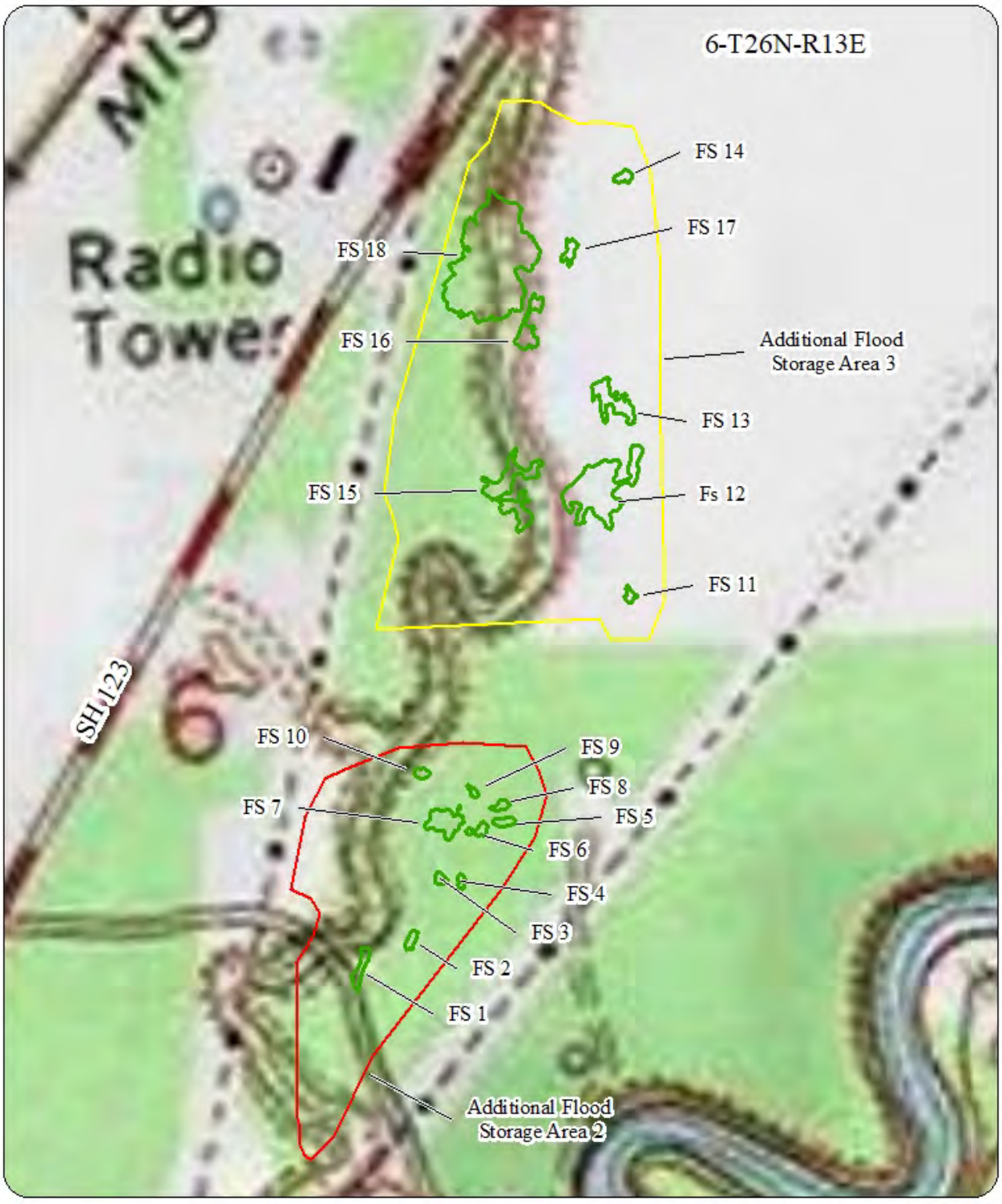


Figure 2
Wetlands of the US Location Map
Bartlesville WWTP Additional Flood Storage Areas
Bartlesville, Washington County, OK



EAGLE ENVIRONMENTAL CONSULTING

0 100 200 400 600 Feet
Scale: 1 in = 300 Ft

Legend
North Area
South Area
Wetlands

N

Figure 3
Wetlands of the US Location Map
Bartlesville WWTP Additional Flood Storage Areas
Bartlesville, Washington County, OK

Field Site Descriptions

South Assessment Area – Flood Storage Area 2

FS-1 is described as a depression feature among what appears to disturbed uplands. The area appears to pond water fir long duration. The dominant vegetation consisted of flat-stemmed spikerush, sumpweed, and a single black willow tree and sapling cluster. Hydric soils were evidenced within the 10YR 2/1 silt loam matrix based on 10% presence of 5YR 4/6 redox concentrations between 2 and 6 inches. Indicators of wetland hydrology included cracked soils water marks.

FS-2 is a depression feature among elevated upland areas that appear to be formerly disturbed. The site is dominated by flat-stemmed spikerush, Frank's sedge, goldenrod, and one green ash tree. Hydric soils were confirmed within the disturbed matrix. The upper 10 inches were 10YR 2/1 with a 10% presence of 5YR 4/6 redox concentrations between 4 and 10 inches. The B horizon was a rocky 10YR 3/3 silt loam matrix that also exhibited the same redox coloration however the percentage of concentrations increased to 20. Water marks and cracked soils evidenced wetland hydrology.

FS-3 and 4 are similar depression features among elevated upland areas that also appear to be formerly disturbed. The sites were dominated by goldenrod. Hydric soils were confirmed within the 10YR 2/1 silt loam with a 10% presence of 2.5YR 4/6 redox concentrations between 1 and 4 inches. Cracked soils and detritus evidenced wetland hydrology.

FS-5 is a depression feature among elevated upland areas that also appears to be formerly disturbed. The site is dominated by flat-stemmed spikerush, Frank's sedge, goldenrod, and three green ash trees. Hydric soils were confirmed within the disturbed matrix. The upper 6 inches were 10YR 2/1 with a 5% presence of 5YR 4/6 redox concentrations between 3 and 6. The B horizon was a rocky 10YR 3/3 silt loam matrix that also exhibited the same redox coloration however the percentage of concentrations increased to 10% throughout. Water marks, detritus, and cracked soils evidenced wetland hydrology.

FS-6 is a small depression feature among elevated upland areas that also appear to be formerly disturbed. The sites were dominated by goldenrod. Hydric soils were confirmed within the 10YR 2/1 silt loam with a 10% presence of 5YR 4/6 redox concentrations between 0 and 8 inches below ground surface (bgs). Soils in the B horizon were 10YR 3/3 with 5YR 4/6 redox concentrations. Cracked soils and detritus evidenced wetland hydrology.

FS-7 is a depression feature among elevated upland areas that appear to be formerly disturbed. The site is dominated by Frank's sedge, American germander, and green ash trees. Hydric soils were confirmed within the 10YR 2/1 silt loam matrix with a 10% presence of 2.5YR 4/6 redox concentrations from 2 to 8 inches. Water marks, detritus, and cracked soils evidenced wetland hydrology.

FS-8 is a depression feature among elevated upland areas that also appear to be formerly disturbed. The site was dominated by goldenrod. Hydric soils were confirmed within the 10YR 2/1 silt loam with a 10% presence of 5YR 4/6 redox concentrations 2 and 4 inches. Cracked soils and detritus evidenced wetland hydrology.

FS-9 is a depression feature among elevated upland areas that also appear to be formerly disturbed. The site was dominated by goldenrod, Pennsylvania smartweed, and late flowering boneset. Hydric soils were confirmed within the 10YR 2/1 silt loam with a 20% presence of 5YR 4/6 redox concentrations between 4 and 8 inches. Cracked soils and detritus evidenced wetland hydrology.

FS-10 is a very small depression that has been subjected to disturbance. Rock was encountered at 6 inches and restricted further soil investigation. The silt loam matrix was 10YR 2/1 with a 5% occurrence of 2.5YR 4/6 oxidized rhizospheres between 0 and 4 inches. The dominant vegetation included flat-stemmed spikerush, wheat, and green ash trees. Cracked soils and oxidized rhizospheres evidenced the wetland hydrology indicators.

North Assessment Area – Flood Storage Area 3

FS-11 is a depression feature among elevated upland areas that also appear to be formerly disturbed. The site was dominated by goldenrod and two honey locust saplings. Hydric soils were confirmed within the 10YR 2/1 silt loam with a 10% presence of 2.5YR 4/6 redox concentrations between 2 and 6 inches. Cracked soils and detritus evidenced wetland hydrology.

FS-12 is a larger depression wetland that appears to have been previously disturbed. The dominant vegetation consisted of Frank's sedge. Hydric soils were confirmed within the 10YR 2/1 silt loam matrix based on a 20% presence of 2.5YR 4/6 redox concentrations and pore linings between 2 and 14 inches. Hydrology indicators included detritus, oxidized rhizospheres and cracked soils.

FS-13 is an irregular shaped herbaceous wetland dominated by Frank's sedge and balloon vine. Hydric soils were confirmed within the 10YR 2/1 silt loam matrix based on a 20% presence of 2.5YR 4/6 redox concentrations and pore linings between 2 and 10 inches. Hydrology indicators included detritus, oxidized rhizospheres and cracked soils.

FS-14 is a relatively small circular feature dominated by Pennsylvania smartweed. Hydric soils were confirmed within the 10YR 2/1 silt loam matrix based on a 20% presence of 2.5YR 4/6 redox concentrations between 2 and 10 inches. Hydrology indicators included detritus, oxidized rhizospheres and cracked soils.

FS-15 is a predominantly herbaceous wetland dominated Frank's sedge, flat-stemmed spikerush, sumpweed, honey locust saplings, and green ash trees. Hydric soils were confirmed within the 10YR 2/1 silt loam matrix based on a 20% presence of 2.5YR 4/6 redox concentrations between 2 and 10 inches. Hydrology indicators included detritus, oxidized rhizospheres and cracked soils.

FS-16 is an herbaceous depression wetland dominated by Frank's sedge and balloon vine. Hydric soils were confirmed within the 10YR 2/1 silt loam matrix based on a 20% presence of 2.5YR 4/6 redox concentrations between 2 and 10 inches. Hydrology indicators included detritus, oxidized rhizospheres, and cracked soils.

FS-17 is a depression feature dominated by inland salt grass and green ash trees. Hydric soils were confirmed within the 10YR 2/1 silt loam matrix based on a 20% presence of 2.5YR 4/6 redox concentrations between 2 and 10 inches. Hydrology indicators included detritus, oxidized rhizospheres, and cracked soils.

FS-18 is a depression and slope wetland dominated by Frank's sedge, goldenrod, Chinaberry saplings, and green ash trees. Hydric soils were confirmed within the 10YR 3/1 silt loam matrix based on a 10% presence of 2.5YR 4/6 redox concentrations between 8 and 14 inches. Hydrology indicators included cracked soils, oxidized rhizospheres, water marks, and detritus.

5.0 Conclusion

The subject wetland and waterway delineation was performed to identify the presence of jurisdictional waterways and/or wetlands within the proposed project area. Eighteen (18) wetlands were identified, recorded, and delineated during the field survey within the two assessment areas having a collective total of 2.02 acre. Eight (8) in the northern parcel (1.77) and 10 in the southern (0.25 acres). The following table provides a summary of the feature type, acreage, and centroid location coordinates for each aquatic feature:

Site Number	Assessment Area Parcel	Feature Type	Acres	Latitude	Longitude
FS 1	South	Wetland	0.04	36.7623	-95.9608
FS 2	South	Wetland	0.02	36.7625	-95.9604
FS 3	South	Wetland	0.01	36.7629	-95.9601
FS 4	South	Wetland	0.01	36.7629	-95.9599
FS 5	South	Wetland	0.02	36.7632	-95.9596
FS 6	South	Wetland	0.02	36.7632	-95.9598
FS 7	South	Wetland	0.09	36.7632	-95.9600
FS 8	South	Wetland	0.02	36.7633	-95.9596
FS 9	South	Wetland	0.01	36.7634	-95.9598
FS 10	South	Wetland	0.02	36.7636	-95.9602
FS 11	North	Wetland	0.01	36.7646	-95.9584
FS 12	North	Wetland	0.35	36.7653	-95.9586
FS 13	North	Wetland	0.11	36.7659	-95.9585
FS 14	North	Wetland	0.02	36.7673	-95.9583
FS 15	North	Wetland	0.19	36.7654	-95.9593
FS 16	North	Wetland	0.07	36.7664	-95.9591
FS 17	North	Wetland	0.03	36.7669	-95.9588
FS 18	North	Wetland	0.99	36.7668	-95.9594
		Total	**2.02**		

6.0 References

Oklahoma Color Digital Ortho-Quadrangle Maps. 2022.

Title 33. Code of Federal Regulations. Part 328. *Definitions of Waters of the United States.*

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U.S. Department of Agriculture. 2012. Field Indicators of Hydric Soils of the United States. Soil Conservation Service.

United States Department of Agriculture, Soil Conservation Service. 1981. Land Resource Regions and Major Land Resource Areas of the United States. Agriculture Handbook 296.

United States Geological Survey. 7.5-minute topographic map.

Woods, A.J., Omernik, J.M., Butler, D.R., Ford, J.G., Henley, J.E., Hoagland, B.W., Arndt, D.S., and Moran, B.C., 2005, Ecoregions of Oklahoma (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,250,000).

Appendix A

Representative Site Photographs

FS-1

FS-4

FS-2

FS-5

FS-3

FS-6

FS-7

FS-10

FS-8

FS-11

FS-9

FS-12


FS-13


FS-15


FS-13


FS-16


FS-14


FS-17

FS-18

FS-18

FS-18

Appendix B

Wetland Data Collection Forms

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Flood Storage Area - South | City/County: Bartlesville, Washington | Sampling Date: 9-16-22

Applicant/Owner: City of Bartlesville | State: OK | Sampling Point: FS-1

Investigator(s): SRVSTV | Section, Township, Range: S6 - T26N - R13E

Landform (hillside, terrace, etc.): Distubed Depression | Local relief (concave, convex, none): concave

Slope (%): 0-1 | Lat: 36.7623 | Long: -95.9608 | Datum: NAD 83

Soil Map Unit Name: Verdigris Silt Loam | NWI classification: PEM

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:
Soils distrubed

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix nigra*	10	Yes	OBL
2.			
3.			
4.			
5.			
	10	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Salix nigra*	5	Yes	OBL
2.			
3.			
4.			
5.			
	5	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Eleocharis compressa*	90	Yes	FACW
2. *Iva annua*	5	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	95	=Total Cover	
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	90	x 2 =	180
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		210 (B)

Prevalence Index = B/A = 1.91

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100					Loamy/Clayey	
2-6	10YR 2/1	90	5YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
6-14	10YR 2/2	100					Loamy/Clayey	Gravel/Rock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Rock

Depth (inches): ___

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

Remarks:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016. Rock encountered, deep ruts observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- x 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)

- x 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)
- x 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** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Flood Storage Area - South | City/County: Bartlesville, Washington | Sampling Date: 9-16-22

Applicant/Owner: City of Bartlesville | State: OK | Sampling Point: FS-2

Investigator(s): SRVSTV | Section, Township, Range: S6 - T26N - R13E

Landform (hillside, terrace, etc.): Distubed Depression | Local relief (concave, convex, none): concave

Slope (%): 0-1 | Lat: 36.7625 | Long: -95.9604 | Datum: NAD 83

Soil Map Unit Name: Osage Silty Clay | NWI classification: PEM

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:
Soils distrubed

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	25	Yes	FACW
2.			
3.			
4.			
5.			
	25	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Eleocharis compressa*	30	Yes	FACW
2. *Carex frankii*	40	Yes	OBL
3. *Solidago gigantea*	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	80	=Total Cover	
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	65	x 2 =	130
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		170 (B)

Prevalence Index = B/A = 1.62

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1	100					Loamy/Clayey	
4-10	10YR 2/1	90	5YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
10-16	10YR 3/3	80	5Yr 4/6	20	C	M	Loamy/Clayey	Gravel/Rock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
___ Dark Surface (S7)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
X Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016. Rock encountered, deep ruts observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
x 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)

x 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** X **No** ____

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Flood Storage Area - South | City/County: Bartlesville, Washington | Sampling Date: 9-16-22

Applicant/Owner: City of Bartlesville | State: OK | Sampling Point: FS-3 & 4

Investigator(s): SRVSTV | Section, Township, Range: S6 - T26N - R13E

Landform (hillside, terrace, etc.): Distubed Depression | Local relief (concave, convex, none): concave

Slope (%): 0-1 | Lat: 36.7629 | Long: FS-3 -95.9601, FS-4 -95.9599 | Datum: NAD 83

Soil Map Unit Name: Osage Silty Clay | NWI classification: PEM

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:
Soils distrubed

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5)			
1. *Solidago gigantea*	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
	=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: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS-3 & 4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/1	100					Loamy/Clayey	
1-4	10YR 2/1	90	2.5YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
4-14	10YR 3/1	100						

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

[2]Location: 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)
___ Dark Surface (S7)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
X Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016. Rock encountered, deep ruts observed.

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)
x 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)

x 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:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Flood Storage Area - South | City/County: Bartlesville, Washington | Sampling Date: 9-16-22

Applicant/Owner: City of Bartlesville | State: OK | Sampling Point: FS-5

Investigator(s): SRVSTV | Section, Township, Range: S6 - T26N - R13E

Landform (hillside, terrace, etc.): Distubed Depression | Local relief (concave, convex, none): concave

Slope (%): 0-1 | Lat: 36.7629 | Long: FS-3 -95.9601, FS-4 -95.9599 | Datum: NAD 83

Soil Map Unit Name: Osage Silty Clay | NWI classification: PEM

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:
Soils distrubed

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	50	Yes	FACW
2.			
3.			
4.			
5.			
	50	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Solidago gigantea*	20	Yes	FACW
2. *Carex frankii*	20	Yes	OBL
3. *Eleocharis compressa*	10	Yes	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	50	=Total Cover	
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	80	x 2 =	160
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		180 (B)

Prevalence Index = B/A = 1.80

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS-5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 2/1	100					Loamy/Clayey	
3-6	10YR 2/1	95	5YR 4/6	5	C	M	Loamy/Clayey	Prominent redox concentrations
6-14	10YR 3/3	90	5YR 4/6	10	C	M	Loamy/Clayey	

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

[2]Location: 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)
___ Dark Surface (S7)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
X Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016. Rock encountered, deep ruts observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
x Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
x 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)

x 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** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Flood Storage Area - South | City/County: Bartlesville, Washington | Sampling Date: 9-16-22

Applicant/Owner: City of Bartlesville | State: OK | Sampling Point: FS-6

Investigator(s): SRVSTV | Section, Township, Range: S6 - T26N - R13E

Landform (hillside, terrace, etc.): Distubed Depression | Local relief (concave, convex, none): concave

Slope (%): 0-1 | Lat: 36.7632 | Long: -95.9598 | Datum: NAD 83

Soil Map Unit Name: Osage Silty Clay | NWI classification: PEM

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:
Soils distrubed

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5)			
1. *Solidago gigantea*	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
	=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: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS-6

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	90	5YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
8-14	10YR 3/3	90	5YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016. Rock encountered, deep ruts observed.

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)
- x 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)

- x 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** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Flood Storage Area - South City/County: Bartlesville, Washington Sampling Date: 9-16-22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS-7

Investigator(s): SRVSTV Section, Township, Range: S6 - T26N - R13E

Landform (hillside, terrace, etc.): Distubed Depression Local relief (concave, convex, none): concave

Slope (%): 0-1 Lat: 36.7632 Long: -95.9600 Datum: NAD 83

Soil Map Unit Name: Osage Silty Clay NWI classification: PEM

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:
Soils distrubed

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	35	Yes	FACW
2.			
3.			
4.			
5.			
	35	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Carex frankii*	40	Yes	OBL
2. *Teucrium canadense*	15	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	55	=Total Cover	
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	50	x 2 =	100
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		140 (B)

Prevalence Index = B/A = 1.56

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS-7

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100					Loamy/Clayey	
2-8	10YR 2/1	90	5YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
8-12	10YR 3/1	100					Loamy/Clayey	

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

[2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016. Restricted evaluation below 12 inches, impentrable.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- x Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- x 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)

- x 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** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Flood Storage Area - South | City/County: Bartlesville, Washington | Sampling Date: 9-16-22

Applicant/Owner: City of Bartlesville | State: OK | Sampling Point: FS-8

Investigator(s): SRVSTV | Section, Township, Range: S6 - T26N - R13E

Landform (hillside, terrace, etc.): Distubed Depression | Local relief (concave, convex, none): concave

Slope (%): 0-1 | Lat: 36.7632 | Long: -95.9600 | Datum: NAD 83

Soil Map Unit Name: Osage Silty Clay | NWI classification: PEM

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5)			
1. *Solidago gigantea*	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
	=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: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS-8

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100					Loamy/Clayey	
2-4	10YR 2/1	90	5YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
4-14	10YR 3/1	95	5YR 4/6	5	C	M	Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
___ Dark Surface (S7)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
X Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
x Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators 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:
This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.
Restricted evaluation below 12 inches, impentrable.

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)
x 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)

x 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:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Flood Storage Area - South City/County: Bartlesville, Washington Sampling Date: 9-16-22

Applicant/Owner: City of Bartlesville State: OK Sampling Point: FS-9

Investigator(s): SRVSTV Section, Township, Range: S6 - T26N - R13E

Landform (hillside, terrace, etc.): Distubed Depression Local relief (concave, convex, none): concave

Slope (%): 0-1 Lat: 36.7634 Long: -95.9598 Datum: NAD 83

Soil Map Unit Name: Osage Silty Clay NWI classification: PEM

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5)			
1. *Solidago gigantea*	10	Yes	FACW
2. *Persicaria pensylvanica*	5	No	FACW
3. *Eupatorium serotinum*	15	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	30 =Total Cover		
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
	=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	30 (A)		75 (B)

Prevalence Index = B/A = 2.50

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS-9

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1	100					Loamy/Clayey	
4-8	10YR 2/1	80	5YR 4/6	20	C	M	Loamy/Clayey	Prominent redox concentrations
8-14	10YR 2/1	95	5YR 4/6	5	C	M	Loamy/Clayey	

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

[2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016. Restricted evaluation below 12 inches, impentrable.

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)
- x 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)

- x 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** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Flood Storage Area - South | City/County: Bartlesville, Washington | Sampling Date: 9-16-22

Applicant/Owner: City of Bartlesville | State: OK | Sampling Point: FS-10

Investigator(s): SRVSTV | Section, Township, Range: S6 - T26N - R13E

Landform (hillside, terrace, etc.): Distubed Depression | Local relief (concave, convex, none): concave

Slope (%): 0-1 | Lat: 36.7636 | Long: -95.9602 | Datum: NAD 83

Soil Map Unit Name: Osage Silty Clay | NWI classification: PEM

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	40	Yes	FACW
2.			
3.			
4.			
5.			
	40	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Eleocharis compressa*	70	Yes	FACW
2. *Triticum aestivum*	10	No	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	80	=Total Cover	
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
		=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	110	x 2 =	220
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	10	x 5 =	50
Column Totals:	120 (A)		270 (B)

Prevalence Index = B/A = 2.25

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS-10

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1	95	2.5YR 4/6	5	C	PL	Loamy/Clayey	Prominent redox concentrations

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

[2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- x Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016. Restricted evaluation below 12 inches, impentrable.

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)
- x 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)

- x 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** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Flood Storage Area - North | City/County: Bartlesville, Washington | Sampling Date: 9-16-22

Applicant/Owner: City of Bartlesville | State: OK | Sampling Point: FS-11

Investigator(s): SRVSTV | Section, Township, Range: S6 - T26N - R13E

Landform (hillside, terrace, etc.): Distubed Depression | Local relief (concave, convex, none): concave

Slope (%): 0-1 | Lat: 36.7646 | Long: -95.9584 | Datum: NAD 83

Soil Map Unit Name: Osage Silty Clay | NWI classification: PEM

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Gleditsia triacanthos*	5	Yes	FACU
2.			
3.			
4.			
5.			
	5 =Total Cover		
Herb Stratum (Plot size: 5)			
1. *Solidago gigantea*	80	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	80 =Total Cover		
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
	=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: 2 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	85 (A)		180 (B)

Prevalence Index = B/A = 2.12

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS-11

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100					Loamy/Clayey	
2-6	10YR 2/1	90	2.5YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
6-14	10YR 3/1	95	2.5YR 4/6	5	C	M	Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- x Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016. Restricted evaluation below 12 inches, impentrable.

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)
- x 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)

- x 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** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Flood Storage Area - North | City/County: Bartlesville, Washington | Sampling Date: 9-16-22

Applicant/Owner: City of Bartlesville | State: OK | Sampling Point: FS-12

Investigator(s): SRVSTV | Section, Township, Range: S6 - T26N - R13E

Landform (hillside, terrace, etc.): Distubed Depression | Local relief (concave, convex, none): concave

Slope (%): 0-1 | Lat: 36.7646 | Long: -95.9584 | Datum: NAD 83

Soil Map Unit Name: Osage Silty Clay | NWI classification: PEM

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5)			
1. *Carex frankii*	90	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90 =Total Cover		
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
	=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: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS-12

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100					Loamy/Clayey	
2-14	10YR 2/1	80	2.5YR 4/6	20	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016. Restricted evaluation below 12 inches, impentrable.

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)
- x 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)
- x 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)

- x 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** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Flood Storage Area - North | City/County: Bartlesville, Washington | Sampling Date: 9-16-22

Applicant/Owner: City of Bartlesville | State: OK | Sampling Point: FS-13

Investigator(s): SRVSTV | Section, Township, Range: S6 - T26N - R13E

Landform (hillside, terrace, etc.): Distubed Depression | Local relief (concave, convex, none): concave

Slope (%): 0-1 | Lat: 36.7659 | Long: -95.9585 | Datum: NAD 83

Soil Map Unit Name: Osage Silty Clay | NWI classification: PEM

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5)			
1. *Carex frankii*	70	Yes	OBL
2. *Cardiospermum halicacabum*	50	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	120 =Total Cover		
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
	=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	120 (A)		220 (B)

Prevalence Index = B/A = 1.83

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS-13

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100					Loamy/Clayey	
2-10	10YR 2/1	80	2.5YR 4/6	20	C	M	Loamy/Clayey	Prominent redox concentrations
10-16	10YR 2/1	95	2.5YR 4/6	5	C	M	Sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016. Restricted evaluation below 12 inches, impentrable.

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)
- x 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)
- x 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)

- x 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** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Flood Storage Area - North | City/County: Bartlesville, Washington | Sampling Date: 9-16-22

Applicant/Owner: City of Bartlesville | State: OK | Sampling Point: FS-14

Investigator(s): SRVSTV | Section, Township, Range: S6 - T26N - R13E

Landform (hillside, terrace, etc.): Distubed Depression | Local relief (concave, convex, none): concave

Slope (%): 0-1 | Lat: 36.7673 | Long: -95.9583 | Datum: NAD 83

Soil Map Unit Name: Osage Silty Clay | NWI classification: PEM

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5)			
1. *Persicaria pensylvanica*	95	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	95 =Total Cover		
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
	=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	95	x 2 =	190
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		190 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS-14

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100					Loamy/Clayey	
2-10	10YR 2/1	80	2.5YR 4/6	20	C	M	Loamy/Clayey	Prominent redox concentrations
10-14	10YR 2/1	95	2.5YR 4/6	5	C	M	Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016. Restricted evaluation below 12 inches, impentrable.

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)
- x 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)
- x 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)

- x 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:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Flood Storage Area - North | City/County: Bartlesville, Washington | Sampling Date: 9-16-22

Applicant/Owner: City of Bartlesville | State: OK | Sampling Point: FS-15

Investigator(s): SRVSTV | Section, Township, Range: S6 - T26N - R13E

Landform (hillside, terrace, etc.): Distubed Depression | Local relief (concave, convex, none): concave

Slope (%): 0-1 | Lat: 36.7654 | Long: -95.9593 | Datum: NAD 83

Soil Map Unit Name: Osage Silty Clay | NWI classification: PEM

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	20	Yes	FACW
2.			
3.			
4.			
5.			
	20 =Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Gleditsia triacanthos*	10	Yes	FACU
2.			
3.			
4.			
5.			
	10 =Total Cover		
Herb Stratum (Plot size: 5)			
1. *Iva annua*	10	No	FAC
2. *Eleocharis compressa*	30	Yes	FACW
3. *Carex frankii*	30	Yes	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70 =Total Cover		
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
	=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: 4 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	50	x 2 =	100
FAC species	10	x 3 =	30
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS-15

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100					Loamy/Clayey	
2-10	10YR 2/1	80	2.5YR 4/6	20	C	M	Loamy/Clayey	Prominent redox concentrations
10-14	10YR 2/1	95	2.5YR 4/6	5	C	M	Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
___ Dark Surface (S7)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
X Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators 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:
This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.
Restricted evaluation below 12 inches, impentrable.

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)
x 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)
x 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)

x 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:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Flood Storage Area - North | City/County: Bartlesville, Washington | Sampling Date: 9-16-22

Applicant/Owner: City of Bartlesville | State: OK | Sampling Point: FS-16

Investigator(s): SRVSTV | Section, Township, Range: S6 - T26N - R13E

Landform (hillside, terrace, etc.): Distubed Depression | Local relief (concave, convex, none): concave

Slope (%): 0-1 | Lat: 36.7664 | Long: -95.9591 | Datum: NAD 83

Soil Map Unit Name: Osage Silty Clay | NWI classification: PEM

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5)			
1.			
2. *Cardiospermum halicacabum*	15	No	FAC
3. *Carex frankii*	75	Yes	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90 =Total Cover		
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
	=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	75	x 1 =	75
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		120 (B)

Prevalence Index = B/A = 1.33

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS-16

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100					Loamy/Clayey	
2-10	10YR 2/1	80	2.5YR 4/6	20	C	PL/M	Loamy/Clayey	Prominent redox concentrations
10-14	10YR 2/1	95	2.5YR 4/6	5	C	M	Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016. Restricted evaluation below 12 inches, impentrable.

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)
- x 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)
- x 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)

- x 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:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Flood Storage Area - North | City/County: Bartlesville, Washington | Sampling Date: 9-16-22

Applicant/Owner: City of Bartlesville | State: OK | Sampling Point: FS-17

Investigator(s): SRVSTV | Section, Township, Range: S6 - T26N - R13E

Landform (hillside, terrace, etc.): Distubed Depression | Local relief (concave, convex, none): concave

Slope (%): 0-1 | Lat: 36.7669 | Long: -95.9588 | Datum: NAD 83

Soil Map Unit Name: Osage Silty Clay | NWI classification: PEM

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	30	Yes	FACW
2.			
3.			
4.			
5.			
	30 =Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5)			
1. *Distichlis spicata*	75	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	75 =Total Cover		
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
	=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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	105	x 2 =	210
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		210 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS-17

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100					Loamy/Clayey	
2-10	10YR 2/1	80	2.5YR 4/6	20	C	PL/M	Loamy/Clayey	Prominent redox concentrations
10-14	10YR 2/1	95	2.5YR 4/6	5	C	M	Loamy/Clayey	

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

[2]Location: 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)
___ Dark Surface (S7)
___ Loamy Mucky Mineral (F1)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
X Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Coast Prairie Redox (A16)
___ Iron-Manganese Masses (F12)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016. Restricted evaluation below 12 inches, impentrable.

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)
x 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)
x 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)

x 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** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA SHEET – Midwest Region

Project/Site: Flood Storage Area - North | City/County: Bartlesville, Washington | Sampling Date: 9-16-22

Applicant/Owner: City of Bartlesville | State: OK | Sampling Point: FS-18

Investigator(s): SRVSTV | Section, Township, Range: S6 - T26N - R13E

Landform (hillside, terrace, etc.): Distubed Depression and Slope | Local relief (concave, convex, none): concave and slope

Slope (%): 0-1 | Lat: 36.7668 | Long: -95.9594 | Datum: NAD 83

Soil Map Unit Name: Osage Silty Clay | NWI classification: PEM

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

Are Vegetation No , Soil No , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation No , Soil No , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	30	Yes	FACW
2.			
3.			
4.			
5.			
	30	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2. *Melia azedarach*	10	Yes	FACU
3.			
4.			
5.			
	10	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Carex frankii*	50	Yes	OBL
2. *Solidago gigantea*	20	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70	=Total Cover	
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
		=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: 4 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	50	x 2 =	100
FAC species	0	x 3 =	0
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	110 (A)		190 (B)

Prevalence Index = B/A = 1.73

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: FS-18

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/1	100					Loamy/Clayey	
8-16	10YR 3/1	90	2.5YR 4/6	10	C	PL/M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: 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)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

This data sheet is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016. Restricted evaluation below 12 inches, impentrable.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- x Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- x 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)
- x 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)

- x 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** X **No** ___

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

Remarks:

APPENDIX D

BIOLOGICAL ASSESSMENT

BIOLOGICAL ASSESSMENT

City of Bartlesville WWTP
Bartlesville, Washington County, Oklahoma

Prepared for:

City of Bartlesville

401 South Johnstone Avenue

Bartlesville, OK 74003

Prepared by:

P.O. Box 335
Vinita, Oklahoma 74301
918-272-7656

9 North 9th Street
Greenwood, Arkansas 72913
918-244-9595

May 2022

Steven R. Votaw
President

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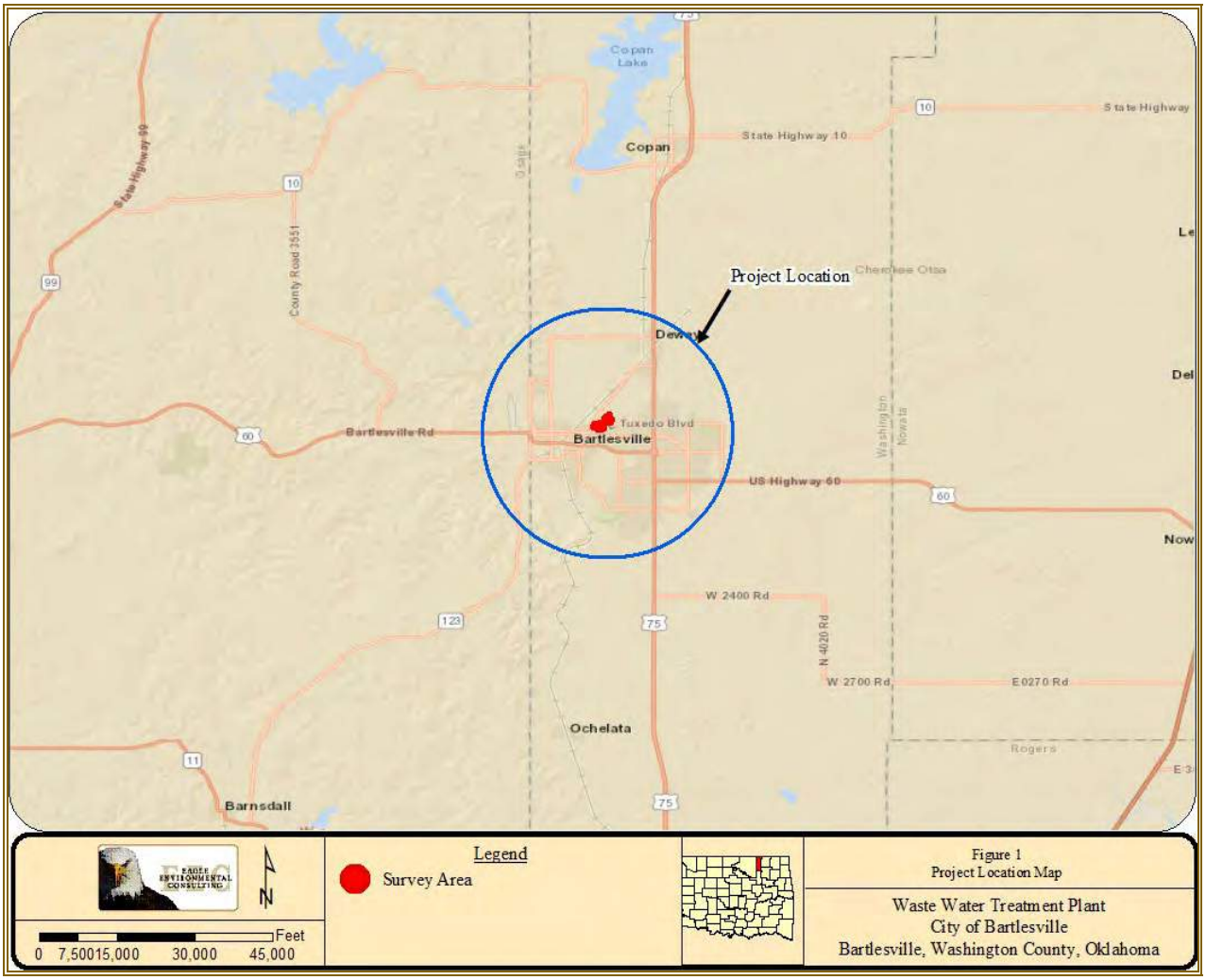
1.0 PROJECT OVERVIEW

1.1 Federal Nexus

A Biological Assessment (BA) was prepared to address the potential effects of the proposed wastewater treatment plant (WWTP) and floodwater storage project the federally-listed threatened or endangered (T&E) species present in or known to migrate through Delaware County, OK. Section 7(c) of the Endangered Species Act (ESA) of 1973, as amended, requires that, through consultation with the U.S. Fish and Wildlife Service (USFWS), federal actions do not jeopardize the continued existence of any threatened, endangered, or proposed species or result in the destruction or adverse modification of critical habitat. The proposed action would occur on federal government property administered by the U.S. Army Corps of Engineers (USACE). The USACE will be considered the federal action agency. This BA evaluates the potential effects of the proposed project on species that are federally listed under the ESA. This BA was prepared to evaluate the potential impacts to federally-listed species which may be present within or utilize the existing habitats adjacent to the proposed construction corridor. Some wildlife species afforded by protection under the Fish and Wildlife Coordination Act, Migratory Bird Treaty Act and others are also addressed herein.



1.2 Project Description

The proposed project would involve installation of new equipment and the clearing to upgrade and expand the Waste Water Treatment Plant service capabilities and provide additional floodwater storage basin to offset floodplain impacts. Vegetation management will consist of trimming limbs of living trees and underbrush and the clearing of the proposed floodwater storage basin(s). The project area includes approximately 45 acres of land. The project is located in Sections 6 & 7, Township 17 North, Range 13 East on the existing and new WWTP properties and proposed floodwater storage basin in Bartlesville, Washington County, Oklahoma.

1.3 Project Area Setting

Project Location

The survey area encompasses approximately 45 acres of a mixture of open herbaceous field, overgrazed pasture, forested wetlands, and forested riparian zones along the banks of the Caney River, existing Waste Water Treatment Plant (WWTP), and adjacent properties. The proposed project is located on the Bartlesville North, OK 7.5-minute USGS topographic maps in Sections 6 & 7, Township 17 North, Range 13, Washington County, Oklahoma.

Ecoregion

The surveyed area is located in the Osage Questas ecoregion (40b) of Oklahoma (Woods et al., 2005). This ecoregion consists of an irregular to undulating plain that is underlain by interbedded westward-dipping sandstone, shale, and limestone. Natural vegetation is mostly tall grass prairie. The eastern portion of this ecoregion is a mix of tall grass prairie and oak - hickory forest. Land use and land cover in this ecoregion consists mostly of rangeland, grassland, cropland and woodland in rugged areas. The main crops are wheat, soybeans, grain sorghum and alfalfa hay.

2.0 FEDERALLY LISTED SPECIES AND DESIGNATED CRITICAL HABITAT

The official list of threatened and endangered species potentially present within or adjacent to the action area was generated for the proposed project by the United States Fish and Wildlife Service's on-line Information, Planning, and Conservation (IPAC) decision support system (USFWS, 2022). The federally-listed species and associated habitat requirements identified that may be affected by the proposed project include the Northern Long-eared Bat, Piping Plover, red Knot, Neosho Mucket, Rabbitsfoot, American Burying Beetle, & Monarch Butterfly shown in ***Table 1***. The official species list and action area map obtained from the USFWS are provided in ***Appendix A***. The Oklahoma Biological Survey's Natural Heritage Inventory (ONHI) was used to obtain any occurrence information on federal and state threatened, endangered or candidate species. No species occurrences were identified within the ONHI database within the proposed action area. Correspondence is provided in ***Appendix A***. Identification of the dominant vegetative species was performed through transect and random sampling within the dominant and homogenous vegetation areas. The major habitat within the action area was documented and described to determine if the habitat requirements exist for the respective threatened or endangered species as having the potential to be present in or migrate through Delaware County.

Table 1 - Federally Listed T&E Species

Species/Critical Habitat	Listing Status	Habitat Requirements	Status within Action Area
Piping Plover (*Charadruis melodus*)	Threatened	Migratory stopover habitat includes sparsely vegetated sandy or gravelly shorelines and islands associated with the major river systems. Species does not nest in OK.	There is final critical habitat for this species. However, none is identified within or near the action area.

Table 1 - Federally Listed T&E Species

Species/Critical Habitat	Listing Status	Habitat Requirements	Status within Action Area
Red Knot (*Calidris canutus rufa*)	Threatened	Coastal areas, mudflats on lakes or reservoirs, and may use sandbars along the major river systems for forage and resting areas. Species does not nest in OK.	There is proposed critical habitat for this species. However, none is present within or near the action area.
Neosho Mucket *(Lampsilis rafinesqueana)*	Endangered	Typically found in shallow riffles, or areas with swift currents, along the Illinois river.	There is final critical habitat for this species. However, none is present within or near the action area.
Rabbitsfoot *(Quadrula cylindrica cylindrica)*	Threatened	Suitable habitat for the Rabbitsfoot occurs in small to medium-sized streams and some large rivers. Typically, found in a mixture of sand and gravel substrate.	There is final critical habitat for this species. However, none is present within or near the action area.
Monarch Butterfly *(Danaus plexippus)*	Candidate	Milkweed plants are especially important for caterpillars, but adult butterflies feed on nectar from flowering plants like goldenrod, asters and gayfeather.	Potentially suitable foraging habitat present. However, no milkweed plants were observed.
American Burying Beetle *(Nicrophorus americanus)*	Threatened	Breeding habitat: undisturbed, mature oak-hickory forests with substantial litter layers and deep, loose soils over grasslands or bottomland forests. Feeding habitat: undisturbed grasslands, grazed pasture, riparian zones, and oak-hickory forest, as well as a variety of various soil types.	Potentially suitable habitat present.
Northern Long-eared Bat *(Myotis septentrionalis)*	Threatened	During summer, northern bats roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees. Forages among mature hardwood canopy.	Potentially suitable foraging habitat present. Potential roost trees present along the Caney River within action area.

USFWS, 2022

3.0 ENVIRONMENTAL BASELINE

3.1 Ecological Processes and Conditions

Soils

The Natural Resources Conservation Service (NRCS) Web Soil Survey was used to identify soil units within the study area (NRCS 2022). Five soil units are located within the proposed project area and included;

- Okemah silt loam, 0 to 1 percent slopes
- Osage clay, 0 to 1 percent slopes, occasionally flooded
- Shidler stony silty clay loam, 1 to 20 percent slopes
- Verdigris clay loam, 0 to 1 percent slopes, occasionally flooded
- Verdigris silt loam, 0 to 1 percent slopes, frequently flooded

Climate

The climate is characterized as humid and mesothermal. The average annual precipitation is over 41 inches. The months of April through June are the wettest with a secondary peak between September and early November (Oklahoma Climatological Survey, 2022). The mean temperature is 58 degrees. The average daytime high is 92.7 degrees in July and in 47.5 degrees in January. Winds are predominantly from the south averaging 9 miles per hour.

Vegetation

The project area was approximately 45 acres in size. The majority of the WWTP assessment area is described as mostly open livestock pastures with scattered trees and forested riparian areas. The central portion of the proposed floodwater storage basin north of the Caney River is predominantly an open herbaceous field dominated by Johnsongrass. The north, east, and southern perimeters of the proposed basin are primarily forested and include multiple depression wetland features. The dominant woody species consisted of green ash, hackberry, honey locust, box elder, Osage orange, persimmon, and scattered Shumard oak trees. Sapling and shrub species included green brier, coral berry, poison ivy, and Virginia creeper.

3.2 Species Habitat Within the Action Area

The action area was canvassed to identify and describe the habitat for the listed T&E species that could be present within the proposed action area. The federally listed species and their habitat requirements are provided below.

Piping Plover

The piping plover is a small, stocky, sandy-colored bird resembling a sandpiper. The habitat requirements for the piping plover include sandy shorelines on lakes and sandbars along the major river systems for forage and resting areas. The piping plover is migratory in Oklahoma in the spring and fall. They do not generally nest in Oklahoma. Plovers often gather in groups on undisturbed beaches prior to their southward migration. By mid-September, both adult and young plovers will have departed for their wintering areas (USFWS, 2011). Potentially suitable habitat for the piping plover was not observed within the action area.

Red Knot

The Red Knot is a rather large sandpiper that breeds in far northern Canada on tundra from May to June. Fall migrations typically begin in late July through mid-August where the species may travel as far as the coasts of South America. Migratory habitat requirements for the red knot include coastal areas, mudflats on lakes or reservoirs, and may use sandbars along the major river systems for forage and resting areas. This species is considered migratory in or through Oklahoma in the spring and fall. No potentially suitable habitat for this species was not identified.

Northern Long-eared Bat

The northern long-eared bat is a medium-sized bat about 3 to 3.7 inches in length but with a wingspan of 9 to 10 inches. As its name suggests, this bat is distinguished by its long ears, particularly as compared to other bats in its genus, Myotis, which are actually bats noted for their small ears (Myotis means mouse-eared). The northern long-eared bat is found across much of the eastern and north central United States and all Canadian provinces from the Atlantic coast west to the southern Northwest Territories and eastern British Columbia. The species' range includes 37 states. White-nose syndrome, a fungal disease known to affect bats, is currently the predominant threat to this bat, especially throughout the Northeast where the

species has declined by up to 99 percent from pre-white-nose syndrome levels at many hibernation sites. Although the disease has not yet spread throughout the northern long-eared bat's entire range (white-nose syndrome is currently found in at least 25 of 37 states where the northern long-eared bat occurs), it continues to spread.

Neosho Mucket

The Neosho Mucket is associated with shallow riffles and runs comprising gravel substrate and moderate to swift currents. The Neosho Mucket generally consumes algae, bacteria, detritus, and microscopic animals.

Rabbitsfoot

The rabbitsfoot is a freshwater clam with an elongate shell approximately 4-6 inches in length. Its color can vary from dark brown to light green. Multiple knobs are often evident on the shell of the rabbitsfoot. Rabbitsfoot mussels tend to select areas with sandy or gravel bottoms, often in side-channels with slower flow near the shore. The rabbitsfoot was historically found in the Verdigris, Neosho, Spring, Illinois, Blue and Little Rivers in Oklahoma. Populations currently remain in the Verdigris, Illinois, and Little rivers. While the rabbitsfoot still exist in the Spring and Neosho rivers, they are considered very rare or extirpated in the Oklahoma portion. Due to modification of the Verdigris River from construction of Oologah Reservoir and the McClellan-Kerr Navigation System, rabbitsfoot populations in that river have become reduced and isolated due to inundation of formerly-occupied habitat. Rabbitsfoot mussels prefer shallow areas with sand and gravel along the bank and next to shoals, which provide a refuge in fast-moving rivers. They are found in 13 states from Pennsylvania to Oklahoma. Rabbitsfoot rely on approximately a dozen species of shiners for its larva (glochidia) host.

Monarch Butterfly

The Monarch butterfly is a visually beautiful invertebrate that is native to North America. The thin, black veins and striking orange wings that are peppered with small white spots are indicative to this species. They are a relatively large butterfly that measures 3.5 inches to 4 inches long. Milkweed plants are vital to the caterpillars, while the adults feed on the nectar of flowering goldenrod, asters and gayfeather plants.

American Burying Beetle

The American Burying Beetle (ABB) is a large beetle with a shiny black appearance with four orange-red spots on the wing covers (elytra). A large red spot on the pronotum of the beetle is indicative of the species. The habitat requirements for this beetle are not fully known; however, the ABB is considered a habitat generalist and is known to occupy a diverse range of habitats. Habitats associated with the ABB include open grasslands, forests, as well as transitional areas. Suitable habitat exists within the action area. The property lies within the historic range of the ABB. Suitable habitat was observed within most the project area.

Bald Eagle

The Bald Eagle (*Haliaeetus leucocephalus*) is a raptor protected by the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. Activities that would disturb eagles are prohibited under the Bald and Golden Eagle Protection Act. "Disturb" means to agitate an eagle to the degree that causes or is likely to (1) cause injury, (2) interfere with breeding, feeding or sheltering behavior, or (3) nest abandonment. The bald eagle prefers large trees or high cliffs along large waterways for perching and nesting purposes. Fish is the preferred diet of eagles, but they also eat small mammals, waterfowl, turtles and dead animals. Preferred foraging areas include quiet coastal areas, rivers or lakeshores with large tall trees. Methods used to identify suitable habitat included investigations of waterbodies potentially used for foraging, large nesting or perching trees adjacent to such water features and other areas which Bald Eagles are known to

use. Potential or suitable habitat was identified within the action area. However, no Bald Eagles or nests were observed during the site visit. This project is not expected to impact the Bald Eagle.

Migratory Birds

Migratory bird species are protected under the Migratory Bird Treaty Act (MBTA) as amended. The MBTA prohibits the take of any migratory bird without authorization for the USFWS. While suitable nesting habitat was present, no bird nests were observed within the study area.

On May 12, 2022, a field survey was conducted by Eagle Environmental Consulting. The homogenous primary habitats within the action area were evaluated using pedestrian transects to identify the different types of vegetative communities. Seven (7) habitat assessment sample sites (HASS) were utilized to identify and describe the dominant habitats within the action area to determine if any of the federally-listed T&E species or their habitat were present. The descriptions for each are provided below. The project area description and land use are also provided. Soil characteristics were also investigated for confirmation of accurate mapping. Photographs of the project area are provided at ***Appendix D.*** Habitat assessment sample site locations are shown **on *Figure 2.***

HASS 1 is located in a mostly open field situated within a horse paddock and pasture. The area is heavily grazed. The dominant vegetation consisted of clover, plantain, wood sorrel, three awn, great ragweed, common ragweed, Bermuda grass, curly dock, and green brier. No aquatic resources were present. No habitat for the listed species was observed.

HASS 2, 3, 4 and 5 are located among the riparian corridor along the Caney River. The area is described as mature and sub-mature forested communities dominated by sycamore, green ash, box elder, American elm, silver maple, Shumard oak, and cottonwood trees and saplings. The understory is mostly dense to very dense and comprised of the same canopy species as well as poison ivy, grape, and green brier. The herbaceous species consisted of Virginia rye, Indian wood oats, and eastern woodland sedge. A few snag trees are present at HASS 3 and 4. Potentially suitable bat habitat is present.

HASS 6 is located in an open fallow field dominated by Johnson grass, brome, fescue, and brome. No habitat for the listed species was observed.

HASS 7 is located in a forested upland area adjacent to forested floodplain wetlands. Most of the trees were green ash and hackberry and were young to sub-mature with diameter at breast height (dbh) measurements between 3 and 8 inches. No snag or roost trees were observed in the general area.


HASS 7
HASS 6
HASS 8
HASS 9
Bartles Road
Caney River
HASS 4
HASS 3
HASS 2
HASS 5
HASS 1
Tuxedo Boulevard
Legend
Property Boundary
HASS Location
Levy
0 0.05 0.1 0.2
Miles
Figure 2
HASS Location Map
Waste Water Treatment Plant
City of Bartlesville
Bartlesville, Washington County, Oklahoma

4.0 ANALYSIS OF EFFECTS

4.1 Direct Effects

Direct effects within the action area would consist of temporary and permanent impacts. Temporary impacts would be associated with site preparations adjacent to permanent structures or features. Soils and herbaceous vegetation in these areas would be restored and replanted. Permanent impacts would result from conversion of existing habitats to structures and impervious surfaces associated primarily with the WWTP facility improvement and floodwater levee to be constructed between the Caney River and WWTP. All exposed soils within the construction areas would be restored upon completion. The survey area is approximately 45 acres in size. Tree removal within the floodwater basin would be approximately 17 acres and the tree removal areas within WWTP expansion area would encompass 2 acres. Private and governmental property or right of way maintenance, herbicide application, and/or mowing are expected to continue in the undisturbed areas as well as the new facilities upon project completion. Permanent impacts are expected at the existing and expanded WWTP site as well as conversion of habitats at the temporary floodwater storage basin. Trees will be removed and the area within and immediately adjacent thereto will be maintained by mowing and/or herbicide application on a routine basis. None of the federally listed T&E species were confirmed as present using opportunistic visual or auditory surveys within the action area during the field survey. No acoustic bat or ABB presence/absence surveys were conducted.

4.2 Indirect Effects

No other development associated with proposed project is expected. No uses or projects are anticipated that would be tangential to the proposed. Provided no additional habitat disturbances are undertaken, the proposed project should have no indirect effects on the listed species other than described.

4.3 Interrelated and Interdependent Actions and Activities

This biological assessment addressed the potential impacts to regulated species associated with the proposed project phase. No immediate interrelated or interdependent actions are expected or planned as the result of the proposed project.

5.0 CONCLUSION

Threatened and Endangered Species

The habitats where potentially suitable NLEB roost trees were identified along the Caney River will not be affected. No habitats for the listed species were observed within the proposed construction footprint of the expanded WWTP in the overgrazed equine pastures except for scattered areas of potentially suitable ABB habitat. Scattered habitat for the ABB and forested habitats potentially suitable for the NLEB are present among and adjacent to the forested riparian zone along the Caney River within the proposed floodwater storage basin. Based on the proposed design, trees in the floodwater basin would be removed. Tree removal for the overall project would occur during fall and winter time frames when the NLEB is not present based on timing of construction phasing. Potential impacts to the ABB could occur, however completion of the ABB impact determination keys and use of the 4(d) Rule appear applicable (Appendix A). Therefore, no ABB survey or compensatory mitigation for this species appears warranted.

Based on the lack of potentially suitable habitat for the listed avian, the proposed project should have a no effect determination for the Piping Plover and Red Knot. No aquatic habitats for the Neosho mucket or Rabbitsfoot mussel were identified or would be affected. The habitats for potential Monarch butterfly presence or usage were not observed. The open field areas were overgrown with Johnson grass or heavily grazed. No host or forage plants for this species were observed. The impact determination for the butterfly

would be No Effect. Coordination with the ONHI did not identify any federally listed species within or near the project area. (See ***Appendix A***). Additionally, none of the federally listed T&E species were confirmed as present within the assessment area based on species surveys or opportunistic observations. The Species Conclusion Table ***(Table 2)*** below provides the documentation and rationale relative to the potential affect to each of the federally-listed species:

Table 2
Species Conclusion Table

Species/Critical Habitat	Habitat Determination	USFWS Consultation	ESA Determination
Piping Plover	No Suitable Habitat Present	Not Required	No Effect
Red Knot	No Suitable Habitat Present	Not Required	No Effect
Neosho Mucket	No Suitable Habitat Present	Not Required	No Effect
Rabbitsfoot	No Suitable Habitat Present	Not Required	No Effect
Monarch Butterfly	No Suitable Habitat Present	Not Required	No Effect
American Burying Beetle	No suitable Habitat Present	Not Required	No Effect
Northern Long-eared Bat	Potentially Suitable Foraging Habitat Present	Not Required	No Effect

Bald Eagle

Limited potential or suitable habitat was identified within the action area for the bald eagle and generally associated with creeks or rivers and larger ponds adjacent to the corridor. No bald eagles or nests were observed during the site visit. This project is not expected to impact the bald eagle.

Migratory Birds

Suitable nesting habitat is present within the project area. However, no bird nests were observed within the area planned for the proposed action. No active swallow nests were observed within the action area. Construction is encouraged to occur between August 15 and March 31 to avoid the nesting season to avoid potential impact to migratory birds. Suitable habitat for non-migratory ground nesting birds is also present and construction is encouraged to occur during the same time frame. Provided construction can be conducted within the non-nesting season, no adverse effects are anticipated to non-migratory birds. While suitable habitat may be present for other BCC, none were identified during this field survey.

6.0 REFERENCES

Natural Resources Conservation Service. 2020.Web Soil Survey. Accessed on May 1, 2022 at https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

Oklahoma Climatological Survey. 2022. The climate of Delaware County. Accessed on May 1, 2022 at http://climate.ok.gov/county_climate/Products/County_Climatologies/county_climate_tulsa.pdf

Oklahoma Natural Heritage Inventory. 2022. Species occurrence records.

U.S. Fish and Wildlife Service. 1985. Interior population of the Least Tern Determined to be Endangered. Federal Register, Volume 50, Number 102, 21784-21792.

U.S Fish and Wildlife Service, 2011. Piping Plover Fact Sheet. Oklahoma Ecological Services Office.

United States Fish and Wildlife Service. 2022. Information, Planning, and Conservation (IPAC) decision support system.

Woods, A.J., J.M. Omernik, D.R. Butler, J.G. Ford, J.E. Henley, B.W. Hoagland, D.S. Arndt, and B.C. Moran. 2005. Ecoregions of Oklahoma (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,250,000).

APPENDIX A

USFWS and ONHI Records

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
Phone: (918) 581-7458 Fax: (918) 581-7467
http://www.fws.gov/southwest/es/Oklahoma/

In Reply Refer To: May 19, 2022
Project Code: 2022-0044693
Project Name: Bartlesville WWTP and Flood Detention Basin

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
(918) 581-7458

Project Summary

Project Code: 2022-0044693
Event Code: None
Project Name: Bartlesville WWTP and Flood Detention Basin
Project Type: Wastewater Facility - New Construction
Project Description: Upgrade and expand WWTP service capabilities and provide additional floodwater storage basin to offset floodplain impacts.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.75902175,-95.959254225,14z

Counties: Washington County, Oklahoma

Endangered Species Act Species

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot *Calidris canutus rufa* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

Clams

NAME	STATUS
Neosho Mucket *Lampsilis rafinesqueana*	Endangered
There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3788	
Rabbitsfoot *Quadrula cylindrica cylindrica*	Threatened
There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5165	

Insects

NAME	STATUS
American Burying Beetle *Nicrophorus americanus*	Threatened
Population: Wherever found, except where listed as an experimental population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/66	
Monarch Butterfly *Danaus plexippus*	Candidate
No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Golden-plover *Pluvialis dominica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31

NAME	BREEDING SEASON
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Henslow's Sparrow *Ammodramus henslowii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3941	Breeds May 1 to Aug 31
Hudsonian Godwit *Limosa haemastica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Kentucky Warbler *Oporornis formosus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Ruddy Turnstone *Arenaria interpres morinella* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week

months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

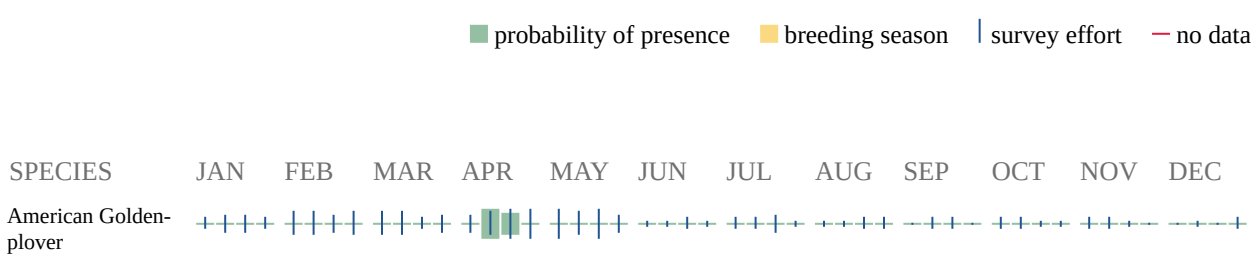
1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly

important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?
The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of

certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE VISIT HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

IPaC User Contact Information

Agency: Oklahoma Water Resources Board
Name: Steve Votaw
Address: P.O. Box 335
City: Vinita
State: OK
Zip: 74301
Email steve@eagle-env.com
Phone: 9182727656

OBS Ref. 2022-052-BUS-EAG

Dear Mr. Votaw, Feb. 4, 2022

We have reviewed occurrence information on federal and state threatened, endangered or candidate species, as well as non-regulatory rare species and ecological systems of importance currently in the Oklahoma Natural Heritage Inventory database for the following location you provided:

Sec. 6 and 7-T26N-R13E, Washington County

We found 2 occurrence(s) of relevant species within the vicinity of the project location as described.

Species Name	Common Name	Federal Status
Haliaeetus leucocephalus	**Bald Eagle**	**protected**
County	***TRS***	***Count***
Washington	Sec. 36-T27N-R12E	2

Additionally, absence from our database does not preclude such species from occurring in the area.

If you have any questions about this response, please send me an email, or call us at the number given below.

Although not specific to your project, you may find the following links helpful.

ONHI, guide to ranking codes for endangered and threatened species:
http://www.oknaturalheritage.ou.edu/content/biodiversity-info/ranking-guide/

Information regarding the Oklahoma Natural Areas Registry:
https://okregistry.wordpress.com/

Todd Fagin
Oklahoma Natural Heritage Inventory
(405) 325-4700
tfagin@ou.edu

Determination Key to the American Burying Beetle 4(d) Rule for Federal and Non-Federal Activities

This key will help you determine if your proposed project is excepted from prohibited take of the American burying beetle (ABB), as defined in the 4(d) rule under the Endangered Species Act (Act)(50 CFR 17.47(d), Federal Register Citation 85 FR 65241). If so, you will receive a certification letter from the U.S. Fish and Wildlife Service (Service) indicating that you have followed the Service's ABB 4(d) key process and that your proposed project is excepted from take prohibitions.

This is an interim key for your use until an online key is available through the Information for Planning and Consultation (IPaC) system. The ABB 4(d) rule provides protections and exceptions for the ABB only. To assess potential impacts to other federally-protected species, please continue the local Ecological Services Field Office process for consultation and technical assistance, which should include the use of IPaC.

Select one: ☑ Federal Agency/Federal Nexus ☐ No Federal Nexus

Project Name: Bartlesville WWTP and Floodwater Storage Basin

If this is a federal agency project, or if the project has a federal nexus, fill out federal agency information below:

Project Location (please include County):

The proposed project is located on the Bartlesville North, OK 7.5-minute USGS topographic map in Sections 6 & 7, Township 17 North, Range 13, Washington County, Oklahoma.

Federal Agency Name: _____

Point of Contact: _____

Phone #_____ Email_____

If you are a non-federal entity, fill out the information below. This includes non-federal entities that are acting as the delegated authority for a federal agency. If you are the delegated authority, provide federal agency contact information above, as well.

Company Name: OK Water Resources Board

Point of Contact: Lindy Clay

Phone #_____ Email Lindy Clay <Lindy.Clay@owrb.ok.gov>

Please follow the steps below and check all appropriate boxes:

Step A - Did the results of your IPaC resource list include the American burying beetle?

☐ **Yes** – your project is within the *Area of Influence* of the American burying beetle. Continue to Step B.

☑ **No** – your project is outside of the species current *Area of Influence*. The Action will have "No Effect" on the ABB. No concurrence or permit from the Service required. Document the IPaC species list in your files. No further consultation with the Service related to the ABB is necessary.

Step B - Will your activity *purposefully take* ABB? For example, are you capturing ABBs for research?

☐ **Yes - my activity includes purposefully taking ABBs.**

- Intentional take is not excepted under the 4(d) rule. Research that involves handling ABBs does require a permit; if you are conducting research that includes capturing and handling ABBs, you should contact the U.S. Fish and Wildlife Service to apply for a permit.
- Other *purposeful take* (see Definitions below) of ABBs is prohibited. You should contact the U.S. Fish and Wildlife Service for more information. Please contact the Service's Ecological Services Field Office located nearest the project. Office contact information is provided at the end of this key.

☑ **No - my activity does not include purposefully taking of ABBs.** Continue to Step C.

Step C - Is the *action area* of your proposed project wholly located within one of the following Analysis Areas (see map at end of this document).

☑ **Yes:**

- Southern Plains Analysis Area – Continue to Step D
- Northern Plains Analysis Area – Continue to Step E
- New England Analysis Area – Continue to Step F

☐ **No or uncertain** (if your project is near the boundary and you are uncertain if the action area is wholly within one of the above Analysis Areas, select this option.

Please contact the closest U.S. Fish and Wildlife Service Ecological Services Field Office for further guidance. Office contact information is provided at the end of this key.

Step D - **If you have reached this Step, you have determined that your action area is located wholly within the Southern Plains analysis areas. To narrow your project down further, please answer the following question:**

Is the action area wholly located outside of *Conservation Lands* as identified in the 4(d) rule. See map and definitions at end of this document.

☑ **Yes** - Incidental take (see Definitions below) of ABBs is excepted from prohibitions by the final 4(d) rule in Southern Plains analysis areas outside defined Conservation Areas.

The Action is consistent with activities analyzed in the Service's Programmatic Biological Opinion for the 4(d) rule. The Action may affect the American burying beetle; however, any take that may occur as a result of the Action is not prohibited under the Act, Section 4(d) rule adopted for this species at 50 CFR 17.47(d), Federal Register Citation 85 FR 65241.

**Please fill out the Questionnaire at the end of this key and submit this completed form to the nearest U.S. Fish and Wildlife Service Ecological Services Field Office. The subject line in your email should read "ABB 4d Key Letter Request" **

The Service will respond by providing you a certification letter indicating that you have followed the Service's ABB 4(d) key process and that your proposed project is excepted from take prohibitions.

☐ **No or uncertain - all or portions of the Action Area are, or may be, within a defined Conservation Land.**

Based on its location within a defined Conservation Land, incidental take from the proposed project may not be excepted under the 4(d) Rule. Please contact the closest U.S. Fish and Wildlife Service Ecological Services Field Office for further guidance. Office contact information is provided at the end of this key.

Step E - **If you have reached this step, you have determined that your action area is wholly located within the Northern Plains analysis areas. To narrow your project down further, please answer the following question(s):**

Is your proposed action considered wildlife management conducted by Federal or State government agencies?

☐ **Yes** - the proposed action is wildlife management conducted by Federal or State government agencies?

The Action is consistent with activities analyzed in the Service's Programmatic Biological Opinion for the 4(d) rule. The Action may affect the American burying

beetle; however, any take that may occur as a result of the Action is not prohibited under the Act, Section 4(d) rule adopted for this species at 50 CFR 17.47(d), Federal Register Citation 85 FR 65241.

**Please fill out the Questionnaire at the end of this key and submit this completed form to the nearest U.S. Fish and Wildlife Service Ecological Services Field Office. The subject line in your email should read "ABB 4d Key Letter Request" **

The Service will respond by providing you a certification letter indicating that you have followed the Service's ABB 4(d) key process and that your proposed project is excepted from take prohibitions.

☐ **No** - Continue to Step F

Step F - If you have reached this step, you have determined that your action area is wholly located within either the Northern Plains or New England analysis areas. To narrow your project down further, please answer the following question(s):

Does your proposed action meet either following criteria:

- Is the proposed action considered to be normal ranching and grazing activities? See definitions.

-OR-

- Is the action being led by an employee or agent of the Service or of a State conservation agency that is operating a conservation program pursuant to the terms of a cooperative agreement with the Service in accordance with section 6(c) of the ESA, who is designated by his or her agency for such purposes, may, when acting in the course of his or her official duties, take American burying beetles, provided that, for State conservation agencies, the American burying beetle is covered by an approved cooperative agreement to carry out conservation programs?

☐ **Yes - the action meets one of the two criteria outlines above.**

The Action is consistent with activities analyzed in the Service's Programmatic Biological Opinion for the 4(d) rule. The Action may affect the American burying beetle; however, any take that may occur as a result of the Action is not prohibited under the Act, Section 4(d) rule adopted for this species at 50 CFR 17.47(d), Federal Register Citation 85 FR 65241.

**Please fill out the Questionnaire at the end of this key and submit this completed form to the nearest U.S. Fish and Wildlife Service Ecological Services Field Office. The subject line in your email should read "ABB 4d Key Letter Request" **

The Service will respond by providing you a certification letter indicating that you have followed the Service's ABB 4(d) key process and that your proposed project is excepted from take prohibitions.

☐ **No** - the action does not meet either of the criteria above – Continue to Step G

Step G - If you have reached this step, any incidental take that may occur as a result of your project is not excepted by the 4(d) rule. The following question will help to determine if any take associated with your project would be identified as prohibited take, in accordance with the 4(d) rule.

Will the action include soil disturbance of suitable ABB habitat, including but not limited to the use of vehicles or heavy equipment, vegetation removal, use of herbicides, pesticides, other hazardous chemicals that may impact soil or vegetation or otherwise impact ABB habitat?

☐ **Yes –** Any Incidental take from the proposed project is prohibited take and based on your answers in Steps A-F is not excepted under the 4(d) Rule. Please contact the closest U.S. Fish and Wildlife Service Ecological Services Field Office for further guidance. Office contact information is provided at the end of this key.

☐ **No** - Any incidental take associated with your proposed project is not prohibited:

The Action is consistent with activities analyzed in the Service's Programmatic Biological Opinion for the 4(d) rule. The Action may affect the American burying beetle; however, any take that may occur as a result of the Action is not prohibited under the Act, Section 4(d) rule adopted for this species at 50 CFR 17.47(d), Federal Register Citation 85 FR 65241.

**Please fill out the Questionnaire at the end of this key and submit this completed form to the nearest U.S. Fish and Wildlife Service Ecological Services Field Office. **

The Service will respond by providing you a certification letter indicating that you have followed the Service's ABB 4(d) key process and that your proposed project is excepted from take prohibitions.

QUESTIONNAIRE - American Burying Beetle 4(d) Key

1. **Please select the activity that best matches your proposed action.**

- [x] Soil disturbance related to urban expansion or construction of structures
- [ ] Soil disturbance related to agricultural conversion of ABB habitat to cropland
- [ ] Soil disturbance related to grazing and ranching practices
- [ ] Soil disturbance related to prescribed fire
- [ ] Soil disturbance related to forestry practices
- [ ] Wind Industry development and turbine operation
- [ ] Soil disturbance related to oil and gas development
- [ ] Soil disturbance related to road construction and maintenance
- [ ] Soil disturbance related to transmission line construction and maintenance
- [ ] Soil disturbance related to water line infrastructure construction and maintenance
- [ ] Soil disturbance related to communication infrastructure construction and maintenance
- [ ] Soil disturbance related to wildlife management.
- [ ] Other activities with soil disturbance - briefly describe below

2. **Estimate the total acres of suitable American burying beetle habitat that may be affected by your proposed project.**

Acres: 7.0

Ecological Services Field Office Contact Information

Arkansas Ecological Services Field Office
110 S. Amity Road
Suite 300
Conway, AR 72032
Phone: 501-513 4470
Fax: 501-513 4480

Kansas Ecological Services Field Office
2609 Anderson Avenue
Manhattan, Kansas 66502
Telephone: 785-539-3474
Fax: 785-539-8567

Nebraska Ecological Services Field Office:
9325 South Alda Road
Wood River, NE 68883
Fax:(308) 384-8835
Phone: (308) 382-6468
Email: NebraskaES@fws.gov ← **SEND REQUESTS HERE**

New England Ecological Services Field Office
70 Commercial St., Suite 300
Concord, NH 03301
Phone: (603) 223-2541
Fax: (603) 223-0104

Oklahoma Ecological Services Office
9014 E 21st Street
Tulsa, OK 74129
Phone: 918-581-7458
Email: OKProjectReview@fws.gov ← **SEND REQUESTS HERE**
http://www.fws.gov/southwest/es/Oklahoma/

South Dakota Ecological Services Field Office
420 S. Garfield Avenue, Suite 400
Pierre, SD 57501-5408
Phone (605) 224-8693
FAX 605-224-9974
Email: southdakotafieldoffice@fws.gov

DEFINITIONS - American Burying Beetle 4(d) Key

"Area of Influence" is the area within which any project should consider potential effects to the listed species. The Area of Influence typically encompassed larger areas than simply where the species is known to exist. For example, aquatic species may occur in only one small section of a stream, but work upstream of that area, or within the watershed could result in effects to where the species is located, thus impacting the listed species. Those effects warrant consideration under Section 7 of the Act.

"Conservation Lands" We define "conservation lands" in the Southern Plains analysis areas as lands included within the existing boundaries of Fort Chaffee in Arkansas (approximately 64,000 acres), and McAlester Army Ammunition Plant (approximately 45,000 acres) in Oklahoma, and Camp Gruber/Cherokee Wildlife Management Area (approximately 64,000 acres) in Oklahoma. These areas have defined boundaries and management that is compatible with recovery for the American burying beetle**.**

"Incidental take" is defined by the Endangered Species Act as take that is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity." For example, plowing firebreaks for prescribed burns can kill ABBs in the soil, but the purpose of the activity is not to kill ABBs.

"Ranching and grazing" means activities involved in grazing livestock (e.g., cattle, bison, horse, sheep, goats, or other grazing animals) such as: gathering of livestock; construction and maintenance of fences associated with livestock grazing; installation and maintenance of corrals, loading chutes, and other livestock working facilities; development and maintenance of livestock watering facilities; placement of supplements such as salt blocks for grazing livestock; and, when associated with livestock grazing, the control of noxious weeds, haying, mowing, and prescribed burning. Ranching and grazing does not include any form of farming, conversion of grassland to cropland, or management of cropland.

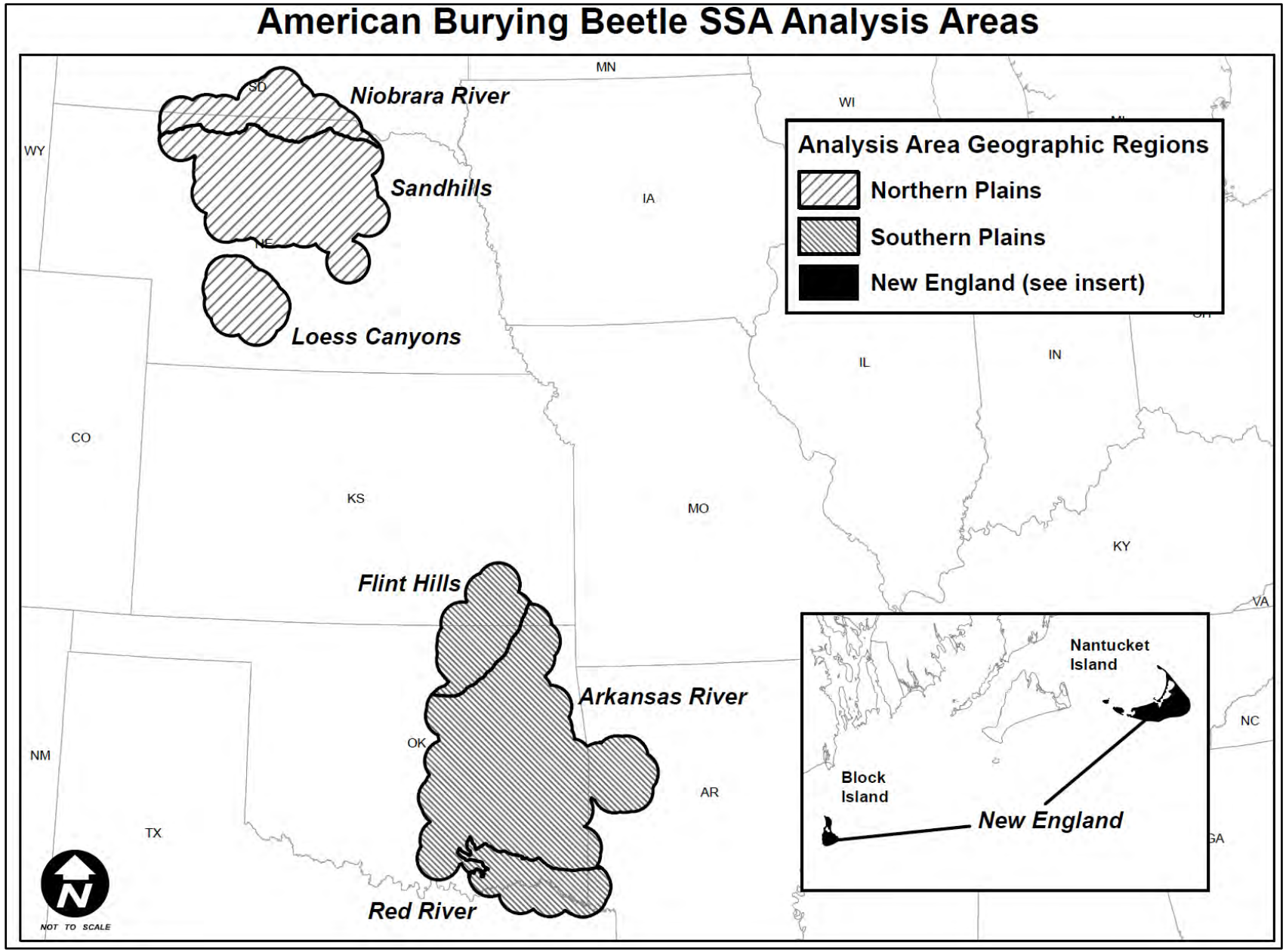
"Soil disturbance" Soil disturbance means movement or alteration of soil associated with modifying the existing land use. Soil disturbance includes actions such as grading, filling, soil excavating or topsoil stripping. Soil disturbance also includes non-physical alterations such as chemical treatment, including ground or soil sterilizers, and pesticides that would make the habitat unsuitable.

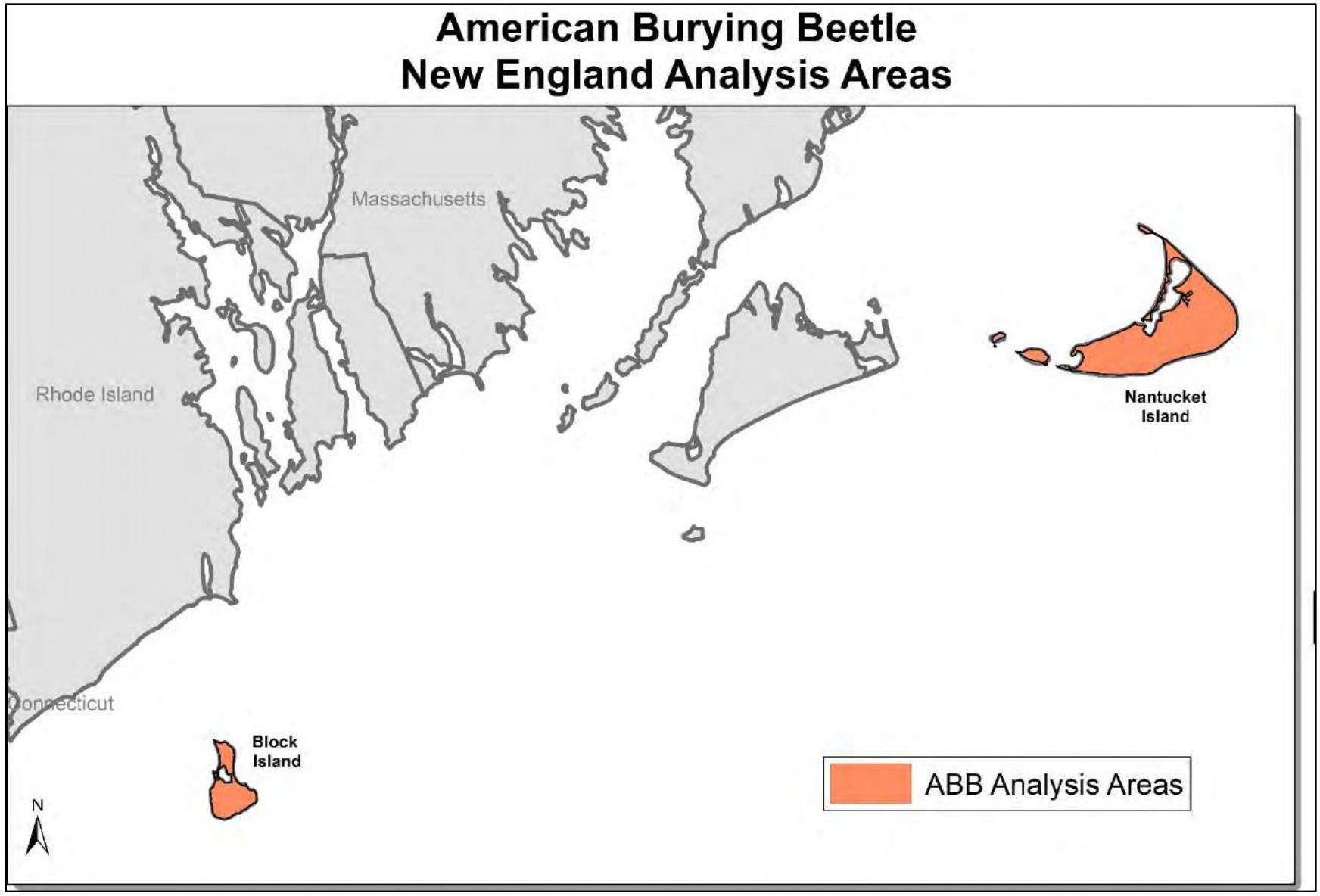
"Suitable Habitat" While the ABB uses a wide variety of habitats, the Service currently believes that areas exhibiting the following characteristics will not be of conservation value to ABBs and will not be credited as mitigation, except as possible buffer credits described below under the *Crediting Method* section. Areas exhibiting these characteristics should be excluded from mitigation lands because they are considered *unfavorable* for use by ABBs based on disturbance regime, vegetation structure, unsuitable soil conditions, and carrion availability:

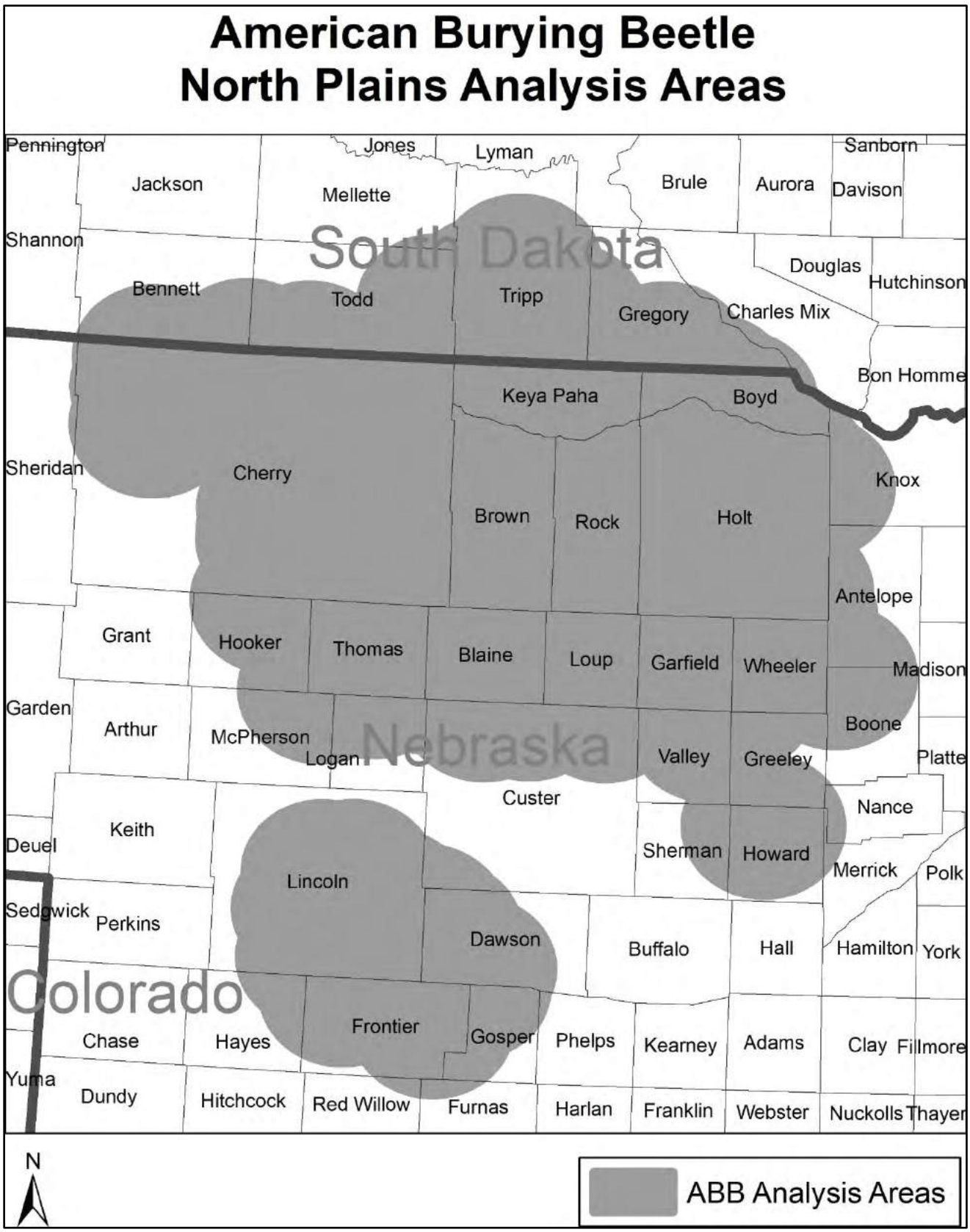
1. Land that is tilled on a regular basis, planted in monoculture, and does not contain native vegetation.
2. Pasture or grassland that has been maintained through frequent mowing, grazing, or herbicide application at a height of 20 cm (8 inches) or less.
3. Land that has already been developed and no longer exhibits topsoil, leaf litter, or vegetation.
4. Urban areas with maintained lawns, paved surfaces, or roadways.
5. Stockpiled soil without vegetation.
6. Wetlands or permanent waterbodies with standing water or saturated soils. Areas adjacent to wetlands and/or riparian areas are not considered unfavorable for the ABB, as they may be important for ABBs seeking moist soils during dry conditions.

"Take" is defined by the Act as 'to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any endangered species. Purposeful take is when the reason for the activity or action is to conduct some form of take. For instance, conducting a research project that includes collecting and handling ABBs is a form of purposeful take. Intentionally killing or harming ABBs is also purposeful take and is prohibited.

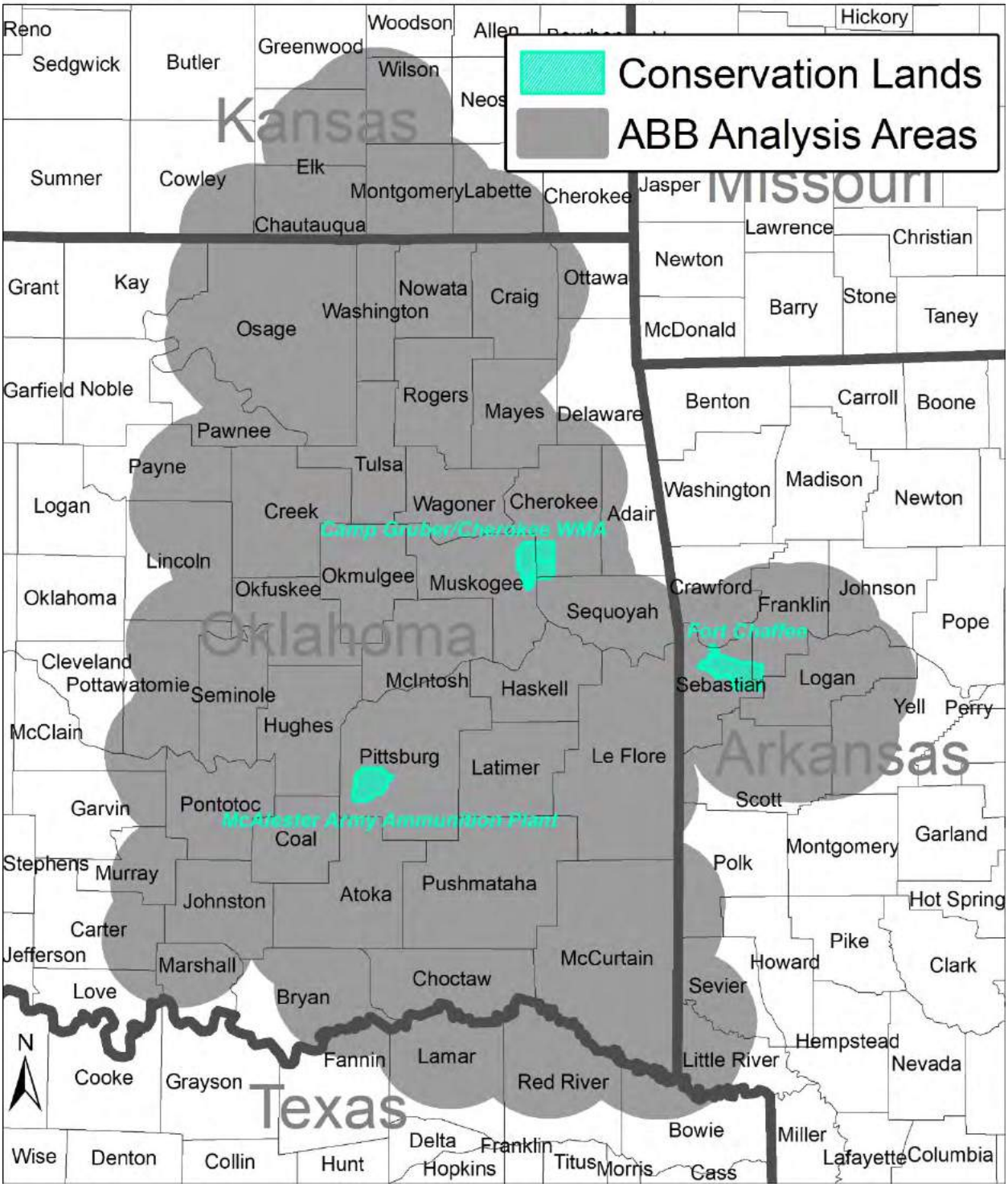
Additional information regarding ABB biology and habitat can be found on the OKESFO webpages at: ***http://www.fws.gov/southwest/es/Oklahoma/ABB_Add_Info.htm***.


American Burying Beetle SSA Analysis Areas
Niobrara River
Sandhills
Loess Canyons
Flint Hills
Arkansas River
Red River
Analysis Area Geographic Regions
Northern Plains
Southern Plains
New England (see insert)
Nantucket Island
Block Island
New England
NOT TO SCALE
MN
WI
SD
WY
IA
NE
IL
IN
CO
KS
MO
KY
VA
NC
NM
OK
AR
TX
GA


American Burying Beetle
New England Analysis Areas
Massachusetts
Rhode Island
Connecticut
Nantucket Island
Block Island
N
ABB Analysis Areas


American Burying Beetle
North Plains Analysis Areas
Pennington
Jackson
Jones
Mellette
Lyman
Brule
Aurora
Sanborn
Davison
Shannon
South Dakota
Douglas
Hutchinson
Bennett
Todd
Tripp
Gregory
Charles Mix
Bon Homme
Keya Paha
Boyd
Sheridan
Cherry
Knox
Brown
Rock
Holt
Antelope
Grant
Hooker
Thomas
Blaine
Loup
Garfield
Wheeler
Madison
Garden
Arthur
McPherson
Logan
Nebraska
Valley
Greeley
Boone
Platte
Custer
Nance
Keith
Deuel
Sherman
Howard
Merrick
Polk
Lincoln
Sedgwick
Perkins
Dawson
Buffalo
Hall
Hamilton
York
Colorado
Frontier
Gosper
Phelps
Kearney
Adams
Clay
Fillmore
Chase
Hayes
Yuma
Dundy
Hitchcock
Red Willow
Furnas
Harlan
Franklin
Webster
Nuckolls
Thayer
N
ABB Analysis Areas

American Burying Beetle
Southern Plains Analysis Areas



APPENDIX B

REPRESENTATIVE HABITAT PHOTOS

HASS 1:

HASS 2:

HASS 3:

HASS 4:

HASS 6:

HASS 5:

HASS 7:

HASS 8:

HASS 9:

APPENDIX E

HAZARDOUS MATERIALS ASSESSMENT

HAZARDOUS MATERIALS ASSESSMENT

City of Bartlesville
Waste Water Treatment Plant
Bartlesville, Washington County, Oklahoma

Prepared for:

City of Bartlesville

401 South Johnstone Avenue

Bartlesville, OK 74003

Prepared by:

P.O. Box 335
Vinita, Oklahoma 74301

9 North 9th Street
Fort Smith, Arkansas 72901

April 2023

Steven R. Votaw
President

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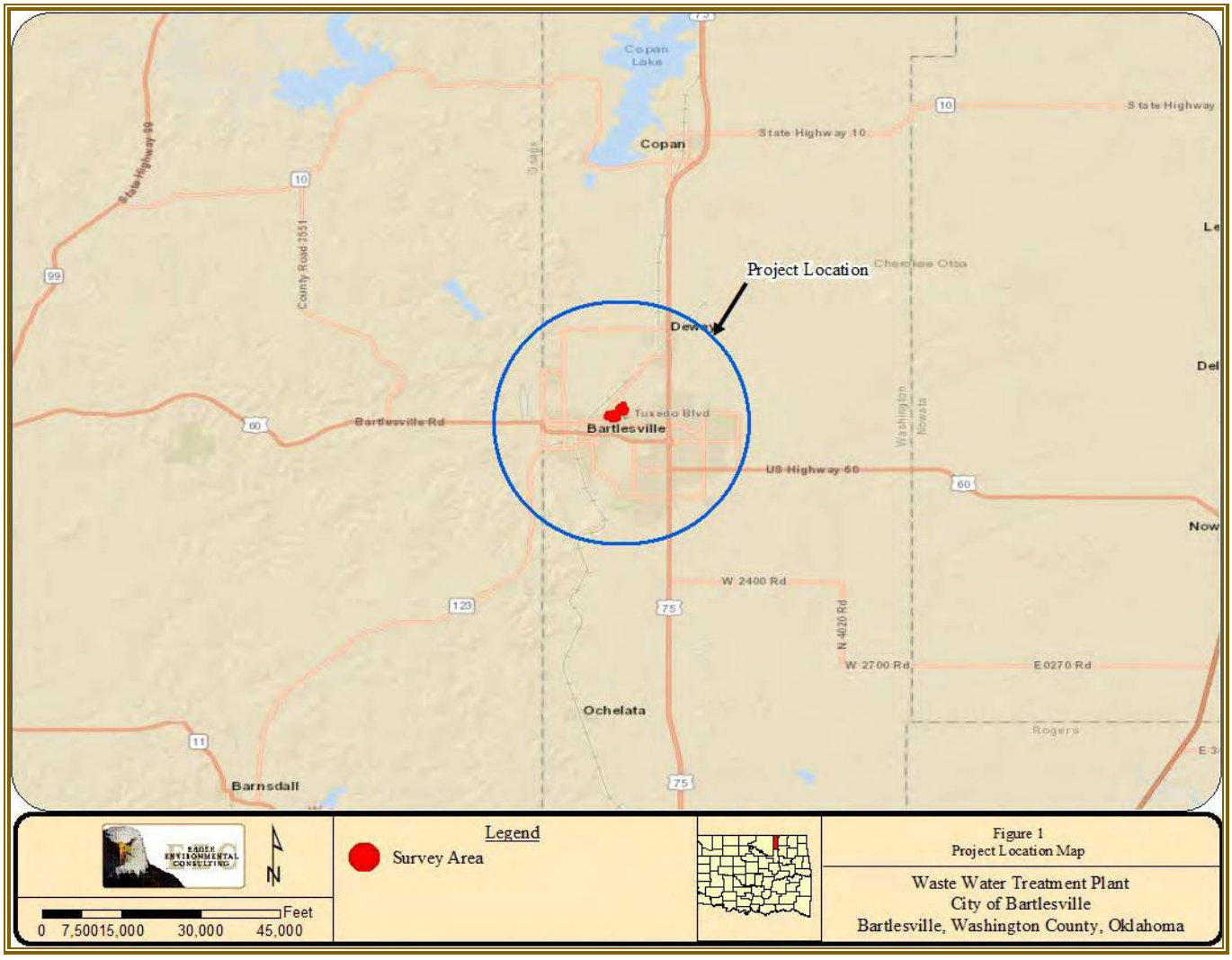
1.0 INTRODUCTION AND PURPOSE

A hazardous materials assessment was prepared to identify and evaluate the potential environmental impacts associated with the proposed Agriculture Irrigation Water Withdrawal Project in Washington County, OK. Observations of the property were made on May 12, 2022. The general location map for the proposed action area is shown on ***Figure 1***. The assessment area is approximately 45 acres in size located on the northeast corner of the intersection of Tuxedo boulevard and Bartles road. The project corridors transition through Sections 6 & 7, Township 17 North, Range 13 East in Washington County, Oklahoma. The proposed project is primarily associated with the installation and construction of the new water well and water tower and its accompanying utility lines.



The hazardous materials assessment was conducted in general accordance with ASTM protocols. The hazardous materials assessment Site Assessment included the review of standard environmental record sources that are in compliance with the Environmental Protection Agency's All Appropriate Inquiries Final Rule. The purpose of the assessment was to identify the location of any hazardous waste sites within the property and for any recognized environmental conditions. A recognized environmental condition is defined as the presence of any hazardous substances or petroleum products within the study area under conditions that indicate a past release, existing release, or a material threat of a release of any hazardous substances or petroleum products on or into the ground, ground water or surface water.

1.1 LIMITATIONS AND EXCEPTIONS

This assessment is not a comprehensive property characterization and should not be construed as such. The findings conveyed via this assessment are based on information obtained from a variety of sources identified and believed to be reliable, and therefore, disclaims any responsibility for errors and omissions arising therefrom. The summary set forth in this report is limited by the data presented in this report and the limited investigation performed with respect to the assessment. Since the development of this assessment did not involve the sampling of soil, rock, groundwater, surface water, or air, it is therefore not possible to confirm the presence or absence of toxic or hazardous substances, waste or materials in the environments associated with the property. The photographs and maps included within this assessment are presented for the purpose of assisting the reader in visualizing the study area. This assessment did not include a subsurface investigation.

The findings of this report are valid as of the date of the investigation. However, changes in the conditions of the property within the study area can occur with the passage of time, whether due to natural processes or anthropogenic activities on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation, broadening of knowledge, or from other reasons. No responsibility is assumed to monitor any changes at the property or to advise if there are any changes as to what constitutes hazardous materials or substances or petroleum products.

2.0 METHODS

This assessment consisted of the following three components:

- **Records Review** - Review of records that are a matter of public record regarding facilities associated with the Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the EPA Emergency Response Notification System (ERNS), Toxic Release Inventory System (TRIS), underground storage tanks (USTs), leaking underground storage tanks (LUSTs) and permitted solid waste disposal and processing facilities.
- **Site Reconnaissance** – A survey to document the present surface conditions, physical characteristics and general appearance of the study corridor and to examine all outdoor areas looking for evidence of environmental impact, degradation and potential environmental hazards.
- **Assessment Report** – The preparation of hazardous materials site assessment report that documents observations and information collected about the project corridor and to present findings. This study did not include a subsurface investigation.

3.0 PHYSICAL SETTING SOURCES

3.1 Topography and Surface Water

The project area corridors transition through Section 6 & 7, Township 17 North, Range 13 east in Washington County, Oklahoma. The survey area is approximately 45 acres in size and is located on the Bartlesville North 7.5-minute USGS topographic map. The project area is depicted over aerial imagery provided at **Appendix A**. Waterways and ephemeral drainages were observed within or adjacent to the corridor.

3.2 Soils

The Natural Resources Conservation Service (NRCS) Web Soil Survey was used to identify soil units within the study area NRCS (2023). Three soil units were identified within the study corridor and included:

- Okemah silt loam, 0 to 1 percent slopes
- Osage clay, 0 to 1 percent slopes, occasionally flooded
- Shidler stony silty clay loam, 1 to 20 percent slopes
- Verdigris clay loam, 0 to 1 percent slopes, occasionally flooded
- Verdigris silt loam, 0 to 1 percent slopes, frequently flooded

The terrain within the survey corridor is described as relatively flat and on a slight slope.

3.3 Geology and Groundwater

The **Osage Cuestas** ecoregion is an irregular to undulating plain that is underlain by interbedded, westward-dipping sandstone, shale, and limestone. East-facing cuestas and low hills occur. Topography is distinct from the nearby Flint Hills (28), Ozark Highlands (39), and Cherokee Plains (40d). Natural vegetation is mostly tall grass prairie, but a mix of tall grass prairie and oak–hickory forest is native to eastern areas. Overall, the mosaic of natural vegetation is unlike the Cross Timbers (29) and Ozark Highlands (39). Today, rangeland, cropland, riparian forests, and on rocky hills, oak woodland or oak forest occur; cropland is not as common as in Ecoregion 40d. The area is within the Caney River floodplain and shallow groundwater flows thereto. The area is underlain by the Paleozoic era, Pennsylvanian System, Missourian Series typified by alluviaum covered shales and sandstones.

3.4 Historical Aerial Photography

Aerial photography of the proposed action area was reviewed and provided by Environmental Data Resources (EDR) for 1954, 1971, 1980, 1995, 2006, 2010, 2015, 2019. Historical photographs are provided in **Appendix D**. Review of historical aerial photography can show land use changes or consistency over time. The central portion of the action was available on EDR photography.

Aerial Photography

The proposed action area from 1954 to 2019 consisted of a mixture of wooded and open meadow area and some industrial buildings. Residential development adjacent to or near the project corridor appears to have taken place before 1954. No REC's were associated with this facility in the project area.

3.5 Sanborn Maps

The Sanborn library collection was searched for fire insurance map coverage. No fire insurance maps are available for property within the proposed action. Sanborn map documentation is provided in **Appendix B**.

4.0 STANDARD ENVIRONMENTAL RECORDS REVIEW

On March 27, 2023, Environmental Data Resources, Inc. (EDR) conducted a search of state and federal environmental database records. The searches met the specific requirements of ASTM Standard Practice for Environmental Site Assessments. The target property was not listed in any of the databases searched by EDR. The information obtained from the EDR database search is found in **Appendix C**.

4.1 Federal CERCLIS/SEMS List

The Superfund program was created to protect citizens from the dangers posed by abandoned or uncontrolled hazardous waste sites. In 1980, Congress established the Superfund program by passing the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Information System (CERCLIS) which provides the Federal government the authority to respond to hazardous substance emergencies, and to develop long-term solutions for the nation's most serious hazardous waste problems. The CERCLIS database contains information on hazardous waste sites, potentially hazardous waste sites and remedial activities conducted across the nation. In 2015, the EPA renamed CERCLIS to the Superfund Enterprise Management System (SEMS). The database includes sites that are on the National Priorities List (NPL) or being considered for the NPL. Additionally, hazardous waste sites that have been assessed and require no further remedial action planned (NFRAP) have been removed from CERCLIS. Results from the database search indicated that one CERCLIS/SEMS site identified was located within ½ mile of the proposed action (See 4.4).

4.2 National Priorities List (NPL)

The National Priorities List (NPL) identifies sites that have had documented contamination. The CERCLIS database includes sites that are on the NPL or being considered for the NPL. Results from the database search indicated that no NPL sites were identified within one mile of the proposed action.

4.3 Delisted National Priorities List Sites

Results from the database search indicated that no delisted NPL sites were identified within ½ mile of the proposed action.

4.4 CERCLIS No Further Remedial Action Planned Site List

Hazardous waste sites that have been assessed and require no further remedial action planned (NFRAP) have been removed from CERCLIS. Results from the database search indicated that one NFRAP site was identified within ½ mile of the proposed action.

4.5 Resource Conservation and Recovery Act (RCRA) CORRACTS Facilities

Facilities that store, treat, or dispose of hazardous waste are responsible for investigating and cleaning up at or from their facilities. The EPA refers to this clean up as corrective action. The USEPA Corrective Action Report (CORRACTS) identifies hazardous waste handlers with RCRA corrective action activity. Results from the database search indicated that no CORRACTS sites were identified within one mile of the proposed action.

4.6 RCRA Non-CORRACTS Treatment, Storage, and Disposal (TSD) Facilities

This database includes selective information on sites which transport, store, treat and/or dispose (TSD) of hazardous waste as defined by the Resource Conservation and Recovery Act. Results from the database search indicated that no TSD facilities were identified within ½ mile of the proposed action.

4.7 RCRA Generators List

Hazardous waste information is contained in the Resource Conservation and Recovery Act Information (RCRAInfo). RCRAInfo is a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984. Results from the database search indicated that one VSQ RCRA generator was identified within 1/4 mile at a lower elevation from the proposed action.

4.8 Federal, State, and Tribal Institutional Controls/Engineering Control Registries

Results from the database search indicated that no sites with institutional or engineering controls were identified within the proposed action.

4.9 Emergency Response Notification System (ERNS)

The U.S. EPA Emergency Response Notification System (ERNS) is a computer database containing information on release notifications of oil and hazardous substances that have occurred throughout the United States and have been reported to the National Response Center (NRC). The NRC is the sole federal point of contact for reporting oil and chemical spills. Releases are recorded when they are initially reported to the federal government by any party. Results from the database search indicated that no known reported releases of oil or hazardous substances were identified within the proposed action.

4.10 State and Tribal Equivalent NPL

Results from the database search indicated that no state and tribal NPL equivalent sites were identified within 1 mile of the study area and no CERCLIS equivalent sites were identified within ½ mile of the proposed action.

4.11 Tribal Landfills or Solid Waste Disposal Sites

Results from the, database search indicated that no tribal permitted solid waste disposal or processing facilities were located on or within a ½ mile radius of the proposed action.

4.12 State Landfill or Solid Waste Disposal Sites

The records of the Oklahoma Department of Environmental Quality were searched for information pertaining to permitted solid waste disposal and processing facilities. Results from the database search indicated that no permitted solid waste disposal or processing facilities were located on or within a ½ mile radius of the proposed action. However, one open unregulated dump area was identified within 1/2 mile.

4.13 State and Tribal Registered Underground Storage Tanks (UST)

The Petroleum Storage Tank Division of the Oklahoma Corporation Commission (OCC) enforces state and federal regulations and administers certain assistance programs applicable to the storage, quality, and delivery of refined petroleum products (i.e., gasoline and other fuels) and records information on the release of petroleum products. Results from the database search indicated that three UST's were identified within the proposed action area as noted within the EDR search results. Three UST's were identified within the standard search radii, two at lower elevations. One site is listed at the target property owned by the City of Bartlesville.

4.14 State and Tribal Leaking Underground Storage Tanks (LUST)

The Petroleum Storage Tank Division of the Oklahoma Corporation Commission (OCC) enforces state and federal regulations and administers certain assistance programs applicable to the storage, quality, and delivery of refined petroleum products (i.e., gasoline and other fuels) and records information on the release of petroleum products. The database search indicated one LUST site was identified within 1/2 mile of the proposed action area. The site was identified as a City of Bartlesville facility within 1/2 mile to the north of the property. The case has been closed.

4.15 State and Tribal Voluntary Cleanup (VCP) Sites

The voluntary cleanup program provides an opportunity for private parties and government entities to clean up properties that may be contaminated. Sites within the program can range in size and contain single or multiple sources of contamination. Results from the database search indicated that no voluntary cleanup sites were identified within ½ mile of the proposed action.

4.16 State and Tribal Brownfields Sites

Brownfields are defined by Oklahoma law as abandoned, idle or under used industrial or commercial facilities or other real study area at which expansion or redevelopment of the real study area is complicated by environmental contamination cause by regulated substances. The database search indicated that no state or tribal Brownfield sites were identified within a ½ mile of the proposed action.

5.0 Wells

The Oklahoma Water Resources Board Water Information Interactive Mapping System was used to identify any water wells on the property. Six (6) water wells were identified near (but not within) the project corridor. One hundred and forty-five (145) oil and gas wells were located within the proposed action area.

6.0 SITE RECONNAISSANCE

On May 12, 2022, a site reconnaissance was conducted to identify the presence of any past release, existing release, or the material threat of a release of any hazardous substances or petroleum products. The proposed action area was visually inspected for any indication of recognized environmental conditions. No sites or recognized environmental conditions were observed within action area. Photographs of the assessed property are provided in **Appendix D**.

7.0 SUMMARY

A hazardous materials assessment was conducted to identify the location of any recognized environmental conditions within the proposed action area. The ASTM User Questionnaire is provided at **Appendix E**. The assessment was conducted in general accordance with ASTM Standard Practice E 1527-21, entitled, Standard

Practice for Environmental Site Assessments. On May 12, 2022, a site reconnaissance of the proposed action area was performed to identify the presence of any past release, existing release, or a material threat of a release of any hazardous substances or petroleum products. No recognized environmental conditions were observed within the proposed project area or in the immediate area of the identified field sites.

8.0 ENVIRONMENTAL PROFESSIONAL STATEMENT

We declare that, to the best of our professional knowledge and belief, we meet the definition of environmental professional as defined in 312.10 of 40 CFR 312 and we have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312. Qualifications of the environmental professionals are provided in **Appendix F.**

Steven R. Votaw April 2023
Steven R. Votaw
President

Sean Votaw April 2023
Sean Votaw
Environmental Professional
ASTM Certified Assessor

9.0 REFERENCES

ASTM International. 2013. Standard Practice for Environmental Site Assessments: Phase 1 Site Assessment Process, E 1527-21. 59 pages.

Environmental Data Resources. 2020. EDR State, Federal, and Tribal Database Search Report, Historical Aerial Imagery, Sanborn Fire Maps. March 27, 2023.

Environmental Protection Agency, 2019. Creosote. Accessed at https://www.epa.gov/ingredients-used-pesticide-products/creosote March 27, 2023.

Natural Resources Conservation Service. 2023.Web Soil Survey. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

Oklahoma Water Resources Board. Water Information Interactive Mapping System. Aquifers, Geology, and Groundwater well information. https://owrb.maps.arcgis.com/apps/webappviewer

Appendix A

Corridor and Site Photographs

EAGLE ENVIRONMENTAL CONSULTING

N

0 1,375,000 2,750,000 Feet

Legend

- Well and Tower Area
- Levy
- Photo Location

Project Vicinity Map

Figure 2
Photo Location Map

Waste Water Treatment Plant
City of Bartlesville
Bartlesville, Washington County, Oklahoma

PL 1:

PL 2:

PL 3:

PL 4:

PL 6:

PL 5:

PL 7:

PL 8:

PL 9:

Appendix B

Sanborn Map(s)

Bartlesville WWTP
230 N Chickasaw Ave
Bartlesville, OK 74006

Inquiry Number: 7291099.3
March 27, 2023

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

03/27/23

Site Name:

Bartlesville WWTP
230 N Chickasaw Ave
Bartlesville, OK 74006
EDR Inquiry # 7291099.3

Client Name:

Eagle Env. Consulting Inc.
P.O. Box 335
Vinita, OK 74301
Contact: Sean T Votaw

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Eagle Env. Consulting Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # BABA-4419-9105

PO # NA

Project Bartlesville WWTP

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: BABA-4419-9105

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

Eagle Env. Consulting Inc. (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Appendix C

EDR Database Records/Agency Coordination/Documentation

Bartlesville WWTP
230 N Chickasaw Ave
Bartlesville, OK 74006

Inquiry Number: 7291099.2s
March 27, 2023

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527-21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

230 N CHICKASAW AVE
BARTLESVILLE, OK 74006

COORDINATES

Latitude (North):	36.7593260 - 36ˆ 45' 33.57''
Longitude (West):	95.9595440 - 95ˆ 57' 34.35''
Universal Tranverse Mercator:	Zone 15
UTM X (Meters):	235803.8
UTM Y (Meters):	4072057.2
Elevation:	668 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	13099886 BARTLESVILLE NORTH, OK
Version Date:	2019
South Map:	13099890 BARTLESVILLE SOUTH, OK
Version Date:	2019

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20150815, 20150808
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
230 N CHICKASAW AVE
BARTLESVILLE, OK 74006

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	BARTLESVILLE CHICKAS	230 N CHICKASAW	FINDS, ECHO		TP
A2	BARTLESVILLE CHICKAS	230 N CHICKASAW	RMP		TP
A3	BARTLESVILLE/US FILT	230 N CHICKASAW	RMP		TP
A4	BARTLESVILLE CITY OF	230 NORTH CHICKASAW	ICIS		TP
A5	BARTLESVILLE, CITY O	230 N. CHICKASAW	ICIS		TP
A6	CHICKASAW WASTEWATER	230 NORTH CHICKASAW	TIER 2		TP
A7	CHICKASAW WASTEWATER	230 NORTH CHICKASAW	TIER 2		TP
A8	CHICKASAW WASTEWATER	230 N CHICKASAW	UST, HIST UST, TIER 2		TP
9	UNKNOWN SAND PIT		MINES MRDS	Lower	1 ft.
10	BARTLESVILLE HWY 123	HWY 123 NORTH OF BAR	SEMS-ARCHIVE	Lower	143, 0.027, North
B11	MARSHALL MUFFLER	1400 TUXEDO	RCRA-VSQG, FINDS, ECHO	Lower	718, 0.136, SE
B12	FOUR STATE CONTRACTO	1480 E TUXEDO BLVD	UST, HIST UST	Lower	723, 0.137, SE
B13	BARTLESVILLE READY M	1500 TUXEDO BLVD	UST, AST, HIST UST, AIRS	Lower	726, 0.138, SE
14	CHEROKEE_OLD DEWEY R		IHS OPEN DUMPS	Lower	732, 0.139, NW
15	800 FRANK PHILLIPS B	800 SE FRANK PHILLIP	US BROWNFIELDS	Higher	1575, 0.298, SW
16	CITY OF BARTLESVILLE	201 S. CHEROKEE AVEN	LUST	Higher	2318, 0.439, SW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
BARTLESVILLE CHICKAS 230 N CHICKASAW BARTLESVILLE, OK 74003	FINDS Registry ID:: 110000544439 ECHO Registry ID: 110000544439	N/A
BARTLESVILLE CHICKAS 230 N CHICKASAW BARTLESVILLE, OK 74003	RMP	N/A
BARTLESVILLE/US FILT 230 N CHICKASAW BARTLESVILLE, OK 74003	RMP	N/A
BARTLESVILLE CITY OF 230 NORTH CHICKASAW BARTLESVILLE, OK 74003	ICIS FRS ID:: 110000544439	N/A
BARTLESVILLE, CITY O 230 N. CHICKASAW BARTLESVILLE, OK 74003	ICIS FRS ID:: 110000544439	N/A
CHICKASAW WASTEWATER 230 NORTH CHICKASAW BARTLESVILLE, OK 74003	TIER 2 Facility Id: FATR20093K2DGP002DN8	N/A
CHICKASAW WASTEWATER 230 NORTH CHICKASAW BARTLESVILLE, OK 74003	TIER 2 Facility Id: FATR20153K2DGP002DN8 Facility Id: FATR20103K2DGP002DN8	N/A
CHICKASAW WASTEWATER 230 N CHICKASAW BARTLESVILLE, OK 74005	UST Facility Id: 7408860 TankStatus: CIU HIST UST Facility Id: 7408860 Tank Status: Currently in Use TIER 2 Facility Id: FATR20113K2DGP002DN8	N/A

EXECUTIVE SUMMARY

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Lists of Federal Delisted NPL sites

Delisted NPL ---------- National Priority List Deletions

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS ---------- Corrective Action Report

Lists of Federal RCRA TSD facilities

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Lists of Federal RCRA generators

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROLS ---------- Institutional Controls Sites List

Federal ERNS list

ERNS ---------- Emergency Response Notification System

Lists of state- and tribal hazardous waste facilities

SHWS ---------- The Land Report

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF ---------- Permitted Solid Waste Disposal & Processing Facilities

Lists of state and tribal leaking storage tanks

LAST ---------- Leaking Aboveground Storage Tanks List
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

Lists of state and tribal registered storage tanks

FEMA UST ---------- Underground Storage Tank Listing
INDIAN UST ---------- Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

INST CONTROL ---------- Institutional Control Sites

Lists of state and tribal voluntary cleanup sites

VCP ---------- Voluntary Cleanup Site Inventory
INDIAN VCP ---------- Voluntary Cleanup Priority Listing
SCAP ---------- Site Cleanup Assistance program Listing

Lists of state and tribal brownfield sites

BROWNFIELDS ---------- Brownfield Sites

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY ---------- Recycling Facilities
INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
ODI ---------- Open Dump Inventory

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ---------- Delisted National Clandestine Laboratory Register
US CDL ---------- National Clandestine Laboratory Register

Local Land Records

LIENS 2 ---------- CERCLA Lien Information

Records of Emergency Release Reports

HMIRS ---------- Hazardous Materials Information Reporting System
COMPLAINT ---------- Oklahoma Complaint System Database

Other Ascertainable Records

RCRA NonGen / NLR ---------- RCRA - Non Generators / No Longer Regulated
FUDS ---------- Formerly Used Defense Sites
DOD ---------- Department of Defense Sites
SCRD DRYCLEANERS ---------- State Coalition for Remediation of Drycleaners Listing

EXECUTIVE SUMMARY

US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
UXO	Unexploded Ordnance Sites
DOCKET HWC	Hazardous Waste Compliance Docket Listing
FUELS PROGRAM	EPA Fuels Program Registered Listing
PFAS NPL	Superfund Sites with PFAS Detections Information
PFAS FEDERAL SITES	Federal Sites PFAS Information
PFAS TSCA	PFAS Manufacture and Imports Information
PFAS RCRA MANIFEST	PFAS Transfers Identified In the RCRA Database Listing
PFAS ATSDR	PFAS Contamination Site Location Listing
PFAS WQP	Ambient Environmental Sampling for PFAS
PFAS NPDES	Clean Water Act Discharge Monitoring Information
PFAS ECHO	Facilities in Industries that May Be Handling PFAS Listing
PFAS ECHO FIRE TRAINING	Facilities in Industries that May Be Handling PFAS Listing
PFAS PART 139 AIRPORT	All Certified Part 139 Airports PFAS Information Listing
AQUEOUS FOAM NRC	Aqueous Foam Related Incidents Listing
PFAS	PFAS Contamination Site Location Listing
AIRS	Permitted AIRS Facility Listing
ASBESTOS	Asbestos Notification
DRYCLEANERS	Drycleaner Facility Listing
Financial Assurance	Financial Assurance Information Listing
UIC	Underground Injection Wells Database Listing
PFAS TRIS	List of PFAS Added to the TRI

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants

EDR Hist Auto ---------- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner ---------- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS ---------- Recovered Government Archive State Hazardous Waste Facilities List
RGA LF ---------- Recovered Government Archive Solid Waste Facilities List
RGA LUST ---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

A review of the SEMS-ARCHIVE list, as provided by EDR, and dated 01/25/2023 has revealed that there is 1 SEMS-ARCHIVE site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
BARTLESVILLE HWY 123 Site ID: 0601247 EPA Id: OKD980620777	HWY 123 NORTH OF BAR	N 0 - 1/8 (0.027 mi.)	10	69

EXECUTIVE SUMMARY

Lists of Federal RCRA generators

RCRA-VSQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

A review of the RCRA-VSQG list, as provided by EDR, and dated 03/06/2023 has revealed that there is 1 RCRA-VSQG site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
MARSHALL MUFFLER EPA ID:: OKR000006353	***1400 TUXEDO***	***SE 1/8 - 1/4 (0.136 mi.)***	***B11***	***70***

Lists of state and tribal leaking storage tanks

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Oklahoma Corporation Commission's Leaking UST list.

A review of the LUST list, as provided by EDR, and dated 12/05/2022 has revealed that there is 1 LUST site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CITY OF BARTLESVILLE Facility Id: 7456912 Close Date: 08/27/1992 STATUS: Closed	201 S. CHEROKEE AVEN	SW 1/4 - 1/2 (0.439 mi.)	16	94

Lists of state and tribal registered storage tanks

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Oklahoma Corporation Commission's State UST List, List II Version.

A review of the UST list, as provided by EDR, and dated 12/05/2022 has revealed that there are 2 UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
FOUR STATE CONTRACTO Facility Id: 7411728 TankStatus: POU	***1480 E TUXEDO BLVD***	***SE 1/8 - 1/4 (0.137 mi.)***	***B12***	***74***
BARTLESVILLE READY M Facility Id: 7407421 TankStatus: POU	***1500 TUXEDO BLVD***	***SE 1/8 - 1/4 (0.138 mi.)***	***B13***	***75***

AST: The Aboveground Storage Tank database contains registered ASTs. The data come from the Oklahoma Corporation Commission's State AST List, List II Version.

A review of the AST list, as provided by EDR, and dated 12/05/2022 has revealed that there is 1 AST site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
BARTLESVILLE READY M	***1500 TUXEDO BLVD***	***SE 1/8 - 1/4 (0.138 mi.)***	***B13***	***75***
Facility Id: 7407421				
Tank Status: CIU				

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: The EPA's listing of Brownfields properties from the Cleanups in My Community program, which provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

A review of the US BROWNFIELDS list, as provided by EDR, and dated 02/23/2022 has revealed that there is 1 US BROWNFIELDS site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
800 FRANK PHILLIPS B	800 SE FRANK PHILLIP	SW 1/4 - 1/2 (0.298 mi.)	15	77
ACRES property ID: 235964				
Cleanup Completion Date: -				

Local Lists of Landfill / Solid Waste Disposal Sites

IHS OPEN DUMPS: A listing of all open dumps located on Indian Land in the United States.

A review of the IHS OPEN DUMPS list, as provided by EDR, and dated 04/01/2014 has revealed that there is 1 IHS OPEN DUMPS site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CHEROKEE_OLD DEWEY R		NW 1/8 - 1/4 (0.139 mi.)	14	77

Local Lists of Registered Storage Tanks

HIST UST: This underground storage tank listing includes tank information through March 2003. This listing is no longer updated by the Oklahoma Corporation Commission.

A review of the HIST UST list, as provided by EDR, and dated 03/21/2003 has revealed that there are 2 HIST UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
FOUR STATE CONTRACTO	***1480 E TUXEDO BLVD***	***SE 1/8 - 1/4 (0.137 mi.)***	***B12***	***74***

Facility Id: 7411728
Tank Status: Permanently Out of Use

BARTLESVILLE READY M	***1500 TUXEDO BLVD***	***SE 1/8 - 1/4 (0.138 mi.)***	***B13***	***75***

Facility Id: 7407421
Tank Status: Permanently Out of Use

Other Ascertainable Records

MINES MRDS: Mineral Resources Data System

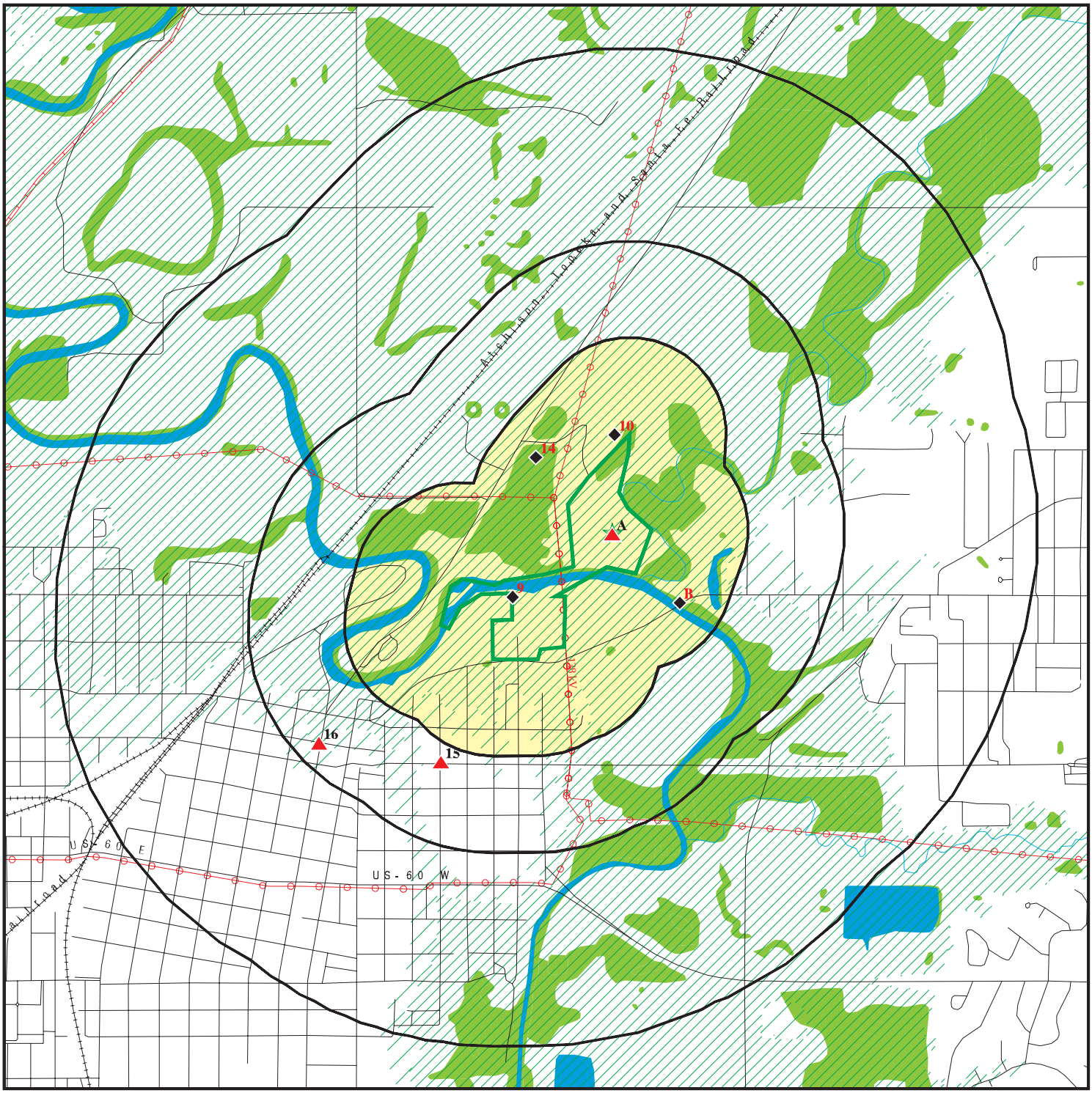
A review of the MINES MRDS list, as provided by EDR, and dated 08/23/2022 has revealed that there is 1 MINES MRDS site within approximately 0.001 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
UNKNOWN SAND PIT		0 - 1/8 (0.000 mi.)	9	68

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 7291099.2S



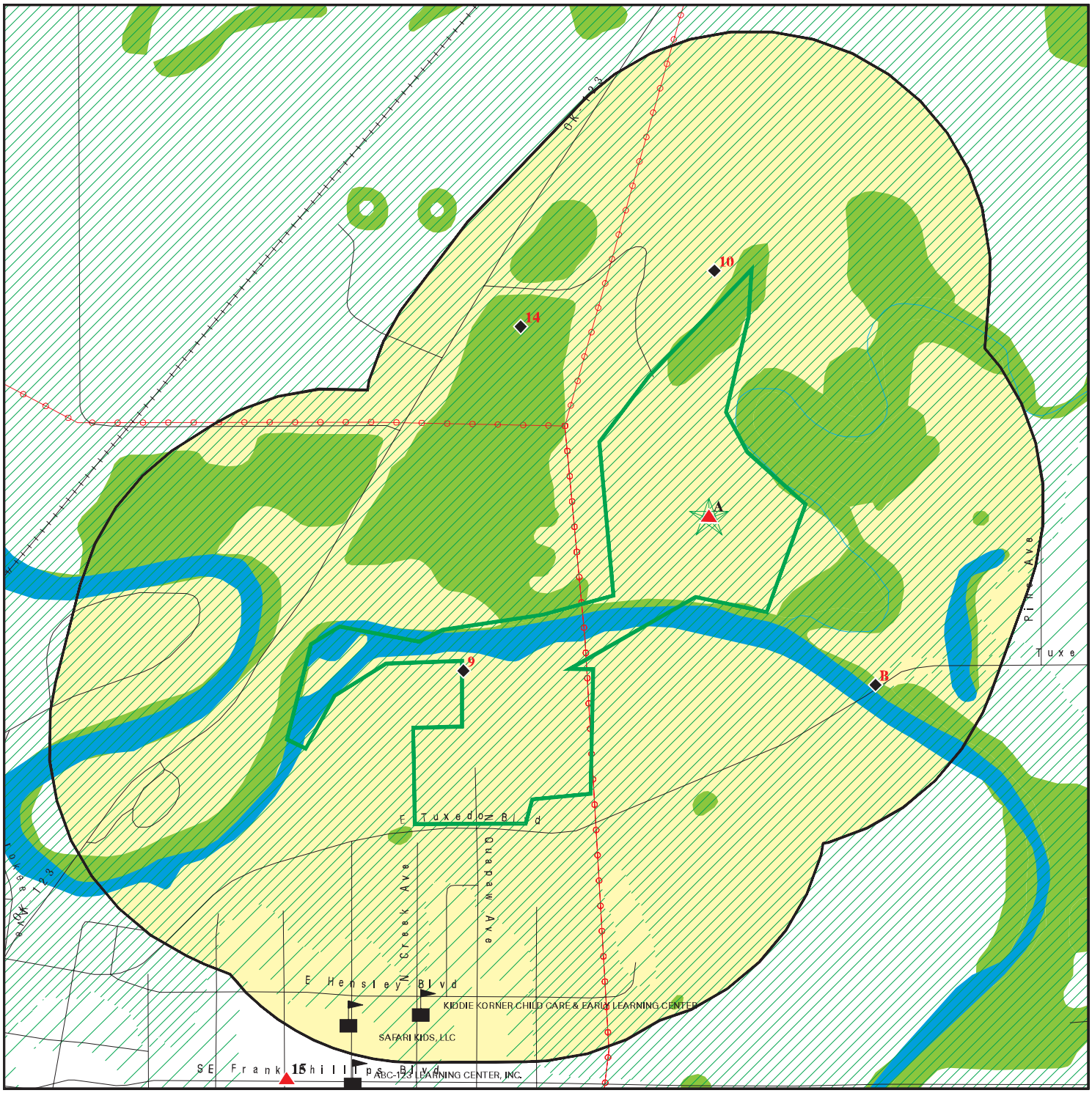
0 1/4 1/2 1 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Pipelines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Bartlesville WWTP	CLIENT:	Eagle Env. Consulting Inc.
ADDRESS:	230 N Chickasaw Ave Bartlesville OK 74006	CONTACT:	Sean T Votaw
LAT/LONG:	36.759326 / 95.959544	INQUIRY #:	7291099.2s
		DATE:	March 27, 2023 3:27 pm

DETAIL MAP - 7291099.2S



0 1/8 1/4 1/2 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Bartlesville WWTP	CLIENT:	Eagle Env. Consulting Inc.
ADDRESS:	230 N Chickasaw Ave Bartlesville OK 74006	CONTACT:	Sean T Votaw
LAT/LONG:	36.759326 / 95.959544	INQUIRY #:	7291099.2s
		DATE:	March 27, 2023 3:28 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Lists of Federal NPL (Superfund) sites								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Lists of Federal Delisted NPL sites								
Delisted NPL	1.000		0	0	0	0	NR	0
Lists of Federal sites subject to CERCLA removals and CERCLA orders								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Lists of Federal CERCLA sites with NFRAP								
SEMS-ARCHIVE	0.500		1	0	0	NR	NR	1
Lists of Federal RCRA facilities undergoing Corrective Action								
CORRACTS	1.000		0	0	0	0	NR	0
Lists of Federal RCRA TSD facilities								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA generators								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	1	NR	NR	NR	1
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
Lists of state- and tribal hazardous waste facilities								
SHWS	1.000		0	0	0	0	NR	0
Lists of state and tribal landfills and solid waste disposal facilities								
SWF/LF	0.500		0	0	0	NR	NR	0
Lists of state and tribal leaking storage tanks								
LAST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LUST	0.500		0	0	1	NR	NR	1
INDIAN LUST	0.500		0	0	0	NR	NR	0
Lists of state and tribal registered storage tanks								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250	1	0	2	NR	NR	NR	3
AST	0.250		0	1	NR	NR	NR	1
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
INST CONTROL	0.500		0	0	0	NR	NR	0
Lists of state and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
SCAP	TP		NR	NR	NR	NR	NR	0
Lists of state and tribal brownfield sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	1	NR	NR	1
Local Lists of Landfill / Solid Waste Disposal Sites								
SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	1	0	NR	NR	1
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
HIST UST	0.250	1	0	2	NR	NR	NR	3
Local Land Records								
LIENS 2	0.001		0	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
COMPLAINT	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001	2	0	NR	NR	NR	NR	2
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001	2	0	NR	NR	NR	NR	2
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001	1	0	NR	NR	NR	NR	1
UXO	1.000		0	0	0	0	NR	0
ECHO	0.001	1	0	NR	NR	NR	NR	1
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250		0	0	NR	NR	NR	0
PFAS FEDERAL SITES	0.250		0	0	NR	NR	NR	0
PFAS TSCA	0.250		0	0	NR	NR	NR	0
PFAS RCRA MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		0	0	NR	NR	NR	0
PFAS NPDES	0.250		0	0	NR	NR	NR	0
PFAS ECHO	0.250		0	0	NR	NR	NR	0
PFAS ECHO FIRE TRAINING	0.250		0	0	NR	NR	NR	0
PFAS PART 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
PFAS	TP		NR	NR	NR	NR	NR	0
AIRS	0.001		0	NR	NR	NR	NR	0
ASBESTOS	TP		NR	NR	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
Financial Assurance	0.001		0	NR	NR	NR	NR	0
TIER 2	0.001	3	0	NR	NR	NR	NR	3
UIC	0.001		0	NR	NR	NR	NR	0
MINES MRDS	0.001		1	NR	NR	NR	NR	1
PFAS TRIS	0.250		0	0	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA HWS	0.001		0	NR	NR	NR	NR	0
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		11	2	7	2	0	0	22

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 **BARTLESVILLE CHICKASAW WASTEWATER PLANT** **FINDS** **1016176297**
Target **230 N CHICKASAW** **ECHO** **N/A**
Property **BARTLESVILLE, OK 74003**

Site 1 of 8 in cluster A

Actual:
668 ft.

FINDS:
Registry ID: 110000544439

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.
US EPA Risk Management Plan (RMP) database stores the risk management plans reported by companies that handle, manufacture, use, or store certain flammable or toxic substances, as required under section 112(r) of the Clean Air Act (CAA).
ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1016176297
Registry ID:	110000544439
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110000544439
Name:	BARTLESVILLE CHICKASAW WASTEWATER PLANT
Address:	230 N CHICKASAW
City,State,Zip:	BARTLESVILLE, OK 74003

A2 **BARTLESVILLE CHICKASAW WASTEWATER PLANT** **RMP** **1011816282**
Target **230 N CHICKASAW** **N/A**
Property **BARTLESVILLE, OK 74003**

Site 2 of 8 in cluster A

Actual:
668 ft.

RMP:

Facility ID:	40811
Name:	BARTLESVILLE CHICKASAW WASTEWATER PLANT
Address:	230 N CHICKASAW
Address 2:	Not reported
City,State,Zip:	BARTLESVILLE, OK 74003
LEPC city:	Washington LEPC
Facility decimal latitude:	36.756667
Facility decimal longitude:	-095.963889
Is facility in county box:	T
LatLong method:	AO
LatLong description:	CE
Home page web address:	Not reported
Facility telephone:	9183362656
Facility email:	Not reported
Facility DUNS #:	0
Parents name:	City of Bartlesville
Partners name:	Not reported
Parents DUNS #:	0
Partners DUNS #:	0
Operators name:	Veolia Water North American
Operators telephone:	9183362656
Operators address:	230 N Chickasaw
Operators City,St,Zip:	Bartlesville, OK 74003
RMP implementation contact:	Jason Tyler
RMP contact title:	Project Manager
Emergency contact:	Jason Tyler
Emergency contact title:	Project Manager
Emergency contact telephone:	9183362656
24 hour emergency telephone:	9189140364
Emergency contact ext/pin #:	Not reported
Number of full time employees:	13
EPA ID:	Not reported
Facility ID provided by CEPPO:	100000060916
Is facility covered by OSHA PSM:	T
Is facility covered by EPCRA 302:	T
Is fac. covered by CAA Title V 112(2):	F
Clean air op. permit/State ID:	Not reported
Last safety insp. dat:	2003-12-10 00:00:00
Inspected by:	Corporate Safety
Is it OSHA approved with star/merit ranking:	False
Will RMP involve predictive filing:	False
Submission type:	Resubmission
RMP description:	Not reported
Facility has no accident hist. recs:	True
Foreign owner's address:	Not reported
Foreign owner's zip:	Not reported
Foreign owner's country:	Not reported
Claim # of employees as CBI:	False
Date RMP accepted by EPA:	2004-10-19 00:00:00
Date of error Report:	Not reported
Date RMP received:	2004-10-08 00:00:00
Does RMP contain graphics files:	False

BARTLESVILLE CHICKASAW WASTEWATER PLANT (Continued) **1011816282**

Does RMP contain attachments: False
Was certification letter received: True
RMP submission method: RMP*Submit
Does RMP contain CBI substantiation: False
Does RMP contain electronic waiver: False
Date RMP postmarked: 2004-10-06 00:00:00
Is RMP complete: True
Date of de-registration: Not reported
Date de-registration is effective: Not reported
Aniversary date: 2009-10-06 00:00:00
Does RMP contain CBI data: False
Does RMP contain unsanitized CBI version: False
RMP version #: 3.3
FRS latitude: 36.754049999999999
FRS longitude: -95.966300000000004
FRS Description: PLANT ENTRANCE (GENERAL)
FRS Method: ADDRESS MATCHING-HOUSE NUMBER

Emergency Responses:
ER plan most recent review date: 2004-12-04 00:00:00
ER plan most recent employee training date: 2004-05-27 00:00:00
Local agency coordinating ER plan: Washington County LEPC
Telephone of the coordinating local agency: 9183312710
Federal regulation: False
OSHA 1910 120: False
SPCC: False
RCRA: False
OPA 90: False
EPCRA: True
Other Regulations: Not reported

Processes:
Process ID: 58605
Optional facility description: Wastewater Chlorination
Program level: 3
Record contains CBI data: False

Process NAICS:
NAICS code description: Sewage Treatment Facilities

Prevention Program 3:
Safety review date: 2004-06-01 00:00:00
Most recent PHA date: 2004-06-01 00:00:00
Process Hazard Analysis: What if
Expected PHA changes completion date: Not reported
Major Hazard: Toxic Release
Process Control: Vents, Relief valves, Alarms, Emergency air supply, Excess flow device
Mitigation Systems: Enclosure
Monitoring/Detection: Process area detector
Changes since the last process hazard analysis: Install process control
Most recent review of op. procedures: 2003-11-13 00:00:00
Most recent training progs review/update: 2003-11-20 00:00:00
Training: Not reported
Competency testing: Observation
Most recent maintenance review date: 2004-04-20 00:00:00
Most recent equipment inspection date: 2004-04-20 00:00:00
Equipment tested: Chlorinators

BARTLESVILLE CHICKASAW WASTEWATER PLANT (Continued) **1011816282**

Most recent changes by mgmt:	2004-04-20 00:00:00
Date of most recent review/update:	2004-04-20 00:00:00
Date of pre-start review:	2004-04-20 00:00:00
Most recent compliance audit date:	2003-12-10 00:00:00
Expected date of audit completion:	2004-08-01 00:00:00
Most recent incident investigation:	Not reported
Expected date of investigation changes:	Not reported
Date of participation plan review:	2004-01-14 00:00:00
Date of hot work permit review:	2004-03-03 00:00:00
Date of contractor safety review:	2004-02-19 00:00:00
Date of contractor safety eval. review:	2004-02-19 00:00:00
Record has CBI data:	False

Process Chemicals:

Chemical name:	Public OCA Chemical
Process chemical qty in 100s lbs:	0

Toxics Alt Releases:

Percent weight of chemical:	Not reported
Physical state:	b
Analytical basic:	EPA’s RMP*Comp(TM)
Scenario:	Not reported
Quantity released in pounds:	Not reported
Release duration in minutes:	Not reported
Release rate in pounds per second:	Not reported
Wind speed in meters/second:	3
Stability class:	D
Topography:	a
Distance to endpoint in miles:	Not reported
Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Enclosures
Active mitigation:	Excess flow valve

Toxics Worst Case:

Percent weight of chemical:	Not reported
Physical state:	b
Analytical basic:	EPA’s RMP*Comp(TM)
Scenario:	Not reported
Quantity released in pounds:	Not reported
Release duration in minutes:	10
Release rate in pounds per second:	Not reported
Wind speed in meters/second:	1.5
Stability class:	F
Topography:	a
Distance to endpoint in miles:	Not reported
Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Enclosures

Chemical name:	Chlorine
Process chemical qty in 100s lbs:	6000

BARTLESVILLE CHICKASAW WASTEWATER PLANT (Continued) **1011816282**

Facility ID:	1000083503
Name:	BARTLESVILLE CHICKASAW WASTEWATER PLANT
Address:	230 N CHICKASAW
Address 2:	Not reported
City,State,Zip:	BARTLESVILLE, OK 74003
LEPC city:	Washington LEPC
Facility decimal latitude:	36.756667
Facility decimal longitude:	-095.963889
Is facility in county box:	T
LatLong method:	AO
LatLong description:	CE
Home page web address:	Not reported
Facility telephone:	9183362656
Facility email:	Not reported
Facility DUNS #:	0
Parents name:	City of Bartlesville
Partners name:	Not reported
Parents DUNS #:	0
Partners DUNS #:	0
Operators name:	Veolia Water North American
Operators telephone:	9183362656
Operators address:	230 N Chickasaw
Operators City,St,Zip:	Bartlesville, OK 74003
RMP implementation contact:	John Shambles
RMP contact title:	Project Manager
Emergency contact:	John Shambles
Emergency contact title:	Project Manager
Emergency contact telephone:	9183362656
24 hour emergency telephone:	9182139210
Emergency contact ext/pin #:	Not reported
Number of full time employees:	13
EPA ID:	Not reported
Facility ID provided by CEPPO:	100000060916
Is facility covered by OSHA PSM:	T
Is facility covered by EPCRA 302:	T
Is fac. covered by CAA Title V 112(2):	F
Clean air op. permit/State ID:	Not reported
Last safety insp. dat:	2005-11-16 00:00:00
Inspected by:	EPA
Is it OSHA approved with star/merit ranking:	False
Will RMP involve predictive filing:	False
Submission type:	Resubmission
RMP description:	Not reported
Facility has no accident hist. recs:	False
Foreign owner’s address:	Not reported
Foreign owner’s zip:	Not reported
Foreign owner’s country:	Not reported
Claim # of employees as CBI:	False
Date RMP accepted by EPA:	2019-11-08 00:00:00
Date of error Report:	Not reported
Date RMP received:	2019-11-08 00:00:00
Does RMP contain graphics files:	False
Does RMP contain attachments:	False
Was certification letter received:	True
RMP submission method:	RMP*eSubmit
Does RMP contain CBI substantiation:	False
Does RMP contain electronic waiver:	False

BARTLESVILLE CHICKASAW WASTEWATER PLANT (Continued) **1011816282**

Date RMP postmarked:	2019-11-08 00:00:00
Is RMP complete:	True
Date of de-registration:	Not reported
Date de-registration is effective:	Not reported
Aniversary date:	2024-11-08 00:00:00
Does RMP contain CBI data:	False
Does RMP contain unsanitized CBI version:	False
RMP version #:	1.0
FRS latitude:	36.754049999999999
FRS longitude:	-95.966300000000004
FRS Description:	PLANT ENTRANCE (GENERAL)
FRS Method:	ADDRESS MATCHING-HOUSE NUMBER

Emergency Responses:

ER plan most recent review date:	2019-10-14 00:00:00
ER plan most recent employee training date:	2019-11-07 00:00:00
Local agency coordinating ER plan:	Washington County LEPC
Telephone of the coordinating local agency:	9183312710
Federal regulation:	True
OSHA 1910 120:	False
SPCC:	False
RCRA:	False
OPA 90:	False
EPCRA:	True
Other Regulations:	Not reported

Processes:

Process ID:	1000104351
Optional facility description:	Wastewater Chlorination
Program level:	3
Record contains CBI data:	False

Process NAICS:

NAICS code description:	Sewage Treatment Facilities

Prevention Program 3:

Safety review date:	2019-05-01 00:00:00
Most recent PHA date:	2017-09-22 00:00:00
Process Hazard Analysis:	What if
Expected PHA changes completion date:	2017-09-22 00:00:00
Major Hazard:	Toxic Release
Process Control:	Vents, Relief valves, Manual shutoffs, Alarms, Emergency air supply, Excess flow device
Mitigation Systems:	Enclosure
Monitoring/Detection:	Process area detector
Changes since the last process hazard analysis:	No changes since last PHA
Most recent review of op. procedures:	2019-05-01 00:00:00
Most recent training progs review/update:	2019-05-01 00:00:00
Training:	Classroom
Competency testing:	Observation
Most recent maintenance review date:	2019-05-01 00:00:00
Most recent equipment inspection date:	2019-05-01 00:00:00
Equipment tested:	Chlorinators
Most recent changes by mgmt:	2004-04-20 00:00:00
Date of most recent review/update:	2004-04-20 00:00:00
Date of pre-start review:	2019-05-01 00:00:00
Most recent compliance audit date:	2019-06-11 00:00:00

BARTLESVILLE CHICKASAW WASTEWATER PLANT (Continued) **1011816282**

Expected date of audit completion:	2019-06-11 00:00:00
Most recent incident investigation:	Not reported
Expected date of investigation changes:	Not reported
Date of participation plan review:	2017-09-22 00:00:00
Date of hot work permit review:	2019-11-08 00:00:00
Date of contractor safety review:	2019-11-08 00:00:00
Date of contractor safety eval. review:	Not reported
Record has CBI data:	False

Process Chemicals:

Chemical name:	Chlorine
Process chemical qty in 100s lbs:	6000
Chemical name:	Public OCA Chemical
Process chemical qty in 100s lbs:	0

Toxics Alt Releases:

Percent weight of chemical:	Not reported
Physical state:	b
Analytical basic:	EPA’s RMP*Comp(TM)
Scenario:	Not reported
Quantity released in pounds:	Not reported
Release duration in minutes:	Not reported
Release rate in pounds per second:	Not reported
Wind speed in meters/second:	3
Stability class:	D
Topography:	a
Distance to endpoint in miles:	Not reported
Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Enclosures
Active mitigation:	Excess flow valve, Manual shutdown of system.

Toxics Worst Case:

Percent weight of chemical:	Not reported
Physical state:	b
Analytical basic:	EPA’s RMP*Comp(TM)
Scenario:	Not reported
Quantity released in pounds:	Not reported
Release duration in minutes:	10
Release rate in pounds per second:	Not reported
Wind speed in meters/second:	1.5
Stability class:	F
Topography:	a
Distance to endpoint in miles:	Not reported
Residential population:	Not reported
Public receptors:	Not reported
Environmental receptors:	Not reported
Passive mitigation:	Enclosures

Facility ID:	1000011343
Name:	BARTLESVILLE CHICKASAW WASTEWATER PLANT
Address:	230 N CHICKASAW

BARTLESVILLE CHICKASAW WASTEWATER PLANT (Continued) **1011816282**

Address 2:	Not reported
City,State,Zip:	BARTLESVILLE, OK 74003
LEPC city:	Washington LEPC
Facility decimal latitude:	36.756667
Facility decimal longitude:	-095.963889
Is facility in county box:	T
LatLong method:	AO
LatLong description:	CE
Home page web address:	Not reported
Facility telephone:	9183362656
Facility email:	Not reported
Facility DUNS #:	0
Parents name:	City of Bartlesville
Partners name:	Not reported
Parents DUNS #:	0
Partners DUNS #:	0
Operators name:	Veolia Water North American
Operators telephone:	9183362656
Operators address:	230 N Chickasaw
Operators City,St,Zip:	Bartlesville, OK 74003
RMP implementation contact:	John Shambles
RMP contact title:	Project Manager
Emergency contact:	John Shambles
Emergency contact title:	Project Manager
Emergency contact telephone:	9183362656
24 hour emergency telephone:	9182139210
Emergency contact ext/pin #:	Not reported
Number of full time employees:	13
EPA ID:	Not reported
Facility ID provided by CEPPO:	100000060916
Is facility covered by OSHA PSM:	T
Is facility covered by EPCRA 302:	T
Is fac. covered by CAA Title V 112(2):	F
Clean air op. permit/State ID:	Not reported
Last safety insp. dat:	2005-11-16 00:00:00
Inspected by:	EPA
Is it OSHA approved with star/merit ranking:	False
Will RMP involve predictive filing:	False
Submission type:	Resubmission
RMP description:	Not reported
Facility has no accident hist. recs:	False
Foreign owner's address:	Not reported
Foreign owner's zip:	Not reported
Foreign owner's country:	Not reported
Claim # of employees as CBI:	False
Date RMP accepted by EPA:	2014-10-14 00:00:00
Date of error Report:	Not reported
Date RMP received:	2009-10-15 00:00:00
Does RMP contain graphics files:	False
Does RMP contain attachments:	False
Was certification letter received:	True
RMP submission method:	RMP*eSubmit
Does RMP contain CBI substantiation:	False
Does RMP contain electronic waiver:	False
Date RMP postmarked:	2009-10-15 00:00:00
Is RMP complete:	True
Date of de-registration:	Not reported

BARTLESVILLE CHICKASAW WASTEWATER PLANT (Continued) **1011816282**

Date de-registration is effective: Not reported
Aniversary date: 2014-10-15 00:00:00
Does RMP contain CBI data: False
Does RMP contain unsanitized CBI version: False
RMP version #: 1.0
FRS latitude: 36.754049999999999
FRS longitude: -95.966300000000004
FRS Description: PLANT ENTRANCE (GENERAL)
FRS Method: ADDRESS MATCHING-HOUSE NUMBER

Emergency Responses:
ER plan most recent review date: 2014-08-05 00:00:00
ER plan most recent employee training date: 2014-08-05 00:00:00
Local agency coordinating ER plan: Washington County LEPC
Telephone of the coordinating local agency: 9183312710
Federal regulation: True
OSHA 1910 120: False
SPCC: False
RCRA: False
OPA 90: False
EPCRA: True
Other Regulations: Not reported

Processes:
Process ID: 1000013521
Optional facility description: Wastewater Chlorination
Program level: 3
Record contains CBI data: False

Process NAICS:
NAICS code description: Sewage Treatment Facilities

Prevention Program 3:
Safety review date: 2014-04-30 00:00:00
Most recent PHA date: 2014-09-30 00:00:00
Process Hazard Analysis: What if
Expected PHA changes completion date: 2014-09-30 00:00:00
Major Hazard: Toxic Release
Process Control: Vents, Relief valves, Alarms, Emergency air supply, Excess flow device
Mitigation Systems: Enclosure
Monitoring/Detection: Process area detector
Changes since the last process hazard analysis: Install process control
Most recent review of op. procedures: 2014-04-30 00:00:00
Most recent training progs review/update: 2014-04-30 00:00:00
Training: Not reported
Competency testing: Observation
Most recent maintenance review date: 2014-04-30 00:00:00
Most recent equipment inspection date: 2014-04-30 00:00:00
Equipment tested: Chlorinators
Most recent changes by mgmt: 2004-04-20 00:00:00
Date of most recent review/update: 2004-04-20 00:00:00
Date of pre-start review: 2004-04-20 00:00:00
Most recent compliance audit date: 2011-11-17 00:00:00
Expected date of audit completion: 2011-11-17 00:00:00
Most recent incident investigation: Not reported
Expected date of investigation changes: Not reported
Date of participation plan review: 2014-04-30 00:00:00

BARTLESVILLE CHICKASAW WASTEWATER PLANT (Continued) **1011816282**

Date of hot work permit review: 2014-07-23 00:00:00
Date of contractor safety review: 2014-04-29 00:00:00
Date of contractor safety eval. review: 2006-02-01 00:00:00
Record has CBI data: False

Process Chemicals:
Chemical name: Public OCA Chemical
Process chemical qty in 100s lbs: 0

Toxics Alt Releases:
Percent weight of chemical: Not reported
Physical state: b
Analytical basic: EPA's RMP*Comp(TM)
Scenario: Not reported
Quantity released in pounds: Not reported
Release duration in minutes: Not reported
Release rate in pounds per second: Not reported
Wind speed in meters/second: 3
Stability class: D
Topography: a
Distance to endpoint in miles: Not reported
Residential population: Not reported
Public receptors: Not reported
Environmental receptors: Not reported
Passive mitigation: Enclosures
Active mitigation: Excess flow valve, Manual shutdown of system.

Toxics Worst Case:
Percent weight of chemical: Not reported
Physical state: b
Analytical basic: EPA's RMP*Comp(TM)
Scenario: Not reported
Quantity released in pounds: Not reported
Release duration in minutes: 10
Release rate in pounds per second: Not reported
Wind speed in meters/second: 1.5
Stability class: F
Topography: a
Distance to endpoint in miles: Not reported
Residential population: Not reported
Public receptors: Not reported
Environmental receptors: Not reported
Passive mitigation: Enclosures

Chemical name: Chlorine
Process chemical qty in 100s lbs: 6000

Facility ID: 1000047461
Name: BARTLESVILLE CHICKASAW WASTEWATER PLANT
Address: 230 N CHICKASAW
Address 2: Not reported
City,State,Zip: BARTLESVILLE, OK 74003
LEPC city: Washington LEPC
Facility decimal latitude: 36.756667

BARTLESVILLE CHICKASAW WASTEWATER PLANT (Continued) **1011816282**

Facility decimal longitude:	-095.963889
Is facility in county box:	T
LatLong method:	AO
LatLong description:	CE
Home page web address:	Not reported
Facility telephone:	9183362656
Facility email:	Not reported
Facility DUNS #:	0
Parents name:	City of Bartlesville
Partners name:	Not reported
Parents DUNS #:	0
Partners DUNS #:	0
Operators name:	Veolia Water North American
Operators telephone:	9183362656
Operators address:	230 N Chickasaw
Operators City,St,Zip:	Bartlesville, OK 74003
RMP implementation contact:	John Shambles
RMP contact title:	Project Manager
Emergency contact:	John Shambles
Emergency contact title:	Project Manager
Emergency contact telephone:	9183362656
24 hour emergency telephone:	9182139210
Emergency contact ext/pin #:	Not reported
Number of full time employees:	13
EPA ID:	Not reported
Facility ID provided by CEPPO:	100000060916
Is facility covered by OSHA PSM:	T
Is facility covered by EPCRA 302:	T
Is fac. covered by CAA Title V 112(2):	F
Clean air op. permit/State ID:	Not reported
Last safety insp. dat:	2005-11-16 00:00:00
Inspected by:	EPA
Is it OSHA approved with star/merit ranking:	False
Will RMP involve predictive filing:	False
Submission type:	Resubmission
RMP description:	Not reported
Facility has no accident hist. recs:	False
Foreign owner’s address:	Not reported
Foreign owner’s zip:	Not reported
Foreign owner’s country:	Not reported
Claim # of employees as CBI:	False
Date RMP accepted by EPA:	2014-11-10 00:00:00
Date of error Report:	Not reported
Date RMP received:	2014-11-10 00:00:00
Does RMP contain graphics files:	False
Does RMP contain attachments:	False
Was certification letter received:	True
RMP submission method:	RMP*eSubmit
Does RMP contain CBI substantiation:	False
Does RMP contain electronic waiver:	False
Date RMP postmarked:	2014-11-10 00:00:00
Is RMP complete:	True
Date of de-registration:	Not reported
Date de-registration is effective:	Not reported
Aniversary date:	2019-11-10 00:00:00
Does RMP contain CBI data:	False
Does RMP contain unsanitized CBI version:	False

BARTLESVILLE CHICKASAW WASTEWATER PLANT (Continued) **1011816282**

RMP version #: 1.0
FRS latitude: 36.754049999999999
FRS longitude: -95.966300000000004
FRS Description: PLANT ENTRANCE (GENERAL)
FRS Method: ADDRESS MATCHING-HOUSE NUMBER

Emergency Responses:
ER plan most recent review date: 2014-08-05 00:00:00
ER plan most recent employee training date: 2014-08-05 00:00:00
Local agency coordinating ER plan: Washington County LEPC
Telephone of the coordinating local agency: 9183312710
Federal regulation: True
OSHA 1910 120: False
SPCC: False
RCRA: False
OPA 90: False
EPCRA: True
Other Regulations: Not reported

Processes:
Process ID: 1000059214
Optional facility description: Wastewater Chlorination
Program level: 3
Record contains CBI data: False

Process NAICS:
NAICS code description: Sewage Treatment Facilities

Prevention Program 3:
Safety review date: 2014-04-30 00:00:00
Most recent PHA date: 2014-09-30 00:00:00
Process Hazard Analysis: What if
Expected PHA changes completion date: 2014-09-30 00:00:00
Major Hazard: Toxic Release
Process Control: Vents, Relief valves, Alarms, Emergency air supply, Excess flow device
Mitigation Systems: Enclosure
Monitoring/Detection: Process area detector
Changes since the last process hazard analysis: Install process control
Most recent review of op. procedures: 2014-04-30 00:00:00
Most recent training progs review/update: 2014-04-30 00:00:00
Training: Not reported
Competency testing: Observation
Most recent maintenance review date: 2014-04-30 00:00:00
Most recent equipment inspection date: 2014-04-30 00:00:00
Equipment tested: Chlorinators
Most recent changes by mgmt: 2004-04-20 00:00:00
Date of most recent review/update: 2004-04-20 00:00:00
Date of pre-start review: 2004-04-20 00:00:00
Most recent compliance audit date: 2011-11-17 00:00:00
Expected date of audit completion: 2011-11-17 00:00:00
Most recent incident investigation: Not reported
Expected date of investigation changes: Not reported
Date of participation plan review: 2014-04-30 00:00:00
Date of hot work permit review: 2014-07-23 00:00:00
Date of contractor safety review: 2014-04-29 00:00:00
Date of contractor safety eval. review: 2006-02-01 00:00:00
Record has CBI data: False

BARTLESVILLE CHICKASAW WASTEWATER PLANT (Continued) **1011816282**

Process Chemicals:
Chemical name: Chlorine
Process chemical qty in 100s lbs: 6000

Chemical name: Public OCA Chemical
Process chemical qty in 100s lbs: 0

Toxics Alt Releases:
Percent weight of chemical: Not reported
Physical state: b
Analytical basic: EPA's RMP*Comp(TM)
Scenario: Not reported
Quantity released in pounds: Not reported
Release duration in minutes: Not reported
Release rate in pounds per second: Not reported
Wind speed in meters/second: 3
Stability class: D
Topography: a
Distance to endpoint in miles: Not reported
Residential population: Not reported
Public receptors: Not reported
Environmental receptors: Not reported
Passive mitigation: Enclosures
Active mitigation: Excess flow valve, Manual shutdown of system.

Toxics Worst Case:
Percent weight of chemical: Not reported
Physical state: b
Analytical basic: EPA's RMP*Comp(TM)
Scenario: Not reported
Quantity released in pounds: Not reported
Release duration in minutes: 10
Release rate in pounds per second: Not reported
Wind speed in meters/second: 1.5
Stability class: F
Topography: a
Distance to endpoint in miles: Not reported
Residential population: Not reported
Public receptors: Not reported
Environmental receptors: Not reported
Passive mitigation: Enclosures

A3 **BARTLESVILLE/US FILTER WASTEWATER TREATMENT PLANT** **RMP** **1011816284**
Target Property **230 N CHICKASAW** **N/A**
BARTLESVILLE, OK 74003

Site 3 of 8 in cluster A

Actual: 668 ft.

RMP:
Facility ID: 4861
Name: BARTLESVILLE/US FILTER WASTEWATER TREATMENT PLANT
Address: 230 N CHICKASAW
Address 2: Not reported
City,State,Zip: BARTLESVILLE, OK 74003

BARTLESVILLE/US FILTER WASTEWATER TREATMENT PLANT (Continued) **1011816284**

LEPC city:	Washington LEPC
Facility decimal latitude:	36.756667
Facility decimal longitude:	-95.963889
Is facility in county box:	T
LatLong method:	I1
LatLong description:	WR
Home page web address:	Not reported
Facility telephone:	Not reported
Facility email:	lesserhalf@aol.com
Facility DUNS #:	0
Parents name:	US Filter
Partners name:	Not reported
Parents DUNS #:	150795342
Partners DUNS #:	0
Operators name:	Bartlesville / US Filter
Operators telephone:	9183362656
Operators address:	230 N Chickasaw
Operators City,St,Zip:	Bartlesville, OK 74003
RMP implementation contact:	Gary Norris
RMP contact title:	Plant Manager
Emergency contact:	Gary Norris
Emergency contact title:	Plant Manager
Emergency contact telephone:	9183362656
24 hour emergency telephone:	9183319294
Emergency contact ext/pin #:	Not reported
Number of full time employees:	14
EPA ID:	Not reported
Facility ID provided by CEPPO:	100000060916
Is facility covered by OSHA PSM:	T
Is facility covered by EPCRA 302:	T
Is fac. covered by CAA Title V 112(2):	F
Clean air op. permit/State ID:	Not reported
Last safety insp. dat:	1998-12-16 00:00:00
Inspected by:	Corp. Inspection
Is it OSHA approved with star/merit ranking:	False
Will RMP involve predictive filing:	False
Submission type:	First Time
RMP description:	Not reported
Facility has no accident hist. recs:	True
Foreign owner's address:	Not reported
Foreign owner's zip:	Not reported
Foreign owner's country:	Not reported
Claim # of employees as CBI:	False
Date RMP accepted by EPA:	1999-06-29 00:00:00
Date of error Report:	Not reported
Date RMP received:	1999-06-18 00:00:00
Does RMP contain graphics files:	False
Does RMP contain attachments:	False
Was certification letter received:	True
RMP submission method:	RMP*Submit
Does RMP contain CBI substantiation:	False
Does RMP contain electronic waiver:	False
Date RMP postmarked:	1999-06-17 00:00:00
Is RMP complete:	True
Date of de-registration:	Not reported
Date de-registration is effective:	Not reported
Aniversary date:	2004-06-17 00:00:00

BARTLESVILLE/US FILTER WASTEWATER TREATMENT PLANT (Continued) **1011816284**

Does RMP contain CBI data: False
Does RMP contain unsanitized CBI version: False
RMP version #: 1.1.5
FRS latitude: 36.754049999999999
FRS longitude: -95.966300000000004
FRS Description: PLANT ENTRANCE (GENERAL)
FRS Method: ADDRESS MATCHING-HOUSE NUMBER

Emergency Responses:
ER plan most recent review date: 1999-06-08 00:00:00
ER plan most recent employee training date: 1999-05-27 00:00:00
Local agency coordinating ER plan: Washington County LEPC
Telephone of the coordinating local agency: 9183312710
Federal regulation: False
OSHA 1910 120: False
SPCC: False
RCRA: False
OPA 90: False
EPCRA: True
Other Regulations: Not reported

Processes:
Process ID: 5678
Optional facility description: Chlorine
Program level: 3
Record contains CBI data: False

Process NAICS:
NAICS code description: Sewage Treatment Facilities

Prevention Program 3:
Safety review date: 1998-12-16 00:00:00
Most recent PHA date: 1999-03-17 00:00:00
Process Hazard Analysis: What if
Expected PHA changes completion date: 1999-03-24 00:00:00
Major Hazard: Toxic Release
Process Control: Vents, Check valves, Manual shutoffs, Automatic shutoffs, Alarms, Emergency air supply, Emergency power
Mitigation Systems: Enclosure
Monitoring/Detection: Process area detector
Changes since the last process hazard analysis: No changes since last PHA
Most recent review of op. procedures: 1999-03-01 00:00:00
Most recent training progs review/update: 1999-03-15 00:00:00
Training: Not reported
Competency testing: Demonstration, Observation
Most recent maintenance review date: 1999-01-10 00:00:00
Most recent equipment inspection date: 1999-01-10 00:00:00
Equipment tested: chlorinators and detectors
Most recent changes by mgmt: 1999-01-10 00:00:00
Date of most recent review/update: 1999-01-10 00:00:00
Date of pre-start review: 1999-01-10 00:00:00
Most recent compliance audit date: 1998-12-16 00:00:00
Expected date of audit completion: Not reported
Most recent incident investigation: Not reported
Expected date of investigation changes: Not reported
Date of participation plan review: 1999-03-17 00:00:00
Date of hot work permit review: 1999-03-17 00:00:00

BARTLESVILLE/US FILTER WASTEWATER TREATMENT PLANT (Continued) **1011816284**

Date of contractor safety review: 1999-03-17 00:00:00
Date of contractor safety eval. review: 1999-03-17 00:00:00
Record has CBI data: False

Process Chemicals:
Chemical name: Chlorine
Process chemical qty in 100s lbs: 6000

Chemical name: Public OCA Chemical
Process chemical qty in 100s lbs: 0

Toxics Alt Releases:
Percent weight of chemical: Not reported
Physical state: c
Analytical basic: Areal Locations of Hazardous Atmospheres [ALOHA(R)]
Scenario: Not reported
Quantity released in pounds: Not reported
Release duration in minutes: Not reported
Release rate in pounds per second: Not reported
Wind speed in meters/second: 1.5
Stability class: F
Topography: a
Distance to endpoint in miles: Not reported
Residential population: Not reported
Public receptors: Not reported
Environmental receptors: Not reported
Passive mitigation: Enclosures, Drains
Active mitigation: Excess flow valve

Toxics Worst Case:
Percent weight of chemical: Not reported
Physical state: c
Analytical basic: Areal Locations of Hazardous Atmospheres [ALOHA(R)]
Scenario: Not reported
Quantity released in pounds: Not reported
Release duration in minutes: 10
Release rate in pounds per second: Not reported
Wind speed in meters/second: 1.5
Stability class: F
Topography: a
Distance to endpoint in miles: Not reported
Residential population: Not reported
Public receptors: Not reported
Environmental receptors: Not reported
Passive mitigation: Enclosures, Drains

A4 **BARTLESVILLE CITY OF CHICKASAW WASTEWATER TREATMEN** **ICIS** **1009331471**
Target **230 NORTH CHICKASAW** **N/A**
Property **BARTLESVILLE, OK 74003**

Site 4 of 8 in cluster A

Actual: **668 ft.**

ICIS:

Enforcement Action ID:	06-2006-3544
FRS ID:	110000544439
Action Name:	Bartlesville City of Chickasaw Wastewater Treatment Plant
Facility Name:	BARTLESVILLE CITY OF CHICKASAW WASTEWATER TREATMENT PLANT
Facility Address:	230 NORTH CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	CAA 113D1 Action For Penalty - 112(r) Expedited Settlement Program
Facility County:	WASHINGTON
Program System Acronym:	ICIS
Enforcement Action Forum Desc:	Administrative - Formal
EA Type Code:	113D1E
Facility SIC Code:	Not reported
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.75354
Longitude in Decimal Degrees:	-95.966293
Permit Type Desc:	Not reported
Program System Acronym:	7825783
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

A5 **BARTLESVILLE, CITY OF** **ICIS** **1018285422**
Target **230 N. CHICKASAW** **N/A**
Property **BARTLESVILLE, OK 74003**

Site 5 of 8 in cluster A

Actual: **668 ft.**

ICIS:

Enforcement Action ID:	OK-S-21402-13-1
FRS ID:	110000544439
Action Name:	City of Bartlesville
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	State CWA Non Penalty AO
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Formal
EA Type Code:	SCWAAO
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

Enforcement Action ID:	OK-N00001517
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name:	BARTLESVILLE, CITY OF

BARTLESVILLE, CITY OF (Continued) **1018285422**

Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	Letter of Violation/ Warning Letter
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	LOVWL
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

Enforcement Action ID:	OK-N00001490
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	Letter of Violation/ Warning Letter
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	LOVWL
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

Enforcement Action ID:	OK-N00001450
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Administrative Consent Order
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	State Administrative Order of Consent
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Formal
EA Type Code:	STAOCO
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

BARTLESVILLE, CITY OF (Continued) **1018285422**

Enforcement Action ID:	OK-N00001252
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	Letter of Violation/ Warning Letter
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	LOVWL
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

Enforcement Action ID:	OK-N00001229
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Administrative Consent Order
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	State Administrative Order of Consent
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Formal
EA Type Code:	STAOCO
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

Enforcement Action ID:	OK-N00001216
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Administrative Consent Order
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	State Administrative Order of Consent
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Formal
EA Type Code:	STAOCO
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit

BARTLESVILLE, CITY OF (Continued) **1018285422**

Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: OK-N00001055
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Administrative Consent Order
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: State Administrative Order of Consent
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Formal
EA Type Code: STAOCO
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: OK-N00000899
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Letter of Violation/ Warning Letter
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: LOVWL
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: OK-N00000745
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Letter of Violation/ Warning Letter
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: LOVWL

BARTLESVILLE, CITY OF (Continued) **1018285422**

Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: OK-N00000675
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Administrative Order
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: State CWA Non Penalty AO
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Formal
EA Type Code: SCWAAO
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: OK-N00000566
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Letter of Violation/ Warning Letter
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: LOVWL
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: OK-N00000409
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003

BARTLESVILLE, CITY OF (Continued) **1018285422**

Enforcement Action Type:	Letter of Violation/ Warning Letter
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	LOVWL
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported
Enforcement Action ID:	OK-N00000392
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	Letter of Violation/ Warning Letter
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	LOVWL
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported
Enforcement Action ID:	OK-N00000227
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Oral Notification of Violation
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	Phone Call/ EMAIL
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	PHEMAIL
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported
Enforcement Action ID:	OK-N00000226
FRS ID:	110000544439

BARTLESVILLE, CITY OF (Continued) **1018285422**

Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	Letter of Violation/ Warning Letter
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	LOVWL
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

Enforcement Action ID:	OK-N00000115
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	Letter of Violation/ Warning Letter
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	LOVWL
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

Enforcement Action ID:	OK-N00000052
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	Letter of Violation/ Warning Letter
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	LOVWL
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit

BARTLESVILLE, CITY OF (Continued) **1018285422**

Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: OK-N00000042
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Letter of Violation/ Warning Letter
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: LOVWL
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: OK-200138158
FRS ID: 110000544439
Action Name: City of Bartlesville PCI 2016
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Letter of Violation/ Warning Letter
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: LOVWL
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: OK-200131178
FRS ID: 110000544439
Action Name: City of Bartlesville CEI 2016
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Letter of Violation/ Warning Letter
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: LOVWL
Facility SIC Code: 4952

BARTLESVILLE, CITY OF (Continued) **1018285422**

Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: OK-200106735
FRS ID: 110000544439
Action Name: City of Bartlesville CEI 2015
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Letter of Violation/ Warning Letter
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: LOVWL
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: OK-200084438
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE PCI
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Letter of Violation/ Warning Letter
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: LOVWL
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: OK-200080847
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE CEI
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Letter of Violation/ Warning Letter
Facility County: WASHINGTON
Program System Acronym: NPDES

BARTLESVILLE, CITY OF (Continued) **1018285422**

Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: LOVWL
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: OK-200059552
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE 2012 CEI
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Letter of Violation/ Warning Letter
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: LOVWL
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: OK-200043965
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE CEI 2011
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Letter of Violation/ Warning Letter
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: LOVWL
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: OK-200035339
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE CEI 2010
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003

BARTLESVILLE, CITY OF (Continued) **1018285422**

Enforcement Action Type:	Letter of Violation/ Warning Letter
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	LOVWL
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

Enforcement Action ID:	OK-200016630
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE PCI
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	Letter of Violation/ Warning Letter
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	LOVWL
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

Enforcement Action ID:	OK-200016270
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE CEI
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	Letter of Violation/ Warning Letter
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	LOVWL
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

Enforcement Action ID:	OK-13-205 B
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE

BARTLESVILLE, CITY OF (Continued) **1018285422**

Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	State Administrative Order of Consent
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Formal
EA Type Code:	STAOCO
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

Enforcement Action ID:	OK-13-205 A
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	State Administrative Order of Consent
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Formal
EA Type Code:	STAOCO
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

Enforcement Action ID:	OK-13-205
FRS ID:	110000544439
Action Name:	City of Bartlesville
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	State Administrative Order of Consent
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Formal
EA Type Code:	STAOCO
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

BARTLESVILLE, CITY OF (Continued) **1018285422**

Enforcement Action ID: OK-08-047 B
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: State CWA Non Penalty AO
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Formal
EA Type Code: SCWAAO
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: OK-08-047 A
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: State CWA Non Penalty AO
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Formal
EA Type Code: SCWAAO
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-N00003571
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Admin Action Planned
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Agency Enforcement Review
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: AER
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333

BARTLESVILLE, CITY OF (Continued) **1018285422**

Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-N00003556
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Letter of Violation/ Warning Letter
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: LOVWL
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-N00003402
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Letter of Violation/ Warning Letter
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: LOVWL
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-N00003401
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Letter of Violation/ Warning Letter
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: LOVWL

BARTLESVILLE, CITY OF (Continued) **1018285422**

Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported
Enforcement Action ID:	06-N00003384
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	Letter of Violation/ Warning Letter
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	LOVWL
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported
Enforcement Action ID:	06-N00003276
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Admin Action Planned
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	Agency Enforcement Review
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	AER
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported
Enforcement Action ID:	06-N00003181
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003

BARTLESVILLE, CITY OF (Continued) **1018285422**

Enforcement Action Type: Letter of Violation/ Warning Letter
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: LOVWL
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-N00003143
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Letter of Violation/ Warning Letter
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: LOVWL
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-N00003040
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Letter of Violation/ Warning Letter
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: LOVWL
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-N00003030

BARTLESVILLE, CITY OF (Continued) **1018285422**

FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	Letter of Violation/ Warning Letter
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	LOVWL
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

Enforcement Action ID:	06-N00002948
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Admin Action Pending
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	Agency Enforcement Review
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	AER
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

Enforcement Action ID:	06-N00002947
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Pre-Enforcement Meeting
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	Enforcement Meeting
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	ENFMTG
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333

BARTLESVILLE, CITY OF (Continued) **1018285422**

Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-N00002946
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Letter of Violation/ Warning Letter
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: LOVWL
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-N00002945
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) No Current Action Warranted
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Agency Enforcement Review
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: AER
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-N00002558
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Letter of Violation/ Warning Letter
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: LOVWL
Facility SIC Code: 4952

BARTLESVILLE, CITY OF (Continued) **1018285422**

Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-N00002423
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Letter of Violation/ Warning Letter
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: LOVWL
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-N00002308
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Under Review By Epa Hq
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Agency Enforcement Review
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: AER
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-N00002307
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Admin Action Pending
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Agency Enforcement Review
Facility County: WASHINGTON

BARTLESVILLE, CITY OF (Continued) **1018285422**

Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: AER
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-N00002306
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Admin Action Pending
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Agency Enforcement Review
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: AER
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-N00002305
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Oral Notification of Violation
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Phone Call/ EMAIL
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Informal
EA Type Code: PHEMAIL
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-N00002304
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Oral Notification of Violation
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW

BARTLESVILLE, CITY OF (Continued) **1018285422**

	BARTLESVILLE, OK 74003
Enforcement Action Type:	Phone Call/ EMAIL
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	PHEMAIL
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

Enforcement Action ID:	06-N00002303
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	Letter of Violation/ Warning Letter
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	LOVWL
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

Enforcement Action ID:	06-N00002302
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	Letter of Violation/ Warning Letter
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	LOVWL
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

BARTLESVILLE, CITY OF (Continued) **1018285422**

Enforcement Action ID:	06-N00002301
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	Letter of Violation/ Warning Letter
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	LOVWL
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

Enforcement Action ID:	06-N00002300
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	Letter of Violation/ Warning Letter
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	LOVWL
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

Enforcement Action ID:	06-N00002177
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Letter Of Violation/Warning Letter
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	Letter of Violation/ Warning Letter
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	LOVWL
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139

BARTLESVILLE, CITY OF (Continued) **1018285422**

Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-1989-N133
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Civil Action Filed
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Civil Judicial Action
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Judicial
EA Type Code: CIV
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-1989-N132
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Consent Decree
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: Civil Judicial Action
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Judicial
EA Type Code: CIV
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-1988-N114
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Pretreatment Ao
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: CWA 309A AO For Compliance
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Formal
EA Type Code: 309A

BARTLESVILLE, CITY OF (Continued) **1018285422**

Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-1987-N096
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Administrative Order
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: CWA 309A AO For Compliance
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Formal
EA Type Code: 309A
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-1987-N072
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Administrative Order
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: CWA 309A AO For Compliance
Facility County: WASHINGTON
Program System Acronym: NPDES
Enforcement Action Forum Desc: Administrative - Formal
EA Type Code: 309A
Facility SIC Code: 4952
Federal Facility ID: Not reported
Latitude in Decimal Degrees: 36.757139
Longitude in Decimal Degrees: -95.964833
Permit Type Desc: NPDES Individual Permit
Program System Acronym: OK0030333
Facility NAICS Code: Not reported
Tribal Land Code: Not reported

Enforcement Action ID: 06-1986-N088
FRS ID: 110000544439
Action Name: CITY OF BARTLESVILLE (Permit OK0030333) Administrative Order
Facility Name: BARTLESVILLE, CITY OF
Facility Address: 230 N. CHICKASAW
BARTLESVILLE, OK 74003
Enforcement Action Type: CWA 309A AO For Compliance
Facility County: WASHINGTON

BARTLESVILLE, CITY OF (Continued) **1018285422**

Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Formal
EA Type Code:	309A
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported
Enforcement Action ID:	06-1985-N044
FRS ID:	110000544439
Action Name:	CITY OF BARTLESVILLE (Permit OK0030333) Administrative Order
Facility Name:	BARTLESVILLE, CITY OF
Facility Address:	230 N. CHICKASAW BARTLESVILLE, OK 74003
Enforcement Action Type:	CWA 309A AO For Compliance
Facility County:	WASHINGTON
Program System Acronym:	NPDES
Enforcement Action Forum Desc:	Administrative - Formal
EA Type Code:	309A
Facility SIC Code:	4952
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	36.757139
Longitude in Decimal Degrees:	-95.964833
Permit Type Desc:	NPDES Individual Permit
Program System Acronym:	OK0030333
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

A6 Target Property **CHICKASAW WASTEWATER TREATMENT PLANT** **TIER 2** **S109855139**
230 NORTH CHICKASAW AVE. **N/A**
BARTLESVILLE, OK 74003

Site 6 of 8 in cluster A

Actual: 668 ft.

OK TIER 2:

Facility ID:	FATR20093K2DGP002DN8
Test:	CHICKASAW WASTEWATER TREATMENT PLANT
Address:	230 NORTH CHICKASAW AVE.
City:	BARTLESVILLE
Facilty Country:	USA
All Chems. Same as Last Year:	T
Date Tier 2 Signed:	1/19/2010
Dike/Other Safeguards Employed:	Not reported
Facility Department:	Not reported
Facility Date Modified:	4/16/2010
State Fees Total:	Not reported
Facility Fire District:	Not reported
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Mailing Country:	Not reported
Latitude:	36.75535
Longitude:	-95.9653
Lat/Long Location Description:	PG - Plant Entrance (General)

CHICKASAW WASTEWATER TREATMENT PLANT (Continued) **S109855139**

Lat/Long Method:	G6 - GPS (SA On)
Number of Employees on Site:	13
Object ID:	Not reported
Notes:	Not reported
Validation Report:	This facility passed all validation checks.
Reporting Year:	2009
Site Coordinate Abbrvtions Submitted:	Not reported
State 1Require Contact:	Not reported
ID:	4952
Facility Type:	SIC
Facility Desctription:	SEWERAGE SYSTEMS
Facility Last Modified:	2/18/2005
ID:	15-079-5342
Facility Type:	Dun & Bradstreet
Facility Desctription:	Not reported
Facility Last Modified:	2/18/2005
ID:	22132
Facility Type:	NAICS
Facility Desctription:	Not reported
Facility Last Modified:	1/19/2010
Contact Record ID:	CTTR20093K8K7R006KF3
Contact Name:	Asst. Project Manager William Lankford
Contact Email:	Not reported
Contact Mail Address:	230 North Chickasaw
Contact Mail City,St,Zip:	Bartlesville, OK 74003
Contact Mail Country:	USA
Contact Type:	Emergency Contact
Contact Modified Date:	9/20/2010
Contact Record ID:	CTTR200969WWP400349W
Contact Name:	Project Manager John Shambles
Contact Email:	john.shambles@veoliawaterna.com
Contact Mail Address:	230 N Chickasaw Ave.
Contact Mail City,St,Zip:	Bartlesville, OK 74003
Contact Mail Country:	USA
Contact Type:	Owner / Operator
Contact Modified Date:	9/20/2010
Acute Health Risks:	True
Average Daily Amount:	3000
Average Daily Amount Code:	3
Chemical Inventory Record ID:	CVTR20093K8KJW00B7CF
Chemical Same As Last Year:	True
Chronic Heath Risks:	Not reported
CAS Number:	7782-50-5
EHS Substance:	T
Last Modified:	9/20/2010
State Max Daily Amt Required:	Not reported
State Unit Required:	Not reported
Days on Site:	365
Chemical Name:	CHLORINE
Fire Hazard:	Not reported
Gas:	True
Liquid:	True
Max Daily Amount:	6000
Max Daily Amount Code:	3
Max Amount in Largest Container:	2000
Mixture Form:	Not reported
"Sudden Release of Preasue" Hazard:	True

CHICKASAW WASTEWATER TREATMENT PLANT (Continued) **S109855139**

Pure Form:	True
Reactive Hazard:	True
Solid:	Not reported
State Contact Field:	Not reported
State Contact Comment:	Not reported
State EHS Comment:	Not reported
State Label Code:	OK2009
Max Daily Amount Required:	Not reported
State Mac Per Container Required:	Not reported
State Req Heading:	Not reported
Trade Secret:	Not reported
Mixture Chemical:	Not reported
Mixture Percentage:	Not reported
Mixture CAS:	Not reported
Mixture EHS:	Not reported
Mixture Last Modified:	Not reported
Amount of Substnce:	Not reported
Amount Units:	Not reported
Type of Storage:	Not reported
Number Code for Storage Pressure:	Not reported
Number Code for Storage Temperature:	Not reported
Last Modified:	Not reported
Location:	Not reported
Acute Health Risks:	Not reported
Average Daily Amount:	29000
Average Daily Amount Code:	4
Chemical Inventory Record ID:	CVTR20093K8L0V00D0XJ
Chemical Same As Last Year:	True
Chronic Heath Risks:	Not reported
CAS Number:	68476-34-6
EHS Substance:	Not reported
Last Modified:	9/20/2010
State Max Daily Amt Required:	Not reported
State Unit Required:	Not reported
Days on Site:	365
Chemical Name:	DIESEL FUEL
Fire Hazard:	True
Gas:	Not reported
Liquid:	True
Max Daily Amount:	87070
Max Daily Amount Code:	4
Max Amount in Largest Container:	87070
Mixture Form:	True
"Sudden Release of Preasue" Hazard:	Not reported
Pure Form:	Not reported
Reactive Hazard:	Not reported
Solid:	Not reported
State Contact Field:	Not reported
State Contact Comment:	Not reported
State EHS Comment:	Not reported
State Label Code:	OK2009
Max Daily Amount Required:	Not reported
State Mac Per Container Required:	Not reported
State Req Heading:	Not reported
Trade Secret:	Not reported
Mixture Chemical:	Not reported
Mixture Percentage:	Not reported

CHICKASAW WASTEWATER TREATMENT PLANT (Continued) **S109855139**

Mixture CAS:	Not reported
Mixture EHS:	Not reported
Mixture Last Modified:	Not reported
Amount of Substnce:	Not reported
Amount Units:	Not reported
Type of Storage:	Not reported
Number Code for Storage Pressure:	Not reported
Number Code for Storage Temperature:	Not reported
Last Modified:	Not reported
Location:	Not reported
Acute Health Risks:	True
Average Daily Amount:	3000
Average Daily Amount Code:	3
Chemical Inventory Record ID:	CVTR20093K934900GZXC
Chemical Same As Last Year:	True
Chronic Heath Risks:	Not reported
CAS Number:	7446-09-5
EHS Substance:	T
Last Modified:	9/20/2010
State Max Daily Amt Required:	Not reported
State Unit Required:	Not reported
Days on Site:	365
Chemical Name:	SULFUR DIOXIDE (SO2)
Fire Hazard:	Not reported
Gas:	True
Liquid:	True
Max Daily Amount:	4000
Max Daily Amount Code:	3
Max Amount in Largest Container:	2000
Mixture Form:	Not reported
"Sudden Release of Preasue" Hazard:	True
Pure Form:	True
Reactive Hazard:	True
Solid:	Not reported
State Contact Field:	Not reported
State Contact Comment:	Not reported
State EHS Comment:	Not reported
State Label Code:	OK2009
Max Daily Amount Required:	Not reported
State Mac Per Container Required:	Not reported
State Req Heading:	Not reported
Trade Secret:	Not reported
Mixture Chemical:	Not reported
Mixture Percentage:	Not reported
Mixture CAS:	Not reported
Mixture EHS:	Not reported
Mixture Last Modified:	Not reported
Amount of Substnce:	Not reported
Amount Units:	Not reported
Type of Storage:	Not reported
Number Code for Storage Pressure:	Not reported
Number Code for Storage Temperature:	Not reported
Last Modified:	Not reported
Location:	Not reported

A7 **CHICKASAW WASTEWATER TREATMENT PLANT** **TIER 2** **S111172516**
Target **230 NORTH CHICKASAW AVE.** **N/A**
Property **BARTLESVILLE, OK 74003**

Site 7 of 8 in cluster A

Actual:
668 ft.

OK TIER 2:

Facility ID:	FATR20153K2DGP002DN8
Test:	CHICKASAW WASTEWATER TREATMENT PLANT
Address:	230 NORTH CHICKASAW AVE.
City:	BARTLESVILLE
Facilty Country:	USA
All Chems. Same as Last Year:	Not reported
Date Tier 2 Signed:	2/4/2016
Dike/Other Safeguards Employed:	Not reported
Facility Department:	Not reported
Facility Date Modified:	4/28/2016
State Fees Total:	Not reported
Facility Fire District:	Not reported
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Mailing Country:	Not reported
Latitude:	36.755749
Longitude:	-95.965399
Lat/Long Location Description:	Not reported
Lat/Long Method:	Not reported
Number of Employees on Site:	Not reported
Object ID:	Not reported
Notes:	Not reported
Validation Report:	Not reported
Reporting Year:	2015
Site Coordinate Abbrvtions Submitted:	Not reported
State 1Require Contact:	Not reported
ID:	Not reported
Facility Type:	Not reported
Facility Desctription:	Not reported
Facility Last Modified:	Not reported
Contact Record ID:	Not reported
Contact Name:	Not reported
Contact Email:	Not reported
Contact Mail Address:	Not reported
Contact Mail City,St,Zip:	Not reported
Contact Mail Country:	Not reported
Contact Type:	Not reported
Contact Modified Date:	Not reported
Acute Health Risks:	Not reported
Average Daily Amount:	Not reported
Average Daily Amount Code:	Not reported
Chemical Inventory Record ID:	Not reported
Chemical Same As Last Year:	Not reported
Chronic Heath Risks:	Not reported
CAS Number:	Not reported
EHS Substance:	Not reported
Last Modified:	Not reported
State Max Daily Amt Required:	Not reported
State Unit Required:	Not reported
Days on Site:	Not reported
Chemical Name:	Not reported
Fire Hazard:	Not reported

CHICKASAW WASTEWATER TREATMENT PLANT (Continued) **S111172516**

Gas:	Not reported
Liquid:	Not reported
Max Daily Amount:	Not reported
Max Daily Amount Code:	Not reported
Max Amount in Largest Container:	Not reported
Mixture Form:	Not reported
"Sudden Release of Preasue" Hazard:	Not reported
Pure Form:	Not reported
Reactive Hazard:	Not reported
Solid:	Not reported
State Contact Field:	Not reported
State Contact Comment:	Not reported
State EHS Comment:	Not reported
State Label Code:	Not reported
Max Daily Amount Required:	Not reported
State Mac Per Container Required:	Not reported
State Req Heading:	Not reported
Trade Secret:	Not reported
Mixture Chemical:	Not reported
Mixture Percentage:	Not reported
Mixture CAS:	Not reported
Mixture EHS:	Not reported
Mixture Last Modified:	Not reported
Amount of Substnce:	Not reported
Amount Units:	Not reported
Type of Storage:	Not reported
Number Code for Storage Pressure:	Not reported
Number Code for Storage Temperature:	Not reported
Last Modified:	Not reported
Location:	Not reported

Facility ID:	Not reported
Test:	CHICKASAW WASTEWATER TREATMENT PLANT
Address:	230 NORTH CHICKASAW AVE.
City:	BARTLESVILLE
Facilty Country:	Not reported
All Chems. Same as Last Year:	Not reported
Date Tier 2 Signed:	Not reported
Dike/Other Safeguards Employed:	Not reported
Facility Department:	Not reported
Facility Date Modified:	Not reported
State Fees Total:	Not reported
Facility Fire District:	Not reported
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Mailing Country:	Not reported
Latitude:	36.755749
Longitude:	-95.965399
Lat/Long Location Description:	Not reported
Lat/Long Method:	Not reported
Number of Employees on Site:	Not reported
Object ID:	Not reported
Notes:	Not reported
Validation Report:	Not reported
Reporting Year:	2015
Site Coordinate Abbrvtions Submitted:	Not reported
State 1Require Contact:	Not reported

CHICKASAW WASTEWATER TREATMENT PLANT (Continued) **S111172516**

ID:	Not reported
Facility Type:	Not reported
Facility Desctription:	Not reported
Facility Last Modified:	Not reported
Contact Record ID: Not reported	
Contact Name: Not reported	
Contact Email: Not reported	
Contact Mail Address: Not reported	
Contact Mail City,St,Zip: Not reported	
Contact Mail Country: Not reported	
Contact Type: Not reported	
Contact Modified Date: Not reported	
Acute Health Risks:	Not reported
Average Daily Amount:	Not reported
Average Daily Amount Code:	Not reported
Chemical Inventory Record ID:	Not reported
Chemical Same As Last Year:	Not reported
Chronic Heath Risks:	Not reported
CAS Number:	Not reported
EHS Substance:	Not reported
Last Modified:	Not reported
State Max Daily Amt Required:	Not reported
State Unit Required:	Not reported
Days on Site:	Not reported
Chemical Name:	Not reported
Fire Hazard:	Not reported
Gas:	Not reported
Liquid:	Not reported
Max Daily Amount:	Not reported
Max Daily Amount Code:	Not reported
Max Amount in Largest Container:	Not reported
Mixture Form:	Not reported
"Sudden Release of Preasue" Hazard:	Not reported
Pure Form:	Not reported
Reactive Hazard:	Not reported
Solid:	Not reported
State Contact Field:	Not reported
State Contact Comment:	Not reported
State EHS Comment:	Not reported
State Label Code:	Not reported
Max Daily Amount Required:	Not reported
State Mac Per Container Required:	Not reported
State Req Heading:	Not reported
Trade Secret:	Not reported
Mixture Chemical:	Not reported
Mixture Percentage:	Not reported
Mixture CAS:	Not reported
Mixture EHS:	Not reported
Mixture Last Modified:	Not reported
Amount of Substnce:	Not reported
Amount Units:	Not reported
Type of Storage:	Not reported
Number Code for Storage Pressure:	Not reported
Number Code for Storage Temperature:	Not reported
Last Modified:	Not reported
Location:	Not reported

CHICKASAW WASTEWATER TREATMENT PLANT (Continued) **S111172516**

Facility ID:	Not reported
Test:	CHICKASAW WASTEWATER TREATMENT PLANT
Address:	230 NORTH CHICKASAW AVE.
City:	BARTLESVILLE
Facilty Country:	Not reported
All Chems. Same as Last Year:	Not reported
Date Tier 2 Signed:	Not reported
Dike/Other Safeguards Employed:	Not reported
Facility Department:	Not reported
Facility Date Modified:	9/13/2013
State Fees Total:	Not reported
Facility Fire District:	Not reported
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Mailing Country:	Not reported
Latitude:	36.75535
Longitude:	-95.9653
Lat/Long Location Description:	Not reported
Lat/Long Method:	Not reported
Number of Employees on Site:	Not reported
Object ID:	Not reported
Notes:	Not reported
Validation Report:	Not reported
Reporting Year:	2012
Site Coordinate Abbrvtions Submitted:	Not reported
State 1Require Contact:	Not reported
ID:	Not reported
Facility Type:	Not reported
Facility Desctription:	Not reported
Facility Last Modified:	Not reported
Contact Record ID:	Not reported
Contact Name:	Not reported
Contact Email:	Not reported
Contact Mail Address:	Not reported
Contact Mail City,St,Zip:	Not reported
Contact Mail Country:	Not reported
Contact Type:	Not reported
Contact Modified Date:	Not reported
Acute Health Risks:	Not reported
Average Daily Amount:	Not reported
Average Daily Amount Code:	Not reported
Chemical Inventory Record ID:	Not reported
Chemical Same As Last Year:	Not reported
Chronic Heath Risks:	Not reported
CAS Number:	Not reported
EHS Substance:	Not reported
Last Modified:	Not reported
State Max Daily Amt Required:	Not reported
State Unit Required:	Not reported
Days on Site:	Not reported
Chemical Name:	Not reported
Fire Hazard:	Not reported
Gas:	Not reported
Liquid:	Not reported
Max Daily Amount:	Not reported
Max Daily Amount Code:	Not reported
Max Amount in Largest Container:	Not reported

CHICKASAW WASTEWATER TREATMENT PLANT (Continued) **S111172516**

Mixture Form:	Not reported
"Sudden Release of Preasue" Hazard:	Not reported
Pure Form:	Not reported
Reactive Hazard:	Not reported
Solid:	Not reported
State Contact Field:	Not reported
State Contact Comment:	Not reported
State EHS Comment:	Not reported
State Label Code:	Not reported
Max Daily Amount Required:	Not reported
State Mac Per Container Required:	Not reported
State Req Heading:	Not reported
Trade Secret:	Not reported
Mixture Chemical:	Not reported
Mixture Percentage:	Not reported
Mixture CAS:	Not reported
Mixture EHS:	Not reported
Mixture Last Modified:	Not reported
Amount of Substnce:	Not reported
Amount Units:	Not reported
Type of Storage:	Not reported
Number Code for Storage Pressure:	Not reported
Number Code for Storage Temperature:	Not reported
Last Modified:	Not reported
Location:	Not reported

Facility ID:	Not reported
Test:	CHICKASAW WASTEWATER TREATMENT PLANT
Address:	230 NORTH CHICKASAW AVE.
City:	BARTLESVILLE
Facilty Country:	Not reported
All Chems. Same as Last Year:	Not reported
Date Tier 2 Signed:	Not reported
Dike/Other Safeguards Employed:	Not reported
Facility Department:	Not reported
Facility Date Modified:	Not reported
State Fees Total:	Not reported
Facility Fire District:	Not reported
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Mailing Country:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Lat/Long Location Description:	Not reported
Lat/Long Method:	Not reported
Number of Employees on Site:	Not reported
Object ID:	Not reported
Notes:	Not reported
Validation Report:	Not reported
Reporting Year:	2017
Site Coordinate Abbrvtions Submitted:	Not reported
State 1Require Contact:	Not reported
ID:	Not reported
Facility Type:	Not reported
Facility Desctription:	Not reported
Facility Last Modified:	Not reported

Contact Record ID: Not reported

CHICKASAW WASTEWATER TREATMENT PLANT (Continued) **S111172516**

Contact Name:	Not reported
Contact Email:	Not reported
Contact Mail Address:	Not reported
Contact Mail City,St,Zip:	Not reported
Contact Mail Country:	Not reported
Contact Type:	Not reported
Contact Modified Date:	Not reported
Acute Health Risks:	Not reported
Average Daily Amount:	Not reported
Average Daily Amount Code:	Not reported
Chemical Inventory Record ID:	Not reported
Chemical Same As Last Year:	Not reported
Chronic Heath Risks:	Not reported
CAS Number:	Not reported
EHS Substance:	Not reported
Last Modified:	Not reported
State Max Daily Amt Required:	Not reported
State Unit Required:	Not reported
Days on Site:	Not reported
Chemical Name:	Not reported
Fire Hazard:	Not reported
Gas:	Not reported
Liquid:	Not reported
Max Daily Amount:	Not reported
Max Daily Amount Code:	Not reported
Max Amount in Largest Container:	Not reported
Mixture Form:	Not reported
"Sudden Release of Preasue" Hazard:	Not reported
Pure Form:	Not reported
Reactive Hazard:	Not reported
Solid:	Not reported
State Contact Field:	Not reported
State Contact Comment:	Not reported
State EHS Comment:	Not reported
State Label Code:	Not reported
Max Daily Amount Required:	Not reported
State Mac Per Container Required:	Not reported
State Req Heading:	Not reported
Trade Secret:	Not reported
Mixture Chemical:	Not reported
Mixture Percentage:	Not reported
Mixture CAS:	Not reported
Mixture EHS:	Not reported
Mixture Last Modified:	Not reported
Amount of Substnce:	Not reported
Amount Units:	Not reported
Type of Storage:	Not reported
Number Code for Storage Pressure:	Not reported
Number Code for Storage Temperature:	Not reported
Last Modified:	Not reported
Location:	Not reported

Facility ID:	Not reported
Test:	CHICKASAW WASTEWATER TREATMENT PLANT
Address:	230 NORTH CHICKASAW AVE.
City:	BARTLESVILLE
Facilty Country:	USA

CHICKASAW WASTEWATER TREATMENT PLANT (Continued) **S111172516**

All Chems. Same as Last Year:	Not reported
Date Tier 2 Signed:	1/28/2014
Dike/Other Safeguards Employed:	Not reported
Facility Department:	Not reported
Facility Date Modified:	Not reported
State Fees Total:	Not reported
Facility Fire District:	Not reported
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Mailing Country:	Not reported
Latitude:	36.755749
Longitude:	-95.965399
Lat/Long Location Description:	Not reported
Lat/Long Method:	Not reported
Number of Employees on Site:	Not reported
Object ID:	Not reported
Notes:	Not reported
Validation Report:	Not reported
Reporting Year:	2013
Site Coordinate Abbrvtions Submitted:	Not reported
State 1Require Contact:	Not reported
ID:	Not reported
Facility Type:	Not reported
Facility Desctription:	Not reported
Facility Last Modified:	Not reported
Contact Record ID: Not reported	
Contact Name: Not reported	
Contact Email: Not reported	
Contact Mail Address: Not reported	
Contact Mail City,St,Zip: Not reported	
Contact Mail Country: Not reported	
Contact Type: Not reported	
Contact Modified Date: Not reported	
Acute Health Risks:	Not reported
Average Daily Amount:	Not reported
Average Daily Amount Code:	Not reported
Chemical Inventory Record ID:	Not reported
Chemical Same As Last Year:	Not reported
Chronic Heath Risks:	Not reported
CAS Number:	Not reported
EHS Substance:	Not reported
Last Modified:	Not reported
State Max Daily Amt Required:	Not reported
State Unit Required:	Not reported
Days on Site:	Not reported
Chemical Name:	Not reported
Fire Hazard:	Not reported
Gas:	Not reported
Liquid:	Not reported
Max Daily Amount:	Not reported
Max Daily Amount Code:	Not reported
Max Amount in Largest Container:	Not reported
Mixture Form:	Not reported
"Sudden Release of Preasue" Hazard:	Not reported
Pure Form:	Not reported
Reactive Hazard:	Not reported
Solid:	Not reported

CHICKASAW WASTEWATER TREATMENT PLANT (Continued) **S111172516**

State Contact Field: Not reported
State Contact Comment: Not reported
State EHS Comment: Not reported
State Label Code: Not reported
Max Daily Amount Required: Not reported
State Mac Per Container Required: Not reported
State Req Heading: Not reported
Trade Secret: Not reported
Mixture Chemical: Not reported
Mixture Percentage: Not reported
Mixture CAS: Not reported
Mixture EHS: Not reported
Mixture Last Modified: Not reported
Amount of Substnce: Not reported
Amount Units: Not reported
Type of Storage: Not reported
Number Code for Storage Pressure: Not reported
Number Code for Storage Temperature: Not reported
Last Modified: Not reported
Location: Not reported

Facility ID: Not reported
Test: CHICKASAW WASTEWATER TREATMENT PLANT
Address: 230 NORTH CHICKASAW AVE.
City: BARTLESVILLE
Facilty Country: USA
All Chems. Same as Last Year: Not reported
Date Tier 2 Signed: 2/6/2015
Dike/Other Safeguards Employed: Not reported
Facility Department: Not reported
Facility Date Modified: Not reported
State Fees Total: Not reported
Facility Fire District: Not reported
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Mailing Country: Not reported
Latitude: 36.755749
Longitude: -95.965399
Lat/Long Location Description: Not reported
Lat/Long Method: Not reported
Number of Employees on Site: Not reported
Object ID: Not reported
Notes: Not reported
Validation Report: Not reported
Reporting Year: 2014
Site Coordinate Abbrvtions Submitted: Not reported
State 1Require Contact: Not reported
ID: Not reported
Facility Type: Not reported
Facility Desctription: Not reported
Facility Last Modified: Not reported
Contact Record ID: Not reported
Contact Name: Not reported
Contact Email: Not reported
Contact Mail Address: Not reported
Contact Mail City,St,Zip: Not reported
Contact Mail Country: Not reported

CHICKASAW WASTEWATER TREATMENT PLANT (Continued) **S111172516**

Contact Type:	Not reported
Contact Modified Date:	Not reported
Acute Health Risks:	Not reported
Average Daily Amount:	Not reported
Average Daily Amount Code:	Not reported
Chemical Inventory Record ID:	Not reported
Chemical Same As Last Year:	Not reported
Chronic Heath Risks:	Not reported
CAS Number:	Not reported
EHS Substance:	Not reported
Last Modified:	Not reported
State Max Daily Amt Required:	Not reported
State Unit Required:	Not reported
Days on Site:	Not reported
Chemical Name:	Not reported
Fire Hazard:	Not reported
Gas:	Not reported
Liquid:	Not reported
Max Daily Amount:	Not reported
Max Daily Amount Code:	Not reported
Max Amount in Largest Container:	Not reported
Mixture Form:	Not reported
"Sudden Release of Preasue" Hazard:	Not reported
Pure Form:	Not reported
Reactive Hazard:	Not reported
Solid:	Not reported
State Contact Field:	Not reported
State Contact Comment:	Not reported
State EHS Comment:	Not reported
State Label Code:	Not reported
Max Daily Amount Required:	Not reported
State Mac Per Container Required:	Not reported
State Req Heading:	Not reported
Trade Secret:	Not reported
Mixture Chemical:	Not reported
Mixture Percentage:	Not reported
Mixture CAS:	Not reported
Mixture EHS:	Not reported
Mixture Last Modified:	Not reported
Amount of Substnce:	Not reported
Amount Units:	Not reported
Type of Storage:	Not reported
Number Code for Storage Pressure:	Not reported
Number Code for Storage Temperature:	Not reported
Last Modified:	Not reported
Location:	Not reported

Facility ID:	FATR20103K2DGP002DN8
Test:	CHICKASAW WASTEWATER TREATMENT PLANT
Address:	230 NORTH CHICKASAW AVE.
City:	BARTLESVILLE
Facilty Country:	USA
All Chems. Same as Last Year:	T
Date Tier 2 Signed:	2/9/2011
Dike/Other Safeguards Employed:	Not reported
Facility Department:	Not reported
Facility Date Modified:	4/4/2011

CHICKASAW WASTEWATER TREATMENT PLANT (Continued) **S111172516**

State Fees Total:	Not reported
Facility Fire District:	Not reported
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Mailing Country:	Not reported
Latitude:	36.75535
Longitude:	-95.9653
Lat/Long Location Description:	PG - Plant Entrance (General)
Lat/Long Method:	G6 - GPS (SA On)
Number of Employees on Site:	13
Object ID:	Not reported
Notes:	Not reported
Validation Report:	Not reported
Reporting Year:	2010
Site Coordinate Abbrvtions Submitted:	Not reported
State 1Require Contact:	Not reported
ID:	4952
Facility Type:	SIC
Facility Desctription:	SEWERAGE SYSTEMS
Facility Last Modified:	2/18/2005
ID:	15-079-5342
Facility Type:	Dun & Bradstreet
Facility Desctription:	Not reported
Facility Last Modified:	2/18/2005
ID:	22132
Facility Type:	NAICS
Facility Desctription:	Not reported
Facility Last Modified:	1/19/2010
Contact Record ID:	CTTR20103K8K7R006KF3
Contact Name:	Asst. Project Manager William Lankford
Contact Email:	Not reported
Contact Mail Address:	230 North Chickasaw
Contact Mail City,St,Zip:	Bartlesville, OK 74003
Contact Mail Country:	USA
Contact Type:	Emergency Contact
Contact Modified Date:	3/22/2011
Contact Record ID:	CTTR201069WWP400349W
Contact Name:	Project Manager John Shambles
Contact Email:	john.shambles@veoliawaterna.com
Contact Mail Address:	230 N Chickasaw Ave.
Contact Mail City,St,Zip:	Bartlesville, OK 74003
Contact Mail Country:	USA
Contact Type:	Owner / Operator
Contact Modified Date:	3/22/2011
Acute Health Risks:	True
Average Daily Amount:	3000
Average Daily Amount Code:	3
Chemical Inventory Record ID:	CVTR20103K8KJW00B7CF
Chemical Same As Last Year:	True
Chronic Heath Risks:	Not reported
CAS Number:	7782-50-5
EHS Substance:	T
Last Modified:	3/22/2011
State Max Daily Amt Required:	Not reported
State Unit Required:	Not reported
Days on Site:	365
Chemical Name:	CHLORINE

CHICKASAW WASTEWATER TREATMENT PLANT (Continued) **S111172516**

Fire Hazard:	Not reported
Gas:	True
Liquid:	True
Max Daily Amount:	6000
Max Daily Amount Code:	3
Max Amount in Largest Container:	2000
Mixture Form:	Not reported
"Sudden Release of Preasue" Hazard:	True
Pure Form:	True
Reactive Hazard:	True
Solid:	Not reported
State Contact Field:	Not reported
State Contact Comment:	Not reported
State EHS Comment:	Not reported
State Label Code:	Not reported
Max Daily Amount Required:	Not reported
State Mac Per Container Required:	Not reported
State Req Heading:	Not reported
Trade Secret:	Not reported
Mixture Chemical:	Not reported
Mixture Percentage:	Not reported
Mixture CAS:	Not reported
Mixture EHS:	Not reported
Mixture Last Modified:	Not reported
Amount of Substnce:	Not reported
Amount Units:	Not reported
Type of Storage:	Not reported
Number Code for Storage Pressure:	Not reported
Number Code for Storage Temperature:	Not reported
Last Modified:	Not reported
Location:	Not reported
Acute Health Risks:	Not reported
Average Daily Amount:	29000
Average Daily Amount Code:	4
Chemical Inventory Record ID:	CVTR20103K8L0V00D0XJ
Chemical Same As Last Year:	True
Chronic Heath Risks:	Not reported
CAS Number:	68476-34-6
EHS Substance:	Not reported
Last Modified:	3/22/2011
State Max Daily Amt Required:	Not reported
State Unit Required:	Not reported
Days on Site:	365
Chemical Name:	DIESEL FUEL
Fire Hazard:	True
Gas:	Not reported
Liquid:	True
Max Daily Amount:	87070
Max Daily Amount Code:	4
Max Amount in Largest Container:	87070
Mixture Form:	True
"Sudden Release of Preasue" Hazard:	Not reported
Pure Form:	Not reported
Reactive Hazard:	Not reported
Solid:	Not reported
State Contact Field:	Not reported
State Contact Comment:	Not reported

CHICKASAW WASTEWATER TREATMENT PLANT (Continued) **S111172516**

State EHS Comment:	Not reported
State Label Code:	Not reported
Max Daily Amount Required:	Not reported
State Mac Per Container Required:	Not reported
State Req Heading:	Not reported
Trade Secret:	Not reported
Mixture Chemical:	Not reported
Mixture Percentage:	Not reported
Mixture CAS:	Not reported
Mixture EHS:	Not reported
Mixture Last Modified:	Not reported
Amount of Substnce:	Not reported
Amount Units:	Not reported
Type of Storage:	Not reported
Number Code for Storage Pressure:	Not reported
Number Code for Storage Temperature:	Not reported
Last Modified:	Not reported
Location:	Not reported
Acute Health Risks:	True
Average Daily Amount:	3000
Average Daily Amount Code:	3
Chemical Inventory Record ID:	CVTR20103K934900GZXC
Chemical Same As Last Year:	True
Chronic Heath Risks:	Not reported
CAS Number:	7446-09-5
EHS Substance:	T
Last Modified:	3/22/2011
State Max Daily Amt Required:	Not reported
State Unit Required:	Not reported
Days on Site:	365
Chemical Name:	SULFUR DIOXIDE (SO2)
Fire Hazard:	Not reported
Gas:	True
Liquid:	True
Max Daily Amount:	4000
Max Daily Amount Code:	3
Max Amount in Largest Container:	2000
Mixture Form:	Not reported
"Sudden Release of Preasue" Hazard:	True
Pure Form:	True
Reactive Hazard:	True
Solid:	Not reported
State Contact Field:	Not reported
State Contact Comment:	Not reported
State EHS Comment:	Not reported
State Label Code:	Not reported
Max Daily Amount Required:	Not reported
State Mac Per Container Required:	Not reported
State Req Heading:	Not reported
Trade Secret:	Not reported
Mixture Chemical:	Not reported
Mixture Percentage:	Not reported
Mixture CAS:	Not reported
Mixture EHS:	Not reported
Mixture Last Modified:	Not reported
Amount of Substnce:	Not reported
Amount Units:	Not reported

CHICKASAW WASTEWATER TREATMENT PLANT (Continued) **S111172516**

Type of Storage: Not reported
Number Code for Storage Pressure: Not reported
Number Code for Storage Temperature: Not reported
Last Modified: Not reported
Location: Not reported

A8 **CHICKASAW WASTEWATER TRMT PLANT** **UST** **U001886944**
Target **230 N CHICKASAW** **HIST UST** **N/A**
Property **BARTLESVILLE, OK 74005** **TIER 2**

Site 8 of 8 in cluster A

Actual:
668 ft.

UST:
Facility ID: 7408860
Contact Name: City Of Bartlesville
Contact Address: 401 S JOHNSTONE AVENUE
Contact Telephone: 9183375280
Contact City,St,Zip: Bartlesville, OK 74003
Lat/Long: 36.756 / -95.9653

Tank ID: 1
Tank Status: Currently In Use
Total Capacity: 10000
Substance: Dyed Diesel
Date Installed: 05/03/1983
Tank Type: UST
Closed Date: Not reported
Decode of Tank Status: Currently in use
Closure Status: Not reported
Tank Construction: Single Walled
Tank Material: Fiberglass Reinforced Plastic
Pipe Construction: Single-Walled
Pipe Material: Steel

HIST UST:
Facility ID: 7408860
Owner Name: CITY OF BARTLESVILLE
Owner Address: 401 S JOHNSTONE AVENUE
Owner City,St,Zip: Bartlesville, OK 74003
Tank ID: 1
Tank Status: Currently in Use
Installed Date: 5/3/1983 0:00:00
Tank Capacity: 9728
Product: Diesel

OK TIER 2:
Facility ID: FATR20113K2DGP002DN8
Test: CHICKASAW WASTEWATER TREATMENT PLANT
Address: 230 NORTH CHICKASAW AVE.
City: BARTLESVILLE
Facilty Country: USA
All Chems. Same as Last Year: T
Date Tier 2 Signed: 1/17/2012
Dike/Other Safeguards Employed: Not reported
Facility Department: Not reported
Facility Date Modified: 6/20/2012
State Fees Total: Not reported
Facility Fire District: Not reported

CHICKASAW WASTEWATER TRMT PLANT (Continued) **U001886944**

Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Mailing Country:	Not reported
Latitude:	36.75535
Longitude:	-95.9653
Lat/Long Location Description:	PG - Plant Entrance (General)
Lat/Long Method:	G6 - GPS (SA On)
Number of Employees on Site:	13
Object ID:	Not reported
Notes:	Not reported
Validation Report:	Not reported
Reporting Year:	2011
Site Coordinate Abbrvtions Submitted:	Not reported
State 1Require Contact:	Not reported
ID:	4952
Facility Type:	SIC
Facility Desctription:	SEWERAGE SYSTEMS
Facility Last Modified:	2/18/2005
ID:	15-079-5342
Facility Type:	Dun & Bradstreet
Facility Desctription:	Not reported
Facility Last Modified:	2/18/2005
ID:	22132
Facility Type:	NAICS
Facility Desctription:	Not reported
Facility Last Modified:	1/19/2010
Contact Record ID:	CTTR20113K8K7R006KF3
Contact Name:	Asst. Project Manager William Lankford
Contact Email:	william.lankford@veoliawaterna.com
Contact Mail Address:	230 North Chickasaw
Contact Mail City,St,Zip:	Bartlesville, OK 74003
Contact Mail Country:	USA
Contact Type:	Emergency Contact
Contact Modified Date:	3/20/2012
Contact Record ID:	CTTR201169WWP400349W
Contact Name:	Project Manager John Shambles
Contact Email:	john.shambles@veoliawaterna.com
Contact Mail Address:	230 N Chickasaw Ave.
Contact Mail City,St,Zip:	Bartlesville, OK 74003
Contact Mail Country:	USA
Contact Type:	Owner / Operator
Contact Modified Date:	3/20/2012
Acute Health Risks:	Not reported
Average Daily Amount:	Not reported
Average Daily Amount Code:	Not reported
Chemical Inventory Record ID:	Not reported
Chemical Same As Last Year:	Not reported
Chronic Heath Risks:	Not reported
CAS Number:	Not reported
EHS Substance:	Not reported
Last Modified:	Not reported
State Max Daily Amt Required:	Not reported
State Unit Required:	Not reported
Days on Site:	Not reported
Chemical Name:	Not reported
Fire Hazard:	Not reported
Gas:	Not reported

CHICKASAW WASTEWATER TRMT PLANT (Continued) **U001886944**

Liquid:	Not reported
Max Daily Amount:	Not reported
Max Daily Amount Code:	Not reported
Max Amount in Largest Container:	Not reported
Mixture Form:	Not reported
"Sudden Release of Preasue" Hazard:	Not reported
Pure Form:	Not reported
Reactive Hazard:	Not reported
Solid:	Not reported
State Contact Field:	Not reported
State Contact Comment:	Not reported
State EHS Comment:	Not reported
State Label Code:	Not reported
Max Daily Amount Required:	Not reported
State Mac Per Container Required:	Not reported
State Req Heading:	Not reported
Trade Secret:	Not reported
Mixture Chemical:	Not reported
Mixture Percentage:	Not reported
Mixture CAS:	Not reported
Mixture EHS:	Not reported
Mixture Last Modified:	Not reported
Amount of Substnce:	Not reported
Amount Units:	Not reported
Type of Storage:	Not reported
Number Code for Storage Pressure:	Not reported
Number Code for Storage Temperature:	Not reported
Last Modified:	Not reported
Location:	Not reported

Facility ID:	Not reported
Test:	CHICKASAW WASTEWATER TREATMENT PLANT
Address:	230 NORTH CHICKASAW AVE.
City:	BARTLESVILLE
Facilty Country:	Not reported
All Chems. Same as Last Year:	Not reported
Date Tier 2 Signed:	Not reported
Dike/Other Safeguards Employed:	Not reported
Facility Department:	Not reported
Facility Date Modified:	Not reported
State Fees Total:	Not reported
Facility Fire District:	Not reported
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Mailing Country:	Not reported
Latitude:	36.755749
Longitude:	-95.965399
Lat/Long Location Description:	Not reported
Lat/Long Method:	Not reported
Number of Employees on Site:	Not reported
Object ID:	Not reported
Notes:	Not reported
Validation Report:	Not reported
Reporting Year:	2018
Site Coordinate Abbrvtions Submitted:	Not reported
State 1Require Contact:	Not reported
ID:	Not reported

CHICKASAW WASTEWATER TRMT PLANT (Continued) **U001886944**

Facility Type:	Not reported
Facility Desctription:	Not reported
Facility Last Modified:	Not reported
Contact Record ID:	Not reported
Contact Name:	Not reported
Contact Email:	Not reported
Contact Mail Address:	Not reported
Contact Mail City,St,Zip:	Not reported
Contact Mail Country:	Not reported
Contact Type:	Not reported
Contact Modified Date:	Not reported
Acute Health Risks:	Not reported
Average Daily Amount:	Not reported
Average Daily Amount Code:	Not reported
Chemical Inventory Record ID:	Not reported
Chemical Same As Last Year:	Not reported
Chronic Heath Risks:	Not reported
CAS Number:	Not reported
EHS Substance:	Not reported
Last Modified:	Not reported
State Max Daily Amt Required:	Not reported
State Unit Required:	Not reported
Days on Site:	Not reported
Chemical Name:	Not reported
Fire Hazard:	Not reported
Gas:	Not reported
Liquid:	Not reported
Max Daily Amount:	Not reported
Max Daily Amount Code:	Not reported
Max Amount in Largest Container:	Not reported
Mixture Form:	Not reported
"Sudden Release of Preasue" Hazard:	Not reported
Pure Form:	Not reported
Reactive Hazard:	Not reported
Solid:	Not reported
State Contact Field:	Not reported
State Contact Comment:	Not reported
State EHS Comment:	Not reported
State Label Code:	Not reported
Max Daily Amount Required:	Not reported
State Mac Per Container Required:	Not reported
State Req Heading:	Not reported
Trade Secret:	Not reported
Mixture Chemical:	Not reported
Mixture Percentage:	Not reported
Mixture CAS:	Not reported
Mixture EHS:	Not reported
Mixture Last Modified:	Not reported
Amount of Substnce:	Not reported
Amount Units:	Not reported
Type of Storage:	Not reported
Number Code for Storage Pressure:	Not reported
Number Code for Storage Temperature:	Not reported
Last Modified:	Not reported
Location:	Not reported

9 **UNKNOWN SAND PIT** **MINES MRDS** **1025635150**
N/A

< 1/8 **WASHINGTON (County), OK**
1 ft.

Relative:
Lower

Actual:
664 ft.

MINES MRDS:

Name:	UNKNOWN SAND PIT
Address:	Not reported
Deposit identification Number:	10152322
City,State,Zip:	OKLAHOMA
URL:	https://mrdata.usgs.gov/mrds/show-mrds.php?dep_id=10152322
MRDS Identification Number:	Not reported
MAS/MILS Identification Number:	0401470030
Region:	NA
Country:	United States
Primary Commodities:	Sand and Gravel, Construction
Secondary Commodities:	Not reported
Tertiary Commodities:	Not reported
Operation Type:	Surface
Deposit Type:	Not reported
Production Size:	Not reported
Development Status:	Past Producer
Ore Minerals or Materials:	Not reported
Gangue Minerals or Materials:	Not reported
Other Minerals or Materials:	Not reported
Ore Body Form:	Not reported
Workings Type:	Not reported
Mineral Deposit Model:	Not reported
Alteration Processes:	Not reported
Concentration Processes:	Not reported
Previous Names:	Not reported
Ore Controls:	Not reported
Reporter:	Oklahoma Geological Survey
Host Rock Unit Name:	Not reported
Host Rock Type:	Not reported
Associated Rock Unit Name:	Not reported
Associated Rock Type Code:	Not reported
Structural Characteristics:	Not reported
Tectonic Setting:	Not reported
References:	Not reported
First Production Year:	Not reported
Began Before/After FPY:	Not reported
Last Production Year:	Not reported
Ended Before/After LPY:	Not reported
Year Discovered:	Not reported
Found Before/After YD:	Not reported
Production History:	Not reported
Discovery Information:	Not reported
Latitude:	36.75697
Longitude:	-95.96418

10
North
< 1/8
0.027 mi.
143 ft.

BARTLESVILLE HWY 123 LANDFILL
HWY 123 NORTH OF BARTLESVILLE
BARTLESVILLE, OK 74003

SEMS-ARCHIVE

1003873803
OKD980620777

Relative:
Lower

Actual:
663 ft.

SEMS Archive:

Site ID:	0601247
EPA ID:	OKD980620777
Name:	BARTLESVILLE HWY 123 LANDFILL
Address:	HWY 123 NORTH OF BARTLESVILLE
Address 2:	Not reported
City,State,Zip:	BARTLESVILLE, OK 74003
Cong District:	02
FIPS Code:	40147
FF:	N
NPL:	Not on the NPL
Non NPL Status:	NFRAP-Site does not qualify for the NPL based on existing information

SEMS Archive Detail:

Region:	06
Site ID:	0601247
EPA ID:	OKD980620777
Site Name:	BARTLESVILLE HWY 123 LANDFILL
NPL:	N
FF:	N
OU:	00
Action Code:	VS
Action Name:	ARCH SITE
SEQ:	1
Start Date:	Not reported
Finish Date:	1995-03-14 05:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf In-Hse

Region:	06
Site ID:	0601247
EPA ID:	OKD980620777
Site Name:	BARTLESVILLE HWY 123 LANDFILL
NPL:	N
FF:	N
OU:	00
Action Code:	DS
Action Name:	DISCVRY
SEQ:	1
Start Date:	1982-04-01 05:00:00
Finish Date:	1982-04-01 05:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf

Region:	06
Site ID:	0601247
EPA ID:	OKD980620777
Site Name:	BARTLESVILLE HWY 123 LANDFILL
NPL:	N
FF:	N
OU:	00
Action Code:	PA
Action Name:	PA
SEQ:	1

BARTLESVILLE HWY 123 LANDFILL (Continued) **1003873803**

Start Date:	1982-08-01 04:00:00
Finish Date:	1982-08-01 04:00:00
Qual:	L
Current Action Lead:	EPA Perf
Region:	06
Site ID:	0601247
EPA ID:	OKD980620777
Site Name:	BARTLESVILLE HWY 123 LANDFILL
NPL:	N
FF:	N
OU:	00
Action Code:	SI
Action Name:	SI
SEQ:	1
Start Date:	1982-08-01 04:00:00
Finish Date:	1982-08-01 04:00:00
Qual:	N
Current Action Lead:	EPA Perf

B11 **MARSHALL MUFFLER** **RCRA-VSQG** **1004769467**
SE **1400 TUXEDO** **FINDS** **OKR000006353**
1/8-1/4 **BARTLESVILLE, OK 74003** **ECHO**
0.136 mi.
718 ft. **Site 1 of 3 in cluster B**

Relative: **Lower**
Actual: **648 ft.**

RCRA Listings:

Date Form Received by Agency:	20120822
Handler Name:	Marshall Muffler
Handler Address:	1400 TUXEDO
Handler City,State,Zip:	BARTLESVILLE, OK 74003
EPA ID:	OKR000006353
Contact Name:	GLEN RANDALL
Contact Address:	1400 TUXEDO
Contact City,State,Zip:	BARTLESVILLE, OK 74003
Contact Telephone:	918-336-3800
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	06
Land Type:	Private
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	TUXEDO
Mailing City,State,Zip:	BARTLESVILLE, OK 74003
Owner Name:	Glen Randall
Owner Type:	Private
Operator Name:	Not reported
Operator Type:	Not reported
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No

MARSHALL MUFFLER (Continued) **1004769467**

Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20120822
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	IGNITABLE WASTE
Waste Code:	D018
Waste Description:	BENZENE
Waste Code:	D039
Waste Description:	TETRACHLOROETHYLENE
Waste Code:	D040
Waste Description:	TRICHLORETHYLENE

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	GLEN RANDALL
Legal Status:	Private

MARSHALL MUFFLER (Continued) **1004769467**

Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	1400 TUXEDO
Owner/Operator City,State,Zip:	BARTLESVILLE, OK 74003
Owner/Operator Telephone:	918-336-3800
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: GLEN RANDALL	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	1400 TUXEDO
Owner/Operator City,State,Zip:	BARTLESVILLE, OK 74003
Owner/Operator Telephone:	918-336-3800
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20120822
Handler Name: MARSHALL MUFFLER	
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported
Receive Date:	19990212
Handler Name: BARTLESVILLE CYCLE SPORT	
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Codes:	No NAICS Codes Found

Has the Facility Received Notices of Violations:

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported

MARSHALL MUFFLER (Continued) **1004769467**

Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Evaluation Action Summary:

Evaluation Date:	20120815
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	OKJTK
Evaluation Responsible Sub-Organization:	OK
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

FINDS:
Registry ID: 110004770846

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of

MARSHALL MUFFLER (Continued) **1004769467**

events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1004769467
Registry ID:	110004770846
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110004770846
Name:	MARSHALL MUFFLER
Address:	1400 TUXEDO
City,State,Zip:	BARTLESVILLE, OK 74003

B12 **FOUR STATE CONTRACTORS SHOP** **UST** **U001234139**
SE **1480 E TUXEDO BLVD** **HIST UST** **N/A**
1/8-1/4 **BARTLESVILLE, OK 74003**
0.137 mi.
723 ft. **Site 2 of 3 in cluster B**

Relative: **Lower**
Actual: **650 ft.**

UST:

Facility ID:	7411728
Contact Name:	Four State Contractors
Contact Address:	413 S.E. FRANK PHILLIPS BLVD
Contact Telephone:	9183370808
Contact City,St,Zip:	Bartlesville, OK 74003
Lat/Long:	36.7563 / -95.9589
Tank ID:	1
Tank Status:	Permanently Out Of Use
Total Capacity:	0
Substance:	Diesel
Date Installed:	Not reported
Tank Type:	UST
Closed Date:	04/18/1997
Decode of Tank Status:	Permanently out of use
Closure Status:	Tank Closed In Place
Tank Construction:	Single Walled
Tank Material:	Steel
Pipe Construction:	Single-Walled
Pipe Material:	Steel
Tank ID:	2
Tank Status:	Permanently Out Of Use
Total Capacity:	0
Substance:	Not Listed
Date Installed:	Not reported
Tank Type:	UST
Closed Date:	04/18/1997
Decode of Tank Status:	Permanently out of use
Closure Status:	Tank Closed In Place
Tank Construction:	Single Walled
Tank Material:	Steel
Pipe Construction:	Single-Walled
Pipe Material:	Steel

FOUR STATE CONTRACTORS SHOP (Continued) **U001234139**

HIST UST:
Facility ID: 7411728
Owner Name: FOUR STATE CONTRACTORS
Owner Address: 413 S.E. FRANK PHILLIPS BLVD
Owner City,St,Zip: Bartlesville, OK 74003
Tank ID: 1
Tank Status: Permanently Out of Use
Installed Date: Not reported
Tank Capacity: Not reported
Product: Diesel

Facility ID: 7411728
Owner Name: FOUR STATE CONTRACTORS
Owner Address: 413 S.E. FRANK PHILLIPS BLVD
Owner City,St,Zip: Bartlesville, OK 74003
Tank ID: 2
Tank Status: Permanently Out of Use
Installed Date: Not reported
Tank Capacity: Not reported
Product: Not Listed

B13 **BARTLESVILLE READY MIX INC** **UST** **U001234101**
SE **1500 TUXEDO BLVD** **AST** **N/A**
1/8-1/4 **BARTLESVILLE, OK 74003** **HIST UST**
0.138 mi. **AIRS**
726 ft. **Site 3 of 3 in cluster B**

Relative: **Lower**
Actual: **651 ft.**

UST:
Facility ID: 7407421
Contact Name: Evans & Associates Inc
Contact Address: PO Box 30
Contact Telephone: 5807656693
Contact City,St,Zip: Ponca City, OK 74601
Lat/Long: 36.7562 / -95.9584

Tank ID: 1
Tank Status: Permanently Out Of Use
Total Capacity: 1000
Substance: Gasoline
Date Installed: 11/29/1969
Tank Type: UST
Closed Date: 12/01/1989
Decode of Tank Status: Permanently out of use
Closure Status: Not Listed
Tank Construction: Single Walled
Tank Material: Steel
Pipe Construction: Single-Walled
Pipe Material: Not reported

Tank ID: 2
Tank Status: Permanently Out Of Use
Total Capacity: 1000
Substance: Diesel
Date Installed: 11/29/1969
Tank Type: UST
Closed Date: 12/01/1989
Decode of Tank Status: Permanently out of use

BARTLESVILLE READY MIX INC (Continued) **U001234101**

Closure Status: Not Listed
Tank Construction: Single Walled
Tank Material: Steel
Pipe Construction: Single-Walled
Pipe Material: Steel

AST:
Facility ID: 7407421
Contact Name: Evans & Associates Inc
Contact Address: PO Box 30
Contact Telephone: 5807656693
Contact City,St,Zip: Ponca City, OK 74601
Lat/Long: 36.7562 / -95.9584

Tank ID: 3
Tank Status: Currently In Use
Total Capacity: 10000
Substance: Diesel
Install Date: 06/08/2007
Tank Type: AST
Closed Date: Not reported
Decode of Tank Status: Currently in use
Closure Status: Not reported
Tank Construction: Single Walled
Tank Material: Steel
Pipe Construction: Single-Walled
Pipe Material: Steel

HIST UST:
Facility ID: 7407421
Owner Name: BARTLESVILLE REDI MIX INC.
Owner Address: 1500 TUXEDO
Owner City,St,Zip: Bartlesville, OK 74006
Tank ID: 1
Tank Status: Permanently Out of Use
Installed Date: 11/29/1969 0:00:00
Tank Capacity: 1000
Product: Gasoline

Facility ID: 7407421
Owner Name: BARTLESVILLE REDI MIX INC.
Owner Address: 1500 TUXEDO
Owner City,St,Zip: Bartlesville, OK 74006
Tank ID: 2
Tank Status: Permanently Out of Use
Installed Date: 11/29/1969 0:00:00
Tank Capacity: 1000
Product: Diesel

AIRS:
Name: BARTLESVILLE REDI MIX CONCRETE BATCH PLT
Address: 1500 TUXEDO BLVD
City,State,Zip: BARTLESVILLE, OK 74003
Company: EVANS AND ASSOC CONSTRUCTION CO INC
Operating Status: Operating
NAICS Code: 327320
SIC Code: 3273
Permit Number: 97-272-O

BARTLESVILLE READY MIX INC (Continued) **U001234101**

Issue Date:	05/16/1997
Contact First Name:	JOHN
Contact Last Name:	RUPP
Contact Phone:	(405) 765-6693
Latitude:	36.74184
Longitude:	-96.08381

14
NW
1/8-1/4
0.139 mi.
732 ft.

CHEROKEE_OLD DEWEY ROAD DUMP **IHS OPEN DUMPS** **1016945922**
N/A

, OK

Relative:
Lower

Actual:
663 ft.

IHS OPEN DUMPS:

EPA Region:	6
IHS Area:	OK
Tribe:	CHEROKEE NATION, OK
edr_fname:	Cherokee_OLD DEWEY ROAD DUMP
edr_fadd1:	Not reported
City,State,Zip:	OK
System Type:	Solid Waste Disposal Site
Status:	Inactive
Condition:	Open Dump - Surface
Condition Date:	2010-08-12 00:00:00
Health Threat:	1-Low
Health Threat Score:	224
Contents:	D
Surface Area (acres):	0.51000000000000001
N Latitude:	36.7622
W Longitude:	95.963099999999997

15
SW
1/4-1/2
0.298 mi.
1575 ft.

800 FRANK PHILLIPS BLVD. **US BROWNFIELDS** **1024246899**
800 SE FRANK PHILLIPS BLVD., BARTLESVILLE, OK **N/A**
BARTLESVILLE, OK 74003

Relative:
Higher

Actual:
688 ft.

US BROWNFIELDS:

Name:	800 FRANK PHILLIPS BLVD.
Address:	800 SE FRANK PHILLIPS BLVD., BARTLESVILLE, OK
City,State,Zip:	BARTLESVILLE, OK 74003
Recipient Name:	Oklahoma Corporation Commission
Grant Type:	Section 128(a) State/Tribal
Property Number:	LOT 9 & 10 BLK 8 CAPITAL HILL
Parcel size:	0.39
Latitude:	36.7509949
Longitude:	-95.9671798
HCM Label:	-
Map Scale:	-
Point of Reference:	-
Highlights:	The buyer wants to rent this property, but it was uncertain at time of purchase whether tanks were still on site. OCC PST inspector saw vent pipes running up the building, but that was not a sure sign that tanks were on site. Brownfields staff dug through property ownership records and ended up eventually finding the last person to operate the gas station as such, and called them. He confirmed the tanks were

800 FRANK PHILLIPS BLVD. (Continued) **1024246899**

removed, so Brownfields staff called Conoco Phillips with the facility ID, and Conoco Phillips provided the documentation of tank removal. With no tanks, OCC issued a No Action Necessary certificate on June 12, 2017. Former Use: Site was used as a gas station and then a glass distribution shop. In 2019, Tom Myers of Latipro Investments decided to stop trying to sell the building as-is, and instead building something brand new: an approximately 3,000-square foot butter-yellow adobe building that now houses the Delaware Child Development Center West, also known as the Ivy Academy Downtown. Myer's building is currently leased by the Washington County Childcare Foundation. There are 6 full-time employees in the building. They have an Early Head Start program, CCDS, and CACST. It's estimated that $395,000/year goes to that facility each year to cover the employees' salaries and everything (the rent is $39,000 for the year). This facility is affiliated with the Delaware Nation, funded through grants. They serve mostly Native Americans, due to the grants that come through the Delaware Tribe, but they also serve a lot of DHS and low-income community members.

Datum:	-
Acres Property ID:	235964
IC Data Access:	-
Start Date:	-
Redev Completition Date:	1/1/2020
Completed Date:	-
Acres Cleaned Up:	-
Cleanup Funding:	-
Cleanup Funding Source:	-
Assessment Funding:	-
Assessment Funding Source:	-
Redevelopment Funding:	166850
Redev. Funding Source:	Latipro Investments
Redev. Funding Entity Name:	Private/Other Funding
Redevelopment Start Date:	1/1/2019
Assessment Funding Entity:	-
Cleanup Funding Entity:	-
Grant Type:	Petroleum
Accomplishment Type:	-
Accomplishment Count:	-
Cooperative Agreement Number:	00F69301
Start Date:	-
Ownership Entity:	Private
Completion Date:	-
Current Owner:	Tom Myers
Did Owner Change:	N
Cleanup Required:	N
Video Available:	-
Photo Available:	-
Institutional Controls Required:	Y
IC Category Proprietary Controls:	-
IC Cat. Info. Devices:	Y
IC Cat. Gov. Controls:	-
IC Cat. Enforcement Permit Tools:	-
IC in place date:	-
IC in place:	Y
State/tribal program date:	1/10/2017
State/tribal program ID:	18517OGDO70002
State/tribal NFA date:	6/12/2017

800 FRANK PHILLIPS BLVD. (Continued) **1024246899**

Air cleaned:	-
Asbestos found:	-
Asbestos cleaned:	-
Controled substance found:	-
Controled substance cleaned:	-
Drinking water affected:	-
Drinking water cleaned:	-
Groundwater affected:	-
Groundwater cleaned:	-
Lead contaminant found:	-
Lead cleaned up:	-
No media affected:	-
Unknown media affected:	-
Other cleaned up:	-
Other metals found:	-
Other metals cleaned:	-
Other contaminants found:	-
Other contams found description:	-
PAHs found:	-
PAHs cleaned up:	-
PCBs found:	-
PCBs cleaned up:	-
Petro products found:	-
Petro products cleaned:	-
Sediments found:	-
Sediments cleaned:	-
Soil affected:	-
Soil cleaned up:	-
Surface water cleaned:	-
VOCs found:	-
VOCs cleaned:	-
Cleanup other description:	-
Num. of cleanup and re-dev. jobs:	6
Past use greenspace acreage:	-
Past use residential acreage:	-
Surface Water:	-
Past use commercial acreage:	0.39
Past use industrial acreage:	-
Future use greenspace acreage:	-
Future use residential acreage:	-
Future use commercial acreage:	0.39
Future use industrial acreage:	-
Superfund Fed. landowner flag:	-
Arsenic cleaned up:	-
Cadmium cleaned up:	-
Chromium cleaned up:	-
Copper cleaned up:	-
Iron cleaned up:	-
mercury cleaned up:	-
Nickel Cleaned Up:	-
No clean up:	-
Pesticides cleaned up:	-
Selenium cleaned up:	-
SVOCs cleaned up:	-
Unknown clean up:	-
Arsenic contaminant found:	-
Cadmium contaminant found:	-

800 FRANK PHILLIPS BLVD. (Continued) **1024246899**

Chromium contaminant found:	-
Copper contaminant found:	-
Iron contaminant found:	-
Mercury contaminant found:	-
Nickel contaminant found:	-
No contaminant found:	-
Pesticides contaminant found:	-
Selenium contaminant found:	-
SVOCs contaminant found:	-
Unknown contaminant found:	-
Future Use: Multistory	-
Media affected Bluiding Material:	-
Media affected indoor air:	-
Building material media cleaned up:	-
Indoor air media cleaned up:	-
Unknown media cleaned up:	-
Past Use: Multistory	-
Property Description:	Site was used as a gas station and then a glass distribution shop.
Below Poverty Number:	509
Below Poverty Percent:	28.74
Meidan Income:	4658
Meidan Income Number:	1101
Meidan Income Percent:	62.17
Vacant Housing Number:	121
Vacant Housing Percent:	12.47
Unemployed Number:	58
Unemployed Percent:	3.27

Name:	800 FRANK PHILLIPS BLVD.
Address:	800 SE FRANK PHILLIPS BLVD., BARTLESVILLE, OK
City,State,Zip:	BARTLESVILLE, OK 74003
Recipient Name:	Oklahoma Corporation Commission
Grant Type:	Section 128(a) State/Tribal
Property Number:	LOT 9 & 10 BLK 8 CAPITAL HILL
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Map Scale:	-
Point of Reference:	-
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800 FRANK PHILLIPS BLVD. (Continued) **1024246899**

building. They have an Early Head Start program, CCDS, and CACST. It's estimated that $395,000/year goes to that facility each year to cover the employees' salaries and everything (the rent is $39,000 for the year). This facility is affiliated with the Delaware Nation, funded through grants. They serve mostly Native Americans, due to the grants that come through the Delaware Tribe, but they also serve a lot of DHS and low-income community members.

Datum:	-
Acres Property ID:	235964
IC Data Access:	-
Start Date:	-
Redev Completition Date:	-
Completed Date:	-
Acres Cleaned Up:	-
Cleanup Funding:	-
Cleanup Funding Source:	-
Assessment Funding:	-
Assessment Funding Source:	-
Redevelopment Funding:	-
Redev. Funding Source:	-
Redev. Funding Entity Name:	-
Redevelopment Start Date:	-
Assessment Funding Entity:	-
Cleanup Funding Entity:	-
Grant Type:	Petroleum
Accomplishment Type:	-
Accomplishment Count:	-
Cooperative Agreement Number:	00F69301
Start Date:	-
Ownership Entity:	Private
Completion Date:	-
Current Owner:	Tom Myers
Did Owner Change:	N
Cleanup Required:	N
Video Available:	-
Photo Available:	-
Institutional Controls Required:	Y
IC Category Proprietary Controls:	-
IC Cat. Info. Devices:	Y
IC Cat. Gov. Controls:	-
IC Cat. Enforcement Permit Tools:	-
IC in place date:	-
IC in place:	Y
State/tribal program date:	1/10/2017
State/tribal program ID:	18517OGDO70002
State/tribal NFA date:	6/12/2017
Air cleaned:	-
Asbestos found:	-
Asbestos cleaned:	-
Controled substance found:	-
Controled substance cleaned:	-
Drinking water affected:	-
Drinking water cleaned:	-
Groundwater affected:	-
Groundwater cleaned:	-
Lead contaminant found:	-
Lead cleaned up:	-

800 FRANK PHILLIPS BLVD. (Continued) **1024246899**

No media affected:	-
Unknown media affected:	-
Other cleaned up:	-
Other metals found:	-
Other metals cleaned:	-
Other contaminants found:	-
Other contams found description:	-
PAHs found:	-
PAHs cleaned up:	-
PCBs found:	-
PCBs cleaned up:	-
Petro products found:	-
Petro products cleaned:	-
Sediments found:	-
Sediments cleaned:	-
Soil affected:	-
Soil cleaned up:	-
Surface water cleaned:	-
VOCs found:	-
VOCs cleaned:	-
Cleanup other description:	-
Num. of cleanup and re-dev. jobs:	-
Past use greenspace acreage:	-
Past use residential acreage:	-
Surface Water:	-
Past use commercial acreage:	0.39
Past use industrial acreage:	-
Future use greenspace acreage:	-
Future use residential acreage:	-
Future use commercial acreage:	0.39
Future use industrial acreage:	-
Superfund Fed. landowner flag:	-
Arsenic cleaned up:	-
Cadmium cleaned up:	-
Chromium cleaned up:	-
Copper cleaned up:	-
Iron cleaned up:	-
mercury cleaned up:	-
Nickel Cleaned Up:	-
No clean up:	-
Pesticides cleaned up:	-
Selenium cleaned up:	-
SVOCs cleaned up:	-
Unknown clean up:	-
Arsenic contaminant found:	-
Cadmium contaminant found:	-
Chromium contaminant found:	-
Copper contaminant found:	-
Iron contaminant found:	-
Mercury contaminant found:	-
Nickel contaminant found:	-
No contaminant found:	-
Pesticides contaminant found:	-
Selenium contaminant found:	-
SVOCs contaminant found:	-
Unknown contaminant found:	-
Future Use: Multistory	-

800 FRANK PHILLIPS BLVD. (Continued) **1024246899**

Media affected Bluiding Material:	-
Media affected indoor air:	-
Building material media cleaned up:	-
Indoor air media cleaned up:	-
Unknown media cleaned up:	-
Past Use: Multistory	-
Property Description:	Site was used as a gas station and then a glass distribution shop.
Below Poverty Number:	509
Below Poverty Percent:	28.74
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Meidan Income Number:	1101
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Vacant Housing Number:	121
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Address:	800 SE FRANK PHILLIPS BLVD., BARTLESVILLE, OK
City,State,Zip:	BARTLESVILLE, OK 74003
Recipient Name:	Oklahoma Corporation Commission
Grant Type:	Section 128(a) State/Tribal
Property Number:	LOT 9 & 10 BLK 8 CAPITAL HILL
Parcel size:	0.39
Latitude:	36.7509949
Longitude:	-95.9671798
HCM Label:	-
Map Scale:	-
Point of Reference:	-
Highlights:	The buyer wants to rent this property, but it was uncertain at time of purchase whether tanks were still on site. OCC PST inspector saw vent pipes running up the building, but that was not a sure sign that tanks were on site. Brownfields staff dug through property ownership records and ended up eventually finding the last person to operate the gas station as such, and called them. He confirmed the tanks were removed, so Brownfields staff called Conoco Phillips with the facility ID, and Conoco Phillips provided the documentation of tank removal. With no tanks, OCC issued a No Action Necessary certificate on June 12, 2017. Former Use: Site was used as a gas station and then a glass distribution shop. In 2019, Tom Myers of Latipro Investments decided to stop trying to sell the building as-is, and instead building something brand new: an approximately 3,000-square foot butter-yellow adobe building that now houses the Delaware Child Development Center West, also known as the Ivy Academy Downtown. Myer's building is currently leased by the Washington County Childcare Foundation. There are 6 full-time employees in the building. They have an Early Head Start program, CCDS, and CACST. It's estimated that $395,000/year goes to that facility each year to cover the employees' salaries and everything (the rent is $39,000 for the year). This facility is affiliated with the Delaware Nation, funded through grants. They serve mostly Native Americans, due to the grants that come through the Delaware Tribe, but they also serve a lot of DHS and low-income community members.
Datum:	-
Acres Property ID:	235964
IC Data Access:	-
Start Date:	-

800 FRANK PHILLIPS BLVD. (Continued) **1024246899**

Redev Completition Date:	-
Completed Date:	-
Acres Cleaned Up:	-
Cleanup Funding:	-
Cleanup Funding Source:	-
Assessment Funding:	400
Assessment Funding Source:	EPA
Redevelopment Funding:	-
Redev. Funding Source:	-
Redev. Funding Entity Name:	-
Redevelopment Start Date:	-
Assessment Funding Entity:	US EPA - State & Tribal Section 128(a) Funding
Cleanup Funding Entity:	-
Grant Type:	Petroleum
Accomplishment Type:	Phase I Environmental Assessment
Accomplishment Count:	Y
Cooperative Agreement Number:	00F69301
Start Date:	3/17/2016
Ownership Entity:	Private
Completion Date:	3/23/2016
Current Owner:	Tom Myers
Did Owner Change:	N
Cleanup Required:	N
Video Available:	-
Photo Available:	-
Institutional Controls Required:	Y
IC Category Proprietary Controls:	-
IC Cat. Info. Devices:	Y
IC Cat. Gov. Controls:	-
IC Cat. Enforcement Permit Tools:	-
IC in place date:	-
IC in place:	Y
State/tribal program date:	1/10/2017
State/tribal program ID:	18517OGDO70002
State/tribal NFA date:	6/12/2017
Air cleaned:	-
Asbestos found:	-
Asbestos cleaned:	-
Controled substance found:	-
Controled substance cleaned:	-
Drinking water affected:	-
Drinking water cleaned:	-
Groundwater affected:	-
Groundwater cleaned:	-
Lead contaminant found:	-
Lead cleaned up:	-
No media affected:	-
Unknown media affected:	-
Other cleaned up:	-
Other metals found:	-
Other metals cleaned:	-
Other contaminants found:	-
Other contams found description:	-
PAHs found:	-
PAHs cleaned up:	-
PCBs found:	-
PCBs cleaned up:	-

800 FRANK PHILLIPS BLVD. (Continued) **1024246899**

Petro products found:	-
Petro products cleaned:	-
Sediments found:	-
Sediments cleaned:	-
Soil affected:	-
Soil cleaned up:	-
Surface water cleaned:	-
VOCs found:	-
VOCs cleaned:	-
Cleanup other description:	-
Num. of cleanup and re-dev. jobs:	-
Past use greenspace acreage:	-
Past use residential acreage:	-
Surface Water:	-
Past use commercial acreage:	0.39
Past use industrial acreage:	-
Future use greenspace acreage:	-
Future use residential acreage:	-
Future use commercial acreage:	0.39
Future use industrial acreage:	-
Superfund Fed. landowner flag:	-
Arsenic cleaned up:	-
Cadmium cleaned up:	-
Chromium cleaned up:	-
Copper cleaned up:	-
Iron cleaned up:	-
mercury cleaned up:	-
Nickel Cleaned Up:	-
No clean up:	-
Pesticides cleaned up:	-
Selenium cleaned up:	-
SVOCs cleaned up:	-
Unknown clean up:	-
Arsenic contaminant found:	-
Cadmium contaminant found:	-
Chromium contaminant found:	-
Copper contaminant found:	-
Iron contaminant found:	-
Mercury contaminant found:	-
Nickel contaminant found:	-
No contaminant found:	-
Pesticides contaminant found:	-
Selenium contaminant found:	-
SVOCs contaminant found:	-
Unknown contaminant found:	-
Future Use: Multistory	-
Media affected Bluiding Material:	-
Media affected indoor air:	-
Building material media cleaned up:	-
Indoor air media cleaned up:	-
Unknown media cleaned up:	-
Past Use: Multistory	-
Property Description:	Site was used as a gas station and then a glass distribution shop.
Below Poverty Number:	509
Below Poverty Percent:	28.74
Meidan Income:	4658
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800 FRANK PHILLIPS BLVD. (Continued) **1024246899**

Meidan Income Percent:	62.17
Vacant Housing Number:	121
Vacant Housing Percent:	12.47
Unemployed Number:	58
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City,State,Zip:	BARTLESVILLE, OK 74003
Recipient Name:	Oklahoma Corporation Commission
Grant Type:	Section 128(a) State/Tribal
Property Number:	LOT 9 & 10 BLK 8 CAPITAL HILL
Parcel size:	0.39
Latitude:	36.7509949
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HCM Label:	-
Map Scale:	-
Point of Reference:	-
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Datum:	-
Acres Property ID:	235964
IC Data Access:	-
Start Date:	-
Redev Completition Date:	-
Completed Date:	-
Acres Cleaned Up:	-
Cleanup Funding:	-
Cleanup Funding Source:	-
Assessment Funding:	-
Assessment Funding Source:	-
Redevelopment Funding:	-
Redev. Funding Source:	-
Redev. Funding Entity Name:	-
Redevelopment Start Date:	-

800 FRANK PHILLIPS BLVD. (Continued) **1024246899**

Assessment Funding Entity:	-
Cleanup Funding Entity:	-
Grant Type:	Petroleum
Accomplishment Type:	-
Accomplishment Count:	-
Cooperative Agreement Number:	00F69301
Start Date:	-
Ownership Entity:	Private
Completion Date:	-
Current Owner:	Tom Myers
Did Owner Change:	N
Cleanup Required:	N
Video Available:	-
Photo Available:	-
Institutional Controls Required:	Y
IC Category Proprietary Controls:	-
IC Cat. Info. Devices:	Y
IC Cat. Gov. Controls:	-
IC Cat. Enforcement Permit Tools:	-
IC in place date:	-
IC in place:	Y
State/tribal program date:	1/10/2017
State/tribal program ID:	18517OGDO70002
State/tribal NFA date:	6/12/2017
Air cleaned:	-
Asbestos found:	-
Asbestos cleaned:	-
Controled substance found:	-
Controled substance cleaned:	-
Drinking water affected:	-
Drinking water cleaned:	-
Groundwater affected:	-
Groundwater cleaned:	-
Lead contaminant found:	-
Lead cleaned up:	-
No media affected:	-
Unknown media affected:	-
Other cleaned up:	-
Other metals found:	-
Other metals cleaned:	-
Other contaminants found:	-
Other contams found description:	-
PAHs found:	-
PAHs cleaned up:	-
PCBs found:	-
PCBs cleaned up:	-
Petro products found:	-
Petro products cleaned:	-
Sediments found:	-
Sediments cleaned:	-
Soil affected:	-
Soil cleaned up:	-
Surface water cleaned:	-
VOCs found:	-
VOCs cleaned:	-
Cleanup other description:	-
Num. of cleanup and re-dev. jobs:	-

800 FRANK PHILLIPS BLVD. (Continued) **1024246899**

Past use greenspace acreage:	-
Past use residential acreage:	-
Surface Water:	-
Past use commercial acreage:	0.39
Past use industrial acreage:	-
Future use greenspace acreage:	-
Future use residential acreage:	-
Future use commercial acreage:	0.39
Future use industrial acreage:	-
Superfund Fed. landowner flag:	-
Arsenic cleaned up:	-
Cadmium cleaned up:	-
Chromium cleaned up:	-
Copper cleaned up:	-
Iron cleaned up:	-
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SVOCs contaminant found:	-
Unknown contaminant found:	-
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Media affected indoor air:	-
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Recipient Name:	Oklahoma Corporation Commission
Grant Type:	Section 128(a) State/Tribal

800 FRANK PHILLIPS BLVD. (Continued) **1024246899**

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Acres Property ID:	235964
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Start Date:	-
Redev Completition Date:	-
Completed Date:	-
Acres Cleaned Up:	-
Cleanup Funding:	-
Cleanup Funding Source:	-
Assessment Funding:	-
Assessment Funding Source:	-
Redevelopment Funding:	-
Redev. Funding Source:	-
Redev. Funding Entity Name:	-
Redevelopment Start Date:	-
Assessment Funding Entity:	-
Cleanup Funding Entity:	-
Grant Type:	Petroleum
Accomplishment Type:	-
Accomplishment Count:	-
Cooperative Agreement Number:	00F69301
Start Date:	-
Ownership Entity:	Private
Completion Date:	-
Current Owner:	Tom Myers
Did Owner Change:	N

800 FRANK PHILLIPS BLVD. (Continued) **1024246899**

Cleanup Required:	N
Video Available:	-
Photo Available:	-
Institutional Controls Required:	Y
IC Category Proprietary Controls:	-
IC Cat. Info. Devices:	Y
IC Cat. Gov. Controls:	-
IC Cat. Enforcement Permit Tools:	-
IC in place date:	-
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Other metals cleaned:	-
Other contaminants found:	-
Other contams found description:	-
PAHs found:	-
PAHs cleaned up:	-
PCBs found:	-
PCBs cleaned up:	-
Petro products found:	-
Petro products cleaned:	-
Sediments found:	-
Sediments cleaned:	-
Soil affected:	-
Soil cleaned up:	-
Surface water cleaned:	-
VOCs found:	-
VOCs cleaned:	-
Cleanup other description:	-
Num. of cleanup and re-dev. jobs:	-
Past use greenspace acreage:	-
Past use residential acreage:	-
Surface Water:	-
Past use commercial acreage:	0.39
Past use industrial acreage:	-
Future use greenspace acreage:	-
Future use residential acreage:	-
Future use commercial acreage:	0.39
Future use industrial acreage:	-
Superfund Fed. landowner flag:	-
Arsenic cleaned up:	-

800 FRANK PHILLIPS BLVD. (Continued) **1024246899**

Cadmium cleaned up:	-
Chromium cleaned up:	-
Copper cleaned up:	-
Iron cleaned up:	-
mercury cleaned up:	-
Nickel Cleaned Up:	-
No clean up:	-
Pesticides cleaned up:	-
Selenium cleaned up:	-
SVOCs cleaned up:	-
Unknown clean up:	-
Arsenic contaminant found:	-
Cadmium contaminant found:	-
Chromium contaminant found:	-
Copper contaminant found:	-
Iron contaminant found:	-
Mercury contaminant found:	-
Nickel contaminant found:	-
No contaminant found:	-
Pesticides contaminant found:	-
Selenium contaminant found:	-
SVOCs contaminant found:	-
Unknown contaminant found:	-
Future Use: Multistory	-
Media affected Bluiding Material:	-
Media affected indoor air:	-
Building material media cleaned up:	-
Indoor air media cleaned up:	-
Unknown media cleaned up:	-
Past Use: Multistory	-
Property Description:	Site was used as a gas station and then a glass distribution shop.
Below Poverty Number:	509
Below Poverty Percent:	28.74
Meidan Income:	4658
Meidan Income Number:	1101
Meidan Income Percent:	62.17
Vacant Housing Number:	121
Vacant Housing Percent:	12.47
Unemployed Number:	58
Unemployed Percent:	3.27
Name:	800 FRANK PHILLIPS BLVD.
Address:	800 SE FRANK PHILLIPS BLVD., BARTLESVILLE, OK
City,State,Zip:	BARTLESVILLE, OK 74003
Recipient Name:	Oklahoma Corporation Commission
Grant Type:	Section 128(a) State/Tribal
Property Number:	LOT 9 & 10 BLK 8 CAPITAL HILL
Parcel size:	0.39
Latitude:	36.7509949
Longitude:	-95.9671798
HCM Label:	-
Map Scale:	-
Point of Reference:	-
Highlights:	The buyer wants to rent this property, but it was uncertain at time of purchase whether tanks were still on site. OCC PST inspector saw vent pipes running up the building, but that was not a sure sign that tanks were on site. Brownfields staff dug through property ownership

800 FRANK PHILLIPS BLVD. (Continued) **1024246899**

records and ended up eventually finding the last person to operate the gas station as such, and called them. He confirmed the tanks were removed, so Brownfields staff called Conoco Phillips with the facility ID, and Conoco Phillips provided the documentation of tank removal. With no tanks, OCC issued a No Action Necessary certificate on June 12, 2017. Former Use: Site was used as a gas station and then a glass distribution shop. In 2019, Tom Myers of Latipro Investments decided to stop trying to sell the building as-is, and instead building something brand new: an approximately 3,000-square foot butter-yellow adobe building that now houses the Delaware Child Development Center West, also known as the Ivy Academy Downtown. Myer's building is currently leased by the Washington County Childcare Foundation. There are 6 full-time employees in the building. They have an Early Head Start program, CCDS, and CACST. It's estimated that $395,000/year goes to that facility each year to cover the employees' salaries and everything (the rent is $39,000 for the year). This facility is affiliated with the Delaware Nation, funded through grants. They serve mostly Native Americans, due to the grants that come through the Delaware Tribe, but they also serve a lot of DHS and low-income community members.

Datum:	-
Acres Property ID:	235964
IC Data Access:	-
Start Date:	-
Redev Completition Date:	-
Completed Date:	-
Acres Cleaned Up:	-
Cleanup Funding:	-
Cleanup Funding Source:	-
Assessment Funding:	-
Assessment Funding Source:	-
Redevelopment Funding:	-
Redev. Funding Source:	-
Redev. Funding Entity Name:	-
Redevelopment Start Date:	-
Assessment Funding Entity:	-
Cleanup Funding Entity:	-
Grant Type:	Petroleum
Accomplishment Type:	-
Accomplishment Count:	-
Cooperative Agreement Number:	00F69301
Start Date:	-
Ownership Entity:	Private
Completion Date:	-
Current Owner:	Tom Myers
Did Owner Change:	N
Cleanup Required:	N
Video Available:	-
Photo Available:	-
Institutional Controls Required:	Y
IC Category Proprietary Controls:	-
IC Cat. Info. Devices:	Y
IC Cat. Gov. Controls:	-
IC Cat. Enforcement Permit Tools:	-
IC in place date:	-
IC in place:	Y
State/tribal program date:	1/10/2017

800 FRANK PHILLIPS BLVD. (Continued) **1024246899**

State/tribal program ID:	18517OGDO70002
State/tribal NFA date:	6/12/2017
Air cleaned:	-
Asbestos found:	-
Asbestos cleaned:	-
Controled substance found:	-
Controled substance cleaned:	-
Drinking water affected:	-
Drinking water cleaned:	-
Groundwater affected:	-
Groundwater cleaned:	-
Lead contaminant found:	-
Lead cleaned up:	-
No media affected:	-
Unknown media affected:	-
Other cleaned up:	-
Other metals found:	-
Other metals cleaned:	-
Other contaminants found:	-
Other contams found description:	-
PAHs found:	-
PAHs cleaned up:	-
PCBs found:	-
PCBs cleaned up:	-
Petro products found:	-
Petro products cleaned:	-
Sediments found:	-
Sediments cleaned:	-
Soil affected:	-
Soil cleaned up:	-
Surface water cleaned:	-
VOCs found:	-
VOCs cleaned:	-
Cleanup other description:	-
Num. of cleanup and re-dev. jobs:	-
Past use greenspace acreage:	-
Past use residential acreage:	-
Surface Water:	-
Past use commercial acreage:	0.39
Past use industrial acreage:	-
Future use greenspace acreage:	-
Future use residential acreage:	-
Future use commercial acreage:	0.39
Future use industrial acreage:	-
Superfund Fed. landowner flag:	-
Arsenic cleaned up:	-
Cadmium cleaned up:	-
Chromium cleaned up:	-
Copper cleaned up:	-
Iron cleaned up:	-
mercury cleaned up:	-
Nickel Cleaned Up:	-
No clean up:	-
Pesticides cleaned up:	-
Selenium cleaned up:	-
SVOCs cleaned up:	-
Unknown clean up:	-

800 FRANK PHILLIPS BLVD. (Continued) **1024246899**

Arsenic contaminant found:	-
Cadmium contaminant found:	-
Chromium contaminant found:	-
Copper contaminant found:	-
Iron contaminant found:	-
Mercury contaminant found:	-
Nickel contaminant found:	-
No contaminant found:	-
Pesticides contaminant found:	-
Selenium contaminant found:	-
SVOCs contaminant found:	-
Unknown contaminant found:	-
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Meidan Income Percent:	62.17
Vacant Housing Number:	121
Vacant Housing Percent:	12.47
Unemployed Number:	58
Unemployed Percent:	3.27

16
SW
1/4-1/2
0.439 mi.
2318 ft.

CITY OF BARTLESVILLE/OAKLEY BUICK DEALERSHIP **LUST** **S110656936**
201 S. CHEROKEE AVENUE **N/A**
BARTLESVILLE, OK 74003

Relative:
Higher

Actual:
679 ft.

LUST:

Name:	CITY OF BARTLESVILLE/OAKLEY BUICK DEALERSHIP
Address:	201 S. CHEROKEE AVENUE
City,State,Zip:	BARTLESVILLE, OK 74003
Facility ID:	7456912
Case Number:	6E-0087
Case Type:	Suspicion of Release
Tank Type:	**UST**
Release Date:	**06/04/1992**
Close Date:	**08/27/1992**
Lat/Long:	36.7512 / -95.9736
Status:	**Closed**

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 01/25/2023
Date Data Arrived at EDR: 02/03/2023
Date Made Active in Reports: 02/28/2023
Number of Days to Update: 25

Source: EPA
Telephone: N/A
Last EDR Contact: 03/01/2023
Next Scheduled EDR Contact: 04/10/2023
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 01/25/2023
Date Data Arrived at EDR: 02/02/2023
Date Made Active in Reports: 02/28/2023
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 03/01/2023
Next Scheduled EDR Contact: 04/10/2023
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 01/25/2023
Date Data Arrived at EDR: 02/02/2023
Date Made Active in Reports: 02/28/2023
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 03/01/2023
Next Scheduled EDR Contact: 04/10/2023
Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 12/20/2022
Date Data Arrived at EDR: 12/21/2022
Date Made Active in Reports: 03/10/2023
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 12/21/2022
Next Scheduled EDR Contact: 04/10/2023
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 01/25/2023
Date Data Arrived at EDR: 02/02/2023
Date Made Active in Reports: 02/28/2023
Number of Days to Update: 26

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/01/2023
Next Scheduled EDR Contact: 04/24/2023
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 01/25/2023
Date Data Arrived at EDR: 02/02/2023
Date Made Active in Reports: 02/28/2023
Number of Days to Update: 26

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/01/2023
Next Scheduled EDR Contact: 04/24/2023
Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/06/2023
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 03/20/2023
Number of Days to Update: 11

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/09/2023
Next Scheduled EDR Contact: 07/03/2023
Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/06/2023
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 03/20/2023
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 03/09/2023
Next Scheduled EDR Contact: 07/03/2023
Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/06/2023
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 03/20/2023
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 03/09/2023
Next Scheduled EDR Contact: 07/03/2023
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/06/2023
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 03/20/2023
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 03/09/2023
Next Scheduled EDR Contact: 07/03/2023
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/06/2023
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 03/20/2023
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 03/09/2023
Next Scheduled EDR Contact: 07/03/2023
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 11/02/2022
Date Data Arrived at EDR: 11/08/2022
Date Made Active in Reports: 01/10/2023
Number of Days to Update: 63

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 02/03/2023
Next Scheduled EDR Contact: 05/22/2023
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 10/27/2022
Date Data Arrived at EDR: 11/16/2022
Date Made Active in Reports: 02/09/2023
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/21/2023
Next Scheduled EDR Contact: 06/05/2023
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 10/27/2022
Date Data Arrived at EDR: 11/16/2022
Date Made Active in Reports: 02/09/2023
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/21/2023
Next Scheduled EDR Contact: 06/05/2023
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/12/2022
Date Data Arrived at EDR: 12/14/2022
Date Made Active in Reports: 12/19/2022
Number of Days to Update: 5

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/21/2023
Next Scheduled EDR Contact: 07/03/2023
Data Release Frequency: Quarterly

Lists of state- and tribal hazardous waste facilities

SHWS: Voluntary Cleanup & Superfund Site Status Report

Land restoration projects carried out in several DEQ programs.

Date of Government Version: 10/27/2022
Date Data Arrived at EDR: 11/08/2022
Date Made Active in Reports: 01/27/2023
Number of Days to Update: 80

Source: Department of Environmental Quality
Telephone: 405-702-5100
Last EDR Contact: 02/10/2023
Next Scheduled EDR Contact: 05/22/2023
Data Release Frequency: No Update Planned

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF: Permitted Solid Waste Disposal & Processing Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 10/27/2022
Date Data Arrived at EDR: 12/22/2022
Date Made Active in Reports: 03/14/2023
Number of Days to Update: 82

Source: Department of Environmental Quality
Telephone: 405-702-5184
Last EDR Contact: 03/22/2023
Next Scheduled EDR Contact: 07/03/2023
Data Release Frequency: Annually

Lists of state and tribal leaking storage tanks

LUST: Leaking Underground Storage Tank List

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 12/05/2022
Date Data Arrived at EDR: 12/19/2022
Date Made Active in Reports: 03/13/2023
Number of Days to Update: 84

Source: Oklahoma Corporation Commission
Telephone: 405-521-3107
Last EDR Contact: 03/22/2023
Next Scheduled EDR Contact: 07/03/2023
Data Release Frequency: Varies

LAST: Leaking Aboveground Storage Tanks List

Leaking aboveground storage tank site locations.

Date of Government Version: 12/05/2022
Date Data Arrived at EDR: 12/19/2022
Date Made Active in Reports: 03/13/2023
Number of Days to Update: 84

Source: Oklahoma Corporation Commission
Telephone: 405-522-4640
Last EDR Contact: 03/22/2023
Next Scheduled EDR Contact: 07/03/2023
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 11/23/2022
Date Data Arrived at EDR: 12/06/2022
Date Made Active in Reports: 03/03/2023
Number of Days to Update: 87

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 01/17/2023
Next Scheduled EDR Contact: 05/01/2023
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/20/2022
Date Data Arrived at EDR: 06/13/2022
Date Made Active in Reports: 08/16/2022
Number of Days to Update: 64

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/17/2023
Next Scheduled EDR Contact: 05/01/2023
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 11/23/2022
Date Data Arrived at EDR: 12/06/2022
Date Made Active in Reports: 03/03/2023
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/17/2023
Next Scheduled EDR Contact: 05/01/2023
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 11/23/2022
Date Data Arrived at EDR: 12/06/2022
Date Made Active in Reports: 03/03/2023
Number of Days to Update: 87

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 01/17/2023
Next Scheduled EDR Contact: 05/01/2023
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 10/14/2022
Date Data Arrived at EDR: 12/06/2022
Date Made Active in Reports: 03/03/2023
Number of Days to Update: 87

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 01/17/2023
Next Scheduled EDR Contact: 05/01/2023
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/19/2022
Date Data Arrived at EDR: 12/06/2022
Date Made Active in Reports: 03/03/2023
Number of Days to Update: 87

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/17/2023
Next Scheduled EDR Contact: 05/01/2023
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 11/26/2022
Date Data Arrived at EDR: 12/06/2022
Date Made Active in Reports: 03/03/2023
Number of Days to Update: 87

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 01/17/2023
Next Scheduled EDR Contact: 05/01/2023
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/14/2022
Date Data Arrived at EDR: 12/06/2022
Date Made Active in Reports: 03/03/2023
Number of Days to Update: 87

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/17/2023
Next Scheduled EDR Contact: 05/01/2023
Data Release Frequency: Varies

Lists of state and tribal registered storage tanks

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 10/14/2021
Date Data Arrived at EDR: 11/05/2021
Date Made Active in Reports: 02/01/2022
Number of Days to Update: 88

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 12/28/2022
Next Scheduled EDR Contact: 04/17/2023
Data Release Frequency: Varies

UST: Underground Storage Tank Listing
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 12/05/2022
Date Data Arrived at EDR: 12/19/2022
Date Made Active in Reports: 03/13/2023
Number of Days to Update: 84

Source: Oklahoma Corporation Commission
Telephone: 405-521-3107
Last EDR Contact: 03/22/2023
Next Scheduled EDR Contact: 07/03/2023
Data Release Frequency: Varies

AST: Aboveground Storage Tanks
Registered Aboveground Storage Tanks.

Date of Government Version: 12/05/2022
Date Data Arrived at EDR: 12/19/2022
Date Made Active in Reports: 03/13/2023
Number of Days to Update: 84

Source: Oklahoma Corporation Commission
Telephone: 405-521-3107
Last EDR Contact: 03/22/2023
Next Scheduled EDR Contact: 07/03/2023
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 11/23/2022
Date Data Arrived at EDR: 12/06/2022
Date Made Active in Reports: 03/03/2023
Number of Days to Update: 87

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 01/17/2023
Next Scheduled EDR Contact: 05/01/2023
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 11/23/2022
Date Data Arrived at EDR: 12/06/2022
Date Made Active in Reports: 03/03/2023
Number of Days to Update: 87

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 01/17/2023
Next Scheduled EDR Contact: 05/01/2023
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 10/14/2022
Date Data Arrived at EDR: 12/06/2022
Date Made Active in Reports: 03/03/2023
Number of Days to Update: 87

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/17/2023
Next Scheduled EDR Contact: 05/01/2023
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/19/2022
Date Data Arrived at EDR: 12/06/2022
Date Made Active in Reports: 03/03/2023
Number of Days to Update: 87

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/17/2023
Next Scheduled EDR Contact: 05/01/2023
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 10/14/2022
Date Data Arrived at EDR: 12/06/2022
Date Made Active in Reports: 03/03/2023
Number of Days to Update: 87

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 01/17/2023
Next Scheduled EDR Contact: 05/01/2023
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 11/23/2022
Date Data Arrived at EDR: 12/06/2022
Date Made Active in Reports: 03/03/2023
Number of Days to Update: 87

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/17/2023
Next Scheduled EDR Contact: 05/01/2023
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/20/2022
Date Data Arrived at EDR: 06/13/2022
Date Made Active in Reports: 08/16/2022
Number of Days to Update: 64

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/17/2023
Next Scheduled EDR Contact: 05/01/2023
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 11/23/2022
Date Data Arrived at EDR: 12/06/2022
Date Made Active in Reports: 03/03/2023
Number of Days to Update: 87

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/17/2023
Next Scheduled EDR Contact: 05/01/2023
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

State and tribal institutional control / engineering control registries

INST CONTROL: Institutional Control Sites
Sites with institutional controls in place.

Date of Government Version: 11/07/2022
Date Data Arrived at EDR: 11/08/2022
Date Made Active in Reports: 01/27/2023
Number of Days to Update: 80

Source: Department of Environmental Quality
Telephone: 405-702-5100
Last EDR Contact: 02/08/2023
Next Scheduled EDR Contact: 05/22/2023
Data Release Frequency: Quarterly

Lists of state and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 03/17/2023
Next Scheduled EDR Contact: 07/03/2023
Data Release Frequency: Varies

VCP: Voluntary Cleanup Site Inventory
Investigations and cleanups by groups or individuals participating in the Voluntary Cleanup Program (VCP).

Date of Government Version: 10/27/2022
Date Data Arrived at EDR: 11/08/2022
Date Made Active in Reports: 01/27/2023
Number of Days to Update: 80

Source: Department of Environmental Quality
Telephone: 405-702-5100
Last EDR Contact: 02/10/2023
Next Scheduled EDR Contact: 05/22/2023
Data Release Frequency: Quarterly

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

SCAP: Site Cleanup Assistance program Listing
SCAP remediates abandoned hazardous waste sites and closed armories and provides other cleanup assistance to public entities around the state.

Date of Government Version: 12/15/2022
Date Data Arrived at EDR: 12/15/2022
Date Made Active in Reports: 03/13/2023
Number of Days to Update: 88

Source: Department of Environmental Quality
Telephone: 405-702-5138
Last EDR Contact: 03/22/2023
Next Scheduled EDR Contact: 07/03/2023
Data Release Frequency: Varies

Lists of state and tribal brownfield sites

BROWNFIELDS: Brownfield Sites
Brownfields are defined by Oklahoma law as abandoned, idled or under used industrial or commercial facilities or other real property at which expansion or redevelopment of the real property is complicated by environmental contamination caused by regulated substances. This program provides a means for private parties and government entities to voluntarily investigate and if warranted, clean up properties that may be contaminated with hazardous wastes. The formal Brownfields Program provides specific state liability relief and protects the property from federal Superfund actions.

Date of Government Version: 09/07/2012
Date Data Arrived at EDR: 09/07/2012
Date Made Active in Reports: 10/10/2012
Number of Days to Update: 33

Source: Department of Environmental Quality
Telephone: 405-702-5100
Last EDR Contact: 02/02/2023
Next Scheduled EDR Contact: 05/22/2023
Data Release Frequency: No Update Planned

BROWNFIELDS 2: Brownfields Public Record Listing

The Brownfields program provides a means for private parties and government entities to voluntarily investigate and if warranted, clean up properties that may be contaminated with hazardous wastes. The formal Brownfields Program provides specific state liability relief and protects the property from federal Superfund actions.

Date of Government Version: 06/09/2022
Date Data Arrived at EDR: 08/11/2022
Date Made Active in Reports: 10/25/2022
Number of Days to Update: 75

Source: Department of Environmental Quality
Telephone: 405-702-5100
Last EDR Contact: 02/06/2023
Next Scheduled EDR Contact: 05/22/2023
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 02/23/2022
Date Data Arrived at EDR: 03/10/2022
Date Made Active in Reports: 03/10/2022
Number of Days to Update: 0

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/14/2023
Next Scheduled EDR Contact: 06/26/2023
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: Recycling Facilities

A listing of recycling facility locations.

Date of Government Version: 07/10/2019
Date Data Arrived at EDR: 07/14/2022
Date Made Active in Reports: 09/30/2022
Number of Days to Update: 78

Source: Department of Environmental Quality
Telephone: 405-702-5100
Last EDR Contact: 01/13/2023
Next Scheduled EDR Contact: 04/24/2023
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 01/20/2023
Next Scheduled EDR Contact: 05/08/2023
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 01/13/2023
Next Scheduled EDR Contact: 05/01/2023
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 01/27/2023
Next Scheduled EDR Contact: 05/08/2023
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 01/06/2023
Date Data Arrived at EDR: 02/02/2023
Date Made Active in Reports: 02/10/2023
Number of Days to Update: 8

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/02/2023
Next Scheduled EDR Contact: 06/05/2023
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 01/06/2023
Date Data Arrived at EDR: 02/02/2023
Date Made Active in Reports: 02/10/2023
Number of Days to Update: 8

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/02/2023
Next Scheduled EDR Contact: 06/05/2023
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

HIST UST: Underground Storage Tank List, List II Version

This underground storage tank listing includes tank information through March 2003. This listing is no longer updated by the Oklahoma Corporation Commission.

Date of Government Version: 03/21/2003
Date Data Arrived at EDR: 04/28/2003
Date Made Active in Reports: 05/27/2003
Number of Days to Update: 29

Source: Oklahoma Corporation Commission
Telephone: 405-521-3107
Last EDR Contact: 01/19/2009
Next Scheduled EDR Contact: 04/19/2009
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 01/25/2023
Date Data Arrived at EDR: 02/02/2023
Date Made Active in Reports: 02/28/2023
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 03/01/2023
Next Scheduled EDR Contact: 04/10/2023
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/13/2022
Date Data Arrived at EDR: 12/14/2022
Date Made Active in Reports: 03/10/2023
Number of Days to Update: 86

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/21/2023
Next Scheduled EDR Contact: 07/03/2023
Data Release Frequency: Quarterly

OK COMPLAINT: Oklahoma Complaint System Database

Environmental complaints reported to the Oklahoma Corporation Commission.

Date of Government Version: 06/30/2021
Date Data Arrived at EDR: 07/28/2021
Date Made Active in Reports: 10/28/2021
Number of Days to Update: 92

Source: Oklahoma Conservation Commission
Telephone: 405-521-4828
Last EDR Contact: 02/06/2023
Next Scheduled EDR Contact: 05/22/2023
Data Release Frequency: Annually

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/06/2023
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 03/20/2023
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 03/09/2023
Next Scheduled EDR Contact: 07/03/2023
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 11/01/2022
Date Data Arrived at EDR: 11/10/2022
Date Made Active in Reports: 02/09/2023
Number of Days to Update: 91

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 02/14/2023
Next Scheduled EDR Contact: 05/29/2023
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 06/07/2021
Date Data Arrived at EDR: 07/13/2021
Date Made Active in Reports: 03/09/2022
Number of Days to Update: 239
Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 01/13/2023
Next Scheduled EDR Contact: 04/24/2023
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574
Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 01/03/2023
Next Scheduled EDR Contact: 04/17/2023
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 07/30/2021
Date Data Arrived at EDR: 02/03/2023
Date Made Active in Reports: 02/10/2023
Number of Days to Update: 7
Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/02/2023
Next Scheduled EDR Contact: 05/22/2023
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 12/13/2022
Date Data Arrived at EDR: 12/14/2022
Date Made Active in Reports: 03/10/2023
Number of Days to Update: 86
Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 03/21/2023
Next Scheduled EDR Contact: 07/03/2023
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88
Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 01/30/2023
Next Scheduled EDR Contact: 05/15/2023
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 02/03/2023
Next Scheduled EDR Contact: 05/15/2023
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 06/14/2022
Date Made Active in Reports: 03/24/2023
Number of Days to Update: 283

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/13/2023
Next Scheduled EDR Contact: 06/26/2023
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 11/01/2022
Date Made Active in Reports: 02/09/2023
Number of Days to Update: 100

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/16/2023
Next Scheduled EDR Contact: 05/29/2023
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 10/17/2022
Date Data Arrived at EDR: 10/18/2022
Date Made Active in Reports: 01/10/2023
Number of Days to Update: 84

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/18/2023
Next Scheduled EDR Contact: 05/01/2023
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/25/2023
Date Data Arrived at EDR: 02/02/2023
Date Made Active in Reports: 02/28/2023
Number of Days to Update: 26

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 03/01/2023
Next Scheduled EDR Contact: 06/12/2023
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 04/27/2022
Date Data Arrived at EDR: 05/04/2022
Date Made Active in Reports: 05/10/2022
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/17/2023
Next Scheduled EDR Contact: 05/01/2023
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/27/2022
Date Data Arrived at EDR: 11/01/2022
Date Made Active in Reports: 11/15/2022
Number of Days to Update: 14

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 03/01/2023
Next Scheduled EDR Contact: 05/15/2023
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 01/20/2022
Date Data Arrived at EDR: 01/20/2022
Date Made Active in Reports: 03/25/2022
Number of Days to Update: 64

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/04/2023
Next Scheduled EDR Contact: 04/17/2023
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/28/2022
Next Scheduled EDR Contact: 04/17/2023
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/26/2022
Date Data Arrived at EDR: 11/22/2022
Date Made Active in Reports: 12/05/2022
Number of Days to Update: 13
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 01/17/2023
Next Scheduled EDR Contact: 05/01/2023
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/22/2022
Number of Days to Update: 84
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 03/03/2023
Next Scheduled EDR Contact: 06/12/2023
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 02/27/2023
Next Scheduled EDR Contact: 06/12/2023
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 02/03/2023
Next Scheduled EDR Contact: 05/15/2023
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 03/23/2023
Next Scheduled EDR Contact: 07/10/2023
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 01/24/2023
Next Scheduled EDR Contact: 05/08/2023
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2022
Date Data Arrived at EDR: 10/21/2022
Date Made Active in Reports: 01/10/2023
Number of Days to Update: 81

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/03/2023
Next Scheduled EDR Contact: 04/17/2023
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 03/20/2023
Number of Days to Update: 11

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 03/09/2023
Next Scheduled EDR Contact: 07/03/2023
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/06/2023
Next Scheduled EDR Contact: 04/17/2023
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 07/26/2021
Date Data Arrived at EDR: 07/27/2021
Date Made Active in Reports: 10/22/2021
Number of Days to Update: 87

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 01/30/2023
Next Scheduled EDR Contact: 05/15/2023
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/13/2023
Next Scheduled EDR Contact: 05/29/2023
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 01/25/2023
Date Data Arrived at EDR: 02/02/2023
Date Made Active in Reports: 02/28/2023
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 03/01/2023
Next Scheduled EDR Contact: 04/10/2023
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data
Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 02/27/2023
Date Data Arrived at EDR: 03/01/2023
Date Made Active in Reports: 03/24/2023
Number of Days to Update: 23

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 02/23/2023
Next Scheduled EDR Contact: 06/12/2023
Data Release Frequency: Quarterly

US MINES: Mines Master Index File
Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 11/07/2022
Date Data Arrived at EDR: 11/17/2022
Date Made Active in Reports: 02/10/2023
Number of Days to Update: 85

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 02/22/2023
Next Scheduled EDR Contact: 06/05/2023
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing
This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/27/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 78

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 02/24/2023
Next Scheduled EDR Contact: 06/05/2023
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing
Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 02/24/2023
Next Scheduled EDR Contact: 06/05/2023
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines
An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 12/20/2022
Date Data Arrived at EDR: 12/20/2022
Date Made Active in Reports: 03/10/2023
Number of Days to Update: 80

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 03/16/2023
Next Scheduled EDR Contact: 06/19/2023
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/02/2023
Date Data Arrived at EDR: 02/28/2023
Date Made Active in Reports: 03/24/2023
Number of Days to Update: 24

Source: EPA
Telephone: (214) 665-2200
Last EDR Contact: 02/28/2023
Next Scheduled EDR Contact: 06/12/2023
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/25/2022
Date Data Arrived at EDR: 09/30/2022
Date Made Active in Reports: 12/22/2022
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 01/04/2023
Next Scheduled EDR Contact: 04/17/2023
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 02/24/2023
Next Scheduled EDR Contact: 06/05/2023
Data Release Frequency: Varies

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 11/09/2021
Date Data Arrived at EDR: 10/20/2022
Date Made Active in Reports: 01/10/2023
Number of Days to Update: 82

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 01/09/2023
Next Scheduled EDR Contact: 04/24/2023
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 11/10/2022
Date Data Arrived at EDR: 11/10/2022
Date Made Active in Reports: 02/09/2023
Number of Days to Update: 91

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/14/2023
Next Scheduled EDR Contact: 05/29/2023
Data Release Frequency: Quarterly

PFAS NPL: Superfund Sites with PFAS Detections Information

EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

Date of Government Version: 02/23/2022
Date Data Arrived at EDR: 07/08/2022
Date Made Active in Reports: 11/08/2022
Number of Days to Update: 123

Source: Environmental Protection Agency
Telephone: 703-603-8895
Last EDR Contact: 01/10/2023
Next Scheduled EDR Contact: 04/17/2023
Data Release Frequency: Varies

PFAS FEDERAL SITES: Federal Sites PFAS Information

Several federal entities, such as the federal Superfund program, Department of Defense, National Aeronautics and Space Administration, Department of Transportation, and Department of Energy provided information for sites with known or suspected detections at federal facilities.

Date of Government Version: 02/23/2022
Date Data Arrived at EDR: 03/31/2022
Date Made Active in Reports: 11/08/2022
Number of Days to Update: 222

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 01/05/2023
Next Scheduled EDR Contact: 04/17/2023
Data Release Frequency: Varies

PFAS TSCA: PFAS Manufacture and Imports Information

EPA issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. EPA publishes non-confidential business information (non-CBI) and includes descriptive information about each site, corporate parent, production volume, other manufacturing information, and processing and use information.

Date of Government Version: 01/03/2022
Date Data Arrived at EDR: 03/31/2022
Date Made Active in Reports: 11/08/2022
Number of Days to Update: 222

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 01/05/2023
Next Scheduled EDR Contact: 04/17/2023
Data Release Frequency: Varies

PFAS RCRA MANIFEST: PFAS Transfers Identified In the RCRA Database Listing

To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: PFAS, PFOA, PFOS, PERFL, AFFF, GENX, GEN-X (plus the VT waste codes). These keywords were searched for in the following text fields: Manifest handling instructions (MANIFEST_HANDLING_INSTR), Non-hazardous waste description (NON_HAZ_WASTE_DESCRIPTION), DOT printed information (DOT_PRINTED_INFORMATION), Waste line handling instructions (WASTE_LINE_HANDLING_INSTR), Waste residue comments (WASTE_RESIDUE_COMMENTS).

Date of Government Version: 01/03/2022
Date Data Arrived at EDR: 03/31/2022
Date Made Active in Reports: 11/08/2022
Number of Days to Update: 222

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 01/05/2023
Next Scheduled EDR Contact: 04/17/2023
Data Release Frequency: Varies

PFAS ATSDR: PFAS Contamination Site Location Listing

PFAS contamination site locations from the Department of Health & Human Services, Center for Disease Control & Prevention. ATSDR is involved at a number of PFAS-related sites, either directly or through assisting state and federal partners. As of now, most sites are related to drinking water contamination connected with PFAS production facilities or fire training areas where aqueous film-forming firefighting foam (AFFF) was regularly used.

Date of Government Version: 06/24/2020
Date Data Arrived at EDR: 03/17/2021
Date Made Active in Reports: 11/08/2022
Number of Days to Update: 601

Source: Department of Health & Human Services
Telephone: 202-741-5770
Last EDR Contact: 01/23/2023
Next Scheduled EDR Contact: 05/08/2023
Data Release Frequency: Varies

PFAS WQP: Ambient Environmental Sampling for PFAS

The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

Date of Government Version: 01/03/2022
Date Data Arrived at EDR: 03/31/2022
Date Made Active in Reports: 11/08/2022
Number of Days to Update: 222

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 01/05/2023
Next Scheduled EDR Contact: 04/17/2023
Data Release Frequency: Varies

PFAS NPDES: Clean Water Act Discharge Monitoring Information

Any discharger of pollutants to waters of the United States from a point source must have a National Pollutant Discharge Elimination System (NPDES) permit. The process for obtaining limits involves the regulated entity (permittee) disclosing releases in a NPDES permit application and the permitting authority (typically the state but sometimes EPA) deciding whether to require monitoring or monitoring with limits.

Date of Government Version: 01/03/2022
Date Data Arrived at EDR: 03/31/2022
Date Made Active in Reports: 11/08/2022
Number of Days to Update: 222

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 01/05/2023
Next Scheduled EDR Contact: 04/17/2023
Data Release Frequency: Varies

PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

Date of Government Version: 01/03/2022
Date Data Arrived at EDR: 03/31/2022
Date Made Active in Reports: 11/08/2022
Number of Days to Update: 222

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 01/05/2023
Next Scheduled EDR Contact: 04/17/2023
Data Release Frequency: Varies

PFAS ECHO FIRE TRAINING: Facilities in Industries that May Be Handling PFAS Listing

A list of fire training sites was added to the Industry Sectors dataset using a keyword search on the permitted facilitys name to identify sites where fire-fighting foam may have been used in training exercises. Additionally, you may view an example spreadsheet of the subset of fire training facility data, as well as the keywords used in selecting or deselecting a facility for the subset. as well as the keywords used in selecting or deselecting a facility for the subset. These keywords were tested to maximize accuracy in selecting facilities that may use fire-fighting foam in training exercises, however, due to the lack of a required reporting field in the data systems for designating fire training sites, this methodology may not identify all fire training sites or may potentially misidentify them.

Date of Government Version: 08/22/2018
Date Data Arrived at EDR: 03/31/2022
Date Made Active in Reports: 11/08/2022
Number of Days to Update: 222

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 01/05/2023
Next Scheduled EDR Contact: 04/17/2023
Data Release Frequency: Varies

PFAS PART 139 AIRPORT: All Certified Part 139 Airports PFAS Information Listing

Since July 1, 2006, all certified part 139 airports are required to have fire-fighting foam onsite that meet military specifications (MIL-F-24385) (14 CFR 139.317). To date, these military specification fire-fighting foams are fluorinated and have been historically used for training and extinguishing. The 2018 FAA Reauthorization Act has a provision stating that no later than October 2021, FAA shall not require the use of fluorinated AFFF. This provision does not prohibit the use of fluorinated AFFF at Part 139 civilian airports; it only prohibits FAA from mandating its use. The Federal Aviation Administration?s document AC 150/5210-6D - Aircraft Fire Extinguishing Agents provides guidance on Aircraft Fire Extinguishing Agents, which includes Aqueous Film Forming Foam (AFFF).

Date of Government Version: 08/22/2018
Date Data Arrived at EDR: 10/26/2022
Date Made Active in Reports: 11/08/2022
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 01/05/2023
Next Scheduled EDR Contact: 04/17/2023
Data Release Frequency: Varies

AQUEOUS FOAM NRC: Aqueous Foam Related Incidents Listing

The National Response Center (NRC) serves as an emergency call center that fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. The spreadsheets posted to the NRC website contain initial incident data that has not been validated or investigated by a federal/state response agency. Response center calls from 1990 to the most recent complete calendar year where there was indication of Aqueous Film Forming Foam (AFFF) usage are included in this dataset. NRC calls may reference AFFF usage in the ?Material Involved? or ?Incident Description? fields.

Date of Government Version: 02/23/2022
Date Data Arrived at EDR: 03/31/2022
Date Made Active in Reports: 11/08/2022
Number of Days to Update: 222

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 01/05/2023
Next Scheduled EDR Contact: 04/17/2023
Data Release Frequency: Varies

PFAS: PFAS Contamination Site Location Listing

A listing of sites where PFAS contaminants has been detected to date.

Date of Government Version: 06/23/2021
Date Data Arrived at EDR: 06/23/2021
Date Made Active in Reports: 12/14/2021
Number of Days to Update: 174

Source: Department of Environment Quality
Telephone: 405-702-5100
Last EDR Contact: 03/23/2023
Next Scheduled EDR Contact: 07/10/2023
Data Release Frequency: Varies

AIRS: Permitted AIRS Facility Listing

A listing of permitted AIRS facility locations.

Date of Government Version: 12/20/2022
Date Data Arrived at EDR: 12/20/2022
Date Made Active in Reports: 03/13/2023
Number of Days to Update: 83

Source: Department of Environmental Quality
Telephone: 405-702-4100
Last EDR Contact: 03/20/2023
Next Scheduled EDR Contact: 07/03/2023
Data Release Frequency: Quarterly

ASBESTOS: Asbestos Notification

Asbestos project site locations

Date of Government Version: 01/03/2023
Date Data Arrived at EDR: 01/03/2023
Date Made Active in Reports: 03/21/2023
Number of Days to Update: 77

Source: Department of Labor
Telephone: 405-521-6467
Last EDR Contact: 03/20/2023
Next Scheduled EDR Contact: 07/03/2023
Data Release Frequency: Varies

DRYCLEANERS: Drycleaner Facilities

A listing of drycleaner facility locations.

Date of Government Version: 12/20/2022
Date Data Arrived at EDR: 12/20/2022
Date Made Active in Reports: 03/14/2023
Number of Days to Update: 84

Source: Department of Environmental Quality
Telephone: 405-702-9100
Last EDR Contact: 03/20/2023
Next Scheduled EDR Contact: 07/03/2023
Data Release Frequency: Quarterly

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information.

Date of Government Version: 07/25/2014
Date Data Arrived at EDR: 11/06/2014
Date Made Active in Reports: 01/13/2015
Number of Days to Update: 68

Source: Department of Environmental Quality
Telephone: 405-702-5105
Last EDR Contact: 02/02/2023
Next Scheduled EDR Contact: 05/22/2023
Data Release Frequency: No Update Planned

Financial Assurance 2: Financial Assurance Information Listing

Financial Assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 12/10/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 01/24/2014
Number of Days to Update: 43

Source: Department of Environmental Quality
Telephone: 405-702-5100
Last EDR Contact: 02/02/2023
Next Scheduled EDR Contact: 05/22/2023
Data Release Frequency: No Update Planned

TIER 2: Tier 2 Data Listing

A listing of facilities which store or manufacture hazardous materials and submit a chemical inventory report.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 06/07/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 85

Source: Department of Environmental Quality
Telephone: 405-702-1000
Last EDR Contact: 03/10/2023
Next Scheduled EDR Contact: 06/19/2023
Data Release Frequency: Annually

UIC: Underground Injection Wells Database Listing

Class I injection wells. CLASS I wells are used to inject liquid hazardous and non-hazardous wastes beneath the lower most Underground Sources of Drinking Water (USDW).

Date of Government Version: 08/15/2022
Date Data Arrived at EDR: 10/10/2022
Date Made Active in Reports: 12/20/2022
Number of Days to Update: 71

Source: Department of Environmental Quality
Telephone: 405-702-5188
Last EDR Contact: 01/11/2023
Next Scheduled EDR Contact: 04/24/2023
Data Release Frequency: Varies

PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 12/28/2022
Next Scheduled EDR Contact: 04/17/2023
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 08/23/2022
Date Data Arrived at EDR: 11/22/2022
Date Made Active in Reports: 02/28/2023
Number of Days to Update: 98

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 02/24/2023
Next Scheduled EDR Contact: 06/05/2023
Data Release Frequency: Varies

PFAS TRIS: List of PFAS Added to the TRI

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) immediately added certain per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and provided a framework for additional PFAS to be added to TRI on an annual basis.

Date of Government Version: 03/07/2023
Date Data Arrived at EDR: 03/07/2023
Date Made Active in Reports: 03/24/2023
Number of Days to Update: 17

Source: Environmental Protection Agency
Telephone: 202-566-0250
Last EDR Contact: 03/07/2023
Next Scheduled EDR Contact: 04/17/2023
Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 12/28/2022
Next Scheduled EDR Contact: 04/17/2023
Data Release Frequency: Semi-Annually

PCS INACTIVE: Listing of Inactive PCS Permits

An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 05/06/2015
Number of Days to Update: 120

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 12/28/2022
Next Scheduled EDR Contact: 04/17/2023
Data Release Frequency: Semi-Annually

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Oklahoma.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/03/2014
Number of Days to Update: 186

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Oklahoma.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/20/2014
Number of Days to Update: 203

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Oklahoma Corporation Commission in Oklahoma.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/27/2013
Number of Days to Update: 179

Source: Oklahoma Corporation Commission
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 11/16/2022
Date Data Arrived at EDR: 11/16/2022
Date Made Active in Reports: 02/06/2023
Number of Days to Update: 82

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 02/10/2023
Next Scheduled EDR Contact: 05/22/2023
Data Release Frequency: No Update Planned

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 10/29/2021
Date Made Active in Reports: 01/19/2022
Number of Days to Update: 82

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 01/27/2023
Next Scheduled EDR Contact: 05/08/2023
Data Release Frequency: Quarterly

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/06/2023
Next Scheduled EDR Contact: 06/19/2023
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data

Source: Endeavor Business Media

This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Day Care Centers
Source: Department of Human Services
Telephone: 405-521-3561

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

BARTLESVILLE WWTP
230 N CHICKASAW AVE
BARTLESVILLE, OK 74006

TARGET PROPERTY COORDINATES

Latitude (North):	36.759326 - 36ˆ 45’ 33.57’’
Longitude (West):	95.959544 - 95ˆ 57’ 34.36’’
Universal Tranverse Mercator:	Zone 15
UTM X (Meters):	235803.8
UTM Y (Meters):	4072057.2
Elevation:	668 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	13099886 BARTLESVILLE NORTH, OK
Version Date:	2019
South Map:	13099890 BARTLESVILLE SOUTH, OK
Version Date:	2019

EDR’s GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

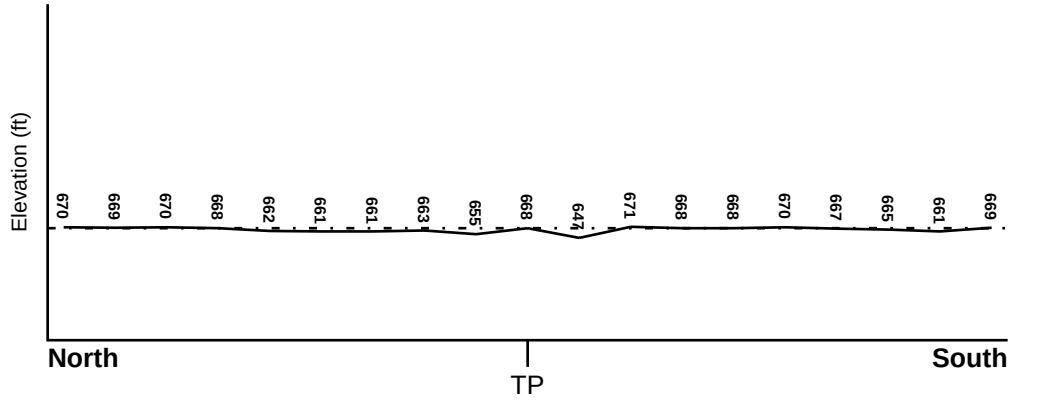
TOPOGRAPHIC INFORMATION

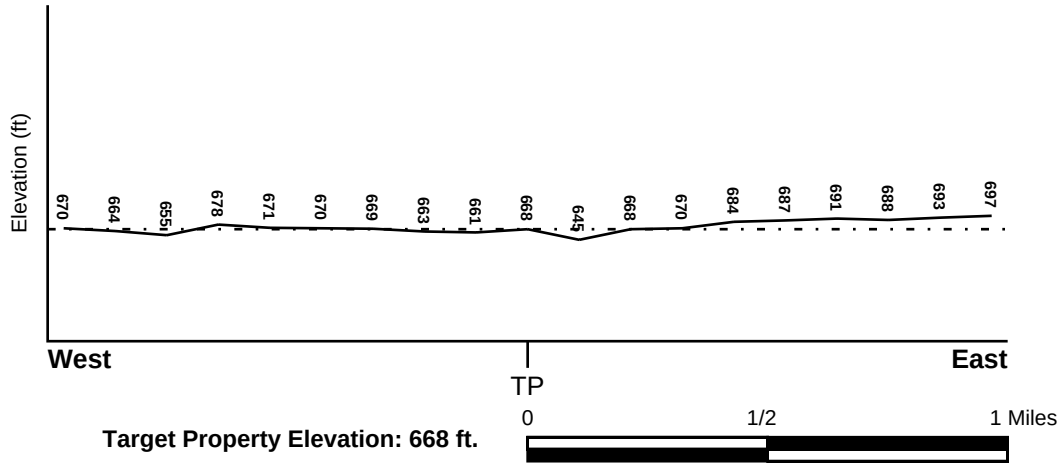
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General NNW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 668 ft.

0 1/2 1 Miles

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
40147C0115D	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
40147C0180D	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
BARTLESVILLE NORTH	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

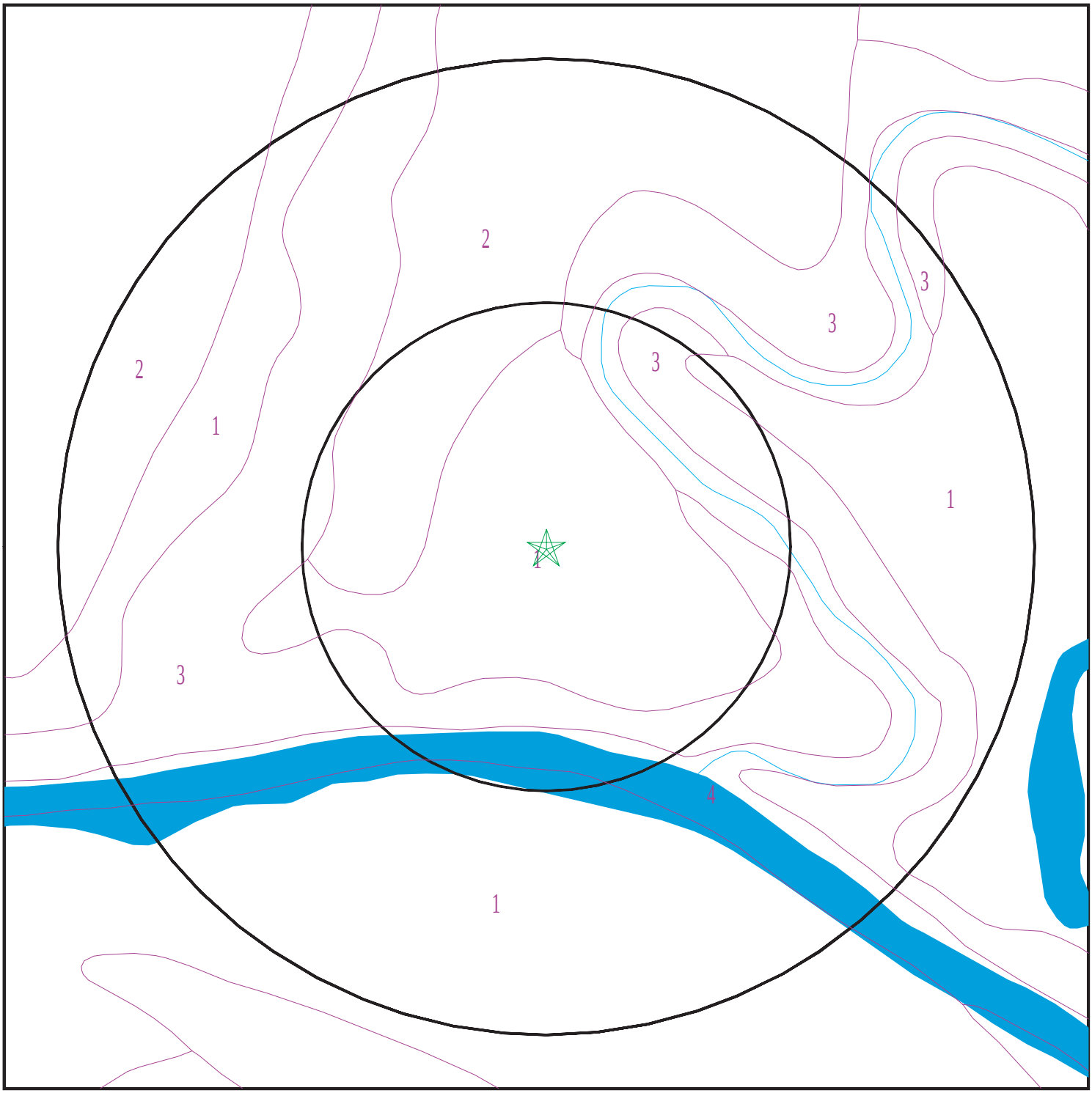
Era:	Paleozoic
System:	Pennsylvanian
Series:	Missourian Series
Code:	PP3 *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 7291099.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Bartlesville WWTP	CLIENT:	Eagle Env. Consulting Inc.
ADDRESS:	230 N Chickasaw Ave Bartlesville OK 74006	CONTACT:	Sean T Votaw
LAT/LONG:	36.759326 / 95.959544	INQUIRY #:	7291099.2s
		DATE:	March 27, 2023 3:29 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Verdigris

Soil Surface Texture: silty clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	35 inches	silty clay loam	Not reported	Not reported	Max: 14.114 Min: 4.233	Max: 7.3 Min: 5.6
2	35 inches	79 inches	silty clay loam	Not reported	Not reported	Max: 14.114 Min: 4.233	Max: 7.3 Min: 5.6

Soil Map ID: 2

Soil Component Name: Osage

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 15 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	22 inches	clay	Not reported	Not reported	Max: 0.4233 Min: 0.0106	Max: 7.8 Min: 5.6
2	22 inches	79 inches	clay	Not reported	Not reported	Max: 0.4233 Min: 0.0106	Max: 7.8 Min: 5.6

Soil Map ID: 3

Soil Component Name: Verdigris

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	35 inches	silt loam	Not reported	Not reported	Max: 14.114 Min: 4.233	Max: 7.3 Min: 5.6

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	35 inches	79 inches	silty clay loam	Not reported	Not reported	Max: 14.114 Min: 4.233	Max: 7.3 Min: 5.6

Soil Map ID: 4

Soil Component Name: Water

Soil Surface Texture: water

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class:
Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	79 inches	water	Not reported	Not reported	Max: Min:	Max: Min:

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	OK7000000173332	1/4 - 1/2 Mile South
A2	OK7000000136574	1/2 - 1 Mile North
A3	OK7000000135189	1/2 - 1 Mile North
A4	OK7000000139788	1/2 - 1 Mile North
A5	OK7000000141822	1/2 - 1 Mile North
A6	OK7000000141146	1/2 - 1 Mile North
B7	OK7000000171765	1/2 - 1 Mile South
B8	OK7000000174836	1/2 - 1 Mile South
C9	OK7000000178604	1/2 - 1 Mile SSW
C10	OK7000000178551	1/2 - 1 Mile SSW
C11	OK7000000178550	1/2 - 1 Mile SSW
C12	OK7000000179576	1/2 - 1 Mile SSW
C13	OK7000000184338	1/2 - 1 Mile SSW
C14	OK7000000184304	1/2 - 1 Mile SSW
C15	OK7000000183502	1/2 - 1 Mile SSW
16	OK7000000172127	1/2 - 1 Mile SW
D17	OK7000000149490	1/2 - 1 Mile SW
D18	OK7000000150672	1/2 - 1 Mile SW

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	OKOG20000407912	0 - 1/8 Mile West
A3	OKOG20000415055	0 - 1/8 Mile NE

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A2	OKOG20000415056	0 - 1/8 Mile NE
A5	OKOG20000415057	0 - 1/8 Mile NE
A4	OKOG20000415058	0 - 1/8 Mile NE
6	OKOG20000407913	1/8 - 1/4 Mile SW
7	OKOG20000407931	1/8 - 1/4 Mile SSW
8	OKOG20000407937	1/8 - 1/4 Mile SSE
B9	OKOG20000408011	1/8 - 1/4 Mile West
C10	OKOG20000407206	1/8 - 1/4 Mile SW
B11	OKOG20000407203	1/8 - 1/4 Mile WSW
B12	OKOG20000408009	1/4 - 1/2 Mile WSW
D13	OKOG20000407895	1/4 - 1/2 Mile WNW
C14	OKOG20000407927	1/4 - 1/2 Mile SW
E15	OKOG20000407939	1/4 - 1/2 Mile SSE
F16	OKOG20000418482	1/4 - 1/2 Mile ESE
F17	OKOG20000418173	1/4 - 1/2 Mile ESE
D18	OKOG20000407896	1/4 - 1/2 Mile NW
E19	OKOG20000407938	1/4 - 1/2 Mile SE
20	OKOG20000407892	1/4 - 1/2 Mile West
E21	OKOG20000416425	1/4 - 1/2 Mile SSE
D22	OKOG20000407897	1/4 - 1/2 Mile WNW
G23	OKOG20000407894	1/4 - 1/2 Mile WSW
G24	OKOG20000408010	1/4 - 1/2 Mile WSW
G25	OKOG20000407205	1/4 - 1/2 Mile WSW
26	OKOG20000407729	1/4 - 1/2 Mile NW
H27	OKOG20000418161	1/4 - 1/2 Mile South
I28	OKOG20000408013	1/4 - 1/2 Mile NNE
J29	OKOG20000407899	1/4 - 1/2 Mile WNW
30	OKOG20000407204	1/4 - 1/2 Mile West
31	OKOG20000407891	1/4 - 1/2 Mile East
H32	OKOG20000415064	1/4 - 1/2 Mile South
H33	OKOG20000415067	1/4 - 1/2 Mile South
K34	OKOG20000407919	1/4 - 1/2 Mile North
J35	OKOG20000407900	1/4 - 1/2 Mile WNW
36	OKOG20000418123	1/4 - 1/2 Mile ENE
L37	OKOG20000415062	1/4 - 1/2 Mile SSE
M38	OKOG20000407921	1/4 - 1/2 Mile NNW
H39	OKOG20000415065	1/4 - 1/2 Mile South
I40	OKOG20000415053	1/4 - 1/2 Mile NNE
41	OKOG20000418939	1/4 - 1/2 Mile SSE
L43	OKOG20000415069	1/4 - 1/2 Mile South
L42	OKOG20000407935	1/4 - 1/2 Mile South
L44	OKOG20000415070	1/4 - 1/2 Mile South
L45	OKOG20000415066	1/4 - 1/2 Mile SSE
L46	OKOG20000415063	1/4 - 1/2 Mile SSE
L47	OKOG20000415061	1/4 - 1/2 Mile South
L48	OKOG20000415068	1/4 - 1/2 Mile South
49	OKOG20000407926	1/4 - 1/2 Mile WSW
50	OKOG20000416217	1/4 - 1/2 Mile SE
51	OKOG20000408012	1/4 - 1/2 Mile NNE
K52	OKOG20000407920	1/4 - 1/2 Mile North
53	OKOG20000407898	1/4 - 1/2 Mile NW
M54	OKOG20000407918	1/4 - 1/2 Mile NNW
N55	OKOG20000407902	1/4 - 1/2 Mile West
O56	OKOG20000417220	1/4 - 1/2 Mile South
N57	OKOG20000407901	1/4 - 1/2 Mile West
O58	OKOG20000407934	1/4 - 1/2 Mile SSW

STATE OIL/GAS WELL INFORMATION

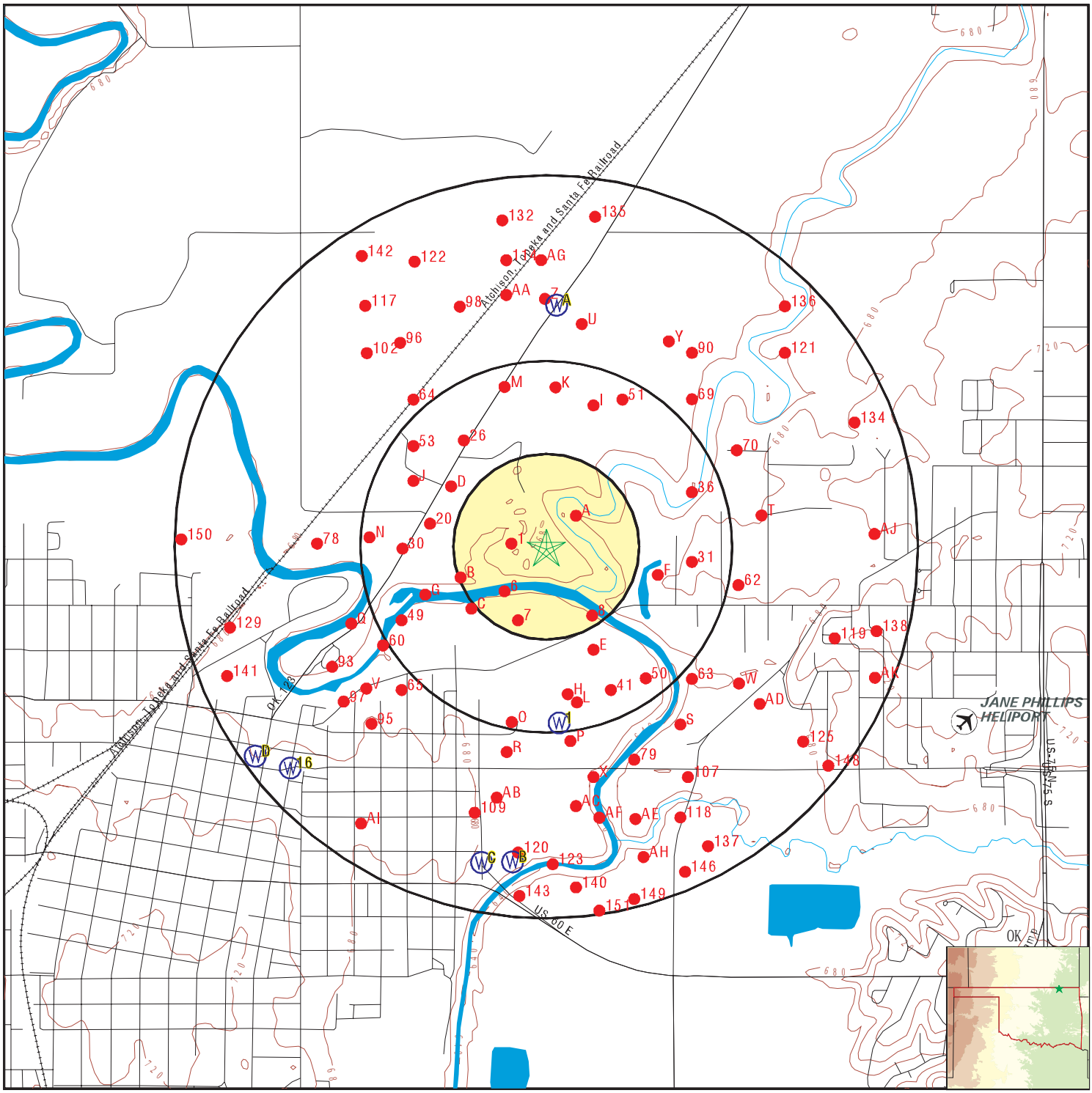
MAP ID	WELL ID	LOCATION FROM TP
P59	OKOG20000418140	1/2 - 1 Mile South
60	OKOG20000407929	1/2 - 1 Mile WSW
P61	OKOG20000418585	1/2 - 1 Mile SSE
62	OKOG20000407890	1/2 - 1 Mile ESE
63	OKOG20000415815	1/2 - 1 Mile SE
64	OKOG20000407923	1/2 - 1 Mile NW
65	OKOG20000407925	1/2 - 1 Mile SW
Q66	OKOG20000407952	1/2 - 1 Mile WSW
R67	OKOG20000407958	1/2 - 1 Mile SSW
P68	OKOG20000416360	1/2 - 1 Mile South
69	OKOG20000407879	1/2 - 1 Mile NE
70	OKOG20000415913	1/2 - 1 Mile ENE
S71	OKOG20000407973	1/2 - 1 Mile SE
R72	OKOG20000416280	1/2 - 1 Mile South
Q73	OKOG20000407930	1/2 - 1 Mile WSW
T74	OKOG20000415052	1/2 - 1 Mile East
T75	OKOG20000415051	1/2 - 1 Mile East
U76	OKOG20000407914	1/2 - 1 Mile North
V77	OKOG20000407956	1/2 - 1 Mile SW
78	OKOG20000407903	1/2 - 1 Mile West
79	OKOG20000407950	1/2 - 1 Mile SSE
W80	OKOG20000408045	1/2 - 1 Mile SE
X81	OKOG20000407943	1/2 - 1 Mile SSE
S82	OKOG20000407972	1/2 - 1 Mile SE
U83	OKOG20000415054	1/2 - 1 Mile North
Y84	OKOG20000408014	1/2 - 1 Mile NNE
V85	OKOG20000407951	1/2 - 1 Mile SW
X86	OKOG20000416354	1/2 - 1 Mile South
Z87	OKOG20000407908	1/2 - 1 Mile North
Z88	OKOG20000407906	1/2 - 1 Mile North
W89	OKOG20000407975	1/2 - 1 Mile SE
90	OKOG20000408542	1/2 - 1 Mile NE
AA91	OKOG20000407904	1/2 - 1 Mile North
Y92	OKOG20000407862	1/2 - 1 Mile NNE
93	OKOG20000407953	1/2 - 1 Mile WSW
AB94	OKOG20000407959	1/2 - 1 Mile South
95	OKOG20000407957	1/2 - 1 Mile SW
96	OKOG20000416708	1/2 - 1 Mile NW
97	OKOG20000415802	1/2 - 1 Mile SW
98	OKOG20000407924	1/2 - 1 Mile NNW
AC99	OKOG20000407932	1/2 - 1 Mile South
AC100	OKOG20000407944	1/2 - 1 Mile South
Z101	OKOG20000407909	1/2 - 1 Mile North
102	OKOG20000407922	1/2 - 1 Mile NW
AB103	OKOG20000407928	1/2 - 1 Mile South
AD104	OKOG20000415071	1/2 - 1 Mile SE
AD105	OKOG20000415072	1/2 - 1 Mile SE
AA106	OKOG20000407905	1/2 - 1 Mile North
107	OKOG20000407997	1/2 - 1 Mile SSE
AE108	OKOG20000416398	1/2 - 1 Mile SSE
109	OKOG20000407933	1/2 - 1 Mile SSW
AF110	OKOG20000407942	1/2 - 1 Mile South
AF111	OKOG20000416298	1/2 - 1 Mile South
AG112	OKOG20000407911	1/2 - 1 Mile North
AG113	OKOG20000407910	1/2 - 1 Mile North
114	OKOG20000407907	1/2 - 1 Mile North

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
AE115	OKOG20000416470	1/2 - 1 Mile SSE
AE116	OKOG20000407945	1/2 - 1 Mile SSE
117	OKOG20000407915	1/2 - 1 Mile NW
118	OKOG20000408022	1/2 - 1 Mile SSE
119	OKOG20000407970	1/2 - 1 Mile ESE
120	OKOG20000420168	1/2 - 1 Mile South
121	OKOG20000407878	1/2 - 1 Mile NE
122	OKOG20000407917	1/2 - 1 Mile NNW
123	OKOG20000407936	1/2 - 1 Mile South
AH124	OKOG20000407947	1/2 - 1 Mile SSE
125	OKOG20000408041	1/2 - 1 Mile SE
AI126	OKOG20000420405	1/2 - 1 Mile SSW
AH127	OKOG20000407946	1/2 - 1 Mile SSE
AH128	OKOG20000419427	1/2 - 1 Mile SSE
129	OKOG20000408144	1/2 - 1 Mile WSW
AJ130	OKOG20000407880	1/2 - 1 Mile East
AJ131	OKOG20000407881	1/2 - 1 Mile East
132	OKOG20000416000	1/2 - 1 Mile North
AH133	OKOG20000416237	1/2 - 1 Mile SSE
134	OKOG20000407873	1/2 - 1 Mile ENE
135	OKOG20000415997	1/2 - 1 Mile North
136	OKOG20000407864	1/2 - 1 Mile NE
137	OKOG20000408021	1/2 - 1 Mile SSE
138	OKOG20000408033	1/2 - 1 Mile ESE
AI139	OKOG20000420289	1/2 - 1 Mile SW
140	OKOG20000407961	1/2 - 1 Mile South
141	OKOG20000414953	1/2 - 1 Mile WSW
142	OKOG20000407916	1/2 - 1 Mile NNW
143	OKOG20000416238	1/2 - 1 Mile South
AK144	OKOG20000407969	1/2 - 1 Mile ESE
AK145	OKOG20000408047	1/2 - 1 Mile ESE
146	OKOG20000408031	1/2 - 1 Mile SSE
AK147	OKOG20000407965	1/2 - 1 Mile ESE
148	OKOG20000408037	1/2 - 1 Mile SE
149	OKOG20000407949	1/2 - 1 Mile SSE
150	OKOG20000408117	1/2 - 1 Mile West
151	OKOG20000407955	1/2 - 1 Mile South

PHYSICAL SETTING SOURCE MAP - 7291099.2s



County Boundary
Major Roads
Contour Lines
Airports
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

0 1/4 1/2 1 Miles

Groundwater Flow Direction
GI Indeterminate Groundwater Flow at Location
GV Groundwater Flow Varies at Location
Oil, gas or related wells

SITE NAME:	Bartlesville WWTP	CLIENT:	Eagle Env. Consulting Inc.
ADDRESS:	230 N Chickasaw Ave Bartlesville OK 74006	CONTACT:	Sean T Votaw
LAT/LONG:	36.759326 / 95.959544	INQUIRY #:	7291099.2s
		DATE:	March 27, 2023 3:29 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
1 **South** **1/4 - 1/2 Mile** **Higher**	**OK WELLS**	**OK7000000173332**

Well ID:	99561	Well Type:	Monitoring Well
Permit #:	Not Reported	Well Owner:	Jack Beshear
Elevation:	0	Water Use:	Site Assessment
Total Well Depth:	20	Date to First Water:	0
Approximate Yield:	0	Construction Date:	18-NOV-05
Aquifer Code:	Not Reported	Basin Code:	Not Reported
URL:	http://www.owrb.ok.gov/wd/reporting/printreport.php?siteid=99561		

	Database	EDR ID Number
A2 **North** **1/2 - 1 Mile** **Lower**	**OK WELLS**	**OK7000000136574**

Well ID:	198341	Well Type:	Geotechnical Boring
Permit #:	Not Reported	Well Owner:	EST
Elevation:	0	Water Use:	Soil Evaluation
Total Well Depth:	76.19999695	Date to First Water:	0
Approximate Yield:	0	Construction Date:	05-APR-19
Aquifer Code:	Not Reported	Basin Code:	Not Reported
URL:	http://www.owrb.ok.gov/wd/reporting/printreport.php?siteid=198341		

	Database	EDR ID Number
A3 **North** **1/2 - 1 Mile** **Lower**	**OK WELLS**	**OK7000000135189**

Well ID:	198342	Well Type:	Geotechnical Boring
Permit #:	Not Reported	Well Owner:	EST
Elevation:	0	Water Use:	Soil Evaluation
Total Well Depth:	77.30000305	Date to First Water:	0
Approximate Yield:	0	Construction Date:	03-APR-19
Aquifer Code:	Not Reported	Basin Code:	Not Reported
URL:	http://www.owrb.ok.gov/wd/reporting/printreport.php?siteid=198342		

	Database	EDR ID Number
A4 **North** **1/2 - 1 Mile** **Lower**	**OK WELLS**	**OK7000000139788**

Well ID:	198344	Well Type:	Geotechnical Boring
Permit #:	Not Reported	Well Owner:	EST
Elevation:	0	Water Use:	Soil Evaluation
Total Well Depth:	79.80000305	Date to First Water:	0
Approximate Yield:	0	Construction Date:	10-APR-19
Aquifer Code:	Not Reported	Basin Code:	Not Reported
URL:	http://www.owrb.ok.gov/wd/reporting/printreport.php?siteid=198344		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

A5
North
1/2 - 1 Mile
Lower

OK WELLS **OK7000000141822**

Well ID:	198343	Well Type:	Geotechnical Boring
Permit #:	Not Reported	Well Owner:	EST
Elevation:	0	Water Use:	Soil Evaluation
Total Well Depth:	79.90000153	Date to First Water:	0
Approximate Yield:	0	Construction Date:	09-APR-19
Aquifer Code:	Not Reported	Basin Code:	Not Reported
URL:	http://www.owrb.ok.gov/wd/reporting/printreport.php?siteid=198343		

A6
North
1/2 - 1 Mile
Higher

OK WELLS **OK7000000141146**

Well ID:	198345	Well Type:	Geotechnical Boring
Permit #:	Not Reported	Well Owner:	EST
Elevation:	0	Water Use:	Soil Evaluation
Total Well Depth:	81	Date to First Water:	0
Approximate Yield:	0	Construction Date:	08-APR-19
Aquifer Code:	Not Reported	Basin Code:	Not Reported
URL:	http://www.owrb.ok.gov/wd/reporting/printreport.php?siteid=198345		

B7
South
1/2 - 1 Mile
Lower

OK WELLS **OK7000000171765**

Well ID:	94085	Well Type:	Monitoring Well
Permit #:	Not Reported	Well Owner:	Jack Beshears c/o Environmenta
Elevation:	0	Water Use:	Site Assessment
Total Well Depth:	20	Date to First Water:	0
Approximate Yield:	0	Construction Date:	29-MAR-05
Aquifer Code:	Not Reported	Basin Code:	Not Reported
URL:	http://www.owrb.ok.gov/wd/reporting/printreport.php?siteid=94085		

B8
South
1/2 - 1 Mile
Lower

OK WELLS **OK7000000174836**

Well ID:	100105	Well Type:	Monitoring Well
Permit #:	Not Reported	Well Owner:	Jack Beshears c/o Cinnabar Env
Elevation:	0	Water Use:	Site Assessment
Total Well Depth:	20	Date to First Water:	0
Approximate Yield:	0	Construction Date:	16-AUG-05
Aquifer Code:	Not Reported	Basin Code:	Not Reported
URL:	http://www.owrb.ok.gov/wd/reporting/printreport.php?siteid=100105		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

C9
SSW
1/2 - 1 Mile
Higher

OK WELLS **OK7000000178604**

Well ID:	114210	Well Type:	Monitoring Well
Permit #:	Not Reported	Well Owner:	Jack Beshear
Elevation:	0	Water Use:	Site Assessment
Total Well Depth:	20	Date to First Water:	0
Approximate Yield:	0	Construction Date:	26-NOV-07
Aquifer Code:	Not Reported	Basin Code:	Not Reported
URL:	http://www.owrb.ok.gov/wd/reporting/printreport.php?siteid=114210		

C10
SSW
1/2 - 1 Mile
Higher

OK WELLS **OK7000000178551**

Well ID:	114234	Well Type:	Monitoring Well
Permit #:	Not Reported	Well Owner:	Jack Beshear
Elevation:	0	Water Use:	Site Assessment
Total Well Depth:	20	Date to First Water:	0
Approximate Yield:	0	Construction Date:	26-NOV-07
Aquifer Code:	Not Reported	Basin Code:	Not Reported
URL:	http://www.owrb.ok.gov/wd/reporting/printreport.php?siteid=114234		

C11
SSW
1/2 - 1 Mile
Higher

OK WELLS **OK7000000178550**

Well ID:	114233	Well Type:	Monitoring Well
Permit #:	Not Reported	Well Owner:	Jack Beshear
Elevation:	0	Water Use:	Site Assessment
Total Well Depth:	20	Date to First Water:	0
Approximate Yield:	0	Construction Date:	26-NOV-07
Aquifer Code:	Not Reported	Basin Code:	Not Reported
URL:	http://www.owrb.ok.gov/wd/reporting/printreport.php?siteid=114233		

C12
SSW
1/2 - 1 Mile
Higher

OK WELLS **OK7000000179576**

Well ID:	120660	Well Type:	Monitoring Well
Permit #:	Not Reported	Well Owner:	Jack beshear
Elevation:	0	Water Use:	Site Assessment
Total Well Depth:	0	Date to First Water:	0
Approximate Yield:	0	Construction Date:	Not Reported
Aquifer Code:	Not Reported	Basin Code:	Not Reported
URL:	http://www.owrb.ok.gov/wd/reporting/printreport.php?siteid=120660		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

C13
SSW
1/2 - 1 Mile
Higher

OK WELLS **OK7000000184338**

Well ID:	131846	Well Type:	Monitoring Well
Permit #:	Not Reported	Well Owner:	Jack Beshear
Elevation:	0	Water Use:	Site Assessment
Total Well Depth:	0	Date to First Water:	0
Approximate Yield:	0	Construction Date:	Not Reported
Aquifer Code:	Not Reported	Basin Code:	Not Reported
URL:	http://www.owrb.ok.gov/wd/reporting/printreport.php?siteid=131846		

C14
SSW
1/2 - 1 Mile
Higher

OK WELLS **OK7000000184304**

Well ID:	131931	Well Type:	Monitoring Well
Permit #:	Not Reported	Well Owner:	Jack Beshear
Elevation:	0	Water Use:	Site Assessment
Total Well Depth:	20	Date to First Water:	0
Approximate Yield:	0	Construction Date:	26-NOV-07
Aquifer Code:	Not Reported	Basin Code:	Not Reported
URL:	http://www.owrb.ok.gov/wd/reporting/printreport.php?siteid=131931		

C15
SSW
1/2 - 1 Mile
Higher

OK WELLS **OK7000000183502**

Well ID:	131847	Well Type:	Monitoring Well
Permit #:	Not Reported	Well Owner:	Jack Beshear
Elevation:	0	Water Use:	Site Assessment
Total Well Depth:	0	Date to First Water:	0
Approximate Yield:	0	Construction Date:	Not Reported
Aquifer Code:	Not Reported	Basin Code:	Not Reported
URL:	http://www.owrb.ok.gov/wd/reporting/printreport.php?siteid=131847		

16
SW
1/2 - 1 Mile
Higher

OK WELLS **OK7000000172127**

Well ID:	96929	Well Type:	Monitoring Well
Permit #:	Not Reported	Well Owner:	Jane Phillips Hospital
Elevation:	0	Water Use:	Site Assessment
Total Well Depth:	10.5	Date to First Water:	0
Approximate Yield:	0	Construction Date:	04-OCT-05
Aquifer Code:	Not Reported	Basin Code:	Not Reported
URL:	http://www.owrb.ok.gov/wd/reporting/printreport.php?siteid=96929		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

D17
SW
1/2 - 1 Mile
Higher

OK WELLS **OK7000000149490**

Well ID:	165751	Well Type:	Geotechnical Boring
Permit #:	Not Reported	Well Owner:	CNB
Elevation:	0	Water Use:	Soil Evaluation
Total Well Depth:	7	Date to First Water:	0
Approximate Yield:	0	Construction Date:	09-JAN-15
Aquifer Code:	Not Reported	Basin Code:	Not Reported
URL:	http://www.owrb.ok.gov/wd/reporting/printreport.php?siteid=165751		

D18
SW
1/2 - 1 Mile
Higher

OK WELLS **OK7000000150672**

Well ID:	165752	Well Type:	Geotechnical Boring
Permit #:	Not Reported	Well Owner:	CNB
Elevation:	0	Water Use:	Soil Evaluation
Total Well Depth:	10	Date to First Water:	8
Approximate Yield:	0	Construction Date:	09-JAN-15
Aquifer Code:	Not Reported	Basin Code:	Not Reported
URL:	http://www.owrb.ok.gov/wd/reporting/printreport.php?siteid=165752		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

1
West
0 - 1/8 Mile

OIL_GAS **OKOG20000407912**

Fid:	407911	Api county:	147
Api number:	00889	Well name:	BECK JAMES
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	NW	Quarter3:	SW
Quarter4:	SE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.759361
Longitude:	-95.960972	G elevatio:	0
D el:	0	Completion:	1905-04-17
Dept:	0	Site id:	OKOG20000407912

A3
NE
0 - 1/8 Mile

OIL_GAS **OKOG20000415055**

Fid:	415054	Api county:	147
Api number:	08239	Well name:	LAWSON R E
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	SE	Feet ns:	660
Direct ns:	N	Feet ew:	200
Direct ew:	E	Latitude:	36.760449
Longitude:	-95.95784	G elevatio:	0
D el:	0	Completion:	1801-01-01
Dept:	0	Site id:	OKOG20000415055

A2
NE
0 - 1/8 Mile

OIL_GAS **OKOG20000415056**

Fid:	415055	Api county:	147
Api number:	08240	Well name:	LAWSON R E
Well no:	2	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	SE	Feet ns:	1220
Direct ns:	N	Feet ew:	250
Direct ew:	E	Latitude:	36.760449

Longitude:	-95.95784	G elevatio:	0
D el:	0	Completion:	1911-02-04
Dept:	0	Site id:	OKOG20000415056

A5
NE
0 - 1/8 Mile

OIL_GAS **OKOG20000415057**

Fid:	415056	Api county:	147
Api number:	08241	Well name:	MAYES MARY L
Well no:	2	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	SE	Feet ns:	450
Direct ns:	S	Feet ew:	460
Direct ew:	E	Latitude:	36.760449
Longitude:	-95.95784	G elevatio:	0
D el:	0	Completion:	1908-08-13
Dept:	0	Site id:	OKOG20000415057

A4
NE
0 - 1/8 Mile

OIL_GAS **OKOG20000415058**

Fid:	415057	Api county:	147
Api number:	08242	Well name:	MAYES MARY L
Well no:	4	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	SE	Feet ns:	140
Direct ns:	S	Feet ew:	340
Direct ew:	E	Latitude:	36.760449
Longitude:	-95.95784	G elevatio:	0
D el:	0	Completion:	1910-10-29
Dept:	0	Site id:	OKOG20000415058

6
SW
1/8 - 1/4 Mile

OIL_GAS **OKOG20000407913**

Fid:	407912	Api county:	147
Api number:	00890	Well name:	BECK JAMES
Well no:	2	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported

Quarter2:	SW	Quarter3:	SW
Quarter4:	SE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.7575
Longitude:	-95.961305	G elevatio:	0
D el:	0	Completion:	1905-06-23
Dept:	0	Site id:	OKOG20000407913

7
SSW **OIL_GAS** **OKOG20000407931**
1/8 - 1/4 Mile

Fid:	407930	Api county:	147
Api number:	00908	Well name:	ARMSTRONG L
Well no:	12	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	NE
Quarter2:	NW	Quarter3:	NW
Quarter4:	NE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.75637
Longitude:	-95.96065	G elevatio:	0
D el:	0	Completion:	1920-03-19
Dept:	0	Site id:	OKOG20000407931

8
SSE **OIL_GAS** **OKOG20000407937**
1/8 - 1/4 Mile

Fid:	407936	Api county:	147
Api number:	00914	Well name:	GUTHRIE WADE
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	NW
Quarter2:	NW	Quarter3:	NE
Quarter4:	NE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.756555
Longitude:	-95.957055	G elevatio:	0
D el:	0	Completion:	1905-07-01
Dept:	0	Site id:	OKOG20000407937

B9
West **OIL_GAS** **OKOG20000408011**
1/8 - 1/4 Mile

Fid:	408010	Api county:	147
Api number:	00988	Well name:	WHITETURKEY H
Well no:	5	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC

Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	E2	Quarter3:	SE
Quarter4:	SW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.758636
Longitude:	-95.96347	G elevatio:	0
D el:	0	Completion:	1913-01-13
Dept:	0	Site id:	OKOG20000408011

C10
SW
1/8 - 1/4 Mile

OIL_GAS **OKOG20000407206**

Fid:	407205	Api county:	147
Api number:	00146	Well name:	GRAYES
Well no:	09	Oper name:	KEESE JEFFREY ALAN
Oper no:	17381	Status:	AC
Well class:	OIL	Operstatus:	CLOSED
Countycode:	147	Meridan:	Indian
Section:	6	Township:	26N
Range:	13E	Quarter1:	SW4
Quarter2:	SE4	Quarter3:	SE4
Quarter4:	SE4	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.757276
Longitude:	-95.96291	G elevatio:	0
D el:	0	Completion:	1920-07-19
Dept:	1301	Site id:	OKOG20000407206

B11
WSW
1/8 - 1/4 Mile

OIL_GAS **OKOG20000407203**

Fid:	407202	Api county:	147
Api number:	00143	Well name:	GRAVES
Well no:	04	Oper name:	KEESE JEFFREY ALAN
Oper no:	17381	Status:	AC
Well class:	OIL	Operstatus:	CLOSED
Countycode:	147	Meridan:	Indian
Section:	6	Township:	26N
Range:	13E	Quarter1:	SW4
Quarter2:	SE4	Quarter3:	SE4
Quarter4:	Not Reported	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.75775
Longitude:	-95.963361	G elevatio:	0
D el:	0	Completion:	1905-04-14
Dept:	1311	Site id:	OKOG20000407203

Map ID
Direction
Distance

Database EDR ID Number

B12
WSW
1/4 - 1/2 Mile

OIL_GAS **OKOG20000408009**

Fid:	408008	Api county:	147
Api number:	00986	Well name:	WHITETURKEY H
Well no:	3	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SE	Quarter3:	SE
Quarter4:	SW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.757729
Longitude:	-95.96347	G elevatio:	0
D el:	0	Completion:	1911-10-07
Dept:	0	Site id:	OKOG20000408009

D13
WNW
1/4 - 1/2 Mile

OIL_GAS **OKOG20000407895**

Fid:	407894	Api county:	147
Api number:	00872	Well name:	ARMSRTONG HENRY
Well no:	3	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SE	Quarter3:	NE
Quarter4:	SW	Feet ns:	150
Direct ns:	S	Feet ew:	150
Direct ew:	E	Latitude:	36.761166
Longitude:	-95.963611	G elevatio:	0
D el:	0	Completion:	1918-01-07
Dept:	0	Site id:	OKOG20000407895

C14
SW
1/4 - 1/2 Mile

OIL_GAS **OKOG20000407927**

Fid:	407926	Api county:	147
Api number:	00904	Well name:	ARMSTRONG L
Well no:	5	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	NE
Quarter2:	NE	Quarter3:	NE
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.75637

Longitude:	-95.96291	G elevatio:	0
D el:	0	Completion:	1801-01-01
Dept:	0	Site id:	OKOG20000407927

E15
SSE **OIL_GAS** **OKOG20000407939**
1/4 - 1/2 Mile

Fid:	407938	Api county:	147
Api number:	00916	Well name:	GUTHRIE WADE
Well no:	3	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	SW
Quarter2:	NW	Quarter3:	NE
Quarter4:	NE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.755444
Longitude:	-95.957361	G elevatio:	0
D el:	0	Completion:	1911-12-16
Dept:	0	Site id:	OKOG20000407939

F16
ESE **OIL_GAS** **OKOG20000418482**
1/4 - 1/2 Mile

Fid:	418481	Api county:	147
Api number:	23667	Well name:	BROWN
Well no:	2	Oper name:	BROWN NAGEL
Oper no:	11107	Status:	AC
Well class:	Not Reported	Operstatus:	CLOSED
Countycode:	147	Meridan:	Indian
Section:	6	Township:	26N
Range:	13E	Quarter1:	SE4
Quarter2:	SE4	Quarter3:	SE4
Quarter4:	NE4	Feet ns:	447
Direct ns:	S	Feet ew:	2455
Direct ew:	W	Latitude:	36.758194
Longitude:	-95.953861	G elevatio:	0
D el:	0	Completion:	1982-07-31
Dept:	0	Site id:	OKOG20000418482

F17
ESE **OIL_GAS** **OKOG20000418173**
1/4 - 1/2 Mile

Fid:	418172	Api county:	147
Api number:	23082	Well name:	BROWN
Well no:	1	Oper name:	BROWN NAGEL
Oper no:	11107	Status:	AC
Well class:	Not Reported	Operstatus:	CLOSED
Countycode:	147	Meridan:	Indian
Section:	6	Township:	26N
Range:	13E	Quarter1:	SE4

Quarter2:	SE4	Quarter3:	SE4
Quarter4:	NE4	Feet ns:	460
Direct ns:	S	Feet ew:	2465
Direct ew:	W	Latitude:	36.758083
Longitude:	-95.953888	G elevatio:	0
D el:	0	Completion:	1982-05-16
Dept:	0	Site id:	OKOG20000418173

D18
NW
1/4 - 1/2 Mile

OIL_GAS **OKOG20000407896**

Fid:	407895	Api county:	147
Api number:	00873	Well name:	ARMSTRONG HY
Well no:	4	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	E2	Quarter3:	NE
Quarter4:	SW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.762261
Longitude:	-95.96347	G elevatio:	0
D el:	0	Completion:	1918-02-10
Dept:	0	Site id:	OKOG20000407896

E19
SE
1/4 - 1/2 Mile

OIL_GAS **OKOG20000407938**

Fid:	407937	Api county:	147
Api number:	00915	Well name:	GUTHRIE WADE
Well no:	2	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	SE
Quarter2:	NW	Quarter3:	NE
Quarter4:	NE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.755464
Longitude:	-95.95615	G elevatio:	0
D el:	0	Completion:	1911-10-20
Dept:	0	Site id:	OKOG20000407938

20
West
1/4 - 1/2 Mile

OIL_GAS **OKOG20000407892**

Fid:	407891	Api county:	147
Api number:	00869	Well name:	GRAVES
Well no:	6	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC

Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	NE
Quarter2:	NW	Quarter3:	SE
Quarter4:	SW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.760138
Longitude:	-95.964916	G elevatio:	0
D el:	0	Completion:	1919-08-01
Dept:	0	Site id:	OKOG20000407892

E21
SSE
1/4 - 1/2 Mile

OIL_GAS **OKOG20000416425**

Fid:	416424	Api county:	147
Api number:	20334	Well name:	A C BURNETT-MAYES
Well no:	5-A	Oper name:	HARRINGTON ORVILLE
Oper no:	8662	Status:	AC
Well class:	Not Reported	Operstatus:	OPEN
Countycode:	147	Meridan:	Indian
Section:	7	Township:	26N
Range:	13E	Quarter1:	NE4
Quarter2:	NE4	Quarter3:	SW4
Quarter4:	NW4	Feet ns:	1815
Direct ns:	S	Feet ew:	1370
Direct ew:	W	Latitude:	36.75475
Longitude:	-95.957472	G elevatio:	0
D el:	0	Completion:	1970-08-23
Dept:	0	Site id:	OKOG20000416425

D22
WNW
1/4 - 1/2 Mile

OIL_GAS **OKOG20000407897**

Fid:	407896	Api county:	147
Api number:	00874	Well name:	ARMSTRONG HY
Well no:	5	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	S2	Quarter3:	NE
Quarter4:	SW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.761355
Longitude:	-95.9646	G elevatio:	0
D el:	0	Completion:	1918-03-03
Dept:	0	Site id:	OKOG20000407897

Map ID
Direction
Distance

Database EDR ID Number

G23
WSW
1/4 - 1/2 Mile

OIL_GAS **OKOG20000407894**

Fid:	407893	Api county:	147
Api number:	00871	Well name:	GRAVES
Well no:	10	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	S2
Quarter2:	S2	Quarter3:	SE
Quarter4:	SW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.757083
Longitude:	-95.964805	G elevatio:	0
D el:	0	Completion:	1920-09-02
Dept:	0	Site id:	OKOG20000407894

G24
WSW
1/4 - 1/2 Mile

OIL_GAS **OKOG20000408010**

Fid:	408009	Api county:	147
Api number:	00987	Well name:	WHITETURKEY H
Well no:	4	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	SE
Quarter2:	SW	Quarter3:	SE
Quarter4:	SW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.757276
Longitude:	-95.96516	G elevatio:	0
D el:	0	Completion:	1911-10-15
Dept:	0	Site id:	OKOG20000408010

G25
WSW
1/4 - 1/2 Mile

OIL_GAS **OKOG20000407205**

Fid:	407204	Api county:	147
Api number:	00145	Well name:	GRAVES
Well no:	05	Oper name:	KEESE JEFFREY ALAN
Oper no:	17381	Status:	AC
Well class:	OIL	Operstatus:	CLOSED
Countycode:	147	Meridan:	Indian
Section:	6	Township:	26N
Range:	13E	Quarter1:	SW4
Quarter2:	SE4	Quarter3:	SW4
Quarter4:	Not Reported	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.75775

Longitude:	-95.965472	G elevatio:	0
D el:	0	Completion:	1919-06-21
Dept:	1316	Site id:	OKOG20000407205

26
NW
1/4 - 1/2 Mile

OIL_GAS **OKOG20000407729**

Fid:	407728	Api county:	147
Api number:	00704	Well name:	DAVIS W R
Well no:	O-12	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	NE	Quarter3:	NE
Quarter4:	SW	Feet ns:	2310
Direct ns:	S	Feet ew:	2310
Direct ew:	W	Latitude:	36.763388
Longitude:	-95.963277	G elevatio:	0
D el:	0	Completion:	1959-02-17
Dept:	0	Site id:	OKOG20000407729

H27
South
1/4 - 1/2 Mile

OIL_GAS **OKOG20000418161**

Fid:	418160	Api county:	147
Api number:	23052	Well name:	A C BURNETT-MAYES
Well no:	8-A	Oper name:	HARRINGTON ORVILLE
Oper no:	8662	Status:	AC
Well class:	Not Reported	Operstatus:	OPEN
Countycode:	147	Meridan:	Indian
Section:	7	Township:	26N
Range:	13E	Quarter1:	NE4
Quarter2:	NW4	Quarter3:	SE4
Quarter4:	Not Reported	Feet ns:	1650
Direct ns:	S	Feet ew:	1085
Direct ew:	W	Latitude:	36.753888
Longitude:	-95.959	G elevatio:	0
D el:	0	Completion:	1982-03-10
Dept:	1460	Site id:	OKOG20000418161

I28
NNE
1/4 - 1/2 Mile

OIL_GAS **OKOG20000408013**

Fid:	408012	Api county:	147
Api number:	00990	Well name:	WHITETURKEY H
Well no:	7	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	SW

Quarter2:	SW	Quarter3:	SE
Quarter4:	NE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.764527
Longitude:	-95.95728	G elevatio:	0
D el:	0	Completion:	1917-07-24
Dept:	0	Site id:	OKOG20000408013

J29
WNW
1/4 - 1/2 Mile

OIL_GAS **OKOG20000407899**

Fid:	407898	Api county:	147
Api number:	00876	Well name:	ARMSTRONG HY
Well no:	7	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SW	Quarter3:	NE
Quarter4:	SW	Feet ns:	150
Direct ns:	S	Feet ew:	150
Direct ew:	W	Latitude:	36.761355
Longitude:	-95.96572	G elevatio:	0
D el:	0	Completion:	1918-04-11
Dept:	0	Site id:	OKOG20000407899

30
West
1/4 - 1/2 Mile

OIL_GAS **OKOG20000407204**

Fid:	407203	Api county:	147
Api number:	00144	Well name:	GRAVES
Well no:	08	Oper name:	KEESE JEFFREY ALAN
Oper no:	17381	Status:	AC
Well class:	OIL	Operstatus:	CLOSED
Countycode:	147	Meridan:	Indian
Section:	6	Township:	26N
Range:	13E	Quarter1:	SW4
Quarter2:	SE4	Quarter3:	NW4
Quarter4:	SW4	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.759166
Longitude:	-95.96625	G elevatio:	0
D el:	0	Completion:	1920-06-20
Dept:	1308	Site id:	OKOG20000407204

31
East
1/4 - 1/2 Mile

OIL_GAS **OKOG20000407891**

Fid:	407890	Api county:	147
Api number:	00868	Well name:	MAYS MARY L
Well no:	6	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC

Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	5	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	W2	Quarter3:	SW
Quarter4:	SW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.758647
Longitude:	-95.952224	G elevatio:	0
D el:	0	Completion:	1922-03-13
Dept:	0	Site id:	OKOG20000407891

H32
South
1/4 - 1/2 Mile

OIL_GAS **OKOG20000415064**

Fid:	415063	Api county:	147
Api number:	08248	Well name:	BURNETT A C
Well no:	4	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	NE	Feet ns:	550
Direct ns:	N	Feet ew:	860
Direct ew:	W	Latitude:	36.753444
Longitude:	-95.957944	G elevatio:	0
D el:	0	Completion:	1909-11-13
Dept:	0	Site id:	OKOG20000415064

H33
South
1/4 - 1/2 Mile

OIL_GAS **OKOG20000415067**

Fid:	415066	Api county:	147
Api number:	08251	Well name:	BURNETT A C
Well no:	8	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	NE	Feet ns:	870
Direct ns:	N	Feet ew:	840
Direct ew:	E	Latitude:	36.753388
Longitude:	-95.958027	G elevatio:	0
D el:	0	Completion:	1911-03-13
Dept:	0	Site id:	OKOG20000415067

Map ID
Direction
Distance

Database EDR ID Number

K34
North
1/4 - 1/2 Mile

OIL_GAS **OKOG20000407919**

Fid:	407918	Api county:	147
Api number:	00896	Well name:	DAVENPORT JAS S
Well no:	6	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SE	Quarter3:	SW
Quarter4:	NE	Feet ns:	300
Direct ns:	S	Feet ew:	300
Direct ew:	E	Latitude:	36.765194
Longitude:	-95.958944	G elevatio:	0
D el:	0	Completion:	1917-09-01
Dept:	0	Site id:	OKOG20000407919

J35
WNW
1/4 - 1/2 Mile

OIL_GAS **OKOG20000407900**

Fid:	407899	Api county:	147
Api number:	00877	Well name:	ARMSTRONG NY
Well no:	8	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	W2	Quarter3:	NE
Quarter4:	SW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.762261
Longitude:	-95.96572	G elevatio:	0
D el:	0	Completion:	1918-05-15
Dept:	0	Site id:	OKOG20000407900

36
ENE
1/4 - 1/2 Mile

OIL_GAS **OKOG20000418123**

Fid:	418122	Api county:	147
Api number:	22973	Well name:	REED
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	TM
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	5	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SW	Quarter3:	NW
Quarter4:	SW	Feet ns:	1815
Direct ns:	S	Feet ew:	165
Direct ew:	W	Latitude:	36.761366

Longitude:	-95.952224	G elevatio:	0
D el:	0	Completion:	1983-10-17
Dept:	0	Site id:	OKOG20000418123

L37
SSE **OIL_GAS** **OKOG20000415062**
1/4 - 1/2 Mile

Fid:	415061	Api county:	147
Api number:	08246	Well name:	BURNETT A C
Well no:	2	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	NE	Feet ns:	870
Direct ns:	N	Feet ew:	920
Direct ew:	W	Latitude:	36.753305
Longitude:	-95.957583	G elevatio:	0
D el:	0	Completion:	1909-06-09
Dept:	0	Site id:	OKOG20000415062

M38
NNW **OIL_GAS** **OKOG20000407921**
1/4 - 1/2 Mile

Fid:	407920	Api county:	147
Api number:	00898	Well name:	DAVENPORT JAMES
Well no:	8	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SW	Quarter3:	SW
Quarter4:	NE	Feet ns:	200
Direct ns:	S	Feet ew:	600
Direct ew:	W	Latitude:	36.765083
Longitude:	-95.961444	G elevatio:	0
D el:	0	Completion:	1917-11-29
Dept:	0	Site id:	OKOG20000407921

H39
South **OIL_GAS** **OKOG20000415065**
1/4 - 1/2 Mile

Fid:	415064	Api county:	147
Api number:	08249	Well name:	BURNETT A C
Well no:	6	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	Not Reported

Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	NE	Feet ns:	630
Direct ns:	N	Feet ew:	1180
Direct ew:	W	Latitude:	36.753222
Longitude:	-95.958	G elevatio:	0
D el:	0	Completion:	1911-01-24
Dept:	0	Site id:	OKOG20000415065

I40
NNE **OIL_GAS** **OKOG20000415053**
1/4 - 1/2 Mile

Fid:	415052	Api county:	147
Api number:	08237	Well name:	WILKERSON O
Well no:	4	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SW	Quarter3:	SE
Quarter4:	NE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.764981
Longitude:	-95.95671	G elevatio:	0
D el:	0	Completion:	1918-03-02
Dept:	0	Site id:	OKOG20000415053

41
SSE **OIL_GAS** **OKOG20000418939**
1/4 - 1/2 Mile

Fid:	418938	Api county:	147
Api number:	24527	Well name:	BURNETT-MAYES A C
Well no:	1-A	Oper name:	HARRINGTON ORVILLE
Oper no:	8662	Status:	AC
Well class:	Not Reported	Operstatus:	OPEN
Countycode:	147	Meridan:	Indian
Section:	7	Township:	26N
Range:	13E	Quarter1:	NE4
Quarter2:	NE4	Quarter3:	SW4
Quarter4:	SE4	Feet ns:	1335
Direct ns:	S	Feet ew:	1665
Direct ew:	W	Latitude:	36.753651
Longitude:	-95.95615	G elevatio:	0
D el:	0	Completion:	1983-08-13
Dept:	0	Site id:	OKOG20000418939

L43
South **OIL_GAS** **OKOG20000415069**
1/4 - 1/2 Mile

Fid:	415068	Api county:	147
Api number:	08253	Well name:	MAYES SAMUEL L
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC

Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	NE	Feet ns:	870
Direct ns:	N	Feet ew:	450
Direct ew:	E	Latitude:	36.753198
Longitude:	-95.95784	G elevatio:	0
D el:	0	Completion:	1911-03-28
Dept:	0	Site id:	OKOG20000415069

L42
South
1/4 - 1/2 Mile

OIL_GAS **OKOG20000407935**

Fid:	407934	Api county:	147
Api number:	00912	Well name:	A.C. BURNETT (MAYES)
Well no:	12	Oper name:	HARRINGTON ORVILLE
Oper no:	8662	Status:	AC
Well class:	OIL	Operstatus:	OPEN
Countycode:	147	Meridan:	Indian
Section:	7	Township:	26N
Range:	13E	Quarter1:	CNE4
Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	Not Reported	Feet ns:	1320
Direct ns:	S	Feet ew:	1320
Direct ew:	W	Latitude:	36.753198
Longitude:	-95.95784	G elevatio:	0
D el:	0	Completion:	1965-08-12
Dept:	1358	Site id:	OKOG20000407935

L44
South
1/4 - 1/2 Mile

OIL_GAS **OKOG20000415070**

Fid:	415069	Api county:	147
Api number:	08254	Well name:	MAYES S L
Well no:	3	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	NE	Feet ns:	1480
Direct ns:	N	Feet ew:	510
Direct ew:	E	Latitude:	36.753198
Longitude:	-95.95784	G elevatio:	0
D el:	0	Completion:	1912-08-27
Dept:	0	Site id:	OKOG20000415070

Map ID
Direction
Distance

Database EDR ID Number

L45
SSE **OIL_GAS** **OKOG20000415066**
1/4 - 1/2 Mile

Fid:	415065	Api county:	147
Api number:	08250	Well name:	BURNETT A C
Well no:	7	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	NE	Feet ns:	1300
Direct ns:	S	Feet ew:	800
Direct ew:	W	Latitude:	36.753194
Longitude:	-95.957777	G elevatio:	0
D el:	0	Completion:	1911-02-08
Dept:	0	Site id:	OKOG20000415066

L46
SSE **OIL_GAS** **OKOG20000415063**
1/4 - 1/2 Mile

Fid:	415062	Api county:	147
Api number:	08247	Well name:	BURNETT A C
Well no:	3	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	NE	Feet ns:	1120
Direct ns:	S	Feet ew:	200
Direct ew:	W	Latitude:	36.753166
Longitude:	-95.957611	G elevatio:	0
D el:	0	Completion:	1909-09-16
Dept:	0	Site id:	OKOG20000415063

L47
South **OIL_GAS** **OKOG20000415061**
1/4 - 1/2 Mile

Fid:	415060	Api county:	147
Api number:	08245	Well name:	BURNETT A C
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	NE	Feet ns:	200
Direct ns:	N	Feet ew:	880
Direct ew:	W	Latitude:	36.753027

Longitude:	-95.958083	G elevatio:	0
D el:	0	Completion:	1909-03-24
Dept:	0	Site id:	OKOG20000415061

L48
South **OIL_GAS** **OKOG20000415068**
1/4 - 1/2 Mile

Fid:	415067	Api county:	147
Api number:	08252	Well name:	BURNETT A C
Well no:	10	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	NE	Feet ns:	900
Direct ns:	S	Feet ew:	990
Direct ew:	E	Latitude:	36.753055
Longitude:	-95.957777	G elevatio:	0
D el:	0	Completion:	1921-09-08
Dept:	0	Site id:	OKOG20000415068

49
WSW **OIL_GAS** **OKOG20000407926**
1/4 - 1/2 Mile

Fid:	407925	Api county:	147
Api number:	00903	Well name:	ARMSTRONG L
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	NW
Quarter2:	NW	Quarter3:	NE
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.75637
Longitude:	-95.96629	G elevatio:	0
D el:	0	Completion:	1801-01-01
Dept:	0	Site id:	OKOG20000407926

50
SE **OIL_GAS** **OKOG20000416217**
1/4 - 1/2 Mile

Fid:	416216	Api county:	147
Api number:	20023	Well name:	A.C. BURNETT-MAYES
Well no:	4	Oper name:	HARRINGTON ORVILLE
Oper no:	8662	Status:	AC
Well class:	OIL	Operstatus:	OPEN
Countycode:	147	Meridan:	Indian
Section:	7	Township:	26N
Range:	13E	Quarter1:	NE4

Quarter2:	NE4	Quarter3:	SE4
Quarter4:	Not Reported	Feet ns:	1495
Direct ns:	S	Feet ew:	2050
Direct ew:	W	Latitude:	36.754104
Longitude:	-95.95446	G elevatio:	0
D el:	0	Completion:	1966-04-01
Dept:	1347	Site id:	OKOG20000416217

51
NNE **OIL_GAS** **OKOG20000408012**
1/4 - 1/2 Mile

Fid:	408011	Api county:	147
Api number:	00989	Well name:	WHITETURKEY H
Well no:	6	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	S2	Quarter3:	SE
Quarter4:	NE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.764981
Longitude:	-95.95559	G elevatio:	0
D el:	0	Completion:	1916-04-22
Dept:	0	Site id:	OKOG20000408012

K52
North **OIL_GAS** **OKOG20000407920**
1/4 - 1/2 Mile

Fid:	407919	Api county:	147
Api number:	00897	Well name:	DAVENPORT JAS S
Well no:	7	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	E2	Quarter3:	SW
Quarter4:	NE	Feet ns:	600
Direct ns:	N	Feet ew:	200
Direct ew:	E	Latitude:	36.765722
Longitude:	-95.958722	G elevatio:	0
D el:	0	Completion:	1917-10-21
Dept:	0	Site id:	OKOG20000407920

53
NW **OIL_GAS** **OKOG20000407898**
1/4 - 1/2 Mile

Fid:	407897	Api county:	147
Api number:	00875	Well name:	ARMSTRONG HY
Well no:	6	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC

Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	NW	Quarter3:	NE
Quarter4:	SW	Feet ns:	150
Direct ns:	N	Feet ew:	150
Direct ew:	W	Latitude:	36.763167
Longitude:	-95.96572	G elevatio:	0
D el:	0	Completion:	1918-03-21
Dept:	0	Site id:	OKOG20000407898

M54
NNW
1/4 - 1/2 Mile

OIL_GAS **OKOG20000407918**

Fid:	407917	Api county:	147
Api number:	00895	Well name:	DAVENPORT J S
Well no:	5	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	W2	Quarter3:	SW
Quarter4:	NE	Feet ns:	660
Direct ns:	S	Feet ew:	200
Direct ew:	W	Latitude:	36.765861
Longitude:	-95.961166	G elevatio:	0
D el:	0	Completion:	1917-07-03
Dept:	0	Site id:	OKOG20000407918

N55
West
1/4 - 1/2 Mile

OIL_GAS **OKOG20000407902**

Fid:	407901	Api county:	147
Api number:	00879	Well name:	BITINIS
Well no:	4	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	NE	Quarter3:	SW
Quarter4:	SW	Feet ns:	990
Direct ns:	S	Feet ew:	1100
Direct ew:	W	Latitude:	36.759666
Longitude:	-95.967722	G elevatio:	0
D el:	0	Completion:	1956-02-18
Dept:	0	Site id:	OKOG20000407902

Map ID
Direction
Distance

Database EDR ID Number

O56
South
1/4 - 1/2 Mile

OIL_GAS **OKOG20000417220**

Fid:	417219	Api county:	147
Api number:	21456	Well name:	A C BURNETT-MAYES
Well no:	6-A	Oper name:	HARRINGTON ORVILLE
Oper no:	8662	Status:	AC
Well class:	Not Reported	Operstatus:	OPEN
Countycode:	147	Meridan:	Indian
Section:	7	Township:	26N
Range:	13E	Quarter1:	NE4
Quarter2:	SW4	Quarter3:	NW4
Quarter4:	NE4	Feet ns:	1155
Direct ns:	S	Feet ew:	430
Direct ew:	W	Latitude:	36.7525
Longitude:	-95.960694	G elevatio:	0
D el:	0	Completion:	1980-01-21
Dept:	793	Site id:	OKOG20000417220

N57
West
1/4 - 1/2 Mile

OIL_GAS **OKOG20000407901**

Fid:	407900	Api county:	147
Api number:	00878	Well name:	BITINIS
Well no:	6	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	NE	Quarter3:	SW
Quarter4:	SW	Feet ns:	990
Direct ns:	S	Feet ew:	1690
Direct ew:	E	Latitude:	36.759542
Longitude:	-95.96798	G elevatio:	0
D el:	0	Completion:	1956-01-26
Dept:	0	Site id:	OKOG20000407901

O58
SSW
1/4 - 1/2 Mile

OIL_GAS **OKOG20000407934**

Fid:	407933	Api county:	147
Api number:	00911	Well name:	ARCHIE C. BURNETT (MAYES)
Well no:	11	Oper name:	HARRINGTON ORVILLE
Oper no:	8662	Status:	AC
Well class:	OIL	Operstatus:	OPEN
Countycode:	147	Meridan:	Indian
Section:	7	Township:	26N
Range:	13E	Quarter1:	NE4
Quarter2:	SW4	Quarter3:	NW4
Quarter4:	Not Reported	Feet ns:	795
Direct ns:	S	Feet ew:	515
Direct ew:	W	Latitude:	36.752291

Longitude:	-95.96122	G elevatio:	0
D el:	0	Completion:	1965-03-30
Dept:	1350	Site id:	OKOG20000407934

P59
South **OIL_GAS** **OKOG20000418140**
1/2 - 1 Mile

Fid:	418139	Api county:	147
Api number:	23010	Well name:	A C BURNETT-MAYES
Well no:	7-A	Oper name:	HARRINGTON ORVILLE
Oper no:	8662	Status:	AC
Well class:	Not Reported	Operstatus:	OPEN
Countycode:	147	Meridan:	Indian
Section:	7	Township:	26N
Range:	13E	Quarter1:	NE4
Quarter2:	SW4	Quarter3:	NE4
Quarter4:	SE4	Feet ns:	885
Direct ns:	S	Feet ew:	1060
Direct ew:	W	Latitude:	36.751944
Longitude:	-95.958555	G elevatio:	0
D el:	0	Completion:	1981-12-14
Dept:	1460	Site id:	OKOG20000418140

60
WSW **OIL_GAS** **OKOG20000407929**
1/2 - 1 Mile

Fid:	407928	Api county:	147
Api number:	00906	Well name:	ARMSTONG L
Well no:	10	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	SE
Quarter2:	NE	Quarter3:	NW
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.755388
Longitude:	-95.967194	G elevatio:	0
D el:	0	Completion:	1919-12-18
Dept:	0	Site id:	OKOG20000407929

P61
SSE **OIL_GAS** **OKOG20000418585**
1/2 - 1 Mile

Fid:	418584	Api county:	147
Api number:	23875	Well name:	A C BURNETT-MAYES
Well no:	9-A	Oper name:	HARRINGTON ORVILLE
Oper no:	8662	Status:	AC
Well class:	SWD	Operstatus:	OPEN
Countycode:	147	Meridan:	Indian
Section:	7	Township:	26N
Range:	13E	Quarter1:	NE4

Quarter2:	SE4	Quarter3:	NW4
Quarter4:	SW4	Feet ns:	825
Direct ns:	S	Feet ew:	1390
Direct ew:	W	Latitude:	36.751838
Longitude:	-95.95728	G elevatio:	666
D el:	0	Completion:	1998-08-17
Dept:	1390	Site id:	OKOG20000418585

62
ESE **OIL_GAS** **OKOG20000407890**
1/2 - 1 Mile

Fid:	407889	Api county:	147
Api number:	00867	Well name:	MAYES MARY L
Well no:	5	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	5	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SE	Quarter3:	SW
Quarter4:	SW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.757741
Longitude:	-95.949972	G elevatio:	0
D el:	0	Completion:	1921-01-20
Dept:	0	Site id:	OKOG20000407890

63
SE **OIL_GAS** **OKOG20000415815**
1/2 - 1 Mile

Fid:	415814	Api county:	147
Api number:	09018	Well name:	BECK L
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	8	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SW	Quarter3:	NW
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.754083
Longitude:	-95.952222	G elevatio:	0
D el:	0	Completion:	1912-09-06
Dept:	0	Site id:	OKOG20000415815

64
NW **OIL_GAS** **OKOG20000407923**
1/2 - 1 Mile

Fid:	407922	Api county:	147
Api number:	00900	Well name:	LUNDAY MAUD J
Well no:	7	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC

Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SW	Quarter3:	SE
Quarter4:	NW	Feet ns:	150
Direct ns:	S	Feet ew:	900
Direct ew:	E	Latitude:	36.76498
Longitude:	-95.96572	G elevatio:	0
D el:	0	Completion:	1918-02-26
Dept:	0	Site id:	OKOG20000407923

65
SW
1/2 - 1 Mile

OIL_GAS **OKOG20000407925**

Fid:	407924	Api county:	147
Api number:	00902	Well name:	ARMSTRONG L
Well no:	13	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	SW
Quarter2:	SW	Quarter3:	NE
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.753651
Longitude:	-95.96629	G elevatio:	0
D el:	0	Completion:	1920-05-09
Dept:	0	Site id:	OKOG20000407925

Q66
WSW
1/2 - 1 Mile

OIL_GAS **OKOG20000407952**

Fid:	407951	Api county:	147
Api number:	00929	Well name:	GIBSON EDA
Well no:	5	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	NW
Quarter2:	NE	Quarter3:	NW
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.756111
Longitude:	-95.968361	G elevatio:	0
D el:	0	Completion:	1801-01-01
Dept:	0	Site id:	OKOG20000407952

Map ID
Direction
Distance

Database EDR ID Number

R67
SSW
1/2 - 1 Mile

OIL_GAS **OKOG20000407958**

Fid:	407957	Api county:	147
Api number:	00935	Well name:	BURNETT A C
Well no:	5	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	W2
Quarter2:	W2	Quarter3:	SW
Quarter4:	NE	Feet ns:	2025
Direct ns:	N	Feet ew:	2445
Direct ew:	E	Latitude:	36.751527
Longitude:	-95.96175	G elevatio:	0
D el:	0	Completion:	1911-01-01
Dept:	0	Site id:	OKOG20000407958

P68
South
1/2 - 1 Mile

OIL_GAS **OKOG20000416360**

Fid:	416359	Api county:	147
Api number:	20237	Well name:	A C BURNETT-MAYES
Well no:	14	Oper name:	HARRINGTON ORVILLE
Oper no:	8662	Status:	AC
Well class:	Not Reported	Operstatus:	OPEN
Countycode:	147	Meridan:	Indian
Section:	7	Township:	26N
Range:	13E	Quarter1:	NE4
Quarter2:	SW4	Quarter3:	SE4
Quarter4:	NE4	Feet ns:	420
Direct ns:	S	Feet ew:	1155
Direct ew:	W	Latitude:	36.751194
Longitude:	-95.9585	G elevatio:	0
D el:	0	Completion:	1968-07-30
Dept:	0	Site id:	OKOG20000416360

69
NE
1/2 - 1 Mile

OIL_GAS **OKOG20000407879**

Fid:	407878	Api county:	147
Api number:	00856	Well name:	HOPKINS
Well no:	3	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	5	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SW	Quarter3:	SW
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.764992

Longitude:	-95.95222	G elevatio:	0
D el:	0	Completion:	1908-06-01
Dept:	0	Site id:	OKOG20000407879

70
ENE **OIL_GAS** **OKOG20000415913**
1/2 - 1 Mile

Fid:	415912	Api county:	147
Api number:	09120	Well name:	ELLIS
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	5	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	NE	Quarter3:	NW
Quarter4:	SW	Feet ns:	2310
Direct ns:	S	Feet ew:	990
Direct ew:	W	Latitude:	36.763
Longitude:	-95.950055	G elevatio:	0
D el:	0	Completion:	1954-02-21
Dept:	0	Site id:	OKOG20000415913

S71
SE **OIL_GAS** **OKOG20000407973**
1/2 - 1 Mile

Fid:	407972	Api county:	147
Api number:	00950	Well name:	BECK NELSON
Well no:	2	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	8	Township:	26N
Range:	13E	Quarter1:	NW
Quarter2:	NW	Quarter3:	SW
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.752756
Longitude:	-95.95278	G elevatio:	0
D el:	0	Completion:	1904-11-09
Dept:	0	Site id:	OKOG20000407973

R72
South **OIL_GAS** **OKOG20000416280**
1/2 - 1 Mile

Fid:	416279	Api county:	147
Api number:	20119	Well name:	A C BURNETT-MAYES
Well no:	13	Oper name:	HARRINGTON ORVILLE
Oper no:	8662	Status:	AC
Well class:	Not Reported	Operstatus:	OPEN
Countycode:	147	Meridan:	Indian
Section:	7	Township:	26N
Range:	13E	Quarter1:	NE4

Quarter2:	SW4	Quarter3:	SW4
Quarter4:	NE4	Feet ns:	425
Direct ns:	S	Feet ew:	495
Direct ew:	W	Latitude:	36.750932
Longitude:	-95.96065	G elevatio:	0
D el:	0	Completion:	1967-06-27
Dept:	0	Site id:	OKOG20000416280

Q73
WSW **OIL_GAS** **OKOG20000407930**
1/2 - 1 Mile

Fid:	407929	Api county:	147
Api number:	00907	Well name:	ARMSTRONG L
Well no:	11	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	N2
Quarter2:	N2	Quarter3:	NW
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.756369
Longitude:	-95.9691	G elevatio:	0
D el:	0	Completion:	1920-02-05
Dept:	0	Site id:	OKOG20000407930

T74
East **OIL_GAS** **OKOG20000415052**
1/2 - 1 Mile

Fid:	415051	Api county:	147
Api number:	08236	Well name:	MAYES MARY L
Well no:	3	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	5	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	SW	Feet ns:	1120
Direct ns:	S	Feet ew:	200
Direct ew:	W	Latitude:	36.76046
Longitude:	-95.94885	G elevatio:	0
D el:	0	Completion:	1910-02-15
Dept:	0	Site id:	OKOG20000415052

T75
East **OIL_GAS** **OKOG20000415051**
1/2 - 1 Mile

Fid:	415050	Api county:	147
Api number:	08235	Well name:	MAYES MARY L
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC

Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	5	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	SW	Feet ns:	200
Direct ns:	S	Feet ew:	180
Direct ew:	W	Latitude:	36.760460
Longitude:	-95.948845	G elevatio:	0
D el:	0	Completion:	1908-04-06
Dept:	0	Site id:	OKOG20000415051

U76
North
1/2 - 1 Mile

OIL_GAS **OKOG20000407914**

Fid:	407913	Api county:	147
Api number:	00891	Well name:	HILDEBRAND J
Well no:	9	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	NE	Feet ns:	418
Direct ns:	N	Feet ew:	0
Direct ew:	W	Latitude:	36.7677
Longitude:	-95.95784	G elevatio:	0
D el:	0	Completion:	1937-05-24
Dept:	0	Site id:	OKOG20000407914

V77
SW
1/2 - 1 Mile

OIL_GAS **OKOG20000407956**

Fid:	407955	Api county:	147
Api number:	00933	Well name:	BEESLEY H
Well no:	2-W	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SE	Quarter3:	NW
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.753888
Longitude:	-95.967722	G elevatio:	0
D el:	0	Completion:	1951-07-07
Dept:	0	Site id:	OKOG20000407956

Map ID
Direction
Distance

Database EDR ID Number

78
West
1/2 - 1 Mile

OIL_GAS **OKOG20000407903**

Fid:	407902	Api county:	147
Api number:	00880	Well name:	BITINIS
Well no:	6	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	NW	Quarter3:	SW
Quarter4:	SW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.759361
Longitude:	-95.970388	G elevatio:	0
D el:	0	Completion:	1952-01-21
Dept:	0	Site id:	OKOG20000407903

79
SSE
1/2 - 1 Mile

OIL_GAS **OKOG20000407950**

Fid:	407949	Api county:	147
Api number:	00927	Well name:	YEARGAM SCOTT
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	NW
Quarter2:	SE	Quarter3:	SE
Quarter4:	NE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.750932
Longitude:	-95.95502	G elevatio:	0
D el:	0	Completion:	1911-06-11
Dept:	0	Site id:	OKOG20000407950

W80
SE
1/2 - 1 Mile

OIL_GAS **OKOG20000408045**

Fid:	408044	Api county:	147
Api number:	01022	Well name:	BECK NELS
Well no:	6	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	8	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SE	Quarter3:	NW
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.753972

Longitude:	-95.950222	G elevatio:	0
D el:	0	Completion:	1944-08-19
Dept:	0	Site id:	OKOG20000408045

X81
SSE **OIL_GAS** **OKOG20000407943**
1/2 - 1 Mile

Fid:	407942	Api county:	147
Api number:	00920	Well name:	MAYES SAM
Well no:	2	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SW	Quarter3:	SE
Quarter4:	NE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.750479
Longitude:	-95.95671	G elevatio:	0
D el:	0	Completion:	1911-09-18
Dept:	0	Site id:	OKOG20000407943

S82
SE **OIL_GAS** **OKOG20000407972**
1/2 - 1 Mile

Fid:	407971	Api county:	147
Api number:	00949	Well name:	BECK NELSON
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	8	Township:	26N
Range:	13E	Quarter1:	SW
Quarter2:	NW	Quarter3:	SW
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.751849
Longitude:	-95.95278	G elevatio:	0
D el:	0	Completion:	1904-10-10
Dept:	0	Site id:	OKOG20000407972

U83
North **OIL_GAS** **OKOG20000415054**
1/2 - 1 Mile

Fid:	415053	Api county:	147
Api number:	08238	Well name:	WILLIAMS
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	SW

Quarter2:	SW	Quarter3:	NE
Quarter4:	NE	Feet ns:	1072
Direct ns:	N	Feet ew:	1072
Direct ew:	E	Latitude:	36.768153
Longitude:	-95.95728	G elevatio:	0
D el:	0	Completion:	1954-11-19
Dept:	0	Site id:	OKOG20000415054

Y84
NNE **OIL_GAS** **OKOG20000408014**
1/2 - 1 Mile

Fid:	408013	Api county:	147
Api number:	00991	Well name:	WHITETURKEY H
Well no:	8	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	NE
Quarter2:	NE	Quarter3:	SE
Quarter4:	NE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.767247
Longitude:	-95.9539	G elevatio:	0
D el:	0	Completion:	1801-01-01
Dept:	0	Site id:	OKOG20000408014

V85
SW **OIL_GAS** **OKOG20000407951**
1/2 - 1 Mile

Fid:	407950	Api county:	147
Api number:	00928	Well name:	GIBSON EDA
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	SW
Quarter2:	SE	Quarter3:	NW
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.753527
Longitude:	-95.968277	G elevatio:	0
D el:	0	Completion:	1801-01-01
Dept:	0	Site id:	OKOG20000407951

X86
South **OIL_GAS** **OKOG20000416354**
1/2 - 1 Mile

Fid:	416353	Api county:	147
Api number:	20219	Well name:	SAM MAYES
Well no:	6	Oper name:	KERNS OIL
Oper no:	20673	Status:	AC

Well class:	OIL	Operstatus:	OPEN
Countycode:	147	Meridan:	Indian
Section:	7	Township:	26N
Range:	13E	Quarter1:	NE4
Quarter2:	SE4	Quarter3:	SW4
Quarter4:	SW4	Feet ns:	165
Direct ns:	S	Feet ew:	1485
Direct ew:	W	Latitude:	36.750026
Longitude:	-95.95728	G elevatio:	0
D el:	0	Completion:	1968-05-06
Dept:	1350	Site id:	OKOG20000416354

Z87
North
1/2 - 1 Mile

OIL_GAS **OKOG20000407908**

Fid:	407907	Api county:	147
Api number:	00885	Well name:	HILDEBRAND
Well no:	5	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SE	Quarter3:	NW
Quarter4:	NE	Feet ns:	200
Direct ns:	S	Feet ew:	200
Direct ew:	E	Latitude:	36.768606
Longitude:	-95.95897	G elevatio:	0
D el:	0	Completion:	1916-06-01
Dept:	0	Site id:	OKOG20000407908

Z88
North
1/2 - 1 Mile

OIL_GAS **OKOG20000407906**

Fid:	407905	Api county:	147
Api number:	00883	Well name:	HILDEBRAND
Well no:	3	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	S2	Quarter3:	NW
Quarter4:	NE	Feet ns:	175
Direct ns:	S	Feet ew:	650
Direct ew:	W	Latitude:	36.768606
Longitude:	-95.96009	G elevatio:	0
D el:	0	Completion:	1916-04-24
Dept:	0	Site id:	OKOG20000407906

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

W89
SE
1/2 - 1 Mile

OIL_GAS **OKOG20000407975**

Fid:	407974	Api county:	147
Api number:	00952	Well name:	BECK
Well no:	5	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	8	Township:	26N
Range:	13E	Quarter1:	SE
Quarter2:	SE	Quarter3:	NW
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.753833
Longitude:	-95.949666	G elevatio:	0
D el:	0	Completion:	1920-09-13
Dept:	0	Site id:	OKOG20000407975

90
NE
1/2 - 1 Mile

OIL_GAS **OKOG20000408542**

Fid:	408541	Api county:	147
Api number:	01546	Well name:	BRENT H M ETAL
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	5	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	NW	Quarter3:	SW
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.766804
Longitude:	-95.95222	G elevatio:	0
D el:	0	Completion:	1912-01-13
Dept:	0	Site id:	OKOG20000408542

AA91
North
1/2 - 1 Mile

OIL_GAS **OKOG20000407904**

Fid:	407903	Api county:	147
Api number:	00881	Well name:	HILDEBRAND
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SW	Quarter3:	NW
Quarter4:	NE	Feet ns:	175
Direct ns:	S	Feet ew:	175
Direct ew:	W	Latitude:	36.768606

Longitude:	-95.96122	G elevatio:	0
D el:	0	Completion:	1916-03-14
Dept:	0	Site id:	OKOG20000407904

Y92
NNE **OIL_GAS** **OKOG20000407862**
1/2 - 1 Mile

Fid:	407861	Api county:	147
Api number:	00839	Well name:	OVERLEESE MILO
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	5	Township:	26N
Range:	13E	Quarter1:	NW
Quarter2:	NW	Quarter3:	SW
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.767257
Longitude:	-95.952788	G elevatio:	0
D el:	0	Completion:	1920-12-31
Dept:	0	Site id:	OKOG20000407862

93
WSW **OIL_GAS** **OKOG20000407953**
1/2 - 1 Mile

Fid:	407952	Api county:	147
Api number:	00930	Well name:	PAYNE B L
Well no:	2	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	NE
Quarter2:	SW	Quarter3:	NW
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.754556
Longitude:	-95.96966	G elevatio:	0
D el:	0	Completion:	1801-01-01
Dept:	0	Site id:	OKOG20000407953

AB94
South **OIL_GAS** **OKOG20000407959**
1/2 - 1 Mile

Fid:	407958	Api county:	147
Api number:	00936	Well name:	BURNETT A C
Well no:	9	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	SW

Quarter2:	SW	Quarter3:	SW
Quarter4:	NE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.749777
Longitude:	-95.961583	G elevatio:	0
D el:	0	Completion:	1911-01-01
Dept:	0	Site id:	OKOG20000407959

95
SW
1/2 - 1 Mile

OIL_GAS **OKOG20000407957**

Fid:	407956	Api county:	147
Api number:	00934	Well name:	BEESLEY H
Well no:	3-W	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	NE	Quarter3:	SW
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.752333
Longitude:	-95.96775	G elevatio:	0
D el:	0	Completion:	1951-07-14
Dept:	0	Site id:	OKOG20000407957

96
NW
1/2 - 1 Mile

OIL_GAS **OKOG20000416708**

Fid:	416707	Api county:	147
Api number:	20719	Well name:	BITINIS
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	Indian
Section:	6	Township:	26N
Range:	13E	Quarter1:	NW4
Quarter2:	SE4	Quarter3:	NW4
Quarter4:	NW4	Feet ns:	1130
Direct ns:	S	Feet ew:	1490
Direct ew:	W	Latitude:	36.767194
Longitude:	-95.966361	G elevatio:	0
D el:	0	Completion:	1976-09-07
Dept:	0	Site id:	OKOG20000416708

97
SW
1/2 - 1 Mile

OIL_GAS **OKOG20000415802**

Fid:	415801	Api county:	147
Api number:	09005	Well name:	SQUIRREL L
Well no:	2-A	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC

Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	Not Reported	Quarter3:	W2
Quarter4:	NW	Feet ns:	1320
Direct ns:	S	Feet ew:	1050
Direct ew:	W	Latitude:	36.753197
Longitude:	-95.9691	G elevatio:	0
D el:	0	Completion:	1950-10-09
Dept:	0	Site id:	OKOG20000415802

98
NNW
1/2 - 1 Mile

OIL_GAS **OKOG20000407924**

Fid:	407923	Api county:	147
Api number:	00901	Well name:	MAYS MARY L
Well no:	6	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SE	Quarter3:	NE
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.768606
Longitude:	-95.96347	G elevatio:	0
D el:	0	Completion:	1922-03-13
Dept:	0	Site id:	OKOG20000407924

AC99
South
1/2 - 1 Mile

OIL_GAS **OKOG20000407932**

Fid:	407931	Api county:	147
Api number:	00909	Well name:	ARMSTRONG U
Well no:	5	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	NE
Quarter2:	NE	Quarter3:	NW
Quarter4:	SE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.749119
Longitude:	-95.9584	G elevatio:	0
D el:	0	Completion:	1917-03-05
Dept:	0	Site id:	OKOG20000407932

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

AC100
South
1/2 - 1 Mile

OIL_GAS **OKOG20000407944**

Fid:	407943	Api county:	147
Api number:	00921	Well name:	MAYES S
Well no:	3	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	NW
Quarter2:	NW	Quarter3:	NE
Quarter4:	SE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.749119
Longitude:	-95.95728	G elevatio:	0
D el:	0	Completion:	1917-01-31
Dept:	0	Site id:	OKOG20000407944

Z101
North
1/2 - 1 Mile

OIL_GAS **OKOG20000407909**

Fid:	407908	Api county:	147
Api number:	00886	Well name:	HILDEBRAND
Well no:	6	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	E2	Quarter3:	NW
Quarter4:	NE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.769512
Longitude:	-95.95897	G elevatio:	0
D el:	0	Completion:	1916-07-22
Dept:	0	Site id:	OKOG20000407909

102
NW
1/2 - 1 Mile

OIL_GAS **OKOG20000407922**

Fid:	407921	Api county:	147
Api number:	00899	Well name:	LUNDAY M J
Well no:	6	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	NE	Quarter3:	SW
Quarter4:	NW	Feet ns:	200
Direct ns:	N	Feet ew:	1120
Direct ew:	W	Latitude:	36.766792

Longitude:	-95.96798	G elevatio:	0
D el:	0	Completion:	1917-04-14
Dept:	0	Site id:	OKOG20000407922

AB103
South
1/2 - 1 Mile

OIL_GAS **OKOG20000407928**

Fid:	407927	Api county:	147
Api number:	00905	Well name:	ARMSTRONG L
Well no:	6	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	NW
Quarter2:	NW	Quarter3:	NW
Quarter4:	SE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.749119
Longitude:	-95.96178	G elevatio:	0
D el:	0	Completion:	1917-03-21
Dept:	0	Site id:	OKOG20000407928

AD104
SE
1/2 - 1 Mile

OIL_GAS **OKOG20000415071**

Fid:	415070	Api county:	147
Api number:	08255	Well name:	MORGAN H L
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	8	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	NW	Feet ns:	200
Direct ns:	N	Feet ew:	450
Direct ew:	W	Latitude:	36.753209
Longitude:	-95.94884	G elevatio:	0
D el:	0	Completion:	1908-10-09
Dept:	0	Site id:	OKOG20000415071

AD105
SE
1/2 - 1 Mile

OIL_GAS **OKOG20000415072**

Fid:	415071	Api county:	147
Api number:	08256	Well name:	MORGAN H L
Well no:	2	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	8	Township:	26N
Range:	13E	Quarter1:	Not Reported

Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	NW	Feet ns:	450
Direct ns:	N	Feet ew:	200
Direct ew:	W	Latitude:	36.753
Longitude:	-95.949027	G elevatio:	0
D el:	0	Completion:	1939-11-27
Dept:	0	Site id:	OKOG20000415072

AA106
North
1/2 - 1 Mile

OIL_GAS **OKOG20000407905**

Fid:	407904	Api county:	147
Api number:	00882	Well name:	HILDEBRAND
Well no:	2	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	W2	Quarter3:	NW
Quarter4:	NE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.769512
Longitude:	-95.96122	G elevatio:	0
D el:	0	Completion:	1916-04-11
Dept:	0	Site id:	OKOG20000407905

107
SSE
1/2 - 1 Mile

OIL_GAS **OKOG20000407997**

Fid:	407996	Api county:	147
Api number:	00974	Well name:	WHITETURKEY GEO
Well no:	18	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	8	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SW	Quarter3:	SW
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.75025
Longitude:	-95.952416	G elevatio:	0
D el:	0	Completion:	1917-10-27
Dept:	0	Site id:	OKOG20000407997

AE108
SSE
1/2 - 1 Mile

OIL_GAS **OKOG20000416398**

Fid:	416397	Api county:	147
Api number:	20294	Well name:	ETTIE WHITETURKEY
Well no:	2	Oper name:	DONALDSON JACK S
Oper no:	3627	Status:	AC

Well class:	Not Reported	Operstatus:	CLOSED
Countycode:	147	Meridan:	Indian
Section:	7	Township:	26N
Range:	13E	Quarter1:	SE4
Quarter2:	NE4	Quarter3:	NE4
Quarter4:	NW4	Feet ns:	170
Direct ns:	N	Feet ew:	490
Direct ew:	E	Latitude:	36.749166
Longitude:	-95.954888	G elevatio:	0
D el:	0	Completion:	1969-10-06
Dept:	0	Site id:	OKOG20000416398

109
SSW
1/2 - 1 Mile

OIL_GAS **OKOG20000407933**

Fid:	407932	Api county:	147
Api number:	00910	Well name:	CITY
Well no:	2	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	NE
Quarter2:	NE	Quarter3:	NE
Quarter4:	SW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.748861
Longitude:	-95.96275	G elevatio:	0
D el:	0	Completion:	1919-04-20
Dept:	0	Site id:	OKOG20000407933

AF110
South
1/2 - 1 Mile

OIL_GAS **OKOG20000407942**

Fid:	407941	Api county:	147
Api number:	00919	Well name:	MAYES SAM
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	NW	Quarter3:	NE
Quarter4:	SE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.748666
Longitude:	-95.95671	G elevatio:	0
D el:	0	Completion:	1911-02-16
Dept:	0	Site id:	OKOG20000407942

Map ID
Direction
Distance

Database EDR ID Number

AF111
South
1/2 - 1 Mile

OIL_GAS **OKOG20000416298**

Fid:	416297	Api county:	147
Api number:	20145	Well name:	SAM MAYES
Well no:	5	Oper name:	KERNS OIL
Oper no:	20673	Status:	AC
Well class:	Not Reported	Operstatus:	OPEN
Countycode:	147	Meridan:	Indian
Section:	7	Township:	26N
Range:	13E	Quarter1:	SE4
Quarter2:	NE4	Quarter3:	NW4
Quarter4:	Not Reported	Feet ns:	2160
Direct ns:	S	Feet ew:	1500
Direct ew:	W	Latitude:	36.748666
Longitude:	-95.95671	G elevatio:	0
D el:	0	Completion:	1967-08-30
Dept:	0	Site id:	OKOG20000416298

AG112
North
1/2 - 1 Mile

OIL_GAS **OKOG20000407911**

Fid:	407910	Api county:	147
Api number:	00888	Well name:	HILDEBRAND
Well no:	8	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	NE	Quarter3:	NW
Quarter4:	NE	Feet ns:	200
Direct ns:	N	Feet ew:	250
Direct ew:	E	Latitude:	36.770419
Longitude:	-95.95897	G elevatio:	0
D el:	0	Completion:	1937-06-16
Dept:	0	Site id:	OKOG20000407911

AG113
North
1/2 - 1 Mile

OIL_GAS **OKOG20000407910**

Fid:	407909	Api county:	147
Api number:	00887	Well name:	HILDEBRAND
Well no:	7	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	N2	Quarter3:	NW
Quarter4:	NE	Feet ns:	200
Direct ns:	N	Feet ew:	660
Direct ew:	E	Latitude:	36.770419

Longitude:	-95.96009	G elevatio:	0
D el:	0	Completion:	1916-09-12
Dept:	0	Site id:	OKOG20000407910

114
North
1/2 - 1 Mile

OIL_GAS **OKOG20000407907**

Fid:	407906	Api county:	147
Api number:	00884	Well name:	HILDEBRAND
Well no:	4	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	NW	Quarter3:	NW
Quarter4:	NE	Feet ns:	200
Direct ns:	N	Feet ew:	200
Direct ew:	W	Latitude:	36.770418
Longitude:	-95.96122	G elevatio:	0
D el:	0	Completion:	1916-05-27
Dept:	0	Site id:	OKOG20000407907

AE115
SSE
1/2 - 1 Mile

OIL_GAS **OKOG20000416470**

Fid:	416469	Api county:	147
Api number:	20387	Well name:	ETTIE WHITETURKEY
Well no:	3	Oper name:	DONALDSON JACK S
Oper no:	3627	Status:	AC
Well class:	Not Reported	Operstatus:	CLOSED
Countycode:	147	Meridan:	Indian
Section:	7	Township:	26N
Range:	13E	Quarter1:	SE4
Quarter2:	NE4	Quarter3:	NE4
Quarter4:	SW4	Feet ns:	2145
Direct ns:	S	Feet ew:	2145
Direct ew:	W	Latitude:	36.748472
Longitude:	-95.954972	G elevatio:	0
D el:	0	Completion:	1972-09-14
Dept:	0	Site id:	OKOG20000416470

AE116
SSE
1/2 - 1 Mile

OIL_GAS **OKOG20000407945**

Fid:	407944	Api county:	147
Api number:	00922	Well name:	WHITETURKEY ETT
Well no:	2	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	SW

Quarter2:	NE	Quarter3:	NE
Quarter4:	SE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.748213
Longitude:	-95.95502	G elevatio:	0
D el:	0	Completion:	1911-04-30
Dept:	0	Site id:	OKOG20000407945

117
NW
1/2 - 1 Mile

OIL_GAS **OKOG20000407915**

Fid:	407914	Api county:	147
Api number:	00892	Well name:	BROWN WM H
Well no:	6	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SE	Quarter3:	NW
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.768638
Longitude:	-95.968055	G elevatio:	0
D el:	0	Completion:	1917-03-14
Dept:	0	Site id:	OKOG20000407915

118
SSE
1/2 - 1 Mile

OIL_GAS **OKOG20000408022**

Fid:	408021	Api county:	147
Api number:	00999	Well name:	WHITETURKEY WID
Well no:	3	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	8	Township:	26N
Range:	13E	Quarter1:	W2
Quarter2:	NW	Quarter3:	NW
Quarter4:	SW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.748677
Longitude:	-95.95278	G elevatio:	0
D el:	0	Completion:	1912-01-10
Dept:	0	Site id:	OKOG20000408022

119
ESE
1/2 - 1 Mile

OIL_GAS **OKOG20000407970**

Fid:	407969	Api county:	147
Api number:	00947	Well name:	MEASLES
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC

Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	8	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	NE	Quarter3:	NE
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.755666
Longitude:	-95.945305	G elevatio:	0
D el:	0	Completion:	1928-02-15
Dept:	0	Site id:	OKOG20000407970

120
South
1/2 - 1 Mile

OIL_GAS **OKOG20000420168**

Fid:	420167	Api county:	147
Api number:	26352	Well name:	NETTIE ARMSTRONG
Well no:	4	Oper name:	COE PRODUCTION COMPANY LLC
Oper no:	21754	Status:	AC
Well class:	OIL	Operstatus:	OPEN
Countycode:	147	Meridan:	Indian
Section:	7	Township:	26N
Range:	13E	Quarter1:	SE4
Quarter2:	NW4	Quarter3:	SW4
Quarter4:	NE4	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.747307
Longitude:	-95.96065	G elevatio:	694
D el:	0	Completion:	1991-09-20
Dept:	1400	Site id:	OKOG20000420168

121
NE
1/2 - 1 Mile

OIL_GAS **OKOG20000407878**

Fid:	407877	Api county:	147
Api number:	00855	Well name:	ORLAIN CHAM
Well no:	2	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	5	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	NW	Quarter3:	SE
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.766804
Longitude:	-95.947719	G elevatio:	0
D el:	0	Completion:	1910-01-01
Dept:	0	Site id:	OKOG20000407878

Map ID
Direction
Distance

Database EDR ID Number

122
NNW
1/2 - 1 Mile

OIL_GAS **OKOG20000407917**

Fid:	407916	Api county:	147
Api number:	00894	Well name:	BROWN WILLIAM H
Well no:	8	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	NW	Quarter3:	NE
Quarter4:	NW	Feet ns:	280
Direct ns:	N	Feet ew:	1060
Direct ew:	E	Latitude:	36.770361
Longitude:	-95.965666	G elevatio:	0
D el:	0	Completion:	1918-05-02
Dept:	0	Site id:	OKOG20000407917

123
South
1/2 - 1 Mile

OIL_GAS **OKOG20000407936**

Fid:	407935	Api county:	147
Api number:	00913	Well name:	NOWAK ED
Well no:	2	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SE	Quarter3:	NW
Quarter4:	SE	Feet ns:	200
Direct ns:	S	Feet ew:	440
Direct ew:	W	Latitude:	36.746853
Longitude:	-95.95897	G elevatio:	0
D el:	0	Completion:	1941-07-11
Dept:	0	Site id:	OKOG20000407936

AH124
SSE
1/2 - 1 Mile

OIL_GAS **OKOG20000407947**

Fid:	407946	Api county:	147
Api number:	00924	Well name:	WHITETURKEY MAY
Well no:	2	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	NW
Quarter2:	SE	Quarter3:	NE
Quarter4:	SE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.747307

Longitude:	-95.95502	G elevatio:	0
D el:	0	Completion:	1905-05-10
Dept:	0	Site id:	OKOG20000407947

125
SE **OIL_GAS** **OKOG20000408041**
1/2 - 1 Mile

Fid:	408040	Api county:	147
Api number:	01018	Well name:	TYLER D M
Well no:	5	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	8	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	Not Reported	Quarter3:	SE
Quarter4:	NW	Feet ns:	200
Direct ns:	S	Feet ew:	1980
Direct ew:	W	Latitude:	36.751638
Longitude:	-95.946833	G elevatio:	0
D el:	0	Completion:	1945-11-30
Dept:	0	Site id:	OKOG20000408041

AI126
SSW **OIL_GAS** **OKOG20000420405**
1/2 - 1 Mile

Fid:	420404	Api county:	147
Api number:	26602	Well name:	NETTIE ARMSTRONG
Well no:	6	Oper name:	COE PRODUCTION COMPANY LLC
Oper no:	21754	Status:	AC
Well class:	SWD	Operstatus:	OPEN
Countycode:	147	Meridan:	Indian
Section:	7	Township:	26N
Range:	13E	Quarter1:	SW4
Quarter2:	NW4	Quarter3:	CNE4
Quarter4:	Not Reported	Feet ns:	2310
Direct ns:	S	Feet ew:	990
Direct ew:	W	Latitude:	36.748665
Longitude:	-95.96797	G elevatio:	697
D el:	0	Completion:	2007-03-20
Dept:	1400	Site id:	OKOG20000420405

AH127
SSE **OIL_GAS** **OKOG20000407946**
1/2 - 1 Mile

Fid:	407945	Api county:	147
Api number:	00923	Well name:	WHITETURKEY MAY
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	NE

Quarter2:	SE	Quarter3:	NE
Quarter4:	SE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.747307
Longitude:	-95.9539	G elevatio:	0
D el:	0	Completion:	1905-05-28
Dept:	0	Site id:	OKOG20000407946

AH128
SSE
1/2 - 1 Mile

OIL_GAS **OKOG20000419427**

Fid:	419426	Api county:	147
Api number:	25250	Well name:	DONALDSON
Well no:	4	Oper name:	KERNS OIL
Oper no:	20673	Status:	AC
Well class:	Not Reported	Operstatus:	OPEN
Countycode:	147	Meridan:	Indian
Section:	7	Township:	26N
Range:	13E	Quarter1:	SE4
Quarter2:	NE4	Quarter3:	SE4
Quarter4:	Not Reported	Feet ns:	1770
Direct ns:	S	Feet ew:	2310
Direct ew:	W	Latitude:	36.747083
Longitude:	-95.954666	G elevatio:	0
D el:	0	Completion:	1984-10-01
Dept:	0	Site id:	OKOG20000419427

129
WSW
1/2 - 1 Mile

OIL_GAS **OKOG20000408144**

Fid:	408143	Api county:	147
Api number:	01127	Well name:	FEE
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	12	Township:	26N
Range:	12E	Quarter1:	Not Reported
Quarter2:	NW	Quarter3:	NE
Quarter4:	NE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.756083
Longitude:	-95.974611	G elevatio:	0
D el:	0	Completion:	1801-01-01
Dept:	0	Site id:	OKOG20000408144

AJ130
East
1/2 - 1 Mile

OIL_GAS **OKOG20000407880**

Fid:	407879	Api county:	147
Api number:	00857	Well name:	BECK F
Well no:	2	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC

Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	5	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	NW	Quarter3:	SW
Quarter4:	SE	Feet ns:	750
Direct ns:	S	Feet ew:	150
Direct ew:	W	Latitude:	36.759666
Longitude:	-95.943416	G elevatio:	0
D el:	0	Completion:	1938-12-20
Dept:	0	Site id:	OKOG20000407880

AJ131
East
1/2 - 1 Mile

OIL_GAS **OKOG20000407881**

Fid:	407880	Api county:	147
Api number:	00858	Well name:	BECK FANNIE
Well no:	4	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	5	Township:	26N
Range:	13E	Quarter1:	N2
Quarter2:	NW	Quarter3:	SW
Quarter4:	SE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.759805
Longitude:	-95.943333	G elevatio:	0
D el:	0	Completion:	1939-02-08
Dept:	0	Site id:	OKOG20000407881

132
North
1/2 - 1 Mile

OIL_GAS **OKOG20000416000**

Fid:	415999	Api county:	147
Api number:	09277	Well name:	BLEWETT SARAH
Well no:	11	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	SP
Well class:	OIL	Operstatus:	Not Reported
Countycode:	147	Meridan:	Indian
Section:	31	Township:	27N
Range:	13E	Quarter1:	SE4
Quarter2:	SW4	Quarter3:	SW4
Quarter4:	Not Reported	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.771972
Longitude:	-95.961416	G elevatio:	0
D el:	0	Completion:	0
Dept:	1015	Site id:	OKOG20000416000

Map ID
Direction
Distance

Database EDR ID Number

AH133
SSE
1/2 - 1 Mile

OIL_GAS **OKOG20000416237**

Fid:	416236	Api county:	147
Api number:	20061	Well name:	DONALDSON
Well no:	2	Oper name:	KERNS OIL
Oper no:	20673	Status:	AC
Well class:	Not Reported	Operstatus:	OPEN
Countycode:	147	Meridan:	Indian
Section:	7	Township:	26N
Range:	13E	Quarter1:	SE4
Quarter2:	NE4	Quarter3:	SE4
Quarter4:	Not Reported	Feet ns:	1650
Direct ns:	N	Feet ew:	2280
Direct ew:	E	Latitude:	36.746833
Longitude:	-95.954694	G elevatio:	0
D el:	0	Completion:	1966-10-12
Dept:	0	Site id:	OKOG20000416237

134
ENE
1/2 - 1 Mile

OIL_GAS **OKOG20000407873**

Fid:	407872	Api county:	147
Api number:	00850	Well name:	MARTIN
Well no:	2A	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	5	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	UN	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.764086
Longitude:	-95.94434	G elevatio:	0
D el:	0	Completion:	1956-01-25
Dept:	0	Site id:	OKOG20000407873

135
North
1/2 - 1 Mile

OIL_GAS **OKOG20000415997**

Fid:	415996	Api county:	147
Api number:	09274	Well name:	BLEWETT
Well no:	6	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	SP
Well class:	OIL	Operstatus:	Not Reported
Countycode:	147	Meridan:	Indian
Section:	31	Township:	27N
Range:	13E	Quarter1:	SE4
Quarter2:	SE4	Quarter3:	SW4
Quarter4:	Not Reported	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.772111

Longitude:	-95.956916	G elevatio:	0
D el:	0	Completion:	0
Dept:	1327	Site id:	OKOG20000415997

136
NE **OIL_GAS** **OKOG20000407864**
1/2 - 1 Mile

Fid:	407863	Api county:	147
Api number:	00841	Well name:	OVERLEESE W E
Well no:	4	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	5	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SW	Quarter3:	NE
Quarter4:	NW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.768617
Longitude:	-95.947719	G elevatio:	0
D el:	0	Completion:	1917-08-31
Dept:	0	Site id:	OKOG20000407864

137
SSE **OIL_GAS** **OKOG20000408021**
1/2 - 1 Mile

Fid:	408020	Api county:	147
Api number:	00998	Well name:	WHITETURKEY WID
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	8	Township:	26N
Range:	13E	Quarter1:	NE
Quarter2:	SW	Quarter3:	NW
Quarter4:	SW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.747555
Longitude:	-95.951444	G elevatio:	0
D el:	0	Completion:	1905-10-03
Dept:	0	Site id:	OKOG20000408021

138
ESE **OIL_GAS** **OKOG20000408033**
1/2 - 1 Mile

Fid:	408032	Api county:	147
Api number:	01010	Well name:	HUGHES TRESSIE
Well no:	2	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	8	Township:	26N
Range:	13E	Quarter1:	Not Reported

Quarter2:	NW	Quarter3:	NW
Quarter4:	NE	Feet ns:	810
Direct ns:	S	Feet ew:	510
Direct ew:	W	Latitude:	36.755944
Longitude:	-95.943277	G elevatio:	0
D el:	0	Completion:	1938-05-02
Dept:	0	Site id:	OKOG20000408033

AI139
SW
1/2 - 1 Mile

OIL_GAS **OKOG20000420289**

Fid:	420288	Api county:	147
Api number:	26483	Well name:	NETTIE ARMSTRONG
Well no:	5	Oper name:	COE PRODUCTION COMPANY LLC
Oper no:	21754	Status:	AC
Well class:	OIL	Operstatus:	OPEN
Countycode:	147	Meridan:	Indian
Section:	7	Township:	26N
Range:	13E	Quarter1:	SW4
Quarter2:	NW4	Quarter3:	NE4
Quarter4:	SW4	Feet ns:	2150
Direct ns:	S	Feet ew:	830
Direct ew:	W	Latitude:	36.748212
Longitude:	-95.96854	G elevatio:	697
D el:	0	Completion:	1993-10-22
Dept:	1392	Site id:	OKOG20000420289

140
South
1/2 - 1 Mile

OIL_GAS **OKOG20000407961**

Fid:	407960	Api county:	147
Api number:	00938	Well name:	MORRISON
Well no:	2	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	Not Reported	Quarter3:	Not Reported
Quarter4:	SE	Feet ns:	660
Direct ns:	S	Feet ew:	1320
Direct ew:	W	Latitude:	36.745947
Longitude:	-95.95784	G elevatio:	0
D el:	0	Completion:	1966-05-15
Dept:	0	Site id:	OKOG20000407961

141
WSW
1/2 - 1 Mile

OIL_GAS **OKOG20000414953**

Fid:	414952	Api county:	147
Api number:	08137	Well name:	JOHNSTONE NELLI
Well no:	17	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC

Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	12	Township:	26N
Range:	12E	Quarter1:	Not Reported
Quarter2:	SW	Quarter3:	NE
Quarter4:	NE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.754194
Longitude:	-95.97475	G elevatio:	0
D el:	0	Completion:	1801-01-01
Dept:	0	Site id:	OKOG20000414953

142
NNW
1/2 - 1 Mile

OIL_GAS **OKOG20000407916**

Fid:	407915	Api county:	147
Api number:	00893	Well name:	BROWN WM H
Well no:	7	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	6	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	NE	Quarter3:	NW
Quarter4:	NW	Feet ns:	200
Direct ns:	N	Feet ew:	600
Direct ew:	E	Latitude:	36.770583
Longitude:	-95.968222	G elevatio:	0
D el:	0	Completion:	1918-03-28
Dept:	0	Site id:	OKOG20000407916

143
South
1/2 - 1 Mile

OIL_GAS **OKOG20000416238**

Fid:	416237	Api county:	147
Api number:	20062	Well name:	DRUM
Well no:	4-C	Oper name:	MORRISON OIL COMPANY
Oper no:	1518	Status:	AC
Well class:	Not Reported	Operstatus:	OPEN
Countycode:	147	Meridan:	Indian
Section:	7	Township:	26N
Range:	13E	Quarter1:	SE4
Quarter2:	SW4	Quarter3:	NW4
Quarter4:	NE4	Feet ns:	1155
Direct ns:	S	Feet ew:	650
Direct ew:	W	Latitude:	36.745611
Longitude:	-95.960583	G elevatio:	0
D el:	0	Completion:	1966-10-01
Dept:	0	Site id:	OKOG20000416238

Map ID
Direction
Distance

Database EDR ID Number

AK144
ESE
1/2 - 1 Mile

OIL_GAS **OKOG20000407969**

Fid:	407968	Api county:	147
Api number:	00946	Well name:	HUGHES & WEBER
Well no:	9	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	8	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SW	Quarter3:	NW
Quarter4:	NE	Feet ns:	1802
Direct ns:	S	Feet ew:	142
Direct ew:	W	Latitude:	36.75425
Longitude:	-95.943388	G elevatio:	0
D el:	0	Completion:	1950-10-30
Dept:	0	Site id:	OKOG20000407969

AK145
ESE
1/2 - 1 Mile

OIL_GAS **OKOG20000408047**

Fid:	408046	Api county:	147
Api number:	01024	Well name:	HUGHES & WEBBER
Well no:	2	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	8	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SW	Quarter3:	NW
Quarter4:	NE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.753944
Longitude:	-95.943472	G elevatio:	0
D el:	0	Completion:	1929-08-12
Dept:	0	Site id:	OKOG20000408047

146
SSE
1/2 - 1 Mile

OIL_GAS **OKOG20000408031**

Fid:	408030	Api county:	147
Api number:	01008	Well name:	WHITETURKEY WID
Well no:	14	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	8	Township:	26N
Range:	13E	Quarter1:	SW
Quarter2:	SW	Quarter3:	NW
Quarter4:	SW	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.746555

Longitude:	-95.952555	G elevatio:	0
D el:	0	Completion:	1917-09-13
Dept:	0	Site id:	OKOG20000408031

AK147
ESE **OIL_GAS** **OKOG20000407965**
1/2 - 1 Mile

Fid:	407964	Api county:	147
Api number:	00942	Well name:	HUGHES & WEBER
Well no:	O-6	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	8	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SW	Quarter3:	NW
Quarter4:	NE	Feet ns:	4270
Direct ns:	S	Feet ew:	3090
Direct ew:	W	Latitude:	36.754194
Longitude:	-95.943194	G elevatio:	0
D el:	0	Completion:	1953-11-23
Dept:	0	Site id:	OKOG20000407965

148
SE **OIL_GAS** **OKOG20000408037**
1/2 - 1 Mile

Fid:	408036	Api county:	147
Api number:	01014	Well name:	TYLER D M
Well no:	1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	8	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	SE	Quarter3:	SE
Quarter4:	NW	Feet ns:	200
Direct ns:	S	Feet ew:	200
Direct ew:	E	Latitude:	36.750694
Longitude:	-95.945611	G elevatio:	0
D el:	0	Completion:	1944-11-01
Dept:	0	Site id:	OKOG20000408037

149
SSE **OIL_GAS** **OKOG20000407949**
1/2 - 1 Mile

Fid:	407948	Api county:	147
Api number:	00926	Well name:	WHITETURKEY MAY
Well no:	7	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	NW

Quarter2:	NE	Quarter3:	SE
Quarter4:	SE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.745494
Longitude:	-95.95502	G elevatio:	0
D el:	0	Completion:	1801-01-01
Dept:	0	Site id:	OKOG20000407949

150
West
1/2 - 1 Mile

OIL_GAS **OKOG20000408117**

Fid:	408116	Api county:	147
Api number:	01095	Well name:	SHIPLEY
Well no:	SWD-1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	1	Township:	26N
Range:	12E	Quarter1:	Not Reported
Quarter2:	NE	Quarter3:	SW
Quarter4:	SE	Feet ns:	0
Direct ns:	Not Reported	Feet ew:	0
Direct ew:	Not Reported	Latitude:	36.759527
Longitude:	-95.97697	G elevatio:	0
D el:	0	Completion:	1966-03-27
Dept:	0	Site id:	OKOG20000408117

151
South
1/2 - 1 Mile

OIL_GAS **OKOG20000407955**

Fid:	407954	Api county:	147
Api number:	00932	Well name:	MORRISON
Well no:	C-1	Oper name:	OTC/OCC NOT ASSIGNED
Oper no:	9998	Status:	AC
Well class:	Not Reported	Operstatus:	Not Reported
Countycode:	147	Meridan:	IM
Section:	7	Township:	26N
Range:	13E	Quarter1:	Not Reported
Quarter2:	NW	Quarter3:	SE
Quarter4:	SE	Feet ns:	990
Direct ns:	S	Feet ew:	1650
Direct ew:	W	Latitude:	36.745041
Longitude:	-95.95671	G elevatio:	0
D el:	0	Completion:	1966-03-22
Dept:	0	Site id:	OKOG20000407955

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: OK Radon

Radon Test Results

Zipcode	Num Tests	# > 4 pCi/L	Maximum	Average
74006	34	2	19.2	1.924

Federal EPA Radon Zone for WASHINGTON County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 74006

Number of sites tested: 23

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.952 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	0.400 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Reported Well Locations in Oklahoma
Source: Oklahoma Water Resources Board
Telephone: 405-530-8800

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Listing
Source: Oklahoma Corporation Commission
Telephone: 405-521-3636
Oil and gas well locations in the state.

Oil and Gas Well Listing
Source: Osage Nation Environmental and Natural Resources
Telephone: 918-287-5333
Oil and gas well locations.

RADON

State Database: OK Radon
Source: Department of Environmental Quality
Telephone: 405-702-5100
Radon Information

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

STREET AND ADDRESS INFORMATION

Appendix D

Historical Photography

Bartlesville WWTP

230 N Chickasaw Ave

Bartlesville, OK 74006

Inquiry Number: 7291099.5

March 28, 2023

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

03/28/23

Site Name:

Bartlesville WWTP
230 N Chickasaw Ave
Bartlesville, OK 74006
EDR Inquiry # 7291099.5

Client Name:

Eagle Env. Consulting Inc.
P.O. Box 335
Vinita, OK 74301
Contact: Sean T Votaw

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

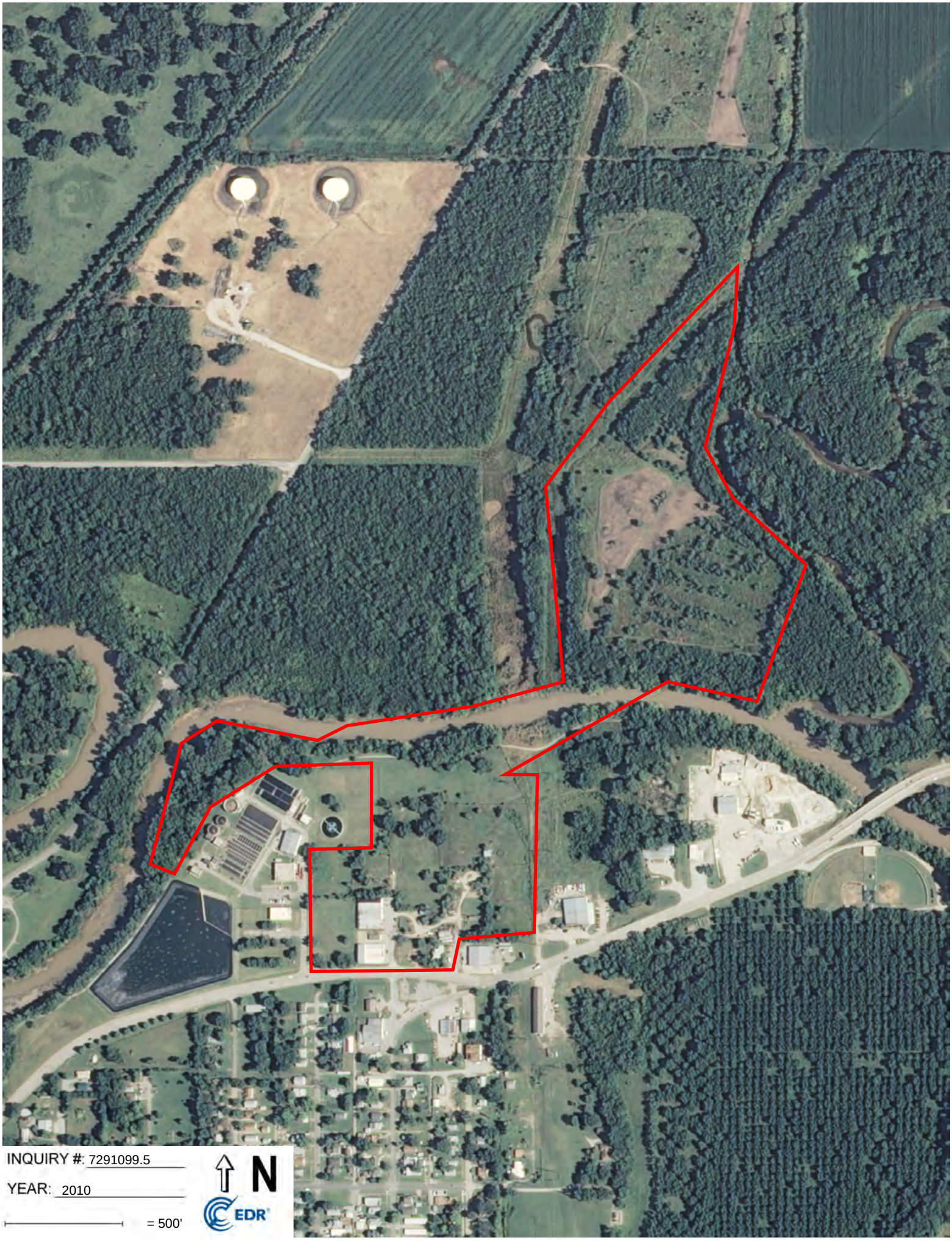
Search Results:

Year	*Scale*	*Details*	*Source*
2019	1"=500'	Flight Year: 2019	USDA/NAIP
2015	1"=500'	Flight Year: 2015	USDA/NAIP
2010	1"=500'	Flight Year: 2010	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
1995	1"=500'	Acquisition Date: February 24, 1995	USGS/DOQQ
1980	1"=500'	Flight Date: April 05, 1980	USDA
1971	1"=500'	Flight Date: February 02, 1971	USGS
1954	1"=500'	Flight Date: April 16, 1954	USGS

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.


INQUIRY #: 7291099.5
YEAR: 2019
= 500'
N
EDR


INQUIRY #: 7291099.5
YEAR: 2015
= 500'
N
EDR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YEAR: 2010
= 500'
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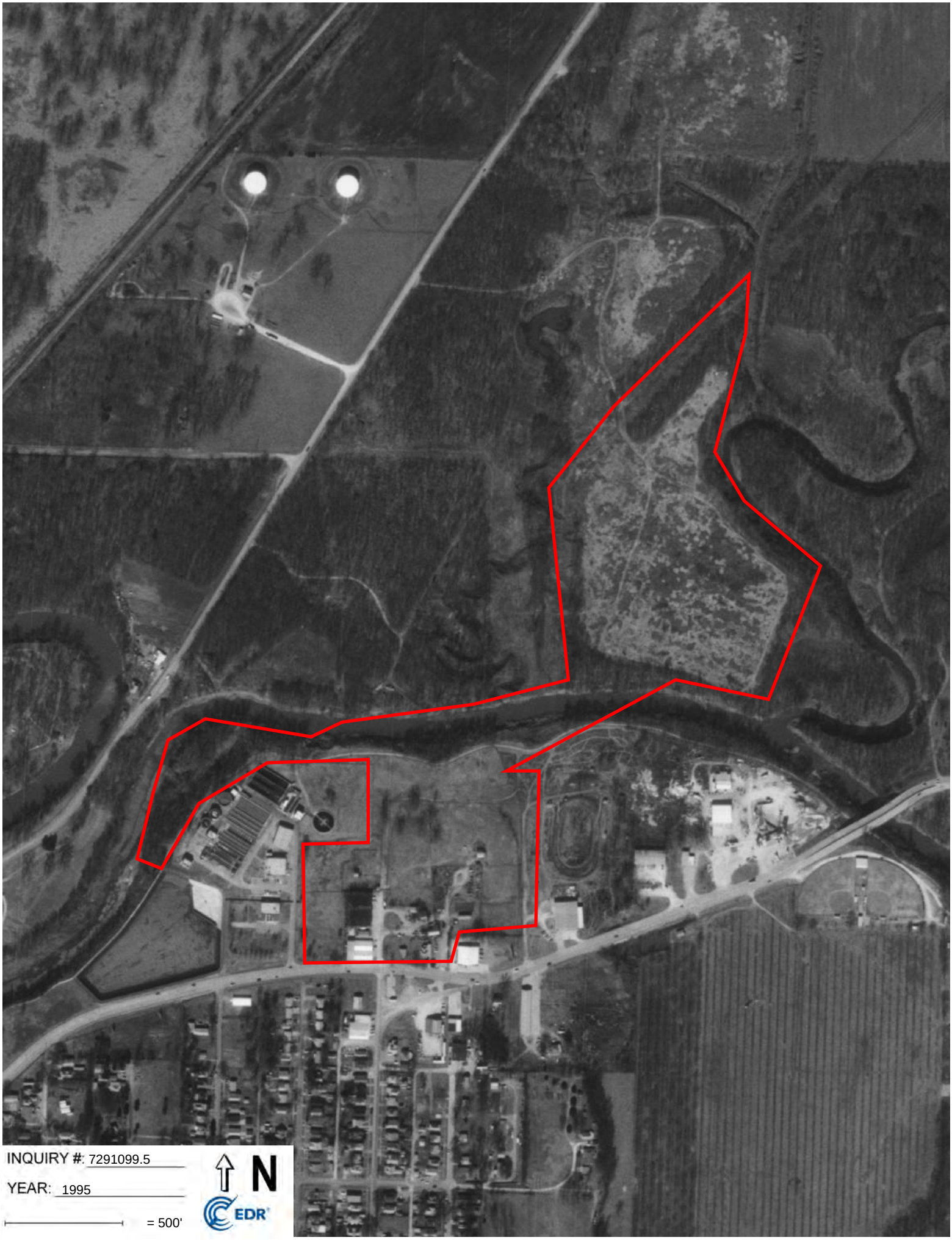
EDR


INQUIRY #: 7291099.5
YEAR: 2006
= 500'
N
EDR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YEAR: 1995
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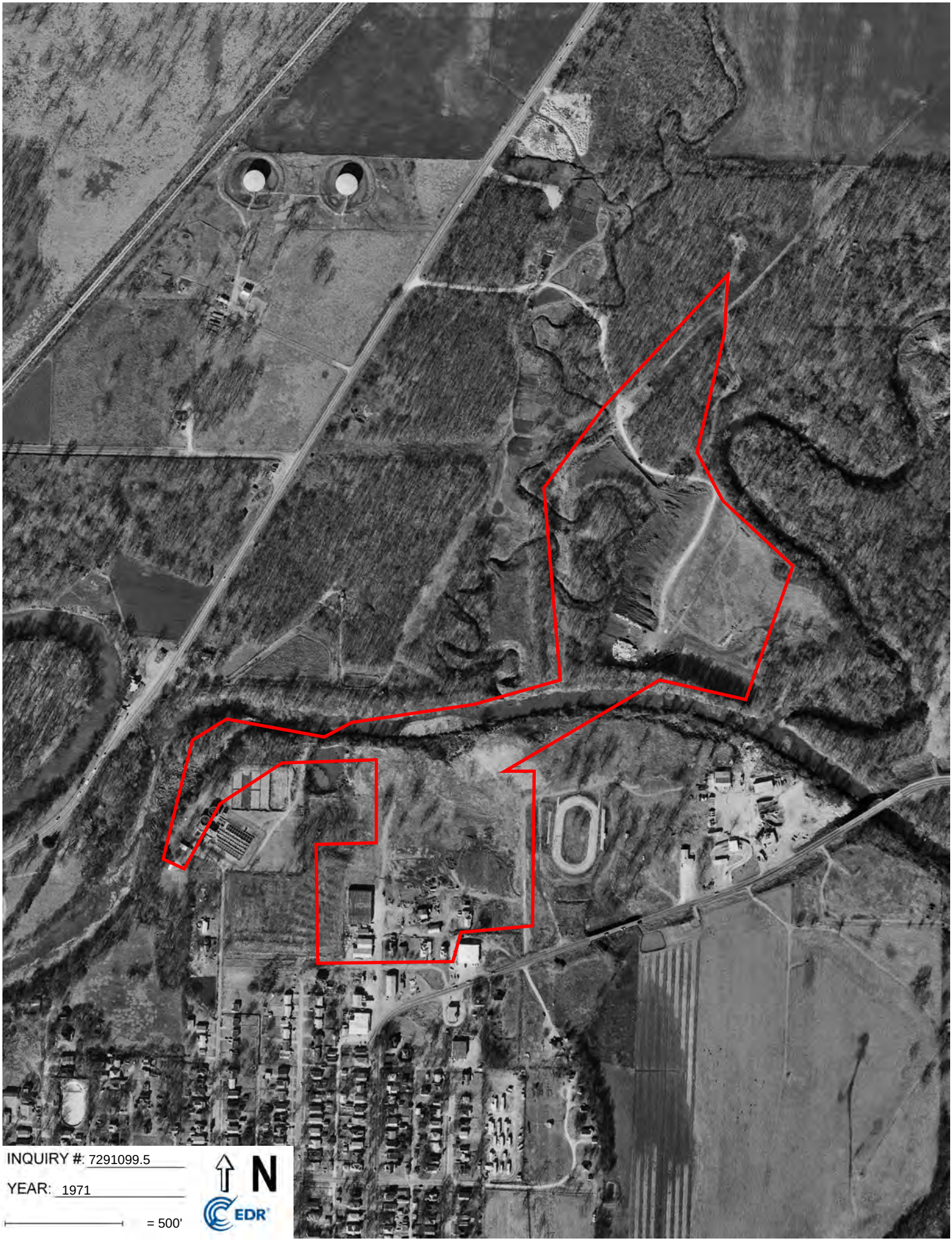
EDR


INQUIRY #: 7291099.5
YEAR: 1980
= 500'
N
EDR


INQUIRY #: 7291099.5
YEAR: 1971
= 500'
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EDR

INQUIRY #: 7291099.5

YEAR: 1954

= 500'

N

EDR

Subject boundary not shown because it exceeds image extent or image is not georeferenced.

Appendix E

Qualifications

Steven R. Votaw
President

Education

	1992	Post Graduate Studies in Environmental Science Program Oklahoma State University, Stillwater, OK
B.S.	1988	Fisheries Management and Wildlife Biology Northeastern State University, Tahlequah, OK

Professional Experience

1999 – Present
President
Eagle Environmental Consulting, Inc.

1991-1999
Senior Regulatory Project Manager, Regulatory Branch
U.S. Army Corps of Engineers

1989 – 1991
Park Ranger, Buckhorn Lake, Kentucky
U.S. Army Corps of Engineers

1987-1989
Fisheries Technician
Oklahoma Department of Wildlife Conservation

1999 to Present:

Founder and President of Eagle Environmental Consulting, Inc. (EEC), Mr. Votaw is responsible for coordinating the daily business operations, project management, field surveys, report development, and quality assurance. Some of the primary focus operations of EEC include biological and ecological services including environmental impact assessments, National Environmental Policy Act (NEPA) document preparation, endangered species surveys, biological assessment, fish and wildlife habitat assessments, wetland delineations, Phase I Environmental Assessments, regulatory permitting, compliance, compensatory wetland and waterway mitigation design & development, traffic noise studies and sound barrier design. Mr. Votaw has served as project manager and/or lead scientist on a myriad of diverse projects within the states of Oklahoma, Texas, Arkansas, Kansas, Louisiana, and Missouri.

Steven R. Votaw
President

Previous Employment:

1989 to 1999:
Senior Project Manager in the Regulatory Branch of the Tulsa District Corps of Engineers. Mr. Votaw's responsibilities included Section 404 of the Clean Water Act permit evaluations, compliance, enforcement and surveillance, mitigation, and delineations. Critical components of his permit evaluation responsibilities included application and assessment of the Section 404(b)(1) guidelines for each Standard Permit issued. Each project required an in depth and attentive Alternatives Analysis in order to determine the least environmentally damaging practicable alternative. Public presentations, meetings, and coordination was an integral part of his duties as well as maintaining near constant coordination and cooperation with State and Federal resource and regulatory agencies.

1989-1991:
Park Ranger, Buckhorn Lake, Kentucky with the U.S. Army Corps of Engineers. Primary responsibilities included natural resource management, visitor assistance, patrol, project coordination, assessment management, boundary establishment surveys, timber management point of contact, coal mine liaison, and special projects manager.

1987 to 1989:
Fisheries Technician with the Oklahoma Department of Wildlife Conservation. Primary responsibilities included data collection and evaluation, completing standardized fisheries sampling techniques, preparing fisheries management reports for lakes, ponds, and streams. Public coordination and involvement was an integral part of overall position requirements.

Training and Certifications (course length 40 hours unless otherwise noted)
USFWS Endangered species survey and consultation methodology workshop (8 hours)
NEPA and the Transportation Decision Process
Environmental Laws and Regulations
Environmental Impact Assessment of Projects
Regulatory I - U.S. Army Corps of Engineers Regulatory Program Introduction Course
Regulatory II - USACE Regulatory Program Secondary Course
Regulatory Program IV - Wetland Delineation
Hydric Soils Determination (Advanced Course)
Conflict Management Skills to Resolve Highway/Wetland Issues
Contract Administration
Leadership Education and Development
Archaeology for Managers
Handling Difficult People (8 hours)
Learning Styles (8 hours)

Traffic Noise Modeling (TNM 1.0)

Professional Affiliations and Appointments

Society of Wetland Scientists
National Regulatory Conference Task Force
Lead Author & Assessment Team Leader for USACE HGM Lacustrine Fringe National Wetland Guidebook Development
Review Panel Member for Riparian Area Management Handbook
Regional Farm Pond Management Coordinator - OK Department Wildlife Conservation
National and Oklahoma Chapter - American Fisheries Society
National and Oklahoma Chapter - The Nature Conservancy

Professional Certification and Nominations

Wetland Delineation Instructor
National Regulator of the Year - 1994, 1996
Southwestern Division Regulator of the Year - 1995, 1997

Publications

Votaw, Steven R., "Federal Permits for Wetlands and other Environmental Concerns**."** *Proceedings of Industrial Minerals Symposium.* Oklahoma Geological Survey, August 1993.

Votaw, Steven R., et. al., "A Regional Guidebook for Application of Hydrogeomorphic Assessments to Lacustrine Fringe Wetlands**."** *2000.*

Scientific Reports

Numerous Wetland Delineation, Threatened & Endangered Species, Wildlife Habitat Management Reports of Survey and Plans. 1999 to present.
Designed and developed multiple wetland and waterway compensatory mitigation plans using creation, restoration, enhancement, & preservation.
Standardized Sampling Procedures Fisheries Management Report for Chelsea City Lake. OK Dept. of Wildlife Cons. 1989.
Standardized Sampling Procedures Fisheries Management Report for Bixhoma Lake. OK Dept. of Wildlife Cons. 1989.
Upland Bird Management Plan for the Diamond Bar D Ranch. 1996.
Fish and Wildlife Management Plan for the Rock Creek Ranch. 1996.
Wildlife Management Plan for the West Ranch. 1995.
Wildlife Management Plan for the Sitterly Ranch. 1993.

Steven R. Votaw
President

SUMMARY OF 30 YEARS OF PROFESSIONAL EXPERIENCE

- National Environmental Policy Act (NEPA) Documentation
- Categorical Exclusion (CE) Documentation
- Environmental Assessment (EA) Documentation
- Environmental Impact Statement (EIS) Documentation
- Environmental Information Documentation (Oklahoma)
- Federal and State Agency Coordination
- Native American Tribal Coordination
- Phase 1 Environmental Site Assessments
- Traffic Noise Assessments
- Section 404 Permitting
- Public Involvement
- Biological Assessments
- American Burying Beetle Surveys
- Waters of the United States Delineations
- Compensatory Mitigation Plan Development & Design

NEPA Documentation

Frankoma Road Sanitary Sewer Extension, City of Sapulpa, Creek County, OK **2018**
Environmental Information Documentation
Reviewing Agency: Oklahoma Water Resources Board
Principal Investigator and Primary Author

The project involved the proposed installation of approximately 1,000 feet of a new 18-inch diameter gravity-flow main line, a new lift station and installation of a new 6-inch diameter force main line approximately 1.7 miles in length to connect to the existing City of Sapulpa sanitary sewer collection system.

Extreme Recreational Vehicle Resort, Eufaula, McIntosh County, OK **2018**
Environmental Assessment Update
Reviewing Agency: U.S. Army Corps of Engineers
Principal Investigator and Primary Author

The proposed project required a real estate lease instrument documentation to assess the environmental impacts of the project. In response to this change in use on USACE land, a Supplemental Environmental Assessment was prepared to provide additional information for USACE review and subsequent approval of the RV Resort. Responsible for preparation of environmental assessment and supporting technical reports.

Bridgeview Resort and Marina Improvements **2017-2018**
Environmental Assessment
Reviewing Agency: U.S Army Corps of Engineers

Steven R. Votaw
President

Principal Investigator and Primary Author

The proposed project would involve development of multiple features within the requested 139-acre lease expansion area adjacent to their existing lease area on Lake Texoma. The EA has been prepared in the preferred format for the U.S. Army Corps of Engineers review. The proposed project area is situated on USACE property and includes both terrestrial and aquatic areas on Lake Texoma, near Aylesworth, Marshall County, Oklahoma. Responsible for preparation of environmental assessment and supporting technical reports.

7th Street Bridge Replacement Project, Excelsior Road to EW 280 Road, Craig County, OK 2017
Categorical Exclusion
Reviewing Agency: Cherokee Nation/Oklahoma Turnpike Authority
Principal Investigator and Primary Author

The Federal Highway Administration Office of Tribal Transportation in cooperation with the Oklahoma Turnpike Authority and the Cherokee Nation proposes the replacement of the 7th Street Bridge that crosses I-44 (Will Rogers Turnpike) in Craig County, Oklahoma. Responsible for categorical exclusion documentation and supporting technical reports.

Proposed Delaware Tribe of Indians Casino, Leavenworth, Kansas 2016-2017
Delaware Tribe of Indians
Reviewing Agency: Bureau of Indian Affairs
Principal Investigator and Primary Author

The proposed project was prepared on behalf of the Delaware Tribe of Indians to facilitate the Bureau of Indian Affairs review of potential environmental impact assessment associated with a proposed casino for the Tribe. Once approved, the property will be converted from Fee to Trust status. Responsible for preparation of environmental assessment and supporting technical reports.

Chimney Rock Reservoir Improvements Phase 2, Mayes County, OK 2016
Categorical Exclusion
Reviewing Agency: Cherokee Nation/FHWA Central Federal Lands Highway Division
Principal Investigator and Primary Author

The Federal Highway Administration in cooperation with the Cherokee Nation, proposes to reconstruct and improve an approximate 4-mile long section of Chimney Rock Reservoir Road near Salina in Mayes County, OK. The project is funded, in part, by Title 23 funds through the Tribal Transportation Program (TTP). TTP funds are provided to the Cherokee Nation in accordance with the Tribal Transportation Program Agreement between the Cherokee Nation and the United States Department of Transportation. Responsible for categorical exclusion documentation and supporting technical reports.

Port of Muskogee Rail Expansion, Muskogee County, OK 2016
Environmental Assessment
Reviewing Agency: Port of Muskogee/U.S. DOT

Steven R. Votaw
President

Principal Investigator and Primary Author

The purpose of the proposed project is to modernize the existing rail connection to the Port of Muskogee at Milepost 500.02 of the Union Pacific Railroad Company's Cherokee Subdivision No. 2 and to provide additional capacity for manifest and unit train service by extending the Port of Muskogee Railcar Marshaling Yard for review by the U.S. Department of Transportation Federal Railroad Administration. Responsible for preparation of environmental assessment and supporting technical reports.

White Oak Road (NS4340) Improvements, Craig County, OK **2015**
Environmental Assessment
Reviewing Agency: Cherokee Nation/ FHWA Central Federal Lands Highway Division
Principal Investigator and Primary Author

The Federal Highway Administration, in cooperation with the Cherokee Nation, proposed to reconstruct and improve NS 4340 in Craig County, OK. The project is funded, in part, by Title 23 funds through the Tribal Transportation Program (TTP). TTP funds are provided to the Cherokee Nation in accordance with the Tribal Transportation Program Agreement between the Cherokee Nation and the United States Department of Transportation. Responsible for categorical exclusion documentation and supporting technical reports.

Cutoff Dredging and Spoil Pond Construction, Johnston's Port 33, Rogers County, OK **2014**
Environmental Assessment
Reviewing Agency: U.S. Army Corps of Engineers
Principal Investigator and Co-Author

For review and approval by the U.S. Army Corps of Engineers, the purpose of the proposed action was to access areas along the McClellan-Kerr Arkansas River Navigation System for additional barge fleeting space for Johnston's Port 33. Responsible for environmental assessment preparation.

North 193rd East Avenue Improvements, Rogers County, Oklahoma **2013**
Categorical Exclusion
Reviewing Agency: Oklahoma Department of Transportation
Principal Investigator and Primary Author

Categorical exclusion prepared for the North 193rd East Avenue Improvements. The proposed improvement project is approximately 2.13 miles in length and extends from State Highway 266 (Port Road) north to East 76th Street North. North 193rd East Avenue contains two 12-foot wide travel lanes, one in each direction with no shoulders. The purpose and need for this proposed project along this section of North 193rd East Avenue is to improve safety to a heavily travelled local roadway through a residential area that has no shoulders. Responsible for categorical exclusion documentation and supporting technical reports.

Bauman Abandoned Mine Land Project, Rogers County, OK **2012**
Environmental Assessment
Reviewing Agency: Oklahoma Conservation Commission

Steven R. Votaw
President

Principal Investigator and Primary Author

This environmental assessment was prepared for the Oklahoma Conservation Commission concerning reclamation of abandoned mine land. The proposed action would consist of filling the water filled pits and drainage ditch with mine spoil from the project area to the original contour and then be re-vegetated to prevent erosion. Responsible for preparation of environmental assessment and supporting technical reports.

Northeastern State 166/160 Abandoned Mine Lands Project, Wagoner County, OK **2011**
Environmental Assessment
Reviewing Agency: Oklahoma Conservation Commission
Principal Investigator and Primary Author

This environmental assessment was prepared for the Oklahoma Conservation Commission concerning reclamation of abandoned mine land. The proposed action includes the reclamation of abandoned mine land located to the immediate north of the Northeastern State University and west of the Creek Turnpike in Broken Arrow, Wagoner County, Oklahoma. Responsible for preparation of environmental assessment and supporting technical reports.

Proposed Natural Gas Pipeline Project, Marshall and Bryan Counties, OK **2011**
Environmental Assessment
Reviewing Agency: U.S. Army Corps of Engineers
Principal Investigator and Co-Author

An environmental assessment was prepared to identify and address any potential impacts associated with a proposed 2.9-mile 8-inch diameter steel pipeline on United States Army Corps of Engineers controlled land near Lake Texoma in Oklahoma. Responsible for preparation of environmental assessment and supporting technical reports.

Pawnee Nation 4th Street Improvements, Pawnee, OK **2010**
Pawnee Nation, 9th Street Improvements, Pawnee, OK **2010**
Campus Improvements and Cemetery Improvements **2010**
Categorical Exclusions
Reviewing Agency: FHWA Central Federal Lands Highway Division
Primary Investigator and Author

The Pawnee Nation, in corporation with the Federal Highway Administration Central Federal Lands Highway Division, proposed to improve 4th Street 9th Street, in additional to, campus and cemetery roadway improvements. Responsible for categorical exclusion documentation, supporting technical reports and coordination with Central Federal Lands Highway Division.

Steven R. Votaw
President

Aylesworth 2D Seismic Survey, Marshall County, OK **2010**
Environmental Assessment
Reviewing Agency: U.S. Army Corps of Engineers
Principal Investigator and Primary Author

Chesapeake Energy Corporation proposed to conduct a two dimensional (2D) seismic survey on United States Army Corps of Engineers Land at Lake Texoma in Marshall County, Oklahoma. Five seismic lines and access routes to access these lines on COE property were assessed.

Additional NEPA document preparation includes:

- Osage Nation Fee to Trust Application EA to BIA, Bartlesville, OK
- Osage Nation Fee to Trust Application EA to BIA, Pawhuska, OK
- Delaware Tribe Fee to Trust Application EA to BIA, Leavenworth, KS
- Kialegee Tribal Town Fee to Trust Application EA to BIA, Broken Arrow, OK
- Port of Muskogee Rail Spur Project, EA in Muskogee, OK
- Chimney Rock Road Improvement Project CE, Mayes County, OK
- White Oak Road Improvement Project CE, Craig County, OK
- U.S. Highway 60 Improvement Project, Bartlesville, OK, to Vinita, OK
- U.S. 75 Improvement Project, Weleetka, OK, to North Canadian River Bridge
- S.H. 10 Improvement Project, Miami, OK
- 86th Street North Improvement Project, Owasso, OK
- Covell Road and MacArthur Blvd Improvements, Oklahoma City, OK
- Mustang Road Widening, City of Yukon, OK
- Southeast 15th St. Improvements, Midwest City, OK
- South Western Avenue Improvements, Cleveland County
- I-235/Harrison Avenue Interchange Improvements, Oklahoma City
- 193rd East Avenue Improvements, Rogers County, OK
- 4th Street Improvements, Pawnee County, OK
- 9th Street Improvements, Pawnee County, OK
- Pawnee Nation Campus Improvements, Pawnee County, OK
- Bridge 72 Over Wickcliffe Creek Replacement, Mayes County, OK
- NS 4340 Road Improvements, Craig County, OK
- Aylesworth 2D Seismic Survey, Marshall County, OK
- Baumann Abandoned Mine Lands Project, Rogers County, OK
- Boomerang #1H Well Site, Grayson County, TX
- Brianna #1-3 Well Site, Caddo County, OK
- HooDoo #14 and #17 Well Site, Osage County, OK
- North Kaw Lake 8-1 Well Site, Kay County, OK
- Maxim 34-1 and USA 4-1 Well Site, Osage County, OK
- Northeastern State 166/160, Broken Arrow, Wagoner County, OK
- Jetta J&M 1H and Cannon 1H Pipeline Connections, Grayson County, TX
- Natural Gas Pipeline Project, Marshall and Bryan Counties, TX

- Southland 1H Well, Grayson County, TX
- Clinton 4-3H Well Site, Washita County, OK

Phase 1 Environmental Assessments
Coordinated and/or prepared multiple site assessments on over 1,000 acres of property in Oklahoma, Kansas, and Arkansas.

Traffic Noise Assessments
Prepared or coordinated assessments for projects throughout Oklahoma. Responsibilities included obtaining ambient noise readings, creation of noise models and report preparation. Noise models were prepared and approved for the following projects:

- Eastern Oklahoma County Turnpike Interchange at I-40, OK, 17 miles
- John Kilpatrick Turnpike and Interstate 40 Interchange Improvements, OK
- U.S. 69 Interchange Construction at Kinkead Road, McAlester, OK, 1 mile
- N. Western Avenue Widening, Oklahoma County, OK, 1.4 miles
- West 81st Street South Improvements, Creek County, OK 1.25 miles
- U.S. 270 over Caston Creek, Leflore County, OK 1 mile.
- S.H. 10 Improvement Project, Miami, OK, 4 miles
- 86th Street North Improvement Project, Owasso, OK, 4 miles
- Covell Road and MacArthur Blvd Improvements, Oklahoma City, OK, 1 mile
- Mustang Road Widening, City of Yukon, OK, 1 mile
- Southeast 15th St. Improvements, Midwest City, OK, 1.25 miles
- South Western Avenue Improvements, Cleveland County, 3 miles
- I-235/Harrison Avenue Interchange Improvements, Oklahoma City
- 193rd East Avenue Improvements, Rogers County, OK, 1.2 miles.
- NW 10th Street, Oklahoma City, OK
- North Western Avenue, Oklahoma County, OK
- 96th Street and 129th East Avenue, Owasso, OK
- West 81st Street, Sapulpa, OK
- State Highway 51 Improvement Project, Wagner to Tahlequah, OK,
- Gilcrease Northwest Expressway Extension Project, Tulsa, Osage County, 4.5 miles.
- 86th Street North Improvement Project, Owasso, Tulsa County, 4 miles.
- State Highway 10 Improvement Project, Miami, Ottawa County, 4 miles.
- U.S. Highway 70 Bridge Viaduct Project, Durant, Bryan County, 1 mile.
- NW 150th Street Improvements, Oklahoma County, 1 mile.
- I-40 Improvement Project, 1-240 to Choctaw Road, Oklahoma County, 2 miles.
- South Western Avenue, SW 134th to SW 179th Street, Cleveland County, 3 miles.

Steven R. Votaw
President

Wetland Mitigation/Reforestation Plans

- 10.5-acre wetland and waterway mitigation design plan, Coweta, OK
- 10 acre wetland, waterway, & pond mitigation design plan, Owasso, OK
- 5.5 acre wetland mitigation area, Durant, OK
- 12 & 5 acre wetland mitigation area plans, Broken Arrow, OK
- 5 acre wetland mitigation area plan, Muskogee, OK
- 25 acre bottomland hardwood wetland, Verdigris, OK
- 18-acre wetland mitigation plan. Tulsa County, OK.
- 10-acre wetland mitigation plan. Cleveland County, OK.
- 3-acre bottomland hardwood reforestation plan. McClain County, OK.
- Wetland Mitigation Bank in Oklahoma (80 acres). Tulsa County, OK.
- 5-acre wetland & waterway compensatory mitigation plan using 3 wetland areas and a 1,500 linear foot creek channel, Broken Arrow, OK.
- Designed, developed, and provided construction oversight of a 2 acre wetland and a 1,900 linear foot creek channel mitigation project, Washington County, OK.
- Developed a conceptual wetland mitigation plan for a 200+acre turnpike extension project in southeastern OK.
- Developed and designed a wetland and waterway mitigation plan for a school sports facility expansion project, Owasso, OK.
- Developed a 2-acre wetland mitigation plan got a golf course expansion project.
- Development of a mitigation area modification plan to address a creek channel relocation project.
- Developed EPA and USACE enforcement related mitigation plans to restore and return affected waters of the United States to former condition, function, and capacity.

Wetland and Waterway Delineation Studies

- Comprehensive Wetland delineations conducted on approximately 80 acres of previously disturbed lands involving over 100 trackhoe trenches and 150 sample sites.
- 156-acre commercial/residential development, Coweta, OK
- Wetland delineations on a 1,000-acre industrial park and Report of Survey for submittal to the Corps of Engineers. The largest wetland impact and mitigation project in the Tulsa District.
- Wetland Delineations and Section 404 Permit Acquisition for a proposed Limestone Quarry and Industrial Park Development on 46th Street North (Port Road) in Rogers County, OK. The project also required the development of a 200-acre wetland mitigation design plan to offset a proposed 90-acre impact project. The Mitigation Area is located in the southwest corner of 46th Street North and 193rd East Avenue near the Port of Catoosa entrance.
- Wetland delineations, Section 404 of the Clean Water Act permit acquisition and developments of a compensatory mitigation plan for the proposed O'Brien Park Improvement Project at 66th Street North and Lewis Avenue, Tulsa County, Oklahoma.
- Wetland Delineation and GPS Survey for a 165-acre power generation plant development, Warner, OK.
- Multiple residential development projects in Oklahoma City, Norman, Tulsa, and Broken Arrow, OK, ranging in size from 10 to 300 acres.

- River floodplain commercial development project, Norman, OK on 275 acres.
- Hospital construction project, Owasso, OK. – 320 acres.
- Public school development project, Owasso, OK – 20 acres.
- 86th and 96th Street Widening Projects, Owasso, OK – 1 mile sections each.
- State Highway 10 Wetland Finding, Miami, OK – 6.5 miles.
- U.S. Highway 70 Wetland Finding, Durant, OK – 2.5 miles.
- Gilcrease Expressway Construction Project, Tulsa, OK – 8 miles.
- Multiple road/bridge/highway improvement projects across the State of OK for ODOT.
- Municipal Airport Runway Extension Projects in Bartlesville, OK & Rogers, AR.
- EPA enforcement case in disturbed wetlands on 800-acre parcel of land in Tyler, TX.
- Multiple utility line alignments for Florida Power & Light, Forney,TX.
- 10-mile transmission line in Okmulgee County, OK.
- 11-mile highway project in McAlester, OK.
- 13-acre commercial development project, Tulsa, OK.
- Wetland & Waterway Surveys for the U.S. Highway 60 Improvement Project between Bartlesville and Pawhuska, Oklahoma.
- Wetland and Waterway delineations for the 47-mile Muskogee Turnpike extension, Southeast Oklahoma.
- Delineated wetlands along a 36.6-mile gas pipeline corridor and prepared the Report of Survey for submission to FERC.

Section 404 Permits

- Facilitated hundreds of 404 permit acquisitions in Ft. Worth, Little Rock, Kansas City, and Tulsa Districts – acting as the agent for the project proponents.
- Coweta Crossing Commercial Development, Coweta, OK
- Owasso Sports Park Detention, Owasso, OK
- North Tulsa Sports Complex in Tulsa County, OK. The proposed project consisted of 26 soccer fields and associated parking areas.
- Wal-Mart Mechanical Distribution Center in Ochelata, OK. Permitting required the design of a 1-acre wetland & 2,000 linear-foot reestablished creek channel mitigation plan,
- Agent responsible for acquiring all 404 permits regarding the Creek East Turnpike Extension Project for the Oklahoma Transportation Authority.
- Facilitated the Section 404 permit acquisition for the East Extension of the Creek Turnpike in Broken Arrow and Catoosa, OK.
- Agent responsible to the City of Bixby for preparing a joint 404 permit application for the Haikey Creek Local Flood Protection and Haikey Creek Diversion Channel Improvement Projects.

Threatened and Endangered Species Assessments

- Performed hundreds of biological assessments, Determinations of Effect, and Consultation with the USFWS including:
  - Multiple residential development projects
  - Multiple commercial developments

- Rock quarries
- 11 mile transmission line, Taney County, MO
- 9 mile transmission line, Cherokee County, OK
- 15 mile transmission line, Pawnee & Lincoln Counties, OK
- 5 mile transmission line, Payne County, OK
- 4 mile transmission line, Payne County, OK
- 6 mile transmission line, Payne County, OK
- 8 mile transmission line, Osage County, OK
- 12 mile transmission line, Dallas & Webster County, MO
- 16 mile transmission line, Benton County, MO
- 2 mile transmission line, Barry County, MO
- Chimney Rock Road Improvement Project, Mayes County, OK
- White Oak Road Project, Craig County, OK
- CR 4410 Improvement Project, Craig County, OK
- 6 Gaming Facility Projects in Osage County, OK
- Hundreds of Oil and Gas Development Projects, OK & TX

- Acoustic Bat Surveys:
  - 11-mile Transmission Line, Taney Co., MO
  - Utility Line Installation Project, Broken Arrow, OK
  - Residential Development Project, Broken Arrow, OK
  - County Rd NS 4410 Improvement Project, Craig County, OK
  - Communication Tower, Carroll Co., AR
  - 5-mile Transmission Line, Cherokee Co., OK
  - Rail Spur & Siding Expansion, Muskogee, OK
  - Stevedoring Slip Development, Wagoner County, OK
  - 9-mile Transmission Line, Cherokee County, OK
  - Transmission Line, Pittsburg County, OK

- Performed hundreds of ABB surveys in OK, TX, KS, AR including:
  - Ft. Smith Airport
  - Hartford Mine Project
  - City of Owasso Garnett Road
  - Sports Park Detention Facility, Owasso, OK
  - Multiple Communication Towers in OK
  - Multiple Roadway projects, OK
  - Multiple Transportation Corridors, OK
  - Transmission line corridors, OK
  - Numerous Oil and Gas Development Projects, OK, AR, KS, TX
  - Multiple Tribal Development Projects, OK
- ABB presence/absence survey and bait away effort for an 11 mile pipeline replacement project through Logan and Franklin Counties, AR.
- State Highway 10 Improvement Project, Miami, OK (6 mile section)
- U.S. Highway 60 Improvement Project, Pawhuska to Vinita, OK – 60+ miles

Steven R. Votaw
President

- Arkansas River Corridor Study Flora and Fauna Inventory, Tulsa Co., OK – 42 miles
- Performed American Burying Beetle Presence/Absence surveys in Southeastern OK and Northern TX associated with a 150-mile long natural gas pipeline.
- Provided endangered species surveys for an 8-mile water and transmission line corridor, Forney, TX.
- American Burying Beetle Surveys associated with proposed utility projects for the Cities of Bartlesville, Boswell, Calera, Claremore, Durant, Sand Springs, and Tulsa.
- Interior Least Tern Presence surveys, Canadian River, Haskell Co., OK.
- Habitat Identification Surveys for the Interior Least Tern, Bald Eagle, and American Burying Beetle in 3 counties in Southeastern OK.
- American Burying Beetle Presence/Absence surveys, Keystone Lake. Grand Lake, Eufaula Lake, and Hugo Lake.
    - Endangered Species Surveys for the 47-mile Muskogee Turnpike Extension Project, Southeast Oklahoma.
    - ABB Surveys for multiple highway and county roadway/bridge improvement projects in Oklahoma.

GPS/GIS Mapping

- EEC utilizes GPS information and GIS to develop, prepare and display all types of mapping, resource, and asset location information.
- EEC has prepared thousands of maps and exhibits for project related information and resource display and presentation purposes.
- GPS and GIS data acquisition and presentation is utilized for every EEC project.
- Performed GPS trail positioning and location effort along with GIS presentation of a 9.1-mile primitive trail development along the Arkansas and Grand Rivers in Northeastern Oklahoma.
- Provided GIS information graphical synthesis for the Three Forks Inland Harbor project adjacent to the Arkansas River, Muskogee, OK.
- T&E Habitat Assessments and Sensitive Habitat Area delineations and mapping.
- Arkansas River Corridor Study Baseline Inventory Project sample site locations

Sean T. Votaw
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Experience

FIELD BIOLOGIST
EAGLE ENVIRONMENTAL CONSULTING
VINITA, OKLAHOMA - 2010- PRESENT

- Performed endangered species surveys, habitat evaluations, and biological assessments
- Performed waters of the US field surveys and wetland delineations
- Conducted Phase I Environmental Site Assessments
- Conducted Wetland mitigation area monitoring
- Conducted Reforestation area monitoring surveys
- Performed Bat surveys (acoustic and mist netting)
- Soil surveys
- Plant identification
- Landscaping/ tree removal
- Operation and maintenance of equipment, vehicles, and heavy machinery
- Wildlife habitat inventory and assessment
- Operated GPS data collection technology for multiple survey types
- Data analysis using for spreadsheet data and mapping information
- Orienteering by map and GPS equipment to navigate, find, and conduct surveys in remote areas

RANCH MANAGEMENT
PHEASANT HILL RANCH; 2008-PRESENT

- Conducted land and resource management
- Operation of Farm equipment and machinery
- Performed fence building/repair
- Performed livestock operations & herd management
- Assisted with hay production/harvest
- Pecan harvesting operations
- Performed equipment maintenance
- Conducted landscaping activities

Education

- Northeastern State University; Biology (fish & wildlife management) 2016- 2019
- Arkansas Baptist College; Associate of Arts Degree - 2015-2016
- University of Arkansas at Little Rock; Undergraduate - 2014-2015

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Awards, Selections, Certificates:

ASTM 1527-13 Phase I Environmental Site Assessment Training

Scholarship – Oklahoma Chapter of the Wildlife Society

Chancellor's Scholarship Program
University of Arkansas Little Rock

Division I NCAA Baseball
U. Arkansas Little Rock and Pine Bluff

Arkansas Baptist College
Baseball Scholarship