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AGENDA - REGULAR MEETING  
COWETA PLANNING COMMISSION  
COWETA CITY HALL, 310 S. BROADWAY  
MONDAY, MARCH 25, 2019, 6:30 PM

- I. CALL TO ORDER
- II. PLEDGE OF ALLEGIANCE
- III. ROLL CALL
  - Melanie Lander \_\_\_\_
  - Jessica Morris \_\_\_\_
  - Kathleen Robinson \_\_\_\_
  - Carter Mathews \_\_\_\_
  - Joanna Jones \_\_\_\_

- IV. CONSENT  
(All matters under the "Consent Calendar" are considered by the Planning Commission to be routine and will be enacted by one motion. Any Commissioner may, however, remove an item from consent by request.)

- 1. Minutes of Planning Commission Regular Meeting February 25, 2019  
Approval of the minutes of the Coweta Planning Commission regular meeting held on February 25, 2019

- V. PUBLIC HEARINGS

- 1. Public Hearing on Improvements to the Wastewater Treatment Facilities  
A public hearing to accept public comment on the proposed improvements to the Coweta Wastewater Treatment Facility along with alternatives and their associated costs, and environmental impacts of the project.

Documents:

[COWETA EID WITH COVER SHEET.PDF](#)

- VI. OLD BUSINESS

- 1. None

- VII. NEW BUSINESS

- VIII. ADJOURNMENT

IF YOU REQUIRE A SPECIAL ACCOMMODATION PURSUANT TO THE AMERICANS WITH DISABILITIES ACT, PLEASE NOTIFY CITY HALL BY 9:00 A.M. ON THE DATE OF THE MEETING.

Environmental Information Document

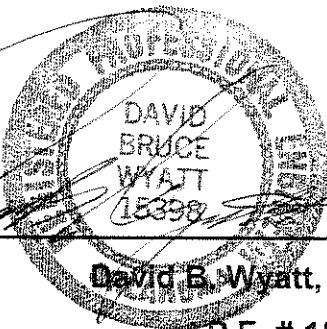
Wastewater Treatment Plant Improvements

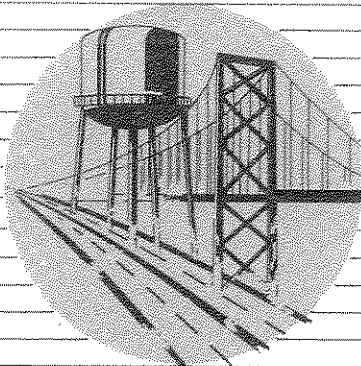
Coweta Public Works Authority

FEBRUARY 2019

FACILITY NO. S20410

OPDES PERMIT: OK0020281

  
DAVID  
BRUCE  
WYATT  
15398  
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## **Schedule of Attachments**

1. City of Coweta WWTP Location Map
2. Population Projections
3. Summary of Discharge Flow Monitoring, Jan. 2017 – Sept. 2017
4. Existing WWTP Layout
5. Existing WWTP Process Flow Schematic
6. OPDES Permit No. OK0020281
7. FACT Environmental Effects Matrix
8. Alternative 1 Cost Estimate
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11. Proposed WWTP Layout
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13. Oklahoma Tourism and Recreation Department Correspondence
14. US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Correspondence
15. NRCS Web Soil Survey Map
16. Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM)
17. Oklahoma Water Resources Board (OWRB) Water Management Division Correspondence
18. FEMA Region 6 Mitigation Division Correspondence
19. Wagoner County Floodplain Administrator Correspondence
20. City of Coweta Floodplain Administrator Correspondence
21. US Army Corps of Engineers (USACE) Water Management Branch Correspondence
22. USACE Regulatory Branch Correspondence
23. Oklahoma Historical Society (OHS) Correspondence
24. Oklahoma Archeological Survey (OAS) Correspondence
25. Bureau of Indian Affairs (BIA) Correspondence
26. Muskogee (Creek) Nation Environmental Services Correspondence

27. Oklahoma Department of Environmental Quality (ODEQ) External Affairs Correspondence
28. Grand River Dam Authority (GRDA) Correspondence
29. US Environmental Protection Agency (EPA) Environmental Justice Screening Report
30. Indian Nations Council of Governments (INCOG) Correspondence

## **I. PROJECT SCOPE**

The Coweta Public Works Authority (CPWA) owns and operates a wastewater treatment plant (WWTP) that serves the residents of the City of Coweta. The WWTP utilizes flow-through lagoons equipped with mechanical aeration followed by a polishing pond and disinfection basin.

The City is projected to grow at a pace exceeding the state average for the next 20 years. The current WWTP is not configured or equipped to provide adequate treatment for the increased flow associated with population growth. Improvements to the treatment process are necessary to maintain compliance with state and federal regulations.

The proposed project consists of modifying and upgrading the existing Coweta WWTP to accommodate an average daily flow up to 1.5 MGD. The proposed project includes: a new influent lift station; lagoon system improvements; aeration basin improvements; two (2) new aerobic sludge digesters; a new flow equalization basin; two (2) new secondary clarifiers; an activated sludge pump station; sludge drying beds improvements; and disinfection basin modifications. Some of the units in the existing WWTP will be rehabilitated and repurposed once the new WWTP is in operation. Other existing portions will be abandoned. Elements of the proposed project have been sized or configured for expandability to accommodate increased future wastewater flow.

The estimated cost for the proposed project is \$11.11 million. The City will apply for external funding from the Oklahoma Water Resources Board or local bond issue. The estimated construction completion date is mid to late 2020 with compliance attained by January 1, 2021.

## II. PROJECT PLANNING AREA

### A. Location, maps, photographs, and sketches

The City of Coweta is located in Wagoner County in east central Oklahoma, southeast of the City of Tulsa, Oklahoma. The location of the existing WWTP is shown in Figure 1 below. Attachment 1 includes a map with satellite photography of the WWTP showing its relation to the City of Coweta.

**Figure 1. Location of Coweta WWTP**





B. Growth areas and population trends

The current (2017) population of the City of Coweta is approximately 11,120. See Attachment 2 for the actual population of the City of Coweta from 1910 through 2010, and projected populations trendlines that use different projection methods.

The population projection method presented in Appendix A of the *Guidelines for Engineering Reports for Wastewater Projects (2016)* prepared by the Oklahoma Funding Agency Coordinating Team (FACT), yields an annual growth rate of 3.37%. If this method is used, the 2050 projected population for the City of Coweta would be 37,414, tripling the population over 30 years. Further, the 2070 projected population would be 72,577, almost doubling the 2050 population. The available land (11.14 square miles), and existing population density trends for the area do not support the FACT method population projection.

The *2012 Demographic State of the State Report, Oklahoma State and County Population Projections through 2075*, presented an annual growth rate of 1.51% over a 65-year period from 2010 through 2075 for Wagoner County. The linear growth trendline did not fit the existing population growth as well as other methods.

Using the historical census data for the City of Coweta from 1960 – 2010, and applying a 2<sup>nd</sup>-order polynomial trendline, the projected population for the year 2040 and 2060 is 16,908 and 22,852, respectively. The design will be based on an overall population of 17,000 for 20-year design life or 23,000 for the 40-year design life.

C. Current and projected water use data/ wastewater flow projections

The 2017 estimated population is 11,120, however, not all residents are served by the existing system. The system currently serves 3,328 customers. The majority (more than 90%) of the customers are residential and the remainder are a mix of commercial and retail customers. See Table 1 for current customer classification.

**Table 1. Coweta User Classifications (2017)**

| Description of 2017 User Classification         | Number of Customers |
|-------------------------------------------------|---------------------|
| Residential Customers Served by Coweta WWTP     | 3,087               |
| Non-Residential Customers Served by Coweta WWTP | 241                 |
| Residential Customers served by other WWTP      | 155                 |
| Total Sanitary Sewer Customers                  | 3,483               |

Flow projections were based on the customer data and influent/ effluent flow data provided by the City. Assuming 2.5 persons per sanitary sewer connection for 3,087 connections yields a served population of 7,718. OAC 252:656-5-1(2) recommends designing for an average flow of 100 gallons per capita per day (gpcd). A served population of 7,718 at 100 gpcd yields 0.772 million gallons per day (MGD). For the 241 non-residential customers, a flow rate of 500 gpcd was used for an average daily flow of 0.122 MGD. Combining the residential and non-residential flows yields a recommended flow rate of 0.894 MGD.

The recommended flow rate of 0.894 MGD is higher than the 2017 average influent/ effluent flows, which were 0.725 MGD and 0.794 MGD, respectively. The effluent flow data at the WWTP for January through September 2017 is shown in Table 2. See Attachment 3 for a full summary of discharge flow monitoring during this period.

**Table 2. Summary of Effluent Flow from the Coweta WWTP (Jan. 2017 – Sept. 2017)**

|         | WWTP Effluent Flow, MGD |               |
|---------|-------------------------|---------------|
|         | Monthly Average         | Daily Maximum |
| Mean    | 0.744                   | 0.794         |
| Median  | 0.653                   | 0.664         |
| Maximum | 1.329                   | 2.416         |
| Minimum | 0.473                   | 0.400         |

The 2017 flow values are equivalent to 78.3 gallons of influent per day per “sewered capita” and 87.3 gallons of effluent per day per “sewered capita.”

For the design year of 2040, the projected total population is 17,000. For the projected flow in 2040, the system will serve an estimated “sewered population” of 13,500 and 300 non-residential customers. Using 100 gpcd for the “sewered population” and 500 gpcd for non-residential customers yields an average design flow of 1.5 MGD.

The flow in the OPDES Permit is based on 0.76 MGD. Therefore, changing the flow-basis of the OPDES Permit will be necessary. The daily maximum design flow will be 3.0 MGD and the design hourly peak flow will be 3.75 MGD. However, flow in excess of 1.5 MGD will be diverted to an equalization basin to effectively dampen the influence of peak flow events on the treatment process.

#### D. Environmental concerns in the service area

Adverse environmental impacts resulting from the proposed project are not expected. On the contrary, the proposed project will bring the WWTP into compliance with DEQ’s construction standards and enable it to comply with the conditions of the OPDES Permit consistently. Further environmental considerations are discussed in the following sections.

#### E. Community engagement

The CPWA plans to engage the community in the planning process by holding a public hearing to present the alternatives and recommendations presented in this report. Public input will be encouraged at this meeting. Community engagement plans are discussed further in the following sections.

### **III. EXISTING FACILITIES AND NEED FOR PROJECT**

#### **A. Location and layout**

The Coweta WWTP is located in the SW/4, Section 30, Township 17 North, Range 16 East of the Indian Meridian in Wagoner County, Oklahoma. The location of the WWTP in relation to the City of Coweta is shown in Attachment 1. The layout of the existing WWTP is shown in Attachment 4.

#### **B. Condition of existing facilities**

For the following discussion, refer to the existing process flow schematic provided in Attachment 5. Wastewater from the City of Coweta enters the influent lift station via a 24-inch gravity line that is fed by an existing 24-inch gravity sewer main. The gravity main also accepts flow from an existing 8-inch force main at the plant site from the sanitary sewer collection system. The wastewater is then pumped from the influent lift station, located approximately at latitude: 35°55'21.58"N, longitude: 95°39'6.62"W, to the influent distribution box that contains a manual bar screen and flow rate monitoring weir at the west edge of the aeration basins.

The influent distribution box directs the influent to either or both of the aeration basins. The aeration basins are earthen basins, each of which has a 12-inch thick clay liner that extends to the top of the aeration embankments (Elev. = 592.00' MSL). In addition, each aeration basin has a concrete splash pad/ apron at each inlet and outlet pipe location to prevent erosion. Mechanical aeration is provided by six (6) 15-HP floating aerators with four (4) in Cell 1 and two (2) in Cell 2. Mixed liquor from the aeration basins comes together in the discharge structure of the either Cell 1 or Cell 2 depending on the selected mode of operation for the plant. Mixed liquor is then discharged to Cell 3, via gravity pipe network, that acts as a sedimentation basin or polishing pond. Cell 3 has a side-wall depth of 17 ft. Supernatant from Cell 3 flows to the disinfection basin. The disinfection basin is baffled to provide a consistent flow with no short circuiting. The disinfection basin was designed for disinfection using sodium hypochlorite and dechlorination by sodium bisulfite. Effluent flow is measured using a 12-inch magnetic flow meter installed within

a segment of 12-inch ductile iron pipe between the chlorine contact basin and dechlorination basin. A rectangular, sharp crested weir is located between the discharge of the 12-inch pipe and the basin's 18-inch outfall piping. Compliance samples are taken downstream of the dechlorination injection point, prior to the weir that leads to the basin's outfall.

The sizes of various units at the existing WWTP are given in Table 3.

**Table 3. Existing Coweta WWTP Unit Sizes**

| Treatment Process (units)                               | Value               |
|---------------------------------------------------------|---------------------|
| Aeration lagoon volume, (2) each, ft <sup>3</sup> (gal) | 1,375,476 (9.75 MG) |
| Sedimentation lagoon volume, ft <sup>3</sup> (gal)      | 240,640 (1.80 MG)   |
| Sedimentation lagoon surface area, ft <sup>2</sup>      | 34,400              |
| Sedimentation lagoon side-wall depth, ft                | 15                  |
| Chlorine contact basin volume, ft <sup>3</sup> (gal)    | 2,800 (21,178)      |

The following paragraphs summarize the condition of the existing WWTP.

The WWTP is equipped with influent flow measurement. Influent flow is measured by Cippolletti weir with an upstream ultrasonic flow sensor (Badger Meter, Model 2100R).

The WWTP is equipped with facilities to remove screenings. However, the screen cleaning process is manual in nature. The influent is screened by allowing the incoming gravity sewer to flow through a "screening basket" prior to entering the wet well of the influent lift station. The screening basket must be hoisted 24 feet vertically through an access hatch by use of an electric hoist before it can be manually dumped into a collection bin. Following dumping, the screening basket must be washed down. The screening basket must then be lowered back into position for continued function. The process occurs daily or more frequently.

An additional manual bar screen exists in the influent distribution box. Cleaning this bar screen is also a manual process. It requires WWTP personnel to manually "rake" the

screen, discard screenings, and wash down the bar screen daily or more frequently. There is no point of disposal near this structure, so any screened material must be transported to a dumpster on site prior to ultimate landfill disposal.

The WWTP is not currently equipped with facilities to remove grit. The influent is pumped to the distribution box and flows by gravity through the remainder of the plant to the outfall. Since there are no pumps downstream of the existing influent lift station, the necessity for grit removal to protect mechanical units downstream is not essential, however, build-up of grit in the aeration basins will occur, requiring removal in this project.

There is no wet-weather flow equalization basin (FEB) currently available at the plant. All flow is currently pumped to the influent distribution box upon entering the influent lift station. The excess volume that enters the aeration lagoons is detained slightly by flow restrictions of the connecting pipes between cells. Thus, a portion of Cell 1 and Cell 2 act as flow equalization basins as wastewater flows through the treatment train.

The WWTP is equipped with two aeration lagoons, Cells 1 and 2, normally operated to function in series. Neither aeration basin is fully lined with concrete, asphalt or an equivalent material below the maximum water elevation. Four (4) surface aerators (15 HP) are in place in the northern lagoon, Cell 1. The southern aeration lagoon, Cell 2, is equipped with two (2) surface aerators (15 HP).

The WWTP is not currently equipped with secondary clarifiers. Cell 3 is designed to act as a polishing pond. However, it is not equipped for scum collection and/or removal. The side-wall depth of Cell 3 is 17 ft with 3 ft of freeboard, which meets the minimum standard of 12 ft to limit filamentous (blue-green) algal growth on the surface. There are periods of the year where algal growth is present on the surface of Cell 3 and can lead to spikes in BOD<sub>5</sub> and TSS concentrations in the effluent.

The WWTP is not equipped with facilities for sludge stabilization. Sludge is held in the aeration lagoons (Cells 1 and 2) and Cell 3. There is a drain system in place that may be used to drain each of the cells back to the influent lift station via gravity piping. Once the lagoon is dried, sludge can be removed from the lagoons and disposed at a landfill.

The WWTP is equipped with a single chlorination basin equipped with internal baffle walls. The chlorination system is currently operational. The chlorination basin has a contact time of approximately 40.0 minutes at the OPDES design flow of 0.76 MGD. The stated maximum design flow rate for the disinfection basin is 1.5 MGD. A system to meter chlorination and dechlorination solutions to the basin is in place.

The effluent flow measurement device, a magnetic flow meter placed in the 12-inch ductile iron pipe at the discharge of the disinfection basin, is located between the outfall of the chlorination basin and the dechlorination chamber.

#### C. Health and safety

The flow-through aerated lagoon system has worked satisfactorily with few exceedances of the OPDES discharge permit. Due to the growth of the community, the existing WWTP is not capable of meeting the effluent limits of a revised OPDES Permit. Therefore, the effluent generated will not protect Oklahoma's Water Quality Standards and may cause harm to the environment and the public. A new wastewater treatment plant with an initial capacity of 1.5 MGD is proposed. Treatment plants designed to handle flow at or above 1.0 MGD are classified as a "Major" Municipal Wastewater Treatment Facilities and are required to meet the Whole Effluent Toxicity (WET) testing criteria. A flow-through lagoon system is incapable of consistently meeting WET limits, and a mechanical / biological treatment process is necessary to meet the WET limits and maintain the aquatic quality of the stream.

#### D. System O&M

The influent lift station and lagoons/ aeration basins for the WWTP were constructed in 1994. The two manual bar screens in place at the wet well of the influent lift station and the influent distribution box are acceptable for the current plan but do require daily maintenance to work properly. Maintenance to keep it operating will become increasingly expensive. The lack of a sludge holding facility creates an issue with maintaining operations during the sludge removal process.

E. Growth capacity

The existing aerated lagoon plant was designed in 1993 for an average flow of 0.90 MGD, and peak flow of 3.0 MGD. The OPDES Permit presents an allowable average flow of 0.76 MGD, shown in Attachment 6. The original design organic capacity of the plant was for 200 lb of BOD<sub>5</sub> demand per day. Based on the present and projected populations, the hydraulic capacity of 0.90 MGD and an organic loading of 200 mg/L BOD<sub>5</sub> for the design population of 9,000 was appropriate through the design period of 20 years or the year 2012. However, per the 2010 decennial census, the population of Coweta is 9,943. The estimated 2017 population of Coweta is 11,120, of which approximately 7,718 are currently served by sanitary sewer.

There have been several (49) exceedances of permit limits reported since 2007. The majority (29 of 49) of permit limit exceedances are for the concentration of biological oxygen demand, 5-day, 20 deg C (BOD<sub>5</sub>) parameter for weekly (8) or monthly (21) averages. Lack of secondary clarification with scum removal may be one cause of increased organics creating increased concentration of BOD<sub>5</sub> and TSS in the final effluent. The current final effluent limits in the OPDES Permit are given in Attachment 6.

F. Water system availability

Potable water is provided to the chemical feed building and the rest of the plant site by the City of Coweta's public water supply (PWS). The chemical feed building is equipped with a reduced pressure zone (RPZ) backflow preventer to protect potable water supply from back flow and back siphonage.



#### IV. ALTERNATIVES CONSIDERED

##### A. Summary of alternatives considered

The following alternatives were considered:

- Construct a New WWTP
- Upgrade the Existing WWTP
- Construct a New Sequential Batch Reactor (SBR) WWTP
- Do-Nothing

##### B. Alternative development process discussed

Each alternative was evaluated using the FACT Environmental Effects Matrix, see Attachment 7. The development of each alternative is summarized below.

##### 1. Construct a New WWTP

**Description.** This alternative involves the construction of a new extended aeration activated sludge WWTP to replace the existing WWTP, after which the existing WWTP will be closed. Constructing a new WWTP will include the following: influent flow measurement, headworks, two (2) aeration basins, two (2) secondary clarifiers, modifying the existing disinfection unit, one (1) flow equalization basin, two (2) aerobic sludge digesters, and a multi-celled sludge drying bed.

**Environmental Impacts.** Adverse environmental impacts are not expected. The environmental categories in Attachment 7 will either not likely be affected by the proposed project or are not applicable.

**Land Requirements.** Utilization of additional, available land will be required so that the construction of the new WWTP will not interfere with the operation of the existing WWTP. No additional real estate acquisition is expected for the alternative as the City of Coweta/ Coweta Public Works Authority holds sufficient property to accommodate this expansion.

**Construction Problems.** Construction problems are not anticipated. However, sufficient contingency budget should be maintained to correct any unknown or unexpected issues as they arise.

**Cost Estimates.** The estimated construction cost for Alternative 1 is \$11.50 million. The detailed cost estimate is in Attachment 8.

**Advantages/ Disadvantages.** The advantages of a new extended aeration activated sludge WWTP include: a proven track record in Oklahoma, ease of operation, and the ability to meet WET limits. Additionally, the construction cost is less than that for Alternative 3. The disadvantages of this alternative include: a new or larger site will be needed on which to construct the new WWTP to keep the existing WWTP in operation during construction, and construction of new units is more expensive than modifying existing units. Additionally, O&M for extended aeration is higher due primarily to the power consumption from running blowers.

## **2. Upgrade the Existing WWTP**

**Description.** This alternative involves modifying and upgrading the existing WWTP to be a modified extended aeration activated sludge WWTP. Some new units will be constructed since the existing WWTP either lacks analogous units or the existing units cannot be modified to conform to current construction standards. During construction, the existing WWTP will continue to operate. Upgrading the existing WWTP will include: the construction of a new influent lift station; converting Cell 1 into five (5) concrete-lined basins with reinforced concrete partition walls consisting of two (2) aeration basins, two (2) aerobic sludge digesters, and one (1) flow equalization basin; constructing two (2) new secondary clarifiers; constructing an activated sludge pump station; constructing sludge drying beds; and modifying the existing disinfection basin.

**Environmental Impacts.** Adverse environmental impacts are not expected. The environmental categories in Attachment 7 will either not likely be affected by the proposed project or are not applicable.

**Land Requirements.** Utilization of additional, available land will be required so that the construction of the new WWTP will not interfere with the operation of the existing WWTP. No additional real estate acquisition is expected for the alternative as the City of Coweta/ Coweta Public Works Authority holds sufficient property to accommodate this expansion.

**Construction Problems.** Construction problems are not anticipated. However, sufficient contingency budget should be maintained to correct any unknown or unexpected issues as they arise.

**Cost Estimates.** The estimated construction cost for Alternative 2 is \$11.11 million. The detailed cost estimate is in Attachment 9.

**Advantages/ Disadvantages.** The advantages of this alternative include the familiarity of the operations staff with the extended aeration activated sludge technology, the existing site will be adequate for construction of the upgraded WWTP, and many of the existing units will be modified and reused or re-purposed. In addition, the estimated cost is lower than that of Alternatives 1 and 3. This alternative also allows for increased, future treatment capacity with the addition or modification of only a few treatment units: a third secondary clarifier, additional blower(s) and disinfection modification/ expansion. The disadvantage of this alternative is that even though existing units will be rehabilitated, the age of the structures themselves may result in increased maintenance expenses in the future.

### 3. Construct a New Sequential Batch Reactor (SBR) WWTP

**Description.** The alternative involves the construction of a new sequential batch reactor (SBR) WWTP. An SBR is significantly different in configuration and operation than the standard extended aeration activated sludge system in Alternatives 1 and 2. An SBR unit consists of two (2) or more basins, that alternately fill, treat, settle (clarify) and discharge in a batch-wise manner. In the case of Coweta, three (3) SBR basins are proposed. The SBR system does not utilize separate clarifiers since clarification takes place in each SBR basin. The SBR completes all unit process treatment steps within the reactors, eliminating the need for anaerobic or anoxic zones, RAS systems, and secondary clarifiers.

**Environmental Impacts.** Adverse environmental impacts are not expected. The environmental categories in Attachment 7 will either not likely be affected by the proposed project or are not applicable.

**Land Requirements.** Utilization of additional, available land will be required so that the construction of the new WWTP will not interfere with the operation of the existing WWTP. No additional real estate acquisition is expected for the alternative as the City of Coweta/ Coweta Public Works Authority holds sufficient property to accommodate this expansion.

**Construction Problems.** Construction problems are not anticipated. However, sufficient contingency budget should be maintained to correct any unknown or unexpected issues as they arise.

**Cost Estimates.** The estimated construction cost for Alternative 3 is \$12.50 million. The detailed cost estimate is in Attachment 10.

**Advantages/ Disadvantages.** The advantages of this alternative include the compact nature of the system, its relatively small footprint, and the fact that secondary clarifiers will not be needed. The disadvantages include a higher cost than for Alternatives 1 and 2 and the unfamiliarity of some of the operations staff with this technology.

#### 4. No Action

This alternative involves leaving the WWTP in its current condition. Without improvements to capacity, the WWTP will become overloaded, which will increase the likelihood of violating the discharge effluent limits of the OPDES Permit. A no-action alternative is not feasible due to the growing population and critical need for expanded wastewater treatment capacity. A no-action response is not given further consideration.

#### C. System Mapping

The proposed project includes the mapping of existing and proposed facilities. See Attachment 11 for the location and mapping information for the proposed project.

## **V. ENVIRONMENTAL IMPACTS OF SELECTED ALTERNATIVE**

The selected alternative for the proposed project is Alternative 2 – Upgrade the Existing WWTP. The following discussion details the correspondence and findings from the environmental review of the proposed project. See Attachment 7 for the Environmental Effects Matrix.

### **A. Formally classified land**

The United States Department of the Interior Fish and Wildlife Service (USFWS) was contacted regarding the proposed project. In a letter dated January 31, 2019, the USFWS indicated that there are no critical habitats within the proposed project area under the USFWS office's jurisdiction. See Attachment 12 for correspondence with the USFWS.

The Oklahoma State Parks Tourism and Recreation Department was contacted regarding the proposed project. A response was not received from the Tourism and Recreation Department. See Attachment 13 for the letter sent to the Tourism and Recreation Department.

The proposed project is not located in or near any public recreational areas or Public Lands or National Parks. Thus, these categories do not apply to the environmental review of the proposed project.

The aim of the Wilderness Act is to provide a legal definition of wilderness and to protect over 100 million acres of federally owned wilderness through the National Wilderness Preservation System. The proposed project is not located in federally owned wilderness. Thus, the Wilderness Area category is not applicable to the environmental review of the proposed project.

### **B. Important farmland**

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) was contacted regarding the proposed project. A response was not received from the NRCS. See Attachment 14 for the letter sent to NRCS.

The NRCS Web Soil Survey online tool was used to characterize the soil at the proposed project site. The majority of soil in the vicinity of the project area is either fine sandy loam or silty loam. The soil report created using the tool is included as Attachment 15.

The Farmland Protection Policy Act aims to minimize the impact of programs on the unnecessary and irreversible conversion of farmland to nonagricultural uses. The proposed project is located on city-owned land and is not currently farmland but is developed as a publicly owned treatment works (POTW) owned by the City of Coweta. Thus, this Act is not applicable to the environmental review of the proposed project.

### C. Floodplains

The aim of Executive Order 11988 Floodplain Management is to avoid the long- and short-term adverse impacts associated with the occupancy and modification of floodplain development wherever there is a practicable alternative. See Attachment 16 for the project location shown on a Flood Insurance Rate Map (FIRM) by FEMA. The project area is not located in the regulatory floodway or in the 100-year flood plain.

The Oklahoma Water Resources Board (OWRB) Water Management Division was contacted for comment on the proposed project. In a letter dated January 11, 2019, OWRB recommended that the local floodplain administrator be contacted for possible permit requirements for the proposed project. See Attachment 17 for correspondence with OWRB.

The Federal Emergency Management Agency (FEMA) Region 6 was contacted for comment on the proposed project. In a letter dated January 10, 2019, FEMA Mitigation Division recommended that the community floodplain administrator be contacted for the review and possible permit requirements for the proposed project. The local floodplain administrator identified in the letter is: William Cohrs, City Engineer for the City of Coweta. See Attachment 18 for correspondence with FEMA.

The Wagoner County Floodplain Administrator was contacted for comment on the proposed project. A response was not received from the County Floodplain

Administrator. See Attachment 19 for the letter sent to the County Floodplain Administrator.

The Local Community Floodplain Administrator for the City of Coweta was contacted for comment on the proposed project. In a letter dated February 27, 2019, the local floodplain administrator indicated that there appeared to be no adverse impacts to the local flood plain due to the proposed project. See Attachment 20 for correspondence with the Community Floodplain Administrator.

The United States Army Corps of Engineers (USACE) Water Management Branch was notified twice by letter and reached by phone conversation. During the phone conversation, USACE indicated that they do not comment on floodplain issues and indicated that FEMA should be contacted. See Attachment 21 for the letter sent to the USACE Water Management Branch.

The real property/ facilities requirement of the Floodplain Management Executive Order does not apply to the proposed project.

#### D. Wetlands

The Clean Water Act establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The USACE was contacted for comment on the proposed project relative to Section 404 of the Clean Water Act. In a letter dated January 11, 2019, the USACE Tulsa District indicated that the proposed project is not subject to regulation under Section 404 of the Clean Water Act and does not require a Department of the Army permit. See Attachment 22 for correspondence with USACE.

#### E. Historic properties

The aim of the National Historic Preservation Act (NHPA) is to preserve Native American cultural resources and historic properties. Historic properties are any prehistoric or historic districts, sites, buildings, structures, or objects that are eligible for or already listed in the National Register of Historic Places. Also included are any artifacts, records, and

remains (surface or subsurface) that are related to and located within historic properties and any properties of traditional religious and cultural importance to Tribes.

The Oklahoma Historical Society (OHS) (Oklahoma SHPO) was contacted for comment on the proposed project. In a letter dated January 4, 2018, the Oklahoma Historical Society indicated that there are no historic properties affected by the proposed project. See Attachment 23 for correspondence with OHS.

The Oklahoma Archeological Survey (OAS) was contacted for comment on the proposed project. In a letter dated December 13, 2018, the OAS indicated that there are no archaeological sites listed as occurring within the project area, and no archaeological materials likely to be encountered within the project area. See Attachment 24 for correspondence with OAS.

F. Native American historic consultation

The United States Department of the Interior Bureau of Indian Affairs (BIA) was contacted for comment on the proposed project. In a letter dated December 14, 2018, the BIA indicated that the office had no comments regarding the project. The letter indicated that the BIA had forwarded the proposed project to five (5) federally-recognized tribes in the project area, including: Osage Nation, Muscogee (Creek) Nation, Alabama-Quassarte Tribal Town, Kialegee Tribal Town, and Thlopthlocco Tribal Town. As of this report, no responses had been received from any of the five (5) parties. See Attachment 25 for correspondence with BIA.

Additionally, a letter was sent to the Muskogee (Creek) Nation Environmental Services. A response was not received from the Muskogee (Creek) Nation. See Attachment 26 for the letter sent to the Muskogee (Creek) Nation.

G. Biological resources

The aim of the Endangered Species Act of 1973 is to provide a means whereby threatened and endangered species and the ecosystems upon which they demand may



be conserved. The Act requires the determination of whether projects may affect threatened and endangered species and/ or designated critical habitats.

The USFWS was contacted regarding the proposed project. See Attachment 12 for correspondence with the USFWS. The ECOS-IPaC website was used to identify a list of threatened and endangered species in the proposed project area. The ECOS-IPaC letter dated January 31, 2019, indicated that there are no critical habitats under the USFWS office's jurisdiction and no refuge lands or fish hatcheries within the proposed project area. Additionally, there are no USFWS migratory birds of concern within the vicinity of the proposed project area. The letter identified seven (7) threatened, endangered, or candidate species in the project area. A discussion of each species is provided below:

**Gray Bat – Endangered.** No critical habitat has been designated for this species. According to the 1982 Gray Bat Recovery Plan approved by the USFWS, gray bats almost exclusively roost in cave habitats in the Southwest United States. Gray bats require forested areas between caves and feeding areas in order to increase protection from predators such as screech owls. Because of this, gray bats are not usually found along sections of river where adjacent forest has been cleared. Human disturbance is the leading cause of the decline of gray bats, from either: physically entering caves and disturbing hibernating bats; or causing deforestation near cave entrances, which decreases the canopy protection during feeding times. The Recovery Plan states that forested corridors, river edges, and reservoir shorelines should be left intact near major gray bat summer caves to prevent further population decline. The proposed project is located near the Arkansas River on land that has been previously cleared. The proposed project will not alter the river edge, any possible nearby caves, or any surrounding forested area and will thus not likely impact the gray bat.

**Northern Long-Eared Bat – Threatened.** No critical habitat has been designated for this species. According to the USFWS, Northern long-eared bats spend winter hibernating in caves and spend the summer roosting under the bark or in crevices of live and dead trees. The leading cause of decline of Northern long-eared bats is white-nose syndrome, a disease affecting many bat populations spreading from the Northeast United

States. Another cause is construction activities that cause the destruction or degradation of roosting and foraging habitats. According to the 2016 USFWS 4(d) Rule for the Northern Long-Eared Bat; Final Rule, the removal of trees that results in the incidental take of Northern long-eared bats is prohibited when the activity cuts or destroys known occupied maternity roost trees, or any other trees within a 150-foot radius from the maternity roost tree, during the pup season of June 1 through July 31. The proposed project area has been previously cleared. The proposed project will not remove any existing trees and will thus not likely impact the habitat of the Northern long-eared bat.

**Least Tern – Endangered.** No critical habitat has been designated for this species. According to the 1990 Least Tern Recovery Plan approved by the USFWS, the least tern is a migratory bird that occurs primarily on barren to sparsely vegetated riverine sandbars and lake and reservoir shorelines. The riverine nesting locations are usually at higher elevations than the river water level and can be located up to several hundred meters from the water. The least tern occurs on several tributaries of the Arkansas River in Oklahoma. The leading cause of least tern decline is the loss of riverine sandbar habitat due to river channelization, diversion and impoundment. Additionally, dam discharge is another cause due to the extreme water level fluctuations that flood existing nests and inundate potential nesting areas. Another cause is human disturbance through the recreational use of sandbars. The proposed project area is located near the Arkansas River but does not include any modifications to the river. The proposed project will not alter the river channel, nearby tributaries, or any sandbars in the river, and will thus not likely impact the habitat of the least tern. Additionally, the proposed project will not affect dam operation or flooding hazards.

**Piping Plover – Threatened.** There is final critical habitat for this species, but the project location is outside the critical habitat. According to the 2016 Northern Great Plains Piping Plover Recovery Plan, the piping plover is a bird that breeds and raises young on sparsely vegetated sandbars and reservoir shorelines and the shorelines of alkaline lakes. The leading cause of piping plover decline is changes in riverine habitat due to damming and water withdrawals. Other causes include human disturbance, predation, and invasive plants that affect the quality of breeding habitats. The proposed project area is located

near the Arkansas River but does not include any modifications to the river. The proposed project will not alter the river channel, nearby tributaries, or any sandbars in the river, and will thus not likely impact the habitat of the piping plover. Additionally, the proposed project will not affect dam operation or flooding hazards.

**Red Knot – Threatened.** No critical habitat has been designated for this species. According to the 2015 Threatened Species Status for the Rufa Red Knot; Final Rule approved by the USFWS, the red knot is a migratory shorebird that breeds in the Canadian Arctic and winters in parts of the United States and South America. The red knot uses key stopover areas of the Atlantic coast or the midcontinent to rest and feed during both the northbound and southbound migrations. The leading causes of red knot decline is habitat loss from sea level rise, shoreline hardening, and development. Other causes include reduced food availability, marine diseases, parasites, invasive species, increased predators, and human disturbance. The proposed project area is located near the Arkansas River but does not include any modifications to the river or shoreline. The proposed project will not alter the river shoreline, river level, or nearby tributaries, and will thus not likely impact the habitat of the red knot.

**Whooping Crane – Endangered.** There is final critical habitat for this species, but the project location is outside the critical habitat. According to the 2007 Whooping Crane Recovery Plan approved by USFWS, the whooping crane is a bird species that breeds, migrates, winters, and forages in a variety of habitats, including coastal marshes and estuaries, inland marshes, lakes, ponds, wet meadows and rivers, and agricultural fields. The leading causes of whooping crane decline include habitat destruction, degradation of coastal ecosystems, and displacement by activities of man. The proposed project is located near the Arkansas River but does not include any modifications to the river. The proposed project will not alter the river or nearby tributaries, and will thus not likely impact the habitat of the whooping crane.

**American Burying Beetle – Endangered.** No critical habitat has been designated for this species. According to the 1991 American Burying Beetle Recovery Plan approved by USFWS, the American burying beetle is known to primarily inhabit oak-hickory forests,

grasslands, and open pastures. The American burying beetle breeds and rears its young on vertebrate carcasses. The leading causes of American burying beetle decline are not well understood, but they are thought to include DDT/ pesticide use, artificial lighting, species-specific pathogens, habitat loss and fragmentation, vertebrate competition, and the introduction of invasive species such as fire ants. The proposed project area has been previously cleared and the proposed project does not involve the removal of existing trees, and will thus not likely contribute to habitat loss of the American burying beetle.

In addition, the USFWS letter indicated that the National Wetlands Inventory resulted in two (2) areas with the following classification in the proposed project area: (1) PUBK: Palustrine System, Unconsolidated Bottom Class, Artificially Flooded Water Regime; and (2) R2UBH: Riverine System, Lower Perennial Subsystem, Unconsolidated Bottom Class, Permanently Flooded Water Regime.

#### H. Water quality, air quality, transportation, noise, scenic rivers, etc.

The Oklahoma Department of Environmental Quality (ODEQ) was contacted for comment on the proposed project. In a letter dated December 18, 2018, the ODEQ Office of External Affairs indicated no environmental concerns with the proposed project. However, the letter indicated that any construction activity disturbing more than one acre will require the submittal of an NOI and obtaining authorization under OKR10 construction stormwater. See Attachment 27 for correspondence with ODEQ.

The Grand River Dam Authority (GRDA) was contacted for comment on the proposed project. A response was not received from the GRDA. See Attachment 28 for the letter sent to the GRDA.

The sole source aquifer category in the FACT Environmental Effects Matrix (Attachment 7) is not applicable because the proposed project is not located in Carter, Johnston, Murray or Pontotoc Counties. Also, the petroleum on-site storage category is not applicable because petroleum is not stored on-site for the proposed project.

The Noise Control Act aims to control the major sources of noise including transportation vehicles and equipment, machinery, appliances, and other products in commerce, and

limit the impact of noise to the health and welfare of the population, particularly in urban areas. The proposed project will not significantly increase the noise emitted from the current project site. The construction activity will produce a temporary increase in the transportation of construction materials and equipment to the project area. Construction will create temporary sources of noise such as excavation activities. After construction, equipment and machinery installed on-site for the treatment of wastewater will be located in structures or enclosures and will not emit significant noise. For example, the aeration system compressors will be located inside a sound enclosure or equipped with a silencer on the exhaust muffler to attenuate sounds. Thus, the proposed project is not anticipated to increase overall noise. Additionally, the proposed project is located in an area with no surrounding habitants or development.

The aim of the Wild and Scenic Rivers Act of 1968 is to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The proposed project is not located in or near any river specified by the Act. Thus, the categories under this Act do not apply to the environmental review of the proposed project.

The aim of the Coastal Zone Management Act is to provide for the management of the nation's coastal resources, including the Great Lakes, in order to preserve, protect, develop, and restore or enhance the resources of the nation's coastal zone. The proposed project is not located near any coastal zone. Thus, this Act is not applicable to the environmental review of the proposed project.

#### I. Socio-economic issues

The aim of the Environmental Justice Executive Order is to focus federal attention on the environmental and human health effects of federal actions on minority and low-income populations with the goal of achieved environmental protection for all communities.

The Environmental Justice online screening tool was used to evaluate the characteristics of the proposed project area. See Attachment 29 for the environmental justice maps. The screening tool shows that there are no Superfund sites or Hazardous Waste

Treatment, Storage, and Disposal Facilities (TSDF) located within a 1-mile radius of the proposed project area. The report shows that the demographic indicators in the vicinity of the proposed project area are similar to the state averages. The report shows that the environmental indicators mostly similar to the state and national averages, with a few that are higher or lower. For example, the project area values for NATA Cancer Risk and NATA Respiratory Hazard Index are slightly higher than the state and national averages. The proposed project is unlikely to affect cancer risk or respiratory hazard index. The proposed project will improve the treatment of wastewater collected city-wide and is unlikely to disproportionately affect minority or low-income populations within the project area. The proposed project will benefit the entire area served by the CPWA wastewater collection system.

J. Environmental due diligence

The aim of the Resource Conservation and Recovery Act (RCRA) is to control hazardous waste from its generation, transportation, treatment, storage, and disposal. RCRA addresses environmental problems that could result from underground storage tanks storing petroleum and other hazardous substances. The hazardous substance category is not applicable to the proposed project because there are no known hazardous substances or underground storage tanks within the proposed project area.

K. Local governmental review

The Indian Nations Council of Governments (INCOG) was contacted for comment on the proposed project. See Attachment 30 for correspondence with INCOG.

The proposed project is not located within the boundaries of any USACE lake.

L. Effects on environmental resources of the selected alternative

The selected alternative is not likely to directly affect the environmental resources evaluated in the previous sections. As shown in Attachment 7, for each environmental category, the proposed project will either not likely affect it or it does not apply. The effects on environmental resources are summarized below:

The proposed project area is near the Arkansas River but is not located in the regulatory floodway or in the 100-year flood plain. Additionally, there are seven (7) threatened or endangered species in the project area. However, the proposed project location and construction activity are not likely to impact these species because the project will not remove trees, alter the river, or significantly change the landscape from its current condition. The proposed project will temporarily increase noise during construction, but after construction is complete, the project will not significantly increase noise levels. In the environmental justice category, the proposed project will benefit the entire area served by the CPWA wastewater collection system by increasing treatment capacity and meeting growth projections.

In summary, the proposed project is not likely to affect the environmental resources discussed herein. The cumulative effects of the selected alternative will be minimal due to the nature of the improvements in that it only includes the installation of structures and piping on previously cleared land owned by the City at the current WWTP site.

## **VI. CORRESPONDENCE AND PUBLIC PARTICIPATION**

The CPWA will hold a public hearing for the proposed project and will provide public notice 30 days prior by newspaper advertisement. This report, the Environmental Information Document (EID), will be available for review. Following the public hearing, the CWPA will conduct a public board meeting to consider a resolution to adopt the Engineering Report (ER) and EID. Next, the CWPA will submit the EID to the funding agency for review.

The CPWA will follow the public notification and public hearing guidelines as required by Appendix E of the Oklahoma Funding Agency Coordinating Team (FACT) Guidelines for Environmental Information Document/ Environmental Report for Water and Wastewater Projects published in June 2017. The requirements include submitting the ER and EID to the local DEQ office and four (4) other parties.

The CPWA will follow the resolution sample as required by Appendix F of the FACT Guidelines for Environmental Information Document/ Environmental Report for Water and Wastewater Projects.



## **VII. SUMMARY OF MITIGATION MEASURES**

As discussed previously, there are no anticipated adverse effects of the proposed project. However, some mitigative measures will be taken in order to prevent any adverse effects. These measures include:

- A stormwater pollution prevention plan (SWPPP) will be developed and implemented as part of the proposed project. This measure will prevent the runoff of stormwater containing silt or construction materials to the surrounding land, tributaries, and Arkansas River.
- The current project does not involve the removal of trees. However, to prevent any unintentional or accidental tree removal, a note will be added to the Construction Plans stating that no trees are to be altered, destroyed, or removed during the project between the dates of June 1 and July 31 to satisfy the recovery efforts of the threatened Northern long-eared bat.
- The Arkansas River bank and tributary are not involved in the current project. However, to prevent any human disturbance during construction to these areas, a note will be added to the Construction Plans indicating that construction activity is to be limited to the specific project area and staging area(s).

**Attachment 1.**

**City of Coweta WWTP Location Map**





SCALE:  
N.T.S.

**PROJECT  
LOCATION**

E 289TH AVE

ARKANSAS RIVER

|                                                                                                                                       |             |               |
|---------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------|
| WDB ENGINEERING PLLC<br>6330 S.E. 74TH STREET<br>OKC, OK 73135 PH: 405-741-7090<br>CERTIFICATE OF AUTHORIZATION: #3987 EXP: 6-30-2019 |             |               |
| COWETA WWTP IMPROVEMENTS                                                                                                              |             |               |
| DATE: 10-16-17                                                                                                                        | APPROVED BY | DRAWN BY JAM  |
| AERIAL LOCATION MAP                                                                                                                   |             |               |
| WDB ENGINEERING PLLC                                                                                                                  |             | ATTACHMENT 2B |

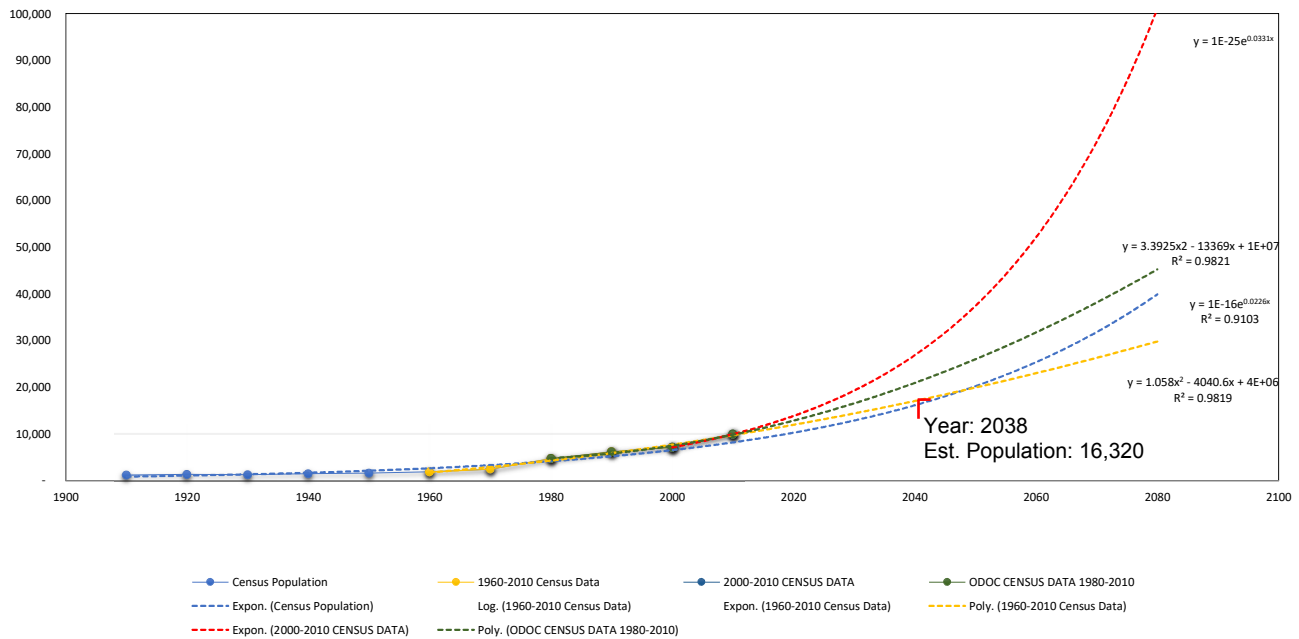


**Attachment 2.**

**City of Coweta Population Projections**

| Projection<br>Formula            | Census Population &<br>FACT Method<br>Projections |        |                               | 10 Year<br>Growth<br>Rate | ODOC Polynomial Trend<br>Projection (1960-2010) |                                                | Average Annual<br>Growth Rate | ODOC Polynomial Trend<br>Projection (1980-2010) |                                                | Average Annual<br>Growth Rate    |  |      |  |       |
|----------------------------------|---------------------------------------------------|--------|-------------------------------|---------------------------|-------------------------------------------------|------------------------------------------------|-------------------------------|-------------------------------------------------|------------------------------------------------|----------------------------------|--|------|--|-------|
|                                  | Year                                              |        | Average Annual<br>Growth Rate |                           |                                                 |                                                |                               |                                                 |                                                |                                  |  |      |  |       |
|                                  | $Y=Y_{2010} \cdot (1+0.037)^{(X-2010)}$           |        |                               |                           |                                                 | $Y = 1.0580x^2 - 4,040.6361x + 3,856,833.2357$ |                               |                                                 | $Y=3.3925x^2 - 13,369.3450x + 13,176,172.6500$ |                                  |  |      |  |       |
|                                  | 1910                                              | 1,187  |                               |                           | 1910                                            | 1,187                                          |                               | 1910                                            | 1,187                                          |                                  |  |      |  |       |
|                                  | 1920                                              | 1,318  | 1.05%                         | 11%                       | 1920                                            | 1,318                                          | 1.05%                         | 1920                                            | 1,318                                          | 1.05%                            |  |      |  |       |
|                                  | 1930                                              | 1,274  | -0.34%                        | -3%                       | 1930                                            | 1,274                                          | -0.34%                        | 1930                                            | 1,274                                          | -0.34%                           |  |      |  |       |
|                                  | 1940                                              | 1,455  | 1.34%                         | 14%                       | 1940                                            | 1,455                                          | 1.34%                         | 1940                                            | 1,455                                          | 1.34%                            |  |      |  |       |
|                                  | 1950                                              | 1,601  | 0.96%                         | 10%                       | 1950                                            | 1,601                                          | 0.96%                         | 1950                                            | 1,601                                          | 0.96%                            |  |      |  |       |
|                                  | 1960                                              | 1,858  | 1.50%                         | 16%                       | 1960                                            | 1,858                                          | 1.50%                         | 1960                                            | 1,858                                          | 1.50%                            |  |      |  |       |
|                                  | 1970                                              | 2,457  | 2.83%                         | 32%                       | 1970                                            | 2,457                                          | 2.83%                         | 1970                                            | 2,457                                          | 2.83%                            |  |      |  |       |
|                                  | 1980                                              | 4,712  | 6.73%                         | 92%                       | 1980                                            | 4,712                                          | 6.73%                         | 1980                                            | 4,712                                          | 6.73%                            |  |      |  |       |
|                                  | 1990                                              | 6,159  | 2.71%                         | 31%                       | 1990                                            | 6,159                                          | 2.71%                         | 1990                                            | 6,159                                          | 2.71%                            |  |      |  |       |
|                                  | 2000                                              | 7,139  | 1.49%                         | 16%                       | 2000                                            | 7,139                                          | 1.49%                         | 2000                                            | 7,139                                          | 1.49%                            |  |      |  |       |
|                                  | 2010                                              | 9,943  | 3.37%                         | 39%                       | 2010                                            | 9,943                                          | 3.37%                         | 2010                                            | 9,943                                          | 3.37%                            |  |      |  |       |
|                                  | 2017                                              | 12,538 | 3.37%                         |                           | 2017                                            | 11,120                                         | 1.61%                         | 2017                                            | 11,874                                         | 2.57%                            |  |      |  |       |
|                                  | 2020                                              | 13,848 | 3.37%                         | 39%                       | 2020                                            | 11,811                                         | 2.03%                         | 2020                                            | 12,853                                         | 2.67%                            |  |      |  |       |
|                                  | 2030                                              | 19,288 | 3.37%                         | 39%                       | 2030                                            | 14,254                                         | 1.90%                         | 2030                                            | 16,556                                         | 2.56%                            |  |      |  |       |
|                                  | 2038                                              | 25,141 | 3.37%                         |                           | 2038                                            | 16,360                                         | 1.74%                         | 2038                                            | 20,006                                         | 2.39%                            |  |      |  |       |
|                                  | 2040                                              | 26,863 | 3.37%                         | 39%                       | 2040                                            | 16,908                                         | 1.66%                         | 2040                                            | 20,937                                         | 2.30%                            |  |      |  |       |
|                                  | 2048                                              | 35,016 | 3.37%                         |                           | 2048                                            | 19,184                                         | 1.59%                         | 2048                                            | 24,930                                         | 2.21%                            |  |      |  |       |
|                                  | 2050                                              | 37,414 | 3.37%                         | 39%                       | 2050                                            | 19,774                                         | 1.53%                         | 2050                                            | 25,997                                         | 2.12%                            |  |      |  |       |
|                                  | 2058                                              | 48,769 | 3.37%                         |                           | 2058                                            | 22,219                                         | 1.47%                         | 2058                                            | 30,533                                         | 2.03%                            |  |      |  |       |
| 2060                             | 52,110                                            | 3.37%  | 39%                           | 2060                      | 22,852                                          | 1.41%                                          | 2060                          | 31,735                                          | 1.95%                                          |                                  |  |      |  |       |
| 2070                             | 72,577                                            | 3.37%  | 39%                           | 2070                      | 26,141                                          | 1.35%                                          | 2070                          | 38,152                                          | 1.86%                                          |                                  |  |      |  |       |
| 2075                             | 85,652                                            | 3.37%  | 36%                           | 2075                      | 27,864                                          | 1.29%                                          | 2075                          | 41,615                                          | 1.75%                                          |                                  |  |      |  |       |
| 2080                             | 101,083                                           | 3.37%  | 39%                           | 2080                      | 29,641                                          | 1.26%                                          | 2080                          | 45,247                                          | 1.72%                                          |                                  |  |      |  |       |
| 2010-2075 growth                 |                                                   |        |                               | 917%                      | 2010-2075 growth                                |                                                |                               |                                                 | 198%                                           | 2010-2075 growth                 |  | 355% |  |       |
| linear avg. annual over 65 years |                                                   |        |                               | 14.10%                    | linear avg. annual over 65 years                |                                                |                               |                                                 | 3.05%                                          | linear avg. annual over 65 years |  |      |  | 5.46% |
| exp. avg annual calc             |                                                   |        |                               | 3.37%                     | exp. avg annual calc                            |                                                |                               |                                                 | 1.60%                                          | exp. avg annual calc             |  |      |  | 2.23% |

### Coweta Population Projection



**Attachment 3.**

**Summary of Discharge Flow Monitoring, Jan. 2017 – Sept. 2017**

**WWTP DATA**

| Date      | Influent | Effluent | Monthly Influent Average | Monthly Effluent Average |
|-----------|----------|----------|--------------------------|--------------------------|
| 1/1/2017  | 0.507    | 0.562    |                          |                          |
| 1/2/2017  | 0.673    | 0.564    |                          |                          |
| 1/3/2017  | 0.392    | 0.544    |                          |                          |
| 1/4/2017  | 0.513    | 0.491    |                          |                          |
| 1/5/2017  | 0.507    | 0.591    |                          |                          |
| 1/6/2017  | 0.565    | 0.583    |                          |                          |
| 1/7/2017  | 0.531    | 0.473    |                          |                          |
| 1/8/2017  | 0.497    | 0.521    |                          |                          |
| 1/9/2017  | 0.569    | 0.638    |                          |                          |
| 1/10/2017 | 0.486    | 0.629    |                          |                          |
| 1/11/2017 | 0.487    | 0.501    |                          |                          |
| 1/12/2017 | 0.496    | 0.619    |                          |                          |
| 1/13/2017 | 0.615    | 0.526    |                          |                          |
| 1/14/2017 | 0.783    | 0.744    |                          |                          |
| 1/15/2017 | 0.799    | 0.842    |                          |                          |
| 1/16/2017 | 0.740    | 0.922    |                          |                          |
| 1/17/2017 | 0.604    | 0.879    |                          |                          |
| 1/18/2017 | 0.532    | 0.733    |                          |                          |
| 1/19/2017 | 0.563    | 0.668    |                          |                          |
| 1/20/2017 | 0.619    | 0.595    |                          |                          |
| 1/21/2017 | 0.618    | 0.664    |                          |                          |
| 1/22/2017 | 0.601    | 0.618    |                          |                          |
| 1/23/2017 | 0.625    | 0.725    |                          |                          |
| 1/24/2017 | 0.530    | 0.569    | 0.570                    | 0.629                    |
| 1/25/2017 | 0.545    | 0.530    | 0.546                    | 0.606                    |
| 1/26/2017 | 0.546    | 0.612    | 0.392                    | 0.473                    |
| 1/27/2017 | 0.535    | 0.704    | 0.799                    | 0.922                    |
| 1/28/2017 | 0.560    | 0.572    |                          |                          |
| 1/29/2017 | 0.614    | 0.606    |                          |                          |
| 1/30/2017 | 0.511    | 0.576    |                          |                          |
| 1/31/2017 | 0.501    | 0.700    | 0.570                    | 0.629                    |
| 2/1/2017  | 0.524    | 0.581    |                          |                          |
| 2/2/2017  | 0.564    | 0.611    |                          |                          |
| 2/3/2017  | 0.576    | 0.492    |                          |                          |
| 2/4/2017  | 0.884    | 0.556    |                          |                          |
| 2/5/2017  | 0.641    | 0.533    |                          |                          |
| 2/6/2017  | 0.536    | 0.622    |                          |                          |
| 2/7/2017  | 0.507    | 0.627    |                          |                          |
| 2/8/2017  | 0.527    | 0.589    |                          |                          |
| 2/9/2017  | 0.514    | 0.624    |                          |                          |
| 2/10/2017 | 0.559    | 0.504    |                          |                          |
| 2/11/2017 | 0.572    | 0.574    |                          |                          |
| 2/12/2017 | 0.459    | 0.592    |                          |                          |
| 2/13/2017 | 0.616    | 0.536    |                          |                          |
| 2/14/2017 | 0.953    | 0.730    |                          |                          |
| 2/15/2017 | 0.694    | 1.044    |                          |                          |
| 2/16/2017 | 0.599    | 0.821    |                          |                          |
| 2/17/2017 | 0.611    | 0.694    |                          |                          |
| 2/18/2017 | 1.091    | 0.590    |                          |                          |
| 2/19/2017 | 0.637    | 0.561    |                          |                          |
| 2/20/2017 | 0.685    | 0.867    |                          |                          |
| 2/21/2017 | 0.158    | 0.764    |                          |                          |
| 2/22/2017 | 0.573    | 0.673    |                          |                          |
| 2/23/2017 | 0.567    | 0.678    |                          |                          |
| 2/24/2017 | 0.510    | 0.676    |                          |                          |
| 2/25/2017 | 0.667    | 0.633    |                          |                          |
| 2/26/2017 | 0.535    | 0.573    |                          |                          |
| 2/27/2017 | 0.560    | 0.605    |                          |                          |
| 2/28/2017 | 0.550    | 0.640    | 0.608                    | 0.645                    |

**WWTP DATA**

| Date      | Influent | Effluent | Monthly Influent Average | Monthly Effluent Average |
|-----------|----------|----------|--------------------------|--------------------------|
| 3/1/2017  | 0.538    | 0.584    |                          |                          |
| 3/2/2017  | 0.544    | 0.688    |                          |                          |
| 3/3/2017  | 0.578    | 0.557    |                          |                          |
| 3/4/2017  | 0.520    | 0.494    |                          |                          |
| 3/5/2017  | 0.551    | 0.512    |                          |                          |
| 3/6/2017  | 0.610    | 0.588    |                          |                          |
| 3/7/2017  | 0.597    | 0.817    |                          |                          |
| 3/8/2017  | 0.559    | 0.545    |                          |                          |
| 3/9/2017  | 0.549    | 0.648    |                          |                          |
| 3/10/2017 | 0.569    | 0.400    |                          |                          |
| 3/11/2017 | 0.661    | 0.466    |                          |                          |
| 3/12/2017 | 0.593    | 0.619    |                          |                          |
| 3/13/2017 | 0.578    | 0.605    |                          |                          |
| 3/14/2017 | 0.558    | 0.654    |                          |                          |
| 3/15/2017 | 0.577    | 0.643    |                          |                          |
| 3/16/2017 | 0.577    | 0.533    |                          |                          |
| 3/17/2017 | 0.431    | 0.595    |                          |                          |
| 3/18/2017 | 0.520    | 0.533    |                          |                          |
| 3/19/2017 | 0.567    | 0.557    |                          |                          |
| 3/20/2017 | 0.562    | 0.639    |                          |                          |
| 3/21/2017 | 0.557    | 0.609    |                          |                          |
| 3/22/2017 | 0.539    | 0.442    |                          |                          |
| 3/23/2017 | 0.544    | 0.496    |                          |                          |
| 3/24/2017 | 0.613    | 0.643    |                          |                          |
| 3/25/2017 | 0.610    | 0.611    |                          |                          |
| 3/26/2017 | 0.623    | 0.571    |                          |                          |
| 3/27/2017 | 0.649    | 0.738    |                          |                          |
| 3/28/2017 | 0.582    | 0.686    |                          |                          |
| 3/29/2017 | 0.672    | 0.643    |                          |                          |
| 3/30/2017 | 0.618    | 0.638    |                          |                          |
| 3/31/2017 | 0.636    | 0.619    | 0.577                    | 0.593                    |
| 4/1/2017  | 0.541    | 0.644    |                          |                          |
| 4/2/2017  | 0.670    | 0.591    |                          |                          |
| 4/3/2017  | 0.697    | 0.729    |                          |                          |
| 4/4/2017  | 0.623    | 0.776    |                          |                          |
| 4/5/2017  | 0.605    | 0.567    |                          |                          |
| 4/6/2017  | 0.600    | 0.627    |                          |                          |
| 4/7/2017  | 0.657    | 0.658    |                          |                          |
| 4/8/2017  | 0.518    | 0.609    |                          |                          |
| 4/9/2017  | 0.589    | 0.565    |                          |                          |
| 4/10/2017 | 0.558    | 0.640    |                          |                          |
| 4/11/2017 | 0.572    | 0.631    |                          |                          |
| 4/12/2017 | 0.535    | 0.604    |                          |                          |
| 4/13/2017 | 0.566    | 0.611    |                          |                          |
| 4/14/2017 | 0.522    | 0.573    |                          |                          |
| 4/15/2017 | 0.649    | 0.565    |                          |                          |
| 4/16/2017 | 0.850    | 0.697    |                          |                          |
| 4/17/2017 | 0.865    | 0.990    |                          |                          |
| 4/18/2017 | 0.675    | 0.964    |                          |                          |
| 4/19/2017 | 0.639    | 0.854    |                          |                          |
| 4/20/2017 | 0.739    | 0.754    |                          |                          |
| 4/21/2017 | 1.798    | 0.594    |                          |                          |
| 4/22/2017 | 1.803    | 1.784    |                          |                          |
| 4/23/2017 | 0.699    | 1.603    |                          |                          |
| 4/24/2017 | 0.904    | 1.360    |                          |                          |
| 4/25/2017 | 1.081    | 1.155    |                          |                          |
| 4/26/2017 | 0.961    | 1.024    |                          |                          |
| 4/27/2017 | 0.879    | 0.993    |                          |                          |
| 4/28/2017 | 0.905    | 0.928    |                          |                          |
| 4/29/2017 | 2.857    | 1.016    |                          |                          |
| 4/30/2017 | 1.747    | 1.957    | 0.847                    | 0.831                    |



**WWTP DATA**

| Date      | Influent | Effluent | Monthly Influent Average | Monthly Effluent Average |
|-----------|----------|----------|--------------------------|--------------------------|
| 5/1/2017  | 1.053    | 1.822    |                          |                          |
| 5/2/2017  | 1.120    | 1.657    |                          |                          |
| 5/3/2017  | 0.825    | 1.417    |                          |                          |
| 5/4/2017  | 0.951    | 1.209    |                          |                          |
| 5/5/2017  | 0.895    | 0.934    |                          |                          |
| 5/6/2017  | 0.772    | 0.895    |                          |                          |
| 5/7/2017  | 0.770    | 0.847    |                          |                          |
| 5/8/2017  | 0.698    | 0.859    |                          |                          |
| 5/9/2017  | 0.694    | 0.857    |                          |                          |
| 5/10/2017 | 0.957    | 0.815    |                          |                          |
| 5/11/2017 | 1.684    | 1.067    |                          |                          |
| 5/12/2017 | 1.631    | 1.481    |                          |                          |
| 5/13/2017 | 1.052    | 1.465    |                          |                          |
| 5/14/2017 | 1.867    | 1.523    |                          |                          |
| 5/15/2017 | 0.944    | 1.301    |                          |                          |
| 5/16/2017 | 0.891    | 1.123    |                          |                          |
| 5/17/2017 | 0.901    | 1.117    |                          |                          |
| 5/18/2017 | 1.307    | 1.009    |                          |                          |
| 5/19/2017 | 2.847    | 1.035    |                          |                          |
| 5/20/2017 | 2.952    | 2.153    |                          |                          |
| 5/21/2017 | 1.703    | 2.397    |                          |                          |
| 5/22/2017 | 1.390    | 2.274    |                          |                          |
| 5/23/2017 | 1.256    | 2.416    |                          |                          |
| 5/24/2017 | 1.006    | 2.044    |                          |                          |
| 5/25/2017 | 0.981    | 1.400    |                          |                          |
| 5/26/2017 | 0.951    | 1.375    |                          |                          |
| 5/27/2017 | 0.790    | 1.051    |                          |                          |
| 5/28/2017 | 0.847    | 0.996    |                          |                          |
| 5/29/2017 | 0.778    | 0.898    |                          |                          |
| 5/30/2017 | 0.708    | 0.930    |                          |                          |
| 5/31/2017 | 0.733    | 0.835    | 1.160                    | 1.329                    |
| 6/1/2017  | 0.710    | 0.835    |                          |                          |
| 6/2/2017  | 0.702    | 0.792    |                          |                          |
| 6/3/2017  | 0.715    | 0.760    |                          |                          |
| 6/4/2017  | 0.691    | 0.778    |                          |                          |
| 6/5/2017  | 0.667    | 1.040    |                          |                          |
| 6/6/2017  | 0.649    | 0.689    |                          |                          |
| 6/7/2017  | 0.614    | 0.759    |                          |                          |
| 6/8/2017  | 0.634    | 0.713    |                          |                          |
| 6/9/2017  | 0.691    | 0.632    |                          |                          |
| 6/10/2017 | 0.563    | 0.557    |                          |                          |
| 6/11/2017 | 0.568    | 0.667    |                          |                          |
| 6/12/2017 | 0.611    | 0.657    |                          |                          |
| 6/13/2017 | 0.609    | 0.607    |                          |                          |
| 6/14/2017 | 0.625    | 0.574    |                          |                          |
| 6/15/2017 | 0.625    | 0.607    |                          |                          |
| 6/16/2017 | 0.692    | 0.799    |                          |                          |
| 6/17/2017 | 0.681    | 0.615    |                          |                          |
| 6/18/2017 | 0.612    | 0.671    |                          |                          |
| 6/19/2017 | 0.638    | 0.726    |                          |                          |
| 6/20/2017 | 0.570    | 0.944    |                          |                          |
| 6/21/2017 | 0.570    | 0.678    |                          |                          |
| 6/22/2017 | 0.639    | 0.585    |                          |                          |
| 6/23/2017 | 0.522    | 0.664    |                          |                          |
| 6/24/2017 | 0.564    | 0.725    |                          |                          |
| 6/25/2017 | 0.558    | 0.631    |                          |                          |
| 6/26/2017 | 0.606    | 0.652    |                          |                          |
| 6/27/2017 | 0.523    | 0.608    |                          |                          |
| 6/28/2017 | 0.556    | 0.644    |                          |                          |
| 6/29/2017 | 0.545    | 0.648    |                          |                          |
| 6/30/2017 | 0.218    | 0.616    | 0.606                    | 0.696                    |

**WWTP DATA**

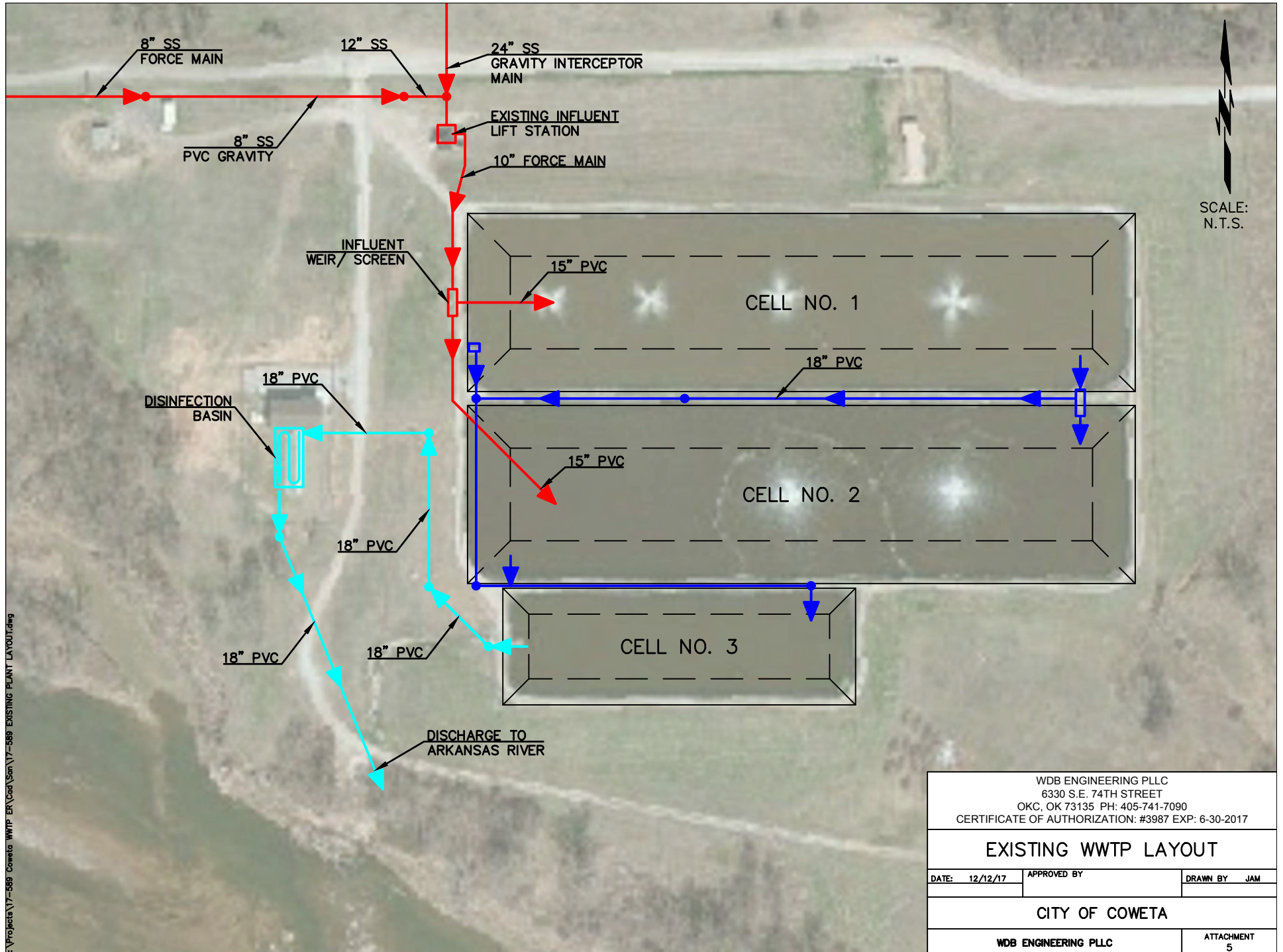
| Date      | Influent | Effluent | Monthly  | Monthly  |
|-----------|----------|----------|----------|----------|
|           |          |          | Influent | Effluent |
|           |          |          | Average  | Average  |
| 7/1/2017  | 0.746    | 0.628    |          |          |
| 7/2/2017  | 0.943    | 0.655    |          |          |
| 7/3/2017  | 0.691    | 0.896    |          |          |
| 7/4/2017  | 0.353    | 0.883    |          |          |
| 7/5/2017  | 1.142    | 0.854    |          |          |
| 7/6/2017  | 0.630    | 0.807    |          |          |
| 7/7/2017  | 0.782    | 0.802    |          |          |
| 7/8/2017  | 0.559    | 0.713    |          |          |
| 7/9/2017  | 0.676    | 0.750    |          |          |
| 7/10/2017 | 0.658    | 0.682    |          |          |
| 7/11/2017 | 0.573    | 0.719    |          |          |
| 7/12/2017 | 0.592    | 0.646    |          |          |
| 7/13/2017 | 0.555    | 0.648    |          |          |
| 7/14/2017 | 0.652    | 0.654    |          |          |
| 7/15/2017 | 0.443    | 0.581    |          |          |
| 7/16/2017 | 0.564    | 0.573    |          |          |
| 7/17/2017 | 0.608    | 0.680    |          |          |
| 7/18/2017 | 0.661    | 0.642    |          |          |
| 7/19/2017 | 0.432    | 0.570    |          |          |
| 7/20/2017 | 0.535    | 0.556    |          |          |
| 7/21/2017 | 0.562    | 0.534    |          |          |
| 7/22/2017 | 0.590    | 0.581    |          |          |
| 7/23/2017 | 0.452    | 0.592    |          |          |
| 7/24/2017 | 0.473    | 0.566    |          |          |
| 7/25/2017 | 0.510    | 0.600    |          |          |
| 7/26/2017 | 0.513    | 0.556    |          |          |
| 7/27/2017 | 0.628    | 0.625    |          |          |
| 7/28/2017 | 0.537    | 0.673    |          |          |
| 7/29/2017 | 0.725    | 0.657    |          |          |
| 7/30/2017 | 0.431    | 0.584    |          |          |
| 7/31/2017 | 0.489    | 0.603    | 0.603    | 0.662    |

**WWTP DATA**

|                  |                   |                   | Monthly<br>Influent<br>Average | Monthly<br>Effluent<br>Average |
|------------------|-------------------|-------------------|--------------------------------|--------------------------------|
| Date             | Influent          | Effluent          |                                |                                |
| 8/1/2017         | 0.581             | 0.613             |                                |                                |
| 8/2/2017         | 0.565             | 0.651             |                                |                                |
| 8/3/2017         | 0.578             | 0.673             |                                |                                |
| 8/4/2017         | 0.623             | 0.689             |                                |                                |
| 8/5/2017         | 1.029             | 0.685             |                                |                                |
| 8/6/2017         | 1.019             | 1.281             |                                |                                |
| 8/7/2017         | 0.798             | 1.467             |                                |                                |
| 8/8/2017         | 0.634             | 1.263             |                                |                                |
| 8/9/2017         | 0.657             | 0.831             |                                |                                |
| 8/10/2017        | 0.908             | 0.744             |                                |                                |
| 8/11/2017        | 0.851             | 0.900             |                                |                                |
| 8/12/2017        | 0.855             | 0.966             |                                |                                |
| 8/13/2017        | 0.828             | 0.908             |                                |                                |
| 8/14/2017        | 1.316             | 1.029             |                                |                                |
| 8/15/2017        | 1.191             | 1.190             |                                |                                |
| 8/16/2017        | 1.469             | 1.395             |                                |                                |
| 8/17/2017        | 1.329             | 1.470             |                                |                                |
| 8/18/2017        | 0.353             | 1.360             |                                |                                |
| 8/19/2017        | 0.903             | 1.086             |                                |                                |
| 8/20/2017        | 0.904             | 1.043             |                                |                                |
| 8/21/2017        | 0.333             | 0.943             |                                |                                |
| 8/22/2017        | 0.685             | 0.665             |                                |                                |
| 8/23/2017        | 0.771             | 0.759             |                                |                                |
| 8/24/2017        | 0.717             | 0.764             |                                |                                |
| 8/25/2017        | 0.575             | 0.671             |                                |                                |
| 8/26/2017        | 0.725             | 0.635             |                                |                                |
| 8/27/2017        | 0.639             | 0.660             |                                |                                |
| 8/28/2017        | 0.648             | 1.084             |                                |                                |
| 8/29/2017        | 0.625             | 0.740             |                                |                                |
| 8/30/2017        | 0.696             | 0.654             |                                |                                |
| 8/31/2017        | no value          | 0.594             | 0.794                          | 0.917                          |
|                  |                   |                   |                                |                                |
|                  |                   |                   |                                |                                |
|                  |                   |                   |                                |                                |
|                  |                   |                   |                                |                                |
|                  | Daily<br>Influent | Daily<br>Effluent | Monthly<br>Influent            | Monthly<br>Effluent            |
| Max              | 2.952             | 2.416             | 1.160                          | 1.329                          |
| Min              | 0.158             | 0.400             | 0.392                          | 0.473                          |
| Average          | 0.725             | 0.794             | 0.673                          | 0.744                          |
| Median           | 0.618             | 0.664             | 0.604                          | 0.653                          |
| Std. Deviation S | 0.358             | 0.342             | 0.199                          | 0.228                          |
| Std. Deviation P | 0.357             | 0.341             | 0.191                          | 0.218                          |
|                  |                   |                   |                                |                                |
| Peaking Factor   | 4.074             | 3.043             | 1.725                          | 1.786                          |

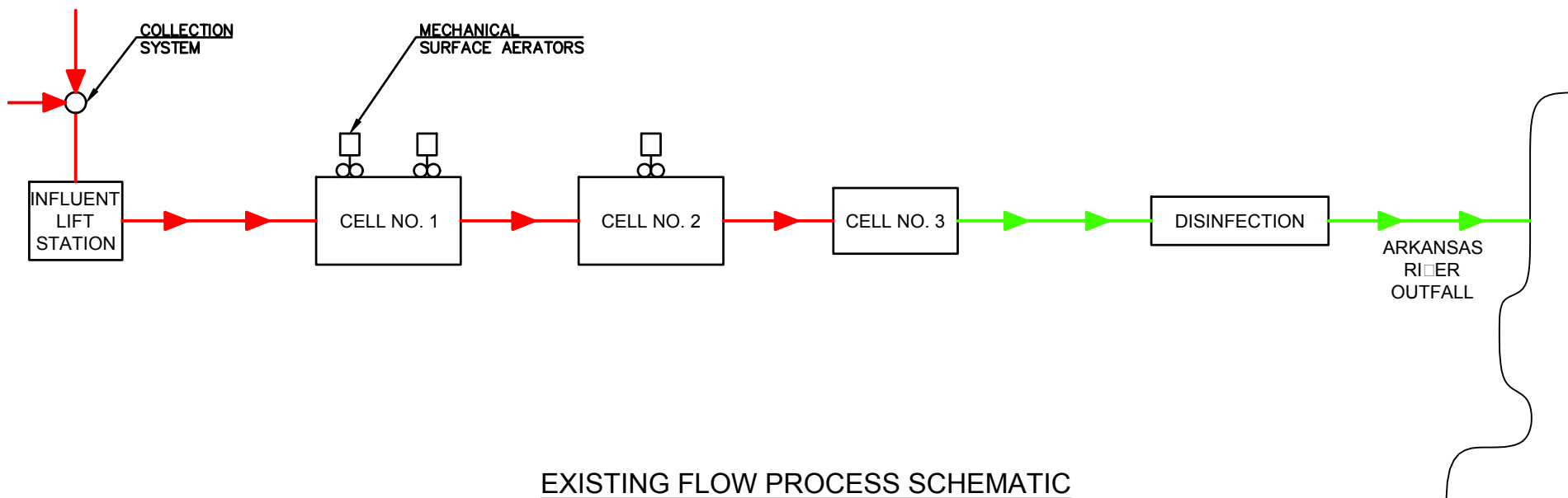
**Attachment 4.**

**Existing WWTP Layout**



**Attachment 5.**

**Existing WWTP Process Flow Schematic**



EXISTING FLOW PROCESS SCHEMATIC

|                                                                                                                                       |             |                 |
|---------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------|
| RAW INFLUENT MIXED LIQUOR<br>SUPERNATANT                                                                                              |             |                 |
| WDB ENGINEERING PLLC<br>6330 S.E. 74TH STREET<br>OKC, OK 73135 PH: 405-741-7090<br>CERTIFICATE OF AUTHORIZATION: #3987 EXP: 6-30-2017 |             |                 |
| <b>COWETA WWTP IMPROVEMENTS</b>                                                                                                       |             |                 |
| DATE: 12/12/17                                                                                                                        | APPROVED BY | DRAWN BY JAM    |
| <b>EXISTING FLOW PROCESS SCHEMATIC</b>                                                                                                |             |                 |
| WDB ENGINEERING PLLC                                                                                                                  |             | ATTACHMENT<br>6 |

**Attachment 6.**

**OPDES Permit No. OK0020281**





SCOTT A. THOMPSON  
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

MARY FALLIN  
Governor

May 9, 2016

**CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

Steven C. Whitlock, City Manager  
Coweta Public Works Authority  
P.O. Box 850  
Coweta, OK 74429

RE: DEQ Application for Renewal, Permit to Discharge Application No. OK0020281  
Coweta PWA – Wastewater Treatment Plant  
Facility ID No. S20410

Dear Mr. Whitlock:

Your new OPDES permit is enclosed. All public notice requirements have been met and public comment periods have expired. The draft permit received no comments; therefore, the final permit has not been changed. The effective and expiration dates of this final permit appear on the cover page.

Previous pre-printed Discharge Monitoring Report (DMR) forms may not be consistent with the new permit requirements and there may be delays in receiving updated DMR forms. We are enclosing a blank DMR form (with instructions), which may be copied and used for reporting if necessary prior to receiving updated DMR forms.

Should you have any questions regarding the final permit, please contact the Municipal Permits Section at the letterhead address or telephone (405) 702-8100. Should you have any questions regarding compliance with the conditions of this permit, please contact the Municipal Wastewater Enforcement Section at the same address and phone number.

Sincerely,

A handwritten signature in black ink, appearing to read "Micheal Jordan".

Micheal Jordan, P.E., Manager  
Municipal Discharge and Stormwater Permit Section  
Water Quality Division

TK/tj CG/ST/MM

Enclosures

c: Robert Werley, Director of Public Works, Coweta PWA



**AUTHORIZATION TO DISCHARGE UNDER THE  
OKLAHOMA POLLUTANT DISCHARGE ELIMINATION SYSTEM**

**PERMIT NUMBER: OK0020281  
ID NUMBER: S20410**

**PART I**

In compliance with the Oklahoma Pollutant Discharge Elimination System Act (OPDES Act), Title 27A O.S. § 2-6-201 *et seq.* as amended, and the rules of the State of Oklahoma Department of Environmental Quality (DEQ) adopted thereunder {See OAC 252:606}; the Federal Clean Water Act, Public Law 95-217 (33 U.S.C. 1251 *et seq.*), Section 402; and NPDES Regulations (40 CFR Parts 122, 124, and 403),

Coweta Public Works Authority  
P.O. Box 850  
Coweta, OK 74429

is hereby authorized to discharge treated wastewater from a facility located at approximately

NW¼, SW¼, Section 30, Township 17 North,  
Range 16 East, Indian Meridian,  
Wagoner County, Oklahoma

to receiving waters: Arkansas River at the point located at approximately

Latitude: 35° 55' 14.689" N [GPS: NAD 1983 CONUS]  
Longitude: 95° 39' 08.170" W [GPS: NAD 1983 CONUS]

Water Body I.D. No. 120410010080\_00

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, III, and IV hereof.

This permit replaces and supersedes the previous permit issued on July 14, 2011.

The issuance date of this permit is May 9, 2016.

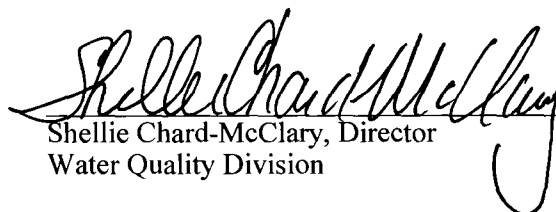
This permit shall become effective June 1, 2016.

This permit and authorization to discharge shall expire at midnight May 31, 2021.

For the Oklahoma Department of Environmental Quality:



Micheal Jordan, P.E., Manager  
Municipal Discharge and Stormwater Permit Section  
Water Quality Division



Shellie Chard-McClary, Director  
Water Quality Division

### A. Final Effluent Limitations and Monitoring Requirements (Outfall 001)

Beginning the effective date of the permit through the expiration date of the permit, the permittee is authorized to discharge treated wastewater in accordance with the following limitations:

| Effluent Characteristic                                         |            | Discharge Limitations |                                                      |             |            | Monitoring Requirements |                  |
|-----------------------------------------------------------------|------------|-----------------------|------------------------------------------------------|-------------|------------|-------------------------|------------------|
|                                                                 |            | Mass Loading (lb/day) | Concentrations (mg/l unless otherwise specified)     |             |            | Frequency               | Sample Type      |
|                                                                 |            | Monthly Avg.          | Monthly Avg.                                         | Weekly Avg. | Daily Max. |                         |                  |
| Flow (mgd)<br>[50050]                                           | Year round | ---                   | Report                                               | ---         | Report     | 7 per week              | Totalized        |
| Biochemical Oxygen Demand -5 Day (BOD <sub>5</sub> )<br>[00310] | Year round | 190.2                 | 30                                                   | 45          | ---        | 3/Month                 | 3-hour composite |
| Total Suspended Solids<br>[00530]                               | Year round | 570.5                 | 90                                                   | 135         | ---        |                         |                  |
| pH (standard unit)<br>[00400]                                   | Year round | ---                   | 6.5 – 9.0                                            |             |            | 2 per week              | Grab             |
| <i>E. coli</i> <sup>a</sup><br>[51040]                          | May – Sept | ---                   | 126 <sup>b</sup>                                     | --          | 406        | 2 per week              |                  |
|                                                                 | Oct – Apr  | ---                   | 630 <sup>b</sup>                                     | ---         | 2,030      | 1 per week              |                  |
| Total Residual Chlorine (TRC)<br>[STORET: 50060]                | Year round | ---                   | Instantaneous Maximum:<br>No Measurable <sup>c</sup> |             |            | Daily                   |                  |

<sup>a</sup> *E. coli* shall be reported in MPN/100 ml.

<sup>b</sup> Monthly data for *E. coli* is reported as geometric mean of all samples in that month.

<sup>c</sup> No measurable is defined as less than 0.1 mg/l.

### Sampling Point

Samples taken for compliance with the monitoring requirements specified above shall be taken at the discharge from the final treatment unit.

### Year-round Requirements

- There shall be no discharge of floating solids or visible foam in other than trace amounts.
- There shall be no discharge of a visible sheen of oil or globules of oil or grease on or in the water. Oil and grease shall not be present in quantities that adhere to stream banks and coat bottoms of water courses or which cause deleterious effects to the biota.
- All monitoring and reporting requirements shall also be in compliance with Part III of this permit.

### B. Sanitary Sewer Overflows

Any bypass in the collection system [sanitary sewer overflow (SSO)] shall be reported in accordance with Part III.B.6 of this permit.

## **PART II. OTHER PERMIT REQUIREMENTS**

### **A. CONTRIBUTING INDUSTRIES AND PRETREATMENT REQUIREMENTS**

1. The following pollutants shall not be introduced into a Publicly Owned Treatment Works (POTW) facility, defined in 40 CFR 403.3(o) “as any devices and systems used in storage, treatment, recycling, and reclamation of municipal sewage and industrial wastes of a liquid nature. It also includes sewers, pipes, and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in Section 502(4) of the Act, which has jurisdiction over the Indirect Discharges to and from such treatment works.”
  - a. Pollutants which create a fire or explosion hazard in the POTW facility, including, but not limited to, wastestreams with a closed cup flashpoint of less than 60°C (140°F) using the test methods specified in 40 CFR 261.21;
  - b. Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, unless the works are specifically designed to accommodate such discharges;
  - c. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW, resulting in interference;
  - d. Any pollutant, including oxygen demanding pollutants (e.g., BOD), released in a discharge at a flow rate and/or pollutant concentration which will cause interference with the POTW;
  - e. Heat in amounts which will inhibit biological activity in the POTW resulting in interference but in no case heat in such quantities that the temperature at the POTW treatment plant exceeds 40°C (104°F) unless the Approval Authority, upon request of the POTW, approves alternate temperature limits;
  - f. Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;
  - g. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems; and
  - h. Any trucked or hauled pollutants, except at discharge points designated by the POTW.
2. The permittee shall require any indirect discharger to the treatment works to comply with the reporting requirements of Sections 204(b), 307, and 308 of the Act, including any requirements established under 40 CFR Part 403.
3. The permittee shall provide adequate notice of the following:
  - a. Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Sections 301 and 306 of the Act and/or Sections 40 CFR 405-499 if it were directly discharging those pollutants;

- b. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit; and
- c. Any notice shall include information on (i) the quality and quantity of effluent to be introduced into the treatment works and (ii) any anticipated impact of the change on the quality or quantity of effluent to be discharged from the POTW.

## **B. RE-OPENER CLAUSE**

This permit may be re-opened for modification or revocation and reissuance to require additional monitoring and/or effluent limitations where actual or potential exceedances of State water quality criteria are determined to be the result of the permittee's discharge to the receiving water(s), or a revised Total Maximum Daily Load (TMDL) is established for the receiving water(s), or when required as technology. Modification or revocation and reissuance of the permit shall follow regulations listed at 40 CFR 124.5.

## **C. BIOSOLIDS/SEWAGE SLUDGE REQUIREMENTS**

1. The biosolids/sewage sludge from this facility is self-contained within the lagoon treatment system.
2. The permittee will be required to prepare and obtain approval of a biosolids/sewage sludge management plan prior to removing biosolids/sewage sludge from the facility. Biosolids/sewage sludge disposal practices shall comply with the Federal regulations for landfills, biosolids/sewage sludge, and solid waste disposal established at 40 CFR Part 257, 503, and the DEQ rules governing Sludge Management (OAC 252:515 and OAC 252:606) as applicable.
3. The permittee is required to maintain all records relevant to biosolids/sewage sludge disposal for the life of the permit. These records shall be made available to the ODEQ upon request.
4. The permittee shall give 120 days prior notice to DEQ of any change planned in the biosolids/sewage sludge disposal practice.
5. The permittee shall also comply with all applicable biosolids/sewage sludge requirements in Part IV of this permit.

## **D. POLLUTION PREVENTION REQUIREMENTS**

1. The permittee shall institute a program within 12 months of the effective date of the permit (or continue an existing program) directed towards optimizing the efficiency and extending the useful life of the facility. The permittee shall consider the following items in the program:
  - a. The influent loadings, flow and design capacity;
  - b. The effluent quality and plant performance;
  - c. The age and expected life of the wastewater treatment facility's equipment;
  - d. Bypasses and overflows of the tributary sewerage system and treatment works;
  - e. New developments at the facility;
  - f. Operator certification and training plans and status;
  - g. The financial status of the facility;
  - h. Preventative maintenance programs and equipment conditions; and
  - i. An overall evaluation of conditions at the facility.

2. The permittee shall prepare the following information on the biosolids/sewage sludge generated by the facility:
  - a. An annual quantitative tabulation of the ultimate disposition of all biosolids/sewage sludge (including, but not limited to, the amount beneficially reused, landfilled, and incinerated).
  - b. An assessment of technological processes and an economic analysis evaluating the potential for beneficial reuse of all biosolids/sewage sludge not currently beneficially reused including a listing of any steps which would be required to achieve the biosolids/sewage sludge quality necessary to beneficially reuse the biosolids/sewage sludge.
  - c. A description of, including the expected results and the anticipated timing for, all projects in process, in planning and/or being considered which are directed towards additional beneficial reuse of biosolids/sewage sludge.
  - d. An analysis of one composite sample of the biosolids/sewage sludge collected prior to ultimate re-use or disposal shall be performed for the pollutants listed in Part IV, Element 1, Section III, Table 3 of the permit.
  - e. A listing of the specific steps (controls/changes) which would be necessary to achieve and sustain the quality of the biosolids/sewage sludge so that the pollutant concentrations in the biosolids/sewage sludge fall below the pollutant concentration criteria listed in Part IV, Element 1, Section III, Table 3 of the permit.
  - f. A listing of, and the anticipated timing for, all projects in process, in planning, and/or being considered which are directed towards meeting the biosolids/sewage sludge quality referenced in (e) above.

The permittee shall certify in writing, within three years of the effective date of the permit, that all pertinent information is available. This certification shall be submitted to:

Oklahoma Department of Environmental Quality  
Water Quality Division  
Municipal Permits Section  
P. O. Box 1677  
707 North Robinson Street  
Oklahoma City, Oklahoma 73101-1677

## **FACT SHEET**

FOR THE DRAFT AUTHORIZATION TO DISCHARGE TO WATERS OF THE UNITED STATES  
UNDER THE OKLAHOMA POLLUTANT DISCHARGE ELIMINATION SYSTEM (OPDES).

DEQ Permit Number: OK0020281

State ID Number: S20410

Applicant: Coweta Public Works Authority  
P.O. Box 850  
Coweta, OK 74429

Issuing Office: Oklahoma Department of Environmental Quality (DEQ)  
Water Quality Division  
707 North Robinson  
P.O. Box 1677  
Oklahoma City, Oklahoma 73101-1677

Prepared By: Tony Kakani, P.E.  
Municipal Permits Section  
Water Quality Division

Date Prepared: April 28, 2016

Reviewed By: Micheal Jordan, P.E., Manager  
Municipal Discharge and Stormwater Permit Section  
Water Quality Division

Michael B. Moe, P.E. Engineering Manager  
Wastewater Group  
Water Quality Division

The State of Oklahoma Department of Environmental Quality (DEQ) has made a tentative determination to issue a permit for the discharge described in the application. The DEQ is the permitting authority and this permit will be enforceable under both Federal and State laws, rules and regulations. Permit requirements are based on NPDES regulations (40 CFR Parts 122, 124, and 403) and the Oklahoma Pollutant Discharge Elimination System Act (OPDES Act), Title 27A O.S., § 2-6-201 *et seq.* and the rules of the DEQ adopted thereunder {See OAC 252:606}.

## **I. PERMITTING BACKGROUND**

### **A. CHRONOLOGY OF PERMITTING ACTIVITIES**

The following is a chronology of permitting activities since issuance of the previous OPDES permit:

|                    |                                                                                   |
|--------------------|-----------------------------------------------------------------------------------|
| March 23, 2016:    | Newspaper publication of public notice of draft permit.                           |
| March 3, 2016:     | Draft permit package sent to applicant for courtesy review and for public notice. |
| February 11, 2016: | Response to option letter for bacteria received from applicant.                   |
| February 4, 2016:  | Option letter for bacteria and reporting units sent to applicant.                 |
| February 3, 2016:  | Administrative review of permit application completed.                            |
| February 1, 2016:  | Certification of public notice of filing of application received.                 |
| January 21, 2016:  | Notice of incomplete application sent to applicant.                               |
| January 19, 2016:  | OPDES permit application (Form 2M2) received.                                     |
| July 14, 2011:     | Previous OPDES permit issued.                                                     |

### **B. PROPOSED PERMITTING ACTION**

It is proposed that Permit No. OK0020281, which was effective August 1, 2011, and expires July 31, 2016, and for which application for renewal was timely submitted prior to permit expiration, be reissued for a five year term in accordance with regulations promulgated at 40 CFR 122.46(a) and OAC 252:606-1-3(b).

## **II. APPLICANT ACTIVITY**

### **A. DESCRIPTION AND LOCATION OF FACILITY**

The facility is located at 29031 E. 164<sup>th</sup> Street South, Coweta, in the NW ¼, SW ¼, Section 30, Township 17 North, Range 16 East, Indian Meridian, Wagoner County, Oklahoma. Under SIC code 4952, the facility provides biological treatment of domestic sewage.

### **B. WASTEWATER GENERATION AND TREATMENT**

#### **1. Treatment Plant**

The facility's design average daily flow is 0.76 million gallons per day (mgd), which is less than the design average daily flow of 3.0 mgd specified in the State of Oklahoma Water Quality Management Plan (WQMP). The wastewater received at this Publicly Owned Treatment Works (POTW) consists of domestic sewage. Biological treatment of the wastestream takes place in a three cell aerated lagoon system and a chlorine contact basin prior to discharge. Liquid chlorine is used for disinfection and sodium bisulfate is used for dechlorination.

#### **2. Industrial Contributions**

According to the information provided in the application, the facility does not receive industrial wastewaters.



### III. DISCHARGE LOCATION

#### Sampling Point and Outfall 001

|                                                  | Location                                                                                                  |                                   |                                   | Receiving Stream |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------|------------------|
|                                                  | Legal Description                                                                                         | Latitude                          | Longitude                         |                  |
| Outfall 001 physical location and sampling point | SW ¼, NW ¼, SW ¼, Section 30, Township 17 North, Range 16 East, Indian Meridian, Wagoner County, Oklahoma | 35° 55' 14.689" N (GPS: 1983 NAD) | 95° 39' 08.170" W (GPS: 1983 NAD) | Arkansas River   |

### IV. TECHNOLOGY-BASED EFFLUENT LIMITATIONS AND CONDITIONS

POTWs treating domestic sewage are required by 40 CFR 133 to provide secondary or secondary-equivalent treatment. The Oklahoma definition of secondary treatment, which sets minimum requirements for developing wasteload allocations for municipalities in the State's Water Quality Management Plan (WQMP), is defined at OAC 252:606-5-2(2). The definitions are dependent on the type of treatment system and whether the receiving stream flow is perennial or intermittent. Since the facility is a lagoon system discharging to a perennial stream, secondary treatment is defined according to OAC 252:606-5-2(2)(D) as indicated below:

#### Lagoon System

- 5-day Biochemical Oxygen Demand (BOD<sub>5</sub>)
  - A monthly average effluent concentration of 30 mg/l BOD<sub>5</sub>
  - A weekly average effluent concentration of 45 mg/l BOD<sub>5</sub>
- Total Suspended Solids (TSS)
  - A monthly average effluent concentration of 90 mg/l TSS
  - A weekly average effluent concentration of 135 mg/l TSS
- pH
  - A pH range between 6.5 and 9.0 standard units, inclusive.

### V. EFFLUENT LIMITATIONS AND CONDITIONS

#### A. RECEIVING STREAM DESIGNATED USES AND ANTIDegradation PROVISIONS

Outfall 001 discharges to the Arkansas River (WBID 120410010080\_00) in Segment 120410 of the Arkansas River Basin. As designated in Appendix A of the Oklahoma Water Quality Standards (OWQS), the designated beneficial uses in this segment are:

- Emergency Public and Private Water Supplies (OAC 785:45-5-11)
- Fish and Wildlife Propagation (OAC 785:45-5-12)/ Warm Water Aquatic Community
- Agriculture (OAC 785:45-5-13)
- Secondary Body Contact Recreation (OAC 785:45-5-17)
- Navigation (OAC 785:45-5-18)
- Aesthetics (OAC 785:45-5-19)
- Fish Consumption (OAC 785:45-5-20)

While Secondary Body Contact Recreation is the stated designated beneficial use for this segment of Arkansas River, footnote (2) in Appendix A of OAC 785:45 states that the criteria for the beneficial use of Primary Body Contact Recreation (PBCR) apply regardless of the recreation use designated. Therefore, the criteria for the protection of PBCR are applied to the Arkansas River in the draft permit.

The Arkansas River is not designated as an Outstanding Resource Water (ORW), High Quality Water (HQW), or Sensitive Water Supply (SWS) in Appendix A of the OWQS. Neither is it designated in Table 1 of Appendix B of the OWQS as an area of ecological and/or recreational significance or in Table 2 of Appendix B as an area containing federally-listed endangered species.

## **B. WATER QUALITY STANDARDS IMPLEMENTATION**

### **1. DO and DO-Demanding Substances – Fish and Wildlife Propagation Use (Outfall 001)**

OAC 785:45-5-12(f)(1) requires that where DO-demanding substances are present in an effluent at significant levels, a WLA must be established according to certain seasonal criteria dependent on the receiving water's aquatic community subcategory. A model was run which indicated that secondary treatment standards are sufficient to maintain water quality standards.

For purposes of establishing permit limitations for DO-demanding substances, the seasonal monthly average limit (MAL) in the draft permit for each effluent characteristic is set equal to the corresponding WLA concentration. The corresponding weekly average limit (WAL) is set equal to 1.5 times the seasonal WLA concentration in accordance with 40 CFR 122.45(d)(2).

### **2. pH – Fish and Wildlife Propagation Use (Outfall 001)**

OAC 785:45-5-12(f)(3) states, "pH values shall be between 6.5 and 9.0 in waters designated for fish and wildlife propagation; unless pH values outside that range are due to natural conditions." This pH range is established in the draft permit.

### **3. Oil and Grease – Fish and Wildlife Propagation Use (Outfall 001)**

In accordance with OAC 785:45-5-12(f)(4), a narrative condition prohibiting the discharge of any visible sheen or globules of oil or grease or in quantities that adhere to stream banks and coat bottoms of water courses or which cause deleterious effects to the biota will be included in the draft permit.

### **4. Bacterial Criteria**

The previous permit issued in 2011 incorporated effluent limitations for fecal coliform for the primary body contact recreation months of May through September. However, fecal coliform has been discontinued from the Water Quality Standards and in accordance with OAC 785:45-5-13 (c), the discharge permit shall contain limitations of either *E. coli* or *Enterococcus*. On February 4, 2016, the facility was asked to choose the bacteria species and the reporting units. The facility informed the DEQ on February 11, 2016 to issue the permit with *E. coli* in MPN/100 ml.

#### **a. Bacteria Limitation – Primary Body Contact Recreation Use (Outfall 001)**

- In accordance with OAC 252:690-3-86(a)(2), the draft permit will have a *E. coli* monthly average limit (MAL) of 126 MPN/100ml, expressed as a geometric mean, and a daily maximum limit (DML) of 406 MPN/100ml in effect for the "recreational period" of May 1 through September 30.

- Segment 120410 of the Arkansas River is impaired for bacteria. Therefore, in accordance with OAC 252:690-3-86(b), from October 1 through April 30; E. Coli monthly average limit of 630 MPN/100ml, expressed as a geometric mean, and the daily maximum limit of 2030 MPN/100ml stated in OAC 252:690-3-86(c)(2) apply to permittees that discharge to streams impaired for bacteria.
- In accordance with OAC 252:690-3-89(a)(3), the draft permit will have a bacteria monitoring frequency of two per week during the months of May through September to protect the PBCR beneficial use and once a week for the months of October through April to protect the SBCR beneficial use since the receiving stream is impaired for bacteria.

**b. Total Coliform – Public and Private Water Supply Use (Outfall 001)**

Since this receiving stream is not listed as a Public and Private Water Supply no permitting action is necessary to protect this use.

**5. Toxicity from Halogenated Oxidants – Fish and Wildlife Propagation Use (Outfall 001)**

OAC 785:46-3-1(c) states “Toxicity from halogens (e.g., chlorine, bromine, and bromochloro compounds) will be controlled by dehalogenation.” Chapter 2, Part III of the CPP implements this narrative criterion as follows: The requirement of OAC 785:46-3-1(c) for dehalogenation is typically implemented as “no measureable amount” in the effluent. “No measurable amount” is defined by the DEQ to be < 0.1 mg/l.

**6. Floatable Solids and Foam – Aesthetics Use (Outfall 001)**

In accordance with OAC 785:45-5-9(b), a narrative condition prohibiting the discharge of floating solids or visible foam in other than trace amounts will be included in the draft permit.

**7. Pretreatment Program**

The DEQ has tentatively determined that the permittee is not required to develop a full pretreatment program.

**8. Biosolids/Sewage Sludge Requirements**

The biosolids/sewage sludge from this facility is self-contained within the lagoon treatment system.

The permittee will be required to prepare and obtain approval of a biosolids/sewage sludge management plan prior to removing biosolids/sewage sludge from the facility. The plan shall comply with the Federal regulations for landfills, biosolids/sewage sludge, and solid waste disposal established at 40 CFR Part 257, 503, and the DEQ rules governing Sludge Management (OAC 252:515 and OAC 252:606) as applicable.

The permittee is required to maintain all records relevant to biosolids/sewage sludge disposal for the life of the permit. These records shall be made available to the ODEQ upon request.

The permittee shall give 120 days prior notice to DEQ of any change planned in the biosolids/sewage sludge disposal practice.

## C. 303(d) LIST ASSESSMENT

### 1. Water Quality Assessment and Causes of Impairment

The Category 5 303(d) list in Appendix C of the 2014 Integrated Report, indicates that this stream segment of the Arkansas River (Waterbody ID 120410010080\_00), to which Coweta's WWTP discharges, is impaired. The listed cause is **Enterococcus**. A Total Maximum Daily Load (TMDL) for this stream segment of the Arkansas River has been completed in October 2008 and a wasteload for Enterococci has been assigned to the facility.

### 2. 303(d) List-Related Permitting Actions

Where impairments are listed, EPA Region 6 policy requires that the draft permit include WQ-based limits or a monitoring and reporting requirement for the listed pollutants if present in the discharge, and a re-opener clause as permit conditions. Therefore, the following permitting actions are taken according to the listed impairments:

- **Enterococci**

While the Arkansas River is listed as impaired for Enterococci; in accordance with OAC 252:690-3-86(d), the permit may contain limitations of E. coli as a surrogate for Enterococci. Year round control of E. coli established in Section V.B.4.a of the draft permit limits the discharge of bacteria in the receiving stream

- **Re-opener Clause**

A re-opener clause is included in the permit to allow for modification and/or reissuance to require additional monitoring and/or effluent limitations where actual or potential exceedances of State water quality criteria are determined to be the result of the permittee's discharge to the receiving water(s), or a revised Total Maximum Daily Load is established for the receiving water(s). Modification and/or reissuance of the permit shall follow regulations listed at 40 CFR 124.5.

## D. ANTIDegradation REQUIREMENTS

Because no antidegradation restrictions are listed in Appendix A of the OWQS for this water body, implementation of the State of Oklahoma antidegradation policy, as described at OAC 785:46, Subchapter 13, states that no special requirements beyond Tier 1 protection (maintenance and protection of designated uses, as herein described) are necessary.

## E. PROTECTION OF ENDANGERED AND THREATENED SPECIES AND CRITICAL HABITAT

The discharge location is located in waters identified as sensitive by the United States Fish and Wildlife Service (USFWS) for endangered or candidate species or critical habitat. This is a permit renewal of an existing discharge, and there is no proposed increase in discharge flow. The reissuing of the permit is not likely to adversely affect a federally listed species, or a designated critical habitat. Therefore, notification to the USFWS is not necessary.

## F. RE-OPENER CLAUSE

A re-opener clause is included in the permit.

## VI. SUMMARY OF PROPOSED PERMIT EFFLUENT LIMITATIONS

### A. GENERAL

In accordance with 40 CFR 122.44(a), (d), and (l), pollutant limitations are established in the draft permit based on the Water Quality Management Plan (208 Plan) for this facility. Mass loading limitations are calculated using the facility's design average daily flow of **0.76 mgd**, which is less than that of 3.0 mgd as specified in the 208 plan, and the following equation:

$$\text{Mass loading limit (in lbs/day)} = \text{Concentration limit (in mg/l)} \times Q_{e(D)} \text{ (permitted flow in mgd)} \times 8.34$$

### B. OUTFALL 001

#### 1. Final Limitations

Final limits and reporting requirements are effective on the effective date of the permit:

##### i. Final Concentration Limitations (mg/l) and Reporting Requirements (Outfall 001)

| Effluent Characteristic <sup>a</sup> |            | Water Quality Standards                            |                   | Previous Permit                                    |                 | Draft Permit                                       |                   |
|--------------------------------------|------------|----------------------------------------------------|-------------------|----------------------------------------------------|-----------------|----------------------------------------------------|-------------------|
|                                      |            | Monthly Average                                    | Weekly Average    | Monthly Average                                    | Weekly Average  | Monthly Average                                    | Weekly Average    |
| BOD <sub>5</sub>                     | Year round | 30                                                 | 45                | 30                                                 | 45              | 30                                                 | 45                |
| TSS                                  | Year round | 90                                                 | 135               | 90                                                 | 135             | 90                                                 | 135               |
| Fecal Coliform (colonies/100 ml)     | May – Sep  | ---                                                | ---               | 200 (geo. mean)                                    | 400 (daily max) | <b>Discontinued</b>                                |                   |
| E. coli (MPN/100 ml)                 | May – Sep  | 126 (geo. mean)                                    | 406 (daily max)   | ---                                                | ---             | 126 (geo. mean)                                    | 406 (daily max)   |
|                                      | Oct – Apr  | 630 (geo. mean)                                    | 2,030 (daily max) | ---                                                | ---             | 630 (geo. mean)                                    | 2,030 (daily max) |
| Total Residual Chlorine (TRC)        | Year round | Instantaneous Maximum: No measureable <sup>b</sup> |                   | Instantaneous Maximum: No measureable <sup>b</sup> |                 | Instantaneous Maximum: No measureable <sup>b</sup> |                   |
| pH (standard units)                  | Year round | 6.5 to 9.0                                         |                   | 6.5 to 9.0                                         |                 | 6.5 to 9.0                                         |                   |

<sup>a</sup> Units are mg/l, unless otherwise specified.

<sup>b</sup> No measurable is defined as less than 0.1 mg/l.

##### ii. Final Monthly Average Mass Loading Limitations (lbs/day) and Reporting Requirements (Outfall 001)

| Effluent Characteristic |            | Water Quality Standards | Previous Permit | Draft Permit |
|-------------------------|------------|-------------------------|-----------------|--------------|
| Flow (mgd)              | Year round | ---                     | Report          | Report       |
| BOD <sub>5</sub>        | Year round | 190.2                   | 190.2           | 190.2        |
| TSS                     | Year round | 570.5                   | 570.5           | 570.5        |

### iii. Final Monitoring Requirements and Sample Types (Outfall 001)

| Effluent Characteristic       |                  | Previous OPDES Permit |             | Draft Permit              |             |
|-------------------------------|------------------|-----------------------|-------------|---------------------------|-------------|
|                               |                  | Measurement Frequency | Sample Type | Measurement Frequency     | Sample Type |
| Flow                          | Year round       | 7 per week            | Totalized   | 7 per week                | Totalized   |
| BOD <sub>5</sub>              | Year round       | 3 per month           | 3-hour comp | 3 per month               | 3-hour comp |
| TSS                           | Year round       | 3 per month           | 3-hour comp | 3 per month               | 3-hour comp |
| Fecal Coliform                | May – Sep        | 2/week                | Grab        | <b>Discontinued</b>       |             |
| <b>E. coli</b>                | May – Sep        | ---                   | ---         | <b>2/week<sup>a</sup></b> | Grab        |
|                               | <b>Oct – Apr</b> | ---                   | ---         | <b>1/week<sup>b</sup></b> | Grab        |
| Total Residual Chlorine (TRC) | Year round       | Daily                 | Grab        | Daily                     | Grab        |
| pH                            | Year round       | 2 per week            | Grab        | 2 per week                | Grab        |

<sup>a</sup> E. coli monitoring frequency for PBCR in accordance with OAC 252:690-3-89(a)(3)(A).

<sup>b</sup> E. coli monitoring frequency for SBCR in accordance with OAC 252: 690-3-89(a)(3)(B).

## VII. SUMMARY OF CHANGES FROM PREVIOUS PERMIT

- Bacteria limits of fecal coliform in previous permit have been replaced by E. coli limits (126 MPN/100 ml monthly geometric mean, 406 MPN/100 ml daily max) due to changes in the Water Quality Standards (OAC 785:45).
- E. coli limits (630 MPN/100 ml monthly geometric mean, 2030 MPN/100 ml daily max) added for the months of October through April to protect SBCR beneficial use as the Arkansas River is impaired for bacteria.
- Added monitoring frequency of 1/week for E. coli for the months of October through April.

## VIII. REVIEW BY OTHER AGENCIES AND FINAL DETERMINATION

A draft permit and draft public notice will be sent to the District Engineer, Corps of Engineers, State Historical Preservation Office and to the Field Supervisor of the U.S. Fish and Wildlife Service upon the publication of the notice. If comments are received from these agencies or other State or Federal agencies with jurisdiction over fish, wildlife, or public health, the permit may be denied or additional conditions may be included in accordance with regulations promulgated at 40 CFR 124.59.

The public notice describes the procedures for the formulation of final determinations.

**Attachment 7.**

**FACT Environmental Effects Matrix**

## Appendix A

### F A C T Environmental Effects Matrix

|           |                                   | Alternative 1 |     |    | Alternative 2 |     |    | Alternative 3 |     |    | Alternative 4 |    |    |
|-----------|-----------------------------------|---------------|-----|----|---------------|-----|----|---------------|-----|----|---------------|----|----|
|           |                                   | NLA           | MA  | LA | NLA           | MA  | LA | NLA           | MA  | LA | NLA           | MA | LA |
| 106 NHPA  | Historical Properties (SHPO/TPHO) | X             |     |    | X             |     |    | X             |     |    |               |    |    |
|           | State Archaeologist               | X             |     |    | X             |     |    | X             |     |    |               |    |    |
|           | BIA                               | X             |     |    | X             |     |    | X             |     |    |               |    |    |
|           | Tribes/Nations                    | X             |     |    | X             |     |    | X             |     |    |               |    |    |
| ESA 1973  | USFWS/IPAC                        | X             |     |    | X             |     |    | X             |     |    |               |    |    |
| CWA 1977  | Wetlands                          | X             |     |    | X             |     |    | X             |     |    |               |    |    |
|           | Storm Water Pollution Prevention  | X             |     |    | X             |     |    | X             |     |    |               |    |    |
|           | Section 404 Permit (USACOE)       | X             |     |    | X             |     |    | X             |     |    |               |    |    |
|           | Sole Source Aquifers              |               | N/A |    |               | N/A |    |               | N/A |    |               |    |    |
| EO11988   | FloodPlains                       |               |     |    |               | ?   |    |               |     |    |               |    |    |
|           | Real Property (facilities)        |               | N/A |    |               | N/A |    |               | N/A |    |               |    |    |
| CAA 1970  | Air Quality                       | X             |     |    | X             |     |    | X             |     |    |               |    |    |
|           | Petroleum on-site storage         |               | N/A |    |               | N/A |    |               | N/A |    |               |    |    |
| SWDA1965  | Solidwaste Disposal               | X             |     |    | X             |     |    | X             |     |    |               |    |    |
| RCRA      | Hazardous Substances              |               | N/A |    |               | N/A |    |               | N/A |    |               |    |    |
| EO 12898  | Environmental Justice             | X             |     |    | X             |     |    | X             |     |    |               |    |    |
|           | Socioeconomics                    | X             |     |    | X             |     |    | X             |     |    |               |    |    |
| NCA 1972  | Noise                             | X             |     |    | X             |     |    | X             |     |    |               |    |    |
| WA 1996   | Wilderness Areas                  |               | N/A |    |               | N/A |    |               | N/A |    |               |    |    |
| WSRA 1968 | Wild and Scenic Rivers            |               | N/A |    |               | N/A |    |               | N/A |    |               |    |    |
|           | Recreational Areas                |               | N/A |    |               | N/A |    |               | N/A |    |               |    |    |
|           | Public Lands                      |               | N/A |    |               | N/A |    |               | N/A |    |               |    |    |
|           | Parks                             |               | N/A |    |               | N/A |    |               | N/A |    |               |    |    |
| FPPA 1981 | Prime Farmland                    |               | N/A |    |               | N/A |    |               | N/A |    |               |    |    |
| CZMA 1972 | Coastal                           |               | N/A |    |               | N/A |    |               | N/A |    |               |    |    |

|     |                      |
|-----|----------------------|
| NLA | Not likely to affect |
| MA  | May affect           |
| LA  | Likely to affect     |

|           |                                                                                                                        |
|-----------|------------------------------------------------------------------------------------------------------------------------|
| 106 NHPA  | National Historic Preservation Act of 1966                                                                             |
| ESA 1973  | Endangered Species Act of 1973                                                                                         |
| CWA 1977  | Clean Water Act updated 1987                                                                                           |
| EO11988   | Executive Order 11988 Floodplain Management 1977                                                                       |
| CAA 1970  | Clean Air Act amended 1990                                                                                             |
| SWDA1965  | Solid Waste Disposal Act 1965                                                                                          |
| RCRA      | Resource Conservation and Recovery Act                                                                                 |
| EO 12898  | Executive Order 12898 Actions to Address Environmental Justice in Minority Populations and Low-Income Populations 1994 |
| NCA 1972  | Noise Control Act 1972                                                                                                 |
| WA 1996   | Wilderness Act of 1996                                                                                                 |
| WSRA 1968 | Wild and Scenic Rivers Act of 1968                                                                                     |
| FPPA 1981 | Farmland Protection Policy Act of 1981                                                                                 |
| CZMA 1972 | Coastal Zone Management Act of 1972                                                                                    |



**Attachment 8.**

**Alternative 1 Cost Estimate**

Coweta WWTP  
Alternative 1 - Estimated Costs

| Item Description                                              | Item Cost               |
|---------------------------------------------------------------|-------------------------|
| Headworks (Pump(s), Bar Screen(s), Grit Removal)              | \$ 2,500,000.00         |
| Aeration Basin Tanks (foundation, concrete and reinforcement) | \$ 2,050,000.00         |
| Aeration Basin Equipment (Blowers and Diffusers)              | \$ 750,000.00           |
| Digester Basin Tanks (foundation, concrete and reinforcement) | \$ 550,000.00           |
| Digester Equipment (Blowers and Diffusers)                    | \$ 400,000.00           |
| Secondary Clarifiers (Including RAS/WAS)                      | \$ 1,050,000.00         |
| Yard Piping                                                   | \$ 700,000.00           |
| SCADA                                                         | \$ 150,000.00           |
| Chlorination Basin Modification                               | \$ 150,000.00           |
| Lab Building                                                  | \$ 120,000.00           |
| FEB Basin                                                     | \$ 500,000.00           |
| Sludge Drying Beds                                            | \$ 200,000.00           |
| Electrical                                                    | \$ 600,000.00           |
|                                                               |                         |
| <b>TOTAL ESTIMATED CONSTRUCTION COST</b>                      | <b>\$ 9,720,000.00</b>  |
|                                                               |                         |
| Contingency (10%)                                             | \$ 972,000.00           |
| Engineering                                                   | \$ 583,200.00           |
| Environmental Information Document                            | \$ 12,000.00            |
| Construction Inspection                                       | \$ 184,680.00           |
| Sludge Management Plan                                        | \$ 8,500.00             |
| Survey                                                        | \$ 5,000.00             |
| Legal                                                         | \$ 6,000.00             |
| ODEQ Permitting                                               | \$ 6,000.00             |
|                                                               |                         |
| <b>TOTAL ESTIMATED PROJECT COST</b>                           | <b>\$ 11,497,380.00</b> |

| PRESENT WORTH ANALYSIS                  |                         |
|-----------------------------------------|-------------------------|
|                                         |                         |
| Initial Capital Cost                    | \$ 11,497,380.00        |
|                                         |                         |
| <b>Annual O&amp;M Costs</b>             |                         |
| Labor (WWTP Only)                       | \$ 46,000.00            |
| Electric/Utilities                      | \$ 164,353.40           |
| Repairs/Maintenance                     | \$ 8,500.00             |
| Supplies/Misc.                          | \$ 2,500.00             |
| Chemical (Chlorination/Dechlorination)  | \$ 15,000.00            |
| Sludge Disposal                         | \$ 6,000.00             |
| Annual O&M Subtotal                     | \$ 242,353.40           |
| 30-YR PRESENT WORTH OF ANNUAL O&M COSTS | \$ 5,820,320.02         |
| (P/A, i=1.5%, n=30)                     |                         |
| <b>PRESENT WORTH ESTIMATED PROJECT</b>  | <b>\$ 17,317,700.02</b> |

**Attachment 9.**

**Alternative 2 Cost Estimate**

Coweta WWTP  
Alternative 2 - Estimated Costs

| Item Description                                          | Item Cost               |
|-----------------------------------------------------------|-------------------------|
| Headworks (Pump(s), Bar Screen(s), Grit Removal)          | \$ 2,500,000.00         |
| Modification of Cell #1 (Concrete, structural Steel Only) | \$ 1,872,000.00         |
| Aeration Basin Equipment (Blowers and Diffusers)          | \$ 650,000.00           |
| Digester Equipment (Blowers and Diffusers)                | \$ 400,000.00           |
| Secondary Clarifiers (Including RAS/WAS)                  | \$ 2,050,000.00         |
| Yard Piping                                               | \$ 700,000.00           |
| SCADA                                                     | \$ 150,000.00           |
| Chlorination Basin Modification                           | \$ 150,000.00           |
| Lab Building                                              | \$ 120,000.00           |
| Sludge Drying Beds                                        | \$ 200,000.00           |
| Electrical                                                | \$ 600,000.00           |
|                                                           |                         |
| <b>TOTAL ESTIMATED CONSTRUCTION COST</b>                  | <b>\$ 9,392,000.00</b>  |
|                                                           |                         |
| Contingency (10%)                                         | \$ 939,200.00           |
| Engineering                                               | \$ 563,520.00           |
| Environmental Information Document                        | \$ 12,000.00            |
| Construction Inspection                                   | \$ 178,448.00           |
| Sludge Management Plan                                    | \$ 8,500.00             |
| Survey                                                    | \$ 5,000.00             |
| Legal                                                     | \$ 6,000.00             |
| ODEQ Permitting                                           | \$ 6,000.00             |
|                                                           |                         |
| <b>TOTAL ESTIMATED PROJECT COST</b>                       | <b>\$ 11,110,668.00</b> |

| PRESENT WORTH ANALYSIS                             |                         |
|----------------------------------------------------|-------------------------|
|                                                    |                         |
| Initial Capital Cost                               | <b>\$ 11,110,668.00</b> |
|                                                    |                         |
| <b>Annual O&amp;M Costs</b>                        |                         |
| Labor (WWTP Only)                                  | \$ 46,000.00            |
| Electric/Utilities                                 | \$ 164,353.40           |
| Repairs/Maintenance                                | \$ 8,500.00             |
| Supplies/Misc.                                     | \$ 2,500.00             |
| Chemical (Chlorination/Dechlorination)             | \$ 15,000.00            |
| Sludge Disposal                                    | \$ 6,000.00             |
| Annual O&M Subtotal                                | \$ 242,353.40           |
| <b>30-YR PRESENT WORTH OF ANNUAL O&amp;M COSTS</b> | <b>\$ 5,820,320.02</b>  |
| (P A,i=1.5%, n=30)                                 |                         |
| <b>PRESENT WORTH ESTIMATED PROJECT</b>             | <b>\$ 16,930,988.02</b> |

**Attachment 10.**

**Alternative 3 Cost Estimate**

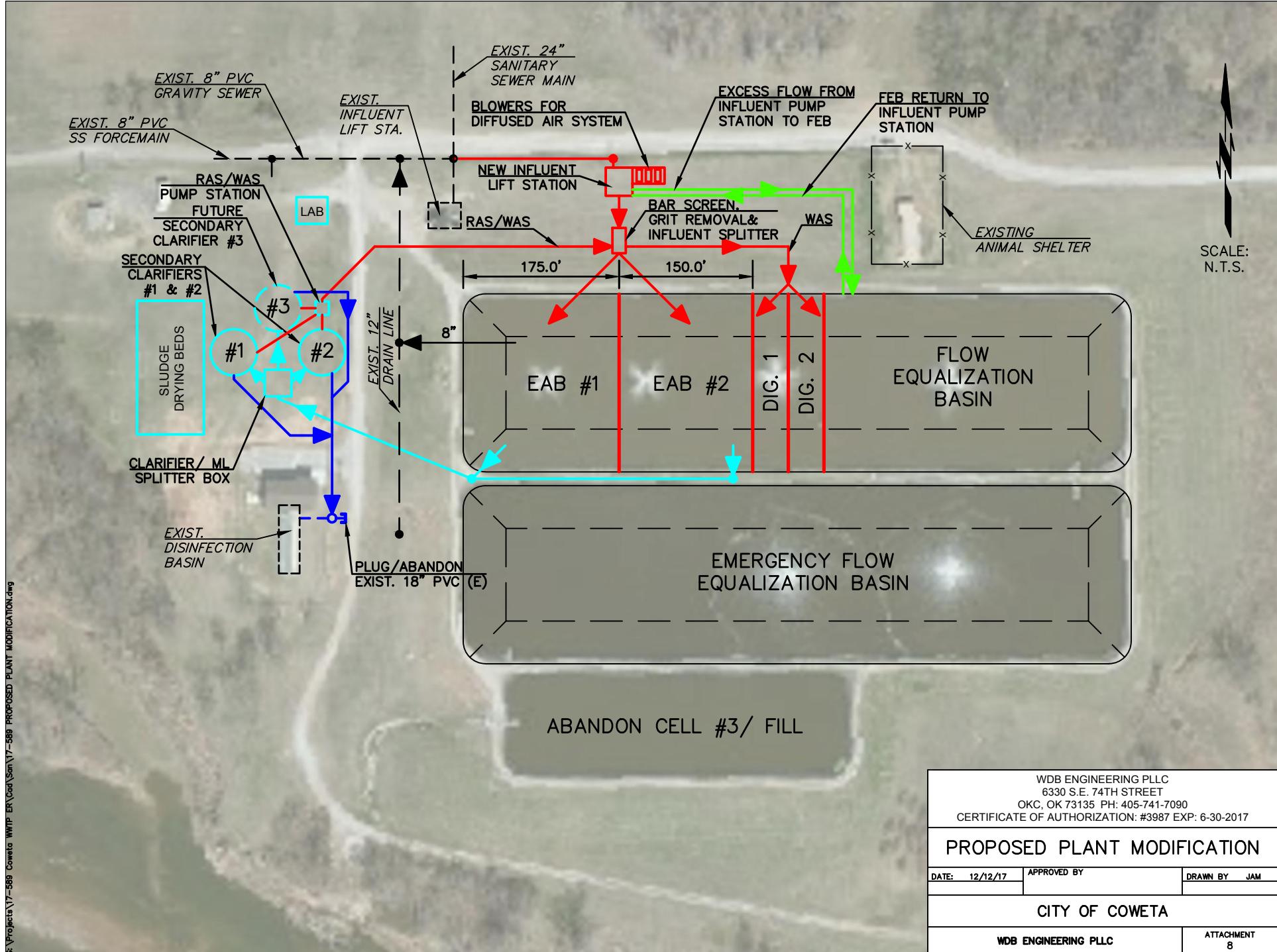
Coweta WWTP  
Alternative 3 - Estimated Costs

| Item Description                                              | Item Cost               |
|---------------------------------------------------------------|-------------------------|
| Headworks (Pump(s), Bar Screen(s), Grit Removal)              | \$ 2,500,000.00         |
| SBR Tanks (foundation, concrete and reinforcement)            | \$ 2,050,000.00         |
| Aeration Equipment (Blowers and Diffusers)                    | \$ 650,000.00           |
| Digester Basin Tanks (foundation, concrete and reinforcement) | \$ 550,000.00           |
| Digester Equipment (Blowers and Diffusers)                    | \$ 400,000.00           |
| Equilization basin                                            | \$ 2,000,000.00         |
| Yard Piping                                                   | \$ 700,000.00           |
| SCADA                                                         | \$ 150,000.00           |
| Chlorination Basin Modification                               | \$ 150,000.00           |
| Lab Building                                                  | \$ 120,000.00           |
| FEB basin                                                     | \$ 500,000.00           |
| Sludge Drying Beds                                            | \$ 200,000.00           |
| Electrical                                                    | \$ 600,000.00           |
|                                                               |                         |
| <b>TOTAL ESTIMATED CONSTRUCTION COST</b>                      | <b>\$ 10,570,000.00</b> |
|                                                               |                         |
| Contingency (10%)                                             | \$ 1,057,000.00         |
| Engineering                                                   | \$ 634,200.00           |
| Environmental Information Document                            | \$ 12,000.00            |
| Construction Inspection                                       | \$ 200,830.00           |
| Sludge Management Plan                                        | \$ 8,500.00             |
| Survey                                                        | \$ 5,000.00             |
| Legal                                                         | \$ 6,000.00             |
| ODEQ Permitting                                               | \$ 6,000.00             |
|                                                               |                         |
| <b>TOTAL ESTIMATED PROJECT COST</b>                           | <b>\$ 12,499,530.00</b> |

| PRESENT WORTH ANALYSIS                             |                         |
|----------------------------------------------------|-------------------------|
|                                                    |                         |
| Initial Capital Cost                               | <b>\$ 12,499,530.00</b> |
|                                                    |                         |
| <b>Annual O&amp;M Costs</b>                        |                         |
| Labor (WWTP Only)                                  | \$ 46,000.00            |
| Electric/Utilities                                 | \$ 142,131.28           |
| Repairs/Maintenance                                | \$ 10,000.00            |
| Supplies/Misc.                                     | \$ 2,500.00             |
| Chemical (Chlorination/Dechlorination)             | \$ 15,000.00            |
| Sludge Disposal                                    | \$ 6,000.00             |
| Annual O&M Subtotal                                | \$ 221,631.28           |
| <b>30-YR PRESENT WORTH OF ANNUAL O&amp;M COSTS</b> | <b>\$ 5,322,660.81</b>  |
| ( $P/A, i=1.5\%, n=30$ )                           |                         |
| <b>PRESENT WORTH ESTIMATED PROJECT</b>             | <b>\$ 17,822,190.81</b> |

**Attachment 11.**

**Proposed WWTP Layout**



Z:\Projects\17-589 Coweta WWP ER\Gad\San\17-589 PROPOSED PLANT MODIFICATION.dwg

WDB ENGINEERING PLLC  
6330 S.E. 74TH STREET  
OKC, OK 73135 PH: 405-741-7090  
CERTIFICATE OF AUTHORIZATION: #3987 EXP: 6-30-2017

### PROPOSED PLANT MODIFICATION

|                |             |              |
|----------------|-------------|--------------|
| DATE: 12/12/17 | APPROVED BY | DRAWN BY JAM |
|----------------|-------------|--------------|

CITY OF COWETA

WDB ENGINEERING PLLC

ATTACHMENT  
8



**Attachment 12.**

**US Fish and Wildlife Service (USFWS) Correspondence**

December 10, 2018

U.S. Department of Interior  
Fish & Wildlife Service  
Ecological Services  
9014 East 21st St.  
Tulsa, OK 74129

To Whom It May Concern:

Re: Wastewater Treatment Plant Project to Serve the City of Coweta

The Coweta Public Works Authority (CPWA) owns a publicly owned wastewater treatment works (POTW) that serves the residents of the City of Coweta. The POTW consists of a wastewater collection system, and wastewater treatment plant (WWTP) utilizing flow-through lagoons equipped with mechanical aeration followed by a polishing pond, and disinfection basin.

The CPWA is projected to grow at a pace exceeding the state average for the next 20 years. The CPWA is expanding their wastewater treatment plant to meet the projected growth. The project will be funded through a loan from the Oklahoma Water Resources Board (OWRB) - Clean Water State Revolving Fund (CWSRF) in the amount of \$11,308,168. Compliance with the National Environmental Protection Act of 1969 (NEPA) and the Environmental Review procedures for CWSRF projects is required on this project.

The proposed project consists of modifying and upgrading the existing WWTP to accommodate an average daily flow up to 1.5 MGD. The proposed project includes: a new influent lift station; lagoon system improvements; aeration basin improvements; two (2) new aerobic sludge digesters; a new flow equalization basin; two (2) new secondary clarifiers, an activated sludge pump station; sludge drying beds improvements; and disinfection basin modifications.

The project location is the N½, SW1/4, Section 30, Township 17 North, Range 16 East, Indian Meridian, Wagoner County, Oklahoma. All construction will be on the existing plant site which is mowed and maintained by CPWA staff. **Location map is included.**

On-site inspections will be carried out while construction is in progress. No individuals will be displaced because of this project. To complete the environmental review, we would appreciate a written response on the proposed project from your agency. **Please comment on any agency areas of concern.** We do not anticipate that the proposed project will have a significant impact on the environment and appreciate your assistance and response.

Sincerely,

David Wyatt, P.E.  
WDB Engineering, PLLC.



## 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:

January 31, 2019

Consultation Code: 02EKOK00-2019-SLI-0837

Event Code: 02EKOK00-2019-E-01904

Project Name: Coweta Wastewater Treatment Plant Upgrade

Subject: List of threatened and endangered species that may occur in your proposed project location, and/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>

Non-federal entities conducting activities that may result in take of listed species should consider seeking coverage under section 10 of the ESA, either through development of a Habitat Conservation Plan (HCP) or, by becoming a signatory to the General Conservation Plan (GCP) currently under development for the American burying beetle. Each of these mechanisms provides the means for obtaining a permit and coverage for incidental take of listed species during otherwise lawful activities.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

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 Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit through our Project Review step-wise process <http://www.fws.gov/southwest/es/oklahoma/OKESFO%20Permit%20Home.htm>.

---

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

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## Project Summary

Consultation Code: 02EKOK00-2019-SLI-0837

Event Code: 02EKOK00-2019-E-01904

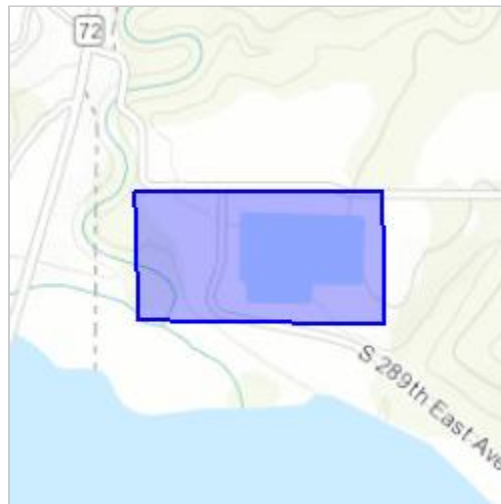
Project Name: Coweta Wastewater Treatment Plant Upgrade

Project Type: WASTEWATER FACILITY

Project Description: 1.5 MGD wastewater treatment plant upgrade of existing facility.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/35.92172526933105N95.65134426442046W>



Counties: Wagoner, OK

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## 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<sup>1</sup>, 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.

- 
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     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Gray Bat <i>Myotis grisescens</i><br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/6329">https://ecos.fws.gov/ecp/species/6329</a>                     | Endangered |
| Northern Long-eared Bat <i>Myotis septentrionalis</i><br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a> | Threatened |

---



## Birds

| NAME                                                                                                                                                                                                                                                                                                                                                                                                           | STATUS     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <b>Least Tern <i>Sterna antillarum</i></b><br>Population: interior pop.<br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/8505">https://ecos.fws.gov/ecp/species/8505</a>                                                                                                                                                             | Endangered |
| <b>Piping Plover <i>Charadrius melodus</i></b><br>Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered.<br>There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/6039">https://ecos.fws.gov/ecp/species/6039</a> | Threatened |
| <b>Red Knot <i>Calidris canutus rufa</i></b><br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/1864">https://ecos.fws.gov/ecp/species/1864</a>                                                                                                                                                                                        | Threatened |
| <b>Whooping Crane <i>Grus americana</i></b><br>Population: Wherever found, except where listed as an experimental population<br>There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/758">https://ecos.fws.gov/ecp/species/758</a>                                                            | Endangered |

## Insects

| NAME                                                                                                                                                                                                                                                                                                                 | STATUS     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <b>American Burying Beetle <i>Nicrophorus americanus</i></b><br>Population: Wherever found, except where listed as an experimental population<br>No critical habitat has been designated for this species.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/66">https://ecos.fws.gov/ecp/species/66</a> | Endangered |

## 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<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

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](#).

- 
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)

THERE ARE NO FWS MIGRATORY BIRDS OF CONCERN WITHIN THE VICINITY OF YOUR PROJECT AREA.

## 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](#) and/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 [E-bird Explore Data 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.

## FRESHWATER POND

- [PUBK](#)

## RIVERINE

- [R2UBH](#)
-

**Attachment 13.**

**Oklahoma Tourism and Recreation Department Correspondence**

December 10, 2018

Oklahoma State Parks  
Okla. Tourism & Recreation Dept.  
P.O. Box 52002  
Oklahoma City, OK 73152

To Whom It May Concern:

Re: Wastewater Treatment Plant Project to Serve the City of Coweta

The Coweta Public Works Authority (CPWA) owns a publicly owned wastewater treatment works (POTW) that serves the residents of the City of Coweta. The POTW consists of a wastewater collection system, and wastewater treatment plant (WWTP) utilizing flow-through lagoons equipped with mechanical aeration followed by a polishing pond, and disinfection basin.

The CPWA is projected to grow at a pace exceeding the state average for the next 20 years. The CPWA is expanding their wastewater treatment plant to meet the projected growth. The project will be funded through a loan from the Oklahoma Water Resources Board (OWRB) - Clean Water State Revolving Fund (CWSRF) in the amount of \$11,308,168. Compliance with the National Environmental Protection Act of 1969 (NEPA) and the Environmental Review procedures for CWSRF projects is required on this project.

The proposed project consists of modifying and upgrading the existing WWTP to accommodate an average daily flow up to 1.5 MGD. The proposed project includes: a new influent lift station; lagoon system improvements; aeration basin improvements; two (2) new aerobic sludge digesters; a new flow equalization basin; two (2) new secondary clarifiers, an activated sludge pump station; sludge drying beds improvements; and disinfection basin modifications.

The project location is the N½, SW1/4, Section 30, Township 17 North, Range 16 East, Indian Meridian, Wagoner County, Oklahoma. All construction will be on the existing plant site which is mowed and maintained by CPWA staff. **Location map is included.**

On-site inspections will be carried out while construction is in progress. No individuals will be displaced because of this project. To complete the environmental review, we would appreciate a written response on the proposed project from your agency. **Please comment on any agency areas of concern.** We do not anticipate that the proposed project will have a significant impact on the environment and appreciate your assistance and response.

Sincerely,

David Wyatt, P.E.  
WDB Engineering, PLLC.



**Attachment 14.**

**US Department of Agriculture (USDA) Natural Resources Conservation Service  
(NRCS) Correspondence**

December 10, 2018

State Conservationist  
U.S. Dept. of Agriculture / Nat. Resources Conserv. Serv.  
Okla. State Office  
100 USDA, Suite 206  
Stillwater, OK 74074-2655

To Whom It May Concern:

Re: Wastewater Treatment Plant Project to Serve the City of Coweta

The Coweta Public Works Authority (CPWA) owns a publicly owned wastewater treatment works (POTW) that serves the residents of the City of Coweta. The POTW consists of a wastewater collection system, and wastewater treatment plant (WWTP) utilizing flow-through lagoons equipped with mechanical aeration followed by a polishing pond, and disinfection basin.

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On-site inspections will be carried out while construction is in progress. No individuals will be displaced because of this project. To complete the environmental review, we would appreciate a written response on the proposed project from your agency. **Please comment on any agency areas of concern.** We do not anticipate that the proposed project will have a significant impact on the environment and appreciate your assistance and response.

Sincerely,

David Wyatt, P.E.  
WDB Engineering, PLLC.

**Attachment 15.**

**NRCS Web Soil Survey Map**



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 **Wagoner County, Oklahoma**

**City of Coweta WWTP  
Improvements Environmental  
Review**



February 19, 2019

# Preface

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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](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

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

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

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

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

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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# 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

## Custom Soil Resource Report

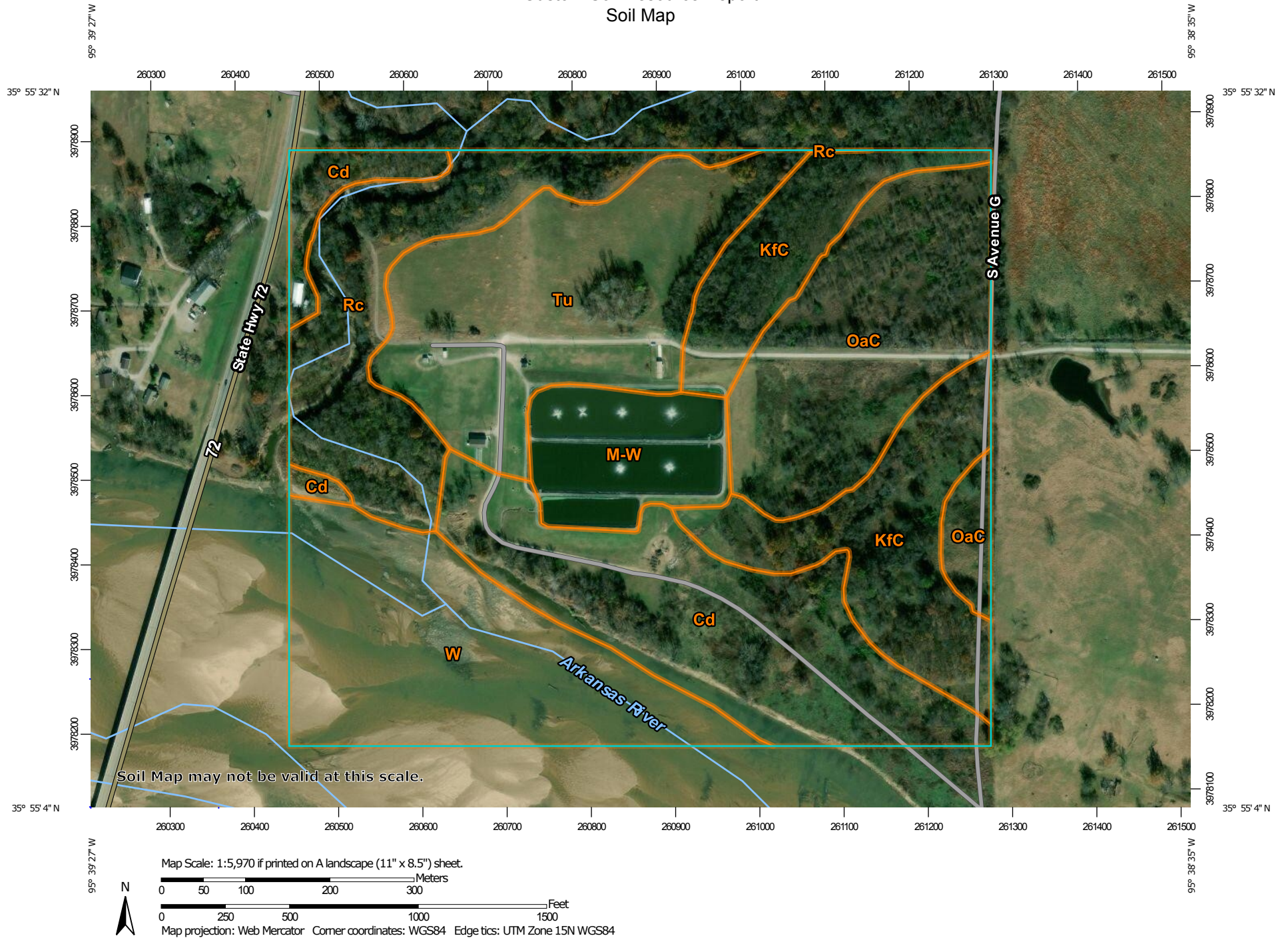
identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

# 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



# Custom Soil Resource Report

## 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 1:24,000.

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: Wagoner County, Oklahoma  
Survey Area Data: Version 14, Sep 5, 2018

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

Date(s) aerial images were photographed: Mar 10, 2015—Nov 19, 2017

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 |
|------------------------------------|------------------------------------------------------------------------|--------------|----------------|
| Cd                                 | Choska silt loam, 0 to 1 percent slopes, occasionally flooded          | 26.9         | 18.5%          |
| KfC                                | Kamie fine sandy loam, 1 to 5 percent slopes                           | 22.3         | 15.3%          |
| M-W                                | Miscellaneous water                                                    | 8.8          | 6.0%           |
| OaC                                | Okay loam, 3 to 5 percent slopes                                       | 22.3         | 15.3%          |
| Rc                                 | Radley silt loam, 0 to 1 percent slopes, frequently flooded            | 16.9         | 11.6%          |
| Tu                                 | Tallahassee fine sandy loam, 0 to 1 percent slopes, frequently flooded | 24.6         | 16.9%          |
| W                                  | Water                                                                  | 23.7         | 16.3%          |
| <b>Totals for Area of Interest</b> |                                                                        | <b>145.4</b> | <b>100.0%</b>  |

## 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.



## Wagoner County, Oklahoma

### **Cd—Choska silt loam, 0 to 1 percent slopes, occasionally flooded**

#### **Map Unit Setting**

*National map unit symbol:* 3l2p  
*Elevation:* 10 to 1,000 feet  
*Mean annual precipitation:* 36 to 60 inches  
*Mean annual air temperature:* 50 to 70 degrees F  
*Frost-free period:* 190 to 300 days  
*Farmland classification:* All areas are prime farmland

#### **Map Unit Composition**

*Choska and similar soils:* 80 percent  
*Minor components:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### **Description of Choska**

##### **Setting**

*Landform:* Flood-plain steps  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex

##### **Typical profile**

*A - 0 to 14 inches:* silt loam  
*C1 - 14 to 48 inches:* very fine sandy loam  
*C2 - 48 to 66 inches:* loamy fine sand

##### **Properties and qualities**

*Slope:* 0 to 1 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Well drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.60 to 2.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* Occasional  
*Frequency of ponding:* None  
*Available water storage in profile:* High (about 10.2 inches)

##### **Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 2w  
*Hydrologic Soil Group:* B  
*Ecological site:* Loamy Terrace (R112XY123KS)  
*Forage suitability group:* Unnamed (G112XY020OK)  
*Hydric soil rating:* No

#### **Minor Components**

##### **Moreland**

*Percent of map unit:* 5 percent  
*Landform:* Flood plains  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear



## Custom Soil Resource Report

*Ecological site:* Wet Floodplain (R112XY124KS)

*Hydric soil rating:* No

### **Mason**

*Percent of map unit:* 5 percent

*Landform:* Flood plains

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Ecological site:* Loamy Terrace (R112XY123KS)

*Hydric soil rating:* No

### **Latanier**

*Percent of map unit:* 5 percent

*Landform:* Plains on paleoterraces

*Landform position (three-dimensional):* Talf

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Ecological site:* Wet Floodplain (R112XY124KS)

*Hydric soil rating:* No

### **Kiomatia**

*Percent of map unit:* 5 percent

*Landform:* Flood plains

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Ecological site:* Sandy Bottomland - Kiomatia (R118BY068OK)

*Hydric soil rating:* No

## **KfC—Kamie fine sandy loam, 1 to 5 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 3l32

*Elevation:* 500 to 1,500 feet

*Mean annual precipitation:* 37 to 51 inches

*Mean annual air temperature:* 57 to 64 degrees F

*Frost-free period:* 200 to 230 days

*Farmland classification:* All areas are prime farmland

### **Map Unit Composition**

*Kamie and similar soils:* 94 percent

*Minor components:* 6 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Kamie**

#### **Setting**

*Landform:* Paleoterraces

*Landform position (three-dimensional):* Riser

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Parent material:* Loamy and sandy alluvium

**Typical profile**

*Ap - 0 to 6 inches:* fine sandy loam  
*E - 6 to 18 inches:* fine sandy loam  
*Bt - 18 to 56 inches:* sandy clay loam  
*BC - 56 to 70 inches:* fine sandy loam

**Properties and qualities**

*Slope:* 1 to 5 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Well drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.60 to 2.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water storage in profile:* Moderate (about 9.0 inches)

**Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3e  
*Hydrologic Soil Group:* B  
*Ecological site:* Loamy Terrace - Formerly Sandy Savannah R118B075OK (R118BY004OK)  
*Forage suitability group:* Unnamed (G112XY112OK)  
*Hydric soil rating:* No

**Minor Components**

**Okay**

*Percent of map unit:* 6 percent  
*Landform:* Paleoterraces  
*Landform position (three-dimensional):* Riser  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Ecological site:* Loamy prairie (Northeast) PE 62-80 (R112XY059OK)  
*Hydric soil rating:* No

**M-W—Miscellaneous water**

**Map Unit Setting**

*National map unit symbol:* rldd  
*Elevation:* 250 to 4,000 feet  
*Mean annual precipitation:* 39 to 48 inches  
*Mean annual air temperature:* 58 to 60 degrees F  
*Frost-free period:* 190 to 240 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Water, miscellaneous:* 100 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

## **Description of Water, Miscellaneous**

### **Typical profile**

*W - 0 to 80 inches: water*

### **Interpretive groups**

*Land capability classification (irrigated): None specified*

*Land capability classification (nonirrigated): 8*

*Hydrologic Soil Group: D*

*Hydric soil rating: No*

## **OaC—Okay loam, 3 to 5 percent slopes**

### **Map Unit Setting**

*National map unit symbol: 3l3j*

*Elevation: 500 to 1,500 feet*

*Mean annual precipitation: 37 to 51 inches*

*Mean annual air temperature: 57 to 64 degrees F*

*Frost-free period: 190 to 230 days*

*Farmland classification: All areas are prime farmland*

### **Map Unit Composition**

*Okay and similar soils: 75 percent*

*Minor components: 25 percent*

*Estimates are based on observations, descriptions, and transects of the mapunit.*

## **Description of Okay**

### **Setting**

*Landform: Paleoterraces*

*Landform position (three-dimensional): Riser*

*Down-slope shape: Convex*

*Across-slope shape: Linear*

*Parent material: Loamy alluvium*

### **Typical profile**

*Ap - 0 to 13 inches: loam*

*Bt - 13 to 40 inches: clay loam*

*BC - 40 to 66 inches: fine sandy loam*

### **Properties and qualities**

*Slope: 3 to 5 percent*

*Depth to restrictive feature: More than 80 inches*

*Natural drainage class: Well drained*

*Runoff class: Low*

*Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)*

*Depth to water table: More than 80 inches*

*Frequency of flooding: None*

*Frequency of ponding: None*

*Available water storage in profile: High (about 9.2 inches)*

**Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3e  
*Hydrologic Soil Group:* B  
*Ecological site:* Loamy prairie (Northeast) PE 62-80 (R112XY059OK)  
*Forage suitability group:* Unnamed (G112XY017OK)  
*Hydric soil rating:* No

**Minor Components**

**Newtonia**

*Percent of map unit:* 15 percent  
*Landform:* Hillslopes on hills  
*Landform position (two-dimensional):* Backslope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Ecological site:* Loamy prairie (Northeast) PE 62-80 (R112XY059OK)  
*Hydric soil rating:* No

**Kamie**

*Percent of map unit:* 7 percent  
*Landform:* Paleoterraces  
*Landform position (three-dimensional):* Riser  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Ecological site:* Loamy Terrace - Formerly Sandy Savannah R118B075OK  
(R118BY004OK)  
*Hydric soil rating:* No

**Choteau**

*Percent of map unit:* 3 percent  
*Landform:* Paleoterraces  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex  
*Ecological site:* Loamy prairie (Northeast) PE 62-80 (R112XY059OK)  
*Hydric soil rating:* No

**Rc—Radley silt loam, 0 to 1 percent slopes, frequently flooded**

**Map Unit Setting**

*National map unit symbol:* 2w222  
*Elevation:* 500 to 920 feet  
*Mean annual precipitation:* 38 to 47 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**

*Radley and similar soils:* 80 percent

## Custom Soil Resource Report

*Minor components: 20 percent*

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Radley

#### Setting

*Landform: Flood-plain steps*

*Landform position (three-dimensional): Tread*

*Down-slope shape: Linear*

*Across-slope shape: Linear*

*Parent material: Silty alluvium*

#### Typical profile

*Ap - 0 to 16 inches: silt loam*

*Bw - 16 to 41 inches: silty clay loam*

*C - 41 to 79 inches: silty clay loam*

#### Properties and qualities

*Slope: 0 to 1 percent*

*Depth to restrictive feature: More than 80 inches*

*Natural drainage class: Moderately 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: Frequent*

*Frequency of ponding: None*

*Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*

*Available water storage in profile: High (about 12.0 inches)*

#### Interpretive groups

*Land capability classification (irrigated): None specified*

*Land capability classification (nonirrigated): 5w*

*Hydrologic Soil Group: B*

*Ecological site: Loamy bottomland PE 62-80 (R112XY050OK)*

*Hydric soil rating: No*

### Minor Components

#### Wynona

*Percent of map unit: 10 percent*

*Landform: Flood plains*

*Landform position (three-dimensional): Tread*

*Down-slope shape: Linear*

*Across-slope shape: Linear*

*Ecological site: Loamy bottomland PE 62-80 (R112XY050OK)*

*Hydric soil rating: Yes*

#### Cleora

*Percent of map unit: 5 percent*

*Landform: Flood plains*

*Landform position (three-dimensional): Tread*

*Down-slope shape: Linear*

*Across-slope shape: Linear*

*Ecological site: Quercus macrocarpa-Quercus bicolor/Elymus virginicus-Cinna arundinacea (F112XY052MO)*

*Hydric soil rating: No*

**Choska**

*Percent of map unit:* 5 percent  
*Landform:* Stream terraces on flood plains  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex  
*Ecological site:* Loamy bottomland PE 62-80 (R112XY050OK)  
*Hydric soil rating:* No

**Tu—Tallahassee fine sandy loam, 0 to 1 percent slopes, frequently flooded**

**Map Unit Setting**

*National map unit symbol:* 2w7l8  
*Elevation:* 500 to 1,020 feet  
*Mean annual precipitation:* 38 to 44 inches  
*Mean annual air temperature:* 58 to 62 degrees F  
*Frost-free period:* 190 to 225 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

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

**Description of Tallahassee**

**Setting**

*Landform:* Flood plains  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Loamy alluvium

**Typical profile**

*A - 0 to 16 inches:* fine sandy loam  
*C1 - 16 to 56 inches:* fine sandy loam  
*C2 - 56 to 79 inches:* stratified fine sandy loam to loam

**Properties and qualities**

*Slope:* 0 to 1 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Somewhat poorly drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.57 to 5.95 in/hr)  
*Depth to water table:* About 6 to 36 inches  
*Frequency of flooding:* Frequent  
*Frequency of ponding:* None  
*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

## Custom Soil Resource Report

*Available water storage in profile:* Moderate (about 8.3 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 5w

*Hydrologic Soil Group:* A/D

*Ecological site:* Subirrigated PE 62-80 (R112XY095OK)

*Hydric soil rating:* Yes

### Minor Components

#### Choska

*Percent of map unit:* 4 percent

*Landform:* Stream terraces

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Linear

*Across-slope shape:* Convex

*Ecological site:* Loamy bottomland PE 62-80 (R112XY050OK)

*Hydric soil rating:* No

#### Cleora

*Percent of map unit:* 3 percent

*Landform:* Flood plains

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Ecological site:* Loamy bottomland PE 62-80 (R112XY050OK)

*Hydric soil rating:* No

#### Mason

*Percent of map unit:* 2 percent

*Landform:* Stream terraces

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Ecological site:* Loamy Lowland (Draft) (PE 35-42) (R112XY013KS)

*Hydric soil rating:* No

#### Madill

*Percent of map unit:* 2 percent

*Landform:* Flood-plain steps

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Ecological site:* Loamy bottomland PE 62-80 (R112XY050OK)

*Hydric soil rating:* No

#### Wynona

*Percent of map unit:* 2 percent

*Landform:* Flood-plain steps

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Ecological site:* Loamy bottomland PE 62-80 (R112XY050OK)

*Hydric soil rating:* Yes

#### Verdigris

*Percent of map unit:* 2 percent

## Custom Soil Resource Report

*Landform:* Flood-plain steps  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Ecological site:* Loamy bottomland PE 62-80 (R112XY050OK)  
*Hydric soil rating:* No

### **W—Water**

#### **Map Unit Setting**

*National map unit symbol:* 3l3y  
*Elevation:* 250 to 4,000 feet  
*Mean annual precipitation:* 22 to 48 inches  
*Mean annual air temperature:* 57 to 64 degrees F  
*Frost-free period:* 190 to 240 days  
*Farmland classification:* Not prime farmland

#### **Map Unit Composition**

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

#### **Description of Water**

##### **Typical profile**

*W - 0 to 80 inches:* water

##### **Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 8  
*Forage suitability group:* Unnamed (G112XY999OK)  
*Hydric soil rating:* No



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- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelpdb1043084>

## Custom Soil Resource Report

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**Attachment 16.**

**Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map  
(FIRM)**



**Attachment 17.**

**Oklahoma Water Resources Board (OWRB) Water Management Division  
Correspondence**



December 10, 2018

Water Management Division  
Oklahoma Water Resources Board  
3800 N. Classen Blvd.  
Oklahoma City, OK 73118

To Whom It May Concern:

Re: Wastewater Treatment Plant Project to Serve the City of Coweta

The Coweta Public Works Authority (CPWA) owns a publicly owned wastewater treatment works (POTW) that serves the residents of the City of Coweta. The POTW consists of a wastewater collection system, and wastewater treatment plant (WWTP) utilizing flow-through lagoons equipped with mechanical aeration followed by a polishing pond, and disinfection basin.

The CPWA is projected to grow at a pace exceeding the state average for the next 20 years. The CPWA is expanding their wastewater treatment plant to meet the projected growth. The project will be funded through a loan from the Oklahoma Water Resources Board (OWRB) - Clean Water State Revolving Fund (CWSRF) in the amount of \$11,308,168. Compliance with the National Environmental Protection Act of 1969 (NEPA) and the Environmental Review procedures for CWSRF projects is required on this project.

The proposed project consists of modifying and upgrading the existing WWTP to accommodate an average daily flow up to 1.5 MGD. The proposed project includes: a new influent lift station; lagoon system improvements; aeration basin improvements; two (2) new aerobic sludge digesters; a new flow equalization basin; two (2) new secondary clarifiers, an activated sludge pump station; sludge drying beds improvements; and disinfection basin modifications.

The project location is the N½, SW1/4, Section 30, Township 17 North, Range 16 East, Indian Meridian, Wagoner County, Oklahoma. All construction will be on the existing plant site which is mowed and maintained by CPWA staff. **Location map is included.**

On-site inspections will be carried out while construction is in progress. No individuals will be displaced because of this project. To complete the environmental review, we would appreciate a written response on the proposed project from your agency. **Please comment on any agency areas of concern.** We do not anticipate that the proposed project will have a significant impact on the environment and appreciate your assistance and response.

Sincerely,

David Wyatt, P.E.  
WDB Engineering, PLLC.



STATE OF OKLAHOMA  
WATER RESOURCES BOARD

www.owrb.ok.gov

OKLAHOMA WATER RESOURCES BOARD

Planning & Management Division  
Oklahoma City, OK

**PUBLIC NOTICE REVIEW**

☐ We have no comments to offer. ☒ 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](http://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 at all possible.

**Reviewer:** Cathy L. Poage, CFM

**DATE** 1/11/2019

**Project Name:** Proposed Wastewater Treatment Plant Project for Coweta, Located in the N ½ SW ¼ of Section 30, T17N, R16E1M, in Wagoner County, OK

**FIRM Name:** WDB Engineering PLLC, David Wyatt, P.E.  
**CC:** Rachael Cooper, CFM, FPA Wagoner County

\* Wagoner County participates in the NFIP and has a floodplain development permitting system. See paragraph above.



3800 N. CLASSEN BOULEVARD • OKLAHOMA CITY, OKLAHOMA 73118  
TELEPHONE (405) 530-8800 • FAX (405) 530-8900

Stephen B. Allen • Jennifer Castillo • Charles Darby • Bob Drake  
F. Ford Drummond • Jason W. Hitch • Robert L. Melton • Matt Muller • Robert Stallings



**Attachment 18.**

**FEMA Region 6 Mitigation Division Correspondence**



December 10, 2018

U.S. Department of Homeland Security  
FEMA Region IV  
Fed'l Insurance & Mitigation Admin.  
800 North Loop 288  
Denton, TX 76209-3698

To Whom It May Concern:

Re: Wastewater Treatment Plant Project to Serve the City of Coweta

The Coweta Public Works Authority (CPWA) owns a publicly owned wastewater treatment works (POTW) that serves the residents of the City of Coweta. The POTW consists of a wastewater collection system, and wastewater treatment plant (WWTP) utilizing flow-through lagoons equipped with mechanical aeration followed by a polishing pond, and disinfection basin.

The CPWA is projected to grow at a pace exceeding the state average for the next 20 years. The CPWA is expanding their wastewater treatment plant to meet the projected growth. The project will be funded through a loan from the Oklahoma Water Resources Board (OWRB) - Clean Water State Revolving Fund (CWSRF) in the amount of \$11,308,168. Compliance with the National Environmental Protection Act of 1969 (NEPA) and the Environmental Review procedures for CWSRF projects is required on this project.

The proposed project consists of modifying and upgrading the existing WWTP to accommodate an average daily flow up to 1.5 MGD. The proposed project includes: a new influent lift station; lagoon system improvements; aeration basin improvements; two (2) new aerobic sludge digesters; a new flow equalization basin; two (2) new secondary clarifiers, an activated sludge pump station; sludge drying beds improvements; and disinfection basin modifications.

The project location is the N½, SW1/4, Section 30, Township 17 North, Range 16 East, Indian Meridian, Wagoner County, Oklahoma. All construction will be on the existing plant site which is mowed and maintained by CPWA staff. **Location map is included.**

On-site inspections will be carried out while construction is in progress. No individuals will be displaced because of this project. To complete the environmental review, we would appreciate a written response on the proposed project from your agency. **Please comment on any agency areas of concern.** We do not anticipate that the proposed project will have a significant impact on the environment and appreciate your assistance and response.

Sincerely,

David Wyatt, P.E.  
WDB Engineering, PLLC.



**FEMA**

FEDERAL EMERGENCY MANAGEMENT AGENCY  
REGION 6  
MITIGATION DIVISION

**RE: Wastewater Treatment Plant Project to Serve the City of Coweta**

## **NOTICE REVIEW/ENVIRONMENTAL CONSULTATION**

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☐ We have no comments to offer.      ☒ We offer the following comments:

**WE WOULD REQUEST THAT THE COMMUNITY FLOODPLAIN  
ADMINISTRATOR BE CONTACTED FOR THE REVIEW AND POSSIBLE PERMIT  
REQUIREMENTS FOR THIS PROJECT. IF FEDERALLY FUNDED, WE WOULD  
REQUEST PROJECT TO BE IN COMPLIANCE WITH EO11988 & EO 11990.**

William "Chip" Cohrs III, PE, PLS  
City Engineer  
PO. Box 850  
Coweta, OK 74429  
wmcohrrs@cityofcoweta-ok.gov  
(918) 486-2189

---

REVIEWER:

*Colleen Sciano*  
Floodplain Management and Insurance Branch  
Mitigation Division  
(940) 383-7257

DATE: January 10, 2019

**Attachment 19.**

**Wagoner County Floodplain Administrator Correspondence**

December 10, 2018

Floodplain Administrator  
Wagoner County Courthouse  
307 E. Cherokee, 3rd Floor  
Wagoner, OK 74467

To Whom It May Concern:

Re: Wastewater Treatment Plant Project to Serve the City of Coweta

The Coweta Public Works Authority (CPWA) owns a publicly owned wastewater treatment works (POTW) that serves the residents of the City of Coweta. The POTW consists of a wastewater collection system, and wastewater treatment plant (WWTP) utilizing flow-through lagoons equipped with mechanical aeration followed by a polishing pond, and disinfection basin.

The CPWA is projected to grow at a pace exceeding the state average for the next 20 years. The CPWA is expanding their wastewater treatment plant to meet the projected growth. The project will be funded through a loan from the Oklahoma Water Resources Board (OWRB) - Clean Water State Revolving Fund (CWSRF) in the amount of \$11,308,168. Compliance with the National Environmental Protection Act of 1969 (NEPA) and the Environmental Review procedures for CWSRF projects is required on this project.

The proposed project consists of modifying and upgrading the existing WWTP to accommodate an average daily flow up to 1.5 MGD. The proposed project includes: a new influent lift station; lagoon system improvements; aeration basin improvements; two (2) new aerobic sludge digesters; a new flow equalization basin; two (2) new secondary clarifiers, an activated sludge pump station; sludge drying beds improvements; and disinfection basin modifications.

The project location is the N½, SW1/4, Section 30, Township 17 North, Range 16 East, Indian Meridian, Wagoner County, Oklahoma. All construction will be on the existing plant site which is mowed and maintained by CPWA staff. **Location map is included.**

On-site inspections will be carried out while construction is in progress. No individuals will be displaced because of this project. To complete the environmental review, we would appreciate a written response on the proposed project from your agency. **Please comment on any agency areas of concern.** We do not anticipate that the proposed project will have a significant impact on the environment and appreciate your assistance and response.

Sincerely,

David Wyatt, P.E.  
WDB Engineering, PLLC.

**Attachment 20.**

**City of Coweta Floodplain Administrator Correspondence**

December 10, 2018

Floodplain Administrator  
City of Coweta  
310 S. Broadway  
Coweta, OK 74429

To Whom It May Concern:

Re: Wastewater Treatment Plant Project to Serve the City of Coweta

The Coweta Public Works Authority (CPWA) owns a publicly owned wastewater treatment works (POTW) that serves the residents of the City of Coweta. The POTW consists of a wastewater collection system, and wastewater treatment plant (WWTP) utilizing flow-through lagoons equipped with mechanical aeration followed by a polishing pond, and disinfection basin.

The CPWA is projected to grow at a pace exceeding the state average for the next 20 years. The CPWA is expanding their wastewater treatment plant to meet the projected growth. The project will be funded through a loan from the Oklahoma Water Resources Board (OWRB) - Clean Water State Revolving Fund (CWSRF) in the amount of \$11,308,168. Compliance with the National Environmental Protection Act of 1969 (NEPA) and the Environmental Review procedures for CWSRF projects is required on this project.

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The project location is the N½, SW1/4, Section 30, Township 17 North, Range 16 East, Indian Meridian, Wagoner County, Oklahoma. All construction will be on the existing plant site which is mowed and maintained by CPWA staff. **Location map is included.**

On-site inspections will be carried out while construction is in progress. No individuals will be displaced because of this project. To complete the environmental review, we would appreciate a written response on the proposed project from your agency. **Please comment on any agency areas of concern.** We do not anticipate that the proposed project will have a significant impact on the environment and appreciate your assistance and response.

Sincerely,

David Wyatt, P.E.  
WDB Engineering, PLLC.



POST OFFICE BOX 850 • COWETA, OKLAHOMA 74429 • PH. (918) 486-2189 • FAX (918) 486-5366 • [www.cityofcoweta-ok.gov](http://www.cityofcoweta-ok.gov)

February 27, 2019

RE: Environmental Information Document

WDB Engineering P.L.L.C.  
6330 SE. 7<sup>th</sup> Street  
Oklahoma City, OK 73135

To Whom it May Concern:

I have reviewed the project and documents provided and do not see any adverse impact to the flood plain in the City of Coweta.

Sincerely,

Wm. H. Cohrs, III, P.E.  
Flood Plain Administrator  
City of Coweta, OK.

**Attachment 21.**

**US Army Corps of Engineers (USACE) Water Management Branch  
Correspondence**



December 10, 2018

Water Management Branch  
U.S. ARMY CORPS OF ENGINEERS  
ATTN: CESWT-PE-P  
2488 East 81<sup>st</sup> Street  
Tulsa, OK 74127

To Whom It May Concern:

Re: Wastewater Treatment Plant Project to Serve the City of Coweta

The Coweta Public Works Authority (CPWA) owns a publicly owned wastewater treatment works (POTW) that serves the residents of the City of Coweta. The POTW consists of a wastewater collection system, and wastewater treatment plant (WWTP) utilizing flow-through lagoons equipped with mechanical aeration followed by a polishing pond, and disinfection basin.

The CPWA is projected to grow at a pace exceeding the state average for the next 20 years. The CPWA is expanding their wastewater treatment plant to meet the projected growth. The project will be funded through a loan from the Oklahoma Water Resources Board (OWRB) - Clean Water State Revolving Fund (CWSRF) in the amount of \$11,308,168. Compliance with the National Environmental Protection Act of 1969 (NEPA) and the Environmental Review procedures for CWSRF projects is required on this project.

The proposed project consists of modifying and upgrading the existing WWTP to accommodate an average daily flow up to 1.5 MGD. The proposed project includes: a new influent lift station; lagoon system improvements; aeration basin improvements; two (2) new aerobic sludge digesters; a new flow equalization basin; two (2) new secondary clarifiers, an activated sludge pump station; sludge drying beds improvements; and disinfection basin modifications.

The project location is the N½, SW1/4, Section 30, Township 17 North, Range 16 East, Indian Meridian, Wagoner County, Oklahoma. All construction will be on the existing plant site which is mowed and maintained by CPWA staff. **Location map is included.**

On-site inspections will be carried out while construction is in progress. No individuals will be displaced because of this project. To complete the environmental review, we would appreciate a written response on the proposed project from your agency. **Please comment on any agency areas of concern.** We do not anticipate that the proposed project will have a significant impact on the environment and appreciate your assistance and response.

Sincerely,

David Wyatt, P.E.  
WDB Engineering, PLLC.

**Attachment 22.**

**USACE Regulatory Branch Correspondence**

December 10, 2018

Regulatory Branch  
DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS  
ATTN: CESWT-PE-R  
2488 East 81<sup>st</sup> Street  
Tulsa, OK 74127

To Whom It May Concern:

Re: Wastewater Treatment Plant Project to Serve the City of Coweta

The Coweta Public Works Authority (CPWA) owns a publicly owned wastewater treatment works (POTW) that serves the residents of the City of Coweta. The POTW consists of a wastewater collection system, and wastewater treatment plant (WWTP) utilizing flow-through lagoons equipped with mechanical aeration followed by a polishing pond, and disinfection basin.

The CPWA is projected to grow at a pace exceeding the state average for the next 20 years. The CPWA is expanding their wastewater treatment plant to meet the projected growth. The project will be funded through a loan from the Oklahoma Water Resources Board (OWRB) - Clean Water State Revolving Fund (CWSRF) in the amount of \$11,308,168. Compliance with the National Environmental Protection Act of 1969 (NEPA) and the Environmental Review procedures for CWSRF projects is required on this project.

The proposed project consists of modifying and upgrading the existing WWTP to accommodate an average daily flow up to 1.5 MGD. The proposed project includes: a new influent lift station; lagoon system improvements; aeration basin improvements; two (2) new aerobic sludge digesters; a new flow equalization basin; two (2) new secondary clarifiers, an activated sludge pump station; sludge drying beds improvements; and disinfection basin modifications.

The project location is the N½, SW1/4, Section 30, Township 17 North, Range 16 East, Indian Meridian, Wagoner County, Oklahoma. All construction will be on the existing plant site which is mowed and maintained by CPWA staff. **Location map is included.**

On-site inspections will be carried out while construction is in progress. No individuals will be displaced because of this project. To complete the environmental review, we would appreciate a written response on the proposed project from your agency. **Please comment on any agency areas of concern.** We do not anticipate that the proposed project will have a significant impact on the environment and appreciate your assistance and response.

Sincerely,

David Wyatt, P.E.  
WDB Engineering, PLLC.



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

January 11, 2019

Regulatory Office

Mr. David Wyatt, P.E.  
WDB Engineering P.L.L.C.  
6330 SE 74<sup>th</sup> Street  
Oklahoma City, OK 73135

Dear Mr. Wyatt:

Please reference your correspondence dated December 10, 2018, concerning the expansion of a wastewater treatment facility. The proposed project is located in Section 30, Township 17 North, Range 16 East, near Coweta, Wagoner County, Oklahoma. We have reviewed the submitted data relative to Section 404 of the Clean Water Act (CWA).

The provided information does not indicate that a placement of dredged or fill material will be required, permanently or temporarily, into any potential "waters of the United States," including potential jurisdictional wetlands. Therefore, your proposal is not subject to regulation pursuant to Section 404 of the CWA, and a Department of the Army (DA) permit will not be required. Should your method of construction necessitate such a discharge into an aquatic area or tributary stream, we suggest that you resubmit that portion of your project so that we may determine whether an individual DA permit will be required.

This No Permit Required determination does not address nor include any consideration for geographic jurisdiction on aquatic resources and shall not be interpreted as such.

Although Section 404 of the CWA authorization is not required, this does not preclude the possibility that a real estate interest or other Federal, State, or local permits may be required. If you desire to complete a "Customer Service Survey" on your experience with the Corps Regulatory Program, you are invited to visit [http://corpsmapu.usace.army.mil/cm\\_apex/f?p=regulatory\\_survey](http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey) on the internet at your convenience and submit your comments.

Your project has been assigned Identification Number SWT-2019-00033. Please refer to this number during future correspondence. If further assistance is required, contact Mr. Brett Adams at (918) 669-7534.

Sincerely,

  
For: Andrew R. Commer  
Chief, Regulatory Office

**Attachment 23.**

**Oklahoma Historical Society (OHS) Correspondence**

December 10, 2018

Oklahoma Historical Society  
State Historic Preservation Office  
800 Nazih Zuhdi Dr.  
Oklahoma City, OK 73105-7917

To Whom It May Concern:

Re: Wastewater Treatment Plant Project to Serve the City of Coweta

The Coweta Public Works Authority (CPWA) owns a publicly owned wastewater treatment works (POTW) that serves the residents of the City of Coweta. The POTW consists of a wastewater collection system, and wastewater treatment plant (WWTP) utilizing flow-through lagoons equipped with mechanical aeration followed by a polishing pond, and disinfection basin.

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Sincerely,

David Wyatt, P.E.  
WDB Engineering, PLLC.



**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](http://www.okhistory.org/shpo/shpom.htm)

January 4, 2019

**RECEIVED**

**JAN 08 2019**

Ms. Lindy Clay  
Oklahoma Water Resources Board  
3800 N. Classen Boulevard (*INTERAGENCY*)  
Oklahoma City, OK 73118

Oklahoma Water Resources Board

RE: File #0546-19; Coweta Proposed Wastewater Treatment Plant Expansion Project

Dear Ms. Clay:

We have received and reviewed the documentation concerning the referenced project in Wagoner 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 historic properties affected by the referenced project.

Thank you for the opportunity to comment on this project. We look forward to working with you in the future.

If you have any questions, please contact Catharine M. Wood, Historical Archaeologist, at 405/521-6381.

Should further correspondence pertaining to this project be necessary, please reference the above underlined file number. Thank you.

Sincerely,

Lynda Ozan  
Deputy State Historic  
Preservation Officer

LO:jr

**Attachment 24.**

**Oklahoma Archeological Survey (OAS) Correspondence**



December 10, 2018

State Archeologist  
University of Oklahoma  
Oklahoma Archeological Survey  
111 E. Chesapeake  
Norman, OK 73019-5111

To Whom It May Concern:

Re: Wastewater Treatment Plant Project to Serve the City of Coweta

The Coweta Public Works Authority (CPWA) owns a publicly owned wastewater treatment works (POTW) that serves the residents of the City of Coweta. The POTW consists of a wastewater collection system, and wastewater treatment plant (WWTP) utilizing flow-through lagoons equipped with mechanical aeration followed by a polishing pond, and disinfection basin.

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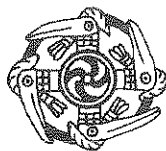
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Sincerely,

David Wyatt, P.E.  
WDB Engineering, PLLC.



## Oklahoma Archeological Survey

THE UNIVERSITY OF OKLAHOMA

December 13, 2018

David Wyatt, P.E.  
WDB Engineering PLLC  
6330 SE 74<sup>th</sup> Street  
Oklahoma City, Oklahoma 73135

Re: City of Coweta and CPWA Proposes Modification and Upgrade of an Existing Wastewater Treatment Plant.

Legal Description: NE ¼ NW ¼ and NW ¼ NE ¼ SW ¼ of Section 30, T17N, R16E,  
Wagoner County, Oklahoma.

Dear Mr. Wyatt:

The Community Assistance Program staff of the Oklahoma Archeological Survey has reviewed the above referenced project in order 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 26,500 archaeological sites, which are currently recorded for the state of Oklahoma. No Sites are listed as occurring within your project area, and based on the topographic and hydrologic setting, no archaeological materials are likely to be encountered. Thus, an archaeological field inspection is not considered necessary. Should Construction expose buried archaeological materials such as chipped stone tools, pottery, bone, historic crockery, glass, metal items or building materials, please contact this office at (405) 325-7211.

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,

Harmony C. Cole  
Staff Archaeologist

Kary L. Stackelbeck, Ph.D.  
State Archaeologist

: hjw

cc: SHPO



**Attachment 25.**

**Bureau of Indian Affairs (BIA) Correspondence**

December 10, 2018

Bureau of Indian Affairs  
Eastern Okla. Regional Office  
PO Box 8002  
Muskogee, OK 74402-8002

To Whom It May Concern:

Re: Wastewater Treatment Plant Project to Serve the City of Coweta

The Coweta Public Works Authority (CPWA) owns a publicly owned wastewater treatment works (POTW) that serves the residents of the City of Coweta. The POTW consists of a wastewater collection system, and wastewater treatment plant (WWTP) utilizing flow-through lagoons equipped with mechanical aeration followed by a polishing pond, and disinfection basin.

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Sincerely,

David Wyatt, P.E.  
WDB Engineering, PLLC.



IN REPLY REFER TO:

United States Department of the Interior  
BUREAU OF INDIAN AFFAIRS  
Eastern Oklahoma Region  
Eastern Oklahoma Regional Office  
P.O. Box 8002  
Muskogee, OK 74402-8002

Division of Environmental and  
Cultural Resources Management

DEC 14 2018

David Wyatt, P.E.  
WDB Engineering, P.L.L.C.  
6330 S.E. 74<sup>th</sup> St.  
Oklahoma City, OK 73135

Dear Mr. Wyatt:

On December 13, 2018, the Bureau of Indian Affairs, Eastern Oklahoma Regional Office, received solicitation for information or comments from WDB Engineering, P.L.L.C., regarding expansion of the Coweta Public Works Authority (CPWA) wastewater treatment plant in Wagoner County, Oklahoma. This office has no comments regarding the project at this time.

Five Federally recognized Tribes has been provided the notice by copy of this letter. As the Tribes may have environmental and/or cultural resources concerns relating to this action, it is recommended that WDB Engineering, P.L.L.C. coordinate directly with the Tribes on any of their concerns. The contact addresses are enclosed.

If additional information is required, please contact Mr. Mosby Halterman, Acting Division Chief, Division of Environmental and Cultural Resources Management, at (918) 781-4660.

Respectfully,



Regional Director

Enclosure

Dr. Andrea Hunter  
THPO, Osage Nation  
627 Grandview Avenue  
Pawhuska, OK 74056  
Phone: (918) 287-5432  
Fax: (918) 287-2257

Raelynn Butler  
THPO, Muscogee (Creek) Nation  
P.O. Box 580  
Okmulgee, OK 74447  
Phone: (918) 732-7600  
Fax: (918) 756-2911

Nelson Scott Harjo, Chief  
Alabama-Quassarte Tribal Town  
P.O. Box 187  
Wetumka, OK 74883  
Phone: (405) 452-3987  
Fax: (405) 452-3968

Jeremiah Hobia, Town King  
Kialegee Tribal Town  
P.O. Box 332  
Wetumka, OK 74883  
Phone: (405) 452-3262  
Fax: (405) 452-3413

Ryan Morrow, Interim Town King  
Thlopthlocco Tribal Town  
P.O. Box 188  
Okemah, Ok 74859  
Phone: (918) 560-6198  
Fax: (918) 560-6196

**Attachment 26.**

**Muskogee (Creek) Nation Environmental Services Correspondence**

December 10, 2018

Muskogee (Creek) Nation Environ. Services  
Housing Building  
2591 N. Wood Drive  
PO Box 580  
Okmulgee, OK 74447

To Whom It May Concern:

Re: Wastewater Treatment Plant Project to Serve the City of Coweta

The Coweta Public Works Authority (CPWA) owns a publicly owned wastewater treatment works (POTW) that serves the residents of the City of Coweta. The POTW consists of a wastewater collection system, and wastewater treatment plant (WWTP) utilizing flow-through lagoons equipped with mechanical aeration followed by a polishing pond, and disinfection basin.

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Sincerely,

David Wyatt, P.E.  
WDB Engineering, PLLC.



**Attachment 27.**

**Oklahoma Department of Environmental Quality (ODEQ) External Affairs  
Correspondence**

December 10, 2018

Mr. John Roberts  
Okla. Dept. of Environmental Quality  
External Affairs  
PO Box 1677  
Oklahoma City, OK 73101-1677

Dear Mr. Roberts:

Re: Wastewater Treatment Plant Project to Serve the City of Coweta

The Coweta Public Works Authority (CPWA) owns a publicly owned wastewater treatment works (POTW) that serves the residents of the City of Coweta. The POTW consists of a wastewater collection system, and wastewater treatment plant (WWTP) utilizing flow-through lagoons equipped with mechanical aeration followed by a polishing pond, and disinfection basin.

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Sincerely,

David Wyatt, P.E.  
WDB Engineering, PLLC.



SCOTT A. THOMPSON  
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

MARY FALLIN  
Governor

December 18, 2018

David Wyatt, P.E.  
WDB Engineering, PLLC  
6330 S.E. 74<sup>th</sup> Street  
Oklahoma City, OK 73135

**Re: Environmental Review**

1. Letter dated December 10, 2018: Wastewater Treatment Plant Project to Serve the City of Coweta

Dear Mr. Wyatt:

In response to your requests, we have completed an environmental review of air, land and water records for the above-referenced projects. Additional recommendations to consider as you complete your projects may be found at <https://go.usa.gov/xnhCm>.

**Comments:**

While no environmental concerns under DEQ jurisdiction are anticipated, please be aware of the following regulatory requirements.

1. Prior to beginning any construction activity disturbing more than one acre, you must submit an NOI and obtain authorization under OKR10, construction stormwater.
2. 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 the DEQ's Water Quality Division (Construction Permitting Section) if you have specific questions about these projects or need clarification. Rocky Chen is the Manager of this section and can be reached at (405) 702-8140 or [rocky.chen@deq.ok.gov](mailto:rocky.chen@deq.ok.gov).

Future requests may be submitted electronically to [EnvReviews@deq.ok.gov](mailto:EnvReviews@deq.ok.gov) by attaching a single pdf file containing your request and any attachments.

If you have any questions or need clarification, please contact me at (405) 702-7111 or [EnvReviews@deq.ok.gov](mailto:EnvReviews@deq.ok.gov).

Sincerely,

Jon A. Roberts, Senior Manager  
Office of External Affairs



**Attachment 28.**

**Grand River Dam Authority (GRDA) Correspondence**

December 10, 2018

Grand River Dam Authority  
226 W. Dwain Willis Ave.  
Vinita, OK 74301

To Whom It May Concern:

Re: Wastewater Treatment Plant Project to Serve the City of Coweta

The Coweta Public Works Authority (CPWA) owns a publicly owned wastewater treatment works (POTW) that serves the residents of the City of Coweta. The POTW consists of a wastewater collection system, and wastewater treatment plant (WWTP) utilizing flow-through lagoons equipped with mechanical aeration followed by a polishing pond, and disinfection basin.

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Sincerely,

David Wyatt, P.E.  
WDB Engineering, PLLC.

**Attachment 29.**

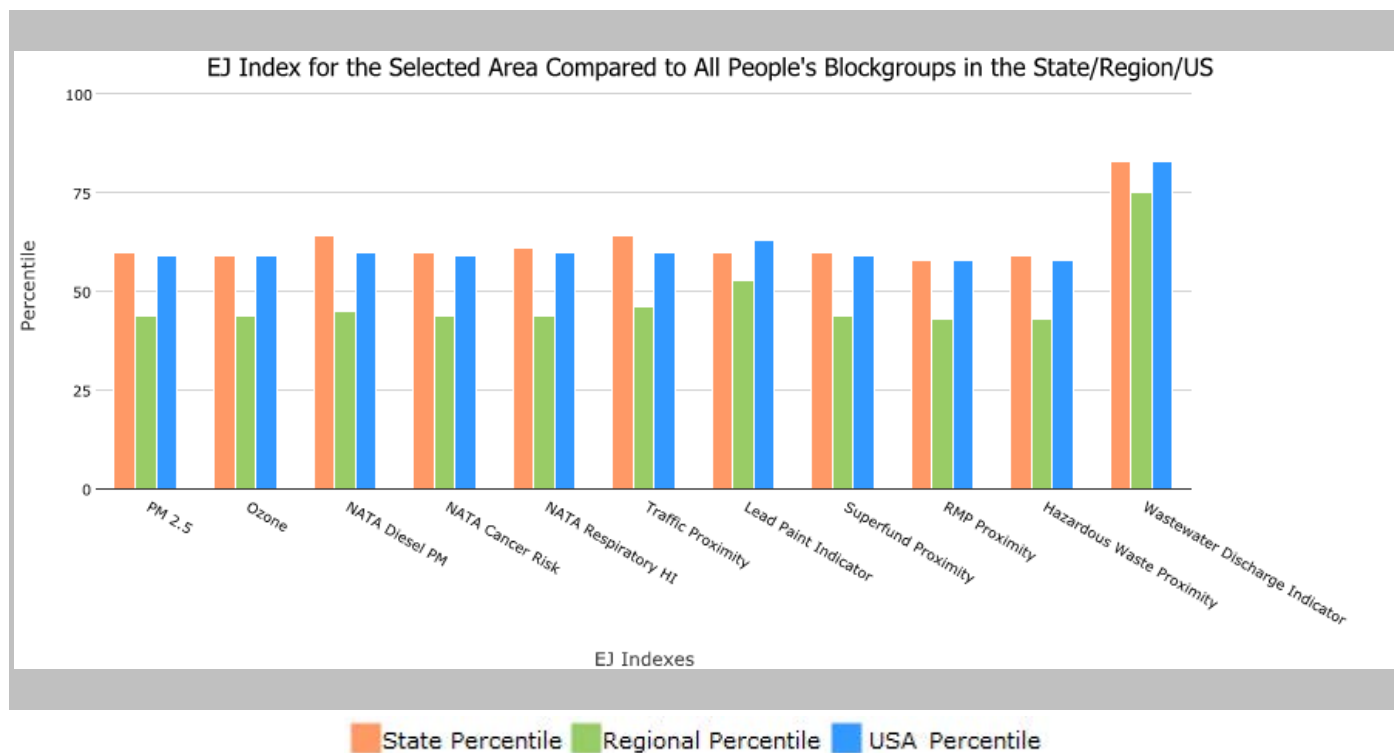
**US Environmental Protection Agency (EPA) Environmental Justice Screening  
Report**

1 mile Ring Centered at 35.921973,-95.650733, OKLAHOMA, EPA Region 6

Approximate Population: 201

Input Area (sq. miles): 3.14

| Selected Variables                          | State Percentile | EPA Region Percentile | USA Percentile |
|---------------------------------------------|------------------|-----------------------|----------------|
| <b>EJ Indexes</b>                           |                  |                       |                |
| EJ Index for PM2.5                          | 60               | 44                    | 59             |
| EJ Index for Ozone                          | 59               | 44                    | 59             |
| EJ Index for NATA* Diesel PM                | 64               | 45                    | 60             |
| EJ Index for NATA* Air Toxics Cancer Risk   | 60               | 44                    | 59             |
| EJ Index for NATA* Respiratory Hazard Index | 61               | 44                    | 60             |
| EJ Index for Traffic Proximity and Volume   | 64               | 46                    | 60             |
| EJ Index for Lead Paint Indicator           | 60               | 53                    | 63             |
| EJ Index for Superfund Proximity            | 60               | 44                    | 59             |
| EJ Index for RMP Proximity                  | 58               | 43                    | 58             |
| EJ Index for Hazardous Waste Proximity      | 59               | 43                    | 58             |
| EJ Index for Wastewater Discharge Indicator | 83               | 75                    | 83             |

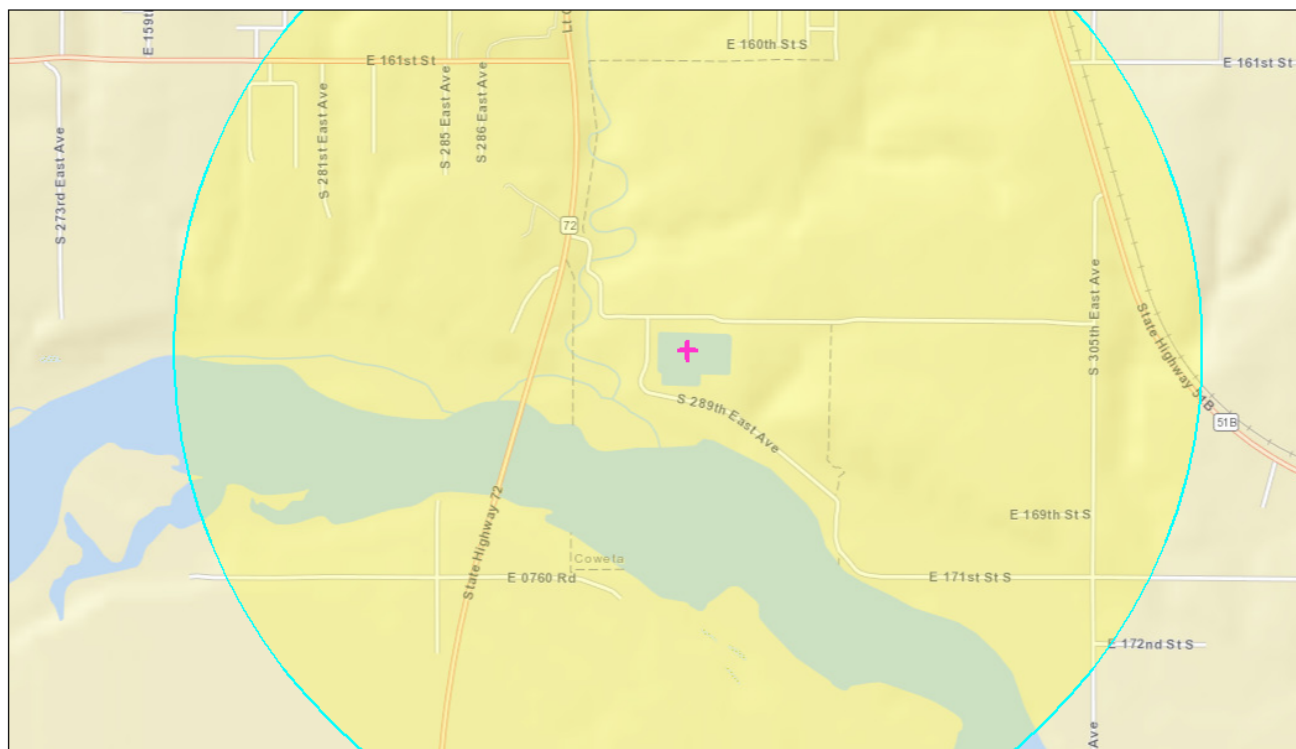


This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

1 mile Ring Centered at 35.921973,-95.650733, OKLAHOMA, EPA Region 6

Approximate Population: 201

Input Area (sq. miles): 3.14



February 18, 2019

Buffer Area

Digitized Point

1:18,056

0 0.15 0.3 0.6 mi  
0 0.25 0.5 1 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, OpenStreetMap contributors, and the GIS User Community

#### Sites reporting to EPA

Superfund NPL

0

Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)

0



## EJSCREEN Report (Version 2018)

1 mile Ring Centered at 35.921973,-95.650733, OKLAHOMA, EPA Region 6

Approximate Population: 201

Input Area (sq. miles): 3.14

| Selected Variables                                                          | Value | State Avg. | %ile in State | EPA Region Avg. | %ile in EPA Region | USA Avg. | %ile in USA |
|-----------------------------------------------------------------------------|-------|------------|---------------|-----------------|--------------------|----------|-------------|
| <b>Environmental Indicators</b>                                             |       |            |               |                 |                    |          |             |
| Particulate Matter (PM 2.5 in $\mu\text{g}/\text{m}^3$ )                    | 9.82  | 9.36       | 84            | 9.55            | 53                 | 9.53     | 53          |
| Ozone (ppb)                                                                 | 42.1  | 44.8       | 15            | 40.4            | 62                 | 42.5     | 46          |
| NATA* Diesel PM ( $\mu\text{g}/\text{m}^3$ )                                | 0.931 | 0.527      | 87            | 0.721           | 70-80th            | 0.938    | 60-70th     |
| NATA* Cancer Risk (lifetime risk per million)                               | 50    | 45         | 82            | 42              | 80-90th            | 40       | 80-90th     |
| NATA* Respiratory Hazard Index                                              | 2.5   | 1.9        | 88            | 1.8             | 80-90th            | 1.8      | 80-90th     |
| Traffic Proximity and Volume (daily traffic count/distance to road)         | 24    | 83         | 44            | 320             | 28                 | 600      | 29          |
| Lead Paint Indicator (% Pre-1960 Housing)                                   | 0.065 | 0.24       | 33            | 0.18            | 48                 | 0.29     | 30          |
| Superfund Proximity (site count/km distance)                                | 0.02  | 0.047      | 34            | 0.07            | 38                 | 0.12     | 24          |
| RMP Proximity (facility count/km distance)                                  | 0.033 | 0.55       | 3             | 0.8             | 5                  | 0.72     | 5           |
| Hazardous Waste Proximity (facility count/km distance)                      | 0.042 | 0.59       | 14            | 0.86            | 14                 | 4.3      | 10          |
| Wastewater Discharge Indicator (toxicity-weighted concentration/m distance) | 0.004 | 0.32       | 77            | 0.38            | 78                 | 30       | 75          |
| <b>Demographic Indicators</b>                                               |       |            |               |                 |                    |          |             |
| Demographic Index                                                           | 37%   | 35%        | 60            | 44%             | 44                 | 36%      | 59          |
| Minority Population                                                         | 37%   | 33%        | 68            | 51%             | 39                 | 38%      | 57          |
| Low Income Population                                                       | 37%   | 38%        | 50            | 38%             | 51                 | 34%      | 60          |
| Linguistically Isolated Population                                          | 0%    | 2%         | 52            | 6%              | 35                 | 4%       | 44          |
| Population With Less Than High School Education                             | 15%   | 13%        | 66            | 17%             | 53                 | 13%      | 66          |
| Population Under 5 years of age                                             | 7%    | 7%         | 58            | 7%              | 55                 | 6%       | 64          |
| Population over 64 years of age                                             | 7%    | 14%        | 14            | 13%             | 28                 | 14%      | 19          |

\* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: <https://www.epa.gov/national-air-toxics-assessment>.

For additional information, see: [www.epa.gov/environmentaljustice](http://www.epa.gov/environmentaljustice)

EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

**Attachment 30.**

**Indian Nations Council of Governments (INCOG) Correspondence**

February 20, 2019

Indian Nations Council of Governments  
2 West 2nd Street, Suite 800  
Tulsa, OK 74103-3116

To whom it may concern :

Re: Wastewater Treatment Plant Project to Serve the City of Coweta

The Coweta Public Works Authority (CPWA) owns a publicly owned wastewater treatment works (POTW) that serves the residents of the City of Coweta. The POTW consists of a wastewater collection system, and wastewater treatment plant (WWTP) utilizing flow-through lagoons equipped with mechanical aeration followed by a polishing pond, and disinfection basin.

The CPWA is projected to grow at a pace exceeding the state average for the next 20 years. The CPWA is expanding their wastewater treatment plant to meet the projected growth. The project will be funded through a loan from the Oklahoma Water Resources Board (OWRB) - Clean Water State Revolving Fund (CWSRF) in the amount of \$11,308,168. Compliance with the National Environmental Protection Act of 1969 (NEPA) and the Environmental Review procedures for CWSRF projects is required on this project.

The proposed project consists of modifying and upgrading the existing WWTP to accommodate an average daily flow up to 1.5 MGD. The proposed project includes: a new influent lift station; lagoon system improvements; aeration basin improvements; two (2) new aerobic sludge digesters; a new flow equalization basin; two (2) new secondary clarifiers, an activated sludge pump station; sludge drying beds improvements; and disinfection basin modifications.

The project location is the N½, SW1/4, Section 30, Township 17 North, Range 16 East, Indian Meridian, Wagoner County, Oklahoma. All construction will be on the existing plant site which is mowed and maintained by CPWA staff. **Location map is included.**

On-site inspections will be carried out while construction is in progress. No individuals will be displaced because of this project. To complete the environmental review, we would appreciate a written response on the proposed project from your agency. **Please comment on any agency areas of concern.** We do not anticipate that the proposed project will have a significant impact on the environment and appreciate your assistance and response.

Sincerely,

David Wyatt, P.E.  
WDB Engineering, PLLC.