



MAR 04 2020

ARKANSAS
Department of Environmental Quality

Brad Wingfield, P.E.
PMI Engineering Services
3512 South Shackelford Rd.
Little Rock, AR 72205

RE: Preliminary NPDES Discharge Limits
Potential Subdivision Development near Roland, AR in Pulaski County

Dear Mr. Wingfield:

Based on your letter dated February 18, 2020, preliminary effluent discharge limits were estimated for a discharge of treated domestic wastewater from a potential subdivision development with a design flow of 0.08 MGD¹. These preliminary limits would need to be re-evaluated in the event that the design flow is different. The following proposed discharge location was evaluated:

Discharge coordinates: 34.902259° N; 92.524158° W
Watershed Area at outfall: 1.38 square miles
Receiving Waterbody: Unnamed tributary of Mill Bayou

Preliminary Limits		
Parameter	Monthly Average	Daily Maximum
Carbonaceous Biochemical Oxygen Demand (CBOD ₅) (May-October)	15.0 mg/L	22.5 mg/L
Carbonaceous Biochemical Oxygen Demand (CBOD ₅) (November-April)	20.0 mg/L	30.0 mg/L
Total Suspended Solids (TSS) (year-round)	20.0 mg/L	30.0 mg/L
Ammonia-Nitrogen (NH ₃ -N) (April)	5.6 mg/L	5.6 mg/L
Ammonia-Nitrogen (NH ₃ -N) (May-October)	5.0 mg/L	7.5 mg/L
Ammonia-Nitrogen (NH ₃ -N) (November-March)	10.0 mg/L	15.0 mg/L
Dissolved Oxygen (DO) (May-October)	3.0 mg/L (Inst. Min.)	
Dissolved Oxygen (DO) (November-April)	2.0 mg/L (Inst. Min.)	
Fecal Coliform Bacteria (FCB) (year-round)	1000 col/100 mL	2000 col/100 mL
Total Residual Chlorine (TRC) (year-round) ²	0.011 mg/L (Inst. Maximum)	
pH (year-round)	6.0 – 9.0 s.u.	

¹ Design flow at full build out of Phases I and II. Phase I design flow is 0.04 MGD. Limits are valid for both phases.

² TRC limit is applicable if facility uses chlorine for disinfection.

Please be advised that these preliminary limits are based on information available at this time on the proposed discharge location and that any of these limits are subject to change based on any data reported for the effluent or data collected in the receiving waterbody after an application is submitted. The preliminary limits given in this letter are expressed in concentration, but any future permit will most likely contain mass limits also, which would be determined using the design flow of the treatment system using the following equation:

$$\text{Mass (lb/day)} = \text{Design Flow (MGD)} \times 8.34 \times \text{Concentration Limit (mg/L)}$$

Please note that more stringent permit limits, additional monitoring requirements, or additional limits may be added based on information contained in the permit application, any effluent data collected after a permit is issued, or as may be required by any final approved TMDL. These preliminary limits will require EPA approval and therefore, are subject to change. In no way does this letter guarantee that a construction permit or a NPDES discharge permit will be issued. If any assumptions noted herein are proven false, this analysis may be invalid.

Please be aware that Act 987 of 2017 now requires nonmunicipal domestic sewage treatment works to pay an initial trust fund contribution fee of 10% of the estimated cost of construction of the new treatment works as certified by a professional engineer. An annual trust fund contribution fee based on the design flow of the treatment works (up to \$5,000) is required in addition to the NPDES permit annual fee. In addition to the application for the initial NPDES permit, the additional information on the attached form must be included with the application.

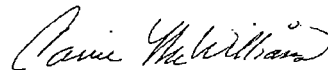
A state construction permit for the treatment system from ADEQ is required to be issued prior to construction/installation. An approval letter from Arkansas Department of Health is required in accordance with Reg. 6.202(D) prior to ADEQ issuing the construction permit.

If you have any questions, you can reach us at the contact information listed below.

Sincerely,



Shane Byrum
Staff Engineer
NPDES Discharge Permits Section
Office of Water Quality
(501) 682-0618
E-mail: byrum@adeq.state.ar.us



Carrie McWilliams, P.E.
Engineer Supervisor
NPDES Discharge Permits Section
Office of Water Quality
(501) 682-0915
Email: mcwilliamsc2@adeq.state.ar.us

CC: Bryan Leamons, P.E., Senior Operations Manager, Office of Water Quality

Attachment (Nonmunicipal Domestic Sewage Treatment Works Trust Fund Requirement Form)

Nonmunicipal Domestic Sewage Treatment Works Trust Fund Certification Form INSTRUCTIONS

Sections A and B:

Required submittal for the initial permit and any subsequent permit renewal, modification, or transfer: Arkansas Code 8-4-203 (b) requires that each applicant shall submit with an initial application and any subsequent permit renewal, modification, or transfer for a NDSTW:

An assessment *developed by a professional engineer* licensed by the state of Arkansas that includes:

- A. A cost estimate for a third party to operate and maintain the NDSTW for five (5) years;
- B. A list of all necessary capital expenditures, system upgrades, or significant repairs and a milestone schedule for completion within five (5) years; and
- C. A financial plan that demonstrates to the department's satisfaction the permittee's financial ability to operate and maintain the NDSTW for five (5) years.

A certification that the permit applicant has complied with applicable local ordinances and regulations, including without limitation,

- A. Local zoning ordinances;
- B. Local planning authority regulations;
- C. Local permitting requirements.

Additionally, the NDSTW applicants will need to provide:

- A. A comprehensive connection summary listing the number of connections and types of connections based on Appendix B of the Arkansas Department of Health Rules and Regulations Pertaining to Onsite Wastewater Systems. The summary should include the number of existing connections and an estimated number of new connections for the next five (5) years.
- B. A legal description of the service area for the NDSTW and the water service providers for that same area. The service area requirement may be satisfied by providing a plat for the area served by the nonmunicipal domestic sewage treatment works.
- C. A list of all potable water sources for the service area listed above.

New Facilities and Modifications to Increase Design Flow:

Required Submittal for the initial permit or modifications that result in an increase in design treatment capacity: Arkansas Code 8-4-203 (b) requires that each applicant seeking a new NDSTW discharge permit or a modification for a NDSTW that results in an increase in design treatment capacity submit the estimated cost of construction *developed by a professional engineer* licensed by the state of Arkansas for the modified treatment facility. This cost estimate will serve as the basis for the initial trust fund fee (initial trust fund fee = 10% of the estimated cost), and will be assessed with the permit application fee. Include the certified cost estimate with your application.

Submit Completed Forms

by email to: [*water-permit-application@adeq.state.ar.us*](mailto:water-permit-application@adeq.state.ar.us)

Or by mail to: Arkansas Department of Environmental Quality
Permits Branch, Office of Water Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

Permittee (Legal) Name: _____
 Facility Name: _____
 Permit No. _____

Section A – Information Requiring Engineering Certification

Part I – Operating and Maintenance Expenses

	Units/Year	Unit Cost	Annual Cost	5-Year Cost ¹
Operating Expenses				
Operating Labor ²				
Electricity ³				
Supplies & Chemicals				
Analytical Testing				
Generator Fuel				
Other				
Maintenance Expenses				
Maintenance Labor ²				
Parts & Supplies				
Other				
Administrative Expenses				
Administrative Labor ²				
Customer Fee Collection				
Insurance & Bonding				
Consulting and Legal Fees				
Interest Expenses				
Property Taxes				
Permit Fees				
Other Miscellaneous Expenses				
TOTAL				

¹ Assuming no inflation data are available, assume an inflation rate of 3% in years two through five and multiply the annual cost by 5.3 to estimate the five-year cost.

² Labor costs must include fringe benefits and payroll taxes.

³ For existing facilities, include historical data if they are representative of future operations. For new facilities, show the electricity consumption calculations in kilowatt hours (kWh).

Part II – Capital Expenditures

- The wastewater treatment plant (WWTP) must be examined by a Professional Engineer registered in the State of Arkansas to determine all necessary capital expenditures, system upgrades, or significant repairs which may be needed within the following five (5) years. ***A list of all of these items must be attached to this document.***
- A milestone schedule for completion of the capital expenditures, system upgrades, or significant repairs ***must be attached to this document.***

Part III – Financial Plan

A financial plan that demonstrates to the Department's satisfaction the permittee's ability to operate and maintain the WWTP for five (5) years must be prepared. This plan should also include a comprehensive connection summary listing the number of connections and types of connections based on Appendix B of the Arkansas Department of Health Rules and Regulations Pertaining to Onsite Wastewater Systems. The summary should include the number of existing connections and an estimated number of new connections for the next five (5) years. *The financial plan must be attached to this document.*

Part IV – Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name of AR Professional Engineer: _____

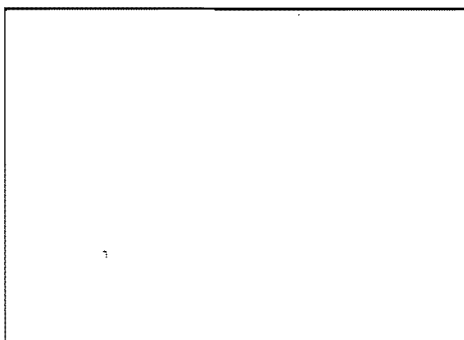
Registration License Number: _____

Signature of AR Professional Engineer: _____

Date: _____ Telephone Number: _____

E-mail: _____ Fax Number: _____

Stamp of AR Professional Engineer



Section B – Service Area Information and Certification of Compliance

Part I – Legal Description

A legal description of the service area **must be attached to this document**. This requirement may be satisfied by providing a plat for the area served by the non-municipal domestic sewage treatment works.

Part II – Potable Water Sources

A list of the sources of the potable water for the service area **must be attached to this document**.

Part III – Certification of Compliance

Has the permit applicant complied with all local zoning ordinances, local planning authority regulations, local permitting requirements, and any other applicable local regulations necessary for the construction and operation of this facility?

Yes _____

No _____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name of Permittee Responsible Official: _____

Signature of Permittee Responsible Official: _____

Date: _____ Telephone Number: _____

E-mail: _____ Fax Number: _____