Administrative Package Cover Page

This file contains the following documents:

1. Summary of application (in plain language)
2. First Notice (NORI-Notice of Receipt of Application and Intent to Obtain a Permit)
3. Application Materials

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUMMARY OF APPLICATION IN PLAIN LANGUAGE FOR TPDES OR TLAP PERMIT APPLICATIONS

Summary of Application (in plain language) Template and Instructions for Texas Pollutant Discharge Elimination System (TPDES) and Texas Land Application (TLAP) Permit Applications

Applicants should use this template to develop a plain language summary of your facility and application as required by Title 30, Texas Administrative Code (30 TAC), Chapter 39, Subchapter H. You may modify the template as necessary to accurately describe your facility as long as the summary includes the following information: (1) the function of the proposed plant or facility; (2) the expected output of the proposed plant or facility; (3) the expected pollutants that may be emitted or discharged by the proposed plant or facility; and (4) how you will control those pollutants, so that the proposed plant will not have an adverse impact on human health or the environment.

Fill in the highlighted areas below to describe your facility and application in plain language. Instructions and examples are provided below. Make any other edits necessary to improve readability or grammar and to comply with the rule requirements. After filling in the information for your facility delete these instructions.

If you are subject to the alternative language notice requirements in 30 TAC Section 39.426, **you must provide a translated copy of the completed plain language summary in the appropriate alternative language as part of your application package**. For your convenience, a Spanish template has been provided below.

ENGLISH TEMPLATE FOR TPDES or TLAP NEW/RENEWAL/AMENDMENT APPLICATIONS 'DOMESTIC' WASTEWATER/STORMWATER

The following summary is provided for this pending water quality permit application being reviewed by the Texas Commission on Environmental Quality as required by 30 TAC Chapter 39. The information provided in this summary may change during the technical review of the application and is not a federal enforceable representation of the permit application.

The City of Texarkana, Texas (CN600335830) operates the Waggoner Creek WWTP (RN101613537), a domestic wastewater treatment plant. The facility is located at 825 Gullatte St, in Texarkana, Texas, Bowie County, Texas 75501. This application is to expand the current treatment plant to discharge an average daily flow of 4,000,000 gallons per day of treated domestic wastewater. The treatment plant is currently permitted to discharge 2,000,000 gallons per day.

Discharges from the facility are expected to contain five-day carbonaceous biochemical oxygen demand (CBOD5), total suspended solids (TSS), ammonia nitrogen (NH3-N), and Escherichia coli. . Domestic Wastewater is treated by an activated sludge process plant and the treatment units include a bar screen, grit removal, aeration basins, final clarifiers, sludge digesters, and ultraviolet light disinfection.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

AMENDED NOTICE OF RECEIPT OF APPLICATION AND INTENT TO OBTAIN WATER QUALITY PERMIT AMENDMENT

PERMIT NO. WQ0010374007

APPLICATION. City of Texarkana, P.O. Box 2008, Texarkana, Texas 75504, has applied to the Texas Commission on Environmental Quality (TCEQ) to amend Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0010374007 (EPA I.D. No. TX0099287) to authorize an increase in the discharge of treated wastewater to a volume not to exceed an annual average flow of 4,000,000 gallons per day, and to upgrade and replace the current treatment units. The domestic wastewater treatment facility is located approximately 862 feet northwest of the intersection of Jarvis Parkway and Redwater Road, near the city of Texarkana, in Bowie County, Texas 75501. The discharge route is from the plant site to unnamed tributary; thence to Wagner Creek; thence to Days Creek. TCEQ received this application on January 23, 2025. The permit application will be available for viewing and copying at Texarkana Water Utilities Administration Building, Customer Service Desk, 801 Wood Street, Texarkana, Texas prior to the date this notice is published in the newspaper. The application, including any updates, and associated notices are available electronically at the following webpage: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications. This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For the exact location, refer to the application.
https://gisweb.tceq.texas.gov/LocationMapper/?marker=-94.104545,33.433618&level=18

ADDITIONAL NOTICE. TCEQ's Executive Director has determined the application is administratively complete and will conduct a technical review of the application. After technical review of the application is complete, the Executive Director may prepare a draft permit and will issue a preliminary decision on the application. **Notice of the Application and Preliminary Decision will be published and mailed to those who are on the county-wide mailing list and to those who are on the mailing list for this application. That notice will contain the deadline for submitting public comments.**

PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting on this application. The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ will hold a public meeting if the Executive Director determines that there is a significant degree of public interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

OPPORTUNITY FOR A CONTESTED CASE HEARING. After the deadline for submitting public comments, the Executive Director will consider all timely comments and prepare a response to all relevant and material, or significant public comments. **Unless the application is directly referred for a contested case hearing, the response to comments, and the Executive Director's decision on the application, will be mailed to everyone who submitted public comments and to those persons who are on the mailing list for this application. If comments are received, the mailing will also provide instructions for requesting reconsideration of the Executive Director's decision and for requesting a contested case hearing.** A contested case hearing is a legal proceeding similar to a civil trial in state district court.

TO REQUEST A CONTESTED CASE HEARING, YOU MUST INCLUDE THE FOLLOWING ITEMS IN YOUR REQUEST: your name, address, phone number; applicant's name and proposed permit number; the location and distance of your property/activities relative to the proposed facility; a specific description of how you would be adversely affected by the facility in a way not common to the general public; a list of all disputed issues of fact that you submit during the comment period and, the statement "[I/we] request a contested case hearing." If the request for contested case hearing is filed on behalf of a group or association, the request must designate the group's representative for receiving future correspondence; identify by name and physical address an individual member of the group who would be adversely affected by the proposed facility or activity; provide the information discussed above regarding the affected member's location and distance from the facility or activity; explain how and why the member would be affected; and explain how the interests the group seeks to protect are relevant to the group's purpose.

Following the close of all applicable comment and request periods, the Executive Director will forward the application and any requests for reconsideration or for a contested case hearing to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

The Commission may only grant a request for a contested case hearing on issues the requestor submitted in their timely comments that were not subsequently withdrawn. **If a hearing is granted, the subject of a hearing will be limited to disputed issues of fact or mixed questions of fact and law relating to relevant and material water quality concerns submitted during the comment period.**

MAILING LIST. If you submit public comments, a request for a contested case hearing or a reconsideration of the Executive Director's decision, you will be added to the mailing list for this specific application to receive future public notices mailed by the Office of the Chief Clerk. In addition, you may request to be placed on: (1) the permanent mailing list for a specific applicant name and permit number; and/or (2) the mailing list for a specific county. If you wish to be placed on the permanent and/or the county mailing list, clearly specify which list(s) and send your request to TCEQ Office of the Chief Clerk at the address below.

INFORMATION AVAILABLE ONLINE. For details about the status of the application, visit the Commissioners' Integrated Database at www.tceq.texas.gov/goto/cid. Search the database using the permit number for this application, which is provided at the top of this notice.

AGENCY CONTACTS AND INFORMATION. All public comments and requests must be submitted either electronically at **https://www14.tceq.texas.gov/epic/eComment/**, or in writing to the Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Please be aware that any contact information you provide, including your name, phone number, email address and physical address will become part of the agency's public record. For more information about this permit application or the permitting process, please call the TCEQ Public Education Program, Toll Free, at 1-800-687-4040 or visit their website at www.tceq.texas.gov/goto/pep. Si desea información en Español, puede llamar al 1-800-687-4040.

Further information may also be obtained from City of Texarkana at the address stated above or by calling Mr. Gary Smith, P.E., Executive Director, at 903-798-3821.

Issuance Date: February 26, 2025

A. L. FRANKS ENGINEERING

118 East Broad Street
Texarkana, AR 71854
PHONE 870.216.1906 • **FAX** 870.216.1907

February 11, 2025

Abesha Michael
Applications Review and Processing Team (MC148)
Texas Commission on Environmental Quality
12100 Park 35 Circle
Austin, TX 78753

RE: Permit Application for Major Amendment
City of Texarkana / Waggoner Creek WWTP
TPDES Permit Number# WQ0010374007

Dear Abesha,

We have received your letter dated January 28th, 2025 with noted deficiencies for the referenced permit amendment for the City of Texarkana. In response, please accept this transmittal letter with corrections made and further enclosed for your further review. These items are briefly noted as follows per your comments:

1. Form 10053, Section 2, item e, the referenced submittal letter was not included.

- *Response: Included with this submittal please find the enclosed attachment describing the proposed amendment. In Section 1, Item C, the final phase is revised to reflect a discharge rate of 4.0 MGD.*

2. Form 10053, Section 8, item f, Plain Language Summary Template was not included.

- *Response: TCEQ Form 20972 is enclosed for your further review.*

3. Form 10053, Section 8, item g, Public Involvement Plan Form was not included.

- *Response: TCEQ Form 20960 is enclosed for your further review.*

4. Form 10053, Section 9, item f, owner of effluent disposal site.

- *Response: The form is corrected to show N/A.*

5. Form 10053, Section 10, item d, provide clarification for discharge of over 5 MGD.

- Response: The answer to item D is N/A. Section 1 of the Technical Report is further changed to reflect the final phase with a flow rate of 4.0 MGD.

6. Form 10053, Section 12, item b, correct the response to reflect N/A in regard to onsite sludge disposal.

- *Response: The form is corrected to show N/A.*

7. Section 14, Signature on Page 11 of the Administrative Report 1.0, requires signature by an elected official.

- *Response: The signature page is revised to include signature by Mayor Bob Bruggeman of Texarkana, Texas.*

8. Section 1, item A on Page 12 of the Administrative Report 1.0. The landowner map is insufficient.

- *Response: The landowner map is revised as requested.*

9. Section 1, item B, cross referenced mailing list needs to be revised to show only the corresponding number and the mailing address.

- *Response: The address list is revised as requested.*

10. Section 1, item C, the mailing list should be made available on mailing labels in Avery 5160 format.

- *Response: The mailing labels are enclosed for your use.*

11. A portion of the NORI pertaining to the application is made available for review.

- *Response: Please correct the flow amount to read 4,000,000 gallons per day.*

If you have any questions or additional information is needed, please contact me at jhaley@alfranksengineering.com or by phone at 870-216-1906.

Sincerely,

Jason C. Haley, P.E.

A.L. Franks Engineering

cc. Gary Smith, Executive Director, Texarkana Water Utilities

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION CHECKLIST

Complete and submit this checklist with the application.

APPLICANT NAME: CITY OF TEXARKANA

PERMIT NUMBER (If new, leave blank): WQ00 TPDES WQ0010374007

Indicate if each of the following items is included in your application.

	Y	N
Administrative Report 1.0	☒	☐
Administrative Report 1.1	☒	☐
SPIF	☒	☐
Core Data Form	☒	☐
Public Involvement Plan Form	☒	☐
Technical Report 1.0	☒	☐
Technical Report 1.1	☒	☐
Worksheet 2.0	☒	☐
Worksheet 2.1	☐	☒
Worksheet 3.0	☒	☐
Worksheet 3.1	☐	☒
Worksheet 3.2	☐	☒
Worksheet 3.3	☐	☒
Worksheet 4.0	☒	☐
Worksheet 5.0	☒	☐
Worksheet 6.0	☒	☐
Worksheet 7.0	☐	☒

	Y	N
Original USGS Map	☒	☐
Affected Landowners Map	☒	☐
Landowner Disk or Labels	☒	☐
Buffer Zone Map	☒	☐
Flow Diagram	☒	☐
Site Drawing	☒	☐
Original Photographs	☒	☐
Design Calculations	☒	☐
Solids Management Plan	☒	☐
Water Balance	☐	☒

For TCEQ Use Only

Segment Number ______________________ County ______________________
Expiration Date ______________________ Region ______________________
Permit Number ______________________

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

For any questions about this form, please contact the Applications Review and Processing Team at 512-239-4671.

Section 1. Application Fees (Instructions Page 26)

Indicate the amount submitted for the application fee (check only one).

Flow	New/Major Amendment	Renewal
<0.05 MGD	$350.00 ☐	$315.00 ☐
≥0.05 but <0.10 MGD	$550.00 ☐	$515.00 ☐
≥0.10 but <0.25 MGD	$850.00 ☐	$815.00 ☐
≥0.25 but <0.50 MGD	$1,250.00 ☐	$1,215.00 ☐
≥0.50 but <1.0 MGD	$1,650.00 ☐	$1,615.00 ☐
≥1.0 MGD	$2,050.00 ☒	$2,015.00 ☐

Minor Amendment (for any flow) $150.00 ☐

Payment Information:

Mailed Check/Money Order Number: #3751

Check/Money Order Amount: Click to enter text.

Name Printed on Check: Texarkana Water Utilities

EPAY Voucher Number: Click to enter text.

Copy of Payment Voucher enclosed? Yes ☐

Section 2. Type of Application (Instructions Page 26)

a. Check the box next to the appropriate authorization type.

☒ Publicly-Owned Domestic Wastewater

☐ Privately-Owned Domestic Wastewater

☐ Conventional Wastewater Treatment

b. Check the box next to the appropriate facility status.

☒ Active ☐ Inactive

c. Check the box next to the appropriate permit type.

☒ TPDES Permit

☐ TLAP

☐ TPDES Permit with TLAP component

☐ Subsurface Area Drip Dispersal System (SADDS)

d. Check the box next to the appropriate application type

☐ New

☒ Major Amendment *with* Renewal

☐ Major Amendment *without* Renewal

☐ Renewal without changes

☐ Minor Amendment *with* Renewal

☐ Minor Amendment *without* Renewal

☐ Minor Modification of permit

e. For amendments or modifications, describe the proposed changes: The Waggoner WWTP is planned for upgrades to include a new treatment unit, and replacement of the current treatment units, which will increase the average daily treatment capacity to 4.0 MGD. Other improvements are planned as well as described in the attached submittal letter.

f. **For existing permits:**

Permit Number: WQ00 WQ0010374007

EPA I.D. (TPDES only): TX 0099287

Expiration Date: March 5, 2026

Section 3. Facility Owner (Applicant) and Co-Applicant Information (Instructions Page 26)

A. **The owner of the facility must apply for the permit.**

What is the Legal Name of the entity (applicant) applying for this permit?

CITY OF TEXARKANA

(The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal documents forming the entity.)

If the applicant is currently a customer with the TCEQ, what is the Customer Number (CN)? You may search for your CN on the TCEQ website at http://www15.tceq.texas.gov/crpub/

CN: 600335830

What is the name and title of the person signing the application? The person must be an executive official meeting signatory requirements in *30 TAC § 305.44.*

Prefix: MR.

Last Name, First Name: SMITH, GARY

Title: EXECUTIVE DIRECTOR

Credential: P.E.

B. **Co-applicant information.** Complete this section only if another person or entity is required to apply as a co-permittee.

What is the Legal Name of the co-applicant applying for this permit?

Click to enter text.

(The legal name must be spelled exactly as filed with the TX SOS, with the County, or in the legal documents forming the entity.)

If the co-applicant is currently a customer with the TCEQ, what is the Customer Number (CN)? You may search for your CN on the TCEQ website at: http://www15.tceq.texas.gov/crpub/

CN: Click to enter text.

What is the name and title of the person signing the application? The person must be an executive official meeting signatory requirements in *30 TAC § 305.44.*

Prefix: Click to enter text. Last Name, First Name: Click to enter text.

Title: Click to enter text. Credential: Click to enter text.

Provide a brief description of the need for a co-permittee: Click to enter text.

C. Core Data Form

Complete the Core Data Form for each customer and include as an attachment. If the customer type selected on the Core Data Form is **Individual**, complete **Attachment 1** of Administrative Report 1.0. ATTACHMENT #1

Section 4. Application Contact Information (Instructions Page 27)

This is the person(s) TCEQ will contact if additional information is needed about this application. Provide a contact for administrative questions and technical questions.

A. Prefix: MR. Last Name, First Name: SMITH, GARY

Title: EXECUTIVE DIRECTOR Credential: P.E.

Organization Name: TEXARKANA WATER UTILITIES

Mailing Address: P.O. BOX 2008 City, State, Zip Code: TEXARKANA, TX 75504

Phone No.: 903-798-3821 E-mail Address: gsmith@txkusa.org

Check one or both: ☒ Administrative Contact ☒ Technical Contact

B. Prefix: MR. Last Name, First Name: CRITTENDEN, DONNIE

Title: POLLUTION CONTROL DIV. MANAGER Credential: Click to enter text.

Organization Name: TEXARKANA WATER UTILITIES

Mailing Address: 4000 SOUTH STATE LINE City, State, Zip Code: TEXARKANA, TX 75501

Phone No.: 903-798-3502 E-mail Address: Crittenden@txkusa.org

Check one or both: ☒ Administrative Contact ☒ Technical Contact

Section 5. Permit Contact Information (Instructions Page 27)

Provide the names and contact information for two individuals that can be contacted throughout the permit term.

A. Prefix: MR. Last Name, First Name: SMITH, GARY

Title: EXECUTIVE DIRECTOR Credential: P.E.

Organization Name: TEXARKANA WATER UTILITIES

Mailing Address: P.O. BOX 2008 City, State, Zip Code: TEXARKANA, TX 75504

Phone No.: 903-798-3821 E-mail Address: gsmith@txkusa.org

B. Prefix: MR. Last Name, First Name: CRITTENDEN, DONNIE

Title: POLLUTION CONTROL DIV. MANAGER Credential: Click to enter text.

Organization Name: TEXARKANA WATER UTILITIES

Mailing Address: 4000 SOUTH STATE LINE City, State, Zip Code: TEXARKANA, TX 75501

Phone No.: 903-798-3502 E-mail Address: Crittenden@txkusa.org

Section 6. Billing Contact Information (Instructions Page 27)

The permittee is responsible for paying the annual fee. The annual fee will be assessed to permits ***in effect on September 1 of each year***. The TCEQ will send a bill to the address provided in this section. The permittee is responsible for terminating the permit when it is no longer needed (using form TCEQ-20029).

Prefix: MR. Last Name, First Name: SMITH, GARY

Title: EXECUTIVE DIRECTOR Credential: P.E.

Organization Name: TEXARKANA WATER UTILITIES

Mailing Address: P.O. BOX 2008 City, State, Zip Code: TEXARKANA, TX 75504

Phone No.: 903-798-3821 E-mail Address: gsmith@txkusa.org

Section 7. DMR/MER Contact Information (Instructions Page 27)

Provide the name and complete mailing address of the person delegated to receive and submit Discharge Monitoring Reports (DMR) (EPA 3320-1) or maintain Monthly Effluent Reports (MER).

Prefix: MR. Last Name, First Name: SMITH, GARY

Title: EXECUTIVE DIRECTOR Credential: P.E.

Organization Name: TEXARKANA WATER UTILITIES

Mailing Address: P.O. BOX 2008 City, State, Zip Code: TEXARKANA, TX 75504

Phone No.: 903-798-3821 E-mail Address: gsmith@txkusa.org

Section 8. Public Notice Information (Instructions Page 27)

A. Individual Publishing the Notices

Prefix: MR. Last Name, First Name: CRITTENDEN, DONNIE

Title: POLLUTION CONTROL DIV. MANAGER Credential: Click to enter text.

Organization Name: TEXARKANA WATER UTILITIES

Mailing Address: 4000 SOUTH STATE LINE City, State, Zip Code: TEXARKANA, TX 75501

Phone No.: 903-798-3502 E-mail Address: crittenden@txkusa.org

B. Method for Receiving Notice of Receipt and Intent to Obtain a Water Quality Permit Package

Indicate by a check mark the preferred method for receiving the first notice and instructions:

☒ E-mail Address

☐ Fax

☐ Regular Mail

C. Contact permit to be listed in the Notices

Prefix: MR. Last Name, First Name: SMITH, GARY

Title: EXECUTIVE DIRECTOR Credential: P.E.

Organization Name: TEXARKANA WATER UTILITIES

Mailing Address: P.O. BOX 2008 City, State, Zip Code: TEXARKANA, TX 75504

Phone No.: 903-798-3821 E-mail Address: gsmith@txkusa.org

D. Public Viewing Information

If the facility or outfall is located in more than one county, a public viewing place for each county must be provided.

Public building name: TEXARKANA WATER UTILITIES ADMINISTRATION BUILDING

Location within the building: CUSTOMER SERVICE DESK

Physical Address of Building: 801 WOOD STREET

City: TEXARKANA County: BOWIE

Contact (Last Name, First Name): MICHELLE WARREN

Phone No.: 903-798-3821 Ext.: Click to enter text.

E. Bilingual Notice Requirements

This information **is required** for **new, major amendment, minor amendment or minor modification, and renewal** applications.

This section of the application is only used to determine if alternative language notices will be needed. Complete instructions on publishing the alternative language notices will be in your public notice package.

Please call the bilingual/ESL coordinator at the nearest elementary and middle schools and obtain the following information to determine whether an alternative language notices are required.

1. Is a bilingual education program required by the Texas Education Code at the elementary or middle school nearest to the facility or proposed facility?

   ☐ Yes ☒ No

   If **no**, publication of an alternative language notice is not required; **skip to** Section 9 below.

2. Are the students who attend either the elementary school or the middle school enrolled in a bilingual education program at that school?

   ☐ Yes ☐ No

3. Do the students at these schools attend a bilingual education program at another location?

   ☐ Yes ☐ No

4. Would the school be required to provide a bilingual education program but the school has waived out of this requirement under 19 TAC §89.1205(g)?

   ☐ Yes ☐ No

5. If the answer is **yes** to **question 1, 2, 3, or 4,** public notices in an alternative language are required. Which language is required by the bilingual program? Click to enter text.

F. Plain Language Summary Template

Complete the Plain Language Summary (TCEQ Form 20972) and include as an attachment.

Attachment: See Attached

G. Public Involvement Plan Form

Complete the Public Involvement Plan Form (TCEQ Form 20960) for each application for a **new permit or major amendment to a permit** and include as an attachment.

Attachment: See Attached

Section 9. Regulated Entity and Permitted Site Information (Instructions Page 29)

A. If the site is currently regulated by TCEQ, provide the Regulated Entity Number (RN) issued to this site. **RN** 101613537

Search the TCEQ's Central Registry at http://www15.tceq.texas.gov/crpub/ to determine if the site is currently regulated by TCEQ.

B. Name of project or site (the name known by the community where located):

WAGGONER CREEK WWTP

C. Owner of treatment facility: CITY OF TEXARKANA

Ownership of Facility: ☒ Public ☐ Private ☐ Both ☐ Federal

D. Owner of land where treatment facility is or will be:

Prefix: SAME AS ABOVE Last Name, First Name: Click to enter text.

Title: Click to enter text. Credential: Click to enter text.

Organization Name: Click to enter text.

Mailing Address: Click to enter text. City, State, Zip Code: Click to enter text.

Phone No.: Click to enter text. E-mail Address: Click to enter text.

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment: Click to enter text.

E. Owner of effluent disposal site:

Prefix: N/A Last Name, First Name: Click to enter text.

Title: Click to enter text. Credential: Click to enter text.

Organization Name: Click to enter text.

Mailing Address: Click to enter text. City, State, Zip Code: Click to enter text.

Phone No.: Click to enter text. E-mail Address: Click to enter text.

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment: Click to enter text.

F. Owner sewage sludge disposal site (if authorization is requested for sludge disposal on property owned or controlled by the applicant)::

Prefix: N/A Last Name, First Name: Click to enter text.

Title: Click to enter text. Credential: Click to enter text.

Organization Name: Click to enter text.

Mailing Address: Click to enter text. City, State, Zip Code: Click to enter text.

Phone No.: Click to enter text. E-mail Address: Click to enter text.

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment: Click to enter text.

Section 10. TPDES Discharge Information (Instructions Page 31)

A. Is the wastewater treatment facility location in the existing permit accurate?

☒ Yes ☐ No

If **no, or a new permit application**, please give an accurate description:

Click to enter text.

B. Are the point(s) of discharge and the discharge route(s) in the existing permit correct?

☒ Yes ☐ No

If **no, or a new or amendment permit application**, provide an accurate description of the point of discharge and the discharge route to the nearest classified segment as defined in 30 TAC Chapter 307:

Click to enter text.

City nearest the outfall(s): TEXARKANA, TEXAS

County in which the outfalls(s) is/are located: BOWIE

C. Is or will the treated wastewater discharge to a city, county, or state highway right-of-way, or a flood control district drainage ditch?

☐ Yes ☒ No

If **yes**, indicate by a check mark if:

☐ Authorization granted ☐ Authorization pending

For **new and amendment** applications, provide copies of letters that show proof of contact and the approval letter upon receipt.

Attachment: Click to enter text.

D. For all applications involving an average daily discharge of 5 MGD or more, provide the names of all counties located within 100 statute miles downstream of the point(s) of discharge: N/A

Section 11. TLAP Disposal Information (Instructions Page 32)

A. For TLAPs, is the location of the effluent disposal site in the existing permit accurate?

☐ Yes ☐ No

If **no, or a new or amendment permit application**, provide an accurate description of the disposal site location:

N/A

B. City nearest the disposal site: Click to enter text.

C. County in which the disposal site is located: Click to enter text.

D. For **TLAPs**, describe the routing of effluent from the treatment facility to the disposal site:

Click to enter text.

E. For **TLAPs**, please identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: Click to enter text.

Section 12. Miscellaneous Information (Instructions Page 32)

A. Is the facility located on or does the treated effluent cross American Indian Land?

☐ Yes ☒ No

B. If the existing permit contains an onsite sludge disposal authorization, is the location of the sewage sludge disposal site in the existing permit accurate?

☐ Yes ☐ No ☒ Not Applicable

If No, or if a new onsite sludge disposal authorization is being requested in this permit application, provide an accurate location description of the sewage sludge disposal site.

Click to enter text.

C. Did any person formerly employed by the TCEQ represent your company and get paid for service regarding this application?

☐ Yes ☒ No

If yes, list each person formerly employed by the TCEQ who represented your company and was paid for service regarding the application: Click to enter text.

D. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If **yes**, provide the following information:

Account number: Click to enter text.

Amount past due: Click to enter text.

E. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If **yes**, please provide the following information:

Enforcement order number: Click to enter text.

Amount past due: Click to enter text.

Section 13. Attachments (Instructions Page 33)

Indicate which attachments are included with the Administrative Report. Check all that apply:

☐ Lease agreement or deed recorded easement, if the land where the treatment facility is located or the effluent disposal site are not owned by the applicant or co-applicant.

☒ Original full-size USGS Topographic Map with the following information:

- Applicant's property boundary
- Treatment facility boundary
- Labeled point of discharge for each discharge point (TPDES only)
- Highlighted discharge route for each discharge point (TPDES only)
- Onsite sewage sludge disposal site (if applicable)
- Effluent disposal site boundaries (TLAP only)
- New and future construction (if applicable)
- 1 mile radius information
- 3 miles downstream information (TPDES only)
- All ponds.

☐ Attachment 1 for Individuals as co-applicants

☐ Other Attachments. Please specify: Click to enter text.

Section 14. Signature Page (Instructions Page 34)

If co-applicants are necessary, each entity must submit an original, separate signature page.

Permit Number: WQ0010374007

Applicant: CITY OF TEXARKANA

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 there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under 30 Texas Administrative Code § 305.44 to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signatory name (typed or printed): BOB BRUGGEMAN

Signatory title: MAYOR

Signature: Bob Bruggeman Date: 02-10-2025

(Use blue ink)

Subscribed and Sworn to before me by the said Bob Bruggeman

on this 10 day of February, 2025.

My commission expires on the 04 day of 04, 2027.

Barbara Edwards

Notary Public

BARBARA J. EDWARDS
Notary Public, State of Texas
Comm. Expires 04-04-2027
Notary ID 128578127

NOTARY PUBLIC STATE OF TEXAS

[SEAL]

Bowie

County, Texas

DOMESTIC WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

The following information is required for new and amendment applications.

Section 1. Affected Landowner Information (Instructions Page 36)

A. Indicate by a check mark that the landowners map or drawing, with scale, includes the following information, as applicable:

- ☒ The applicant's property boundaries
- ☒ The facility site boundaries within the applicant's property boundaries
- ☒ The distance the buffer zone falls into adjacent properties and the property boundaries of the landowners located within the buffer zone
- ☒ The property boundaries of all landowners surrounding the applicant's property (Note: if the application is a major amendment for a lignite mine, the map must include the property boundaries of all landowners adjacent to the new facility (ponds).)
- ☒ The point(s) of discharge and highlighted discharge route(s) clearly shown for one mile downstream
- ☒ The property boundaries of the landowners located on both sides of the discharge route for one full stream mile downstream of the point of discharge
- ☐ The property boundaries of the landowners along the watercourse for a one-half mile radius from the point of discharge if the point of discharge is into a lake, bay, estuary, or affected by tides
- ☐ The boundaries of the effluent disposal site (for example, irrigation area or subsurface drainfield site) and all evaporation/holding ponds within the applicant's property
- ☐ The property boundaries of all landowners surrounding the effluent disposal site
- ☐ The boundaries of the sludge land application site (for land application of sewage sludge for beneficial use) and the property boundaries of landowners surrounding the applicant's property boundaries where the sewage sludge land application site is located
- ☐ The property boundaries of landowners within one-half mile in all directions from the applicant's property boundaries where the sewage sludge disposal site (for example, sludge surface disposal site or sludge monofill) is located

B. ☒ Indicate by a check mark that a separate list with the landowners' names and mailing addresses cross-referenced to the landowner's map has been provided.

C. Indicate by a check mark in which format the landowners list is submitted:

☒ USB Drive ☐ Four sets of labels

D. Provide the source of the landowners' names and mailing addresses: BOWIE COUNTY APPRAISAL DISTRICT WEBSITE

E. As required by *Texas Water Code § 5.115*, is any permanent school fund land affected by this application?

☐ Yes ☒ No

If **yes**, provide the location and foreseeable impacts and effects this application has on the land(s):

Click to enter text.

Section 2. Original Photographs (Instructions Page 38)

Provide original ground level photographs. Indicate with checkmarks that the following information is provided.

- ☒ At least one original photograph of the new or expanded treatment unit location
- ☒ At least two photographs of the existing/proposed point of discharge and as much area downstream (photo 1) and upstream (photo 2) as can be captured. If the discharge is to an open water body (e.g., lake, bay), the point of discharge should be in the right or left edge of each photograph showing the open water and with as much area on each respective side of the discharge as can be captured.
- ☐ At least one photograph of the existing/proposed effluent disposal site
- ☒ A plot plan or map showing the location and direction of each photograph

Section 3. Buffer Zone Map (Instructions Page 38)

A. Buffer zone map. Provide a buffer zone map on 8.5 x 11-inch paper with all of the following information. The applicant's property line and the buffer zone line may be distinguished by using dashes or symbols and appropriate labels.

- The applicant's property boundary;
- The required buffer zone; and
- Each treatment unit; and
- The distance from each treatment unit to the property boundaries.

B. Buffer zone compliance method. Indicate how the buffer zone requirements will be met. Check all that apply.

- ☒ Ownership
- ☒ Restrictive easement
- ☐ Nuisance odor control
- ☐ Variance

C. Unsuitable site characteristics. Does the facility comply with the requirements regarding unsuitable site characteristic found in 30 TAC § 309.13(a) through (d)?

☒ Yes ☐ No

DOMESTIC WASTEWATER PERMIT APPLICATION

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

This form applies to TPDES permit applications only. Complete and attach the Supplemental Permit information Form (SPIF) (TCEQ Form 20971).

Attachment: ATTACHMENT #2

WATER QUALITY PERMIT

PAYMENT SUBMITTAL FORM

Use this form to submit the Application Fee, if the mailing the payment.

- Complete items 1 through 5 below.
- Staple the check or money order in the space provided at the bottom of this document.
- **Do Not mail this form with the application form.**
- Do not mail this form to the same address as the application.
- Do not submit a copy of the application with this form as it could cause duplicate permit entries.

Mail this form and the check or money order to:

BY REGULAR U.S. MAIL

Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
P.O. Box 13088
Austin, Texas 78711-3088

BY OVERNIGHT/EXPRESS MAIL

Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
12100 Park 35 Circle
Austin, Texas 78753

Fee Code: WQP **Waste Permit No:** WQ0010374007

1. Check or Money Order Number: #3751
2. Check or Money Order Amount: Click to enter text.
3. Date of Check or Money Order: 1/22/2025
4. Name on Check or Money Order: TEXARKANA WATER UTILITIES
5. APPLICATION INFORMATION

   Name of Project or Site: WAGGONER CREEK WWTP

   Physical Address of Project or Site: END OF GUILLATE STREET, NASH, TEXAS

   If the check is for more than one application, attach a list which includes the name of each Project or Site (RE) and Physical Address, exactly as provided on the application.

Staple Check or Money Order in This Space

ATTACHMENT 1

INDIVIDUAL INFORMATION

Section 1. Individual Information (Instructions Page 41)

Complete this attachment if the facility applicant or co-applicant is an individual. Make additional copies of this attachment if both are individuals.

Prefix (Mr., Ms., Miss): Click to enter text.

Full legal name (Last Name, First Name, Middle Initial): Click to enter text.

Driver's License or State Identification Number: Click to enter text.

Date of Birth: Click to enter text.

Mailing Address: Click to enter text.

City, State, and Zip Code: Click to enter text.

Phone Number: Click to enter text. Fax Number: Click to enter text.

E-mail Address: Click to enter text.

CN: Click to enter text.

For Commission Use Only:
Customer Number:
Regulated Entity Number:
Permit Number:

DOMESTIC WASTEWATER PERMIT APPLICATION CHECKLIST OF COMMON DEFICIENCIES

Below is a list of common deficiencies found during the administrative review of domestic wastewater permit applications. To ensure the timely processing of this application, please review the items below and indicate by checking Yes that each item is complete and in accordance applicable rules at 30 TAC Chapters 21, 281, and 305. If an item is not required this application, indicate by checking N/A where appropriate. Please do not submit the application until the items below have been addressed.

Core Data Form (TCEQ Form No. 10400) *(Required for all application types. Must be completed in its entirety and signed. Note: Form may be signed by applicant representative.)*			☒	Yes
Correct and Current Industrial Wastewater Permit Application Forms *(TCEQ Form Nos. 10053 and 10054. Version dated 6/25/2018 or later.)*			☒	Yes
Water Quality Permit Payment Submittal Form (Page 19) *(Original payment sent to TCEQ Revenue Section. See instructions for mailing address.)*			☒	Yes
7.5 Minute USGS Quadrangle Topographic Map Attached *(Full-size map if seeking "New" permit. 8 ½ x 11 acceptable for Renewals and Amendments)*			☒	Yes
Current/Non-Expired, Executed Lease Agreement or Easement	☒	N/A	☐	Yes
Landowners Map *(See instructions for landowner requirements)*	☐	N/A	☒	Yes

Things to Know:

- All the items shown on the map must be labeled.
- The applicant's complete property boundaries must be delineated which includes boundaries of contiguous property owned by the applicant.
- The applicant cannot be its own adjacent landowner. You must identify the landowners immediately adjacent to their property, regardless of how far they are from the actual facility.
- If the applicant's property is adjacent to a road, creek, or stream, the landowners on the opposite side must be identified. Although the properties are not adjacent to applicant's property boundary, they are considered potentially affected landowners. If the adjacent road is a divided highway as identified on the USGS topographic map, the applicant does not have to identify the landowners on the opposite side of the highway.

Landowners Cross Reference List *(See instructions for landowner requirements)*	☐	N/A	☒	Yes
Landowners Labels or USB Drive attached *(See instructions for landowner requirements)*	☐	N/A	☒	Yes
Original signature per 30 TAC § 305.44 – Blue Ink Preferred *(If signature page is not signed by an elected official or principle executive officer, a copy of signature authority/delegation letter must be attached)*			☒	Yes
Plain Language Summary			☒	Yes

Design Criteria & Proposed Improvements
For the Requested Major Amendment

City of Texarkana
Waggoner Creek WWTP
TPDES Permit #WQ0010374007

The City of Texarkana, Texas (CN600335830) operates the Waggoner Creek WWTP (RN101613537), a domestic wastewater treatment plant. The facility is located at 825 Gullatte St, in Texarkana, Texas, Bowie County, Texas 75501. This application is to expand the current treatment plant to discharge an average daily flow of 4,000,000 gallons per day of treated domestic wastewater. The treatment plant is currently permitted to discharge 2,000,000 gallons per day.

Discharges from the facility are expected to contain five-day carbonaceous biochemical oxygen demand (CBOD5), total suspended solids (TSS), ammonia nitrogen (NH3-N), and Escherichia coli. . Domestic Wastewater is treated by an activated sludge process plant and the treatment units include a bar screen, grit removal, aeration basins, final clarifiers, sludge digesters, and ultraviolet light disinfection.

The proposed improvements planned by this permit amendment are more specifically described as follows:

- Installation of an automatic bar screen at the current headworks.
- Installation of 3 submersible pumps to the current wet well at the headworks / influent pump station. Abandonment of the existing pumps and dry pit will be accomplished upon operation of the new installation.
- Installation of an odor control system at the headworks. This will be accomplished with a fiberglass building (enclosure) over the bar screen, and covers over the wet well grating.
- Installation of a grit removal system, to include piping from the pump station as well as waste collection for grit. The structure for the grit system will include a splitter box, valves, and piping to convey sewage to the treatment units.
- Construction of a new Treatment Unit (No.3) will be performed. The unit will be a package unit, circular in shape, and the structure constructed of concrete. The Unit will include two aeration basins with fine bubble diffusers, a center upflow clarifier, a sludge digester with coarse bubble diffusers, and a post aeration zone.
- Treated effluent piping will be installed from Treatment Unit No.3 to the existing treated effluent piping.
- Treatment Units No.1 & No.2 are planned for rehabilitation upon operation of Treatment Unit No.3. This will include but no limited to replacement of walls, diffusers, drive, catwalks, coatings, etc.
- Installation of a concrete structure to include ultraviolet light disinfection units. The enclosed UV treatment units will be contained units with flanged piped connections. Each Unit will contain two banks of UV bulbs. Three Units are proposed, two of which will accommodate peak flow, one unit will be a backup. Continuous analyzing of the UV performance will be accomplished to ensure disinfection.

- Following the UV disinfection, an automatic sampling station will be installed to replace the current sampler. Effluent will be continuously measured through a weir to include an ultrasonic flow depth data logger.
- As required for Treatment Unit No.3, a blower building will be constructed near the structure. The building will be the new electrical service and control center for the treatment plant. Installation of blowers and controls will be included in the building as well. An emergency generator will be installed to provide backup power to the treatment plant.
- Other Incidental items will be installed with the proposed project such as lighting, telemetry, piping, etc. to provide a complete and operational treatment facility.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUMMARY OF APPLICATION IN PLAIN LANGUAGE FOR TPDES OR TLAP PERMIT APPLICATIONS

Summary of Application (in plain language) Template and Instructions for Texas Pollutant Discharge Elimination System (TPDES) and Texas Land Application (TLAP) Permit Applications

Applicants should use this template to develop a plain language summary of your facility and application as required by Title 30, Texas Administrative Code (30 TAC), Chapter 39, Subchapter H. You may modify the template as necessary to accurately describe your facility as long as the summary includes the following information: (1) the function of the proposed plant or facility; (2) the expected output of the proposed plant or facility; (3) the expected pollutants that may be emitted or discharged by the proposed plant or facility; and (4) how you will control those pollutants, so that the proposed plant will not have an adverse impact on human health or the environment.

Fill in the highlighted areas below to describe your facility and application in plain language. Instructions and examples are provided below. Make any other edits necessary to improve readability or grammar and to comply with the rule requirements. After filling in the information for your facility delete these instructions.

If you are subject to the alternative language notice requirements in 30 TAC Section 39.426, **you must provide a translated copy of the completed plain language summary in the appropriate alternative language as part of your application package**. For your convenience, a Spanish template has been provided below.

ENGLISH TEMPLATE FOR TPDES or TLAP NEW/RENEWAL/AMENDMENT APPLICATIONS 'DOMESTIC' WASTEWATER/STORMWATER

The following summary is provided for this pending water quality permit application being reviewed by the Texas Commission on Environmental Quality as required by 30 TAC Chapter 39. The information provided in this summary may change during the technical review of the application and is not a federal enforceable representation of the permit application.

The City of Texarkana, Texas (CN600335830) operates the Waggoner Creek WWTP (RN101613537), a domestic wastewater treatment plant. The facility is located at 825 Gullatte St, in Texarkana, Texas, Bowie County, Texas 75501. This application is to expand the current treatment plant to discharge an average daily flow of 4,000,000 gallons per day of treated domestic wastewater. The treatment plant is currently permitted to discharge 2,000,000 gallons per day.

Discharges from the facility are expected to contain five-day carbonaceous biochemical oxygen demand (CBOD5), total suspended solids (TSS), ammonia nitrogen (NH3-N), and Escherichia coli. . Domestic Wastewater is treated by an activated sludge process plant and the treatment units include a bar screen, grit removal, aeration basins, final clarifiers, sludge digesters, and ultraviolet light disinfection.

Texas Commission on Environmental Quality

Public Involvement Plan Form for Permit and Registration Applications

The Public Involvement Plan is intended to provide applicants and the agency with information about how public outreach will be accomplished for certain types of applications in certain geographical areas of the state. It is intended to apply to new activities; major changes at existing plants, facilities, and processes; and to activities which are likely to have significant interest from the public. This preliminary screening is designed to identify applications that will benefit from an initial assessment of the need for enhanced public outreach.

All applicable sections of this form should be completed and submitted with the permit or registration application. For instructions on how to complete this form, see TCEQ-20960-inst.

Section 1. Preliminary Screening

☐ New Permit or Registration Application
☒ New Activity – modification, registration, amendment, facility, etc. (see instructions)

If neither of the above boxes are checked, completion of the form is not required and does not need to be submitted.

Section 2. Secondary Screening

☒ Requires public notice,

☒ Considered to have significant public interest, **and**

☐ Located within any of the following geographical locations:

- Austin
- Dallas
- Fort Worth
- Houston
- San Antonio
- West Texas
- Texas Panhandle
- Along the Texas/Mexico Border
- Other geographical locations should be decided on a case-by-case basis

If all the above boxes are not checked, a Public Involvement Plan is not necessary. Stop after Section 2 and submit the form.

☐ Public Involvement Plan not applicable to this application. Provide **brief** explanation.

Section 3. Application Information

Type of Application (check all that apply):

Air ☐ Initial ☐ Federal ☐ Amendment ☐ Standard Permit ☐ Title V

Waste ☐ Municipal Solid Waste ☐ Industrial and Hazardous Waste ☐ Scrap Tire
☐ Radioactive Material Licensing ☐ Underground Injection Control

Water Quality

☒ Texas Pollutant Discharge Elimination System (TPDES)

☐ Texas Land Application Permit (TLAP)

☐ State Only Concentrated Animal Feeding Operation (CAFO)

☐ Water Treatment Plant Residuals Disposal Permit

☐ Class B Biosolids Land Application Permit

☐ Domestic Septage Land Application Registration

Water Rights New Permit

☐ New Appropriation of Water

☐ New or existing reservoir

Amendment to an Existing Water Right

☐ Add a New Appropriation of Water

☐ Add a New or Existing Reservoir

☐ Major Amendment that could affect other water rights or the environment

Section 4. Plain Language Summary

Provide a brief description of planned activities.

The City of Texarkana, Texas (CN600335830) operates the Waggoner Creek WWTP (RN101613537), a domestic wastewater treatment plant. The facility is located at 825 Gullatte St, in Texarkana, Texas, Bowie County, Texas 75501. This application is to expand the current treatment plant to discharge an average daily flow of 4,000,000 gallons per day of treated domestic wastewater. The treatment plant is currently permitted to discharge 2,000,000 gallons per day.

Discharges from the facility are expected to contain five-day carbonaceous biochemical oxygen demand (CBOD5), total suspended solids (TSS), ammonia nitrogen (NH3-N), and Escherichia coli. . Domestic Wastewater is treated by an activated sludge process plant and the treatment units include a bar screen, grit removal, aeration basins, final clarifiers, sludge digesters, and ultraviolet light disinfection.

Section 5. Community and Demographic Information

Community information can be found using EPA's EJ Screen, U.S. Census Bureau information, or generally available demographic tools.

Information gathered in this section can assist with the determination of whether alternative language notice is necessary. Please provide the following information.

(City)

Texarkana

(County)

Bowie County

(Census Tract)

Please indicate which of these three is the level used for gathering the following information.

☒ City ☐ County ☐ Census Tract

(a) Percent of people over 25 years of age who at least graduated from high school

89.0%

(b) Per capita income for population near the specified location

$29,655

(c) Percent of minority population and percent of population by race within the specified location

White 44.9%, Black 38.8%, Hispanic 10.0%, Asian 2.1%

(d) Percent of Linguistically Isolated Households by language within the specified location

8.7% have a language other than english spoken at home

(e) Languages commonly spoken in area by percentage

English, Spanish

(f) Community and/or Stakeholder Groups

N/A

(g) Historic public interest or involvement

N/A

Section 6. Planned Public Outreach Activities

(a) Is this application subject to the public participation requirements of Title 30 Texas Administrative Code (30 TAC) Chapter 39?

☒ Yes ☐ No

(b) If yes, do you intend at this time to provide public outreach other than what is required by rule?

☐ Yes ☒ No

If Yes, please describe.

If you answered "yes" that this application is subject to 30 TAC Chapter 39, answering the remaining questions in Section 6 is not required.

(c) Will you provide notice of this application in alternative languages?

☐ Yes ☐ No

Please refer to Section 5. If more than 5% of the population potentially affected by your application is Limited English Proficient, then you are required to provide notice in the alternative language.

If yes, how will you provide notice in alternative languages?

☐ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)

(d) Is there an opportunity for some type of public meeting, including after notice?

☐ Yes ☐ No

(e) If a public meeting is held, will a translator be provided if requested?

☐ Yes ☐ No

(f) Hard copies of the application will be available at the following (check all that apply):

☐ TCEQ Regional Office ☐ TCEQ Central Office

☐ Public Place (specify)

Section 7. Voluntary Submittal

For applicants voluntarily providing this Public Involvement Plan, who are not subject to formal public participation requirements.

Will you provide notice of this application, including notice in alternative languages?

☐ Yes ☐ No

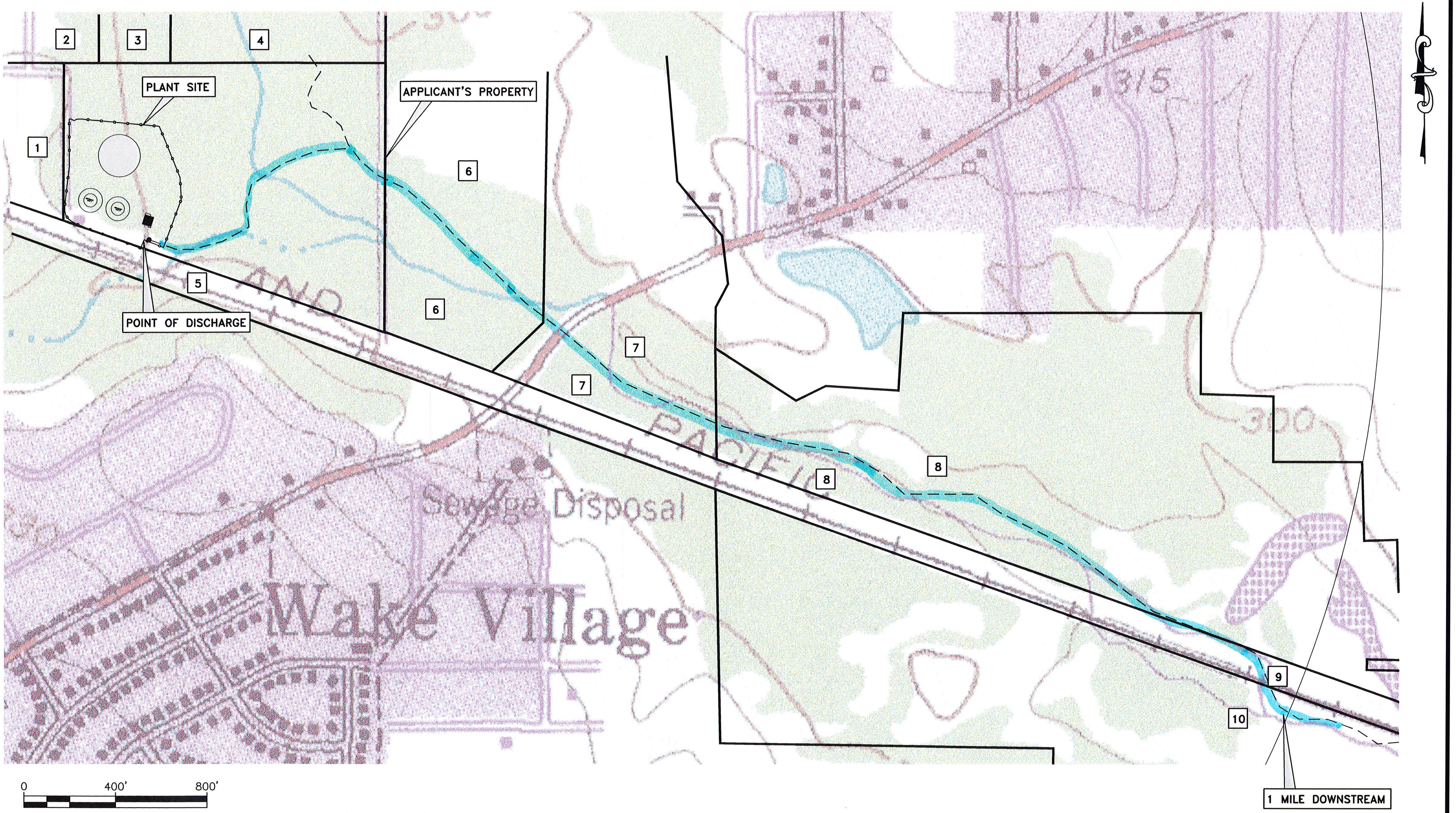
What types of notice will be provided?

☐ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)



No.	Date	Revision	By

A.L. FRANKS ENGINEERING

118 East Broad Street
Texarkana, Arkansas 71854
Phone (870) 216-1906
Fax (870) 216-1907

101 West Main, Ste. 413
El Dorado, Arkansas 71730
Phone (870) 444-5160
Fax (870) 444-5161

LAND OWNER MAP
WAGGONER CREEK WWTP
TEXARKANA, TEXAS

Job No.: TWU-01-13
Scale: 1"=50'
Date: FEB. 2025
Sheet 1

1. Barton, Dustin & Ayla
   720 Gullatte St
   Nash, Texas 75569

2. Bilevich, Brian D & Darcy M
   13445 Forest Green Dr
   Elbert, Colorado 80106

3. City of Nash
   119 Elm St
   Nash, Texas 75569

4. Bailey, Lisa G ETAL
   102 Lakeshore Dr
   Texarkana, Texas 75501

5. Texas Northeastern Railroad
   475 Gautney Road
   Garland, Texas 75040

6. Yates Group Inc.
   2015 Galleria Oaks
   Texarkana, Texas 75503

7. Texas Dept. of Transportation
   520 Sowell Lane
   Texarkana, Texas 75501

8. City of Texarkana
   220 Texas Blvd
   Texarkana, Texas 75501

9. Texas Northeastern Railroad
   475 Gautney Road
   Garland, Texas 75040

10. City of Texarkana
    220 Texas Blvd
    Texarkana, Texas 75501

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.0

For any questions about this form, please contact the Domestic Wastewater Permitting Team at 512-239-4671.

The following information is required for all renewal, new, and amendment applications.

Section 1. Permitted or Proposed Flows (Instructions Page 43)

A. Existing/Interim I Phase

Design Flow (MGD): 2.0

2-Hr Peak Flow (MGD): 5.6

Estimated construction start date: Click to enter text.

Estimated waste disposal start date: Click to enter text.

B. Interim II Phase

Design Flow (MGD): -

2-Hr Peak Flow (MGD): -

Estimated construction start date: -

Estimated waste disposal start date: -

C. Final Phase

Design Flow (MGD): 4.0 MGD

2-Hr Peak Flow (MGD): 12.0 MGD

Estimated construction start date: July 1, 2025

Estimated waste disposal start date: July 1, 2027

D. Current Operating Phase

Provide the startup date of the facility: The Existing Phase has been permitted and in operation for 40 years.

Section 2. Treatment Process (Instructions Page 43)

A. Current Operating Phase

Provide a detailed description of the treatment process. **Include the type of treatment plant, mode of operation, and all treatment units.** Start with the plant's head works and

WAGGONER WWTP – TPDES PERMIT AMENDMENT

TABLE OF CONTENTS

CHECKLIST / FORM 10053

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION CHECKLIST

Complete and submit this checklist with the application.

APPLICANT NAME: CITY OF TEXARKANA

PERMIT NUMBER (If new, leave blank): WQ00 TPDES WQ0010374007

Indicate if each of the following items is included in your application.

	Y	N
Administrative Report 1.0	☒	☐
Administrative Report 1.1	☒	☐
SPIF	☒	☐
Core Data Form	☒	☐
Public Involvement Plan Form	☐	☐
Technical Report 1.0	☒	☐
Technical Report 1.1	☒	☐
Worksheet 2.0	☒	☐
Worksheet 2.1	☐	☒
Worksheet 3.0	☒	☐
Worksheet 3.1	☐	☒
Worksheet 3.2	☐	☒
Worksheet 3.3	☐	☒
Worksheet 4.0	☒	☐
Worksheet 5.0	☒	☐
Worksheet 6.0	☒	☐
Worksheet 7.0	☐	☒

	Y	N
Original USGS Map	☒	☐
Affected Landowners Map	☒	☐
Landowner Disk or Labels	☒	☐
Buffer Zone Map	☒	☐
Flow Diagram	☒	☐
Site Drawing	☒	☐
Original Photographs	☒	☐
Design Calculations	☒	☐
Solids Management Plan	☒	☐
Water Balance	☐	☒

For TCEQ Use Only

Segment Number ____________________ County ____________________

Expiration Date ____________________ Region ____________________

Permit Number ______________________________

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

For any questions about this form, please contact the Applications Review and Processing Team at 512-239-4671.

Section 1. Application Fees (Instructions Page 26)

Indicate the amount submitted for the application fee (check only one).

Flow	New/Major Amendment	Renewal
<0.05 MGD	$350.00 ☐	$315.00 ☐
≥0.05 but <0.10 MGD	$550.00 ☐	$515.00 ☐
≥0.10 but <0.25 MGD	$850.00 ☐	$815.00 ☐
≥0.25 but <0.50 MGD	$1,250.00 ☐	$1,215.00 ☐
≥0.50 but <1.0 MGD	$1,650.00 ☐	$1,615.00 ☐
≥1.0 MGD	$2,050.00 ☒	$2,015.00 ☐

Minor Amendment (for any flow) $150.00 ☐

Payment Information:

Mailed Check/Money Order Number: #3751

Check/Money Order Amount: Click to enter text.

Name Printed on Check: Texarkana Water Utilities

EPAY Voucher Number: Click to enter text.

Copy of Payment Voucher enclosed? Yes ☐

Section 2. Type of Application (Instructions Page 26)

a. Check the box next to the appropriate authorization type.

☒ Publicly-Owned Domestic Wastewater

☐ Privately-Owned Domestic Wastewater

☐ Conventional Wastewater Treatment

b. Check the box next to the appropriate facility status.

☒ Active ☐ Inactive

c. Check the box next to the appropriate permit type.

☒ TPDES Permit

☐ TLAP

☐ TPDES Permit with TLAP component

☐ Subsurface Area Drip Dispersal System (SADDS)

d. Check the box next to the appropriate application type

☐ New

☒ Major Amendment *with* Renewal ☐ Minor Amendment *with* Renewal

☐ Major Amendment *without* Renewal ☐ Minor Amendment *without* Renewal

☐ Renewal without changes ☐ Minor Modification of permit

e. For amendments or modifications, describe the proposed changes: The Waggoner WWTP is planned for upgrades to include a new treatment unit, and replacement of the current treatment units, which will increase the average daily treatment capacity to 4.0 MGD. Other improvements are planned as well as described in the attached submittal letter.

f. **For existing permits:**

Permit Number: WQ00 WQ0010374007

EPA I.D. (TPDES only): TX 0099287

Expiration Date: March 5, 2026

Section 3. Facility Owner (Applicant) and Co-Applicant Information (Instructions Page 26)

A. **The owner of the facility must apply for the permit.**

What is the Legal Name of the entity (applicant) applying for this permit?

CITY OF TEXARKANA

(The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal documents forming the entity.)

If the applicant is currently a customer with the TCEQ, what is the Customer Number (CN)? You may search for your CN on the TCEQ website at http://www15.tceq.texas.gov/crpub/

CN: 600335830

What is the name and title of the person signing the application? The person must be an executive official meeting signatory requirements in *30 TAC § 305.44.*

Prefix: MR. Last Name, First Name: SMITH, GARY

Title: EXECUTIVE DIRECTOR Credential: P.E.

B. **Co-applicant information.** Complete this section only if another person or entity is required to apply as a co-permittee.

What is the Legal Name of the co-applicant applying for this permit?

Click to enter text.

(The legal name must be spelled exactly as filed with the TX SOS, with the County, or in the legal documents forming the entity.)

If the co-applicant is currently a customer with the TCEQ, what is the Customer Number (CN)? You may search for your CN on the TCEQ website at: http://www15.tceq.texas.gov/crpub/

CN: Click to enter text.

What is the name and title of the person signing the application? The person must be an executive official meeting signatory requirements in *30 TAC § 305.44*.

Prefix: Click to enter text. Last Name, First Name: Click to enter text.

Title: Click to enter text. Credential: Click to enter text.

Provide a brief description of the need for a co-permittee: Click to enter text.

C. Core Data Form

Complete the Core Data Form for each customer and include as an attachment. If the customer type selected on the Core Data Form is **Individual**, complete **Attachment 1** of Administrative Report 1.0. ATTACHMENT #1

Section 4. Application Contact Information (Instructions Page 27)

This is the person(s) TCEQ will contact if additional information is needed about this application. Provide a contact for administrative questions and technical questions.

A. Prefix: MR. Last Name, First Name: SMITH, GARY

Title: EXECUTIVE DIRECTOR Credential: P.E.

Organization Name: TEXARKANA WATER UTILITIES

Mailing Address: P.O. BOX 2008 City, State, Zip Code: TEXARKANA, TX 75504

Phone No.: 903-798-3821 E-mail Address: gsmith@txkusa.org

Check one or both: ☒ Administrative Contact ☒ Technical Contact

B. Prefix: MR. Last Name, First Name: CRITTENDEN, DONNIE

Title: POLLUTION CONTROL DIV. MANAGER Credential: Click to enter text.

Organization Name: TEXARKANA WATER UTILITIES

Mailing Address: 4000 SOUTH STATE LINE City, State, Zip Code: TEXARKANA, TX 75501

Phone No.: 903-798-3502 E-mail Address: Crittenden@txkusa.org

Check one or both: ☒ Administrative Contact ☒ Technical Contact

Section 5. Permit Contact Information (Instructions Page 27)

Provide the names and contact information for two individuals that can be contacted throughout the permit term.

A. Prefix: MR. Last Name, First Name: SMITH, GARY

Title: EXECUTIVE DIRECTOR Credential: P.E.

Organization Name: TEXARKANA WATER UTILITIES

Mailing Address: P.O. BOX 2008 City, State, Zip Code: TEXARKANA, TX 75504

Phone No.: 903-798-3821 E-mail Address: gsmith@txkusa.org

B. Prefix: MR. Last Name, First Name: CRITTENDEN, DONNIE

Title: POLLUTION CONTROL DIV. MANAGER Credential: Click to enter text.

Organization Name: TEXARKANA WATER UTILITIES

Mailing Address: 4000 SOUTH STATE LINE City, State, Zip Code: TEXARKANA, TX 75501

Phone No.: 903-798-3502 E-mail Address: Crittenden@txkusa.org

Section 6. Billing Contact Information (Instructions Page 27)

The permittee is responsible for paying the annual fee. The annual fee will be assessed to permits ***in effect on September 1 of each year***. The TCEQ will send a bill to the address provided in this section. The permittee is responsible for terminating the permit when it is no longer needed (using form TCEQ-20029).

Prefix: MR. Last Name, First Name: SMITH, GARY

Title: EXECUTIVE DIRECTOR Credential: P.E.

Organization Name: TEXARKANA WATER UTILITIES

Mailing Address: P.O. BOX 2008 City, State, Zip Code: TEXARKANA, TX 75504

Phone No.: 903-798-3821 E-mail Address: gsmith@txkusa.org

Section 7. DMR/MER Contact Information (Instructions Page 27)

Provide the name and complete mailing address of the person delegated to receive and submit Discharge Monitoring Reports (DMR) (EPA 3320-1) or maintain Monthly Effluent Reports (MER).

Prefix: MR. Last Name, First Name: SMITH, GARY

Title: EXECUTIVE DIRECTOR Credential: P.E.

Organization Name: TEXARKANA WATER UTILITIES

Mailing Address: P.O. BOX 2008 City, State, Zip Code: TEXARKANA, TX 75504

Phone No.: 903-798-3821 E-mail Address: gsmith@txkusa.org

Section 8. Public Notice Information (Instructions Page 27)

A. Individual Publishing the Notices

Prefix: MR. Last Name, First Name: CRITTENDEN, DONNIE

Title: POLLUTION CONTROL DIV. MANAGER Credential: Click to enter text.

Organization Name: TEXARKANA WATER UTILITIES

Mailing Address: 4000 SOUTH STATE LINE City, State, Zip Code: TEXARKANA, TX 75501

Phone No.: 903-798-3502 E-mail Address: crittenden@txkusa.org

B. Method for Receiving Notice of Receipt and Intent to Obtain a Water Quality Permit Package

Indicate by a check mark the preferred method for receiving the first notice and instructions:

☐ E-mail Address

☐ Fax

☒ Regular Mail

C. Contact permit to be listed in the Notices

Prefix: MR. Last Name, First Name: SMITH, GARY

Title: EXECUTIVE DIRECTOR Credential: P.E.

Organization Name: TEXARKANA WATER UTILITIES

Mailing Address: P.O. BOX 2008 City, State, Zip Code: TEXARKANA, TX 75504

Phone No.: 903-798-3821 E-mail Address: gsmith@txkusa.org

D. Public Viewing Information

If the facility or outfall is located in more than one county, a public viewing place for each county must be provided.

Public building name: TEXARKANA WATER UTILITIES ADMINISTRATION BUILDING

Location within the building: CUSTOMER SERVICE DESK

Physical Address of Building: 801 WOOD STREET

City: TEXARKANA County: BOWIE

Contact (Last Name, First Name): WHITE, PAM

Phone No.: 903-798-3821 Ext.: Click to enter text.

E. Bilingual Notice Requirements

This information **is required** for **new, major amendment, minor amendment or minor modification, and renewal** applications.

This section of the application is only used to determine if alternative language notices will be needed. Complete instructions on publishing the alternative language notices will be in your public notice package.

Please call the bilingual/ESL coordinator at the nearest elementary and middle schools and obtain the following information to determine whether an alternative language notices are required.

1. Is a bilingual education program required by the Texas Education Code at the elementary or middle school nearest to the facility or proposed facility?

   ☐ Yes ☒ No

   If **no**, publication of an alternative language notice is not required; **skip to** Section 9 below.

2. Are the students who attend either the elementary school or the middle school enrolled in a bilingual education program at that school?

   ☐ Yes ☐ No

3. Do the students at these schools attend a bilingual education program at another location?

☐ Yes ☐ No

4. Would the school be required to provide a bilingual education program but the school has waived out of this requirement under 19 TAC §89.1205(g)?

☐ Yes ☐ No

5. If the answer is **yes** to **question 1, 2, 3, or 4**, public notices in an alternative language are required. Which language is required by the bilingual program? Click to enter text.

F. Plain Language Summary Template

Complete the Plain Language Summary (TCEQ Form 20972) and include as an attachment.

Attachment: Click to enter text.

G. Public Involvement Plan Form

Complete the Public Involvement Plan Form (TCEQ Form 20960) for each application for a **new permit or major amendment to a permit** and include as an attachment.

Attachment: Click to enter text.

Section 9. Regulated Entity and Permitted Site Information (Instructions Page 29)

A. If the site is currently regulated by TCEQ, provide the Regulated Entity Number (RN) issued to this site. **RN** 101613537

Search the TCEQ's Central Registry at http://www15.tceq.texas.gov/crpub/ to determine if the site is currently regulated by TCEQ.

B. Name of project or site (the name known by the community where located):

WAGGONER CREEK WWTP

C. Owner of treatment facility: CITY OF TEXARKANA

Ownership of Facility: ☒ Public ☐ Private ☐ Both ☐ Federal

D. Owner of land where treatment facility is or will be:

Prefix: SAME AS ABOVE Last Name, First Name: Click to enter text.

Title: Click to enter text. Credential: Click to enter text.

Organization Name: Click to enter text.

Mailing Address: Click to enter text. City, State, Zip Code: Click to enter text.

Phone No.: Click to enter text. E-mail Address: Click to enter text.

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment: Click to enter text.

E. Owner of effluent disposal site:

Prefix: SAME AS ABOVE Last Name, First Name: Click to enter text.

Title: Click to enter text. Credential: Click to enter text.

Organization Name: Click to enter text.

Mailing Address: Click to enter text. City, State, Zip Code: Click to enter text.

Phone No.: Click to enter text. E-mail Address: Click to enter text.

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment: Click to enter text.

F. Owner sewage sludge disposal site (if authorization is requested for sludge disposal on property owned or controlled by the applicant)::

Prefix: Click to enter text. Last Name, First Name: Click to enter text.

Title: Click to enter text. Credential: Click to enter text.

Organization Name: Click to enter text.

Mailing Address: Click to enter text. City, State, Zip Code: Click to enter text.

Phone No.: Click to enter text. E-mail Address: Click to enter text.

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment: Click to enter text.

Section 10. TPDES Discharge Information (Instructions Page 31)

A. Is the wastewater treatment facility location in the existing permit accurate?

☒ Yes ☐ No

If **no, or a new permit application**, please give an accurate description:

Click to enter text.

B. Are the point(s) of discharge and the discharge route(s) in the existing permit correct?

☒ Yes ☐ No

If **no, or a new or amendment permit application**, provide an accurate description of the point of discharge and the discharge route to the nearest classified segment as defined in 30 TAC Chapter 307:

Click to enter text.

City nearest the outfall(s): TEXARKANA, TEXAS

County in which the outfalls(s) is/are located: BOWIE

C. Is or will the treated wastewater discharge to a city, county, or state highway right-of-way, or a flood control district drainage ditch?

☐ Yes ☒ No

If **yes**, indicate by a check mark if:

☐ Authorization granted ☐ Authorization pending

For **new and amendment** applications, provide copies of letters that show proof of contact and the approval letter upon receipt.

Attachment: Click to enter text.

D. For all applications involving an average daily discharge of 5 MGD or more, provide the names of all counties located within 100 statute miles downstream of the point(s) of discharge: N/A

Section 11. TLAP Disposal Information (Instructions Page 32)

A. For TLAPs, is the location of the effluent disposal site in the existing permit accurate?

☐ Yes ☐ No

If **no, or a new or amendment permit application**, provide an accurate description of the disposal site location:

N/A

B. City nearest the disposal site: Click to enter text.

C. County in which the disposal site is located: Click to enter text.

D. For **TLAPs**, describe the routing of effluent from the treatment facility to the disposal site:

Click to enter text.

E. For **TLAPs**, please identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: Click to enter text.

Section 12. Miscellaneous Information (Instructions Page 32)

A. Is the facility located on or does the treated effluent cross American Indian Land?

☐ Yes ☒ No

B. If the existing permit contains an onsite sludge disposal authorization, is the location of the sewage sludge disposal site in the existing permit accurate?

☒ Yes ☐ No ☐ Not Applicable

If No, or if a new onsite sludge disposal authorization is being requested in this permit application, provide an accurate location description of the sewage sludge disposal site.

Click to enter text.

C. Did any person formerly employed by the TCEQ represent your company and get paid for service regarding this application?

☐ Yes ☒ No

If yes, list each person formerly employed by the TCEQ who represented your company and was paid for service regarding the application: Click to enter text.

D. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If **yes**, provide the following information:

Account number: Click to enter text.

Amount past due: Click to enter text.

E. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If **yes**, please provide the following information:

Enforcement order number: Click to enter text.

Amount past due: Click to enter text.

Section 13. Attachments (Instructions Page 33)

Indicate which attachments are included with the Administrative Report. Check all that apply:

☐ Lease agreement or deed recorded easement, if the land where the treatment facility is located or the effluent disposal site are not owned by the applicant or co-applicant.

☒ Original full-size USGS Topographic Map with the following information:

- Applicant's property boundary
- Treatment facility boundary
- Labeled point of discharge for each discharge point (TPDES only)
- Highlighted discharge route for each discharge point (TPDES only)
- Onsite sewage sludge disposal site (if applicable)
- Effluent disposal site boundaries (TLAP only)
- New and future construction (if applicable)
- 1 mile radius information
- 3 miles downstream information (TPDES only)
- All ponds.

☐ Attachment 1 for Individuals as co-applicants

☐ Other Attachments. Please specify: Click to enter text.

Section 14. Signature Page (Instructions Page 34)

If co-applicants are necessary, each entity must submit an original, separate signature page.

Permit Number: WQ0010374007

Applicant: CITY OF TEXARKANA

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 there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under 30 Texas Administrative Code § 305.44 to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signatory name (typed or printed): GARY SMITH

Signatory title: EXECUTIVE DIRECTOR

Signature: [signature] Date: 1-13-2025
(Use blue ink)

Subscribed and Sworn to before me by the said Gary Smith, Executive Director
on this 13th day of January, 20 25.
My commission expires on the 03 day of February, 20 25.

[signature]
Notary Public

[SEAL]
ANDRIA WHITEHURST
Notary Public, State of Texas
Comm. Expires 02-03-2025
Notary ID 130993308

Bowie County, Texas
County, Texas

DOMESTIC WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

The following information is required for new and amendment applications.

Section 1. Affected Landowner Information (Instructions Page 36)

A. Indicate by a check mark that the landowners map or drawing, with scale, includes the following information, as applicable:

- ☒ The applicant's property boundaries
- ☒ The facility site boundaries within the applicant's property boundaries
- ☒ The distance the buffer zone falls into adjacent properties and the property boundaries of the landowners located within the buffer zone
- ☒ The property boundaries of all landowners surrounding the applicant's property (Note: if the application is a major amendment for a lignite mine, the map must include the property boundaries of all landowners adjacent to the new facility (ponds).)
- ☒ The point(s) of discharge and highlighted discharge route(s) clearly shown for one mile downstream
- ☒ The property boundaries of the landowners located on both sides of the discharge route for one full stream mile downstream of the point of discharge
- ☐ The property boundaries of the landowners along the watercourse for a one-half mile radius from the point of discharge if the point of discharge is into a lake, bay, estuary, or affected by tides
- ☐ The boundaries of the effluent disposal site (for example, irrigation area or subsurface drainfield site) and all evaporation/holding ponds within the applicant's property
- ☐ The property boundaries of all landowners surrounding the effluent disposal site
- ☐ The boundaries of the sludge land application site (for land application of sewage sludge for beneficial use) and the property boundaries of landowners surrounding the applicant's property boundaries where the sewage sludge land application site is located
- ☐ The property boundaries of landowners within one-half mile in all directions from the applicant's property boundaries where the sewage sludge disposal site (for example, sludge surface disposal site or sludge monofill) is located

B. ☒ Indicate by a check mark that a separate list with the landowners' names and mailing addresses cross-referenced to the landowner's map has been provided.

C. Indicate by a check mark in which format the landowners list is submitted:

☒ USB Drive ☐ Four sets of labels

D. Provide the source of the landowners' names and mailing addresses: BOWIE COUNTY APPRAISAL DISTRICT WEBSITE

E. As required by *Texas Water Code § 5.115*, is any permanent school fund land affected by this application?

☐ Yes ☒ No

If **yes**, provide the location and foreseeable impacts and effects this application has on the land(s):

Click to enter text.

Section 2. Original Photographs (Instructions Page 38)

Provide original ground level photographs. Indicate with checkmarks that the following information is provided.

☒ At least one original photograph of the new or expanded treatment unit location

☒ At least two photographs of the existing/proposed point of discharge and as much area downstream (photo 1) and upstream (photo 2) as can be captured. If the discharge is to an open water body (e.g., lake, bay), the point of discharge should be in the right or left edge of each photograph showing the open water and with as much area on each respective side of the discharge as can be captured.

☐ At least one photograph of the existing/proposed effluent disposal site

☒ A plot plan or map showing the location and direction of each photograph

Section 3. Buffer Zone Map (Instructions Page 38)

A. Buffer zone map. Provide a buffer zone map on 8.5 x 11-inch paper with all of the following information. The applicant's property line and the buffer zone line may be distinguished by using dashes or symbols and appropriate labels.

- The applicant's property boundary;
- The required buffer zone; and
- Each treatment unit; and
- The distance from each treatment unit to the property boundaries.

B. Buffer zone compliance method. Indicate how the buffer zone requirements will be met. Check all that apply.

☒ Ownership

☒ Restrictive easement

☐ Nuisance odor control

☐ Variance

C. Unsuitable site characteristics. Does the facility comply with the requirements regarding unsuitable site characteristic found in 30 TAC § 309.13(a) through (d)?

☒ Yes ☐ No

DOMESTIC WASTEWATER PERMIT APPLICATION

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

This form applies to TPDES permit applications only. Complete and attach the Supplemental Permit information Form (SPIF) (TCEQ Form 20971).

Attachment: ATTACHMENT #2

ATTACHMENT 1

INDIVIDUAL INFORMATION

Section 1. Individual Information (Instructions Page 41)

Complete this attachment if the facility applicant or co-applicant is an individual. Make additional copies of this attachment if both are individuals.

Prefix (Mr., Ms., Miss): Click to enter text.

Full legal name (Last Name, First Name, Middle Initial): Click to enter text.

Driver's License or State Identification Number: Click to enter text.

Date of Birth: Click to enter text.

Mailing Address: Click to enter text.

City, State, and Zip Code: Click to enter text.

Phone Number: Click to enter text. Fax Number: Click to enter text.

E-mail Address: Click to enter text.

CN: Click to enter text.

For Commission Use Only: Customer Number: Regulated Entity Number: Permit Number:

DOMESTIC WASTEWATER PERMIT APPLICATION CHECKLIST OF COMMON DEFICIENCIES

Below is a list of common deficiencies found during the administrative review of domestic wastewater permit applications. To ensure the timely processing of this application, please review the items below and indicate by checking Yes that each item is complete and in accordance applicable rules at 30 TAC Chapters 21, 281, and 305. If an item is not required this application, indicate by checking N/A where appropriate. Please do not submit the application until the items below have been addressed.

Core Data Form (TCEQ Form No. 10400) ☒ Yes
(Required for all application types. Must be completed in its entirety and signed. Note: Form may be signed by applicant representative.)

Correct and Current Industrial Wastewater Permit Application Forms ☒ Yes
(TCEQ Form Nos. 10053 and 10054. Version dated 6/25/2018 or later.)

Water Quality Permit Payment Submittal Form (Page 19) ☒ Yes
(Original payment sent to TCEQ Revenue Section. See instructions for mailing address.)

7.5 Minute USGS Quadrangle Topographic Map Attached ☒ Yes
(Full-size map if seeking "New" permit.
8 ½ x 11 acceptable for Renewals and Amendments)

Current/Non-Expired, Executed Lease Agreement or Easement ☒ N/A ☐ Yes

Landowners Map ☐ N/A ☒ Yes
(See instructions for landowner requirements)

Things to Know:

- All the items shown on the map must be labeled.
- The applicant's complete property boundaries must be delineated which includes boundaries of contiguous property owned by the applicant.
- The applicant cannot be its own adjacent landowner. You must identify the landowners immediately adjacent to their property, regardless of how far they are from the actual facility.
- If the applicant's property is adjacent to a road, creek, or stream, the landowners on the opposite side must be identified. Although the properties are not adjacent to applicant's property boundary, they are considered potentially affected landowners. If the adjacent road is a divided highway as identified on the USGS topographic map, the applicant does not have to identify the landowners on the opposite side of the highway.

Landowners Cross Reference List ☐ N/A ☒ Yes
(See instructions for landowner requirements)

Landowners Labels or USB Drive attached ☐ N/A ☒ Yes
(See instructions for landowner requirements)

Original signature per 30 TAC § 305.44 – Blue Ink Preferred ☒ Yes
(If signature page is not signed by an elected official or principle executive officer, a copy of signature authority/delegation letter must be attached)

Plain Language Summary ☒ Yes

FORM 10054

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.0

For any questions about this form, please contact the Domestic Wastewater Permitting Team at 512-239-4671.

The following information is required for all renewal, new, and amendment applications.

Section 1. Permitted or Proposed Flows (Instructions Page 43)

A. Existing/Interim I Phase

Design Flow (MGD): 2.0

2-Hr Peak Flow (MGD): 5.6

Estimated construction start date: Click to enter text.

Estimated waste disposal start date: Click to enter text.

B. Interim II Phase

Design Flow (MGD): 4.0

2-Hr Peak Flow (MGD): 12.0

Estimated construction start date: July 1, 2025

Estimated waste disposal start date: July 1, 2027

C. Final Phase

Design Flow (MGD): 6.0 MGD

2-Hr Peak Flow (MGD): 18.0 MGD

Estimated construction start date: JAN 1, 2035

Estimated waste disposal start date: JAN 1, 2036

D. Current Operating Phase

Provide the startup date of the facility: EXISTING PHASE WITH AMENDED PERMITTING TO PROCEED TO INTERIM II PHASE

Section 2. Treatment Process (Instructions Page 43)

A. Current Operating Phase

Provide a detailed description of the treatment process. **Include the type of treatment plant, mode of operation, and all treatment units.** Start with the plant's head works and finish with the point of discharge. Include all sludge processing and drying units. **If more than one phase exists or is proposed, a description of *each phase* must be provided.**

The current (existing) phase of the WWTP includes an influent lift station, followed by two identical package treatment units that include activated sludge treatment, clarification, sludge thickening basins, and chlorine contact basins. Dechlorination occurs after the treatment units followed by an autosampler, parshall flume, and the outfall.
The proposed (Interim II Phase) improvements will add an automatic bar screen at the lift station, a grit removal unit after the lift station, replace the influent lift station pumps, include installation of a third treatment unit to include activated sludge and clarification, include an emergency generator, and installation of UV disinfection.

B. Treatment Units

In Table 1.0(1), provide the treatment unit type, the number of units, and dimensions (length, width, depth) **of each treatment unit, accounting for *all* phases of operation.**

Table 1.0(1) - Treatment Units

Treatment Unit Type	Number of Units	Dimensions (L x W x D)
Grit Removal Chamber	1	13'-9" x 13'-9" x 14'-5" D
Unit 1 & 2 – Aeration	2	469,982 GAL, 14.9' Depth
Unit 1 & 2 – Digesters	2	151,099 GAL, 14.9' Depth
Unit 1 & 2 – Clarifiers	2	2,710 SF (each) 14.9' Depth
Unit 3 – Aeration	1	1,522,389 GAL, 19' Depth
Unit 3 – Digester	1	425,610 GAL, 19' Depth
Unit 3 – Clarifier	1	5,026.5 SF, 19' Depth
SEE DESIGN CALCS FOR ADDITIONAL SIZING INFORMATION		

C. Process Flow Diagram

Provide flow diagrams for the existing facilities and **each** proposed phase of construction.

Attachment: Exhibit FD-1

Section 3. Site Information and Drawing (Instructions Page 44)

Provide the TPDES discharge outfall latitude and longitude. Enter N/A if not applicable.

- Latitude: 33.432688
- Longitude: -94.103419

Provide the TLAP disposal site latitude and longitude. Enter N/A if not applicable.

- Latitude: N/A
- Longitude: N/A

Provide a site drawing for the facility that shows the following:

- The boundaries of the treatment facility;

- The boundaries of the area served by the treatment facility;
- If land disposal of effluent, the boundaries of the disposal site and all storage/holding ponds; and
- If sludge disposal is authorized in the permit, the boundaries of the land application or disposal site.

Attachment: Click to enter text.

Provide the name **and** a description of the area served by the treatment facility.

The Cities of Wake Village, Nash, Leary and Texarkana, Texas.

Collection System Information **for wastewater TPDES permits only**: Provide information for each **uniquely owned** collection system, existing and new, served by this facility, including satellite collection systems. **Please see the instructions for a detailed explanation and examples.**

Collection System Information

Collection System Name	Owner Name	Owner Type	Population Served
		Publicly Owned	
		Choose an item.	
		Choose an item.	
		Choose an item.	

Section 4. Unbuilt Phases (Instructions Page 45)

Is the application for a renewal of a permit that contains an unbuilt phase or phases?

☐ Yes ☒ No

If yes, does the existing permit contain a phase that has not been constructed **within five years** of being authorized by the TCEQ?

☐ Yes ☒ No

If yes, provide a detailed discussion regarding the continued need for the unbuilt phase. **Failure to provide sufficient justification may result in the Executive Director recommending denial of the unbuilt phase or phases.**

The proposed permit amendment application includes the proposed expansion (Interim II Phase) to be completed within the next 5 years. This was not included in the existing permit. The permit amendment also includes provision for a final phase but is not planned for construction within the next 5 years.

Section 5. Closure Plans (Instructions Page 45)

Have any treatment units been taken out of service permanently, or will any units be taken out of service in the next five years?

☐ Yes ☒ No

If yes, was a closure plan submitted to the TCEQ?

☐ Yes ☐ No

If yes, provide a brief description of the closure and the date of plan approval.

Click to enter text.

Section 6. Permit Specific Requirements (Instructions Page 45)

For applicants with an existing permit, check the Other Requirements or Special Provisions of the permit.

A. Summary transmittal

Have plans and specifications been approved for the existing facilities and each proposed phase?

☒ Yes ☐ No

If yes, provide the date(s) of approval for each phase: October 12, 2021

Provide information, including dates, on any actions taken to meet a *requirement or provision* pertaining to the submission of a summary transmittal letter. **Provide a copy of an approval letter from the TCEQ, if applicable.**

Approval Letter is attached.

B. Buffer zones

Have the buffer zone requirements been met?

☒ Yes ☐ No

Provide information below, including dates, on any actions taken to meet the conditions of the buffer zone. If available, provide any new documentation relevant to maintaining the buffer zones.

The railroad Right-of-Way to the south is included in the buffer zone as it is restrictive in nature. The proposed improvements to the plant are outside of the 150-ft required buffer as shown.

C. Other actions required by the current permit

Does the *Other Requirements* or *Special Provisions* section in the existing permit require submission of any other information or other required actions? Examples include Notification of Completion, progress reports, soil monitoring data, etc.

☐ Yes ☒ No

If yes, provide information below on the status of any actions taken to meet the conditions of an *Other Requirement* or *Special Provision.*

Click to enter text.

D. Grit and grease treatment

1. *Acceptance of grit and grease waste*

Does the facility have a grit and/or grease processing facility onsite that treats and decants or accepts transported loads of grit and grease waste that are discharged directly to the wastewater treatment plant prior to any treatment?

☐ Yes ☒ No

If No, stop here and continue with Subsection E. Stormwater Management.

2. *Grit and grease processing*

Describe below how the grit and grease waste is treated at the facility. In your description, include how and where the grit and grease is introduced to the treatment works and how it is separated or processed. Provide a flow diagram showing how grit and grease is processed at the facility.

Click to enter text.

3. *Grit disposal*

Does the facility have a Municipal Solid Waste (MSW) registration or permit for grit disposal?

☐ Yes ☒ No

If No, contact the TCEQ Municipal Solid Waste team at 512-239-2335. Note: A registration or permit is required for grit disposal. Grit shall not be combined with treatment plant sludge. See the instruction booklet for additional information on grit disposal requirements and restrictions.

Describe the method of grit disposal.

Grit Removal will be accomplished by a proposed grit removal unit to be installed in the Interim II Phase as planned. The existing plant does not include a grit removal system. Upon completion of the Interim II Phase, grit will be disposed of at an approved solid waste landfill.

4. ***Grease and decanted liquid disposal***

Note: A registration or permit is required for grease disposal. Grease shall not be combined with treatment plant sludge. For more information, contact the TCEQ Municipal Solid Waste team at 512-239-2335.

Describe how the decant and grease are treated and disposed of after grit separation.

N/A

E. Stormwater management

1. ***Applicability***

Does the facility have a design flow of 1.0 MGD or greater in any phase?

☒ Yes ☐ No

Does the facility have an approved pretreatment program, under 40 CFR Part 403?

☒ Yes ☐ No

If no to both of the above, then skip to Subsection F, Other Wastes Received.

2. ***MSGP coverage***

Is the stormwater runoff from the WWTP and dedicated lands for sewage disposal currently permitted under the TPDES Multi-Sector General Permit (MSGP), TXR050000?

☒ Yes ☐ No

If yes, please provide MSGP Authorization Number and skip to Subsection F, Other Wastes Received:

TXR05 5Q444 or TXRNE Click to enter text.

If no, do you intend to seek coverage under TXR050000?

☐ Yes ☐ No

3. ***Conditional exclusion***

Alternatively, do you intend to apply for a conditional exclusion from permitting based TXR050000 (Multi Sector General Permit) Part II B.2 or TXR050000 (Multi Sector General Permit) Part V, Sector T 3(b)?

☐ Yes ☒ No

If yes, please explain below then proceed to Subsection F, Other Wastes Received:

Click to enter text.

4. ***Existing coverage in individual permit***

Is your stormwater discharge currently permitted through this individual TPDES or TLAP permit?

☐ Yes ☒ No

If yes, provide a description of stormwater runoff management practices at the site that are authorized in the wastewater permit then skip to Subsection F, Other Wastes Received.

Click to enter text.

5. ***Zero stormwater discharge***

Do you intend to have no discharge of stormwater via use of evaporation or other means?

☐ Yes ☒ No

If yes, explain below then skip to Subsection F. Other Wastes Received.

Click to enter text.

Note: If there is a potential to discharge any stormwater to surface water in the state as the result of any storm event, then permit coverage is required under the MSGP or an individual discharge permit. This requirement applies to all areas of facilities with treatment plants or systems that treat, store, recycle, or reclaim domestic sewage, wastewater or sewage sludge (including dedicated lands for sewage sludge disposal located within the onsite property boundaries) that meet the applicability criteria of above. You have the option of obtaining coverage under the MSGP for direct discharges, (recommended), or obtaining coverage under this individual permit.

6. ***Request for coverage in individual permit***

Are you requesting coverage of stormwater discharges associated with your treatment plant under this individual permit?

☐ Yes ☒ No

If yes, provide a description of stormwater runoff management practices at the site for which you are requesting authorization in this individual wastewater permit and describe whether you intend to comingle this discharge with your treated effluent or discharge it via a separate dedicated stormwater outfall. Please also indicate if you intend to divert stormwater to the treatment plant headworks and indirectly discharge it to water in the state.

Click to enter text.

Note: Direct stormwater discharges to waters in the state authorized through this individual permit will require the development and implementation of a stormwater pollution prevention plan (SWPPP) and will be subject to additional monitoring and reporting requirements. Indirect discharges of stormwater via headworks recycling will require compliance with all individual permit requirements including 2-hour peak flow limitations. All stormwater discharge authorization requests will require additional information during the technical review of your application.

F. Discharges to the Lake Houston Watershed

Does the facility discharge in the Lake Houston watershed?

☐ Yes ☒ No

If yes, attach a Sewage Sludge Solids Management Plan. See Example 5 in the instructions. Click to enter text.

G. Other wastes received including sludge from other WWTPs and septic waste

1. *Acceptance of sludge from other WWTPs*

Does or will the facility accept sludge from other treatment plants at the facility site?

☐ Yes ☒ No

If yes, attach sewage sludge solids management plan. See Example 5 of instructions.

In addition, provide the date the plant started or is anticipated to start accepting sludge, an estimate of monthly sludge acceptance (gallons or millions of gallons), an estimate of the BOD_5 concentration of the sludge, and the design BOD_5 concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

Click to enter text.

Note: Permits that accept sludge from other wastewater treatment plants may be required to have influent flow and organic loading monitoring.

2. *Acceptance of septic waste*

Is the facility accepting or will it accept septic waste?

☐ Yes ☒ No

If **yes**, does the facility have a Type V processing unit?

☐ Yes ☐ No

If **yes**, does the unit have a Municipal Solid Waste permit?

☐ Yes ☐ No

If **yes to any of the above**, provide the date the plant started or is anticipated to start accepting septic waste, an estimate of monthly septic waste acceptance (gallons or millions of gallons), an estimate of the BOD_5 concentration of the septic waste, and the design BOD_5 concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

Click to enter text.

Note: Permits that accept sludge from other wastewater treatment plants may be required to have influent flow and organic loading monitoring.

3. ***Acceptance of other wastes (not including septic, grease, grit, or RCRA, CERCLA or as discharged by IUs listed in Worksheet 6)***

Is or will the facility accept wastes that are not domestic in nature excluding the categories listed above?

☐ Yes ☒ No

If **yes**, provide the date that the plant started accepting the waste, an estimate how much waste is accepted on a monthly basis (gallons or millions of gallons), a description of the entities generating the waste, and any distinguishing chemical or other physical characteristic of the waste. Also note if this information has or has not changed since the last permit action.

Click to enter text.

Section 7. Pollutant Analysis of Treated Effluent (Instructions Page 50)

Is the facility in operation?

☒ Yes ☐ No

If **no**, this section is not applicable. Proceed to Section 8.

If yes, provide effluent analysis data for the listed pollutants. ***Wastewater treatment facilities*** complete Table 1.0(2). ***Water treatment facilities*** discharging filter backwash water, complete Table 1.0(3). Provide copies of the laboratory results sheets. **These tables are not applicable for a minor amendment without renewal.** See the instructions for guidance.

Note: The sample date must be within 1 year of application submission.

Table1.0(2) – Pollutant Analysis for Wastewater Treatment Facilities

Pollutant	**Average Conc.**	**Max Conc.**	**No. of Samples**	**Sample Type**	**Sample Date/Time**
$CBOD_5$, mg/l	3.1203	12.05	65	comp	65 dates
Total Suspended Solids, mg/l	5.3659	13.5	66	Comp	66 dates
Ammonia Nitrogen, mg/l	0.2893	1.80	66	Comp	66 dates
Nitrate Nitrogen, mg/l	13.465	19.10	2	comp	3-20-24 & 10-16-24
Total Kjeldahl Nitrogen, mg/l	<0.05	<0.05	1	comp	10-16-24
Sulfate, mg/l	64.1061	94.0	33	grab	multiple
Chloride, mg/l	69.7	69.7	1	comp	10-16-24
Total Phosphorus, mg/l	3.63	3.63	1	comp	10-16-24
pH, standard units	6.23	6.23	1	grab	10-16-24
Dissolved Oxygen*, mg/l	7.9	7.9	1	grab	10-16-24
Chlorine Residual, mg/l	1.58	1.58	1	grab	10-16-24
E.coli (CFU/100ml) freshwater	9.60	9.60	1	grab	10-16-24
Entercocci (CFU/100ml) saltwater	N/A	N/A	N/A	N/A	N/A
Total Dissolved Solids, mg/l	388.0	388.0	2	Comp	10-16-24
Electrical Conductivity, µmohs/cm, †	N/A	N/A	N/A	N/A	N/A
Oil & Grease, mg/l	4.49	4.49	1	Grab	10-16-24
Alkalinity ($CaCO_3$)*, mg/l	24.8	24.8	1	Comp	10-16-24

*TPDES permits only
†TLAP permits only

Table1.0(3) – Pollutant Analysis for Water Treatment Facilities

Pollutant	**Average Conc.**	**Max Conc.**	**No. of Samples**	**Sample Type**	**Sample Date/Time**
Total Suspended Solids, mg/l					
Total Dissolved Solids, mg/l					
pH, standard units					
Fluoride, mg/l					
Aluminum, mg/l					
Alkalinity ($CaCO_3$), mg/l					

Section 8. Facility Operator (Instructions Page 50)

Facility Operator Name: Billy Teague

Facility Operator's License Classification and Level: B

Facility Operator's License Number: WW0070154

Section 9. Sludge and Biosolids Management and Disposal (Instructions Page 51)

A. WWTP's Biosolids Management Facility Type

Check all that apply. See instructions for guidance

- ☒ Design flow>= 1 MGD
- ☐ Serves >= 10,000 people
- ☐ Class I Sludge Management Facility (per 40 CFR § 503.9)
- ☐ Biosolids generator
- ☐ Biosolids end user – land application (onsite)
- ☐ Biosolids end user – surface disposal (onsite)
- ☐ Biosolids end user – incinerator (onsite)

B. WWTP's Biosolids Treatment Process

Check all that apply. See instructions for guidance.

- ☒ Aerobic Digestion
- ☐ Air Drying (or sludge drying beds)
- ☐ Lower Temperature Composting
- ☐ Lime Stabilization
- ☐ Higher Temperature Composting
- ☐ Heat Drying
- ☐ Thermophilic Aerobic Digestion
- ☐ Beta Ray Irradiation
- ☐ Gamma Ray Irradiation
- ☐ Pasteurization
- ☐ Preliminary Operation (e.g. grinding, de-gritting, blending)
- ☐ Thickening (e.g. gravity thickening, centrifugation, filter press, vacuum filter)
- ☐ Sludge Lagoon
- ☐ Temporary Storage (< 2 years)
- ☐ Long Term Storage (>= 2 years)
- ☐ Methane or Biogas Recovery

☒ Other Treatment Process: A sludge pump station and force main convey liquid sludge to the sewer collection system and then to the South Regional Wastewater Treatment Facility.

C. Biosolids Management

Provide information on the *intended* biosolids management practice. Do not enter every management practice that you want authorized in the permit, as the permit will authorize all biosolids management practices listed in the instructions. Rather indicate the management practice the facility plans to use.

Biosolids Management

Management Practice	Handler or Preparer Type	Bulk or Bag Container	Amount (dry metric tons)	Pathogen Reduction Options	Vector Attraction Reduction Option
Choose an item.	Choose an item.	Choose an item.		Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.		Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.		Choose an item.	Choose an item.

If "Other" is selected for Management Practice, please explain (e.g. monofill or transport to another WWTP): A sludge pump station and force main convey liquid sludge to the sewer collection system and then to the South Regional Wastewater Treatment Facility.

D. Disposal site

Disposal site name: South Regional Wastewater Treatment Facility

TCEQ permit or registration number: WQ0010374005

County where disposal site is located: Bowie

E. Transportation method

Method of transportation (truck, train, pipe, other): pipeline

Name of the hauler: Click to enter text.

Hauler registration number: Click to enter text.

Sludge is transported as a:

Liquid ☒ semi-liquid ☐ semi-solid ☐ solid ☐

Section 10. Permit Authorization for Sewage Sludge Disposal (Instructions Page 53)

A. Beneficial use authorization

Does the existing permit include authorization for land application of sewage sludge for beneficial use?

☐ Yes ☒ No

If yes, are you requesting to continue this authorization to land apply sewage sludge for beneficial use?

☐ Yes ☐ No

If yes, is the completed **Application for Permit for Beneficial Land Use of Sewage Sludge (TCEQ Form No. 10451)** attached to this permit application (see the instructions for details)?

☐ Yes ☐ No

B. Sludge processing authorization

Does the existing permit include authorization for any of the following sludge processing, storage or disposal options?

Sludge Composting	☐ Yes	☐ No
Marketing and Distribution of sludge	☐ Yes	☐ No
Sludge Surface Disposal or Sludge Monofill	☐ Yes	☐ No
Temporary storage in sludge lagoons	☐ Yes	☐ No

If yes to any of the above sludge options and the applicant is requesting to continue this authorization, is the completed **Domestic Wastewater Permit Application: Sewage Sludge Technical Report (TCEQ Form No. 10056)** attached to this permit application?

☐ Yes ☐ No

Section 11. Sewage Sludge Lagoons (Instructions Page 53)

Does this facility include sewage sludge lagoons?

☐ Yes ☒ No

If yes, complete the remainder of this section. If no, proceed to Section 12.

A. Location information

The following maps are required to be submitted as part of the application. For each map, provide the Attachment Number.

- Original General Highway (County) Map:

  Attachment: Click to enter text.

- USDA Natural Resources Conservation Service Soil Map:

  Attachment: Click to enter text.

- Federal Emergency Management Map:

  Attachment: Click to enter text.

- Site map:

  Attachment: Click to enter text.

Discuss in a description if any of the following exist within the lagoon area. Check all that apply.

☐ Overlap a designated 100-year frequency flood plain

☐ Soils with flooding classification

- ☐ Overlap an unstable area
- ☐ Wetlands
- ☐ Located less than 60 meters from a fault
- ☐ None of the above

Attachment: Click to enter text.

If a portion of the lagoon(s) is located within the 100-year frequency flood plain, provide the protective measures to be utilized including type and size of protective structures:

Click to enter text.

B. Temporary storage information

Provide the results for the pollutant screening of sludge lagoons. These results are in addition to pollutant results in *Section 7 of Technical Report 1.0.*

Nitrate Nitrogen, mg/kg: Click to enter text.

Total Kjeldahl Nitrogen, mg/kg: Click to enter text.

Total Nitrogen (=nitrate nitrogen + TKN), mg/kg: Click to enter text.

Phosphorus, mg/kg: Click to enter text.

Potassium, mg/kg: Click to enter text.

pH, standard units: Click to enter text.

Ammonia Nitrogen mg/kg: Click to enter text.

Arsenic: Click to enter text.

Cadmium: Click to enter text.

Chromium: Click to enter text.

Copper: Click to enter text.

Lead: Click to enter text.

Mercury: Click to enter text.

Molybdenum: Click to enter text.

Nickel: Click to enter text.

Selenium: Click to enter text.

Zinc: Click to enter text.

Total PCBs: Click to enter text.

Provide the following information:

Volume and frequency of sludge to the lagoon(s): Click to enter text.

Total dry tons stored in the lagoons(s) per 365-day period: Click to enter text.

Total dry tons stored in the lagoons(s) over the life of the unit: Click to enter text.

C. Liner information

Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of 1×10^{-7} cm/sec?

☐ Yes ☐ No

If yes, describe the liner below. Please note that a liner is required.

Click to enter text.

D. Site development plan

Provide a detailed description of the methods used to deposit sludge in the lagoon(s):

Click to enter text.

Attach the following documents to the application.

- Plan view and cross-section of the sludge lagoon(s)

  Attachment: Click to enter text.
- Copy of the closure plan

  Attachment: Click to enter text.
- Copy of deed recordation for the site

  Attachment: Click to enter text.
- Size of the sludge lagoon(s) in surface acres and capacity in cubic feet and gallons

  Attachment: Click to enter text.
- Description of the method of controlling infiltration of groundwater and surface water from entering the site

  Attachment: Click to enter text.
- Procedures to prevent the occurrence of nuisance conditions

  Attachment: Click to enter text.

E. Groundwater monitoring

Is groundwater monitoring currently conducted at this site, or are any wells available for groundwater monitoring, or are groundwater monitoring data otherwise available for the sludge lagoon(s)?

☐ Yes ☐ No

If groundwater monitoring data are available, provide a copy. Provide a profile of soil types encountered down to the groundwater table and the depth to the shallowest groundwater as a separate attachment.

Attachment: Click to enter text.

Section 12. Authorizations/Compliance/Enforcement (Instructions Page 55)

A. Additional authorizations

Does the permittee have additional authorizations for this facility, such as reuse authorization, sludge permit, etc?

☐ Yes ☒ No

If yes, provide the TCEQ authorization number and description of the authorization:

Click to enter text.

B. Permittee enforcement status

Is the permittee currently under enforcement for this facility?

☐ Yes ☒ No

Is the permittee required to meet an implementation schedule for compliance or enforcement?

☐ Yes ☒ No

If yes to either question, provide a brief summary of the enforcement, the implementation schedule, and the current status:

Click to enter text.

Section 13. RCRA/CERCLA Wastes (Instructions Page 55)

A. RCRA hazardous wastes

Has the facility received in the past three years, does it currently receive, or will it receive RCRA hazardous waste?

☐ Yes ☒ No

B. Remediation activity wastewater

Has the facility received in the past three years, does it currently receive, or will it receive CERCLA wastewater, RCRA remediation/corrective action wastewater or other remediation activity wastewater?

☐ Yes ☒ No

C. Details about wastes received

If yes to either Subsection A or B above, provide detailed information concerning these wastes with the application.

Attachment: Click to enter text.

Section 14. Laboratory Accreditation (Instructions Page 56)

All laboratory tests performed must meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification*, which includes the following general exemptions from National Environmental Laboratory Accreditation Program (NELAP) certification requirements:

- The laboratory is an in-house laboratory and is:
  - periodically inspected by the TCEQ; or
  - located in another state and is accredited or inspected by that state; or
  - performing work for another company with a unit located in the same site; or
  - performing pro bono work for a governmental agency or charitable organization.
- The laboratory is accredited under federal law.
- The data are needed for emergency-response activities, and a laboratory accredited under the Texas Laboratory Accreditation Program is not available.
- The laboratory supplies data for which the TCEQ does not offer accreditation.

The applicant should review 30 TAC Chapter 25 for specific requirements.

The following certification statement shall be signed and submitted with every application. See the Signature Page section in the Instructions, for a list of designated representatives who may sign the certification.

CERTIFICATION:

I certify that all laboratory tests submitted with this application meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.*

Printed Name: Gary Smith, P.E.

Title: Executive Director

Signature: Gary Smith

Date: 1-13-2025

DOMESTIC WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.1

The following information is required for new and amendment major applications.

Section 1. Justification for Permit (Instructions Page 57)

A. Justification of permit need

Provide a detailed discussion regarding the need for any phase(s) not currently permitted. Failure to provide sufficient justification may result in the Executive Director recommending denial of the proposed phase(s) or permit.

The proposed major amendment to the permit will increase the permitted discharge rate from 2.0 MGD to 4.0 MGD to accommodate growth. This is being requested in conjunction with an approved plan submittal to expand the WWTP and add an additional treatment unit, among other improvements. The City of Texarkana, TX receives and treats wastewater from the Cities of Nash, Wake Village, and Leary which is also a reason for expansion of the WWTP.

B. Regionalization of facilities

For additional guidance, please review TCEQ's Regionalization Policy for Wastewater Treatment[1].

Provide the following information concerning the potential for regionalization of domestic wastewater treatment facilities:

1. ***Municipally incorporated areas***

If the applicant is a city, then Item 1 is not applicable. Proceed to Item 2 Utility CCN areas.

Is any portion of the proposed service area located in an incorporated city?

☐ Yes ☐ No ☒ Not Applicable

If yes, within the city limits of: Click to enter text.

If yes, attach correspondence from the city.

Attachment: Click to enter text.

If consent to provide service is available from the city, attach a justification for the proposed facility and a cost analysis of expenditures that includes the cost of connecting to the city versus the cost of the proposed facility or expansion attached.

Attachment: Click to enter text.

2. ***Utility CCN areas***

Is any portion of the proposed service area located inside another utility's CCN area?

☒ Yes ☐ No

[1] https://www.tceq.texas.gov/permitting/wastewater/tceq-regionalization-for-wastewater

If yes, attach a justification for the proposed facility and a cost analysis of expenditures that includes the cost of connecting to the CCN facilities versus the cost of the proposed facility or expansion.

Attachment: An existing agreement is attached for Wake Village, Nash, and Texarkana.

3. ***Nearby WWTPs or collection systems***

Are there any domestic permitted wastewater treatment facilities or collection systems located within a three-mile radius of the proposed facility?

☒ Yes ☐ No

If yes, attach a list of these facilities and collection systems that includes each permittee's name and permit number, and an area map showing the location of these facilities and collection systems.

Attachment: The Cities of Nash, Wake Village, and Leary each have collections systems that convey wastewater to the Waggoner Creek WWTP.

If yes, attach proof of mailing a request for service to each facility and collection system, the letters requesting service, and correspondence from each facility and collection system.

Attachment: Click to enter text.

If the facility or collection system agrees to provide service, attach a justification for the proposed facility and a cost analysis of expenditures that includes the cost of connecting to the facility or collection system versus the cost of the proposed facility or expansion.

Attachment: Click to enter text.

Section 2. Proposed Organic Loading (Instructions Page 59)

Is this facility in operation?

☒ Yes ☐ No

If no, proceed to Item B, Proposed Organic Loading.

If yes, provide organic loading information in Item A, Current Organic Loading

A. Current organic loading

Facility Design Flow (flow being requested in application): 4.0 MGD

Average Influent Organic Strength or BOD_5 Concentration in mg/l: 300 mg/l

Average Influent Loading (lbs/day = total average flow X average BOD_5 conc. X 8.34): 10,008 lbs/day

Provide the source of the average organic strength or BOD_5 concentration.

Influent Testing Data over the past two years

B. Proposed organic loading

This table must be completed if this application is for a facility that is not in operation or if this application is to request an increased flow that will impact organic loading.

Table 1.1(1) – Design Organic Loading

Source	Total Average Flow (MGD)	Influent BOD5 Concentration (mg/l)
Municipality		
Subdivision		
Trailer park – transient		
Mobile home park		
School with cafeteria and showers		
School with cafeteria, no showers		
Recreational park, overnight use		
Recreational park, day use		
Office building or factory		
Motel		
Restaurant		
Hospital		
Nursing home		
Other		
TOTAL FLOW from all sources		
AVERAGE BOD_5 from all sources		

Section 3. Proposed Effluent Quality and Disinfection (Instructions Page 59)

A. Existing/Interim I Phase Design Effluent Quality

Biochemical Oxygen Demand (5-day), mg/l: 7 mg/l

Total Suspended Solids, mg/l: 15 mg/l

Ammonia Nitrogen, mg/l: 2 mg/l

Total Phosphorus, mg/l: -

Dissolved Oxygen, mg/l: 4.0 mg/l

Other: Click to enter text.

B. Interim II Phase Design Effluent Quality

Biochemical Oxygen Demand (5-day), mg/l: 7 mg/l

Total Suspended Solids, mg/l: 15 mg/l

Ammonia Nitrogen, mg/l: 2 mg/l

Total Phosphorus, mg/l: -

Dissolved Oxygen, mg/l: 4.0 mg/l

Other: -

C. Final Phase Design Effluent Quality

Biochemical Oxygen Demand (5-day), mg/l: 7 mg/l

Total Suspended Solids, mg/l: 15 mg/l

Ammonia Nitrogen, mg/l: 2 mg/l

Total Phosphorus, mg/l: -

Dissolved Oxygen, mg/l: 4.0 mg/l

Other: Click to enter text.

D. Disinfection Method

Identify the proposed method of disinfection.

☐ Chlorine: Click to enter text. mg/l after Click to enter text. minutes detention time at peak flow

Dechlorination process: Click to enter text.

☒ Ultraviolet Light: 3.2 seconds contact time at peak flow

☐ Other: Click to enter text.

Section 4. Design Calculations (Instructions Page 59)

Attach design calculations and plant features for each proposed phase. Example 4 of the instructions includes sample design calculations and plant features.

Attachment: See Attached Design Report with Calculations

Section 5. Facility Site (Instructions Page 60)

A. 100-year floodplain

Will the proposed facilities be located above the 100-year frequency flood level?

☒ Yes ☐ No

If no, describe measures used to protect the facility during a flood event. Include a site map showing the location of the treatment plant within the 100-year frequency flood level. If applicable, provide the size and types of protective structures.

Click to enter text.

Provide the source(s) used to determine 100-year frequency flood plain.

FEMA Map 48037C0365E

For a new or expansion of a facility, will a wetland or part of a wetland be filled?

☐ Yes ☒ No

If yes, has the applicant applied for a US Corps of Engineers 404 Dredge and Fill Permit?

☐ Yes ☐ No

If yes, provide the permit number: Click to enter text.

If no, provide the approximate date you anticipate submitting your application to the Corps: Click to enter text.

B. Wind rose

Attach a wind rose: Exhibit WR-1

Section 6. Permit Authorization for Sewage Sludge Disposal (Instructions Page 60)

A. Beneficial use authorization

Are you requesting to include authorization to land apply sewage sludge for beneficial use on property located adjacent to the wastewater treatment facility under the wastewater permit?

☐ Yes ☒ No

If yes, attach the completed **Application for Permit for Beneficial Land Use of Sewage Sludge (TCEQ Form No. 10451)**: Click to enter text.

B. Sludge processing authorization

Identify the sludge processing, storage or disposal options that will be conducted at the wastewater treatment facility:

☐ Sludge Composting

☐ Marketing and Distribution of sludge

☐ Sludge Surface Disposal or Sludge Monofill

If any of the above, sludge options are selected, attach the completed **Domestic Wastewater Permit Application: Sewage Sludge Technical Report (TCEQ Form No. 10056)**: Click to enter text.

Section 7. Sewage Sludge Solids Management Plan (Instructions Page 61)

Attach a solids management plan to the application.

Attachment: See attached Sludge Management Plan

The sewage sludge solids management plan must contain the following information:

- Treatment units and processes dimensions and capacities

- Solids generated at 100, 75, 50, and 25 percent of design flow
- Mixed liquor suspended solids operating range at design and projected actual flow
- Quantity of solids to be removed and a schedule for solids removal
- Identification and ownership of the ultimate sludge disposal site
- For facultative lagoons, design life calculations, monitoring well locations and depths, and the ultimate disposal method for the sludge from the facultative lagoon

An example of a sewage sludge solids management plan has been included as Example 5 of the instructions.

DOMESTIC WASTEWATER PERMIT APPLICATION WORKSHEET 2.0: RECEIVING WATERS

The following information is required for all TPDES permit applications.

Section 1. Domestic Drinking Water Supply (Instructions Page 64)

Is there a surface water intake for domestic drinking water supply located within 5 miles downstream from the point or proposed point of discharge?

☐ Yes ☒ No

If **no**, proceed it Section 2. **If yes**, provide the following:

Owner of the drinking water supply: Click to enter text.

Distance and direction to the intake: Click to enter text.

Attach a USGS map that identifies the location of the intake.

Attachment: Click to enter text.

Section 2. Discharge into Tidally Affected Waters (Instructions Page 64)

Does the facility discharge into tidally affected waters?

☐ Yes ☒ No

If **no**, proceed to Section 3. **If yes**, complete the remainder of this section. If no, proceed to Section 3.

A. Receiving water outfall

Width of the receiving water at the outfall, in feet: Click to enter text.

B. Oyster waters

Are there oyster waters in the vicinity of the discharge?

☐ Yes ☐ No

If yes, provide the distance and direction from outfall(s).

Click to enter text.

C. Sea grasses

Are there any sea grasses within the vicinity of the point of discharge?

☐ Yes ☐ No

If yes, provide the distance and direction from the outfall(s).

Click to enter text.

Section 3. Classified Segments (Instructions Page 64)

Is the discharge directly into (or within 300 feet of) a classified segment?

☐ Yes ☒ No

If yes, this Worksheet is complete.

If no, complete Sections 4 and 5 of this Worksheet.

Section 4. Description of Immediate Receiving Waters (Instructions Page 65)

Name of the immediate receiving waters: unnamed tributary and then to Wagner Creek

A. Receiving water type

Identify the appropriate description of the receiving waters.

☒ Stream

☐ Freshwater Swamp or Marsh

☐ Lake or Pond

Surface area, in acres: Click to enter text.

Average depth of the entire water body, in feet: Click to enter text.

Average depth of water body within a 500-foot radius of discharge point, in feet: Click to enter text.

☐ Man-made Channel or Ditch

☐ Open Bay

☐ Tidal Stream, Bayou, or Marsh

☐ Other, specify: Click to enter text.

B. Flow characteristics

If a stream, man-made channel or ditch was checked above, provide the following. For existing discharges, check one of the following that best characterizes the area *upstream* of the discharge. For new discharges, characterize the area *downstream* of the discharge (check one).

☐ Intermittent - dry for at least one week during most years

☐ Intermittent with Perennial Pools - enduring pools with sufficient habitat to maintain significant aquatic life uses

☒ Perennial - normally flowing

Check the method used to characterize the area upstream (or downstream for new dischargers).

☐ USGS flow records

☐ Historical observation by adjacent landowners

☒ Personal observation

☐ Other, specify: Click to enter text.

C. Downstream perennial confluences

List the names of all perennial streams that join the receiving water within three miles downstream of the discharge point.

Cowhorn Creek

D. Downstream characteristics

Do the receiving water characteristics change within three miles downstream of the discharge (e.g., natural or man-made dams, ponds, reservoirs, etc.)?

☒ Yes ☐ No

If yes, discuss how.

Wagner Creek becomes more pronounced and wider from bank to bank (30-ft roughly).

E. Normal dry weather characteristics

Provide general observations of the water body during normal dry weather conditions.

During dry weather conditions there is very minimal flow, and decreased depth, typically.

Date and time of observation: 8/16/2024

Was the water body influenced by stormwater runoff during observations?

☐ Yes ☒ No

Section 5. General Characteristics of the Waterbody (Instructions Page 66)

A. Upstream influences

Is the immediate receiving water upstream of the discharge or proposed discharge site influenced by any of the following? Check all that apply.

☐ Oil field activities
☐ Upstream discharges
☒ Septic tanks
☒ Urban runoff
☒ Agricultural runoff
☐ Other(s), specify: Click to enter text.

B. Waterbody uses

Observed or evidences of the following uses. Check all that apply.

- ☐ Livestock watering
- ☐ Irrigation withdrawal
- ☐ Fishing
- ☐ Domestic water supply
- ☐ Park activities
- ☐ Contact recreation
- ☐ Non-contact recreation
- ☐ Navigation
- ☐ Industrial water supply
- ☐ Other(s), specify: Click to enter text.

C. Waterbody aesthetics

Check one of the following that best describes the aesthetics of the receiving water and the surrounding area.

- ☐ Wilderness: outstanding natural beauty; usually wooded or unpastured area; water clarity exceptional
- ☒ Natural Area: trees and/or native vegetation; some development evident (from fields, pastures, dwellings); water clarity discolored
- ☐ Common Setting: not offensive; developed but uncluttered; water may be colored or turbid
- ☐ Offensive: stream does not enhance aesthetics; cluttered; highly developed; dumping areas; water discolored

DOMESTIC WASTEWATER PERMIT APPLICATION WORKSHEET 2.1: STREAM PHYSICAL CHARACTERISTICS

Required for new applications, major facilities, and applications adding an outfall.

Worksheet 2.1 is not required for discharges to intermittent streams or discharges directly to (or within 300 feet of) a classified segment.

Section 1. General Information (Instructions Page 66)

Date of study: Click to enter text. Time of study: Click to enter text.

Stream name: Click to enter text.

Location: Click to enter text.

Type of stream upstream of existing discharge or downstream of proposed discharge (check one).

☐ Perennial ☐ Intermittent with perennial pools

Section 2. Data Collection (Instructions Page 66)

Number of stream bends that are well defined: Click to enter text.

Number of stream bends that are moderately defined: Click to enter text.

Number of stream bends that are poorly defined: Click to enter text.

Number of riffles: Click to enter text.

Evidence of flow fluctuations (check one):

☐ Minor ☐ moderate ☐ severe

Indicate the observed stream uses and if there is evidence of flow fluctuations or channel obstruction/modification.

Click to enter text.

Stream transects

In the table below, provide the following information for each transect downstream of the existing or proposed discharges. Use a separate row for each transect.

Table 2.1(1) - Stream Transect Records

Stream type at transect Select riffle, run, glide, or pool. See Instructions, Definitions section.	**Transect location**	**Water surface width (ft)**	**Stream depths (ft)** at 4 to 10 points along each transect from the channel bed to the water surface. Separate the measurements with commas.
Choose an item.			
Choose an item.			
Choose an item.			
Choose an item.			
Choose an item.			
Choose an item.			
Choose an item.			
Choose an item.			
Choose an item.			
Choose an item.			

Section 3. Summarize Measurements (Instructions Page 66)

Streambed slope of entire reach, from USGS map in feet/feet: Click to enter text.

Approximate drainage area above the most downstream transect (from USGS map or county highway map, in square miles): Click to enter text.

Length of stream evaluated, in feet: Click to enter text.

Number of lateral transects made: Click to enter text.

Average stream width, in feet: Click to enter text.

Average stream depth, in feet: Click to enter text.

Average stream velocity, in feet/second: Click to enter text.

Instantaneous stream flow, in cubic feet/second: Click to enter text.

Indicate flow measurement method (type of meter, floating chip timed over a fixed distance, etc.): Click to enter text.

Size of pools (large, small, moderate, none): Click to enter text.

Maximum pool depth, in feet: Click to enter text.

DOMESTIC WASTEWATER PERMIT APPLICATION
WORKSHEET 3.0: LAND DISPOSAL OF EFFLUENT

The following is required for renewal, new, and amendment permit applications.

Section 1. Type of Disposal System (Instructions Page 68)

Identify the method of land disposal:

- ☐ Surface application
- ☐ Subsurface application
- ☐ Irrigation
- ☐ Subsurface soils absorption
- ☐ Drip irrigation system
- ☐ Subsurface area drip dispersal system
- ☐ Evaporation
- ☐ Evapotranspiration beds
- ☒ Other (describe in detail): N/A – Sludge is conveyed to the South Regional Wastewater Treatment Plant for disposal.

NOTE: All applicants without authorization or proposing new/amended subsurface disposal MUST complete and submit Worksheet 7.0.

For existing authorizations, provide Registration Number: Click to enter text.

Section 2. Land Application Site(s) (Instructions Page 68)

In table 3.0(1), provide the requested information for the land application sites. Include the agricultural or cover crop type (wheat, cotton, alfalfa, bermuda grass, native grasses, etc.), land use (golf course, hayland, pastureland, park, row crop, etc.), irrigation area, amount of effluent applied, and whether or not the public has access to the area. Specify the amount of land area and the amount of effluent that will be allotted to each agricultural or cover crop, if more than one crop will be used.

Table 3.0(1) – Land Application Site Crops

Crop Type & Land Use	Irrigation Area (acres)	Effluent Application (GPD)	Public Access? Y/N

Section 3. Storage and Evaporation Lagoons/Ponds (Instructions Page 68)

Table 3.0(2) – Storage and Evaporation Ponds

Pond Number	Surface Area (acres)	Storage Volume (acre-feet)	Dimensions	Liner Type

Attach a copy of a liner certification that was prepared, signed, and sealed by a Texas licensed professional engineer for each pond.

Attachment: Click to enter text.

Section 4. Flood and Runoff Protection (Instructions Page 68)

Is the land application site within the 100-year frequency flood level?

☐ Yes ☐ No

If yes, describe how the site will be protected from inundation.

Click to enter text.

Provide the source used to determine the 100-year frequency flood level:

Click to enter text.

Provide a description of tailwater controls and rainfall run-on controls used for the land application site.

Click to enter text.

Section 5. Annual Cropping Plan (Instructions Page 68)

Attach an Annual Cropping Plan which includes a discussion of each of the following items. If not applicable, provide a detailed explanation indicating why. **Attachment:** Click to enter text.

- Soils map with crops
- Cool and warm season plant species
- Crop yield goals
- Crop growing season
- Crop nutrient requirements
- Additional fertilizer requirements
- Minimum/maximum harvest height (for grass crops)
- Supplemental watering requirements
- Crop salt tolerances
- Harvesting method/number of harvests
- Justification for not removing existing vegetation to be irrigated

Section 6. Well and Map Information (Instructions Page 69)

Attach a USGS map with the following information shown and labeled. If not applicable, provide a detailed explanation indicating why. **Attachment:** Click to enter text.

- The boundaries of the land application site(s)
- Waste disposal or treatment facility site(s)
- On-site buildings
- Buffer zones
- Effluent storage and tailwater control facilities
- All water wells within 1-mile radius of the disposal site or property boundaries
- All springs and seeps onsite and within 500 feet of the property boundaries
- All surface waters in the state onsite and within 500 feet of the property boundaries
- All faults and sinkholes onsite and within 500 feet of the property

List and cross reference all water wells located within a half-mile radius of the disposal site or property boundaries shown on the USGS map in the following table. Attach additional pages as necessary to include all of the wells.

Table 3.0(3) – Water Well Data

Well ID	Well Use	Producing? Y/N	Open, cased, capped, or plugged?	Proposed Best Management Practice
			Choose an item.	
			Choose an item.	
			Choose an item.	
			Choose an item.	
			Choose an item.	

If water quality data or well log information is available please include the information in an attachment listed by Well ID.

Attachment: Click to enter text.

Section 7. Groundwater Quality (Instructions Page 69)

Attach a Groundwater Quality Technical Report which assesses the impact of the wastewater disposal system on groundwater. This report shall include an evaluation of the water wells (including the information in the well table provided in Item 6. above), the wastewater application rate, and pond liners. Indicate by a check mark that this report is provided.

Attachment: Click to enter text.

Are groundwater monitoring wells available onsite? ☐ Yes ☐ No

Do you plan to install ground water monitoring wells or lysimeters around the land application site? ☐ Yes ☐ No

If yes, provide the proposed location of the monitoring wells or lysimeters on a site map.

Attachment: Click to enter text.

Section 8. Soil Map and Soil Analyses (Instructions Page 70)

A. Soil map

Attach a USDA Soil Survey map that shows the area to be used for effluent disposal.

Attachment: Click to enter text.

B. Soil analyses

Attach the laboratory results sheets from the soil analyses. **Note**: for renewal applications, the current annual soil analyses required by the permit are acceptable as long as the test date is less than one year prior to the submission of the application.

Attachment: Click to enter text.

List all USDA designated soil series on the proposed land application site. Attach additional pages as necessary.

Table 3.0(4) – Soil Data

Soil Series	Depth from Surface	Permeability	Available Water Capacity	Curve Number

Section 9. Effluent Monitoring Data (Instructions Page 71)

Is the facility in operation?

☐ Yes ☐ No

If no, this section is not applicable and the worksheet is complete.

If yes, provide the effluent monitoring data for the parameters regulated in the existing permit. If a parameter is not regulated in the existing permit, enter N/A.

Table 3.0(5) – Effluent Monitoring Data

Date	30 Day Avg Flow MGD	BOD5 mg/l	TSS mg/l	pH	Chlorine Residual mg/l	Acres irrigated

Provide a discussion of all persistent excursions above the permitted limits and any corrective actions taken.

Click to enter text.

DOMESTIC WASTEWATER PERMIT APPLICATION WORKSHEET 3.1: SURFACE LAND DISPOSAL OF EFFLUENT

The following is required for new and major amendment permit applications. Renewal and minor amendment permit applications may be asked for this worksheet on a case by case basis.

Section 1. Surface Disposal (Instructions Page 72)

Complete the item that applies for the method of disposal being used.

A. Irrigation

Area under irrigation, in acres: Click to enter text.

Design application frequency:

hours/day Click to enter text. **And** days/week Click to enter text.

Land grade (slope):

average percent (%): Click to enter text.

maximum percent (%): Click to enter text.

Design application rate in acre-feet/acre/year: Click to enter text.

Design total nitrogen loading rate, in lbs N/acre/year: Click to enter text.

Soil conductivity (mmhos/cm): Click to enter text.

Method of application: Click to enter text.

Attach a separate engineering report with the water balance and storage volume calculations, method of application, irrigation efficiency, and nitrogen balance.

Attachment: Click to enter text.

B. Evaporation ponds

Daily average effluent flow into ponds, in gallons per day: Click to enter text.

Attach a separate engineering report with the water balance and storage volume calculations.

Attachment: Click to enter text.

C. Evapotranspiration beds

Number of beds: Click to enter text.

Area of bed(s), in acres: Click to enter text.

Depth of bed(s), in feet: Click to enter text.

Void ratio of soil in the beds: Click to enter text.

Storage volume within the beds, in acre-feet: Click to enter text.

Attach a separate engineering report with the water balance and storage volume calculations, and a description of the lining.

Attachment: Click to enter text.

D. Overland flow

Area used for application, in acres: Click to enter text.

Slopes for application area, percent (%): Click to enter text.

Design application rate, in gpm/foot of slope width: Click to enter text.

Slope length, in feet: Click to enter text.

Design BOD_5 loading rate, in lbs BOD_5/acre/day: Click to enter text.

Design application frequency:

hours/day: Click to enter text. **And** days/week: Click to enter text.

Attach a separate engineering report with the method of application and design requirements according to *30 TAC Chapter 217*.

Attachment: Click to enter text.

Section 2. Edwards Aquifer (Instructions Page 73)

Is the facility subject to *30 TAC Chapter 213*, Edwards Aquifer Rules?

☐ Yes ☐ No

If **yes**, is the facility located on the Edwards Aquifer Recharge Zone?

☐ Yes ☐ No

If yes, attach a geological report addressing potential recharge features.

Attachment: Click to enter text.

DOMESTIC WASTEWATER PERMIT APPLICATION WORKSHEET 3.2: SURFACE LAND DISPOSAL OF EFFLUENT

The following **is required** for **new and major amendment** permit applications. Renewal and minor amendments applicants may be asked for the worksheet on a case by case basis.

NOTE: All applicants proposing new/amended subsurface disposal MUST complete and submit Worksheet 7.0. This worksheet applies to any subsurface disposal system that **does not meet** the definition of a subsurface area drip dispersal system as defined in *30 TAC Chapter 222, Subsurface Area Drip Dispersal System.*

Section 1. Subsurface Application (Instructions Page 74)

Identify the type of system:

- ☐ Conventional Gravity Drainfield, Beds, or Trenches (new systems must be less than 5,000 GPD)
- ☐ Low Pressure Dosing
- ☐ Other, specify: Click to enter text.

Application area, in acres: Click to enter text.

Area of drainfield, in square feet: Click to enter text.

Application rate, in gal/square foot/day: Click to enter text.

Depth to groundwater, in feet: Click to enter text.

Area of trench, in square feet: Click to enter text.

Dosing duration per area, in hours: Click to enter text.

Number of beds: Click to enter text.

Dosing amount per area, in inches/day: Click to enter text.

Infiltration rate, in inches/hour: Click to enter text.

Storage volume, in gallons: Click to enter text.

Area of bed(s), in square feet: Click to enter text.

Soil Classification: Click to enter text.

Attach a separate engineering report with the information required in *30 TAC § 309.20,* excluding the requirements of § 309.20 b(3)(A) and (B) design analysis which may be asked for on a case by case basis. Include a description of the schedule of dosing basin rotation.

Attachment: Click to enter text.

Section 2. Edwards Aquifer (Instructions Page 74)

Is the subsurface system over the Edwards Aquifer Recharge Zone as mapped by TCEQ?

☐ Yes ☐ No

Is the subsurface system over the Edwards Aquifer Transition Zone as mapped by TCEQ?

☐ Yes ☐ No

If yes to either question, the subsurface system may be prohibited by *30 TAC §213.8.* Please call the Municipal Permits Team, at 512-239-4671, to schedule a pre-application meeting.

DOMESTIC WASTEWATER PERMIT APPLICATION WORKSHEET 3.3: SUBSURFACE AREA DRIP DISPERSAL (SADDS) LAND DISPOSAL OF EFFLUENT

The following **is required** for **new and major amendment** subsurface area drip dispersal system permit applications. Renewal and minor amendments applicants may be asked for the worksheet on a case by case basis.

NOTE: All applicants proposing new/amended subsurface disposal MUST complete and submit Worksheet 7.0. This worksheet applies to any subsurface disposal system that **meets** the definition of a subsurface area drip dispersal system as defined in *30 TAC Chapter 222, Subsurface Area Drip Dispersal System.*

Section 1. Administrative Information (Instructions Page 75)

A. Provide the legal name of all corporations or other business entities managed, owned, or otherwise closely related to the owner of the treatment facility:

B. Click to enter text. Is the owner of the land where the treatment facility is located the same as the owner of the treatment facility?

☐ Yes ☐ No

If **no**, provide the legal name of all corporations or other business entities managed, owned, or otherwise closely related to the owner of the land where the treatment facility is located.

Click to enter text.

C. Owner of the subsurface area drip dispersal system: Click to enter text.

D. Is the owner of the subsurface area drip dispersal system the same as the owner of the wastewater treatment facility or the site where the wastewater treatment facility is located?

☐ Yes ☐ No

If **no**, identify the names of all corporations or other business entities managed, owned, or otherwise closely related to the entity identified in Item 1.C.

Click to enter text.

E. Owner of the land where the subsurface area drip dispersal system is located: Click to enter text.

F. Is the owner of the land where the subsurface area drip dispersal system is located the same as owner of the wastewater treatment facility, the site where the wastewater treatment facility is located, or the owner of the subsurface area drip dispersal system?

☐ Yes ☐ No

If **no**, identify the name of all corporations or other business entities managed, owned, or otherwise closely related to the entity identified in item 1.E.

Click to enter text.

Section 2. Subsurface Area Drip Dispersal System (Instructions Page 75)

A. Type of system

☐ Subsurface Drip Irrigation

☐ Surface Drip Irrigation

☐ Other, specify: Click to enter text.

B. Irrigation operations

Application area, in acres: Click to enter text.

Infiltration Rate, in inches/hour: Click to enter text.

Average slope of the application area, percent (%): Click to enter text.

Maximum slope of the application area, percent (%): Click to enter text.

Storage volume, in gallons: Click to enter text.

Major soil series: Click to enter text.

Depth to groundwater, in feet: Click to enter text.

C. Application rate

Is the facility located **west** of the boundary shown in *30 TAC § 222.83* **and** also using a vegetative cover of non-native grasses over seeded with cool season grasses during the winter months (October-March)?

☐ Yes ☐ No

If yes, then the facility may propose a hydraulic application rate not to exceed 0.1 gal/square foot/day.

Is the facility located **east** of the boundary shown in *30 TAC § 222.83* **or** in any part of the state when the vegetative cover is any crop other than non-native grasses?

☐ Yes ☐ No

If **yes**, the facility must use the formula in *30 TAC §222.83* to calculate the maximum hydraulic application rate.

Do you plan to submit an alternative method to calculate the hydraulic application rate for approval by the executive director?

☐ Yes ☐ No

Hydraulic application rate, in gal/square foot/day: Click to enter text.

Nitrogen application rate, in lbs/gal/day: Click to enter text.

D. Dosing information

Number of doses per day: Click to enter text.

Dosing duration per area, in hours: Click to enter text.

Rest period between doses, in hours: Click to enter text.

Dosing amount per area, in inches/day: Click to enter text.

Number of zones: Click to enter text.

Does the proposed subsurface drip irrigation system use tree vegetative cover as a crop?

☐ Yes ☐ No

If **yes**, provide a vegetation survey by a certified arborist. Please call the Water Quality Assessment Team at (512) 239-4671 to schedule a pre-application meeting.

Attachment: Click to enter text.

Section 3. Required Plans (Instructions Page 75)

A. Recharge feature plan

Attach a Recharge Feature Plan with all information required in *30 TAC §222.79.*

Attachment: Click to enter text.

B. Soil evaluation

Attach a Soil Evaluation with all information required in *30 TAC §222.73.*

Attachment: Click to enter text.

C. Site preparation plan

Attach a Site Preparation Plan with all information required in *30 TAC §222.75.*

Attachment: Click to enter text.

D. Soil sampling/testing

Attach soil sampling and testing that includes all information required in *30 TAC §222.157.*

Attachment: Click to enter text.

Section 4. Floodway Designation (Instructions Page 76)

A. Site location

Is the existing/proposed land application site within a designated floodway?

☐ Yes ☐ No

B. Flood map

Attach either the FEMA flood map or alternate information used to determine the floodway.

Attachment: Click to enter text.

Section 5. Surface Waters in the State (Instructions Page 76)

A. Buffer Map

Attach a map showing appropriate buffers on surface waters in the state, water wells, and springs/seeps.

Attachment: Click to enter text.

B. Buffer variance request

Do you plan to request a buffer variance from water wells or waters in the state?

☐ Yes ☐ No

If yes, then attach the additional information required in *30 TAC § 222.81(c).*

Attachment: Click to enter text.

Section 6. Edwards Aquifer (Instructions Page 76)

A. Is the SADDS located over the Edwards Aquifer Recharge Zone as mapped by TCEQ?

☐ Yes ☐ No

B. Is the SADDS located over the Edwards Aquifer Transition Zone as mapped by TCEQ?

☐ Yes ☐ No

If yes to either question, then the SADDS may be prohibited by *30 TAC §213.8.* Please call the Municipal Permits Team at 512-239-4671 to schedule a pre-application meeting.

DOMESTIC WASTEWATER PERMIT APPLICATION WORKSHEET 4.0: POLLUTANT ANALYSIS REQUIREMENTS

The following **is required** for facilities with a permitted or proposed flow of **1.0 MGD or greater**, facilities with an approved **pretreatment** program, or facilities classified as a **major** facility. See instructions for further details.

This worksheet is not required minor amendments without renewal.

Section 1. Toxic Pollutants (Instructions Page 78)

For pollutants identified in Table 4.0(1), indicate the type of sample.

Grab ☐ Composite ☒

Date and time sample(s) collected: Varies (03/06/2024 & 10/17/2024)

Table 4.0(1) – Toxics Analysis

Pollutant	AVG Effluent Conc. (μg/l)	MAX Effluent Conc. (μg/l)	Number of Samples	MAL (μg/l)
Acrylonitrile	<3.0	<5.0	2	50
Aldrin	0.0176	0.0242	2	0.01
Aluminum	73.45	88.00	2	2.5
Anthracene	<3.345	<5.60	2	10
Antimony	<2.13	<3.760	2	5
Arsenic	1.06	1.07	2	0.5
Barium	29.4	35.1	2	3
Benzene	<3.0	<5.0	2	10
Benzidine	<13.75	<21.9	2	50
Benzo(a)anthracene	<3.345	<5.60	2	5
Benzo(a)pyrene	<3.345	<5.60	2	5
Bis(2-chloroethyl)ether	<3.345	<5.60	2	10
Bis(2-ethylhexyl)phthalate	<6.905	<8.21	2	10
Bromodichloromethane	8.15	11.3	2	10
Bromoform	<3.875	<5.0	2	10
Cadmium	<0.375	<0.50	2	1
Carbon Tetrachloride	<3.0	<5.0	2	2
Carbaryl	4.165	5.63	2	5
Chlordane*	<0.1555	<0.20	2	0.2
Chlorobenzene	<3.0	<5.0	2	10

Pollutant	**AVG Effluent Conc. (μg/l)**	**MAX Effluent Conc. (μg/l)**	**Number of Samples**	**MAL (μg/l)**
Chlorodibromomethane	8.15	11.30	2	10
Chloroform	8.75	12.5	2	10
Chlorpyrifos	<0.0805	<0.1110	2	0.05
Chromium (Total)	<0.755	<1.00	2	3
Chromium (Tri) **(*1)**	<6.5	<10.0	2	N/A
Chromium (Hex)	<6.5	<10.0	2	3
Copper	3.9550	4.39	2	2
Chrysene	<3.345	<5.60	2	5
p-Chloro-m-Cresol	<4.1150	<5.60	2	10
4,6-Dinitro-o-Cresol	<7.175	<8.750	2	50
p-Cresol	<6.190	<6.780	2	10
Cyanide **(*2)**	<5.0046	<10.0	2	10
4,4'- DDD	<0.0109	<0.0110	2	0.1
4,4'- DDE	<0.0109	<0.0110	2	0.1
4,4'- DDT	<0.0109	<0.0110	2	0.02
2,4-D	<2.88	<5.55	2	0.7
Demeton (O and S)	<0.0825	<0.1110	2	0.20
Diazinon	<0.0825	<0.1110	2	0.5/0.1
1,2-Dibromoethane	<3.0	<5.0	2	10
m-Dichlorobenzene	<2.5633	<5.60	3	10
o-Dichlorobenzene	<2.5633	<5.60	3	10
p-Dichlorobenzene	<2.5633	<5.60	3	10
3,3'-Dichlorobenzidine	<5.30	<5.60	2	5
1,2-Dichloroethane	<3.0	<5.0	2	10
1,1-Dichloroethylene	<3.0	<5.0	2	10
Dichloromethane	<3.5	<5.0	2	20
1,2-Dichloropropane	<3.005	<5.0	2	10
1,3-Dichloropropene	<5.0	<5.0	1	10
Dicofol	<0.0520	<0.0539	2	1
Dieldrin	<0.011	<0.011	1	0.02
2,4-Dimethylphenol	<4.1150	<5.60	2	10
Di-n-Butyl Phthalate	<6.905	<8.210	2	10
Diuron	<0.0743	<0.100	2	0.09

Pollutant	AVG Effluent Conc. (μg/l)	MAX Effluent Conc. (μg/l)	Number of Samples	MAL (μg/l)
Endosulfan I (alpha)	<0.0105	<0.0110	2	0.01
Endosulfan II (beta)	<0.0109	<0.0110	2	0.02
Endosulfan Sulfate	<0.0109	<0.0110	2	0.1
Endrin	<0.0109	<0.0110	2	0.02
Ethylbenzene	<3.0	<5.0	2	10
Fluoride	<300.0	<500.0	2	500
Guthion	<0.0825	<0.1110	2	0.1
Heptachlor	<0.0105	<0.0110	2	0.01
Heptachlor Epoxide	<0.0105	<0.0110	2	0.01
Hexachlorobenzene	<3.345	<5.60	2	5
Hexachlorobutadiene	<3.345	<5.60	2	10
Hexachlorocyclohexane (alpha)	<0.0109	<0.0110	2	0.05
Hexachlorocyclohexane (beta)	<0.0109	<0.0110	2	0.05
gamma-Hexachlorocyclohexane (Lindane)	<0.0109	<0.0110	2	0.05
Hexachlorocyclopentadiene	<7.725	<9.850	2	10
Hexachloroethane	<3.345	<5.60	2	20
Hexachlorophene	<2.84	<2.84	1	10
Lead	<0.405	<0.50	2	0.5
Malathion	<0.0825	<0.1110	2	0.1
Mercury	0.0062	0.0062	1	0.005
Methoxychlor	<0.0109	<0.0110	2	2
Methyl Ethyl Ketone	<7.50	<10.0	2	50
Mirex	<0.0104	<0.0108	2	0.02
Nickel	3.22	3.61	2	2
Nitrate-Nitrogen	13.465	19.100	2	100
Nitrobenzene	<3.345	<5.60	2	10
N-Nitrosodiethylamine	<3.345	<5.60	2	20
N-Nitroso-di-n-Butylamine	<3.345	<5.60	2	20
Nonylphenol	<20.05	<34.50	2	333
Parathion (ethyl)	<0.0825	<0.1110	2	0.1
Pentachlorobenzene	<3.345	<5.60	2	20
Pentachlorophenol	<3.345	<5.60	2	5

Pollutant	AVG Effluent Conc. (μg/l)	MAX Effluent Conc. (μg/l)	Number of Samples	MAL (μg/l)
Phenanthrene	<3.345	<5.60	2	10
Polychlorinated Biphenyls (PCB's) **(*3)**	<0.1250	<0.200	2	0.2
Pyridine	<5.755	<5.910	2	20
Selenium	<1.50	<2.0	2	5
Silver	<0.350	<0.500	2	0.5
1,2,4,5-Tetrachlorobenzene	<3.345	<5.6	2	20
1,1,2,2-Tetrachloroethane	<3.5	<5.0	2	10
Tetrachloroethylene	<3.0	<5.0	2	10
Thallium	<0.1780	<0.2500	2	0.5
Toluene	<3.0	<5.0	2	10
Toxaphene	<0.1635	<0.2160	2	0.3
2,4,5-TP (Silvex)	<0.255	<0.30	2	0.3
Tributyltin (see instructions for explanation)	N/A	N/A	N/A	0.01
1,1,1-Trichloroethane	<3.0	<5.0	2	10
1,1,2-Trichloroethane	<3.5	<5.0	2	10
Trichloroethylene	<3.0	<5.0	2	10
2,4,5-Trichlorophenol	<3.345	<5.60	2	50
TTHM (Total Trihalomethanes)	0.03785	0.03785	1	10
Vinyl Chloride	<3.02	<5.0	2	10
Zinc	62.05	78.0	2	5

(*1) Determined by subtracting hexavalent Cr from total Cr.

(*2) Cyanide, amenable to chlorination or weak-acid dissociable.

(*3) The sum of seven PCB congeners 1242, 1254, 1221, 1232, 1248, 1260, and 1016.

Section 2. Priority Pollutants

For pollutants identified in Tables 4.0(2)A-E, indicate type of sample.

Grab ☐ Composite ☒

Date and time sample(s) collected: **Varies (03/06/2024 & 10/17/2024)**

Table 4.0(2)A – Metals, Cyanide, and Phenols

Pollutant	**AVG Effluent Conc. (µg/l)**	**MAX Effluent Conc. (µg/l)**	**Number of Samples**	**MAL (µg/l)**
Antimony	<2.13	<3.760	2	5
Arsenic	1.06	1.07	2	0.5
Beryllium	<0.3750	<0.500	2	0.5
Cadmium	<0.375	<0.50	2	1
Chromium (Total)	<0.755	<1.00	2	3
Chromium (Hex)	<6.5	<10.0	2	3
Chromium (Tri) **(*1)**	<6.5	<10.0	2	N/A
Copper	3.955	4.39	2	2
Lead	<0.405	<0.50	2	0.5
Mercury	<0.0062	<0.0062	1	0.005
Nickel	3.22	3.61	2	2
Selenium	<1.50	<2.00	2	5
Silver	<0.350	<0.500	2	0.5
Thallium	<0.1780	<0.2500	2	0.5
Zinc	62.05	78.0	2	5
Cyanide **(*2)**	<5.0046	<10.0	2	10
Phenols, Total	<4.3155	<10.0	4	10

(*1) Determined by subtracting hexavalent Cr from total Cr.

(*2) Cyanide, amenable to chlorination or weak-acid dissociable

Table 4.0(2)B – Volatile Compounds

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Acrolein	<7.0	<10.0	2	50
Acrylonitrile	<3.0	<5.0	2	50
Benzene	<3.0	<5.0	2	10
Bromoform	<3.87	<5.0	2	10
Carbon Tetrachloride	<3.0	<5.0	2	2
Chlorobenzene	<3.0	<5.0	2	10
Chlorodibromomethane	8.15	11.3	2	10
Chloroethane	<5.0	<5.0	2	50
2-Chloroethylvinyl Ether	<7.50	<10.0	2	10
Chloroform	8.75	12.5	2	10
Dichlorobromomethane [Bromodichloromethane]	8.15	11.3	2	10
1,1-Dichloroethane	<3.5	<5.0	2	10
1,2-Dichloroethane	<3.0	<5.0	2	10
1,1-Dichloroethylene	<3.0	<5.0	2	10
1,2-Dichloropropane	<3.005	<5.0	2	10
1,3-Dichloropropylene [1,3-Dichloropropene]	<5.00	<5.00	1	10
1,2-Trans-Dichloroethylene	<3.0	<5.0	2	10
Ethylbenzene	<3.0	<5.0	2	10
Methyl Bromide	<3.005	<5.0	2	50
Methyl Chloride	<3.0	<5.0	2	50
Methylene Chloride	<3.50	<5.0	2	20
1,1,2,2-Tetrachloroethane	<3.50	<5.0	2	10
Tetrachloroethylene	<3.0	<5.0	2	10
Toluene	<3.0	<5.0	2	10
1,1,1-Trichloroethane	<3.0	<5.0	2	10
1,1,2-Trichloroethane	<3.5	<5.0	2	10
Trichloroethylene	<3.0	<5.0	2	10
Vinyl Chloride	<3.02	<5.0	2	10

Table 4.0(2)C – Acid Compounds

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
2-Chlorophenol	<3.345	<5.60	2	10
2,4-Dichlorophenol	<3.345	<5.60	2	10
2,4-Dimethylphenol	<4.115	<5.60	2	10
4,6-Dinitro-o-Cresol	<7.175	<8.750	2	50
2,4-Dinitrophenol	<7.725	<9.85	2	50
2-Nitrophenol	<3.345	<5.60	2	20
4-Nitrophenol	<3.345	<5.60	2	50
P-Chloro-m-Cresol	<4.115	<5.60	2	10
Pentalchlorophenol	<3.3450	<5.60	2	5
Phenol	<4.3155	<10.0	4	10
2,4,6-Trichlorophenol	<3.345	<5.60	2	10

Table 4.0(2)D – Base/Neutral Compounds

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Acenaphthene	<3.345	<5.60	2	10
Acenaphthylene	<3.345	<5.60	2	10
Anthracene	<3.345	<5.60	2	10
Benzidine	<13.75	<21.90	2	50
Benzo(a)Anthracene	<3.345	<5.60	2	5
Benzo(a)Pyrene	<3.345	<5.60	2	5
3,4-Benzofluoranthene	<3.345	<5.60	2	10
Benzo(ghi)Perylene	<3.345	<5.60	2	20
Benzo(k)Fluoranthene	<3.345	<5.60	2	5
Bis(2-Chloroethoxy)Methane	<3.345	<5.60	2	10
Bis(2-Chloroethyl)Ether	<3.345	<5.60	2	10
Bis(2-Chloroisopropyl)Ether	<3.345	<5.60	2	10
Bis(2-Ethylhexyl)Phthalate	<6.905	<8.21	2	10
4-Bromophenyl Phenyl Ether	<3.345	<5.60	2	10
Butyl benzyl Phthalate	<6.905	<8.21	2	10
2-Chloronaphthalene	<3.345	<5.60	2	10
4-Chlorophenyl phenyl ether	<3.345	<5.60	2	10
Chrysene	<3.345	<5.60	2	5
Dibenzo(a,h)Anthracene	<3.345	<5.60	2	5
1,2-(o)Dichlorobenzene	<2.5633	<5.60	3	10
1,3-(m)Dichlorobenzene	<2.5633	<5.60	3	10
1,4-(p)Dichlorobenzene	<2.5633	<5.60	3	10
3,3-Dichlorobenzidine	<5.30	<5.60	2	5
Diethyl Phthalate	<5.920	<6.240	2	10
Dimethyl Phthalate	<5.4250	<5.60	2	10
Di-n-Butyl Phthalate	<6.905	<8.21	2	10
2,4-Dinitrotoluene	<4.715	<5.60	2	10
2,6-Dinitrotoluene	<3.345	<5.60	2	10
Di-n-Octyl Phthalate	<3.345	<5.60	2	10
1,2-Diphenylhydrazine (as Azo-benzene)	<3.345	<5.60	2	20
Fluoranthene	<3.345	<5.60	2	10

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Fluorene	<3.345	<5.60	2	10
Hexachlorobenzene	<3.345	<5.60	2	5
Hexachlorobutadiene	<3.345	<5.60	2	10
Hexachlorocyclo-pentadiene	<7.725	<9.85	2	10
Hexachloroethane	<3.345	<5.60	2	20
Indeno(1,2,3-cd)pyrene	<3.345	<5.60	2	5
Isophorone	<3.345	<5.60	2	10
Naphthalene	<3.345	<5.60	2	10
Nitrobenzene	<3.345	<5.60	2	10
N-Nitrosodimethylamine	<6.630	<7.660	2	50
N-Nitrosodi-n-Propylamine	<3.345	<5.60	2	20
N-Nitrosodiphenylamine	<3.345	<5.60	2	20
Phenanthrene	<3.345	<5.60	2	10
Pyrene	<3.345	<5.60	2	10
1,2,4-Trichlorobenzene	<3.345	<5.60	2	10

Table 4.0(2)E - Pesticides

Pollutant	AVG Effluent Conc. (µg/l)	MAX Effluent Conc. (µg/l)	Number of Samples	MAL (µg/l)
Aldrin	0.0176	0.0242	2	0.01
alpha-BHC (Hexachlorocyclohexane)	<0.0109	<0.0110	2	0.05
beta-BHC (Hexachlorocyclohexane)	<0.0109	<0.0110	2	0.05
gamma-BHC (Hexachlorocyclohexane)	<0.0109	<0.0110	2	0.05
delta-BHC (Hexachlorocyclohexane)	<0.0109	<0.0110	2	0.05
Chlordane	<0.1555	<0.200	2	0.2
4,4-DDT	<0.0109	<0.0110	2	0.02
4,4-DDE	<0.0109	<0.0110	2	0.1
4,4,-DDD	<0.0109	<0.0110	2	0.1
Dieldrin	<0.011	<0.011	1	0.02
Endosulfan I (alpha)	<0.0105	<0.0110	2	0.01
Endosulfan II (beta)	<0.0109	<0.0110	2	0.02
Endosulfan Sulfate	<0.0109	<0.0110	2	0.1
Endrin	<0.0109	<0.0110	2	0.02
Endrin Aldehyde	<0.0109	<0.0110	2	0.1
Heptachlor	<0.0105	<0.0110	2	0.01
Heptachlor Epoxide	<0.0105	<0.0110	2	0.01
PCB-1242	<0.1250	<0.200	2	0.2
PCB-1254	<0.1250	<0.200	2	0.2
PCB-1221	<0.1250	<0.200	2	0.2
PCB-1232	<0.1250	<0.200	2	0.2
PCB-1248	<0.1250	<0.200	2	0.2
PCB-1260	<0.1250	<0.200	2	0.2
PCB-1016	<0.1250	<0.200	2	0.2
Toxaphene	<0.1635	<0.2160	2	0.3

* For PCBS, if all are non-detects, enter the highest non-detect preceded by a “<”.

Section 3. Dioxin/Furan Compounds

A. Indicate which of the following compounds from may be present in the influent from a contributing industrial user or significant industrial user. Check all that apply.

- ☐ 2,4,5-trichlorophenoxy acetic acid
  Common Name 2,4,5-T, CASRN 93-76-5
- ☐ 2-(2,4,5-trichlorophenoxy) propanoic acid
  Common Name Silvex or 2,4,5-TP, CASRN 93-72-1
- ☐ 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate
  Common Name Erbon, CASRN 136-25-4
- ☐ 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothioate
  Common Name Ronnel, CASRN 299-84-3
- ☐ 2,4,5-trichlorophenol
  Common Name TCP, CASRN 95-95-4
- ☐ hexachlorophene
  Common Name HCP, CASRN 70-30-4

For each compound identified, provide a brief description of the conditions of its/their presence at the facility.

Click to enter text.

B. Do you know or have any reason to believe that 2,3,7,8 Tetrachlorodibenzo-P-Dioxin (TCDD) or any congeners of TCDD may be present in your effluent?

☐ Yes ☐ No

If **yes**, provide a brief description of the conditions for its presence.

Click to enter text.

C. If any of the compounds in Subsection A **or** B are present, complete Table 4.0(2)F.

For pollutants identified in Table 4.0(2)F, indicate the type of sample.

Grab ☐ Composite ☐

Date and time sample(s) collected: Click to enter text.

Table 4.0(2)F – Dioxin/Furan Compounds

Compound	Toxic Equivalency Factors	Wastewater Concentration (ppq)	Wastewater Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Equivalents (ppt)	MAL (ppq)
2,3,7,8 TCDD	1					10
1,2,3,7,8 PeCDD	0.5					50
2,3,7,8 HxCDDs	0.1					50
1,2,3,4,6,7,8 HpCDD	0.01					50
2,3,7,8 TCDF	0.1					10
1,2,3,7,8 PeCDF	0.05					50
2,3,4,7,8 PeCDF	0.5					50
2,3,7,8 HxCDFs	0.1					50
2,3,4,7,8 HpCDFs	0.01					50
OCDD	0.0003					100
OCDF	0.0003					100
PCB 77	0.0001					0.5
PCB 81	0.0003					0.5
PCB 126	0.1					0.5
PCB 169	0.03					0.5
Total						

DOMESTIC WASTEWATER PERMIT APPLICATION WORKSHEET 5.0: TOXICITY TESTING REQUIREMENTS

The following **is required** for facilities with a current operating design flow of**1.0 MGD or greater**, with an EPA-approved **pretreatment** program (or those required to have one under 40 CFR Part 403), or are required to perform Whole Effluent Toxicity testing. See instructions for further details.

This worksheet is not required minor amendments without renewal.

Section 1. Required Tests (Instructions Page 88)

Indicate the number of 7-day chronic or 48-hour acute Whole Effluent Toxicity (WET) tests performed in the four and one-half years prior to submission of the application.

7-day Chronic: 18

48-hour Acute: 9

Section 2. Toxicity Reduction Evaluations (TREs)

Has this facility completed a TRE in the past four and a half years? Or is the facility currently performing a TRE?

☐ Yes ☒ No

If yes, describe the progress to date, if applicable, in identifying and confirming the toxicant.

N/A

Section 3. Summary of WET Tests

If the required biomonitoring test information has not been previously submitted via both the Discharge Monitoring Reports (DMRs) and the Table 1 (as found in the permit), provide a summary of the testing results for all valid and invalid tests performed over the past four and one-half years. Make additional copies of this table as needed.

Table 5.0(1) Summary of WET Tests

Test Date	Test Species	NOEC Survival	NOEC Sub-lethal
(See Attached)			
*Results were submitted to TCEQ			

Waggoner Creek WWTP

WET Testing Annnual Summary for 2024

Dates and Times Composites were Collected:					*	
Date/Time From:	**Date/Time To:**	**Species Tested**	**NOEC %**	**Pass or Fail**		**Date Tables Sent to TCEQ**
Acute - **1st QTR**						
3/10/24 6:55 AM	3/10/24 6:55 AM	Daphnia pulex	100%	Pass	A	01/06/25
3/10/24 6:55 AM	3/10/24 6:55 AM	Pimephales promelas	95%	Pass	A	01/06/25
Chronic - **1st QTR**						
3/10/24 6:55 AM	3/11/24 5:55 AM	**Ceriodaphnia dubia**				
3/12/24 7:00 AM	3/13/24 6:00 AM	NOEC Survival	97%	Pass	C	01/06/25
3/14/24 6:50 AM	3/15/24 5:50 AM	NOEC Reproduction	97%	Pass	C	01/06/25
3/10/24 6:55 AM	3/11/24 5:55 AM	**Pimephales promelas**				
3/12/24 7:00 AM	3/13/24 6:00 AM	NOEC Survival	97%	Pass	C	01/06/25
3/14/24 6:50 AM	3/15/24 5:50 AM	NOEC Reproduction	97%	Pass	C	01/06/25
Chronic - **2nd QTR**						
5/19/24 6:50 AM	5/20/24 5:50 AM	**Ceriodaphnia dubia**				
5/21/24 6:53 AM	5/22/24 5:53 AM	NOEC Survival	97%	Pass	C	01/06/25
5/23/24 6:50 AM	5/24/24 5:50 AM	NOEC Reproduction	97%	Pass	C	01/06/25
5/19/24 6:50 AM	5/20/24 5:50 AM	**Pimephales promelas**				
5/21/24 6:53 AM	5/22/24 5:53 AM	NOEC Survival	97%	Pass	C	01/06/25
5/23/24 6:50 AM	5/24/24 5:50 AM	NOEC Reproduction	97%	Pass	C	01/06/25
Acute - **3rd QTR**						
9/15/24 6:50 AM	9/16/24 5:50 AM	Daphnia pulex	100%	Pass	A	01/06/25
9/15/24 6:50 AM	9/16/24 5:50 AM	Pimephales promelas	97.5%	Pass	A	01/06/25
Chronic - **3rd QTR**						
9/15/24 6:50 AM	9/16/24 5:50 AM	**Ceriodaphnia dubia**				
9/17/24 6:54 AM	9/18/24 5:54 AM	NOEC Survival	97%	Pass	C	01/06/25
9/19/24 6:52 AM	9/20/24 5:52 AM	NOEC Reproduction	97%	Pass	C	01/06/25
9/15/24 6:50 AM	9/16/24 5:50 AM	**Pimephales promelas**				
9/17/24 6:54 AM	9/18/24 5:54 AM	NOEC Survival	97%	Pass	C	01/06/25
9/19/24 6:52 AM	9/20/24 5:52 AM	NOEC Reproduction	97%	Pass	C	01/06/25
Chronic - **4th QTR** - by Bio-Aquatics						
12/1/24 6:57 AM	12/2/24 5:57 AM	**Ceriodaphnia dubia**				
12/3/24 6:55 AM	12/4/24 5:55 AM	NOEC Survival	97%	Pass	C	01/06/25
12/5/24 6:52 AM	12/6/24 5:52 AM	NOEC Reproduction	97%	Pass	C	01/06/25
12/1/24 6:57 AM	12/2/24 5:57 AM	**Pimephales promelas**				
12/3/24 6:55 AM	12/4/24 5:55 AM	NOEC Survival	97%	Pass	C	01/06/25
12/5/24 6:52 AM	12/6/24 5:52 AM	NOEC Reproduction	97%	Pass	C	01/06/25

Chronic - **4th QTR** - **By Eurofins Labs**						
12/1/24 6:57 AM	12/2/24 5:57 AM	**Ceriodaphnia dubia**				
12/3/24 6:55 AM	12/4/24 5:55 AM	NOEC Survival	97%	Pass	C	01/06/25
12/5/24 6:52 AM	12/6/24 5:52 AM	NOEC Reproduction	41%	Fail	C	01/06/25
12/1/24 6:57 AM	12/2/24 5:57 AM	**Pimephales promelas**				
12/3/24 6:55 AM	12/4/24 5:55 AM	NOEC Survival	97%	Pass	C	01/06/25
12/5/24 6:52 AM	12/6/24 5:52 AM	NOEC Reproduction	31%	Fail	C	01/06/25

* A=Acute; **C**=Chronic

Lethal Whole Effluent Toxicity (WET) limit **97%** (Parameter 51710) Ceriodaphnia dubia (3-brood NOEC)

Sublethal Whole Effluent Toxicity (WET) limit **80%** (Parameter 51710) Ceriodaphnia dubia (3-brood NOEC)

Note: The NOEC is defined as the greatest effluent dilution at which no significant effect is demonstrated. A significant effect is defined as a statistically significant difference between a specified effluent dilution and the control for toxicity (lethal or

Waggoner Creek WWTP

WET Testing Annnual Summary for 2023

Date/Time From:	Date/Time To:	Species Tested	NOEC %	Pass or Fail	*	Date Tables Sent to TCEQ
Dates and Times Composites were Collected:						
		Acute - **1st QTR**				
2/26/23 6:55 AM	2/27/23 7:10 AM	Daphnia pulex	100%	Pass	A	01/06/25
2/26/23 6:55 AM	2/27/23 7:10 AM	Pimephales promelas	100%	Pass	A	01/06/25
		Chronic - **1st QTR**				
2/26/23 6:55 AM	2/27/23 7:10 AM	**Ceriodaphnia dubia**				
2/28/23 6:50 AM	3/1/23 7:05 AM	NOEC Survival	97%	Pass	C	01/06/25
3/2/23 6:55 AM	3/3/23 7:10 AM	NOEC Reproduction	97%	Pass	C	01/06/25
2/26/23 6:55 AM	2/27/23 7:10 AM	**Pimephales promelas**				
2/28/23 6:50 AM	3/1/23 7:05 AM	NOEC Survival	97%	Pass	C	01/06/25
3/2/23 6:55 AM	3/3/23 7:10 AM	NOEC Reproduction	97%	Pass	C	01/06/25
		Chronic - **2nd QTR**				
4/30/23 7:10 AM	5/1/23 7:40 AM	**Ceriodaphnia dubia**				
5/2/23 6:58 AM	5/3/23 7:35 AM	NOEC Survival	97%	Pass	C	01/06/25
5/4/23 6:55 AM	5/5/23 7:50 AM	NOEC Reproduction	97%	Pass	C	01/06/25
4/30/23 7:10 AM	5/1/23 7:40 AM	**Pimephales promelas**				
5/2/23 6:58 AM	5/3/23 7:35 AM	NOEC Survival	97%	Pass	C	01/06/25
5/4/23 6:55 AM	5/5/23 7:50 AM	NOEC Reproduction	97%	Pass	C	01/06/25
		Receiving Stream Failed Standards				
		Acute - **3rd QTR**				
8/1/23 6:58 AM	8/2/23 5:58 AM	Daphnia pulex	100%	Pass	A	01/06/25
8/1/23 6:58 AM	8/2/23 5:58 AM	Pimephales promelas	95.0%	Pass	A	01/06/25
		Chronic - **3rd QTR**				
7/30/23 6:53 AM	7/31/23 5:53 AM	**Ceriodaphnia dubia**				
8/1/23 6:58 AM	8/2/23 5:58 AM	NOEC Survival	97%	Pass	C	01/06/25
8/3/23 6:50 AM	8/4/23 5:50 AM	NOEC Reproduction	97%	Pass	C	01/06/25
7/30/23 6:53 AM	7/31/23 5:53 AM	**Pimephales promelas**				
8/1/23 6:58 AM	8/2/23 5:58 AM	NOEC Survival	97%	Pass	C	01/06/25
8/3/23 6:50 AM	8/4/23 5:50 AM	NOEC Reproduction	97%	Pass	C	01/06/25

		Chronic - **4th QTR**				
12/3/23 6:55 AM	12/4/23 5:55 AM	**Ceriodaphnia dubia**				
12/5/23 6:55 AM	12/6/23 5:55 AM	NOEC Survival	97%	Pass	C	01/06/25
12/7/23 6:51 AM	12/8/23 5:51 AM	NOEC Reproduction	97%	Pass	C	01/06/25
12/3/23 6:55 AM	12/4/23 5:55 AM	**Pimephales promelas**				
12/5/23 6:55 AM	12/6/23 5:55 AM	NOEC Survival	97%	Pass	C	01/06/25
12/7/23 6:51 AM	12/8/23 5:51 AM	NOEC Reproduction	97%	Pass	C	01/06/25

* A=Acute; **C**=Chronic

Lethal Whole Effluent Toxicity (WET) limit 97% (Parameter 51710) Ceriodaphnia dubia (3-brood NOEC)

Sublethal Whole Effluent Toxicity (WET) limit 80% (Parameter 51710) Ceriodaphnia dubia (3-brood NOEC)

Note: The NOEC is defined as the greatest effluent dilution at which no significant effect is demonstrated. A significant effect is defined as a statistically significant difference between a specified effluent dilution and the control for toxicity (lethal or

Waggoner Creek WWTP

WET Testing Annnual Summary for 2022

Dates and Times Composites were Collected:					*	
Date/Time From:	**Date/Time To:**	**Species Tested**	**NOEC %**	**Pass or Fail**		**Date Tables Sent to TCEQ**
		Acute - **1st QTR**				
3/20/22 9:30 AM	3/21/22 10:30 AM	Daphnia pulex	100%	Pass	A	01/06/25
3/20/22 9:30 AM	3/21/22 10:30 AM	Pimephales promelas	100%	Pass	A	01/06/25
		Chronic - **1st QTR**				
3/20/22 9:30 AM	3/21/22 9:45 AM	**Ceriodaphnia dubia**				
3/22/22 10:30 AM	3/23/22 10:40 AM	NOEC Survival	97%	Pass	C	01/06/25
3/24/22 8:45 AM	3/25/22 9:55 AM	NOEC Reproduction	97%	Pass	C	01/06/25
3/20/22 9:30 AM	3/21/22 9:45 AM	**Pimephales promelas**				
3/22/22 10:30 AM	3/23/22 10:40 AM	NOEC Survival	97%	Pass	C	01/06/25
3/24/22 8:45 AM	3/25/22 9:55 AM	NOEC Reproduction	97%	Pass	C	01/06/25
		Chronic - **2nd QTR**				
4/24/22 7:00 AM	4/25/22 6:45 AM	**Ceriodaphnia dubia**				
4/26/22 7:20 AM	4/27/22 7:07 AM	NOEC Survival	97%	Pass	C	01/06/25
4/28/22 7:20 AM	4/29/22 7:00 AM	NOEC Reproduction	97%	Pass	C	01/06/25
4/24/22 7:00 AM	4/25/22 6:45 AM	**Pimephales promelas**				
4/26/22 7:20 AM	4/27/22 7:07 AM	NOEC Survival	97%	Pass	C	01/06/25
4/28/22 7:20 AM	4/29/22 7:00 AM	NOEC Reproduction	97%	Pass	C	01/06/25
		Acute - **3rd QTR**				
7/31/22 7:30 AM	8/1/22 7:05 AM	Daphnia pulex	100%	Pass	A	01/06/25
7/31/22 7:30 AM	8/1/22 7:05 AM	Pimephales promelas	100%	Pass	A	01/06/25
		Chronic - **3rd QTR**				
7/31/22 7:30 AM	8/1/22 7:05 AM	**Ceriodaphnia dubia**				
8/2/22 7:40 AM	8/3/22 8:00 AM	NOEC Survival	97%	Pass	C	01/06/25
8/4/22 7:30 AM	8/5/22 8:00 AM	NOEC Reproduction	97%	Pass	C	01/06/25
7/31/22 7:30 AM	8/1/22 7:05 AM	**Pimephales promelas**				
8/2/22 7:40 AM	8/3/22 8:00 AM	NOEC Survival	97%	Pass	C	01/06/25
8/4/22 7:30 AM	8/5/22 8:00 AM	NOEC Reproduction	97%	Pass	C	01/06/25

		Chronic - **4th QTR**				
11/27/22 7:00 AM	11/28/22 7:10 AM	**Ceriodaphnia dubia**				
11/29/22 6:55 AM	11/30/22 7:00 AM	NOEC Survival	97%	Pass	C	01/06/25
12/1/22 7:05 AM	12/2/22 7:00 AM	NOEC Reproduction	97%	Pass	C	01/06/25
11/27/22 7:00 AM	11/28/22 7:10 AM	**Pimephales promelas**				
11/29/22 6:55 AM	11/30/22 7:00 AM	NOEC Survival	97%	Pass	C	01/06/25
12/1/22 7:05 AM	12/2/22 7:00 AM	NOEC Reproduction	97%	Pass	C	01/06/25

* A=Acute; C=Chronic

Lethal Whole Effluent Toxicity (WET) limit 97% (Parameter 51710) Ceriodaphnia dubia (3-brood NOEC)

Sublethal Whole Effluent Toxicity (WET) limit 80% (Parameter 51710) Ceriodaphnia dubia (3-brood NOEC)

Note: The NOEC is defined as the greatest effluent dilution at which no significant effect is demonstrated. A significant effect is defined as a statistically significant difference between a specified effluent dilution and the control for toxicity (lethal or

Waggoner Creek WWTP

WET Testing Annnual Summary for 2021

Dates and Times Composites were Collected:						
Date/Time From:	**Date/Time To:**	**Species Tested**	**NOEC %**	**Pass or Fail**	*	**Date Tables Sent to TCEQ**
		Acute - **1st QTR**				
3/14/21 10:00 AM	3/18/21 9:00 AM	Daphnia pulex	100%	Pass	A	Unknown
3/14/21 10:00 AM	3/18/21 9:00 AM	Pimephales promelas	100%	Pass	A	Unknown
		Chronic - **1st QTR**				
3/14/21 10:00 AM	3/18/21 9:00 AM	**Ceriodaphnia dubia**				
3/14/21 10:00 AM	3/18/21 9:00 AM	NOEC Survival	97%	Pass	C	Unknown
3/14/21 10:00 AM	3/18/21 9:00 AM	NOEC Reproduction	97%	Pass	C	Unknown
3/14/21 10:00 AM	3/18/21 9:00 AM	**Pimephales promelas**				
3/14/21 10:00 AM	3/18/21 9:00 AM	NOEC Survival	97%	Pass	C	Unknown
3/14/21 10:00 AM	3/18/21 9:00 AM	NOEC Reproduction	97%	Pass	C	Unknown
		Chronic - **2nd QTR**				
4/4/21 10:00 AM	4/8/21 9:00 AM	**Ceriodaphnia dubia**				
4/4/21 10:00 AM	4/8/21 9:00 AM	NOEC Survival	97%	Pass	C	Unknown
4/4/21 10:00 AM	4/8/21 9:00 AM	NOEC Reproduction	97%	Pass	C	Unknown
4/4/21 10:00 AM	4/8/21 9:00 AM	**Pimephales promelas**				
4/4/21 10:00 AM	4/8/21 9:00 AM	NOEC Survival	97%	Pass	C	Unknown
4/4/21 10:00 AM	4/8/21 9:00 AM	NOEC Reproduction	97%	Pass	C	Unknown
		Acute - **3rd QTR**				
9/12/21 10:00 AM	9/16/21 9:00 AM	Daphnia pulex	100%	Pass	A	Unknown
9/12/21 10:00 AM	9/16/21 9:00 AM	Pimephales promelas	100%	Pass	A	Unknown
		Chronic - **3rd QTR**				
9/12/21 10:00 AM	9/16/21 9:00 AM	**Ceriodaphnia dubia**				
9/12/21 10:00 AM	9/16/21 9:00 AM	NOEC Survival	97%	Pass	C	Unknown
9/12/21 10:00 AM	9/16/21 9:00 AM	NOEC Reproduction	97%	Pass	C	Unknown
9/12/21 10:00 AM	9/16/21 9:00 AM	**Pimephales promelas**				
9/12/21 10:00 AM	9/16/21 9:00 AM	NOEC Survival	97%	Pass	C	Unknown
9/12/21 10:00 AM	9/16/21 9:00 AM	NOEC Reproduction	97%	Pass	C	Unknown

		Chronic - **4th QTR**				
10/31/21 10:00 AM	11/4/21 9:00 AM	**Ceriodaphnia dubia**				
10/31/21 10:00 AM	11/4/21 9:00 AM	NOEC Survival	97%	Pass	C	Unknown
10/31/21 10:00 AM	11/4/21 9:00 AM	NOEC Reproduction	97%	Pass	C	Unknown
10/31/21 10:00 AM	11/4/21 9:00 AM	**Pimephales promelas**				
10/31/21 10:00 AM	11/4/21 9:00 AM	NOEC Survival	97%	Pass	C	Unknown
10/31/21 10:00 AM	11/4/21 9:00 AM	NOEC Reproduction	97%	Pass	C	Unknown

* **A**=Acute; **C**=Chronic

Lethal Whole Effluent Toxicity (WET) limit 97% (Parameter 51710) Ceriodaphnia dubia (3-brood NOEC)

Sublethal Whole Effluent Toxicity (WET) limit 80% (Parameter 51710) Ceriodaphnia dubia (3-brood NOEC)

Note: The NOEC is defined as the greatest effluent dilution at which no significant effect is demonstrated. A significant effect is defined as a statistically significant difference between a specified effluent dilution and the control for toxicity (lethal or

Waggoner Creek WWTP

WET Testing Annnual Summary for 2020

Dates and Times Composites were Collected:					*	
Date/Time From:	**Date/Time To:**	**Species Tested**	**NOEC %**	**Pass or Fail**		**Date Tables Sent to TCEQ**
		Acute - **1st QTR**				
1/26/20 10:00 AM	1/30/20 9:00 AM	Daphnia pulex	100%	Pass	A	Unknown
1/26/20 10:00 AM	1/30/20 9:00 AM	Pimephales promelas	100%	Pass	A	Unknown
		Chronic - **1st QTR**				
1/26/20 10:00 AM	1/30/20 9:00 AM	**Ceriodaphnia dubia**				
1/26/20 10:00 AM	1/30/20 9:00 AM	NOEC Survival	97%	Pass	C	Unknown
1/26/20 10:00 AM	1/30/20 9:00 AM	NOEC Reproduction	97%	Pass	C	Unknown
1/26/20 10:00 AM	1/30/20 9:00 AM	**Pimephales promelas**				
1/26/20 10:00 AM	1/30/20 9:00 AM	NOEC Survival	97%	Pass	C	Unknown
1/26/20 10:00 AM	1/30/20 9:00 AM	NOEC Reproduction	97%	Pass	C	Unknown
		Chronic - **2nd QTR**				
4/5/20 10:00 AM	4/9/20 9:00 AM	**Ceriodaphnia dubia**				
4/5/20 10:00 AM	4/9/20 9:00 AM	NOEC Survival	97%	Pass	C	Unknown
4/5/20 10:00 AM	4/9/20 9:00 AM	NOEC Reproduction	97%	Pass	C	Unknown
4/5/20 10:00 AM	4/9/20 9:00 AM	**Pimephales promelas**				
4/5/20 10:00 AM	4/9/20 9:00 AM	NOEC Survival	97%	Pass	C	Unknown
4/5/20 10:00 AM	4/9/20 9:00 AM	NOEC Reproduction	97%	Pass	C	Unknown
		Acute - **3rd QTR**				
8/25/20 10:00 AM	8/30/20 9:00 AM	Daphnia pulex	100%	Pass	A	Unknown
8/25/20 10:00 AM	8/30/20 9:00 AM	Pimephales promelas	100%	Pass	A	Unknown
		Chronic - **3rd QTR**				
8/25/20 10:00 AM	8/30/20 9:00 AM	**Ceriodaphnia dubia**				
8/25/20 10:00 AM	8/30/20 9:00 AM	NOEC Survival	97%	Pass	C	Unknown
8/25/20 10:00 AM	8/30/20 9:00 AM	NOEC Reproduction	97%	Pass	C	Unknown
8/25/20 10:00 AM	8/30/20 9:00 AM	**Pimephales promelas**				
8/25/20 10:00 AM	8/30/20 9:00 AM	NOEC Survival	97%	Pass	C	Unknown
8/25/20 10:00 AM	8/30/20 9:00 AM	NOEC Reproduction	97%	Pass	C	Unknown

		Chronic - **4th QTR**				
10/4/20 10:00 AM	10/8/20 9:00 AM	**Ceriodaphnia dubia**				
10/4/20 10:00 AM	10/8/20 9:00 AM	NOEC Survival	97%	Pass	C	Unknown
10/4/20 10:00 AM	10/8/20 9:00 AM	NOEC Reproduction	97%	Pass	C	Unknown
10/4/20 10:00 AM	10/8/20 9:00 AM	**Pimephales promelas**				
10/4/20 10:00 AM	10/8/20 9:00 AM	NOEC Survival	97%	Pass	C	Unknown
10/4/20 10:00 AM	10/8/20 9:00 AM	NOEC Reproduction	97%	Pass	C	Unknown

* A=Acute; C=Chronic

Lethal Whole Effluent Toxicity (WET) limit 97% (Parameter 51710) Ceriodaphnia dubia (3-brood NOEC)

Sublethal Whole Effluent Toxicity (WET) limit 80% (Parameter 51710) Ceriodaphnia dubia (3-brood NOEC)

Note: The NOEC is defined as the greatest effluent dilution at which no significant effect is demonstrated. A significant effect is defined as a statistically significant difference between a specified effluent dilution and the control for toxicity (lethal or

DOMESTIC WASTEWATER PERMIT APPLICATION WORKSHEET 6.0: INDUSTRIAL WASTE CONTRIBUTION

The following **is required** for **all publicly owned treatment works**.

Section 1. All POTWs (Instructions Page 89)

A. Industrial users (IUs)

Provide the number of each of the following types of industrial users (IUs) that discharge to your POTW and the daily flows from each user. See the Instructions for definitions of Categorical IUs, Significant IUs – non-categorical, and Other IUs.

If there are no users, enter 0 (zero).

Categorical IUs:

Number of IUs: 5 CIUs

Average Daily Flows, in MGD: 0.105

Significant IUs – non-categorical:

Number of IUs: 0 SIUs

Average Daily Flows, in MGD: 0.0

Other IUs:

Number of IUs: 1 NSIUs

Average Daily Flows, in MGD: 0.0009 MGD

B. Treatment plant interference

In the past three years, has your POTW experienced treatment plant interference (see instructions)?

☐ Yes ☒ No

If yes, identify the dates, duration, description of interference, and probable cause(s) and possible source(s) of each interference event. Include the names of the IUs that may have caused the interference.

Click to enter text.

C. Treatment plant pass through

In the past three years, has your POTW experienced pass through (see instructions)?

☐ Yes ☒ No

If yes, identify the dates, duration, a description of the pollutants passing through the treatment plant, and probable cause(s) and possible source(s) of each pass through event. Include the names of the IUs that may have caused pass through.

Click to enter text.

D. Pretreatment program

Does your POTW have an approved pretreatment program?

☒ Yes ☐ No

If yes, complete Section 2 only of this Worksheet.

Is your POTW required to develop an approved pretreatment program?

☐ Yes ☐ No

If yes, complete Section 2.c. and 2.d. only, and skip Section 3.

If no to either question above, skip Section 2 and complete Section 3 for each significant industrial user and categorical industrial user.

Section 2. POTWs with Approved Programs or Those Required to Develop a Program (Instructions Page 90)

A. Substantial modifications

Have there been any **substantial modifications** to the approved pretreatment program that have not been submitted to the TCEQ for approval according to *40 CFR §403.18*?

☐ Yes ☒ No

If yes, identify the modifications that have not been submitted to TCEQ, including the purpose of the modification.

Click to enter text.

B. Non-substantial modifications

Have there been any **non-substantial modifications** to the approved pretreatment program that have not been submitted to TCEQ for review and acceptance?

☐ Yes ☒ No

If yes, identify all non-substantial modifications that have not been submitted to TCEQ, including the purpose of the modification.

Click to enter text.

C. Effluent parameters above the MAL

In Table 6.0(1), list all parameters measured above the MAL in the POTW's effluent monitoring during the last three years. Submit an attachment if necessary.

Table 6.0(1) – Parameters Above the MAL

Pollutant	Concentration	MAL	Units	Date
SEE ATTACHED for Section 2C.				

D. Industrial user interruptions

Has any SIU, CIU, or other IU caused or contributed to any problems (excluding interferences or pass throughs) at your POTW in the past three years?

☐ Yes ☒ No

If yes, identify the industry, describe each episode, including dates, duration, description of the problems, and probable pollutants.

Click to enter text.

Section 3. Significant Industrial User (SIU) Information and Categorical Industrial User (CIU) (Instructions Page 90)

A. General information

Company Name: REFER TO ATTACHMENT

SIC Code: Click to enter text.

Contact name: Click to enter text.

Address: Click to enter text.

City, State, and Zip Code: Click to enter text.

Telephone number: Click to enter text.

Email address: Click to enter text.

B. Process information

Describe the industrial processes or other activities that affect or contribute to the SIU(s) or CIU(s) discharge (i.e., process and non-process wastewater).

Click to enter text.

C. Product and service information

Provide a description of the principal product(s) or services performed.

Click to enter text.

D. Flow rate information

See the Instructions for definitions of “process” and “non-process wastewater.”

Process Wastewater:

Discharge, in gallons/day: Click to enter text.

Discharge Type: ☐ Continuous ☐ Batch ☐ Intermittent

Non-Process Wastewater:

Discharge, in gallons/day: Click to enter text.

Discharge Type: ☐ Continuous ☐ Batch ☐ Intermittent

E. Pretreatment standards

Is the SIU or CIU subject to technically based local limits as defined in the instructions?

☐ Yes ☐ No

Is the SIU or CIU subject to categorical pretreatment standards found in *40 CFR Parts 405-471*?

☐ Yes ☐ No

If subject to categorical pretreatment standards, indicate the applicable category and subcategory for each categorical process.

Category: Subcategories: Click to enter text.

Click or tap here to enter text. Click to enter text.

Category: Click to enter text.

Subcategories: Click to enter text.

Category: Click to enter text.

Subcategories: Click to enter text.

Category: Click to enter text.

Subcategories: Click to enter text.

Category: Click to enter text.

Subcategories: Click to enter text.

F. Industrial user interruptions

Has the SIU or CIU caused or contributed to any problems (e.g., interferences, pass through, odors, corrosion, blockages) at your POTW in the past three years?

☐ Yes ☐ No

If yes, identify the SIU, describe each episode, including dates, duration, description of problems, and probable pollutants.

Click to enter text.

Waggoner Creek Wastewater Treatment Plant

Domestic Wastewater Permit Application

Worksheet 6.0: Industrial Waste Contribution

Attachment for Section 2(C) - Effluent parameters above the MAL

Pollutant	TexTox	Concentration	MAL	Units	Date
alpha-BHC	0.0122	0.0942	0.0500	ug/L	04/19/22
aluminum	834	754.00	2.5000	ug/L	05/17/22
aluminum	834	259.52	2.5000	ug/L	03/21/23
aluminum	834	58.90	2.5000	ug/L	03/20/24
aluminum	834	88.00	2.5000	ug/L	10/16/24
antimony **result less than MDL, but MDL higher than MAL*	1558	<8.00	5.0000	ug/L	10/25/22
arsenic	100	0.8010	0.5000	ug/L	04/19/22
arsenic	100	0.5640	0.5000	ug/L	10/25/22
arsenic	100	0.64	0.5000	ug/L	01/10/23
arsenic	100	0.81	0.5000	ug/L	07/11/23
arsenic	100	0.73	0.5000	ug/L	01/31/24
arsenic	100	1.07	0.5000	ug/L	07/18/24
arsenic	100	1.05	0.5000	ug/L	10/17/24
barium	1000	62.50	3.0000	ug/L	05/17/22
barium	1000	52.66	3.0000	ug/L	03/21/23
barium	1000	35.10	3.0000	ug/L	03/20/24
barium	1000	23.70	3.0000	ug/L	10/16/24
bromodichloromethane	400	11.30	10.0000	ug/L	10/16/24
chloroform	11202	12.50	10.0000	ug/L	10/16/24
copper	15.2	6.54	2.0000	ug/L	04/19/22
copper	15.2	2.09	2.0000	ug/L	10/25/22
copper	15.2	5.19	2.0000	ug/L	01/10/23
copper	15.2	6.37	2.0000	ug/L	07/11/23
copper	15.2	8.28	2.0000	ug/L	01/31/24
copper	15.2	3.52	2.0000	ug/L	10/17/24
dibromochloromethane	266	10.08	10.0000	ug/L	03/14/23
dibromochloromethane	266	11.30	10.0000	ug/L	10/16/24
lead	6.55	0.7170	0.5000	ug/L	04/19/22
mercury ll Hg	0.0177	0.0044	0.0005	ug/L	01/10/23
mercury ll Hg	0.0177	0.0062	0.0005	ug/L	07/18/24
mercury llHg	0.0177	0.0027	0.0005	ug/L	07/11/23
mercury llHg	0.0177	0.0063	0.0005	ug/L	01/31/24
methylene chloride **result less than MDL, but MDL higher than MAL*	19405	<11.7000	10.0000	ug/L	04/19/22

Waggoner Creek Wastewater Treatment Plant

Domestic Wastewater Permit Application

Worksheet 6.0: Industrial Waste Contribution

Attachment for Section 2(C) - Effluent parameters above the MAL

Pollutant	TexTox	Concentration	MAL	Units	Date
nickel	62.2	2.4900	2.0000	ug/L	04/19/22
nickel	62.2	2.4000	2.0000	ug/L	07/11/23
nickel	62.2	2.3600	2.0000	ug/L	01/31/24
nickel	62.2	3.6100	2.0000	ug/L	07/18/24
nickel	62.2	2.8300	2.0000	ug/L	10/17/24
nitrate nitrogen	N/A	223	100.0000	ug/L	05/17/22
nitrate nitrogen	N/A	20860	100.0000	ug/L	03/21/23
nitrate nitrogen	N/A	7830	100.0000	ug/L	03/20/24
nitrate nitrogen	N/A	19100	100.0000	ug/L	10/16/24
thallium	0.334	0.9910	0.5000	ug/L	04/19/22
TTHM	N/A	23.70	10.0000	ug/L	03/14/23
TTHM	N/A	12.77	10.0000	ug/L	03/06/24
zinc	155	47.30	5.0000	ug/L	04/19/22
zinc	155	20.51	5.0000	ug/L	10/25/22
zinc	155	98.97	5.0000	ug/L	01/10/23
zinc	155	39.70	5.0000	ug/L	07/11/23
zinc	155	86.80	5.0000	ug/L	01/31/24
zinc	155	78.00	5.0000	ug/L	07/18/24
zinc	155	46.10	5.0000	ug/L	10/17/24

Waggoner Creek Wastewater Treatment Plant

Section 3. SIU Information a CIU Attachment

Company Name	**SIC**	**Address**	**Phone Number** **E-mail Address**	**Process Information**	**Product & Service Information**	**Flow Rate** Process WW	**Flow Rate** Non-Process WW	**Subject to Technically Based Local Limits?**	**Subject to Categorical Pretreatment Standards?**	**Category/Subcategory**
JCM Industries Incorporated	3494 3471	200 Old Boston Road Nash, TX 75569	903-824-0532 tfinigan@jcmind.com	The passivation process is the only process at this facility generating wastewater. The parts are placed in a wire basket and passivated in nine steps that include cold rinse water, sodium hydroxide @ 150 deg F, hot rinse water @ 150 deg F, and citric acid.	Manufacturer of pipe fittings and fabrications for the repair, connection, and branching of all types and sizes of pipes.	806 gallons/day Batch	Non-process flow unknown as this is a Nash, TX water customer.	Yes, local limits are evenly allocated, therefore, facility is subject to all TBLLs.	Yes, when TBLLs are more stringent, the TBLL is used instead of categorical limits.	40 CFR 433.17
Pharma Nobis, LLC	2834	7400 Alumax Drive Texarkana, TX 75503	903-556-1728 brent.stacy@pharmanobis.com	The only wastewater generated that is discharged to the sewer system is final rinse wastewater that is collected, processed through an air stripper to remove volatile organic compounds, and pH adjustment prior to discharge. All other wastewater is captured and disposed offsite through a waste management facility.	Manufacturer of over-the-counter non-sterile liquid drug products, which includes batching, filling, labeling, and distribution.	4,333 gallons/**month** Batch *A daily data cannot be determined as they do not discharge every month. See Data Worksheet.	15,034 gallons/day Continuous	Yes, local limits are evenly allocated, therefore, facility is subject to all TBLLs.	Yes, when TBLLs are more stringent, the TBLL is used instead of categorical limits.	40 CFR 439.47
TCI Texarkana, Inc.	3341	300 Alumax Drive Texarkana, TX 75503	903-278-8983 doug_young@texarkanaaluminum.com	The discharge from TCI Texarkana, Inc. consists of wastewater generated from the direct chill casting process. Non-contact and contact cooling water generated during the direct chill casting process is routed to treatment and then recirculated through the facility cooling towers prior to reuse as process water. Cooling tower blow-down from the north cooling tower periodically discharges. Domestic wastewater is discharged downstream of the process outfall.	Aluminum rolling facility that casts molten aluminum alloy, including annealing, leveling, cutting, shaving, slitting, cold rolling and rolling with neat oils.	68,809 gallons/day Continuous *Expansion in process, discharge expected to increase to 180,000 gallons/day Continuous by mid-2025	182,236 gallons/day Continuous	Yes, local limits are evenly allocated, therefore, facility is subject to all TBLLs.	Yes, when TBLLs are more stringent, the TBLL is used instead of categorical limits.	40 CFR 421.36(f) *Currently in process of permit amendment to correct categorical designation to 40 CFR 467.26
Texana Tank Car & Manufacturing, LTD./ Midway Tank Cleaning Facility	4789	2474 Tri-State Road Texarkana, TX 75501	903-838-5564 tgoben@midwayclean.com	Discharged wastewater is generated from the cleaning of tank cars, facility cleaning and washdown, air scrubber blowdown, and contact cooling water. Domestic wastewater is routed to on-site septic tanks.	Railcar cleaning facility that prepares tank cars for reuse/repair.	16,606 gallons/day Batch	Non-process flow unknown as this is a Nash, TX water customer.	Yes, local limits are evenly allocated, therefore, facility is subject to all TBLLs.	Yes, when TBLLs are more stringent, the TBLL is used instead of categorical limits.	40 CFR 442.26
Valicor Environmental Services, LLC *(Previously ASI)*	4953 4212	7600 Alumax Drive Texarkana, TX 75503	903-831-7280 jesnow@valicor.com	Oily wastewater is accepted upon verification of treatability. Treatment includes screening, oil/water separator, acid cracking, dissolved air floation, coatulation, anionic flocculation, clarification, filtration, liquid carbon addition, and then held in an effluent holding tank until discharge.	Centralized waste treatment facility that stores and treats oily wastes generated by various industries.	15,325 gallons/day Continuous	2,830 gallons/day Continuous	Yes, local limits are evenly allocated, therefore, facility is subject to all TBLLs.	Yes, when TBLLs are more stringent, the TBLL is used instead of categorical limits.	40 CFR 437.26
					Gallons/Day	105073				
					MGD	0.105073				

WORKSHEET 7.0

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

CLASS V INJECTION WELL INVENTORY/AUTHORIZATION FORM

Submit the completed form to:

TCEQ
IUC Permits Team
Radioactive Materials Division
MC-233
PO Box 13087
Austin, Texas 78711-3087
512-239-6466

For TCEQ Use Only
Reg. No.______________
Date Received__________
Date Authorized_________

Section 1. General Information (Instructions Page 92)

1. **TCEQ Program Area**

   Program Area (PST, VCP, IHW, etc.): Click to enter text.

   Program ID: Click to enter text.

   Contact Name: Click to enter text.

   Phone Number: Click to enter text.

2. **Agent/Consultant Contact Information**

   Contact Name: Click to enter text.

   Address: Click to enter text.

   City, State, and Zip Code: Click to enter text.

   Phone Number: Click to enter text.

3. **Owner/Operator Contact Information**

   ☐ Owner ☐ Operator

   Owner/Operator Name: Click to enter text.

   Contact Name: Click to enter text.

   Address: Click to enter text.

   City, State, and Zip Code: Click to enter text.

   Phone Number: Click to enter text.

4. **Facility Contact Information**

   Facility Name: Click to enter text.

   Address: Click to enter text.

   City, State, and Zip Code: Click to enter text.

   Location description (if no address is available): Click to enter text.

   Facility Contact Person: Click to enter text.

   Phone Number: Click to enter text.

5. **Latitude and Longitude, in degrees-minutes-seconds**

Latitude: Click to enter text.

Longitude: Click to enter text.

Method of determination (GPS, TOPO, etc.): Click to enter text.

Attach topographic quadrangle map as attachment A.

6. **Well Information**

Type of Well Construction, select one:

- ☐ Vertical Injection
- ☐ Subsurface Fluid Distribution System
- ☐ Infiltration Gallery
- ☐ Temporary Injection Points
- ☐ Other, Specify: Click to enter text.

Number of Injection Wells: Click to enter text.

7. **Purpose**

Detailed Description regarding purpose of Injection System:

Click to enter text.

Attach a Site Map as Attachment B (Attach the Approved Remediation Plan, if appropriate.)

8. **Water Well Driller/Installer**

Water Well Driller/Installer Name: Click to enter text.

City, State, and Zip Code: Click to enter text.

Phone Number: Click to enter text.

License Number: Click to enter text.

Section 2. Proposed Down Hole Design

Attach a diagram signed and sealed by a licensed engineer as Attachment C.

Table 7.0(1) – Down Hole Design Table

Name of String	Size	Setting Depth	Sacks Cement/Grout – Slurry Volume – Top of Cement	Hole Size	Weight (lbs/ft) PVC/Steel
Casing					
Tubing					
Screen					

Section 3. Proposed Trench System, Subsurface Fluid Distribution System, or Infiltration Gallery

Attach a diagram signed and sealed by a licensed engineer as Attachment D.

System(s) Dimensions: Click to enter text.

System(s) Construction: Click to enter text.

Section 4. Site Hydrogeological and Injection Zone Data

1. Name of Contaminated Aquifer: Click to enter text.
2. Receiving Formation Name of Injection Zone: Click to enter text.
3. Well/Trench Total Depth: Click to enter text.
4. Surface Elevation: Click to enter text.
5. Depth to Ground Water: Click to enter text.
6. Injection Zone Depth: Click to enter text.
7. Injection Zone vertically isolated geologically? ☐ Yes ☐ No

   Impervious Strata between Injection Zone and nearest Underground Source of Drinking Water:

   Name: Click to enter text.

   Thickness: Click to enter text.
8. Provide a list of contaminants and the levels (ppm) in contaminated aquifer

   Attach as Attachment E.
9. Horizontal and Vertical extent of contamination and injection plume

   Attach as Attachment F.
10. Formation (Injection Zone) Water Chemistry (Background levels) TDS, etc.

    Attach as Attachment G.
11. Injection Fluid Chemistry in PPM at point of injection

    Attach as Attachment H.
12. Lowest Known Depth of Ground Water with < 10,000 PPM TDS: Click to enter text.
13. Maximum injection Rate/Volume/Pressure: Click to enter text.
14. Water wells within 1/4 mile radius (attach map as Attachment I): Click to enter text.
15. Injection wells within 1/4 mile radius (attach map as Attachment J): Click to enter text.
16. Monitor wells within 1/4 mile radius (attach drillers logs and map as Attachment K): Click to enter text.
17. Sampling frequency: Click to enter text.
18. Known hazardous components in injection fluid: Click to enter text.

Section 5. Site History

1. Type of Facility: Click to enter text.
2. Contamination Dates: Click to enter text.
3. Original Contamination (VOCs, TPH, BTEX, etc.) and Concentrations (attach as Attachment L): Click to enter text.
4. Previous Remediation (attach results of any previous remediation as attachment M): Click to enter text.

NOTE: Authorization Form should be completed in detail and authorization given by the TCEQ before construction, operation, and/or conversion can begin. Attach additional pages as necessary.

Class V Injection Well Designations

5A07 Heat Pump/AC return (IW used for groundwater to heat and/or cool buildings)
5A19 Industrial Cooling Water Return Flow (IW used to cool industrial process equipment)
5B22 Salt Water Intrusion Barrier (IW used to inject fluids to prevent the intrusion of salt water into an aquifer)
5D02 Storm Water Drainage (IW designed for the disposal of rain water)
5D04 Industrial Stormwater Drainage Wells (IW designed for the disposal of rain water associated with industrial facilities)
5F01 Agricultural Drainage (IW that receive agricultural runoff)
5R21 Aquifer Recharge (IW used to inject fluids to recharge an aquifer)
5S23 Subsidence Control Wells (IW used to control land subsidence caused by ground water withdrawal)
5W09 Untreated Sewage
5W10 Large Capacity Cesspools (Cesspools that are designed for 5,000 gpd or greater)
5W11 Large Capacity Septic systems (Septic systems designed for 5,000 gpd or greater)
5W12 WTTP disposal
5W20 Industrial Process Waste Disposal Wells
5W31 Septic System (Well Disposal method)
5W32 Septic System Drainfield Disposal
5X13 Mine Backfill (IW used to control subsidence, dispose of mining byproducts, and/or fill sections of a mine)
5X25 Experimental Wells (Pilot Test) (IW used to test new technologies or tracer dye studies)
5X26 Aquifer Remediation (IW used to clean up, treat, or prevent contamination of a USDW)
5X27 Other Wells
5X28 Motor Vehicle Waste Disposal Wells (IW used to dispose of waste from a motor vehicle site - These are currently banned)
5X29 Abandoned Drinking Water Wells (waste disposal)

CORE DATA FORM

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions on completing this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission *(If other is checked please describe in space provided.)*

☐ New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application.)*

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN 600335830		RN 101613537

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy) 1/13/2025

☐ New Customer ☒ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)* — *If new Customer, enter previous Customer below:*

City of Texarkana

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
	17560004362	75-6000436	

11. Type of Customer: ☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☒ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees
☐ 0-20 ☐ 21-100 ☒ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?
☒ Yes ☐ No

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☐ Owner ☐ Operator ☒ Owner & Operator ☐ Other:
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant

15. Mailing Address:
Texarkana Water Utilities
P.O. Box 2008
City: Texarkana State: TX ZIP: 75504 ZIP + 4:

16. Country Mailing Information *(if outside USA)*

17. E-Mail Address *(if applicable)*
gsmith@txkusa.org

18. Telephone Number | **19. Extension or Code** | **20. Fax Number** *(if applicable)*

(903) 278-3821		(903) 793-0610

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☐ New Regulated Entity ☒ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Waggoner Creek WWTP

23. Street Address of the Regulated Entity: *(No PO Boxes)*	End of Guillate Street							
	City	Nash	**State**	TX	**ZIP**	75569	**ZIP + 4**	
24. County	Bowie							

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:	2,431 feet west of, and 513 feet north of the intersection of Jarvis Parkway (I-369) and Redwater Road

26. Nearest City	**State**	**Nearest ZIP Code**
Texarkana	TX	75501

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:	33.433631		**28. Longitude (W) In Decimal:**	94.104533	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
33	26	1.072	94	6	16.319

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
4952		221320	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Municipal Wastewater Treatment

34. Mailing Address:	4000 South State Line Ave							
	City	Texarkana	**State**	TX	**ZIP**	75501	**ZIP + 4**	
35. E-Mail Address:	crittenden@txkusa.org							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(903) 798-3860		(903) 792-6423

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☒ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
	TXR05Q444			
☐ Voluntary Cleanup	☒ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:
	TXWQ00374007			

SECTION IV: Preparer Information

40. Name:	Gary Smith	41. Title:	Executive Director
42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(903) 798-3821		(903) 793-0610	gsmith@txkusa.org

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Texarkana Water Utilities	**Job Title:**	Executive Director
Name *(In Print)*:	Gary Smith	**Phone:**	(903) 798- **3821**
Signature:	Gary Smith	**Date:**	1-13-2025

SPIF & USGS MAP

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

FOR AGENCIES REVIEWING DOMESTIC OR INDUSTRIAL TPDES WASTEWATER PERMIT APPLICATIONS

TCEQ USE ONLY:

Application type: ____Renewal ____Major Amendment ___Minor Amendment ____New

County: ______________________________ Segment Number: ______________

Admin Complete Date: ___________________

Agency Receiving SPIF:

______ Texas Historical Commission ______ U.S. Fish and Wildlife

______ Texas Parks and Wildlife Department ______ U.S. Army Corps of Engineers

This form applies to TPDES permit applications only. (Instructions, Page 53)

Complete this form as a separate document. TCEQ will mail a copy to each agency as required by our agreement with EPA. If any of the items are not completely addressed or further information is needed, we will contact you to provide the information before issuing the permit. Address each item completely.

Do not refer to your response to any item in the permit application form. Provide each attachment for this form separately from the Administrative Report of the application. The application will not be declared administratively complete without this SPIF form being completed in its entirety including all attachments. Questions or comments concerning this form may be directed to the Water Quality Division's Application Review and Processing Team by email at WQ-ARPTeam@tceq.texas.gov or by phone at (512) 239-4671.

The following applies to all applications:

1. Permittee: CITY OF TEXARKANA

   Permit No. WQ00 0010374007 EPA ID No. TX 0099287

   Address of the project (or a location description that includes street/highway, city/vicinity, and county):

   2,431 feet west of, and 513 feet north of the intersection of Jarvis Parkway (I-369) and Redwater Road, in Texarkana (Bowie County), Texas. The WWTP is accessed from Gullatte Street from Nash, Texas.

Provide the name, address, phone and fax number of an individual that can be contacted to answer specific questions about the property.

Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Gary Smith

Credential (P.E, P.G., Ph.D., etc.): P.E.

Title: Executive Director

Mailing Address: P.O. Box 2008

City, State, Zip Code: Texarkana, Texas 75504

Phone No.: 903-798-3821 Ext.: Click here to enter text. Fax No.: 903-793-0610

E-mail Address: gsmith@txkusa.org

2. List the county in which the facility is located: Bowie
3. If the property is publicly owned and the owner is different than the permittee/applicant, please list the owner of the property.

Same as permittee

4. Provide a description of the effluent discharge route. The discharge route must follow the flow of effluent from the point of discharge to the nearest major watercourse (from the point of discharge to a classified segment as defined in 30 TAC Chapter 307). If known, please identify the classified segment number.

Effluent discharge flows to an unnamed natural intermittent stream for approximately 1,000 feet then to Wagner Creek, then to Day's Creek in Segment #0304 of the Sulphur River Basin.

5. Please provide a separate 7.5-minute USGS quadrangle map with the project boundaries plotted and a general location map showing the project area. Please highlight the discharge route from the point of discharge for a distance of one mile downstream. (This map is required in addition to the map in the administrative report).

Provide original photographs of any structures 50 years or older on the property.

Does your project involve any of the following? Check all that apply.

☐ Proposed access roads, utility lines, construction easements

☐ Visual effects that could damage or detract from a historic property's integrity

☐ Vibration effects during construction or as a result of project design

☐ Additional phases of development that are planned for the future

☐ Sealing caves, fractures, sinkholes, other karst features

☐ Disturbance of vegetation or wetlands

1. List proposed construction impact (surface acres to be impacted, depth of excavation, sealing of caves, or other karst features):

2.6 Acres will be cleaned by removing vegetation and trees for the proposed expansion.

2. Describe existing disturbances, vegetation, and land use:

N/A

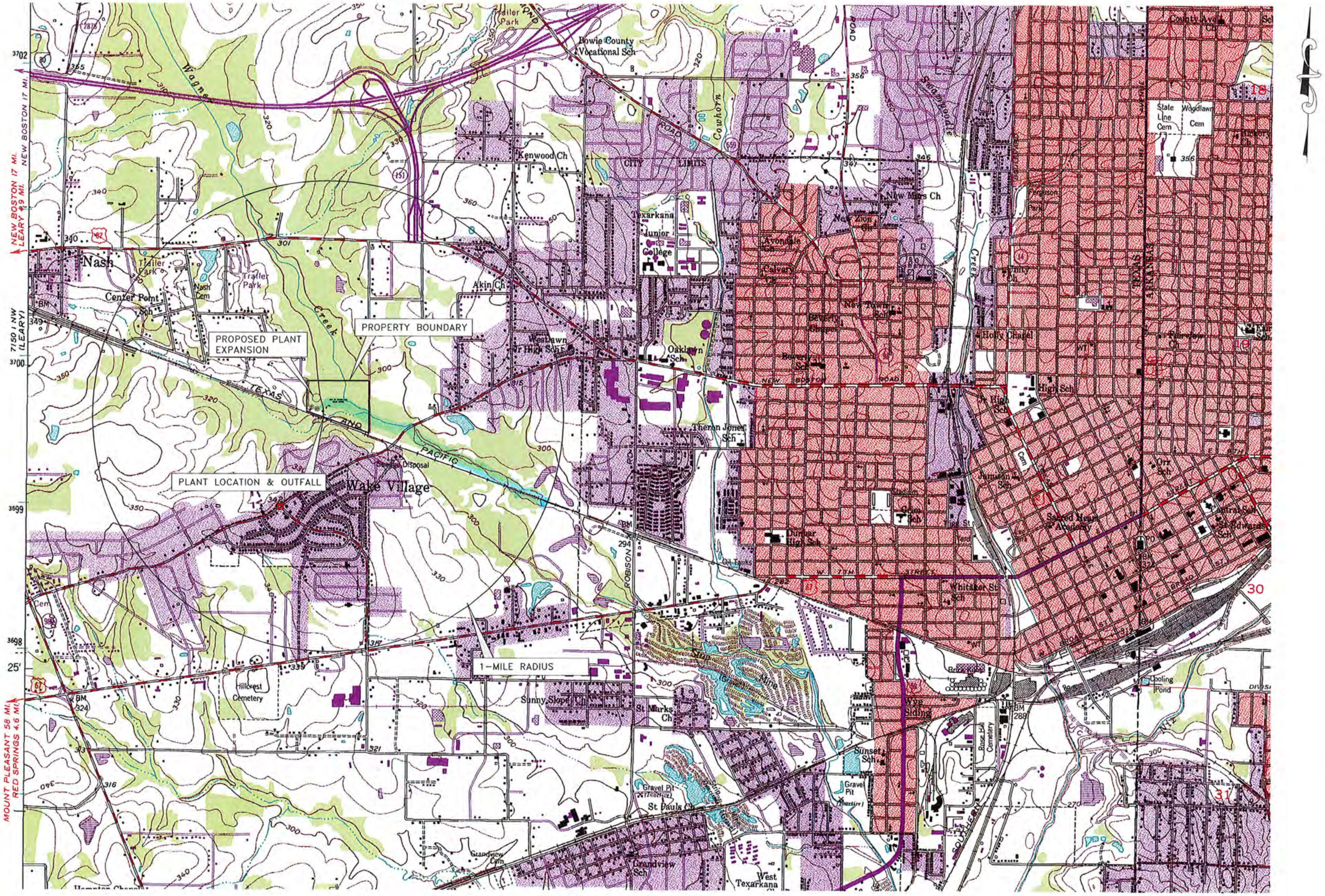
THE FOLLOWING ITEMS APPLY ONLY TO APPLICATIONS FOR NEW TPDES PERMITS AND MAJOR AMENDMENTS TO TPDES PERMITS

3. List construction dates of all buildings and structures on the property:

The current treatment plant was constructed in the mid-1980s. The proposed improvements are planned to begin upon permitting, in the later part of 2025.

4. Provide a brief history of the property, and name of the architect/builder, if known.

The property has been utilized as a treatment plant since the mid-1980s, owned and operated by the City of Texarkana, Texas.



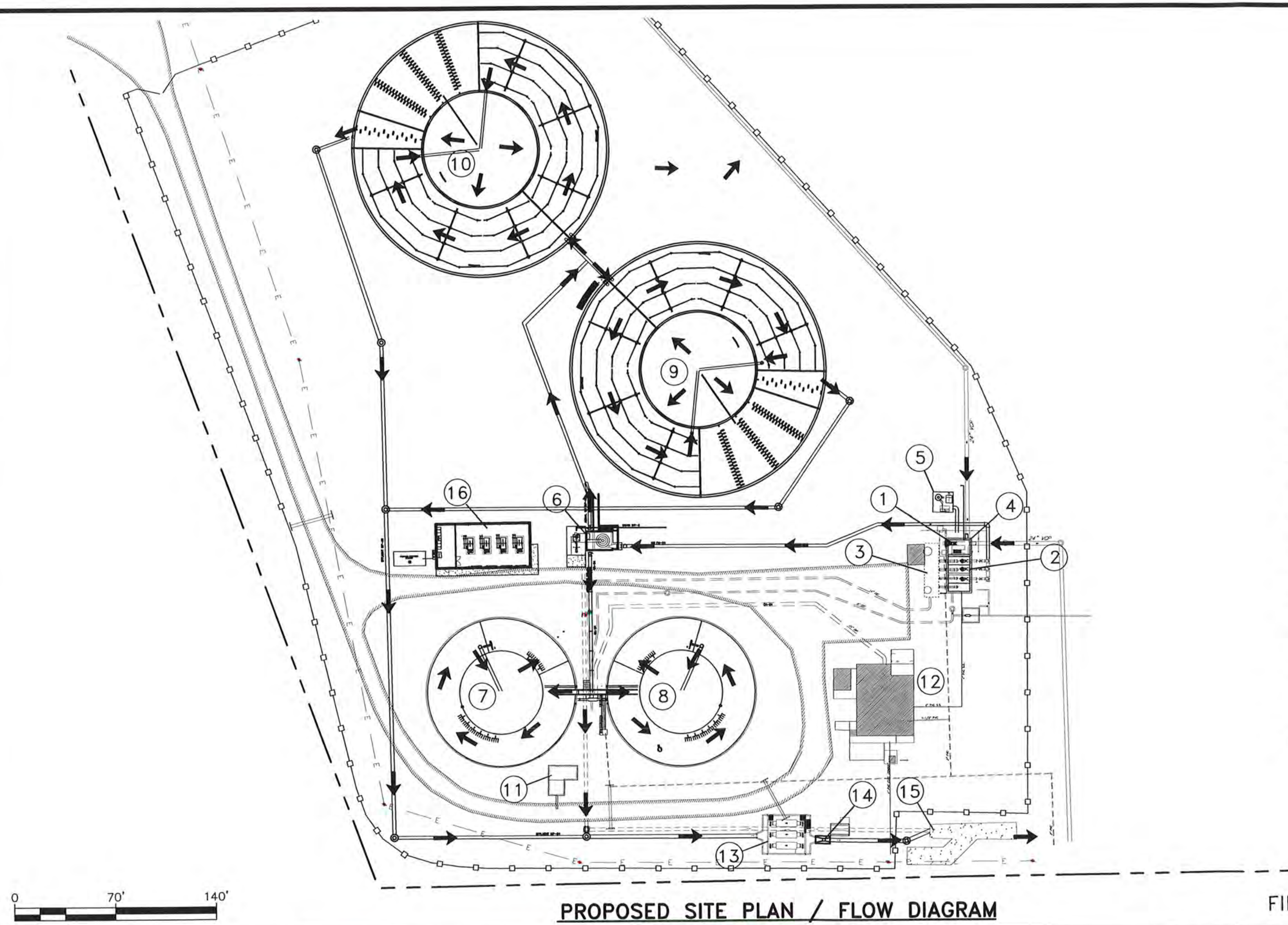
0 1000' 2000'

WAGGONER CREEK WWTP

USGS TOPOGRAPHIC MAP

SCALE: 1"=1000'-0"

EXHIBITS



TREATMENT UNIT LEGEND

1. AUTOMATIC BAR SCREEN (NEW)
2. SUBMERSIBLE PUMP STATION (NEW)
3. DRY PIT PUMP STATION (TBA)
4. HEADWORKS BUILDING (NEW)
5. ODOR CONTROL UNIT (NEW)
6. GRIT REMOVAL SYSTEM (NEW)
7. TREATMENT UNIT 1 (EXS)
8. TREATMENT UNIT 2 (EXS)
9. TREATMENT UNIT 3 (NEW)
10. TREATMENT UNIT 4 (FUTURE)
11. DECHLORINATION BLDG (TBA)
12. LABORATORY & BLOWER BUILDING (EXS)
13. UV DISINFECTION SYSTEM (NEW)
14. TEST STATION / FLUME (NEW)
15. OUTFALL (EXS)
16. BLOWER BUILDING (NEW)

← FLOW DIRECTION

PROPOSED SITE PLAN / FLOW DIAGRAM

FINAL FOR CONSTRUCTION

Date	Revision	By

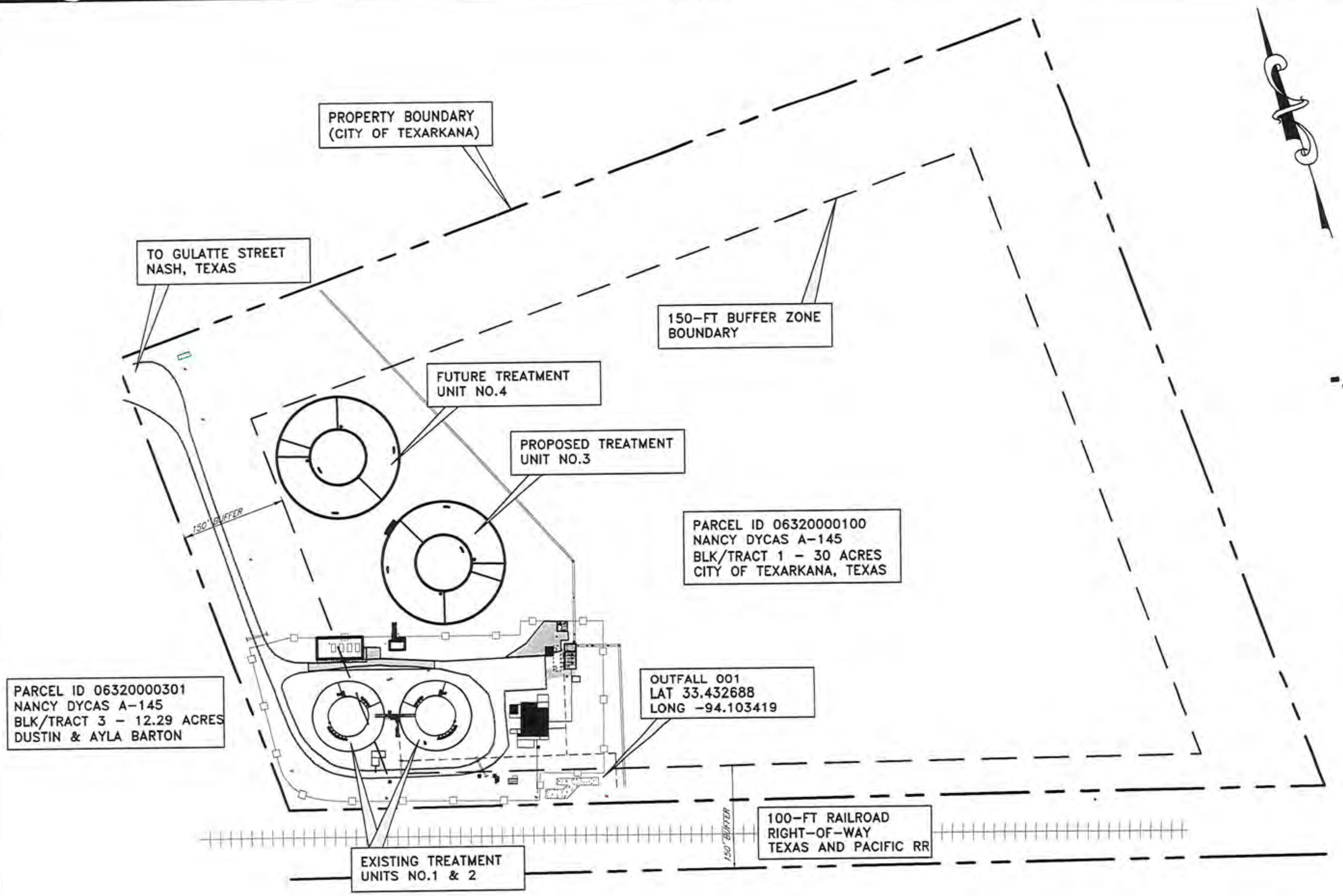
Designed	JMM
Checked	RCF
Drawn	JWR
Approved	DBW

A.L. FRANKS ENGINEERING
118 East Broad Street
Texarkana, Arkansas 71854
Phone (870) 216-1906
Fax (870) 216-1907

TEXARKANA WATER UTILITIES
801 WOOD STREET
TEXARKANA, TEXAS 75501
PH: 903-798-3800

PROPOSED SITE PLAN / FLOW DIAGRAM
EXHIBIT FD-1

Job No.: ID
Scale: 1"=70'
Date: 12/2024
Sheet FD-1



TEXARKANA WATER UTILITIES
801 WOOD STREET
TEXARKANA, TEXAS 75501
PH: 903-798-3800

EXISTING SITE BOUNDARY / BUFFER ZONE MAP

SCALE: 1"=200'-0"

WAGGONER CREEK
WWTP
TEXARKANA, TEXAS

New website and server migration IN PROGRESS! Service disruptions are possible at this time. We apologize for any inconvenience.

cli-MATE

MRCC APPLICATION TOOLS ENVIRONMENT

Hi Jason!

Log out

MRCC Midwestern Regional Climate Center

Privacy Policy

Data Selector

See Data Values

Data CSV Version

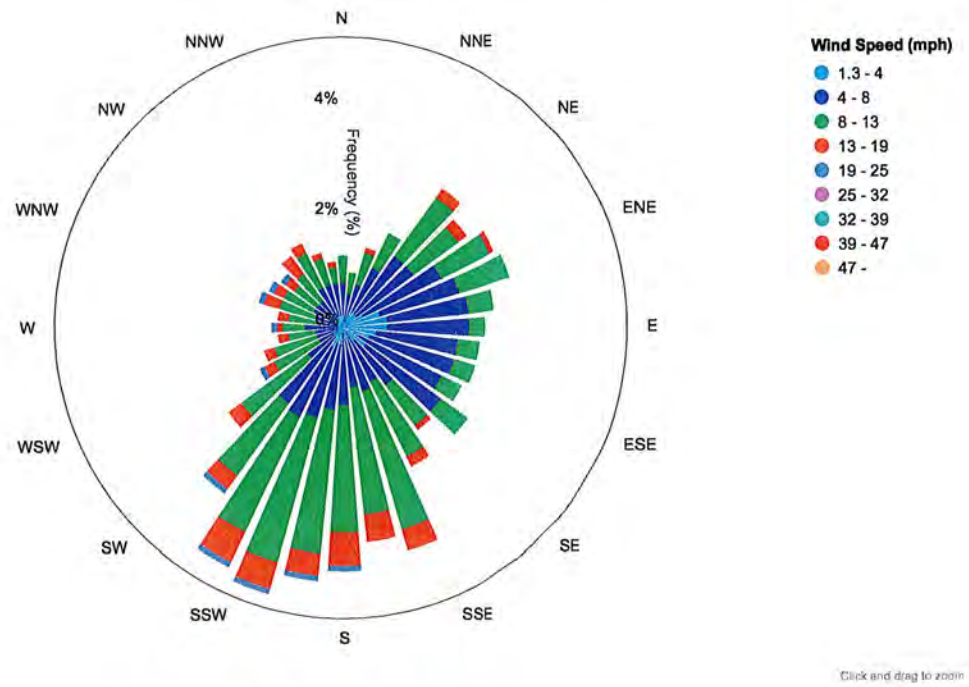
Product Description

Send Feedback

TEXARKANA WEBB FLD (AR) Wind Rose

Jan. 1, 2023 - Aug. 16, 2023

Sub-Interval: Jan. 1 - Dec. 31, 0 - 23



TEXARKANA WEBB FLD (AR) - Wind Frequency Table (percentage)

Latitude : 33.4536
Longitude : -94.0075
Elevation : 361 ft.
Element : Mean Wind Speed

Start Date : Jan. 1, 2023
End Date : Aug. 16, 2023
# of Days : 228 of 228
obs : poss : 5259 of 5472

Sub Interval Windows

	Start	End
Date	Jan. 1	Dec. 31
Hour	0	23

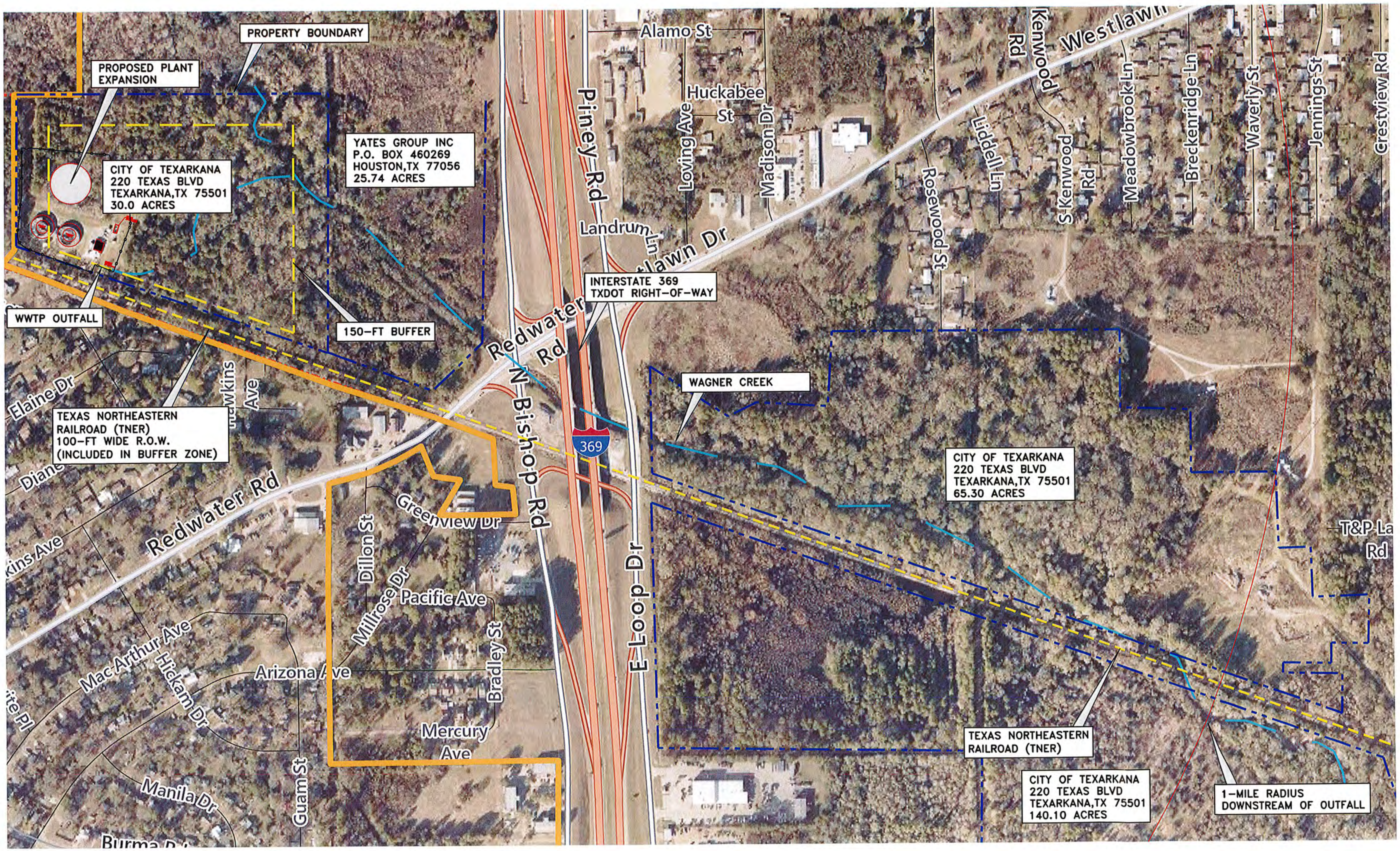
(Greater than or equal to initial interval value and Less than ending interval value.)

Range (mph)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
1.3 - 4	0.2	0.1	0.2	0.3	0.3	0.3	0.4	0.7	0.8	0.8	0.6	0.5	0.3	0.5	0.3
4 - 8	0.6	0.5	0.6	0.9	1.3	1.3	1.6	1.5	1.5	1.5	1.5	1.6	1.7	1.7	1.0
8 - 13	0.5	0.4	0.6	0.7	1.3	1.0	1.0	1.0	0.5	0.3	0.4	0.4	0.4	0.6	0.9
13 - 19	0.0	0.0	0.1	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
19 - 25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25 - 32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32 - 39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39 - 47	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47 -	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total(%)	1.3	1.0	1.4	1.9	3.0	2.8	3.1	3.2	2.8	2.7	2.6	2.5	2.4	2.8	2.3
Calm (<1.3)															
Ave Speed	7.2	7.1	7.4	6.8	7.7	7.6	6.8	6.4	5.6	5.2	5.6	5.6	6.1	6.0	7.3

Range (mph)	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	3
1.3 - 4	0.1	0.2	0.2	0.1	0.3	0.3	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	[illegible]
4 - 8	1.0	1.0	0.9	1.3	1.2	1.4	1.4	1.5	0.6	0.4	0.4	0.4	0.6	0.4	0.4	[illegible]
8 - 13	1.5	2.6	2.3	2.3	2.6	2.7	2.3	1.6	1.5	0.9	0.8	0.5	0.4	0.5	0.7	[illegible]
13 - 19	0.2	0.4	0.5	0.6	0.4	0.5	0.6	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.3	[illegible]
19 - 25	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.1	[illegible]
25 - 32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	[illegible]
32 - 39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	[illegible]
39 - 47	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	[illegible]
47 -	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	[illegible]
Total(%)	2.8	4.3	3.9	4.5	4.6	5.0	4.7	3.7	2.7	1.7	1.5	1.2	1.2	1.3	1.5	[illegible]
Calm (<1.3)																
Ave Speed	8.5	9.2	9.4	9.4	9.0	9.1	9.1	8.4	9.4	10.2	9.5	9.5	8.8	9.8	10.1	[illegible]

Midwestern Regional Climate Center cli-MATE: MRCC Application Tools Environment Generated at: 8/16/2023 5:32:54 PM CDT

LANDOWNER MAP AND CONTACTS



WAGGONER WWTP

DOWNSTREAM LANDOWNER MAP

0 200' 400'

SUBMITTED BY:

A.L. FRANKS ENGINEERING

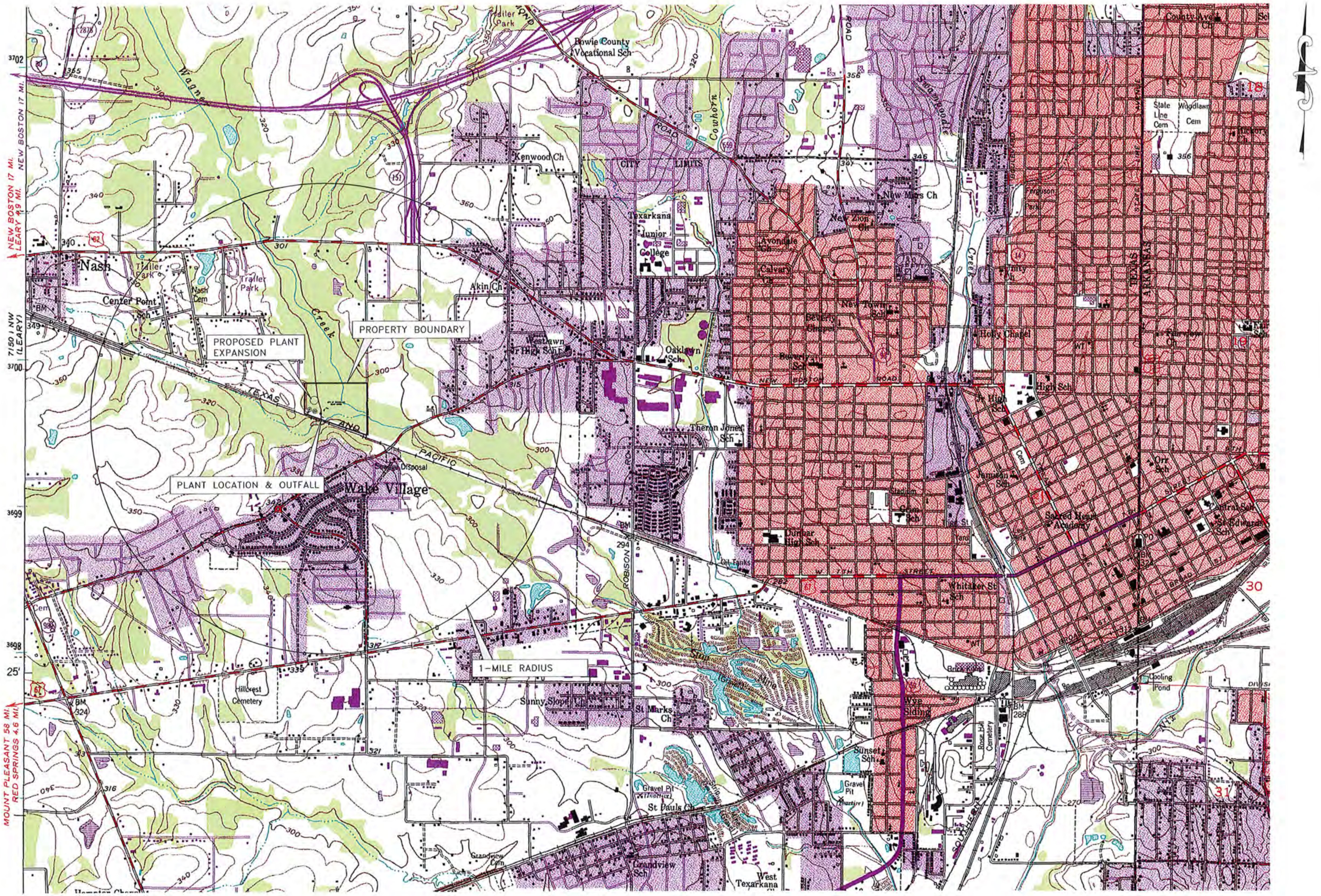
118 E. Broad Street
Texarkana, Arkansas 71854
Phone (870) 216-1906
Fax (870) 216-1907

WAGGONER WWTP

PROPERTY OWNERS ALONG DISCHARGE ROUTE FOR 1-MILE

OWNER:	LEGAL DESCRIPTION:
CITY OF TEXARKANA ***220 TEXAS BLVD*** ***TEXARKANA, TX 75501***	NANCY DYCAS A-145 JAMISON PARK 61/84 12/23/1911 BLK / TRACT 1 – 30.0 ACRES
YATES GROUP INC ***P.O. BOX 460269*** ***HOUSTON, TX 77056***	WEST TEXARKANA GDN M E P & P RWY CO A-435 BLK 1B 2019-4291 04/25/19 BLK/TRACT 13B, 14 – 25.74 ACRES
TXDOT TEXARKANA AREA ENGINEER ***520 SOWELL LANE*** ***TEXARKANA, TX 75501***	INTERSTATE 369 R.O.W. AT WAGNER CREEK
CITY OF TEXARKANA ***220 TEXAS BLVD*** ***TEXARKANA, TX 75501***	M E P & P RWY CO A-435 BLK / TRACT 5 65.3 ACRES
TEXAS NORTHEASTERN RAILROAD ***475 GAUTNEY ROAD*** ***GARLAND, TX 75040***	RR @ INTERSTATE-369
CITY OF TEXARKANA ***220 TEXAS BLVD*** ***TEXARKANA, TX 75501***	M E P & P RWY CO A-435 SOUTHWEST CENTER BLK / TRACT 17B 140.1 ACRES

USGS MAP



WAGGONER CREEK WWTP
USGS TOPOGRAPHIC MAP
SCALE: 1"=1000'-0"

INTERLOCAL AGREEMENT

Texarkana - Nash - Wake Village
Wastewater Treatment
Interlocal Cooperation Agreement

This Interlocal Cooperation Agreement ("Agreement") is entered into by and between the City of Texarkana, Texas ("Texarkana"), the City of Nash, Texas ("Nash"), and the City of Wake Village, Texas ("Wake Village").

WHEREAS, Texarkana owns and operates the Wagner Creek Wastewater Treatment Plant ("the Plant"); and

WHEREAS, Nash and Wake Village ("Contracting Cities") have, under separate agreements, contracted with Texarkana for wastewater treatment from the Plant; and

WHEREAS, Texarkana intends to make improvements to the Plant; and

WHEREAS, Nash and Wake Village desire to enter into a new agreement with Texarkana for wastewater treatment from the Plant.

NOW THEREFORE, pursuant to Chapter 791 of the Texas Government Code, and in consideration of the premises and the mutual promises, covenants and agreements contained herein, Texarkana, Nash, and Wake Village hereby agree as follows:

1. Texarkana agrees:

1.1 To reserve one-third of the Plant's capacity for its sole use during the term of this Agreement or any renewal or extension thereof.

1.2 To reserve one-third of the Plant's capacity for Nash's sole use during the term of this Agreement.

1.3 To reserve one-third of the Plant's capacity for Wake Village's sole use during the term of this Agreement.

1.4 To allow the Contracting Cities to connect to the Plant in such a manner and with such materials as are required by the State and by Texarkana.

1.5 To operate the Plant in accordance with local, state and federal regulations.

1.6 To maintain separate accounting on the Plant for auditing purposes, with each Contracting City, at its expense, having the right to inspect the accounting upon reasonable request and audit the accounting annually.

1.7 To design improvements to the Plant in multiple phases to enhance the capabilities of the Plant, such as changing disinfection methods and increasing stormwater storage which can be converted into additional treatment capacity.

1.8 To provide Contracting Cities with all communications by and between regulatory agencies pertaining to the Plant.

1.9 The Contracting Cities acknowledge and are aware that as a consequence of this Agreement and under certain environmental conditions, Texarkana may be required to bypass the Plant and pump raw waste to another facility so as not to exceed allowable permit requirements, and Texarkana agrees to utilize this "pumparound" only when a force majeure (Section 3.1) situation requires or when required so as not to exceed allowable permit requirements.

2. Each Contracting City agrees:

2.1 To pay Texarkana, not later than the 15th day of each month, in accordance with the following schedule and terms:

2.1.1 *Costs of operation.* 1/36th of the annual cost of the operation of the Plant based upon the amount budgeted by Texarkana. [After finalization of the annual audit, if the budgeted amount exceeds the actual operational costs, a credit of one-third of the excess amount shall be issued; and if the actual operational costs exceed the budgeted amount, one-third of the excess shall be itemized and included with the first payment due following finalization of the audit.]

2.1.2 *Cost of construction / complete design.* $6,157.28 per month for twenty (20) years [see amortization schedule attached as Exhibit A], with payments commencing on the month following Texarkana executing a construction / complete design contract (the parties contemplate a capital outlay of $2,895,000.00 for construction and design from the funding sources identified in Exhibit A).

2.1.3 *Cost of subsequent construction / design.* For any new amount of capital funds budgeted by Texarkana for construction / design approved by the parties over and above the amount specified in 2.1.2, 1/36th of the amount, amortized over twenty (20) years, beginning with the month following Texarkana executing a new construction or design contract (or both) or an amendment or change order to an existing contract.

2.2 To pay Texarkana, within thirty (30) days of invoicing, one-third of any other cost incurred to keep the Plant safe, secure, clean, in good operating condition, and in compliance with local, state and federal laws, regulations, and permit requirements. For example, the Contracting Cities agree to pay one-third of the cost of the "pumparound" as described in Section 1.9.

2.3 To raise any billing issues or concerns within ninety (90) days of receipt; otherwise, the billing will be deemed by the Contracting City to be accurate, due, and owing.

2.4 To pay interest on any past due amounts, and such interest shall accrue at the maximum rate allowed by law per annum from the date such payment becomes due until paid in full with interest as herein specified.

2.5 To the selection made by Texarkana of a design engineer for the Plant.

2.6 It shall not be entitled to any payment credit for any unused portion of its reserved capacity of the Plant.

2.7 To operate and maintain its wastewater collection system up to the connection to the Plant, and to pay all costs of modifications required in delivering wastewater from its system to the Plant.

2.8 To fix and collect such rates and charges for wastewater services to its customers as will, in combination with any other funds legally available and reasonably assured for the purpose, make possible the timely remitting of all payments required under this Agreement and all expenses of operating and maintaining its wastewater system.

2.9 To require any industry that currently discharges or may discharge into its wastewater system to comply fully with Texarkana's Industrial Pretreatment Program, as it exists now or as may hereafter be amended, with respect to application, permitting, monitoring, surcharge billing, and effluent limitations; and it shall authorize Texarkana — and Texarkana shall be granted — concurrent monitoring authority as provided in state and federal laws and regulations over any industry connected to or desiring to connect to the wastewater system of the Contracting City. The concurrent monitoring authority of Texarkana does not relieve either Contracting City from monitoring current or future discharges into its respective wastewater system to ensure compliance with Texarkana's Industrial Pretreatment Program.

2.10 To allow Texarkana entry onto its property when a need arises relating to operation or maintenance of the Plant.

2.11 To pay Texarkana the wastewater wholesale treatment rate charged by Texarkana for large industrial or municipal customers in the event this Agreement is terminated and no other agreement between Texarkana and the Contracting City governs wastewater treatment services from the Plant.

2.12 It recognizes and acknowledges that prompt payment for wastewater treatment services provided by Texarkana is essential and that public health hazards can arise should treatment of raw waste be discontinued. In the event a Contracting City disputes any payment amount invoiced by Texarkana, the Contracting City agrees to remit timely payment to Texarkana of the amount not in dispute, to remit the amount in dispute to a federally-insured Texas depository under escrow terms restricting the Contracting City's access to the escrow funds unless and until the dispute is resolved by agreement or court order, and providing Texarkana with a copy of the escrow agreement and documentation of all deposits made. This provision may be enforced by Texarkana by means of an ex parte temporary restraining order without notice.

2.13 The provisions of this Section 2 shall survive the termination of this Agreement.

3. Texarkana and each Contracting City agree:

3.1 *Force Majeure.* If for any reason Texarkana, Nash, or Wake Village shall be rendered unable wholly or in part to carry out its obligation under this Agreement, other than the obligation of Contracting Cities to make the payments required under the terms of this Agreement, then if such party shall give notice and full particulars of such reasons in writing to the other party within a reasonable time after the occurrence of the event, or cause relied on, the obligation of the party giving such notice, so far as it is affected by such "force majeure" shall be suspended during the continuance of the inability then claimed, but for no longer period, and any such parties shall endeavor to remove or overcome such inability with all reasonable dispatch. The term "force majeure" as employed herein shall mean "acts of God", strikes, lock-outs, industrial or environmental disturbances, acts of public enemy, order or actions of any kind of the Government of the United States or of the State of Texas, or any civil or military authority, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, hurricanes, storms, floods, washouts, breakage or accident to machinery, pipelines, or other structures or machinery, partial or entire failure of wastewater collection and treatment facilities, and inability on the part of Texarkana to receive and treat wastewater hereunder or of a Contracting City to deliver wastewater, other causes which are not reasonably within the control of the party claiming such inability, or any other "force majeure" recognized by the law of the State of Texas. It is understood and agreed that the settlement of strikes and lock-outs shall be entirely within the discretion of the party having the difficulty, and that the above requirement that any "force majeure" shall be remedied with all reasonable dispatch shall not require the settlement of strikes and lock-outs by acceding to the demands of the opposing parties when such settlement is unfavorable in the judgment of the party having the difficulty. This agreement is further subject to the terms of the Judgment and Order entered in Cause #84-C-646, in the District Court of Bowie County, Texas, styled State of Texas vs. City of Wake Village, Texas, and the City of Wake Village, Texas shall not be required to take any action that will violate such Judgment and Order. No damage shall be recoverable from Texarkana which is due to any "force majeure" cause. If Texarkana's ability to receive additional wastewater from either Contracting City is affected by any such cause, Texarkana shall promptly notify the affected Contracting City in writing.

3.2 *Governmental Agency Determination.* In the event the U.S. Government or the State of Texas or any of their respective agencies determine that this Agreement violates any existing agreement of Texarkana with Nash or Wake Village, then (i) such determination shall supersede the terms of this Agreement and this Agreement shall be deemed to be amended to comply with said determination, and (ii) this Agreement may be terminated by one party giving written notice to the other parties one year prior to the designated termination date, provided the written notice is delivered no later than ninety (90) days following the date of said determination.

3.3 *Required Documentation.* All parties shall collaborate in obtaining documentation, permits, certificates, or any other matter as required to effectuate this Agreement and to comply with applicable state and federal laws and regulations governing the subject matter of this Agreement.

3.4 *Tax.* If any tax is imposed for the gathering, taking, sale, use, or treatment of the wastewater received by Texarkana under this Agreement, the amount of such tax shall be borne by the Contracting City for which the tax is attributable, and whenever Texarkana shall be required to pay, collect, or remit any such tax on wastewater received from a Contracting City, then that Contracting City shall promptly reimburse Texarkana for the expenditure.

3.5 *Retention of Ownership.* Texarkana retains ownership of the Plant and any improvements made to the Plant at any time. Neither this Agreement nor any payments made under this Agreement shall convey or transfer any ownership interest in either the Plant or improvements made to the Plant.

3.6 *Allocation of Risk.* The parties anticipate that certain discharges, industrial or otherwise, entering into a wastewater system connected to the Plant can cause damage to the Plant, incur regulatory fines or penalties, or give rise to third-party claims for damages. If the source or origin of such discharges cannot be identified, all parties agree to share one-third of the cost to repair and remediate any damage to the Plant and to satisfy any fines, penalties, or third-party claims. If the source or origin of such discharges can be identified or attributable to one of the parties' wastewater systems, then that party shall indemnify and hold harmless the other parties for the cost to repair and remediate any damage to the Plant and to satisfy any fines, penalties, or third-party claims. This subsection shall not be deemed to waive the governmental immunity of any party, nor shall it affect or impair any claims, defenses, or causes of action any party may have against a third party responsible for the discharge.

4. **Primary Contacts**

The City Manager for Texarkana, the Mayor for Nash, and the Mayor for Wake Village shall be the Primary Contacts to receive any notice required by this Agreement.

5. Dispute Resolution

For a dispute arising out of this Agreement, all cities shall follow these dispute resolution procedures:

5.1 The city bringing a dispute shall provide written notice to the other cities with sufficient detail describing the provision of the Agreement alleged to be breached, the city breaching the provision, the underlying facts of the dispute, a proposed solution consistent with the terms of the Agreement, and the relief sought from the breaching city. The Primary Contacts for the cities shall then meet within thirty (30) days following receipt of the written notice to discuss the dispute (even if the dispute is only between two of the cities). The cities may include designated representatives and independent auditors in this meeting. The cities may agree to continue discussions to other dates.

5.2 If the Primary Contacts determine in writing that discussions have reached an impasse, the dispute shall be settled by mandatory arbitration in accordance with and governed by Texas state law. Each city shall select a disinterested representative who shall be either a qualified registered engineer or certified public accountant experienced in municipal wastewater treatment or accounting matters; the selected representatives of the cities shall choose two other persons similarly qualified; the five persons shall then comprise the "arbitration panel" with authority as provided under Chapter 171 of the Texas Civil Practice and Remedies Code. The panel shall then determine the matter in dispute, which shall be binding on all cities. Each city shall advance one-third of the fees and costs of the two other persons selected by the three selected representatives for the arbitration panel.

5.3 At all times during the course of any dispute resolution, Texarkana, Nash, and Wake Village shall continue diligently and without delay to perform the respective services and obligations of the Agreement.

5.4 The breaching city, as determined by the arbitration panel, will pay and shall be taxed the non-breaching city or cities' respective costs, expenses, attorney's fees, expert fees, and fees and costs for arbitrators.

6. Termination

This Agreement may be terminated as follows:

6.1 By mutual agreement of all parties;

6.2 By a Contracting City, upon failure of Texarkana to perform any of its obligations under the Agreement, such failure not being cured by Texarkana within sixty (60) days following the declaration of an impasse described in Section 5.2 of this

Agreement.

6.3 By Texarkana, upon failure of a Contracting City to perform any of its obligations under the Agreement, such failure not being cured by the Contracting City within sixty (60) days following the declaration of an impasse described in Section 5.2 of this Agreement.

7. **General Provisions**

7.1 *Prior Agreements*. This Agreement constitutes the entire understanding of the parties and, commencing with the effective date of this Agreement, supersedes all prior proposals, representations, communications, negotiations and agreements between the parties, whether oral or written, with respect to wastewater treatment from the Plant.

7.2 *No Third Party Beneficiaries*. Nothing herein should be construed to benefit any person or entity not a signatory to the Agreement.

7.3 *Governing Law*. The Agreement shall be governed exclusively by the laws of the State of Texas.

7.4 *Construction*. In construing the Agreement, none of the parties hereto shall have any term or provision, or any uncertainty or ambiguity as to any provisions herein, construed against such party solely by reason of such party having drafted the same.

7.5 *Independent Contractors*. The parties to the Agreement are independent contractors. No party shall exercise control over either the performance of any other party or the employees of any other party; and no party shall be deemed to be the agent, employee, or representative of any other party.

7.6 *Rights and Remedies Cumulative*. The rights and remedies provided by this Agreement are cumulative, and any party's use of any right or remedy will not preclude or waive its right to use any other remedy. These rights and remedies are in addition to any other rights the parties may have by law, statute, ordinance, or otherwise.

7.7 *Amendment*. Any amendment to this Agreement, including any change of the reserved capacity of the Plant, payment requirements, or adding other governmental entities to the Agreement, must be in writing and signed by all parties. For any technical amendments not affecting the reserved capacity or payment requirements, the Primary Contacts for Texarkana, Nash, and Wake Village are delegated authority by their respective city councils to make technical amendments to the Agreement, which shall be in writing and signed by all Primary Contacts of the parties.

7.8 *Effective Date.* This Agreement shall be effective October 1, 2015, which shall be the beginning month for payments due under Section 2.1.1 of this Agreement.

IN WITNESS WHEREOF, Texarkana, Nash, and Wake Village, as properly authorized by their respective City Councils, have caused this Agreement to be executed by their respective and authorized representatives and attested by their respective City Secretaries.

Texarkana, Texas

John A. Whitson, ICMA-CM
City Manager

Date: 15 SEP 15

Attest

Jennifer Evans
City Secretary

Nash, Texas

Robert Bunch
Mayor

Date: September 14, 2015

Attest

Jennifer Studdard
City Secretary

Wake Village, Texas

Jim Roberts
Mayor

Date: September 14, 2015

Attest

Mike Burke
City Secretary

Exhibit A

WAGNER CREEK WWTP UPGRADE/RENOVATION
PHASE I- DESIGN & CONSTRUCTION
AMORTIZATION SCHEDULE

					Principal				
				Total Annual	Balance	*Payments Allocated 1/3 to Each City*			
Pmt #	Rate	Interest	Principal	Payment	2,895,000.00	Nash	Wake V.	[illegible]	Total
1	4.60%	11,097.50	7,374.34	18,471.84	2,887,625.66	6,157.28	6,157.28	6,157.28	18,471.84
2	4.60%	11,069.23	7,402.61	18,471.84	2,880,223.05	6,157.28	6,157.28	6,157.28	18,471.84
3	4.60%	11,040.86	7,430.98	18,471.84	2,872,792.07	6,157.28	6,157.28	6,157.28	18,471.84
4	4.60%	11,012.37	7,459.47	18,471.84	2,865,332.60	6,157.28	6,157.28	6,157.28	18,471.84
5	4.60%	10,983.77	7,488.07	18,471.84	2,857,844.53	6,157.28	6,157.28	6,157.28	18,471.84
6	4.60%	10,955.07	7,516.77	18,471.84	2,850,327.76	6,157.28	6,157.28	6,157.28	18,471.84
7	4.60%	10,926.26	7,545.58	18,471.84	2,842,782.18	6,157.28	6,157.28	6,157.28	18,471.84
8	4.60%	10,897.33	7,574.51	18,471.84	2,835,207.67	6,157.28	6,157.28	6,157.28	18,471.84
9	4.60%	10,868.30	7,603.54	18,471.84	2,827,604.13	6,157.28	6,157.28	6,157.28	18,471.84
10	4.60%	10,839.15	7,632.69	18,471.84	2,819,971.44	6,157.28	6,157.28	6,157.28	18,471.84
11	4.60%	10,809.89	7,661.95	18,471.84	2,812,309.49	6,157.28	6,157.28	6,157.28	18,471.84
12	4.60%	10,780.52	7,691.32	18,471.84	2,804,618.17	6,157.28	6,157.28	6,157.28	18,471.84
13	4.60%	10,751.04	7,720.80	18,471.84	2,796,897.37	6,157.28	6,157.28	6,157.28	18,471.84
14	4.60%	10,721.44	7,750.40	18,471.84	2,789,146.97	6,157.28	6,157.28	6,157.28	18,471.84
15	4.60%	10,691.73	7,780.11	18,471.84	2,781,366.86	6,157.28	6,157.28	6,157.28	18,471.84
16	4.60%	10,661.91	7,809.93	18,471.84	2,773,556.93	6,157.28	6,157.28	6,157.28	18,471.84
17	4.60%	10,631.97	7,839.87	18,471.84	2,765,717.06	6,157.28	6,157.28	6,157.28	18,471.84
18	4.60%	10,601.92	7,869.92	18,471.84	2,757,847.14	6,157.28	6,157.28	6,157.28	18,471.84
19	4.60%	10,571.75	7,900.09	18,471.84	2,749,947.05	6,157.28	6,157.28	6,157.28	18,471.84
20	4.60%	10,541.46	7,930.38	18,471.84	2,742,016.67	6,157.28	6,157.28	6,157.28	18,471.84
22	4.60%	10,480.55	7,991.29	18,471.84	2,726,064.60	6,157.28	6,157.28	6,157.28	18,471.84
23	4.60%	10,449.91	8,021.93	18,471.84	2,718,042.67	6,157.28	6,157.28	6,157.28	18,471.84
24	4.60%	10,419.16	8,052.68	18,471.84	2,709,989.99	6,157.28	6,157.28	6,157.28	18,471.84
25	4.60%	10,388.29	8,083.55	18,471.84	2,701,906.44	6,157.28	6,157.28	6,157.28	18,471.84
26	4.60%	10,357.31	8,114.53	18,471.84	2,693,791.91	6,157.28	6,157.28	6,157.28	18,471.84
27	4.60%	10,326.20	8,145.64	18,471.84	2,685,646.27	6,157.28	6,157.28	6,157.28	18,471.84
28	4.60%	10,294.98	8,176.86	18,471.84	2,677,469.41	6,157.28	6,157.28	6,157.28	18,471.84
29	4.60%	10,263.63	8,208.21	18,471.84	2,669,261.20	6,157.28	6,157.28	6,157.28	18,471.84
30	4.60%	10,232.17	8,239.67	18,471.84	2,661,021.53	6,157.28	6,157.28	6,157.28	18,471.84
31	4.60%	10,200.58	8,271.26	18,471.84	2,652,750.27	6,157.28	6,157.28	6,157.28	18,471.84
32	4.60%	10,168.88	8,302.96	18,471.84	2,644,447.31	6,157.28	6,157.28	6,157.28	18,471.84
33	4.60%	10,137.05	8,334.79	18,471.84	2,636,112.52	6,157.28	6,157.28	6,157.28	18,471.84
34	4.60%	10,105.10	8,366.74	18,471.84	2,627,745.78	6,157.28	6,157.28	6,157.28	18,471.84
35	4.60%	10,073.03	8,398.81	18,471.84	2,619,346.97	6,157.28	6,157.28	6,157.28	18,471.84
36	4.60%	10,040.83	8,431.01	18,471.84	2,610,915.96	6,157.28	6,157.28	6,157.28	18,471.84
37	4.60%	10,008.51	8,463.33	18,471.84	2,602,452.63	6,157.28	6,157.28	6,157.28	18,471.84
38	4.60%	9,976.07	8,495.77	18,471.84	2,593,956.86	6,157.28	6,157.28	6,157.28	18,471.84
39	4.60%	9,943.50	8,528.34	18,471.84	2,585,428.52	6,157.28	6,157.28	6,157.28	18,471.84
40	4.60%	9,910.81	8,561.03	18,471.84	2,576,867.49	6,157.28	6,157.28	6,157.28	18,471.84
41	4.60%	9,877.99	8,593.85	18,471.84	2,568,273.64	6,157.28	6,157.28	6,157.28	18,471.84
42	4.60%	9,845.05	8,626.79	18,471.84	2,559,646.85	6,157.28	6,157.28	6,157.28	18,471.84
43	4.60%	9,811.98	8,659.86	18,471.84	2,550,986.99	6,157.28	6,157.28	6,157.28	18,471.84
44	4.60%	9,778.78	8,693.06	18,471.84	2,542,293.93	6,157.28	6,157.28	6,157.28	18,471.84
45	4.60%	9,745.46	8,726.38	18,471.84	2,533,567.55	6,157.28	6,157.28	6,157.28	18,471.84

WAGNER CREEK WWTP UPGRADE/RENOVATION
PHASE I- DESIGN & CONSTRUCTION
AMORTIZATION SCHEDULE

				Total Annual	Principal Balance	Payments Allocated 1/3 to Each City			
Pmt #	Rate	Interest	Principal	Payment	2,899,000.00	Nash	Wake V.	[illegible]	Total
46	4.60%	9,712.01	8,759.83	18,471.84	2,524,807.72	6,157.28	6,157.28	6,157.28	18,471.84
47	4.60%	9,678.43	8,793.41	18,471.84	2,516,014.31	6,157.28	6,157.28	6,157.28	18,471.84
48	4.60%	9,644.72	8,827.12	18,471.84	2,507,187.19	6,157.28	6,157.28	6,157.28	18,471.84
49	4.60%	9,610.88	8,860.96	18,471.84	2,498,326.23	6,157.28	6,157.28	6,157.28	18,471.84
50	4.60%	9,576.92	8,894.92	18,471.84	2,489,431.31	6,157.28	6,157.28	6,157.28	18,471.84
51	4.60%	9,542.82	8,929.02	18,471.84	2,480,502.29	6,157.28	6,157.28	6,157.28	18,471.84
52	4.60%	9,508.59	8,963.25	18,471.84	2,471,539.04	6,157.28	6,157.28	6,157.28	18,471.84
53	4.60%	9,474.23	8,997.61	18,471.84	2,462,541.43	6,157.28	6,157.28	6,157.28	18,471.84
54	4.60%	9,439.74	9,032.10	18,471.84	2,453,509.33	6,157.28	6,157.28	6,157.28	18,471.84
55	4.60%	9,405.12	9,066.72	18,471.84	2,444,442.61	6,157.28	6,157.28	6,157.28	18,471.84
56	4.60%	9,370.36	9,101.48	18,471.84	2,435,341.13	6,157.28	6,157.28	6,157.28	18,471.84
57	4.60%	9,335.47	9,136.37	18,471.84	2,426,204.76	6,157.28	6,157.28	6,157.28	18,471.84
58	4.60%	9,300.45	9,171.39	18,471.84	2,417,033.37	6,157.28	6,157.28	6,157.28	18,471.84
59	4.60%	9,265.29	9,206.55	18,471.84	2,407,826.82	6,157.28	6,157.28	6,157.28	18,471.84
60	4.60%	9,230.00	9,241.84	18,471.84	2,398,584.98	6,157.28	6,157.28	6,157.28	18,471.84
61	4.60%	9,194.58	9,277.26	18,471.84	2,389,307.72	6,157.28	6,157.28	6,157.28	18,471.84
62	4.60%	9,159.01	9,312.83	18,471.84	2,379,994.89	6,157.28	6,157.28	6,157.28	18,471.84
63	4.60%	9,123.31	9,348.53	18,471.84	2,370,646.36	6,157.28	6,157.28	6,157.28	18,471.84
64	4.60%	9,087.48	9,384.36	18,471.84	2,361,262.00	6,157.28	6,157.28	6,157.28	18,471.84
65	4.60%	9,051.50	9,420.34	18,471.84	2,351,841.66	6,157.28	6,157.28	6,157.28	18,471.84
66	4.60%	9,015.39	9,456.45	18,471.84	2,342,385.21	6,157.28	6,157.28	6,157.28	18,471.84
67	4.60%	8,979.14	9,492.70	18,471.84	2,332,892.51	6,157.28	6,157.28	6,157.28	18,471.84
68	4.60%	8,942.75	9,529.09	18,471.84	2,323,363.42	6,157.28	6,157.28	6,157.28	18,471.84
69	4.60%	8,906.23	9,565.61	18,471.84	2,313,797.81	6,157.28	6,157.28	6,157.28	18,471.84
70	4.60%	8,869.56	9,602.28	18,471.84	2,304,195.53	6,157.28	6,157.28	6,157.28	18,471.84
71	4.60%	8,832.75	9,639.09	18,471.84	2,294,556.44	6,157.28	6,157.28	6,157.28	18,471.84
72	4.60%	8,795.80	9,676.04	18,471.84	2,284,880.40	6,157.28	6,157.28	6,157.28	18,471.84
73	4.60%	8,758.71	9,713.13	18,471.84	2,275,167.27	6,157.28	6,157.28	6,157.28	18,471.84
74	4.60%	8,721.47	9,750.37	18,471.84	2,265,416.90	6,157.28	6,157.28	6,157.28	18,471.84
75	4.60%	8,684.10	9,787.74	18,471.84	2,255,629.16	6,157.28	6,157.28	6,157.28	18,471.84
76	4.60%	8,646.58	9,825.26	18,471.84	2,245,803.90	6,157.28	6,157.28	6,157.28	18,471.84
77	4.60%	8,608.91	9,862.93	18,471.84	2,235,940.97	6,157.28	6,157.28	6,157.28	18,471.84
78	4.60%	8,571.11	9,900.73	18,471.84	2,226,040.24	6,157.28	6,157.28	6,157.28	18,471.84
79	4.60%	8,533.15	9,938.69	18,471.84	2,216,101.55	6,157.28	6,157.28	6,157.28	18,471.84
80	4.60%	8,495.06	9,976.78	18,471.84	2,206,124.77	6,157.28	6,157.28	6,157.28	18,471.84
81	4.60%	8,456.81	10,015.03	18,471.84	2,196,109.74	6,157.28	6,157.28	6,157.28	18,471.84
82	4.60%	8,418.42	10,053.42	18,471.84	2,186,056.32	6,157.28	6,157.28	6,157.28	18,471.84
83	4.60%	8,379.88	10,091.96	18,471.84	2,175,964.36	6,157.28	6,157.28	6,157.28	18,471.84
84	4.60%	8,341.20	10,130.64	18,471.84	2,165,833.72	6,157.28	6,157.28	6,157.28	18,471.84
85	4.60%	8,302.36	10,169.48	18,471.84	2,155,664.24	6,157.28	6,157.28	6,157.28	18,471.84
86	4.60%	8,263.38	10,208.46	18,471.84	2,145,455.78	6,157.28	6,157.28	6,157.28	18,471.84
87	4.60%	8,224.25	10,247.59	18,471.84	2,135,208.19	6,157.28	6,157.28	6,157.28	18,471.84
88	4.60%	8,184.96	10,286.88	18,471.84	2,124,921.31	6,157.28	6,157.28	6,157.28	18,471.84
89	4.60%	8,145.53	10,326.31	18,471.84	2,114,595.00	6,157.28	6,157.28	6,157.28	18,471.84

WAGNER CREEK WWTP UPGRADE/RENOVATION
PHASE I- DESIGN & CONSTRUCTION
AMORTIZATION SCHEDULE

					Principal				
				Total Annual	Balance	Payments Allocated 1/3 to Each City			
Pmt #	Rate	Interest	Principal	Payment	2,895,000.00	Nash	Wake V.	Txk	Total
90	4.60%	8,105.95	10,365.89	18,471.84	2,104,229.11	6,157.28	6,157.28	6,157.28	18,471.84
91	4.60%	8,066.21	10,405.63	18,471.84	2,093,823.48	6,157.28	6,157.28	6,157.28	18,471.84
92	4.60%	8,026.32	10,445.52	18,471.84	2,083,377.96	6,157.28	6,157.28	6,157.28	18,471.84
93	4.60%	7,986.28	10,485.56	18,471.84	2,072,892.40	6,157.28	6,157.28	6,157.28	18,471.84
94	4.60%	7,946.09	10,525.75	18,471.84	2,062,366.65	6,157.28	6,157.28	6,157.28	18,471.84
95	4.60%	7,905.74	10,566.10	18,471.84	2,051,800.55	6,157.28	6,157.28	6,157.28	18,471.84
96	4.60%	7,865.24	10,606.60	18,471.84	2,041,193.95	6,157.28	6,157.28	6,157.28	18,471.84
97	4.60%	7,824.58	10,647.26	18,471.84	2,030,546.69	6,157.28	6,157.28	6,157.28	18,471.84
98	4.60%	7,783.76	10,688.08	18,471.84	2,019,858.61	6,157.28	6,157.28	6,157.28	18,471.84
99	4.60%	7,742.79	10,729.05	18,471.84	2,009,129.56	6,157.28	6,157.28	6,157.28	18,471.84
100	4.60%	7,701.66	10,770.18	18,471.84	1,998,359.38	6,157.28	6,157.28	6,157.28	18,471.84
101	4.60%	7,660.38	10,811.46	18,471.84	1,987,547.92	6,157.28	6,157.28	6,157.28	18,471.84
102	4.60%	7,618.93	10,852.91	18,471.84	1,976,695.01	6,157.28	6,157.28	6,157.28	18,471.84
103	4.60%	7,577.33	10,894.51	18,471.84	1,965,800.50	6,157.28	6,157.28	6,157.28	18,471.84
104	4.60%	7,535.57	10,936.27	18,471.84	1,954,864.23	6,157.28	6,157.28	6,157.28	18,471.84
105	4.60%	7,493.65	10,978.19	18,471.84	1,943,886.04	6,157.28	6,157.28	6,157.28	18,471.84
106	4.60%	7,451.56	11,020.28	18,471.84	1,932,865.76	6,157.28	6,157.28	6,157.28	18,471.84
107	4.60%	7,409.32	11,062.52	18,471.84	1,921,803.24	6,157.28	6,157.28	6,157.28	18,471.84
108	4.60%	7,366.91	11,104.93	18,471.84	1,910,698.31	6,157.28	6,157.28	6,157.28	18,471.84
109	4.60%	7,324.34	11,147.50	18,471.84	1,899,550.81	6,157.28	6,157.28	6,157.28	18,471.84
110	4.60%	7,281.61	11,190.23	18,471.84	1,888,360.58	6,157.28	6,157.28	6,157.28	18,471.84
111	4.60%	7,238.72	11,233.12	18,471.84	1,877,127.46	6,157.28	6,157.28	6,157.28	18,471.84
112	4.60%	7,195.66	11,276.18	18,471.84	1,865,851.28	6,157.28	6,157.28	6,157.28	18,471.84
113	4.60%	7,152.43	11,319.41	18,471.84	1,854,531.87	6,157.28	6,157.28	6,157.28	18,471.84
114	4.60%	7,109.04	11,362.80	18,471.84	1,843,169.07	6,157.28	6,157.28	6,157.28	18,471.84
115	4.60%	7,065.48	11,406.36	18,471.84	1,831,762.71	6,157.28	6,157.28	6,157.28	18,471.84
116	4.60%	7,021.76	11,450.08	18,471.84	1,820,312.63	6,157.28	6,157.28	6,157.28	18,471.84
117	4.60%	6,977.87	11,493.97	18,471.84	1,808,818.66	6,157.28	6,157.28	6,157.28	18,471.84
118	4.60%	6,933.80	11,538.04	18,471.84	1,797,280.62	6,157.28	6,157.28	6,157.28	18,471.84
119	4.60%	6,889.58	11,582.26	18,471.84	1,785,698.36	6,157.28	6,157.28	6,157.28	18,471.84
120	4.60%	6,845.18	11,626.66	18,471.84	1,774,071.70	6,157.28	6,157.28	6,157.28	18,471.84
121	4.60%	6,800.61	11,671.23	18,471.84	1,762,400.47	6,157.28	6,157.28	6,157.28	18,471.84
122	4.60%	6,755.87	11,715.97	18,471.84	1,750,684.50	6,157.28	6,157.28	6,157.28	18,471.84
123	4.60%	6,710.96	11,760.88	18,471.84	1,738,923.62	6,157.28	6,157.28	6,157.28	18,471.84
124	4.60%	6,665.87	11,805.97	18,471.84	1,727,117.65	6,157.28	6,157.28	6,157.28	18,471.84
125	4.60%	6,620.62	11,851.22	18,471.84	1,715,266.43	6,157.28	6,157.28	6,157.28	18,471.84
126	4.60%	6,575.19	11,896.65	18,471.84	1,703,369.78	6,157.28	6,157.28	6,157.28	18,471.84
127	4.60%	6,529.58	11,942.26	18,471.84	1,691,427.52	6,157.28	6,157.28	6,157.28	18,471.84
128	4.60%	6,483.81	11,988.03	18,471.84	1,679,439.49	6,157.28	6,157.28	6,157.28	18,471.84
129	4.60%	6,437.85	12,033.99	18,471.84	1,667,405.50	6,157.28	6,157.28	6,157.28	18,471.84
130	4.60%	6,391.72	12,080.12	18,471.84	1,655,325.38	6,157.28	6,157.28	6,157.28	18,471.84
131	4.60%	6,345.41	12,126.43	18,471.84	1,643,198.95	6,157.28	6,157.28	6,157.28	18,471.84
132	4.60%	6,298.93	12,172.91	18,471.84	1,631,026.04	6,157.28	6,157.28	6,157.28	18,471.84
133	4.60%	6,252.27	12,219.57	18,471.84	1,618,806.47	6,157.28	6,157.28	6,157.28	18,471.84

WAGNER CREEK WWTP UPGRADE/RENOVATION
PHASE I- DESIGN & CONSTRUCTION
AMORTIZATION SCHEDULE

					Principal				
				Total Annual	Balance	Payments Allocated 1/3 to Each City			
Pmt#	Rate	Interest	Principal	Payment	2,885,000.00	Nash	Wake V.	Txk	Total
134	4.60%	6,205.42	12,266.42	18,471.84	1,606,540.05	6,157.28	6,157.28	6,157.28	18,471.84
135	4.60%	6,158.40	12,313.44	18,471.84	1,594,226.61	6,157.28	6,157.28	6,157.28	18,471.84
136	4.60%	6,111.20	12,360.64	18,471.84	1,581,865.97	6,157.28	6,157.28	6,157.28	18,471.84
137	4.60%	6,063.82	12,408.02	18,471.84	1,569,457.95	6,157.28	6,157.28	6,157.28	18,471.84
138	4.60%	6,016.26	12,455.58	18,471.84	1,557,002.37	6,157.28	6,157.28	6,157.28	18,471.84
139	4.60%	5,968.51	12,503.33	18,471.84	1,544,499.04	6,157.28	6,157.28	6,157.28	18,471.84
140	4.60%	5,920.58	12,551.26	18,471.84	1,531,947.78	6,157.28	6,157.28	6,157.28	18,471.84
141	4.60%	5,872.47	12,599.37	18,471.84	1,519,348.41	6,157.28	6,157.28	6,157.28	18,471.84
142	4.60%	5,824.17	12,647.67	18,471.84	1,506,700.74	6,157.28	6,157.28	6,157.28	18,471.84
143	4.60%	5,775.69	12,696.15	18,471.84	1,494,004.59	6,157.28	6,157.28	6,157.28	18,471.84
144	4.60%	5,727.02	12,744.82	18,471.84	1,481,259.77	6,157.28	6,157.28	6,157.28	18,471.84
145	4.60%	5,678.16	12,793.68	18,471.84	1,468,466.09	6,157.28	6,157.28	6,157.28	18,471.84
146	4.60%	5,629.12	12,842.72	18,471.84	1,455,623.37	6,157.28	6,157.28	6,157.28	18,471.84
147	4.60%	5,579.89	12,891.95	18,471.84	1,442,731.42	6,157.28	6,157.28	6,157.28	18,471.84
148	4.60%	5,530.47	12,941.37	18,471.84	1,429,790.05	6,157.28	6,157.28	6,157.28	18,471.84
149	4.60%	5,480.86	12,990.98	18,471.84	1,416,799.07	6,157.28	6,157.28	6,157.28	18,471.84
150	4.60%	5,431.06	13,040.78	18,471.84	1,403,758.29	6,157.28	6,157.28	6,157.28	18,471.84
151	4.60%	5,381.07	13,090.77	18,471.84	1,390,667.52	6,157.28	6,157.28	6,157.28	18,471.84
152	4.60%	5,330.89	13,140.95	18,471.84	1,377,526.57	6,157.28	6,157.28	6,157.28	18,471.84
153	4.60%	5,280.52	13,191.32	18,471.84	1,364,335.25	6,157.28	6,157.28	6,157.28	18,471.84
154	4.60%	5,229.95	13,241.89	18,471.84	1,351,093.36	6,157.28	6,157.28	6,157.28	18,471.84
155	4.60%	5,179.19	13,292.65	18,471.84	1,337,800.71	6,157.28	6,157.28	6,157.28	18,471.84
156	4.60%	5,128.24	13,343.60	18,471.84	1,324,457.11	6,157.28	6,157.28	6,157.28	18,471.84
157	4.60%	5,077.09	13,394.75	18,471.84	1,311,062.36	6,157.28	6,157.28	6,157.28	18,471.84
158	4.60%	5,025.74	13,446.10	18,471.84	1,297,616.26	6,157.28	6,157.28	6,157.28	18,471.84
159	4.60%	4,974.20	13,497.64	18,471.84	1,284,118.62	6,157.28	6,157.28	6,157.28	18,471.84
160	4.60%	4,922.45	13,549.39	18,471.84	1,270,569.23	6,157.28	6,157.28	6,157.28	18,471.84
161	4.60%	4,870.52	13,601.32	18,471.84	1,256,967.91	6,157.28	6,157.28	6,157.28	18,471.84
162	4.60%	4,818.38	13,653.46	18,471.84	1,243,314.45	6,157.28	6,157.28	6,157.28	18,471.84
163	4.60%	4,766.04	13,705.80	18,471.84	1,229,608.65	6,157.28	6,157.28	6,157.28	18,471.84
164	4.60%	4,713.50	13,758.34	18,471.84	1,215,850.31	6,157.28	6,157.28	6,157.28	18,471.84
165	4.60%	4,660.76	13,811.08	18,471.84	1,202,039.23	6,157.28	6,157.28	6,157.28	18,471.84
166	4.60%	4,607.82	13,864.02	18,471.84	1,188,175.21	6,157.28	6,157.28	6,157.28	18,471.84
167	4.60%	4,554.67	13,917.17	18,471.84	1,174,258.04	6,157.28	6,157.28	6,157.28	18,471.84
168	4.60%	4,501.32	13,970.52	18,471.84	1,160,287.52	6,157.28	6,157.28	6,157.28	18,471.84
169	4.60%	4,447.77	14,024.07	18,471.84	1,146,263.45	6,157.28	6,157.28	6,157.28	18,471.84
170	4.60%	4,394.01	14,077.83	18,471.84	1,132,185.62	6,157.28	6,157.28	6,157.28	18,471.84
171	4.60%	4,340.04	14,131.80	18,471.84	1,118,053.82	6,157.28	6,157.28	6,157.28	18,471.84
172	4.60%	4,285.87	14,185.97	18,471.84	1,103,867.85	6,157.28	6,157.28	6,157.28	18,471.84
173	4.60%	4,231.49	14,240.35	18,471.84	1,089,627.50	6,157.28	6,157.28	6,157.28	18,471.84
174	4.60%	4,176.91	14,294.93	18,471.84	1,075,332.57	6,157.28	6,157.28	6,157.28	18,471.84
175	4.60%	4,122.11	14,349.73	18,471.84	1,060,982.84	6,157.28	6,157.28	6,157.28	18,471.84
176	4.60%	4,067.10	14,404.74	18,471.84	1,046,578.10	6,157.28	6,157.28	6,157.28	18,471.84
177	4.60%	4,011.88	14,459.96	18,471.84	1,032,118.14	6,157.28	6,157.28	6,157.28	18,471.84

WAGNER CREEK WWTP UPGRADE/RENOVATION
PHASE I- DESIGN & CONSTRUCTION
AMORTIZATION SCHEDULE

					Principal				
				Total Annual	Balance	*Payments Allocated 1/3 to Each City*			
Pmt #	Rate	Interest	Principal	Payment	2,895,000.00	Nash	Wake V.	Txk	Total
178	4.60%	3,956.45	14,515.39	18,471.84	1,017,602.75	6,157.28	6,157.28	6,157.28	18,471.84
179	4.60%	3,900.81	14,571.03	18,471.84	1,003,031.72	6,157.28	6,157.28	6,157.28	18,471.84
180	4.60%	3,844.95	14,626.89	18,471.84	988,404.83	6,157.28	6,157.28	6,157.28	18,471.84
181	4.60%	3,788.89	14,682.95	18,471.84	973,721.88	6,157.28	6,157.28	6,157.28	18,471.84
182	4.60%	3,732.60	14,739.24	18,471.84	958,982.64	6,157.28	6,157.28	6,157.28	18,471.84
183	4.60%	3,676.10	14,795.74	18,471.84	944,186.90	6,157.28	6,157.28	6,157.28	18,471.84
184	4.60%	3,619.38	14,852.46	18,471.84	929,334.44	6,157.28	6,157.28	6,157.28	18,471.84
185	4.60%	3,562.45	14,909.39	18,471.84	914,425.05	6,157.28	6,157.28	6,157.28	18,471.84
186	4.60%	3,505.30	14,966.54	18,471.84	899,458.51	6,157.28	6,157.28	6,157.28	18,471.84
187	4.60%	3,447.92	15,023.92	18,471.84	884,434.59	6,157.28	6,157.28	6,157.28	18,471.84
188	4.60%	3,390.33	15,081.51	18,471.84	869,353.08	6,157.28	6,157.28	6,157.28	18,471.84
189	4.60%	3,332.52	15,139.32	18,471.84	854,213.76	6,157.28	6,157.28	6,157.28	18,471.84
190	4.60%	3,274.49	15,197.35	18,471.84	839,016.41	6,157.28	6,157.28	6,157.28	18,471.84
191	4.60%	3,216.23	15,255.61	18,471.84	823,760.80	6,157.28	6,157.28	6,157.28	18,471.84
192	4.60%	3,157.75	15,314.09	18,471.84	808,446.71	6,157.28	6,157.28	6,157.28	18,471.84
193	4.60%	3,099.05	15,372.79	18,471.84	793,073.92	6,157.28	6,157.28	6,157.28	18,471.84
194	4.60%	3,040.12	15,431.72	18,471.84	777,642.20	6,157.28	6,157.28	6,157.28	18,471.84
195	4.60%	2,980.96	15,490.88	18,471.84	762,151.32	6,157.28	6,157.28	6,157.28	18,471.84
196	4.60%	2,921.58	15,550.26	18,471.84	746,601.06	6,157.28	6,157.28	6,157.28	18,471.84
197	4.60%	2,861.97	15,609.87	18,471.84	730,991.19	6,157.28	6,157.28	6,157.28	18,471.84
198	4.60%	2,802.13	15,669.71	18,471.84	715,321.48	6,157.28	6,157.28	6,157.28	18,471.84
199	4.60%	2,742.07	15,729.77	18,471.84	699,591.71	6,157.28	6,157.28	6,157.28	18,471.84
200	4.60%	2,681.77	15,790.07	18,471.84	683,801.64	6,157.28	6,157.28	6,157.28	18,471.84
201	4.60%	2,621.24	15,850.60	18,471.84	667,951.04	6,157.28	6,157.28	6,157.28	18,471.84
202	4.60%	2,560.48	15,911.36	18,471.84	652,039.68	6,157.28	6,157.28	6,157.28	18,471.84
203	4.60%	2,499.49	15,972.35	18,471.84	636,067.33	6,157.28	6,157.28	6,157.28	18,471.84
204	4.60%	2,438.26	16,033.58	18,471.84	620,033.75	6,157.28	6,157.28	6,157.28	18,471.84
205	4.60%	2,376.80	16,095.04	18,471.84	603,938.71	6,157.28	6,157.28	6,157.28	18,471.84
206	4.60%	2,315.10	16,156.74	18,471.84	587,781.97	6,157.28	6,157.28	6,157.28	18,471.84
207	4.60%	2,253.16	16,218.68	18,471.84	571,563.29	6,157.28	6,157.28	6,157.28	18,471.84
208	4.60%	2,190.99	16,280.85	18,471.84	555,282.44	6,157.28	6,157.28	6,157.28	18,471.84
209	4.60%	2,128.58	16,343.26	18,471.84	538,939.18	6,157.28	6,157.28	6,157.28	18,471.84
210	4.60%	2,065.93	16,405.91	18,471.84	522,533.27	6,157.28	6,157.28	6,157.28	18,471.84
211	4.60%	2,003.04	16,468.80	18,471.84	506,064.47	6,157.28	6,157.28	6,157.28	18,471.84
212	4.60%	1,939.91	16,531.93	18,471.84	489,532.54	6,157.28	6,157.28	6,157.28	18,471.84
213	4.60%	1,876.54	16,595.30	18,471.84	472,937.24	6,157.28	6,157.28	6,157.28	18,471.84
214	4.60%	1,812.93	16,658.91	18,471.84	456,278.33	6,157.28	6,157.28	6,157.28	18,471.84
215	4.60%	1,749.07	16,722.77	18,471.84	439,555.56	6,157.28	6,157.28	6,157.28	18,471.84
216	4.60%	1,684.96	16,786.88	18,471.84	422,768.68	6,157.28	6,157.28	6,157.28	18,471.84
217	4.60%	1,620.61	16,851.23	18,471.84	405,917.45	6,157.28	6,157.28	6,157.28	18,471.84
218	4.60%	1,556.02	16,915.82	18,471.84	389,001.63	6,157.28	6,157.28	6,157.28	18,471.84
219	4.60%	1,491.17	16,980.67	18,471.84	372,020.96	6,157.28	6,157.28	6,157.28	18,471.84
220	4.60%	1,426.08	17,045.76	18,471.84	354,975.20	6,157.28	6,157.28	6,157.28	18,471.84
221	4.60%	1,360.74	17,111.10	18,471.84	337,864.10	6,157.28	6,157.28	6,157.28	18,471.84

WAGNER CREEK WWTP UPGRADE/RENOVATION
PHASE I- DESIGN & CONSTRUCTION
AMORTIZATION SCHEDULE

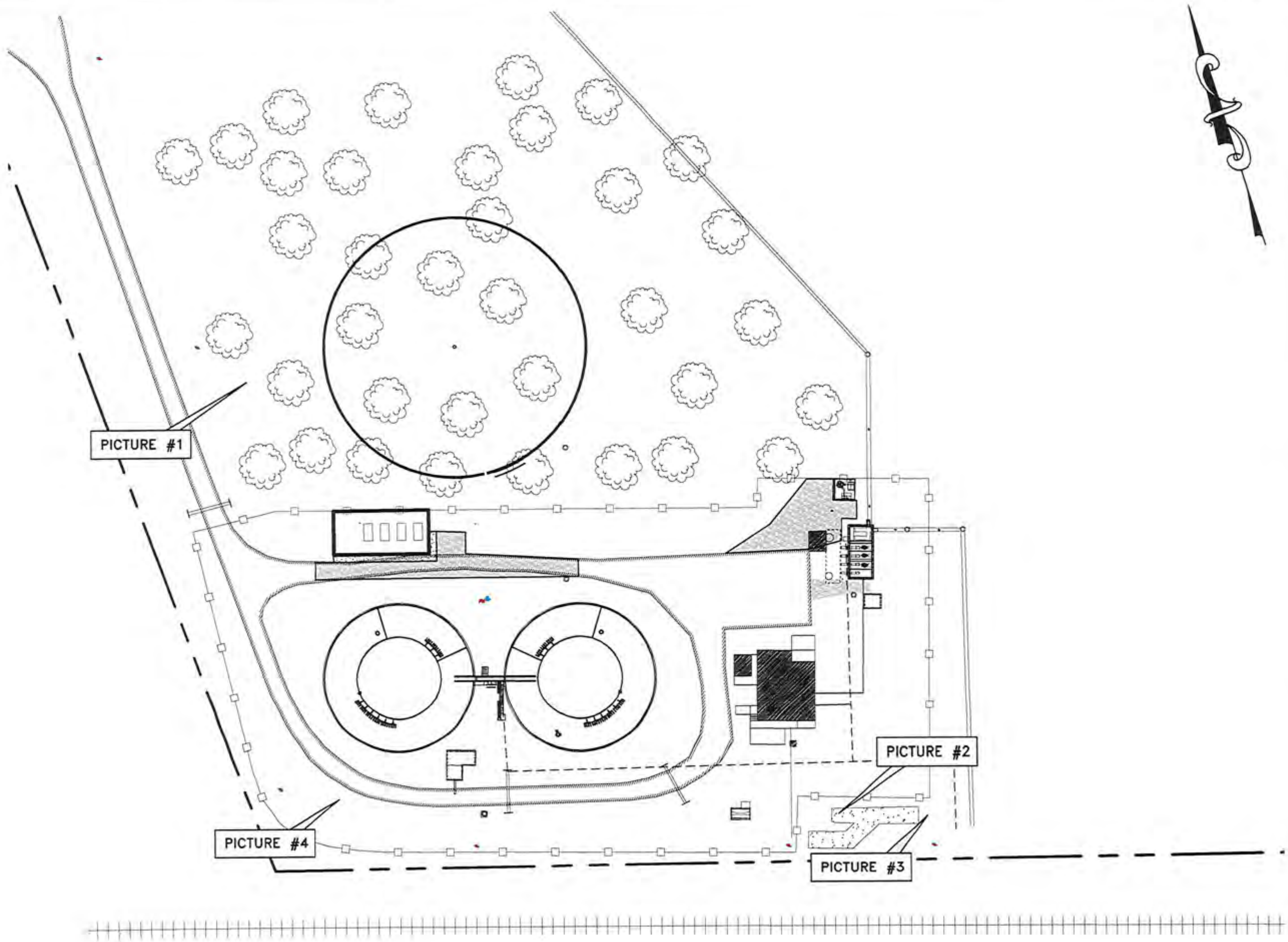
				Principal					
				Total Annual	Balance	Payments Allocated 1/3 to Each City			
Pmt #	Rate	Interest	Principal	Payment	2,895,000.00	Nash	Wake V.	Txk	Total
222	4.60%	1,295.15	17,176.69	18,471.84	320,687.41	6,157.28	6,157.28	6,157.28	18,471.84
223	4.60%	1,229.30	17,242.54	18,471.84	303,444.87	6,157.28	6,157.28	6,157.28	18,471.84
224	4.60%	1,163.21	17,308.63	18,471.84	286,136.24	6,157.28	6,157.28	6,157.28	18,471.84
225	4.60%	1,096.86	17,374.98	18,471.84	268,761.26	6,157.28	6,157.28	6,157.28	18,471.84
226	4.60%	1,030.25	17,441.59	18,471.84	251,319.67	6,157.28	6,157.28	6,157.28	18,471.84
227	4.60%	963.39	17,508.45	18,471.84	233,811.22	6,157.28	6,157.28	6,157.28	18,471.84
228	4.60%	896.28	17,575.56	18,471.84	216,235.66	6,157.28	6,157.28	6,157.28	18,471.84
229	4.60%	828.90	17,642.94	18,471.84	198,592.72	6,157.28	6,157.28	6,157.28	18,471.84
230	4.60%	761.27	17,710.57	18,471.84	180,882.15	6,157.28	6,157.28	6,157.28	18,471.84
231	4.60%	693.38	17,778.46	18,471.84	163,103.69	6,157.28	6,157.28	6,157.28	18,471.84
232	4.60%	625.23	17,846.61	18,471.84	145,257.08	6,157.28	6,157.28	6,157.28	18,471.84
233	4.60%	556.82	17,915.02	18,471.84	127,342.06	6,157.28	6,157.28	6,157.28	18,471.84
234	4.60%	488.14	17,983.70	18,471.84	109,358.36	6,157.28	6,157.28	6,157.28	18,471.84
235	4.60%	419.21	18,052.63	18,471.84	91,305.73	6,157.28	6,157.28	6,157.28	18,471.84
236	4.60%	350.01	18,121.83	18,471.84	73,183.90	6,157.28	6,157.28	6,157.28	18,471.84
237	4.60%	280.54	18,191.30	18,471.84	54,992.60	6,157.28	6,157.28	6,157.28	18,471.84
238	4.60%	210.80	18,261.04	18,471.84	36,731.56	6,157.28	6,157.28	6,157.28	18,471.84
239	4.60%	140.80	18,331.04	18,471.84	18,400.52	6,157.28	6,157.28	6,157.28	18,471.84
240	4.60%	70.54	18,400.52	18,471.06	0.00	6,157.02	6,157.02	6,157.02	18,471.06
		1,538,240.82	2,895,000.00	4,433,240.82		1,477,746.94	1,477,746.94	1,477,746.94	[illegible]

Balance to amortize = $2,895,000.00
Interest Rate = 4.60%
Period = 20 YR/240 MO

Balance to Amortize Calculation:

WC Capital Impr Fund-- Projected at 9/30/15	$2,600,000.00
WC Plant Engineering Design (TX Infrastr Fund)	$295,000.00
	$2,895,000.00

SITE PHOTOS



TEXARKANA WATER UTILITIES
801 WOOD STREET
TEXARKANA, TEXAS 75501
PH: 903-798-3800

SITE PHOTOS EXHIBIT

SCALE: 1"=100'-0"

WAGNER WWTP
TEXARKANA, TEXAS

PICTURE 1 – PROPOSED LOCATION FOR NEW TREATMENT UNIT / PLANT EXPANSION

PICTURE 2 – EXISTING OUTFALL

PICTURE 3 – NATURAL CHANNEL DOWNSTREAM OF OUTFALL

PICTURE 4 – EXISTING WWTP

SLUDGE MANAGEMENT PLAN

Sludge Management Plan

for

Waggoner Creek WWTP

Texarkana Water Utilities

The Waggoner Wastewater Treatment Plant is a full-scale municipal wastewater treatment plant that does generate sludge waste from the treatment process. The WWTP is currently operating in the initial phase with a daily permitted flow rate of 2.0 MGD. The proposed interim phase will increase the daily permitted flow rate to 4.0 MGD. The waste sludge generated from the treatment process is also expected to double by this proposed expansion.

The proposed expansion of the WWTP will include construction of a third treatment unit. The third unit will be similar in type to the existing units and will include a large aeration basin, clarification zone, sludge digester, and a post aeration zone. The sludge digester in each treatment unit is designed to provide 20-days of sludge retention time. The digesters will include coarse bubble aeration to improve digestion and reduce odor. The operator will review the liquid level daily from an elevated catwalk. The digesters will each include a pipe outlet with a valve for sludge removal. The drain line will convey the waste sludge to the sludge pump near the headworks. This bypass/sludge pump will be utilized to convey wastewater/sludge east 1,900 feet through an existing 4" force main to Elliot Rd Street to an existing sewer collection system that will convey wastewater to the South Regional Wastewater Treatment Plant.

All waste sludge from the Waggoner Wastewater Treatment Plant is pumped through a force main and into the sewer collection system that conveys wastewater to the South Regional Wastewater Treatment Plant (TPDES Permit No. WQ0010374005). The South Regional WWTP includes a compost facility utilizes biosolids from the treatment facility as well as other organic waste such as brush, limbs, etc. to produce an approved class 'A' product that can be utilized by the general public.

DESIGN CALCULATIONS

Waggoner Creek WWTP
Engineering Report

The Texarkana Water Utilities located in Texarkana, Bowie County, Texas has selected A.L. Franks Engineering to perform expansion plans to the existing Waggoner Creek wastewater treatment plant. This report describes further the proposed project and design considerations for the proposed expansion project.

Project Overview

The Waggoner Creek Wastewater treatment plan was constructed 1984 and designed to treat municipal wastewater. The plant was designed and permitted to treat 2.0 Million Gallons per day (MGD). The WWTP has served as a regional facility and treats wastewater from the City of Texarkana, Nash, and Wake Village. As expected, development in these cities and to the western portion of Texarkana has resulted in a substantial increase in wastewater. The City of Leary has also installed a sewer collection system that conveys wastewater to the WWTP.

The expansion of the Waggoner Creek WWTP is considered necessary to provide a reliable sewer treatment plant for the regional needs. The treatment plant is located within the city limits of Texarkana and is accessed by Gullatte Street through the City of Nash. The city limits of Nash and Wake Village are each located in the immediate vicinity of the treatment plant property.

Interlocal agreements have been in-place between Nash, Wake Village, Leary, and Texarkana for the operation cost of the treatment plant. The WWTP is operated by the Texarkana Water Utilities (TWU).

Service Area

2020 Census data is further summarized for the service area cities:

- Texarkana* Population 36,193 Total Households: 16,178
- Nash Population 3,814 Total Households: 1,503
- Wake Village Population 5,945 Total Households: 2,513
- Leary Population 433 Total Households: 250

*The northwest portion of Texarkana is served by the WWTP, generally being north of Interstate 30, west of Richmond Road. The Texas A&M campus and surrounding residential area is also included in the service area. This portion of Texarkana has experienced consistent growth over the past 30 years.

The number of service connections currently served by the Waggoner Creek WWTP is unknown at the time of this report. The service area includes residential, commercial, and industrial users.

For the purpose of planning and design, actual flow records have been utilized for the design basis rather than forecasted usage.

There are five (5) industrial users that contribute wastewater to the Waggoner Creek WWTP and the total daily flow is estimated to be 0.10 MGD. It is further noted that TWU has adopted an Industrial Pretreatment Program and oversees permitting and compliance for industries that must adhere to these requirements.

Existing Conditions

The Waggoner Creek WWTP is currently operated by TWU under TPDES Permit No. WQ0010374007. The permit expiration date is March 5th, 2026. The treatment plant is located on a 30-acre tract owned by the City of Texarkana, Texas. The property is bordered to the south by the Texas and Pacific Railroad. Wagner Creek is located on the northeast portion of the property.

Wastewater is conveyed to the treatment plant through two 24-inch sewer mains, one from the north, and one from the south. The influent lift station includes a manual bar screen and a wet pit / dry pit configuration. Three sewage pumps then convey wastewater to the treatment units. There are two identical package treatment units being of circular shape, welded steel construction, and include aeration, clarification, sludge digesters, and chlorination zones. The above ground treatment units are accessible by steps and catwalks. Treated effluent is then dechlorinated and conveyed to the effluent sampling station and then to Outfall 001. Upon discharge at the outfall, the treated discharge is conveyed through a natural unnamed tributary to Wagner Creek being approximately 1,200 feet to the east.

The treatment plant also includes a laboratory, motor control center, and blower room. The electrical supply to the WWTP is provided by overhead power to the facility. A backup generator is not included at the site.

It is further noted that the influent lift station includes a bypass pumping station. This bypass allows the facility to pump raw wastewater or sludge from the digesters to the city's sewer collection system and then to the South Regional Wastewater Treatment Plant on South Stateline Avenue. All sewage sludge from the Waggoner Creek Treatment Plant is conveyed to the South Regional WWTP.

It is further noted that the Waggoner WWTP has required numerous repairs in recent years due to the age and corrosive environment. The steel treatment units are operational but in poor condition.

Capacity

The Waggoner Creek WWTP was designed and permitted with an average daily flow of up to 2.0 MGD and a 2-hour peak flow of 5.62 MGD. This is described as the 'Interim I Phase' in the permit amendment application (Technical Report 1.0). Upon reviewing flow data over the past two years, the plant has averaged between 1.1 and 1.2 MGD. It should also be noted that the bypass pump is operated regularly in addition to normal WWTP operation. The bypass pump has the capacity to pump 1 MGD, and conveys raw wastewater to the South Regional WWTP collection system.

The influent flow to the Waggoner Creek WWTP has exceeded 85% of the permitted capacity of the treatment plant. As required by the TCEQ, planning and design for upgrades to the facility has been performed as indicated by the major permit amendment.

The 'Interim II Phase' of the treatment plant is requested for permitting to increase the average daily flow to 4.0 MGD and the peak flow to 12 MGD. Plans have been designed and were reviewed and approved by the TCEQ as included with this permit amendment request. The improvements associated with these improvements are further described under proposed improvements.

Given an average daily flow of 4 MGD, it is further estimated that 12,000 households (population of 36,000) could be served by the plant in the Interim II Phase. This is approximate only and does not take into account large commercial or industrial users.

The 'Final Phase' of the Waggoner Creek WWTP will expand the facility to an average daily flow of 6.0 MGD and a peak flow of 18 MGD. This phase is not requested for permitting or construction at this time but is anticipated at a future date. The proposed improvements have been designed with consideration for future expansion to the final phase.

Design Criteria & Proposed Improvements

The treatment facility has been designed in accordance with the Title 30 Part 1 Chapter 217 'Design Criteria for Domestic Wastewater Systems' as adopted by the Texas Administrative Code.

The proposed improvements to achieve the 'Interim II Phase' as requested by this permit amendment will include the following:

- Installation of an automatic bar screen at the current headworks.
- Installation of 3 submersible pumps to the current wet well at the headworks / influent pump station. Abandonment of the existing pumps and dry pit will be accomplished upon operation of the new installation.

- Installation of an odor control system at the headworks. This will be accomplished with a fiberglass building (enclosure) over the bar screen, and covers over the wet well grating.
- Installation of a grit removal system, to include piping from the pump station as well as waste collection for grit. The structure for the grit system will include a splitter box, valves, and piping to convey sewage to the treatment units.
- Construction of a new Treatment Unit (No.3) will be performed. The unit will be a package unit, circular in shape, and the structure constructed of concrete. The Unit will include two aeration basins with fine bubble diffusers, a center upflow clarifier, a sludge digester with coarse bubble diffusers, and a post aeration zone.
- Treated effluent piping will be installed from Treatment Unit No.3 to the existing treated effluent piping.
- Treatment Units No.1 & No.2 are planned for rehabilitation upon operation of Treatment Unit No.3. This will include but no limited to replacement of walls, diffusers, drive, catwalks, coatings, etc.
- Installation of a concrete structure to include ultraviolet light disinfection units. The enclosed UV treatment units will be contained units with flanged piped connections. Each Unit will contain two banks of UV bulbs. Three Units are proposed, two of which will accommodate peak flow, one unit will be a backup. Continuous analyzing of the UV performance will be accomplished to ensure disinfection.
- Following the UV disinfection, an automatic sampling station will be installed to replace the current sampler. Effluent will be continuously measured through a weir to include an ultrasonic flow depth data logger.
- As required for Treatment Unit No.3, a blower building will be constructed near the structure. The building will be the new electrical service and control center for the treatment plant. Installation of blowers and controls will be included in the building as well. An emergency generator will be installed to provide backup power to the treatment plant.
- Other Incidental items will be installed with the proposed project such as lighting, telemetry, piping, etc. to provide a complete and operational treatment facility.

Plant Design Sewer Loading

The basis for design of the new treatment unit has been considered from influent sampling performing over the last two years. The average BOD loading during this interval was 200 mg/l, however the normal high value for BOD was typically around 300 mg/l. For this reason, 300 mg/l has been selected as the basis of design for BOD.

The proposed plant loading is based upon the following influent parameters:

Average Daily Flow Rate: 4.0 MGD (Interim II Phase)

Peak Flow Rate: 12.0 MGD (8,328 GPM) for 2-Hours

CBOD5	300 mg/l	10,008 lbs/day
TSS	217 mg/l	7,239 lbs/day
NH3-N	27 mg/l	900 lbs/day

Furthermore, in considering the plant design we have assumed the following limits will apply to this plant as they currently apply by the existing TPDES Permit.

CBOD5	7 mg/l (daily avg.)
TSS	15 mg/l (daily avg.)
NH3-N	2 mg/l (daily avg.)

Calculations are further enclosed for the design of the New Treatment Unit No.3 as well as the existing Treatment Units No.1 & 2.

Calculations for Treatment Unit 1 & 2

EVOQUA WATER TECHNOLOGIES LLC

Waggoner Creek 1 MGD Plants
DAVCO BIOLOGICAL TREATMENT SYSTEMS
PRELIMINARY DESIGN SUMMARY
January 13, 2025

Rev No: 0
Prep By: Elizabeth
Proposal #: 466209

I. DESIGN BASIS:

Total Design Flow: 1.000 MGD
Design Flow/FETP (Q): 1.000 MGD
Peaking Factor: 3
Total Peak Flow: 3.00 MGD
Peak Flow/FETP: 3.00 MGD

	Influent	
	Conc. (mg/L)	**Load/FETP** (lbs/day)
BOD	300	2,502
TSS	217	1,810
NH3-N	27	225
TKN	40	334
NO3-N	--	--
TP	7	58

	Secondary Clarifier Effluent		
	Conc. (mg/L)	**Expected** (mg/L)	
CBOD	7.0	< 7.0	*
TSS	15.0	< 15.0	*
NH3-N	2.0	< 2.0	
TN		not req'd	
NO3-N		not req'd	
TP		not req'd	

** Chemical addition and/or filtration may be required.*

Maximum Wastewater Temperature: 25 °C 77 °F
Minimum Wastewater Temperature: 12 °C 54 °F
Site Elevation: 365 ft. MSL

Use NO3 or TN for design? None

II. PROCESS ASSUMPTIONS & VARIABLES:

Influent VSS Fraction: 80%
Design MLSS: 3,500 mg/L
% MLVSS: 75%
Design MLVSS: 2,625 mg/L
Biosolids Yield Factor: 0.65 lbsVSS/lbsBOD

Design DO Conc: 2.0 mg/L
RAS Rate, %Q: 50%

Max Water Level (Bio): 15.000 ft
Freeboard (Bio): 1.500 ft
Max Water Level (Cl2): 13.375 ft

Recommended Clarifier Hydraulic Loading: 1,000 gpd/ft2 (at Peak flow)

III. PROCESS DESIGN PARAMETERS:

Aeration Basin 253.5 ° 253.5

Number of Aeration Basins:	1	Aerobic Volume per Basin:	469,982 gallons
Total Aerobic Volume:	469,982 gallons	AOR:	4,662 lbs. O2/day
Aerobic SRT:	6.5 days	SOR:	9,563 lbs. O2/day*
Aerobic HRT:	11.3 hours @ Q	Air Flow Required:	4,107 SCFM*
BOD Loading:	39.8 lbs BOD/1000cf/day	Aeration Diffuser Type:	Coarse Bubble
Aerobic F/M:	0.243 lbs BOD/lbs MLVSS		

**Diffuser supplier to confirm SOR/SCFM values at final design*

Secondary Clarifier

Clarifier Diameter:	58.75 feet	Surface Overflow Rate:	369 gpd/ft^2 (avg)
Sludge Production:	1,900 lbs/day		1,107 gpd/ft^2 (peak)
Clarifier Surface Area:	2,710.9 ft^2	Solids Loading Rate:	16 lb/day/ft^2 (avg)
Total Clarifier Volume:	245,912 gallons		48 lb/day/ft^2 (peak)

Chlorine Contact 25.0 ° 25

Number of CL Contact Zones:	1
CL Contact HRT:	19.8 minutes @ Peak Flow
Total CL Contact Volume:	41,328 gallons
CL Contact Tank Shape:	Pie

Aerobic Digester 81.5 ° 81.5

Number of Digester Basins:	1	Digester Volume per Basin:	151,099 gallons
Digester Volume:	151,099 gallons	Air Flow Required:	607 SCFM*
Digester SRT:	13.1 days		

**Assumes 30 SCFM/1000 cuft & coarse bubble*

Tank Sizing & Air Flow

Plant O.W. Diameter:	105.002 feet	**105**	Total SCFM Required*:	4,714 SCFM
Plant I.W. Diameter:	58.750 feet		**Excluding Airlifts*	48 SCFM
Bulkhead Length:	23.126 feet		Total SCFM w/ Airlifts	4,762 SCFM
Total Bio Process (no EQ) Volume:	0.470 MG			

Note: In order to guarantee the process, all values for Design Basis, Process Assumptions and Process Parameters must be verified by Owner/Consultant prior to final design.

Calculations for Treatment Unit 3

EVOQUA WATER TECHNOLOGIES LLC

Waggoner Creek New Plant
DAVCO BIOLOGICAL TREATMENT SYSTEMS
PRELIMINARY DESIGN SUMMARY
January 13, 2025

Rev No: 0
Prep By: Elizabeth Hart
Proposal #: 466209

I. DESIGN BASIS:

Total Design Flow: 2.000 MGD
Design Flow/FETP (Q): 2.000 MGD
Peaking Factor: 3
Total Peak Flow: 6.00 MGD
Peak Flow/FETP: 6.00 MGD

	Influent	
	Conc. (mg/L)	Load/FETP (lbs/day)
BOD	300	5,004
TSS	217	3,620
NH3-N	27	450
TKN	40	667
NO3-N	--	--
TP	7	117

	Secondary Clarifier Effluent		
	Conc. (mg/L)	Expected (mg/L)	
CBOD	7.0	< 7.0	*
TSS	15.0	< 15.0	*
NH3-N	2.0	< 2.0	
TN		not req'd	
NO3-N		not req'd	
TP		not req'd	

** Chemical addition and/or filtration may be required.*

Maximum Wastewater Temperature: 25 °C 77 °F
Minimum Wastewater Temperature: 12 °C 54 °F
Site Elevation: 365 ft. MSL

Use NO3 or TN for design? None

II. PROCESS ASSUMPTIONS & VARIABLES:

Influent VSS Fraction: 80%
Design MLSS: 3,500 mg/L
% MLVSS: 75%
Design MLVSS: 2,625 mg/L
Biosolids Yield Factor: 0.65 lbsVSS/lbsBOD

Design DO Conc: 2.0 mg/L
RAS Rate, %Q: 50%

Max Water Level (Bio): 19.000 ft
Freeboard (Bio): 1.500 ft
Max Water Level (re-aer)

Recommended Clarifier Hydraulic Loading: 1,000 gpd/ft2 (at Peak flow)

III. PROCESS DESIGN PARAMETERS:

Aeration Basin 262.9 °

Number of Aeration Basins:	2	Aerobic Volume per Basin:	761,194 gallons
Total Aerobic Volume:	1,522,389 gallons	AOR:	9,324 lbs. O2/day
Aerobic SRT:	10.5 days	SOR:	27,316 lbs. O2/day*
Aerobic HRT:	18.3 hours @ Q	Air Flow Required:	3,366 SCFM*
BOD Loading:	24.6 lbs BOD/1000cf/day	Aeration Diffuser Type:	Fine Bubble
Aerobic F/M:	0.150 lbs BOD/lbs MLVSS		

**Diffuser supplier to confirm SOR/SCFM values at final design*

Re-Aeration Basin 23.6 °

Number of Re-Aeration Basins:	1	Re-Aeration Volume per Basin:	125,000 gallons
Re-Aeration Volume:	125,000 gallons	Air Flow Required:	502 SCFM*
Re-Aeration HRT:	1.5 hours @ Q		

**Assumes 30 SCFM/1000 cuft & coarse bubble*

Secondary Clarifier

Clarifier Diameter:	80.00 feet	Surface Overflow Rate:	398 gpd/ft^2 (avg)
Sludge Production:	3,801 lbs/day		1,194 gpd/ft^2 (peak)
Clarifier Surface Area:	5,026.5 ft^2	Solids Loading Rate:	17 lb/day/ft^2 (avg)
Total Clarifier Volume:	584,188 gallons		52 lb/day/ft^2 (peak)

Aerobic Digester 73.5 °

Number of Digester Basins:	1	Digester Volume per Basin:	425,610 gallons
Digester Volume:	425,610 gallons	Air Flow Required:	1,708 SCFM*
Digester SRT:	20.0 days		

**Assumes 30 SCFM/1000 cuft & coarse bubble*

Tank Sizing & Air Flow

Plant O.W. Diameter:	160.000 feet	Total SCFM Required*:	5,576 SCFM
Plant I.W. Diameter:	80.000 feet	**Excluding Airlifts*	0 SCFM
Bulkhead Length:	39.000 feet	Total SCFM w/ Airlifts	5,576 SCFM
Total Bio Process (no EQ) Volume:	1.647 MG		

Note: In order to guarantee the process, all values for Design Basis, Process Assumptions and Process Parameters must be verified by Owner/Consultant prior to final design.

UV Disinfection System Calculations

SUMMARY:

The details of the reactor(s), scope of supply, reactor drawings, summarized O & M information, and other pertinent information are provided in the following sections.

1. DESIGN CRITERIA:

The flow rates and water quality parameters used for reactor sizing are listed in the Table 1 below:

Table 1: UV Design Criteria

Annual Average Daily Flow	9.0/ 6,250.0	(MGD)/(GPM)
Anticipated Daily Flow at Start up	2.0/ 1,389.0	(MGD)/(GPM)
Peak Design Flow Rate (Peak Disinfection Flow Rate)	18.0/ 12,500.00	(MGD)/(GPM)
Number of Proposed UV Trains	Three	
UV Transmittance	65.0	% UVT (Minimum)
Total Suspended Solids	10.0	Weekly Average mg/l
BOD	10.0	Weekly Average mg/l
Target Indicator Organism	E.Coli	
Effluent Disinfection Limit	126.0	CFU or MPN/100 ml, MONTHLY GEOMEAN
Validated MS-2 UV RED^	30.0	Minimum MS-2 UV RED of 30.0 mJ/cm^2 per Independent Third-Party Bioassay conducted in accordance with National Water Research Institute [NWRI], 2012; after application of Lamp EOLL of 0.87 and fouling factor of 0.89.
Plant Process	Conventional Activated Sludge (CAS), Secondary Clarification, and tertiary filtration	
Particle Size*	<10.0	Microns
Total Iron*	0.3	mg/l
Effluent Turbidity*	<5	NTU
Equipment Redundancy	50.0 % of Active UV trains at Peak Flow.	

*Note: standard values used for this proposal

^Note: Calculated with CR set to 1.0 in control equation, a standard practice for UV sizing for non-reuse applications.

2. SCOPE OF SUPPLY:

Summary details of the proposed reactor selected to meet the effluent permit criteria (based on the water quality parameters listed in Table 1) are provided in Table 2 and 3 below:

Table 2: Scope of Supply – UV Reactor(s)

Reactor Model Number	**C9t.10092**
Reactor type	In-Pipe Flange connected
Installation notes	Indoor/Outdoor Covered Installation
Process connection (if applicable)	24.00" ϴ, CL 150 Flange
Reactor Configuration	Validated per NWRI 2012

ENLIGHT XUV60 UV LAMP- Enaqua Part number: 001.0617SLM	145-Watt Low Pressure High Intensity- Non-Amalgam Smart Lamps
Ballasts-Enaqua Part number: 502.5V2427M	145 Watt- Enlight high efficiency electronic ballast
Non-contact Reactor Material	C-Series AFP840™ Tube
Material of construction	304 stainless Steel
UV REACTOR(s)	
Number of proposed UV Reactors	3
Number of Banks per Reactor	2
Number of AFP tubes per reactor	90 (In two-bank length)
Number of lamp racks/ bank	10
Number of lamps per lamp rack	12
Number of Lamps per bank	120
Number of Lamps per reactor	240
Number of ballasts per bank	120
Number of Lamps (System)	720
THERMAL CONTROL MECHANISM	
Air to Liquid Heat Exchangers	24 (Four per UV bank)
Cooling Pumps	6 (Two per reactor, one duty- one stand by)
EFFLUENT LEVEL CONTROL	
Effluent Flat Weir (Rectangular or V-Notch Flat Weir), in effluent tank of UV reactors. Weir plate and Frame 304 SS.	3 (One per UV reactor)

Table 3: Scope of Supply – CONTROLS

UV INTENSITY SENSORS	
Number of UV intensity Monitors- Enaqua part number: 560.601902	6 (One per bank)
CONTROLS & ELECTRICAL	
ADR GEN 2. Enaqua part number: 062.01003500	6 (One per UV Bank)
EDC GEN 2 (Ensure Dosing Controller): Enaqua Part number 062.01003700	3 (One per reactor)
UV System Master Control PLC. AB Compact Logix, with necessary I/O Modules and SCADA integration.	1 Common
UV Control Panel w/HMI Screen- 19.00" Touch Screen Color HMI (Panel PC)- Enaqua part Number 064.01000542 installed in NEMA 4 X SS-RITTAL Model WM483612N4. 48.00" x 36.00" x 12.00" Enclosure.	
Power Distribution / Disconnect Panels	9 (One per bank, One per cooling system)
MISCELLANEOUS EQUIPMENT	
Bypass UVT % Analyzer. RealTech REALUV M3000 with Real Pump Clean System I	1
Radar Level	3 (One per reactor)

3. PROPOSED PROCESS FLOW & DESIGN REDUNDANCY:

The proposed configuration consists of two identical active UV trains in parallel, each with one double-bank UV reactor. Each channel/UV reactor is sized to provide a minimum MS-2 UV RED of 30.0 mJ/cm^2 at 50% of the Peak Design Flow Rate of 18.0 MGD with the water quality parameters listed in Table 1 above. With one additional train on stand-by at 9.0 MGD, this configuration offers 50% redundancy of the Peak Design Flow Rate.

The proposed process flow diagram is shown in Figure 1 below and the flow ranges of the UV reactor(s) are presented in the Table 4 below.

Figure 1: Preliminary Process Flow diagram

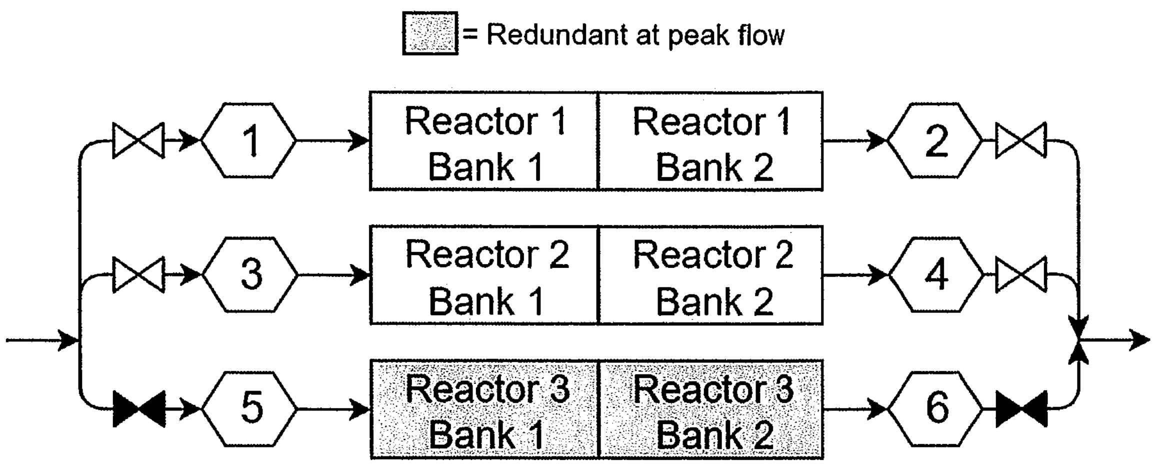


Table 4: Process Flow

Tag	Description	Bank 1 UV-Disinfection Peak Flow Rate MGD/ GPM	Bank 2 UV-Disinfection Peak Flow Rate MGD/ GPM	TOTAL UV-Disinfection Peak Flow Rate MGD/ GPM
1	Influent to UV Reactor 1	9.0/6,250	9.0/6,250	9.0/6,250
2	Disinfected Effluent from UV Reactor 1	9.0/6,250	9.0/6,250	9.0/6,250
3	Influent to UV Reactor 2	9.0/6,250	9.0/6,250	9.0/6,250
4	Disinfected Effluent from UV Reactor 2	9.0/6,250	9.0/6,250	9.0/6,250
5	Influent to UV Reactor 3	9.0/6,250	9.0/6,250	9.0/6,250
6	Disinfected Effluent from UV Reactor 3	9.0/6,250	9.0/6,250	9.0/6,250
			Total installed capacity	**27.0/18,750**

4. OPERATING CONDITIONS:

The reactor head loss at peak flow rate, and the total connected load of the reactor are provided in the Table 5 below:

O&M MANUAL

INSTALLATION AND OPERATIONS MANUAL

TREATMENT PLANT SYSTEM

Prepared by

EVOQUA
WATER TECHNOLOGIES

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DISCLAIMER

USE THIS MANUAL AS A REFERENCE ONLY. THIS MANUAL WAS INTENDED AS A GUIDE FOR A COMPLETE / NEW STANDARD EVOQUA WWTP.

TABLE OF CONTENTS

1.0 INTRODUCTION

Satisfactory operation of a treatment plant depends upon careful and correct installation, plus proper maintenance of the equipment.

Variations in installation requirements necessitate that the instructions be general in nature. The installer and maintenance person must use sound judgment to adapt the outlined methods to the particular conditions for each installation.

Always refer to the specific instructions listed in the manufacturers manual before executing any maintenance or repair work.

This equipment is often furnished with optional features based on the customer specifications. Most of the available optional features are described in this booklet. Please refer to those sections applicable to your unit, disregard those that do not apply.

General assemblies and component parts are included in this manual. These are used as a reference throughout the instructions and should be noted in any correspondence about the treatment plant. Illustrations are typical and may not conform completely to the furnished equipment.

If there are any questions during installation or operation, please contact ***Evoqua Water Technologies*** Service Department.

Do not attempt to install or start-up this treatment plant until reading this manual completely. Please follow instructions, recommendations, and guidelines.

2.0 RESPONSIBILITIES

2.1 General

This manual serves as a general guide for operation of **Evoqua Water Technologies** Wastewater Treatment Plants. It contains sufficient information to operate the plant and enables the operator to recognize and correct potential troubles.

Each plant operator should be familiar with the plant's equipment as well as:

A. The flow patterns and general characteristics of the wastewater to be treated.

B. Local, state and federal laws which apply to the operation of the plant.

C. Maintenance procedures and theory of operation. Also, the operator should have some knowledge of other types of plants.

Evoqua Water Technologies Treatment Plants are designed to meet the most stringent effluent standards when properly operated and maintained. The operator is the key to an efficient and effective treatment operation. Questions pertaining to the equipment provided by ***Evoqua Water Technologies***, that are not answered in this manual, should be referred to the area ***Evoqua Water Technologies*** representative.

2.2 Operator Responsibility

In recent years, there has been a growing interest and concern in preserving our environment. The effective design and operation of wastewater treatment facilities plays an essential role in the preservation and improvement of our nation's water. The tremendous investment of Federal, State, Local or private funds in these facilities must be protected. The assurance of fully efficient, economic and effective operation of the treatment plant lies not only in competent design and construction but in dedicated plant operation. Many operators find incentives and compensations in the major role in which they are playing. They keep the environment free of nuisance and the lakes and streams useful as well as enjoyable. Often their role appears diminished to that of the designing engineer or management. However, in many cases, an operator's dedicated efforts have obtained outstanding plant performance.

The responsibilities of the plant operator vary with plant size, complexity of the plant, etc. However, the following responsibilities are generally applied:

A. Know proper operational procedures;

B. Keep accurate records;

C. Properly manage operating funds;

D. Communicate with supervisor;

E. Adhere to current operation and maintenance practices.

2.3 Superintendent Responsibility

As in most public service positions, the superintendent of a wastewater treatment plant is responsible to one or more public officials, and to the public at large. The superintendent is responsible for submitting operation reports directly to the State Regulatory Agencies and receives requests and instructions from their field engineers and chemists. His other responsibilities are to provide good working conditions, safety, and welfare to his fellow workers at the plant.

The responsibilities and objectives of the a plant superintendent vary with such factors as plant size, complexity, nature of waters receiving the plant effluent, public attitude, etc. Yet, in many aspects, the same broad considerations prevail at all plants. In a broader context, each superintendent should be responsible for:

A. Effective, efficient, and continuous operation of the plant;

B. Maintenance of adequate plant records;

C. Provide responsible officials with information essential to planning, budgeting, and management of the plant;

D. Fostering good working conditions and incentives for fellow employees;

E. Institute operator training programs;

F. Establish and maintain good public relations. Creating a public dedication to clean water that he brings to the plant operation.

Execution of these responsibilities requires teamwork among all who are associated with the management of the treatment plant. The superintendent is the captain of the team , but he is also a member of another team whose captain may be the General Manager, the Mayor, or other public officials. This latter team may include the superintendent of the water treatment plant, street superintendent, city engineer, and other departmental heads.

It is the responsibility of the plant superintendent to keep this second group informed of his needs and accomplishments as well as how his program fits in with theirs under a similar set of rules. He is the professional from whom the other members expect all the answers about his treatment plant. He must be knowledgeable and understand of all of the elements of operation and maintenance of the plant to provide any answers. He must also have a thorough knowledge of the sewage collection system and the sources of wastes which arrive at the plant. During the period of design, construction and startup, the plant superintendent should become familiar with each element of his plant, including each piece of equipment. He should make specific recommendations to the responsible official for correction of deficiencies and for justifiable improvements. He should help the design engineer to fully understand some of the operational aspects which affect the design. He is responsible for the prevention of faulty design concepts. During this same period, he should develop a training program for members of his staff. This assures that they will be ready and capable of performing the minimum essential operations when the plant is placed in service. He must develop work schedules and assignments.

It is essential during this early period for the superintendent to make his needs and accomplishments known to his superiors. Concurrent with these operations, he becomes familiar with the character of the wastewater. Particular attention must be paid to the quantity and quality of industrial wastes which may have detrimental effects upon plant structures or processes. If any adverse effects are found, the plant superintendent should advise the responsible officials and industry to develop a satisfactory means of correcting the situation.

After the plant has been in operation for several months, procedures, methods, and results should become well established and the superintendent should have more time to devote to the management of the plant. He should acquire a thorough knowledge of the plant, the wastewater it treats, and the effects of the effluent on the receiving stream. The operation records should accurately reflect the plant performance and serve as a basis for correction of any deficiencies, modification or alterations of any processes.

The plant superintendent should report his needs promptly to the proper official to permit early planning and budgeting. As the plant approaches its design capacity, or as the plant facilities depreciate, he should anticipate the need for its enlargement or renovation.

There are other responsibilities which are equally important, but none is more important than the maintenance of good public relations. The superintendent should try to develop public interest and understanding of the plant operations through the coordinated efforts of his fellow employees. He and his team will receive the respect of the general public only after they begin to carry out fully their responsibilities.

CAUTION

Before installation and/or operation of the treatment plant, read this manual completely and review the attached blueprints. Be sure you are thoroughly familiar with the required operation and the steps necessary for its completion before removing or locating any components.

Particular attention should be paid to Chapter 11, Treatment Plant Safety.

Mechanical electrical and chemical equipment are all involved in treatment plant operation. Each one can pose hazards to an operator.

Ensure operators are trained properly and know the hazards involved before attempting any adjustments or changeovers in plant operation.

3.0 EQUIPMENT AND FACILITIES

A ***Evoqua Water Technologies*** treatment plant consists of a containment vessel, related piping, mechanical machinery, and the pertinent electrical controls.

3.1 Tanks

The treatment plant consists of one or more steel tanks or one or more concrete tanks within their setup. Compartments will be arranged for the desired flow pattern and to satisfy the volumetric requirements for the particular process.

3.2 Piping

Piping, related to the treatment plant, is sized with due regard for the hydraulic requirements. All piping entrance and discharge locations are designed to preclude "short circuiting".

Particular piping may be denoted throughout this manual as plant influent, return activated sludge, froth spray, clarifier influent, eductor air, effluent piping, etc., depending upon its function in the plant.

3.3 Necessary Equipment

It is necessary in every treatment system to provide an air supply. A device reducing the particle size of incoming waste is suggested. A means to collect the settled sludge in the clarifier and a means to prevent foaming on the surface of aeration compartment in the treatment process are recommended. ***Evoqua Water Technologies*** can meet these needs, respectively, by furnishing each plant with blowers and electric motors, a bar screen or comminutor, and an electrically driven mechanical scraper. A defoamant system is not provided by ***Evoqua Water Technologies*** as standard equipment. The controls for this machinery are arranged in an enclosed, usually weatherproof, panel with provisions for easy electrical connections at the plant site.

Other desirable equipment that may or may not have been provided by ***Evoqua Water Technologies*** would include a gas chlorinator, froth spray system, a flow meter, influent pumps, meters, and laboratory test apparatus. Laboratory test equipment will consist of vessels and chemicals for performing tests to determine: dissolved oxygen, settable solids, pH, and chlorine concentrations.

Certain accessory equipment will prove useful in day to day operation. Proper lighting is a necessity, as are a chain hoist, a fire hose, (or garden hose), rubber boots and gloves, a wash room facility, and janitorial supplies. There will be recurring need for a hammer, shovel, crowbar, wrenches, buckets, pick, rake, shears, wheelbarrow, etc. in daily maintenance.

3.4 Electrical Equipment

Electrical characteristics (voltage, phase, and frequency) for this plant are schematically depicted in the appendix. Provisions should be made to meet additional requirements, such as safety equipment, plant lighting, and/or an alarm system.

The electrical schematic shows that the plant operation is totally dependent on uninterrupted electrical power, therefore, it is recommended that emergency standby power be made available when economically feasible. This is of special importance where discharge of raw sewage may reasonably be expected to endanger the public health or cause serious damage.

3.5 Nonessential Equipment

Though not essential, a water supply is desirable for drinking, washing laboratory equipment and performing routine tests; a clean water source free of particulate matter is a necessity for froth spray, chlorination equipment and for cleaning about the plant.

A Parts List, Maintenance instructions, and specific details are provided in a later section for that equipment supplied by ***Evoqua Water Technologies***.

4.0 PROCESS DESCRIPTION - COMPONENTS

4.1 General Description of Plant Types

Wastewater (sewage) is normally a turbid liquid comprised of a community fouled water supply. Such fouled water contains about 0.1 percent solids by weight; both organic and inorganic, various bacteria, microscopic and macroscopic organisms and viruses. Inorganic, or "untreatable", solids are usually present in minute quantities and are of little concern in the treatment process.

An aerobic treatment process is a system in which bacteria, through biochemical reduction, change the organic matter to a relatively stable inert residue. The bacteria grown and maintained in the treatment plant are the same harmless, aerobic (able to live and grow only where free oxygen is present) type provided by nature in streams, in lakes and in soil to destroy dead plants and animals. In order to accelerate the biological destruction in a treatment plant, an ideal environment is provided for the concentrated growth of these bacteria.

When the solids mentioned in the preceeding section are agitated in the presence of free oxygen they form nuclei on which biological life can build until a mass, called activated sludge, is formed. Activated sludge is a brownish floc-like substance which has the ability, due to the living organisms contained in it, to adsorb collodial and dissolved organic matter.

The accumulation of this floc is a slow process, and the amount produced from any volume of sewage during a normal treatment period is not adequate for the rapid treatment of the sewage. Large concentrations of activated sludge are built up by collecting the sludge from each treatment cycle and re-using it to treat subsequent sewage flows. Eventually this "returned sludge" will accumulate to the point where some will have to be removed from the process. This excess activated sludge will be returned from the collection point or "clarifier" to the disposal point or "digester".

Precisely, the activated sludge process consists of the following steps:

A. Mixing the sludge with sewage;

B. Aeration and agitation of this mixed liquor for the required time;

C. Settling of sludge from mixed liquor;

D. Allowing the clarified liquid to be discharged to the receiving body after disinfection or chlorination;

E. Return of proper amount of activated sludge;

F. Disposal of excess sludge.

A ***Evoqua Water Technologies*** treatment plant is designed to use the nitrification process.

4.2 Process Description

4.2.1 Pre-Treatment

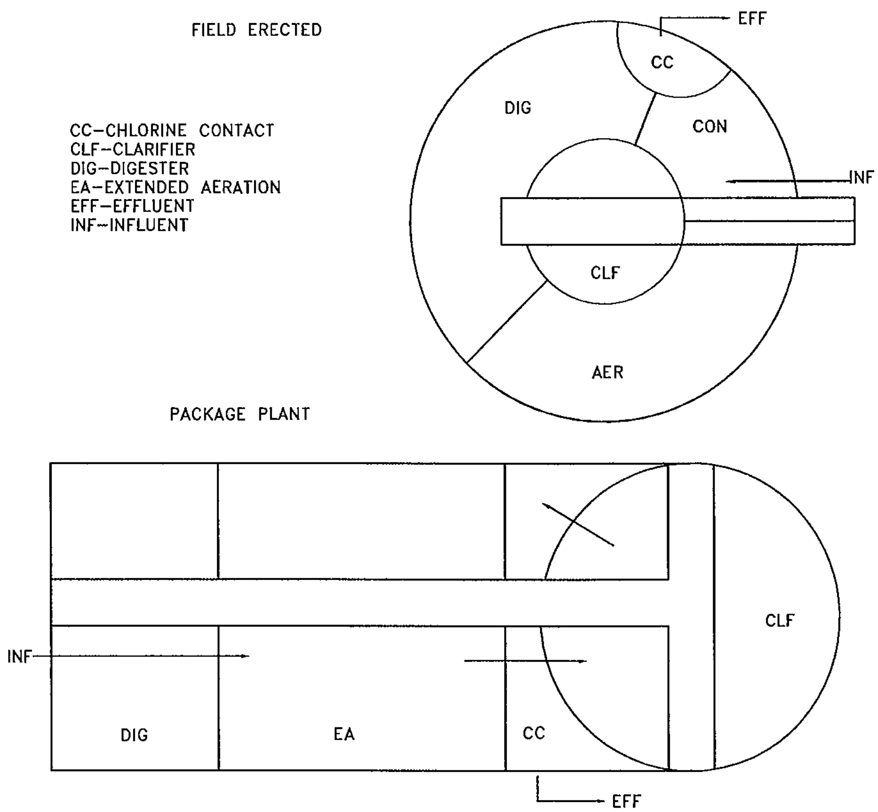
The raw sewage passes through a fine screen before entering the plant. This preliminary screening removes large, coarse solids from the incoming sewage.

4.2.2 Surge Tank (If provided)

The surge tank serves as an equalization tank to minimize the fluctuation of raw wastewater entering into the treatment plant. The raw wastewater is pumped to a flow splitter box which allows a constant flow through a V-notch weir to the aeration tank and allows excess flow to return to the surge tank over a broad weir. The surge tank is aerated constantly to keep it from becoming septic.

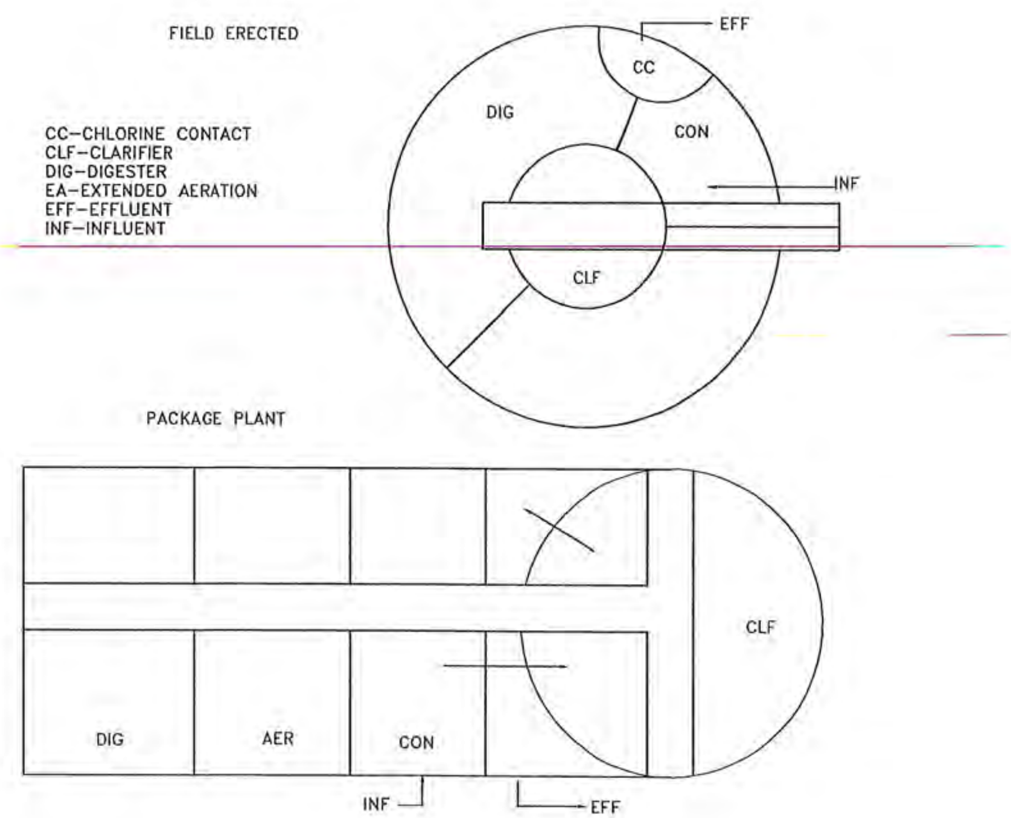
4.2.3 Extended Aeration

The extended aeration process is a modification of the activated sludge system. The colloidal, finely suspended, and dissolved organics in the wastewater are absorbed and/or absorbed by the biological flocs after contact in the aeration zone which provides approximately 24 hours detention time at the average design flow. The extended aeration process is designed to remove 90-95% of the 5-day BOD and suspended solids in the wastewater. Once the bulk of organic matter is removed by the activated sludge, the mixed liquor flows to the settling tank where solid- liquid separation takes place. The settled sludge, with its absorbed and/or organic matter, is then returned to the aeration zone where the organic matter, is oxidized by microorganisms. Occasionally, a portion of the return sludge is wasted to the aerobic digester or sludge drying beds to maintain a constant solids concentration in the aeration tanks. The secondary settling tank effluent flows by gravity or is pumped to either a filter system, a polishing pond, a river or to a stream nearby.



4.2.4 Contact Stabilization

The contact stabilization process is a modification of the activated sludge system. the collodial, finely suspended and dissolved organics in the wastewater are very rapidly absorbed and/or adsorbed by the biological flocs after initial contact in the contact zone. This provides approximately 1/3 of the total detention time at average design flow. The contact stabilization process is designed to remove 85-90% of the 5-day BOD and suspended solids in the wastewater. Once the bulk of the organic material is removed by the activated sludge, the mixed liquor flows to the settling tank where solid-liquid separation takes place. Settled sludge with this absorbed and/or adsorbed organic material is then returned to the reaeration zone where the organic matter is oxidized and stabilized by microorganisms. The detention time in the reaeration zone is approximately 2/3 of the total detention time at average design flow. Occasionally a portion of the return sludge is wasted to the aerobic digester or sludge drying beds to maintain a constant solids concentration in the aeration tanks. The secondary settling tank effluent flows by gravity or is pumped to either a filter system, a polishing pond, a river or to a stream nearby.



4.2.5 **Phosphorus Removal System** (if Provided)

The chemical precipitation of phosphorus is achieved by adding sodium aluminate (Na2AL2O4) in the aeration tank. Sodium aluminate reacts with soluble phosphorus compounds converting them into insoluble aluminum phosphate complexes which precipitate in the settling tank. The resulting precipitates are removed from the waste stream by periodically wasting them to the aerobic digester or sludge drying beds.

4.2.6 **Filtration System** (if Provided)

Filtration is a physical process for separating suspended particles from a waste stream as it passes through a porous medium. The suspended impurities are left behind on the filter surface or in the voids of the medium itself. The filtered water is collected in a backwash tank for backwashing the filter when it is required. At the beginning or a predetermined Backwash cycle, the flow is reversed through the under-drain system for approximately 5 minutes to backwash the filter. The muddy water discharges into the backwash holding tank and is returned to the treatment plant for retreatment.

4.2.7 **Aerobic Sludge Digestion** (if Provided)

The excess sludge from the activated sludge system is wasted to the aerobic digester. As the outside supply of substrate (food) is limited, microorganisms are forced to utilize their own food reserve in the cell for survival. When this occurs, the microorganisms are described as undergoing the endogeneous metabolism phase. The food reserve and the cell tissue is aerobically oxidized to carbon dioxide, water, ammonia and other mineral compounds. Ammonia from this oxidation is subsequently oxidized to nitrate as the digestion proceeds. Approximately 75 to 80% of the cell tissue can actually be oxidized. The remaining 20 to 25% of the cell tissue is composed of inert components and complex organic compounds which are hardly biodegradable. After a period of 15 days of aerobic digestion the sludge is completely oxidized and should be removed from the digester for final disposal.

4.2.8 **Chlorine Contact Zone** (if Provided)

The clear effluent from the clarifier tank passes into the chlorine contact zone for final disinfection before discharging to the receiving body. Enough chlorine is fed into the effluent so that there is a residual of free chlorine remaining in the liquid flowing out of the chlorine contact zone.

4.2.9 **De-Chlorination Zone** (if Provided)

The chlorination effluent from the chlorine contact zone passes into the de-chlorination zone where de-chlorination chemicals are added, which kills the chlorine residual before discharging to the receiving body.

CAUTION

Chlorine is a dangerous chemical - Ensure steps are taken for safe handling. Safety equipment should include but not be limited to the following items:

Gas Mask
Gloves
Means of Ventilating

5.0 INSTALLATION INSTRUCTIONS
(Typical For A Steel Treatment Plant)

ONLY; FOR DETAILED INSTALLATION INSTRUCTIONS REFER TO THE ERECTION DRAWINGS)

CAUTION

We strongly recommend following the instructions below for off loading and installing the Evoqua Water Technologies plant. All drawings referred to can be found in the back of this manual.

5.1 Inspection

Prior to unloading, inspect each component carefully for any damage that might have occurred during transit. Both the exterior and interior should be checked and any damage must be noted on the receiving ticket in detail. Damage reported at a later date cannot be accepted.

5.2 Placing And Securing Plant To Slab (if slab is provided)

Release all binders from truck and be sure all fasteners are free. Raise plant off truck, using lifting eyes only, and place on concrete slab as shown on the plant setting detail drawing. Before removing lifting cables from plant, be sure anchor clips match up with anchor bolts. After setting anchor clips, but before tightening, level the plant with shims at necessary points. It is important that the plant be level in all directions before final anchor bolt tightening.

5.3 Placement Of Ship Loose Items

The blower and control panel assembly, when mounted on the plant, will match brackets and braces furnished as shown on the blower house installation assembly drawings. If this assembly is mounted at a location other than on the plant, a suggested anchor bolt location drawing will be included.

Chlorination equipment will be installed in a manner similar to the blower and control panel assembly and the previous installation explanations will pertain to this equipment.

The comminutor, flowmeter, froth pump and handrails, if furnished, will mount as noted on the drawings.

Check to assure proper installation of all tank drain plugs.

5.4 *Electrical Wiring*

CAUTION

To avoid personnel injury, ensure supply voltage is off before making electrical connections.

The ***Evoqua Water Technologies*** plants are prewired at the factory except for the connections between components.

Refer to plant wiring diagram and see that electrical service supplied agrees with wiring diagram. If service is 3 phase, 4 wire, 230 volts from a transformer bank with delta connected secondary, be sure high leg of stinger is connected to right hand leg of main breaker.

Install flexible electrical conduit, from junction boxes to main panel, as detailed on the wiring diagram. All other connections, i.e.: flowmeter, chlorinator, comminutor, must also be hooked up in the same manner.

5.5 *Piping*

Connect all piping in accordance with plans and installation drawings, including influent, effluent, and tank interconnecting piping.

5.6 *Cathodic Protection* (if treatment plant is buried)

The magnesium anodes should be spaced approximately six feet away from the treatment plant and halfway down. The copper lead wire should be securely fastened to the lugs located on the treatment plant. It is very important that this connection be made sound both mechanically and electrically. This may require scraping away the protective coating from the fastening lugs. After this has been done, then recoat the entire connection.

5.7 *Touch-Up Painting*

After the plant has been secured, retouch any scratched or marred surfaces. The bottom of the plant is to be touched-up before securing the plant to the slab.

5.8 Energy Efficient Diffusers (if equipped)

Diffusers should not be installed until all painting has been done and treatment plant is ready to be put in service. Before installation, the diffusers should be stored in the original shipping containers and protected from direct sunlight and extremes in temperature.

For more details on energy efficient diffusers see the specific section on the diffusers which were furnished for this treatment plant(s).

6.0 START-UP INSTRUCTIONS

CAUTION

Before starting a new plant, it is important that all tanks and piping are free from debris, that all mechanical equipment is in good working order and properly lubricated, and that air diffusers are in place.

6.1 Start-Up Service Information

To request start-up service, either telephone or write to ***Evoqua Water Technologies*** Service Manager:

Evoqua Water Technologies
1828 Metcalf Avenue
Thomasville, GA 31792
229.226.5733 or 800.841.1550 phone
229.228.0312 fax
http://www.evoqua.com

Please allow 7 to 10 days for scheduling your start-up request. It is essential that no mechanical equipment be started without consulting the manufacturer. Prior to "start-up" please check the following items:

A. Apply for an operation permit from the regulatory agency --- City, County, or the State.

B. All specified items for the plant have been received.

C. Installation is complete, in accordance with manufacturer's recommendations.

D. Review all instruction manuals pertaining to the operation of this plant.

E. All chemicals required to be used in the plant are on hand.

When starting a plant in cold weather, or under minimum loading conditions it may be necessary to seed the plant with activated sludge from another good operating plant.

During the initial weeks of operation, there may be a great deal of foaming in the aeration tanks. This should gradually decrease, as the solids build up in the system. A small amount of defoamer and/or use of a froth spray system will provide helpful in this phase.

The color of the liquid in the aeration tanks should go from a light dishwater color at "start-up" to a dark gray and, finally a chocolate brown. The odor will be like dishwater or fresh grease eventually turning to an earthly smell.

The duration of this start-up period will vary depending upon atmospheric temperature, plant loading, and type of wastewater. If the loading on the plant is greater than 1/2 the process design condition an average "start-up" period would be approximately three weeks.

6.2 Start-Up Operations

A. When available, some activated sludge from another treatment plant can be placed in the aeration tank so that a biological build-up is immediately present. The placement of this activated sludge in the aeration tanks is called "seeding".

B. If activated sludge or seeding is not available, the plant should be operated intermittently for several days until a floc appears in the aeration tanks. During this period of start-up, all solids in the settling tanks are returned to the aeration tank.

While biological sludge is growing, the final effluent should be heavily chlorinated.

6.2.1 Normal Plant Operation

6.2.1.1. Operation of the Surge Tank

The major function of the surge tank is to prevent a surge or uneven flow pattern into the treatment plant.

The surge tank should be aerated at all times to prevent solids from settling to the bottom of the tank and becoming septic.

The influent pumping station and the surge tank pumps discharge into a flow splitter box with a V-notch / broadweir arrangement. The weirs are set so that the flow over the V-notch equals the average daily flow in GPM. Any excess amount pumped into the box is returned to the surge tank thereby preventing a surge on the treatment plant.

6.2.1.2. Operation of the Extended Aeration/Contact Stabilization

The following operating procedures are generally applied to the extended aeration/contact stabilization process:

A. There must be sufficient aeration to maintain a dissolved oxygen content of at least 2 mg/l in all parts of the aeration tank. The aeration should also accomplish two other objectives: mixing the returned sludge with raw sewage and keeping the activated sludge in suspension by agitation of the mixture.

If plant is equipped with optional energy efficient diffusers, optional performance can be obtained with an air setting between 1.5 and 5.0 SCFM/diffuser.

B. Settled activated sludge must be removed from the settling tank as fast as it forms. The return of activated sludge from the settling tank to the aeration tank or reaeration tank is the essential feature of the activated sludge system. In general, the rate of sludge return should be set so that the return flow is approximately equal to the percentage ratio of the volume occupied by settleable solids to the volume of the clarified liquid (supernatant), after settling 30 min. in a 1,000 ml graduated cylinder. For example, if after 30 min. settling, the settleable solids occupied a volume of 300 ml, the percentage volume would be equal to 42.8 percent of (300 ml/700 ml) x 100. If the plant flow is 75,000 GPD, the sludge return rate should be 32,100 GPD or approximately 22 GPM.

C. The optimum total suspended solids content in the aeration tank is 3,000 - 5,000 mg/l, 1000-3000 mg/l in the contact tank and 4000-10000 mg/l on the reaeration tank.

D. A sludge volume index in the range of 35 to 100 is normal for the treatment process. The sludge volume index (SVI) is defined as the volume in ml of one gram of activated sludge in the mixed liquor which has settled for thirty minutes. The procedure and computations involved in determining SVI are given in another chapter titled "Laboratory Control". Although SVI is an indicator of the sludge settling characteristics, the value of the index varies with the mixed liquor suspended solid concentration. Therefore, slight variations from day to day are to be expected, but a sharp rising value of SVI is indicative of some kind of trouble ahead, and prompt action should be taken to bring it under control. Control measures are described in the latter section titled "Operational Problems, Prevention, and Control".

E. The sludge age in the aeration tanks should be kept within 5 to 15 days for treating typical domestic wastewater. The sludge age is defined as the average time in days a particle of suspended solids remains under aeration. The procedure and computations involved in determining the sludge age are described in another chapter titled "Laboratory Control".

F. The suspended solids content in the aeration tank can be controlled by the amount of sludge returned to them. All sludge in excess of that needed in the aeration tank must be wasted to the aerobic digester or sludge drying beds. It should be removed in small quantities continuously or at frequent intervals rather than in large quantities at any one time. Sludge held too long in the final settling tank will become septic and results in rising sludge due to denitrification.

6.2.1.3. Operation of the Aerobic Digester (If Provided)

The DO in the aerobic digester should be maintained at 1 to 2 mg/l at all times. Digester sludge will dewater very well if digestion time is greater than 15 days. When MLSS in the aeration tanks exceeds the recommended level described in the previous sections, the operator should start to waste excess sludge to the digester as follows:

A. Turn off the air to the digester and allow sludge to settle for two hours while attending to other work.

B. First open waste sludge valves and then close the return sludge valves.

C. When waste sludge enters the digester the clear supernatant from the digester will flow by gravity to the reaeration tank. At times, the supernatant is drawn off by an airlift for return to the aeration or reaeration tank.

D. Allow sludge to waste for 10 minutes or longer until a desired amount of sludge has been wasted.

E. Open the return sludge valves and close the waste sludge valves.

F. Turn on air to the digester. The system is back to normal.

6.2.1.4. Operation of the Phosphorus Removal System (If Provided)

A. How the system operates The phosphate removal operation is based on a purely chemical reaction in which soluble phosphate (PO4) reacts with metallic cations to form insoluble metallic phosphates, and/or phosphate complexes. In this form, the phosphates no longer stimulate the growth of algae.

The metallic cations in the form of a dissolved metallic salt are added to the aeration tank of the treatment plant where they react with phosphates in the aeration tank and settle in the clarifier. This enhances final settling because the metallic floc entraps finely suspended material that ordinarily would not settle, and the additional floc weight reduces the sludge volume index.

Physical observation and a simple test are prerequisites for the desired phosphate removal without chemical waste. To maintain an efficient operation daily checks must be made on effluent phosphate content, chemical level, chemical feed lines and pump setting.

There is an increase in the sludge volume produced by the precipitation of the phosphates. The metallic phosphate sludge is inorganic, consequently will not be broken down in a digester. This facilitates the requirement that the sludge be removed to a final disposal point periodically. Between 35%- 50% additional sludge volume must be expected.

B. Calculation of Chemical Feed Rate

1) If sodium aluminate ($Na_2AL_20_4$) is used:

   a) To precipitate one mg/l of phosphates (asP) requires approximately 1.5 mg/l of AL.

   b) The granular form of sodium aluminate (i.e. NALCO 617) contains 41% of AL_20_3 or 21% of AL by weight.

   c) When the phosphate loading (mg/l P) and flow (MGD) are known, the quantity of sodium aluminate can be determined by the following equation:

      Example:
      Influent #P/Day = (mg/l P)(8.34) (Q MGD) = (10) (8.34)(.10) = 8.34

      Explanation:

Influent #P/day = Pounds of phosphate loading per day
mg/l P = milligram per liter of phosphate in the wastewater (assume 10 mg/l P, unless actual loading is known)
8.34 = weight of 1 gallon of water
Q MGD = daily flow expressed in million gallons per day.

Example: Required Sodium Aluminate #/day = (#P/Day) (1.5) 1
0.21 = (8.34)(1.5) 1 0.21 = 59.6
Explanation:
Required Sodium Aluminate #/day = Amount of sodium aluminate to be fed to the plant per day to reduce the phosphates to 1 mg/l.
#P/day = See Examples Influent #P/Day 1.5 = Amount of aluminum in mg/l required to precipitate 1 mg/l of phosphate1 = Amount of aluminum in sodium 0.21 aluminate by weight.

2) If alum or aluminum sulfate ($AL_2(SO_4)_3 . 14H_20$) is used:

a) To precipitate one mg/l of phosphates as P requires approximately 1.5 mg/l of Al.

b) Commercial grade alum has 9% concentration of Al by weight.

c) When the phosphate loading (mg/l P) and flow MGD) are known, the quantity of alum can be determined.

Example:
Influent #P/Day
= (mg/l P)(8.34) (Q MGD)
= (10) (8.34)(.10)
= 8.34

Explanation:
Influent #P/day = Pounds of phosphate loading per day mg/l P = milligram per liter of phosphate in the wastewater (assume 10 mg/l P, unless actual loading

is known)
8.34 = weight of 1 gallon of water
Q MGD = daily flow expressed in million gallons per day.

Example:
Required Alum #/day = (#P/Day)(1.5) 1
0.09 = (8.34)(1.5) 1 0.09 = 139

Explanation:
Required Alum #/day = Amount of alum to be fed to the plant per day to reduce the phosphates to 1 mg/l. #P/day = See above 1.5 = See above
1 = Amount of aluminum in Alum
0.09 by weight.

If a 5% Sodium Aluminate solution isprepared the feed rate in gallons perdaycan be determined as follows:

Example:
59.6 #/Day = 50,000 mg/l x 8.34xQ1
gal/day 1,000,000 Q1 gal/day = 143

Explanation:
59.6 #/day = amount of sodium aluminate required.50,000 mg/l = 5%
8.34 = weight of 1 gallon of water
Q1 gal/day = quantity of 5% sodium aluminate solution required per day in gallons

If a 5% alum solution is to be prepared the feed rate in gallons per day can be determined as follows:

Example:
139 #/day = 50,000 mg/l x 8.34xQ1
gal/day 1,000,000 Q1 gal/day = 333

Explanation:
139 #/day = amount of alum required
50,000 mg/l = see above
8.34 = see above
Q1 gal/day = quantity of 5% alum solution required per day in gallons.

Since alum and sodium aluminate are easily obtained in 50# bags the following is an easy way of mixing a 5% solution of each to avoid waste:

To obtain a 5% solution of sodium aluminate (or alum) mix 50 pounds with 120 gallons of water.

d) Preparation of chemical solution

See operation instructions of the Chemix Model A-4 Chemical Feeder.

e) Feeding Solution into Aeration Tank

The solution is fed by a diaphragm-type chemical feed pump. The pump is located under the chemical holding tank and draws the liquid from the bottom of the tank through a strainer attached to the end of the suction line. The chemical injection point is located near the outlet end of the aeration tank. This is located so that any unnecessary breakage of the chemical floc by extended mixing will be prevented.

No set amount of chemical to be added can be determined as all inclusive for all areas because there are a number of factors that affect the chemical requirement. The desirable procedure is to begin feeding the chemicals as described above in

(d) Preparation of Chemical Solution. After the plant has been operating 2 to 3 weeks, tests can be performed to determine the effluent phosphate concentration and the chemical feed pump can be adjusted to give the required phosphate level for the particular operation.

f) Handling and Storage of Sodium Aluminate or Alum Sodium Aluminate or Alum should be handled like a strong alkali. Avoid contact with skin, eyes, and clothing. Avoid breathing dust or solution spray. Do not take internally. Recommended in-plant storage limit for best solubility rate and maximum chemical activity is six months. For longest storage life, store under conditions of 50 - 80% relative humidity and 60 degrees to 100 degrees F. The chemical is shipped in 50 pound moisture proof multi-wall bags. Care should be taken to avoid damage or torn bags in handling or storing. Liquid sodium aluminate and alum are also commercially available.

6.2.1.5. Operation of the Gravity Filter System (If Provided)

Dosing Cycle: From the clarifier the wastewater flows to the gravity filter. It then flows by gravity down through the anthracite and sand media. the filtrate is collected by an underdrain system and discharged out of the filter cell into the backwash tank. Once the backwash tank is full the excess filtrate overflows into the effluent line.

Backwash Cycle:

Once every twenty-four hours or when the filter clogs, the media must be washed free of its entrapped solids.
This is accomplished by reversing the flow through the filter bed. Backwash is initiated, either by a 24 hour time clock or an emergency high level pressure switch or float switch. Clean water is pumped from the backwash tank into the bottom of the filter cell where it is distributed over the filter bottom cross section by the underdrain system. The water expands and agitates the filter bed breaking loose the entrapped solids and carrying them up through the top of the filter into the backwash holding tank. From the backwash holding tank, the backwash water with its load of solids is pumped into the surge tank.

7.0 OPERATIONAL PROBLEMS, PREVENTION AND CONTROL

No matter how well your plant is designed, manufactured, and installed, there will be times when additional services and changes in operational procedure will be required. When changes in operations are necessary, the operator should recognize the trouble, determine the cause, and take corrective action. Some of the operational problems, prevention and control are described below. This serves as guidance for the operator to detect the potential trouble and make corrections before more serious
trouble develops.

7.1 Operational Problems in the Secondary Treatment Process

7.1.1 Symptom A - Rising Sludge

A. Cause:

Occasionally, activated sludge that has good settling characteristics will be observed to rise to the surface of the settling tank after a relatively short settling period. The primary cause of this phenomenon is denitrification, in which nitrates and nitrites in the waste water are converted to nitrogen gas when dissolved oxygen in the settling tank is extremely low, in other words it is approaching the anaerobic condition. As nitrogen gas is formed, much of it is trapped in the sludge mass. If enough gas is formed, the sludge mass becomes buoyant and rises or floats to the surface. Rising sludge can be differentiated from "bulking sludge" by observing the presence of small gas bubbles attached to the floating solids.

B. Prevention And Control: Rising Sludge Problems Can Be Overcome By:

1) Increasing the rate of return sludge from the offending settling tank;

2) Decreasing the sludge age by increasing the sludge wasting rate;

3) Maintain dissolved oxygen in the settling tank at least 1 mg/l at all times.

7.1.2 Symptom B - Bulking Sludge

A. Cause:

A bulking sludge is one that has poor settling characteristics and poor compatibility as well. Sludge bulking is measured by a significant rise in the sludge volume index. As a portion of the sludge does not settle in the clarifier, it is carried away in the effluent. This results in a poor quality of the plant effluent and places an added organic load on the receiving water. There are a number of causes for sludge bulking, some of which are given below:

1) Excessive flow or storm water infiltration resulting in shortening the aeration period.

2) Solids content in the aeration tank either too high or too low.

3) Insufficient aeration with failure to maintain at least 1 mg/l oxygen throughout the system or possible over aeration results in breaking up the flocs into fine particles.

4) The overgrowth of filamentous organisms or organisms that can grow in a filamentous form under adverse conditions. (i.e., low DO, high TSS, or high organic loading).

5) Interruption in the continuity of returning sludge to the aeration tank or too long intervals in removing excess sludge from the settling tank.

All of these can be pretty well summed up by saying that sludge bulking results from overloading or the improper balance between the three variables - BOD loading, suspended solids concentration of the mixed liquor, and the amount of air used in aeration).

B. Prevention and Control:

There are no infallible rules for either the prevention or control of sludge bulking. If conditions do exist, the ultimate solution is to determine the cause and then take compensatory steps in operation control. The following is a check list of things to investigate before taking remedial steps:
(a) dissolve oxygen content; **(b)** hydraulic and organic loading; **(c)** return-sludge rate; **(d)** plant overloading; **(e)** waste water characteristics and **(f)** clarifier operation.

There are some remedial steps which can be taken where facilities are available and which may help to bring the process back to normal operation. Among these are:

1) Reduction of the solids carried in aeration tanks by removing some of the activated sludge as excess.
2) Increase aeration time and maintain DO above 2 mg/l at all times.

3) Chlorination of returned activated sludge. This must be carefully controlled to avoid killing organisms in the sludge. The effective dosage of chlorine has been found to be 0.3 to 0.6 percent of dry return sludge.

4) Using hydrogen peroxide has been reported to have cured the severe bulking problems. Consult engineers about this application.

5) It is sometimes desirable to remove as much of the bulking sludge as possible from the system and then develop fresh and healthy sludge.

7.1.3 Symptom C - Frothing

A. Cause:

The formation of a thick layer of froth on the side opposite to the diffusers may tend to accumulate more and more and eventually cover most of the surface of the aeration tank. The cause of frothing is not definitely known, though it is frequently attributed to the use of synthetic detergent compounds. The quantity of froth formed has been observed to increase with the following:

1) Decrease in mixed liquor suspended solids in the aeration tank.

2) Too much aeration.

3) Increase in atmospheric temperature.

4) Increase in degree of purification of waste water.

B. Prevention and Control:

1) Spray effluent or clarified waste water in the froth area.

2) Apply defoamers in small quantities to the tank surface. Defoamers can lower the surface tension of the foam and allow themselves to collapse. Defoamers are not very effective over a long period of time, and repeated dosing, several times per day, is necessary.

3) Increase mixed liquor suspended solids concentration. This is the most effective measure of control, however, it is necessary that the sludge volume index by high (i.e. SVI 80-100).

7.1.4 Blower Failures

	SYMPTOM	***POSSIBLE CAUSE***	***REMEDY***
A.	No Air Flow	1) Speed too low	Check by tachometer and compare with speed shown
		2) Wrong rotation	Compare actual rotation, change driver if wrong.
		3) Obstruction in Piping	Check piping, valves, silencer, to assure an open flow path.
B.	Low Capacity	1) Speed too low	See A-1. If belt drive, check for slippage and readjust tension.
		2) Excessive Pressure Rise	Check inlet vacuum and discharge pressure and compare these figures with specified operating conditions.
		3) Obstruction in Piping	See A-3.
		4) Excessive Slip	Check inside of casing for worn or eroded surfaces causing excessive clearances.
C.	Excessive Power	1) Speed too high	Check speed and compare with curve.
		2) Pressure too high	See B-2.
		3) Impellers rubbing	Inspect outside of cylinder and head-plates for high temperature areas, then check for impeller contacts at these points. Correct blower mounting, drive alignment.
D.	Overheating of	1) Inadequate Lubrication	Check oil sump level in gearhouse, Bearings or Gears and try to inject grease in drive end bearings.
		2) Excessive Lubrication	Check gear oil level, if correct, drain and refill with clean oil of recommended grade.
		3) Excessive Pressure Rise	See B-2.
		4) Coupling Misalignment	Check carefully, realign if questionable.

		5) Excessive Belt Tension	Readjust the correct tension.
E.	Vibration	1) Misalignment	See D-4.
		2) Impellers Rubbing	See C-3.
		3) Worn bearings/gears	Check gear backlash and conditions of bearings, and replace as indicated.
		4) Unbalanced or rubbing	Scale or process material may impellers build up on casing and impellers, or inside impellers. Remove build-up to restore original clearances and impeller balance.
F.	Loss of Oil from	1) Headplate, gears, drive blower cover vents plugged	Clean Vents.
		2) Worn seal	Replace seal.
G.	Abnormal sound in motor and blower	1) Filter screen clogged	Clean filter screen.
		2) Over-Lubrication, excess oil in gear case	Clean, drain and refill oil to proper level.
		3) Grease seals leaking moisture in blower impeller	Replace seals.
		4) Too low operating speed	Increase speed.
H.	Air pressure too high	1) Restricted air relief valve	Adjust valve and replace if required.
		2) Air line clogged	Clean air line.
		3) Diffuser clogged	Clean diffuser.
		4) Defective blower	Repair blower.
I.	Air pressure too low	1) Blower speed too low	Check speed and increase speed if required.
		2) Air leaks in piping system	Repair air leaks.

7.1.5 Pump Failures:

	SYMPTOM	***POSSIBLE CAUSE***	***REMEDY***
A.	Pump is running but no fluid is delivered	1) Air leak to eye of impeller	Check all suction connections. Check for tightness of bolts on pump volute. Check mechanical seal for leakage
		2) Pump speed too low	Check pump RPM with revolution counter. (Low RPM - consult factory)
		3) Discharge head too high	Check for clogged lines or closed valves in the discharge line. Check system head curve v. pump curve.
		4) Impeller clogged	Clean impeller thru volute, clean out opening.
		5) Wrong pump rotation	Check rotation.
		6) Pump under designed	Check capability of pump and check system curve. Consult factory.
		7) Pump is damaged	Check impeller for damage.
B.	Pump is pumping flow too low	1) Air leaks in suction pipe or seal	Check suction line fittings. Check seal. Check bolts on pump volute for tightness.
		2) Speed too low	Check with revolution counter. If speed is found to be too low, consult factory.
		3) Discharge head higher than anticipated	Check for partially clogged lines or partially clogged valves. Check system curve v. pump curve.
		4) Impeller too small	Check size impeller and compare with pump curve.
		5) Impeller or volute casing partially plugged	Check impeller and volute casing.
		6) Partially clogged suction line	Check and clean suction line.
		7) Impeller worn or defective	Check impeller, replace if found worn or damaged.

		8) Wrong rotation	Check and correct pump rotation.
C.	Power usage too high	**1)** Speed too high	Check RPM with revolution counter.
		2) Total dynamic head lower than anticipated	Check system curve v. pump curve.
		3) Mechanical defects Impeller dragging Bent shaft	Check clearance on impeller. Check shaft.
		4) Fluid has higher viscosity than anticipated	Check viscosity of fluid.
D.	Pump is noisy and/or vibration	**1)** Pump loose on foundation or supporting frame	Check pump base connections.
		2) Discharge head too high	Check for clogged or partially clogged valves.Check system curves.
		3) Air in liquid	Check suction connections. Check Seal. Check for vortex in supply well. (level too low)
		4) Damaged pump impeller	Check impeller for damage.
		5) Mechanical defects see C. C-3	

7.1.6 Electrical Failures

CAUTION

To avoid personnel injury, trouble shooting electrical components should only be performed by a qualified electrician.

7.1.6.1 Motor Fails To Start

A. Cause: Motor breaker and/or control breaker tripped.
Corrective Action: Check and reset breaker.

B. Cause: Overload tripped.
Corrective Action: Check and reset overload relay in starter.

C. Cause: Improper current supply.
Corrective Action: Check to see that power supplied agrees with

motor nameplates. If power does not agree, make necessary changes to have motor nameplates and incoming power agree.

D. Cause: Open circuit in winding or starting switch.
Corrective Action: Indicated by humming sound when switch is closed. Repulsion induction motors may spark at brushes. Check and repair loose wiring connections; also, see if starting switch inside motor is closed.

E. Cause: Mechanical failure.
Corrective Action: Check to see if motor and drive turn freely. Check bearings and lubrication.

F. Cause: Short circuited starter.
Corrective Action: Indicated by tripped breaker. Motor must be rewound.

G. Cause: Poor starter coil connection.
Corrective Action: Remove end bells, locate with test lamp and repair.

H. Cause: Rotor defective.
Corrective Action: Look for broken bars or end rings.

I. Cause: Motor may be overloaded.
Corrective Action: Reduce load.

J. Cause: If 3 phase, one phase may be open.
Corrective Action: Check lines for open phase.

K. Cause: Defective Capacitor.
Corrective Action: Check for short circuit, grounded, or open capacitor, and replace as necessary.

L. Cause: Worn or sticking brushes on repulsion induction motors.
Corrective Action: Check for wear and correct brush pressure. Clean commutator if dirty.

7.1.6.2 Motor Stalls

A. Cause: Overload motor.
Corrective Action: Reduce load.

B. Cause: Low motor voltage.
Corrective Action: Maintain nameplate voltage.

7.1.6.3 Motor Runs And Then Dies Down

A. Cause: Power failure:
Corrective Action: Check for and repair loose connections to line, to breaker, and to control.

7.1.6.4 Motor Does Not Come Up To Speed

A. Cause: Voltage too low at motor terminals.
Corrective Action: Use higher voltage on transformer terminals, reduce load or increase wire size to motor.

B. Cause: Starting load too high.
Corrective Action: Check load motor is supposed to carry at start and reduce if necessary.

C. Cause: Open primary circuit.
Corrective Action: Locate fault with test equipment and repair.

7.1.6.5 Motor Takes Too Long To Accelerate

A. Cause: Excess loading.
Corrective Action: Reduce load.

B. Cause: Poor Circuit.
Corrective Action: Check for high resistance and repair.

C. Cause: Defective squirrel cage rotor.
Corrective Action: Replace with new rotor.

D. Cause: Applied voltage too low.
Corrective Action: Have power company to increase power tap.

7.1.6.6 Motor Has Wrong Rotation

A. Cause: Wrong sequence of phases.
Corrective Action: Reverse connections (two of the three) at the motor or at the starter.

7.1.7 Miscellaneous Plant Problems

	SYMPTOM	POSSIBLE CAUSE	REMEDY
A.	Mixed liquor not rolling evenly	Air pressure not equal clogged diffusers	Adjust and clean diffusers.
		Not enough air	Increase air.
B.	Floating solids in settling tank	Sheared pin on sludge collector solids not being returned	Replace shear pin.
		Intake line to air lift clogged or restricted	Clean air line and adjust air flow to the air lift.
		Overaeration in aeration tank	Adjust air supply.
C.	Sludge air lift does not work properly	Air line clogged or restricted	Clean air line and adjust air flow.
D.	Scum air lift does not work properly	Air line clogged or restricted	Clean air line and adjust.
		Scum line clogged with grease	Remove grease and clean system using hot water.
E.	Filter continually flooding	Build up of excess sludge throughout filter	Back media or replace top layers of media.
		Defective timer for	Replace timer. backwash cycle

8.0 MAINTENANCE

The purpose of maintenance is to preserve and to keep the machinery in good operating condition. The structures and decking should be kept clean. The surrounding ground can be landscaped with grass, flowers, trees and shrubs, giving the plant a **PLEASING APPEARANCE**. Good housekeeping is the key to cleanliness, operation and appearance.

Maintenance is a continuous job. In order to be sure that all items are properly maintained, a check list should be followed.

Some of the items on your check list should include the following:

8.1 Daily Maintenance Check List

A. Collect samples from aeration tanks. Allow 30 minutes for settling while attending to other items.

B. Clean sidewalls of each tank at and above water level.

C. Clean weirs in splitter boxes.

D. Check all equipment, pumps, motor, overload circuit breakers, etc., for proper operations.

E. Check diffuser units for proper operation. Clean and clear plugged or clogged diffuser outlets. (See "e" if equipped with optional energy efficient diffusers.)

F. Check chemicals used in the plant.

G. Check air lift pumps for return sludge and scum removal units in the settling tank. For proper operation adjust if necessary to proper return rate.

H. Inspect blower, motor, V-belts, muffler and filter. (Follow instructions in the Manufacturer's Manual).

I. Make DO tests of the aeration tank.

J. Make chlorine residual test of the final effluent.

K. Make other tests as necessary.

L. Check chlorinator.

M. Check phosphorus removal system.

N. Collect samples for laboratory analysis as necessary.

O. Clean outside grounds - trim and cut grass and shrubs as necessary.

P. Make proper entries to your daily log sheet.

8.2 Weekly Maintenance Check List

A. Check oil level in the blower. Add or change oil if necessary. **DO NOT OVERFILL.**

B. Remove grease balls, grit, other debris from lift station wetwell.

C. All electrical control panel boxes should be checked for dryness and corrosion.

D. Clean all chemical pumps used in the plant and flush those that have a fresh water flushing system.

8.3 Monthly Maintenance Check List

A. Clean air diffusers. (See "e" if equipped with optional energy efficient diffusers).

B. Check paint for blistering, peeling, and scaling. Repaint.

C. Check safety devices. Repair if necessary.

D. Make monthly report of operations and laboratory analysis.

E. Refer to O & M section for the specific energy efficient diffusers used for this treatment plant(s).

8.4 Semi-Annual Maintenance Check List

A. Drain and refill oil in the blowers. Follow instructions in the manufacturer's manual.

B. Clean all pumps, remove any clogging material at the inlet and the discharge lines.

C. Check each electrical motor to insure smooth running conditions. Have faulty wiring or contacts replaced.

D. Make summary of plant operations, cost of chemicals and other costs, gallons of sewage treated, condition of effluent.

Other items should be added to the check list as you gain experience with the plant and its peculiarities.

Special: When performing any of the listed check lists always refer to the included manufacturer's manual for detailed specific instructions.

9.0 LABORATORY CONTROLS

9.1 Sampling

The sampling method should take into account both the test to be performed and the purpose for which the results are needed.

9.1.1 Average Concentrations

When the purpose of testing is to determine average concentrations (for example, for the calculation of plant loading and plant efficiency), a 24-hour composite sample is considered standard for most determinations. A composite sample is obtained by combining individual samples in volumes proportionate to the rate of flow.

9.1.2 Peak Concentrations

When the purpose of testing is to determine peak concentration, the duration of peak loads, or the occurrence of variations, grab samples collected at suitable intervals, and analyzed separately, are more appropriate. The sampling intervals should be chosen on the basis of the frequency with which changes may be expected.

9.1.3 Determination Of Characteristics

For determination of characteristics which are subject to significant and unavoidable changes in storage, such as dissolved oxygen, pH, residual chlorine, etc., composite samples cannot be used. Such determinations should be performed on individual samples as soon as possible after collection.

9.1.4 Procedures

Individual samples should be taken in a wide-mouth bottle and have a capacity of at least 1 liter. Sampling devices, including bottles should be cleaned with cleaning solution and rinsed thoroughly with water. The sampling bottles for coliform test should be sterilized.

The sampling schedules, parameters, sample collection method, preservation and laboratory testing, including quality control procedures, shall be in accordance with methods approved by the regulatory agency.

9.2 Analyses

It is realized that operators of some wastewater treatment plants have little equipment to perform elaborate laboratory analyses, however, by visual observation an alert operator can determine irregularities in the operation and make quick decisions to correct the situation. In addition to visual observation, the following tests are helpful in determining the efficiency of the operations. The detail procedure of each test is described in the Standard Methods for the Examination of Water and Waste water, 13th ed., 1971 or the latest edition if available.

9.2.1 Dissolved Oxygen (DO)

This test enables the operator to determine if adequate air has been supplied to the aeration tanks. The DO in the aeration tanks should be at least 2 mg/l. The DO test can be done by using a DO test kit or a DO meter.

9.2.2 5-Day Biochemical Oxygen Demand (5-Day BOD)

The 5-Day BOD denotes the amount of DO required by aerobic microorganisms to stabilize biodegradable organic matter after 5-day incubation period at 20° C.

The test gives a direct measure of biodegradable materials and describes the concentration of strength of wastewater.

9.2.3 Setteable Volume of Activated Sludge

This test is used to determine the settled volume of activated sludge by collecting a 1-liter mixed liquor sample from the aeration tanks in a 1,000 ml graduated cylinder, and allowing it to settle. The test should be performed each day, since it provides both technical control information and visual observation of the settleability of activated sludge.

9.2.4 Suspended Solids

The suspended solids test is an important tool of process control and of determining treatment efficiency. The suspended solids test of mixed liquor are utilized in determining the sludge volume index and sludge density index which are described in the following sections.

9.2.5 Sludge Volume Index (SVI)

The sludge volume index is the volume in milliliters occupied by one gram of activated sludge after settling in a 1,000 ml graduated cylinder for 30 min.

$$SVI = \frac{\%\ \text{settleable volume}}{\%\ \text{suspended solids}}$$

9.2.6 Sludge Density Index (SDI)

The sludge density index is the reciprocal of the SVI multiplied by 100.

$$SDI = \frac{\%\ \text{suspended solids} \times 100}{\%\ \text{settled volume}}$$

9.2.7 Sludge Age (or Mean Cell Residence Time)

The sludge age is the average time in days a particle of suspended solids remains under aeration in the aeration tank. It is calculated from the weight of mixed liquor in the aeration tank and the suspended solids in the influent using the formula:

$$\text{Sludge Age (day)} = \frac{VA}{QC}$$

V	=	Volume of aeration tank in gallons.
A	=	Concentration of suspended solids in the aeration tank in mg/l
Q	=	Sewage flow in gallons.
C	=	Concentration of suspended solids in the influent.

Another more precise method of determining the sludge age in the activated sludge system is described as follows:

$$\text{Sludge Age (Day)} = \frac{(V)\ (MLVSS)}{(QL)\ (C1)}$$

MLVSS	=	concentration of mixed liquor volatile suspended solids, mg/l in the aeration tank.
V	=	Volume of Aeration tank in gallons.
Q1	=	Volume of wasted sludge in gallons.
C1	=	Concentration of volatile suspended solids in wasted sludge.

9.2.8 pH or Hydrogen Ion Concentration

The pH test is an important tool to indicate the freshness of incoming raw wastewater, the degree of microbial activities, and the buffer capacity of the wastewater to be treated. The optimum pH in the activated sludge system is approximately neutral (7.0). pH can be determined with either a pH meter or a comparative color test kit.

9.2.9 Total Kjeldahl Nitrogen (TKN)

The total kjeldahl nitrogen test determines both organic nitrogen and ammonia nitrogen in the wastewater but it does not include nitrite - and nitrate-nitrogen. Most of the organic nitrogen that occurs in the domestic wastewater is in the form of proteins or their degradation products such as polypeptides and amino acids. The oxidation of organic compounds free the nitrogen as ammonia. The major source of ammonia nitrogen in the wastewater is derived from urine.

9.2.10 Nitrite Nitrogen

The nitrite nitrogen is the intermediate product of ammonia oxidation. Since nitrite is readily converted to nitrate, its concentration present in the effluent is considered to be insignificant.

9.2.11 Nitrate Nitrogen

The nitrate nitrogen is the end product of ammonia oxidation and is of particular importance in relation to other forms of nitrogen present in polluted waters.

Both nitrate test and TKN test are often used to determine the efficiency of the nitrogen removal system (nitrification and denitrification).

9.2.12 Phosphorus

Phosphorus like nitrate is essential to the growth of certain algae and other aquatic life. The usual forms of phosphorus that are found in wastewater include the orthphosphate, polyphosphate and organic phosphate. The orthophosphates are available for biological metabolism without further breakdown. The polyphosphates undergo hydrolysis in aqueous solutions and revert to the orthophosphate, however, this hydrolysis is usually quite slow. The organic phosphate is usually of minor importance in domestic wastewater, but it can be an important constituent of industrial wastes and sewage sludges. All forms of phosphorus can be present in the dissolved form of the particulate form.

9.2.13 Residual Chlorine

When the plant effluent is chlorinated before discharge to receiving waters, the residual chlorine concentration should be determined with sufficient frequency to assure that the required residual is maintained at all times. The required residual is that which accomplishes the proper disinfection, odor removal, or other objectives.

9.2.14 Coliform Organisms

The coliform organisms are commonly used as an indicator of pollution or the presence of water-borne pathogenic bacteria. The coliform organisms can be derived either from fecal source of warm-blooded animals or from non-fecal sources. The elevated temperature technique (incubated at 44.5o C rather than conventional 37o C described in the Standard Methods) can be used to differentiate coliform bacteria of fecal origin which are the main interest in stream pollution and general quality monitoring.

10.0 RECORDS

10.1 Regular Records

Regular records and reports of operation of the wastewater treatment plant serve many purposes. They are helpful to those directly responsible for plant operations and to municipal officials, consulting engineers, state regulatory agencies, and others who have similar facilities and related problems.

The operators should use these records as a guide in regulating, adjusting, and modifying the plant facilities and operation. Of great importance is the establishment of a reliable continuing record of proof or performance, justifying decisions, expenditures and recommendations.

Such records often are the only sound basis upon which administrative officials may negotiate with existing or potential customers, plan corrective measures for deficiencies on the sewage system or the treatment plant, or justify budgetary changes for expanding needs.

Records provide much useful and valuable information for release to the customers served by the system and other groups and individuals in the community. Should a law suit be threatened, records and reports together with the operators testimony provide the administration and legal counsel with factual information upon which a sound defense and adjustment may be established.

10.2 Operation Records

Operation reports should be furnished regularly to the regulatory agencies responsible for control of pollution and protection of health. A report sufficiently complete for the operator's needs and those of local administrative officials allows the technical staffs of the regulatory agencies to determine the extent to which the objectives of wastewater treatment have been met.

10.3 Catalogs

Records which should be maintained at the treatment plant can be classified into five catalogs:

A. Daily Report

B. Laboratory Analyses

C. Monthly Operation Report

D. Monthly Laboratory Report

E. Maintenance Record

Sample forms are attached herewith. (See Chapter 12).

11.0 TREATMENT PLANT SAFETY

11.1 Training

It is not possible to be thoughtful about safety and careful at work without proper training. Everyone involved in the operation of a wastewater treatment plant should study recent publications on occupational safety hazards and keep abreast of the latest first aid techniques.

11.2 Built-In Features

Evoqua Water Technologies wastewater treatment plant designs include the most modern equipment following the National Electrical Code where pertinent to ensure the highest degree of mechanical and electrical safety.

11.3 Plant Site Measures

In addition to these built-in features, certain other measures should be implemented at the plant site (***Evoqua Water Technologies*** contract may or may not include these items):

A. High voltage equipment should be screened or otherwise placed in a separate area.

B. All electrical wiring must be properly insulated and grounded.

C. Explosion-proof electrical equipment should be used, where a flammable gas or vapor might accumulate with air.

D. Moisture-proof equipment is required in areas of excessive dampness.

E. Fencing should be provided around the treatment plant to prevent anyone from falling into the open tank and to keep unauthorized persons from tampering with the equipment.

F. All moving parts on motors, pumps and blowers should have guards. Handrails may be provided around open tanks and stairways, if required.

11.4 Specific Equipment

There will be a need for specific safety equipment (not normally supplied by ***Evoqua Water Technologies***), including the following:

A. Adequate first aid supplies.

B. Fire extinguishers (CO2 and soda acid types).

C. Cannister-type gas masks with filters for use with chlorine gas.

D. Oxygen masks.

11.5 Hazards

Hazards frequently found in a treatment plant area are body infections, dangers from noxious gases, such as chlorine, methane and carbon dioxide, dangers connected with moving mechanical parts and insecure footing.

The wastewater treatment plant has been described as the final reservoir of many pathogenic organisms derived from acute infections and carriers. The diseases include typhoid fever, paratyphoid fever, food-borne salmonellosis, amoebic dysentery, shingellae dysentery, and many other diseases causing intestinal disorders.

Another severe health hazard which may occur in the wastewater treatment plant is the cross-connection between the drinking water supply and wastewater or sludge. The common cross-connection found at wastewater plants is using a water hose for flushing or cleaning purposes but left with nozzle submerged in wastewater or sludge.

As an additional safeguard to the water distribution system, a back-flow preventor valve should be installed on the water main leading to the treatment plant or pumping stations. The owner is advised to consult with proper officials about its need.

11.6 Defense Practices

11.6.1 Personal Hygiene & Medical Attention

The best defense against infection is the practice of good personal hygiene and prompt medical attention for any injury that breaks the skin. For all but minor injuries a doctor should be called. Instructions in first-aid treatment are available from State Health Departments, the National Safety Council, the Federal Bureau of Mines, The American Red Cross and manufacturers of first aid kits.

11.6.2 Gloves

Rubber gloves should be worn to prevent infection while cleaning pumps, handling grit, sludge, or other soiled material. Glove protection is particularly important when the hands are burned or skin broken from any wound.

11.6.3 Hands And Mouth

Plant operators should be advised to keep unclean fingers from the nose, mouth and eyes. A majority of infectious germs in the plant are carried on the hands of operators. After work and before eating, the hands should be washed thoroughly with plenty of soap and warm water. The nails should be kept short and foreign matter removed.

When the hands are unclean, smoking pipes, cigarettes, cigars, eating or drinking may introduce infectious organisms into the mouth. Care should also be exercised in laboratory work that contamination is not introduced into the mouth from soiled pipettes. The operators are advised to handle samples with a rubberized "pipette filter", which is available at any supplier of laboratory equipment.

11.6.4 Immunization

As a precautionary measure, the plant operators are advised to receive immunization against such diseases as typhoid fever and paratyphoid fever. "Tetanus toxic inoculations" are highly desirable for wastewater works personnel. In the beginning, inoculations are given monthly for two or three times. A booster shot should be given occasionally or in the event of a deep wound, especially to those wounds which do not bleed freely. Consult your physician about immunization needs.

12.0 SAMPLE FORMS

12.1 Daily Reports

12.2 Laboratory Analysis

12.3 Monthly Operations

12.4 Maintenance Records

SEE THE FOLLOWING

DAILY REPORT

12.1

Date ________________ , 20________ **Operator On Duty** ________________________
Weather: Precipitation (inc) ___________ **Temperature** (^{O}F) Max.________ Min.________
Raw Wastewater: Flow (GPD)____________________________

	Raw	*Aeration*	*Nitrification*	*Final Effluent*
pH	________	________	________	________
DO	________	________	________	________
Settleable Solids	________	________	________	________
*Ammonia N	________	________	________	________
*Nitrite N	________	________	________	________
*Nitrate N	________	________	________	________
*Phosphorus (orth-)	________	________	________	________
Residual Chlorine				________

Chemical Used:

Chlorine Dosing Rate:______________________________
Lime Dosing Rate (if applicable)______________________________
Phosphorus Removal Dosing Rate______________________________
Methanol Dosing Rate______________________________

Power Consumption (metering reading in KWH)______________________________

Service And Maintenance Record______________________________

____

____

____

NOTE: These tests can be determined by Hach Test Kints.
Write to Hach Chemical Company, Ames, Iowa 50010 for more information.

LABORATORY ANALYSES

Date Collected: ______________________ **Time Collected:** ____________________ **12.2**
Time Analyzed: ______________________
Method Of Sampling: ________________Grab
______________________ **Hr. Composite**
______________________ **No. Sample/Day**

POINT OF COLLECTION:

BIOCHEMICAL OXYGEN DEMAND

Bottle No.			
Sample Vol.			
Initial D. O.			
Final D. O.			
Difference			
X Dilution Factor			
X Correction Factor			
BOD mg/l			

Dissolved Oxygen		
Air Temperature		
Water Temperature		
Chlorine Residual		
Flow GPD		
pH		
Alkalinity-Total as CaCO3		
Alkalinity-phph as CaCO3		
Total Kjeldahl Nitrogen		
Ammonia Nitrogen		
Organic Nitrogen		
Nitrite-Nitrogen		
Nitrate-Nitrogen		
Total Phosphate		
Ortho Phosphate		
C.O.D.		
Total Coliform		
Fecal Coliform		
Fecal Streptococcus		
Hardness		
Chlorides		

SOLIDS

SUSPENDED SOLIDS

Sample Volume	
Wt. Crucible Plus SS	
Wt. Crucible	
Wt. of SS	
mg/l SS	
VOLATILE SUSP. SOLIDS	
Wt. of Crucible Plus SS	
Wt. of Crucible Plus VSS	
Wt. of VSS	
mg/l VSS	
TOTAL SOLIDS	
Sample Volume	
Wt. of Dish & Residue	
Wt. of Dish	
Wt. of Solids	
mg/l TS	
mg/l TDS	

Remarks:

Laboratory Analysis Made By:
Certificate No.:

MONTHLY OPERATION REPORT

12.3

Name of Facility: ____________________
Location: ____________________
Mailing Address: ____________________

____

Month: ____________________ Year: ____________

Design Capacity (GPD): ____________________
% Design Capacity Utilized: ____________________
Population Served: ____________________
Equivalent Pop. (Hydraulic Load, 100 GPCD): ____________________
: : (Organic Load, 0.17 # /C/day): ____________________
Number of Active Connections: ____________________
Specific Type Treatment Provided By This Plant: ____________________
State D.P.C. Permit Number and Type (Temporary Operating Permit, Operating Permit, Construction)

____

____

____

Avg Plant Performance For The Month Of: ____________ Record Of Sampling
Avg Daily Flow: ____________
Avg Reduction Suspended Solids (% Removal): ____________ __________Hr. Composite
Avg Reduction of BOD5 (% Removal): ____________ __________ No. Samples/Day
Avg Reduction of Total Nitrogen (% Removal): ____________
Avg Reduction of Total Phosphorus (% Removal): ____________ ____________
Lbs of BOD Raw: ____________ Cost Of Operation For The Month
Lbs of BOD Final: ____________
Cubic Feet Air/Lb BOD Removed: ____________

How is waste flow determined? ____________ Payroll
How is dry or digested sludge disposed? ____________ Power ______ K.W.H. ______
____________________ Chemical __________

____
Signature Of Operator

____
Certificate Number

Lab Analyses Made By: ____________________

____

12.4

MAINTENANCE RECORD

WWTP Name: ________________________________

Equipment		**Location**	
Item	**Description**	**Remarks**	**Initial**

MAINTENANCE RECORD

Equipment		**Location**	
Item	**Description**	**Remarks**	**Initial**

TCEQ PLAN APPROVAL

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 12, 2021

Jason C. Haley, P.E.
A.L. Franks Engineering
118 East Broad Street
Texarkana, Ar 71854

Re: City of Texarkana
Wagner Creek WWTP
Permit No. WQ0010374-007
WWPR Log No. 0821/001
CN600335830, RN101613537
Bowie County

Dear Mr. Haley:

We have received the project summary transmittal letter dated July 21, 2021.

The rules which regulate the design, installation and testing of domestic wastewater projects are found in 30 TAC, Chapter 217, of the Texas Commission on Environmental Quality (TCEQ) rules titled, Design Criteria for Wastewater Systems.

Section 217.6(d), relating to case-by-case reviews, states in part that upon submittal of a summary transmittal letter, the executive director may approve of the project without reviewing a complete set of plans and specifications.

Under the authority of §217.6(e) a technical review of complete plans and specifications is not required. **However, the project proposed in the summary transmittal letter is approved for construction. Please note, that this conditional approval does not relieve the applicant of any responsibilities to obtain all other necessary permits or authorizations, such as wastewater treatment permit or other authorization as required by Chapter 26 of the Texas Water Code.** Below are provisions of the Chapter 217 regulations, which must be met as a condition of approval. These items are provided as a reminder. If you have already met these requirements, please disregard this additional notice.

- You must keep certain materials on file for the life of the project and provide them to TCEQ upon request. These materials include an engineering report, test results, a summary transmittal letter, and the final version of the project plans and specifications. These materials shall be prepared and sealed by a Professional Engineer licensed in the State of Texas and must show substantial compliance with Chapter 217. All plans and specifications must conform to any waste discharge requirements authorized in a permit by the TCEQ. Certain specific items which shall be addressed in the engineering report are discussed in §217.6(d). Additionally, the engineering report must include all constants, graphs, equations, and calculations needed to show substantial compliance with Chapter 217. The items which shall be included in the summary transmittal letter are addressed in §217.6(d)(1)-(9).

- Any deviations from Chapter 217 shall be disclosed in the summary transmittal letter and the technical justifications for those deviations shall be provided in the engineering report. Any deviations from Chapter 217 shall be based on the best professional judgement of the licensed professional engineer sealing the materials and the engineer's judgement that the design would not result in a threat to public health or the environment.

- Any variance from a Chapter 217 requirement disclosed in your summary transmittal letter is approved. If in the future, additional variances from the Chapter 217 requirements are desired for the project, each variance must be requested in writing by the design engineer. Then, the TCEQ will consider granting a written approval to the variance from the rules for the specific project and the specific circumstances.

- Within 60 days of the completion of construction, an appointed engineer shall notify both the Wastewater Permits Section of the TCEQ and the appropriate Region Office of the date of completion. The engineer shall also provide written certification that all construction, materials, and equipment were substantially in accordance with the approved project, the rules of the TCEQ, and any change orders filed with the TCEQ. All notifications, certifications, and change orders must include the signed and dated seal of a Professional Engineer licensed in the State of Texas.

This approval does not mean that future projects will be approved without a complete plans and specifications review. The TCEQ will provide a notification of intent to review whenever a project is to undergo a complete plans and specifications review. Please be reminded of 30 TAC §217.7(a) of the rules which states, "Approval given by the executive director or other authorized review authority does not relieve an owner of any liability or responsibility with respect to designing, constructing, or operating a collection system or treatment facility in accordance with applicable commission rules and the associated wastewater permit".

If you have any questions or if we can be of any further assistance, please call me at (512) 239-4552.

Sincerely,

Louis C. Herrin, III, P.E.
Wastewater Permits Section (MC 148)
Water Quality Division
Texas Commission on Environmental Quality

LCHIII/tc

cc: TCEQ, Region 5 Office

EFFLUENT TEST RESULTS

Test Results
for Worksheet 4.0

LABORATORY TEST RESULTS

Job ID : 24030585

Date 3/13/2024

Client Name:	Texarkana Water Utilities		Attn: Jeannie A. Sanders
Project Name:	6007 / Waggoner Creek WWTP		

Client Sample ID:	6007 / 10374-007	Job Sample ID:	24030585.02
Date Collected:	03/06/24	Sample Matrix	Water
Time Collected:	09:00	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	SQL	Reg Limit	Q	Date Time	Analyst
EPA 625.1										
	1,2,4,5-Tetrachlorobenzene	< 6.27	ug/L	1.12	5.6	5.6		U	03/08/24 17:05	GM
	1,2,4-Trichlorobenzene	< 0.66	ug/L	1.12	0.59	5.6		U	03/08/24 17:05	GM
	1,2-Dichlorobenzene	< 0.51	ug/L	1.12	0.46	5.6		U	03/08/24 17:05	GM
	1,3-Dichlorobenzene	< 0.66	ug/L	1.12	0.59	5.6		U	03/08/24 17:05	GM
	1,4-Dichlorobenzene	< 0.31	ug/L	1.12	0.28	5.6		U	03/08/24 17:05	GM
	2,4,5-Trichlorophenol	< 1.07	ug/L	1.12	0.95	5.6		U	03/08/24 17:05	GM
	2,4,6-Trichlorophenol	< 0.99	ug/L	1.12	0.88	5.6		U	03/08/24 17:05	GM
	2,4-Dichlorophenol	< 0.87	ug/L	1.12	0.77	5.6		U	03/08/24 17:05	GM
	2,4-Dimethylphenol	< 0.66	ug/L	1.12	0.59	5.6		U	03/08/24 17:05	GM
	2,4-Dinitrophenol	< 1.77	ug/L	1.12	1.6	5.6		U	03/08/24 17:05	GM
	2,4-Dinitrotoluene	< 1.22	ug/L	1.12	1.1	5.6		U	03/08/24 17:05	GM
	2,6-Dinitrotoluene	< 1.53	ug/L	1.12	1.4	5.6		U	03/08/24 17:05	GM
	2-Chloronaphthalene	< 0.35	ug/L	1.12	0.31	5.6		~~U~~	~~03/08/24 17:05~~	~~GM~~
	2-Chlorophenol	< 0.63	ug/L	1.12	0.56	5.6		U	03/08/24 17:05	GM
	2-Methylphenol	< 1.25	ug/L	1.12	1.1	5.6		U	03/08/24 17:05	GM
	2-Nitrophenol	< 1.1	ug/L	1.12	0.99	5.6		U	03/08/24 17:05	GM
	3- & 4-Methylphenols[2]	< 1.66	ug/L	1.12	1.5	11		U	03/08/24 17:05	GM
	3,3-Dichlorobenzidine	< 1.1	ug/L	1.12	0.99	5.6		U	03/08/24 17:05	GM
	4,6-Dinitro-2-methylphenol	< 0.83	ug/L	1.12	0.74	5.6		U	03/08/24 17:05	GM
	4-Bromophenyl phenyl ether	< 0.51	ug/L	1.12	0.46	5.6		U	03/08/24 17:05	GM
	4-Chloro-3-methylphenol	< 0.66	ug/L	1.12	0.59	5.6		U	03/08/24 17:05	GM
	4-Chlorophenyl phenyl ether	< 0.83	ug/L	1.12	0.74	5.6		U	03/08/24 17:05	GM
	4-Nitrophenol	< 1.42	ug/L	1.12	1.3	5.6		U	03/08/24 17:05	GM
	Acenaphthene	< 0.35	ug/L	1.12	0.31	5.6		U	03/08/24 17:05	GM
	Acenaphthylene	< 0.59	ug/L	1.12	0.53	5.6		U	03/08/24 17:05	GM
	Anthracene	< 0.44	ug/L	1.12	0.39	5.6		U	03/08/24 17:05	GM
	Azobenzene[2]	< 0.28	ug/L	1.12	0.25	5.6		U	03/08/24 17:05	GM
	Benzidine	< 0.83	ug/L	1.12	0.74	5.6		U	03/08/24 17:05	GM
	Benzo(a)anthracene	< 0.48	ug/L	1.12	0.43	5.6		U	03/08/24 17:05	GM
	Benzo(a)pyrene	< 1.07	ug/L	1.12	0.95	5.6		U	03/08/24 17:05	GM
	Benzo(b)fluoranthene	< 0.72	ug/L	1.12	0.64	5.6		U	03/08/24 17:05	GM
	Benzo(g,h,i)perylene	< 0.79	ug/L	1.12	0.71	5.6		U	03/08/24 17:05	GM
	Benzo(k)fluoranthene	< 0.72	ug/L	1.12	0.64	5.6		U	03/08/24 17:05	GM
	Bis(2-chloroethoxy) methane	< 0.44	ug/L	1.12	0.39	5.6		U	03/08/24 17:05	GM
	Bis(2-chloroethyl) ether	< 0.9	ug/L	1.12	0.81	5.6		U	03/08/24 17:05	GM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 24030585

Date 3/13/2024

Client Name: Texarkana Water Utilities

Attn: Jeannie A. Sanders

Project Name: 6007 / Waggoner Creek WWTP

Client Sample ID: 6007 / 10374-007
Date Collected: 03/06/24
Time Collected: 09:00
Other Information:

Job Sample ID: 24030585.02
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	SQL	Reg Limit	Q	Date Time	Analyst
EPA 625.1										
	Bis(2-chloroisopropyl) ether	< 1.07	ug/L	1.12	0.95	5.6		U	03/08/24 17:05	GM
	Bis(2-ethylhexyl)phthalate	< 2.76	ug/L	1.12	2.5	5.6		U	03/08/24 17:05	GM
	Butyl benzyl phthalate	< 0.87	ug/L	1.12	0.77	5.6		U	03/08/24 17:05	GM
	Chrysene	< 0.72	ug/L	1.12	0.64	5.6		U	03/08/24 17:05	GM
	Cresols[1]	< 1.2544	ug/L	1.12	1.1	5.6		U	03/08/24 17:05	GM
	Dibenzo(a,h)anthracene	< 0.87	ug/L	1.12	0.77	5.6		U	03/08/24 17:05	GM
	Diethyl phthalate	< 0.79	ug/L	1.12	0.71	5.6		U	03/08/24 17:05	GM
	Dimethyl phthalate	< 0.9	ug/L	1.12	0.81	5.6		U	03/08/24 17:05	GM
	Di-n-butyl phthalate	< 1.53	ug/L	1.12	1.4	5.6		U	03/08/24 17:05	GM
	Di-n-octyl Phthalate	< 3.46	ug/L	1.12	3.1	5.6		U	03/08/24 17:05	GM
	Fluoranthene	< 0.55	ug/L	1.12	0.49	5.6		U	03/08/24 17:05	GM
	Fluorene	< 0.59	ug/L	1.12	0.53	5.6		U	03/08/24 17:05	GM
	Hexachlorobenzene	< 0.87	ug/L	1.12	0.77	5.6		U	03/08/24 17:05	GM
	Hexachlorobutadiene	< 0.51	ug/L	1.12	0.46	5.6		U	03/08/24 17:05	GM
	Hexachlorocyclopentadiene	< 0.44	ug/L	1.12	0.39	5.6		U	03/08/24 17:05	GM
	Hexachloroethane	< 0.59	ug/L	1.12	0.53	5.6		U	03/08/24 17:05	GM
	Indeno(1,2,3-cd)pyrene	< 0.28	ug/L	1.12	0.25	5.6		U	03/08/24 17:05	GM
	Isophorone	< 0.35	ug/L	1.12	0.31	5.6		U	03/08/24 17:05	GM
	Naphthalene	< 0.39	ug/L	1.12	0.35	5.6		U	03/08/24 17:05	GM
	n-Decane[2]	< 6.27	ug/L	1.12	5.6	5.6		U	03/08/24 17:05	GM
	Nitrobenzene	< 1.14	ug/L	1.12	1	5.6		U	03/08/24 17:05	GM
	Nitroso-N-diethylamine	< 6.27	ug/L	1.12	5.6	5.6		U	03/08/24 17:05	GM
	N-Nitrosodibutylamine	< 6.27	ug/L	1.12	5.6	5.6		U	03/08/24 17:05	GM
	N-Nitrosodimethylamine	< 0.99	ug/L	1.12	0.88	5.6		U	03/08/24 17:05	GM
	N-nitroso-di-n-propylamine	< 0.9	ug/L	1.12	0.81	5.6		U	03/08/24 17:05	GM
	N-Nitrosodiphenylamine	< 0.59	ug/L	1.12	0.53	5.6		U	03/08/24 17:05	GM
	n-Octadecane[2]	< 6.27	ug/L	1.12	5.6	5.6		U	03/08/24 17:05	GM
	Nonylphenol[1]	< 6.27	ug/L	1.12	5.6	5.6		U	03/08/24 17:05	GM
	Pentachlorobenzene	< 3.76	ug/L	1.12	3.4	5.6		U	03/08/24 17:05	GM
	Pentachlorophenol	< 0.63	ug/L	1.12	0.56	5.6		U	03/08/24 17:05	GM
	Phenanthrene	< 0.55	ug/L	1.12	0.49	5.6		U	03/08/24 17:05	GM
	Phenol	< 0.55	ug/L	1.12	0.49	5.6		U	03/08/24 17:05	GM
	Pyrene	< 0.72	ug/L	1.12	0.64	5.6		U	03/08/24 17:05	GM
	Pyridine	< 0.44	ug/L	1.12	0.39	5.6		U	03/08/24 17:05	GM
	2,4,6-Tribromophenol(surr)	38.1	%	1.12		19-122			03/08/24 17:05	GM

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 24030585

Date 3/13/2024

Client Name: Texarkana Water Utilities

Attn: Jeannie A. Sanders

Project Name: 6007 / Waggoner Creek WWTP

Client Sample ID: 6007 / 10374-007
Date Collected: 03/06/24
Time Collected: 09:00
Other Information:

Job Sample ID: 24030585.02
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	SQL	Reg Limit	Q	Date Time	Analyst
EPA 625.1										
	2-Fluorobiphenyl(surr)	75	%	1.12		30-115			03/08/24 17:05	GM
	2-Fluorophenol(surr)	19.4	%	1.12		15-115			03/08/24 17:05	GM
	Nitrobenzene-d5(surr)	68.2	%	1.12		23-120			03/08/24 17:05	GM
	Phenol-d6(surr)	19.7	%	1.12		10-130			03/08/24 17:05	GM
	p-Terphenyl-d14(surr)	64.9	%	1.12		18-137			03/08/24 17:05	GM

ab-q212-0321

1-Parameter is not accredited.
2-Parameter not available for accreditation.

LABORATORY TEST RESULTS

Job ID : 24032216

Date 3/28/2024

Client Name: Texarkana Water Utilities

Attn: Jeannie A. Sanders

Project Name: 6018 / Waggoner Creek WWTP

Client Sample ID: 6018 / 10374-007
Date Collected: 03/20/24
Time Collected: 09:00
Other Information:

Job Sample ID: 24032216.01
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	SQL	Reg Limit	Q	Date Time	Analyst
EPA 300.0	Anions ug/L						ug/L			
	Fluoride <100.0	0.08	mg/L	1.00	0.02	0.100	100.0	J	03/21/24 19:02	KPE
	Nitrate-N 7830.0	7.83	mg/L	1.00	0.01	0.100	100.0		03/21/24 19:02	KPE
EPA 200.8	Metals by ICP/MS ug/L						ug/L			
	Aluminum 58.9	0.0589	mg/L	1	0.00046	0.00100	1.0		03/22/24 15:51	AK
	Barium 35.1	0.0351	mg/L	1	0.00009	0.00050	0.5		03/22/24 15:51	AK
EPA 608.3	Polychlorinated Biphenyls									
	Aroclor 1016	<0.03	ug/L	1.00	0.03	0.0500		U	03/22/24 15:26	MQ
	Aroclor 1221	<0.03	ug/L	1.00	0.03	0.0500		U	03/22/24 15:26	MQ
	Aroclor 1232	<0.03	ug/L	1.00	0.03	0.0500		U	03/22/24 15:26	MQ
	Aroclor 1242	<0.03	ug/L	1.00	0.03	0.0500		U	03/22/24 15:26	MQ
	Aroclor 1248	<0.03	ug/L	1.00	0.03	0.0500		U	03/22/24 15:26	MQ
	Aroclor 1254	<0.03	ug/L	1.00	0.03	0.0500		U	03/22/24 15:26	MQ
	Aroclor 1260	<0.03	ug/L	1.00	0.03	0.0500		U	03/22/24 15:26	MQ
	Total PCBs	<0.03	ug/L	1.00	0.03	0.0500		U	03/22/24 15:26	MQ
	Decachlorobiphenyl(surr)	37	%	1.00		35-129			03/22/24 15:26	MQ
	Tetrachloro-m-xylene(surr)	121	%	1.00		27-127			03/22/24 15:26	MQ
EPA 608.3	Organochlorine Pesticides									
	4,4-DDD	<0.002	ug/L	1.11	0.002	0.011		V12,U	03/22/24 21:52	MQ
	4,4-DDE	<0.010	ug/L	1.11	0.010	0.011		U	03/22/24 21:52	MQ
	4,4-DDT	<0.004	ug/L	1.11	0.004	0.011		V12,U	03/22/24 21:52	MQ
	a-BHC	<0.003	ug/L	1.11	0.003	0.011		U	03/22/24 21:52	MQ
	Aldrin	<0.004	ug/L	1.11	0.004	0.011		U	03/22/24 21:52	MQ
	b-BHC	<0.004	ug/L	1.11	0.004	0.011		U	03/22/24 21:52	MQ
	Chlordane	<0.111	ug/L	1.11	0.111	0.111		U	03/22/24 21:52	MQ
	d-BHC	<0.007	ug/L	1.11	0.007	0.011		U	03/22/24 21:52	MQ
	Dieldrin	<0.006	ug/L	1.11	0.006	0.011		U	03/22/24 21:52	MQ
	Endosulfan I	<0.008	ug/L	1.11	0.008	0.011		U	03/22/24 21:52	MQ
	Endosulfan II	<0.004	ug/L	1.11	0.004	0.011		U	03/22/24 21:52	MQ
	Endosulfan sulfate	<0.006	ug/L	1.11	0.006	0.011		U	03/22/24 21:52	MQ
	Endrin	<0.004	ug/L	1.11	0.004	0.011		U	03/22/24 21:52	MQ
	Endrin aldehyde	<0.003	ug/L	1.11	0.003	0.011		U	03/22/24 21:52	MQ
	g-BHC	<0.004	ug/L	1.11	0.004	0.011		U	03/22/24 21:52	MQ
	Heptachlor	<0.004	ug/L	1.11	0.004	0.011		V12,U	03/22/24 21:52	MQ
	Heptachlor epoxide	<0.004	ug/L	1.11	0.004	0.011		U	03/22/24 21:52	MQ
	Methoxychlor	<0.003	ug/L	1.11	0.003	0.011		V12,U	03/22/24 21:52	MQ

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 24032216

Date 3/28/2024

Client Name:	Texarkana Water Utilities		Attn: Jeannie A. Sanders
Project Name:	6018 / Waggoner Creek WWTP		

Client Sample ID:	6018 / 10374-007	Job Sample ID:	24032216.01
Date Collected:	03/20/24	Sample Matrix	Water
Time Collected:	09:00	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	SQL	Reg Limit	Q	Date Time	Analyst
EPA 608.3	Organochlorine Pesticides									
	Toxaphene	<0.111	ug/L	1.11	0.111	0.111		U	03/22/24 21:52	MQ
	Decachlorobiphenyl(surr)	43.5	%	1.11		34-120			03/22/24 21:52	MQ
	Tetrachloro-m-xylene(surr)	78.8	%	1.11		24-127			03/22/24 21:52	MQ
EPA 614	Organophosphorus Pesticides									
	Chlorpyrifos[2]	<0.033	ug/L	1.11	0.033	0.111		U	03/25/24 15:20	KMN
	Demeton[2]	<0.03	ug/L	1.11	0.03	0.111		U	03/25/24 15:20	KMN
	Diazinon[2]	<0.041	ug/L	1.11	0.041	0.111		U	03/25/24 15:20	KMN
	Guthion[2]	<0.045	ug/L	1.11	0.045	0.111		U	03/25/24 15:20	KMN
	Malathion[2]	<0.025	ug/L	1.11	0.025	0.111		U	03/25/24 15:20	KMN
	Parathion[2]	<0.023	ug/L	1.11	0.023	0.111		U	03/25/24 15:20	KMN
	4-Chloro-3-Nitro-Benzene (surr)	77.6	%	1.11		15-109			03/25/24 15:20	KMN
EPA 615	Chlorinated Herbicides									
	2,4,5-TP	<0.10	ug/L	1.11	0.10	0.21		U	03/26/24 16:29	MQ
	2,4-D	<0.08	ug/L	1.11	0.08	0.21		U	03/26/24 16:29	MQ
	DCPAA(surr)	84.5	%	1.11		38-120			03/26/24 16:29	MQ
EPA 617										
	Dicofol[2]	<0.01	ug/L	1	0.01	0.0500		U	03/25/24 17:09	MQ
	Mirex[2]	<0.002	ug/L	1	0.002	0.0100		U	03/25/24 17:09	MQ
	Decachlorobiphenyl(surr)	54.3	%	1		84.2-128		S6	03/25/24 17:09	MQ
	Tetrachloro-m-xylene(surr)	101	%	1		44-120			03/25/24 17:09	MQ
EPA 632	Carbamate and Urea Pesticides									
	Carbaryl	5.63	ug/L	1.00	0.033	0.1			03/25/24 19:24	ARM
	Diuron[2]	<0.021	ug/L	1.00	0.021	0.1		U	03/25/24 19:24	ARM

ab-q212-0321

[2]-Parameter not available for accreditation.

LABORATORY TEST RESULTS

Job ID : 24030585

Date 3/13/2024

Client Name:	Texarkana Water Utilities	Attn: Jeannie A. Sanders
Project Name:	6007 / Waggoner Creek WWTP	

Client Sample ID:	6007 / 10374-007	Job Sample ID:	24030585.01
Date Collected:	03/06/24	Sample Matrix	Water
Time Collected:	08:55	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	SQL	Reg Limit	Q	Date Time	Analyst
EPA 624.1	Volatile Organic Compounds									
	1,1,1-Trichloroethane	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	1,1,2,2-Tetrachloroethane	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	1,1,2-Trichloroethane	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	1,1-Dichloroethane	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	1,1-Dichloroethylene	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	1,2-Dibromoethane	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	1,2-Dichloroethane	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	1,2-Dichloropropane	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	2-chloroethylvinyl Ether	< 6	ug/L	1.00	6	< 10		U	03/07/24 10:59	VK
	Acrolein	< 6	ug/L	1.00	6	< 10		L1,V1,U	03/07/24 10:59	VK
	Acrylonitrile	< 3	ug/L	1.00	3	< 5		U	03/07/24 10:59	VK
	Benzene	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	Bromodichloromethane	3.53	ug/L	1.00	1	< 5		J	03/07/24 10:59	VK
	Bromoform	2.43	ug/L	1.00	1	< 5		J	03/07/24 10:59	VK
	Bromomethane	< 2	ug/L	1.00	2	< 5		U	03/07/24 10:59	VK
	Carbon tetrachloride	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	Chlorobenzene	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	Chloroethane	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	Chloroform	2.53	ug/L	1.00	1	< 5		J	03/07/24 10:59	VK
	Chloromethane	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	cis-1,3-Dichloropropene	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	Dibromochloromethane	4.28	ug/L	1.00	1	< 5		J	03/07/24 10:59	VK
	Ethylbenzene	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	MEK	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	Methylene chloride	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	Tetrachloroethylene	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	Toluene	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	trans-1,2-Dichloroethylene	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	trans-1,3-Dichloropropene	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	Trichloroethylene	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	Trichlorofluoromethane	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	TTHMs	12.77	ug/L	1.00	1	< 20		J	03/07/24 10:59	VK
	Vinyl Chloride	< 1	ug/L	1.00	1	< 5		U	03/07/24 10:59	VK
	1,2-Dichloroethane-d4(surr)	114	%	1.00		70-130			03/07/24 10:59	VK
	Dibromofluoromethane(surr)	117	%	1.00		70-130			03/07/24 10:59	VK

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 24030585

Date 3/13/2024

Client Name: Texarkana Water Utilities

Attn: Jeannie A. Sanders

Project Name: 6007 / Waggoner Creek WWTP

Client Sample ID: 6007 / 10374-007
Date Collected: 03/06/24
Time Collected: 08:55
Other Information:

Job Sample ID: 24030585.01
Sample Matrix Water
% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	SQL	Reg Limit	Q	Date Time	Analyst
EPA 624.1	Volatile Organic Compounds									
	p-Bromofluorobenzene(surr)	98	%	1.00		70-130			03/07/24 10:59	VK
	Toluene-d8(surr)	96.8	%	1.00		70-130			03/07/24 10:59	VK

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 24071878

Date 7/31/2024

Client Name: Texarkana Water Utilities

Project Name: 6062 / Waggoner Creek WWTP

Attn: Jeannie A. Sanders

Client Sample ID: 6062 / 10374-007

Date Collected: 07/18/24

Time Collected: 13:00

Other Information:

Job Sample ID: 24071878.01

Sample Matrix Water

% Moisture

Test Method	Parameter/Test Description	Result	Units	DF	SDL	SQL	Reg Limit	Q	Date Time	Analyst
SM 4500CN-CG	Cyanide, Amenable									
	Cyanide, Amenable	<10 ~~3.8~~	ug/L	1	2.2	10		J	07/25/24 13:51	SKC
SM 4500CNC/E	Cyanide, Total									
	Cyanide	< 5.0 ~~5.9~~	ug/L	1	2.2	5		J	07/25/24 13:11	SKC

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 24071878

Date 7/31/2024

Client Name:	Texarkana Water Utilities	Attn: Jeannie A. Sanders
Project Name:	6062 / Waggoner Creek WWTP	

Client Sample ID:	6062 / 10374-007	Job Sample ID:	24071878.02
Date Collected:	07/18/24	Sample Matrix	Water
Time Collected:	12:58	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	SQL	Reg Limit	Q	Date Time	Analyst
EPA 420.4	Phenolics (Total Phenols)									
	Phenols <10.0	< 4.5	ug/L	1	4.5	10		U	07/19/24 16:25	SKC

ab-q212-0321

LABORATORY TEST RESULTS

Job ID : 24071878 Date 7/31/2024

Client Name:	Texarkana Water Utilities
Project Name:	6062 / Waggoner Creek WWTP

Attn: Jeannie A. Sanders

Client Sample ID:	6062 / 10374-007	Job Sample ID:	24071878.03
Date Collected:	07/18/24	Sample Matrix	Water
Time Collected:	12:32	% Moisture	
Other Information:			

Test Method	Parameter/Test Description	Result	Units	DF	SDL	SQL	Reg Limit	Q	Date Time	Analyst
SM 3500Cr B	Hexavalent Chromium									
	Chromium, Hexavalent	<10.0 < 1	ug/L	1	1	10		U	07/19/24 09:00	JCA
EPA 1631E	CVAFS									
	Mercury	0.0062	ug/L	1	0.00004	0.00025			07/22/24 15:40	BDC
EPA 200.8	Metals by ICP/MS									
	Antimony	<0.5 ~~0.46~~	ug/L	1	0.2	0.5		J	07/23/24 16:36	AK
	Arsenic	1.07	ug/L	1	0.02	0.25			07/23/24 16:36	AK
	Beryllium	<0.25 ~~0.02~~	ug/L	1	0.02	0.25		J	07/23/24 16:36	AK
	Cadmium	<0.25 ~~0.05~~	ug/L	1	0.05	0.25		J	07/23/24 16:36	AK
	Chromium	0.51	ug/L	1	0.04	0.25			07/23/24 16:36	AK
	Copper	4.39	ug/L	1	0.05	0.5			07/23/24 16:36	AK
	Lead	0.31	ug/L	1	0.04	0.25			07/23/24 16:36	AK
	Molybdenum	1.03	ug/L	1	0.04	0.25			07/23/24 16:36	AK
	Nickel	3.61	ug/L	1	0.08	0.25			07/23/24 16:36	AK
	Selenium	<1.0 0.41	ug/L	1	0.21	1		J	07/23/24 16:36	AK
	Silver	<0.5 < 0.05	ug/L	1	0.05	0.5		U	07/27/24 03:58	YWZ
	Thallium	<0.25 0.02	ug/L	1	0.02	0.25		J	07/23/24 16:36	AK
	Zinc	78	ug/L	1	0.71	2			07/23/24 16:36	AK
EPA 245.1	Total Metals - Mercury									
	Mercury	<0.2 0.07	ug/L	1	0.06	0.2		J	07/24/24 13:07	MAS

ab-q212-0321

2600 Dudley Rd. Kilgore, Texas 75662
24 Waterway Avenue, Suite 375 The Woodlands, TX 77380
Office: 903-984-0551 * Fax: 903-984-5914

SPL The Science of Sure

2

TEXY-A

Project 1121987

Texarkana Water Utilities
Jeannie Sanders
Environmental Services
312 W 4th Street
Texarkana, TX 75501

Printed: 11/14/2024

6116

RESULTS

Sample Date: 10.16.24

Sample Results

2345258 6116 COMP 10/15 0930 10/16 0830 *Received:* 10/16/2024

Non-Potable Water *Collected by:* Client Texarkana Water Util *PO:*

Composite Stop 08:30 10/16/24 *Taken:* 10/16/2024 08:30:00

		Prepared:		11/14/2024	10:31:00	Analyzed		11/14/2024	10:31:00	TWV
	Parameter	*Results*	*Units*	*RL*		*Flags*		*CAS*		*Bottle*
z	Check Limits	Completed								

ASTM D7065-11		*Prepared:*	1144676	10/23/2024	11:00:00	*Analyzed*	1145297	10/28/2024	16:40:00	DWL
	Parameter	*Results*	*Units*	*RL*		*Flags*		*CAS*		*Bottle*
z	Nonylphenol	<34.5	ug/L	34.5				25154-52-3		32

Calculation			*Prepared:*		10/21/2024	08:07:59	Calculated	10/21/2024	08:07:59	CAL
	Parameter	ug/L	*Results*	*Units*	*RL*		*Flags*	*CAS*		*Bottle*
NELAC	Trivalent Chromium	<3.0	<0.003	mg/L	0.003			16065-83-1		

EPA 200.7 4.4			*Prepared:*	1143299	10/17/2024	09:00:00	*Analyzed*	1143393	10/17/2024	15:44:00	CAS
	Parameter	ug/L	*Results*	*Units*	*RL*	ug/L	*Flags*		*CAS*		*Bottle*
NELAC	Phosphorus	3630	3.63	mg/L	0.040	40			7723-14-0		23

EPA 200.8 5.4			*Prepared:*	1143299	10/17/2024	09:00:00	*Analyzed*	1143449	10/17/2024	21:35:00	ESG
	Parameter	ug/L	*Results*	*Units*	*RL*	ug/L	*Flags*		*CAS*		*Bottle*
NELAC	Barium, Total	23.7	0.0237	mg/L	0.002	2			7440-39-3		23
NELAC	Beryllium, Total	<0.5	<0.0005	mg/L	0.0005	0.5			7440-41-7		23
NELAC	Cadmium, Total	<0.5	<0.0005	mg/L	0.0005	0.5			7440-43-9		23
NELAC	Chromium, Total	<1.0	<0.001	mg/L	0.001	1			7440-47-3		23
NELAC	Selenium, Total	<2.0	<0.002	mg/L	0.002	2			7782-49-2		23
NELAC	Silver, Total	<0.2	<0.0002	mg/L	0.0002	0.2			7440-22-4		23
NELAC	Zinc, Total	46.1	0.0461	mg/L	0.005	5			7440-66-6		23

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TEXY-A

Project 1121987

Texarkana Water Utilities
Jeannie Sanders
Environmental Services
312 W 4th Street
Texarkana, TX 75501

Printed: 11/14/2024

2345258 6116 COMP 10/15 0930 10/16 0830 Received: Sample Date 10/16/2024

Non-Potable Water Collected by: Client Texarkana Water Util PO:

Composite Stop 08:30 10/16/24 Taken: 10/16/2024 08:30:00

EPA 200.8 5.4 Prepared: 1143299 10/17/2024 09:00:00 Analyzed 1143916 10/22/2024 04:25:00 ESG

	Parameter	ug/L	Results	Units	RL	ug/L	Flags	CAS	Bottle
NELAC	Aluminum, Total	88	0.088	mg/L	0.002	2.0		7429-90-5	23
NELAC	Arsenic, Total	1.05	0.00105	mg/L	0.0005	0.5		7440-38-2	23
NELAC	Copper, Total	3.52	0.00352	mg/L	0.001	1.0		7440-50-8	23

EPA 200.8 5.4 Prepared: 1143299 10/17/2024 09:00:00 Analyzed 1144258 10/23/2024 14:37:00 ESG

	Parameter	ug/L	Results	Units	RL	ug/L	Flags	CAS	Bottle
NELAC	Lead, Total	<0.5	<0.0005	mg/L	0.0005	0.5		7439-92-1	23
NELAC	Nickel, Total	2.83	0.00283	mg/L	0.001	1.0		7440-02-0	23

EPA 200.8 5.4 Prepared: 1143299 10/17/2024 09:00:00 Analyzed 1144531 10/24/2024 16:12:00 ESG

	Parameter	ug/L	Results	Units	RL	ug/L	Flags	CAS	Bottle
NELAC	Antimony, Total	<3.76	<0.00376	mg/L	0.00376	3.76		7440-36-0	23
NELAC	Thallium, Total	<0.106	<0.000106	mg/L	0.000106	0.106		7440-28-0	23

EPA 300.0 2.1 Prepared: 1143707 10/17/2024 11:44:00 Analyzed 1143707 10/17/2024 11:44:00 TTC

	Parameter	ug/L	Results	Units	RL	ug/L	Flags	CAS	Bottle
NELAC	Chloride	69700	69.7	mg/L	3.00	3000			01
NELAC	Fluoride	<500	<0.5	mg/L	0.5	500			01
NELAC	Nitrate-Nitrogen Total	19100	19.1	mg/L	0.226	226		14797-55-8	01
NELAC	Sulfate	~~67500~~	67.5	mg/L	3.00	~~3000~~			01

EPA 350.1 2 Prepared: 1143759 10/21/2024 14:51:05 Analyzed 1143891 10/22/2024 10:57:00 AMB

	Parameter	~~ug/L~~	Results	Units	RL	~~ug/L~~	Flags	CAS	Bottle
NELAC	Ammonia Nitrogen	~~104~~	0.104	mg/L	0.020	~~20~~			30

EPA 351.2 2 Prepared: 1143223 10/17/2024 09:07:33 Analyzed 1143724 10/21/2024 08:26:00 AMB

	Parameter	~~ug/L~~	Results	Units	RL	~~ug/L~~	Flags	CAS	Bottle
NELAC	Total Kjeldahl Nitrogen	~~<50~~	<0.050	mg/L	0.050	~~50~~		7727-37-9	21

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Printed: 11/14/2024

2345258 **6116** COMP 10/15 0930 10/16 0830 *Received:* 10/16/2024

Non-Potable Water *Collected by:* Client Texarkana Water Util *PO:* Sample Date

Composite Stop 08:30 10/16/24 *Taken:* 10/16/2024 08:30:00

EPA 604.1 *Prepared:* 1143739 10/21/2024 09:45:00 *Analyzed* 1144278 10/22/2024 19:02:00 BRU

	Parameter	Results	Units	RL	Flags	CAS	Bottle
z	Hexachlorophene	<2.84	ug/L	2.84	D	70-30-4	29

EPA 608.3 *Prepared:* 1143337 10/17/2024 13:55:00 *Analyzed* 1144877 10/18/2024 21:32:00 KAP

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	4,4-DDD	<0.0108	ug/L	0.0108		72-54-8	25
NELAC	4,4-DDE	<0.0108	ug/L	0.0108		72-55-9	25
NELAC	4,4-DDT	<0.0108	ug/L	0.0108		50-29-3	25
NELAC	Aldrin	0.0242	ug/L	0.0108	S	309-00-2	25
NELAC	Alpha-BHC(hexachlorocyclohexane)	<0.0108	ug/L	0.0108		319-84-6	25
NELAC	Beta-BHC(hexachlorocyclohexane)	<0.0108	ug/L	0.0108		319-85-7	25
NELAC	Chlordane	<0.200	ug/L	0.200		57-74-9	25
NELAC	Delta-BHC(hexachlorocyclohexane)	<0.0108	ug/L	0.0108		319-86-8	25
NELAC	Dieldrin	<0.0992	ug/L	0.0992	M	60-57-1	25
NELAC	Endosulfan I (alpha)	<0.010	ug/L	0.010		959-98-8	25
NELAC	Endosulfan II (beta)	<0.0108	ug/L	0.0108	S	33213-65-9	25
NELAC	Endosulfan sulfate	<0.0108	ug/L	0.0108		1031-07-8	25
NELAC	Endrin	<0.0108	ug/L	0.0108		72-20-8	25
NELAC	Endrin aldehyde	<0.0108	ug/L	0.0108		7421-93-4	25
NELAC	Gamma-BHC(Lindane)	<0.0108	ug/L	0.0108		58-89-9	25
NELAC	Heptachlor	<0.010	ug/L	0.010	S	76-44-8	25
NELAC	Heptachlor epoxide	<0.010	ug/L	0.010		1024-57-3	25
NELAC	Toxaphene	<0.216	ug/L	0.216		8001-35-2	25

EPA 608.3 *Prepared:* 1143339 10/17/2024 13:55:00 *Analyzed* 1144945 10/18/2024 21:32:00 KAP

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	PCB-1016	<0.200	ug/L	0.200	X	12674-11-2	27
NELAC	PCB-1221	<0.200	ug/L	0.200		11104-28-2	27
NELAC	PCB-1232	<0.200	ug/L	0.200		11141-16-5	27
NELAC	PCB-1242	<0.200	ug/L	0.200		53469-21-9	27
NELAC	PCB-1248	<0.200	ug/L	0.200		12672-29-6	27
NELAC	PCB-1254	<0.200	ug/L	0.200		11097-69-1	27
NELAC	PCB-1260	<0.200	ug/L	0.200		11096-82-5	27
NELAC	~~PCB-1262~~	<0.216	ug/L	0.216		37324-23-5	27
NELAC	PCB-1268	<0.216	ug/L	0.216		11100-14-4	27

NOT needed

left off total

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TEXY-A

Project 1121987

Texarkana Water Utilities
Jeannie Sanders
Environmental Services
312 W 4th Street
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Printed: 11/14/2024

2345258 6116 COMP 10/15 0930 10/16 0830 Received: 10/16/2024

Non-Potable Water Collected by: Client Texarkana Water Util PO: Sample Date

Composite Stop 08:30 10/16/24 Taken: 10/16/2024 08:30:00

EPA 614 Prepared: 1143338 10/17/2024 13:55:00 Analyzed 1145546 10/30/2024 15:59:00 KAP

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	Azinphos-methyl (Guthion)	<0.0539	ug/L	0.0539		86-50-0	26
NELAC	Demeton	<0.0539	ug/L	0.0539		8065-48-3	26
NELAC	Diazinon	<0.0539	ug/L	0.0539		333-41-5	26
NELAC	Malathion	<0.0539	ug/L	0.0539		121-75-5	26
NELAC	Parathion, ethyl Two diff parathion	<0.0539	ug/L	0.0539		56-38-2	26
NELAC	Parathion, methyl	<0.050	ug/L	0.050		298-00-0	26

EPA 615 Prepared: 1143899 10/21/2024 14:30:00 Analyzed 1144589 10/25/2024 00:49:00 KAP

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	2,4,5-TP (Silvex)	<0.300	ug/L	0.300		93-72-1	31

EPA 615 Prepared: 1143899 10/21/2024 14:30:00 Analyzed 1144824 10/25/2024 17:37:00 KAP

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	2,4 Dichlorophenoxyacetic acid	<5.55	ug/L	5.55	M	94-75-7	31

EPA 617 Prepared: 1143337 10/17/2024 13:55:00 Analyzed 1144039 10/18/2024 21:32:00 KAP

	Parameter	Results	Units	RL	Flags	CAS	Bottle
z	Methoxychlor	<0.0108	ug/L	0.0108		72-43-5	25
z	Mirex	<0.0108	ug/L	0.0108		2385-85-5	25

EPA 617 Prepared: 1143337 10/17/2024 13:55:00 Analyzed 1145061 10/24/2024 01:05:00 KAP

	Parameter	Results	Units	RL	Flags	CAS	Bottle
z	Kelthane (Dicofol)	<0.0539	ug/L	0.0539		115-32-2	25

EPA 622 Prepared: 1143338 10/17/2024 13:55:00 Analyzed 1145542 10/30/2024 15:59:00 KAP

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	Chlorpyrifos	<0.050	ug/L	0.050		2921-88-2	26

EPA 625.1 Prepared: 1143548 10/18/2024 07:00:00 Analyzed 1145374 10/29/2024 01:40:00 PMI

Parameter	Results	Units	RL	Flags	CAS	Bottle

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Project
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Printed: 11/14/2024

2345258 **6116** COMP 10/15 0930 10/16 0830 *Received:* 10/16/2024

Non-Potable Water *Collected by:* Client Texarkana Water Util *PO:* Sample Date

Composite Stop 08:30 10/16/24 *Taken:* 10/16/2024 08:30:00

EPA 625.1 *Prepared:* *1143548* *10/18/2024* *07:00:00* *Analyzed* *1145374* *10/29/2024* *01:40:00* *PM1*

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	1,2,4,5-Tetrachlorobenzene	<1.09	ug/L	1.09		95-94-3	28
NELAC	1,2,4-Trichlorobenzene	<1.09	ug/L	1.09		120-82-1	28
NELAC	1,2-Dichlorobenzene	<1.09	ug/L	1.09		95-50-1	28
NELAC	1,2-DPH (as azobenzene)	<1.09	ug/L	1.09		122-66-7	28
NELAC	1,3-Dichlorobenzene	<1.09	ug/L	1.09		541-73-1	28
NELAC	1,4-Dichlorobenzene	<1.09	ug/L	1.09		106-46-7	28
NELAC	2,4,5-Trichlorophenol	<1.09	ug/L	1.09		95-95-4	28
NELAC	2,4,6-Trichlorophenol	<1.09	ug/L	1.09		88-06-2	28
NELAC	2,4-Dichlorophenol	<1.09	ug/L	1.09		120-83-2	28
C	2,4-Dimethylphenol	<2.63	ug/L	2.63		105-67-9	28
..LAC	2,4-Dinitrophenol	<9.85	ug/L	9.85		51-28-5	28
NELAC	2,4-Dinitrotoluene	<3.83	ug/L	3.83		121-14-2	28
NELAC	2,6-Dinitrotoluene	<1.09	ug/L	1.09		606-20-2	28
NELAC	2-Chloronaphthalene	<1.09	ug/L	1.09		91-58-7	28
NELAC	2-Chlorophenol	<1.09	ug/L	1.09		95-57-8	28
NELAC	2-Methylphenol (o-Cresol)	<5.69	ug/L	5.69		95-48-7	28
NELAC	2-Nitrophenol	<1.09	ug/L	1.09		88-75-5	28
NELAC	3&4-Methylphenol (m&p-Cresol)	<6.78	ug/L	6.78		MEPH34	28
NELAC	3,3'-Dichlorobenzidine	<5.00	ug/L	5.00		91-94-1	28
NELAC	4,6-Dinitro-2-methylphenol	<8.75	ug/L	8.75		534-52-1	28
NELAC	4-Bromophenyl phenyl ether	<1.09	ug/L	1.09		101-55-3	28
NELAC	4-Chlorophenyl phenyl ethe	<1.09	ug/L	1.09		7005-72-3	28
NELAC	4-Nitrophenol	<1.09	ug/L	1.09		100-02-7	28
NELAC	Acenaphthene	<1.09	ug/L	1.09		83-32-9	28
NELAC	Acenaphthylene	<1.09	ug/L	1.09		208-96-8	28
z	Aniline	<1.09	ug/L	1.09	S	62-53-3	28
NELAC	Anthracene	<1.09	ug/L	1.09		120-12-7	28
NELAC	Benzidine	<21.9	ug/L	21.9		92-87-5	28
NELAC	Benzo(a)anthracene	<1.09	ug/L	1.09		56-55-3	28
NELAC	Benzo(a)pyrene	<1.09	ug/L	1.09		50-32-8	28
NELAC	Benzo(b)fluoranthene	<1.09	ug/L	1.09		205-99-2	28
NELAC	Benzo(ghi)perylene	<1.09	ug/L	1.09		191-24-2	28
NELAC	Benzo(k)fluoranthene	<1.09	ug/L	1.09		207-08-9	28
NELAC	Benzyl Butyl phthalate	<8.21	ug/L	8.21		85-68-7	28
NELAC	Bis(2-chloroethoxy)methane	<1.09	ug/L	1.09		111-91-1	28
NELAC	Bis(2-chloroethyl)ether	<1.09	ug/L	1.09		111-44-4	28

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Jeannie Sanders
Environmental Services
312 W 4th Street
Texarkana, TX 75501

Printed: 11/14/2024

2345258 **6116** COMP 10/15 0930 10/16 0830 *Received:* 10/16/2024

Non-Potable Water *Collected by:* Client Texarkana Water Util

Composite Stop 08:30 10/16/24 *Taken:* 10/16/2024 08:30:00 *PO:* Sample Date

EPA 625.1 *Prepared:* 1143548 10/18/2024 07:00:00 *Analyzed* 1145374 10/29/2024 01:40:00 PM1

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	Bis(2-chloroisopropyl)ether	<1.09	ug/L	1.09		108-60-1	28
NELAC	Bis(2-ethylhexyl)phthalate	<8.21	ug/L	8.21		117-81-7	28
NELAC	Chrysene (Benzo(a)phenanthrene)	<1.09	ug/L	1.09		218-01-9	28
NELAC	Dibenz(a,h)anthracene	<1.09	ug/L	1.09		53-70-3	28
NELAC	Diethyl phthalate	<6.24	ug/L	6.24		84-66-2	28
NELAC	Dimethyl phthalate	<5.25	ug/L	5.25		131-11-3	28
NELAC	Di-n-butylphthalate	<8.21	ug/L	8.21		84-74-2	28
NELAC	Di-n-octylphthalate	<1.09	ug/L	1.09		117-84-0	28
NELAC	Fluoranthene(Benzo(j,k)fluorene)	<1.09	ug/L	1.09		206-44-0	28
C	Fluorene	<1.09	ug/L	1.09		86-73-7	28
AC	Hexachlorobenzene	<1.09	ug/L	1.09		118-74-1	28
NELAC	Hexachlorobutadiene	<1.09	ug/L	1.09		87-68-3	28
NELAC	Hexachlorocyclopentadiene	<9.85	ug/L	9.85	SD	77-47-4	28
NELAC	Hexachloroethane	<1.09	ug/L	1.09		67-72-1	28
NELAC	Indeno(1,2,3-cd)pyrene	<1.09	ug/L	1.09		193-39-5	28
NELAC	Isophorone	<1.09	ug/L	1.09		78-59-1	28
NELAC	Naphthalene	<1.09	ug/L	1.09		91-20-3	28
NELAC	Nitrobenzene	<1.09	ug/L	1.09		98-95-3	28
NELAC	n-Nitrosodiethylamine	<1.09	ug/L	1.09		55-18-5	28
NELAC	N-Nitrosodimethylamine	<7.66	ug/L	7.66		62-75-9	28
NELAC	n-Nitroso-di-n-butylamine	<1.09	ug/L	1.09		924-16-3	28
NELAC	N-Nitrosodi-n-propylamine	<1.09	ug/L	1.09		621-64-7	28
NELAC	N-Nitrosodiphenylamine (as DPA	<1.09	ug/L	1.09		86-30-6	28
NELAC	p-Chloro-m-Cresol (4-Chloro-3-me	<2.63	ug/L	2.63		59-50-7	28
NELAC	Pentachlorobenzene	<1.09	ug/L	1.09		608-93-5	28
NELAC	Pentachlorophenol	<1.09	ug/L	1.09		87-86-5	28
NELAC	Phenanthrene	<1.09	ug/L	1.09		85-01-8	28
NELAC	Phenol	<1.64	ug/L	1.64		108-95-2	28
NELAC	Pyrene	<1.09	ug/L	1.09		129-00-0	28
NELAC	Pyridine	<5.91	ug/L	5.91		110-86-1	28

EPA 625.1 *Prepared:* 1143548 10/18/2024 07:00:00 *Calculated* 1145374 11/01/2024 11:19:35 CAL

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	Cresols Total	<6.78	ug/L	6.78		1319-77-3, etc.	28

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Printed: 11/14/2024

2345258 6116 COMP 10/15 0930 10/16 0830

Non-Potable Water | Collected by: Client | Texarkana Water Util | Received: 10/16/2024

Composite Stop 08:30 10/16/24 | Taken: 10/16/2024 08:30:00 | PO: Sample Date

EPA 632 — Prepared: 1143336 10/18/2024 06:40:00 — Analyzed 1144716 10/23/2024 18:15:00 BRU

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	Carbaryl (Sevin)	<2.70	ug/L	2.70	XD	63-25-2	24
z	Diuron	<0.0485	ug/L	0.0485		330-54-1	24

SM 2320 B-2011 — Prepared: 1145197 10/29/2024 10:17:00 — Analyzed 1145197 10/29/2024 10:17:00 TRC

	Parameter	ug/L	Results	Units	RL	ug/L	Flags	CAS	Bottle
NELAC	Total Alkalinity (as CaCO3)	2480	24.8	mg/L	1.00	1000			01

SM 2510 B-2011 — Prepared: 1144286 10/24/2024 06:25:00 — Analyzed 1144286 10/24/2024 06:25:00 BEK

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	Lab Spec. Conductance at 25 C	625	umhos/cm				01

SM 2540 C-2015 — Prepared: 1143962 10/21/2024 07:40:00 — Analyzed 1143962 10/21/2024 07:40:00 JMB

	Parameter	ug/L	Results	Units	RL	ug/L	Flags	CAS	Bottle
NELAC	Total Dissolved Solids	388000	388	mg/L	20.0	20 000			01

SM 2540 D-2015 — Prepared: 1143670 10/17/2024 10:30:00 — Analyzed 1143670 10/17/2024 10:30:00 BLC

	Parameter	ug/L	Results	Units	RL	ug/L	Flags	CAS	Bottle
NELAC	Total Suspended Solids	8270	8.27	mg/L	2.67	2670			01

SM 3500-Cr B-2011 — Prepared: 1143604 10/18/2024 07:00:00 — Analyzed 1143604 10/18/2024 07:00:00 ALB

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	Hexavalent Chromium	<3.00	ug/L	3.00		18540-29-9	18

SM 3500-Cr B-2011 — Prepared: 1147384 10/16/2024 08:30:00 — Analyzed 1147384 10/16/2024 08:30:00 CLI

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	Hex Cr, Field Preservation	preserved	ug/L	3		18540-29-9	

2600 Dudley Rd. Kilgore, Texas 75662
24 Waterway Avenue, Suite 375 The Woodlands, TX 77380
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TEXY-A

Project 1121987

Texarkana Water Utilities
Jeannie Sanders
Environmental Services
312 W 4th Street
Texarkana, TX 75501

Printed: 11/14/2024

2345258 6116 COMP 10/15 0930 10/16 0830 *Received:* 10/16/2024

Non-Potable Water *Collected by:* Client Texarkana Water Util *PO:* Sample Date

Composite Stop 08:30 10/16/24 *Taken:* 10/16/2024 08:30:00

SM 5210 B-2016 (TCMP Inhibitor) *Prepared:* 1143180 10/17/2024 *Analyzed* 1143180 10/22/2024 10:41:29 ESN

	Parameter		Results	Units	RL		Flags	CAS	Bottle
NELAC	BOD Carbonaceous	ug/L 2680	2.68	mg/L	2.00	ug/L 2000			01

TX 1001 *Prepared:* 1145114 10/29/2024 10:10:00 *Analyzed* 1146370 11/05/2024 18:53:00 DWL

	Parameter	Results	Units	RL	Flags	CAS	Bottle
z	Tributyltin hydride	<0.00764	ug/L	0.00764		688-73-3	33

Not needed.

Sample Preparation

2345258 6116 COMP 10/15 0930 10/16 0830 *Received:* 10/16/2024

Composite Stop 08:30 10/16/24 10/16/2024

Prepared: 10/16/2024 16:31:51 *Calculated* 10/16/2024 16:31:51 CAL

z	Composite Sampler Rental	Verified		
z	SUB Shipped	Verified		

Prepared: 10/16/2024 17:31:44 *Calculated* 10/16/2024 17:31:44 CAL

z	Environmental Fee (per Project)	Verified		

ASTM D7065-11 *Prepared:* 1144676 10/23/2024 11:00:00 *Analyzed* 1145297 10/28/2024 16:40:00 DWL

z	Nonyl Phenol Expansion	Entered		32

EPA 200.2 2.8 *Prepared:* 1143299 10/17/2024 09:00:00 *Analyzed* 1143299 10/17/2024 09:00:00 HLT

z	Liquid Metals Digestion	50/50	ml	02

Texarkana Water Utilities
Pollution Control Division

Testing Date: 3/5/2024
Sample Date/Time: 3/4/2024 800

Laboratory Report

Received in Lab: 3/5/2024 840

SOURCE: Waggoner Creek WWTP   Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	157403		3.95	3/5/2024	1320	3/10/2024	1143	5210 B	bw/lr
CBOD - WC	Influent Comp	157404		157.00	3/5/2024	1320	3/10/2024	1143	5210 B	bw/lr
TSS - WC ✓	Effluent Comp	157403		6.40	3/5/2024	702	3/5/2024	1318	2540 D	lr
TSS - WC	Influent Comp	157404		170.00	3/5/2024	702	3/5/2024	1318	2540 D	lr
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	157403		0.428	3/5/2024	1307	3/5/2024	1311	4500-NH3 D	em
NH3 - WC	Influent	157404		27.1	3/5/2024	1024	3/5/2024	1029	4500-NH3 D	em
MLSS	AB - East	157405		6150	3/5/2024	702	3/5/2024	1318	2540 D	lr
MLVSS	AB - East	157405		4450	3/5/2024	702	3/5/2024	1318	2540 D	lr
MLSS	AB - West	157406		6400	3/5/2024	702	3/5/2024	1318	2540 D	lr
MLVSS	AB - West	157406		4750	3/5/2024	702	3/5/2024	1318	2540 D	lr
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli ✓	Effluent Grab	157407		68.3	3/5/2024	844	3/6/2024	845	Colilert	em/lr
Sulfate ✓	Effluent Grab	157408		82	3/8/2024	1123	3/8/2024	1143	8051	em

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	157403	Cool to 4° C	-0.03	-0.03	3.95	4.98	198 ± 30.5		181			
TSS/MLSS	157403	Cool to 4° C	0.00	0.00	6.4	6.4	30	200	31	203	103%	102%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	157403	H2SO4 cool	na	na	0.428	0.427	Spike of 0.2		0.626		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	157408	Cool to 4° C	na	na	41	43	100 ± 15		48			

Chief Laboratory Technician: ______________________   Date: ______________________

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Texarkana Water Utilities
Pollution Control Division

Laboratory Report

Testing Date:	3/7/2024	
Sample Date/Time:	3/6/2024	800
Received in Lab:	3/7/2024	754

SOURCE: Waggoner Creek WWTP   Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	157432		2.03	3/7/2024	1341	3/12/2024	1245	5210 B	lr/em
CBOD - WC	Influent Comp	157433		250.00	3/7/2024	1341	3/12/2024	1245	5210 B	lr/em
TSS - WC ✓	Effluent Comp	157432		4.67	3/7/2024	950	3/7/2024	1517	2540 D	em
TSS - WC	Influent Comp	157433		160.00	3/7/2024	950	3/7/2024	1517	2540 D	em
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	157432		0.721	3/7/2024	1148	3/7/2024	1152	4500-NH3 D	bw
NH3 - WC	Influent	157433		29.6	3/7/2024	828	3/7/2024	832	4500-NH3 D	bw
MLSS	AB - East	157434		6100	3/7/2024	950	3/7/2024	1517	2540 D	em
MLVSS	AB - East	157434		4400	3/7/2024	950	3/7/2024	1517	2540 D	em
MLSS	AB - West	157435		6050	3/7/2024	950	3/7/2024	1517	2540 D	em
MLVSS	AB - West	157435		4400	3/7/2024	950	3/7/2024	1517	2540 D	em
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	157432	Cool to 4° C	0.00	0.02	2.03	1.94	198 ± 30.5		173			
TSS/MLSS	157432	Cool to 4° C	0.00	0.00	4.67	4.67	30	200	31	192	103%	96%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	157432	H2SO4 cool	na	na	0.721	0.725	Spike of 0.2		0.921		98%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ______________________   Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 3/12/2024
Sample Date/Time: 3/11/2024 800

Laboratory Report

Received in Lab: 3/12/2024 840

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp	157477		2.09	3/12/2024	1345	3/17/2024	1153	5210 B	em/bw
CBOD - WC	Influent Comp	157478		288.00	3/12/2024	1345	3/17/2024	1153	5210 B	em/bw
TSS - WC	Effluent Comp	157477		6.13	3/12/2024	743	3/12/2024	1411	2540 D	bw
TSS - WC	Influent Comp	157478		128.00	3/12/2024	743	3/12/2024	1411	2540 D	bw
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent	157477		0.037	3/12/2024	1016	3/12/2024	1020	4500-NH3 D	lr
NH3 - WC	Influent	157478		21.5	3/12/2024	956	3/12/2024	1000	4500-NH3 D	lr
MLSS	AB - East	157479		6050	3/12/2024	743	3/12/2024	1411	2540 D	bw
MLVSS	AB - East	157479		4350	3/12/2024	743	3/12/2024	1411	2540 D	bw
MLSS	AB - West	157480		5750	3/12/2024	743	3/12/2024	1411	2540 D	bw
MLVSS	AB - West	157480		4200	3/12/2024	743	3/12/2024	1411	2540 D	bw
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli	Effluent Grab	157482		1.0	3/12/2024	858	3/13/2024	900	Colilert	lr
Sulfate	Effluent Grab	157481		58	3/16/2024	1042	3/16/2024	1102	8051	em

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	157477	Cool to 4° C	0.08	0.09	2.09	2.06	198 ± 30.5		170			
TSS/MLSS	157477	Cool to 4° C	0.00	0.00	6.13	6.13	30	200	30	193	100%	96%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	157477	H2SO4 cool	na	na	0.037	0.037	Spike of 0.2		0.230		96%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	157481	Cool to 4° C	na	na	29	28	100 ± 15		48			

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Laboratory Report

Testing Date: 3/14/2024
Sample Date/Time: 3/13/2024 740
Received in Lab: 3/14/2024 815

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	157512		2.95	3/14/2024	1330	3/19/2024	1435	5210 B	bw/em
CBOD - WC	Influent Comp	157513		92.00	3/14/2024	1330	3/19/2024	1435	5210 B	bw/em
TSS - WC ✓	Effluent Comp	157512		6.00	3/14/2024	905	3/14/2024	1520	2540 D	em
TSS - WC	Influent Comp	157513		68.00	3/14/2024	905	3/14/2024	1520	2540 D	em
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	157512		0.067	3/14/2024	1340	3/14/2024	1344	4500-NH3 D	em
NH3 - WC	Influent	157513		17.4	3/14/2024	1204	3/14/2024	1208	4500-NH3 D	em
MLSS	AB - East	157514		6850	3/14/2024	905	3/14/2024	1520	2540 D	em
MLVSS	AB - East	157514		4800	3/14/2024	905	3/14/2024	1520	2540 D	em
MLSS	AB - West	157515		6250	3/14/2024	905	3/14/2024	1520	2540 D	em
MLVSS	AB - West	157515		4700	3/14/2024	905	3/14/2024	1520	2540 D	em
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	157512	Cool to 4° C	-0.05	0.02	2.95	2.71	198 ± 30.5		133			
TSS/MLSS	157512	Cool to 4° C	0.00	0.00	6	5.8	30	200	30	197.9	100%	99%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	157512	H2SO4 cool	na	na	0.067	0.069	Spike of 0.2		0.270		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Laboratory Report

Testing Date:	3/19/2024	
Sample Date/Time:	3/18/2024	800
Received in Lab:	3/19/2024	850

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc *(Mg/L)*	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	157557		3.58	3/19/2024	1515	3/24/2024	1149	5210 B	em/bw
CBOD - WC	Influent Comp	157558		144.00	3/19/2024	1515	3/24/2024	1149	5210 B	em/bw
TSS - WC ✓	Effluent Comp	157557		6.83	3/19/2024	753	3/19/2024	1557	2540 D	bw
TSS - WC	Influent Comp	157558		192.00	3/19/2024	753	3/19/2024	1557	2540 D	bw
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	157557		0.081	3/19/2024	1638	3/19/2024	1642	4500-NH3 D	bw
NH3 - WC	Influent	157558		17.3	3/19/2024	1020	3/19/2024	1024	4500-NH3 D	bw
MLSS	AB - East	157559		5100	3/19/2024	753	3/19/2024	1557	2540 D	bw
MLVSS	AB - East	157559		3700	3/19/2024	753	3/19/2024	1557	2540 D	bw
MLSS	AB - West	157560		6750	3/19/2024	753	3/19/2024	1557	2540 D	bw
MLVSS	AB - West	157560		4800	3/19/2024	753	3/19/2024	1557	2540 D	bw
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli ✓	Effluent Grab	157561		2.0	3/19/2024	915	3/20/2024	1050	Colilert	em/bw
Sulfate ✓	Effluent Grab	157562		74	3/23/2024	1420	3/23/2024	1430	8051	em

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual	Standard Observed	% Recovery
CBOD	157557	Cool to 4° C	-0.05	-0.03	3.58	3.73	198 ± 30.5	108	
TSS/MLSS	157557	Cool to 4° C	0.00	0.00	6.83	6.83	30 200	30 192	100% 96%
COD		H2SO4 cool					300 ± 15		
pH(SU)		None					7.00 @ 25°C		
NH3	157557	H2SO4 cool	na	na	0.081	0.081	Spike of 0.2	0.281	100%
Fecal Coliform		Cool to 4° C					POS Control		
BOD		Cool to 4° C					198 ± 30.5		
Sulfate	157562	Cool to 4° C	na	na	37	37	100 ± 15	48	

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 3/21/2024
Sample Date/Time: 3/20/2024 800

Laboratory Report

Received in Lab: 3/21/2024 858

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	157590		2.80	3/21/2024	1410	3/26/2024	1220	5210 B	em/lr
CBOD - WC	Influent Comp	157591		89.00	3/21/2024	1410	3/26/2024	1220	5210 B	em/lr
TSS - WC ✓	Effluent Comp	157590		5.25	3/21/2024	814	3/22/2024	610	2540 D	bw/em
TSS - WC	Influent Comp	157591		150.00	3/21/2024	814	3/22/2024	610	2540 D	bw/em
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	157590		0.1	3/21/2024	1353	3/21/2024	1406	4500-NH3 D	bw
NH3 - WC	Influent	157591		18.8	3/21/2024	1014	3/21/2024	1018	4500-NH3 D	bw
MLSS	AB - East	157592		7100	3/21/2024	814	3/22/2024	610	2540 D	bw/em
MLVSS	AB - East	157592		5200	3/21/2024	814	3/22/2024	610	2540 D	bw/em
MLSS	AB - West	157593		7550	3/21/2024	814	3/22/2024	610	2540 D	bw/em
MLVSS	AB - West	157593		5350	3/21/2024	814	3/22/2024	610	2540 D	bw/em
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	157590	Cool to 4° C	-0.07	-0.10	2.8	2.81	198 ± 30.5		182			
TSS/MLSS	157590	Cool to 4° C	0.00	0.00	5.25	5.25	30	200	30	196	100%	98%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	157590	H2SO4 cool	na	na	0.074	0.074	Spike of 0.2		0.276		101%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 3/26/2024
Sample Date/Time: 3/25/2024 800

Laboratory Report

Received in Lab: 3/26/2024 904

SOURCE: Waggoner Creek WWTP   Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp	157633		3.39	3/26/2024	1525	3/31/2024	1418	5210 B	lr/bw
CBOD - WC	Influent Comp	157634		183.00	3/26/2024	1525	3/31/2024	1418	5210 B	lr/bw
TSS - WC	Effluent Comp	157633		7.60	3/26/2024	1100	3/26/2024	1702	2540 D	em
TSS - WC	Influent Comp	157634		188.00	3/26/2024	1100	3/26/2024	1702	2540 D	em
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent	157633		0.062	3/26/2024	1446	3/26/2024	1502	4500-NH3 D	bw
NH3 - WC	Influent	157634		7.47	3/26/2024	938	3/26/2024	942	4500-NH3 D	bw
MLSS	AB - East	157635		4800	3/26/2024	1100	3/26/2024	1702	2540 D	em
MLVSS	AB - East	157635		3750	3/26/2024	1100	3/26/2024	1702	2540 D	em
MLSS	AB - West	157636		7600	3/26/2024	1100	3/26/2024	1702	2540 D	em
MLVSS	AB - West	157636		5800	3/26/2024	1100	3/26/2024	1702	2540 D	em
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli	Effluent Grab	157637		5.2	3/26/2024	903	3/27/2024	1018	Colilert	lr/em
Sulfate	Effluent Grab	157638		44	3/30/2024	859	3/30/2024	925	8051	em

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	157633	Cool to 4° C	0.06	0.08	3.39	3.2	198 ± 30.5		214			
TSS/MLSS	157633	Cool to 4° C	0.00	0.00	7.6	7.6	30	200	30	194	100%	97%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	157633	H2SO4 cool	na	na	0.062	0.062	Spike of 0.2		0.263		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	157638	Cool to 4° C	na	na	22	24	100 ± 15		52			

Chief Laboratory Technician: ______________________   Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 3/28/2024
Sample Date/Time: 3/27/2024 800

Laboratory Report

Received in Lab: 3/28/2024 856

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp	157664		2.40	3/28/2024	1611	4/2/2024	1105	5210 B	lr/bw
CBOD - WC	Influent Comp	157665		146.00	3/28/2024	1611	4/2/2024	1105	5210 B	lr/bw
TSS - WC	Effluent Comp	157664		6.20	3/28/2024	1031	3/28/2024	1616	2540 D	em
TSS - WC	Influent Comp	157665		92.00	3/28/2024	1031	3/28/2024	1616	2540 D	em
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent	157664		0.030	3/28/2024	1512	3/28/2024	1517	4500-NH3 D	em
NH3 - WC	Influent	157665		14.8	3/28/2024	1330	3/28/2024	1334	4500-NH3 D	em
MLSS	AB - East	157666		5700	3/28/2024	1031	3/28/2024	1616	2540 D	em
MLVSS	AB - East	157666		3900	3/28/2024	1031	3/28/2024	1616	2540 D	em
MLSS	AB - West	157667		8150	3/28/2024	1031	3/28/2024	1616	2540 D	em
MLVSS	AB - West	157667		5650	3/28/2024	1031	3/28/2024	1616	2540 D	em
TS	WAS	157668		1.28	3/28/2024	1244	3/29/2024	1002	2540 B	em
TS	DIG	157669		0.31	3/28/2024	1248	3/29/2024	1001	2540 B	em
E. Coli	Effluent Grab								Colilert	
Sulfate	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard			% Recovery	
							Actual		Observed		
CBOD	157664	Cool to 4° C	0.06	0.06	2.4	2.27	198 ± 30.5		177		
TSS/MLSS	157664	Cool to 4° C	0.00	0.00	6.2	6	30	200	31 / 197	103%	98%
COD		H2SO4 cool					300 ± 15				
pH(SU)		None					7.00 @ 25°C				
NH3	157664	H2SO4 cool	na	na	0.030	0.031	Spike of 0.2		0.230	100%	
Fecal Coliform		Cool to 4° C					POS Control				
BOD		Cool to 4° C					198 ± 30.5				
Sulfate		Cool to 4° C					100 ± 15				

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Laboratory Report

Testing Date: 4/2/2024
Sample Date/Time: 4/1/2024 800
Received in Lab: 4/2/2024 836

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	157710		3.79	4/2/2024	1230	4/7/2024	1318	5210 B	bw
CBOD - WC	Influent Comp	157711		163.00		1230	4/7/2024	1318	5210 B	bw
TSS - WC ✓	Effluent Comp	157710		5.20	4/2/2024	652	4/2/2024	1528	2540 D	lr
TSS - WC	Influent Comp	157711		148.00	4/2/2024	652	4/2/2024	1528	2540 D	lr
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	157710		0.043	4/2/2024	937	4/2/2024	942	4500-NH3 D	lr
NH3 - WC	Influent	157711		21.6	4/2/2024	928	4/2/2024	932	4500-NH3 D	lr
MLSS	AB - East	157712		7150	4/2/2024	652	4/2/2024	1528	2540 D	lr
MLVSS	AB - East	157712		5050	4/2/2024	652	4/2/2024	1528	2540 D	lr
MLSS	AB - West	157713		8150	4/2/2024	652	4/2/2024	1528	2540 D	lr
MLVSS	AB - West	157713		6050	4/2/2024	652	4/2/2024	1528	2540 D	lr
TS	WAS	157714		1.20	4/2/2024	1026	4/3/2024	751	2540 B	lr/bw
TS	DIG	157715		0.36	4/2/2024	1030	4/3/2024	753	2540 B	lr/bw
E. Coli ✓	Effluent Grab	157716		5.2	4/2/2024	856	4/3/2024	912	Colilert	bw/lr
Sulfate ✓	Effluent Grab	157717		64	4/5/2024	1422	4/5/2024	1516	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	157710	Cool to 4° C	0.09	0.06	3.79	3.81	198 ± 30.5		178			
TSS/MLSS	157710	Cool to 4° C	0.00	0.00	5.2	5.3	30	200	30	200	100%	100%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	157710	H2SO4 cool	na	na	0.043	0.043	Spike of 0.2		0.239		98%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	157717	Cool to 4° C	na	na	32	32	100 ± 15		48			

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Laboratory Report

Testing Date: 4/4/2024
Sample Date/Time: 4/3/2024 800
Received in Lab: 4/4/2024 850

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	157748		2.41	4/4/2024	1343	4/9/2024	737	5210 B	lr
CBOD - WC	Influent Comp	157749		191.00	4/4/2024	1343	4/9/2024	737	5210 B	lr
TSS - WC ✓	Effluent Comp	157748		7.60	4/4/2024	747	4/4/2024	1437	2540 D	bw
TSS - WC	Influent Comp	157749		154.00	4/4/2024	747	4/4/2024	1437	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	157748		1.2	4/4/2024	1504	4/4/2024	1508	4500-NH3 D	bw
NH3 - WC	Influent	157749		25.7	4/4/2024	1110	4/4/2024	1114	4500-NH3 D	bw
MLSS	AB - East	157750		6150	4/4/2024	747	4/4/2024	1437	2540 D	bw
MLVSS	AB - East	157750		4300	4/4/2024	747	4/4/2024	1437	2540 D	bw
MLSS	AB - West	157751		7050	4/4/2024	747	4/4/2024	1437	2540 D	bw
MLVSS	AB - West	157751		4900	4/4/2024	747	4/4/2024	1437	2540 D	bw
TS	WAS	157752		1.34	4/4/2024	954	4/5/2024	931	2540 B	bw/lr
TS	DIG	157753		0.55	4/4/2024	1001	4/5/2024	932	2540 B	bw/lr
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	157748	Cool to 4° C	-0.02	-0.03	2.41	2.18	198 ± 30.5		151			
TSS/MLSS	157748	Cool to 4° C	0.00	0.00	7.6	7.6	30	200	30	202.3	100%	101%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	157748	H2SO4 cool	na	na	1.15	1.16	Spike of 0.2		1.36		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 4/8/2024
Sample Date/Time: 4/8/2024 830

Laboratory Report

Received in Lab: 4/8/2024 903

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp								5210 B	
CBOD - WC	Influent Comp								5210 B	
TSS - WC ✓	Effluent Comp								2540 D	
TSS - WC	Influent Comp								2540 D	
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent								4500-NH3 D	
NH3 - WC	Influent								4500-NH3 D	
MLSS	AB - East								2540 D	
MLVSS	AB - East								2540 D	
MLSS	AB - West								2540 D	
MLVSS	AB - West								2540 D	
TS	WAS	157784		1.35	4/8/2024	921	4/9/2024	714	2540 B	lr/bw
TS	DIG	157785		0.67	4/8/2024	926	4/9/2024	717	2540 B	lr/bw
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD		Cool to 4° C					198 ± 30.5					
TSS/MLSS		Cool to 4° C					30	200				
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3		H2SO4 cool	na	na			Spike of 0.2					
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C	na	na			100 ± 15					

Chief Laboratory Technician: ______________________

Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 4/9/2024
Sample Date/Time: 4/8/2024 800

Laboratory Report

Received in Lab: 4/9/2024 900

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc *(Mg/L)*	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	157795		3.02	4/9/2024	1103	4/14/2024	1417	5210 B	lr/bw
CBOD - WC	Influent Comp	157796		219.00	4/9/2024	1103	4/14/2024	1417	5210 B	lr/bw
TSS - WC ✓	Effluent Comp	157795		8.20	4/9/2024	732	4/9/2024	1428	2540 D	bw
TSS - WC	Influent Comp	157796		214.00	4/9/2024	732	4/9/2024	1428	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	157795		0.163	4/9/2024	1101	4/9/2024	1105	4500-NH3 D	bw
NH3 - WC	Influent	157796		26.0	4/9/2024	1020	4/9/2024	1024	4500-NH3 D	bw
MLSS	AB - East	157797		4850	4/9/2024	732	4/9/2024	1428	2540 D	bw
MLVSS	AB - East	157797		3550	4/9/2024	732	4/9/2024	1428	2540 D	bw
MLSS	AB - West	157798		6500	4/9/2024	732	4/9/2024	1428	2540 D	bw
MLVSS	AB - West	157798		4700	4/9/2024	732	4/9/2024	1428	2540 D	bw
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli ✓	Effluent Grab	157799		3.0	4/9/2024	918	4/10/2024	920	Colilert	lr
Sulfate ✓	Effluent Grab	157800		70	4/13/2024	1252	4/13/2024	1310	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	157795	Cool to 4° C	0.08	0.06	3.02	3.14	198 ± 30.5		156			
TSS/MLSS	157795	Cool to 4° C	0.00	0.00	8.2	8.2	30	200	30	203	100%	102%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	157795	H2SO4 cool	na	na	0.163	0.162	Spike of 0.2		0.365		102%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	157800	Cool to 4° C	na	na	35	34	100 ± 15		46			

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Laboratory Report

Testing Date: 4/11/2024
Sample Date/Time: 4/10/2024 800
Received in Lab: 4/11/2024 910

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	157821		7.91	4/11/2024	1140	4/16/2024	1055	5210 B	lr/bw
CBOD - WC	Influent Comp	157822		34.00	4/11/2024	1140	4/16/2024	1055	5210 B	lr/bw
TSS - WC ✓	Effluent Comp	157821		13.50	4/11/2024	818	4/11/2024	1436	2540 D	bw
TSS - WC	Influent Comp	157822		78.00	4/11/2024	818	4/11/2024	1436	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	157821		0.423	4/11/2024	1222	4/11/2024	1226	4500-NH3 D	em
NH3 - WC	Influent	157822		2.23	4/11/2024	1019	4/11/2024	1023	4500-NH3 D	em
MLSS	AB - East	157823		5250	4/11/2024	818	4/11/2024	1436	2540 D	bw
MLVSS	AB - East	157823		4250	4/11/2024	818	4/11/2024	1436	2540 D	bw
MLSS	AB - West	157824		4300	4/11/2024	818	4/11/2024	1436	2540 D	bw
MLVSS	AB - West	157824		2650	4/11/2024	818	4/11/2024	1436	2540 D	bw
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	157821	Cool to 4° C	0.03	0.03	7.91	8.16	198 ± 30.5		119			
TSS/MLSS	157821	Cool to 4° C	0.00	0.00	13.5	13.5	30	200	30	199	100%	100%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	157821	H2SO4 cool	na	na	0.423	0.423	Spike of 0.2		0.621		99%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ____________________

Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Laboratory Report

Testing Date: 4/16/2024
Sample Date/Time: 4/15/2024 800
Received in Lab: 4/16/2024 858

SOURCE: Waggoner Creek WWTP   Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp	157871		5.05	4/18/2024	1200	4/21/2024	1240	5210 B	bw
CBOD - WC	Influent Comp	157872		262.00	4/18/2024	1200	4/21/2024	1240	5210 B	bw
TSS - WC	Effluent Comp	157871		7.36	4/16/2024	610	4/16/2024	1451	2540 D	lr
TSS - WC	Influent Comp	157872		114.00	4/16/2024	610	4/16/2024	1451	2540 D	lr
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent	157871		0.091	4/16/2024	1049	4/16/2024	1053	4500-NH3 D	lr
NH3 - WC	Influent	157872		23.5	4/16/2024	1100	4/16/2024	1104	4500-NH3 D	lr
MLSS	AB - East	157875		4700	4/16/2024	610	4/16/2024	1451	2540 D	lr
MLVSS	AB - East	157875		3350	4/16/2024	610	4/16/2024	1451	2540 D	lr
MLSS	AB - West	157876		7300	4/16/2024	610	4/16/2024	1451	2540 D	lr
MLVSS	AB - West	157876		5200	4/16/2024	610	4/16/2024	1451	2540 D	lr
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli	Effluent Grab	157873		7.4	4/16/2024	916	4/17/2024	1016	Colilert	bw/lr
Sulfate	Effluent Grab	157874		60	4/20/2024	1008	4/20/2024	1028	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	157871	Cool to 4° C	0.04	0.05	5.05	4.73	198 ± 30.5		130			
TSS/MLSS	157871	Cool to 4° C	-1.00	-1.00	7.36	7.2	30	200	30	207	100%	104%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	157871	H2SO4 cool	na	na	0.091	0.09	Spike of 0.2		0.296		103%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	157874	Cool to 4° C	na	na	30	30	100 ± 15		45			

Chief Laboratory Technician: ____________________   Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 4/18/2024
Sample Date/Time: 4/17/2024 800

Laboratory Report

Received in Lab: 4/18/2024 853

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp	157902		5.09	4/18/2024	1003	4/23/2024	1103	5210 B	lr
CBOD - WC	Influent Comp	157903		192.00	4/18/2024	1003	4/23/2024	1103	5210 B	lr
TSS - WC	Effluent Comp	157902		9.80	4/18/2024	750	4/18/2024	1536	2540 D	bw
TSS - WC	Influent Comp	157903		144.00	4/18/2024	750	4/18/2024	1536	2540 D	bw
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent	157902		0.011	4/18/2024	1132	4/18/2024	1136	4500-NH3 D	bw
NH3 - WC	Influent	157903		26.5	4/18/2024	930	4/18/2024	934	4500-NH3 D	bw
MLSS	AB - East	157904		4600	4/18/2024	750	4/18/2024	1536	2540 D	bw
MLVSS	AB - East	157904		3300	4/18/2024	750	4/18/2024	1536	2540 D	bw
MLSS	AB - West	157905		7250	4/18/2024	750	4/18/2024	1536	2540 D	bw
MLVSS	AB - West	157905		5150	4/18/2024	750	4/18/2024	1536	2540 D	bw
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli	Effluent Grab								Colilert	
Sulfate	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	157902	Cool to 4° C	0.04	0.03	5.09	5.31	198 ± 30.5		132			
TSS/MLSS	157902	Cool to 4° C	0.00	0.00	9.8	9.8	30	200	30	204	100%	102%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	157902	H2SO4 cool	na	na	0.011	0.011	Spike of 0.2		0.316		102%	
Fecal Coliform		Cool to 4° C					PO5 Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 4/23/2024
Sample Date/Time: 4/22/2024 800

Laboratory Report

Received in Lab: 4/23/2024 857

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp	157941		3.10	4/23/2024	1436	4/28/2024	1310	5210 B	lr/bw
CBOD - WC	Influent Comp	157942		143.00	4/23/2024	1436	4/28/2024	1310	5210 B	lr/bw
TSS - WC	Effluent Comp	157941		8.20	4/23/2024	759	4/23/2024	1447	2540 D	bw
TSS - WC	Influent Comp	157942		164.00	4/23/2024	759	4/23/2024	1447	2540 D	bw
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent	157941		0.48	4/23/2024	1251	4/23/2024	1256	4500-NH3 D	bw
NH3 - WC	Influent	157942		19.2	4/23/2024	1012	4/23/2024	1016	4500-NH3 D	bw
MLSS	AB - East	157943		4450	4/23/2024	759	4/23/2024	1447	2540 D	bw
MLVSS	AB - East	157943		3200	4/23/2024	759	4/23/2024	1447	2540 D	bw
MLSS	AB - West	157944		7250	4/23/2024	759	4/23/2024	1447	2540 D	bw
MLVSS	AB - West	157944		5150	4/23/2024	759	4/23/2024	1447	2540 D	bw
TS	WAS	157947		1.02	4/23/2024	1147	4/24/2024	1002	2540 B	bw/lr
TS	DIG	157948		0.4	4/23/2024	1200	4/24/2024	1001	2540 B	bw/lr
E. Coli	Effluent Grab	157945		1.0	4/23/2024	911	4/24/2024	953	Colilert	lr/bw
Sulfate	Effluent Grab	157946		50	4/27/2024	1217	4/27/2024	1247	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	157941	Cool to 4° C	-0.06	-0.04	3.1	3.15	198 ± 30.5		162			
TSS/MLSS	157941	Cool to 4° C	0.00	0.00	8.2	8.2	30	200	30	208	100%	104%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	157941	H2SO4 cool	na	na	0.48	0.48	Spike of 0.2		0.68		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	157946	Cool to 4° C	na	na	25	26	100 ± 15		46			

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 4/25/2024
Sample Date/Time: 4/24/2024 800

Laboratory Report

Received in Lab: 4/25/2024 900

SOURCE: Waggoner Creek WWTP   Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp	157972		3.16	4/25/2024	1342	4/30/2024	1105	5210 B	lr/bw
CBOD - WC	Influent Comp	157973		169.00	4/25/2024	1342	4/30/2024	1105	5210 B	lr/bw
TSS - WC	Effluent Comp	157972		6.93	4/25/2024	812	4/25/2024	1457	2540 D	bw
TSS - WC	Influent Comp	157973		116.00	4/25/2024	812	4/25/2024	1457	2540 D	bw
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent	157972		0.064	4/25/2024	1050	4/25/2024	1054	4500-NH3 D	bw
NH3 - WC	Influent	157973		25.4	4/25/2024	1040	4/25/2024	1044	4500-NH3 D	bw
MLSS	AB - East	157974		4750	4/25/2024	812	4/25/2024	1457	2540 D	bw
MLVSS	AB - East	157974		3350	4/25/2024	812	4/25/2024	1457	2540 D	bw
MLSS	AB - West	157975		6850	4/25/2024	812	4/25/2024	1457	2540 D	bw
MLVSS	AB - West	157975		4800	4/25/2024	812	4/25/2024	1457	2540 D	bw
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli	Effluent Grab								Colilert	
Sulfate	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	157972	Cool to 4° C	0.07	0.08	3.16	3.61	198 ± 30.5		189			
TSS/MLSS	157972	Cool to 4° C	0.00	0.00	6.93	6.93	30	200	29	206.7	97%	103%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	157972	H2SO4 cool	na	na	0.064	0.064	Spike of 0.2		0.264		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ______________________   Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Laboratory Report

Testing Date: 4/30/2024
Sample Date/Time: 4/29/2024 800
Received in Lab: 4/30/2024 834

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	158012		1.95	4/30/2024	1300	5/5/2024	1342	5210 B	bw
CBOD - WC	Influent Comp	158013		136.00	4/30/2024	1300	5/5/2024	1342	5210 B	bw
TSS - WC ✓	Effluent Comp	158012		2.08	4/30/2024	811	4/30/2024	1529	2540 D	lr
TSS - WC	Influent Comp	158013		130.67	4/30/2024	811	4/30/2024	1529	2540 D	lr
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	158012		0.041	4/30/2024	1155	4/30/2024	1200	4500-NH3 D	em
NH3 - WC	Influent	158013		14.2	4/30/2024	1100	4/30/2024	1105	4500-NH3 D	em
MLSS	AB - East	158014		5600	4/30/2024	811	4/30/2024	1529	2540 D	lr
MLVSS	AB - East	158014		3900	4/30/2024	811	4/30/2024	1529	2540 D	lr
MLSS	AB - West	158015		7100	4/30/2024	811	4/30/2024	1529	2540 D	lr
MLVSS	AB - West	158015		5000	4/30/2024	811	4/30/2024	1529	2540 D	lr
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli ✓	Effluent Grab	158016		2.0	4/30/2024	923	5/1/2024	957	Colilert	bw/lr
Sulfate ✓	Effluent Grab	158017		36	5/1/2024	1405	5/1/2024	1443	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158012	Cool to 4° C	-0.01	0.00	1.95	1.94	198 ± 30.5		198			
TSS/MLSS	1587012	Cool to 4° C	0.00	0.00	2.08	2.08	30	200	31	201	103%	101%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158012	H2SO4 cool	na	na	0.041	0.04	Spike of 0.2		0.241		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	158017	Cool to 4° C	na	na	18	17	100 ± 15		46			

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 5/2/2024
Sample Date/Time: 5/1/2024 800

Laboratory Report

Received in Lab: 5/2/2024 900

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	158040		2.71	5/2/2024	1358	5/7/2024	1150	5210 B	lr
CBOD - WC	Influent Comp	158041		129.00	5/2/2024	1358	5/7/2024	1150	5210 B	lr
TSS - WC ✓	Effluent Comp	158040		3.40	5/2/2024	846	5/2/2024	1413	2540 D	bw
TSS - WC	Influent Comp	158041		134.00	5/2/2024	846	5/2/2024	1413	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	158040		0.35	5/2/2024	1308	5/2/2024	1313	4500-NH3 D	em
NH3 - WC	Influent	158041		22.8	5/2/2024	1443	5/2/2024	1447	4500-NH3 D	em
MLSS	AB - East	158042		5700	5/2/2024	846	5/2/2024	1413	2540 D	bw
MLVSS	AB - East	158042		4050	5/2/2024	846	5/2/2024	1413	2540 D	bw
MLSS	AB - West	158043		6500	5/2/2024	846	5/2/2024	1413	2540 D	bw
MLVSS	AB - West	158043		4500	5/2/2024	846	5/2/2024	1413	2540 D	bw
TS	WAS	158044		0.73	5/2/2024	1107	5/3/2024	854	2540 B	bw/em
TS	DIG	158045		0.43	5/2/2024	1114	5/3/2024	853	2540 B	bw/em
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158040	Cool to 4° C	-0.03	-0.02	2.71	2.74	198 ± 30.5		198			
TSS/MLSS	158040	Cool to 4° C	0.00	0.00	3.4	3.4	30	200	30	204	100%	102%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158040	H2SO4 cool	na	na	0.35	0.35	Spike of 0.2		0.552		101%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 5/7/2024
Sample Date/Time: 5/6/2024 800

Laboratory Report

Received in Lab: 5/7/2024 840

SOURCE: Waggoner Creek WWTP   Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	158090		2.24	5/7/2024	1428	5/12/2024	1430	5210 B	lr/bw
CBOD - WC	Influent Comp	158091		89.00	5/7/2024	1428	5/12/2024	1430	5210 B	lr/bw
TSS - WC ✓	Effluent Comp	158090		6.31	5/7/2024	806	5/7/2024	1339	2540 D	bw
TSS - WC	Influent Comp	158091		100.00	5/7/2024	806	5/7/2024	1339	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	158090		0.046	5/7/2024	1240	5/7/2024	1243	4500-NH3 D	em
NH3 - WC	Influent	158091		16.2	5/7/2024	1221	5/7/2024	1225	4500-NH3 D	em
MLSS	AB - East	158092		5500	5/7/2024	806	5/7/2024	1339	2540 D	bw
MLVSS	AB - East	158092		3700	5/7/2024	806	5/7/2024	1339	2540 D	bw
MLSS	AB - West	158093		5650	5/7/2024	806	5/7/2024	1339	2540 D	bw
MLVSS	AB - West	158093		4000	5/7/2024	806	5/7/2024	1339	2540 D	bw
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli ✓	Effluent Grab	158094		6.3	5/7/2024	850	5/8/2024	933	Colilert	lr/bw
Sulfate ✓	Effluent Grab	158095		38	5/8/2024	1327	5/8/2024	1340	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158090	Cool to 4° C	0.05	0.05	2.24	2.18	198 ± 30.5		173			
TSS/MLSS	158090	Cool to 4° C	0.00	0.00	6.31	6.31	30	200	30	197	100%	98%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158090	H2SO4 cool	na	na	0.046	0.047	Spike of 0.2		0.248		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	158095	Cool to 4° C	na	na	19	19	100 ± 15		47			

Chief Laboratory Technician: ______________________   Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Laboratory Report

Testing Date: 5/9/2024
Sample Date/Time: 5/8/2024 800
Received in Lab: 5/9/2024 900

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	158123		1.26	5/9/2024	1450	5/14/2024	1410	5210 B	lr/bw
CBOD - WC	Influent Comp	158124		-3.00	5/9/2024	1450	5/14/2024	1410	5210 B	lr/bw
TSS - WC ✓	Effluent Comp	158123		4.50	5/9/2024	840	5/9/2024	1523	2540 D	bw
TSS - WC	Influent Comp	158124		114.00	5/9/2024	840	5/9/2024	1523	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	158123		0.036	5/9/2024	1652	5/9/2024	1656	4500-NH3 D	bw
NH3 - WC	Influent	158124		20.7	5/9/2024	1432	5/9/2024	1436	4500-NH3 D	bw
MLSS	AB - East	158125		5750	5/9/2024	840	5/9/2024	1523	2540 D	bw
MLVSS	AB - East	158125		3750	5/9/2024	840	5/9/2024	1523	2540 D	bw
MLSS	AB - West	158126		6550	5/9/2024	840	5/9/2024	1523	2540 D	bw
MLVSS	AB - West	158126		4550	5/9/2024	840	5/9/2024	1523	2540 D	bw
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard				% Recovery	
							Actual		Observed			
CBOD	158123	Cool to 4° C	0.07	0.09	1.26	1.14	198 ± 30.5		184			
TSS/MLSS	158123	Cool to 4° C	0.00	0.00	4.5	4.5	30	200	30	198	100%	99%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158123	H2SO4 cool	na	na	0.036	0.036	Spike of 0.2		0.236		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 5/14/2024
Sample Date/Time: 5/13/2024 800

Laboratory Report

Received in Lab: 5/14/2024 830

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc *(Mg/L)*	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	158168		1.95	5/14/2024	1700	5/19/2024	1340	5210 B	bw
CBOD - WC	Influent Comp	158169		71.00	5/14/2024	1700	5/19/2024	1340	5210 B	bw
TSS - WC ✓	Effluent Comp	158168		1.84	5/14/2024	912	5/14/2024	1625	2540 D	bw
TSS - WC	Influent Comp	158169		123.00	5/14/2024	912	5/14/2024	1625	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	158168		0.039	5/14/2024	1401	5/14/2024	1405	4500-NH3 D	bw
NH3 - WC	Influent	158169		13.1	5/14/2024	1148	5/14/2024	1152	4500-NH3 D	bw
MLSS	AB - East	158172		6900	5/14/2024	912	5/14/2024	1625	2540 D	bw
MLVSS	AB - East	158172		4550	5/14/2024	912	5/14/2024	1625	2540 D	bw
MLSS	AB - West	158173		7100	5/14/2024	912	5/14/2024	1625	2540 D	bw
MLVSS	AB - West	158173		5000	5/14/2024	912	5/14/2024	1625	2540 D	bw
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli ✓	Effluent Grab	158170		2.0	5/14/2024	859	5/15/2024	1036	Colilert	bw
Sulfate ✓	Effluent Grab	158171		56	5/16/2024	757	5/16/2024	811	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard				% Recovery	
							Actual		Observed			
CBOD	158168	Cool to 4° C	0.08	0.09	1.95	1.9	198 ± 30.5		147			
TSS/MLSS	158168	Cool to 4° C	0.00	0.00	1.84	1.84	30	200	30	203	100%	102%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158168	H2SO4 cool	na	na	0.039	0.039	Spike of 0.2		0.239		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	158171	Cool to 4° C	na	na	28	28	100 ± 15		45			

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Laboratory Report

Testing Date: 5/16/2024
Sample Date/Time: 5/15/2024 800
Received in Lab: 5/16/2024 850

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	158198		2.60	5/23/2024	1423	5/28/2024	1036	5210 B	lr/em
CBOD - WC	Influent Comp	158199		250.00	5/23/2024	1423	5/28/2024	1036	5210 B	lr/em
TSS - WC ✓	Effluent Comp	158198		2.80	5/16/2024	733	5/16/2024	1529	2540 D	lr
TSS - WC	Influent Comp	158199		176.00	5/16/2024	733	5/16/2024	1529	2540 D	lr
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	158198		0.035	5/16/2024	1736	5/16/2024	1740	4500-NH3 D	lr
NH3 - WC	Influent	158199		24.2	5/16/2024	957	5/16/2024	1001	4500-NH3 D	lr
MLSS	AB - East	158200		7450	5/16/2024	733	5/16/2024	1529	2540 D	lr
MLVSS	AB - East	158200		4800	5/16/2024	733	5/16/2024	1529	2540 D	lr
MLSS	AB - West	158201		7100	5/16/2024	733	5/16/2024	1529	2540 D	lr
MLVSS	AB - West	158201		4900	5/16/2024	733	5/16/2024	1529	2540 D	lr
TS	WAS	158202		1.22	5/16/2024	1107	5/17/2024	818	2540 B	lr
TS	DIG	158203		0.66	5/16/2024	1120	5/17/2024	817	2540 B	lr
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158198	Cool to 4° C	-0.01	-0.06	2.6	2.78	198 ± 30.5		173			
TSS/MLSS	158198	Cool to 4° C	0.00	0.00	2.8	2.8	30	200	30	200	100%	100%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158198	H2SO4 cool	na	na	0.035	0.034	Spike of 0.2		0.237		102%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 5/21/2024
Sample Date/Time: 5/20/2024 800

Laboratory Report

Received in Lab: 5/21/2024 854

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc *(Mg/L)*	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	158245		1.83	5/21/2024	1427	5/26/2024	1215	5210 B	em/bw
CBOD - WC	Influent Comp	158246		191.00	5/21/2024	1427	5/26/2024	1215	5210 B	em/bw
TSS - WC ✓	Effluent Comp	158245		2.16	5/21/2024	754	5/21/2024	1401	2540 D	bw
TSS - WC	Influent Comp	158246		160.00	5/21/2024	754	5/21/2024	1401	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	158245		0.300	5/21/2024	1614	5/21/2024	1621	4500-NH3 D	bw
NH3 - WC	Influent	158246		31.0	5/21/2024	1118	5/21/2024	1122	4500-NH3 D	bw
MLSS	AB - East	158247		7500	5/21/2024	754	5/21/2024	1401	2540 D	bw
MLVSS	AB - East	158247		4900	5/21/2024	754	5/21/2024	1401	2540 D	bw
MLSS	AB - West	158248		6450	5/21/2024	754	5/21/2024	1401	2540 D	bw
MLVSS	AB - West	158248		4550	5/21/2024	754	5/21/2024	1401	2540 D	bw
TS	WAS	158249		1.40%	5/21/2024	1230	5/22/2024	839	2540 B	bw/em
TS	DIG	158250		0.61%	5/21/2024	1247	5/22/2024	832	2540 B	bw/em
E. Coli ✓	Effluent Grab	158251		9.6	5/21/2024	921	5/22/2024	928	Colilert	em/bw
Sulfate ✓	Effluent Grab	158252		64	5/21/2024	1605	5/21/2024	1625	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158245	Cool to 4° C	-0.03	-0.02	1.83	1.8	198 ± 30.5		111			
TSS/MLSS	158245	Cool to 4° C	0.00	0.00	2.16	2.16	30	200	30	196	100%	98%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158245	H2SO4 cool	na	na	0.3	0.3	Spike of 0.2		0.502		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	158252	Cool to 4° C	na	na	32	33	100 ± 15		45			

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Laboratory Report

Testing Date: 5/23/2024
Sample Date/Time: 5/22/2024 800
Received in Lab: 5/23/2024 930

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	158275		2.60	5/23/2024	1423	5/28/2024	1036	5210 B	lr/em
CBOD - WC	Influent Comp	158276		250.00	5/23/2024	1423	5/28/2024	1036	5210 B	lr/em
TSS - WC ✓	Effluent Comp	158275		4.30	5/23/2024	830	5/23/2024	1551	2540 D	bw
TSS - WC	Influent Comp	158276		116.00	5/23/2024	830	5/23/2024	1551	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	158275		1.8	5/23/2024	1432	5/23/2024	1442	4500-NH3 D	em
NH3 - WC	Influent	158276		28.7	5/23/2024	1516	5/23/2024	1521	4500-NH3 D	em
MLSS	AB - East	158277		6550	5/23/2024	830	5/23/2024	1551	2540 D	bw
MLVSS	AB - East	158277		4350	5/23/2024	830	5/23/2024	1551	2540 D	bw
MLSS	AB - West	158278		5700	5/23/2024	830	5/23/2024	1551	2540 D	bw
MLVSS	AB - West	158278		4150	5/23/2024	830	5/23/2024	1551	2540 D	bw
TS	WAS	158279		1.34%	5/23/2024	1221	5/24/2024	828	2540 B	bw/em
TS	DIG	158280		0.49%	5/23/2024	1230	5/24/2024	828	2540 B	bw/em
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158275	Cool to 4° C	-0.01	-0.06	2.6	2.78	198 ± 30.5		173			
TSS/MLSS	157285	Cool to 4° C	0.00	0.00	4.3	4.3	30	200	30	208	100%	104%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	157285	H2SO4 cool	na	na	1.76	1.77	Spike of 0.2		1.96		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 5/28/2024
Sample Date/Time: 5/27/2024 800

Laboratory Report

Received in Lab: 5/28/2024 855

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	158319		2.70	5/28/2024	1145	6/2/2024	1221	5210 B	em/bw
CBOD - WC	Influent Comp	158320		164.00	5/28/2024	1145	6/2/2024	1221	5210 B	em/bw
TSS - WC ✓	Effluent Comp	158319		1.60	5/28/2024	752	5/28/2024	1424	2540 D	bw
TSS - WC	Influent Comp	158320		120.00	5/28/2024	752	5/28/2024	1424	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	158319		0.058	5/28/2024	940	5/28/2024	944	4500-NH3 D	lr
NH3 - WC	Influent	158320		18.7	5/28/2024	916	5/28/2024	920	4500-NH3 D	lr
MLSS	AB - East	158321		6450	5/28/2024	752	5/28/2024	1424	2540 D	bw
MLVSS	AB - East	158321		4350	5/28/2024	752	5/28/2024	1424	2540 D	bw
MLSS	AB - West	158322		5650	5/28/2024	752	5/28/2024	1424	2540 D	bw
MLVSS	AB - West	158322		4100	5/28/2024	752	5/28/2024	1424	2540 D	bw
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab	158324		54	5/28/2024	1100	5/28/2024	1116	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158319	Cool to 4° C	0.03	0.04	2.7	2.59	198 ± 30.5		188			
TSS/MLSS	158319	Cool to 4° C	0.00	0.00	1.6	1.6	30	200	30	194	100%	97%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158319	H2SO4 cool	na	na	0.058	0.058	Spike of 0.2		0.261		102%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	158324	Cool to 4° C	na	na	27	27	100 ± 15		51			

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 5/30/2024
Sample Date/Time: 5/29/2024 800

Laboratory Report

Received in Lab: 5/30/2024 840

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	158351		2.36	5/30/2024	1203	6/4/2024	1130	5210 B	lr/bw
CBOD - WC	Influent Comp	158352		168.00	5/30/2024	1203	6/4/2024	1130	5210 B	lr/bw
TSS - WC ✓	Effluent Comp	158351		2.32	5/30/2024	748	5/30/2024	1513	2540 D	bw
TSS - WC	Influent Comp	158352		121.33	5/30/2024	748	5/30/2024	1513	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	158351		0.126	5/30/2024	1551	5/30/2024	1555	4500-NH3 D	em
NH3 - WC	Influent	158352		22.1	5/30/2024	1238	5/30/2024	1243	4500-NH3 D	em
MLSS	AB - East	158354		6450	5/30/2024	748	5/30/2024	1513	2540 D	bw
MLVSS	AB - East	158354		4250	5/30/2024	748	5/30/2024	1513	2540 D	bw
MLSS	AB - West	158355		5800	5/30/2024	748	5/30/2024	1513	2540 D	bw
MLVSS	AB - West	158355		4200	5/30/2024	748	5/30/2024	1513	2540 D	bw
TS	WAS	158357		110%	5/30/2024	1044	5/31/2024	1022	2540 B	bw/em
TS	DIG	158358		0%	5/30/2024	1054	5/31/2024	1021	2540 B	bw/em
E. Coli ✓	Effluent Grab	158356		4.1	5/30/2024	848	5/31/2024	903	Colilert	lr
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158351	Cool to 4° C	-0.01	-0.01	2.36	2.42	198 ± 30.5		189			
TSS/MLSS	158351	Cool to 4° C	0.00	0.00	2.32	2.32	30	200	30	192	100%	96%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158351	H2SO4 cool	na	na	0.126	0.128	Spike of 0.2		0.33		101%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 6/4/2024
Sample Date/Time: 6/3/2024 800

Laboratory Report

Received in Lab: 6/4/2024 930

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	158399		4.38	6/4/2024	1430	6/9/2024	1405	5210 B	bw
CBOD - WC	Influent Comp	158400		29.55	6/4/2024	1430	6/9/2024	1405	5210 B	bw
TSS - WC ✓	Effluent Comp	158399		3.68	6/4/2024	858	6/4/2024	1538	2540 D	em
TSS - WC	Influent Comp	158400		68.00	6/4/2024	858	6/4/2024	1538	2540 D	em
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	158399		0.124	6/4/2024	1121	6/4/2024	1125	4500-NH3 D	em
NH3 - WC	Influent	158400		6.21	6/4/2024	938	6/4/2024	943	4500-NH3 D	em
MLSS	AB - East	158401		5100	6/4/2024	858	6/4/2024	1538	2540 D	em
MLVSS	AB - East	158401		3300	6/4/2024	858	6/4/2024	1538	2540 D	em
MLSS	AB - West	158402		5100	6/4/2024	858	6/4/2024	1538	2540 D	em
MLVSS	AB - West	158402		3450	6/4/2024	858	6/4/2024	1538	2540 D	em
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli ✓	Effluent Grab	158403		1.0	6/4/2024	949	6/5/2024	1112	Colilert	em/bw
Sulfate ✓	Effluent Grab	158404		50	6/7/2024	1600	6/7/2024	1630	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard				% Recovery	
							Actual		Observed			
CBOD	158399	Cool to 4° C	0.08	0.07	4.38	4.32	198 ± 30.5		148.77			
TSS/MLSS	158399	Cool to 4° C	-1	0	3.68	3.6	30	200	30	195.8	100%	98%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158399	H2SO4 cool	na	na	0.124	0.123	Spike of 0.2		0.322		100%	
Fecal Coliform		Cool to 4° C					PO5 Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	158404	Cool to 4° C	na	na	25	25	100 ± 15		49			

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date:	6/6/2024	
Sample Date/Time:	6/5/2024	800
Received in Lab:	6/6/2024	855

Laboratory Report

SOURCE: Waggoner Creek WWTP   Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp	158431		1.81	6/6/2024	1300	6/11/2024	1430	5210 B	bw/lr
CBOD - WC	Influent Comp	158432		36.20	6/6/2024	1300	6/11/2024	1430	5210 B	bw/lr
TSS - WC	Effluent Comp	158431		2.40	6/6/2024	909	6/6/2024	1620	2540 D	lr
TSS - WC	Influent Comp	158432		23.00	6/6/2024	909	6/6/2024	1620	2540 D	lr
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent	158431		0.039	6/7/2024	1254	6/7/2024	1258	4500-NH3 D	em
NH3 - WC	Influent	158432		4.35	6/6/2024	1521	6/6/2024	1526	4500-NH3 D	em
MLSS	AB - East	158433		5950	6/6/2024	909	6/6/2024	1620	2540 D	lr
MLVSS	AB - East	158433		3900	6/6/2024	909	6/6/2024	1620	2540 D	lr
MLSS	AB - West	158434		5550	6/6/2024	909	6/6/2024	1620	2540 D	lr
MLVSS	AB - West	158434		3750	6/6/2024	909	6/6/2024	1620	2540 D	lr
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli	Effluent Grab								Colilert	
Sulfate	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual	Standard Observed	% Recovery	
CBOD	158431	Cool to 4° C	-0.04	-0.05	1.81	1.81	198 ± 30.5	169.9		
TSS/MLSS	158431	Cool to 4° C	0	0	2.4	2.4	30 200	30 198	100%	99%
COD		H2SO4 cool					300 ± 15			
pH(SU)		None					7.00 @ 25°C			
NH3	158431	H2SO4 cool	na	na	0.039	0.04	Spike of 0.2	0.239	100%	
Fecal Coliform		Cool to 4° C					POS Control			
BOD		Cool to 4° C					198 ± 30.5			
Sulfate		Cool to 4° C					100 ± 15			

Chief Laboratory Technician: ____________________   Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Laboratory Report

Testing Date: 6/11/2024
Sample Date/Time: 6/10/2024 800
Received in Lab: 6/11/2024 845

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	158478		2.24	6/11/2024	1624	6/16/2024	1423	5210 B	lr/bw
CBOD - WC	Influent Comp	158479		112.72	6/11/2024	1624	6/16/2024	1423	5210 B	lr/bw
TSS - WC ✓	Effluent Comp	158478		2.16	6/11/2024	907	6/11/2024	1654	2540 D	bw
TSS - WC	Influent Comp	158479		57.60	6/11/2024	907	6/11/2024	1654	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	158478		0.42	6/11/2024	1305	6/11/2024	1310	4500-NH3 D	em
NH3 - WC	Influent	158479		13.2	6/11/2024	1055	6/11/2024	1059	4500-NH3 D	em
MLSS	AB - East	158480		6800	6/11/2024	907	6/11/2024	1654	2540 D	bw
MLVSS	AB - East	158480		4500	6/11/2024	907	6/11/2024	1654	2540 D	bw
MLSS	AB - West	158481		6000	6/11/2024	907	6/11/2024	1654	2540 D	bw
MLVSS	AB - West	158481		4100	6/11/2024	907	6/11/2024	1654	2540 D	bw
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli ✓	Effluent Grab	158482		10.8	6/11/2024	847	6/12/2024	955	Colilert	lr/bw
Sulfate ✓	Effluent Grab	158483		68	6/11/2024	1647	6/11/2024	1703	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158478	Cool to 4° C	0.00	0.01	2.24	2.53	198 ± 30.5		212.4			
TSS/MLSS	158478	Cool to 4° C	0	0	2.16	2.16	30	200	31	200	103%	100%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158478	H2SO4 cool	na	na	0.42	0.43	Spike of 0.2		0.243		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	158483	Cool to 4° C	na	na	34	34	100 ± 15		51			

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 6/13/2024
Sample Date/Time: 6/12/2024 800

Laboratory Report

Received in Lab: 6/13/2024 840

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	158511		2.06	6/13/2024	1515	6/18/2024	1144	5210 B	lr
CBOD - WC	Influent Comp	158512		173.70	6/13/2024	1515	6/18/2024	1144	5210 B	lr
TSS - WC ✓	Effluent Comp	158511		2.40	6/13/2024	952	6/13/2024	1453	2540 D	bw
TSS - WC	Influent Comp	158512		120.00	6/13/2024	952	6/13/2024	1453	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	158511		0.251	6/13/2024	1307	6/13/2024	1311	4500-NH3 D	em
NH3 - WC	Influent	158512		26.2	6/13/2024	1239	6/13/2024	1243	4500-NH3 D	em
MLSS	AB - East	158513		6900	6/13/2024	952	6/13/2024	1453	2540 D	bw
MLVSS	AB - East	158513		4550	6/13/2024	952	6/13/2024	1453	2540 D	bw
MLSS	AB - West	158514		6250	6/13/2024	952	6/13/2024	1453	2540 D	bw
MLVSS	AB - West	158514		4150	6/13/2024	952	6/13/2024	1453	2540 D	bw
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158511	Cool to 4° C	0.01	0.02	2.06	2.04	198 ± 30.5		182.3			
TSS/MLSS	158511	Cool to 4° C	0	0	2.4	2.4	30	200	30	205	100%	103%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158511	H2SO4 cool	na	na	0.251	0.25	Spike of 0.2		0.449		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 6/17/2024
Sample Date/Time: 6/16/2024 800

Laboratory Report

Received in Lab: 6/17/2024 838

SOURCE: Waggoner Creek WWTP   Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp	158544		4.08	6/17/2024	1330	6/22/2024	1005	5210 B	bw/em
CBOD - WC	Influent Comp	158545		136.93	6/17/2024	1330	6/22/2024	1005	5210 B	bw/em
TSS - WC	Effluent Comp	158544		3.76	6/17/2024	742	6/17/2024	1356	2540 D	lr
TSS - WC	Influent Comp	158545		130.00	6/17/2024	742	6/17/2024	1356	2540 D	lr
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent	158544		0.81	6/17/2024	1001	6/17/2024	1007	4500-NH3 D	lr
NH3 - WC	Influent	158545		23.0	6/17/2024	932	6/17/2024	936	4500-NH3 D	lr
MLSS	AB - East	158546		7450	6/17/2024	742	6/17/2024	1356	2540 D	lr
MLVSS	AB - East	158546		5200	6/17/2024	742	6/17/2024	1356	2540 D	lr
MLSS	AB - West	158547		7200	6/17/2024	742	6/17/2024	1356	2540 D	lr
MLVSS	AB - West	158547		5250	6/17/2024	742	6/17/2024	1356	2540 D	lr
TS	WAS								2540 B	
TS	DIG								2540 B	
E. Coli	Effluent Grab	158548		86.2	6/17/2024	923	6/18/2024	941	Colilert	bw/lr
Sulfate	Effluent Grab	158549		72	6/17/2024	1330	6/17/2024	1345	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158544	Cool to 4° C	0.11	0.10	4.08	4.32	198 ± 30.5		168.47			
TSS/MLSS	158544	Cool to 4° C	0	0	3.76	3.84	30	200	30	201.1	100%	101%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158544	H2SO4 cool	na	na	0.81	0.81	Spike of 0.2		1.01		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	158549	Cool to 4° C	na	na	37	35	100 ± 15		51			

Chief Laboratory Technician: ____________________   Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Laboratory Report

Testing Date:	6/19/2024	
Sample Date/Time:	6/19/2024	830
Received in Lab:	6/19/2024	855

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp								5210 B	
CBOD - WC	Influent Comp								5210 B	
TSS - WC ✓	Effluent Comp								2540 D	
TSS - WC	Influent Comp								2540 D	
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent								4500-NH3 D	
NH3 - WC	Influent								4500-NH3 D	
MLSS	AB - East								2540 D	
MLVSS	AB - East								2540 D	
MLSS	AB - West								2540 D	
MLVSS	AB - West								2540 D	
TS	WAS	158579		1.41%	6/19/2024	1019	6/20/2024	631	2540 B	lr
TS	DIG	158580		0.54%	6/19/2024	1023	6/20/2024	632	2540 B	lr
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual	Standard Observed	% Recovery
CBOD		Cool to 4° C					198 ± 30.5		
TSS/MLSS		Cool to 4° C					30 200		
COD		H2SO4 cool					300 ± 15		
pH(SU)		None					7.00 @ 25°C		
NH3		H2SO4 cool					Spike of 0.2		
Fecal Coliform		Cool to 4° C					POS Control		
BOD		Cool to 4° C					198 ± 30.5		
Sulfate		Cool to 4° C					100 ± 15		

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 6/20/2024
Sample Date/Time: 6/19/2024 800

Laboratory Report

Received in Lab: 6/20/2024 846

SOURCE: Waggoner Creek WWTP   Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	158588		1.89	6/20/2024	1311	6/25/2024	701	5210 B	bw/lr
CBOD - WC	Influent Comp	158589		183.00	6/20/2024	1311	6/25/2024	701	5210 B	bw/lr
TSS - WC ✓	Effluent Comp	158588		3.20	6/20/2024	833	6/20/2024	1622	2540 D	lr
TSS - WC	Influent Comp	158589		320.00	6/20/2024	833	6/20/2024	1622	2540 D	lr
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	158588		0.44	6/24/2024	1212	6/20/2024	1217	4500-NH3 D	em
NH3 - WC	Influent	158589		27.7	6/24/2024	1139	6/20/2024	1145	4500-NH3 D	em
MLSS	AB - East	158590		7900	6/20/2024	833	6/20/2024	1622	2540 D	lr
MLVSS	AB - East	158590		5150	6/20/2024	833	6/20/2024	1622	2540 D	lr
MLSS	AB - West	158591		6950	6/20/2024	833	6/20/2024	1622	2540 D	lr
MLVSS	AB - West	158591		4800	6/20/2024	833	6/20/2024	1622	2540 D	lr
TS	WAS	158592		1.39%	6/20/2024	1002	6/21/2024	848	2540 B	lr/em
TS	DIG	158593		0.27%	6/20/2024	1002	6/21/2024	848	2540 B	lr/em
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158588	Cool to 4° C	-0.04	-0.06	1.89	1.82	198 ± 30.5		132			
TSS/MLSS	158588	Cool to 4° C	-1.00	-1.00	3.2	3.12	30	200	30	199	100%	100%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158588	H2SO4 cool	na	na	0.44	0.46	Spike of 0.2		0.667		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ____________________   Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 6/25/2024
Sample Date/Time: 6/24/2024 800

Laboratory Report

Received in Lab: 6/24/2024 848

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	158626		2.58	6/25/2024	1120	6/30/2024	1020	5210 B	lr
CBOD - WC	Influent Comp	158627		154.00	6/25/2024	1120	6/30/2024	1020	5210 B	lr
TSS - WC ✓	Effluent Comp	158626		2.16	6/25/2024	737	6/25/2024	1411	2540 D	bw
TSS - WC	Influent Comp	158627		119.00	6/25/2024	737	6/25/2024	1411	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	158626		1.06	6/25/2024	1133	6/25/2024	1137	4500-NH3 D	em
NH3 - WC	Influent	158627		23.1	6/25/2024	1057	6/25/2024	1103	4500-NH3 D	em
MLSS	AB - East	158628		7200	6/25/2024	737	6/25/2024	1411	2540 D	bw
MLVSS	AB - East	158628		4800	6/25/2024	737	6/25/2024	1411	2540 D	bw
MLSS	AB - West	158629		6850	6/25/2024	737	6/25/2024	1411	2540 D	bw
MLVSS	AB - West	158629		4900	6/25/2024	737	6/25/2024	1411	2540 D	bw
TS	WAS	158630		1.00%	6/25/2024	1021	6/26/2024	751	2540 B	bw/lr
TS	DIG	158631		0.28%	6/25/2024	1033	6/26/2024	752	2540 B	bw/lr
E. Coli ✓	Effluent Grab	158632		52.9	6/25/2024	902	6/26/2024	1031	Colilert	lr/bw
Sulfate ✓	Effluent Grab	158633		84	6/26/2024	1305	6/26/2024	1324	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158626	Cool to 4° C	0.10	0.10	2.58	2.6	198 ± 30.5		206			
TSS/MLSS	158626	Cool to 4° C	0.00	0.00	2.16	2.16	30	200	30	200	100%	100%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158626	H2SO4 cool	na	na	1.06	1.06	Spike of 0.2		1.27		105%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	158633	Cool to 4° C	na	na	42	42	100 ± 15		45			

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 6/27/2024
Sample Date/Time: 6/26/2024 800

Laboratory Report

Received in Lab: 6/27/2024 853

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp	158661		2.04	6/27/2024	1403	7/2/2024	1013	5210 B	lr
CBOD - WC	Influent Comp	158662		220.00	6/27/2024	1403	7/2/2024	1013	5210 B	lr
TSS - WC	Effluent Comp	158661		3.12	6/27/2024	752	6/28/2024	1408	2540 D	bw
TSS - WC	Influent Comp	158662		152.00	6/27/2024	752	6/28/2024	1408	2540 D	bw
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent	158661		0.030	6/27/2024	1430	6/27/2024	1434	4500-NH3 D	em
NH3 - WC	Influent	158662		25.3	6/27/2024	1335	6/27/2024	1340	4500-NH3 D	em
MLSS	AB - East	158663		8050	6/27/2024	752	6/28/2024	1408	2540 D	bw
MLVSS	AB - East	158663		5150	6/27/2024	752	6/28/2024	1408	2540 D	bw
MLSS	AB - West	158664		5700	6/27/2024	752	6/28/2024	1408	2540 D	bw
MLVSS	AB - West	158664		4000	6/27/2024	752	6/28/2024	1408	2540 D	bw
TS	WA5 - East	158665		0.86%	6/27/2024	1211	6/28/2024	824	2540 B	bw/em
TS	DIG - East	158666		0.12%	6/27/2024	1217	6/28/2024	825	2540 B	bw/em
TS	WAS - West	158668		1.14%	6/27/2024	1222	6/28/2024	851	2540 B	bw/em
TS	DIG - West	158669		0.54%	6/27/2024	1229	6/28/2024	822	2540 B	bw/em
E. Coli	Effluent Grab								Colilert	
Sulfate	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158661	Cool to 4° C	0.10	0.05	2.04	1.98	198 ± 30.5		193			
TSS/MLSS	158661	Cool to 4° C	0.00	0.00	3.12	3.12	30	200	30	192	100%	96%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158661	H2SO4 cool	na	na	0.03	0.029	Spike of 0.2		0.23		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 7/2/2024
Sample Date/Time: 7/1/2024 800

Laboratory Report

Received in Lab: 7/2/2024 900

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp	158709		1.75	7/2/2024	1610	7/7/2024	1012	5210 B	lr
CBOD - WC	Influent Comp	158710		86.00	7/2/2024	1610	7/7/2024	1012	5210 B	lr
TSS - WC	Effluent Comp	158709		2.24	7/2/2024	721	7/2/2024	1527	2540 D	lr
TSS - WC	Influent Comp	158710		125.00	7/2/2024	721	7/2/2024	1527	2540 D	lr
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent	158709		0.105	7/2/2024	1324	7/2/2024	1329	4500-NH3 D	lr
NH3 - WC	Influent	158710		26.1	7/2/2024	1216	7/2/2024	1220	4500-NH3 D	lr
MLSS	AB - East	158711		6650	7/2/2024	721	7/2/2024	1527	2540 D	lr
MLVSS	AB - East	158711		4700	7/2/2024	721	7/2/2024	1527	2540 D	lr
MLSS	AB - West	158712		5600	7/2/2024	721	7/2/2024	1527	2540 D	lr
MLVSS	AB - West	158712		4000	7/2/2024	721	7/2/2024	1527	2540 D	lr
TS	WAS - East	158713		0.83%	7/2/2024	1140	7/3/2024	736	2540 B	LR
TS	DIG - East	158714		0.41%	7/2/2024	1144	7/3/2024	738	2540 B	LR
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli	Effluent Grab	158715		3.0	7/2/2024	920	7/3/2024	937	Colilert	lr
Sulfate	Effluent Grab	158716		72	7/6/2024	1132	7/6/2024	1157	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158709	Cool to 4° C	0.02	-0.01	1.75	1.69	198 ± 30.5		189			
TSS/MLSS	158709	Cool to 4° C	0.00	0.00	2.24	2.24	30	200	31	200	103%	100%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158709	H2SO4 cool	na	na	0.105	0.105	Spike of 0.2		0.306		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	158716	Cool to 4° C	na	na	37	37	100 ± 15		49			

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Laboratory Report

Testing Date:	7/4/2024	
Sample Date/Time:	7/3/2024	800
Received in Lab:	7/4/2024	846

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (*Mg/L*)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp	158748		2.21	7/4/2024	1714	7/9/2024	900	5210 B	lr/bw
CBOD - WC	Influent Comp	158749		182.00	7/4/2024	1714	7/9/2024	900	5210 B	lr/bw
TSS - WC	Effluent Comp	158748		3.76	7/4/2024	1036	7/4/2024	1800	2540 D	lr
TSS - WC	Influent Comp	158749		78.00	7/4/2024	1036	7/4/2024	1800	2540 D	lr
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent	158748		0.055	7/4/2024	1240	7/4/2024	1245	4500-NH3 D	lr
NH3 - WC	Influent	158749		24.3	7/4/2024	1226	7/4/2024	1230	4500-NH3 D	lr
MLSS	AB - East	158750		6250	7/4/2024	1036	7/4/2024	1800	2540 D	lr
MLVSS	AB - East	158750		4050	7/4/2024	1036	7/4/2024	1800	2540 D	lr
MLSS	AB - West	158751		5350	7/4/2024	1036	7/4/2024	1800	2540 D	lr
MLVSS	AB - West	158751		3850	7/4/2024	1036	7/4/2024	1800	2540 D	lr
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli	Effluent Grab								Colilert	
Sulfate	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual	Standard Observed	% Recovery
CBOD	158748	Cool to 4° C	-0.01	-0.02	2.21	2.23	198 ± 30.5	172	
TSS/MLSS	158748	Cool to 4° C	-1.00	0.00	3.76	3.84	30 / 200	30 / 198	100% / 99%
COD		H2SO4 cool					300 ± 15		
pH(SU)		None					7.00 @ 25°C		
NH3	158748	H2SO4 cool	na	na	0.055	0.055	Spike of 0.2	0.254	100%
Fecal Coliform		Cool to 4° C					POS Control		
BOD		Cool to 4° C					198 ± 30.5		
Sulfate		Cool to 4° C					100 ± 15		

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 7/9/2024
Sample Date/Time: 7/8/2024 800

Laboratory Report

Received in Lab: 7/9/2024 943

SOURCE: Waggoner Creek WWTP   Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp	158787		1.71	7/9/2024	1400	7/14/2024	838	5210 B	bw/lr
CBOD - WC	Influent Comp	158788		104.00	7/9/2024	1400	7/14/2024	838	5210 B	bw/lr
TSS - WC	Effluent Comp	158787		5.60	7/9/2024	802	7/9/2024	1530	2540 D	lr
TSS - WC	Influent Comp	158788		112.00	7/9/2024	802	7/9/2024	1530	2540 D	lr
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent	158787		0.353	7/9/2024	1323	7/9/2024	1328	4500-NH3 D	em
NH3 - WC	Influent	158788		12.5	7/9/2024	1226	7/9/2024	1231	4500-NH3 D	em
MLSS	AB - East	158789		5650	7/9/2024	802	7/9/2024	1530	2540 D	lr
MLVSS	AB - East	158789		3600	7/9/2024	802	7/9/2024	1530	2540 D	lr
MLSS	AB - West	158790		5150	7/9/2024	802	7/9/2024	1530	2540 D	lr
MLVSS	AB - West	158790		3950	7/9/2024	802	7/9/2024	1530	2540 D	lr
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli	Effluent Grab								Colilert	
Sulfate	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158787	Cool to 4° C	-0.04	-0.04	1.71	1.78	198 ± 30.5		170			
TSS/MLSS	158787	Cool to 4° C	0.00	0.00	5.6	5.47	30	200	30	201	100%	101%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158787	H2SO4 cool	na	na	0.353	0.352	Spike of 0.2		0.552		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ____________________   Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Laboratory Report

Testing Date: 7/10/2024
Sample Date/Time: 7/10/2024 730
Received in Lab: 7/10/2024 840

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp								5210 B	
CBOD - WC	Influent Comp								5210 B	
TSS - WC ✓	Effluent Comp								2540 D	
TSS - WC	Influent Comp								2540 D	
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent								4500-NH3 D	
NH3 - WC	Influent								4500-NH3 D	
MLSS	AB - East								2540 D	
MLVSS	AB - East								2540 D	
MLSS	AB - West								2540 D	
MLVSS	AB - West								2540 D	
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli ✓	Effluent Grab	158803		6.3	7/10/2024	852	7/11/2024	918	Colilert	lr
Sulfate ✓	Effluent Grab	158804		52	7/10/2024	1217	7/10/2024	1230	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed	% Recovery
CBOD		Cool to 4° C					198 ± 30.5			
TSS/MLSS		Cool to 4° C					30	200		
COD		H2SO4 cool					300 ± 15			
pH(SU)		None					7.00 @ 25°C			
NH3		H2SO4 cool					Spike of 0.2			
Fecal Coliform		Cool to 4° C					POS Control			
BOD		Cool to 4° C					198 ± 30.5			
Sulfate	158804	Cool to 4° C	na	na	26	26	100 ± 15		50	

Chief Laboratory Technician: ____________ Date: ____________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 7/11/2024
Sample Date/Time: 7/10/2024 800

Laboratory Report

Received in Lab: 7/11/2024 836

SOURCE: Waggoner Creek WWTP   Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (*Mg/L*)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	158812		3.63	7/11/2024	1200	7/16/2024	755	5210 B	bw/lr
CBOD - WC	Influent Comp	158813		185.00	7/11/2024	1200	7/16/2024	755	5210 B	bw/lr
TSS - WC ✓	Effluent Comp	158812		6.21	7/11/2024	652	7/11/2024	1438	2540 D	lr
TSS - WC	Influent Comp	158813		101.00	7/11/2024	652	7/11/2024	1438	2540 D	lr
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	158812		0.330	7/11/2024	1210	7/11/2024	1215	4500-NH3 D	em
NH3 - WC	Influent	158813		13.2	7/11/2024	1131	7/11/2024	1135	4500-NH3 D	em
MLSS	AB - East	158814		6850	7/11/2024	652	7/11/2024	1438	2540 D	lr
MLVSS	AB - East	158814		4600	7/11/2024	652	7/11/2024	1438	2540 D	lr
MLSS	AB - West	158815		5200	7/11/2024	652	7/11/2024	1438	2540 D	lr
MLVSS	AB - West	158815		3800	7/11/2024	652	7/11/2024	1438	2540 D	lr
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158812	Cool to 4° C	0.01	0.00	3.63	3.37	198 ± 30.5		164			
TSS/MLSS	158812	Cool to 4° C	0.00	0.00	6.21	6.34	30	200	30	199	100%	100%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158812	H2SO4 cool	na	na	0.33	0.331	Spike of 0.2		0.530		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ____________________   Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 7/16/2024
Sample Date/Time: 7/15/2024 800

Laboratory Report

Received in Lab: 7/16/2024 840

SOURCE: Waggoner Creek WWTP   Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	158855		2.77	7/16/2024	1144	7/21/2024	1155	5210 B	lr
CBOD - WC	Influent Comp	158856		204.00	7/16/2024	1144	7/21/2024	1155	5210 B	lr
TSS - WC ✓	Effluent Comp	158855		2.64	7/16/2024	729	7/16/2024	1410	2540 D	bw
TSS - WC	Influent Comp	158856		142.00	7/16/2024	729	7/16/2024	1410	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	158855		0.585	7/16/2024	1447	7/16/2024	1451	4500-NH3 D	em
NH3 - WC	Influent	158856		22.7	7/16/2024	1420	7/16/2024	1424	4500-NH3 D	em
MLSS	AB - East	158857		7150	7/16/2024	729	7/16/2024	1410	2540 D	bw
MLVSS	AB - East	158857		4800	7/16/2024	729	7/16/2024	1410	2540 D	bw
MLSS	AB - West	158858		5250	7/16/2024	729	7/16/2024	1410	2540 D	bw
MLVSS	AB - West	158858		3600	7/16/2024	729	7/16/2024	1410	2540 D	bw
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli ✓	Effluent Grab	158859		6.3	7/16/2024	908	7/17/2024	911	Colilert	lr/bw
Sulfate ✓	Effluent Grab	158860		70	7/18/2024	1540	7/18/2024	1556	8051	bw

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158855	Cool to 4° C	0.10	0.12	2.77	2.72	198 ± 30.5		210			
TSS/MLSS	158855	Cool to 4° C	0.00	0.00	2.64	2.64	30	200	29	202	97%	101%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158855	H2SO4 cool	na	na	0.585	0.585	Spike of 0.2		0.783		99%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	158860	Cool to 4° C	na	na	35	37	100 ± 15		45			

Chief Laboratory Technician: ____________________   Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 7/18/2024
Sample Date/Time: 7/17/2024 800

Laboratory Report

Received in Lab: 7/18/2024 910

SOURCE: Waggoner Creek WWTP   Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	158883		2.85	7/18/2024	1245	7/23/2024	955	5210 B	em/lr
CBOD - WC	Influent Comp	158884		314.00	7/18/2024	1245	7/23/2024	955	5210 B	em/lr
TSS - WC ✓	Effluent Comp	158883		6.67	7/18/2024	753	7/18/2024	1402	2540 D	bw
TSS - WC	Influent Comp	158884		276.00	7/18/2024	753	7/18/2024	1402	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	158883		1.36	7/18/2024	1005	7/18/2024	1015	4500-NH3 D	em
NH3 - WC	Influent	158884		20.0	7/18/2024	1112	7/18/2024	1117	4500-NH3 D	em
MLSS	AB - East	158885		7350	7/18/2024	753	7/18/2024	1402	2540 D	bw
MLVSS	AB - East	158885		4850	7/18/2024	753	7/18/2024	1402	2540 D	bw
MLSS	AB - West	158886		5000	7/18/2024	753	7/18/2024	1402	2540 D	bw
MLVSS	AB - West	158886		3450	7/18/2024	753	7/18/2024	1402	2540 D	bw
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158883	Cool to 4° C	0.04	-0.01	2.85	2.49	198 ± 30.5		174			
TSS/MLSS	158883	Cool to 4° C	0.00	0.00	6.67	6.67	30	200	29	196	97%	98%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158883	H2SO4 cool	na	na	1.36	1.35	Spike of 0.2		1.54		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ____________________   Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Laboratory Report

Testing Date: 7/23/2024
Sample Date/Time: 7/22/2024 800
Received in Lab: 7/23/2024 840

SOURCE: Waggoner Creek WWTP   Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	158922		2.06	7/23/2024	1157	7/28/2024	1015	5210 B	lr
CBOD - WC	Influent Comp	158923		227.00	7/23/2024	1157	7/28/2024	1015	5210 B	lr
TSS - WC ✓	Effluent Comp	158922		7.20	7/23/2024	731	7/24/2024	1157	2540 D	em
TSS - WC	Influent Comp	158923		284.00	7/23/2024	731	7/24/2024	1157	2540 D	em
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	158922		0.636	7/23/2024	1132	7/23/2024	1136	4500-NH3 D	em
NH3 - WC	Influent	158923		30.7	7/23/2024	1012	7/23/2024	1017	4500-NH3 D	em
MLSS	AB - East	158924		7550	7/23/2024	731	7/24/2024	1157	2540 D	em
MLVSS	AB - East	158924		5000	7/23/2024	731	7/24/2024	1157	2540 D	em
MLSS	AB - West	158925		5250	7/23/2024	731	7/24/2024	1157	2540 D	em
MLVSS	AB - West	158925		3450	7/23/2024	731	7/24/2024	1157	2540 D	em
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli ✓	Effluent Grab	158926		4.1	7/23/2024	858	7/24/2024	1035	Colilert	lr/em
Sulfate ✓	Effluent Grab	158927		50	7/24/2024	1648	7/24/2024	1703	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158922	Cool to 4° C	-0.01	0.02	2.06	1.94	198 ± 30.5		201			
TSS/MLSS	158922	Cool to 4° C	0.00	0.00	7.2	7.4	30	200	31	199	103%	100%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158922	H2SO4 cool	na	na	0.636	0.635	Spike of 0.2		0.836		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	158927	Cool to 4° C	na	na	25	25	100 ± 15		50			

Chief Laboratory Technician: ______________________   Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 7/25/2024
Sample Date/Time: 7/24/2024 800

Laboratory Report

Received in Lab: 7/25/2024 845

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc *(Mg/L)*	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	158955		2.47	7/25/2024	1535	7/30/2024	925	5210 B	lr/bw
CBOD - WC	Influent Comp	158956		175.00	7/25/2024	1535	7/30/2024	925	5210 B	lr/bw
TSS - WC ✓	Effluent Comp	158955		4.00	7/25/2024	929	7/25/2024	1530	2540 D	em
TSS - WC	Influent Comp	158956		152.00	7/25/2024	929	7/25/2024	1530	2540 D	em
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	158955		0.364	7/25/2024	1353	7/25/2024	1358	4500-NH3 D	em
NH3 - WC	Influent	158956		23.1	7/25/2024	1614	7/25/2024	1618	4500-NH3 D	em
MLSS	AB - East	158957		6750	7/25/2024	929	7/25/2024	1530	2540 D	em
MLVSS	AB - East	158957		3950	7/25/2024	929	7/25/2024	1530	2540 D	em
MLSS	AB - West	158958		5550	7/25/2024	929	7/25/2024	1530	2540 D	em
MLVSS	AB - West	158958		4200	7/25/2024	929	7/25/2024	1530	2540 D	em
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158955	Cool to 4° C	0.01	-0.02	2.47	2.47	198 ± 30.5		199			
TSS/MLSS	158955	Cool to 4° C	0.00	0.00	4	4	30	200	30	198	100%	99%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158955	H2SO4 cool	na	na	0.364	0.363	Spike of 0.2		0.562		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 7/30/2024
Sample Date/Time: 7/29/2024 800

Laboratory Report

Received in Lab: 7/30/2024 852

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	158997		3.60	7/30/2024	1320	8/4/2024	1115	5210 B	bw/lr
CBOD - WC	Influent Comp	158998		68.00	7/30/2024	1320	8/4/2024	1115	5210 B	bw/lr
TSS - WC ✓	Effluent Comp	158997		8.80	7/30/2024	637	7/31/2024	643	2540 D	lr
TSS - WC	Influent Comp	158998		119.00	7/30/2024	637	7/31/2024	643	2540 D	lr
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	158997		0.281	7/30/2024	1130	7/30/2024	1135	4500-NH3 D	em
NH3 - WC	Influent	158998		22.6	7/30/2024	1044	7/30/2024	1049	4500-NH3 D	em
MLSS	AB - East	158999		6150	7/30/2024	637	7/31/2024	643	2540 D	lr
MLVSS	AB - East	158999		4300	7/30/2024	637	7/31/2024	643	2540 D	lr
MLSS	AB - West	159000		5400	7/30/2024	637	7/31/2024	643	2540 D	lr
MLVSS	AB - West	159000		3500	7/30/2024	637	7/31/2024	643	2540 D	lr
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli ✓	Effluent Grab	159001		22.6	7/30/2024	915	8/1/2024	918	Colilert	bw/lr
Sulfate ✓	Effluent Grab	159002		92	8/1/2024	1323	8/1/2024	1347	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	158997	Cool to 4° C	0.00	-0.04	3.6	2.8	198 ± 30.5		162			
TSS/MLSS	158997	Cool to 4° C	-1.00	0.00	8.8	9	30	200	30	199	100%	99%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	158997	H2SO4 cool	na	na	0.281	0.281	Spike of 0.2		0.48		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	159002	Cool to 4° C	na	na	46	45	100 ± 15		50			

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 8/1/2024
Sample Date/Time: 8/1/2024 800

Laboratory Report

Received in Lab: 8/1/2024 850

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp	159031		12.05	7/31/2024	1325	8/6/2024	810	5210 B	bw/lr
CBOD - WC	Influent Comp	159032		189.00	7/31/2024	1325	8/6/2024	810	5210 B	bw/lr
TSS - WC	Effluent Comp	159031		11.20	8/1/2024	815	8/1/2024	1506	2540 D	lr
TSS - WC	Influent Comp	159032		79.00	8/1/2024	815	8/1/2024	1506	2540 D	lr
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent Comp	159031		0.442	8/1/2024	1306	8/1/2024	1311	4500-NH3 D	em
NH3 - WC	Influent Comp	159032		24.3	8/1/2024	1125	8/1/2024	1130	4500-NH3 D	em
MLSS GRAB	AB - East	159033		4600	8/1/2024	815	8/1/2024	1506	2540 D	lr
MLVSS GRAB	AB - East	159033		3200	8/1/2024	815	8/1/2024	1506	2540 D	lr
MLSS GRAB	AB - West	159034		4850	8/1/2024	815	8/1/2024	1506	2540 D	lr
MLVSS GRAB	AB - West	159034		3250	8/1/2024	815	8/1/2024	1506	2540 D	lr
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli	Effluent Grab								Colilert	
Sulfate	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	159031	Cool to 4° C	0.01	0.00	12.05	11.82	198 ± 30.5		156			
TSS/MLSS	159031	Cool to 4° C	0.00	0.00	11.2	11.2	30	200	30	200	100%	100%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	159031	H2SO4 cool	na	na	0.442	0.443	Spike of 0.2		0.644		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Laboratory Report

Testing Date: 8/6/2024
Sample Date/Time: 8/5/2024 800
Received in Lab: 8/6/2024 915

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC √	Effluent Comp	159072		2.29	8/6/2024	1220	8/11/2024	850	5210 B	lr
CBOD - WC	Influent Comp	159073		164.20	8/6/2024	1220	8/11/2024	850	5210 B	lr
TSS - WC √	Effluent Comp	159072		2.40	8/6/2024	739	8/6/2024	1402	2540 D	bw
TSS - WC	Influent Comp	159073		176.00	8/6/2024	739	8/6/2024	1402	2540 D	bw
pH (SU) - WC √	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC √	Effluent Comp	159072		0.362	8/6/2024	1233	8/6/2024	1238	4500-NH3 D	em
NH3 - WC	Influent Comp	159073		23.2	8/6/2024	1136	8/6/2024	1140	4500-NH3 D	em
MLSS	AB - East	159074		5150	8/6/2024	739	8/6/2024	1402	2540 D	bw
MLVSS	AB - East	159074		3800	8/6/2024	739	8/6/2024	1402	2540 D	bw
MLSS	AB - West	159075		4750	8/6/2024	739	8/6/2024	1402	2540 D	bw
MLVSS	AB - West	159075		3200	8/6/2024	739	8/6/2024	1402	2540 D	bw
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli √	Effluent Grab	159076		12.1	8/6/2024	942	8/7/2024	1024	Colilert	lr/bw
Sulfate √	Effluent Grab	159077		70	8/6/2024	1515	8/6/2024	1535	8051	lr/bw

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	159072	Cool to 4° C	-0.04	-0.03	2.29	2.15	198 ± 30.5		217.97			
TSS/MLSS	159072	Cool to 4° C	0.00	0.00	2.4	2.4	30	200	30	206.7	100%	103%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	159072	H2SO4 cool	na	na	0.362	0.366	Spike of 0.2		0.568		101%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	159077	Cool to 4° C	na	na	35	36	100 ± 15		48			

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 8/8/2024
Sample Date/Time: 8/7/2024 800

Laboratory Report

Received in Lab: 8/8/2024 835

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	159102		2.89	8/8/2024	1153	8/13/2024	1305	5210 B	lr/em
CBOD - WC	Influent Comp	159103		164.10	8/8/2024	1153	8/13/2024	1305	5210 B	lr/em
TSS - WC ✓	Effluent Comp	159102		2.88	8/8/2024	743	8/8/2024	1505	2540 D	bw
TSS - WC	Influent Comp	159103		103.00	8/8/2024	743	8/8/2024	1505	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent Comp	159102		0.228	8/8/2024	1353	8/8/2024	1358	4500-NH3 D	em
NH3 - WC	Influent Comp	159103		25.4	8/8/2024	1451	8/8/2024	1456	4500-NH3 D	em
MLSS	AB - East	159104		5350	8/8/2024	743	8/8/2024	1505	2540 D	bw
MLVSS	AB - East	159104		3800	8/8/2024	743	8/8/2024	1505	2540 D	bw
MLSS	AB - West	159105		4500	8/8/2024	743	8/8/2024	1505	2540 D	bw
MLVSS	AB - West	159105		2950	8/8/2024	743	8/8/2024	1505	2540 D	bw
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	159102	Cool to 4° C	-0.03	-0.03	2.89	2.96	198 ± 30.5		222.9			
TSS/MLSS	159102	Cool to 4° C	0.00	0.00	2.88	2.88	30	200	30	207	100%	104%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	159102	H2SO4 cool	na	na	0.228	0.227	Spike of 0.2		0.428		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 8/13/2024
Sample Date/Time: 8/12/2024 800

Laboratory Report

Received in Lab: 8/13/2024 905

SOURCE: Waggoner Creek WWTP   Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp	159145		3.75	8/13/2024	1430	8/18/2024	955	5210 B	em/lr
CBOD - WC	Influent Comp	159146		80.22	8/13/2024	1430	8/18/2024	955	5210 B	em/lr
TSS - WC	Effluent Comp	159145		7.20	8/13/2024	800	8/13/2024	1520	2540 D	bw
TSS - WC	Influent Comp	159146		160.00	8/13/2024	800	8/13/2024	1520	2540 D	bw
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent Comp	159145		0.524	8/13/2024	1743	8/13/2024	1751	4500-NH3 D	bw
NH3 - WC	Influent Comp	159146		26.3	8/13/2024	1144	8/13/2024	1148	4500-NH3 D	bw
MLSS	AB - East	159147		5150	8/13/2024	800	8/13/2024	1520	2540 D	bw
MLVSS	AB - East	159147		3850	8/13/2024	800	8/13/2024	1520	2540 D	bw
MLSS	AB - West	159148		5500	8/13/2024	800	8/13/2024	1520	2540 D	bw
MLVSS	AB - West	159148		3600	8/13/2024	800	8/13/2024	1520	2540 D	bw
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli	Effluent Grab	159149		10.9	8/13/2024	950	8/14/2024	1031	Colilert	em/bw
Sulfate	Effluent Grab	159150		58	8/13/2024	1728	8/13/2024	1739	8051	em

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	159145	Cool to 4° C	-0.08	-0.06	3.75	3.63	198 ± 30.5		216.13			
TSS/MLSS	159145	Cool to 4° C	0.00	0.00	7.2	7.2	30	200	30	197	100%	99%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	159145	H2SO4 cool	na	na	0.524	0.523	Spike of 0.2		0.726		102%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	159150	Cool to 4° C	na	na	29	30	100 ± 15		47			

Chief Laboratory Technician: ____________________

Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 8/15/2024
Sample Date/Time: 8/14/2024 800

Laboratory Report

Received in Lab: 8/15/2024 840

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	159178		2.60	8/15/2024	1400	8/20/2024	708	5210 B	em/lr
CBOD - WC	Influent Comp	159179		167.45	8/15/2024	1400	8/20/2024	708	5210 B	em/lr
TSS - WC ✓	Effluent Comp	159178		6.20	8/15/2024	831	8/15/2024	1535	2540 D	bw
TSS - WC	Influent Comp	159179		152.00	8/15/2024	831	8/15/2024	1535	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent Comp	159178		0.239	8/15/2024	1730	8/15/2024	1734	4500-NH3 D	bw
NH3 - WC	Influent Comp	159179		25.5	8/15/2024	1140	8/15/2024	1144	4500-NH3 D	bw
MLSS	AB - East	159180		4900	8/15/2024	831	8/15/2024	1535	2540 D	bw
MLVSS	AB - East	159180		4000	8/15/2024	831	8/15/2024	1535	2540 D	bw
MLSS	AB - West	159181		5650	8/15/2024	831	8/15/2024	1535	2540 D	bw
MLVSS	AB - West	159181		4100	8/15/2024	831	8/15/2024	1535	2540 D	bw
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	159178	Cool to 4° C	-0.09	-0.08	2.6	2.59	198 ± 30.5		195.8			
TSS/MLSS	159178	Cool to 4° C	0.00	0.00	6.2	6.2	30	200	30	199	100%	100%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	159178	H2SO4 cool	na	na	0.239	0.237	Spike of 0.2		0.436		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 8/20/2024
Sample Date/Time: 8/19/2024 800

Laboratory Report

Received in Lab: 8/20/2024 853

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	159218		3.08	8/20/2024	1124	8/25/2024	624	5210 B	lr
CBOD - WC	Influent Comp	159219		175.90	8/20/2024	1124	8/25/2024	624	5210 B	lr
TSS - WC ✓	Effluent Comp	159218		13.40	8/20/2024	744	8/20/2024	1410	2540 D	bw
TSS - WC	Influent Comp	159219		109.33	8/20/2024	744	8/20/2024	1410	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent Comp	159218		0.608	8/20/2024	1628	8/20/2024	1633	4500-NH3 D	bw
NH3 - WC	Influent Comp	159219		23.5	8/20/2024	1110	8/20/2024	1114	4500-NH3 D	bw
MLSS	AB - East	159220		4350	8/20/2024	744	8/20/2024	1410	2540 D	bw
MLVSS	AB - East	159220		3200	8/20/2024	744	8/20/2024	1410	2540 D	bw
MLSS	AB - West	159221		5850	8/20/2024	744	8/20/2024	1410	2540 D	bw
MLVSS	AB - West	159221		3850	8/20/2024	744	8/20/2024	1410	2540 D	bw
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli ✓	Effluent Grab	159222		7.4	8/20/2024	906	8/21/2024	927	Colilert	lr/bw
Sulfate ✓	Effluent Grab	159223		56	8/20/2024	1310	8/20/2024	1326	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	159218	Cool to 4° C	-0.06	-0.05	3.08	4.18	198 ± 30.5		213.1			
TSS/MLSS	159218	Cool to 4° C	0.00	0.00	13.4	13.4	30	200	30	197	100%	99%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	159218	H2SO4 cool	na	na	0.608	0.61	Spike of 0.2		0.807		99%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	159223	Cool to 4° C	na	na	28	28	100 ± 15		48			

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 8/22/2024
Sample Date/Time: 8/21/2024 800

Laboratory Report

Received in Lab: 8/22/2024 846

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	159249		2.88	8/22/2024	1410	8/27/2024	1129	5210 B	lr/bw
CBOD - WC	Influent Comp	159250		113.20	8/22/2024	1410	8/27/2024	1129	5210 B	lr/bw
TSS - WC ✓	Effluent Comp	159249		5.20	8/22/2024	758	8/22/2024	1626	2540 D	bw
TSS - WC	Influent Comp	159250		126.00	8/22/2024	758	8/22/2024	1626	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent Comp	159249		0.171	8/22/2024	1426	8/22/2024	1431	4500-NH3 D	em
NH3 - WC	Influent Comp	159250		34.6	8/22/2024	1249	8/22/2024	1254	4500-NH3 D	em
MLSS	AB - East	159251		4750	8/22/2024	758	8/22/2024	1626	2540 D	bw
MLVSS	AB - East	159251		3350	8/22/2024	758	8/22/2024	1626	2540 D	bw
MLSS	AB - West	159252		5300	8/22/2024	758	8/22/2024	1626	2540 D	bw
MLVSS	AB - West	159252		3350	8/22/2024	758	8/22/2024	1626	2540 D	bw
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	159249	Cool to 4° C	0.03	0.04	2.88	3.1	198 ± 30.5		182.87			
TSS/MLSS	159249	Cool to 4° C	0.00	0.0	5.2	5.2	30	200	31	199	103%	100%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	159249	H2SO4 cool	na	na	0.171	0.172	Spike of 0.2		0.371		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Laboratory Report

Testing Date: 8/27/2024
Sample Date/Time: 8/26/2024 800
Received in Lab: 8/27/2024 910

SOURCE: Waggoner Creek WWTP   Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp	159289		3.43	8/28/2024	1438	9/2/2024	918	5210 B	bw/lr
CBOD - WC	Influent Comp	159290		306.37	8/28/2024	1438	9/2/2024	918	5210 B	bw/lr
TSS - WC	Effluent Comp	159289		10.67	8/27/2024	937	8/28/2024	1335	2540 D	em
TSS - WC	Influent Comp	159290		184.00	8/27/2024	937	8/28/2024	1335	2540 D	em
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent Comp	159289		0.166	8/27/2024	1512	8/27/2024	1516	4500-NH3 D	em
NH3 - WC	Influent Comp	159290		27.6	8/27/2024		8/27/2024		4500-NH3 D	em
MLSS	AB - East	159291		5250	8/27/2024	937	8/28/2024	1335	2540 D	em
MLVSS	AB - East	159291		3700	8/27/2024	937	8/28/2024	1335	2540 D	em
MLSS	AB - West	159292		4950	8/27/2024	937	8/28/2024	1335	2540 D	em
MLVSS	AB - West	159292		3500	8/27/2024	937	8/28/2024	1335	2540 D	em
TS	WAS - East	159293		48%	8/27/2024	943	8/28/2024	758	2540 B	em/bw
TS	DIG - East	159294		35%	8/27/2024	955	8/28/2024	801	2540 B	em/bw
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli	Effluent Grab	159295		260.3	8/27/2024	951	8/28/2024	950	Colilert	bw/lr
Sulfate	Effluent Grab	159296		60	8/30/2024	1636	8/30/2024	1656	8051	bw

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual	Standard Observed	% Recovery	
CBOD	159289	Cool to 4° C	-0.04	-0.05	3.43	3.13	198 ± 30.5	199.47		
TSS/MLSS	159289	Cool to 4° C	0.00	0.00	10.67	11	30 200	30 201	100%	101%
COD		H2SO4 cool					300 ± 15			
pH(SU)		None					7.00 @ 25°C			
NH3	159289	H2SO4 cool	na	na	0.166	0.165	Spike of 0.2	0.364	100%	
Fecal Coliform		Cool to 4° C					POS Control			
BOD		Cool to 4° C					198 ± 30.5			
Sulfate	159296	Cool to 4° C	na	na	30	30	100 ± 15	47		

Chief Laboratory Technician: ______________________   Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Laboratory Report

Testing Date: 8/29/2024
Sample Date/Time: 8/28/2024 800
Received in Lab: 8/29/2024 856

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	159323		2.61	8/29/2024	1500	9/3/2024	812	5210 B	bw/lr
CBOD - WC	Influent Comp	159324		77.00	8/29/2024	1500	9/3/2024	812	5210 B	bw/lr
TSS - WC ✓	Effluent Comp	159323		6.60	8/29/2024	821	8/29/2024	1517	2540 D	lr
TSS - WC	Influent Comp	159324		122.00	8/29/2024	821	8/29/2024	1517	2540 D	lr
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent Comp	159323		0.488	8/29/2024	1531	8/29/2024	1536	4500-NH3 D	em
NH3 - WC	Influent Comp	159324		28.3	8/29/2024	1611	8/29/2024	1616	4500-NH3 D	em
MLSS	AB - East	159325		5650	8/29/2024	821	8/29/2024	1517	2540 D	lr
MLVSS	AB - East	159325		4000	8/29/2024	821	8/29/2024	1517	2540 D	lr
MLSS	AB - West	159326		5650	8/29/2024	821	8/29/2024	1517	2540 D	lr
MLVSS	AB - West	159326		3800	8/29/2024	821	8/29/2024	1517	2540 D	lr
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	159323	Cool to 4° C	-0.08	-0.08	2.61	2.45	198 ± 30.5		147			
TSS/MLSS	159323	Cool to 4° C	0.00	0.00	6.6	6.4	30	200	31	201	103%	101%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	159323	H2SO4 cool	na	na	0.488	0.483	Spike of 0.2		0.684		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Laboratory Report

Testing Date:	9/3/2024	
Sample Date/Time:	9/2/2024	800
Received in Lab:	9/3/2024	900

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	159363		3.06	9/3/2024	1233	9/8/2024	740	5210 B	lr
CBOD - WC	Influent Comp	159364		240.00	9/3/2024	1233	9/8/2024	740	5210 B	lr
TSS - WC ✓	Effluent Comp	159363		2.16	9/3/2024	738	9/3/2024	1506	2540 D	bw
TSS - WC	Influent Comp	159364		194.00	9/3/2024	738	9/3/2024	1506	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	159363		0.726	9/3/2024	1531	9/3/2024	1535	4500-NH3 D	bw
NH3 - WC	Influent	159364		29.8	9/3/2024	1136	9/3/2024	1140	4500-NH3 D	bw
MLSS	AB - East	159365		6550	9/3/2024	738	9/3/2024	1506	2540 D	bw
MLVSS	AB - East	159365		4700	9/3/2024	738	9/3/2024	1506	2540 D	bw
MLSS	AB - West								2540 D	
MLVSS	AB - West								2540 D	
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli ✓	Effluent Grab	159366		14.6	9/3/2024	918	9/4/2024	948	Colilert	lr/bw
Sulfate ✓	Effluent Grab	159367		56	9/6/2024	1453	9/6/2024	1523	8051	bw

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	159363	Cool to 4° C	0.04	0.01	3.06	3.03	198 ± 30.5		217			
TSS/MLSS	159363	Cool to 4° C	0.00	0.00	2.16	2.16	30	200	30	205	100%	103%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	159363	H2SO4 cool	na	na	0.726	0.723	Spike of 0.2		0.922		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	159367	Cool to 4° C	na	na	28	30	100 ± 15		47			

Chief Laboratory Technician: ______________ Date: ______________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 9/5/2024
Sample Date/Time: 9/4/2024 800

Laboratory Report

Received in Lab: 9/5/2024 905

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	159394		3.02	9/5/2024	1441	9/10/2024	1148	5210 B	lr/bw
CBOD - WC	Influent Comp	159395		173.00	9/5/2024	1441	9/10/2024	1148	5210 B	lr/bw
TSS - WC ✓	Effluent Comp	159394		4.71	9/5/2024	800	9/5/2024	1415	2540 D	bw
TSS - WC	Influent Comp	159395		166.00	9/5/2024	800	9/5/2024	1415	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	159394		0.161	9/5/2024	1504	9/5/2024	1509	4500-NH3 D	em
NH3 - WC	Influent	159395		29.6	9/5/2024	1540	9/5/2024	1544	4500-NH3 D	em
MLSS	AB - East	159396		7650	9/5/2024	800	9/5/2024	1415	2540 D	bw
MLVSS	AB - East	159396		5350	9/5/2024	800	9/5/2024	1415	2540 D	bw
MLSS	AB - West								2540 D	
MLVSS	AB - West								2540 D	
TS	WAS - East	159397		0.87%	9/5/2024	1023	9/6/2024	845	2540 B	bw/em
TS	DIG - East	159398		0.35%	9/5/2024	1035	9/6/2024	844	2540 B	bw/em
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	159394	Cool to 4° C	0.22	0.18	3.02	3.3	198 ± 30.5		197			
TSS/MLSS	159394	Cool to 4° C	0.00	0.00	4.71	4.71	30	200	31	193	103%	97%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	159394	H2SO4 cool	na	na	0.161	0.165	Spike of 0.2		0.364		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 9/10/2024
Sample Date/Time: 9/9/2024 800

Laboratory Report

Received in Lab: 9/10/2024 935

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC √	Effluent Comp	159442		3.29	9/10/2024	1410	9/15/2024	750	5210 B	bw/lr
CBOD - WC	Influent Comp	159443		183.00	9/10/2024	1410	9/15/2024	750	5210 B	bw/lr
TSS - WC √	Effluent Comp	159442		4.60	9/10/2024	652	9/11/2024	641	2540 D	lr
TSS - WC	Influent Comp	159443		140.00	9/10/2024	652	9/11/2024	641	2540 D	lr
pH (SU) - WC √	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC √	Effluent	159442		0.029	9/10/2024	1331	9/10/2024	1336	4500-NH3 D	em
NH3 - WC	Influent	159443		32.5	9/10/2024	[illegible]	9/10/2024	1303	4500-NH3 D	em
MLSS	AB - East	159444		7650	9/10/2024	652	9/11/2024	641	2540 D	lr
MLVSS	AB - East	159444		5100	9/10/2024	652	9/11/2024	641	2540 D	lr
MLSS	AB - West								2540 D	
MLVSS	AB - West								2540 D	
TS	WAS - East	159445		0.92%	9/10/2024	1018	9/11/2024	748	2540 B	lr/bw
TS	DIG - East	159446		0.48%	9/10/2024	1032	9/11/2024	750	2540 B	lr/bw
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli √	Effluent Grab	159447		8.6	9/10/2024	955	9/11/2024	1000	Colilert	bw/lr
Sulfate √	Effluent Grab	159448		94	9/11/2024	1410	9/11/2024	1424	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed			
CBOD	159442	Cool to 4° C	-.10	-0.08	3.29	3.08	198 ± 30.5		172			
TSS/MLSS	159442	Cool to 4° C	0.00	0.00	4.6	4.6	30	200	30	201	100%	101%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	159442	H2SO4 cool	na	na	0.029	0.029	Spike of 0.2		0.23		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	159448	Cool to 4° C	na	na	47	47	100 ± 15		48			

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 9/12/2024
Sample Date/Time: 9/11/2024 800

Laboratory Report

Received in Lab: 9/12/2024 912

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	159475		3.12	9/12/2024	1135	9/17/2024	1132	5210 B	bw/lr
CBOD - WC	Influent Comp	159476		108.00	9/12/2024	1135	9/17/2024	1132	5210 B	bw/lr
TSS - WC ✓	Effluent Comp	159475		4.20	9/12/2024	757	9/12/2024	1504	2540 D	lr
TSS - WC	Influent Comp	159476		318.00	9/12/2024	757	9/12/2024	1504	2540 D	lr
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	159475		0.063	9/12/2024	1502	9/12/2024	1506	4500-NH3 D	em
NH3 - WC	Influent	159476		13.2	9/12/2024	1408	9/12/2024	1412	4500-NH3 D	em
MLSS	AB - East	159477		6600	9/12/2024	757	9/12/2024	1504	2540 D	lr
MLVSS	AB - East	159477		4450	9/12/2024	757	9/12/2024	1504	2540 D	lr
MLSS	AB - West								2540 D	
MLVSS	AB - West								2540 D	
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	159475	Cool to 4° C	-0.29	-0.31	3.12	2.74	198 ± 30.5		189			
TSS/MLSS	159475	Cool to 4° C	0.00	0.00	4.2	4.2	30	200	30	200	100%	100%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	159475	H2SO4 cool	na	na	0.063	0.063	Spike of 0.2		0.265		101%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 9/17/2024
Sample Date/Time: 9/16/2024 800

Laboratory Report

Received in Lab: 9/17/2024 940

SOURCE: Waggoner Creek WWTP   Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp	159519		4.29	9/17/2024	1452	9/22/2024	715	5210 B	lr
CBOD - WC	Influent Comp	159520		293.00	9/17/2024	1452	9/22/2024	715	5210 B	lr
TSS - WC	Effluent Comp	159519		4.00	9/17/2024	743	9/17/2024	1457	2540 D	bw
TSS - WC	Influent Comp	159520		146.00	9/17/2024	743	9/17/2024	1457	2540 D	bw
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent	159519		0.021	9/17/2024	1504	9/17/2024	1509	4500-NH3 D	em
NH3 - WC	Influent	159520		26.1	9/17/2024	1433	9/17/2024	1438	4500-NH3 D	em
MLSS	AB - East	159521		7700	9/17/2024	743	9/17/2024	1457	2540 D	bw
MLVSS	AB - East	159521		5300	9/17/2024	743	9/17/2024	1457	2540 D	bw
MLSS	AB - West	offline							2540 D	
MLVSS	AB - West	offline							2540 D	
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli	Effluent Grab	159522		18.7	9/17/2024	946	9/18/2024	1015	Colilert	lr/bw
Sulfate	Effluent Grab	159523		74	9/18/2024	745	9/18/2024	820	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	159519	Cool to 4° C	0.06	0.07	4.29	4.31	198 ± 30.5		213			
TSS/MLSS	159519	Cool to 4° C	0.00	0.00	4	4	30	200	30	202	100%	101%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	159519	H2SO4 cool	na	na	0.021	0.02	Spike of 0.2		0.223		102%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	159523	Cool to 4° C	na	na	37	38	100 ± 15		45			

Chief Laboratory Technician: ______________________   Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 9/19/2024
Sample Date/Time: 9/18/2024 800

Laboratory Report

Received in Lab: 9/19/2024 856

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC ✓	Effluent Comp	159542		4.71	9/19/2024	1142	9/24/2024	923	5210 B	lr/bw
CBOD - WC	Influent Comp	159543		238.00	9/19/2024	1142	9/24/2024	923	5210 B	lr/bw
TSS - WC ✓	Effluent Comp	159542		4.35	9/19/2024	742	9/19/2024	1510	2540 D	bw
TSS - WC	Influent Comp	159543		152.00	9/19/2024	742	9/19/2024	1510	2540 D	bw
pH (SU) - WC ✓	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC ✓	Effluent	159542		0.024	9/19/2024	1405	9/19/2024	1411	4500-NH3 D	bw
NH3 - WC	Influent	159543		31.4	9/19/2024	1128	9/19/2024	1132	4500-NH3 D	bw
MLSS	AB - East	159544		8100	9/19/2024	742	9/19/2024	1510	2540 D	bw
MLVSS	AB - East	159544		5600	9/19/2024	742	9/19/2024	1510	2540 D	bw
MLSS	AB - West	offline							2540 D	
MLVSS	AB - West	offline							2540 D	
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli ✓	Effluent Grab								Colilert	
Sulfate ✓	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	159542	Cool to 4° C	0.04	0.03	4.71	5.04	198 ± 30.5		199			
TSS/MLSS	159542	Cool to 4° C	0.00	0.00	4.35	4.35	30	200	29	200	97%	100%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	159542	H2SO4 cool	na	na	0.024	0.024	Spike of 0.2		0.223		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 9/24/2024
Sample Date/Time: 9/23/2024 800

Laboratory Report

Received in Lab: 9/24/2024 955

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC √	Effluent Comp	159594		5.13	9/24/2024	1253	9/29/2024	807	5210 B	bw/lr
CBOD - WC	Influent Comp	159595		233.00	9/24/2024	1253	9/29/2024	807	5210 B	bw/lr
TSS - WC √	Effluent Comp	159594		5.73	9/24/2024	751	9/25/2024	653	2540 D	lr
TSS - WC	Influent Comp	159595		220.00	9/24/2024	751	9/25/2024	653	2540 D	lr
pH (SU) - WC √	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC √	Effluent	159594		0.056	9/24/2024	1310	9/24/2024	1315	4500-NH3 D	em
NH3 - WC	Influent	159595		33.0	9/24/2024	1251	9/24/2024	1255	4500-NH3 D	em
MLSS	AB - East	159596		8800	9/24/2024	751	9/25/2024	653	2540 D	lr
MLVSS	AB - East	159596		5800	9/24/2024	751	9/25/2024	653	2540 D	lr
MLSS	AB - West	OFFLINE							2540 D	
MLVSS	AB - West	OFFLINE							2540 D	
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli √	Effluent Grab	159597		18.9	9/24/2024	1022	9/25/2024	1025	Colilert	bw/lr
Sulfate √	Effluent Grab	159598		78	9/25/2024	1308	9/25/2024	1331	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	159594	Cool to 4° C	-0.06	-0.06	5.13	5.12	198 ± 30.5		191			
TSS/MLSS	159594	Cool to 4° C	0.00	1.00	5.73	5.87	30	200	30	205	100%	103%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	159594	H2SO4 cool	na	na	0.056	0.056	Spike of 0.2		0.255		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	159598	Cool to 4° C	na	na	39	38	100 ± 15		48			

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 9/26/2024
Sample Date/Time: 9/25/2024 800

Laboratory Report

Received in Lab: 9/26/2024 900

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC √	Effluent Comp	159621		4.23	9/26/2024	1150	10/1/2024	840	5210 B	bw/lr
CBOD - WC	Influent Comp	159622		205.00	9/26/2024	1150	10/1/2024	840	5210 B	bw/lr
TSS - WC √	Effluent Comp	159621		10.20	9/26/2024	738	9/26/2024	1356	2540 D	lr
TSS - WC	Influent Comp	159622		153.00	9/26/2024	738	9/26/2024	1356	2540 D	lr
pH (SU) - WC √	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC √	Effluent	159621		0.048	9/26/2024	1206	9/26/2024	1211	4500-NH3 D	em
NH3 - WC	Influent	159622		32.9	9/26/2024	1128	9/26/2024	1133	4500-NH3 D	em
MLSS	AB - East	159623		7000	9/26/2024	738	9/26/2024	1356	2540 D	lr
MLVSS	AB - East	159623		4800	9/26/2024	738	9/26/2024	1356	2540 D	lr
MLSS	AB - West	159624		4350	9/26/2024	738	9/26/2024	1356	2540 D	lr
MLVSS	AB - West	159624		2800	9/26/2024	738	9/26/2024	1356	2540 D	lr
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli √	Effluent Grab								Colilert	
Sulfate √	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	159621	Cool to 4° C	-0.06	-0.08	4.23	3.74	198 ± 30.5		189			
TSS/MLSS	159621	Cool to 4° C	0.00	1.00	10.2	10.2	30	200	29	199	97%	100%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	159621	H2SO4 cool	na	na	0.048	0.048	Spike of 0.2		0.251		102%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ______________________ Date: ______________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 10/1/2024
Sample Date/Time: 9/30/2024 800

Laboratory Report

Received in Lab: 10/1/2024 952

SOURCE: Waggoner Creek WWTP   Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC √	Effluent Comp	159665		3.68	10/1/2024	1155	10/6/2024	912	5210 B	lr
CBOD - WC	Influent Comp	159666		244.00	10/1/2024	1155	10/6/2024	912	5210 B	lr
TSS - WC √	Effluent Comp	159665		4.13	10/1/2024	744	10/1/2024	1459	2540 D	bw
TSS - WC	Influent Comp	159666		214.00	10/1/2024	744	10/1/2024	1459	2540 D	bw
pH (SU) - WC √	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC √	Effluent	159665		0.380	10/2/2024	1100	10/2/2024	1105	4500-NH3 D	lr
NH3 - WC	Influent	159666		28.9	10/1/2024	1025	10/1/2024	1030	4500-NH3 D	bw
MLSS	AB - East	159667		6100	10/1/2024	744	10/1/2024	1459	2540 D	bw
MLVSS	AB - East	159667		4050	10/1/2024	744	10/1/2024	1459	2540 D	bw
MLSS	AB - West	159668		5750	10/1/2024	744	10/1/2024	1459	2540 D	bw
MLVSS	AB - West	159668		3850	10/1/2024	744	10/1/2024	1459	2540 D	bw
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli √	Effluent Grab	159669							Colilert	
Sulfate √	Effluent Grab	159670							8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	159665	Cool to 4° C	-0.01	-0.01	3.68	3.42	198 ± 30.5		217			
TSS/MLSS	159665	Cool to 4° C	0.00	0.00	4.13	4.13	30	200	30	201	100%	100%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	159665	H2SO4 cool	na	na	0.38	0.37	Spike of 0.2		0.571		101%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	159670	Cool to 4° C	na	na			100 ± 15					

Chief Laboratory Technician: ____________________   Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 10/3/2024
Sample Date/Time: 10/2/2024 800

Laboratory Report

Received in Lab: 10/3/2024 900

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp	159698		3.29	10/3/2024	1234	10/8/2024	1415	5210 B	lr
CBOD - WC	Influent Comp	159699		255.00	10/3/2024	1234	10/8/2024	1415	5210 B	lr
TSS - WC	Effluent Comp	159698		4.80	10/3/2024	816	10/3/2024	1411	2540 D	bw
TSS - WC	Influent Comp	159699		192.00	10/3/2024	816	10/3/2024	1411	2540 D	bw
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent	159698		0.032	10/3/2024	1200	10/3/2024	1204	4500-NH3 D	bw
NH3 - WC	Influent	159699		31.9	10/3/2024	1050	10/3/2024	1055	4500-NH3 D	bw
MLSS	AB - East	159700		5900	10/3/2024	816	10/3/2024	1411	2540 D	bw
MLVSS	AB - East	159700		4050	10/3/2024	816	10/3/2024	1411	2540 D	bw
MLSS	AB - West	159701		6100	10/3/2024	816	10/3/2024	1411	2540 D	bw
MLVSS	AB - West	159701		3900	10/3/2024	816	10/3/2024	1411	2540 D	bw
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli	Effluent Grab								Colilert	
Sulfate	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	159698	Cool to 4° C	0.05	0.04	3.29	3.11	198 ± 30.5		210			
TSS/MLSS	159698	Cool to 4° C	0.00	0.00	4.8	4.8	30	200	30	198	100%	99%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	159698	H2SO4 cool	na	na	0.032	0.032	Spike of 0.2		0.228		98%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 10/8/2024
Sample Date/Time: 10/7/2024 800

Laboratory Report

Received in Lab: 10/8/2024 920

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc *(Mg/L)*	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp	159740		2.01	10/8/2024	1906	10/13/2024	800	5210 B	lr
CBOD - WC	Influent Comp	159741		217.00	10/8/2024	1906	10/13/2024	800	5210 B	lr
TSS - WC	Effluent Comp	159740		6.60	10/8/2024	806	10/8/2024	1423	2540 D	bw
TSS - WC	Influent Comp	159741		232.00	10/8/2024	806	10/8/2024	1423	2540 D	bw
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent	159740		0.037	10/8/2024	1604	10/8/2024	1608	4500-NH3 D	bw
NH3 - WC	Influent	159741		35.1	10/8/2024	1149	10/8/2024	1153	4500-NH3 D	bw
MLSS	AB - East	159742		5500	10/8/2024	806	10/8/2024	1423	2540 D	bw
MLVSS	AB - East	159742		3850	10/8/2024	806	10/8/2024	1423	2540 D	bw
MLSS	AB - West	159743		5450	10/8/2024	806	10/8/2024	1423	2540 D	bw
MLVSS	AB - West	159743		3850	10/8/2024	806	10/8/2024	1423	2540 D	bw
TS	WAS - East								2540 B	
TS	DIG - East								2540 B	
TS	WAS - West								2540 B	
TS	DIG - West								2540 B	
E. Coli	Effluent Grab	159744		6.3	10/8/2024	926	10/9/2024	930	Colilert	lr
Sulfate	Effluent Grab	159745		68	10/9/2024	1604	10/9/2024	1620	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	159740	Cool to 4° C	-0.05	-0.06	2.01	2.15	198 ± 30.5		188			
TSS/MLSS	159740	Cool to 4° C	0.00	0.00	6.6	6.6	30	200	30	200	100%	100%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	159740	H2SO4 cool	na	na	0.037	0.038	Spike of 0.2		0.239		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	159745	Cool to 4° C	na	na	34	34	100 ± 15		47			

Chief Laboratory Technician: ____________________ Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 10/10/2024
Sample Date/Time: 10/9/2024 800

Laboratory Report

Received in Lab: 10/10/2024 852

SOURCE: Waggoner Creek WWTP   Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp	159774		1.68	10/10/2024	1422	10/15/2024	922	5210 B	lr
CBOD - WC	Influent Comp	159775		360.00	10/10/2024	1422	10/15/2024	922	5210 B	lr
TSS - WC	Effluent Comp	159774		5.07	10/10/2024	837	10/10/2024	1418	2540 D	bw
TSS - WC	Influent Comp	159775		106.00	10/10/2024	837	10/10/2024	1418	2540 D	bw
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent	159774		0.028	10/10/2024	1543	10/10/2024	1604	4500-NH3 D	bw
NH3 - WC	Influent	159775		29.8	10/10/2024	1200	10/10/2024	1204	4500-NH3 D	bw
MLSS	AB - East	159776		5950	10/10/2024	837	10/10/2024	1418	2540 D	bw
MLVSS	AB - East	159776		4800	10/10/2024	837	10/10/2024	1418	2540 D	bw
MLSS	AB - West	159777		5650	10/10/2024	837	10/10/2024	1418	2540 D	bw
MLVSS	AB - West	159777		4400	10/10/2024	837	10/10/2024	1418	2540 D	bw
TS	WAS - East	159778		0.96%	10/10/2024	1247	10/11/2024	1213	2540 B	bw
TS	DIG - East	159779		0.24%	10/10/2024	1307	10/11/2024	1216	2540 B	bw
TS	WAS - West	159780		0.75%	10/10/2024	1317	10/11/2024	1218	2540 B	bw
TS	DIG - West	159781		0.36%	10/10/2024	1325	10/11/2024	1220	2540 B	bw
E. Coli	Effluent Grab								Colilert	
Sulfate	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	159774	Cool to 4° C	-0.03	-0.02	1.68	1.98	198 ± 30.5		214			
TSS/MLSS	159774	Cool to 4° C	0.00	0.00	4.07	4.93	30	200	30.38	196	101%	98%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	159774	H2SO4 cool	na	na	0.028	0.028	Spike of 0.2		0.223		98%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate		Cool to 4° C					100 ± 15					

Chief Laboratory Technician: ____________________   Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 10/11/2024
Sample Date/Time: 10/11/2024 900

Laboratory Report

Received in Lab: 10/11/2024 933

SOURCE: Waggoner Creek WWTP   Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp								5210 B	
CBOD - WC	Influent Comp								5210 B	
TSS - WC	Effluent Comp								2540 D	
TSS - WC	Influent Comp								2540 D	
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent								4500-NH3 D	
NH3 - WC	Influent								4500-NH3 D	
MLSS	AB - East								2540 D	
MLVSS	AB - East								2540 D	
MLSS	AB - West								2540 D	
MLVSS	AB - West								2540 D	
TS	WAS - East	159791		0.67%	10/11/2024	1719	10/12/2024	625	2540 B	bw/lr
TS	DIG - East	159792		0.48%	10/11/2024	1728	10/12/2024	628	2540 B	bw/lr
TS	WAS - West	159793		1.16%	10/11/2024	1733	10/12/2024	627	2540 B	bw/lr
TS	DIG - West	159794		0.46%	10/11/2024	1740	10/12/2024	629	2540 B	bw/lr
E. Coli	Effluent Grab								Colilert	
Sulfate	Effluent Grab								8051	

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed	% Recovery
CBOD		Cool to 4° C					198 ± 30.5			
TSS/MLSS		Cool to 4° C					30	200		
COD		H2SO4 cool					300 ± 15			
pH(SU)		None					7.00 @ 25°C			
NH3		H2SO4 cool					Spike of 0.2			
Fecal Coliform		Cool to 4° C					POS Control			
BOD		Cool to 4° C					198 ± 30.5			
Sulfate		Cool to 4° C					100 ± 15			

Chief Laboratory Technician: ____________________   Date: ____________________

Texarkana Water Utilities
Pollution Control Division

Testing Date: 10/15/2024
Sample Date/Time: 10/14/2024 800

Laboratory Report

Received in Lab: 10/15/2024 955

SOURCE: Waggoner Creek WWTP Type Facility: POTW

Analytical Results

Pollutant	Sample Point	Sample No.	Field Sample No.	Conc (Mg/L)	Date/Time Started		Date/Time Completed		Method	Analyst
CBOD - WC	Effluent Comp	159828							5210 B	
CBOD - WC	Influent Comp	159829							5210 B	
TSS - WC	Effluent Comp	159828		2.40	10/15/2024	755	10/16/2024	1119	2540 D	bw/lr
TSS - WC	Influent Comp	159829		160.00	10/15/2024	755	10/16/2024	1119	2540 D	bw/lr
pH (SU) - WC	Effluent								4500-H+	
pH (SU) - WC	Influent								4500-H+	
NH3 - WC	Effluent	159828		0.025	10/15/2024	1500	10/15/2024	1504	4500-NH3 D	bw
NH3 - WC	Influent	159829		36.6	10/15/2024	1322	10/15/2024	1326	4500-NH3 D	bw
MLSS	AB - East	159830		4700	10/15/2024	755	10/16/2024	1119	2540 D	bw/lr
MLVSS	AB - East	159830		3650	10/15/2024	755	10/16/2024	1119	2540 D	bw/lr
MLSS	AB - West	159831		4700	10/15/2024	755	10/16/2024	1119	2540 D	bw/lr
MLVSS	AB - West	159831		3750	10/15/2024	755	10/16/2024	1119	2540 D	bw/lr
TS	WAS - East	159832		0.52	10/15/2024	1045	10/16/2024	751	2540 B	bw/lr
TS	DIG - East	159833		0.23	10/15/2024	1051	10/16/2024	750	2540 B	bw/lr
TS	WAS - West	159834		0.91	10/15/2024	1100	10/16/2024	753	2540 B	bw/lr
TS	DIG - West	159835		0.43	10/15/2024	1109	10/16/2024	752	2540 B	bw/lr
E. Coli	Effluent Grab	159836		22.3	10/15/2024	1006	10/16/2024	1038	Colilert	lr/bw
Sulfate	Effluent Grab	159837		74	10/15/2024	1141	10/15/2024	1153	8051	lr

Quality Control Information

Pollutant	Sample No.	Preservative	Blank		Duplicates		Standard Actual		Standard Observed		% Recovery	
CBOD	159828	Cool to 4° C					198 ± 30.5					
TSS/MLSS	159828	Cool to 4° C	0.00	0.00	2.4	2.4	30	200	31	201.1	103%	101%
COD		H2SO4 cool					300 ± 15					
pH(SU)		None					7.00 @ 25°C					
NH3	159828	H2SO4 cool	na	na	0.0254	0.026	Spike of 0.2		0.226		100%	
Fecal Coliform		Cool to 4° C					POS Control					
BOD		Cool to 4° C					198 ± 30.5					
Sulfate	159837	Cool to 4° C	na	na	37	35	100 ± 15		49			

Chief Laboratory Technician: ____________ Date: ____________