



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
**APPLICATION FOR A DOMESTIC WASTEWATER PERMIT
 ADMINISTRATIVE REPORT 1.0**

If you have questions about completing this form please contact the Applications Review and Processing Team at 512-239-4671.

Section 1. Application Fees (Instructions Page 29)

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

Flow	New/Major Amendment	Renewal
<0.05 MGD	\$350.00 <input type="checkbox"/>	\$315.00 <input type="checkbox"/>
≥0.05 but <0.10 MGD	\$550.00 <input type="checkbox"/>	\$515.00 <input type="checkbox"/>
≥0.10 but <0.25 MGD	\$850.00 <input type="checkbox"/>	\$815.00 <input type="checkbox"/>
≥0.25 but <0.50 MGD	\$1,250.00 <input type="checkbox"/>	\$1,215.00 <input type="checkbox"/>
≥0.50 but <1.0 MGD	\$1,650.00 <input checked="" type="checkbox"/>	\$1,615.00 <input type="checkbox"/>
≥1.0 MGD	\$2,050.00 <input type="checkbox"/>	\$2,015.00 <input type="checkbox"/>

Minor Amendment (for any flow) \$150.00

Payment Information:

Mailed Check/Money Order Number: [REDACTED]
 Check/Money Order Amount: [REDACTED]
 Name Printed on Check: [REDACTED]

EPAY Voucher Number: [REDACTED]

Copy of Payment Voucher enclosed? Yes

Section 2. Type of Application (Instructions Page 29)

- | | |
|---|---|
| <input checked="" type="checkbox"/> New TPDES | <input type="checkbox"/> New TLAP |
| <input type="checkbox"/> Major Amendment <u>with</u> Renewal | <input type="checkbox"/> Minor Amendment <u>with</u> Renewal |
| <input type="checkbox"/> Major Amendment <u>without</u> Renewal | <input type="checkbox"/> Minor Amendment <u>without</u> Renewal |
| <input type="checkbox"/> Renewal without changes | <input type="checkbox"/> Minor Modification of permit |

For amendments or modifications, describe the proposed changes:

For existing permits:

Permit Number: WQ00
 EPA I.D. (TPDES only): TX

Expiration Date:

Section 3. Facility Owner (Applicant) and Co-Applicant Information (Instructions Page 29)

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

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

Douglas T. Harrison

(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: [REDACTED]

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., Ms., Miss): Mr.

First and Last Name: Douglas T. Harrison

Credential (P.E, P.G., Ph.D., etc.): [REDACTED]

Title: Landowner

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?

[REDACTED]

(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: [REDACTED]

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., Ms., Miss): [REDACTED]

First and Last Name:

Credential (P.E, P.G., Ph.D., etc.):

Title:

Provide a brief description of the need for a co-permittee:

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: Core Data Form Douglas Harrison, Individual Form

Section 4. Application Contact Information (Instructions Page 30)

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., Ms., Miss): Ms.

First and Last Name: Jamie Miller

Credential (P.E, P.G., Ph.D., etc.): P.E.

Title: President

Organization Name: JA Wastewater, LLC

Mailing Address: 5765 Fig Way

City, State, Zip Code: Arvada, CO 80002

Phone No.: 970-443-9096 Ext.: Fax No.: 303-993-3713

E-mail Address: jmiller@jawastewater.com

Check one or both: Administrative Contact Technical Contact

B. Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Mike McMinimee

Credential (P.E, P.G., Ph.D., etc.):

Title: Project Engineer

Organization Name: JA Wastewater, LLC

Mailing Address: 5765 Fig Way

City, State, Zip Code: Arvada, CO 80002

Phone No.: 720-413-6909 Ext.: Fax No.:

E-mail Address: mmcminimee@jawastewater.com

Check one or both: Administrative Contact Technical Contact

Section 5. Permit Contact Information (Instructions Page 30)

Provide two names of individuals that can be contacted throughout the permit term.

A. Prefix (Mr., Ms., Miss): Ms.

First and Last Name: Jamie L. Miller

Credential (P.E, P.G., Ph.D., etc.): P.E.

Title: President

Organization Name: JA Wastewater, LLC

Mailing Address: 5765 Fig Way

City, State, Zip Code: Arvada, CO 80002

Phone No.: 970-443-9096 Ext.: [REDACTED] Fax No.: 303-993-3713

E-mail Address: jmiller@jawastewater.com

B. Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Douglas T. Harrison

Credential (P.E, P.G., Ph.D., etc.): [REDACTED]

Title: Landowner

Organization Name: [REDACTED]

Mailing Address: 1000 Harrison Road

City, State, Zip Code: New Braunfels, TX 78132-1671

Phone No.: 830-708-0808 Ext.: [REDACTED] Fax No.: [REDACTED]

E-mail Address: doug@harrisonnb.com

Section 6. Billing Information (Instructions Page 30)

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., Ms., Miss): Mr.

First and Last Name: Douglas T. Harrison

Credential (P.E, P.G., Ph.D., etc.): [REDACTED]

Title: Landowner

Organization Name: [REDACTED]

Mailing Address: 1000 Harrison Road

City, State, Zip Code: New Braunfels, TX 78132

Phone No.: 830-708-0808 Ext.: [REDACTED] Fax No.: [REDACTED]

E-mail Address: doug@harrisonnb.com

Section 7. DMR/MER Contact Information (Instructions Page 31)

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

Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Douglas T Harrison

Credential (P.E, P.G., Ph.D., etc.): [REDACTED]

Title: Landowner

Organization Name: [REDACTED]

Mailing Address: 1000 Harrison Rd

City, State, Zip Code: New Braunfels, TX 78132

Phone No.: [REDACTED] Ext.: [REDACTED] Fax No.: [REDACTED]

E-mail Address: doug@harrisonnb.com

DMR data is required to be submitted electronically. Create an account at:

<https://www.tceq.texas.gov/permitting/netdmr/netdmr.html>.

Section 8. Public Notice Information (Instructions Page 31)

A. Individual Publishing the Notices

Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Mike McMinimee

Credential (P.E, P.G., Ph.D., etc.): [REDACTED]

Title: Project Engineer

Organization Name: JA Wastewater, LLC

Mailing Address: 5765 Fig Way

City, State, Zip Code: Arvada, CO 80002

Phone No.: 720-413-6909 Ext.: [REDACTED] Fax No.: [REDACTED]

E-mail Address: mmcminimee@jawastewater.com

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 person to be listed in the Notices

Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Mike McMinimee
Credential (P.E, P.G., Ph.D., etc.):
Title: Project Engineer
Organization Name: JA Wastewater, LLC
Phone No.: 720-413-6909 Ext.:
E-mail: mmcminimee@jawastewater.com

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: Mammen Family Library
Location within the building: Circulation Desk
Physical Address of Building: 131 Bulverde Crossing
City: Bulverde, TX 78163 County: Comal
Contact Name: Jewel English (Facilities Manager)
Phone No.: 830-438-4864 Ext.:

E. Bilingual Notice Requirements:

This information **is required** for **new, major amendment, and renewal applications**. It is not required for minor amendment or minor modification 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? Spanish

Section 9. Regulated Entity and Permitted Site Information (Instructions Page 33)

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

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):

Harrison Tract WWTF

C. Owner of treatment facility: Douglas T. Harrison

Ownership of Facility: Public Private Both Federal

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

Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Douglas T. Harrison

Mailing Address: 1000 Harrison Rd.

City, State, Zip Code: New Braunfels, TX 78132-1671

Phone No.: E-mail Address:

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: N/A

E. Owner of effluent disposal site:

Prefix (Mr., Ms., Miss): N/A

First and Last Name: N/A

Mailing Address: N/A

City, State, Zip Code: N/A

Phone No.: N/A

E-mail Address: N/A

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: N/A

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

Prefix (Mr., Ms., Miss): N/A

First and Last Name: N/A

Mailing Address: N/A

City, State, Zip Code: N/A

Phone No.: N/A

E-mail Address: N/A

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: N/A

Section 10. TPDES Discharge Information (Instructions Page 34)

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:

New permit application. The proposed WWTF will be located approximately 0.3 miles South of the intersection of State Highway 46 and Harrison Rd. in Bulverde, Comal County, TX.

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:

Effluent will be discharged into the West Fork Dry Comal Creek, where it will flow for 28.6 miles until it enters the Comal River (Classified Segment # 1811) in the town of New Braunfels, TX.

City nearest the outfall(s): Bulverde, TX

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

Outfall Latitude: 29 degrees 46' 39.16" Longitude: 98 Degrees 19' 30.05"

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: N/A

- 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 36)

- 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:

- B. City nearest the disposal site:

- C. County in which the disposal site is located:

- D. Disposal Site Latitude: Longitude:

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

- F. For TLAPs, please identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained:

Section 12. Miscellaneous Information (Instructions Page 37)

- 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.

N/A

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:

D. Do you owe any fees to the TCEQ?

- Yes No

If yes, provide the following information:

Account number: [REDACTED]

Amount past due: [REDACTED]

E. Do you owe any penalties to the TCEQ?

- Yes No

If yes, please provide the following information:

Enforcement order number: [REDACTED]

Amount past due: [REDACTED]

Section 13. Attachments (Instructions Page 38)

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: Applicant CDF

Section 14. Signature Page (Instructions Page 39)

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

Permit Number:

Applicant: Douglas T. Harrison

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): Douglas T. Harrison

Signatory title: Landowner

Signature:

[Handwritten Signature]
(Use blue ink)

Date:

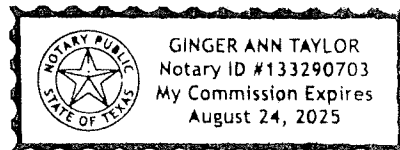
8/31/22

Subscribed and Sworn to before me by the said Douglas Harrison

on this 31 day of August, 2022.

My commission expires on the 24 day of August, 2022.

[Handwritten Signature]
Notary Public



[SEAL]

Comal
County, Texas

DOMESTIC ADMINISTRATIVE REPORT 1.1

The following information is required for new and amendment applications.

Section 1. Affected Landowner Information (Instructions Page 41)

- 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:
- Readable/Writeable CD
 - Four sets of labels
- D. Provide the source of the landowners' names and mailing addresses: Comal CAD Map Search
- 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):

Section 2. Original Photographs (Instructions Page 44)

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 44)

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

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)**

**FOR AGENCIES REVIEWING DOMESTIC
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)

The SPIF must be completed as a separate document. The TCEQ will mail a copy of the SPIF to each agency as required by the TCEQ agreement with EPA. If any of the items are not completely addressed or further information is needed, you will be contacted to provide the information before the permit is issued. Each item must be completely addressed.

Do not refer to a response of any item in the permit application form. Each attachment must be provided with this form separately from the administrative report of the application. The application will not be declared administratively complete without this form being completed in its entirety including all attachments.

The following applies to all applications:

1. Permittee: SIWTX, Inc. dba Canyon Lake Water Services Company

Permit No. WQ00 _____ EPA ID No. TX _____

Address of the project (or a location description that includes street/highway, city/vicinity, and county):

The proposed WWTF will be located approximately 0.34 miles due South of the intersection of FM 3351 and Ammann Rd. in Bulverde, in Comal County, TX.

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): Ms.

First and Last Name: Jamie L. Miller

Credential (P.E, P.G., Ph.D., etc.): P.E.

Title: President

Mailing Address: 5765 Fig Way

City, State, Zip Code: Arvada, CO 80002

Phone No.: 970-443-9096 Ext.: [REDACTED] Fax No.: 303-993-3713

E-mail Address: jmiller@jawastewater.com

2. List the county in which the facility is located: Comal
3. If the property is publicly owned and the owner is different than the permittee/applicant, please list the owner of the property.

N/A

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.

The effluent will be discharged into the West Fork Dry Comal Creek. It will flow for approximately 28.6 stream miles before entering the Comal River (Classified Segment # 1811) near New Braunfels, TX.

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

6. List proposed construction impact (surface acres to be impacted, depth of excavation, sealing of caves, or other karst features):

The construction will impact less than 4.0 acres of land. There will be surface excavation for pad development and installation of necessary piping.

7. Describe existing disturbances, vegetation, and land use:

No current or existing disturbances, land is currently privately owned and contains native vegetation.

THE FOLLOWING ITEMS APPLY ONLY TO APPLICATIONS FOR NEW TPDES PERMITS AND MAJOR AMENDMENTS TO TPDES PERMITS

8. List construction dates of all buildings and structures on the property:

N/A

9. Provide a brief history of the property, and name of the architect/builder, if known.

N/A

ATTACHMENT 1

INDIVIDUAL INFORMATION

Section 1. Individual Information (Instructions Page 50)

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): Mr.

Full legal name (first, middle, last): Douglas T. Harrison

Driver's License or State Identification Number: 11323427

Date of Birth: 10-26-1963

Mailing Address: 1000 Harrison Rd.

City, State, and Zip Code: New Braunfels, TX 78132-1671

Phone Number: 830-708-0808 Fax Number:

E-mail Address: doug@harrisonnb.com

CN: N/A

For Commission Use Only:

Customer Number:

Regulated Entity Number:

Permit Number:



TCEQ Use Only

TCEQ Core Data Form

For detailed instructions regarding completion of 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.)		
<input checked="" type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)	<input type="checkbox"/> 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		RN

SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)	
<input checked="" type="checkbox"/> New Customer		<input type="checkbox"/> Update to Customer Information	
<input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)		<input type="checkbox"/> Change in Regulated Entity Ownership	
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:	
Douglas T. Harrison			
7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)
11. Type of Customer:		Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited	
<input type="checkbox"/> Corporation		<input checked="" type="checkbox"/> Individual	
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Other		<input type="checkbox"/> Sole Proprietorship <input type="checkbox"/> Other:	
12. Number of Employees		13. Independently Owned and Operated?	
<input type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher		<input type="checkbox"/> Yes <input type="checkbox"/> No	
14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following			
<input checked="" type="checkbox"/> Owner <input type="checkbox"/> Operator <input type="checkbox"/> Owner & Operator			
<input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> Voluntary Cleanup Applicant <input type="checkbox"/> Other:			
15. Mailing Address:			
1000 Harrison Rd			
City	New Braunfels	State	TX
ZIP	78132	ZIP + 4	
16. Country Mailing Information (if outside USA)		17. E-Mail Address (if applicable)	
18. Telephone Number		19. Extension or Code	20. Fax Number (if applicable)
() -			() -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information (If 'New Regulated Entity' is selected below this form should be accompanied by a permit application)
<input checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information
The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency 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.)
Harrison Tract WWTF

23. Street Address of the Regulated Entity: <i>(No PO Boxes)</i>							
	City		State		ZIP		ZIP + 4
24. County							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	Facility is located 0.34 mi south of the intersection of Harrison Road and State Highway 46 in Comal Country Texas.						
26. Nearest City	Bulverde			State	TX	Nearest ZIP Code	78132
27. Latitude (N) In Decimal:	Degrees		Minutes	Seconds	28. Longitude (W) In Decimal:	Degrees	
	29	46	39.16		98	19	30.05
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)			
9511		221320					
33. What is the Primary Business of this entity? <i>(Do not repeat the SIC or NAICS description.)</i>							
Wastewater Treatment							
34. Mailing Address:	1000 Harrison Rd						
	City	New Braunfels	State	TX	ZIP	78132	ZIP + 4
35. E-Mail Address:							
36. Telephone Number		37. Extension or Code			38. Fax Number <i>(if applicable)</i>		
(830)708 0808		() -			() -		

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.

<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input type="checkbox"/> Edwards Aquifer	<input type="checkbox"/> Emissions Inventory Air	<input type="checkbox"/> Industrial Hazardous Waste
<input type="checkbox"/> Municipal Solid Waste	<input type="checkbox"/> New Source Review Air	<input type="checkbox"/> OSSF	<input type="checkbox"/> Petroleum Storage Tank	<input type="checkbox"/> PWS
<input type="checkbox"/> Sludge	<input type="checkbox"/> Storm Water	<input type="checkbox"/> Title V Air	<input type="checkbox"/> Tires	<input type="checkbox"/> Used Oil
<input type="checkbox"/> Voluntary Cleanup	<input checked="" type="checkbox"/> Waste Water	<input type="checkbox"/> Wastewater Agriculture	<input type="checkbox"/> Water Rights	<input type="checkbox"/> Other:

SECTION IV: Preparer Information

40. Name:	Mike McMinimee	41. Title:	Project Engineer
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(720)413-6909		() -	mmcminimee@jawastewater.com

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:				Job Title:			
Name <i>(In Print)</i> :	Douglas T Harrison				Phone:	() -	
Signature:					Date:		

Signature:

[Handwritten Signature]

Date:

6/29/22

STATE OF TEXAS WELL REPORT for Tracking #34630

Owner: Hill Country Memorial Gardens	Owner Well #: #2
Address: P.O. Box 311596 New Braunfels, TX 78131	Grid #: 68-14-8
Well Location: Hwy 46 E Spring Branch, TX 78070	Latitude: 29° 47' 16" N
Well County: Comal	Longitude: 098° 19' 40" W
	Elevation: 1194 ft. above sea level
Type of Work: New Well	
	Proposed Use: Domestic

Drilling Start Date: **3/8/2004** Drilling End Date: **3/8/2004**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	9.75	0	50

Drilling Method: **Air Rotary**

Borehole Completion: **Open Hole**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	20	7 Cement

Seal Method: **Pressure**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other
concentrated contamination (ft.): **150**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Estimated**

Surface Completion: **Surface Slab Installed**

Water Level: **10 ft. below land surface on 2004-03-08** Measurement Method: **Unknown**

Packers: **1 @ 20**

Type of Pump: **Submersible**

Well Tests: **Estimated** Yield: **60+ GPM**

STATE OF TEXAS WELL REPORT for Tracking #184665

Owner: Jacuelyn S. Couser, Edgah Sahn Estate Address: P.O. Box 310713 New Braunfels, TX 78131 Well Location: Hwy 46, Cranes Mill Road New Braunfels, TX 78130 Well County: Comal	Owner Well #: No Data Grid #: 68-14-8 Latitude: 29° 47' 23" N Longitude: 098° 19' 34" W Elevation: No Data
Type of Work: Reconditioning Proposed Use: Domestic	

Drilling Start Date: **7/8/2004** Drilling End Date: **7/9/2004**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	8	0	465

Drilling Method: **Cable Tool**

Borehole Completion: **Open Hole**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	0	20	4
	160	180	4

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Unknown**

Water Level: **356 ft. below land surface on 2004-07-09** Measurement Method: **Unknown**

Packers: **1 rubber, 180'**

Type of Pump: **No Data**

Well Tests: **Unknown** Yield: **2-3 GPM with 109 ft. drawdown after .75 hours**

Water Quality: *Strata Depth (ft.)* *Water Type*
 No Data **good**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which
 contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Kutscher Drilling Ltd**
 3810 Hunter Road
 San Marcos, TX 78666

Driller Name: **Charles R. Kutscher** License Number: **1861**

Comments: **\$scd**

<i>Lithology:</i>		<i>Casing:</i>					
DESCRIPTION & COLOR OF FORMATION MATERIAL		BLANK PIPE & WELL SCREEN DATA					
<i>From (ft)</i>	<i>To (ft)</i>	<i>Description</i>		<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
		total depth of well 465		5 N PVC SDR21	0-220		
		clean out		perforated 200'-220'			

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Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #197965

Owner: DOUG HARRISON	Owner Well #: No Data
Address: 1650 INDEPENDENCE DR NEW BRAUNFELS, TX 78132	Grid #: 68-14-8
Well Location: 1650 INDEPENDENCE DRIVE NEW BRAUNFELS, TX 78132	Latitude: 29° 47' 03" N
Well County: Comal	Longitude: 098° 19' 31" W
	Elevation: No Data
Type of Work: New Well	
	Proposed Use: Domestic

Drilling Start Date: **8/10/2009** Drilling End Date: **9/13/2009**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	12.25	0	660

Drilling Method: **Air Rotary**

Borehole Completion: **Open Hole**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	0	660	

Seal Method: **PRESSURE CEMENT**

Sealed By: **SCHLUMBERGER**

Distance to Property Line (ft.): **50+**

Distance to Septic Field or other concentrated contamination (ft.): **150+**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **MEASURED**

Surface Completion: **Surface Slab Installed**

Water Level: **456 ft. below land surface on 2009-08-12** Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **Submersible** Pump Depth (ft.): **714**

Well Tests: **Estimated** **No Test Data Specified**

STATE OF TEXAS WELL REPORT for Tracking #220778

Owner:	Grissle Gonzalez-Llanos c/o Ramey Homes	Owner Well #:	No Data
Address:	No Data	Grid #:	68-14-7
Well Location:	1801 Ridge Creek Lane Spring Branch, TX	Latitude:	29° 46' 33" N
Well County:	Comal	Longitude:	098° 20' 34" W
		Elevation:	No Data
Type of Work: New Well		Proposed Use: Domestic	

Drilling Start Date: **4/21/2010** Drilling End Date: **4/26/2010**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	8.75	0	890

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	0	2	1 Screte
	2	100	10 Bentonite

Seal Method: **Pressure Grout**

Sealed By: **Driller**

Distance to Property Line (ft.): **50+**

Distance to Septic Field or other concentrated contamination (ft.): **n/a**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Surface Slab Installed**

Water Level: **No Data**

Packers: **Rubber Umbrella 100,100,660,660,770**

Type of Pump: **Submersible** Pump Depth (ft.): **752**

Well Tests: **Estimated** Yield: **50 GPM**

STATE OF TEXAS WELL REPORT for Tracking #148952

Owner: Douglas Harrison	Owner Well #: No Data
Address: 455 Hunters Trophy New Braunfels, TX 78130	Grid #: 68-14-8
Well Location: Highway 46 Diamond H Ranch New Braunfels, TX 78130	Latitude: 29° 46' 46" N
Well County: Comal	Longitude: 098° 19' 19" W
	Elevation: No Data
Type of Work: New Well	
Proposed Use: Domestic	

Drilling Start Date: **1/14/2006** Drilling End Date: **1/20/2006**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	8	0	920

Drilling Method: **Air Rotary**

Borehole Completion: **Open Hole**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	30	5 Cement
	340	360	5 Cement

Seal Method: **Hand Mixed**

Sealed By: **Kutscher Drilling**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Not Installed**

Surface Completion: **Surface Sleeve Installed**

Water Level: **369 ft. below land surface on 2006-01-20** Measurement Method: **Unknown**

Packers: **2 Rubber Packers 545 & 360 feet**

Type of Pump: **No Data**

Well Tests: **Estimated** Yield: **30 GPM with 551 ft. drawdown after .75 hours**

STATE OF TEXAS WELL REPORT for Tracking #34627

Owner: Hill Country Memorial Gardens	Owner Well #: No Data
Address: P.O. Box 311596 New Braunfels, TX 78131	Grid #: 68-14-8
Well Location: Hwy 46 E Spring Branch, TX 78070	Latitude: 29° 47' 17" N
Well County: Comal	Longitude: 098° 19' 41" W
	Elevation: 1194 ft. above sea level

Type of Work: New Well	Proposed Use: Domestic
-------------------------------	-------------------------------

Drilling Start Date: **2/26/2004** Drilling End Date: **3/7/2004**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	12	0	60
	8	60	680

Drilling Method: **Air Rotary**

Borehole Completion: **Open Hole**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	520	52 & 2 yds cmnt

Seal Method: **Pressure**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **150**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Estimated**

Surface Completion: **Surface Slab Installed**

Water Level: **380 ft. below land surface on 2004-03-04** Measurement Method: **Unknown**

Packers: **2 @ 520**

Type of Pump: **Submersible**

Well Tests: **Estimated** Yield: **80+ GPM**

Water Quality: **No Data** Strata Depth (ft.): **No Data** Water Type: **No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **TR Drilling & Service LLC**
P.O. Box 733
Boerne, TX 78006

Driller Name: **Billy Todd Moore**

License Number: **2901**

Apprentice Name: **Jonathen Puhmann**

Apprentice Number: **WWDAPP00000
746**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
0	1	Topsoil
1	6	Caliche
6	29	Grey Rock & shale
29	34	Yellow rock & red clay
34	53	White rock
53	113	Grey rock & shale layers
113	232	Grey yellow rock & shale layers
232	284	Grey rock & shale layers
284	328	Grey tan rock
328	334	Soft grey shale
334	482	Grey rock & shale layers
482	509	Grey tan rock
509	563	Grey rock & shale layers
563	597	Tan yellow rock & shells
597	633	Grey tan white rock little porous
633	656	Porous brown sand

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
8 5/8	N	Steel	0-60 .315
4 1/2	N	SDR 17	0-620
4 1/2	N	manuf. screen	620-680 .013

656	668	Grey brown rock
668	680	Grey rock & shale

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P.O. Box 12157
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(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #44552

Owner: Robert Lindsey	Owner Well #: No Data
Address: 1251 Ridge Creek Lane Bulverde, TX 78163	Grid #: 68-14-7
Well Location: 1251 Ridge Creek Lane Bulverde, TX 78163	Latitude: 29° 46' 31" N
Well County: Comal	Longitude: 098° 20' 20" W
	Elevation: No Data

Type of Work: New Well	Proposed Use: Domestic
-------------------------------	-------------------------------

Drilling Start Date: **7/24/2003** Drilling End Date: **7/31/2003**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	8.75	0	20
	7.875	20	760

Drilling Method: **Air Rotary**

Borehole Completion: **Open Hole**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	0	400	16

Seal Method: **Gravity**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **150**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Estimated**

Surface Completion: **Surface Slab Installed**

Water Level: **550 ft. below land surface on 2003-07-31** Measurement Method: **Unknown**

Packers: **2 400**
2 420

Type of Pump: **No Data**

Well Tests: **Estimated** Yield: **7 GPM**

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(512) 334-5540**

STATE OF TEXAS WELL REPORT for Tracking #165144

Owner: Doug Harrison	Owner Well #: Well 1
Address: 820 Harrison Road New Braunfels, TX 78132	Grid #: 68-14-8
Well Location: 700 Harrison Road New Braunfels, TX 78132	Latitude: 29° 46' 52" N
Well County: Comal	Longitude: 098° 19' 40" W
	Elevation: 1205 ft. above sea level
Type of Work: New Well	
	Proposed Use: Domestic

Drilling Start Date: **12/5/2008** Drilling End Date: **12/10/2008**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	9	0	60
	8	60	800

Drilling Method: **Air Rotary**

Borehole Completion: **Open Hole**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	0	20	5 cement
	20	400	9 Benseal
	400	420	5 Cement

Seal Method: **Tremmie Tube PDE**

Sealed By: **Kutscher Drilling**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Surface Sleeve Installed**

Water Level: **420 ft. below land surface on 2008-12-10** Measurement Method: **Unknown**

Packers: **Rubber 420, 440, 730**

Type of Pump: **No Data**

Well Tests: **Estimated** Yield: **20 GPM**

STATE OF TEXAS WELL REPORT for Tracking #148953

Owner: Douglas Harrison	Owner Well #: No Data
Address: 455 Hunters Trophy New Braunfels, TX 78132	Grid #: 68-14-8
Well Location: Highway 46 Diamond H Ranch New Braunfels, TX 78132	Latitude: 29° 46' 46" N
Well County: Comal	Longitude: 098° 19' 20" W
	Elevation: No Data
Type of Work: New Well	
	Proposed Use: Domestic

Drilling Start Date: **1/11/2006** Drilling End Date: **1/13/2006**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	8	0	700

Drilling Method: **Air Rotary**

Borehole Completion: **Open Hole**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	30	10 Cement

Seal Method: **Unknown**

Distance to Property Line (ft.): **No Data**

Sealed By: **Unknown**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Surface Sleeve Installed**

Water Level: **370 ft. below land surface on 2006-01-13** Measurement Method: **Unknown**

Packers: **2 Rubber Packers 665 & 360 feet**

Type of Pump: **No Data**

Well Tests: **Estimated** Yield: **10 GPM with 330 ft. drawdown after .75 hours**

Water Quality: *Strata Depth (ft.)* *Water Type*
 No Data **Good**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which
 contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Kutscher Drilling Ltd**
 3810 Hunter Road
 San Marcos, TX 78666

Driller Name: **Daniel Kutscher** License Number: **54746**

Comments: **\$mew**

Lithology:
 DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
 BLANK PIPE & WELL SCREEN DATA

<i>From (ft)</i>	<i>To (ft)</i>	<i>Description</i>
		0-10 Top Soil
		10-650 Blue Clay
		650 Water-Brown Sand
		650-680 Brown Sand
		680-700 Gray Sand-Water 10 GPM

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
No Data			

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P.O. Box 12157
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STATE OF TEXAS WELL REPORT for Tracking #42322

Owner: Douglas T. Harrison	Owner Well #: Well #2
Address: 455 Hunters Trophy New Braunfels, TX 78132	Grid #: 68-14-8
Well Location: Off Hwy 46 New Braunfels, TX 78130	Latitude: 29° 46' 52" N
Well County: Comal	Longitude: 098° 19' 33" W
	Elevation: No Data
Type of Work: New Well	
Proposed Use: Domestic	

Drilling Start Date: **8/5/2003** Drilling End Date: **8/11/2003**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	8	0	940

Drilling Method: **Air Rotary**

Borehole Completion: **Open Hole**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	20	4
	352	380	4

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other
concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Surface Sleeve Installed**

Water Level: **420 ft. below land surface on 2003-08-11** Measurement Method: **Unknown**

Packers: **Packer 380/400**

Type of Pump: **No Data**

Well Tests: **Estimated** Yield: **10 GPM with 520 ft. drawdown after .75 hours**

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Austin, TX 78711
(512) 334-5540**

STATE OF TEXAS WELL REPORT for Tracking #156245

Owner: Tracy & Terri Powers	Owner Well #: 2
Address: 2190 Ridgecreek Ln Bulverde, TX 78163	Grid #: 68-14-8
Well Location: 2190 Ridgecreek Ln Bulverde, TX 78163	Latitude: 29° 46' 29" N
Well County: Comal	Longitude: 098° 19' 57" W
	Elevation: 1276 ft. above sea level
Type of Work: New Well	
	Proposed Use: Domestic

Drilling Start Date: **9/22/2008** Drilling End Date: **9/25/2008**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	9	0	930

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	2	2 - cement
	2	500	26 - benseal

Seal Method: **Pressure grouting**

Sealed By: **Driller**

Distance to Property Line (ft.): **65**

Distance to Septic Field or other concentrated contamination (ft.): **200+**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Measured**

Surface Completion: **Surface Slab Installed**

Water Level: **No Data**

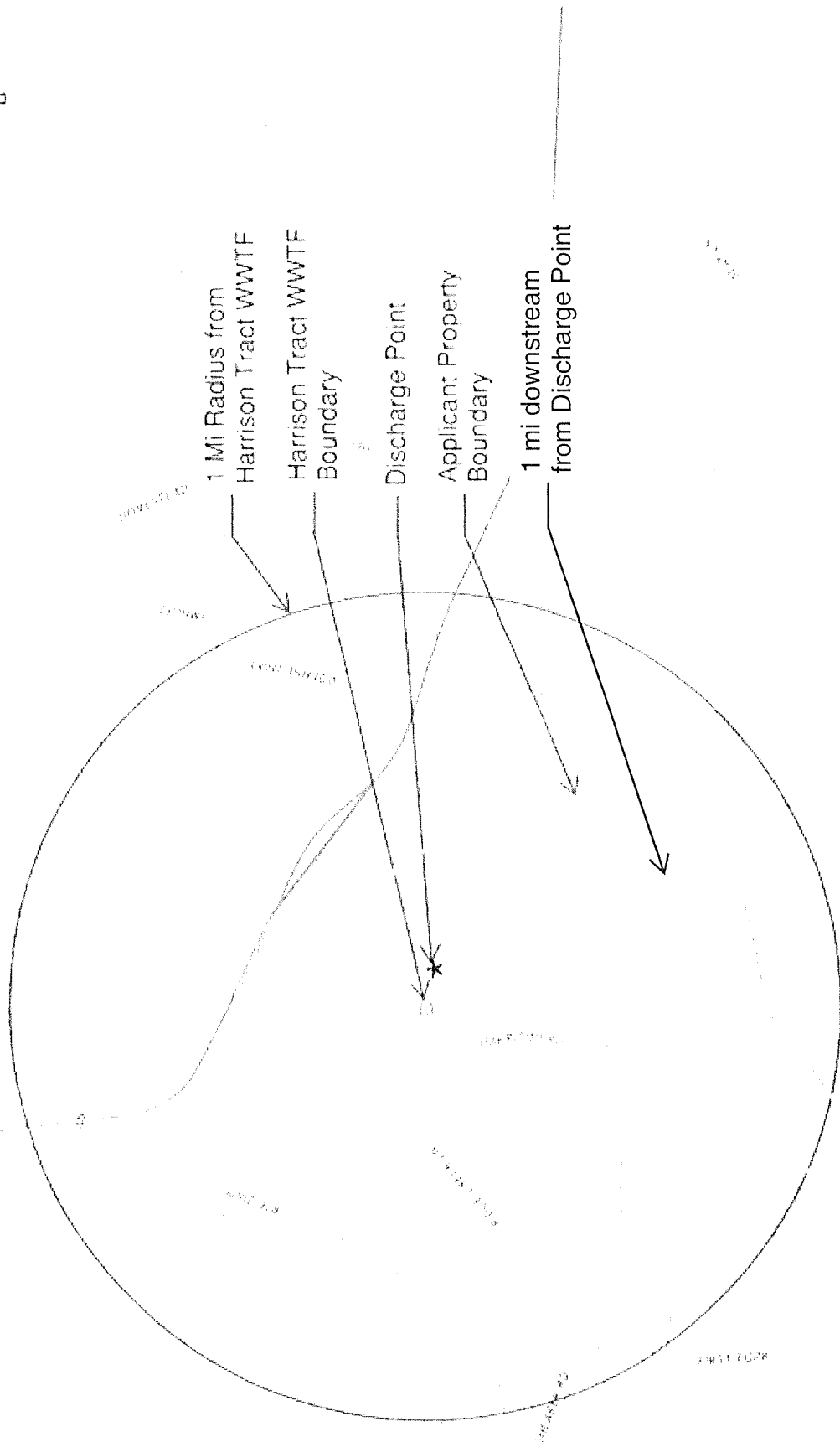
Packers: **Rubber @ 500 & 520**

Type of Pump: **Submersible** Pump Depth (ft.): **780**

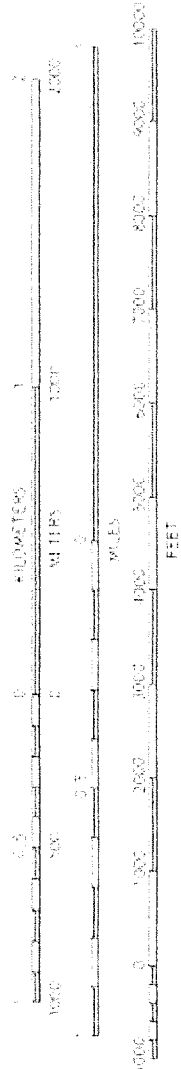
Well Tests: **Estimated** Yield: **20 GPM**

Harrison Tract WW₁F - SPIF Map

Legend
□



SCALE 1:24 000



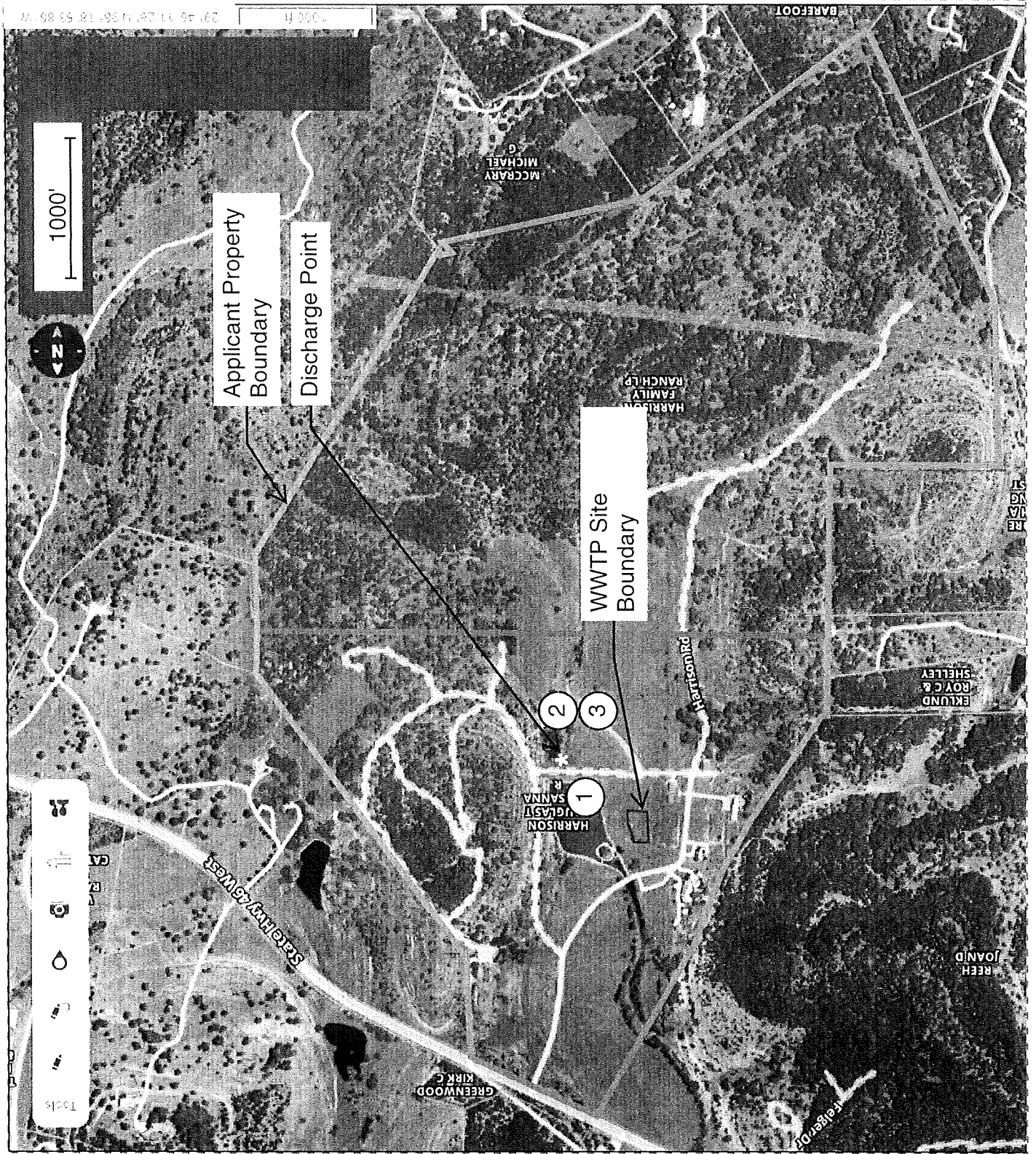
AFFECTED LAND OWNER LIST

Comal CAD Map <https://propaccess.trueautomation.com/clientdb/?cid=56>

Map Label	Property ID Number	Owner Name	Mailing Address
1	73994, 76248, 80114	JOAN D REEH	32 LAUREL CIR, NEW BRAUNFELS, TX 78130-6619
2	115580	HILL COUNTRY MEMORIAL GARDENS, INC	ATTN: MILES D PARKER, PO BOX 311596, NEW BRAUNFELS, TX 78131-1596
3	76254	JACQUELYN S COUSER	PO BOX 310713, NEW BRAUNFELS, TX 78131-0713
4	76255	CRUZERS CUSTOMS LLC	1223 INDUSTRIAL DR STE F, NEW BRAUNFELS, TX 78130
5	80682	CAROLYN I WHITE	11301 W STATE HIGHWAY 46, NEW BRAUNFELS, TX 78132-1625
6	81927	BLUE PINE HOLDINGS LLC	C/O VULCAN MATERIALS COMPANY, 1200 URBAN CENTER DR, BIRMINGHAM, AL 35242-2541
7	81786, 73971	MICHAEL G MCCRARY	2580 SHEARER RD, BULVERDE, TX 78163-2830
8	73957	DEBORAH WILLIAMS-BELL & TIMOTHY J ALTMAN	2535 SHEARER RD, BULVERDE, TX 78163
9	73975	ANNE BELL	2323 SHEARER RD, BULVERDE, TX 78163-2837
10	73964	ERIC & MICHELLE BAREFOOT	2025 SHEARER RD, BULVERDE, TX 78163-2839
11	76426	ROBERT C HARGARTHER	1871 SHEARER RD, BULVERDE, TX 78163-2829
12	76450	LAURREN C JR & MARY A EDWARDS	1705 SHEARER RD, BULVERDE, TX 78163-2835
13	78781	KELLI & ERIC FLETCHER	1555 SHEARER RD, BULVERDE, TX 78163-2931
14	79843, 412386	DOUGLAS & ARIA WOODCOFF	1200 SHEARER RD, BULVERDE, TX 78163-2826
15	79835, 74009	BETH A MOORE LIVING TRUST	751 SHEARER RD, BULVERDE, TX 78163-2853
16	59652	TRACY L & TERRI J POWERS	2190 RIDGE CREEK LN, BULVERDE, TX 78163-2846
17	59651	AARON R & JULIE R HETH	2151 RIDGE CREEK LANE, BULVERDE, TX 78163

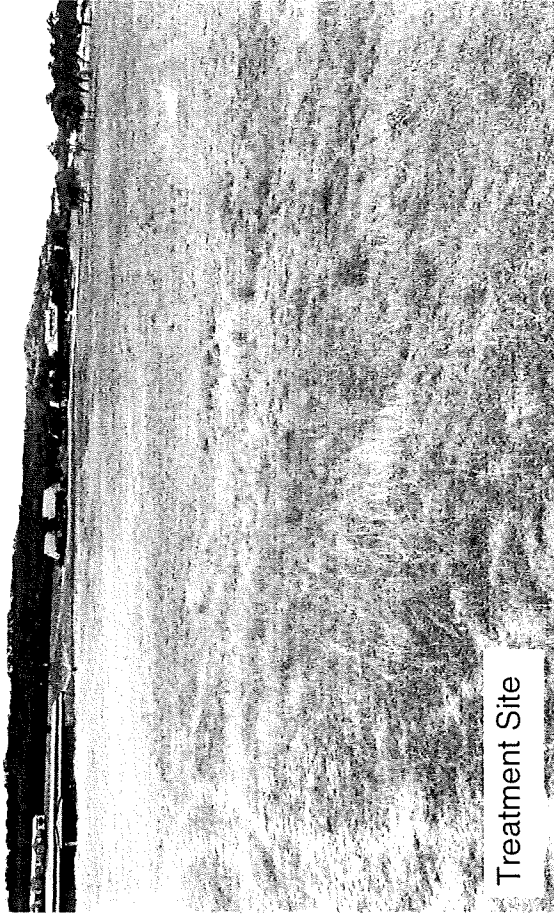
JACQUELYN S COUSER PO BOX 310713 NEW BRAUNFELS, TX 78132	HILL COUNTRY MEMORIAL GARDENS PO BOX 311596 NEW BRAUNFELS, TX 78131	JOAN D REEH 32 LAUREL CIR NEW BRAUNFELS, TX 78130
BLUE PINE HOLDINGS LLC 1200 URBAN CENTER DR BIRMINGHAM, AL 35242	CAROLYN I WHITE 11301 W STATE HIGHWAY 46 NEW BRAUNFELS, TX 78132	CRUZERS CUSTOMS LLC 1223 INDUSTRIAL DR STE F NEW BRAUNFELS, TX 78130
ANNE BELL 2323 SHEARER RD BULVERDE, TX 78163	DEBORAH WILLIAMS-BELL 2535 SHEARER RD BULVERDE, TX 78163	MICHAEL G MCCRARY 2580 SHEARER RD BULVERDE, TX 78163
LAURREN C JR & MARY A EDWARDS 1705 SHEARER RD BULVERDE, TX 78163	ROBERT C HARGARTHER 1871 SHEARER RD BULVERDE, TX 78163	ERIC & MICHELLE BAREFOOT 2025 SHEARER RD BULVERDE, TX 78163
BETH A MOORE LIVING TRUST 751 SHEARER RD BULVERDE, TX 78163	DOUGLAS & ARIA WOODCOFF 1200 SHEARER RD BULVERDE, TX 78163	KELLI & ERIC FLETCHER 1555 SHEARER RD BULVERDE, TX 78163
	AARON R & JULIE R HETH 2151 RIDGE CREEK LANE BULVERDE, TX 78163	TRACY L & TERRI J POWERS 2190 RIDGE CREEK LN BULVERDE, TX 78163

Harrison Tract WWTP - Original Photograph Map



Harrison Tract WWTP - Original Photographs

1



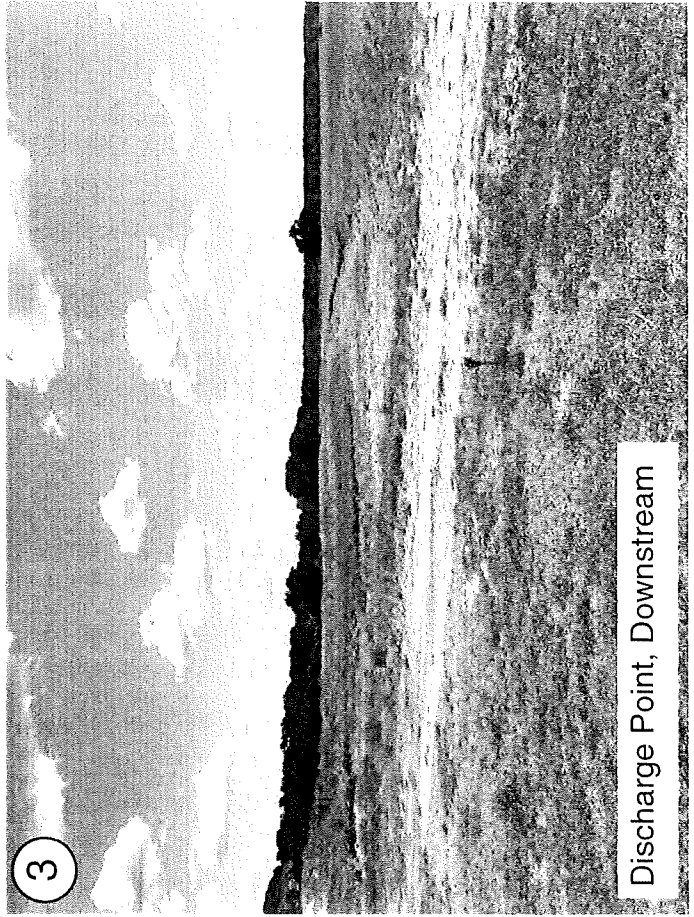
Treatment Site

2



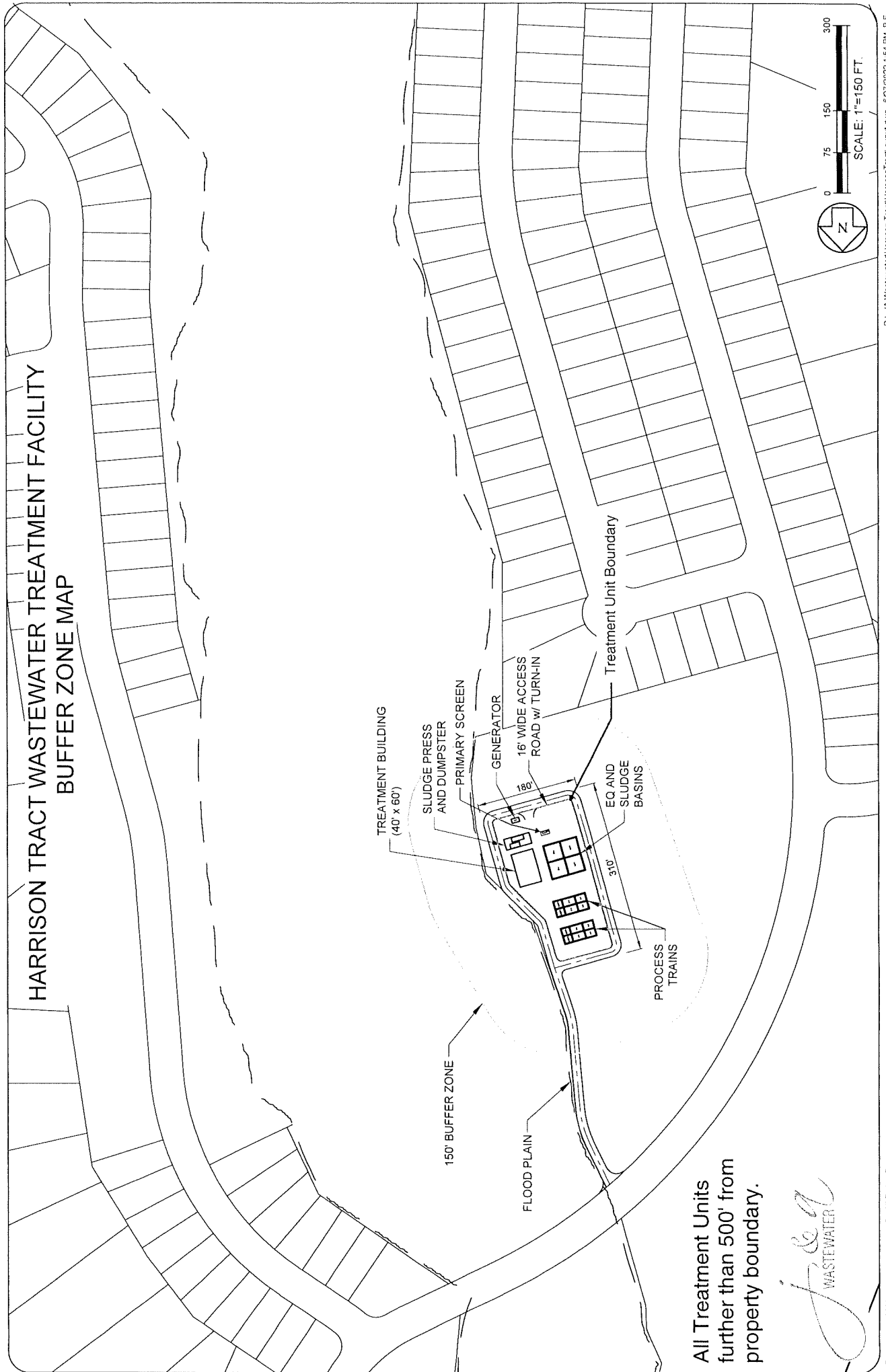
Discharge Point, Upstream

3



Discharge Point, Downstream

HARRISON TRACT WASTEWATER TREATMENT FACILITY BUFFER ZONE MAP



All Treatment Units
further than 500' from
property boundary.





TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
DOMESTIC WASTEWATER PERMIT APPLICATION

DOMESTIC TECHNICAL REPORT 1.0

The Following Is Required For All Applications
Renewal, New, And Amendment

Section 1. Permitted or Proposed Flows (Instructions Page 51)

A. Existing/Interim I Phase

Design Flow (MGD): 0.1

2-Hr Peak Flow (MGD): 0.4

Estimated construction start date: August 2023

Estimated waste disposal start date: January 2024

B. Interim II Phase

Design Flow (MGD): 0.3

2-Hr Peak Flow (MGD): 1.2

Estimated construction start date: June 2024

Estimated waste disposal start date: September 2024

C. Final Phase

Design Flow (MGD): 0.6

2-Hr Peak Flow (MGD): 2.4

Estimated construction start date: March 2025

Estimated waste disposal start date: June 2025

D. Current operating phase: N/A

Provide the startup date of the facility: August 2023

Section 2. Treatment Process (Instructions Page 51)

A. Treatment process description

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 in the permit, a description of each phase must be provided.** Process description:

Please see Process Description and Unit Sizing Attachment. The design basis for the treatment plant is based on a 190 gpd/LUE assumption.

Port or pipe diameter at the discharge point, in inches: 6"

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)
Please see Process Description and Unit Sizing Attachment		

C. Process flow diagrams

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

Attachment: Process Flow Diagrams

Section 3. Site Drawing (Instructions Page 52)

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: Service Area Map

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

The Harrison Tract WWTF will serve the Harrison Tract Subdivision, a new, 1,403 lot subdivision in Comal County Texas.

Section 4. Unbuilt Phases (Instructions Page 52)

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.

Section 5. Closure Plans (Instructions Page 53)

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.

Section 6. Permit Specific Requirements (Instructions Page 53)

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:

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.

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.

Buffer zone requirements met by ownership.

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*.

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.

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 512-239-0000. 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.

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 512-239-0000.

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

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 or TXRNE

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:

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.

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.

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.

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, a Sewage Sludge Solids Management Plan is required. See Example 5 in the instructions.

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

1. Acceptance of sludge from other WWTPs

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

Yes No

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

In addition, provide the date that the plant started accepting sludge or is anticipated to start accepting sludge, an estimate of monthly sludge acceptance (gallons or millions of gallons), an estimate of the BOD₅ concentration of the sludge, and the design BOD₅ concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

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 a the date that the plant started accepting septic waste, or is anticipated to start accepting septic waste, an estimate of monthly septic waste acceptance (gallons or millions of gallons), an estimate of the BOD₅ concentration of the septic waste, and the design BOD₅ concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

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 the facility accepting or will it 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.

Section 7. Pollutant Analysis of Treated Effluent (Instructions Page 58)

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).

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

Table 1.0(2) - Pollutant Analysis for Wastewater Treatment Facilities

Pollutant	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
CBOD ₅ , mg/l					
Total Suspended Solids, mg/l					
Ammonia Nitrogen, mg/l					
Nitrate Nitrogen, mg/l					
Total Kjeldahl Nitrogen, mg/l					
Sulfate, mg/l					
Chloride, mg/l					
Total Phosphorus, mg/l					
pH, standard units					
Dissolved Oxygen*, mg/l					
Chlorine Residual, mg/l					
<i>E.coli</i> (CFU/100ml) freshwater					
Enterococci (CFU/100ml)					

Pollutant	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
saltwater					
Total Dissolved Solids, mg/l					
Electrical Conductivity, μ mohs/cm, †					
Oil & Grease, mg/l					
Alkalinity (CaCO ₃)*, mg/l					

*TPDES permits only

†TLAP permits only

Table 1.0(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 60)

Facility Operator Name: Ronnie Rodriguez

Facility Operator's License Classification and Level: Class B

Facility Operator's License Number: WW0060441

Section 9. Sewage Sludge Management and Disposal (Instructions Page 60)

A. Sludge disposal method

Identify the current or anticipated sludge disposal method or methods from the

following list. Check all that apply.

- Permitted landfill
- Permitted or Registered land application site for beneficial use
- Land application for beneficial use authorized in the wastewater permit
- Permitted sludge processing facility
- Marketing and distribution as authorized in the wastewater permit
- Composting as authorized in the wastewater permit
- Permitted surface disposal site (sludge monofill)
- Surface disposal site (sludge monofill) authorized in the wastewater permit
- Transported to another permitted wastewater treatment plant or permitted sludge processing facility. If you selected this method, a written statement or contractual agreement from the wastewater treatment plant or permitted sludge processing facility accepting the sludge must be included with this application.
- Other:

B. Sludge disposal site

Disposal site name: Mesquite Creek Landfill

TCEQ permit or registration number: 48029

County where disposal site is located: Comal

C. Sludge transportation method

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

Name of the hauler: SJWTX Inc. dba Canyon Lake Water Service Company

Hauler registration number: TCEQ# 24521

Sludge is transported as a:

Liquid semi-liquid semi-solid solid

Section 10. Permit Authorization for Sewage Sludge Disposal (Instructions Page 60)

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 61)

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:
- USDA Natural Resources Conservation Service Soil Map:
Attachment:
- Federal Emergency Management Map:
Attachment:
- Site map:
Attachment:

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:

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:

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:

Total Kjeldahl Nitrogen, mg/kg:

Total Nitrogen (=nitrate nitrogen + TKN), mg/kg:

Phosphorus, mg/kg:

- Potassium, mg/kg:
- pH, standard units:
- Ammonia Nitrogen mg/kg:
- Arsenic:
- Cadmium:
- Chromium:
- Copper:
- Lead:
- Mercury:
- Molybdenum:
- Nickel:
- Selenium:
- Zinc:
- Total PCBs:

Provide the following information:

Volume and frequency of sludge to the lagoon(s):

Total dry tons stored in the lagoons(s) per 365-day period:

Total dry tons stored in the lagoons(s) over the life of the unit:

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.

D. Site development plan

Provide a detailed description of the methods used to deposit sludge in the

lagoon(s):

Attach the following documents to the application.

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

Attachment:

- Copy of the closure plan

Attachment:

- Copy of deed recordation for the site

Attachment:

- Size of the sludge lagoon(s) in surface acres and capacity in cubic feet and gallons

Attachment:

- Description of the method of controlling infiltration of groundwater and surface water from entering the site

Attachment:

- Procedures to prevent the occurrence of nuisance conditions

Attachment:

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:

Section 12. Authorizations/Compliance/Enforcement

(Instructions Page 63)

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:

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:

Section 13. RCRA/CERCLA Wastes (Instructions Page 63)

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:

Section 14. Laboratory Accreditation (Instructions Page 64)

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: Douglas T. Harrison

Title: Landowner

Signature: _____

Date: 8/31/22

DOMESTIC TECHNICAL REPORT 1.1

The following is required for new and amendment applications

Section 1. Justification for Permit (Instructions Page 66)

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 new development of 1,403 lots does not have a facility within 3 miles that can accept its waste. The region is not developed and there is no infrastructure for future developments. It is the intent of the facility to provide capacity for future regional developments other than the Harrison Tract subdivision.

B. Regionalization of facilities

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:

If yes, attach correspondence from the city.

Attachment:

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:

2. *Utility CCN areas*

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

Yes No

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:

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 that includes the permittee's name and permit number, and an area map showing the location of these facilities.

Attachment: Nearby WWTP List

If yes, attach copies of your certified letters to these facilities **and** their response letters concerning connection with their system.

Attachment: Letter to Meyer Ranch WWTP

Does a permitted domestic wastewater treatment facility or a collection system located within three (3) miles of the proposed facility currently have the capacity to accept or is willing to expand to accept the volume of wastewater proposed in this application?

Yes No

If yes, attach an analysis of expenditures required to connect to a permitted wastewater treatment facility or collection system located within 3 miles versus the cost of the proposed facility or expansion.

Attachment:

Section 2. Organic Loading (Instructions Page 67)

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):

Average Influent Organic Strength or BOD₅ Concentration in mg/l:

Average Influent Loading (lbs/day = total average flow X average BOD₅ conc. X 8.34):

Provide the source of the average organic strength or BOD₅ concentration.

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 BOD ₅ Concentration (mg/l)
Municipality		
Subdivision	0.6	350
Trailer park - transient		
Mobile home park		
School with cafeteria and showers		
School with cafeteria,		

Source	Total Average Flow (MGD)	Influent BOD ₅ Concentration (mg/l)
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	0.6	
AVERAGE BOD ₅ from all sources		350

Section 3. Proposed Effluent Quality and Disinfection (Instructions Page 68)

A. Existing/Interim I Phase Design Effluent Quality

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

Total Suspended Solids, mg/l: 5

Ammonia Nitrogen, mg/l: 2

Total Phosphorus, mg/l: 0.5

Dissolved Oxygen, mg/l: ≥4

Other:

B. Interim II Phase Design Effluent Quality

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

Total Suspended Solids, mg/l: 5

Ammonia Nitrogen, mg/l: 2

Total Phosphorus, mg/l: 0.5

Dissolved Oxygen, mg/l: ≥4

Other:

C. Final Phase Design Effluent Quality

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

Total Suspended Solids, mg/l: 5

Ammonia Nitrogen, mg/l: 2

Total Phosphorus, mg/l: 0.5

Dissolved Oxygen, mg/l: ≥4

Other:

D. Disinfection Method

Identify the proposed method of disinfection.

- Chlorine: _____ mg/l after _____ minutes detention time at peak flow
Dechlorination process:
- Ultraviolet Light: 20 seconds contact time at peak flow
- Other:

Section 4. Design Calculations (Instructions Page 68)

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

Attachment: Design Calculations

Section 5. Facility Site (Instructions Page 68)

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.

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

FEMA Firmette Panel 48091C0240F

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:

If **no**, provide the approximate date you anticipate submitting your application to the Corps:

B. Wind rose

Attach a wind rose. **Attachment:** Windrose

Section 6. Permit Authorization for Sewage Sludge Disposal (Instructions Page 69)

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)

Attachment:

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 a completed DOMESTIC WASTEWATER PERMIT APPLICATION: SEWAGE SLUDGE TECHNICAL REPORT (TCEQ Form No. 10056).

Attachment:

Section 7. Sewage Sludge Solids Management Plan (Instructions Page 69)

Attach a solids management plan to the application.

Attachment: Solids 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 TECHNICAL REPORT WORKSHEET 2.0

RECEIVING WATERS

The following is required for all TPDES permit applications

Section 1. Domestic Drinking Water Supply (Instructions Page 73)

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 yes, provide the following:

Owner of the drinking water supply:

Distance and direction to the intake:

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

Attachment:

Section 2. Discharge into Tidally Affected Waters (Instructions Page 73)

Does the facility discharge into tidally affected waters?

Yes No

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:

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).

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).

Section 3. Classified Segments (Instructions Page 73)

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 75)

Name of the immediate receiving waters: Dry Comal 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:

Average depth of the entire water body, in feet:

Average depth of water body within a 500-foot radius of discharge point, in feet:

- Man-made Channel or Ditch

- Open Bay
- Tidal Stream, Bayou, or Marsh
- Other, specify:

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:

C. Downstream perennial confluences

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

<p>N/A</p>

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.

E. Normal dry weather characteristics

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

Streambed is dry

Date and time of observation: 6/15/22

Was the water body influenced by stormwater runoff during observations?

Yes No

Section 5. General Characteristics of the Waterbody (Instructions Page 74)

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.

- | | |
|---|--|
| <input type="checkbox"/> Oil field activities | <input type="checkbox"/> Urban runoff |
| <input type="checkbox"/> Upstream discharges | <input type="checkbox"/> Agricultural runoff |
| <input type="checkbox"/> Septic tanks | <input checked="" type="checkbox"/> Other(s), specify <u>Land is currently a large ranch. No grazing occurs.</u> |

B. Waterbody uses

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

- | | |
|--|---|
| <input type="checkbox"/> Livestock watering | <input type="checkbox"/> Contact recreation |
| <input type="checkbox"/> Irrigation withdrawal | <input type="checkbox"/> Non-contact recreation |
| <input type="checkbox"/> Fishing | <input type="checkbox"/> Navigation |

- Domestic water supply
- Industrial water supply
- Park activities
- Other(s), specify

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

Harrison Tract WWTF

Wastewater Treatment Facility Process Description and Unit Sizing

Section 2 – Treatment Process

A. Treatment Process Description

The treatment system will be an activated sludge process operated in complete mix mode followed by ultra-filtration and UV disinfection. Harrison Tract WWTF will be an MBR system consisting of several cast-in place structures. The system will have a primary screen, an equalization basin, multiple process trains consisting of anoxic, pre-aeration, and membrane zones, and a sludge holding basin. The facility will utilize UV disinfection. The design will be in accordance with Texas Administrative Code Title 30, Part 1: Texas Commission on Environmental Quality (TCEQ) Chapter 217 (Design Criteria for Domestic Wastewater Systems).

B. Treatment Unit Sizing

Phase I – 100,000 GPD

Headworks with Screening	
Equalization Tank	25,000-gallon capacity
Anoxic Tank	16,600-gallon capacity
Pre-aeration Tank	25,400-gallon capacity
Membrane Zone	27,200-gallon capacity
Sludge Holding Tank	16,600-gallon capacity

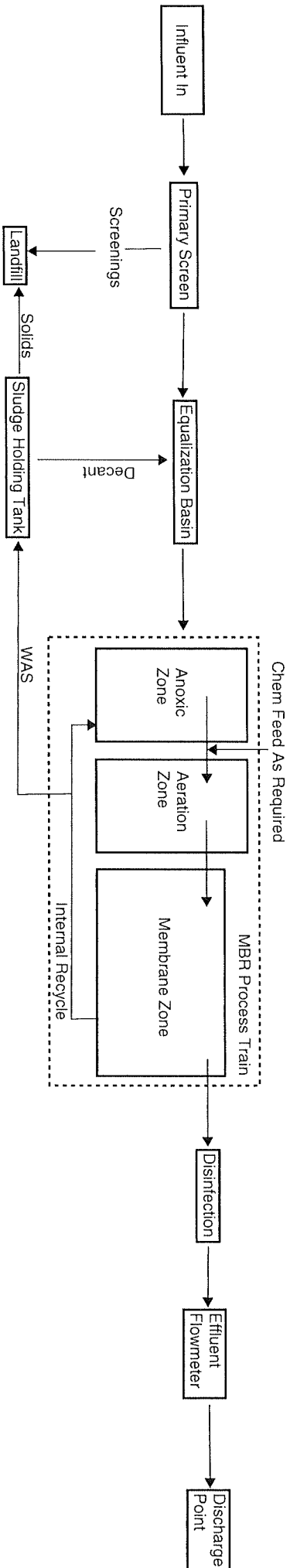
Phase II – 300,000 GPD

Headworks with Screening	
Equalization Tank	75,000-gallon capacity
Anoxic Tank	33,000-gallon capacity
Pre-aeration Tank	50,900-gallon capacity
Membrane Zone	27,200-gallon capacity
Sludge Holding Tank	75,000-gallon capacity

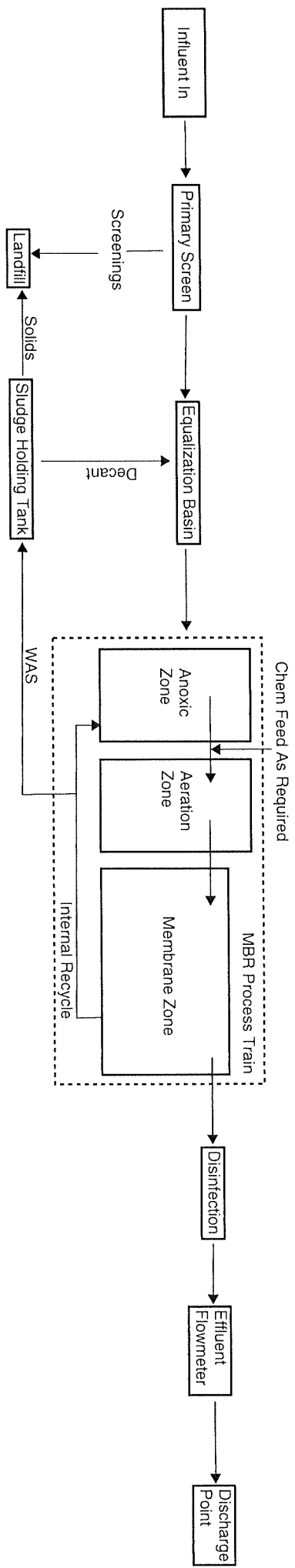
Final Phase – 600,000 GPD

Headworks with Screening	
Equalization Tank	100,000-gal capacity
Anoxic Tank	66,000-gallon capacity
Pre-aeration Tank	101,800-gallon capacity
Membrane Zone	54,400-gallon capacity
Sludge Holding Tank	100,000-gallon capacity

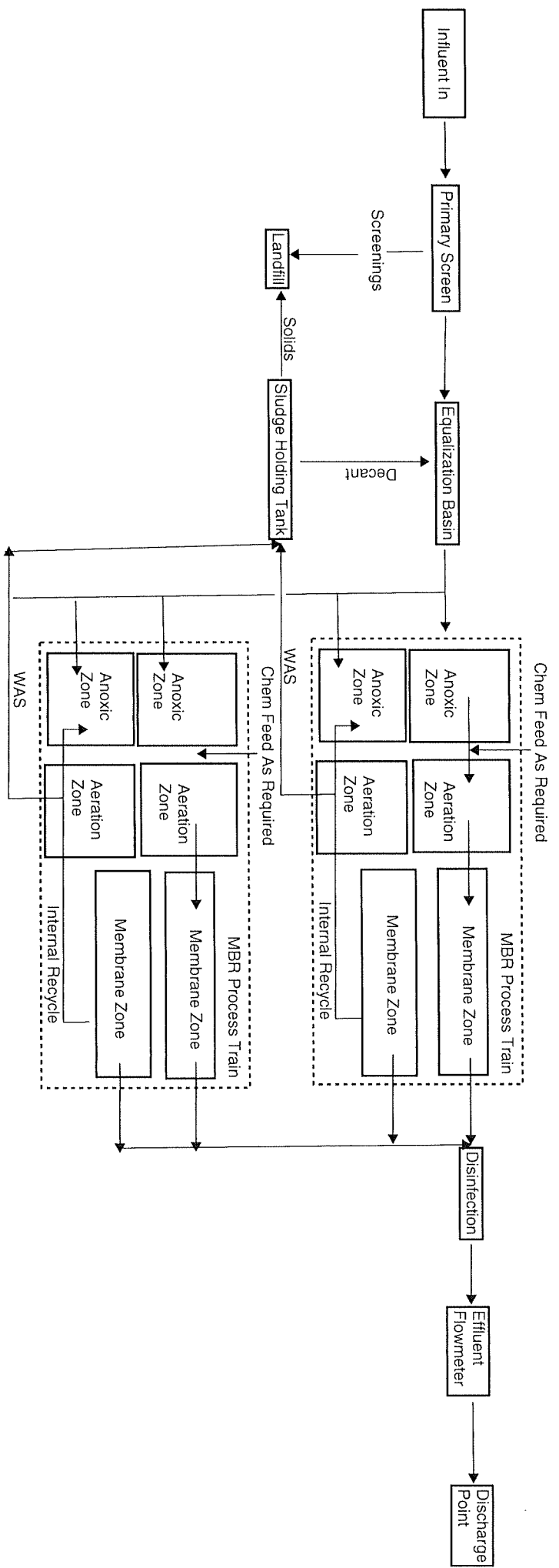
Harrison Tract WWTF - Process Flow Diagram - Phase 1 - 100,000 gpd



Harrison Tract WWTF - Process Flow Diagram - Phase 2 - 300,000 gpd



Harrison Tract WWTF - Process Flow Diagram - Phase 3 - 600,000 gpd



Nearby WWTP List

Plant ID	Plant Address	Distance to Facility
Meyer Ranch WWTP - WQ0015314001	1941 S Cranes Mill Rd. Comal County, TX 78132	2.2 Miles



June 15, 2022

Meyer Ranch Municipal Utility District of Comal County
c/o McLean & Howard LLP
901 S Mopac Expressway, Suite 225
Austin, TX 78746

Subject: Meyer Ranch WWTP Capacity

To Whom it May Concern,

The Harrison Tract WWTF is applying for a TPDES permit and is located within three miles of the Meyer Ranch WWTP. It is our understanding that the Meyer Ranch WWTP does not have the capacity, nor the infrastructure to accept waste from the new proposed subdivision. Please confirm in writing at your earliest convenience.

Sincerely,

A handwritten signature in cursive script that reads 'Jamie L. Miller'.

Jamie L. Miller, P.E.
President
Firm Number F-23372

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PS Form 3800, October 2009 Edition

Harrison Tract WWTF - Site Drawing - Phase 1 and 2

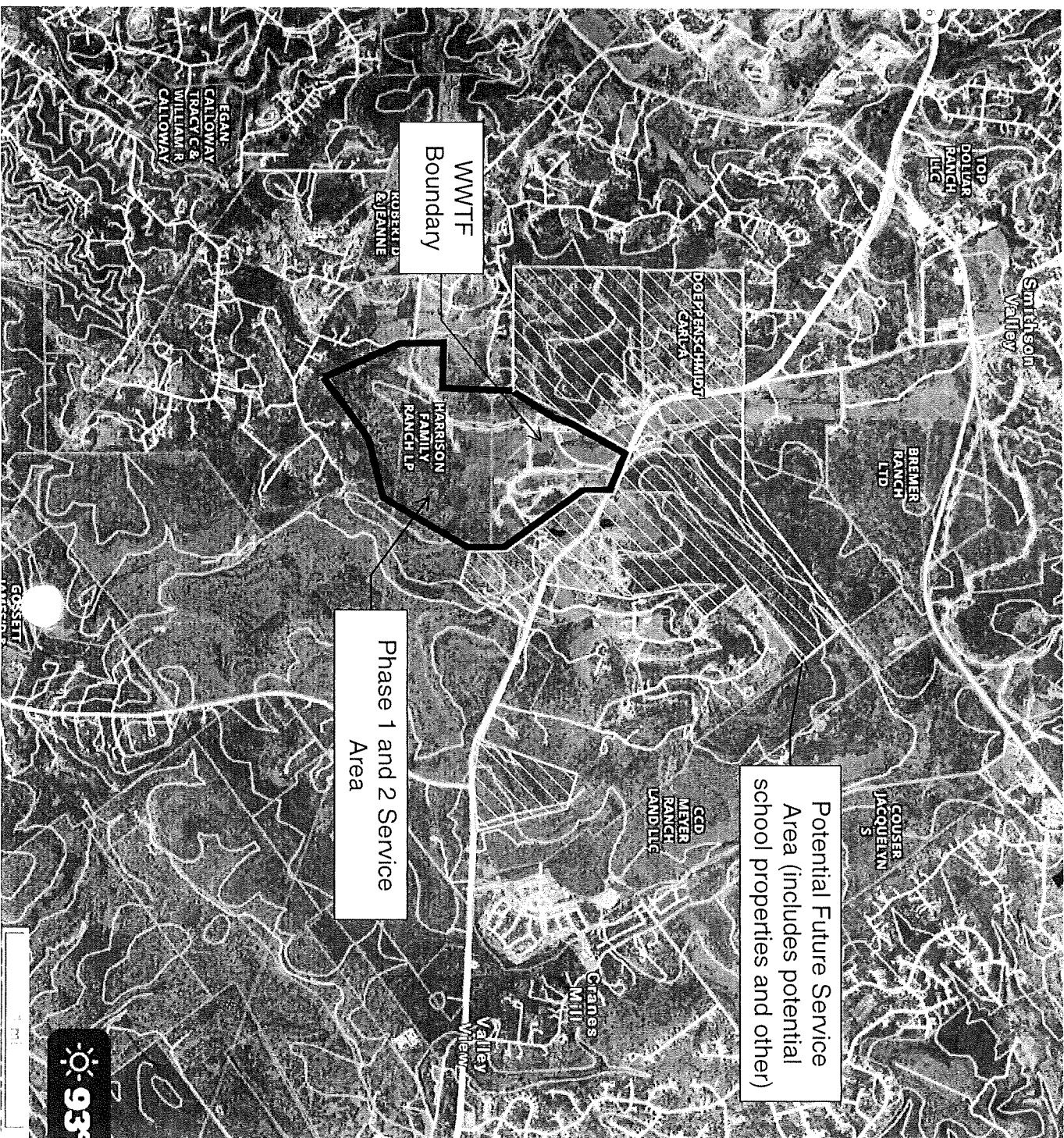


LOT SUMMARY			
TYPE	NO. OF LOTS	TOTAL AREA	EST. COST
RESIDENTIAL	1,200	1,200,000	\$1,200,000
COMMERCIAL	50	500,000	\$500,000
INDUSTRIAL	10	1,000,000	\$1,000,000
TOTAL	1,250	2,700,000	\$2,700,000

Service Area
Boundary
Harrison
Tract WWTF
Boundary



Harrison Tract WWTF - Potential Service Area for Phase 3



Harrison Tract WWTF - Design Calculations Phase 1 - 100,000 gpd

Phase #	Phase 1	Tank Selected:
Flow	100000 gpd	EQ - (1) 18' x 13' x 9' SWD - 15,700 gal Concrete Tank
2 hr peak	400000 gpd	SHT - (1) 22.5' x 13' x 11.5' SWD - 25,000 gal Concrete Tank
Equalization	25000 gal	*3Q for 2 hrs
Disinfection	5556 gal	*4Q for 20 min
Sludge Holding		
	<u>Using 1% Flow for WAS Rate</u>	<u>Inputting WAS Rate From BLOWIN</u>
WAS Rate	1000 gpd	WAS Rate
		2999 gpd
Sludge Storage Days	14 days	Sludge Storage Days
		6 days
Sludge Gallons Req'd	14000 gal	Sludge Gallons Req'd
		17994 gal
Select Tank Size	14000 gal	Select Tank Size
		19,253 gal
Days Storage	14 days	Days Storage
		6 days

Please see BLOWIN Phase 1 for design calculations for process basins.

Harrison Tract WWTF - Design Calculations Phase 2 - 300,000 gpd

Phase #	Phase 2	Tank Selected:
Flow	300000 gpd	EQ - (1) 22' x 22' interior
2 hr peak	1200000 gpd	dimension - 50,000 gal Concrete Tank
Equalization		SHT (1) 22' x 22' - 50,000 gal concrete tank
	50000 gal	
		*2Q for 2 hrs
Disinfection		
	16667 gal	
		*4Q for 20 min
Sludge Holding		
	<u>Using 1% Flow for WAS Rate</u>	<u>Inputting WAS Rate From BLOWIN</u>
WAS Rate	3000 gpd	WAS Rate
		7716 gpd
Sludge Storage Days	14 days	Sludge Storage Days
		10 days
Sludge Gallons Req'd	42000 gal	Sludge Gallons Req'd
		77160 gal
Select Tank Size	14000 gal	Select Tank Size
		50,000 gal
Days Storage	4.666666667 days	Days Storage
		6 days

Please see BLOWIN Phase 2 for design calculations for process basins.

Harrison Tract WWTF - Design Calculations Phase 3 - 900,000 gpd

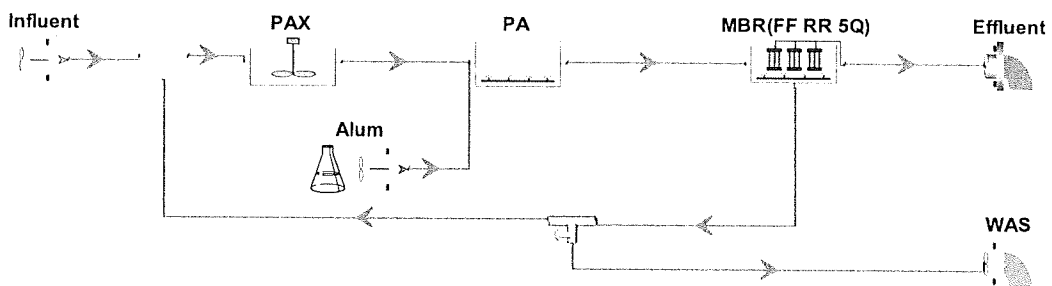
Phase #	Phase 3	Tank Selected:
Flow	600000	EQ - (2) 22' x 22' interior dimension - 50,000 gal Concrete Tank
2 hr peak	2400000	SHT (2) 22' x 22' - 50,000 gal concrete tank
Equalization	100000 gal	*2Q for 2 hrs
Disinfection	33333 gal	*4Q for 20 min
Sludge Holding		
	<u>Using 1% Flow for WAS Rate</u>	<u>Inputting WAS Rate From BLOWIN</u>
WAS Rate	6000	WAS Rate
	gpd	16000
		gpd
Sludge Storage Days	14	Sludge Storage Days
	days	10
Sludge Gallons Req'd	84000	Sludge Gallons Req'd
	gal	160000
		gal
Select Tank Size	100000	Select Tank Size
	gal	100,000
Days Storage	17	Days Storage
	days	6
		days

Please see BLOWIN Phase 2 for design calculations for process basins. Process Basin sizing will be double the size of basins for Phase 2.

Biowin Report

Phase 1, MMF: 0.10 MGD

Flowsheet



Steady state solution

Target SRT: 20.00 days

Temperature: 12.0°C

Configuration information for all Bioreactor units

Physical data

Element name	Volume [Mil. Gal]	Area [ft2]	Depth [ft]
PAX	0.0166	246.5664	9.000
PA	0.0254	308.6806	11.000

Operating data Average (flow/time weighted as required)

Element name	Average DO Setpoint [mg/L]
PAX	0
PA	2.0

Configuration information for all Bioreactor - MBR units

Physical data

Element name	Volume [Mil. Gal]	Area [ft2]	Depth [ft]	# of cassettes	Displaced volume / cassette [ft3/cassette]	Membrane area / cassette [ft2/cassette]	Total displaced volume [Mil. Gal]	Membrane surface area [ft2]
MBR(FF RR 5Q)	0.0272	303.0093	12.000	4.00	33.900	5,167.00	0.00	20,668.00

Operating data Average (flow/time weighted as required)

Element name	Split method	Average Split specification
MBR(FF RR 5Q)	Flow paced	400.00 %

Element name	Average Air flow rate [ft3/min (20C, 1 atm)]
MBR(FF RR 5Q)	212.0

Configuration information for all Influent - BOD units

Operating data Average (flow/time weighted as required)

Element name	Influent
Flow	0.1
BOD - Total Carbonaceous mgBOD/L	350.00
Volatile suspended solids mg/L	240.00
Total suspended solids mg/L	300.00
N - Total Kjeldahl Nitrogen mgN/L	70.00

P - Total P mgP/L	9.00
S - Total S mgS/L	0
N - Nitrate mgN/L	0
pH	7.30
Alkalinity mmol/L	9.00
Metal soluble - Calcium mg/L	160.00
Metal soluble - Magnesium mg/L	25.00
Gas - Dissolved oxygen mg/L	0

Element name	Influent
Fbs - Readily biodegradable (including Acetate) [gCOD/g of total COD]	0.1600
Fac - Acetate [gCOD/g of readily biodegradable COD]	0.1500
Fxsp - Non-colloidal slowly biodegradable [gCOD/g of slowly degradable COD]	0.5873
Fus - Unbiodegradable soluble [gCOD/g of total COD]	0.0500
Fup - Unbiodegradable particulate [gCOD/g of total COD]	0.1300
Fcel - Cellulose fraction of unbiodegradable particulate [gCOD/gCOD]	0.5000
Fna - Ammonia [gNH3-N/gTKN]	0.6600
Fnox - Particulate organic nitrogen [gN/g Organic N]	0.5000
Fnus - Soluble unbiodegradable TKN [gN/gTKN]	0.0200
FupN - N:COD ratio for unbiodegradable part. COD [gN/gCOD]	0.0350
Fpo4 - Phosphate [gPO4-P/gTP]	0.5000
FupP - P:COD ratio for unbiodegradable part. COD [gP/gCOD]	0.0110
Fsr - Reduced sulfur [H2S] [gS/gS]	0.1500
FZbh - Ordinary heterotrophic COD fraction [gCOD/g of total COD]	0.0200
FZbm - Methyloctrophic COD fraction [gCOD/g of total COD]	1.000E-4
FZao - Ammonia oxidizing COD fraction [gCOD/g of total COD]	1.000E-4
FZno - Nitrite oxidizing COD fraction [gCOD/g of total COD]	1.000E-4
FZaao - Anaerobic ammonia oxidizing COD fraction [gCOD/g of total COD]	1.000E-4
FZppa - Phosphorus accumulating COD fraction [gCOD/g of total COD]	1.000E-4
FZpa - Propionic acetogenic COD fraction [gCOD/g of total COD]	1.000E-4
FZam - Acetoclastic methanogenic COD fraction [gCOD/g of total COD]	1.000E-4
FZhm - Hydrogenotrophic methanogenic COD fraction [gCOD/g of total COD]	1.000E-4
FZso - Sulfur oxidizing COD fraction [gCOD/g of total COD]	1.000E-4

FZsrpa - Sulfur reducing propionic acetogenic COD fraction [gCOD/g of total COD]	1.000E-4
FZsra - Sulfur reducing acetotrophic COD fraction [gCOD/g of total COD]	1.000E-4
FZsrh - Sulfur reducing hydrogenotrophic COD fraction [gCOD/g of total COD]	1.000E-4
FZe - Endogenous products COD fraction [gCOD/g of total COD]	0

Configuration information for all Input - Metal addition units

Operating data Average (flow/time weighted as required)

Element name	Alum
Biomass - Ordinary heterotrophic [mgCOD/L]	0
Biomass - Methyloctrophic [mgCOD/L]	0
Biomass - Ammonia oxidizing [mgCOD/L]	0
Biomass - Nitrite oxidizing [mgCOD/L]	0
Biomass - Anaerobic ammonia oxidizing [mgCOD/L]	0
Biomass - Phosphorus accumulating [mgCOD/L]	0
Biomass - Propionic acetogenic [mgCOD/L]	0
Biomass - Acetoclastic methanogenic [mgCOD/L]	0
Biomass - Hydrogenotrophic methanogenic [mgCOD/L]	0
Biomass - Endogenous products [mgCOD/L]	0
CODp - Slowly degradable particulate [mgCOD/L]	0
CODp - Slowly degradable colloidal [mgCOD/L]	0
CODp - Degradable external organics [mgCOD/L]	0
CODp - Undegradable non-cellulose [mgCOD/L]	0
CODp - Undegradable cellulose [mgCOD/L]	0
N - Particulate degradable organic [mgN/L]	0
P - Particulate degradable organic [mgP/L]	0
N - Particulate degradable external organics [mgN/L]	0
P - Particulate degradable external organics [mgP/L]	0
N - Particulate undegradable [mgN/L]	0
P - Particulate undegradable [mgP/L]	0
CODp - Stored PHA [mgCOD/L]	0
P - Releasable stored polyP [mgP/L]	0
P - Unreleasable stored polyP [mgP/L]	0

CODs - Complex readily degradable [mgCOD/L]	0
CODs - Acetate [mgCOD/L]	0
CODs - Propionate [mgCOD/L]	0
CODs - Methanol [mgCOD/L]	0
Gas - Dissolved hydrogen [mgCOD/L]	0
Gas - Dissolved methane [mg/L]	0
N - Ammonia [mgN/L]	0
N - Soluble degradable organic [mgN/L]	0
Gas - Dissolved nitrous oxide [mgN/L]	0
N - Nitrite [mgN/L]	0
N - Nitrate [mgN/L]	0
Gas - Dissolved nitrogen [mgN/L]	0
P - Soluble phosphate [mgP/L]	0
CODs - Undegradable [mgCOD/L]	0
N - Soluble undegradable organic [mgN/L]	0
Influent inorganic suspended solids [mgISS/L]	0
Precipitate - Struvite [mgISS/L]	0
Precipitate - Brushite [mgISS/L]	0
Precipitate - Hydroxy - apatite [mgISS/L]	0
Precipitate - Vivianite [mgISS/L]	0
HFO - High surface [mg/L]	0
HFO - Low surface [mg/L]	0
HFO - High with H ₂ PO ₄ - adsorbed [mg/L]	0
HFO - Low with H ₂ PO ₄ - adsorbed [mg/L]	0
HFO - Aged [mg/L]	0
HFO - Low with H ⁺ adsorbed [mg/L]	0
HFO - High with H ⁺ adsorbed [mg/L]	0
HAO - High surface [mg/L]	0
HAO - Low surface [mg/L]	0
HAO - High with H ₂ PO ₄ - adsorbed [mg/L]	0
HAO - Low with H ₂ PO ₄ - adsorbed [mg/L]	0
HAO - Aged [mg/L]	0
P - Bound on aged HMO [mgP/L]	0
Metal soluble - Magnesium [mg/L]	0
Metal soluble - Calcium [mg/L]	0

Metal soluble - Ferric [mg/L]	0
Metal soluble - Ferrous [mg/L]	0
Metal soluble - Aluminum [mg/L]	57,700.00
Other Cations (strong bases) [meq/L]	5.00
Other Anions (strong acids) [meq/L]	5.00
Gas - Dissolved total CO2 [mmol/L]	7.00
User defined - UD1 [mg/L]	0
User defined - UD2 [mg/L]	0
User defined - UD3 [mgVSS/L]	0
User defined - UD4 [mgISS/L]	0
Biomass - Sulfur oxidizing [mgCOD/L]	0
Biomass - Sulfur reducing propionic acetogenic [mgCOD/L]	0
Biomass - Sulfur reducing acetotrophic [mgCOD/L]	0
Biomass - Sulfur reducing hydrogenotrophic [mgCOD/L]	0
Gas - Dissolved total sulfides [mgS/L]	0
S - Soluble sulfate [mgS/L]	102,840.42
S - Particulate elemental sulfur [mgS/L]	0
Precipitate - Ferrous sulfide [mgISS/L]	0
CODp - Adsorbed hydrocarbon [mgCOD/L]	0
CODs - Degradable volatile ind. #1 [mgCOD/L]	0
CODs - Degradable volatile ind. #2 [mgCOD/L]	0
CODs - Degradable volatile ind. #3 [mgCOD/L]	0
CODs - Soluble hydrocarbon [mgCOD/L]	0
Gas - Dissolved oxygen [mg/L]	0
Flow, GPD	11.50

Configuration information for all Splitter units

Operating data Average (flow/time weighted as required)

Element name	Split method	Average Split specification
WAS	Flowrate [MGD]	0.00299903439440636

BioWin Album

Album page - Influent

Influent			
Parameters	Conc. (mg/L)	Mass rate (lb/d)	Notes
Alkalinity	9.00	3.41	mmol/L and kmol/d
BOD - Filtered Carbonaceous	188.66	157.45	
BOD - Total Carbonaceous	349.96	292.06	
COD - Filtered	338.11	282.16	
COD - Particulate	375.49	313.36	
COD - Total	713.60	595.53	
COD - Volatile fatty acids	17.13	14.29	
Influent inorganic suspended solids	57.60	48.07	
ISS cellular	1.26	1.05	
ISS precipitate	0	0	
ISS Total	60.00	50.07	
N - Ammonia	46.20	38.56	
N - Filtered TKN	57.47	47.96	
N - Nitrate	0	0	
N - Nitrite + Nitrate	0	0	
N - Particulate TKN	12.53	10.46	
N - Total inorganic N	46.20	38.56	
N - Total Kjeldahl Nitrogen	70.00	58.42	
N - Total N	70.00	58.42	
P - Phosphorus in HMO	0	0	
P - Soluble PO4-P	4.50	3.76	
P - Total P	9.00	7.51	
pH	7.30		
S - Total S	0	0	
Total aluminium (all forms)	0	0	
Total Calcium (all forms)	161.84	135.06	
Total iron (all forms)	0	0	
Total Magnesium (all forms)	25.23	21.05	
Total suspended solids	300.00	250.36	
Volatile suspended solids	240.00	200.29	

Parameter	Value	Units	

Album page - PAX

PAX			
Parameters	Conc. (mg/L)	Mass rate (lb/d)	Notes
Alkalinity	5.47	10.29	mmol/L and kmol/d
BOD - Filtered Carbonaceous	3.62	15.01	
BOD - Total Carbonaceous	1,443.65	5,987.80	
COD - Filtered	41.88	173.69	
COD - Particulate	6,642.03	27,548.96	
COD - Total	6,683.90	27,722.65	
COD - Volatile fatty acids	0.12	0.49	
Influent inorganic suspended solids	1,545.70	6,411.06	
ISS cellular	330.69	1,371.59	
ISS precipitate	864.33	3,584.95	
ISS Total	2,741.50	11,370.84	
N - Ammonia	10.24	42.49	
N - Filtered TKN	12.24	50.76	
N - Nitrate	7.13	29.58	
N - Nitrite + Nitrate	7.37	30.56	
N - Particulate TKN	329.15	1,365.22	
N - Total inorganic N	17.61	73.05	
N - Total Kjeldahl Nitrogen	341.39	1,415.98	
N - Total N	348.76	1,446.53	
P - Phosphorus in HMO	112.86	468.09	
P - Soluble PO4-P	1.21	5.03	
P - Total P	217.73	903.07	
pH	7.06		
S - Total S	9.45	39.18	
Total aluminium (all forms)	176.74	733.05	
Total Calcium (all forms)	177.24	735.14	
Total iron (all forms)	0	0	
Total Magnesium (all forms)	40.29	167.13	

Total suspended solids	7,318.44	30,354.52	
Volatile suspended solids	4,576.95	18,983.68	
Parameter	Value	Units	
# of diffusers	0		
Actual DO sat. conc.	10.04	mg/L	
Air flow rate	0	ft3/min (20C, 1 atm)	
Air flow rate / diffuser	0	ft3/min (20C, 1 atm)	
Alpha	0.50	[]	
Beta	0.95	[]	
Deamm - Ammonia removal rate	0.00	mgN/L/hr	
Deamm - N2 production rate	0.01	mgN/L/hr	
Deamm - Nitrate production rate	0.00	mgN/L/hr	
Deamm - Nitrite removal rate	0.01	mgN/L/hr	
Denit - N2 production rate	8.32	mgN/L/hr	
Denit - Nitrate removal rate	8.29	mgN/L/hr	
Denit - Nitrite removal rate	4.09	mgN/L/hr	
Denit Auto - N2 production rate	0	mgN/L/hr	
Denit Hetero - N2 production rate	8.32	mgN/L/hr	
Denit Methylo - N2 production rate	0.00	mgN/L/hr	
Element HRT	0.8	hours	
Liquid depth	9.00	ft	
Nit - Ammonia removal rate	0.41	mgN/L/hr	
Nit - Nitrate production rate	0.13	mgN/L/hr	
Nit - Nitrite production rate	0.40	mgN/L/hr	
Nit - Nitrous oxide production rate	0	mgN/L/hr	
Off gas Ammonia	0	%	
Off gas Carbon dioxide	73.58	%	
Off gas flow rate (dry)	0.17	ft3/min (field)	
Off gas Hydrogen	1.72	%	
Off gas Hydrogen sulfide	0	%	
Off gas Ind #1	0	%	
Off gas Ind #2	0	%	
Off gas Ind #3	0	%	

Off gas Methane	0.00	%	
Off gas Nitrous oxide	0	%	
Off gas Oxygen	0	%	
OTE	100.00	%	
OTR	0	lb/hr	
OUR - Carbonaceous	2.18	mgO/L/hr	
OUR - Nitrification	1.46	mgO/L/hr	
OUR - Sulfur	0	mgO/L/hr	
OUR - Total	3.64	mgO/L/hr	
Power	0	kW	
Power cost (Excl. heating)	0	\$/hour	
SOTE	100.00	%	
SOTR	0	lb/hr	
Sulfate production rate	0	mgS/L/hr	
Sulfate removal rate	0.00	mgS/L/hr	
Total readily biodegradable COD	1.65	mg/L	
Total solids mass	1,013.85	lb	
Velocity gradient	3.88	1/s	
VSS destruction	0	%	

Album page - PA

PA			
Parameters	Conc. (mg/L)	Mass rate (lb/d)	Notes
Alkalinity	4.24	7.97	mmol/L and kmol/d
BOD - Filtered Carbonaceous	1.18	4.91	
BOD - Total Carbonaceous	1,423.56	5,904.62	
COD - Filtered	37.44	155.30	
COD - Particulate	6,615.70	27,440.42	
COD - Total	6,653.15	27,595.72	
COD - Volatile fatty acids	0.00	0.01	
Influent inorganic suspended solids	1,545.67	6,411.06	
ISS cellular	331.77	1,376.12	
ISS precipitate	869.19	3,605.22	
ISS Total	2,747.25	11,394.94	

N - Ammonia	2.21	9.16	
N - Filtered TKN	4.21	17.46	
N - Nitrate	13.80	57.25	
N - Nitrite + Nitrate	14.70	60.97	
N - Particulate TKN	329.17	1,365.32	
N - Total inorganic N	16.91	70.12	
N - Total Kjeldahl Nitrogen	333.38	1,382.78	
N - Total N	348.08	1,443.75	
P - Phosphorus in HMO	113.18	469.45	
P - Soluble PO4-P	0.93	3.86	
P - Total P	217.72	903.07	
pH	6.90		
S - Total S	11.83	49.05	
Total aluminium (all forms)	178.07	738.58	
Total Calcium (all forms)	177.24	735.14	
Total iron (all forms)	0	0	
Total Magnesium (all forms)	40.29	167.13	
Total suspended solids	7,308.77	30,315.09	
Volatile suspended solids	4,561.52	18,920.15	
Parameter	Value	Units	
# of diffusers	70.00		
Actual DO sat. conc.	10.26	mg/L	
Air flow rate	157.68	ft3/min (20C, 1 atm)	
Air flow rate / diffuser	2.25	ft3/min (20C, 1 atm)	
Alpha	0.50	∅	
Beta	0.95	∅	
Deamm - Ammonia removal rate	0.00	mgN/L/hr	
Deamm - N2 production rate	0.00	mgN/L/hr	
Deamm - Nitrate production rate	0.00	mgN/L/hr	
Deamm - Nitrite removal rate	0.00	mgN/L/hr	
Denit - N2 production rate	0.55	mgN/L/hr	
Denit - Nitrate removal rate	0.53	mgN/L/hr	
Denit - Nitrite removal rate	0.27	mgN/L/hr	

Denit Auto - N2 production rate	0	mgN/L/hr	
Denit Hetero - N2 production rate	0.55	mgN/L/hr	
Denit Methylo - N2 production rate	0.00	mgN/L/hr	
Element HRT	1.2	hours	
Liquid depth	11.00	ft	
Nit - Ammonia removal rate	6.60	mgN/L/hr	
Nit - Nitrate production rate	5.97	mgN/L/hr	
Nit - Nitrite production rate	6.54	mgN/L/hr	
Nit - Nitrous oxide production rate	0	mgN/L/hr	
Off gas Ammonia	0	%	
Off gas Carbon dioxide	1.48	%	
Off gas flow rate (dry)	154.07	ft3/min (field)	
Off gas Hydrogen	0.01	%	
Off gas Hydrogen sulfide	0	%	
Off gas Ind #1	0	%	
Off gas Ind #2	0	%	
Off gas Ind #3	0	%	
Off gas Methane	0.00	%	
Off gas Nitrous oxide	0	%	
Off gas Oxygen	19.47	%	
OTE	6.95	%	
OTR	11.45	lb/hr	
OUR - Carbonaceous	24.68	mgO/L/hr	
OUR - Nitrification	27.70	mgO/L/hr	
OUR - Sulfur	0	mgO/L/hr	
OUR - Total	52.38	mgO/L/hr	
Power	0	kW	
Power cost (Excl. heating)	0	\$/hour	
SOTE	20.90	%	
SOTR	34.41	lb/hr	
Sulfate production rate	0	mgS/L/hr	
Sulfate removal rate	0.00	mgS/L/hr	
Total readily biodegradable COD	1.42	mg/L	
Total solids mass	1,549.26	lb	
Velocity gradient	152.35	1/s	

VSS destruction	0.33	%	
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Album page - MBR

MBR(FF RR 5Q)			
Parameters	Conc. (mg/L)	Mass rate (lb/d)	Notes
Alkalinity	3.92	1.44	mmol/L and kmol/d
BOD - Filtered Carbonaceous	0.85	0.69	
BOD - Total Carbonaceous	0.85	0.69	
COD - Filtered	36.89	29.87	
COD - Particulate	0	0	
COD - Total	36.89	29.87	
COD - Volatile fatty acids	0.00	0.00	
Influent inorganic suspended solids	0	0	
ISS cellular	0	0	
ISS precipitate	0	0	
ISS Total	0	0	
N - Ammonia	0.19	0.15	
N - Filtered TKN	2.19	1.78	
N - Nitrate	17.12	13.86	
N - Nitrite + Nitrate	17.17	13.90	
N - Particulate TKN	0	0	
N - Total inorganic N	17.36	14.05	
N - Total Kjeldahl Nitrogen	2.19	1.78	
N - Total N	19.36	15.68	
P - Phosphorus in HMO	0	0	
P - Soluble PO4-P	0.92	0.75	
P - Total P	0.92	0.75	
pH	6.83		
S - Total S	11.83	9.57	
Total aluminium (all forms)	0.00	0.00	
Total Calcium (all forms)	161.23	130.53	
Total iron (all forms)	0	0	
Total Magnesium (all forms)	24.64	19.95	
Total suspended solids	0	0	

Volatile suspended solids	0	0	
Parameter	Value	Units	
# of cassettes	4.00		
# of diffusers	7.00		
Actual DO sat. conc.	10.31	mg/L	
Air flow rate	212.00	ft3/min (20C, 1 atm)	
Air flow rate / cassette	53.00	ft3/min (20C, 1 atm)	
Air flow rate / diffuser	30.29	ft3/min (20C, 1 atm)	
Alpha	0.50	[]	
Beta	0.95	[]	
Deamm - Ammonia removal rate	0.00	mgN/L/hr	
Deamm - N2 production rate	0.00	mgN/L/hr	
Deamm - Nitrate production rate	0.00	mgN/L/hr	
Deamm - Nitrite removal rate	0.00	mgN/L/hr	
Denit - N2 production rate	0.30	mgN/L/hr	
Denit - Nitrate removal rate	0.33	mgN/L/hr	
Denit - Nitrite removal rate	0.14	mgN/L/hr	
Denit Auto - N2 production rate	0	mgN/L/hr	
Denit Hetero - N2 production rate	0.30	mgN/L/hr	
Denit Methylo - N2 production rate	0.00	mgN/L/hr	
Element HRT	1.3	hours	
Liquid depth	12.00	ft	
Membrane flux	4.69	gal/ft2/d (gfd)	
Mixed liquor flow	0.40	mgd	
Nit - Ammonia removal rate	2.44	mgN/L/hr	
Nit - Nitrate production rate	2.98	mgN/L/hr	
Nit - Nitrite production rate	2.41	mgN/L/hr	
Nit - Nitrous oxide production rate	0	mgN/L/hr	
Off gas Ammonia	0	%	
Off gas Carbon dioxide	0.81	%	
Off gas flow rate (dry)	206.15	ft3/min (field)	
Off gas Hydrogen	0.00	%	
Off gas Hydrogen sulfide	0	%	

Off gas Ind #1	0	%	
Off gas Ind #2	0	%	
Off gas Ind #3	0	%	
Off gas Methane	0.00	%	
Off gas Nitrous oxide	0	%	
Off gas Oxygen	20.14	%	
O _{TE}	3.91	%	
O _{TR}	8.64	lb/hr	
O _{UR} - Carbonaceous	27.20	mgO/L/hr	
O _{UR} - Nitrification	11.03	mgO/L/hr	
O _{UR} - Sulfur	0	mgO/L/hr	
O _{UR} - Total	38.23	mgO/L/hr	
Power	0	kW	
Power cost (Excl. heating)	0	\$/hour	
SOTE	14.63	%	
SOTR	32.37	lb/hr	
Sulfate production rate	0	mgS/L/hr	
Sulfate removal rate	0.00	mgS/L/hr	
Total readily biodegradable COD	1.21	mg/L	
Total solids mass	1,978.98	lb	
Velocity gradient	179.21	1/s	
VSS destruction	100.00	%	

Album page - WAS

WAS			
Parameters	Conc. (mg/L)	Mass rate (lb/d)	Notes
Alkalinity	3.92	0.04	mmol/L and kmol/d
BOD - Filtered Carbonaceous	0.86	0.02	
BOD - Total Carbonaceous	1,739.32	43.53	
COD - Filtered	36.91	0.92	
COD - Particulate	8,176.83	204.65	
COD - Total	8,213.74	205.57	
COD - Volatile fatty acids	0.00	0.00	
Influent inorganic suspended solids	1,920.54	48.07	

ISS cellular	412.56	10.33	
ISS precipitate	1,081.22	27.06	
ISS Total	3,414.87	85.47	
N - Ammonia	0.19	0.00	
N - Filtered TKN	2.19	0.05	
N - Nitrate	17.12	0.43	
N - Nitrite + Nitrate	17.17	0.43	
N - Particulate TKN	407.96	10.21	
N - Total inorganic N	17.36	0.43	
N - Total Kjeldahl Nitrogen	410.16	10.27	
N - Total N	427.33	10.70	
P - Phosphorus in HMO	141.02	3.53	
P - Soluble PO4-P	0.92	0.02	
P - Total P	270.31	6.77	
pH	6.89		
S - Total S	11.83	0.30	
Total aluminium (all forms)	221.25	5.54	
Total Calcium (all forms)	181.12	4.53	
Total iron (all forms)	0	0	
Total Magnesium (all forms)	44.09	1.10	
Total suspended solids	9,055.89	226.65	
Volatile suspended solids	5,641.02	141.18	
Parameter	Value	Units	
Cost (Sludge)	0	\$/hour	
Power	0	kW	
Power cost (Excl. heating)	0	\$/hour	

Album page - Effluent

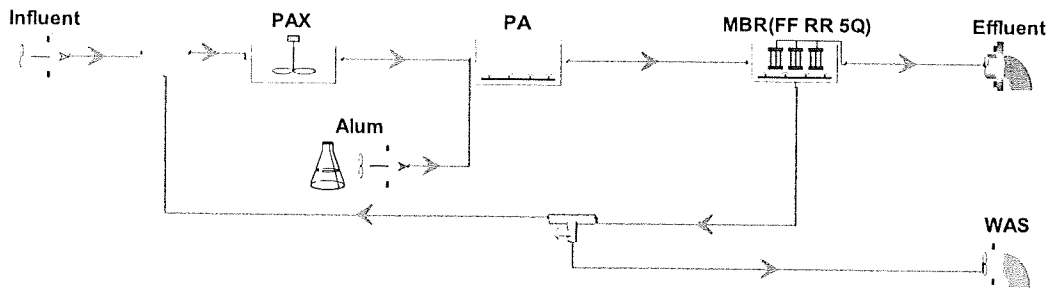
Effluent			
Parameters	Conc. (mg/L)	Mass rate (lb/d)	Notes
Alkalinity	3.92	1.44	mmol/L and kmol/d
BOD - Filtered Carbonaceous	0.85	0.69	

BOD - Total Carbonaceous	0.85	0.69	
COD - Filtered	36.89	29.87	
COD - Particulate	0	0	
COD - Total	36.89	29.87	
COD - Volatile fatty acids	0.00	0.00	
Influent inorganic suspended solids	0	0	
ISS cellular	0	0	
ISS precipitate	0	0	
ISS Total	0	0	
N - Ammonia	0.19	0.15	
N - Filtered TKN	2.19	1.78	
N - Nitrate	17.12	13.86	
N - Nitrite + Nitrate	17.17	13.90	
N - Particulate TKN	0	0	
N - Total inorganic N	17.36	14.05	
N - Total Kjeldahl Nitrogen	2.19	1.78	
N - Total N	19.36	15.68	
P - Phosphorus in HMO	0	0	
P - Soluble PO4-P	0.92	0.75	
P - Total P	0.92	0.75	
pH	6.89		
S - Total S	11.83	9.57	
Total aluminium (all forms)	0.00	0.00	
Total Calcium (all forms)	161.23	130.53	
Total iron (all forms)	0	0	
Total Magnesium (all forms)	24.64	19.95	
Total suspended solids	0	0	
Volatile suspended solids	0	0	
Parameter	Value	Units	
Cost (Chemicals)	0	\$/hour	
Power	0	kW	
Power cost (Excl. heating)	0	\$/hour	

Biowin Report

Phase 2, MMF: 0.30 MGD

Flowsheet



Steady state solution

Target SRT: 12.00 days

Temperature: 12.0°C

Configuration information for all Bioreactor units

Physical data

Element name	Volume [Mil. Gal]	Area [ft ²]	Depth [ft]
PAX	0.0330	490.1621	9.000
PA	0.0509	618.5764	11.000

Operating data Average (flow/time weighted as required)

Element name	Average DO Setpoint [mg/L]
PAX	0
PA	2.0

Configuration information for all Bioreactor - MBR units

Physical data

Element name	Volume [Mil. Gal]	Area [ft2]	Depth [ft]	# of cassettes	Displaced volume / cassette [ft3/cassette]	Membrane area / cassette [ft2/cassette]	Total displaced volume [Mil. Gal]	Membrane surface area [ft2]
MBR(FF RR 5Q)	0.0272	303.0093	12.000	8.00	33.900	5,167.00	0.00	41,336.00

Operating data Average (flow/time weighted as required)

Element name	Split method	Average Split specification
MBR(FF RR 5Q)	Flow paced	400.00 %

Element name	Average Air flow rate [ft3/min (20C, 1 atm)]
MBR(FF RR 5Q)	424.0

Configuration information for all Influent - BOD units

Operating data Average (flow/time weighted as required)

Element name	Influent
Flow	0.3
BOD - Total Carbonaceous mgBOD/L	350.00
Volatile suspended solids mg/L	240.00
Total suspended solids mg/L	300.00

N - Total Kjeldahl Nitrogen mgN/L	70.00
P - Total P mgP/L	9.00
S - Total S mgS/L	0
N - Nitrate mgN/L	0
pH	7.30
Alkalinity mmol/L	9.00
Metal soluble - Calcium mg/L	160.00
Metal soluble - Magnesium mg/L	25.00
Gas - Dissolved oxygen mg/L	0

Element name	Influent
Fbs - Readily biodegradable (including Acetate) [gCOD/g of total COD]	0.1600
Fac - Acetate [gCOD/g of readily biodegradable COD]	0.1500
Fxsp - Non-colloidal slowly biodegradable [gCOD/g of slowly degradable COD]	0.5873
Fus - Unbiodegradable soluble [gCOD/g of total COD]	0.0500
Fup - Unbiodegradable particulate [gCOD/g of total COD]	0.1300
Fcel - Cellulose fraction of unbiodegradable particulate [gCOD/gCOD]	0.5000
Fna - Ammonia [gNH3-N/gTKN]	0.6600
Fnox - Particulate organic nitrogen [gN/g Organic N]	0.5000
Fnus - Soluble unbiodegradable TKN [gN/gTKN]	0.0200
FupN - N:COD ratio for unbiodegradable part. COD [gN/gCOD]	0.0350
Fpo4 - Phosphate [gPO4-P/gTP]	0.5000
FupP - P:COD ratio for unbiodegradable part. COD [gP/gCOD]	0.0110
Fsr - Reduced sulfur [H2S] [gS/gS]	0.1500
FZbh - Ordinary heterotrophic COD fraction [gCOD/g of total COD]	0.0200
FZbm - Methyloctrophic COD fraction [gCOD/g of total COD]	1.000E-4
FZao - Ammonia oxidizing COD fraction [gCOD/g of total COD]	1.000E-4
FZno - Nitrite oxidizing COD fraction [gCOD/g of total COD]	1.000E-4
FZaao - Anaerobic ammonia oxidizing COD fraction [gCOD/g of total COD]	1.000E-4
FZppa - Phosphorus accumulating COD fraction [gCOD/g of total COD]	1.000E-4
FZpa - Propionic acetogenic COD fraction [gCOD/g of total COD]	1.000E-4
FZam - Acetoclastic methanogenic COD fraction [gCOD/g of total COD]	1.000E-4
FZhm - Hydrogenotrophic methanogenic COD fraction [gCOD/g of total COD]	1.000E-4

Configuration information for all input - Metal addition units

Operating data Average (flow/time weighted as required)

1.000E-4	FZso - Sulfur oxidizing COD fraction [gCOD/g of total COD]
1.000E-4	FZsrpa - Sulfur reducing propionic acetogenic COD fraction [gCOD/g of total COD]
1.000E-4	FZsra - Sulfur reducing acetotrophic COD fraction [gCOD/g of total COD]
1.000E-4	FZsrth - Sulfur reducing hydrogenotrophic COD fraction [gCOD/g of total COD]
0	FZe - Endogenous products COD fraction [gCOD/g of total COD]

Alum	Element name
0	Biomass - Ordinary heterotrophic [mgCOD/L]
0	Biomass - Methyloctrophic [mgCOD/L]
0	Biomass - Ammonia oxidizing [mgCOD/L]
0	Biomass - Nitrite oxidizing [mgCOD/L]
0	Biomass - Anaerobic ammonia oxidizing [mgCOD/L]
0	Biomass - Phosphorus accumulating [mgCOD/L]
0	Biomass - Propionic acetogenic [mgCOD/L]
0	Biomass - Acetoclastic methanogenic [mgCOD/L]
0	Biomass - Hydrogenotrophic methanogenic [mgCOD/L]
0	Biomass - Endogenous products [mgCOD/L]
0	COdp - Slowly degradable particulate [mgCOD/L]
0	COdp - Slowly degradable colloidal [mgCOD/L]
0	COdp - Degradable external organics [mgCOD/L]
0	COdp - Undegradable non-cellulose [mgCOD/L]
0	COdp - Undegradable cellulose [mgCOD/L]
0	N - Particulate degradable organic [mgN/L]
0	P - Particulate degradable organic [mgP/L]
0	N - Particulate degradable external organics [mgN/L]
0	P - Particulate degradable external organics [mgP/L]
0	N - Particulate undegradable [mgN/L]
0	P - Particulate undegradable [mgP/L]
0	COdp - Stored PHA [mgCOD/L]
0	P - Releasable stored polyP [mgP/L]

0	P - Unreleasable stored polyP [mgP/L]
0	CODs - Complex readily degradable [mgCOD/L]
0	CODs - Acetate [mgCOD/L]
0	CODs - Propionate [mgCOD/L]
0	CODs - Methanol [mgCOD/L]
0	Gas - Dissolved hydrogen [mgCOD/L]
0	Gas - Dissolved methane [mg/L]
0	N - Ammonia [mgN/L]
0	N - Soluble degradable organic [mgN/L]
0	Gas - Dissolved nitrous oxide [mgN/L]
0	N - Nitrite [mgN/L]
0	N - Nitrate [mgN/L]
0	Gas - Dissolved nitrogen [mgN/L]
0	P - Soluble phosphate [mgP/L]
0	CODs - Undegradable [mgCOD/L]
0	N - Soluble undegradable organic [mgN/L]
0	Influent inorganic suspended solids [mgSS/L]
0	Precipitate - Struvite [mgSS/L]
0	Precipitate - Brushite [mgSS/L]
0	Precipitate - Hydroxy - apatite [mgSS/L]
0	Precipitate - Vivianite [mgSS/L]
0	HFO - High surface [mg/L]
0	HFO - Low surface [mg/L]
0	HFO - High with H2PO4- adsorbed [mg/L]
0	HFO - Low with H2PO4- adsorbed [mg/L]
0	HFO - Aged [mg/L]
0	HFO - Low with H+ adsorbed [mg/L]
0	HFO - High with H+ adsorbed [mg/L]
0	HAO - High surface [mg/L]
0	HAO - Low surface [mg/L]
0	HAO - High with H2PO4- adsorbed [mg/L]
0	HAO - Low with H2PO4- adsorbed [mg/L]
0	HAO - Aged [mg/L]
0	P - Bound on aged HMO [mgP/L]
0	Metal soluble - Magnesium [mg/L]

Metal soluble - Calcium [mg/L]	0
Metal soluble - Ferric [mg/L]	0
Metal soluble - Ferrous [mg/L]	0
Metal soluble - Aluminum [mg/L]	57,700.00
Other Cations (strong bases) [meq/L]	5.00
Other Anions (strong acids) [meq/L]	5.00
Gas - Dissolved total CO2 [mmol/L]	7.00
User defined - UD1 [mg/L]	0
User defined - UD2 [mg/L]	0
User defined - UD3 [mgVSS/L]	0
User defined - UD4 [mgISS/L]	0
Biomass - Sulfur oxidizing [mgCOD/L]	0
Biomass - Sulfur reducing propionic acetogenic [mgCOD/L]	0
Biomass - Sulfur reducing acetotrophic [mgCOD/L]	0
Biomass - Sulfur reducing hydrogenotrophic [mgCOD/L]	0
Gas - Dissolved total sulfides [mgS/L]	0
S - Soluble sulfate [mgS/L]	102,840.42
S - Particulate elemental sulfur [mgS/L]	0
Precipitate - Ferrous sulfide [mgISS/L]	0
CODp - Adsorbed hydrocarbon [mgCOD/L]	0
CODs - Degradable volatile ind. #1 [mgCOD/L]	0
CODs - Degradable volatile ind. #2 [mgCOD/L]	0
CODs - Degradable volatile ind. #3 [mgCOD/L]	0
CODs - Soluble hydrocarbon [mgCOD/L]	0
Gas - Dissolved oxygen [mg/L]	0
Flow, GPD	28.0

Configuration information for all Splitter units

Operating data Average (flow/time weighted as required)

Element name	Split method	Average Split specification
WAS	Flowrate [MGD]	0.00771632366198715

BioWin Album

Album page - Influent

Influent			
Parameters	Conc. (mg/L)	Mass rate (lb/d)	Notes
Alkalinity	9.00	10.22	mmol/L and kmol/d
BOD - Filtered Carbonaceous	188.66	472.34	
BOD - Total Carbonaceous	349.96	876.17	
COD - Filtered	338.11	846.49	
COD - Particulate	375.49	940.09	
COD - Total	713.60	1,786.58	
COD - Volatile fatty acids	17.13	42.88	
Influent inorganic suspended solids	57.60	144.20	
ISS cellular	1.26	3.14	
ISS precipitate	0	0	
ISS Total	60.00	150.22	
N - Ammonia	46.20	115.67	
N - Filtered TKN	57.47	143.88	
N - Nitrate	0	0	
N - Nitrite + Nitrate	0	0	
N - Particulate TKN	12.53	31.37	
N - Total inorganic N	46.20	115.67	
N - Total Kjeldahl Nitrogen	70.00	175.25	
N - Total N	70.00	175.25	
P - Phosphorus in HMO	0	0	
P - Soluble PO4-P	4.50	11.27	
P - Total P	9.00	22.53	
pH	7.30		
S - Total S	0	0	
Total aluminium (all forms)	0	0	
Total Calcium (all forms)	161.84	405.19	
Total iron (all forms)	0	0	
Total Magnesium (all forms)	25.23	63.16	
Total suspended solids	300.00	751.09	
Volatile suspended solids	240.00	600.87	

Parameter	Value	Units	

Album page - PAX

PAX			
Parameters	Conc. (mg/L)	Mass rate (lb/d)	Notes
Alkalinity	5.88	33.24	mmol/L and kmol/d
BOD - Filtered Carbonaceous	3.25	40.42	
BOD - Total Carbonaceous	2,454.92	30,572.85	
COD - Filtered	41.54	517.27	
COD - Particulate	8,840.67	110,099.14	
COD - Total	8,882.21	110,616.41	
COD - Volatile fatty acids	0.13	1.65	
Influent inorganic suspended solids	1,800.71	22,425.58	
ISS cellular	469.46	5,846.57	
ISS precipitate	822.20	10,239.50	
ISS Total	3,093.69	38,527.89	
N - Ammonia	10.50	130.80	
N - Filtered TKN	12.46	155.15	
N - Nitrate	2.89	36.03	
N - Nitrite + Nitrate	3.06	38.10	
N - Particulate TKN	458.64	5,711.73	
N - Total inorganic N	13.56	168.90	
N - Total Kjeldahl Nitrogen	471.09	5,866.88	
N - Total N	474.15	5,904.98	
P - Phosphorus in HMO	108.13	1,346.65	
P - Soluble PO4-P	1.22	15.14	
P - Total P	253.82	3,161.02	
pH	7.08		
S - Total S	7.67	95.50	
Total aluminium (all forms)	167.28	2,083.29	
Total Calcium (all forms)	184.13	2,293.13	
Total iron (all forms)	0	0	

Total Magnesium (all forms)	46.77	582.43	
Total suspended solids	9,195.08	114,512.83	
Volatile suspended solids	6,101.39	75,984.94	
Parameter	Value	Units	
# of diffusers	0		
Actual DO sat. conc.	10.04	mg/L	
Air flow rate	0	ft3/min (20C, 1 atm)	
Air flow rate / diffuser	0	ft3/min (20C, 1 atm)	
Alpha	0.50	[]	
Beta	0.95	[]	
Deamm - Ammonia removal rate	0.00	mgN/L/hr	
Deamm - N2 production rate	0.01	mgN/L/hr	
Deamm - Nitrate production rate	0.00	mgN/L/hr	
Deamm - Nitrite removal rate	0.01	mgN/L/hr	
Denit - N2 production rate	13.36	mgN/L/hr	
Denit - Nitrate removal rate	13.16	mgN/L/hr	
Denit - Nitrite removal rate	6.54	mgN/L/hr	
Denit Auto - N2 production rate	0	mgN/L/hr	
Denit Hetero - N2 production rate	13.36	mgN/L/hr	
Denit Methylo - N2 production rate	0.00	mgN/L/hr	
Element HRT	0.5	hours	
Liquid depth	9.00	ft	
Nit - Ammonia removal rate	0.51	mgN/L/hr	
Nit - Nitrate production rate	0.14	mgN/L/hr	
Nit - Nitrite production rate	0.51	mgN/L/hr	
Nit - Nitrous oxide production rate	0	mgN/L/hr	
Off gas Ammonia	0	%	
Off gas Carbon dioxide	71.22	%	
Off gas flow rate (dry)	0.36	ft3/min (field)	
Off gas Hydrogen	3.40	%	
Off gas Hydrogen sulfide	0	%	
Off gas Ind #1	0	%	
Off gas Ind #2	0	%	

Off gas Ind #3	0	%	
Off gas Methane	0.00	%	
Off gas Nitrous oxide	0	%	
Off gas Oxygen	0	%	
OTE	100.00	%	
OTR	0	lb/hr	
OUR - Carbonaceous	2.80	mgO/L/hr	
OUR - Nitrification	1.81	mgO/L/hr	
OUR - Sulfur	0	mgO/L/hr	
OUR - Total	4.61	mgO/L/hr	
Power	0	kW	
Power cost (Excl. heating)	0	\$/hour	
SOTE	100.00	%	
SOTR	0	lb/hr	
Sulfate production rate	0	mgS/L/hr	
Sulfate removal rate	0.00	mgS/L/hr	
Total readily biodegradable COD	1.49	mg/L	
Total solids mass	2,532.31	lb	
Velocity gradient	6.72	1/s	
VSS destruction	0	%	

Album page - PA

PA			
Parameters	Conc. (mg/L)	Mass rate (lb/d)	Notes
Alkalinity	4.64	26.22	mmol/L and kmol/d
BOD - Filtered Carbonaceous	1.17	14.61	
BOD - Total Carbonaceous	2,431.45	30,281.09	
COD - Filtered	37.43	466.15	
COD - Particulate	8,808.48	109,700.33	
COD - Total	8,845.91	110,166.48	
COD - Volatile fatty acids	0.00	0.03	
Influent inorganic suspended solids	1,800.68	22,425.58	
ISS cellular	470.81	5,863.50	
ISS precipitate	826.35	10,291.38	

ISS Total	3,098.95	38,594.13	
N - Ammonia	2.16	26.84	
N - Filtered TKN	4.17	51.92	
N - Nitrate	9.72	121.05	
N - Nitrite + Nitrate	10.59	131.91	
N - Particulate TKN	458.60	5,711.43	
N - Total inorganic N	12.75	158.75	
N - Total Kjeldahl Nitrogen	462.77	5,763.34	
N - Total N	473.36	5,895.25	
P - Phosphorus in HMO	108.46	1,350.77	
P - Soluble PO4-P	0.95	11.89	
P - Total P	253.82	3,161.02	
pH	6.94		
S - Total S	9.60	119.53	
Total aluminium (all forms)	168.36	2,096.78	
Total Calcium (all forms)	184.13	2,293.13	
Total iron (all forms)	0	0	
Total Magnesium (all forms)	46.77	582.43	
Total suspended solids	9,181.50	114,345.91	
Volatile suspended solids	6,082.55	75,751.78	
Parameter	Value	Units	
# of diffusers	140.00		
Actual DO sat. conc.	10.26	mg/L	
Air flow rate	551.95	ft3/min (20C, 1 atm)	
Air flow rate / diffuser	3.94	ft3/min (20C, 1 atm)	
Alpha	0.50	[]	
Beta	0.95	[]	
Deamm - Ammonia removal rate	0.00	mgN/L/hr	
Deamm - N2 production rate	0.00	mgN/L/hr	
Deamm - Nitrate production rate	0.00	mgN/L/hr	
Deamm - Nitrite removal rate	0.00	mgN/L/hr	
Denit - N2 production rate	0.95	mgN/L/hr	
Denit - Nitrate removal rate	0.92	mgN/L/hr	

Denit - Nitrite removal rate	0.48	mgN/L/hr	
Denit Auto - N2 production rate	0	mgN/L/hr	
Denit Hetero - N2 production rate	0.95	mgN/L/hr	
Denit Methylo - N2 production rate	0.00	mgN/L/hr	
Element HRT	0.8	hours	
Liquid depth	11.00	ft	
Nit - Ammonia removal rate	10.28	mgN/L/hr	
Nit - Nitrate production rate	9.25	mgN/L/hr	
Nit - Nitrite production rate	10.17	mgN/L/hr	
Nit - Nitrous oxide production rate	0	mgN/L/hr	
Off gas Ammonia	0	%	
Off gas Carbon dioxide	1.40	%	
Off gas flow rate (dry)	539.43	ft ³ /min (field)	
Off gas Hydrogen	0.02	%	
Off gas Hydrogen sulfide	0	%	
Off gas Ind #1	0	%	
Off gas Ind #2	0	%	
Off gas Ind #3	0	%	
Off gas Methane	0.00	%	
Off gas Nitrous oxide	0	%	
Off gas Oxygen	19.55	%	
OTE	6.53	%	
OTR	37.64	lb/hr	
OUR - Carbonaceous	43.11	mgO/L/hr	
OUR - Nitrification	43.08	mgO/L/hr	
OUR - Sulfur	0	mgO/L/hr	
OUR - Total	86.19	mgO/L/hr	
Power	0	kW	
Power cost (Excl. heating)	0	\$/hour	
SOTE	19.64	%	
SOTR	113.15	lb/hr	
Sulfate production rate	0	mgS/L/hr	
Sulfate removal rate	0.00	mgS/L/hr	
Total readily biodegradable COD	1.46	mg/L	
Total solids mass	3,900.13	lb	

Velocity gradient	201.47	1/s	
VSS destruction	0.31	%	

Album page - MBR

MBR(FF RR 5Q)			
Parameters	Conc. (mg/L)	Mass rate (lb/d)	Notes
Alkalinity	4.38	4.85	mmol/L and kmol/d
BOD - Filtered Carbonaceous	0.98	2.40	
BOD - Total Carbonaceous	0.98	2.40	
COD - Filtered	37.08	90.46	
COD - Particulate	0	0	
COD - Total	37.08	90.46	
COD - Volatile fatty acids	0.00	0.00	
Influent inorganic suspended solids	0	0	
ISS cellular	0	0	
ISS precipitate	0	0	
ISS Total	0	0	
N - Ammonia	0.30	0.74	
N - Filtered TKN	2.33	5.69	
N - Nitrate	12.26	29.92	
N - Nitrite + Nitrate	12.37	30.18	
N - Particulate TKN	0	0	
N - Total inorganic N	12.68	30.92	
N - Total Kjeldahl Nitrogen	2.33	5.69	
N - Total N	14.70	35.87	
P - Phosphorus in HMO	0	0	
P - Soluble PO4-P	0.91	2.22	
P - Total P	0.91	2.22	
pH	6.87		
S - Total S	9.60	23.41	
Total aluminium (all forms)	0.00	0.00	
Total Calcium (all forms)	161.09	392.97	
Total iron (all forms)	0	0	
Total Magnesium (all forms)	24.51	59.80	

Total suspended solids	0	0	
Volatile suspended solids	0	0	
Parameter	Value	Units	
# of cassettes	8.00		
# of diffusers	7.00		
Actual DO sat. conc.	10.31	mg/L	
Air flow rate	424.00	ft3/min (20C, 1 atm)	
Air flow rate / cassette	53.00	ft3/min (20C, 1 atm)	
Air flow rate / diffuser	60.57	ft3/min (20C, 1 atm)	
Alpha	0.50	[]	
Beta	0.95	[]	
Deamm - Ammonia removal rate	0.00	mgN/L/hr	
Deamm - N2 production rate	0.00	mgN/L/hr	
Deamm - Nitrate production rate	0.00	mgN/L/hr	
Deamm - Nitrite removal rate	0.00	mgN/L/hr	
Denit - N2 production rate	0.73	mgN/L/hr	
Denit - Nitrate removal rate	0.75	mgN/L/hr	
Denit - Nitrite removal rate	0.35	mgN/L/hr	
Denit Auto - N2 production rate	0	mgN/L/hr	
Denit Hetero - N2 production rate	0.73	mgN/L/hr	
Denit Methylo - N2 production rate	0.00	mgN/L/hr	
Element HRT	0.4	hours	
Liquid depth	12.00	ft	
Membrane flux	7.07	gal/ft2/d (gfd)	
Mixed liquor flow	1.20	mgd	
Nit - Ammonia removal rate	5.34	mgN/L/hr	
Nit - Nitrate production rate	7.05	mgN/L/hr	
Nit - Nitrite production rate	5.29	mgN/L/hr	
Nit - Nitrous oxide production rate	0	mgN/L/hr	
Off gas Ammonia	0	%	
Off gas Carbon dioxide	0.80	%	
Off gas flow rate (dry)	412.39	ft3/min (field)	
Off gas Hydrogen	0.00	%	
Off gas Hydrogen sulfide	0	%	

Off gas Ind #1	0	%	
Off gas Ind #2	0	%	
Off gas Ind #3	0	%	
Off gas Methane	0.00	%	
Off gas Nitrous oxide	0	%	
Off gas Oxygen	20.16	%	
OTE	3.78	%	
OTR	16.75	lb/hr	
OUR - Carbonaceous	52.34	mgO/L/hr	
OUR - Nitrification	24.75	mgO/L/hr	
OUR - Sulfur	0	mgO/L/hr	
OUR - Total	77.09	mgO/L/hr	
Power	0	kW	
Power cost (Excl. heating)	0	\$/hour	
SOTE	13.01	%	
SOTR	57.58	lb/hr	
Sulfate production rate	0	mgS/L/hr	
Sulfate removal rate	0.00	mgS/L/hr	
Total readily biodegradable COD	1.39	mg/L	
Total solids mass	2,395.42	lb	
Velocity gradient	253.51	1/s	
VSS destruction	100.00	%	

Album page - WAS

Parameters	Conc. (mg/L)	Mass rate (lb/d)	Notes
WAS			
Alkalinity	4.38	0.13	mmol/L and kmol/d
BOD - Filtered Carbonaceous	1.00	0.06	
BOD - Total Carbonaceous	3,005.73	193.56	
COD - Filtered	37.11	2.39	
COD - Particulate	10,927.54	703.69	
COD - Total	10,964.64	706.08	
COD - Volatile fatty acids	0.00	0.00	
Influent inorganic suspended solids	2,239.31	144.20	

ISS cellular	586.23	37.75	
ISS precipitate	1,028.23	66.21	
ISS Total	3,854.99	248.25	
N - Ammonia	0.30	0.02	
N - Filtered TKN	2.33	0.15	
N - Nitrate	12.26	0.79	
N - Nitrite + Nitrate	12.37	0.80	
N - Particulate TKN	570.02	36.71	
N - Total inorganic N	12.68	0.82	
N - Total Kjeldahl Nitrogen	572.35	36.86	
N - Total N	584.73	37.65	
P - Phosphorus in HMO	135.07	8.70	
P - Soluble PO4-P	0.91	0.06	
P - Total P	315.42	20.31	
pH	6.93		
S - Total S	9.60	0.62	
Total aluminium (all forms)	209.37	13.48	
Total Calcium (all forms)	189.74	12.22	
Total iron (all forms)	0	0	
Total Magnesium (all forms)	52.19	3.36	
Total suspended solids	11,403.26	734.32	
Volatile suspended solids	7,548.27	486.08	
Parameter	Value	Units	
Cost (Sludge)	0	\$/hour	
Power	0	kW	
Power cost (Excl. heating)	0	\$/hour	

Album page - Effluent

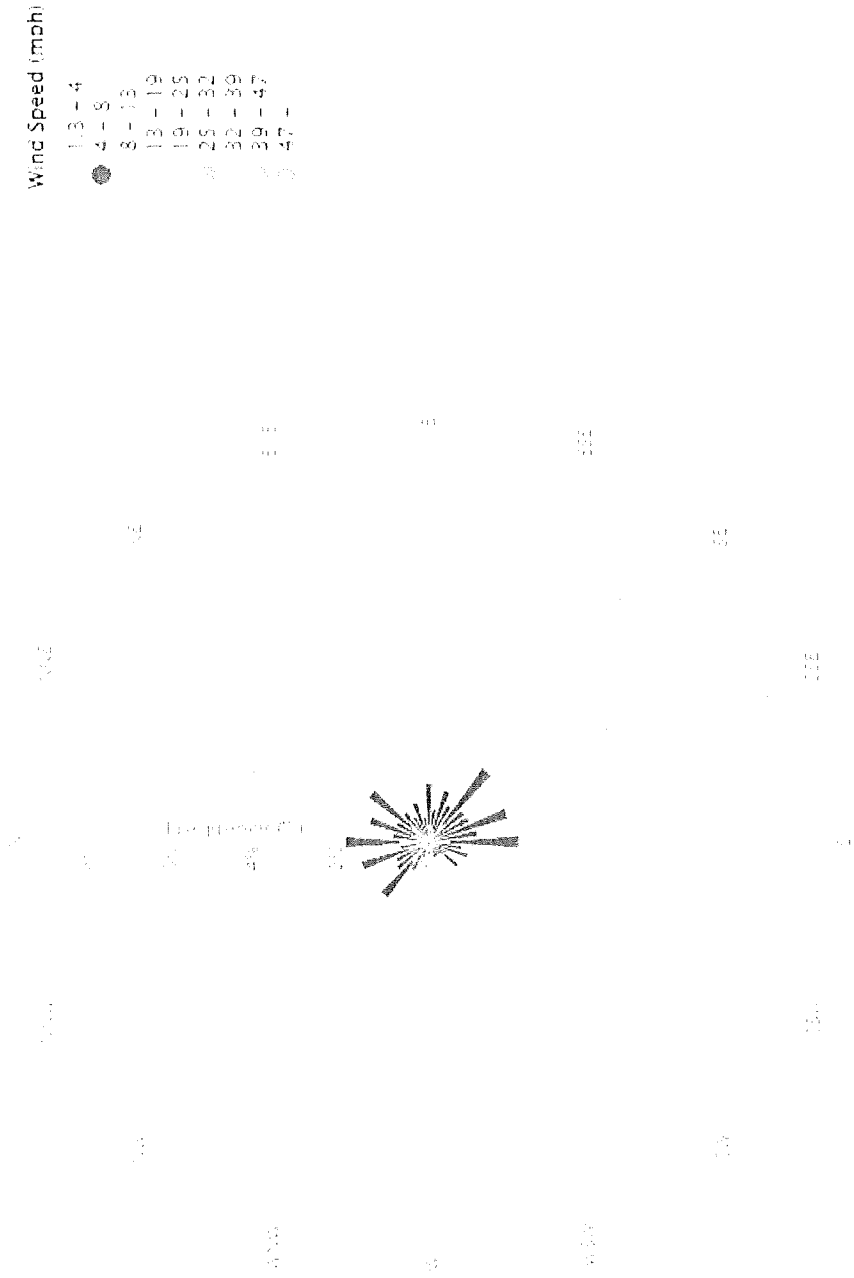
Effluent			
Parameters	Conc. (mg/L)	Mass rate (lb/d)	Notes
Alkalinity	4.38	4.85	mmol/L and kmol/d
BOD - Filtered Carbonaceous	0.98	2.40	

BOD - Total Carbonaceous	0.98	2.40	
COD - Filtered	37.08	90.46	
COD - Particulate	0	0	
COD - Total	37.08	90.46	
COD - Volatile fatty acids	0.00	0.00	
Influent inorganic suspended solids	0	0	
ISS cellular	0	0	
ISS precipitate	0	0	
ISS Total	0	0	
N - Ammonia	0.30	0.74	
N - Filtered TKN	2.33	5.69	
N - Nitrate	12.26	29.92	
N - Nitrite + Nitrate	12.37	30.18	
N - Particulate TKN	0	0	
N - Total inorganic N	12.68	30.92	
N - Total Kjeldahl Nitrogen	2.33	5.69	
N - Total N	14.70	35.87	
P - Phosphorus in HMO	0	0	
P - Soluble PO4-P	0.91	2.22	
P - Total P	0.91	2.22	
pH	6.93		
S - Total S	9.60	23.41	
Total aluminium (all forms)	0.00	0.00	
Total Calcium (all forms)	161.09	392.97	
Total iron (all forms)	0	0	
Total Magnesium (all forms)	24.51	59.80	
Total suspended solids	0	0	
Volatile suspended solids	0	0	
Parameter	Value	Units	
Cost (Chemicals)	0	\$/hour	
Power	0	kW	
Power cost (Excl. heating)	0	\$/hour	

Harrison Tract WWTF - Windrose

SAN ANTONIO INTL AP (TX) Wind Rose

Axis: 440 (Windspeed) mph
Scale Interval: 100 (Windspeed) mph



Harrison Tract WWTF

Solids Management Plan

(a) Dimensions (Length x Width x Height) and capacities (gallons) of all sewage sludge handling treatment units and processes

Phase 1	Phase 2	Phase 3
22.5' x 13' x 11.5' SWD - 25,000 gal capacity	(1) 22' x 22' x 14' SWD - 50,000 gal capacity	(2) 22' x 22' x 14' SWD - 100,000 gal total capacity

(b) Calculations showing solids generated at 100%, 50%, 75%, 50%, and 25% design flow

	100%	75%	50%	25%
Phase 1	2999 gpd	2249 gpd	1499 gpd	749 gpd
Phase 2	7716 gpd	5787 gpd	3858 gpd	1929 gpd
Phase 3	15,432 gpd	11574 gpd	7716 gpd	3858 gpd

(c) Operating range for the mixed liquor suspended solids in the treatment process based on design flow and projected actual flow at the facility.

Phase #	Operating Range (mg/L)
Phase 1	8,000 - 12,000
Phase 2	8,000 - 12,000
Phase 3	8,000 - 12,000

(d) Description of the procedure and method of solids removal from both wastewater and sludge treatment processes.

The sludge wasting pumps will convey sludge from the treatment basins to the sludge holding basin in phase 1, and to the sludge holding tanks in phases 2 and 3. The sludge wasting pumps will be operated manually by the operator. The sludge holding basins/tanks will be pumped as a semi-liquid onto a transport truck where it will be taken to a permitted landfill.

(e) Quantity of solids to be removed from the process and schedule for removal of solids designed to maintain an appropriate solids inventory.

Solids will be removed from the sludge holding basin on a 6-day rotation during phase 1. Solids will be removed from the tank on a 10-day rotation for phase 2, and on a 6-day rotation for phase 3. A sludge press will be installed in phase 2 to service the intermediate and final phases.

(f) Identification and ownership of the ultimate disposal site and a system of documenting the amount of solids disposed of, recorded in dry weight.

The Mesquite Creek Landfill is the registered landfill that sludge will be sent to. The operator of the facility will monitor the volume of sludge wasted and calculate the dry weight assuming a 1% solids concentration.

TCFQ ePay Voucher Receipt

Transaction Information	
Voucher Number:	5822FA000504105
Trace Number:	08 31 2022 11:07 AM
Date:	CC - Authorization 000011370
Payment Method:	\$1,600.00
Voucher Amount:	WW PERM 01 - FACILITY WITH FLOW <= 50 & < 1.0 MGD - NEW AND MAJOR AMENDMENTS
Fee Type:	JESSICA IGLESIAS
ePay Actor:	
Payment Contract Information	
Name:	CHRISTOPHER VAN HEEDE
Company:	ENCT ENGINEERING & SURVEYING
Address:	290 S CASTLE AVE SUITE 100 NEW BRACONFELS, TX 78130
Phone:	830-623-8555
Site Information	
Site Name:	HARRISON TRACT WWTP
Site Location:	0.3 MILES SOUTH OF THE INTERSECTION OF STATE HIGHWAY 46 AND HARRISON RD
Customer Information	
Customer Name:	DOUG HARRISON
Customer Address:	1000 HARRISON RD, NEW BRACONFELS, TX 78132