Administrative Package Cover Page

This file contains the following documents:

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

Portada de Paquete Administrativo

Este archivo contiene los siguientes documentos:

1. Resumen en lenguaje sencillo (PLS, por sus siglas en inglés) de la actividad propuesta
   - Inglés
   - Idioma alternativo (español)
2. Primer aviso (NORI, por sus siglas en inglés)
   - Inglés
   - Idioma alternativo (español)
3. Solicitud original

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PLAIN LANGUAGE SUMMARY FOR TPDES OR TLAP PERMIT APPLICATIONS

Plain Language Summary Template and Instructions for Texas Pollutant Discharge Elimination System (TPDES) and Texas Land Application (TLAP) Permit Applications

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

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

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

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

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

Yancey WSC (CN600673578) proposes to operate Agape Oaks WWTP (N/A), a membrane bioreactor plant. The facility will be located at 0.11 miles north of the intersection of County Road 7612 and I-35 Frontage Rd , in Devine, Medina County, Texas 78016. This is a new application to land applicate 250,000 gallons per day of domestic treated wastewater onto 134 acres . This permit will not authorize a discharge of pollutants into water in the state.

Discharges from the facility are expected to contain five-day biochemical oxygen demand (BOD5), total suspended solids (TSS), ammonia nitrogen (NH3-N), phosphorus (P), and Escherichia coli. Domestic wastewater will be treated by fine screens, equalization basin, anoxic basins, aeration basins, membrane basins, UV contact chambers, and a sludge press.

PLANTILLA EN ESPAÑOL PARA SOLICITUDES NUEVAS/RENOVACIONES/ENMIENDAS DE TPDES o TLAP

AGUAS RESIDUALES DOMESTICAS **/AGUAS PLUVIALES**

El siguiente resumen se proporciona para esta solicitud de permiso de calidad del agua pendiente que está siendo revisada por la Comisión de Calidad Ambiental de Texas según lo requerido por el Capítulo 39 del Código Administrativo de Texas 30. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no es una representación ejecutiva fedérale de la solicitud de permiso.

Yancey WSC (CN600673578) propone operar Agape Oaks WWTP N/A, un 0.11 millas al norte de la intersección de County Road 7612 y I-35 Frontage Rd . La instalación estará ubicada en Devine, en Medina, Condado de 78016, Texas 78016. Esta es una nueva solicitud para aplicar en tierra 250,000 galones por día de aguas residuales domésticas tratadas en 134 acres. . Este permiso no autorizará una descarga de contaminantes en el agua en el estado.

Se espera que las descargas de la instalación contengan Demanda bioquímica de oxígeno (BOD5) de cinco días, sólidos suspendidos totales (TSS), nitrógeno amoniacal (NH3-N), fósforo (P) y Escherichia coli. . Aguas residuales domésticas . estará tratado por cribas finas, cubetas de ecualización, cubetas anóxicas, cubetas de aireación, cubetas de membrana, cámaras de contacto UV y prensa de lodos. .

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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

PROPOSED PERMIT NO. WQ0016603001

APPLICATION. Yancey Water Supply Corporation, P.O. Box 127, Yancey, Texas 78886, has applied to the Texas Commission on Environmental Quality (TCEQ) for proposed Texas Land Application Permit (TLAP) No. WQ0016603001 to authorize the disposal of treated wastewater at a volume not to exceed a daily average flow of 250,000 gallons per day via surface application on approximately 134 acres. The domestic wastewater treatment facility and disposal area will be located approximately 0.11 miles north of the intersection of County Road 7612 and Interstate Highway 35 Frontage Road, near the city of Devine, in Medina County, Texas 78016. TCEQ received this application on August 21, 2024. The permit application will be available for viewing and copying at Driscoll Public Library, 202 East Hondo Avenue, Devine, in Medina County, Texas prior to the date this notice is published in the newspaper. The application, including any updates, and associated notices are available electronically at the following webpage: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tlap-applications. This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For the exact location, refer to the application. https://gisweb.tceq.texas.gov/LocationMapper/?marker=-98.94833,29.097222&level=18

ALTERNATIVE LANGUAGE NOTICE. Alternative language notice in Spanish is available at: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tlap-applications. El aviso de idioma alternativo en español está disponible en https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tlap-applications.

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

PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting on this application. The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ will hold a public meeting if the Executive Director determines that there is a significant degree of public

interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

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

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

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

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

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

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

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

Further information may also be obtained from Yancey Water Supply Corporation at the address stated above or by calling Mr. Mark Ince, P.E., Southwest Engineers, Inc., at 830-672-7546.

Issuance Date: September 20, 2024

Comisión de Calidad Ambiental del Estado de Texas

AVISO DE RECIBO DE LA SOLICITUD E
INTENCION DE OBTENER PERMISO PARA LA CALIDAD DEL AGUA

PERMISO PROPUESTO NO. WQ0016603001

SOLICITUD. Yancey Water Supply Corporation, P.O. Box 127 Yancey, Texas 78886, ha solicitado a la Comisión de Calidad Ambiental de Texas (TCEQ) para el propuesto Permiso No. WQ0016603001 de disposición de aguas residuales para autorizar la disposición de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio diario de 250,000 galones por día por medio aplicación superficial de 134 acres. La planta de tratamiento de aguas domésticos residuales y el área de disposición estarán ubicados aproximadamente 0.11 millas al norte de la intersección de County Road 7612 y la I-35 Frontage Road en el Condado de Medina, Texas 78016. La TCEQ recibió esta solicitud el día 21 de agosto de 2024. La solicitud para el permiso estará disponible para leerla y copiarla en Biblioteca pública Driscoll, 202 East Hondo Avenue, Devine, Texas antes de la fecha de publicación de este aviso en el periódico. La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página web: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tlap-applications. Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud. https://gisweb.tceq.texas.gov/LocationMapper/?marker=-98.94833,29.097222&level=18

AVISO DE IDIOMA ALTERNATIVO. El aviso de idioma alternativo en español está disponible en https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tlap-applications

AVISO ADICIONAL. El Director Ejecutivo de la TCEQ ha determinado que la solicitud es administrativamente completa y conducirá una revisión técnica de la solicitud. Después de completar la revisión técnica, el Director Ejecutivo puede preparar un borrador del permiso y emitirá una Decisión Preliminar sobre la solicitud. **El aviso de la solicitud y la decisión preliminar serán publicados y enviado a los que están en la lista de correo de las personas a lo largo del condado que desean recibir los avisos y los que están en la lista de correo que desean recibir avisos de esta solicitud. El aviso dará la fecha límite para someter comentarios públicos.**

COMENTARIO PUBLICO / REUNION PUBLICA. Usted puede presentar comentarios públicos o pedir una reunión pública sobre esta solicitud. El propósito de una reunión pública es dar la oportunidad de presentar comentarios o hacer preguntas acerca de la solicitud. La TCEQ realiza una reunión pública si el Director Ejecutivo determina que hay un grado de interés público suficiente en la solicitud o si un legislador local lo pide. Una reunión pública no es

una audiencia administrativa de lo contencioso.

OPORTUNIDAD DE UNA AUDIENCIA ADMINISTRATIVA DE LO CONTENCIOSO. Después del plazo para presentar comentarios públicos, el Director Ejecutivo considerará todos los comentarios apropiados y preparará una respuesta a todo los comentarios públicos esenciales, pertinentes, o significativos. **A menos que la solicitud haya sido referida directamente a una audiencia administrativa de lo contencioso, la respuesta a los comentarios y la decisión del Director Ejecutivo sobre la solicitud serán enviados por correo a todos los que presentaron un comentario público y a las personas que están en la lista para recibir avisos sobre esta solicitud. Si se reciben comentarios, el aviso también proveerá instrucciones para pedir una reconsideración de la decisión del Director Ejecutivo y para pedir una audiencia administrativa de lo contencioso.** Una audiencia administrativa de lo contencioso es un procedimiento legal similar a un procedimiento legal civil en un tribunal de distrito del estado.

PARA SOLICITAR UNA AUDIENCIA DE CASO IMPUGNADO, USTED DEBE INCLUIR EN SU SOLICITUD LOS SIGUIENTES DATOS: su nombre, dirección, y número de teléfono; el nombre del solicitante y número del permiso; la ubicación y distancia de su propiedad/actividad con respecto a la instalación; una descripción específica de la forma cómo usted sería afectado adversamente por el sitio de una manera no común al público en general; una lista de todas las cuestiones de hecho en disputa que usted presente durante el período de comentarios; y la declaración "[Yo/nosotros] solicito/solicitamos una audiencia de caso impugnado". Si presenta la petición para una audiencia de caso impugnado de parte de un grupo o asociación, debe identificar una persona que representa al grupo para recibir correspondencia en el futuro; identificar el nombre y la dirección de un miembro del grupo que sería afectado adversamente por la planta o la actividad propuesta; proveer la información indicada anteriormente con respecto a la ubicación del miembro afectado y su distancia de la planta o actividad propuesta; explicar cómo y porqué el miembro sería afectado; y explicar cómo los intereses que el grupo desea proteger son pertinentes al propósito del grupo.

Después del cierre de todos los períodos de comentarios y de petición que aplican, el Director Ejecutivo enviará la solicitud y cualquier petición para reconsideración o para una audiencia de caso impugnado a los Comisionados de la TCEQ para su consideración durante una reunión programada de la Comisión. La Comisión sólo puede conceder una solicitud de una audiencia de caso impugnado sobre los temas que el solicitante haya presentado en sus comentarios oportunos que no fueron retirados posteriormente. Si se concede una audiencia, el tema de la audiencia estará limitado a cuestiones de hecho en disputa o cuestiones mixtas de hecho y de derecho relacionadas a intereses pertinentes y materiales de calidad del agua que se hayan presentado durante el período de comentarios.

LISTA DE CORREO. Si somete comentarios públicos, un pedido para una audiencia administrativa de lo contencioso o una reconsideración de la decisión del Director Ejecutivo, la Oficina del Secretario Principal enviará por correo los avisos públicos en relación con la solicitud. Ademas, puede pedir que la TCEQ ponga su nombre en una or mas de las listas correos siguientes (1) la lista de correo permanente para recibir los avisos de el solicitante indicado por nombre y número del permiso específico y/o (2) la lista de correo de todas las solicitudes en un condado especifico. Si desea que se agrega su nombre en una de las listas

designe cual lista(s) y envia por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

INFORMACIÓN DISPONIBLE EN LÍNEA. Para detalles sobre el estado de la solicitud, favor de visitar la Base de Datos Integrada de los Comisionados en www.tceq.texas.gov/goto/cid. Para buscar en la base de datos, utilizar el número de permiso para esta solicitud que aparece en la parte superior de este aviso.

CONTACTOS E INFORMACIÓN A LA AGENCIA. Todos los comentarios públicos y solicitudes deben ser presentadas electrónicamente vía http://www14.tceq.texas.gov/epic/eComment/ o por escrito dirigidos a la Comisión de Texas de Calidad Ambiental, Oficial de la Secretaría (Office of Chief Clerk), MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Tenga en cuenta que cualquier información personal que usted proporcione, incluyendo su nombre, número de teléfono, dirección de correo electrónico y dirección física pasarán a formar parte del registro público de la Agencia. Para obtener más información acerca de esta solicitud de permiso o el proceso de permisos, llame al programa de educación pública de la TCEQ, gratis, al 1-800-687-4040. Si desea información en Español, puede llamar al 1-800-687-4040.

También se puede obtener información adicional del Yancey Water Supply Corporation a la dirección indicada arriba o llamando a Sr. Mark Ince, P.E., Southwest Engineers Inc., at 830-672-7546.

Fecha de emisión: 20 de septiembre de 2024

Southwest Engineers
Est. 1978
CELEBRATING 45 YEARS OF EXCELLENCE!

HEADQUARTERS
307 Saint Lawrence St.
Gonzales, TX 78629
P: 830.672.7546

CENTRAL TEXAS OFFICES
205 Cimarron Park Lp, Ste B
Buda, TX 78610
P: 512.312.4336

704 Main Street #101
Bastrop, TX 78602
P: 512.985.9759

TBPELS No. F-1909
WWW.SWENGINEERS.COM

July 23, 2024

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
P. O. Box 13087
Austin, Texas 78711-3087
Attn: Water Quality Division
Applications Review and Processing Team (MC-148)

RE: DOMESTIC WASTEWATER PERMIT APPLICATION
PERMIT NO. WQ_____
Agape Oaks Wastewater Treatment Plant, Medina County, Texas
SWE Project No. 0339-022-22

To Whom It May Concern,

On behalf of Yancey WSC, we are respectfully submitting the wastewater permit application for the above referenced facility. We have also mailed via USPS one (1) complete original set of the wastewater permit application for the above referenced facility.

We have also, on behalf of Yancey WSC, mailed to TCEQ's Financial Administration Division under separate cover the Water Quality Permit Payment Submittal Form with a check to cover the $1250.00 permit application fee.

We appreciate your review and consideration of the application. If you have any questions concerning the contents of the application, please do not hesitate to call me at (830) 672-7546 or if more convenient, send me an email at mark.ince@swengineers.com. Thank you!

Respectfully Submitted,
SOUTHWEST ENGINEERS, INC.

Mark A. Ince, P.E.
Project Engineer
Texas Serial #91553

Attachments
❑ *"TCEQ Domestic Wastewater Permit Application" **["original"... 1 set]***

cc: Yancey WSC w/attachment... ***via email***

ORIGINAL

TCEQ Domestic Wastewater Permit Application

For

Agape Oaks
Wastewater Treatment Plant

Yancey WSC
P.O. Box 127
Yancey, TX 78886

Permit No._____

July 2024

SWE Project No. 0339-032-22

Southwest Engineers
www.swengineers.com | TBPE No. F-1909

Civil |Environmental |Land Development

HEADQUARTERS
307 Saint Lawrence St.
Gonzales, TX 78629
Phone: 830.672.7546

CENTRAL TEXAS OFFICE
205 Cimarron Park Loop, Ste B
Buda, TX 78610
Phone: 512.312.4336

Attachment	Item	Required By	Page
A	TCEQ Core Data Form	Admin. 1.0 - #3c	4
B	USGS Map	Admin. 1.0 - #13	11
C	Affected Landowner List & Map	Admin. 1.1 - #1	14
D	Photographs & Map	Admin. 1.1 - #2	15
E	Buffer Zone Map	Admin. 1.1 - #3	15
F	SPIF USGS Map	SPIF - #5	17
G	Flow Diagram	Tech. 1.0 - #2c	2
H	Site Drawing	Tech. 1.0 - #3	3
I	Nearby Collection Systems & Correps.	Tech. 1.1 - #3	21
J	Design Calculations	Tech. 1.1 - #4	24
K	Wind Rose	Tech. 1.1 - #5b	25
L	Solids Management Plan	Tech. 1.1 - #7	26

TABLE OF CONTENTS

ADMINISTRATIVE REPORT

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION CHECKLIST

Complete and submit this checklist with the application.

APPLICANT NAME: Yancey WSC

PERMIT NUMBER (If new, leave blank): WQ00 Click to enter text.

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

	Y	N		Y	N
Administrative Report 1.0	☒	☐	Original USGS Map	☒	☐
Administrative Report 1.1	☒	☐	Affected Landowners Map	☒	☐
SPIF	☐	☒	Landowner Disk or Labels	☒	☐
Core Data Form	☒	☐	Buffer Zone Map	☒	☐
Public Involvement Plan Form	☒	☐	Flow Diagram	☒	☐
Technical Report 1.0	☒	☐	Site Drawing	☒	☐
Technical Report 1.1	☒	☐	Original Photographs	☒	☐
Worksheet 2.0	☐	☒	Design Calculations	☒	☐
Worksheet 2.1	☐	☒	Solids Management Plan	☒	☐
Worksheet 3.0	☒	☐	Water Balance	☒	☐
Worksheet 3.1	☒	☐			
Worksheet 3.2	☐	☒			
Worksheet 3.3	☐	☒			
Worksheet 4.0	☐	☒			
Worksheet 5.0	☐	☒			
Worksheet 6.0	☐	☒			
Worksheet 7.0	☐	☒			

For TCEQ Use Only

Segment Number _____County _____
Expiration Date _____Region_____
Permit Number _____

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

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

Section 1. Application Fees (Instructions Page 26)

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

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

Minor Amendment (for any flow) $150.00 ☐

Payment Information:

Mailed — Check/Money Order Number: 33428

Check/Money Order Amount: 1,250.00

Name Printed on Check: Southwest Engineers, Inc.

EPAY — Voucher Number: N/A

Copy of Payment Voucher enclosed? Yes ☐

Section 2. Type of Application (Instructions Page 26)

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

☐ Publicly-Owned Domestic Wastewater

☒ Privately-Owned Domestic Wastewater

☐ Conventional Wastewater Treatment

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

☐ Active ☒ Inactive

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

☐ TPDES Permit

☒ TLAP

☐ TPDES Permit with TLAP component

☐ Subsurface Area Drip Dispersal System (SADDS)

d. Check the box next to the appropriate application type

☒ New

☐ Major Amendment *with* Renewal

☐ Major Amendment *without* Renewal

☐ Renewal without changes

☐ Minor Amendment *with* Renewal

☐ Minor Amendment *without* Renewal

☐ Minor Modification of permit

e. For amendments or modifications, describe the proposed changes: N/A

f. For existing permits:

Permit Number: WQ00 Click to enter text.

EPA I.D. (TPDES only): TX Click to enter text.

Expiration Date: Click to enter text.

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

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

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

Yancey WSC

(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: 600673578

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

Prefix: Mr. Last Name, First Name: Ince, Mark

Title: Project Engineer Credential: P.E.

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

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

N/A

(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: N/A

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: N/A Last Name, First Name: N/A

Title: N/A Credential: N/A

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

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. A

Section 4. Application Contact Information (Instructions Page 27)

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

A. Prefix: Mr. Last Name, First Name: Mangold, Scooter

Title: General Manager Credential: N/A

Organization Name: Yancey WSC

Mailing Address: P.O. Box 127 City, State, Zip Code: Yancey, TX 78886

Phone No.: 830-741-5264 E-mail Address: yanceywater@yahoo.com

Check one or both: ☒ Administrative Contact ☒ Technical Contact

B. Prefix: Mr. Last Name, First Name: Ince, Mark

Title: Project Engineer Credential: P.E.

Organization Name: Southwest Engineers, Inc.

Mailing Address: 307 St. Lawrence Street City, State, Zip Code: Gonzales, TX 78629

Phone No.: 830-672-7546 E-mail Address: mark.icne@swengineers.com

Check one or both: ☒ Administrative Contact ☒ Technical Contact

Section 5. Permit Contact Information (Instructions Page 27)

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

A. Prefix: Mr. Last Name, First Name: Mangold, Scooter

Title: General Manager Credential: N/A

Organization Name: Yancey WSC

Mailing Address: P.O. Box 127 City, State, Zip Code: Yancey, TX 78886

Phone No.: 830-741-5246 E-mail Address: yanceywater@yahoo.com

B. Prefix: Mr. Last Name, First Name: Ince, Mark

Title: Project Engineer Credential: P.E.

Organization Name: Southwest Engineers, Inc.

Mailing Address: 307 St. Lawrence Street City, State, Zip Code: Gonzales, TX 78629

Phone No.: 830-672-7546 E-mail Address: mark.ince@swengineers.com

Section 6. Billing Contact Information (Instructions Page 27)

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

Prefix: Mr. Last Name, First Name: Mangold, Scooter

Title: General Manager Credential: N/A

Organization Name: Yancey WSC

Mailing Address: P.O. Box 127 City, State, Zip Code: Yancey, TX 78886

Phone No.: 830-741-5264 E-mail Address: yanceywater@yahoo.com

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

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

Prefix: Mr. Last Name, First Name: Mangold, Scooter

Title: General Manager Credential: N/A

Organization Name: Yancey WSC

Mailing Address: P.O. Box 127 City, State, Zip Code: Yancey, TX 78886

Phone No.: 830-741-5264 E-mail Address: yanceywater@yahoo.com

Section 8. Public Notice Information (Instructions Page 27)

A. Individual Publishing the Notices

Prefix: Mr. Last Name, First Name: Ince, Mark

Title: Project Engineer Credential: P.E.

Organization Name: Southwest Engineers, Inc.

Mailing Address: 307 St. Lawrence Street City, State, Zip Code: Gonzales, TX 78629

Phone No.: 830-672-7546 E-mail Address: mark.ince@swengineers.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 permit to be listed in the Notices

Prefix: Mr. Last Name, First Name: Ince, Mark

Title: Project Engineer Credential: P.E.

Organization Name: Southwest Engineers, Inc.

Mailing Address: 307 St. Lawrence Street City, State, Zip Code: Gonzales, TX 78629

Phone No.: 830-672-7546 E-mail Address: mark.ince@swengineers.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: Driscoll Public Library

Location within the building: Meeting Room

Physical Address of Building: 202 E. Hondo Ave.

City: Devine County: Medina

Contact (Last Name, First Name): N/A

Phone No.: 830-663-2993 Ext.: N/A

E. Bilingual Notice Requirements

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

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

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

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

   ☒ Yes ☐ No

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

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

   ☒ Yes ☐ No

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

☐ Yes ☒ No

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

☐ Yes ☒ No

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

F. Plain Language Summary Template

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

Attachment: B

G. Public Involvement Plan Form

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

Attachment: C

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

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

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):

Agape Oaks WWTP

C. Owner of treatment facility: Yancey WSC

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

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

Prefix: N/A Last Name, First Name: N/A

Title: N/A Credential: N/A

Organization Name: Agape Oaks, LLC

Mailing Address: 6727 Wagner Way City, State, Zip Code: San Antonio, TX 78256

Phone No.: N/A E-mail Address: chris@medinaland.com

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: Lease

E. Owner of effluent disposal site:

Prefix: N/A Last Name, First Name: N/A

Title: N/A Credential: N/A

Organization Name: Agape Oaks, LLC

Mailing Address: 6727 Wagner Way City, State, Zip Code: San Antonio, TX 78256

Phone No.: N/A E-mail Address: chris@medinaland.com

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: D

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

Prefix: N/A Last Name, First Name: N/A

Title: N/A Credential: N/A

Organization 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 31)

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

☐ Yes ☐ No

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

N/A

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:

N/A

City nearest the outfall(s): N/A

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

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 32)

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

☒ Yes ☐ No

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

0.76 miles northwest of the intersection of Live Oak Lane and I-35 Frontage Road in Devine, Texas.

B. City nearest the disposal site: Devine

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

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

From a pipe to a 3 acre lake thence to the irrigation site

E. For TLAPs, please identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: From the irrigation site thence to an unnamed tributary of San Francisco Perez Creek, thence to Segment 2108 of San Miguel Creek, thence to Choke Canyon Reservoir, thence to segment 2106 of the Frio River, West of Three Rivers, TX.

Section 12. Miscellaneous Information (Instructions Page 32)

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

☐ Yes ☒ No

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

☐ Yes ☐ No ☒ Not Applicable

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

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: N/A

D. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Account number: N/A

Amount past due: N/A

E. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If yes, please provide the following information:

Enforcement order number: N/A

Amount past due: N/A

Section 13. Attachments (Instructions Page 33)

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

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

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

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

☐ Attachment 1 for Individuals as co-applicants

☒ Other Attachments. Please specify: Attachment F: Signature Authorization

Section 14. Signature Page (Instructions Page 34)

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

Permit Number: Click to enter text.

Applicant: Yancey WSC

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): Mark Ince, P.E.

Signatory title: Project Engineer

Signature: _____ Date: 7-23-24

(Use blue ink)

Subscribed and Sworn to before me by the said Mark A. Ince

on this 23rd day of July, 2024.

My commission expires on the 27th day of March, 2028.

Billy B. Irle

Notary Public *[SEAL]*

Gonzales

County, Texas

BILLY B IRLE
Notary ID #134826964
My Commission Expires
March 27, 2028

DOMESTIC WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

The following information is required for new and amendment applications.

Section 1. Affected Landowner Information (Instructions Page 36)

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

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

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

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

☐ USB Drive ☒ Four sets of labels

D. Provide the source of the landowners' names and mailing addresses: Medina CAD

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):

N/A

Section 2. Original Photographs (Instructions Page 38)

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

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

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

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

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

Section 3. Buffer Zone Map (Instructions Page 38)

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

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

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

☒ Ownership

☐ Restrictive easement

☐ Nuisance odor control

☐ Variance

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

☐ Yes ☒ No

TECHNICAL REPORT

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.0

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

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

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

A. Existing/Interim I Phase

Design Flow (MGD): 0.075

2-Hr Peak Flow (MGD): 0.3

Estimated construction start date: May 2025

Estimated waste disposal start date: July 2025

B. Interim II Phase

Design Flow (MGD): 0.125

2-Hr Peak Flow (MGD): 0.5

Estimated construction start date: June 2025

Estimated waste disposal start date: February 2026

C. Final Phase

Design Flow (MGD): 0.250

2-Hr Peak Flow (MGD): 1.0

Estimated construction start date: March 2030

Estimated waste disposal start date: June 2030

D. Current Operating Phase

Provide the startup date of the facility: N/A

Section 2. Treatment Process (Instructions Page 43)

A. Current Operating Phase

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

finish with the point of discharge. Include all sludge processing and drying units. If more than one phase exists or is proposed, a description of *each phase* must be provided.

See Attachment J

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)
Attachment K		

C. Process Flow Diagram

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

Attachment: L

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

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

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

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

- Latitude: 29.112539
- Longitude: -98.942419

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: M

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

Agape Oaks WWTP will serve approximately +600 dwelling units, 545-acre residential subdivision.

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

Collection System Information

Collection System Name	Owner Name	Owner Type	Population Served
Agape Oaks	Yancey WSC	Privately Owned	2000
		Choose an item.	
		Choose an item.	
		Choose an item.	

Section 4. Unbuilt Phases (Instructions Page 45)

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

☐ Yes ☒ No

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

☐ Yes ☐ No

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

N/A

Section 5. Closure Plans (Instructions Page 45)

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

☐ Yes ☒ No

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

☐ Yes ☐ No

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

N/A

Section 6. Permit Specific Requirements (Instructions Page 45)

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

A. Summary transmittal

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

☐ Yes ☒ No

If yes, provide the date(s) of approval for each phase: N/A

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.

N/A

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.

N/A

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*.

N/A

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.

N/A

3. Grit disposal

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

☐ Yes ☐ No

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

Describe the method of grit disposal.

N/A

4. *Grease and decanted liquid disposal*

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

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

N/A

E. Stormwater management

1. *Applicability*

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

☐ Yes ☒ No

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

☐ Yes ☒ No

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

2. *MSGP coverage*

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

☐ Yes ☐ No

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

TXR05 N/A or TXRNE N/A

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:

N/A

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.

N/A

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.

N/A

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.

N/A

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

F. Discharges to the Lake Houston Watershed

Does the facility discharge in the Lake Houston watershed?

☐ Yes ☒ No

If yes, attach a Sewage Sludge Solids Management Plan. See Example 5 in the instructions.
N/A

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

1. Acceptance of sludge from other WWTPs

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

☐ Yes ☐ No

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

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

N/A

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

2. Acceptance of septic waste

Is the facility accepting or will it accept septic waste?

☐ Yes ☒ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

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

N/A

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

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

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

☐ Yes ☒ No

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

N/A

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

Is the facility in operation?

☐ Yes ☒ No

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

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

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

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

Pollutant	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
$CBOD_5$, mg/l					
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					
E.coli (CFU/100ml) freshwater					
Entercocci (CFU/100ml) saltwater					
Total Dissolved Solids, mg/l					
Electrical Conductivity, µmohs/cm, †					
Oil & Grease, mg/l					
Alkalinity ($CaCO_3$)*, mg/l					

*TPDES permits only
†TLAP permits only

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

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

Section 8. Facility Operator (Instructions Page 50)

Facility Operator Name: Yancey Water Supply Corporation

Facility Operator's License Classification and Level: TBD

Facility Operator's License Number: TBD

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

A. WWTP's Biosolids Management Facility Type

Check all that apply. See instructions for guidance

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

B. WWTP's Biosolids Treatment Process

Check all that apply. See instructions for guidance.

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

C. Biosolids Management

Provide information on the *intended* biosolids management practice. Do not enter every management practice that you want authorized in the permit, as the permit will authorize

all biosolids management practices listed in the instructions. Rather indicate the management practice the facility plans to use.

Biosolids Management

Management Practice	Handler or Preparer Type	Bulk or Bag Container	Amount (dry metric tons)	Pathogen Reduction Options	Vector Attraction Reduction Option
Disposal in Landfill	Off-site Third-Party Handler or Preparer	Bulk	76 TONS PER YEAR	Class B: PSRP Aerobic Digestion	Option 1: Volatile solids reduced by 38%
Choose an item.	Choose an item.	Choose an item.		Choose an item.	Choose an item.
Choose an item.	Choose an item.	Choose an item.		Choose an item.	Choose an item.

If "Other" is selected for Management Practice, please explain (e.g. monofill or transport to another WWTP): N/A

D. Disposal site

Disposal site name: TBD

TCEQ permit or registration number: TBD

County where disposal site is located: TBD

E. Transportation method

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

Name of the hauler: TBD

Hauler registration number: TBD

Sludge is transported as a:

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

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

A. Beneficial use authorization

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

☐ Yes ☒ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

B. Sludge processing authorization

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

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

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

☐ Yes ☐ No

Section 11. Sewage Sludge Lagoons (Instructions Page 53)

Does this facility include sewage sludge lagoons?

☐ Yes ☒ No

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

A. Location information

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

- Original General Highway (County) Map:

  Attachment: N/A
- USDA Natural Resources Conservation Service Soil Map:

  Attachment: N/A
- Federal Emergency Management Map:

  Attachment: N/A
- Site map:

  Attachment: N/A

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: N/A

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:

N/A

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: N/A

Total Kjeldahl Nitrogen, mg/kg: N/A

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

Phosphorus, mg/kg: N/A

Potassium, mg/kg: N/A

pH, standard units: N/A

Ammonia Nitrogen mg/kg: N/A

Arsenic: N/A

Cadmium: N/A

Chromium: N/A

Copper: N/A

Lead: N/A

Mercury: N/A

Molybdenum: N/A

Nickel: N/A

Selenium: N/A

Zinc: N/A

Total PCBs: N/A

Provide the following information:

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

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

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

C. Liner information

Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of $1x10^{-7}$ cm/sec?

☐ Yes ☐ No

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

N/A

D. Site development plan

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

N/A

Attach the following documents to the application.

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

  Attachment: N/A
- Copy of the closure plan

  Attachment: N/A
- Copy of deed recordation for the site

  Attachment: N/A
- Size of the sludge lagoon(s) in surface acres and capacity in cubic feet and gallons

  Attachment: N/A
- Description of the method of controlling infiltration of groundwater and surface water from entering the site

  Attachment: N/A
- Procedures to prevent the occurrence of nuisance conditions

  Attachment: N/A

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: N/A

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

A. Additional authorizations

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

☐ Yes ☒ No

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

N/A

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:

N/A

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

A. RCRA hazardous wastes

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

☐ Yes ☒ No

B. Remediation activity wastewater

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

☐ Yes ☒ No

C. Details about wastes received

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

Attachment: N/A

Section 14. Laboratory Accreditation (Instructions Page 56)

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

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

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

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

CERTIFICATION:

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

Printed Name: Mark Ince, P.E.

Title: Authorized Agent

Signature: _____

Date: 7-23-24

DOMESTIC WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.1

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

Section 1. Justification for Permit (Instructions Page 57)

A. Justification of permit need

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

The proposed treatment facility will serve a new +600 dwelling unit, 545-acre residential subdivision. Construction is tentatively schedules to start around March 2025, with the first homes coming online around June 2025 with an anticipated growth rate of 25 homes per month.

B. Regionalization of facilities

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

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

1. *Municipally incorporated areas*

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

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

☐ Yes ☒ No ☐ Not Applicable

If yes, within the city limits of: N/A

If yes, attach correspondence from the city.

Attachment: N/A

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: N/A

2. *Utility CCN areas*

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

☐ Yes ☒ No

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

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

Attachment: N/A

3. *Nearby WWTPs or collection systems*

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

☒ Yes ☐ No

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

Attachment: N

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

Attachment: N

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

Attachment: N/A

Section 2. Proposed Organic Loading (Instructions Page 59)

Is this facility in operation?

☐ Yes ☒ No

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

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

A. Current organic loading

Facility Design Flow (flow being requested in application): N/A

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

Average Influent Loading (lbs/day = total average flow X average BOD_5 conc. X 8.34): N/A

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

N/A

B. Proposed organic loading

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

Table 1.1(1) – Design Organic Loading

Source	Total Average Flow (MGD)	Influent BOD5 Concentration (mg/l)
Municipality		
Subdivision		
Trailer park – transient		
Mobile home park		
School with cafeteria and showers		
School with cafeteria, no showers		
Recreational park, overnight use		
Recreational park, day use		
Office building or factory		
Motel		
Restaurant		
Hospital		
Nursing home		
Other	0.25	0.25
TOTAL FLOW from all sources	0.25	
AVERAGE BOD_5 from all sources		.025

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

A. Existing/Interim I Phase Design Effluent Quality

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

Total Suspended Solids, mg/l: 5

Ammonia Nitrogen, mg/l: 2

Total Phosphorus, mg/l: 1

Dissolved Oxygen, mg/l: 3

Other: N/A

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: 3

Dissolved Oxygen, mg/l: 1

Other: N/A

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: 1

Dissolved Oxygen, mg/l: 3

Other: N/A

D. Disinfection Method

Identify the proposed method of disinfection.

☐ Chlorine: _ mg/l after _ minutes detention time at peak flow

Dechlorination process:

☒ Ultraviolet Light: 0.9 seconds contact time at peak flow

☐ Other:

Section 4. Design Calculations (Instructions Page 59)

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

Attachment: O

Section 5. Facility Site (Instructions Page 60)

A. 100-year floodplain

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

☒ Yes ☐ No

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

N/A

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

FEMA Map No. 48121Co260G (See Attachment P)

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: N/A

If no, provide the approximate date you anticipate submitting your application to the Corps: N/A

B. Wind rose

Attach a wind rose: Q

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

A. Beneficial use authorization

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

☐ Yes ☒ No

If yes, attach the completed Application for Permit for Beneficial Land Use of Sewage Sludge (TCEQ Form No. 10451): N/A

B. Sludge processing authorization

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

☐ Sludge Composting

☐ Marketing and Distribution of sludge

☐ Sludge Surface Disposal or Sludge Monofill

If any of the above, sludge options are selected, attach the completed Domestic Wastewater Permit Application: Sewage Sludge Technical Report (TCEQ Form No. 10056): N/A

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

Attach a solids management plan to the application.

Attachment: R

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

- Treatment units and processes dimensions and capacities

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

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

DOMESTIC WASTEWATER PERMIT APPLICATION WORKSHEET 3.0: LAND DISPOSAL OF EFFLUENT

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

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

Identify the method of land disposal:

- ☒ Surface application
- ☐ Irrigation
- ☐ Drip irrigation system
- ☐ Evaporation
- ☐ Other (describe in detail): Click to enter text.
- ☐ Subsurface application
- ☐ Subsurface soils absorption
- ☐ Subsurface area drip dispersal system
- ☐ Evapotranspiration beds

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

For existing authorizations, provide Registration Number: N/A

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

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

Table 3.0(1) – Land Application Site Crops

Crop Type & Land Use	Irrigation Area (acres)	Effluent Application (GPD)	Public Access? Y/N
Irrigations use; winter rye and Bermuda grass	134	250,000	N

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

Table 3.0(2) – Storage and Evaporation Ponds

Pond Number	Surface Area (acres)	Storage Volume (acre-feet)	Dimensions	Liner Type
1	3	33	530'x340'x15'	Clay

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

Attachment: X

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

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

☐ Yes ☒ No

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

N/A

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

FEMA Map No. 48121C0260G (See Attachment P)

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

Existing vegetation cover provides silt and velocity control

Section 5. Annual Cropping Plan (Instructions Page 68)

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

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

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

Attach a USGS map with the following information shown and labeled. If not applicable, provide a detailed explanation indicating why. Attachment: T

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

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

Table 3.0(3) – Water Well Data

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

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

Attachment: N/A

Section 7. Groundwater Quality (Instructions Page 69)

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

Attachment: U

Are groundwater monitoring wells available onsite? ☐ Yes ☒ No

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

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

Attachment: N/A

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

A. Soil map

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

Attachment: V

B. Soil analyses

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

Attachment: V

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

Table 3.0(4) – Soil Data

Soil Series	Depth from Surface	Permeability	Available Water Capacity	Curve Number
See Attachment V	6”-30”			

Section 9. Effluent Monitoring Data (Instructions Page 71)

Is the facility in operation?

☐ Yes ☒ No

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

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

Table 3.0(5) – Effluent Monitoring Data

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

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

N/A

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

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

Section 1. Surface Disposal (Instructions Page 72)

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

A. Irrigation

Area under irrigation, in acres: 134

Design application frequency:

hours/day 6 And days/week 7

Land grade (slope):

average percent (%): 0.55%

maximum percent (%): 0.75%

Design application rate in acre-feet/acre/year: 2

Design total nitrogen loading rate, in lbs N/acre/year: 4

Soil conductivity (mmhos/cm): 92

Method of application: spray irrigation using a center pivot sprinkler system

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

Attachment: W

B. Evaporation ponds

Daily average effluent flow into ponds, in gallons per day: N/A

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

Attachment: N/A

C. Evapotranspiration beds

Number of beds: N/A

Area of bed(s), in acres: N/A

Depth of bed(s), in feet: N/A

Void ratio of soil in the beds: N/A

Storage volume within the beds, in acre-feet: N/A

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

Attachment: N/A

D. Overland flow

Area used for application, in acres: N/A

Slopes for application area, percent (%): N/A

Design application rate, in gpm/foot of slope width: N/A

Slope length, in feet: N/A

Design BOD_5 loading rate, in lbs BOD_5/acre/day: N/A

Design application frequency:

hours/day: N/A And days/week: N/A

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

Attachment: N/A

Section 2. Edwards Aquifer (Instructions Page 73)

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

☐ Yes ☒ No

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

☐ Yes ☐ No

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

Attachment: N/A

ATTACHMENT A

TCEQ CORE DATA FORM

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions on completing this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission (*If other is checked please describe in space provided.*)

☒ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.*)

☐ Renewal (*Core Data Form should be submitted with the renewal form*) ☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number *(if issued)*
CN 600673578		RN

SECTION II: Customer Information

4. General Customer Information | 5. Effective Date for Customer Information Updates (mm/dd/yyyy)

☐ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)* | *If new Customer, enter previous Customer below:*

Yancey Water Supply Corporation

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
0044417301	17420008983	74-2000898	

11. Type of Customer: ☒ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

Government: ☒ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees

☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?

☒ Yes ☐ No

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☒ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant ☐ Other:

15. Mailing Address:

P.O. Box 127

City	Yancey	State	TX	ZIP	78886	ZIP + 4	

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*
	yanceywater@yahoo.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*

(830) 741-5264		(830) 741-8009

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Agape Oaks WWTP

23. Street Address of the Regulated Entity: *(No PO Boxes)*								
	City		State		ZIP		ZIP + 4	
24. County	Medina							

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:	0.11 miles north of the intersection of County Road 7612 and Interstate Highway 35 Frontage Road		
26. Nearest City		State	Nearest ZIP Code
Devine		TX	78016

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:	29.099722		28. Longitude (W) In Decimal:	98.945	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	5	50	98	56	54.42

29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)	31. Primary NAICS Code (5 or 6 digits)	32. Secondary NAICS Code (5 or 6 digits)
4952	N/A	221320	N/A

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Wastewater Treatment

34. Mailing Address:	PO Box 127							
	City	Yancey	State	TX	ZIP	78886	ZIP + 4	
35. E-Mail Address:	yanceywater@yahoo.com							

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(830) 741-5264		(830) 741-8009

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☒ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Mark Ince	41. Title:	Senior Engineer

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(830) 672-7546		(830) 672-2034	mark.ince@swengineers.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:	Southwest Engineers, Inc.	Job Title:	Prohect Engineer	
Name *(In Print)*:	Mark Ince, P.E.		Phone:	(830) 672- 7546
Signature:			Date:	7-23-24

ATTACHMENT B

PLAIN LANGUAGE SUMMARY

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PLAIN LANGUAGE SUMMARY FOR TPDES OR TLAP PERMIT APPLICATIONS

Plain Language Summary Template and Instructions for Texas Pollutant Discharge Elimination System (TPDES) and Texas Land Application (TLAP) Permit Applications

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

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

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

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

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

Yancey WSC (CN600673578) proposes to operate Agape Oaks WWTP (N/A), a membrane bioreactor plant. The facility will be located at 0.11 miles north of the intersection of County Road 7612 and I-35 Frontage Rd , in Devine, Medina County, Texas 78016. This is a new application to land applicate 250,000 gallons per day of domestic treated wastewater onto 134 acres . This permit will not authorize a discharge of pollutants into water in the state.

Discharges from the facility are expected to contain five-day biochemical oxygen demand (BOD5), total suspended solids (TSS), ammonia nitrogen (NH3-N), phosphorus (P), and Escherichia coli. Domestic wastewater will be treated by fine screens, equalization basin, anoxic basins, aeration basins, membrane basins, UV contact chambers, and a sludge press.

PLANTILLA EN ESPAÑOL PARA SOLICITUDES NUEVAS/RENOVACIONES/ENMIENDAS DE TPDES o TLAP

AGUAS RESIDUALES DOMESTICAS /AGUAS PLUVIALES

El siguiente resumen se proporciona para esta solicitud de permiso de calidad del agua pendiente que está siendo revisada por la Comisión de Calidad Ambiental de Texas según lo requerido por el Capítulo 39 del Código Administrativo de Texas 30. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no es una representación ejecutiva fedérale de la solicitud de permiso.

Yancey WSC (CN600673578) propone operar Agape Oaks WWTP N/A, un 0.11 millas al norte de la intersección de County Road 7612 y I-35 Frontage Rd . La instalación estará ubicada en Devine, en Medina, Condado de 78016, Texas 78016. Esta es una nueva solicitud para aplicar en tierra 250,000 galones por día de aguas residuales domésticas tratadas en 134 acres. . Este permiso no autorizará una descarga de contaminantes en el agua en el estado.

Se espera que las descargas de la instalación contengan Demanda bioquímica de oxígeno (BOD5) de cinco días, sólidos suspendidos totales (TSS), nitrógeno amoniacal (NH3-N), fósforo (P) y Escherichia coli. . Aguas residuales domésticas . estará tratado por cribas finas, cubetas de ecualización, cubetas anóxicas, cubetas de aireación, cubetas de membrana, cámaras de contacto UV y prensa de lodos. .

ATTACHMENT C

PUBLIC INVOLVMENT PLAN

Texas Commission on Environmental Quality

Public Involvement Plan Form for Permit and Registration Applications

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

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

Section 1. Preliminary Screening

☒ New Permit or Registration Application

☐ New Activity – modification, registration, amendment, facility, etc. (see instructions)

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

Section 2. Secondary Screening

☒ Requires public notice,

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

☒ Located within any of the following geographical locations:

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

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

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

Section 3. Application Information

Type of Application (check all that apply):

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

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

Water Quality

☐ Texas Pollutant Discharge Elimination System (TPDES)

☒ Texas Land Application Permit (TLAP)

☐ State Only Concentrated Animal Feeding Operation (CAFO)

☐ Water Treatment Plant Residuals Disposal Permit

☐ Class B Biosolids Land Application Permit

☐ Domestic Septage Land Application Registration

Water Rights New Permit

☐ New Appropriation of Water

☐ New or existing reservoir

Amendment to an Existing Water Right

☐ Add a New Appropriation of Water

☐ Add a New or Existing Reservoir

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

Section 4. Plain Language Summary

Provide a brief description of planned activities.

Yancey WSC (CN600673578) proposes to operate Agape Oaks WWTP (N/A), a membrane bioreactor plant. The facility will be located at 0.11 miles north of the intersection of County Road 7612 and I-35 Frontage Rd , in Devine, Medina County, Texas 78016. This is a new application to land applicate 250,000 gallons per day of domestic treated wastewater onto 134 acres . This permit will not authorize a discharge of pollutants into water in the state.
Discharges from the facility are expected to contain five-day biochemical oxygen demand (BOD5), total suspended solids (TSS), ammonia nitrogen (NH3-N), phosphorus (P), and Escherichia coli.
Domestic wastewater will be treated by fine screens, equalization basin, anoxic basins, aeration basins, membrane basins, UV contact chambers, and a sludge press.

Section 5. Community and Demographic Information

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

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

(City)

Devine Tx.

(County)

Medina

(Census Tract)

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

☒ City ☐ County ☐ Census Tract

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

65.9%

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

$75,730

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

White - 73.8% Black or African American - 2.9% Asian - 3.1%
Other 9.1% Two or more races - 11.1%

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

Spanish - 42.5% Indo- European languages - 6.0%

(e) Languages commonly spoken in area by percentage

English - 67.1% Spanish - 30.4% Indo- European languages - 2.5%

(f) Community and/or Stakeholder Groups

No Known

(g) Historic public interest or involvement

No Known

Section 6. Planned Public Outreach Activities

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

☒ Yes ☐ No

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

☐ Yes ☒ No

If Yes, please describe.

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

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

☒ Yes ☐ No

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

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

☑ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)

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

☐ Yes ☒ No

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

☐ Yes ☒ No

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

☐ TCEQ Regional Office ☐ TCEQ Central Office

☑ Public Place (specify) Driscoll Public Library

Section 7. Voluntary Submittal

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

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

☐ Yes ☐ No

What types of notice will be provided?

☐ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)

ATTACHMENT D

LEASE AGREEMENT

Tract 4

General Warranty Deed

Date: June 7, 2022

Grantor: Morales Feed Lots, Inc., a Texas corporation

Grantor's Mailing Address:

Morales Feed Lots, Inc.
P.O. Box 488
Devine, TX 78016

Grantee: Agape Oaks, LLC, a Texas Limited Liability Company

Grantee's Mailing Address:

Agape Oaks, LLC
6727 Wagner Way
San Antonio, Texas 78256-2346

Consideration: Cash and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged.

Property (including any improvements):

Tract A:

784.65 acres in the name of Morales Feed Lots, Inc. out of the following surveys; B, S. & F. SURVEY NO.15, ABSTRACT NO. 149; J. SPEED SURVEY NO. 16, ABSTRACT NO. 1340; J. SPEED SURVEY NO. 16-1/2, ABSTRACT NO. 1236; J. HILLEN MEYER SURVEY NO. 26, ABSTRACT NO. 498; J. HALLER SURVEY NO. 37, ABSTRACT NO. 519; J. TREVINO SURVEY NO. 551, ABSTRACT NO. 942; Medina County, Texas, and being out of and a portion of that 975.550 acres described in UCC Financing Statement in Document No. 2015001252, Official Public Records; LESS AND EXCEPT therefrom 0.021 acre conveyed out of said 975.550 acre parent tract to Series 7 of DLRH Holdings, LLC by deed recorded in Document No. 2022000329, Official Public Records, Tract 2; and said 784.65 acre tract being more particularly described by metes and bounds, with bearings based on Geodetic North by GPS observations, in Exhibit "A" attached hereto and made a part hereof for all purposes.

Tract B:

Lots 1-4, Lots 6-12 and Lots 15-16 of Agape South, an Addition in Medina County, Texas, including the Private Road according to the map or plat thereof recorded in Document No. 2021008423, Plat Cabinet 31 Slide 974, of the Plat Records of Medina County, Texas, SAVE AND EXCEPT and excluded from this conveyance the following lots having been previously conveyed: Lot Nos. 6, 13, and 14.

Reservations from Conveyance: None

Exceptions to Conveyance and Warranty:

To the extent they validly exist:

1. Easements and Rights-of-Way to Central Power and Light Company of record In Volume 117, Page 418, Volume 118, Page 47 and Volume 118, Page 48, Deed Records of Medina County, Texas.

2. Easements and Rights-of-Way to Southwestern Bell Telephone Company of record in Volume 176, 140, Volume 176, Page 177, Volume 176, Page 178, Volume 176, Page 323, Volume 176, Page 412, Volume 176, Page 581 and Volume 222, Page 225, Deed Records of Medina County, Texas.

3. Channel Easements to the State of Texas of record in Volume 208, Page 678 and Volume 211, Page 265, Deed Records of Medina County, Texas.

4. Right-of-Way Easement granted to Medina Electric Cooperative. Inc. by Instruments of record in Volume 251, Page 506 and Volume 288, Page 890, Deed Records of Medina County, Texas.

5. Right-of-Way Easement granted to Medina Electric Cooperative, Inc. by Instrument of record in Volume 248, Page 503, Deed Records of Medina County, Texas.

6. Right-of-Way Easement granted to Medina Electric Cooperative. Inc. by instrument of record in Volume 147, Page 513. Official Public Records of Medina County, Texas.

7. Electric Distribution Power Line Easement granted to Medina Electric Cooperative, Inc. as set out in instrument recorded in Volume 300, Page 593, Official Public Records of Medina County, Texas.

8. Right-of-Way Easement as set out in instrument recorded in Volume 606, Page 103, Official Public Records of Medina County, Texas.

Tract B Only:

9. Terms and provisions of the Declaration for Agape South Architectural Control Committee regarding assessment liens, recorded In Document No. 2021010884, Official Public Records of Medina County, Texas.

10. Restrictive Covenants and all terms, provisions, covenants, agreements, rights, dedications, easements, building setback lines, restrictions and conditions, as set out in Document No. 2021008423, Plat Cabinet 3, Slide 974, of the Plat Records of Medina County, Texas; and Document No. 2021010884, Official Public Records of Medina County, Texas.

11. Right-of-Way as shown in instrument from Morales Feed Lots, Inc. to Medina Electric Cooperative, Inc. dated July 29, 2021, recorded under Clerk's File No. 2021008763, Official Public Records Records of Medina County, Texas.

Grantor, for the Consideration and subject to the Reservations from Conveyance and the Exceptions to Conveyance and Warranty, grants, sells, and conveys to Grantee the Property, together with all and singular the rights and appurtenances thereto in any way belonging, to have and to hold it to Grantee and Grantee's heirs, successors, and assigns forever. Grantor binds Grantor and Grantor's heirs and successors to warrant and forever defend all and singular the Property to Grantee and Grantee's heirs, successors, and assigns against every person whomsoever lawfully claiming or to claim the same or any part thereof, except as to the Reservations from Conveyance and the Exceptions to Conveyance and Warranty.

The provisions of the Ernest Money Contract dated effective April 4, 2022, and Addendum attached thereto shall survive closing.

When the context requires, singular nouns and pronouns include the plural.

Morales Feed Lots, Inc., a Texas corporation,

Ernest Morales, President & Secretary

STATE OF TEXAS)

COUNTY OF MEDINA)

This instrument was acknowledged before me on June 7, 2022, by Ernest Morales, as the President & Secretary of Morales Feed Lots, Inc., a Texas corporation, on behalf of said corporation.

Notary Public, State of Texas
My commission expires: _____

DARLENE BAXTER
Notary ID #5260914
My Commission Expires
June 10, 2022

Agreed and Accepted:

Agape Oaks, LLC, a Texas Limited Liability Company

By: Samuel H. Vester Jr.
Samuel H. Vester, Jr., as Manager of TSJ Management, LLC, general partner of TSJ Properties, LTD, Managing Member

STATE OF TEXAS)

COUNTY OF MEDINA)

This instrument was acknowledged before me on June 7, 2022, by Samuel H. Vester, Jr. as Manager of TSJ Management, LLC, general partner of TSJ Properties, Ltd. Managing Member of Agape Oaks, LLC., on behalf of said Company

DARLENE BAXTER
Notary ID #5260914
My Commission Expires
June 10, 2022

Darlene Baxter
Notary Public, State of Texas
My commission expires: _____

PREPARED IN THE OFFICE OF:

Thomas J. Rothe, P.C.
1510 Avenue M, Suite 101
Hondo, Texas 78861
Tel: (830) 741-4141
Fax: (830) 426-4141

AFTER RECORDING RETURN TO: AFTER RECORDING RETURN TO:
Texas Heritage [illegible]company
1614 [illegible]
Hondo, Texas 78861

Law Office of Anna Wharton
808 London Street #2
Castroville, Texas 78009

Continuation of Schedule A

GF No. 22-0404ME1

4. Legal description of land:
Tract A

784.65 acres in the name of Morales Feed Lots, Inc. out of the following surveys;

B. S. & F. SURVEY NO. 15, ABSTRACT NO. 149; J. SPEED SURVEY NO. 16, ABSTRACT NO. 1340; J. SPEED SURVEY NO. 16-1/2, ABSTRACT NO. 1236; J. HILLENMEYER SURVEY NO. 26, ABSTRACT NO. 498; J. HALLER SURVEY NO. 37, ABSTRACT NO. 519; J. TREVINO SURVEY NO. 551, ABSTRACT NO. 942;

Medina County, Texas, and being out of and a portion of that 975.550 acres described in Exhibit "A" of UCC Financing Statement in Document No. 2015001252, Official Public Records; LESS AND EXCEPT therefrom 0.021 acre conveyed out of said 975.550 acre parent tract to Series 7 of DLRH Holdings, LLC by deed recorded in Document No. 2022000329, Official Public Records, Tract 2; and said 784.65 acre tract being more particularly described by metes and bounds, with bearings based on Geodetic North by GPS observations, as follows:

COMMENCING at an iron rod found at a fence corner on the northwest line of Interstate Highway 35 for the south corner of said 975.550 acre parent tract, also being the south corner of Agape South Subdivision, Plat Cabinet 3, Slide 974, Plat Records, and also being the east corner of that 994.363 acre tract to NAFTA Freeway Joint Venture in Volume 593, Page 365, Official Public Records;

THENCE northeasterly along the northwest line of IH 35 and southeast line of Agape South and of said parent tract the following 3 courses:

N 48°52'03" E 40.38 feet to a broken concrete monument for an angle point;
N 44°43'39" E 200.56 feet to a concrete monument for an angle point;
And N 49°01'04" E 666.82 feet to an iron rod found for the east corner of said Agape South Subdivision and the south corner and POINT OF BEGINNING of the herein described 784.65 acre tract (Tract A);

THENCE northwesterly along the north line of Agape South the followings 2 courses:

N 40°55'13" W 1173.60 feet to an iron rod found for angle point;
N 77°24'07" W 1359.82 feet to an iron rod found in fence on the west line of said parent tract and east line of said NAFTA tract for the northwest corner of Agape South and a southwest corner of this tract;

THENCE N 04°29'06" E along the west line of said parent tract and east line of said NAFTA tract, generally along a fence, 4495.25 feet to a fence corner post for the northeast corner of said NAFTA tract an interior corner of said parent tract, and an angle point in the south line of that 76.39 acre tract conveyed from Morales Feed Lots to KEVIN & LUCRETIA MARMOR in Document No. 2021001517, Official Public Records, for a northwest corner of this tract;

THENCE S 84°12'59" E along the south line of said Marmor tract 274.88 feet to a 10 inch fence corner post for the southeast corner of said Marmor tract and an interior corner of this tract;

THENCE N 04°22'13" E along the east line of said Marmor tract 1384.93 feet to an iron rod set at a fence corner on a north line of said parent tract, and south line of that 858.52 acre tract conveyed to SERIES 7 OF DRLH HOLDINGS, LLC in Document No. 2019003329, Official Public Records for the northeast corner of said Marmor tract and a northwest corner of this tract;

THENCE S 85°47'04" E along the north line of said parent tract and south line of said Series 7 tract 2469.93 feet to an iron rod found at a fence corner for the southeast corner of said Series 7 tract and an interior corner of said parent tract and this tract;

THENCE N 04°16'04" E along the east line of Series 7 tract and west line of said parent tract 1958.36 feet to an iron rod found for the southwest corner of a 60 foot wide roadway tract conveyed to SERIES 7 OF DRLH HOLDINGS, LLC in

Continuation of Schedule A

GF No. 22-0404MEI

Document No. 2019003329, Official Public Records for the northwest corner of this tract;

THENCE easterly along the south line of said 60 foot roadway tract the followings 2 courses:

S 85°18'37" E 734.00 feet to an iron rod found for angle point;
S 85°24'55" E 144.18 feet to an iron rod set for the west corner of said 0.021 acre tract conveyed to Series 7 of DRLH Holdings, LLC to adjust the common boundary to the existing fence line;

THENCE easterly along a fence the following 2 courses:

S 85°07'09" E 395.73 feet to a 2 inch pipe fence post for an angle point;
S 85°43'06" E 641.66 feet to an iron rod set for the east corner of said 0.021 acre tract for an angle point;

THENCE S 85°36'33" E along the south line of said 60 foot roadway tract 642.56 feet to an iron rod found for an interior corner of said roadway tract and a northeast corner of this tract;

THENCE S 04°12'27" W along the west line of said roadway tract 2961.83 feet to an iron rod found in fence for the northwest corner of that 13.452 acre tract to Rosa F. Moreno in Document No. 2017002919, Official Public Records for an upper southeast corner of this tract;

THENCE N 86°11'20" W along the north line of said Moreno tract 1366.02 feet to an iron rod found for the northwest corner of said Moreno tract and an interior corner of this tract;

THENCE S 04°19'58" W along the west line of said Moreno tract 361.08 feet to an iron rod found near a fence for the southwest corner of said Moreno tract, an interior corner of this tract;

THENCE S 86°11'17" E along the south line of said Moreno tract 187.14 feet to an iron rod found for the northwest corner of a 30 foot wide roadway tract of Moreno;

THENCE S 01°51'43" W along the west end of said 30 foot roadway 30.02 feet to an iron rod found for the southwest corner of said 30 foot roadway;

THENCE easterly and southerly along the south and west lines of said 30 foot roadway of Moreno the following 15 courses:

S 86°08'57" E 430.75 feet to an iron rod found;
S 86°11'04" E 387.68 feet to an iron rod set;
S 80°09'48" E 50.16 feet to an iron rod set;
S 63°32'34" E 89.81 feet to an iron rod set;
S 52°30'13" E 60.18 feet to an iron rod set;
S 30°20'13" E 57.33 feet to an iron rod set;
S 08°27'34" E 61.23 feet to an iron rod set;
S 00°18'56" E 242.27 feet to an iron rod set;
S 02°42'30" E 1236.43 feet to an iron rod set;
S 06°41'16" E 38.52 feet to an iron rod set;
S 17°23'04" E 31.70 feet to an iron rod set;
S 23°04'14" E 252.16 feet to an iron rod set;
S 28°06'43" E 45.09 feet to an iron rod set;
S 38°57'14" E 45.09 feet to an iron rod set;
S 44°13'28" E 45.71 feet to an iron rod set on the northwest line of IH 35 for the southwest corner of said 30 foot roadway tract and a lower southeast corner of this tract;

THENCE southwesterly along the northwest line of IH 35 the following 6 courses;

Continuation of Schedule A

GF No. 22-0404MEI

S 46°07'47" W 117.38 feet to a concrete monument for an angle point;
S 48°59'58" W 999.29 feet to a concrete monument for an angle point;
S 44°45'55" W 201.43 feet to a concrete monument for an angle point;
S 49°01'08" W 1600.83 feet to a concrete monument for an angle point;
S 53°14'09" W 199.63 feet to a concrete monument for an angle point;
And S 49°01'35" W 1733.86 feet to the POINT OF BEGINNING.

NOTE: THE COMPANY IS PROHIBITED FROM INSURING THE AREA OR QUANTITY OF LAND DESCRIBED HEREIN. ANY STATEMENT IN THE ABOVE LEGAL DESCRIPTION OF THE AREA OR QUANTITY OF LAND IS NOT A REPRESENTATION THAT SUCH AREA OR QUANTITY IS CORRECT, BUT IS MADE ONLY FOR INFORMATIONAL AND/OR IDENTIFICATION PURPOSES AND DOES NOT OVERRIDE ITEM 2 OF SCHEDULE B HEREOF.

Tract B

All of Agape South, an Addition in Medina County, Texas,includng the Private Road according to the map or plat thereof recorded in Document No. 2021008423, Plat
Cabinet 3, Slide 974, of the Plat Records of Medina County, Texas, SAVE AND EXCEPT the following lots having been previously conveyed: Lot Nos. 6, 13, and 14.

VG-97-2022-2022006078

Medina County
Gina Champion
Medina County Clerk

Instrument Number: 2022006078

Real Property Recordings

Recorded On: June 08, 2022 03:04 PM

Number of Pages: 9

" Examined and Charged as Follows: "

Total Recording: $54.00

********** THIS PAGE IS PART OF THE INSTRUMENT **********
Any provision herein which restricts the Sale, Rental or use of the described REAL PROPERTY because of color or race is invalid and unenforceable under federal law.

File Information:

Document Number:	2022006078
Receipt Number:	20220608000053
Recorded Date/Time:	June 08, 2022 03:04 PM
User:	Santiago E
Station:	CCMARRIAGE1

Record and Return To:

TEXAS HERITAGE TITLE COMPANY

STATE OF TEXAS
Medina County
I hereby certify that this Instrument was filed in the File Number sequence on the date/time printed hereon, and was duly recorded in the Official Records of Medina County, Texas

Gina Champion
Medina County Clerk
Medina County, TX

AMENDMENT NO. 1 TO
LAND USE LICENSE AGREEMENT

THIS AMENDMENT NO. 1 TO THE LAND USE LICENSE AGREEMENT ("Amendment No. 1") is entered and executed by and between Agape Oaks, LLC, a Texas limited liability company ("Agape"), and Yancey Water Supply Corporation, a Texas non-profit water supply corporation ("Yancey") (Agape and Yancey are each a "Party," and collectively, "Parties"), and shall be made and effective on the Effective Date, which date shall be the date upon which this Amendment No. 1 has been signed and executed by both the Parties.

RECITALS

WHEREAS, the Parties have entered the Land use Licenses Agreement ("Agreement"), bearing the Effective Date of April 9, 2024;

WHEREAS, the Agreement provides Yancey with a non-exclusive, non-transferable license to use the land situated within Agape Oaks Subdivision ("Land") for the sole purposes of land application of sewage effluent in accordance with 30 Texas Administrative Code § 309.20 ("TLAP License"), effluent storage ("Storage License"), and use of roads and easements now existing or existing in the future to access Yancey's facilities and the Land ("Access License");

WHEREAS, the Parties now desire to modify the boundaries within which Yancey shall be licensed to use for the purposes of land application of sewage effluent in accordance with the TLAP License; and

WHEREAS, Section 8 of the Agreement provides that the Agreement may be modified by written agreement executed by the Parties.

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

AMENDMENT NO. 1

Section 1 of the Agreement is hereby repealed in its entirety, and replaced with the following language:

License Grant: Agape hereby grants to Yancey a non-exclusive, non-transferable license to use the land situated within Agape Oaks Subdivision, more particularly described as "Tract A" in that June 7, 2022, General Warranty Deed from Moreles Feed Lots, Inc to Agape Oaks, LLC, and recorded in the Official Deed Records of Medina County, Texas as Document No. 2022006078, incorporated by reference, ("Land") for the sole purposes of the land application of sewage effluent in accordance with 30 Texas Administrative Code § 309.20 ("TLAP License"), effluent storage ("Storage License"), and use of roads and easements now existing or existing in the future on the Land to access Yancey's facilities and the Land ("Access License"). Yancey's licenses as described in this section shall extend to the area described on the attached Agape

Oaks Wastewater Treatment Plant map as the "Effluent Disposal Boundary," attached hereto as Exhibit "A" and incorporated by reference.

a) Yancey's TLAP License shall be confined to those areas characterized as the residential lawns, recreational and park land, green belts, greens space, undeveloped land, agricultural land, and the Effluent Disposal Boundary.

b) Yancey's Storage License shall be confined to that area characterized as the Proposed 33-Acre "Holding Pond" on Exhibit "A."

Section 14 of the Agreement is hereby repealed in its entirety, and replaced with the following language:

Entire Agreement: The Agreement as amended by this Amendment No. 1 constitutes the entire understanding and agreement between the parties with respect to the subject matter hereof and supersedes all prior negotiations, understandings, and agreements, whether written or oral, between the parties with respect thereto, provided however that this Agreement as amended my Amendment No. 1 shall have not effect on the Surface Lease Agreement, effective January 5, 2024 by and between the Parties.

Section 15 of the Agreement is hereby repealed in its entirety, and replaced with the following language:

Counterparts. This Agreement and any amendments thereto may be executed in any number of counterparts, each of which, when executed and delivered, shall be deemed to be an original instrument, but such counterparts shall together constitute one and the same instrument.

(This space is intentionally left blank.)

EXECUTED to be effective on the date signed by both Parties, and the Effective Date shall be the date of the last signature obtained.

Agape Oaks, LLC, a Texas limited liability company

By: Tomasa Torres

Name: Tomasa Torres

Title: manager

THE STATE OF TEXAS §

§

COUNTY OF MEDINA §

This instrument was acknowledged before me on the 13 day of August, 2024, by Tomasa Torres, of Agape Oaks, LLC, a Texas limited liability company, on behalf of said company.

(Seal)

CHERYL SCHOTT
Notary ID #128636145
My Commission Expires
May 2, 2026

Cheryl Schott

Notary Public in and for the State of Texas

My commission expires: May 2, 2026

Yancey Water Supply Corporation, a
Texas non-profit corporation,

By: Temple Mangold

Temple Mangold
General Manager

THE STATE OF TEXAS §

§

COUNTY OF MEDINA §

This instrument was acknowledged before me on the 15 day of August 2024 by Temple Mangold, General Manager of Yancey Water Supply Corporation, a Texas non-profit corporation, on behalf of said corporation.

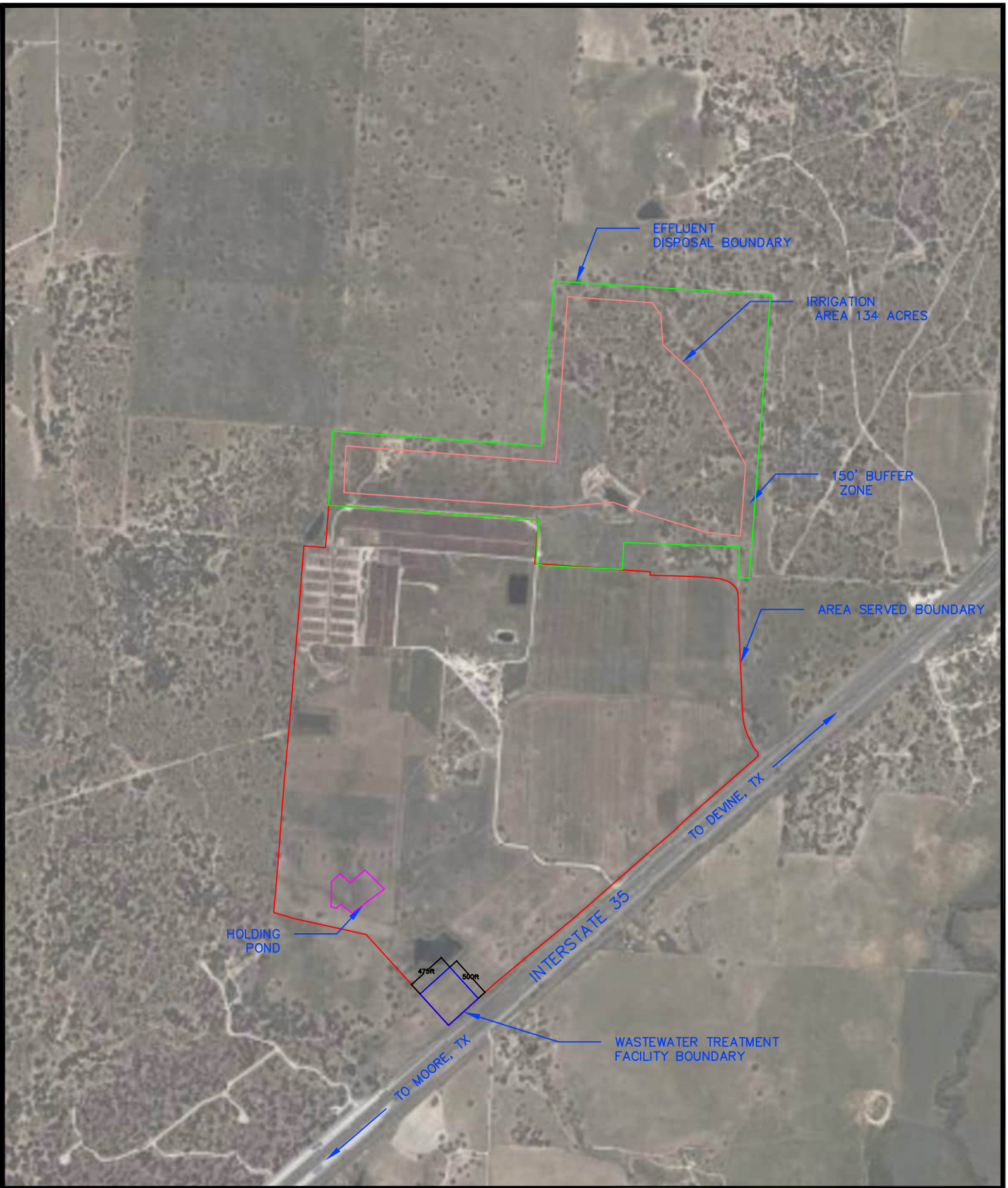
(Seal)

CHERYL SCHOTT
Notary ID #128636145
My Commission Expires
May 2, 2026

Cheryl Schott

Notary Public in and for the State
of Texas

My commission
expires: May 2, 2026



SCALE: NO SCALE

DRAWN BY: JMT DATE: 03/24

CHECKED BY: MAI DATE: 03/24

FILE: 0339-032-22

EXHIBIT A

AGAPE OAKS WASTE WATER TREATMENT PLANT

AGAPE OAKS

YANCEY, TEXAS

Southwest Engineers
TBPE NO. F-1909
www.swengineers.com

GONZALES
307 Saint Lawrence Street
P: 830.672.7546 F:830.672.2034

BUDA
205 Cimarron Park Loop, Ste. B
P: 512.312.4336

BASTROP
704 Main Street, #101
P: 512.312.4336

SURFACE LEASE AGREEMENT

THIS SURFACE LEASE AGREEMENT ("Agreement") is made and entered into on the Effective Date stated in Article One by the undersigned parties in their respective capacities and is a lease of the Premises until the termination date of this Agreement. Nothing in this Agreement shall be construed to be the sale of any tangible or intangible property.

ARTICLE ONE
TERMS

Effective Date:	January 5, 2024
Lessor:	Agape Oaks, LLC, a Texas limited liability company
Lessor's Address:	6727 Wagner Way, San Antonio, Texas 78256
Lessee:	Yancey Water Supply Corporation, a Texas non-profit water supply corporation
Lessee's Mailing Adress:	P.O. Box 127, Yancey, Texas 78886
Premises:	A rectangular tract of real property measuring 475 feet x 500 feet, the southwestern-most and southeastern-most boundaries of which form the southeastern corner of the Agape Oaks Subdivision, said southwestern most boundary running 500 feet perpendicular from Interstate Highway 35 in a northwesterly direction along the northwestern boundary of the Agape South Subdivision, Plat Cabinet 3, Slide 974, Document No. 2021008423 of the Plat Records of Medina County, Texas, and said southwestern-most boundary running 475 feet northeast from the southeastern corner of Agape Oaks Subdivision along the northwest line of Interstate Highway 35 ("Premises"). The Premises' location is depicted on the Exhibit "A," attached hereto and incorporated by reference.
Permitted Use:	Lessee may, but is not obligated to, use the Property to construct, operate, and maintain a wastewater treatment plant and appurtenant facilities, wastewater collection lines and any other necessary utilities (collectively the "WWTP").
Utility Easements:	Lessor agrees to grant Lessee any and all easements on and throughout the Premises and the Agape Oaks Subdivision required to connect the wastewater treatment plant and appurtenant facilities, including any and all wastewater collection lines ("Utility Easements").
Other Easements and Access Agreements:	Lessor agrees to execute and grant any future easements or access agreements required by Lessor in its provision of retail wastewater services to the Agape Oaks Subdivision and surrounding areas, including over any adjacently located land to be used for a detention pond.
Rent (Monthly):	Rent shall be ten dollars ($10.00) per month, beginning on the Effective Date. Payment shall be made on an annual basis, with the initial payment due on the Effective Date, and subsequent payments made on the 1st day of January for the year prior to the twelve-month period for which the rent is due.
Commencement Date:	The "Commencement Date," shall be January 5, 2024.
Termination Date:	This Agreement shall automatically terminate upon the earlier of (1) the conveyance of the Property by deed from Lessor to Lessee, (2) agreement in writing by the Parties, (4) under 4.03 of this Agreement; or (3) December 31, 2029, unless otherwise agreed in writing ("Termination Date").

ARTICLE TWO
DEFINITIONS AND INTERPREATION

2.01. Definitions. The following words and terms will have the following meanings unless the context dictates otherwise:

"Best Efforts" means the efforts that a prudent person would use in similar circumstances to ensure that the person achieves a result as expeditiously as possible, provided, however, that an obligation to use Best Efforts under this Agreement does not require the person subject to that obligation to take actions that would result in a materially adverse position for that person.

"Environmental Law" means any legal requirements designed to minimize, prevent, punish, or remedy the consequences of actions that damage or threaten the environment or public health and safety.

"Force Majeure" means and refers to acts of God; strikes, lockouts, or other industrial disturbances; acts of public enemies; orders of any kind of the government of the United States, the State of Texas, or any civil or military authority; insurrections; riots; epidemics; landslides; lightning, earthquakes; fires; hurricanes; storms; floods; washouts; droughts; arrests; restraint of government and people; civil disturbances; explosions; breakage or accidents to machinery, pipelines, pumps, canals, or other facilities; partial or entire failure of the wastewater system; or any other cause not reasonably within the control of the party claiming such inability.

"Lessee" means Lessee and its agents, employees, invitees, licensees, or visitors.

"Lessor" means Lessor and its agents, employees, invitees, licensees, or visitors.

"Municipal Domestic Wastewater Permit" means a permit authorizing a Texas Pollutant Discharge Elimination System or a Texas Land Application Permit issued by the Texas Commission on Environmental Quality.

"Party" means Lessor or Lessee depending on context, and *"Parties"* means Lessor and Lessee.

"Rent" means base rent plus any other sums of money due Lessor from Lessee.

2.02. Article and Section Headings. The headings or titles of the articles and sections of this Agreement are solely for convenience of reference and shall not affect the meaning, construction, or effect of its provisions.

2.03. Interpretations. The singular form of any word used in this Agreement shall include the plural, and vice-versa, unless the context requires otherwise. The use of a word of any gender in this Agreement shall include the other gender, unless the context requires otherwise. This Agreement and all of its terms and provisions shall be construed under the laws of the State of Texas and in a manner so as to effectuate its purposes as stated in the recitals to this Agreement and to sustain its validity.

ARTICLE THREE
LESSEE AND LESSOR OBLIGATIONS AND RESTRICTIONS

3.01. Lessee's Obligations. Lessee agrees to:

1) Lease the Premises for the entire term beginning on the Commencement Date and ending on the Termination Date.
2) Accept the Premises in their present condition "as is."
3) Obey all laws, ordinances, orders, and rules and regulations applicable to the use, condition, and occupancy of the Premises.
4) Pay the Rent in accordance with the pay schedule as established in the Rent paragraph above.
5) Pay a late charge of five (5) percent of any rent that Lessor does not receive by the twelfth day of the month in which it is due.
6) Be responsible for repairs, replacements, and maintenance as specified in section 4.11.
7) Maintain property and casualty insurance and general commercial liability insurance as specified in section 4.18.
    a. Deliver certificates of insurance to Lessor before the Commencement Date and thereafter when Lessor requests or requires.
    b. Indemnify, defend, and hold Lessor harmless from any loss, attorneys' fees, expenses, or claims arising out of Lessee's use of the Premises.
8) Quickly and promptly vacate the Premises and return to Lessor all keys to the Premises upon termination of this Agreement.
9) On request, execute an estoppel certificate that states the Commencement and Termination Dates of the Agreement, identifies any amendments to the Agreement, describes any rights to extend the lease term or purchase rights, lists defaults by Lessor, and provides any other information reasonably requested.

10) Pay all utility bills for the Premises, including without limitation: electric, gas, water, sewage, garbage, and telephone.

3.02. Lessee's Restrictions. Lessee agrees not to:

1) Use the Premises for any purpose other than that is stated in this Agreement without Lessor's prior written consent.
2) Create a nuisance; interfere with any other Lessee's normal business operations or Lessor's management of the surface estate or Lessor's adjacent property; permit any waste; or use the Premises in any way that is extra hazardous, would increase insurance premiums, or would void insurance on the Premises.
3) Assign this Agreement without Lessor's prior express written consent.
4) Sublease the Premises or any portion of the Premises without Lessor's prior express written consent. Lessee, however, may sublease the Premises or any portion of the Premises to an entity that Lessee owns or controls without Lessor's prior written consent.
5) Open accounts in Lessor's name.

3.03. Lessor's Obligations. Lessor agrees to:

1) Lease to Lessee the Premises for the entire term beginning on the Commencement Date and ending on the Termination Date.
2) Obey all laws, ordinances, orders, and rules and regulations applicable to the use, condition, and occupancy of the Premises.
3) Allow Lessee to remove all personal property, additions, and fixtures, including buildings and any chain link fences that Lessee may have erected during the terms of this Agreement, at the termination of this Agreement.
4) Execute any easements or access agreements, including Utility Easements, required by Lessor in its provision of retail wastewater services to the Agape Oaks Subdivision and surrounding areas, including over any adjacently located land to be used for a detention pond.

3.04. Lessor's Restrictions. Lessor agrees not to interfere with Lessee's possession of the Premises as long as Lessee is not in default.

ARTICLE FOUR
GENERAL PROVISIONS

4.01. Term. The term of this Agreement shall begin on the Commencement Date and shall continue in effect until the Termination Date.

4.02. Option to Renew. Before the termination of this Agreement, Lessee at its sole option, may renew this Agreement for an additional thirty (30) years, under the same terms and conditions set forth in this Agreement by providing Lessor with written notice of Lessee's exercise of this option at least thirty (30) days prior to the Termination Date.

4.03. Termination of the Agreement.

1) Lessee may terminate this Agreement upon the expiration of 30 days following a written notice to the Lessor for any reason, provided however that Lessee agrees that Lessee may not terminate this Agreement absent Lessor's Default (as defined by 4.13(1), below) or by a written agreement between the Parties, at any time after a Municipal Domestic Wastewater Permit has been issued by the Texas Commission on Environmental Quality for the WWTP.

2) Lessee may terminate this Agreement upon the failure or refusal of Lessor to cure Lessor's Default (as defined by 4.13(1), below) after 30 days following the issuance of a written Notice (as defined by 6.12, below), provided however that Lessee may not terminate this Agreement if Lessor cures or initiates a cure to Lessor's Default within 30 days of the Notice. The Notice must state the nature of Lessor's Default, identify any of the terms, conditions, or provisions of this Agreement under which Lessee is in Default, and comply with 6.12 of this Agreement.

3) Lessor may terminate this Agreement upon the expiration of 30 days following a written notice to the Lessee for any reason, provided however that Lessor agrees that Lessor may not terminate this Agreement absent Lessee's Default (as defined by 4.13(2), below) or by a written agreement between the Parties, at any time after a Municipal Domestic Wastewater Permit has been issued by the Texas Commission on Environmental Quality for the WWTP.

4) Lessor may terminate this Agreement upon the failure or refusal of Lessee to cure Lessee's Default (as defined by 4.13(3), below) after 30 days following the issuance of a written Notice (as defined by 6.12, below), provided however that Lessor may not terminate this Agreement if Lessee cures or initiates a cure to Lessee's Default within 30 days of the Notice. The Notice must state the nature of Lessee's Default, identify any of the terms, conditions, or provisions of this Agreement under which Lessee is in Default, and comply with 6.12 of this Agreement.

4.04. Alterations and Restoration.

1) Lessee may, at its sole discretion, design and construct the WTTP and any other facilities, improvements, structures, fences, fixtures or other WTTP components, reasonably necessary to provide continuous and adequate retail wastewater services to the Agape Oaks Subdivision and surrounding areas ("Lessee's Improvements"), on the Premises. However, nothing in this Agreement shall be construed to obligate Lessee to construct any facilities whatsoever on the Premises. The Parties understand and agree that Lessee has no intentions of constructing a WTTP on the Premises until such time after the Lessee has acquired requisite permits and approvals from the Texas Commission on Environmental Quality and the Public Utility Commission of Texas, and after Lessor has conveyed fee simple title to the Premises to the Lessee.
2) All of Lessee's Improvements will convey to the Lessee with the Premises upon the fee simple conveyance of the Premises to the Lessee, which the Parties anticipate will occur prior to December 31, 2029.
3) If Lessor terminates the Agreement in accordance with section 4.03(1), Lessee's Improvements shall automatically convey to Lessee, and become the property of Lessee unless Lessee rejects ownership by giving Lessor written notice specifying the property rejected, and Lessor shall immediately execute and deliver any requisite conveyance documents, including a deed to all real property improvements attached to the Premises at the time of termination, and an exclusive access easement to and over the entire Premises to Lessee for so long as the Premises are used to provided retail wastewater service to the Agape Oaks Subdivision.
4) If Lessee terminates the Agreement in accordance with section 4.03(2) of this Agreement, Lessee, at termination of this Agreement and at Lessee's expense, may at its sole option, remove any personal property and fixtures Lessee has installed on the Premises. Except as provided below, Lessee shall have no obligation to restore the Premises to the condition existing at the Commencement Date.
5) Within a reasonable time, (but in no event more than (60) days) after this Agreement expires or terminates, Lessee shall fill all pits and other excavations and shall level off all mounds that Lessee has made upon the Premises. Lessee shall remove all debris and rubbish that Lessee has placed upon the Premises and shall restore the surface of the Premises to as near its original condition as is practicable.
6) Lessee agrees to leave all structures, roads and culverts placed on the Premises upon Lessee's vacation of the Premises.

4.05. Subject to Restrictions. Lessee makes and accepts this Agreement subject to all restrictions, covenants, conditions, rights of way, easements, and oil, gas, and other mineral reservations or leases, if any, affecting the Premises that are valid, existing, and properly of record.

4.06. Limitation of Mineral Rights. This Agreement does not grant Lessee any mineral rights; all mineral rights are reserved in Lessor.

4.07. Assignment and Sublease. Lessee shall not assign or sublet the Premises without Lessor's prior written consent.

4.08. Abatement. Lessee's covenant to pay rent and Lessor's covenants are independent of each other. Except as otherwise provided, Lessee shall not be entitled to abate rent for any reason.

4.09. Hold Harmless. Lessee will indemnify and hold harmless Lessor against any claim or suit for damages that any person or legal entity brings against Lessor, as a result of Lessee's activities or operations under or in connection with the terms of this Agreement for any personal injury or property damage or other injury or loss and any expenses incurred in connection with the defense against or the preparation for the defense against any such claims or suit.

4.10. Condemnation.

1) Termination. If the Premises cannot be used for the purposes contemplated by this Agreement because of condemnation or purchase in lieu of condemnation, this Lease will terminate.
2) Right to Award or Proceeds. In the event of condemnation or purchase in lieu of condemnation Lessee shall have a claim to any condemnation award or proceeds in lieu of condemnation attributable to Lessee's Improvements, but shall have no claim to any condemnation award or proceeds in lieu of condemnation attributable to the Premises' surface or mineral estates.

4.11. Repair, Replace, and Maintain.

1) Damages. Lessee shall be responsible for all repairs or replacements to the Premises that are necessarily due to damages from any cause, except the acts of Lessor.
2) Maintenance. Lessee shall, at its sole expense, keep and maintain the Premises, including all appurtenances, appliances, and fixtures in a clean and sanitary condition during the term of the Lease. Lessee shall, at its sole expense, maintain all landscaping for the Premises.

4.12. Security. Lessee will pay for any security monitoring of the Premises. Lessee is responsible for responding to all security calls and for costs associated with such calls, either true or false alarms.

4.13. Defaults and Remedies.

1) Default by Lessor ("Lessor's Default") is failing to comply with any provision of this Agreement within thirty (30) days after Lessee's written notice to Lessor of such specific failure.
2) Lessee shall have any remedy available in law or equity, including termination of this Agreement in accordance with 4.03(1) of this Agreement.
3) Defaults by Lessee ("Lessee's Default") include:
    a. failing to pay timely rent;
    b. failing to perform or provide the wastewater utility services as may be under its certificate of convenience and necessity, which Parties anticipate will include the Premises and the Agape Oaks Subdivision at a future date before December 31, 2029;
    c. failing to comply within thirty (30) days after written notice with any provision of this Agreement, unless otherwise provided in this Agreement; and
    d. assigning the under any circumstances, or subletting the Premises or a portion of the Premises without Lessor's prior express written consent unless provided otherwise in this Agreement.
4) Lessor shall have any remedy available in law or equity, including termination of this Agreement in accordance with 4.03(2) of this Agreement.

4.14. Default/Waiver/Mitigation. It is not a waiver of default if the non-defaulting party fails to declare immediately a default or delays in taking any action. Pursuit of any remedies set forth in this Agreement does not preclude pursuit of other remedies in this Agreement or provided by law. Lessor and Lessee have a duty to mitigate damages.

4.15. Holdover. If Lessee does not vacate the Premises following termination of this Agreement, Lessee shall be a Lessee at will and shall vacate the Premises on receipt of notice from Lessor. Holding over by Lessee, whether with or without the consent of Lessor, will not extend the term of this Agreement. Lessee shall be deemed to be occupying the Premises as a Lessee from month-to-month, subject to all terms, conditions, provisions, and obligations of this Agreement, insofar as such provisions are applicable to a month-to-month tenancy.

4.16. Abandoned Property. Lessor may retain, destroy, or dispose of any property that Lessee abandons on the Premises at the end of the term.

4.17. Ad Valorem Taxes.

1) Lessor. Lessor shall pay all ad valorem taxes assessed against the Premises' land.
2) Lessee. Lessee shall pay all ad valorem taxes assessed against Lessee's personal property and Lessee's Improvements located on the Premises during the term of this Agreement.

4.18. Insurance. Lessee agrees to obtain and maintain insurance in the amount for at least One Million Dollars ($1,000,000.00) (per person per occurrence) to protect Lessor from any liability, including liability for environmental damages, arising directly or indirectly out of Lessee's operation of its business on the Premises. Lessee agrees to name Lessor as additional named insured in this liability policy. Lessee agrees to provide proof of liability insurance by sending Lessor and Lessor's attorney a copy of Lessee's liability insurance policy.

ARTICLE FIVE
SPECIAL PROVISIONS

5.01. Fences. Lessee shall have the right, but not the obligation, to erect one (1) or more fences on and around the Premises, and shall have the right to remove such fences at termination of this Agreement.

5.02. Environmental Compliance. The Lessee will use its Best Efforts to comply with any Environmental Law.

5.03. Right of First Refusal. Lessor hereby grants Lessee the right of first refusal to purchase the Surface Estate should Lessor at any time during the term of this Agreement or any extension of this Agreement, desire to sell the Surface Estate to any one Surface Estate shall mean the real property on which the Facilities sit and the Utility Easements, as described in Article One above.

ARTICLE SIX
MISCELLANEOUS PROVISIONS

6.01. Alternative Dispute Resolution. Lessor and Lessee shall submit in good faith to mediation before filing a suit for damages.

6.02. Attorneys Fees. If either party retains an attorney to enforce this Agreement, the prevailing party is entitled to recover reasonable attorney's fees.

6.03. Venue. This Agreement is performable in Medina County, Texas, the county in which the Premises are located.

6.04. Construction. This Agreement shall not be construed more strongly against any party, regardless of who was more responsible for its preparation.

6.05. Governing Law. This Agreement shall be governed by and construed according to the laws of the State of Texas.

6.06. Severability. If any portion of this Agreement is held to be invalid or unenforceable for any reasons, that holding shall not be construed to affect any other valid portion of this Agreement, but all valid portions of this Agreement shall remain in full force and effect.

6.07. Effect. This Agreement shall be binding upon and shall inure to the benefit of the parties to this Agreement, and their legal representatives, successors, and assigns, as applicable and when permitted.

6.08. Entire Agreement. THIS AGREEMENT CONTAINS THE ENTIRE AGREEMENT BETWEEN THE PARTIES RESPECTING THE MATTERS ADDRESSED IN THIS AGREEMENT AND SUPERSEDES ALL PRIOR CONTRACTS, NEGOTIATIONS, AGREEMENTS, REPRESENTATIONS, AND UNDERSTANDINGS, IF ANY, BETWEEN THE PARTIES RESPECTING THESE MATTERS. THE PARTIES ACKNOWLEDGE THAT ANY OTHER AGREEMENT, STATEMENT, OR PROMISE NOT IN THIS AGREEMENT SHALL NOT BE VALID OR BINDING.

6.09. Modification. This Agreement may not be modified, discharged, or changed in any respect except by a further agreement in writing duly executed by the parties. However, any consent, waiver, approval, or authorization shall be effective if signed by the party granting or making such consent, waiver, approval, or authorization.

6.10. Counterparts. This Agreement may be executed in any number of counterparts, each of which, when executed and delivered, shall be deemed to be an original instrument, but such counterparts shall together constitute one and the same instrument.

6.11. Limitation of Warranties. The Parties agree that implied warranties of merchantability, of fitness for a particular purpose, or of any other kind shall not arise out of this Agreement, and that neither party is making any warranty other than those warranties that are expressly stated in this Agreement.

6.12. Notices. Except as may be otherwise specifically provided in this Agreement, all notices required or permitted ("Notice") under this Agreement shall be in writing and will be deemed to be delivered and received when:

1) delivered in person to the party to be notified;
2) deposited in the United States Mail, certified or registered mail, return receipt requested, postage prepaid; or
3) delivered to a bonded courier delivery service.

6.13. Waiver. A Party may not waive any covenant, term, condition, or provision of this Agreement except by doing so in writing. The consent to or waiver of any default of any covenant, term, condition, or provisions of this Agreement or with respect to any other matter arising in connection with this Agreement, whether express or implied, by any party shall not be construed as a consent to or waiver of any other default of the same or any other covenant, term, condition, provision, or matter.

6.14. Force Majeure.

1) Invocation. If, by reason of Force Majeure, any party shall be wholly or partially unable to carry out its obligations under this Agreement, then that party shall give written notice of the full particulars of such Force Majeure to the other party within a reasonable time after its occurrence. The obligations of the party giving such notice, to the extent affected by such Force Majeure, shall be suspended during the continuance of the inability claimed and for no longer period, and that party shall in good faith use its best efforts to remove or overcome such inability with all reasonable dispatch.
2) Settlement of Strikes and Lockouts. The settlement of strikes and lockouts shall be entirely within the discretion of the party having the difficulty, and the above requirement that any Force Majeure shall be remedied with all reasonable dispatch shall not require settlement of strikes and lockouts by acceding to demands of the opposing party when such settlement is unfavorable to him in the judgment of the party having the difficulty.

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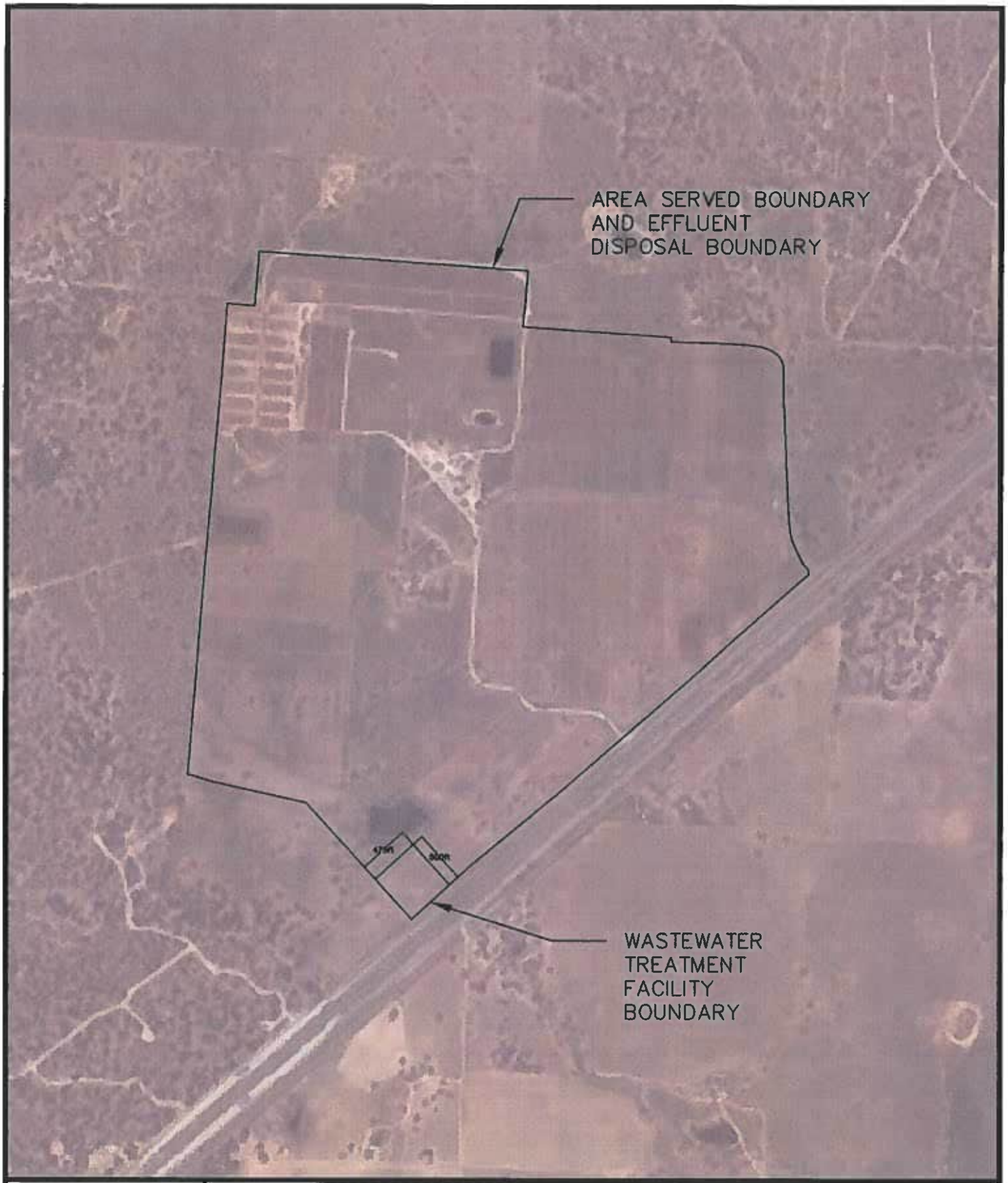
EXHIBIT "A"

PREMISES LOCATION



SCALE NO SCALE	**EXHIBIT A**
DRAWN BY: JMT DATE 07/23	AGAPE OAKS WASTE WATER TREATMENT PLANT
CHECKED BY MAI DATE 07/23	**AGAPE OAKS**
FILE 0339-032-22	YANCEY, TEXAS

Southwest Engineers

GONZALES

BUDA

BASTROP

EXECUTED to be effective on the date January 5, 2024, which shall be the Effective Date.

Lessor:

Agape Oaks, LLC, a Texas limited liability company

By: _____

Name: Chris Stone

Title: Project Manager

THE STATE OF TEXAS §

§

COUNTY OF MEDINA §

This instrument was acknowledged before me on the 5th day of January 2024, by Chris Stone Project Manager, of Agape Oaks, LLC, a Texas limited liability company, on behalf of said company.

(Seal)

CHERYL SCHOTT
Notary ID #128636145
My Commission Expires
May 2, 2026

Cheryl Schott

Notary Public in and for the State of Texas

My commission expires: May 2, 2026

Lessee:

Yancey Water Supply Corporation, a Texas non-profit corporation,

By: Temple Mangold
Temple Mangold
General Manager

THE STATE OF TEXAS §
§
COUNTY OF MEDINA §

This instrument was acknowledged before me on the 5th day of January 2024 by Temple Mangold, General Manager of Yancey Water Supply Corporation, a Texas non-profit corporation, on behalf of said corporation.

(Seal)

CHERYL SCHOTT
Notary ID #128636145
My Commission Expires
May 2, 2026

Cheryl Schott

Notary Public in and for the State of Texas

My commission expires: May 2, 2026

ATTACHMENT E

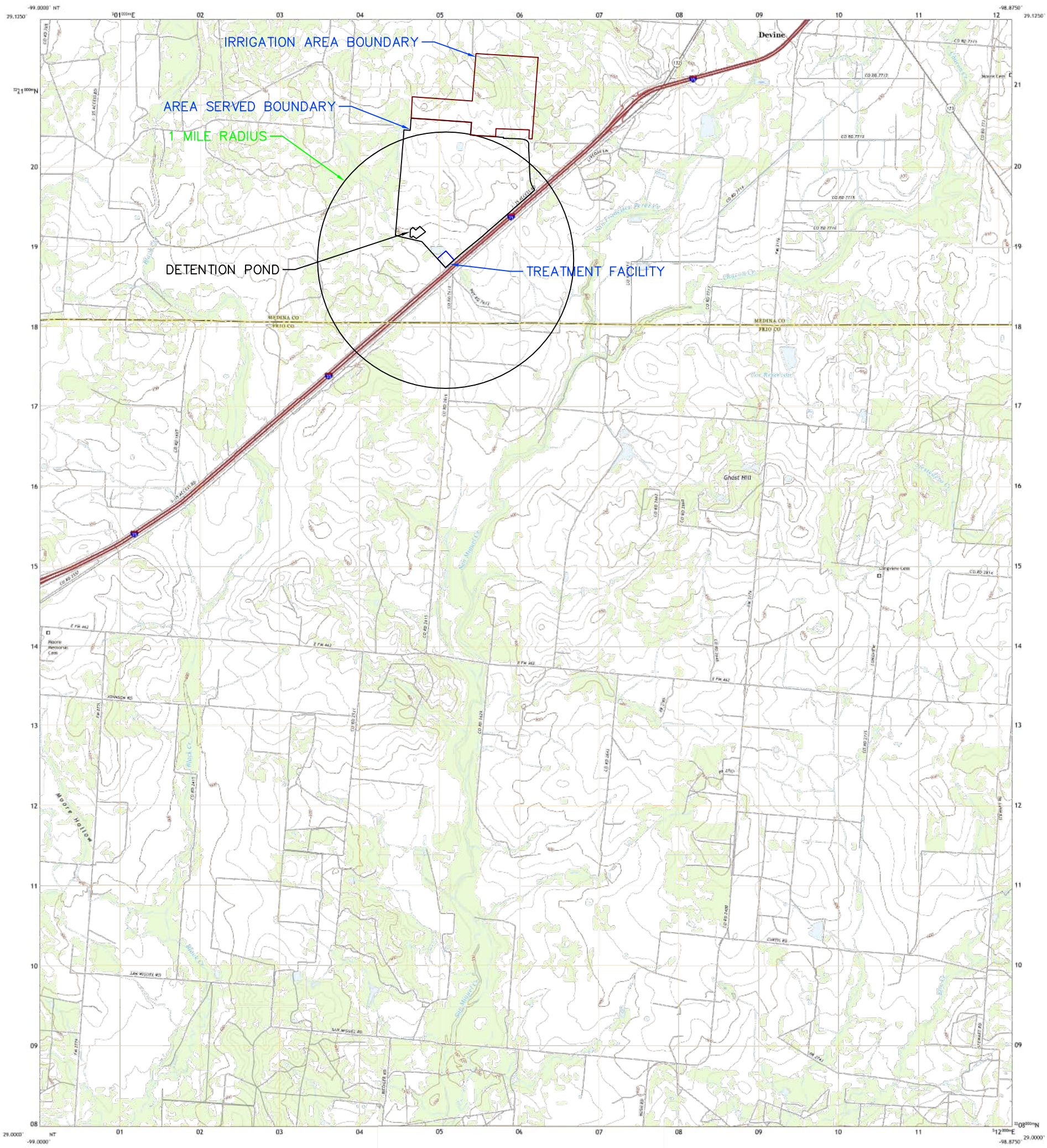
USGS MAP

USGS science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

GHOST HILL QUADRANGLE
TEXAS
7.5-MINUTE SERIES



Produced by the United States Geological Survey

North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 14R

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, September 2018 - December 2018
Roads.....U.S. Census Bureau, 2015 - 2019
Names.....GNIS, 1979 - 2022
Hydrography.....National Hydrography Dataset, 2002 - 2018
Contours.....National Elevation Dataset, 2019
Boundaries.....Multiple sources; see metadata file 2019 - 2021

Wetlands.....FWS National Wetlands Inventory Not Available

UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard.

ROAD CLASSIFICATION

Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

ADJOINING QUADRANGLES
1 Biry
2 Devine
3 Lytle
4 Moore
5 Bigfoot
6 Pearsall North
7 Schattel NW
8 Schattel

GHOST HILL, TX
2022

NSN 7643016382452
NGA REF NO. USGS24K171152

ATTACHMENT F

SIGNATURE AUTHORIZATION

Yancey Water Supply Corporation

July 22, 2024

Mark Ince, P.E. is authorized to sign on behalf of Yancey Water Supply Corporation.

Thank you,

Scooter Mangold

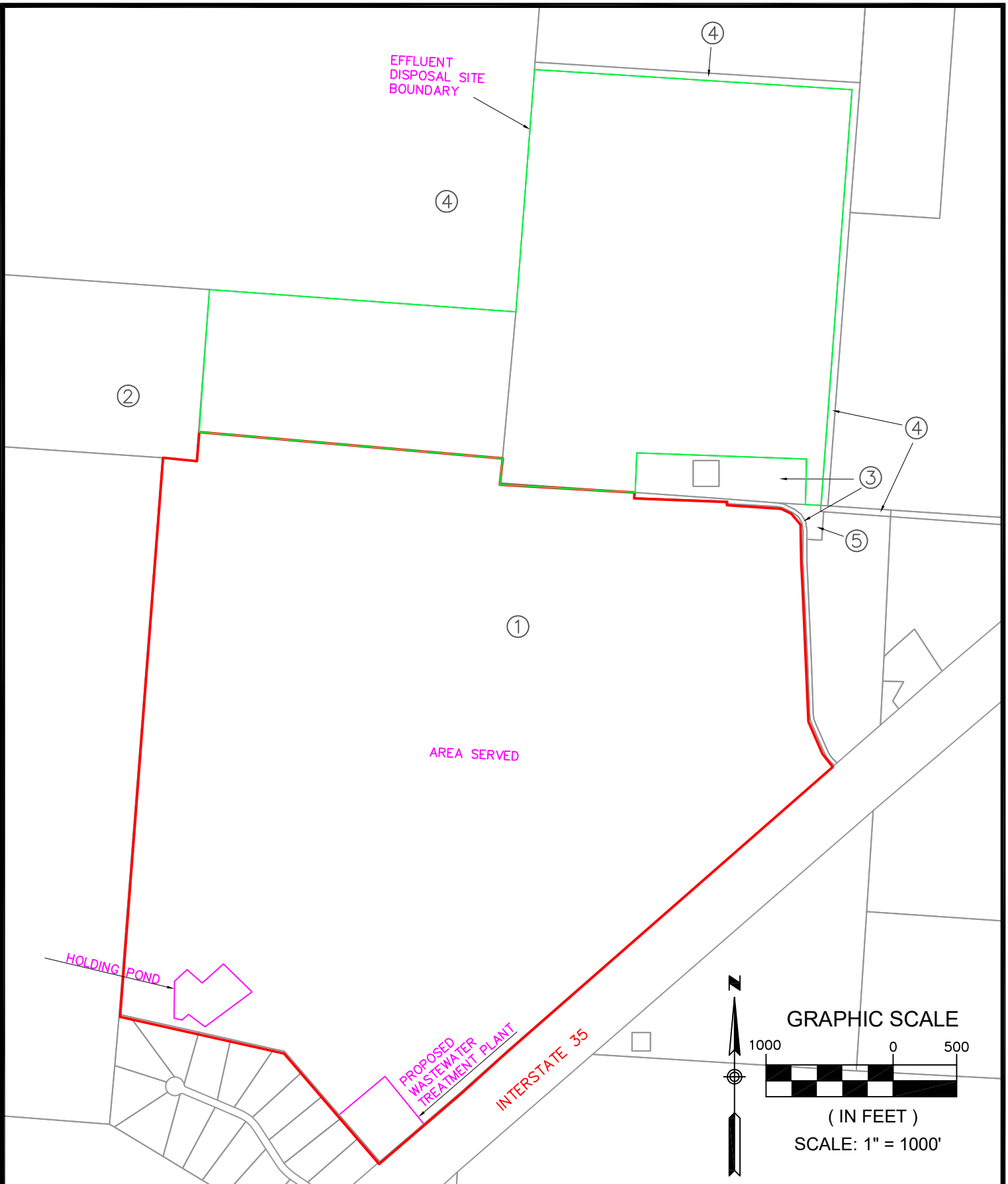
Scooter Mangold
General Manager

PO Box 127 Yancey, TX 78886
Phone: (830)741-5264
Fax: (830)741-8009

ATTACHMENT G

AFFECTED LANDOWNER LIST & MAP

#	Owner Name	Owner Address	City	State	Zip
1	AGAPE OAKS LLC	C/O TOMASA TORRES P O BOX 692090	SAN ANTONIO	TX	78269
2	KEVIN S & LUCRETIA MARMOR	1833 F.M. 2200 W	DEVINE	TX	78016
3	ROSA E MORENO	10831 LOCH AVON D	WHITTIER	CA	90606
4	SERIES 7 OF DRLH HOLDINGS LLC	155 SCHEELE RD	BOERNE	TX	78015-8322
5	RDXR ENTERPRISES LLC	P.O. BOX 671	DEVINE	TX	78016



SCALE: 1" = 1000'

DRAWN BY: EJP DATE: 07/23

CHECKED BY: MAI DATE: 07/23

FILE: 0339-032-22

AFFECTED LANDOWNERS

AGAPE OAKS WASTE WATER TREATMENT PLANT

AGAPE OAKS

YANCEY, TEXAS

Southwest Engineers
TBPE NO. F-1909
www.swengineers.com

GONZALES
307 Saint Lawrence Street
P: 830.672.7546 F:830.672.2034

BUDA
205 Cimarron Park Loop, Ste. B
P: 512.312.4336

BASTROP
704 Main Street, #101
P: 512.312.4336

AGAPE OAKS LLC
C/O TOMASA TORRES
P O BOX 692090
SAN ANTONIO, TX 78269

KEVIN S & LUCRETIA MARMOR
1833 F.M. 2200 W
DEVINE, TX 78016

ROSA E MORENO
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WHITTIER, CA 90606

SERIES 7 OF DRLH HOLDINGS LLC
155 SCHEELE RD
BOERNE, TX 78015-8322

RDXR ENTERPRISES LLC
P.O. BOX 671
DEVINE, TX 78016

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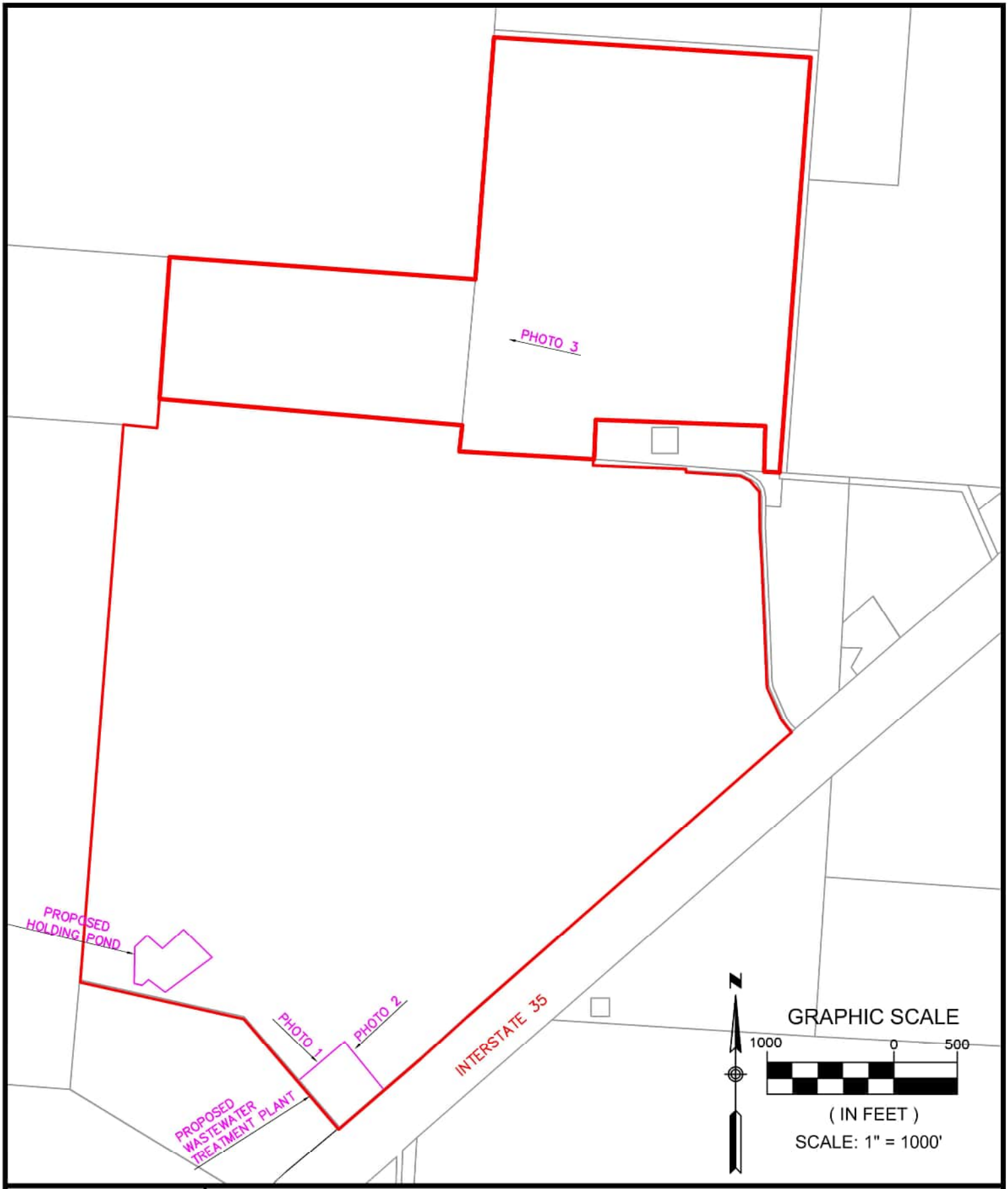
ATTACHMENT H

PHOTOGRAPHS AND MAP



SCALE:	1" = 1000'
DRAWN BY:	JMT
DATE:	07/23
CHECKED BY:	MAI
DATE:	07/23
FILE:	0339-032-22

PHOTO MAP

AGAPE OAKS WASTE WATER TREATMENT PLANT

AGAPE OAKS

YANCEY, TEXAS

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WWTTP Site
PHOTO 1

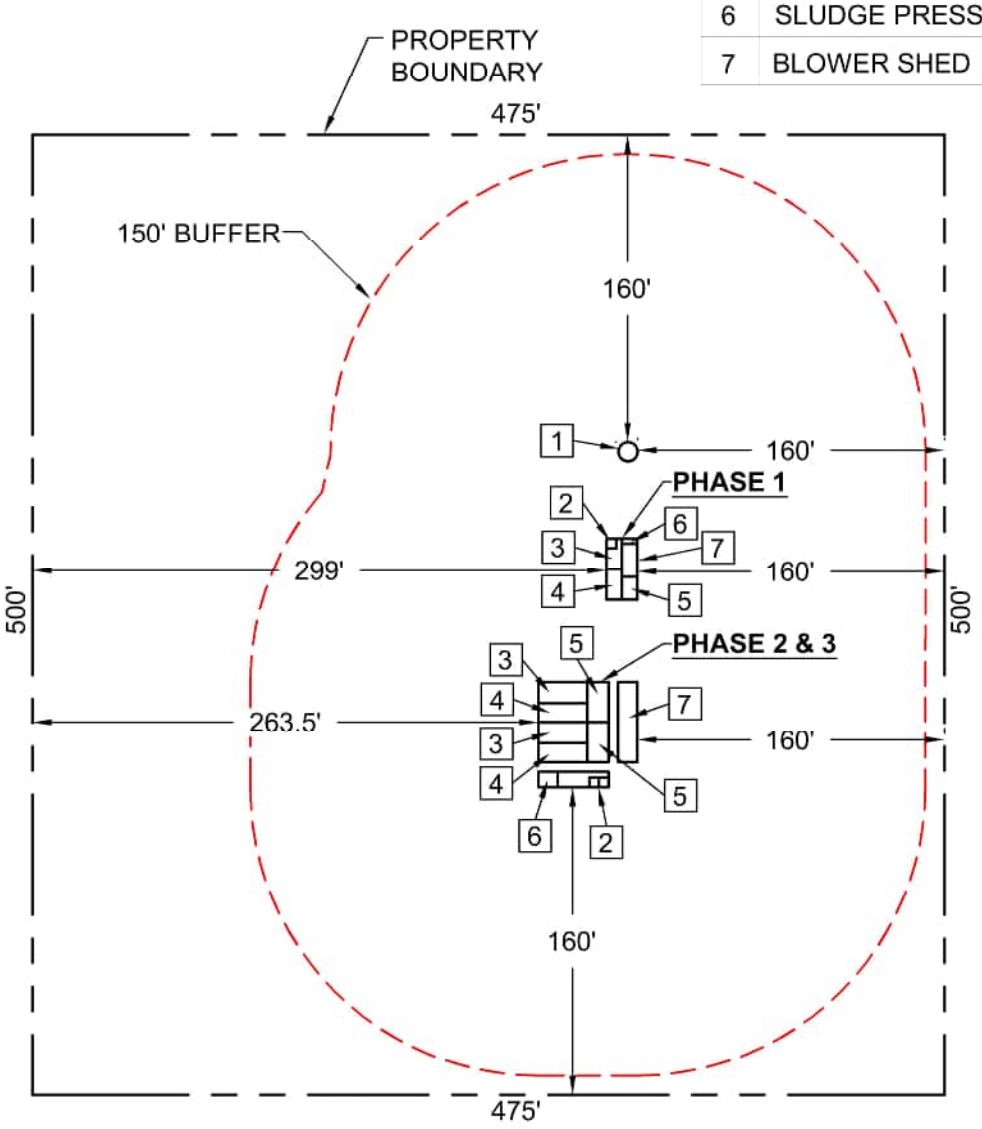
WWTP Site
PHOTO 2

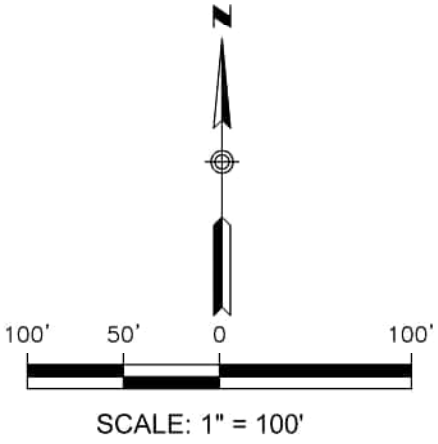
Effluent Disposal Site
PHOTO 3

ATTACHMENT I

BUFFER ZONE MAP

ID	TREATMENT UNIT
1	LIFT STATION
2	FINE SCREEN
3	ANOXIC BASIN
4	AEROBIC BASIN
5	MEMBRANE BASIN
6	SLUDGE PRESS
7	BLOWER SHED





SCALE: 1" = 100'

BUFFER ZONE MAP

JULY 2023

AGAPE OAKS WWTP

Southwest Engineers
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ATTACHMENT J

TREATMENT PROCESS DESCRIPTION

Attachment J

Treatment Process Description

The proposed wastewater treatment facility will consist of a Membrane Bioreactor (MBR) Wastewater Treatment System, which combines conventional biological activated sludge processes with membrane filtration. An onsite lift station will pump the raw wastewater to a fine screen at the head of the plant, which will discharge the wastewater to an anoxic basin where denitrification occurs, as well as some BOD removal. Alum is also added here for phosphorus removal. The wastewater then flows into an aerobic basin where diffusers introduce air into the treatment process to aid in biological treatment, as well as nitrification. From there the wastewater flows into the membrane basin (also aerated), where the membranes provide a physical barrier allowing only clean water to pass thru. The permeate from the membranes is then pumped thru a UV light and then to the ultimate discharge point. Sludge that accumulates in the membrane basin is recycled back into the anoxic basin and is occasionally wasted into a screw type sludge press as needed for regular hauling to a permitted landfill facility. Extracted wastewater from the sludge press is returned to the anoxic basin.

To minimize "pump and haul" as the development is in its initial stages a temporary 75,000 gpd MBR plant will be used until the development produces enough wastewater for Phase 2 (125,000 gpd)to operate. An MBR plant needs about 15% to 20% of design capacity to operate so in this case the temporary plant will need to be in operation until wastewater flows reach 20,000 to 25,000 gpd. At this approximate flow range the 125,000 gpd Phase 2 will be placed in operation and the portable plant removed. The temporary MBR plant has the same treatment process as the Phase 2 and 3 system.

Future phases will involve the addition of more membranes to the initial membrane basin and/or additional anoxic, aerobic, and membrane basins as needed.

ATTACHMENT K

TREATMENT UNITS

Table 1.0(1)
Phase 1 0.075MGD

Treatment Unit Type	Number of Units	Dimensions (L x W x D)
Lift Station	1	10' Diameter
Fine Screen	1	5' x 5' x 5'
Anoxic Basin	1	19' x 11' x 12'
Aerobic Basin	1	20' x 11' x 12'
Membrane Basin	1	18' x 11' x 12'
UV Disinfection	1	4" Diameter x 2'
Sludge Press	1	8' x 1' x 5'

Phase 2 - 0.125MGD

Treatment Unit Type	Number of Units	Dimensions (L x W x D)
Lift Station	1	10' Dia.
Fine Screen	2	5' x 5' x 5'
Anoxic Basin	1	11' x 25.5' x 17'
Aerobic Basin	1	10' x 25.5' x 17'
Membrane Basin	1	23' x 11' x 17'
UV Disinfection	1	6" Diameter x 3.6'
Sludge Press	1	10' x 2' x 8'

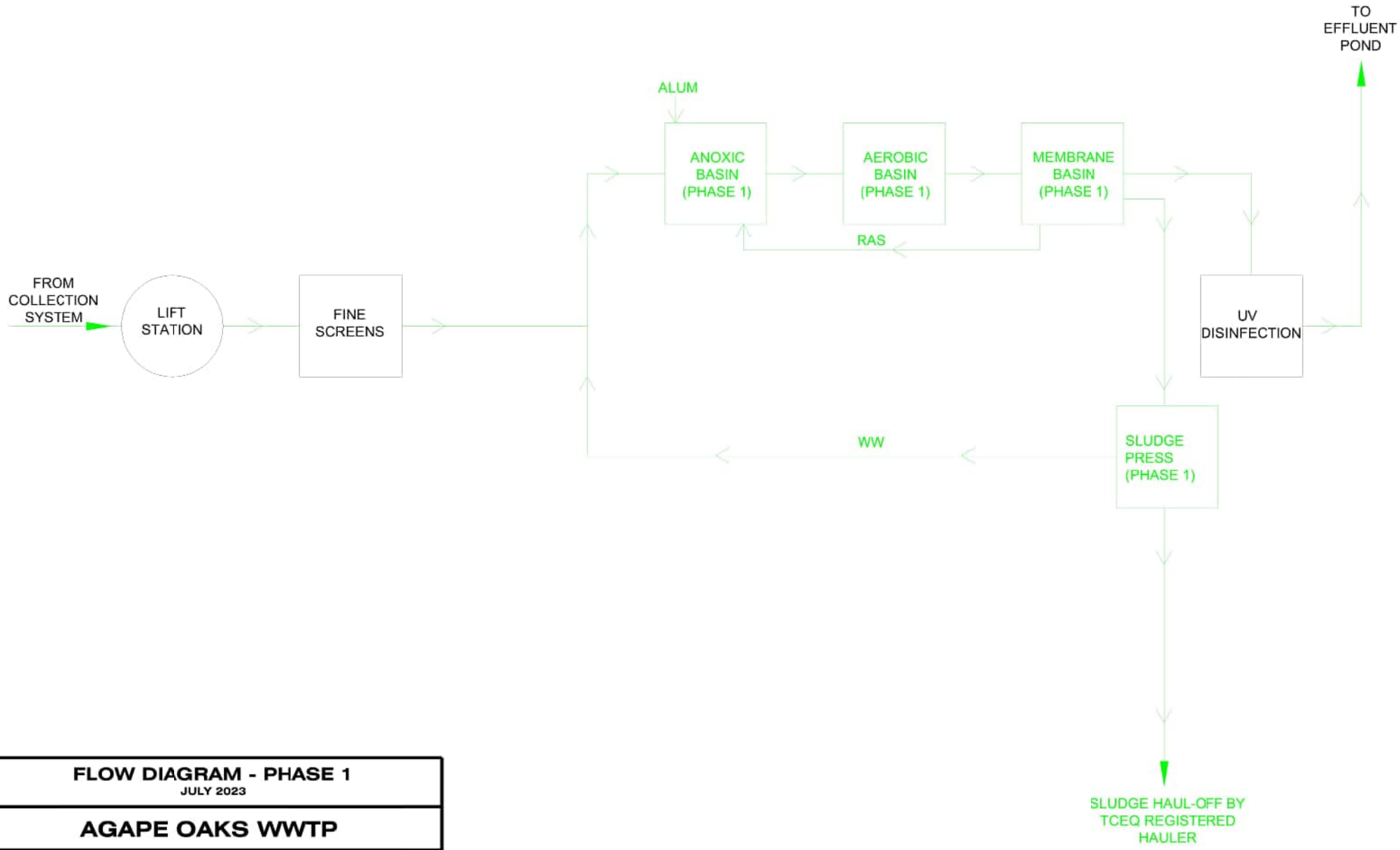
Phases 2 & 3 - 0.250MGD

Treatment Unit Type	Number of Units	Dimensions (L x W x D)
Lift Station	1	10' Dia.
Fine Screen	2	5' x 5' x 5'
Anoxic Basin	2	11' x 25.5' x 17'
Aerobic Basin	2	10' x 25.5' x 17'
Membrane Basin	2	23' x 11' x 17'
UV Disinfection	2	6" diameter x 3.6'
Sludge Press	1	10' x 2' x 8'

ATTACHMENT L

FLOW DIAGRAM

PHASE 1



FLOW DIAGRAM - PHASE 1
JULY 2023

AGAPE OAKS WWTP

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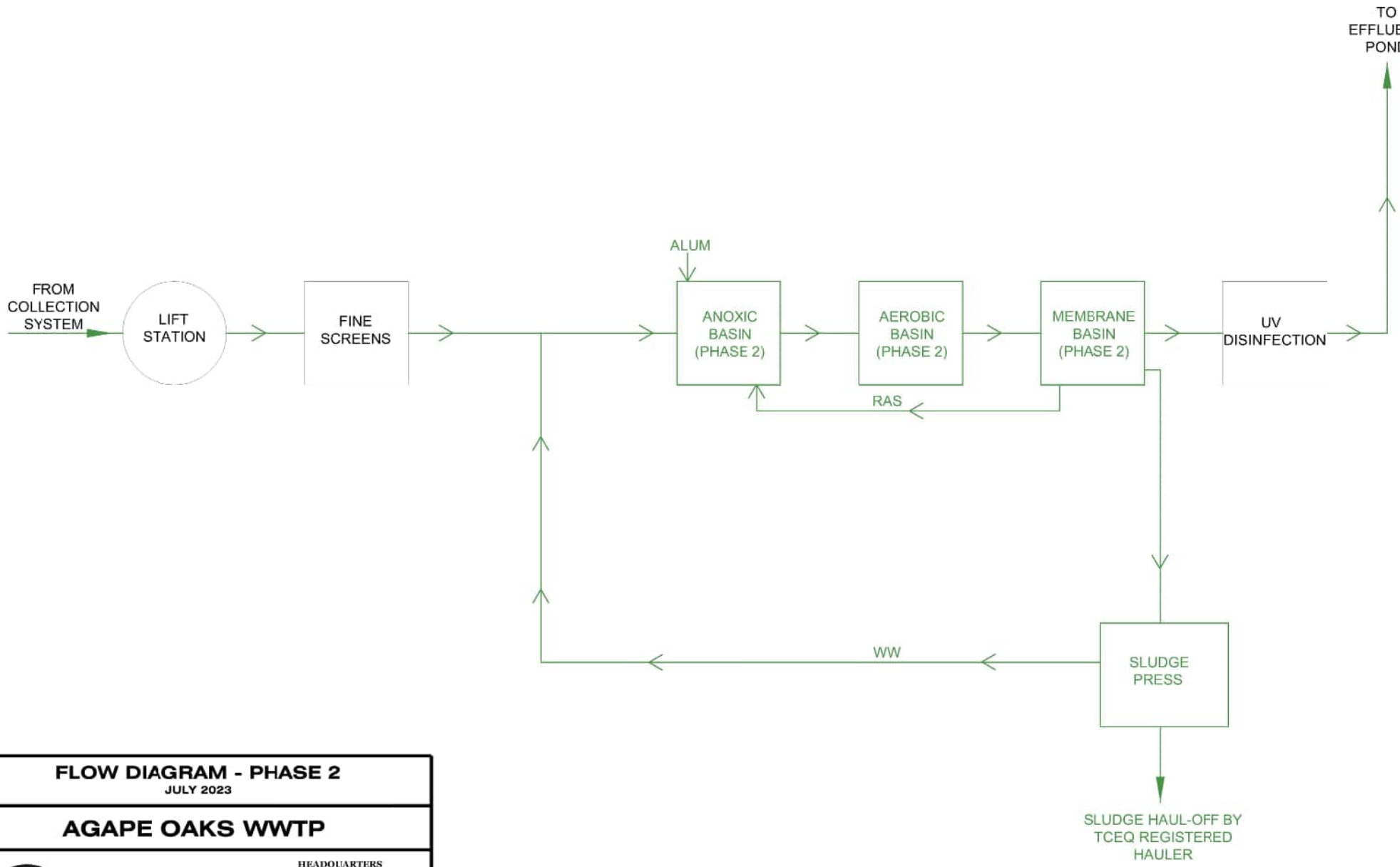
PHASE 2



FLOW DIAGRAM - PHASE 2
JULY 2023

AGAPE OAKS WWTP

Southwest Engineers
TBPE NO. F-1909
www.swengineers.com

HEADQUARTERS
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CENTRAL TEXAS
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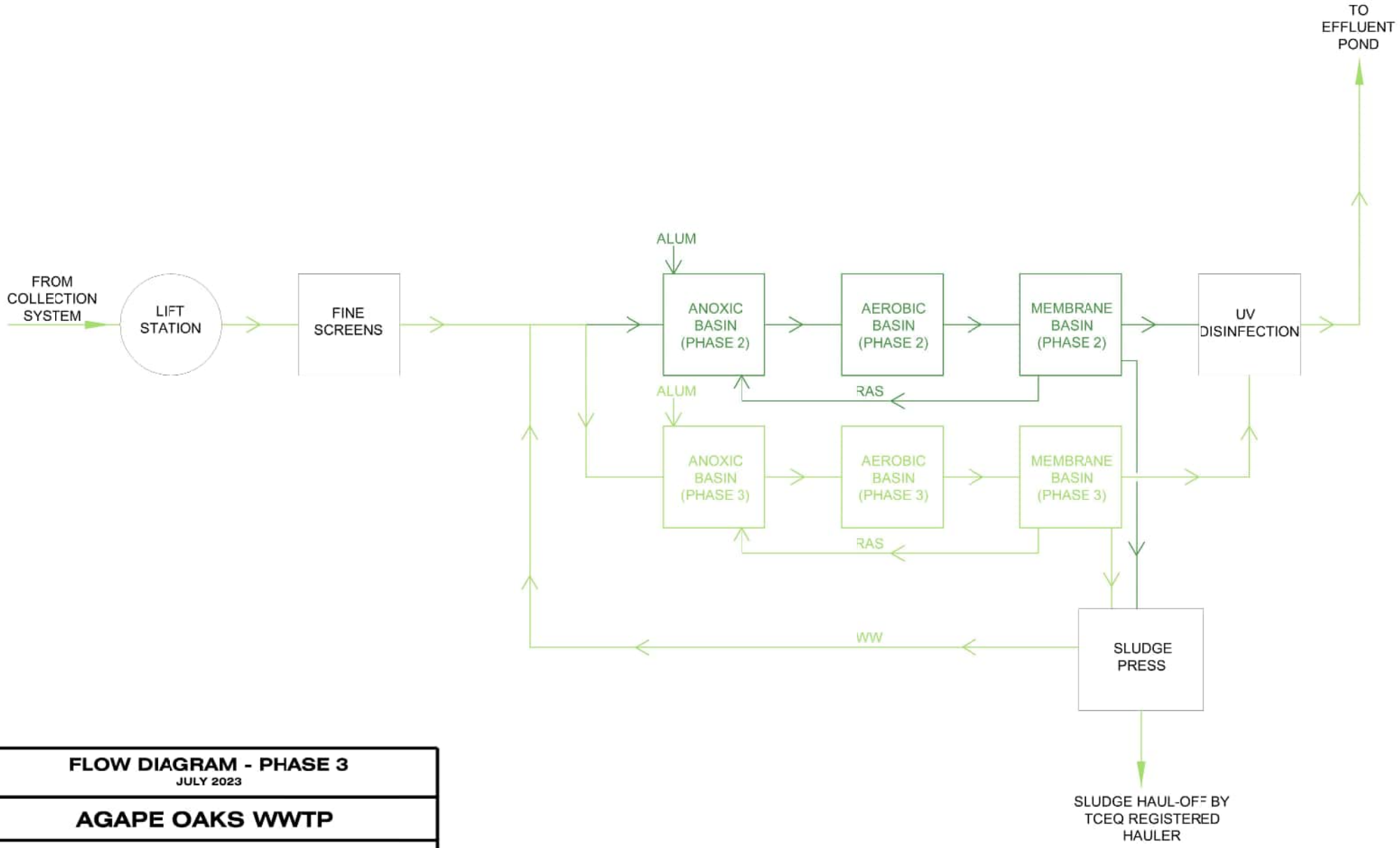
P: 512.312.4336

PHASE 3



FLOW DIAGRAM - PHASE 3

JULY 2023

AGAPE OAKS WWTP

Southwest Engineers

TBPE NO. F-1909
www.swengineers.com

HEADQUARTERS
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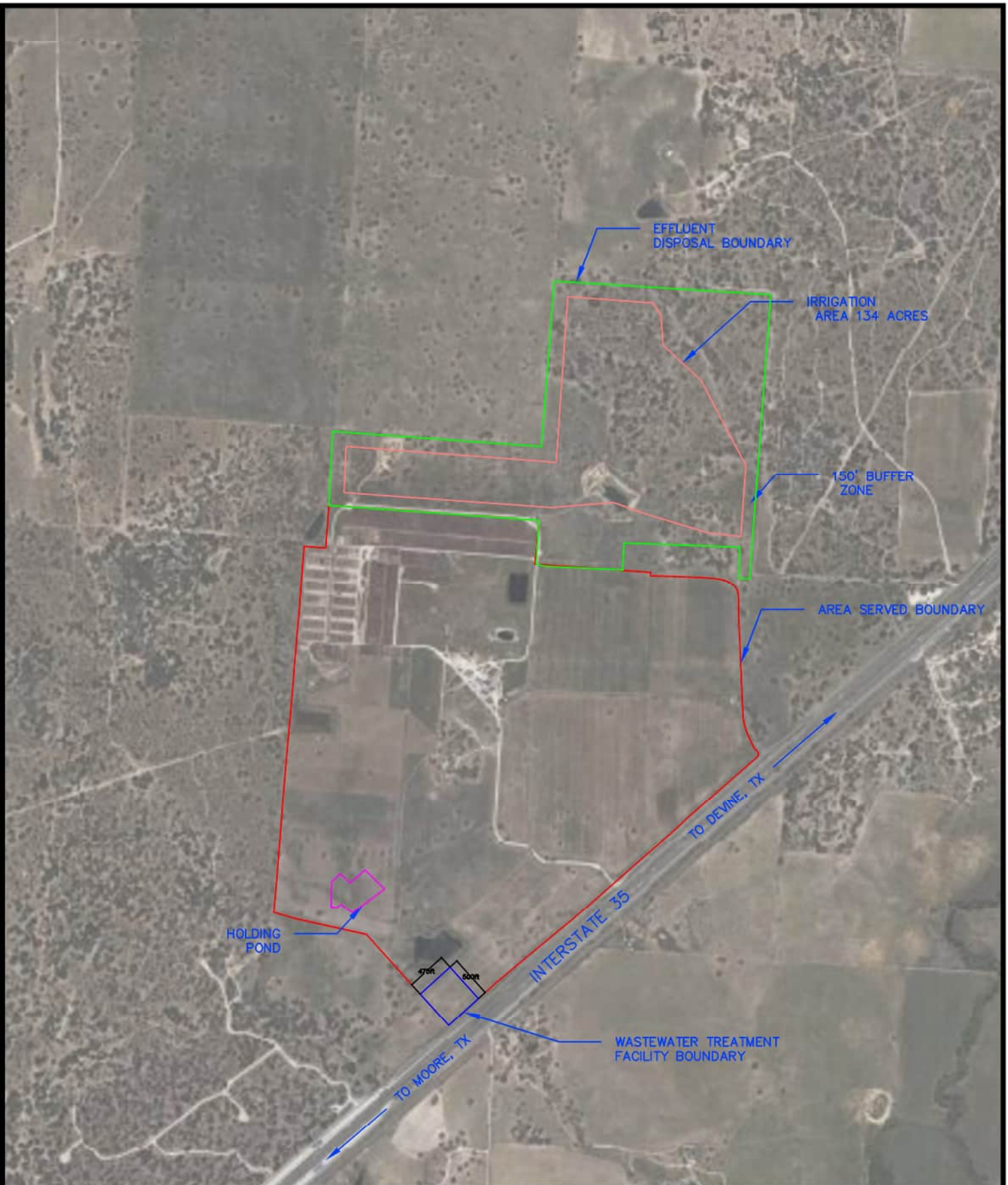
CENTRAL TEXAS
205 Cimarron Park Loop, Ste. B, Boerne TX 78610
P: 512.312.4336

ATTACHMENT M

SITE DRAWING



SCALE: NO SCALE

DRAWN BY: JMT DATE: 03/24

CHECKED BY: MAI DATE: 03/24

FILE: 0339-032-22

SITE DRAWING

AGAPE OAKS WASTE WATER TREATMENT PLANT

AGAPE OAKS

YANCEY, TEXAS

Southwest Engineers

TBPE NO. F-1909
www.swengineers.com

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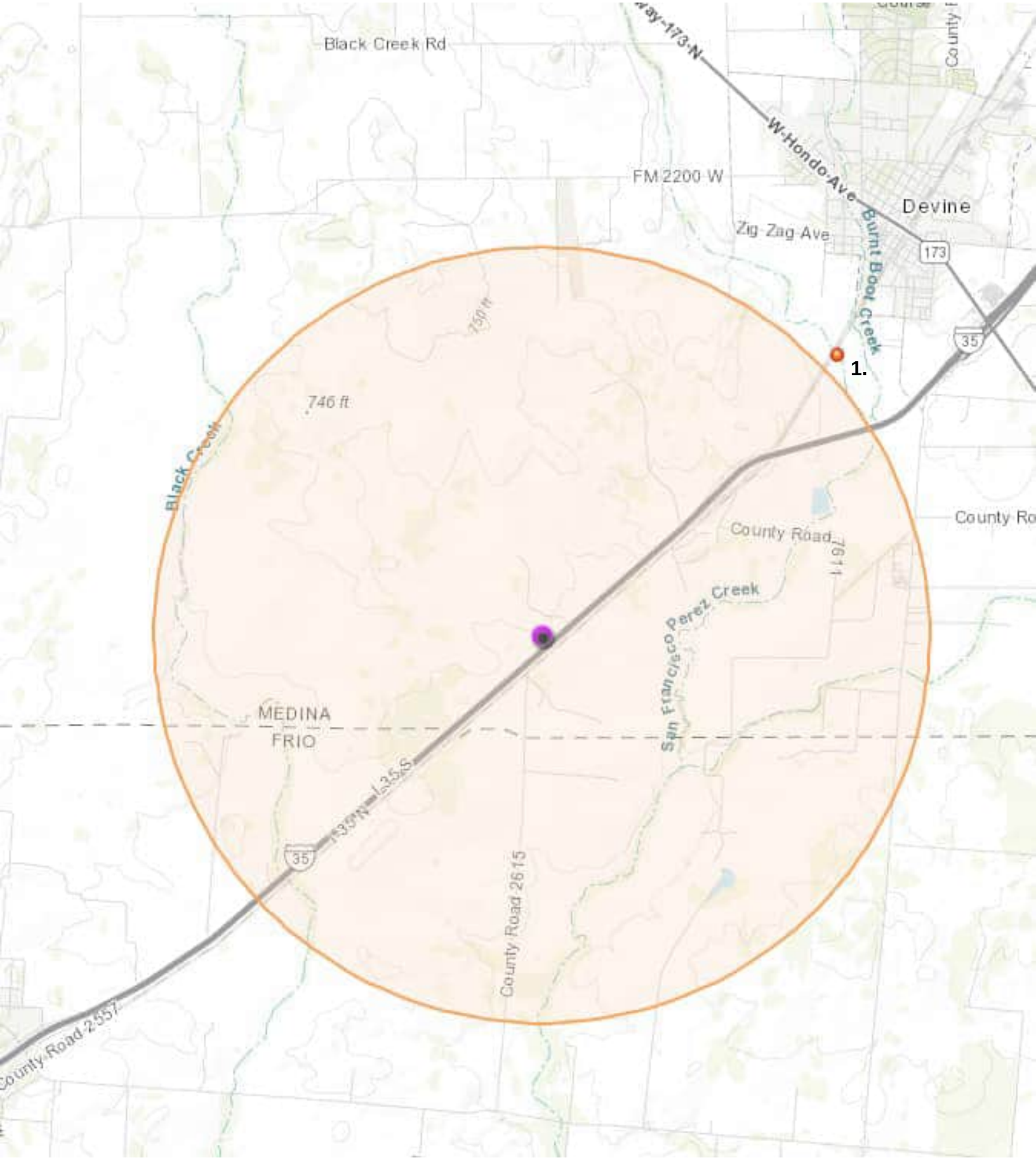
BASTROP
704 Main Street, #102
P: 512.312.2256

ATTACHMENT N

NEARBY WWTPS OR COLLECTION SYSTEMS

NEARBY WWTP/COLLECTIONS



1. City of Devine has rejected to serve proposed development. We received no response from the attached letter.

Attachment N

NEARBY WWTP's OR COLLECTION SYSTEMS

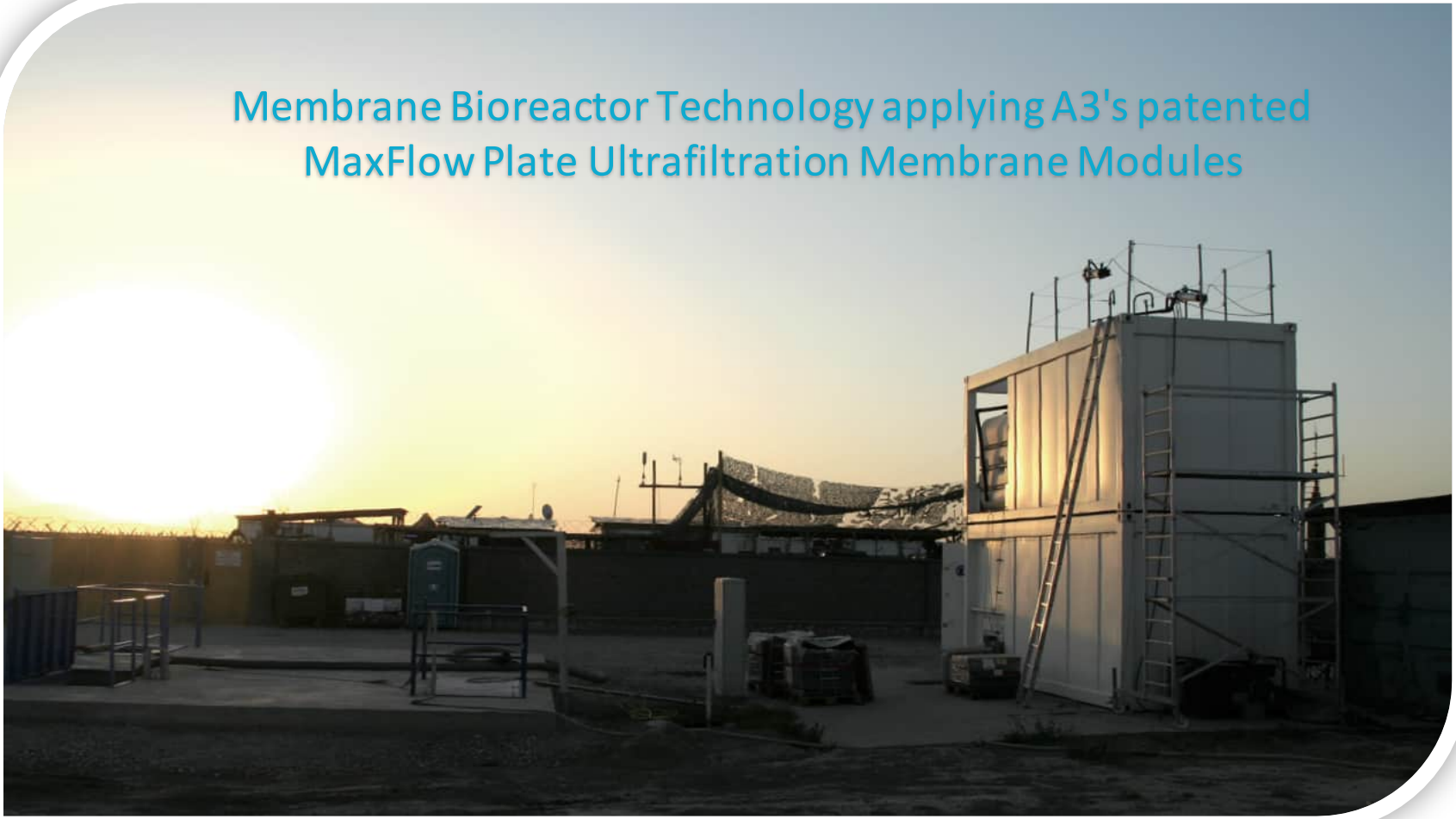
The City of Devine is within three miles of the proposed facility. The City of Devine has elected not to serve the proposed development. Please see the attached letter and minutes from the City of Devine meeting.

ATTACHMENT O

DESIGN CACLULATIONS

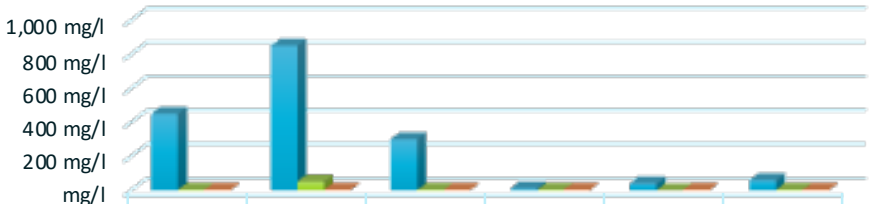
MODERN WASTEWATER SOLUTIONS

Proposal # 866 - 250,000 gpd



Process Summary

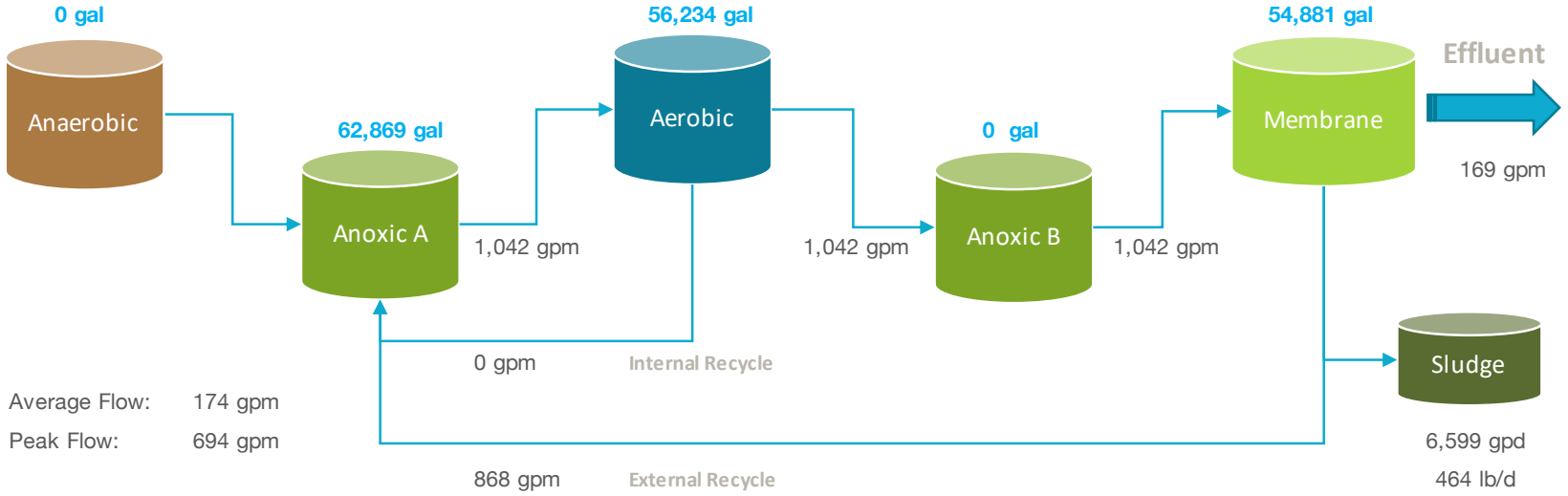
Influent & Effluent Parameters



	BOD	COD	TSS	P	NH4	TN
Influent	450 mg/l	850 mg/l	300 mg/l	10 mg/l	40 mg/l	60 mg/l
Effluent	2.0 mg/l	51.0 mg/l	1.0 mg/l	1.0 mg/l	0.4 mg/l	2.2 mg/l
Removal	99.6%	94.0%	99.7%	90.0%	99.1%	96.4%

PROCESS PARAMETERS

Sludge Age	25 d
Total Reactor Volume	173,983 gal
Total SOR	1,861 kgO2/d
MLSS in Anoxic / Aerobic Tank	8,330 mg/l
MLSS in Membrane Tank	10,146 mg/l
HRT	17 h
F/M RATIO (BOD)	0.080
F/M RATIO (COD)	0.152
Total Membrane Surface	65,100 sf



Aeration	Flow	Pressure
EQ	0 scfm	0.0 psi
Sludge	0 scfm	0.0 psi
Aerobic	589 scfm	7.5 psi
Membrane	748 scfm	7.5 psi

Applied Options:

NO	DAF
NO	RO

1/6/22

Biological Process Calculation

Influent Charateristics	Symbol	Value	Units
Type of wastewater		municipal	
Temperature	T	20	°C
pH	-	7.0	-
H_2CO_3 alkalinity	Alk_i	250	mg/l as $CaCO_3$
Site pressure / elevation	$p_{a,i}$	14.7	psi
Average daily flow	Q_i	250,000	gpd
Peak daily flow	$Q_{i,\ max,d}$	625,000	gpd
Hourly peak flow	$Q_{i,\ max,p}$	694	gpm
Peak factor	-	4.0	-
Average daily flow	Q_i	946	m^3/d
Max. monthly average daily flow	$Q_{i,\ max,d}$	2,366	m^3/d
Hourly peak flow	$Q_{i,\ max,h}$	157.7	m^3/h
Total BOD	$S_{BOD,i}$	450	mgBOD/l
Total COD	$S_{COD,i}$	850	mgCOD/l
COD/BOD ratio	-	1.89	-
Rapidly biodegradable COD	$S_{s,i}$	213	mgCOD/l
Volitale fatty acids (VFA)	$S_{VFA,i}$	32	mgCOD/l
Fermentable COD	$S_{F,i}$	180	mgCOD/l
Slowly biodegradable COD	$S_{ss,i}$	459	mgCOD/l
Biodegradable COD	$S_{bio,i}$	672	mgCOD/l
Soluble inert COD	$S_{SIN,i}$	51	mgCOD/l
Particulate inert COD	$S_{PIN,i}$	128	mgCOD/l

Influent Charateristics	Symbol	Value	Units
NO_3	$N_{NO3,i}$	0.0	mg/l
NH_4	$N_{a,i}$	40.0	mg/l
TKN	$N_{TKN,i}$	60.0	mg/l
TP	P_i	10.0	mg/l
Dissolved Oxygen	$S_{O2,i}$	0.0	mg/l
FSA fraction	$f_{a/TKN,i}$	0.7	-
Fixed (inorganic) suspended solids	$X_{FSS,i}$	47.5	mgISS/l
TSS concentration	$S_{TSS,i}$	300.0	mgTSS/l
Total BOD mass	$FS_{BOD,i}$	425.8	kgBOD/d
Total COD mass	$FS_{COD,i}$	804.3	kgCOD/d
Total NH_4 mass	$FS_{a,i}$	37.9	kgNH_4/d
Total TKN mass	$FS_{TKN,i}$	56.8	kgTKN/d
Total P mass	$FS_{P,i}$	9.5	kgP/d

Effluent Characteristics	Symbol	Value	Units
Waste Sludge	FX_t	464	lb/d
Waste Sludge	Q_w	6,599	gpd
Effluent BOD	$S_{BOD,e}$	< 3	mgBOD/l
Effluent COD	$S_{COD,e}$	51	mgCOD/l
Effluent TSS	$S_{TSS,e}$	1.0	mgTSS/l
Effluent P	P_e	1.0	mgP/l
Effluent NH_4	$N_{a,e}$	0.4	mgN/l
Effluent NO_3	$N_{NO3,e}$	0.0	mgN/l
Effluent TN (N_{ne} + N_{te})	$N_{t,e}$	2.2	mgN/l

Bioreactor Characteristics	Symbol	Value	Units
Temperature	T_{bio}	20	°C
Sludge retention time / Sludge age	SRT	25	d
Reactor volume	$V_{P,chosen}$	173,983	gallons
Reactor volume	$V_{P,chosen}$	659	m^3
Reactor volume	$V_{P,calc}$	164,976	gallons
Average MLSS concentration	X_{TSS}	8,500	mgTSS/l
Food to microorganism ratio	$F/M_{BOD,used}$	0.080	kgBOD/kgMLSS
Food to microorganism ratio	$F/M_{COD,used}$	0.152	kgCOD/kgMLSS
Membrane tank MLSS concentration	X_M	10,146	mgTSS/l
Aerobic/Anoxic tank MLSS concentration	X_{Bio}	8,330	mgTSS/l
Number of anaerobic zones	$\#_{AN}$	0	-
Number of anoxic zones	$\#_{AO}$	1	-
Number of aerobic zones	$\#_{AE}$	1	-
External recycle ratio	m	5	-
Internal recycle ratio	a	0	-
DO in m recycle	O_m	0	mgO_2/l
DO in a recycle	O_a	0	mgO_2/l
Recycle ratio to anaerobic tank (PAO)	s	0	-
DO in s recycle	$S_{O2,s}$	0	mgO_2/l
Nitrate on s recycle	$S_{NO3,s}$	0	mg/l
TKN/COD ratio	$f_{TKN/COD}$	0.071	mgTKN/mgCOD
Carbon source addition (Micro C)	B_{MicroC}	0.0	lb/d
Carbon source addition (Micro C)	S_{MicroC}	0.00	gpd
Nominal hydraulic retention time	HRT_n	16.7	h
Actual hydraulic retention time	HRT_a	2.8	h

Biological Oxygen Demand	Symbol	Value	Units
OD for synth & endo respiration (PAO)	FO_{PAO}	0	kgO_2/d
OD for synth & endo respiration (OHO)	FO_{OHO}	516	kgO_2/d
Mass carbonaceous oxygen demand	FO_C	516	kgO_2/d
Carbonaceous oxygen utilization rate	O_c	78%	-
Nitrification oxygen demand	FO_n	161	kgO_2/d
Total oxygen demand	FO_t	678	kgO_2/d
Oxygen recovered by denitrification	FO_d	101	kgO_2/d
Net total oxygen demand (AOR)	FO_{td}	576	kgO_2/d
Oxygen saturation @ operating temp.	c_s	9.2	mg/l
Desired oxygen level	c_x	2.0	mg/l
Transfer coefficient	α	0.40	-
Diffuser water depth	DWD	14	feet
Oxygen transfer efficiency	OTE	2	%
Standard total oxygen demand (SOR)	SOR	1,861	kgO_2/d
Required air flow	Q_{air}	**588**	scfm
Oxygen requir. per volume & depth	OS	18.2	$gO_2/(Nm_3*m_D)$

Membrane Module Design	Symbol	Value	Units
Permeate on cycle	T_o	8	minute
Permeate off cycle (relaxation)	T_s	2	minute
Effective membrane module surface	$A_{m,eff}$	84.0	m^2
Effective membrane module surface	$A_{m,eff}$	904	ft^2
Total number of membrane modules	N_M	72	-
Total membrane module surface	A_{total}	6,048	m^2
Total membrane module surface	A_{total}	65,100	ft^2
Nominal average daily flux	$Q_{ave,n}$	8.1	lmh
Nominal max. daily flux	$Q_{ave,n,max,mo}$	20.4	lmh
Nominal peak hourly flux	$Q_{peak,n}$	32.6	lmh
Average daily flux (excluding rest cycle)	$Q_{ave,n}$	**3.8**	gfd
Max. Daily flux (ex. rest cycle)	$Q_{ave,n,max,mo}$	**9.6**	gfd
Peak hourly flux (ex. rest cycle)	$Q_{peak,n}$	**15.4**	gfd
Total membrane module displacement vol.	$V_{modules}$	792	ft^3
Total membrane module displacement vol.	$V_{modules}$	5,924	gallons
Aeration modules	A#	24	-
Membrane module aeration requirement	Q_{am}	28.5	acfm
Total membrane modules aeration	$Q_{am,total}$	684	acfm
Membrane diffuser water depth	DWD_m	13.0	feet
Oxygen requirement per volume & depth	OS	14	$gO_2/(Nm_3*m_D)$
Standard oxygen rate, membrane aeration	SOR_m	3,293	lbO_2/d
Standard oxygen rate, membrane aeration	SOR_m	1,508	kgO_2/d

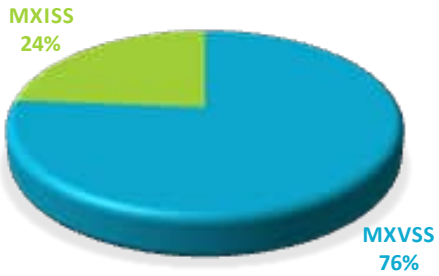
- ✓ Patented, innovative A3's MaxFlow™ membrane filtration modules manufactured in USA.
- ✓ The MaxFlow™ module "open channel design" provides optimal biofilm control, minimizes the quantity of chemical cleaning procedures and avoids module clogging.
- ✓ The compact module design enables dual-stack and triple-stack installations. It allows for a high membrane packing density resulting in a small footprint and high energy efficiency.
- ✓ Most existing conventional treatment plants can be retrofitted with MaxFlow™ membranes due to the

Kinetic Constants	Symbol	Value	Units
Yield coefficient OHO	Y_{OHO}	0.40	mgVSS/mgCOD
Yield coefficient OHO,OBS	$Y_{OHO,obs}$	0.06	mgVSS/mgCOD
Fermentation rate at 20°C	$k_{F,20}$	0.06	m3/gVSSd
Temperature coefficient for $k_{F,T}$	Θ_{kF}	1.029	-
Fermentation rate at T	$k_{F,T}$	0.06	m3/gVSSd
Endogenous respiration rate (decay)	$b_{OHO,20}$	0.24	gVSS/gVSSd
Endogenous respiration rate T	$b_{OHO,T}$	0.24	gVSS/gVSSd
Yield coefficient FSA	Y_A	0.10	mgVSS/mgFSA
Nitri. pH sensitivity coefficient	K_I	1.13	-
Nitri. pH sensitivity coefficient	K_{max}	9.50	-
Nitri. pH sensitivity coefficient	K_{II}	0.30	-
Max. specific growth rate at 20°C	μ_{Am}	0.45	1/d
Max. spec. growth rate - Temp/pH	μ_{AmTpH}	0.38	1/d
Half saturation coefficient	K_n	0.75	mgFSA/l
Half saturation coefficient - Temp	K_{nT}	0.75	mgFSA/l
Endogenous respiration rate (decay)	b_A	0.04	1/d
Temperature coefficient for $k_{F,T}$	θ_n	1.123	-
Endogenous respiration rate T	b_{AT}	0.040	1/d
Temperature sensitivity coefficient	Θ_{nk1}	1.20	-
Temperature sensitivity coefficient	Θ_{nk2}	1.05	-
Temperature sensitivity coefficient	Θ_{nk3}	1.03	-
Denitrification rates at 20°C	k_1	0.70	-
Denitrification rates at 20°C	k_2	0.10	-
Denitrification rates at 20°C	k_3	0.08	-
Denitrification rates	k_{1T}	0.700	-
Denitrification rates	k_{2T}	0.101	-
Denitrification rates	k_{3T}	0.080	-
Yield coefficient PAO	Y_{PAO}	0.45	gAVSS/gCOD
Yield coefficient PAO	$Y_{PAO,obs}$	0.20	gAVSS/gCOD
Endogenous respiration rate (decay)	b_{PAO_20}	0.04	gEVSS/gCOD
Temperature coefficient for $k_{F,T}$	$\Theta_{b,PAO}$	1.029	-
Endogenous respiration rate T	$b_{PAO,T}$	0.04	gEVSS/gVSSd

Stoichiometric Constants	Symbol	Value	Units
COD/BOD ratio	-	1.89	-
Readily biodeg. org. fraction (RBCOD)	$f_{s,COD}$	0.25	g/gTCOD
Non-biodegradable particulate COD	$f_{PNb,COD}$	0.15	g/gTCOD
Non-biodegradable soluble COD	$f_{SNb,COD}$	0.06	g/gTCOD
SVFA fraction of RBCOD	$f_{SVFA,SSi}$	0.15	$g/gCOD_{SS}$
VSS/TSS of activated sludge	f_{VT}	0.76	mgVSS/mgTSS
COD/VSS of activated sludge	f_{cv}	1.48	kgCOD/kgVSS
True synthesis fraction	f_s^0	0.57	-
Endogenous residue fraction	$f_{H/E,OHO}$	0.2	-
ISS content of OHOs	$f_{ISS,OHO}$	0.15	-
Active fraction - VSS	f_{avOHO}	23%	-
Active fraction - TSS	f_{at}	17%	-
Influent FSA fraction	$f_{FSA,i}$	0.67	-
Non-bio. soluble orgN fraction (inerts)	$f_{SNb,N}$	0.03	-
Non-bio. particulate orgN fraction	f_n	0.12	-
Permissible unaer. sludge mass fraction	f_{xm}	0.75	-
Design unaerated sludge mass fraction	f_{xt}	0.36	-
Minimum primary anoxic mass fraction	f_{x1min}	0.04	-
Primary anoxic mass fraction	f_{x1}	0.36	-
Secondary anoxic mass fraction	f_{x2}	0.00	-
Anaerobic mass fraction	f_{AN}	0.00	-
Non-bio. particulate orgP fraction	$f_{P,XE,OHO}$	0.05	mgP/mgVSS
Endogenous residue fraction	$f_{XE,PAO}$	0.25	gEVSS/gAVSS
P fraction in active PAO mass	$f_{P,PAO}$	0.38	gP/gAVSS
VSS/TSS ratio for PAO active mass	$f_{VT,PAO}$	0.46	gVSS/gTSS
Ratio of P release /VFA uptake	$f_{PO4,REL}$	0.5	gP/gCOD
Frac. of fixed inorganic s. solids of PAO	$f_{FSS,PAO}$	1.3	gFSS/gAVSS
P content of TSS	$f_{P,TSS}$	0.040	gP/gTSS
P content of VSS	$f_{P,FSS,i}$	0.02	gP/gVSS
TKN/COD ratio	f_{ns}	0.07	mgTKN/mgCOD
Nitrogen content of active biomass	$f_{N,VSS}$	0.10	gN/gAVSS

Biological Mass Balance	Symbol	Value	Units
Sludge age	SRT	25	d
Mixed liquor suspended solids	X_{TSS}	8,500	mgTSS/l
Readiable biodegradabe COD flux	$FS_{S,i}$	201	kgCOD/d
Daily flux of VFAs	$FS_{VFA,i}$	30	kgCOD/d
Daily flux of fermentable COD	$FS_{F,i}$	171	kgCOD/d
Daily flux of biodegradable COD	$FS_{bio,i}$	635	kgCOD/d
Daily flux of particulate inert COD	$FS_{PIN,i}$	121	kgCOD/d
Daily flux of fixed inorganic sus. solids	$FS_{ISS,i}$	45	kgISS/d
Influent particulate non-bio. COD	$FX_{VSS,i}$	82	kgVSS/d
Mass nitrogen into sludge prod.	FN_{Sludge}	19	kgN/d
Mass of nitrate generated per day	FN_{NO3}	35	kgN/d
VFAs stored by PAOs	$FS_{S,PAO}$	0	kgCOD/d
Remaining biodegradable COD	$FCOD_{b,OHO}$	635	kgCOD/d
Mass nitrifiers	MX_A	44	kgVSS
Active biomass PAO	MX_{PAO}	0	KgAVSS
Endogenous active biomass PAO	$MX_{E,PAO}$	0	kgEVSS
Bio mass	MX_{bio}	913	kgVSS
Active organism mass	MX_{OHO}	913	kgVSS
Endogenous residue mass	$MX_{E,OHO}$	1,096	kgVSS
Non-biodegradable particulate mass	MX_{Iv}	2,038	kgVSS
Volatile suspended solids mass	MX_{VSS}	4,047	kgVSS
Inorganic suspended solid mass	MX_{ISS}	1,261	kgISS
Total suspended solids mass	MX_{TSS}	5,308	kgTSS
Mass/Sludge TSS wasted	FX_t	212	KgTSS/d
Mass/Sludge VSS wasted	FX_V	162	kgVSS/d
Effluent COD	$S_{COD,e}$	51	mgCOD/l
COD mass out (effluent and waste)	$FS_{COD,e}$	48	kgCOD/d
Mass/Sludge COD wasted	$FX_{COD,s}$	240	kgCOD/d

Alkalinity	Symbol	Value	Units
Alkalinity Nitrification as CaCO3 (consumed)	Alk_{Nitri}	266	mg/l as $CaCO_3$
Alkalinity Denitrification as CaCO3 (recovered)	$Alk_{Denitri}$	134	mg/l as $CaCO_3$
Alkalinity ef	Alk_e	100	mg/l as $CaCO_3$
Alkalinity inf	Alk_i	250	mg/l as $CaCO_3$
Alkalinity Alum (consumed)	Alk_{Alum}	0.0	mg/l as $CaCO_3$
Alkalinity Total	Alk_{total}	118	mg/l as $CaCO_3$
Alkalinity Added	Alk_{added}	-18	mg/l as $CaCO_3$
Alkalinity Added	$XAlk_{added}$	0	lb/d
Density caustic solution (50%)	-	12.76	lb/gal
Alkalinity recovered	$Alk_{recovered}$	0.4	lb$CaCO_3$/lb
Caustic needed	-	0.0	lb/d
Caustic needed	-	0.0	gpd



$$V_p = \frac{MX_{TSS}}{X_{TSS}}$$

$$FX_t = \frac{MX_{TSS}}{SRT}$$

$$MX_{TSS} = MX_{ISS} + MX_{VSS}$$

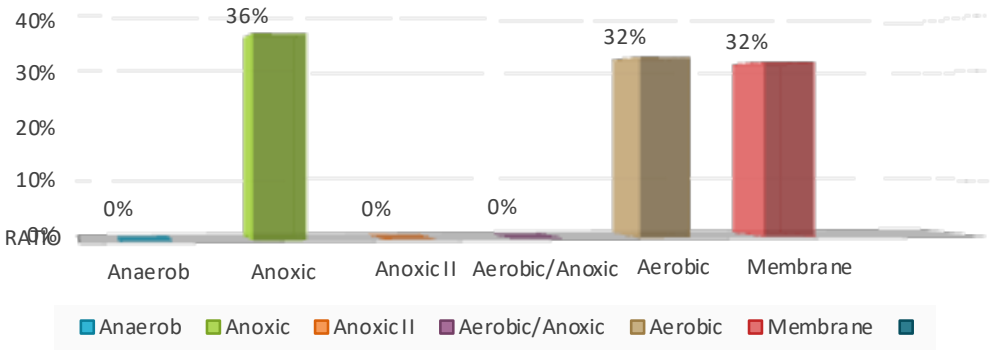
N Removal	Symbol	Value	Units
Factor of safety	S_f	1.2	-
Nitrogen requirements	FN_{synth}	16	kgN/d
Nitrogen requirements	$TKN_{i,synth}$	17.11	gN/m3
Influent non-bio. soluble organic N	$N_{nbios,i}$	1.8	mgN/l
Influent non-bio. particulate org. N	$N_{nbiop,i}$	10.3	mgN/l
Influent biodegradable organic N	$N_{bio,i}$	18.2	mgN/l
Effluent non-bio. soluble organic N	$N_{nbios,e}$	1.8	mgN/l
NH4 concentration avail. for nitri.	N_{an}	37.7	mgN/l
Effluent ammonia	$N_{a,e}$	0.4	mgN/l
Effluent TKN	$N_{TKN,e}$	2.2	mgN/l
N concentration into sludge prod.	N_s	20.5	mgN/l
Nitrification capacity	N_c	37.3	mgN/l
Denitrification potential RBCOD	$D_{p1RBCOD}$	30.0	$mgNO_3$-N/l
Denitrification potential SBCOD	$D_{p1SBCOD}$	35.2	$mgNO_3$-N/l
Denitrification potential RBCOD	$D_{p3RBCOD}$	0.0	$mgNO_3$-N/l
Denitrification potential SBCOD	$D_{p3SBCOD}$	0.0	$mgNO_3$-N/l
Minimum sludge age for nitri.	SRT_m	4.9	d
Denitrification potential primary tank	D_{p1}	65.3	mgN/l
Denitrification potential secondary tank	D_{p3}	0.0	mgN/l
Denitri. potential recycle rate ($f_{xm} = f_{xdm}$)	D_{p^*}	31.1	mgN/l
Effluent nitrate	$N_{NO3,e}$	0.0	mgN/l
Effluent nitrate @ f_{xdm} & recycle rate	N_{NO3,e^*}	6.2	mgN/l

P Removal	Symbol	Value	Units
COD lost in anaerobic reatcor	$S_{F,ANn}$	0.0	$gCOD/m^3$
COD lost in anaerobic reatcor	S_{F,ANn^*}	0.0	$gCOD/m^3$
Fermentable COD for AN reactor	$S_{F,I,conv}$	0.0	$gCOD/m^3$
DO in influent	$S_{O2,i}$	0.0	mgO_2/l
PO_4 release AN reactor	$S_{PO4,rel}$	0.0	gP/m^3
P removal by PAOs	ΔP_{PAO}	0.0	gP/m^3
P removal by OHOs	ΔP_{OHO}	1.2	gP/m^3
P removal by endgeneous biomass	ΔP_{XE}	2.3	gP/m^3
P removal by influent inert mass	ΔP_{XI}	4.3	gP/m^3
P into sludge production	P_s	6.9	gP/m^3
Potential P removal by system	$\Delta P_{SYS,POT}$	14.7	gP/m^3
Actual P removal by system	$\Delta P_{SYS,ACT}$	10.0	gP/m^3
Effluent particulate P from TSS	$X_{P,e}$	0.0	gP/m^3
Influent total P	P_i	10.0	gP/m^3
Effluent total P	P_{e^*}	0.0	gP/m^3
P precipitated	P_{prec}	0.0	mgP/l
Precipitation chemical	B_{Alum}	0.0	lb/d
Precipitation chemical	Solution	0.0	gal/d
Density Alum	z_{AL}^{3+}	0.100	lb_{AL}/lb_{prec}
Density Iron	z_{FE}^{3+}	0.077	lb_{FE}/lb_{prec}
Alum efficiency	-	40.0	g/kg
Chemical precipitation sludge	-	0.0	lb/d

Mechanical Process Calculation

Tank Dimensions	Trains	Length	Width	Dia.	Degree	Height	Liquid level	Volume per train	Volume Total	Volume Total
Anaerob	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Anoxic I	2	11.00 ft	25.50 ft	.00 ft	0.0	17.00 ft	14.98 ft	31,434 gal	62,869 gal	238.0 m3
Aerobic	2	10.00 ft	25.50 ft	.00 ft	0.0	17.00 ft	14.74 ft	28,117 gal	56,234 gal	212.8 m3
Anoxic II	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Anoxic Buffer	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Membrane	2	23.00 ft	11.00 ft	.00 ft	0.0	17.00 ft	14.50 ft	27,440 gal	54,881 gal	207.7 m3
Sludge	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
EQ	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3

Tank Design	Symbol	Value	Units			
Total process tank volume		173,983	gallons	Weir level	2.9	inches
Total process tank volume$_{calc}$		**164,976**	gallons	Weir length	5.0	ft
Unaerated tank percentage		36	%	Velocity	1.61	fps
Total tank volume		**173,983**	gallons	Vertical tank	0	
Membrane modules volume		5,924	gallons	Horz. Tank	0	
F/M$_{used,BOD}$		0.080	kgBOD/kgMLSS	Diameter	0	ft
F/M$_{used,COD}$		0.152	kgCOD/kgMLSS			



Process Volume Distribution

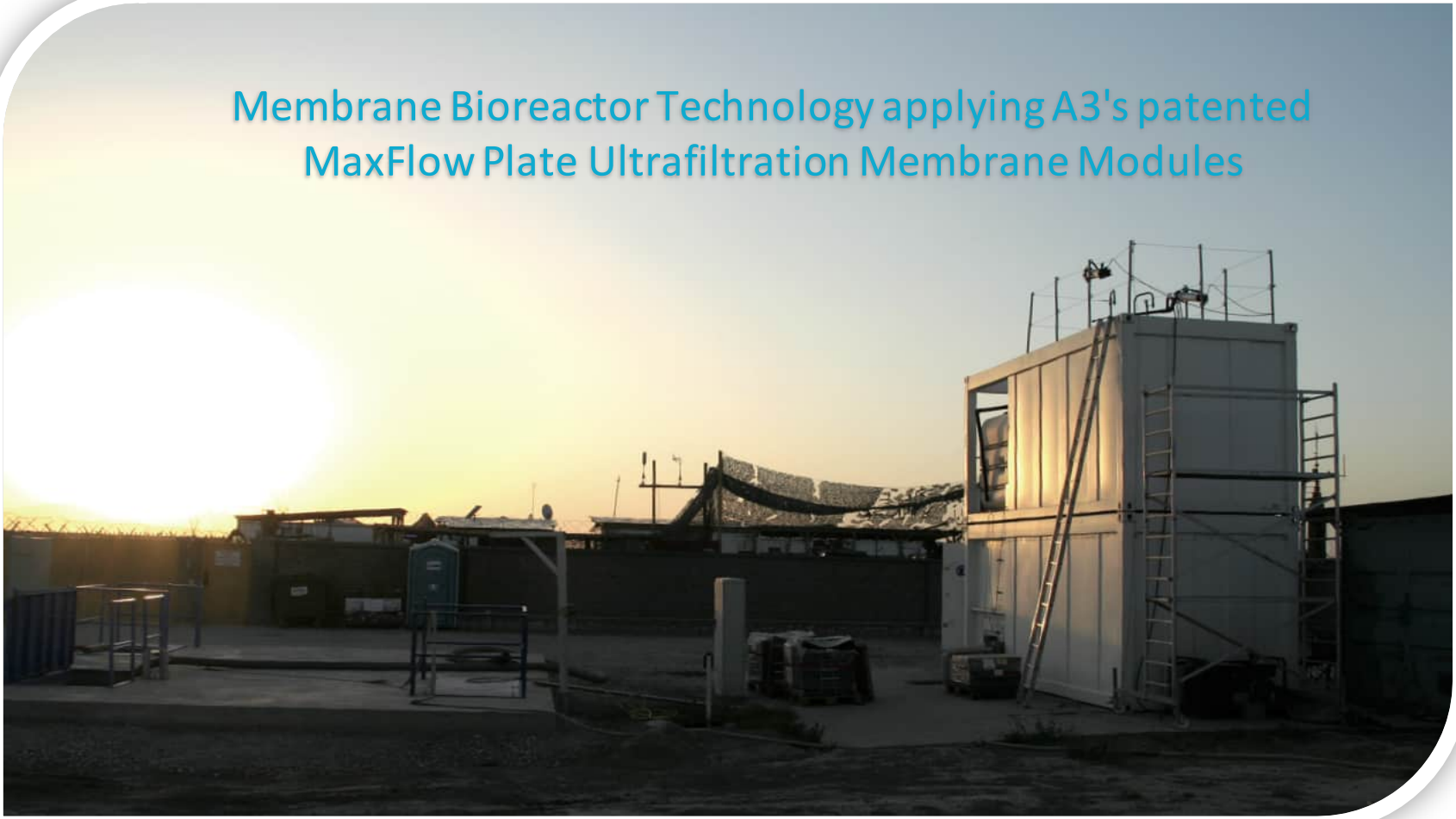
Air Flow Design	Symbol	Membrane per train	Aerobic per train	Sludge	EQ	Unit
Minimum air flow	$Q_{A,re}$	342	294	0	0	acfm / scfm
Chosen air flow - actual	$Q_{A,\ chosen}$	343	277	0	0	acfm
Chosen air flow - inlet	$Q_{A,chosen}$	635	500	0	0	m^3/h
Chosen air flow - inlet	$Q_{A,chosen}$	**374**	**294**	**0**	**0**	scfm
Chosen air flow - piping	$Q_{A,chosen}$	248	195	0	0	acfm
Pipe pressure	p_b	7.5	7.5	0.0	0.0	psi
Pipe losses	H	0.26	0.17	0.00	0.00	psi
Equivalent length in pipe looses	L_p	400	400	400	400	feet
Pipe diameter	d	4.0	4.0	2.0	2.0	inches
Internal pipe diameter	d_i	4.26	4.26	2.16	2.16	inches
Standard temperature	T_1	293	293	293	293	K
Pipe temperature	T_2	329	329	293	293	K
Constant	f	0.02	0.02	0.09	0.09	-
Air velocity	v	**41.7**	**32.9**	**0.0**	**0.0**	fps
Atmospheric pressure	$p_{a,l}$	14.7	14.7	14.7	14.7	psi
Absolute pressure	p_2	22.2	22.2	14.7	14.7	psi
Pressure due to tank liquid level	$p_{DWD,m}$	5.7	6.2	0.0	0.0	psi
Pressure due to aeration device	p_{DWD}	0.8	0.7	0.5	0.5	psi
Pressure due to pipe losses & elev.	$p_{DWD,S}$	0.5	0.4	0.2	0.2	psi
Total pipe losses	p_t	6.9	7.3	0.7	0.7	psi
Total pipe losses	p_t	476.9	501.0	48.3	48.3	mbar

$$H = 9.82 \cdot 10^{-8} \cdot \frac{\left(f \cdot L_p T_2 Q_{A,chosen}\right)}{\left(p_2 d_i\right)^5}$$

$$f = \frac{\left(0.029 \cdot d_i^{0.027}\right)}{Q_{A,chosen}^{0.148}} \qquad T_2 = T_1 \left(\frac{p_2}{p_{a,1}}\right)^{0.283}$$

MODERN WASTEWATER SOLUTIONS

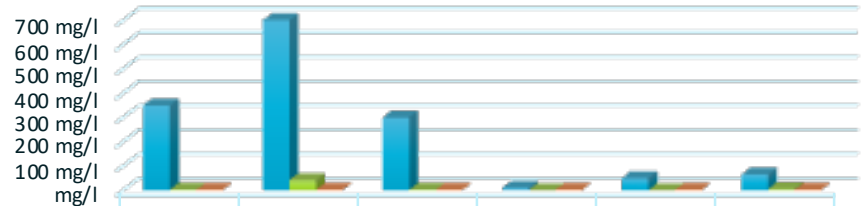
Budget Proposal # 913



A3-USA, Inc 1674 Fountaintown Road Chinquapin, NC 28521

Process Summary

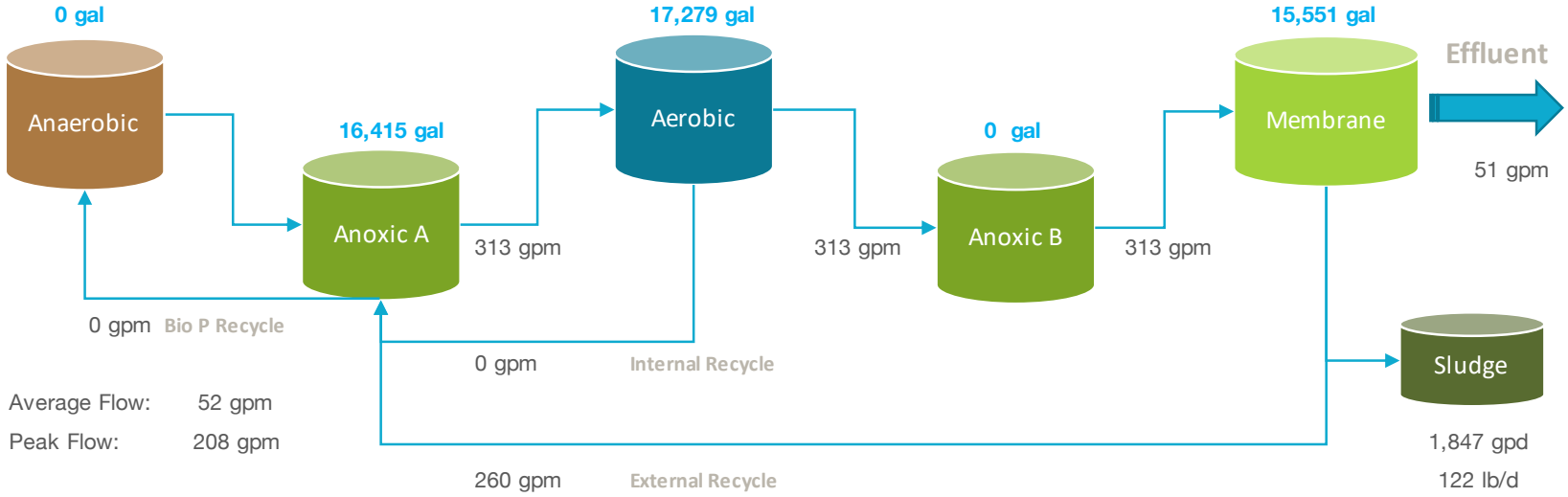
Influent & Effluent Parameters



	BOD	COD	TSS	P	NH4	TN
Influent	350 mg/l	700 mg/l	300 mg/l	10 mg/l	50 mg/l	65 mg/l
Effluent	2.0 mg/l	42.0 mg/l	1.0 mg/l	0.4 mg/l	0.3 mg/l	5.3 mg/l
Removal	99.4%	94.0%	99.7%	96.0%	99.3%	91.9%

PROCESS PARAMETERS

Sludge Age	25 d
Total Reactor Volume	49,245 gal
Total SOR	481 kgO2/d
MLSS in Anoxic / Aerobic Tank	7,894 mg/l
MLSS in Membrane Tank	9,553 mg/l
HRT	16 h
F/M RATIO (BOD)	0.071
F/M RATIO (COD)	0.142
Total Membrane Surface	22,669 sf



Aeration	Flow	Pressure
EQ	0 scfm	0.0 psi
Sludge	0 scfm	0.0 psi
Aerobic	194 scfm	6.0 psi
Membrane	382 scfm	6.0 psi

Applied Options:

NO DAF

NO RO

6/27/23

Biological Process Calculation

Influent Charateristics	Symbol	Value	Units
Type of wastewater		municipal	
Temperature	T	15	°C
pH	-	7.0	-
H_2CO_3 alkalinity	Alk_i	300	mg/l as $CaCO_3$
Site pressure / elevation	$p_{a,i}$	14.5	psi
Average daily flow	Q_i	75,000	gpd
Peak daily flow	$Q_{i,\ max,d}$	187,500	gpd
Hourly peak flow	$Q_{i,\ max,p}$	208	gpm
Peak factor	-	4.0	-
Average daily flow	Q_i	284	m^3/d
Max. monthly average daily flow	$Q_{i,\ max,d}$	710	m^3/d
Hourly peak flow	$Q_{i,\ max,h}$	47.3	m^3/h
Total BOD	$S_{BOD,i}$	350	mgBOD/l
Total COD	$S_{COD,i}$	700	mgCOD/l
COD/BOD ratio	-	2.00	-
Rapidly biodegradable COD	$S_{s,i}$	175	mgCOD/l
Volitale fatty acids (VFA)	$S_{VFA,i}$	26	mgCOD/l
Fermentable COD	$S_{F,i}$	149	mgCOD/l
Slowly biodegradable COD	$S_{ss,i}$	378	mgCOD/l
Biodegradable COD	$S_{bio,i}$	553	mgCOD/l
Soluble inert COD	$S_{SIN,i}$	42	mgCOD/l
Particulate inert COD	$S_{PIN,i}$	105	mgCOD/l

Influent Charateristics	Symbol	Value	Units
NO_3	$N_{NO3,i}$	0.0	mg/l
NH_4	$N_{a,i}$	50.0	mg/l
TKN	$N_{TKN,i}$	65.0	mg/l
TP	P_i	10.0	mg/l
Dissolved Oxygen	$S_{O2,i}$	0.0	mg/l
FSA fraction	$f_{a/TKN,i}$	0.8	-
Fixed (inorganic) suspended solids	$X_{FSS,i}$	47.5	mgISS/l
TSS concentration	$S_{TSS,i}$	300.0	mgTSS/l
Total BOD mass	$FS_{BOD,i}$	99.4	kgBOD/d
Total COD mass	$FS_{COD,i}$	198.7	kgCOD/d
Total NH_4 mass	$FS_{a,i}$	14.2	kgNH_4/d
Total TKN mass	$FS_{TKN,i}$	18.5	kgTKN/d
Total P mass	$FS_{P,i}$	2.8	kgP/d

Effluent Characteristics	Symbol	Value	Units
Waste Sludge	FX_t	122	lb/d
Waste Sludge	Q_w	1,847	gpd
Effluent BOD	$S_{BOD,e}$	< 3	mgBOD/l
Effluent COD	$S_{COD,e}$	42	mgCOD/l
Effluent TSS	$S_{TSS,e}$	1.0	mgTSS/l
Effluent P	P_e	0.4	mgP/l
Effluent NH_4	$N_{a,e}$	0.3	mgN/l
Effluent NO_3	$N_{NO3,e}$	3.0	mgN/l
Effluent TN (N_{ne} + N_{te})	$N_{t,e}$	5.3	mgN/l

Bioreactor Characteristics	Symbol	Value	Units
Temperature	T_{bio}	15	°C
Sludge retention time / Sludge age	SRT	25	d
Reactor volume	$V_{P,chosen}$	49,245	gallons
Reactor volume	$V_{P,chosen}$	186	m^3
Reactor volume	$V_{P,calc}$	46,183	gallons
Average MLSS concentration	X_{TSS}	8,000	mgTSS/l
Food to microorganism ratio	$F/M_{BOD,used}$	0.071	kgBOD/kgMLSS
Food to microorganism ratio	$F/M_{COD,used}$	0.142	kgCOD/kgMLSS
Membrane tank MLSS concentration	X_M	9,553	mgTSS/l
Aerobic/Anoxic tank MLSS concentration	X_{Bio}	7,894	mgTSS/l
Number of anaerobic zones	$\#_{AN}$	0	-
Number of anoxic zones	$\#_{AO}$	1	-
Number of aerobic zones	$\#_{AE}$	1	-
External recycle ratio	m	5	-
Internal recycle ratio	a	0	-
DO in m recycle	O_m	1	mgO_2/l
DO in a recycle	O_a	0	mgO_2/l
Recycle ratio to anaerobic tank (PAO)	s	0	-
DO in s recycle	$S_{O2,s}$	0	mgO_2/l
Nitrate on s recycle	$S_{NO3,s}$	0	mg/l
TKN/COD ratio	$f_{TKN/COD}$	0.093	mgTKN/mgCOD
Carbon source addition (Micro C)	B_{MicroC}	0.0	lb/d
Carbon source addition (Micro C)	S_{MicroC}	0.00	gpd
Nominal hydraulic retention time	HRT_n	15.8	h
Actual hydraulic retention time	HRT_a	2.6	h

Biological Oxygen Demand	Symbol	Value	Units
OD for synth & endo respiration (PAO)	FO_{PAO}	0	kgO_2/d
OD for synth & endo respiration (OHO)	FO_{OHO}	126	kgO_2/d
Mass carbonaceous oxygen demand	FO_C	126	kgO_2/d
Carbonaceous oxygen utilization rate	O_c	68%	-
Nitrification oxygen demand	FO_n	59	kgO_2/d
Total oxygen demand	FO_t	185	kgO_2/d
Oxygen recovered by denitrification	FO_d	35	kgO_2/d
Net total oxygen demand (AOR)	FO_{td}	151	kgO_2/d
Oxygen saturation @ operating temp.	c_s	10.2	mg/l
Desired oxygen level	c_x	2.0	mg/l
Transfer coefficient	α	0.40	-
Diffuser water depth	DWD	10	feet
Oxygen transfer efficiency	OTE	2	%
Standard total oxygen demand (SOR)	SOR	481	kgO_2/d
Required air flow	Q_{air}	**212**	scfm
Oxygen requir. per volume & depth	OS	18.3	$gO_2/(Nm_3*m_D)$

Membrane Module Design	Symbol	Value	Units
Permeate on cycle	T_o	8	minute
Permeate off cycle (relaxation)	T_s	2	minute
Effective membrane module surface	$A_{m,eff}$	87.8	m^2
Effective membrane module surface	$A_{m,eff}$	945	ft^2
Total number of membrane modules	N_M	24	-
Total membrane module surface	A_{total}	2,106	m^2
Total membrane module surface	A_{total}	22,669	ft^2
Nominal average daily flux	$Q_{ave,n}$	7.0	lmh
Nominal max. daily flux	$Q_{ave,n,max,mo}$	17.6	lmh
Nominal peak hourly flux	$Q_{peak,n}$	28.1	lmh
Average daily flux (excluding rest cycle)	$Q_{ave,n}$	**3.3**	gfd
Max. Daily flux (ex. rest cycle)	$Q_{ave,n,max,mo}$	**8.3**	gfd
Peak hourly flux (ex. rest cycle)	$Q_{peak,n}$	**13.2**	gfd
Total membrane module displacement vol.	$V_{modules}$	264	ft^3
Total membrane module displacement vol.	$V_{modules}$	1,975	gallons
Aeration modules	A#	12	-
Membrane module aeration requirement	Q_{am}	28.5	acfm
Total membrane modules aeration	$Q_{am,total}$	342	acfm
Membrane diffuser water depth	DWD_m	9.0	feet
Oxygen requirement per volume & depth	OS	14	$gO_2/(Nm_3*m_D)$
Standard oxygen rate, membrane aeration	SOR_m	1,144	lbO_2/d
Standard oxygen rate, membrane aeration	SOR_m	524	kgO_2/d

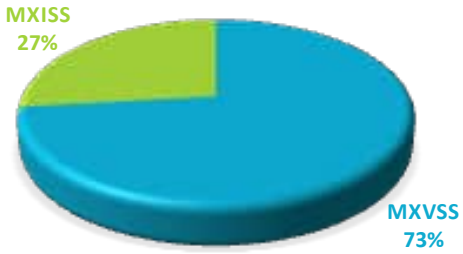
- ✓ Patented, innovative A3's MaxFlow™ membrane filtration modules manufactured in USA.
- ✓ The MaxFlow™ module "open channel design" provides optimal biofilm control, minimizes the quantity of chemical cleaning procedures and avoids module clogging.
- ✓ The compact module design enables dual-stack and triple-stack installations. It allows for a high membrane packing density resulting in a small footprint and high energy efficiency.
- ✓ Most existing conventional treatment plants can be retrofitted with MaxFlow™ membranes due to the

Kinetic Constants	Symbol	Value	Units
Yield coefficient OHO	Y_{OHO}	0.40	mgVSS/mgCOD
Yield coefficient OHO,OBS	$Y_{OHO,obs}$	0.06	mgVSS/mgCOD
Fermentation rate at 20°C	$k_{F,20}$	0.06	m3/gVSSd
Temperature coefficient for $k_{F,T}$	Θ_{kF}	1.029	-
Fermentation rate at T	$k_{F,T}$	0.05	m3/gVSSd
Endogenous respiration rate (decay)	$b_{OHO,20}$	0.24	gVSS/gVSSd
Endogenous respiration rate T	$b_{OHO,T}$	0.21	gVSS/gVSSd
Yield coefficient FSA	Y_A	0.10	mgVSS/mgFSA
Nitri. pH sensitivity coefficient	K_I	1.13	-
Nitri. pH sensitivity coefficient	K_{max}	9.50	-
Nitri. pH sensitivity coefficient	K_{II}	0.30	-
Max. specific growth rate at 20°C	μ_{Am}	0.45	1/d
Max. spec. growth rate - Temp/pH	μ_{AmTpH}	0.21	1/d
Half saturation coefficient	K_n	0.75	mgFSA/l
Half saturation coefficient - Temp	K_{nT}	0.42	mgFSA/l
Endogenous respiration rate (decay)	b_A	0.04	1/d
Temperature coefficient for $k_{F,T}$	θ_n	1.123	-
Endogenous respiration rate T	b_{AT}	0.022	1/d
Temperature sensitivity coefficient	Θ_{nk1}	1.20	-
Temperature sensitivity coefficient	Θ_{nk2}	1.05	-
Temperature sensitivity coefficient	Θ_{nk3}	1.03	-
Denitrification rates at 20°C	k_1	0.70	-
Denitrification rates at 20°C	k_2	0.10	-
Denitrification rates at 20°C	k_3	0.08	-
Denitrification rates	k_{1T}	0.281	-
Denitrification rates	k_{2T}	0.079	-
Denitrification rates	k_{3T}	0.069	-
Yield coefficient PAO	Y_{PAO}	0.45	gAVSS/gCOD
Yield coefficient PAO	$Y_{PAO,obs}$	0.22	gAVSS/gCOD
Endogenous respiration rate (decay)	b_{PAO_20}	0.04	gEVSS/gCOD
Temperature coefficient for $k_{F,T}$	$\Theta_{b,PAO}$	1.029	-
Endogenous respiration rate T	$b_{PAO,T}$	0.03	gEVSS/gVSSd

Stoichiometric Constants	Symbol	Value	Units
COD/BOD ratio	-	2.00	-
Readily biodeg. org. fraction (RBCOD)	$f_{s,COD}$	0.25	g/gTCOD
Non-biodegradable particulate COD	$f_{PNb,COD}$	0.15	g/gTCOD
Non-biodegradable soluble COD	$f_{SNb,COD}$	0.06	g/gTCOD
SVFA fraction of RBCOD	$f_{SVFA,SSi}$	0.15	$g/gCOD_{SS}$
VSS/TSS of activated sludge	f_{VT}	0.73	mgVSS/mgTSS
COD/VSS of activated sludge	f_{cv}	1.48	kgCOD/kgVSS
True synthesis fraction	f_s^0	0.57	-
Endogenous residue fraction	$f_{H/E,OHO}$	0.2	-
ISS content of OHOs	$f_{ISS,OHO}$	0.15	-
Active fraction - VSS	f_{avOHO}	25%	-
Active fraction - TSS	f_{at}	18%	-
Influent FSA fraction	$f_{FSA,i}$	0.77	-
Non-bio. soluble orgN fraction (inerts)	$f_{SNb,N}$	0.03	-
Non-bio. particulate orgN fraction	f_n	0.12	-
Permissible unaer. sludge mass fraction	f_{xm}	0.65	-
Design unaerated sludge mass fraction	f_{xt}	0.33	-
Minimum primary anoxic mass fraction	f_{x1min}	0.08	-
Primary anoxic mass fraction	f_{x1}	0.33	-
Secondary anoxic mass fraction	f_{x2}	0.00	-
Anaerobic mass fraction	f_{AN}	0.00	-
Non-bio. particulate orgP fraction	$f_{P,XE,OHO}$	0.05	mgP/mgVSS
Endogenous residue fraction	$f_{XE,PAO}$	0.25	gEVSS/gAVSS
P fraction in active PAO mass	$f_{P,PAO}$	0.38	gP/gAVSS
VSS/TSS ratio for PAO active mass	$f_{VT,PAO}$	0.46	gVSS/gTSS
Ratio of P release /VFA uptake	$f_{PO4,REL}$	0.5	gP/gCOD
Frac. of fixed inorganic s. solids of PAO	$f_{FSS,PAO}$	1.3	gFSS/gAVSS
P content of TSS	$f_{P,TSS}$	0.041	gP/gTSS
P content of VSS	$f_{P,FSS,i}$	0.02	gP/gVSS
TKN/COD ratio	f_{ns}	0.09	mgTKN/mgCOD
Nitrogen content of active biomass	$f_{N,VSS}$	0.10	gN/gAVSS

Biological Mass Balance	Symbol	Value	Units
Sludge age	SRT	25	d
Mixed liquor suspended solids	X_{TSS}	8,000	mgTSS/l
Readiable biodegradabe COD flux	$FS_{S,i}$	50	kgCOD/d
Daily flux of VFAs	$FS_{VFA,i}$	7	kgCOD/d
Daily flux of fermentable COD	$FS_{F,i}$	42	kgCOD/d
Daily flux of biodegradable COD	$FS_{bio,i}$	157	kgCOD/d
Daily flux of particulate inert COD	$FS_{PIN,i}$	30	kgCOD/d
Daily flux of fixed inorganic sus. solids	$FS_{ISS,i}$	13	kgISS/d
Influent particulate non-bio. COD	$FX_{VSS,i}$	20	kgVSS/d
Mass nitrogen into sludge prod.	FN_{Sludge}	5	kgN/d
Mass of nitrate generated per day	FN_{NO3}	13	kgN/d
VFAs stored by PAOs	$FS_{S,PAO}$	0	kgCOD/d
Remaining biodegradable COD	$FCOD_{b,OHO}$	157	kgCOD/d
Mass nitrifiers	MX_A	21	kgVSS
Active biomass PAO	MX_{PAO}	0	KgAVSS
Endogenous active biomass PAO	$MX_{E,PAO}$	0	kgEVSS
Bio mass	MX_{bio}	255	kgVSS
Active organism mass	MX_{OHO}	255	kgVSS
Endogenous residue mass	$MX_{E,OHO}$	265	kgVSS
Non-biodegradable particulate mass	MX_{Iv}	503	kgVSS
Volatile suspended solids mass	MX_{VSS}	1,023	kgVSS
Inorganic suspended solid mass	MX_{ISS}	375	kgISS
Total suspended solids mass	MX_{TSS}	1,398	kgTSS
Mass/Sludge TSS wasted	FX_t	56	KgTSS/d
Mass/Sludge VSS wasted	FX_V	41	kgVSS/d
Effluent COD	$S_{COD,e}$	42	mgCOD/l
COD mass out (effluent and waste)	$FS_{COD,e}$	12	kgCOD/d
Mass/Sludge COD wasted	$FX_{COD,s}$	61	kgCOD/d

Alkalinity	Symbol	Value	Units
Alkalinity Nitrification as CaCO3 (consumed)	Alk_{Nitri}	324	mg/l as $CaCO_3$
Alkalinity Denitrification as CaCO3 (recovered)	$Alk_{Denitri}$	174	mg/l as $CaCO_3$
Alkalinity ef	Alk_e	100	mg/l as $CaCO_3$
Alkalinity inf	Alk_i	300	mg/l as $CaCO_3$
Alkalinity Alum (consumed)	Alk_{Alum}	0.0	mg/l as $CaCO_3$
Alkalinity Total	Alk_{total}	150	mg/l as $CaCO_3$
Alkalinity Added	Alk_{added}	-50	mg/l as $CaCO_3$
Alkalinity Added	$XAlk_{added}$	0	lb/d
Density caustic solution (50%)	-	12.76	lb/gal
Alkalinity recovered	$Alk_{recovered}$	0.4	lb$CaCO_3$/lb
Caustic needed	-	0.0	lb/d
Caustic needed	-	0.0	gpd



$$V_p = \frac{MX_{TSS}}{X_{TSS}}$$

$$FX_t = \frac{MX_{TSS}}{SRT}$$

$$MX_{TSS} = MX_{ISS} + MX_{VSS}$$

N Removal	Symbol	Value	Units
Factor of safety	S_f	1.2	-
Nitrogen requirements	FN_{synth}	4	kgN/d
Nitrogen requirements	$TKN_{i,synth}$	14.42	gN/m3
Influent non-bio. soluble organic N	$N_{nbios,i}$	1.95	mgN/l
Influent non-bio. particulate org. N	$N_{nbiop,i}$	8.5	mgN/l
Influent biodegradable organic N	$N_{bio,i}$	13.1	mgN/l
Effluent non-bio. soluble organic N	$N_{nbios,e}$	1.95	mgN/l
NH4 concentration avail. for nitri.	N_{an}	45.8	mgN/l
Effluent ammonia	$N_{a,e}$	0.3	mgN/l
Effluent TKN	$N_{TKN,e}$	2.3	mgN/l
N concentration into sludge prod.	N_s	17.3	mgN/l
Nitrification capacity	N_c	45.4	mgN/l
Denitrification potential RBCOD	$D_{p1RBCOD}$	24.7	$mgNO_3$-N/l
Denitrification potential SBCOD	$D_{p1SBCOD}$	23.7	$mgNO_3$-N/l
Denitrification potential RBCOD	$D_{p3RBCOD}$	0.0	$mgNO_3$-N/l
Denitrification potential SBCOD	$D_{p3SBCOD}$	0.0	$mgNO_3$-N/l
Minimum sludge age for nitri.	SRT_m	8.4	d
Denitrification potential primary tank	D_{p1}	48.4	mgN/l
Denitrification potential secondary tank	D_{p3}	0.0	mgN/l
Denitri. potential recycle rate ($f_{xm} = f_{xdm}$)	D_{p^*}	39.6	mgN/l
Effluent nitrate	$N_{NO3,e}$	3.0	mgN/l
Effluent nitrate @ f_{xdm} & recycle rate	N_{NO3,e^*}	7.6	mgN/l

P Removal	Symbol	Value	Units
COD lost in anaerobic reatcor	$S_{F,ANn}$	0.0	$gCOD/m^3$
COD lost in anaerobic reatcor	S_{F,ANn^*}	0.0	$gCOD/m^3$
Fermentable COD for AN reactor	$S_{F,I,conv}$	0.0	$gCOD/m^3$
DO in influent	$S_{O2,i}$	0.0	mgO_2/l
PO_4 release AN reactor	$S_{PO4,rel}$	0.0	gP/m^3
P removal by PAOs	ΔP_{PAO}	0.0	gP/m^3
P removal by OHOs	ΔP_{OHO}	1.1	gP/m^3
P removal by endgeneous biomass	ΔP_{XE}	1.9	gP/m^3
P removal by influent inert mass	ΔP_{XI}	3.5	gP/m^3
P into sludge production	P_s	5.8	gP/m^3
Potential P removal by system	$\Delta P_{SYS,POT}$	12.3	gP/m^3
Actual P removal by system	$\Delta P_{SYS,ACT}$	10.0	gP/m^3
Effluent particulate P from TSS	$X_{P,e}$	0.0	gP/m^3
Influent total P	P_i	10.0	gP/m^3
Effluent total P	P_{e^*}	0.0	gP/m^3
P precipitated	P_{prec}	0.0	mgP/l
Precipitation chemical	B_{Alum}	0.0	lb/d
Precipitation chemical	Solution	0.0	gal/d
Density Alum	z_{AL}^{3+}	0.100	lb_{AL}/lb_{prec}
Density Iron	z_{FE}^{3+}	0.077	lb_{FE}/lb_{prec}
Alum efficiency	-	40.0	g/kg
Chemical precipitation sludge	-	0.0	lb/d

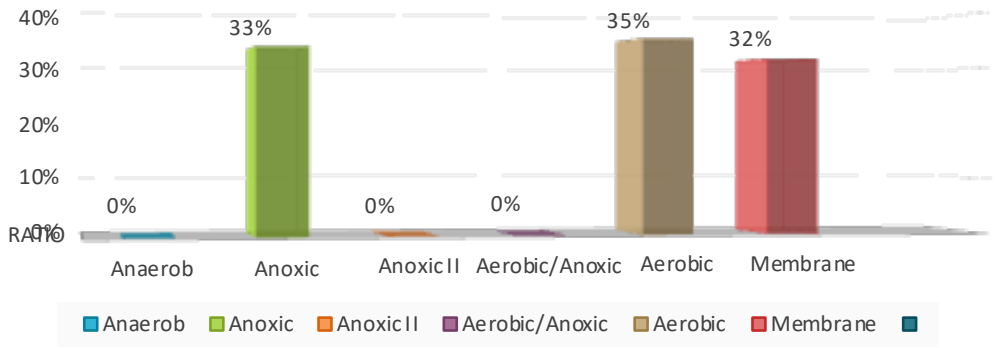
Mechanical Process Calculation

Tank Dimensions	Trains	Length	Width	Dia.	Degree	Height	Liquid level	Volume per train	Volume Total	Volume Total
Anaerobic	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Anoxic I	1	19.00 ft	11.00 ft	.00 ft	0.0	12.00 ft	10.50 ft	16,415 gal	16,415 gal	62.1 m3
Aerobic	1	20.00 ft	11.00 ft	.00 ft	0.0	12.00 ft	10.50 ft	17,279 gal	17,279 gal	65.4 m3
Anoxic II	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Anoxic Buffer	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
Membrane	1	18.00 ft	11.00 ft	.00 ft	0.0	12.00 ft	10.50 ft	15,551 gal	15,551 gal	58.9 m3
Sludge	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3
EQ	0	.00 ft	.00 ft	.00 ft	0.0	.00 ft	.00 ft	gal	gal	0.0 m3

57.0

Tank Design	Symbol	Value	Units
Total process tank volume		49,245	gallons
Total process tank volume$_{calc}$		**46,183**	gallons
Unaerated tank percentage		33	%
Total tank volume		**49,245**	gallons
Membrane modules volume		1,975	gallons
F/M$_{used,BOD}$		0.071	kgBOD/kgMLSS
F/M$_{used,COD}$		0.142	kgCOD/kgMLSS

Weir level	0.8	inches
Weir length	11.0	ft
Velocity	0.83	fps
Vertical tank	0	
Horz. Tank	0	
Diameter	0	ft



Process Volume Distribution

Air Flow Design	Symbol	Membrane per train	Aerobic per train	Sludge	EQ	Unit
Minimum air flow	$Q_{A,re}$	342	212	0	0	acfm / scfm
Chosen air flow - actual	$Q_{A,\ chosen}$	343	178	0	0	acfm
Chosen air flow - inlet	$Q_{A,chosen}$	649	329	0	0	m^3/h
Chosen air flow - inlet	$Q_{A,chosen}$	**382**	**194**	**0**	**0**	scfm
Chosen air flow - piping	$Q_{A,chosen}$	270	137	0	0	acfm
Pipe pressure	p_b	6.0	6.0	0.0	0.0	psi
Pipe losses	H	0.48	0.52	0.00	0.00	psi
Equivalent length in pipe looses	L_p	600	600	400	400	feet
Pipe diameter	d	4.0	3.0	3.0	2.0	inches
Internal pipe diameter	d_i	4.26	3.26	3.26	2.16	inches
Standard temperature	T_1	293	293	293	293	K
Pipe temperature	T_2	323	323	293	293	K
Constant	f	0.02	0.02	0.06	0.09	-
Air velocity	v	**45.5**	**39.4**	**0.0**	**0.0**	fps
Atmospheric pressure	$p_{a,l}$	14.5	14.5	14.5	14.5	psi
Absolute pressure	p_2	20.5	20.5	14.5	14.5	psi
Pressure due to tank liquid level	$p_{DWD,m}$	3.9	4.4	0.0	0.0	psi
Pressure due to aeration device	p_{DWD}	0.8	0.7	0.5	0.5	psi
Pressure due to pipe losses & elev.	$p_{DWD,S}$	0.9	0.9	0.4	0.4	psi
Total pipe losses	p_t	5.6	6.0	0.9	0.9	psi
Total pipe losses	p_t	386.1	411.7	62.1	62.1	mbar

$$H = 9.82 \cdot 10^{-8} \cdot \frac{\left(f \cdot L_p T_2 Q_{A,chosen}\right)}{\left(p_2 d_i\right)^5}$$

$$f = \frac{\left(0.029 \cdot d_i^{0.027}\right)}{Q_{A,chosen}^{0.148}} \qquad T_2 = T_1 \left(\frac{p_2}{p_{a,1}}\right)^{0.283}$$

AGAPE OAKS WWTP DESIGN FEATURES

- The area to be occupied by the WWTP is a new large-scale subdivision to be serviced by a new area electric power system which should ensure reliable electric power.
- Back-up generator with capacity to power entire WWTP.
- Generator will have an Automatic Transfer Switch (ATS) for automatic transfer to generator in the event of power loss from electric utility.
- Tanks are over sized to allow for surges in flow.
- Control systems and pumps will be in an enclosed building for protection from weather induced problems.
- Alarm systems monitored by the use of SCADA

ATTACHMENT P

FLOODPLAIN MAP & PROTECTION

National Flood Hazard Layer FIRMette

FEMA

98°57'14"W 29°6'7"N

98°56'37"W 29°5'36"N

Feet 1:6,000

0 250 500 1,000 1,500 2,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

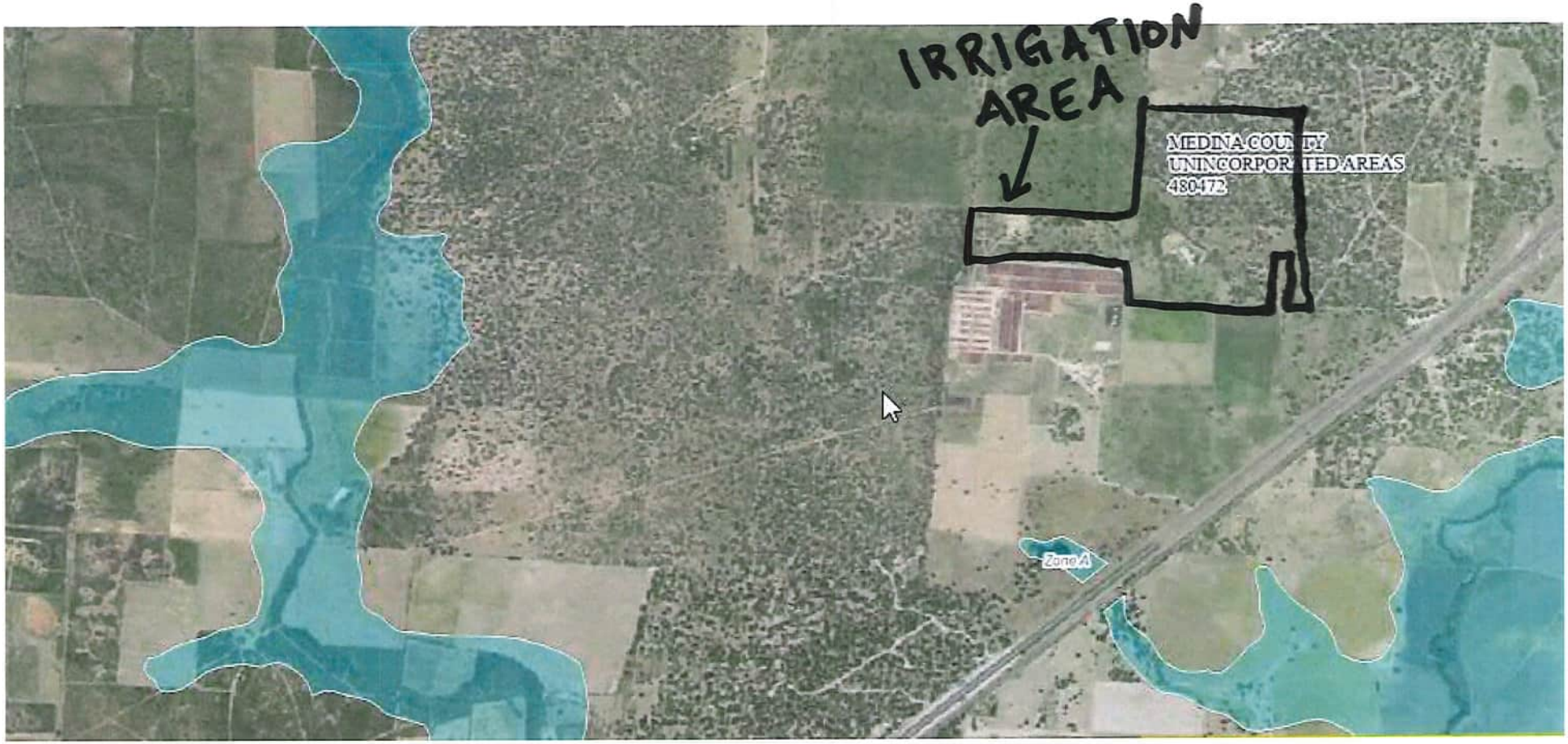
N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

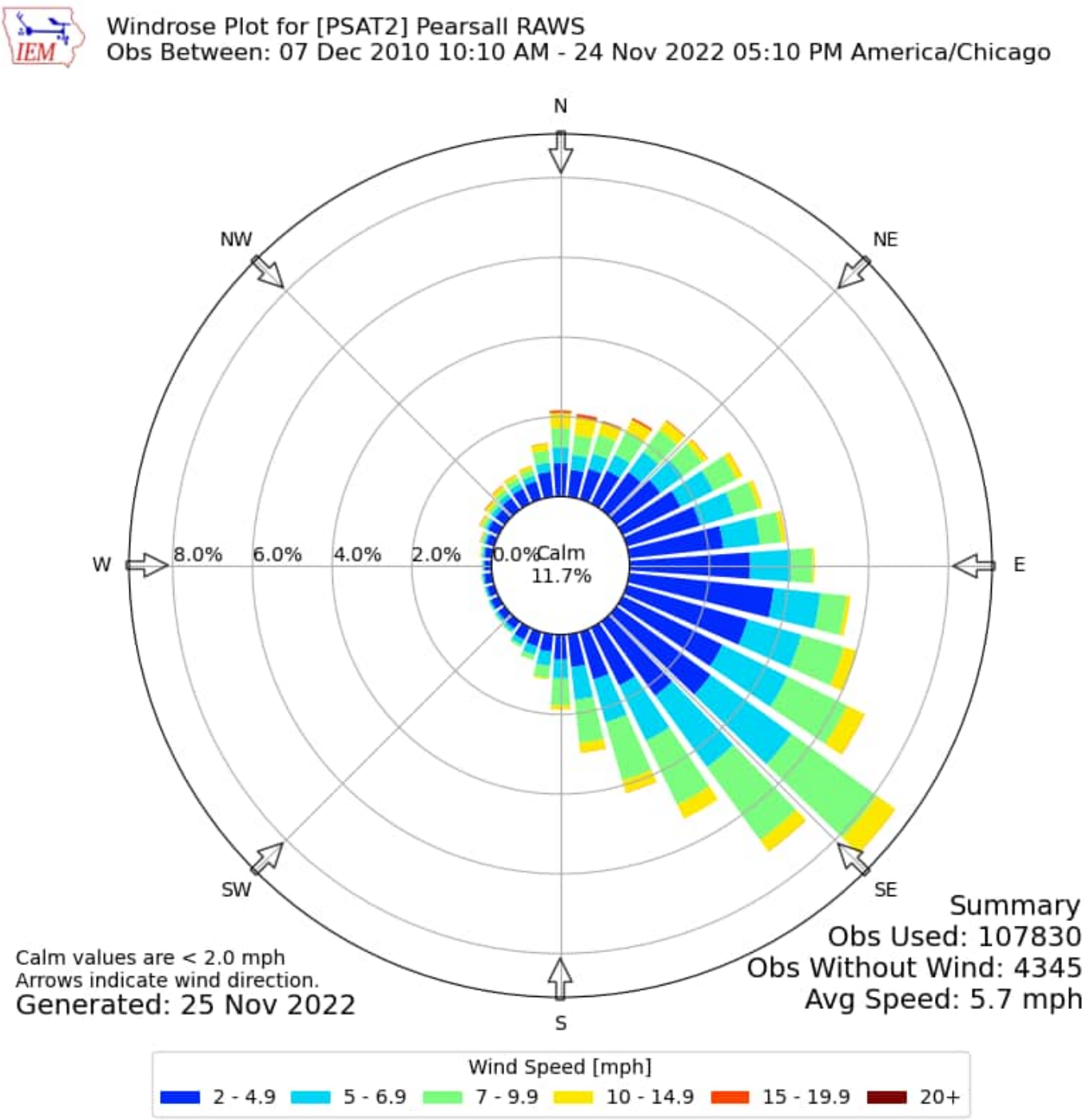
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/5/2023 at 11:04 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.


IRRIGATION AREA
MEDINA COUNTY
UNINCORPORATED AREAS
480472
Zone A

ATTACHMENT Q

WIND ROSE



Monthly Climatology: (click thumbnail)

ATTACHMENT R

SOLIDS MANAGEMENT PLAN

Attachment-R
Sewage Sludge Solids Management Plan
Agape Oaks Wastewater Treatment Plant
Municipal Wastewater Permit Application

The proposed permanent 250,000 gpd wastewater treatment plant will be constructed in one(1) 75,000 gpd and two (2) 125,000 gpd phases. An extended aeration activated sludge process with chemical precipitation of phosphorous is proposed. The plant will include fine screens, equalization basin, anoxic and aerobic reactors with membranes for solids separation, a UV light contact chamber and sludge press.

Solids collected by the membrane filters will be diverted to the sludge press at a rate of 8,914 gpd. This flow will contain 466 pounds (lbs.) of solid sludge. The sludge press will dewater the liquid sludge to a semi-solid state containing approximately twenty four percent (24%) solids resulting in a production of six cubic yards (1.5 CY)(41 cubic feet) of semi-solid sludge produced daily. Supernatant from the sludge press will be returned to the headworks of the plant for treatment.

The thickened sludge from the screw press will drop directly into containers provided by a licensed hauler will transfer the boxes to their licensed facility for disposal.

The size of container provided will be determined by the licensed hauler to meet their schedule and limitations on weight restrictions for hauling.

The following chart presents the sludge solids generated by the process as well as the sludge solids and volumes that would need to be removed from the plant.

% Plant Capacity	Flow GPD	Pounds Sludge Solids Removed / Day	Semi-Solid Volume (ft^3) / Day
100%	250,000	466	41
75%	187,500	350	31
50%	125,000	233	21
25%	62,500	117	11

ATTACHMENT S

ANNUAL CROPPING PLAN

Attachment S

Annual Cropping Plan

The wastewater treatment plant will produce effluent meeting TCEQ standards as Type 1 effluent. This facility is located in Medina County. Medina County has established a policy that ground water produced in the County must be utilized in the County for new subdivisions. Agape Oaks will utilize all the treated effluent as water for hay fields in non-developed areas. Plantings will be Bermuda grass for warm weather and winter rye for cool weather. The site is covered with sandy loam with a high concentration of organic material due to the many years of operation as a feedlot. The hay field areas will be harvested at the maximum rate possible for maximum revenue. Fertilizer will be added as needed to maximize hay production.

Bermuda grass has a high salt tolerance of ECe ranging from 24 to 33 dS m-1. The growing season in Texas is the warm months from early Spring through late Fall. Rye grass has a Moderate salt tolerance of Ece ranging from 4 to 8 dS m-1. The growing season for rye is from late fall to early Spring.

The wastewater from the treatment plant is from residential sources and combined with the use of membrane technology the salinity level of the effluent should be very low.

ATTACHMENT T

WELL MAP AND INFORMATION

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

GHOST HILL QUADRANGLE
TEXAS
7.5-MINUTE SERIES

THERE ARE NO WELLS WITHIN 1 MILE ABOVE THE LAND APPLICATION SITE BOUNDARY, THEREFORE ANOTHER TOPO MAP IS NOT SHOWN

1 MILE RADIUS

IRRIGATION AREA 134 ACRES

LAND APPLICATION SITE BOUNDARY

150' BUFFER ZONE

EFFLUENT STORAGE POND

TREATMENT FACILITY

WIS

Devine

Ghost Hill

MEDINA CO
FRIO CO

I-35 ACCESS RD

CO RD 7711
CO RD 7712
CO RD 7713
CO RD 7714
CO RD 7716
CO RD 7611
CO RD 7612
CO RD 7613
CO RD 2415
CO RD 1657
CO RD 2537
CO RD 2442
CO RD 2400
CO RD 2814
CO RD 2345
CO RD 2531
CO RD 2419
CO RD 2715
CO RD 2400
FM 3179
FM 2779
FM 2745
FM 2705
FM 2707
FM 462
JOHNSON RD
SAN MIGUEL RD
CURTIS RD
STEWART RD
BUSH RD
WEIDLER RD
LONGVIEW

Chacon Cr
San Francisco Perez Cr
Black Cr
Moore Hollow
San Miguel Cr
Elm Cr
Siesteders Cr
Cox Reservoir

Moore Cem
Longview Cem

-98.8750°
29.1250°
-98.8750°
29.0000°

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 14R
This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....HAIP, September 2016 - December 2016
Roads.....U.S. Census Bureau, 2015 - 2019
Names.....GNIS, 1979 - 2022
Hydrography.....National Hydrography Dataset, 2002 - 2018
Contours.....National Elevation Dataset, 2019
Boundaries.....Multiple sources; see metadata file 2019 - 2021

Wetlands.....FWS National Wetlands Inventory Not Available

UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

MN
GN
4°21'
77 MILS
0°2'
1 MILS

U.S. National Grid
100,000-m Square ID
NT
Grid Zone Designation
14R

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard.

TEXAS
QUADRANGLE LOCATION

1 Biry
2 Devine
3 Lytle
4 Moore
5 Bigfoot
6 Pearsall North
7 Schattel NW
8 Schattel
ADJOINING QUADRANGLES

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

GHOST HILL, TX
2022

NSN 7643016398292
NGA REF NO. USGS X24K171152

#	Well ID	Well Use	Producing	Open, Cased, Capped , or Plugged	Proposed Best Management Practice
1	6857209	Irrigation	N	Cased	Well meets buffer requirements
2	6857207	Irrigation	Y	Cased	Well meets buffer requirements
3	6857210	Plugged	N	Cased	Well meets buffer requirements
4	6857225	Domestic	Y	Cased	Well meets buffer requirements
5	6857218	Irrigation	Y	Cased	Well meets buffer requirements
6	6857221	Public Supply	Y	Cased	Well meets buffer requirements
7	6857222	Domestic	Y	Cased	Well meets buffer requirements
8	6857102	Unknown	Y	Cased	Well meets buffer requirements
9	6857208	Irrigation	N	Cased	Well meets buffer requirements
10	6857214	Irrigation	Y	Cased	Well meets buffer requirements
11	6857227	Domestic	N	Cased	Well meets buffer requirements
12	6857224	Domestic	N	Unknown	Well meets buffer requirements
13	596106	Domestic	Y	Cased	Well meets buffer requirements
14	588761	Domestic	Y	Cased	Well meets buffer requirements
15	596102	Domestic	Y	Cased	Well meets buffer requirements
16	501562	Stock	N	Cased	Well meets buffer requirements
17	386695	Test Well	N	Cased	Well meets buffer requirements
18	386709	Public Supply	N	Cased	Well meets buffer requirements
19	36794	Irrigation	N	Cased	Well meets buffer requirements
20	340413	Stock	N	Cased	Well meets buffer requirements
21	148968	Domestic	N	Cased	Well meets buffer requirements

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-102

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857102
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.111389
Latitude (degrees minutes seconds)	29° 06' 41" N
Longitude (decimal degrees)	-98.961667
Longitude (degrees minutes seconds)	098° 57' 42" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CZWX - Carrizo Sand and Wilcox Group, Undifferentiated
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	680
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	700
Well Depth Source	Geophysical Log
Drilling Start Date	
Drilling End Date	1/31/1976
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	
Water Level Observation	None
Water Quality Available	No
Pump	
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	Kyle Seale Trustee #1A
Driller	Republic Oil Co.
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	11/15/1994
Last Update Date	10/6/2015

Remarks	Oil test drilled to 5228 and plugg- ed back to 700 feet as water well.

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
11	Blank				0	136
11	Screen				136	180
11	Blank				180	538
11	Screen				538	566
11	Blank				566	590
11	Screen				590	618
11	Blank				618	700

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements

No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-102

groundwater division

Water Quality Analysis - No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-201

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857201
County	Frio
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Evergreen UWCD
Latitude (decimal degrees)	29.085556
Latitude (degrees minutes seconds)	29° 05' 08" N
Longitude (decimal degrees)	-98.942222
Longitude (degrees minutes seconds)	098° 56' 32" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	620
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	237
Well Depth Source	Unknown
Drilling Start Date	
Drilling End Date	0/0/1963
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	Miscellaneous Measurements
Water Quality Available	Yes
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Cloud O. Fargason
Driller	E.H. Cannon Drlg
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	
Created Date	10/27/1994
Last Update Date	10/27/1994

Remarks	Slotted from 137 to 237 ft. Gravel packed. Tope of Carrizo Sand 137 ft. Pump set at 100 ft. Reported yield of 734 gpm. Development test: drawdown of 23 ft while pumping 1505 gpm in May 1963. Temp. 80 degrees F. Development test by Peerless Equipment Co, May 1963: 1104 gpm at 115 ft pumping level, 1505 gpm at 122 ft.

Casing - No Data

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

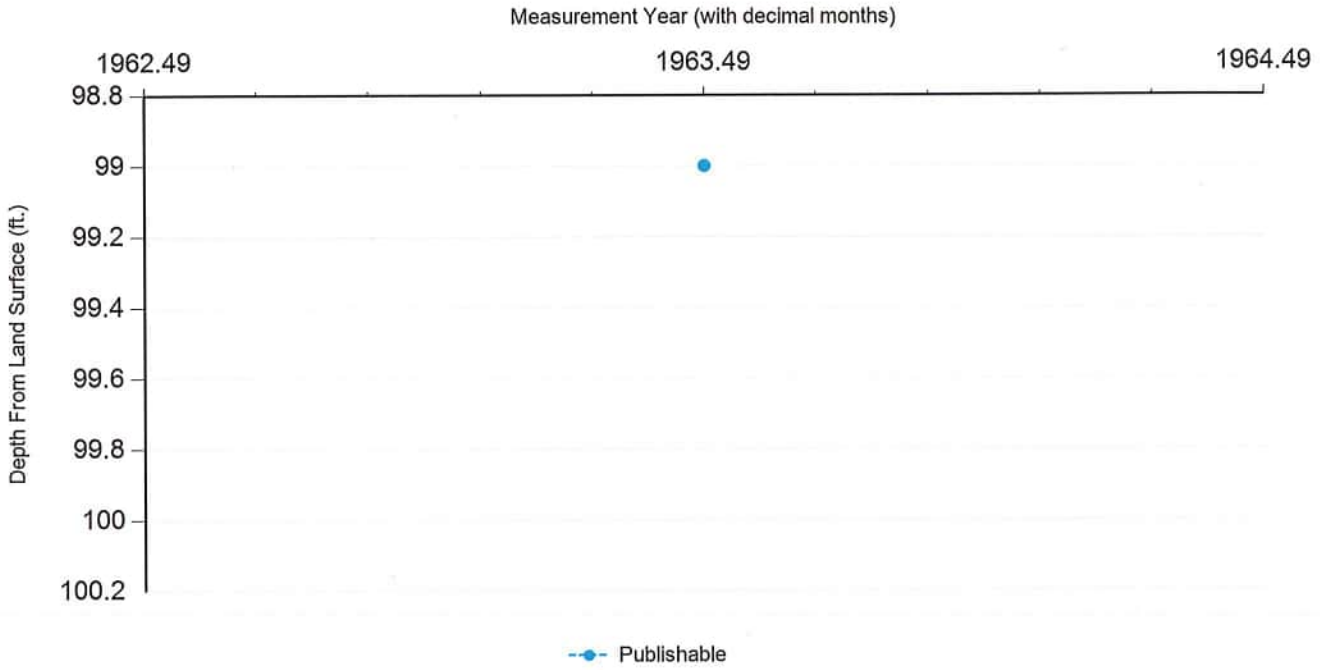
Packers - No Data

Texas Water Development Board

Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number 68-57-201

groundwater division

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	5/0/1963		99		521	1	Other or Source of Measurement Unknown	Unknown		

Code Descriptions

Status Code	Status Description
P	Publishable

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-201

groundwater division

Water Quality Analysis

Sample Date: 7/14/1969 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:** Texas Water Development Board

Sampled Aquifer: Carrizo Sand

Analyzed Lab: Texas Department of Health **Reliability:** Collected from pumped well, but not filtered or preserved

Collection Remarks: 734 gpm

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CACO3)		84	mg/L as CACO3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		102.51	mg/L	
00910	CALCIUM (MG/L)		45	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		57	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		0.2	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CACO3)		133	mg/L as CACO3	
00920	MAGNESIUM (MG/L)		5	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)	<	0.4	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.1	SU	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SI02)		37	mg/L as SIO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		1.17		
00932	SODIUM, CALCULATED, PERCENT		33	PCT	
00929	SODIUM, TOTAL (MG/L AS NA)		31	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		450	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		35	mg/L as SO4	
00010	TEMPERATURE, WATER (CELSIUS)		27	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		261	mg/L	

** Value may not display all significant digits for parameter in results, check Scanned Documents for laboratory paperwork..*

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-202

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857202
County	Frio
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Evergreen UWCD
Latitude (decimal degrees)	29.088611
Latitude (degrees minutes seconds)	29° 05' 19" N
Longitude (decimal degrees)	-98.935556
Longitude (degrees minutes seconds)	098° 56' 08" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	623
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	150
Well Depth Source	Unknown
Drilling Start Date	
Drilling End Date	0/0/1956
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Unused
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Gasoline Engine
Annular Seal Method	
Surface Completion	
Owner	Cloud O. Fargason
Driller	
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	
Created Date	10/27/1994
Last Update Date	10/27/1994

Remarks	Open hole form 40 to 150 ft. Unused irrigaiton well. Reported yield of 500 gpm. Estimated discharge 500 gpm, Nov. 1963. 140 ft of 6-in. column pipe.

Casing - No Data

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

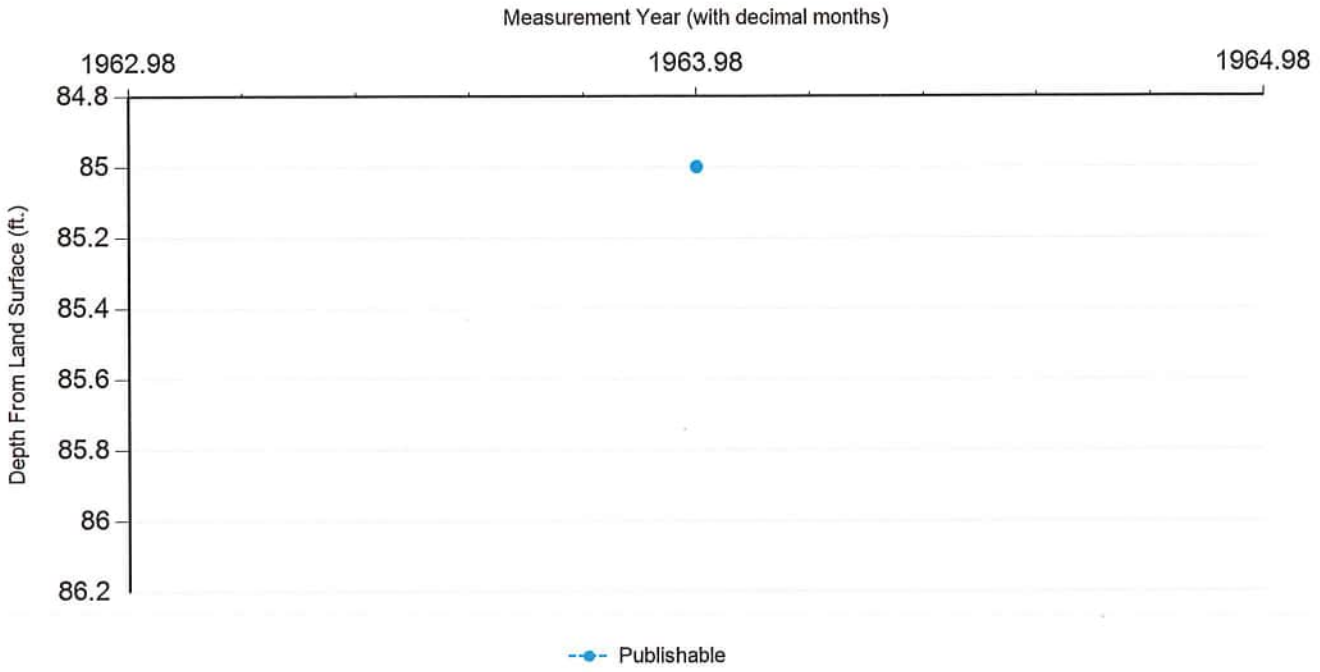
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	11/0/1963		85		538	1	Other or Source of Measurement Unknown	Unknown		

Code Descriptions

Status Code	Status Description
P	Publishable

Water Quality Analysis - No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number 68-57-205

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857205
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.096111
Latitude (degrees minutes seconds)	29° 05' 46" N
Longitude (decimal degrees)	-98.923333
Longitude (degrees minutes seconds)	098° 55' 24" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	605
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	
Well Depth Source	
Drilling Start Date	
Drilling End Date	0/0/1967
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	None
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Edgar Linkenhoger Fair Oaks Ranch
Driller	Strickers Water Well Service
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	
Created Date	11/15/1994
Last Update Date	11/15/1994

Remarks	

Casing - No Data

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements

No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-205

groundwater division

Water Quality Analysis - No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number 68-57-206

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857206
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.092222
Latitude (degrees minutes seconds)	29° 05' 32" N
Longitude (decimal degrees)	-98.924167
Longitude (degrees minutes seconds)	098° 55' 27" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	602
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	
Well Depth Source	
Drilling Start Date	
Drilling End Date	
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Unused
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	Fair Oaks Ranch
Driller	
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	
Created Date	9/2/2009
Last Update Date	9/2/2009

Remarks	

Casing - No Data

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

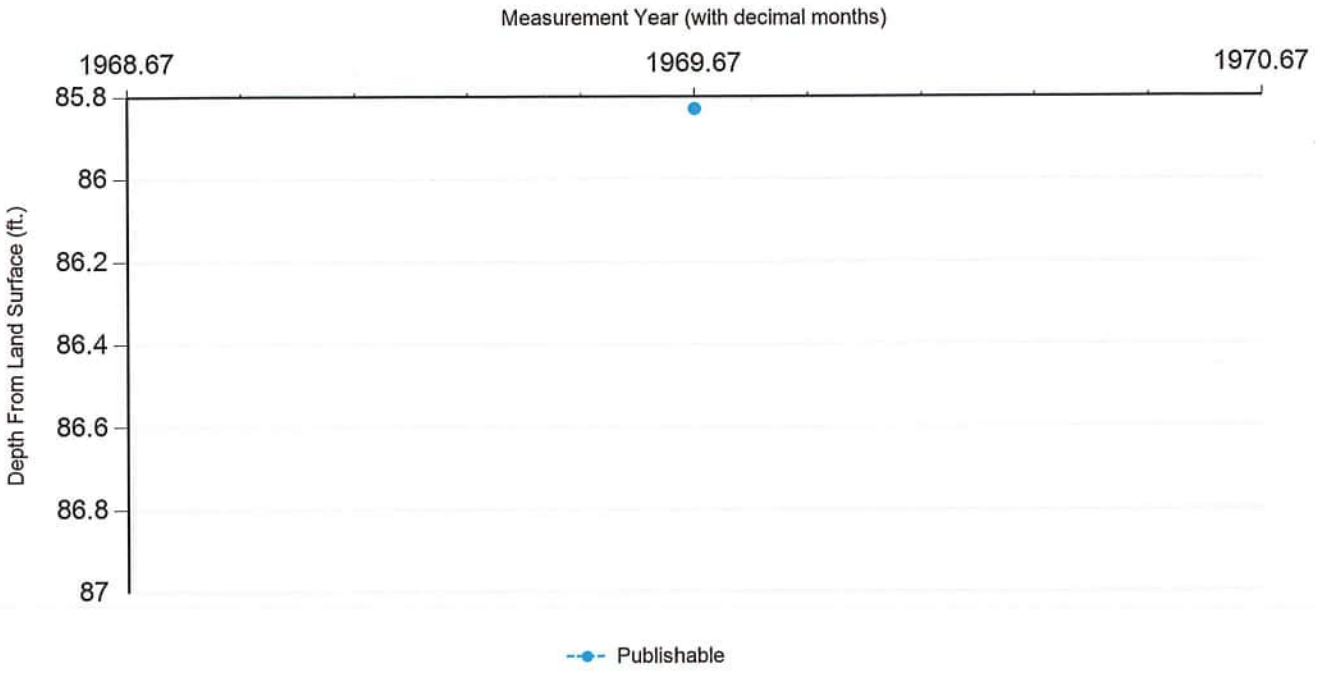
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	9/4/1969		85.83		516.17	1	Other or Source of Measurement Unknown	Unknown		

Code Descriptions

Status Code	Status Description
P	Publishable

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-206

groundwater division

Water Quality Analysis - No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number 68-57-207

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857207
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.106389
Latitude (degrees minutes seconds)	29° 06' 23" N
Longitude (decimal degrees)	-98.947222
Longitude (degrees minutes seconds)	098° 56' 50" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	680
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	200
Well Depth Source	Unknown
Drilling Start Date	
Drilling End Date	0/0/1959
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	None
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Morales Feed Lot
Driller	E.h. Cannon Drlg
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	
Created Date	11/15/1994
Last Update Date	11/15/1994

Remarks	Reported yield 800 gpm.

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
12	Blank				0	160
12	Screen				160	200

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements

No Data Available

Water Quality Analysis - No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-208

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857208
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.109445
Latitude (degrees minutes seconds)	29° 06' 34" N
Longitude (decimal degrees)	-98.945
Longitude (degrees minutes seconds)	098° 56' 42" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	670
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	250
Well Depth Source	Owner
Drilling Start Date	
Drilling End Date	0/0/1963
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Morales Feed Lot
Driller	E.H. Cannon Drlg
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	11/15/1994
Last Update Date	11/15/1994

Remarks	

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
12	Blank				0	160
12	Screen				160	250

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

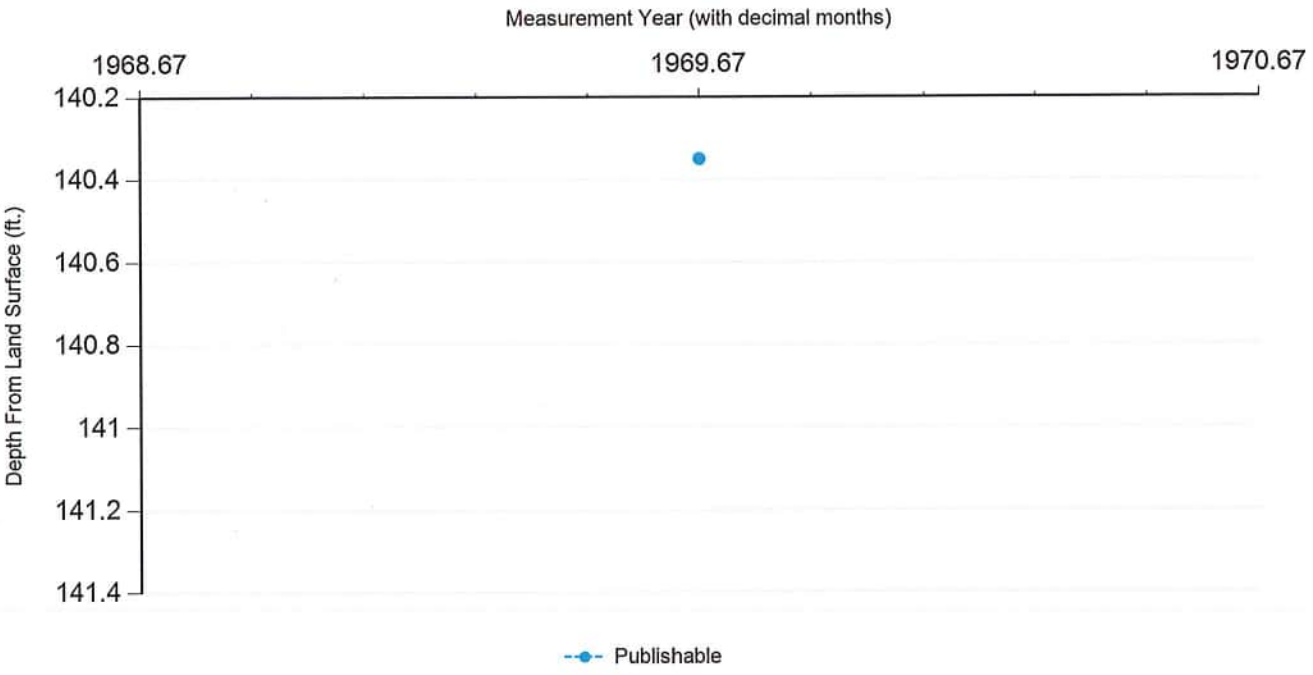
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	9/3/1969		140.35		529.65	1	Other or Source of Measurement Unknown	Unknown		

Code Descriptions

Status Code	Status Description
P	Publishable

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-208

groundwater division

Water Quality Analysis - No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-209

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857209
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.108334
Latitude (degrees minutes seconds)	29° 06' 30" N
Longitude (decimal degrees)	-98.949445
Longitude (degrees minutes seconds)	098° 56' 58" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	690
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	360
Well Depth Source	Person Other than Owner
Drilling Start Date	
Drilling End Date	0/0/1965
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	None
Water Quality Available	Yes
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Morales Feed Lot
Driller	E.H. Cannon Drilling Co.
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	11/15/1994
Last Update Date	11/15/1994

Remarks	

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
12	Blank				0	160
12	Screen				160	360

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements

No Data Available

Water Quality Analysis

Sample Date: 9/3/1969 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:** Texas Water Development Board

Sampled Aquifer: Carrizo Sand

Analyzed Lab: Texas Department of Health **Reliability:** Collected from pumped well, but not filtered or preserved

Collection Remarks: No Data

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CACO3)		133.61	mg/L as CACO3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		163.05	mg/L	
01020	BORON, DISSOLVED (UG/L AS B)		100	ug/L	
00910	CALCIUM (MG/L)		70	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		72	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		0.3	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CACO3)		207	mg/L as CACO3	
00920	MAGNESIUM (MG/L)		8	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		2	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.3	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		5	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SI02)		31	mg/L as SIO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		1.27		
00932	SODIUM, CALCULATED, PERCENT		30	PCT	
00929	SODIUM, TOTAL (MG/L AS NA)		42	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		664	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		61	mg/L as SO4	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		371	mg/L	

Water Quality Analysis

Sample Date: 7/13/1972 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:** Texas Water Development Board

Sampled Aquifer: Carrizo Sand

Analyzed Lab: Texas Department of Health **Reliability:** Collected from pumped well, but not filtered or preserved

Collection Remarks: No Data

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CACO3)		128.69	mg/L as CACO 3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		157.05	mg/L	
00910	CALCIUM (MG/L)		74	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		83	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		0.3	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CACO3)		225	mg/L as CACO 3	
00920	MAGNESIUM (MG/L)		10	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		4.5	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.2	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		5	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SI02)		35	mg/L as SIO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		1.36		
00932	SODIUM, CALCULATED, PERCENT		31	PCT	
00929	SODIUM, TOTAL (MG/L AS NA)		47	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		735	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		73	mg/L as SO4	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		409	mg/L	

Water Quality Analysis

Sample Date: 6/27/1990 **Sample Time:** 1200 **Sample Number:** 1 **Collection Entity:** Texas Water Development Board

Sampled Aquifer: Carrizo Sand

Analyzed Lab: Texas Department of Health **Reliability:** Sampled using TWDB protocols

Collection Remarks: No Data

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
34551	1,2,4-TRICHLOROBENZENE, TOTAL, UG/L	<	5	ug/L	
34536	1,2-DICHLOROBENZENE, TOTAL, UG/L	<	5	ug/L	
34346	1,2-DIPHENYLHYDRAZINE, TOTAL, UG/L	<	5	ug/L	
34566	1,3-DICHLOROBENZENE, TOTAL, UG/L	<	5	ug/L	
34571	1,4-DICHLOROBENZENE, TOTAL, UG/L	<	5	ug/L	
34621	2,4,6-TRICHLOROPHENOL, TOTAL, UG/L	<	11	ug/L	
34601	2,4-DICHLOROPHENOL, TOTAL, UG/L	<	11	ug/L	
34606	2,4-DIMETHYLPHENOL, TOTAL, UG/L	<	11	ug/L	
34616	2,4-DINITROPHENOL, TOTAL, UG/L	<	21	ug/L	
34611	2,4-DINITROTOLUENE, TOTAL, UG/L	<	5	ug/L	
51002	2,6-DINITRO-2-CRESOL, TOTAL, UG/L	<	21	ug/L	
34626	2,6-DINITROTOLUENE, TOTAL, UG/L	<	5	ug/L	
34581	2-CHLORONAPHTHALENE, TOTAL, UG/L	<	5	ug/L	
34591	2-NITROPHENOL, TOTAL, UG/L	<	11	ug/L	
34631	3,3'-DICHLOROBENZIDINE, TOTAL, UG/L	<	5	ug/L	
51006	4,4'-DDD, TOTAL, UG/L	<	11	ug/L	
51005	4,4'-DDE, TOTAL, UG/L	<	11	ug/L	
51007	4,4'-DDT, TOTAL, UG/L	<	11	ug/L	
34636	4-BROMOPHENYL PHENYL ETHER, TOTAL, UG/L	<	5	ug/L	
77421	4-CHLORO-3-CRESOL, TOTAL, UG/L	<	11	ug/L	
34641	4-CHLOROPHENYL PHENYL ETHER, TOTAL, UG/L	<	5	ug/L	
34646	4-NITROPHENOL, TOTAL, UG/L	<	21	ug/L	
34253	A-BHC-ALPHA, TOTAL, UG/L	<	11	ug/L	
34205	ACENAPHTHENE, TOTAL, UG/L	<	5	ug/L	
34200	ACENAPHTHYLENE, TOTAL, UG/L	<	5	ug/L	
39330	ALDRIN, TOTAL, UG/L	<	11	ug/L	
39086	ALKALINITY FIELD DISSOLVED AS CACO3		126	mg/L as CACO 3	
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CACO3)		121	mg/L as CACO 3	
01503	ALPHA, DISSOLVED (PC/L)		14	PC/L	4
01106	ALUMINUM, DISSOLVED (UG/L AS AL)	<	50	ug/L	
34220	ANTHRACENE, TOTAL, UG/L	<	5	ug/L	

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
01000	ARSENIC, DISSOLVED (UG/L AS AS)	<	10	ug/L	
01005	BARIUM, DISSOLVED (UG/L AS BA)		84	ug/L	
34255	B-BHC-BETA, TOTAL, UG/L	<	11	ug/L	
39120	BENZIDINE, TOTAL, UG/L	<	5	ug/L	
34527	BENZO(A) ANTHRACENE, TOTAL, UG/L	<	5	ug/L	
34247	BENZO-(A)-PYRENE, TOTAL, UG/L	<	5	ug/L	
34230	BENZO(B)FLUORANTHENE, TOTAL, UG/L	<	5	ug/L	
34521	BENZO(GHI)PERYLENE, TOTAL, UG/L	<	5	ug/L	
34242	BENZO(K)FLUORANTHENE, TOTAL, UG/L	<	5	ug/L	
03503	BETA, DISSOLVED (PC/L)		14	PC/L	6
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		147.66	mg/L	
34278	BIS (2-CHLOROETHOXY) METHANE, TOTAL, UG/L	<	5	ug/L	
34273	BIS (2-CHLOROETHYL) ETHER, TOTAL, UG/L	<	5	ug/L	
34283	BIS (2-CHLOROISOPROPYL) ETHER, TOTAL, UG/L	<	5	ug/L	
39100	BIS(2-ETHYLHEXYL) PHTHALATE, TOTAL, UG/L	<	5	ug/L	
01020	BORON, DISSOLVED (UG/L AS B)		360	ug/L	
71870	BROMIDE, DISSOLVED, (MG/L AS BR)		0.4	mg/L	
51003	BUTYLBENZYL PHTHALATE, TOTAL, UG/L	<	5	ug/L	
01025	CADMIUM, DISSOLVED (UG/L AS CD)	<	10	ug/L	
00915	CALCIUM, DISSOLVED (MG/L AS CA)		66	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00941	CHLORIDE, DISSOLVED (MG/L AS CL)		79	mg/L	
77966	CHLOROPHENOL, TOTAL, UG/L	<	11	ug/L	
01030	CHROMIUM, DISSOLVED (UG/L AS CR)	<	20	ug/L	
34320	CHRYSENE, TOTAL, UG/L	<	5	ug/L	
01040	COPPER, DISSOLVED (UG/L AS CU)	<	20	ug/L	
46323	DELTA-BHC, TOTAL, UG/L	<	11	ug/L	
51004	DIBENZO (A,H) ANTHRACENE, TOTAL, UG/L	<	5	ug/L	
39380	DIELDRIN, TOTAL, UG/L	<	11	ug/L	
34336	DIETHYL PTHALATE, TOTAL, UG/L	<	5	ug/L	
34341	DIMETHYL PTHALATE, TOTAL, UG/L	<	5	ug/L	
39110	DI-N-BUTYL PHTHALATE, TOTAL, UG/L	<	5	ug/L	
34596	DI-N-OCTYL PHTHALATE, TOTAL, UG/L	<	5	ug/L	
77579	DIPHENYLAMINE, TOTAL, UG/L	<	5	ug/L	
34361	ENDOSULFAN - ALPHA, TOTAL, UG/L	<	21	ug/L	
34356	ENDOSULFAN - BETA, TOTAL, UG/L	<	21	ug/L	
34351	ENDOSULFAN SULFATE, TOTAL, UG/L	<	21	ug/L	
34366	ENDRIN ALDEHYDE, TOTAL, UG/L	<	11	ug/L	
39390	ENDRIN, TOTAL, UG/L	<	21	ug/L	
34376	FLUORANTHENE, TOTAL, UG/L	<	5	ug/L	
34381	FLUORENE, TOTAL, UG/L	<	5	ug/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		0.27	mg/L	
39340	GAMMA-BHC (LINDANE), TOTAL, UG/L	<	11	ug/L	

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CACO3)		202	mg/L as CACO 3	
39420	HEPTACHLOR EPOXIDE, TOTAL, UG/L	<	21	ug/L	
39410	HEPTACHLOR, TOTAL, UG/L	<	11	ug/L	
39700	HEXACHLOROBENZENE (HCB), TOTAL, UG/L	<	5	ug/L	
39702	HEXACHLOROBUTADIENE, TOTAL, UG/L	<	5	ug/L	
34386	HEXACHLOROCYCLOPENTADIENE, TOTAL, UG/L	<	5	ug/L	
34396	HEXACHLOROETHANE, TOTAL, UG/L	<	5	ug/L	
34403	INDENO (1,2,3-CD) PYRENE	<	5	ug/L	
71865	IODIDE (MG/L AS I)	<	0.1	mg/L	
01046	IRON, DISSOLVED (UG/L AS FE)		71	ug/L	
34408	ISOPHORONE, TOTAL, UG/L	<	5	ug/L	
01049	LEAD, DISSOLVED (UG/L AS PB)	<	50	ug/L	
00925	MAGNESIUM, DISSOLVED (MG/L AS MG)		9.2	mg/L	
01056	MANGANESE, DISSOLVED (UG/L AS MN)	<	20	ug/L	
71890	MERCURY, DISSOLVED (UG/L AS HG)	<	0.2	ug/L	
01060	MOLYBDENUM, DISSOLVED (UG/L AS MO)	<	20	ug/L	
34696	NAPHTHALENE, TOTAL, UG/L	<	5	ug/L	
00618	NITRATE NITROGEN, DISSOLVED (MG/L AS N)		1.55	mg/L as N	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		6.86	mg/L as NO3	
00613	NITRITE NITROGEN, DISSOLVED (MG/L AS N)	<	0.01	mg/L as N	
34447	NITROBENZENE, TOTAL, UG/L	<	5	ug/L	
00608	NITROGEN, AMMONIA, DISSOLVED (MG/L AS N)		0.04	mg/L as N	
00623	NITROGEN, KJELDAHL, DISSOLVED (MG/L AS N)		0.1	mg/L as N	
34438	N-NITROSODIMETHLAMINE, TOTAL, UG/L	<	5	ug/L	
34428	N-NITROSO-DI-N-PROPYLAMINE, TOTAL, UG/L	<	5	ug/L	
34433	N-NITROSODIPHENYLAMINE, TOTAL, UG/L	<	5	ug/L	
00090	OXIDATION REDUCTION POTENTIAL (ORP), MILLIVOLTS		123.4	MV	
39032	PENTACHLOROPHENOL (PCP), TOTAL, UG/L	<	21	ug/L	
00400	PH (STANDARD UNITS), FIELD		6.65	SU	
34461	PHENANTHRENE, TOTAL, UG/L	<	5	ug/L	
34694	PHENOL, TOTAL, UG/L	<	11	ug/L	
00671	PHOSPHORUS, DISSOLVED ORTHOPHOSPHATE (MG/L AS P)		0.02	mg/L as P	
00935	POTASSIUM, DISSOLVED (MG/L AS K)		6	mg/L	
34469	PYRENE, TOTAL, UG/L	<	5	ug/L	
09503	RADIUM 226, DISSOLVED, PC/L		4.7	PC/L	0.4
81366	RADIUM 228, DISSOLVED (PC/L AS RA-228)		1.8	PC/L	0.7
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-209

groundwater division

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
01145	SELENIUM, DISSOLVED (UG/L AS SE)		3	ug/L	
00955	SILICA, DISSOLVED (MG/L AS SI02)		35	mg/L as SIO2	
01075	SILVER, DISSOLVED (UG/L AS AG)	<	10	ug/L	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		1.53		
00932	SODIUM, CALCULATED, PERCENT		34	PCT	
00930	SODIUM, DISSOLVED (MG/L AS NA)		50	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		640	MICR	
01080	STRONTIUM, DISSOLVED (UG/L AS SR)		370	ug/L	
00946	SULFATE, DISSOLVED (MG/L AS SO4)		69	mg/L as SO4	
00010	TEMPERATURE, WATER (CELSIUS)		25	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		394	mg/L	
01085	VANADIUM, DISSOLVED (UG/L AS V)	<	20	ug/L	
01090	ZINC, DISSOLVED (UG/L AS ZN)		86	ug/L	

** Value may not display all significant digits for parameter in results, check Scanned Documents for laboratory paperwork..*

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-210

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857210
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.102223
Latitude (degrees minutes seconds)	29° 06' 08" N
Longitude (decimal degrees)	-98.947778
Longitude (degrees minutes seconds)	098° 56' 52" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CZWX - Carrizo Sand and Wilcox Group, Undifferentiated
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	655
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	200
Well Depth Source	Owner
Drilling Start Date	
Drilling End Date	0/0/1962
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Plugged or Destroyed
Water Level Observation	Historical
Water Quality Available	No
Pump	None
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	Morales Feed Lot
Driller	E.H. Cannon Drlg
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	10/7/2015
Last Update Date	10/7/2015

Remarks	Destroyed. Historical observation well.

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
12	Blank				0	160
12	Screen				160	200

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

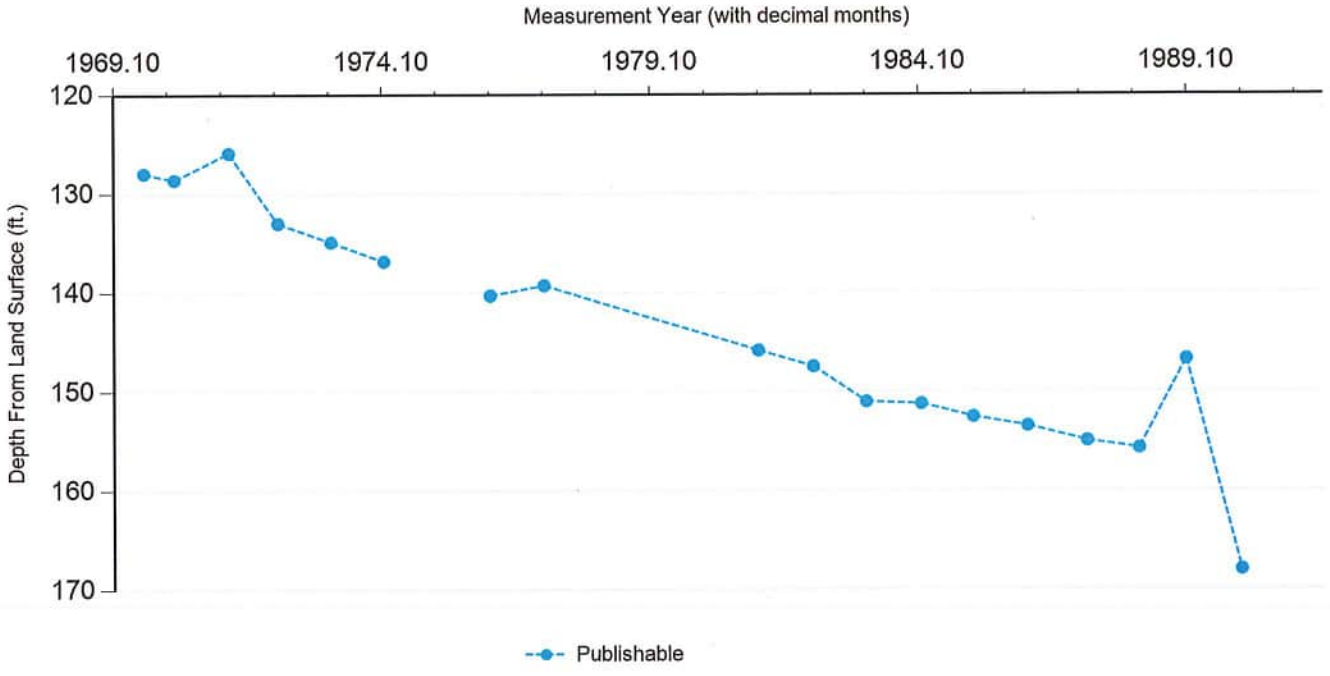
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	9/3/1969		127.95		527.05	1	Texas Water Development Board	Steel Tape		
P	3/25/1970		128.6	0.65	526.4	1	Texas Water Development Board	Steel Tape		
P	3/30/1971		125.89	(2.71)	529.11	1	Texas Water Development Board	Steel Tape		
P	2/28/1972		133	7.11	522	1	Texas Water Development Board	Steel Tape		
P	2/23/1973		134.9	1.90	520.1	1	Texas Water Development Board	Steel Tape		
P	2/20/1974		136.86	1.96	518.14	1	Texas Water Development Board	Steel Tape		
X	2/19/1975					1	Texas Water Development Board	Steel Tape	25	
P	2/13/1976		140.3		514.7	1	Texas Water Development Board	Steel Tape		
P	2/16/1977		139.29	(1.01)	515.71	1	Texas Water Development Board	Steel Tape		
P	2/9/1981		145.85	6.56	509.15	1	Texas Water Development Board	Steel Tape		
P	2/17/1982		147.46	1.61	507.54	1	Texas Water Development Board	Steel Tape		
P	2/15/1983		151.03	3.57	503.97	1	Texas Water Development Board	Steel Tape		
P	2/23/1984		151.23	0.20	503.77	1	Texas Water Development Board	Steel Tape		
P	2/11/1985		152.54	1.31	502.46	1	Texas Water Development Board	Steel Tape		
P	2/19/1986		153.47	0.93	501.53	1	Texas Water Development Board	Steel Tape		
P	3/27/1987		154.97	1.50	500.03	1	Texas Water Development Board	Steel Tape		
P	3/16/1988		155.72	0.75	499.28	1	Texas Water Development Board	Steel Tape		
P	2/3/1989		146.75	(8.97)	508.25	1	Texas Water Development Board	Steel Tape		
P	2/7/1990		168	21.25	487	1	Texas Water Development Board	Steel Tape		
X	1/25/1991					1	Texas Water Development Board		18	

Code Descriptions

Status Code	Status Description
P	Publishable
X	No Measurement

Remark ID	Remark Description
18	Well destroyed
25	Unable to measure due to wet or leaking casing

Water Quality Analysis - No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number 68-57-211

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857211
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.094722
Latitude (degrees minutes seconds)	29° 05' 41" N
Longitude (decimal degrees)	-98.944445
Longitude (degrees minutes seconds)	098° 56' 40" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	625
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	219
Well Depth Source	Unknown
Drilling Start Date	
Drilling End Date	0/0/1964
Drilling Method	Mud (Hydraulic) Rotary
Borehole Completion	Gravel Pack w/Perforations

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	None
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Gasoline Engine
Annular Seal Method	
Surface Completion	
Owner	Chester Boyd
Driller	E.H. Cannon Drlg
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	11/15/1994
Last Update Date	10/7/2015

Remarks	Drawdown 35 feet pumping 1657 gpm on 2/11/64.

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
12	Blank				0	219

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements

No Data Available

Water Quality Analysis - No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-212

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857212
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.094445
Latitude (degrees minutes seconds)	29° 05' 40" N
Longitude (decimal degrees)	-98.931389
Longitude (degrees minutes seconds)	098° 55' 53" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	615
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	183
Well Depth Source	Owner
Drilling Start Date	
Drilling End Date	0/0/1963
Drilling Method	
Borehole Completion	Gravel Pack w/Perforations

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	None
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Chester Boyd
Driller	E. H. Cannon
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	9/3/1969
Last Update Date	10/7/2015

Remarks	Slotted. Gravel packed. Pump set at 160 ft. Development test: drawdown of 34 ft while pumping 1620 gpm on Feb. 26,1963.

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
12	Blank				0	183

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements

No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-212

groundwater division

Water Quality Analysis - No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-213

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857213
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.108612
Latitude (degrees minutes seconds)	29° 06' 31" N
Longitude (decimal degrees)	-98.921667
Longitude (degrees minutes seconds)	098° 55' 18" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	615
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	
Well Depth Source	
Drilling Start Date	
Drilling End Date	
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Stock
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Gasoline Engine
Annular Seal Method	
Surface Completion	
Owner	Paul Marbach
Driller	
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	
Created Date	11/15/1994
Last Update Date	11/15/1994

Remarks	

Casing - No Data

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

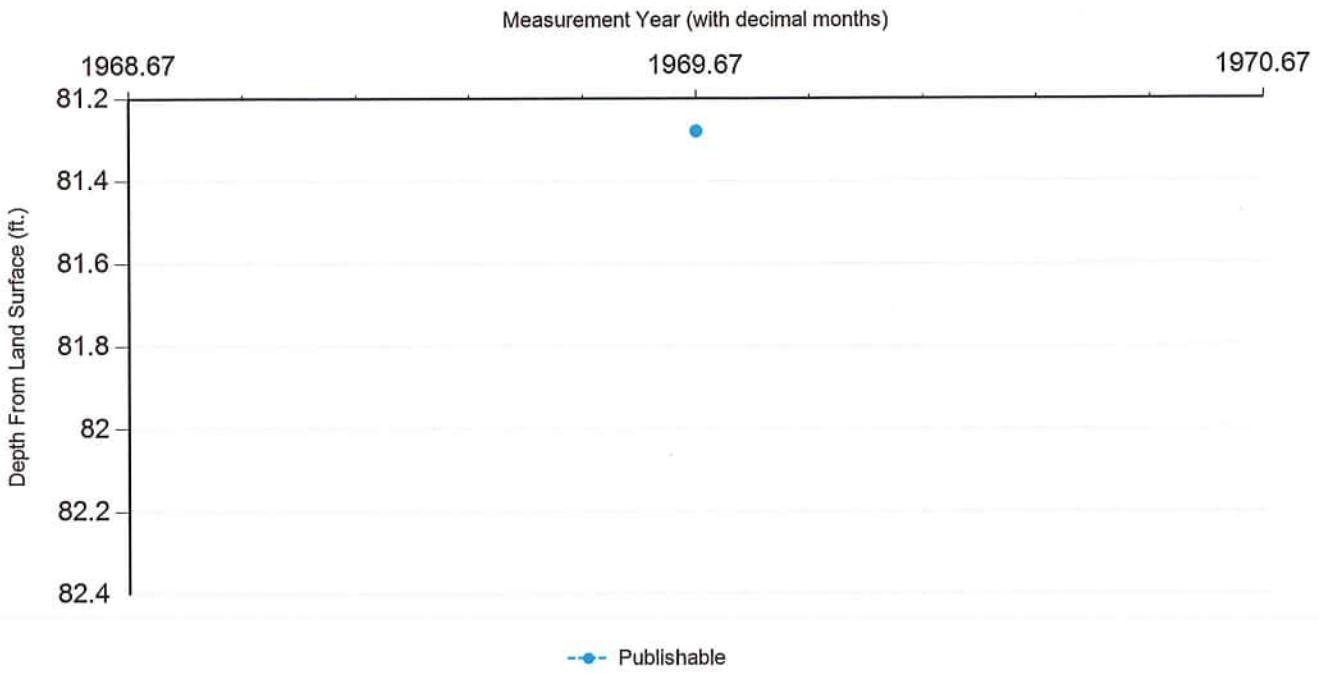
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	9/3/1969		81.28		533.72	1	Other or Source of Measurement Unknown	Unknown		

Code Descriptions

Status Code	Status Description
P	Publishable

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-213

groundwater division

Water Quality Analysis - No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-214

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857214
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.108056
Latitude (degrees minutes seconds)	29° 06' 29" N
Longitude (decimal degrees)	-98.946945
Longitude (degrees minutes seconds)	098° 56' 49" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	680
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	256
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	7/0/1970
Drilling Method	Mud (Hydraulic) Rotary
Borehole Completion	Gravel Pack w/Perforations

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Morales Feed Lot
Driller	E.H. Cannon Drlg
Other Data Available	Drillers Log
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	7/24/1970
Last Update Date	10/7/2015

Remarks	Drawdown of 90 ft while pumping 600 gpm in July 1970.

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
12	Blank	Steel			0	151
12	Screen	Steel			151	251
12	Blank	Steel			251	256

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

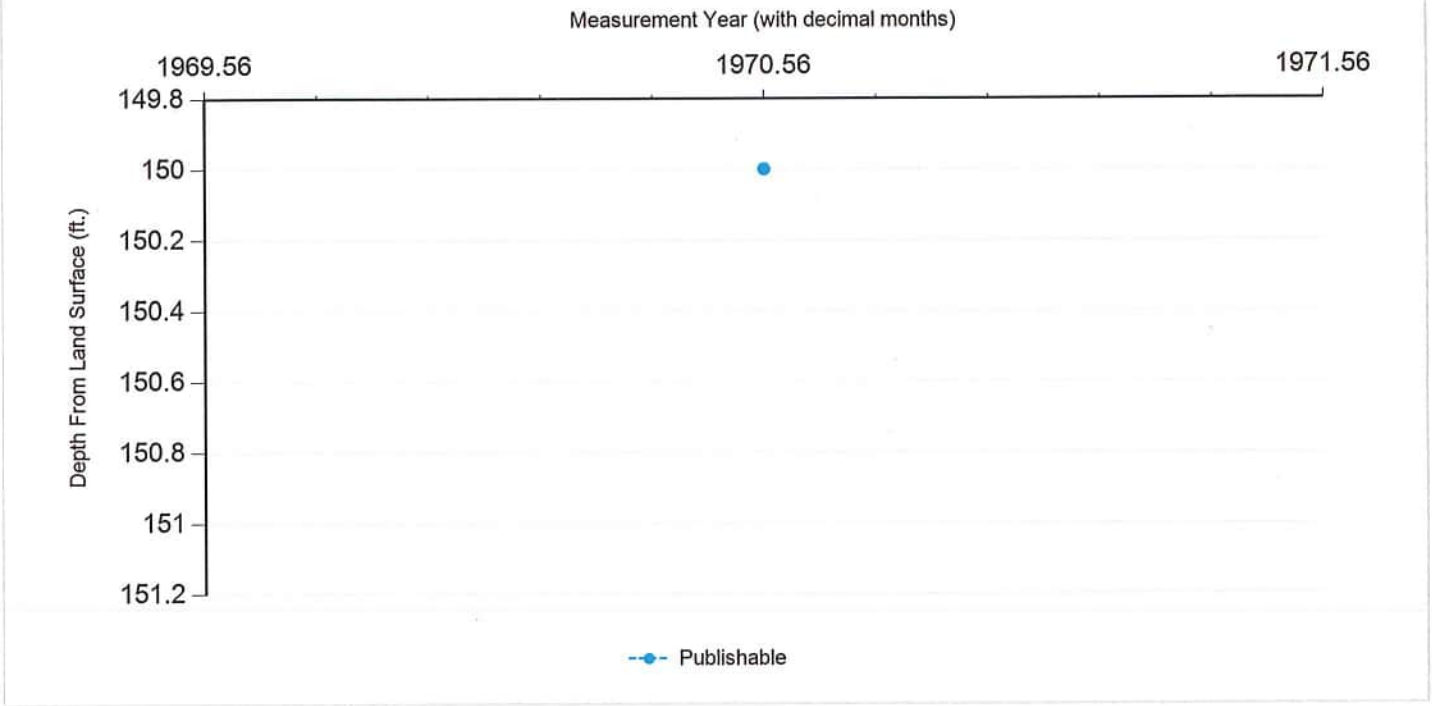
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	7/24/1970		150		530	1	Other or Source of Measurement Unknown	Unknown		

Code Descriptions

Status Code	Status Description
P	Publishable

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-214

groundwater division

Water Quality Analysis - No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-216

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857216
County	Frio
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Evergreen UWCD
Latitude (decimal degrees)	29.087778
Latitude (degrees minutes seconds)	29° 05' 16" N
Longitude (decimal degrees)	-98.934445
Longitude (degrees minutes seconds)	098° 56' 04" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	619
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	235
Well Depth Source	Unknown
Drilling Start Date	
Drilling End Date	0/0/1971
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	None
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Cloud O. Fargason
Driller	Strickers Water WEll Srv
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	
Created Date	10/27/1994
Last Update Date	10/27/1994

Remarks	Slotted from 135 to 235 ft. Gravel packed. Pump set at 140 ft. Reported yield 600 gpm. Development test: drawdown of 24 ft pumping 1850 gpm for 5 hours on Mar.19,1971 .

Casing - No Data

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements

No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-216

groundwater division

Water Quality Analysis - No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-217

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857217
County	Frio
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Evergreen UWCD
Latitude (decimal degrees)	29.0875
Latitude (degrees minutes seconds)	29° 05' 15" N
Longitude (decimal degrees)	-98.942778
Longitude (degrees minutes seconds)	098° 56' 34" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	620
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	255
Well Depth Source	Unknown
Drilling Start Date	
Drilling End Date	0/0/1971
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	None
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Cloud O. Fargason
Driller	Strickers Water Well Srv
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	
Created Date	10/27/1994
Last Update Date	10/27/1994

Remarks	Slotted form 130 to 251 ft. Pump set at 170 ft. Reported yield 1000 gpm.

Casing - No Data

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements

No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-217

groundwater division

Water Quality Analysis - No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number 68-57-218

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857218
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.099445
Latitude (degrees minutes seconds)	29° 05' 58" N
Longitude (decimal degrees)	-98.9475
Longitude (degrees minutes seconds)	098° 56' 51" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CZWX - Carrizo Sand and Wilcox Group, Undifferentiated
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	640
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	516
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	5/18/1976
Drilling Method	Mud (Hydraulic) Rotary
Borehole Completion	Gravel Pack w/Perforations

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	None
Water Quality Available	No
Pump	Turbine
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Pete Morales Feed Lot
Driller	Thomas May & Sons W.W. Drlg Co.
Other Data Available	Drillers Log; Specific Capacity
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	11/15/1976
Last Update Date	10/7/2015

Remarks	Reported yield 513 GPM with 280 feet drawdown after 20 hours in 1976. Specific capacity 1.8 GPM/ft.

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
12	Blank	Steel			0	283
12	Screen	Steel			283	516

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements

No Data Available

Water Quality Analysis - No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-221

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857221
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.109445
Latitude (degrees minutes seconds)	29° 06' 34" N
Longitude (decimal degrees)	-98.928055
Longitude (degrees minutes seconds)	098° 55' 41" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	630
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	190
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	8/31/1992
Drilling Method	Mud (Hydraulic) Rotary
Borehole Completion	Gravel Pack w/Screen

Well Type	Withdrawal of Water
Well Use	Public Supply
Water Level Observation	None
Water Quality Available	No
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Gusville Trailer Park
Driller	D & S Drilling
Other Data Available	Drillers Log
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	G1630031B
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	1/4/1996
Last Update Date	10/7/2015

Remarks	Well #2. Reported jetted 100 GPM when drilled.

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
5	Blank	Plastic (PVC)			0	150
5	Screen	Plastic (PVC)			150	190

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements

No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-221

groundwater division

Water Quality Analysis - No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number 68-57-222

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857222
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.108889
Latitude (degrees minutes seconds)	29° 06' 32" N
Longitude (decimal degrees)	-98.933611
Longitude (degrees minutes seconds)	098° 56' 01" W
Coordinate Source	+/- 5 Seconds
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	650
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	135
Well Depth Source	Another Government Agency
Drilling Start Date	
Drilling End Date	0/0/1930
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	Yes
Pump	Piston
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	C Weldon
Driller	Les Upton
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	U.S. Geological Survey
Created Date	7/21/2014
Last Update Date	7/21/2014

Remarks	Well J-7-37 in B-5601 and J-7-13 in USGS WSP-678.

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
6	Blank				0	90
6	Screen				90	135

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

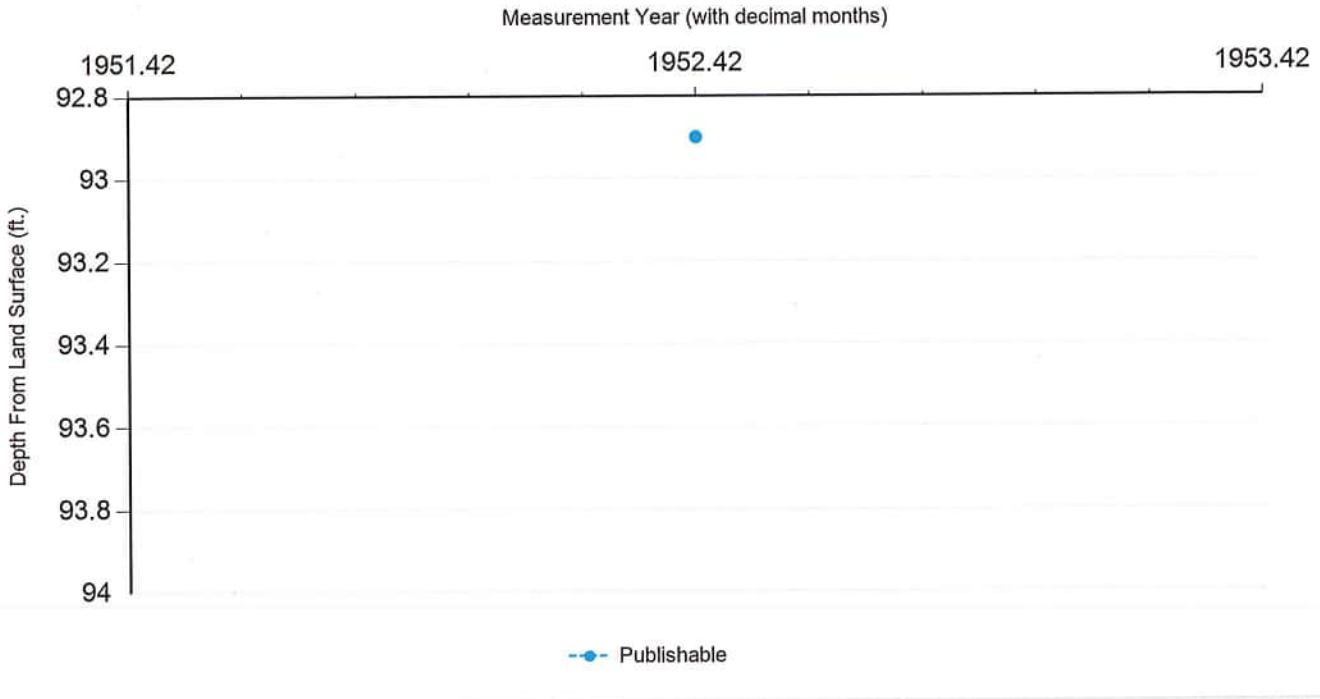
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	6/2/1952		92.9		557.1	1	U.S. Geological Survey	Steel Tape		

Code Descriptions

Status Code	Status Description
P	Publishable

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-222

groundwater division

Water Quality Analysis

Sample Date: 5/20/1930 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:** Other Federal Agencies

Sampled Aquifer: Carrizo Sand

Analyzed Lab: WPA **Reliability:** From a report; unknown sample collection & preservation

Collection Remarks: No Data

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CACO3)		31.95	mg/L as CACO 3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		38.99	mg/L	
00910	CALCIUM (MG/L)		16	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		42	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CACO3)		56	mg/L as CACO 3	
00920	MAGNESIUM (MG/L)		4	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		2.3	mg/L as NO3	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		1.56		
00932	SODIUM, CALCULATED, PERCENT		51	PCT	
00929	SODIUM, TOTAL (MG/L AS NA)	calculate d	27	mg/L	
00945	SULFATE, TOTAL (MG/L AS SO4)		20	mg/L as SO4	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		130	mg/L	

** Value may not display all significant digits for parameter in results, check Scanned Documents for laboratory paperwork..*

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-223

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857223
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.0925
Latitude (degrees minutes seconds)	29° 05' 33" N
Longitude (decimal degrees)	-98.954167
Longitude (degrees minutes seconds)	098° 57' 15" W
Coordinate Source	+/- 10 Seconds
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	638
Land Surface Elevation Method	Altimeter
Well Depth (feet below land surface)	110
Well Depth Source	Another Government Agency
Drilling Start Date	
Drilling End Date	0/0/1900
Drilling Method	Dug
Borehole Completion	Perforated or Slotted

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	Piston
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	J J Wipff
Driller	Johnson
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	U.S. Geological Survey
Created Date	10/7/2015
Last Update Date	10/7/2015

Remarks	Well J-7-33 in B-5601. Well J-7-18 in USGS WSP 678.

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
60	Blank	Rock or Stone			0	90
6	Screen				90	110

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

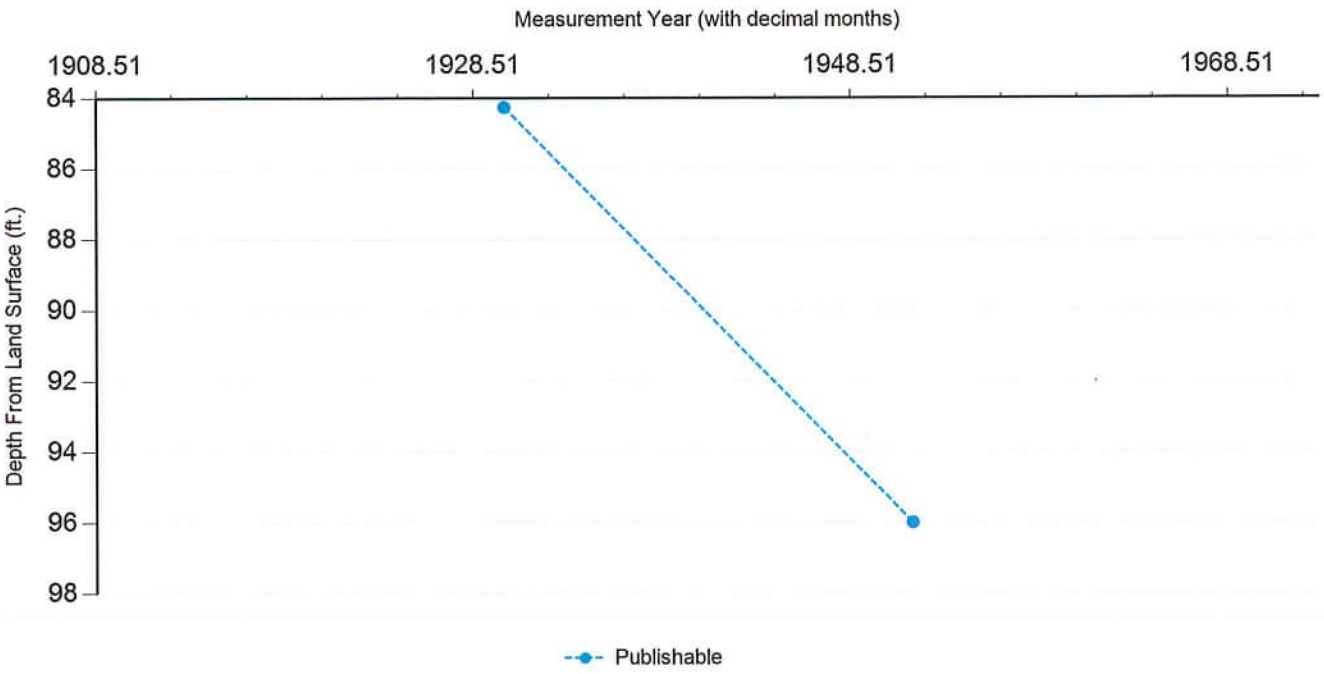
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	2/21/1930		84.26		553.74	1	U.S. Geological Survey	Steel Tape		
P	10/10/1951		96	11.74	542	1	U.S. Geological Survey	Steel Tape		

Code Descriptions

Status Code	Status Description
P	Publishable

Water Quality Analysis - No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-224

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857224
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.097222
Latitude (degrees minutes seconds)	29° 05' 50" N
Longitude (decimal degrees)	-98.948889
Longitude (degrees minutes seconds)	098° 56' 56" W
Coordinate Source	+/- 10 Seconds
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	644
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	114
Well Depth Source	Another Government Agency
Drilling Start Date	
Drilling End Date	0/0/1900
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	Piston
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	August Wipff
Driller	W Lancaster
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	U.S. Geological Survey
Created Date	2/11/2013
Last Update Date	2/11/2013

Remarks	Well J-7-34 in B-5601, and J-7-17 in USGS WSP 678. In USGS paper, date completed is 1900, and depth was 114'. Looks like well was redone in 1950 to a depth of 114'. Don't change drill date due to water levels taken prior to well being redone.

Casing - No Data

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

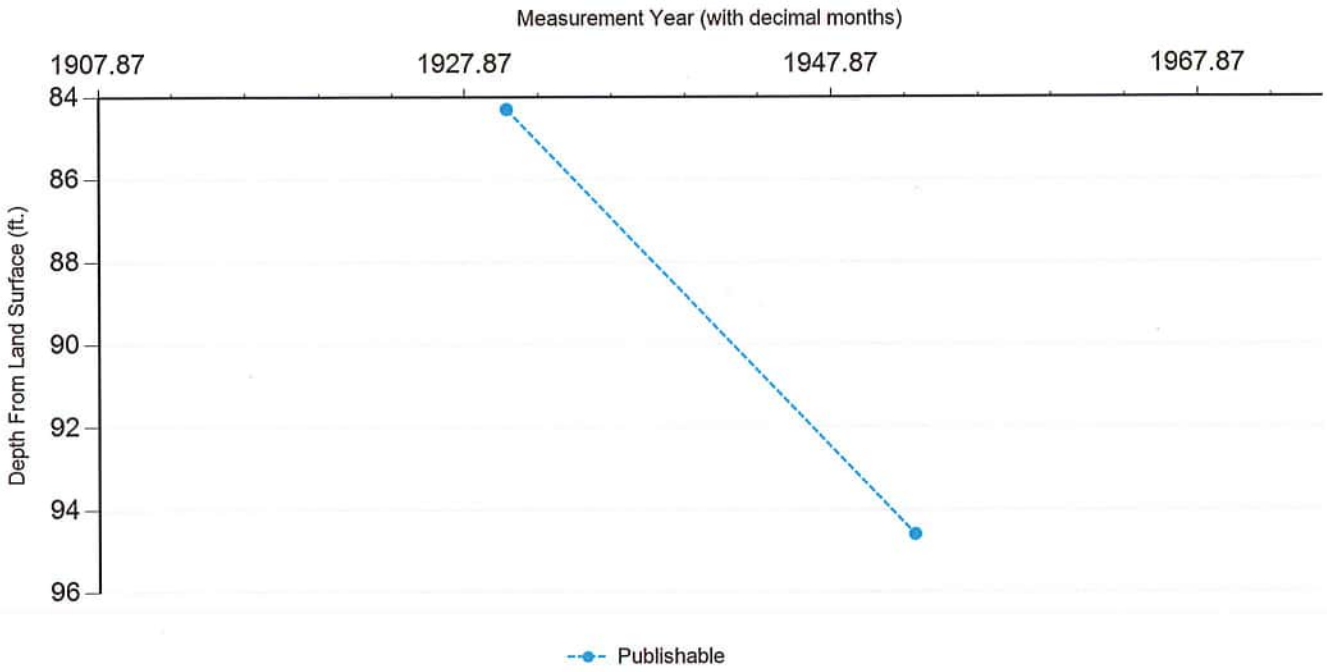
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	2/21/1930		84.3		559.7	1	U.S. Geological Survey	Steel Tape		
P	5/29/1952		94.6	10.30	549.4	1	U.S. Geological Survey	Steel Tape		

Code Descriptions

Status Code	Status Description
P	Publishable

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-224

groundwater division

Water Quality Analysis - No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number 68-57-225

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857225
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.101112
Latitude (degrees minutes seconds)	29° 06' 04" N
Longitude (decimal degrees)	-98.943056
Longitude (degrees minutes seconds)	098° 56' 35" W
Coordinate Source	+/- 10 Seconds
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	644
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	140
Well Depth Source	Another Government Agency
Drilling Start Date	
Drilling End Date	0/0/1947
Drilling Method	
Borehole Completion	Perforated or Slotted

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	Piston
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	B Hardcastle
Driller	Les Upton
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	U.S. Geological Survey
Created Date	10/7/2015
Last Update Date	10/7/2015

Remarks	Well J-7-36 in B-5601.

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
6	Blank				0	92
6	Screen				92	140

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

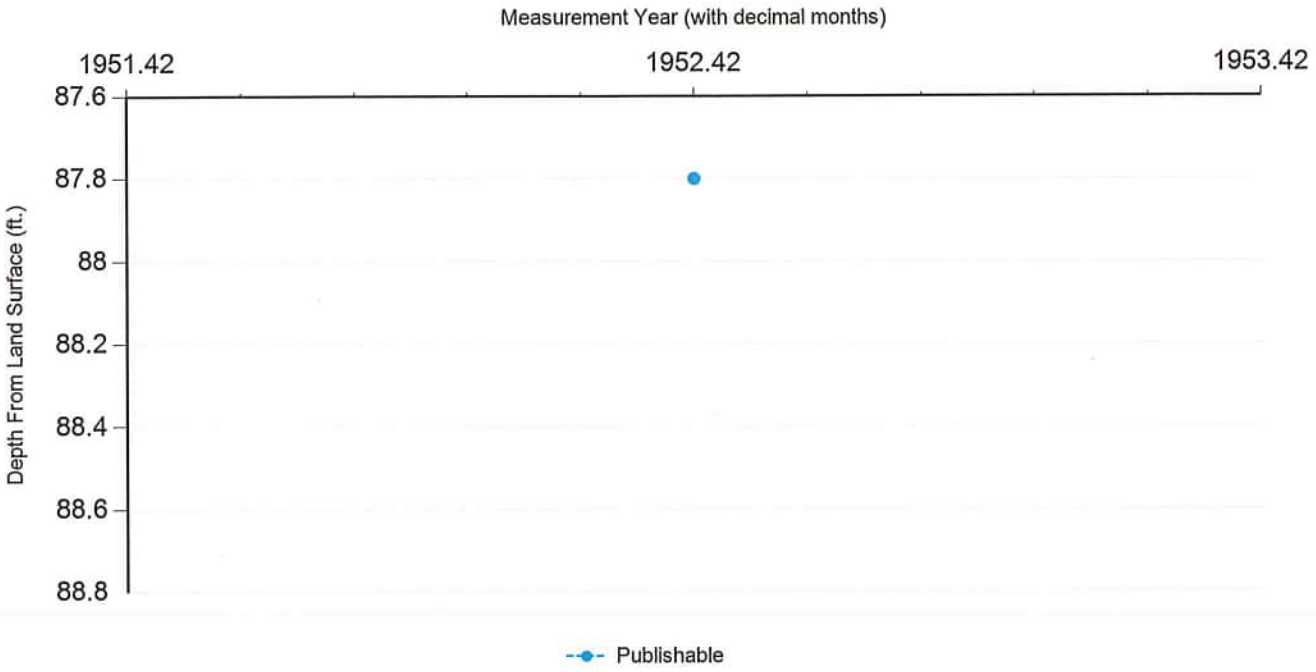
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	6/2/1952		87.8		556.2	1	U.S. Geological Survey	Steel Tape		

Code Descriptions

Status Code	Status Description
P	Publishable

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-225

groundwater division

Water Quality Analysis - No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-226

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857226
County	Medina
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Medina County GCD
Latitude (decimal degrees)	29.098056
Latitude (degrees minutes seconds)	29° 05' 53" N
Longitude (decimal degrees)	-98.923055
Longitude (degrees minutes seconds)	098° 55' 23" W
Coordinate Source	+/- 5 Seconds
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	607
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	109
Well Depth Source	Another Government Agency
Drilling Start Date	
Drilling End Date	0/0/1940
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	Piston
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Bill Driscoll
Driller	A F Mann
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	U.S. Geological Survey
Created Date	6/24/1999
Last Update Date	6/24/1999

Remarks	Well J-7-58 in B-5601.

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
6	Blank					

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

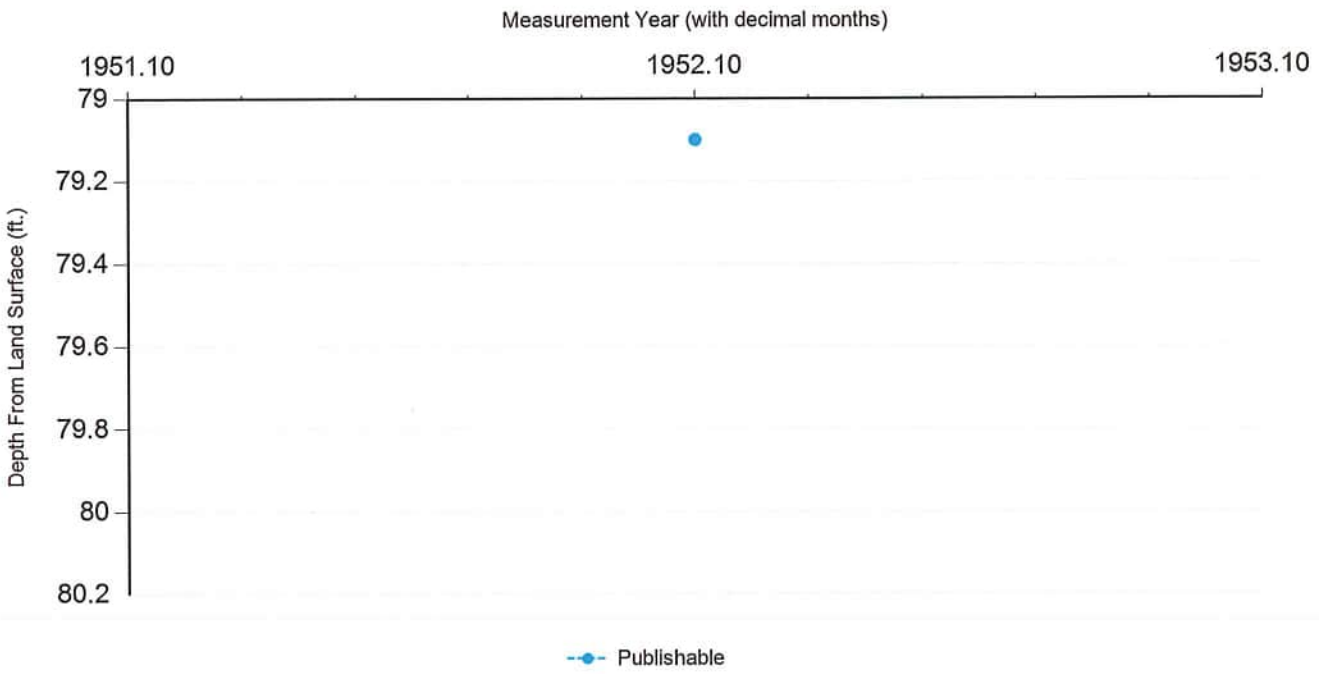
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	2/7/1952		79.1		527.9	1	U.S. Geological Survey	Steel Tape		

Code Descriptions

Status Code	Status Description
P	Publishable

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-226

groundwater division

Water Quality Analysis - No Data Available

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 68-57-505

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	6857505
County	Frio
River Basin	Nueces
Groundwater Management Area	13
Regional Water Planning Area	L - South Central Texas
Groundwater Conservation District	Evergreen UWCD
Latitude (decimal degrees)	29.079722
Latitude (degrees minutes seconds)	29° 04' 47" N
Longitude (decimal degrees)	-98.948334
Longitude (degrees minutes seconds)	098° 56' 54" W
Coordinate Source	+/- 1 Second
Aquifer Code	124CRRZ - Carrizo Sand
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	605
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	170
Well Depth Source	Unknown
Drilling Start Date	
Drilling End Date	0/0/1963
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Historical
Water Quality Available	No
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	W.W. Thompson
Driller	Thompson Water Well Srv
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	
Created Date	10/27/1994
Last Update Date	10/27/1994

Remarks	Slotted from 150 to 170 ft. Obser- vation well. Cased to 170 ft.

Casing - No Data

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

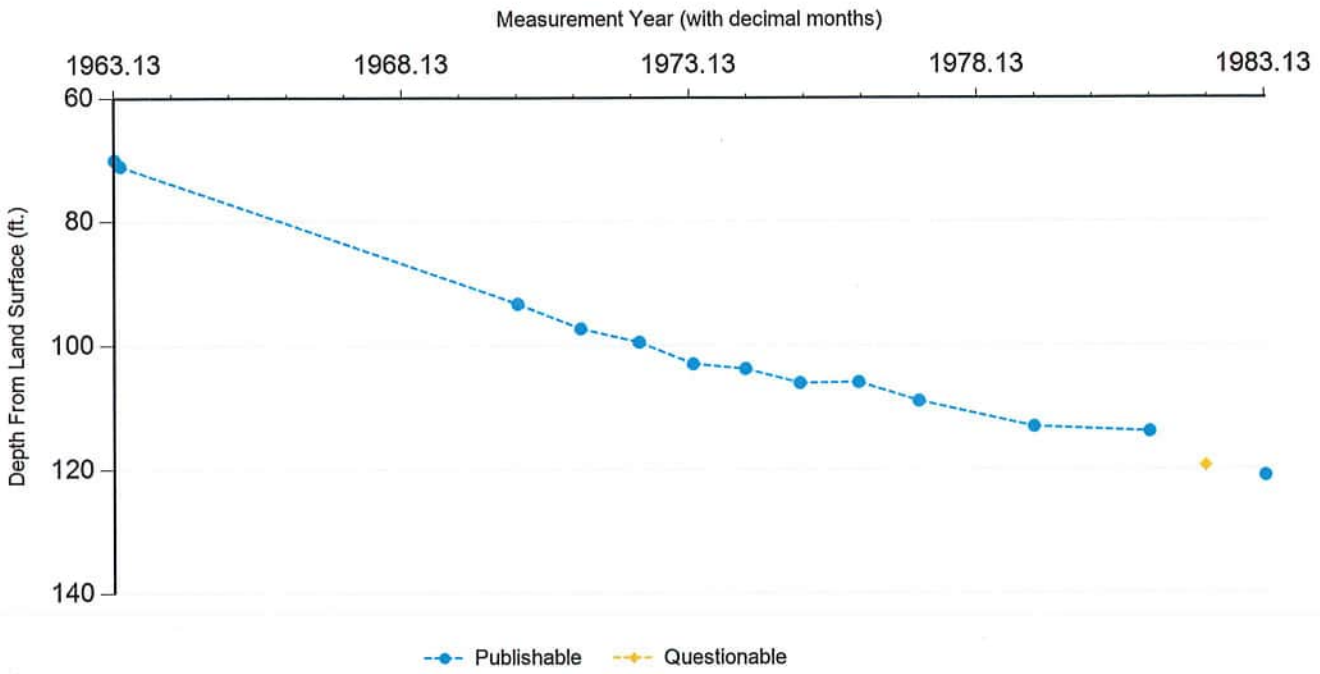
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	2/0/1963		71		534	1	Other or Source of Measurement Unknown	Unknown		
P	2/23/1963		70	(1.00)	535	1	Registered Water Well Driller	Unknown		
P	2/25/1970		93.27	23.27	511.73	1	Texas Water Development Board	Steel Tape		
P	3/30/1971		97.27	4.00	507.73	1	Texas Water Development Board	Steel Tape		
P	4/7/1972		99.45	2.18	505.55	1	Texas Water Development Board	Steel Tape		
P	3/12/1973		102.97	3.52	502.03	1	Texas Water Development Board	Steel Tape		
P	2/11/1974		103.77	0.80	501.23	1	Texas Water Development Board	Steel Tape		
P	1/21/1975		106.06	2.29	498.94	1	Texas Water Development Board	Steel Tape		
P	1/28/1976		105.93	(0.13)	499.07	1	Texas Water Development Board	Steel Tape		
P	2/14/1977		108.98	3.05	496.02	1	Texas Water Development Board	Steel Tape		
P	2/13/1979		113.12	4.14	491.88	1	Texas Water Development Board	Steel Tape		
P	2/18/1981		113.93	0.81	491.07	1	Texas Water Development Board	Steel Tape		
Q	2/12/1982		119.44	5.51	485.56	1	Texas Water Development Board	Steel Tape	4	
P	2/24/1983		121.04	1.60	483.96	1	Texas Water Development Board	Steel Tape		
X	2/28/1983					1	Texas Water Development Board		33	

Code Descriptions

Status Code	Status Description
P	Publishable
Q	Questionable
X	No Measurement

Remark ID	Remark Description
4	Well pumped recently
33	Well removed from Water Level Program due to owner request

Water Quality Analysis - No Data Available

ATTACHMENT U

GROUNDWATER QUALITY REPORT

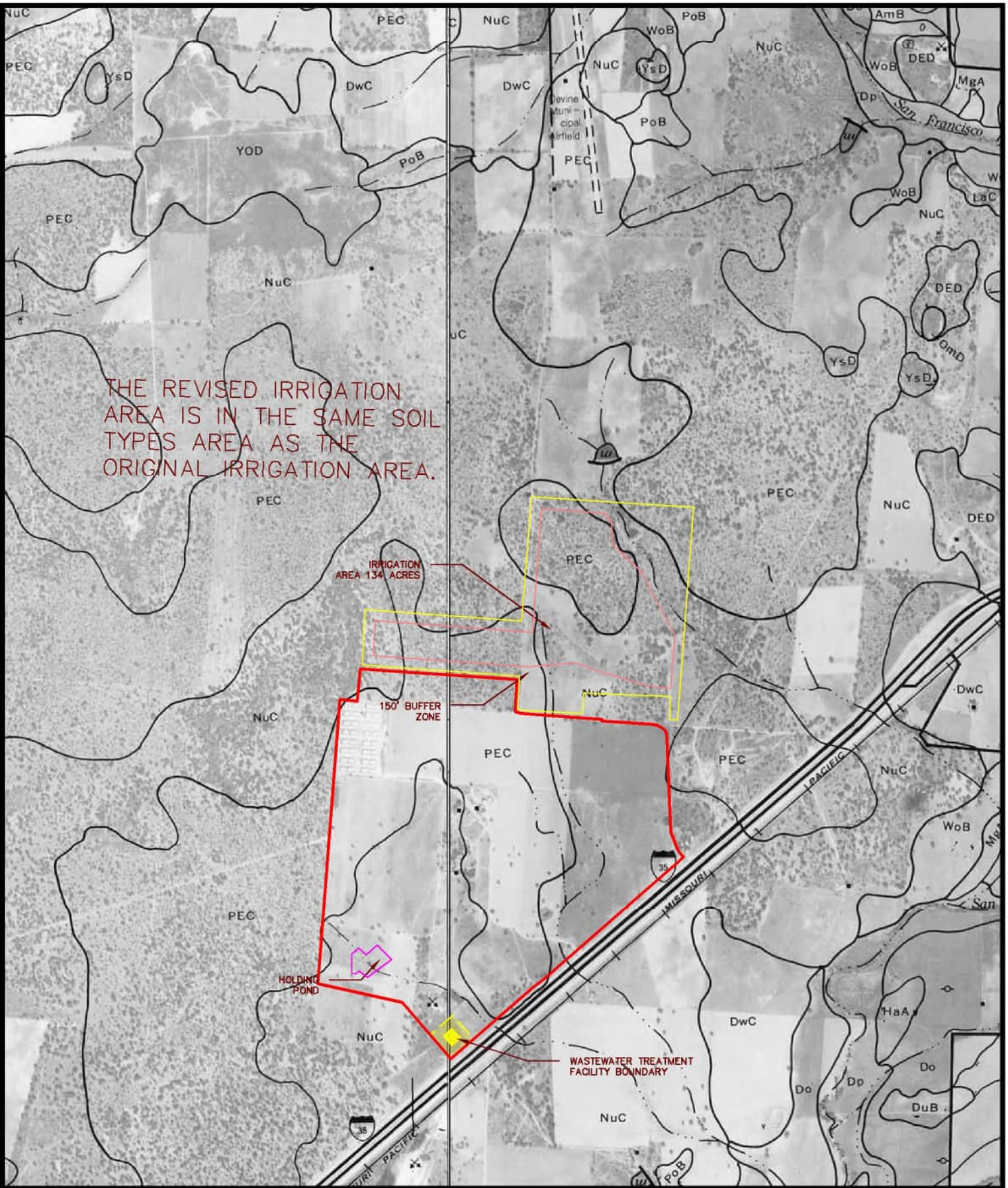
Attachment U- rev 6/5/2024

Groundwater Quality Report

The site was used as a CAFO for many years. Most of the cattle were confined to the northwest corner of the property for concentrated feeding. This area was cleaned by washing the manure into unlined lagoons on the western property line and immediately east of the feeding area. See attached aerial image. The aquifer in this area slopes from northwest to southeast. Downslope in the aquifer from these lagoons is the Public Water System of the Gusville Mobile Home Park. (PWS – TX1630031). This is Well #17 on the USGS map. Attached is the TCEQ Drinking Water Watch report for the Gusville Mobile Home Park. Over the past 20 years the system had only one incident of Ecoli contamination which was then rectified. Given that the unlined lagoons with untreated manure from the concentrated cattle feeding operation has not contaminated the groundwater the treated water from the proposed wastewater treatment plant, which will produce wastewater with a Biochemical Oxygen Demand of less than 5 mg/liter and is allowed for direct human contact per TCEQ rules, should pose no threat to any groundwater regardless of application rate. The storage lagoon for the treated wastewater for the proposed wastewater plant will meet the requirements of 30 TAC 309.13(d). The existing water wells on the site will be used for additional irrigation and for keeping the ponds on the property full to provide recreational facilities for the proposed subdivision residents.

ATTACHMENT V

SOIL MAP AND SOIL ANALYSES



SCALE: 1" = 1000'

DRAWN BY: MG DATE: 08/23

CHECKED BY: MAI DATE: 08/23

FILE: 0339-032-22

SOIL MAP

AGAPE OAKS

AGAPE OAKS

YANCEY, TEXAS

Southwest Engineers

TBPE NO. F-1009
www.swengineers.com

GONZALES
307 Sarah Lawman Street
P: (830) 672-7516 FAX: (830) 672-2250

BUDA
1115 Cimarron Park Loop, Bldg. B
P: (512) 312-3445

BASTROP
711 Main Street, #101
P: (512) 321-3276

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478

Visit our website: http://soiltesting.tamu.edu

Report generated for:
Yancey Water Supply Corp.
Scooter Mangold
PO Box 127
YANCEY, TX 78886

Sample received on: 7/26/2024
Printed on: 8/21/2024
Area Represented: 74 acres
SWFTL recommends <40 acres/sample

Medina County
Laboratory Number: 664661
Customer Sample ID: AO1
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (ESTABLISHMENT)

Analysis	Results	CL*	Units	ExLow VLow Low Mod High VHigh Excess.	Fertilizer Recommended
pH	**6.2**	(5.8)	-	**Slightly Acid**	
Conductivity	**22**	(-)	umho/cm	**None**	
Nitrate-N	**5**	(-)	ppm**		**30** lbs N/acre
Phosphorus	**21**	(50)	ppm		**60** lbs P2O5/acre
Potassium	**58**	(125)	ppm		**50** lbs K20/acre
Calcium	**385**	(180)	ppm		**0** lbs Ca/acre
Magnesium	**52**	(50)	ppm		**0** lbs Mg/acre
Sulfur	**3**	(13)	ppm		**15** lbs S/acre
Sodium	**10**	(-)	ppm		
Iron					
Zinc					
Manganese					
Copper					
Boron					
Limestone Requirement					**0.00** tons 100ECCE/acre

			Detailed Salinity Test (Saturated Paste Extract)			
			pH	**5.9**		
			Conductivity	**0.20**	mmhos/cm	
			Sodium	**23**	ppm	**1.022** meq/L
			Potassium	**15**	ppm	**0.391** meq/L
			Calcium	**13**	ppm	**0.627** meq/L
TKN	**1567**	ppm	**Magnesium**	**3**	ppm	**0.243** meq/L
TN	**1843**	ppm	**SAR**	**1.55**		
			SSP	**44.76**		

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Nitrogen: Apply an additional 40 lbs/A of nitrogen upon 75% vegetative cover.

Sulfur: Available sulfur may be found deeper in soil profile, thus limiting any response to added sulfur.

Online fertilizer calculators to determine appropriate fertilizers and application rates.
http://soiltesting.tamu.edu

Methods: pH and conductivity/ 2:1; nitrate-N/Cd-red.; P, K, Ca, Mg, Na, and S/Mehlich 3 by ICP; Fe, Zn, Mn, and Cu/DTPA by ICP; and B/hot water by ICP.

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478

Visit our website: http://soiltesting.tamu.edu

Report generated for:
Yancey Water Supply Corp.
Scooter Mangold
PO Box 127
YANCEY, TX 78886

Sample received on: 7/26/2024
Printed on: 8/21/2024
Area Represented: 80 acres
SWFTL recommends <40 acres/sample

Medina County
Laboratory Number: 664662
Customer Sample ID: AO2
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (ESTABLISHMENT)

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	Fertilizer Recommended
pH	6.6	(5.8)	-	Slightly Acid							
Conductivity	14	(-)	umho/cm	None				CL*			
Nitrate-N	2	(-)	ppm**								35 lbs N/acre
Phosphorus	6	(50)	ppm								90 lbs P2O5/acre
Potassium	25	(125)	ppm								80 lbs K20/acre
Calcium	376	(180)	ppm								0 lbs Ca/acre
Magnesium	30	(50)	ppm								10 lbs Mg/acre
Sulfur	2	(13)	ppm								15 lbs S/acre
Sodium	9	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											0.00 tons 100ECCE/acre

			Detailed Salinity Test (Saturated Paste Extract)			
			pH	6.0		
			Conductivity	0.12	mmhos/cm	
			Sodium	14	ppm	0.621 meq/L
			Potassium	6	ppm	0.152 meq/L
			Calcium	6	ppm	0.324 meq/L
TKN	1868	ppm	Magnesium	1	ppm	0.095 meq/L
TN	1832	ppm	SAR	1.36		
			SSP	52.10		

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Nitrogen: Apply an additional 40 lbs/A of nitrogen upon 75% vegetative cover.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

Sulfur: Available sulfur may be found deeper in soil profile, thus limiting any response to added sulfur.

Online fertilizer calculators to determine appropriate fertilizers and application rates.
http://soiltesting.tamu.edu

Methods: pH and conductivity/ 2:1; nitrate-N/Cd-red.; P, K, Ca, Mg, Na, and S/Mehlich 3 by ICP; Fe, Zn, Mn, and Cu/DTPA by ICP; and B/hot water by ICP.

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478

Visit our website: http://soiltesting.tamu.edu

Report generated for:
Yancey Water Supply Corp.
Scooter Mangold
PO Box 127
YANCEY, TX 78886

Sample received on: 7/26/2024
Printed on: 8/21/2024
Area Represented: 80 acres
SWFTL recommends <40 acres/sample

Medina County
Laboratory Number: 664663
Customer Sample ID: AO3
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (ESTABLISHMENT)

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	Fertilizer Recommended
pH	5.0	(5.8)	-	Strongly Acid							
Conductivity	15	(-)	umho/cm	None				CL*			
Nitrate-N	2	(-)	ppm**								35 lbs N/acre
Phosphorus	23	(50)	ppm								55 lbs P2O5/acre
Potassium	30	(125)	ppm								75 lbs K20/acre
Calcium	240	(180)	ppm								0 lbs Ca/acre
Magnesium	23	(50)	ppm								10 lbs Mg/acre
Sulfur	2	(13)	ppm								15 lbs S/acre
Sodium	9	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											1.00 tons 100ECCE/acre

			Detailed Salinity Test (Saturated Paste Extract)			
			pH	4.9		
			Conductivity	0.12	mmhos/cm	
			Sodium	17	ppm	0.731 meq/L
			Potassium	6	ppm	0.162 meq/L
			Calcium	3	ppm	0.166 meq/L
TKN	1893	ppm	Magnesium	0	ppm	0.038 meq/L
TN	1947	ppm	SAR	2.29		
			SSP	66.68		

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 40 lbs/A of nitrogen upon 75% vegetative cover.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

Sulfur: Available sulfur may be found deeper in soil profile, thus limiting any response to added sulfur.

Online fertilizer calculators to determine appropriate fertilizers and application rates.
http://soiltesting.tamu.edu

Methods: pH and conductivity/ 2:1; nitrate-N/Cd-red.; P, K, Ca, Mg, Na, and S/Mehlich 3 by ICP; Fe, Zn, Mn, and Cu/DTPA by ICP; and B/hot water by ICP.

TEXAS A&M AGRILIFE EXTENSION

Address: 2478 TAMU
College Station, Texas 77843-2478

Phone: (979) 845-4816
Email: soiltesting@tamu.edu
Web: soiltesting.tamu.edu

STATEMENT #413247

Account #: 106506
Statement Date: 7/29/2024
Statement By: JW
PO #:

Yancey Water Supply Corp.
ATTN: Scooter Mangold
PO Box 127
YANCEY, TX 78886

Lab(s) submitted for: Samples collected in Medina County

Quantity:	Test Code:		Lab Numbers:	Test Performed:	Test Price:	Total Price:
3	S9		664661 - 664663	Routine + Detailed Salinity	$37.00	$111.00
3	M11		664661 - 664663	TKN	$30.00	$90.00
3	M10		664661 - 664663	Total Nitrogen	$20.00	$60.00
					TOTAL	**$261.00**

Payment Date:	Payment Details:	Amount:
7/29/2024	Check - Reference #1139	$261.00
	TOTAL	**$261.00**

PAID IN FULL

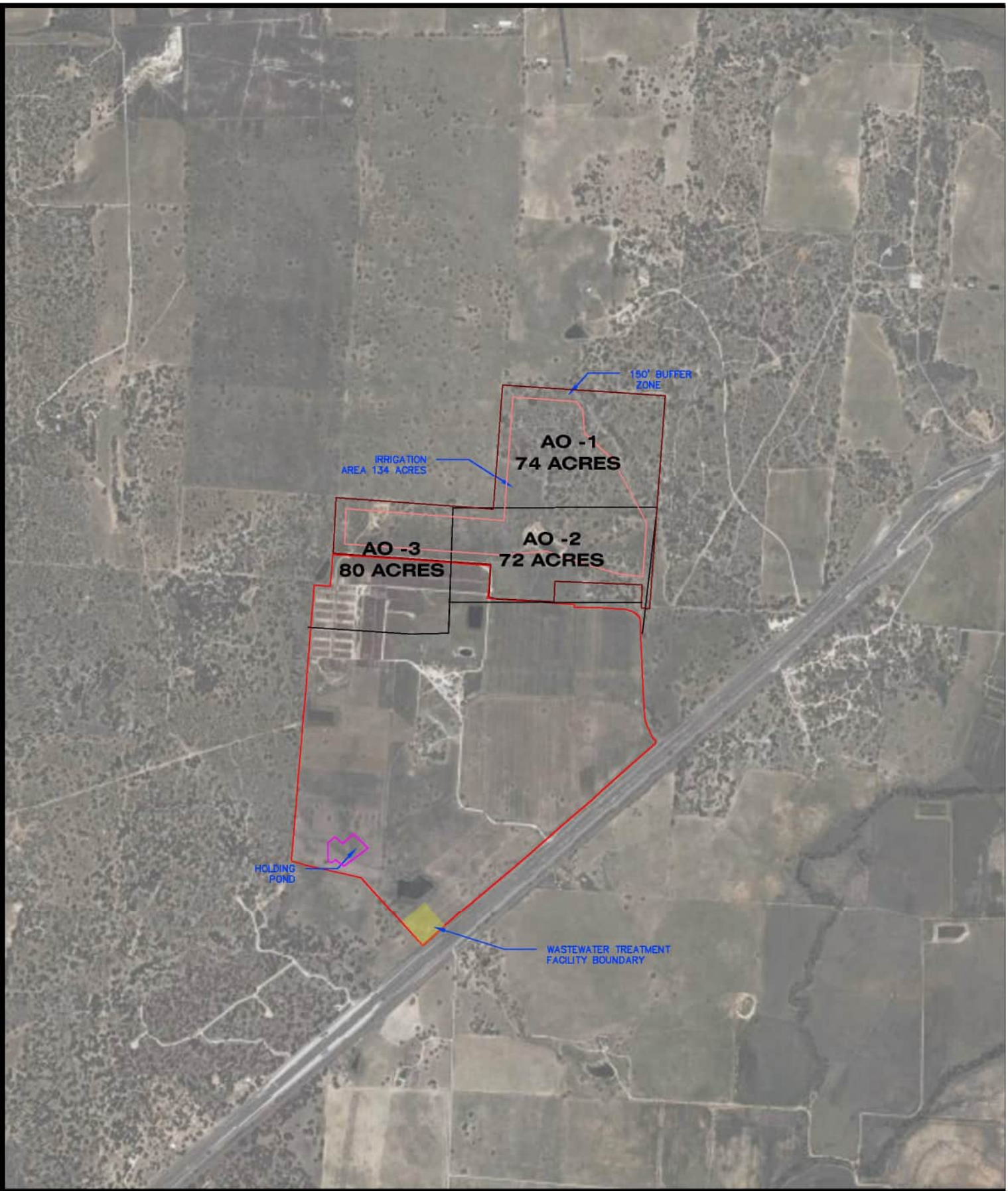
Statement Total:	**$261.00**
- Payments:	**$261.00**
+ Refunds:	
Balance Due:	**$0.00**

If you need to update your address or phone number, please send a note including the new information with your next sample.

Thank you for allowing us to serve your needs.

Attachment V- Soil Maps

Attached are the Medina County USDA soil maps with the Agape Oaks area highlighted. As discussed in annual Cropping plan (Attachment P), all impervious area over the entire site will be used for irrigation.



SCALE: 1" = 1000'

DRAWN BY: MAG DATE: 07/23

CHECKED BY: MAI DATE: 07/23

FILE: 0339-032-22

SOIL SAMPLE MAP

AGAPE OAKS WWTP

AGAPE OAKS

YANCEY, TEXAS

Southwest Engineers

TBPE FIRM No. F-1000

www.swengineers.com

GONZALES

[illegible]

[illegible]

HUTTO

[illegible]

[illegible]

BASTROP

[illegible]

[illegible]

ATTACHMENT W

ENGINEERING REPORT

WATER BALANCE AND STORAGE VOLUME CALCULATIONS

Attachment W

Engineering Report

See attached Water Balance Calculations.

See attached Storage Volume Calculations.

Nitrogen Balance:

$$\frac{250{,}000\ \text{gallons}}{\text{day}} \times \frac{365\ \text{days}}{\text{year}} \times \frac{8.33\ \text{lbs}}{\text{gallon}} \times \frac{2}{1{,}000{,}000}\ \text{N} \times \frac{1}{137\ \text{acres}} = 11.1 \frac{\text{lbs N}}{\text{acre}}/\text{year}$$

The method of application will be a spray irrigation using a center pivot sprinkler system.

Irrigation Efficiency: 100%-7%(Evaporation calculated in Storage Volume Calculations)

=93% efficiency

Signature:

Mark A. Ince, P.E.

Storage Volume Calculations

Month	Effluent Applied to Land	Mean Rainfall Distribution	Max Rainfall	Max Runoff	Infiltrated Rainfall	Total Available Water	Distribution of Mean	Net Minimum Evaporation	Storage	Accumulated Storage
January	0.97	3.45%	3.35	1.45	1.90	2.87	2.36%	-0.029	1.00	2.10
February	0.97	3.59%	3.48	1.55	1.93	2.90	1.96%	-0.024	0.85	2.95
March	0.97	7.38%	7.16	4.73	2.43	3.40	6.28%	-0.077	-1.71	1.24
April	0.97	7.17%	6.95	4.54	2.41	3.38	6.28%	-0.077	-2.35	-1.12
May	0.97	13.01%	12.62	9.91	2.71	3.68	14.67%	-0.180	-9.20	-10.32
June	0.97	9.42%	9.14	6.58	2.56	3.53	7.09%	-0.087	-8.93	-19.24
July	0.97	16.91%	16.4	13.59	2.81	3.78	21.19%	-0.260	-11.41	-30.66
August	0.97	5.49%	5.32	3.08	2.24	3.21	5.38%	-0.066	-6.12	-36.77
September	0.97	16.24%	15.75	12.95	2.80	3.77	19.32%	-0.237	-5.02	-41.80
October	0.97	8.08%	7.84	5.36	2.48	3.45	8.39%	-0.103	-4.27	-46.06
November	0.97	5.70%	5.53	3.26	2.27	3.24	4.48%	-0.055	0.10	0.10
December	0.97	3.55%	3.44	1.52	1.92	2.89	2.61%	-0.032	1.00	1.10
Total	11.64	100.00%	96.98	68.51	28.47	40.11	100.00%	-1.227	--	2.95**

Water Balance Calculations

Month	Average Rainfall	Average Runoff	Average Infiltrated Rainfall	Evapotranspiration	Leaching	Total Water Needs	Effluent Required in Root Zone	Evaporation from Reservoir Surface	Effluent to be Applied to Land	Consumption from Reservoir
January	1.81	0.42	1.40	1.35	0.00	1.35	0.00	0.024	0.00	0.02
February	1.50	0.26	1.24	1.71	0.35	2.06	0.81	0.033	0.95	0.98
March	2.28	0.70	1.59	3.42	1.35	4.77	3.19	0.044	3.71	3.75
April	2.08	0.57	1.51	3.69	1.61	5.30	3.79	0.063	4.41	4.47
May	3.83	1.83	2.00	7.47	4.04	11.51	9.51	0.038	11.05	11.09
June	2.88	1.10	1.78	7.11	3.94	11.05	9.27	0.094	10.78	10.88
July	2.87	1.10	1.78	8.55	5.01	13.56	11.78	0.094	13.70	13.79
August	2.49	0.83	1.66	5.49	2.83	8.32	6.66	0.098	7.75	7.85
September	3.66	1.69	1.97	5.49	2.60	8.09	6.12	0.104	7.12	7.23
October	3.52	1.58	1.94	4.86	2.16	7.02	5.08	0.051	5.91	5.96
November	2.29	0.70	1.59	2.43	0.62	3.05	1.46	0.036	1.70	1.73
December	1.52	0.27	1.25	1.08	0.00	1.08	0.00	0.030	0.00	0.03
Total	30.73	11.03	19.70	52.65	24.52	77.17	57.68	0.709	67.08	67.78

ATTACHMENT X

LINER CERTIFICATION

Attachment X

Liner Certification

The storage pond for the lagoon will lined with in-situ clay that meets the requirements of 30 TAC309.13(d) and 30 TAC 217.

The site was previously used as a feedlot. As part of the closure plan the ponds were dredged to remove manure that had washed into the ponds. The ponds will be used as amenities for the proposed subdivision.

Leah Whallon

From: Mark Ince <mark.ince@swengineers.com>
Sent: Monday, September 9, 2024 9:22 AM
To: Leah Whallon
Cc: yanceywater@yahoo.com; Jane Twyford
Subject: RE: Application for Proposed Permit No. WQ0016603001; Yancey Water Supply Corporation; Agape Oaks WWTP
Attachments: WQ0016465001-nori-esp.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Good Morning Leah,
All looks good. Attached is the Spanish NORI.
Thanks,

Mark Ince, P.E.
Project Engineer
p: (830) 672-7546 ext 433
a: 307 Saint Lawrence Street, Gonzales, Texas 78629
w: swengineers.com
TBPE No. F-1909

From: Leah Whallon <Leah.Whallon@Tceq.Texas.Gov>
Sent: Friday, August 30, 2024 3:19 PM
To: Mark Ince <mark.ince@swengineers.com>
Cc: yanceywater@yahoo.com
Subject: Application for Proposed Permit No. WQ0016603001; Yancey Water Supply Corporation; Agape Oaks WWTP

Good Afternoon,

Please see the attached Notice of Deficiency letter dated August 30, 2024 requesting additional information needed to declare the application administratively complete. Please send the complete response by September 13, 2024.

Please let me know if you have any questions.

Thank you,

Leah Whallon
Texas Commission on Environmental Quality
Water Quality Division
512-239-0084
leah.whallon@tceq.texas.gov

How is our customer service? Fill out our online customer satisfaction survey at
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Comisión de Calidad Ambiental del Estado de Texas

AVISO DE RECIBO DE LA SOLICITUD E
INTENCION DE OBTENER PERMISO PARA LA CALIDAD DEL AGUA

PERMISO PROPUESTO NO.

SOLICITUD. Yancey Water Supply Corporation, P.O. Box 127 Yancey, Texas 78886, ha solicitado a la Comisión de Calidad Ambiental de Texas (TCEQ) para el propuesto Permiso No. WQ0016603001 de disposición de aguas residuales para autorizar la disposición de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio diario de 250,000 galones por día por medio aplicación superficial de 137 acres. La planta de tratamiento de aguas domésticos residuales y el área de disposición estarán ubicados aproximadamente 0.11 millas al norte de la intersección de County Road 7612 y la I-35 Frontage Road en el Condado de Medina, Texas 78016. La TCEQ recibió esta solicitud el día 21 de agosto de 2024. La solicitud para el permiso estará disponible para leerla y copiarla en Biblioteca pública Driscoll, 202 East Hondo Avenue, Devine, Texas antes de la fecha de publicación de este aviso en el periódico. Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud.
https://gisweb.tceq.texas.gov/LocationMapper/?marker=-98.945,29.099722&level=18

AVISO ADICIONAL. El Director Ejecutivo de la TCEQ ha determinado que la solicitud es administrativamente completa y conducirá una revisión técnica de la solicitud. Después de completar la revisión técnica, el Director Ejecutivo puede preparar un borrador del permiso y emitirá una Decisión Preliminar sobre la solicitud. **El aviso de la solicitud y la decisión preliminar serán publicados y enviado a los que están en la lista de correo de las personas a lo largo del condado que desean recibir los avisos y los que están en la lista de correo que desean recibir avisos de esta solicitud. El aviso dará la fecha límite para someter comentarios públicos.**

COMENTARIO PUBLICO / REUNION PUBLICA. Usted puede presentar comentarios públicos o pedir una reunión pública sobre esta solicitud. El propósito de una reunión pública es dar la oportunidad de presentar comentarios o hacer preguntas acerca de la solicitud. La TCEQ realiza una reunión pública si el Director Ejecutivo determina que hay un grado de interés público suficiente en la solicitud o si un legislador local lo pide. Una reunión pública no es una audiencia administrativa de lo contencioso.

OPORTUNIDAD DE UNA AUDIENCIA ADMINISTRATIVA DE LO CONTENCIOSO. Después del plazo para presentar comentarios públicos, el Director Ejecutivo considerará todos los comentarios apropiados y preparará una respuesta a todo los comentarios públicos esenciales, pertinentes, o significativos. **A menos que la solicitud haya sido referida directamente a una audiencia administrativa de lo contencioso, la respuesta a los**

comentarios y la decisión del Director Ejecutivo sobre la solicitud serán enviados por correo a todos los que presentaron un comentario público y a las personas que están en la lista para recibir avisos sobre esta solicitud. Si se reciben comentarios, el aviso también proveerá instrucciones para pedir una reconsideración de la decisión del Director Ejecutivo y para pedir una audiencia administrativa de lo contencioso. Una audiencia administrativa de lo contencioso es un procedimiento legal similar a un procedimiento legal civil en un tribunal de distrito del estado.

PARA SOLICITAR UNA AUDIENCIA DE CASO IMPUGNADO, USTED DEBE INCLUIR EN SU SOLICITUD LOS SIGUIENTES DATOS: su nombre, dirección, y número de teléfono; el nombre del solicitante y número del permiso; la ubicación y distancia de su propiedad/actividad con respecto a la instalación; una descripción específica de la forma cómo usted sería afectado adversamente por el sitio de una manera no común al público en general; una lista de todas las cuestiones de hecho en disputa que usted presente durante el período de comentarios; y la declaración "[Yo/nosotros] solicito/solicitamos una audiencia de caso impugnado". Si presenta la petición para una audiencia de caso impugnado de parte de un grupo o asociación, debe identificar una persona que representa al grupo para recibir correspondencia en el futuro; identificar el nombre y la dirección de un miembro del grupo que sería afectado adversamente por la planta o la actividad propuesta; proveer la información indicada anteriormente con respecto a la ubicación del miembro afectado y su distancia de la planta o actividad propuesta; explicar cómo y porqué el miembro sería afectado; y explicar cómo los intereses que el grupo desea proteger son pertinentes al propósito del grupo.

Después del cierre de todos los períodos de comentarios y de petición que aplican, el Director Ejecutivo enviará la solicitud y cualquier petición para reconsideración o para una audiencia de caso impugnado a los Comisionados de la TCEQ para su consideración durante una reunión programada de la Comisión. La Comisión sólo puede conceder una solicitud de una audiencia de caso impugnado sobre los temas que el solicitante haya presentado en sus comentarios oportunos que no fueron retirados posteriormente. Si se concede una audiencia, el tema de la audiencia estará limitado a cuestiones de hecho en disputa o cuestiones mixtas de hecho y de derecho relacionadas a intereses pertinentes y materiales de calidad del agua que se hayan presentado durante el período de comentarios.

LISTA DE CORREO. Si somete comentarios públicos, un pedido para una audiencia administrativa de lo contencioso o una reconsideración de la decisión del Director Ejecutivo, la Oficina del Secretario Principal enviará por correo los avisos públicos en relación con la solicitud. Ademas, puede pedir que la TCEQ ponga su nombre en una or mas de las listas correos siguientes (1) la lista de correo permanente para recibir los avisos de el solicitante indicado por nombre y número del permiso específico y/o (2) la lista de correo de todas las solicitudes en un condado especifico. Si desea que se agrega su nombre en una de las listas designe cual lista(s) y envia por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

CONTACTOS E INFORMACIÓN A LA AGENCIA. Todos los comentarios públicos y solicitudes deben ser presentadas electrónicamente vía http://www14.tceq.texas.gov/epic/eComment/ o por escrito dirigidos a la Comisión de Texas de Calidad Ambiental, Oficial de la Secretaría (Office of Chief Clerk), MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Tenga en cuenta que

cualquier información personal que usted proporcione, incluyendo su nombre, número de teléfono, dirección de correo electrónico y dirección física pasarán a formar parte del registro público de la Agencia. Para obtener más información acerca de esta solicitud de permiso o el proceso de permisos, llame al programa de educación pública de la TCEQ, gratis, al 1-800-687-4040. Si desea información en Español, puede llamar al 1-800-687-4040.

También se puede obtener información adicional del Yancey Water Supply Corporation a la dirección indicada arriba o llamando a Sr. Mark Ince, P.E., Southwest Engineers Inc., at 830-672-7546.

Fecha de emisión: 30 de agosto de 2024