



# 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** **Enter 'INDUSTRIAL' or 'DOMESTIC' here 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.*

Travis County Water Control and Improvement District No. 17 (CN600669048) operates the Steiner Ranch Wastewater Facility (RN101227973), an activated sludge process facility. The facility is located at 3415 ½ N. Quinlan Park Road, in Austin, Travis County, Texas 78732. This application is for a renewal to dispose of treated domestic wastewater at a daily average flow not to exceed 0.525 million gallons per day (MGD) via drip and spray irrigation, and to pre-treat and divert flows above 0.525 MGD but not exceeding 1.5 MGD to the City of Austin regional wastewater system. This permit will not authorize a discharge of pollutants into water in the state.

Discharges from the facility are expected to contain Biochemical Oxygen Demand (BOD<sub>5</sub>), pH, and Chlorine (CL<sub>2</sub>). Domestic wastewater is treated by a step screen headworks, influent equalization basin, sequencing batch reactor basins, chlorine contact basins, effluent holding basins, and tertiary filters. Sludge is treated by aerobic digesters and a belt press.

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

**AGUAS RESIDUALES** Introduzca 'INDUSTRIALES' o 'DOMÉSTICAS' aquí /**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.*

Travis County Water Control and Improvement District No 17 (CN600669048) opera la instalación de tratamiento de aguas residuales de Steiner Ranch (RN101227973, una instalación do proceso de lodos activados. La instalación está ubicada en 3415 ½ N. Quinlan Park Road, en la ciudad de Austin, Condado de Travis, Texas 78732. Esta solicitud es para una renovación para eliminar aguas residuales domésticas tratadas a un flujo promedio diario que no exceda los 0.525 millones de galones por día (MGD) mediante riego por goteo y aspersión, y para pretratar y desviar flujos superiores a 0.525 MGD pero que no excedan los 1.5 MGD al sistema regional de aguas residuales de la ciudad de Austin. 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 (BOD<sub>5</sub>) y pH y cloro (CL<sub>2</sub>). Aguas residuales domesticas. está tratado por mediante cabezales de criba escalonada, cuencas de eculización de afluentes, cuencas de reactores discontinuos de secuenciación, cuencas de contacto con cloro, cuencas de retención de efluentes y filtros terciarios. El tratamiento de lodos se realiza mediante digestores aeróbicos y una prensa de cinta.

# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



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

PERMIT NO. WQ0013294001

**APPLICATION.** Travis County Water Control and Improvement District No. 17, 3812 Eck Lane, Austin, Texas 78734, has applied to the Texas Commission on Environmental Quality (TCEQ) to renew Texas Land Application Permit (TLAP) No. WQ0013294001 to authorize the disposal of treated wastewater at a volume not to exceed a daily average flow of 525,000 gallons per day via surface irrigation of 145 acres of golf course and subsurface drip irrigation of 28.7 acres of nonpublic access perennial pastureland. The domestic wastewater treatment facility and disposal area are located at 3415 1/2 North Quinlan Park Road, near the city of Austin, in Travis County, Texas 78732. TCEQ received this application on May 20, 2024. The permit application will be available for viewing and copying at Travis County WCID No. 17, Conference Room, 3812 Eck Lane, Austin, in Travis 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=-97.886446,30.368383&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.**

**TCEQ may act on an application to renew a permit for discharge of wastewater without providing an opportunity for a contested case hearing if certain criteria are met.**

**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](http://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](http://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 Travis County Water Control and Improvement District No. 17 at the address stated above or by calling Mr. Michael Bevilacqua, P.E., Baxter and Woodman, at 737-358-8103.

Issuance Date: June 11, 2024

# Comisión de Calidad Ambiental del Estado de Texas



## AVISO DE RECIBO DE LA SOLICITUD Y EL INTENTO DE OBTENER PERMISO PARA LA CALIDAD DEL AGUA RENOVACION

### PERMISO NO. WQ0013294001

**SOLICITUD.** Travis County Water Control and Improvement District No. 17, 3812 Eck Lane, Austin, Texas 78734 ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para renovar el Permiso de Solicitud de Tierras de Texas (TLAP) No. WQ0013294001 para autorizar la disposición de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio diario de 525.000 galones por día mediante riego superficial de 145 acres de campo de golf y riego por goteo subterráneo de 28.7 acres de pastizales perennes de acceso no público. La instalación de tratamiento de aguas residuales domésticas y el área de eliminación están ubicadas en 3415 1/2 Norte Quinlan Park Road en la ciudad de Austin, en el Condado de Travis, Texas 78732. La TCEQ recibió esta solicitud el 20 de mayo de 2024. La solicitud para el permiso estará disponible para leerla y copiarla en Travis County WCID No. 17, Sala de Conferencias, 3812 Eck Lane, Austin, en Condado de Travis, 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=-97.886446,30.368383&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 por qué 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. Si ciertos criterios se cumplen, la TCEQ puede actuar sobre una solicitud para renovar un permiso sin proveer una oportunidad de una audiencia administrativa de lo contencioso.

**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. Además, puede pedir que la TCEQ ponga su nombre en una o más de las listas de 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 específico. Si desea que se agregue su nombre en una de las listas designe cual lista(s) y envía 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 Travis County Water Control and Improvement District No. 17 a la dirección indicada arriba o llamando a Michael E. Bevilacqua, P.E., Baxter and Woodman al 737-358-8103

Fecha de emission: 11 de junio de 2024

# TCEQ TLAP RENEWAL APPLICATION

STEINER RANCH  
WASTEWATER TREATMENT FACILITY  
WQ0013294001

Prepared For:  
TRAVIS COUNTY WCID NO. 17



Prepared by:



TX Registered Engineering Firm F-21783  
301 Denali Pass, Suite 3  
Cedar Park, TX 78613  
281-350-7027

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May 14, 2024

Texas Commission on Environmental Quality  
Applications Review and Processing Team (MC 158)  
P.O. Box 13087  
Austin, Texas 78711-3087

**Re: TCEQ TLAP Permit Renewal Application**  
**Travis County WCID No. 17**  
**Steiner Ranch Wastewater Treatment Facility**  
**WQ0013294001**  
**CN: 600669048 RN:101227973**

To Whom it May Concern,

The attached application is for a renewal to an existing TLAP Permit for the above referenced Wastewater Treatment Facility (WWTF).

The Steiner Ranch WWTF has a treatment capacity of 1.50 MGD. Under the existing permit, Travis County WCID No. 17 is authorized to dispose of treated domestic wastewater at a daily average flow not to exceed 0.525 MGD via drip irrigation of non-public access perennial pastureland & spray irrigation at the University of Texas Golf Course. All flows above 0.525 MGD, and not to exceed 1.5 MGD, are authorized to be pre-treated and diverted to the City of Austin Wastewater Treatment System under Special Provision #23 of the existing permit. The existing permit allows composting of sludge. WCID 17 has suspended composting, and is currently having its sludge hauled and disposed of, but would like to leave the ability to compost in this permit. No changes to the existing permit are being proposed with this renewal.

If you have any questions, or need additional information, please do not hesitate to contact me. My address and phone number are listed above, and my email is [mbevilacqua@baxterwoodman.com](mailto:mbevilacqua@baxterwoodman.com).

Sincerely,  
Baxter & Woodman



Michael E. Bevilacqua, P.E.



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

## DOMESTIC WASTEWATER PERMIT APPLICATION CHECKLIST

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**Complete and submit this checklist with the application.**

APPLICANT NAME: Travis County Water Control and Improvement District No. 17

PERMIT NUMBER (If new, leave blank): WQ00 13294001

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

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

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

Minor Amendment (for any flow) \$150.00

**Payment Information:**

Mailed      Check/Money Order Number:   
 Check/Money Order Amount:   
 Name Printed on Check:   
 EPAY      Voucher Number:   
 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: [Click to enter text.](#)

f. **For existing permits:**

Permit Number: WQ00 13294001

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

Expiration Date: 12/1/2024

### Section 3. Facility Owner (Applicant) and Co-Applciant 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?

Travis County Water Control and Improvement District No. 17

*(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: 600669048

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: Homan, Jason

Title: General Manager

Credential: [Click to enter text.](#)

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

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

[Click to enter text.](#)

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

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

CN: Click to enter text.

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

Prefix: Click to enter text.

Last Name, First Name: Click to enter text.

Title: Click to enter text.

Credential: Click to enter text.

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

### C. Core Data Form

Complete the Core Data Form for each customer and include as an attachment. If the customer type selected on the Core Data Form is **Individual**, complete **Attachment 1** of Administrative Report 1.0. [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: Bevilacqua, Michael  
Title: Senior Project Manager Credential: P.E.  
Organization Name: Baxter and Woodman  
Mailing Address: 301 Denali Pass, Suite #3 City, State, Zip Code: Cedar Park, TX 78613  
Phone No.: 737-358-8103 E-mail Address: mbevilacqua@baxterwoodman.com  
Check one or both:  Administrative Contact  Technical Contact
- B. Prefix: Mr. Last Name, First Name: Kunz, Joe  
Title: Operations Manager Credential: Click to enter text.  
Organization Name: Travis County WCID No. 17  
Mailing Address: 3812 Eck Lane City, State, Zip Code: Austin, TX 78734  
Phone No.: 512-266-1111 E-mail Address: jkunz@wcid17.org  
Check one or both:  Administrative Contact  Technical Contact

## Section 5. Permit Contact Information (Instructions Page 27)

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

- A. Prefix: Mr. Last Name, First Name: Gonzalez, Matthew  
Title: Wastewater Supervisor Credential: Click to enter text.  
Organization Name: Travis County WCID No. 17  
Mailing Address: 3812 Eck Lane City, State, Zip Code: Austin, TX 78734  
Phone No.: 512-801-4893 E-mail Address: mgonzalez@wcid17.org

B. Prefix: Mr. Last Name, First Name: Kunz, Joe  
Title: Operations Manager Credential: Click to enter text.  
Organization Name: Travis County WCID No. 17  
Mailing Address: 3812 Eck Lane City, State, Zip Code: Austin, TX 78734  
Phone No.: 512-266-1111 E-mail Address: jkunz@wci17.org

## Section 6. Billing Contact Information (Instructions Page 27)

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

Prefix: Ms. Last Name, First Name: Henderson, Monica  
Title: Accounting Supervisor Credential: Click to enter text.  
Organization Name: Travis County WCID No. 17  
Mailing Address: 3812 Eck Lane City, State, Zip Code: Austin, TX 78734  
Phone No.: 512-266-1111 E-mail Address: accountspayable@wcid17.org

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

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

Prefix: Mr. Last Name, First Name: Gonzalez, Matthew  
Title: Wastewater Supervisor Credential: Click to enter text.  
Organization Name: Travis County WCID No. 17  
Mailing Address: 3812 Eck Lane City, State, Zip Code: Austin, TX 78734  
Phone No.: 512-801-4893 E-mail Address: mgonzalez@wcid17.org

## Section 8. Public Notice Information (Instructions Page 27)

### A. Individual Publishing the Notices

Prefix: Mr. Last Name, First Name: Bevilacqua, Michael  
Title: Senior Project Manager Credential: P.E.  
Organization Name: Baxter and Woodman  
Mailing Address: 301 Denali Pass, Suite #3 City, State, Zip Code: Cedar Park, TX 78613  
Phone No.: 737-358-8103 E-mail Address: mbevilacqua@baxterwoodman.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: Bevilacqua, Michael  
 Title: Senior Project Manager Credential: P.E.  
 Organization Name: Baxter and Woodman  
 Mailing Address: 301 Denali Pass, Suite #3 City, State, Zip Code: Cedar Park, TX 78613  
 Phone No.: 737-358-8103 E-mail Address: mbevilacqua@baxterwoodman.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: Travis County WCID No. 17 Main Office  
 Location within the building: Conference Room  
 Physical Address of Building: 3812 Eck Lane  
 City: Austin County: Travis  
 Contact (Last Name, First Name): Kunz, Joe  
 Phone No.: 512-266-1111 Ext.: Click to enter text.

**E. Bilingual Notice Requirements**

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

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

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

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

- Yes  No

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

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

- Yes  No

3. Do the students at these schools attend a bilingual education program at another location?
- Yes       No
4. Would the school be required to provide a bilingual education program but the school has waived out of this requirement under 19 TAC §89.1205(g)?
- Yes       No
5. If the answer is **yes** to **question 1, 2, 3, or 4**, public notices in an alternative language are required. Which language is required by the bilingual program? Spanish

**F. Plain Language Summary Template**

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

Attachment: U

**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: V

**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 101227973

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):

Steiner Ranch Wastewater Treatment Plant

- C. Owner of treatment facility: Travis County WCID No. 17

Ownership of Facility:  Public       Private       Both       Federal

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

Prefix: Mr.      Last Name, First Name: Homan, Jason

Title: General Manager      Credential: Click to enter text.

Organization Name: Travis County WCID No. 17

Mailing Address: 3812 Eck Lane      City, State, Zip Code: Austin, TX 78734

Phone No.: 512-266-1111      E-mail Address: jhoman@wcid17.org

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: B

E. Owner of effluent disposal site:

Prefix: [Click to enter text.](#) Last Name, First Name: **The Applicant owns the Drip irrigation site. The Owner of the spray irrigation site is provided below**

Title: [Click to enter text.](#) Credential: [Click to enter text.](#)

Organization Name: Varsity Golf Club Ltd – Contact Caleb Wade

Mailing Address: 2200 University Golf Club Dr City, State, Zip Code: Austin, TX 78732

Phone No.: 352-339-4360 E-mail Address: caleb.wade@utgolfclub.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:** B

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

Prefix: [Click to enter text.](#) Last Name, First Name: [Click to enter text.](#)

Title: [Click to enter text.](#) Credential: [Click to enter text.](#)

Organization Name: [Click to enter text.](#)

Mailing Address: [Click to enter text.](#) City, State, Zip Code: [Click to enter text.](#)

Phone No.: [Click to enter text.](#) E-mail Address: [Click to enter text.](#)

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

**Attachment:** [Click to enter text.](#)

## Section 10. TPDES Discharge Information (Instructions Page 31)

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

Yes  No

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

[Click to enter text.](#)

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

Yes  No

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

[Click to enter text.](#)

City nearest the outfall(s): [Click to enter text.](#)

County in which the outfalls(s) is/are located: [Click to enter text.](#)

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

- Yes     No

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

- Authorization granted     Authorization pending

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

**Attachment:** [Click to enter text.](#)

- D. For all applications involving an average daily discharge of 5 MGD or more, provide the names of all counties located within 100 statute miles downstream of the point(s) of discharge: [Click to enter text.](#)

## 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:

[Click to enter text.](#)

- B. City nearest the disposal site: Austin

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

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

Effluent is routed to either the effluent storage ponds where it is disposed of via spray irrigation on publicly accessible land at the University Golf Course, or pumped from the WWTP to the drip irrigation site on non-public access land owned by the Applicant. Effluent may also be diverted via pumping to the City of Austin's wastewater system.

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

## Section 12. Miscellaneous Information (Instructions Page 32)

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

- Yes     No

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

- Yes     No     Not Applicable

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

[Click to enter text.](#)

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

Yes  No

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

D. Do you owe any fees to the TCEQ?

Yes  No

If yes, provide the following information:

Account number: [Click to enter text.](#)

Amount past due: [Click to enter text.](#)

E. Do you owe any penalties to the TCEQ?

Yes  No

If yes, please provide the following information:

Enforcement order number: [Click to enter text.](#)

Amount past due: [Click to enter text.](#)

## Section 13. Attachments (Instructions Page 33)

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

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

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

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

Attachment 1 for Individuals as co-applicants

Other Attachments. Please specify: [Click to enter text.](#)

**Section 14. Signature Page (Instructions Page 34)**

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

Permit Number: WQ0013294001

Applicant: Travis County Water Control and Improvement District No. 17

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.

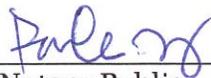
I further certify that I am authorized under 30 Texas Administrative Code § 305.44 to sign and submit this document, and can provide documentation in proof of such authorization upon request.

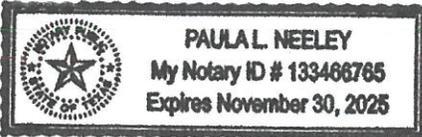
Signatory name (typed or printed): Jason Homan

Signatory title: General Manager

Signature:  Date: May 6, 2024  
(Use blue ink)

Subscribed and Sworn to before me by the said Jason Homan  
on this 6th day of May, 20 24.  
My commission expires on the 30th day of November, 20 25.

  
Notary Public



[SEAL]

Travis  
County, Texas

# DOMESTIC WASTEWATER PERMIT APPLICATION CHECKLIST OF COMMON DEFICIENCIES

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

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

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

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

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

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

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

**Things to Know:**

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

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

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

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

Plain Language Summary  Yes



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

# DOMESTIC WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.0

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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): 0.525

2-Hr Peak Flow (MGD): 2.1

Estimated construction start date: Click to enter text.

Estimated waste disposal start date: Click to enter text.

### B. Interim II Phase

Design Flow (MGD): Click to enter text.

2-Hr Peak Flow (MGD): Click to enter text.

Estimated construction start date: Click to enter text.

Estimated waste disposal start date: Click to enter text.

### C. Final Phase

Design Flow (MGD): Click to enter text.

2-Hr Peak Flow (MGD): Click to enter text.

Estimated construction start date: Click to enter text.

Estimated waste disposal start date: Click to enter text.

### D. Current Operating Phase

Provide the startup date of the facility: Existing/Interim I. Startup on 06/16/2010

## 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 D

**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)
See Attachment D		

**C. Process Flow Diagram**

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

**Attachment:** E

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

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

- Latitude: [Click to enter text.](#)
- Longitude: [Click to enter text.](#)

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

- Latitude: Drip Irrigation: 30.3686, Spray Irrigation: 30.3601
- Longitude: Drip Irrigation: -97.8892, Spray Irrigation: -97.8896

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:** F

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

The Steiner Ranch WWTP serves the Steiner Ranch development which includes single family, multi-family, and commercial developments.

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
N/A - TLAP		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.**

Click to enter text.

**Section 5. Closure Plans (Instructions Page 45)**

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

Yes  No

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

Yes  No

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

Click to enter text.

## Section 6. Permit Specific Requirements (Instructions Page 45)

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

### A. Summary transmittal

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

Yes  No

If yes, provide the date(s) of approval for each phase: 06/18/2009

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.**

See Attachment T for the Summary Submittal Letter sent to TCEQ on June 11, 2009 and corresponding TCEQ approval dated 6/18/2009

### 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.

Ownership. See Attachment B.

**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*.

Special Provision #9 – Soil Analysis (See Attachment O).  
Special Provision #16 – Liner Certification (See Attachment I).  
Special Provision #24 – New Pond and Irrigation Construction (N/A. No new construction since 2014 renewal).  
Special Provision #25 – Semi Annual Monitoring of Spring (See Attachment S).

**D. Grit and grease treatment**

**1. Acceptance of grit and grease waste**

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

Yes  No

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

**2. Grit and grease processing**

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

Click to enter text.

**3. Grit disposal**

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

Yes  No

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

Describe the method of grit disposal.

Click to enter text.

**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.

Click to enter text.

**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 FX61 or TXRNE Click to enter text.

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

Yes  No

**3. Conditional exclusion**

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

Yes  No

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

Click to enter text.

**4. Existing coverage in individual permit**

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

Yes  No

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

Click to enter text.

**5. Zero stormwater discharge**

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

Yes  No

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

Click to enter text.

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

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

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

Yes  No

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

intend to divert stormwater to the treatment plant headworks and indirectly discharge it to water in the state.

[Click to enter text.](#)

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

#### F. Discharges to the Lake Houston Watershed

Does the facility discharge in the Lake Houston watershed?

Yes  No

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

[Click to enter text.](#)

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

##### 1. Acceptance of sludge from other WWTPs

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

Yes  No

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

In addition, provide the date the plant started or is anticipated to start accepting sludge, an estimate of monthly sludge acceptance (gallons or millions of gallons), an estimate of the BOD<sub>5</sub> concentration of the sludge, and the design BOD<sub>5</sub> concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

[See Attachment G](#)

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<sub>5</sub> concentration of the septic waste, and the design BOD<sub>5</sub> concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

Click to enter text.

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

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

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

Yes  No

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

Click to enter text.

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

Is the facility in operation?

Yes  No

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

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

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

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

Pollutant	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
CBOD <sub>5</sub> , mg/l	2	2	1	Grab	4/4/2024 at 10:50AM
Total Suspended Solids, mg/l	1	1	1	Grab	4/18/2024 at 10:20AM
Ammonia Nitrogen, mg/l	< 0.05	<0.05	1	Grab	4/4/2024 at 10:50AM
Nitrate Nitrogen, mg/l	7.1	7.1	1	Grab	4/4/2024 at 10:50AM
Total Kjeldahl Nitrogen, mg/l	1.14	1.14	1	Grab	4/4/2024 at 10:50AM
Sulfate, mg/l	48.5	48.5	1	Grab	4/4/2024 at 10:50AM
Chloride, mg/l	142	142	1	Grab	4/4/2024 at 10:50AM
Total Phosphorus, mg/l	1.09	1.09	1	Grab	4/4/2024 at 10:50AM
pH, standard units	6.97	6.97	1	Grab	4/4/2024 at 10:50AM
Dissolved Oxygen*, mg/l	N/A	N/A	N/A	N/A	N/A
Chlorine Residual, mg/l	2.5	2.5	1	Grab	4/4/2024 at 10:50AM
<i>E.coli</i> (CFU/100ml) freshwater	< 1.0	< 1.0	1	Grab	4/4/2024 at 10:50AM
Enterococci (CFU/100ml) saltwater	N/A	N/A	N/A	N/A	N/A
Total Dissolved Solids, mg/l	514	514	1	Grab	4/4/2024 at 10:50AM
Electrical Conductivity, µmohs/cm, †	895	895	1	Grab	4/4/2024 at 10:50AM
Oil & Grease, mg/l	< 4.9	< 4.9	1	Grab	4/4/2024 at 10:50AM
Alkalinity (CaCO <sub>3</sub> )*, mg/l	132	132	1	Grab	4/4/2024 at 10:50AM

\*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 <sub>3</sub> ), mg/l					

## Section 8. Facility Operator (Instructions Page 50)

Facility Operator Name: Matthew Gonzalez

Facility Operator's License Classification and Level: WWOL, Operator B

Facility Operator's License Number: WW0058748

## 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  $\geq$  1 MGD
- Serves  $\geq$  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 ( $\geq$  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
Distribution & Marketing-Composting	On-Site Owner or Operator	Bulk	0	Class B: PSRP Aerobic Digestion	Option 1: Volatile solids reduced by 38%
Disposal in Landfill	Off-site Third-Party Preparer	Bulk	343.06	Class B: PSRP Aerobic Digestion	Option 1: Volatile solids reduced by 38%
Agricultural Land Application	Off-site Third-Party Preparer	Bulk	0	Class B: PSRP Aerobic Digestion	Option 1: Volatile solids reduced by 38%

If "Other" is selected for Management Practice, please explain (e.g. monofill or transport to another WWTP): [Click to enter text.](#)

### D. Disposal site

Disposal site name: [Sheridan Environmental dba Texas Organic Recovery](#)

TCEQ permit or registration number: [24220](#)

County where disposal site is located: [Travis](#)

### E. Transportation method

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

Name of the hauler: [Travis County WCID No. 17](#)

Hauler registration number: [2267](#)

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	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
Marketing and Distribution of sludge	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
Sludge Surface Disposal or Sludge Monofill	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
Temporary storage in sludge lagoons	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No

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

Yes  No

## Section 11. Sewage Sludge Lagoons (Instructions Page 53)

Does this facility include sewage sludge lagoons?

Yes  No

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

### A. Location information

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

- Original General Highway (County) Map:  
**Attachment:** [Click to enter text.](#)
- USDA Natural Resources Conservation Service Soil Map:  
**Attachment:** [Click to enter text.](#)
- Federal Emergency Management Map:  
**Attachment:** [Click to enter text.](#)
- Site map:  
**Attachment:** [Click to enter text.](#)

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

- Overlap a designated 100-year frequency flood plain
- Soils with flooding classification
- Overlap an unstable area
- Wetlands
- Located less than 60 meters from a fault
- None of the above

**Attachment:** [Click to enter text.](#)

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

[Click to enter text.](#)

## B. Temporary storage information

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

Nitrate Nitrogen, mg/kg: [Click to enter text.](#)

Total Kjeldahl Nitrogen, mg/kg: [Click to enter text.](#)

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

Phosphorus, mg/kg: [Click to enter text.](#)

Potassium, mg/kg: [Click to enter text.](#)

pH, standard units: [Click to enter text.](#)

Ammonia Nitrogen mg/kg: [Click to enter text.](#)

Arsenic: [Click to enter text.](#)

Cadmium: [Click to enter text.](#)

Chromium: [Click to enter text.](#)

Copper: [Click to enter text.](#)

Lead: [Click to enter text.](#)

Mercury: [Click to enter text.](#)

Molybdenum: [Click to enter text.](#)

Nickel: [Click to enter text.](#)

Selenium: [Click to enter text.](#)

Zinc: [Click to enter text.](#)

Total PCBs: [Click to enter text.](#)

Provide the following information:

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

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

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

### C. Liner information

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

Yes  No

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

[Click to enter text.](#)

### D. Site development plan

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

[Click to enter text.](#)

Attach the following documents to the application.

- Plan view and cross-section of the sludge lagoon(s)  
**Attachment:** [Click to enter text.](#)
- Copy of the closure plan  
**Attachment:** [Click to enter text.](#)
- Copy of deed recordation for the site  
**Attachment:** [Click to enter text.](#)
- Size of the sludge lagoon(s) in surface acres and capacity in cubic feet and gallons  
**Attachment:** [Click to enter text.](#)
- Description of the method of controlling infiltration of groundwater and surface water from entering the site  
**Attachment:** [Click to enter text.](#)
- Procedures to prevent the occurrence of nuisance conditions  
**Attachment:** [Click to enter text.](#)

### E. Groundwater monitoring

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

Yes  No

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

Attachment: [Click to enter text.](#)

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

### A. Additional authorizations

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

Yes  No

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

Beneficial Reuse Authorization No. R 13294-001

### B. Permittee enforcement status

Is the permittee currently under enforcement for this facility?

Yes  No

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

Yes  No

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

[Click to enter text.](#)

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

### A. RCRA hazardous wastes

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

Yes  No

### B. Remediation activity wastewater

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

Yes  No

### C. Details about wastes received

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

**Attachment:** [Click to enter text.](#)

## Section 14. Laboratory Accreditation (Instructions Page 56)

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

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

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

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

### CERTIFICATION:

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

Printed Name: Jason Homan

Title: General Manager

Signature: \_\_\_\_\_

Date: May 6, 2024

# 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:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Surface application                                   | <input type="checkbox"/> Subsurface application                           |
| <input checked="" type="checkbox"/> Irrigation  | <input type="checkbox"/> Subsurface soils absorption                      |
| <input type="checkbox"/> Drip irrigation system   | <input checked="" type="checkbox"/> Subsurface area drip dispersal system |
| <input type="checkbox"/> Evaporation  | <input type="checkbox"/> Evapotranspiration beds                          |
| <input type="checkbox"/> Other (describe in detail): <a href="#">Click to enter text.</a> |   |

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

For existing authorizations, provide Registration Number: 101227973

## 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
Golf Course, Bermuda	145	400,000	Y
Perennial Pasture Land	28.7	125,000	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	3.06	32.42	190'x770'x14' Deep	36 Mil Hypalon
2	3.39	60.21	310'x520'x24' Deep	36 Mil Hypalon

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

Attachment: I

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

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

Yes  No

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

Click to enter text.

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

FEMA FIRM Map – See Attachment J

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

N/A

## 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: K**

- 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: L**

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

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

**Table 3.0(3) – Water Well Data**

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

**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:** M

Are groundwater monitoring wells available onsite?  Yes  No

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

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

**Attachment:** [Click to enter text.](#)

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

**A. Soil map**

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

**Attachment:** N

**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:** O

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
BID (Brackett-Rock Outcrop Complex) - Drip irrigation	0-60 inches	Moderately low to high	0.06 to 1.98 in/hr	Hydro Group D
BoF (Brackett-Rock outcrop-Real Complex) - Drip Irrigation	0-60 inches	Moderately low to high	0.06 to 1.98 in/hr	Hydro Group D
BID (Brackett-Rock Outcrop Complex) - Spray irrigation	0-60 inches	Moderately low to high	0.06 to 1.98 in/hr	Hydro Group D
BoF (Brackett-Rock outcrop-Real Complex) - Spray Irrigation	0-60 inches	Moderately low to high	0.06 to 1.98 in/hr	Hydro Group D
TaD (Exckrant very stoney clay) - Spray Irrigation	0-30 inches	Moderately low to high	0.06 to 0.57 in/hr	Hydro Group D

Soil Series	Depth from Surface	Permeability	Available Water Capacity	Curve Number

## Section 9. Effluent Monitoring Data (Instructions Page 71)

Is the facility in operation?

Yes  No

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

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

**Table 3.0(5) – Effluent Monitoring Data**

Date	30 Day Avg Flow MGD	BOD5 mg/l	TSS mg/l	pH	Chlorine Residual mg/l	Acres irrigated
May-2022	1.264	2.00	N/A	N/A	N/A	173.7
Jun-2022	1.2031	2.00	N/A	N/A	N/A	173.7
Jul-2022	1.2025	3.00	N/A	N/A	N/A	173.7
Aug-2022	1.209	2.00	N/A	N/A	N/A	173.7
Sep-2022	1.1975	2.00	N/A	N/A	N/A	173.7
Oct-2022	1.1917	2.00	N/A	N/A	N/A	173.7
Nov-2022	1.2508	3.00	N/A	N/A	N/A	173.7
Dec-2022	1.2861	2.00	N/A	N/A	N/A	173.7
Jan-2023	1.2628	3.00	N/A	N/A	N/A	173.7
Feb-2023	1.1959	3.00	N/A	N/A	N/A	173.7
Mar-2023	1.1571	3.00	N/A	N/A	N/A	145.0
Apr-2023	1.1677	3.00	N/A	N/A	N/A	145.0
May-2023	1.2093	3.00	N/A	N/A	N/A	145.0
Jun-2023	1.1658	3.00	N/A	N/A	N/A	145.0
Jul-2023	1.1302	2.00	N/A	N/A	N/A	145.0
Aug-2023	1.1385	2.00	N/A	N/A	N/A	145.0
Sep-2023	1.1356	3.00	N/A	N/A	N/A	145.0
Oct-2023	1.1427	3.00	N/A	N/A	N/A	0.0
Nov-2023	1.3024	3.00	N/A	N/A	N/A	145.0
Dec-2023	1.2730	4.00	N/A	N/A	N/A	173.7

<b>Date</b>	<b>30 Day Avg Flow MGD</b>	<b>BOD5 mg/l</b>	<b>TSS mg/l</b>	<b>pH</b>	<b>Chlorine Residual mg/l</b>	<b>Acres irrigated</b>
Jan-2024	1.2988	4.00	N/A	N/A	N/A	173.7
Feb-2024	1.1916	3.00	N/A	N/A	N/A	173.7
Mar-2024	1.0833	3.00	N/A	N/A	N/A	173.7
Apr-2024	1.1445	5.00	N/A	N/A	N/A	0.0

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

Flows above 0.525 MGD are stored and/or conveyed to the City of Austin system per Special Condition #23 of the permit. See Attachment P for more information. All flows in October 2023 and April 2024 were conveyed to City of Austin.

# DOMESTIC WASTEWATER PERMIT APPLICATION WORKSHEET 6.0: INDUSTRIAL WASTE CONTRIBUTION

The following is required for all publicly owned treatment works.

## Section 1. All POTWs (Instructions Page 89)

### A. Industrial users (IUs)

Provide the number of each of the following types of industrial users (IUs) that discharge to your POTW and the daily flows from each user. See the Instructions for definitions of Categorical IUs, Significant IUs - non-categorical, and Other IUs.

**If there are no users, enter 0 (zero).**

Categorical IUs:

Number of IUs: 0

Average Daily Flows, in MGD: 0

Significant IUs - non-categorical:

Number of IUs: 0

Average Daily Flows, in MGD: 0

Other IUs:

Number of IUs: 0

Average Daily Flows, in MGD: 0

### B. Treatment plant interference

In the past three years, has your POTW experienced treatment plant interference (see instructions)?

Yes  No

**If yes**, identify the dates, duration, description of interference, and probable cause(s) and possible source(s) of each interference event. Include the names of the IUs that may have caused the interference.

Click to enter text.

**C. Treatment plant pass through**

In the past three years, has your POTW experienced pass through (see instructions)?

Yes  No

If yes, identify the dates, duration, a description of the pollutants passing through the treatment plant, and probable cause(s) and possible source(s) of each pass through event. Include the names of the IUs that may have caused pass through.

Click to enter text.

**D. Pretreatment program**

Does your POTW have an approved pretreatment program?

Yes  No

If yes, complete Section 2 only of this Worksheet.

Is your POTW required to develop an approved pretreatment program?

Yes  No

If yes, complete Section 2.c. and 2.d. only, and skip Section 3.

If no to either question above, skip Section 2 and complete Section 3 for each significant industrial user and categorical industrial user.

**Section 2. POTWs with Approved Programs or Those Required to Develop a Program (Instructions Page 90)**

**A. Substantial modifications**

Have there been any **substantial modifications** to the approved pretreatment program that have not been submitted to the TCEQ for approval according to *40 CFR §403.18*?

Yes  No

If yes, identify the modifications that have not been submitted to TCEQ, including the purpose of the modification.

Click to enter text.

**B. Non-substantial modifications**

Have there been any **non-substantial modifications** to the approved pretreatment program that have not been submitted to TCEQ for review and acceptance?

Yes  No

If yes, identify all non-substantial modifications that have not been submitted to TCEQ, including the purpose of the modification.

Click to enter text.

**C. Effluent parameters above the MAL**

In Table 6.0(1), list all parameters measured above the MAL in the POTW’s effluent monitoring during the last three years. Submit an attachment if necessary.

**Table 6.0(1) – Parameters Above the MAL**

Pollutant	Concentration	MAL	Units	Date

**D. Industrial user interruptions**

Has any SIU, CIU, or other IU caused or contributed to any problems (excluding interferences or pass throughs) at your POTW in the past three years?

Yes  No

If **yes**, identify the industry, describe each episode, including dates, duration, description of the problems, and probable pollutants.

Click to enter text.

## Section 3. Significant Industrial User (SIU) Information and Categorical Industrial User (CIU) (Instructions Page 90)

### A. General information

Company Name: N/A – No SIUs

SIC Code: Click to enter text.

Contact name: Click to enter text.

Address: Click to enter text.

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

Telephone number: Click to enter text.

Email address: Click to enter text.

### B. Process information

Describe the industrial processes or other activities that affect or contribute to the SIU(s) or CIU(s) discharge (i.e., process and non-process wastewater).

N/A – No SIU or CIUs

### C. Product and service information

Provide a description of the principal product(s) or services performed.

N/A – So SIU or CIUs

### D. Flow rate information

See the Instructions for definitions of “process” and “non-process wastewater.”

Process Wastewater:

Discharge, in gallons/day: Click to enter text.

Discharge Type:  Continuous  Batch  Intermittent

Non-Process Wastewater:

Discharge, in gallons/day: Click to enter text.

Discharge Type:  Continuous  Batch  Intermittent

**E. Pretreatment standards**

Is the SIU or CIU subject to technically based local limits as defined in the instructions?

Yes  No

Is the SIU or CIU subject to categorical pretreatment standards found in *40 CFR Parts 405-471*?

Yes  No

**If subject to categorical pretreatment standards**, indicate the applicable category and subcategory for each categorical process.

Category: Subcategories: [Click to enter text.](#)

[Click or tap here to enter text.](#) [Click to enter text.](#)

Category: [Click to enter text.](#)

Subcategories: [Click to enter text.](#)

Category: [Click to enter text.](#)

Subcategories: [Click to enter text.](#)

Category: [Click to enter text.](#)

Subcategories: [Click to enter text.](#)

Category: [Click to enter text.](#)

Subcategories: [Click to enter text.](#)

**F. Industrial user interruptions**

Has the SIU or CIU caused or contributed to any problems (e.g., interferences, pass through, odors, corrosion, blockages) at your POTW in the past three years?

Yes  No

**If yes**, identify the SIU, describe each episode, including dates, duration, description of problems, and probable pollutants.

<a href="#">Click to enter text.</a>
--------------------------------------



# DOMESTIC WASTEWATER PERMIT APPLICATION: SEWAGE SLUDGE TECHNICAL REPORT 1.0

## GENERAL INFORMATION

---

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

### SECTION 1. TREATMENT PROCESSING INFORMATION

A. Attach the engineering report and/or plans and specifications for the proposed facility which must include the following:

- Description of the type of process facility
- Process flow diagram
- Design calculations, features, and functional arrangements
- Site controls
- Groundwater protection
- Odor, dust, and bio-aerosol management
- Ultimate product

Attachment Number: Q

B. Is the facility located or proposed to be located above the 100-year frequency flood plain? Yes  No

If No, provide a separate site map indicating the location of the sludge units within the 100-year frequency flood plain and a detailed description of the type and size of protective measures.

### SECTION 2. SOURCES OF SLUDGE

A. Provide the sources of generation, any water quality or public water supply permit number issued by TCEQ, and the quantity for each source.

Facility Name	Permit Number	Annual Quantity
Eck Lane Water Treatment Plant	PWS ID: 2270027 RN102676582	111,000 gallons

Facility Name	Permit Number	Annual Quantity

B. For each source of sludge, complete Table 1 located at the end of this form.

### SECTION 3. PATHOGEN AND VECTOR ATTRACTION REDUCTION

A. For each source of sludge, complete Tables 2 and 3 located at the end of this form.

B. Indicate by a checkmark that all of the following are being followed for Class B land application.

- Food crop harvesting restrictions
- Animal grazing restrictions
- Public access restrictions

### SECTION 4. WELL INFORMATION

In the table below, provide information about each well located on-site and within 500 feet of the processing, application, and/or disposal area. Water well information is available from the Texas Water Development Board, 512-936-0837. Oil and gas well information is available from the Texas Railroad Commission, 512-463-6851.

Well Type (Water Well, Oil Well, Injection Well)	Producing or Non-Producing	Open, Cased, or Capped*	Protective Measures**
			See Attachment L

\* Casing, capping, and plugging rules are located in 16 TAC Chapter 76.

\*\* The following protective measures are required prior to initial sludge/septage application:

- If the well is producing and cased, no action is needed.
- If the well is producing and not cased, the well must be cased or describe other protective measures.
- If the well is non-producing and cased, the well must be plugged or capped.
- If the well is non-producing and not cased, the well must be plugged.

## SECTION 5. ADDITIONAL TECHNICAL REPORTS

Identify which additional technical reports are submitted with this application.

- Technical Report 2.0, Sewage Sludge Composting
- Technical Report 3.0, Marketing and Distribution
- Technical Report 4.0, Sewage Sludge Surface Disposal

# SITE OPERATOR SIGNATURE PAGE

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

Permit Number: WQ0013294001

Applicant: Travis County Water Control and Improvement District No. 17

I understand that I am responsible for operating the site described in this permit application in accordance with the requirements in 30 TAC Chapter 312, the conditions set forth in this application, and any additional conditions as required by the Texas Commission on Environmental Quality.

I certify, under penalty of law, that all 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, imprisonment for violations, and revocation of this permit.

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: Matthew Gonzalez

Title: WQCD West Lake supervisor

Signature (use blue ink): Matthew Gonzalez Date: 5/7/24

SUBSCRIBED AND SWORN to before me by the said Matthew Gonzalez on this 7th day of May, 20 24

My commission expires on the 30th day of November, 20 25

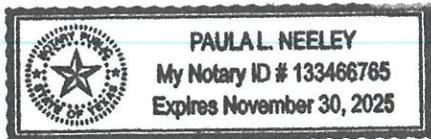
Paula L. Neeley

(Seal)

Notary Public

Travis

County, Texas



**LANDOWNER SIGNATURE PAGE**

**Required if the landowner is not the applicant or co-applicant. Each landowner must submit an original, separate signature page.**

Permit Number: WQ0013294001

Applicant:

I certify, as the owner of the land described in this permit application, that I have all rights and covenants to authorize the applicant to use this site for the land application of \_\_\_\_\_ (*identify the type(s) of sludge*). I understand that 30 TAC Chapter 312 requires me to make a reasonable effort to see that the applicant complies with the requirements in 30 TAC Chapter 312, the conditions set forth in this application, and any additional conditions as required by the TCEQ. I also certify, under penalty of law, that all information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine, imprisonment for violations, and revocation of the permit.

Signatory Name:

Title:

Signature (use blue ink): \_\_\_\_\_ Date: \_\_\_\_\_

SUBSCRIBED AND SWORN to before me by the said \_\_\_\_\_ on

this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_

My commission expires on the \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_

(Seal)

\_\_\_\_\_  
Notary Public

\_\_\_\_\_  
County, Texas

**DOMESTIC WASTEWATER PERMIT APPLICATION:  
SEWAGE SLUDGE TECHNICAL REPORT 2.0  
SEWAGE SLUDGE COMPOSTING**

---

**SECTION 1. RENEWAL OF EXISTING AUTHORIZATION**

Provide the following information if you are requesting continued authorization to compost sewage sludge. Complete this section only if composting is currently authorized in the existing permit.

Date operation commenced: 10/6/2003

Location of operation: Steiner Ranch Wastewater Treatment Facility

Type of bulking agent: Wood Chips, Bark, Sawdust, and/or Lawn/leaf waste

Approximate amount of sludge composted:

Provide a brief discussion of the composting process and any significant changes since the permit was last issued.

**AEROBIC WINDOW COMPOSTING. PROCESS INVOLVES AEROBIC DECOMPOSITION OF ORGANIC SOLIDS AT ELEVATED TEMPERATURES. BULKING AGENT IS ADDED TO SLUDGE AND MIXTURE IS STORED IN WINDROWS FOR ABOUT 3-4 WEEKS. THERE HAVE BEEN NO COMPOSTING ACTIVITIES AT THE STEINER WWTP SINCE THE PERMIT RENEWAL IN 2014, BUT WE AR SEEKING TO RENEW THE PERMIT WITH NO CHANGES TO THE SLUDGE PROVISIONS.**

**SECTION 2. NEW AUTHORIZATION TO COMPOST SEWAGE SLUDGE**

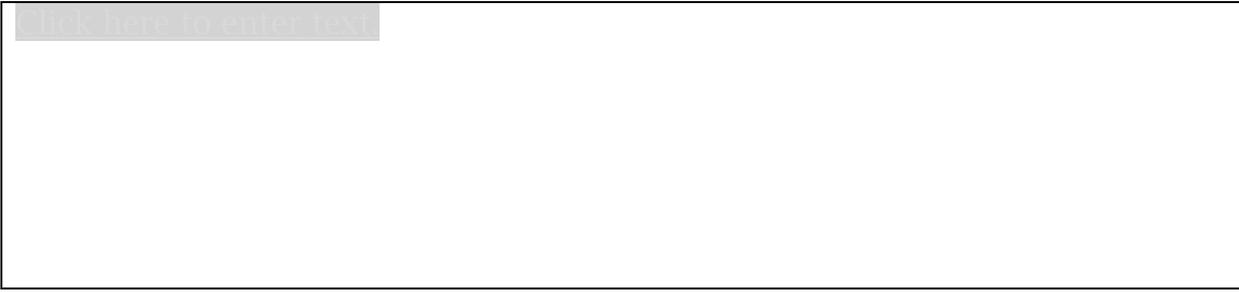
**A.** Submit an ORIGINAL General Highway (County) Map. See instructions for information that must be displayed on the map.

Attachment Number:

**B.** Has sewage sludge/septage previously been composted at this facility?

Yes  No

If Yes, provide a use history of the composting operations.



C. Provide a detailed description of the composting operation. The description must include the following information:

- Amount of sludge originating off-site to be composted;
- Total amount of sludge to be composted and total amount of feedstocks;
- Fecal coliform or Salmonella bacteria analysis (in MPN or CFU);
- Type, origin, and amount of bulking material to be used;
- Set back distances from facility boundaries for receiving, processing, or storing feedstocks or final product;
- Plan view of site;
- Type of composting proposed;
- Construction, maintenance, and operation to manage run-on and run-off during a 25-year, 24-hour rainfall event, including all calculations and sources used;
- Leachate collection system and leachate processing and disposal method;
- Construction, maintenance, and operations for groundwater protection;
- Design plan to line all surfaces used for delivery, mixing, composting, curing, screening, and storage to control seepage; and
- Design to minimize windblown material, odor, and vector control.

Attachment Number:

D. Does the end product meet the requirements in 30 TAC 332.72(d)(2)(A)-(D)?

Yes  No

E. Submit a site operating plan which provides guidance from the design engineer to site management and operating personnel in sufficient detail to enable them to conduct day to day operations in a manner consistent with the engineer's design. The plan must include the following information:

- Process description (feedstock identification, tipping process, process, post-processing, product distribution, process diagram);
- Minimum number of personnel and their functions provided by the site operator;
- Minimum equipment;
- Security, site access control, traffic control, and safety;
- Control of the delivery material in designated areas;
- Screening for unprocessable, prohibited, and unauthorized material;
- Fire prevention and suppression plan;
- Control of windblown material;

- Equipment failures;
- Anticipated final grade of materials; and
- Description of handling and/or disposal of materials that doesn't meet 30 TAC Chapter 312.

Attachment Number:

**DOMESTIC WASTEWATER PERMIT APPLICATION:  
SEWAGE SLUDGE TECHNICAL REPORT 3.0  
SEWAGE SLUDGE MARKETING AND DISTRIBUTION**

---

- A. What is the TCEQ Permit number for the Wastewater Treatment Plant that is generating the Class A or Class AB sewage sludge? WQ0013294001
- B. What is the name and location of the distribution storage center? Steiner Ranch Wastewater Treatment facility
- C. Provide a description of the marketing and distribution plan.

**THERE HAVE BEEN NO MARKETING AND/OR DISTRIBUTIONS AT THE STEINER WWTP SINCE THE PERMIT RENEWAL IN 2014, BUT WE AR SEEKING TO RENEW THE PERMIT WITH NO CHANGES TO THE SLUDGE PROVISIONS.**

- D. Provide the following information for all entities receiving sludge directly from the permittee. If more than 2, submit an attachment which includes the follow information.

1. Contact Name:

Company Name:

Mailing Address:

City, State, and Zip Code:

Phone Number:  Fax Number:

Longitude:

Latitude:

Permits:

2. Contact Name:

Company Name:

Mailing Address:

City, State, and Zip Code:

Phone Number:  Fax Number:

Longitude:

Latitude:

Permits:

- E. Provide a copy of the label or information sheet that is provided to each entity receiving the sewage sludge.

Attachment Number:

- F. Indicate by a checkmark that the sewage sludge meets the following:

- Metal concentrations in 30 TAC §312.43(b)(3)
- Vector attraction reduction requirements
- Class A, Class AB or Class B pathogen requirements

- G. Indicate the type of recordkeeping:

**PLEASE NOTE:** If Class AB sewage sludge, attach a topographic map that shows the required buffer zones stated in 30 TAC §312.44.

**ATTACHMENT A**  
**CORE DATA FORM**



# 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

<b>1. Reason for Submission</b> (If other is checked please describe in space provided.)		
<input type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
<input checked="" type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)		<input type="checkbox"/> Other
<b>2. Customer Reference Number</b> (if issued)	<a href="#">Follow this link to search for CN or RN numbers in Central Registry**</a>	<b>3. Regulated Entity Reference Number</b> (if issued)
CN 600669048		RN 101227973

## SECTION II: Customer Information

<b>4. General Customer Information</b>		<b>5. Effective Date for Customer Information Updates</b> (mm/dd/yyyy)		5/14/2024	
<input type="checkbox"/> New Customer <input checked="" type="checkbox"/> Update to Customer Information <input type="checkbox"/> Change in Regulated Entity Ownership <input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)					
<i>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).</i>					
<b>6. Customer Legal Name</b> (If an individual, print last name first: eg: Doe, John)				<i>If new Customer, enter previous Customer below:</i>	
Travis County Water Control and Improvement District No. 17					
<b>7. TX SOS/CPA Filing Number</b>		<b>8. TX State Tax ID</b> (11 digits)		<b>9. Federal Tax ID</b> (9 digits)	<b>10. DUNS Number</b> (if applicable)
<b>11. Type of Customer:</b>		<input type="checkbox"/> Corporation		<input type="checkbox"/> Individual	
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> Local <input type="checkbox"/> State <input checked="" type="checkbox"/> Other		<input type="checkbox"/> Sole Proprietorship		Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited	
<b>12. Number of Employees</b>				<b>13. Independently Owned and Operated?</b>	
<input type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input checked="" type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>14. Customer Role</b> (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following					
<input type="checkbox"/> Owner <input type="checkbox"/> Operator <input checked="" type="checkbox"/> Owner & Operator <input type="checkbox"/> Other: <input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> VCP/BSA Applicant					
<b>15. Mailing Address:</b>		3812 Eck Lane			
City		Austin		State TX	
ZIP		78734		ZIP + 4	
<b>16. Country Mailing Information</b> (if outside USA)				<b>17. E-Mail Address</b> (if applicable)	
				jhoman@wcid17.org	
<b>18. Telephone Number</b>			<b>19. Extension or Code</b>		<b>20. Fax Number</b> (if applicable)

**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.)

Steiner Ranch Wastewater Treatment Facility

**23. Street Address of the Regulated Entity:**

3415 1/2 N. Quinlan Park Road

(No PO Boxes)

City	Austin	State	TX	ZIP	78732	ZIP + 4	
------	--------	-------	----	-----	-------	---------	--

**24. County**

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

**25. Description to****Physical Location:****26. Nearest City****State****Nearest ZIP Code**

*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:****28. Longitude (W) In Decimal:**

Degrees

Minutes

Seconds

Degrees

Minutes

Seconds

**29. Primary SIC Code****30. Secondary SIC Code****31. Primary NAICS Code****32. Secondary NAICS Code**

(4 digits)

(4 digits)

(5 or 6 digits)

(5 or 6 digits)

4952

221320

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

Collect, treat and dispose of wastewater

**34. Mailing**

3812 Eck Lane

**Address:**

City	Austin	State	TX	ZIP	78734	ZIP + 4	
------	--------	-------	----	-----	-------	---------	--

**35. E-Mail Address:**

jhoman@wcid17.org

**36. Telephone Number****37. Extension or Code****38. Fax Number** (if applicable)

( 512 ) 266-1111

( ) -

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

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

**SECTION IV: Preparer Information**

<b>40. Name:</b>	Michael Bevilacqua	<b>41. Title:</b>	Senior Project Manager
<b>42. Telephone Number</b>	<b>43. Ext./Code</b>	<b>44. Fax Number</b>	<b>45. E-Mail Address</b>
( 737 ) 358-8103		( ) -	mbevilacqua@baxterwoodman.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.

<b>Company:</b>	Baxter and Woodman	<b>Job Title:</b>	Senior Project Manager
<b>Name (In Print):</b>	Michael Bevilacqua	<b>Phone:</b>	( 737 ) 358- 8103
<b>Signature:</b>		<b>Date:</b>	5/14/2024

**ATTACHMENT B**

**WASTEWATER TREATMENT PLANT AND IRRIGATION DEEDS AND EASEMENTS**

GENERAL WARRANTY DEED

THE STATE OF TEXAS     §  
  §     KNOW ALL MEN BY THESE PRESENTS: THAT  
COUNTY OF TRAVIS     §

TAYLOR WOODROW COMMUNITIES/STEINER RANCH, LTD., a Texas limited partnership ("Grantor"), for the consideration hereinafter stated, to Grantor in hand paid by TRAVIS COUNTY WATER CONTROL & IMPROVEMENT DISTRICT NO. 17, a water control and improvement district chartered under the laws of the State of Texas ("Grantee"), whose mailing address is 3812 Eck Lane, Austin, Travis County, Texas 78734, the receipt and sufficiency of which consideration is hereby acknowledged and confessed, has GRANTED, SOLD AND CONVEYED, and by these presents does GRANT, SELL AND CONVEY unto Grantee, subject to all of the reservations, exceptions, covenants, conditions, restrictions and other matters set forth or referred to herein, all of the land (but not the improvements) included in Lots 1 and 425, in Block A of Steiner Ranch Phase One, Section 10A, a subdivision in Travis County, Texas, according to the map or plat which is recorded as Document No. 200300065 in the Official Public Records of Travis County, Texas (the "Land").

TO HAVE AND TO HOLD the Land, together with all and singular the rights and appurtenances thereto in anywise belonging unto Grantee, and Grantee's successors or assigns, forever, and, subject to all of the matters set forth or referred to herein, Grantor does hereby bind itself and its successors to WARRANT AND FOREVER DEFEND all and singular the Land unto Grantee, Grantee's successors and assigns, against every person whomsoever lawfully claiming or to claim the same, or any part thereof; provided, however, that this conveyance is made by Grantor and accepted by Grantee subject to: (a) all easements, rights of way, covenants, conditions, restrictions, mineral severances, mineral leases, reservations and other title exceptions of any kind or nature which are valid and subsisting and affect the Land; (b) all regulations, restrictions, laws, statutes, ordinances, obligations or other matters which affect the Land and which are imposed by or exist by reason of any regulatory, governmental or quasi-governmental districts, entities, agencies, authorities or other bodies of any kind or nature ("Governmental Authorities"); (c) all riparian rights, water rights, access rights or other rights of any kind or nature which affect the Land and which are held by or relate to any Governmental Authorities, the public generally or any persons or entities; (d) all standby fees, taxes and assessments by any taxing authority for the current and all subsequent years, and all taxes and assessments for prior years due to change in land usage or ownership, and all liens securing the payment of any of the foregoing; (e) all rights, obligations and other matters emanating from and existing by reason for the creation, establishment, maintenance and operation of Travis County Water Control and Improvement District No. 17 and Travis County Emergency Service District No. 6; and (f) all reservations, exceptions, covenants, conditions, restrictions and other matters set forth herein. By acceptance of this deed, Grantee assumes and agrees to pay and indemnifies and agrees to hold Grantor harmless from and against all taxes and assessments relating to the Land, for the current and all subsequent years.

The consideration for this conveyance is as follows: Ten Dollars (\$10.00) and other good and valuable cash consideration to Grantor in hand paid by Grantee, together with that one certain promissory note dated of even date herewith in the original principal amount of \$958,429.91, made, executed and delivered by Grantee, payable to the order of Taylor Woodrow Communities/Steiner Ranch, Ltd., a Texas limited partnership (the "Note"). The Note is by reference incorporated herein as fully and completely as if the same were here set forth verbatim. The vendor's lien, together with superior title remaining in Grantor as vendor (the "Vendor's Lien") is retained against the Property in favor of the holder of the Note ("Beneficiary") for the security of and until the full and final payment of the Note, when and whereupon this deed shall become absolute. The Vendor's Lien is hereby transferred to Beneficiary without recourse or warranty of any kind or nature. Payment of the Note is additionally secured by a lien on the Property (the "Deed of Trust Lien") created in that certain deed of trust dated of even date herewith, from Grantee to Samuel D. Byars, Trustee (the "Deed of Trust"). In the event of default in the payment of the Note, or in the event of default in the performance of any of the covenants or conditions contained in the Deed of Trust which on the part of the grantor therein are to be kept and performed, then Beneficiary shall have the option to mature the Note and to foreclose the Vendor's Lien or the Deed of Trust Lien, or both of said liens, either under the power of sale contained in the Deed of Trust or by court proceedings, as Beneficiary may elect.

Grantor hereby expressly excepts and excludes from the conveyance to Grantee under this general warranty deed (and reserves for the sole use and benefit of Grantor and Grantor's successors and assigns, forever): (a) all buildings and other improvements constructed in, on, under or within the Land (the "Existing Improvements"); and (b) an easement for vehicular and pedestrian access over and across the Land for the purpose of providing access to and from the Existing Improvements.

The use of the Land is hereby restricted to the following uses (collectively, the "Permitted Uses"): (i) water and wastewater treatment, delivery and disposal purposes, including the construction, installation, ownership, operation and usage of water and wastewater facilities, including wastewater composting facilities; and/or (ii) parkland and open space purposes, including the construction, installation, ownership, operation and usage of improvements exclusively designed and utilized for parkland and open space purposes, all for the sole and exclusive benefit of the residents of "Steiner Ranch" which, for purposes of this restriction means and includes only the real property described in those certain deeds which are filed of record as Document Nos. 2000009808, 2000009809, 2000122020, 2001010461, 2002048964 and 2002209739 in the Official Public Records of Travis County, Texas. The Land may be utilized for purposes other than the Permitted Uses if Grantor consents to and approves such additional uses in advance in a written instrument which is recorded in the Official Public Records of Travis County, Texas. Any additional uses which are consented to and approved by Grantor in any such written and recorded instrument shall be included within the "Permitted Uses" under the terms and provisions of this general warranty deed. No improvements or alterations of any kind may be made to the Land except for improvements or alterations which: (a) will be used solely for the Permitted Uses; and (b) will create a total of not more than 5.0 acres of "Impervious Cover" as such term is defined in that certain "Conservation Agreement to Restrict Impervious Cover" by and among Grantor, the City of Austin, Texas, and the other parties named therein, which is filed of record as Document No. 2001180704 in the Official Public Records of Travis County, Texas. The improvements which are permitted under the terms and provisions of the immediately preceding sentence are referred to in this special

warranty deed as the "Permitted Improvements". If Grantee ever utilizes the Land for any purpose other than the Permitted Uses or ever makes any improvements or alterations of any kind to the Land other than the Permitted Improvements, then and in any such event, Grantor may seek such injunctive relief or other relief as may be available to Grantor at law or in equity. The restrictions and rights of enforcement set forth in this paragraph are referred to in this deed collectively as the "Permitted Use Restrictions".

The Land is conveyed by Grantor and accepted by Grantee subject to all of the restrictions and other matters set out on Exhibit "A" attached hereto and incorporated herein by reference (the "Protective Covenants").

Grantee expressly understands, acknowledges and by acceptance of this deed agrees that the Permitted Use Restrictions and the Protective Covenants: (i) shall be considered "covenants running with the land"; (ii) shall bind Grantee, Grantee's successors and assigns and all present and future owners of the Property; (iii) shall inure to the benefit of and may be enforced by Grantor or Grantor's successors or assigns; and (iv) may be modified only with the written consent of Grantor or Grantor's successors or assigns which is acknowledged and recorded in the Official Public Records of Travis County, Texas. Except for an express written waiver of the Permitted Use Restrictions or the Protective Covenants, no act or omission on the part of Grantor or Grantor's successors or assigns shall be or be construed to be a waiver of the operation or enforcement of the Permitted Use Restrictions or the Protective Covenants.

Grantor hereby expressly excepts and excludes from the conveyance to the Grantee under this general warranty deed (and reserves for Grantor's sole use and benefit) all adjudicated water rights which relate to, concern or benefit the Land, including without limitation all of the water rights which are evidenced by or referred to in that certain "Certificate of Adjudication 14-5368" issued by the Texas Water Commission on August 26, 1988 (the "Water Rights"). The reservation of the Water Rights referenced hereinabove shall inure to the benefit of Grantor and all of Grantor's heirs, legal representatives, successors and/or assigns, forever.

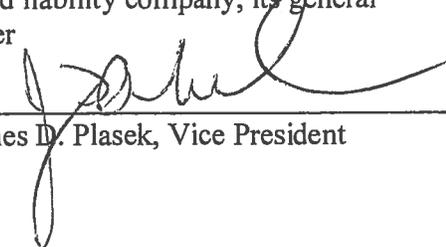
GRANTOR HAS EXECUTED AND DELIVERED THIS SPECIAL WARRANTY DEED AND HAS CONVEYED THE LAND AND GRANTEE HAS RECEIVED AND ACCEPTED THIS GENERAL WARRANTY DEED AND HAS PURCHASED THE LAND "AS IS", "WHERE IS", AND "WITH ALL FAULTS" AND WITHOUT REPRESENTATIONS OR WARRANTIES WHATSOEVER, EXPRESS OR IMPLIED, WRITTEN OR ORAL (EXCEPT FOR THE WARRANTY OF TITLE EXPRESSLY SET FORTH HEREIN).

EXECUTED, DELIVERED AND ACCEPTED effective as of the 21st day of November, 2005.

GRANTOR:

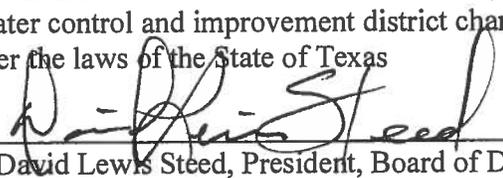
TAYLOR WOODROW COMMUNITIES/  
STEINER RANCH, LTD., a Texas limited  
partnership

By: TWC/STEINER RANCH, LLC, a Texas  
limited liability company, its general  
partner

By:   
James D. Plasek, Vice President

AGREED TO AND  
ACCEPTED BY GRANTEE:

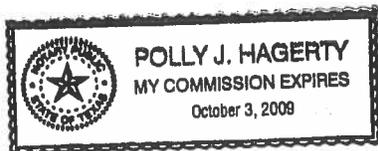
TRAVIS COUNTY WATER CONTROL  
AND IMPROVEMENT DISTRICT NO. 17,  
a water control and improvement district chartered  
under the laws of the State of Texas

By:   
David Lewis Steed, President, Board of Directors

THE STATE OF TEXAS    §  
                                  §  
COUNTY OF TRAVIS    §

This instrument was acknowledged before me, a notary public, this 21<sup>st</sup> day of November, 2005 by James D. Plasek as Vice President of TWC/Steiner Ranch, L.L.C., a Texas limited liability company, as General Partner of Taylor Woodrow Communities/Steiner Ranch, Ltd., a Texas limited partnership, on behalf of the partnership.

  
Notary Public Signature

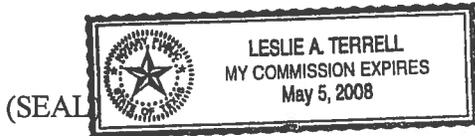


(SEAL)

THE STATE OF TEXAS           §  
  §  
COUNTY OF TRAVIS           §

This instrument was acknowledged before me on the 21<sup>st</sup> day of November, 2005 by David Lewis Steed, President, Board of Directors of Travis County Water Control and Improvement District No. 17, a water control and improvement district chartered under the laws of the State of Texas.

Leslie A. Terrell  
Notary Public Signature



Return to:  
Sam Byars  
Armbrust + Brown  
100 Congress Ave #1300  
Austin TX 78701

## EXHIBIT "A"

### PROTECTIVE COVENANTS

The Land shall be developed, improved, sold, used and enjoyed in accordance with, and subject to the following plan of development, including the covenants, conditions and restrictions hereinafter set forth (the "Protective Covenants"), all of which are hereby adopted for, and placed upon said Land and shall run with the Land and be binding upon all parties, now and in any time hereafter, having or claiming any right, title or interest in the Land or any part thereof, their heirs, executors, administrators, successors and assigns, regardless of the source of, or the manner in which such right, title or interest is or may be acquired; provided, however, that if title to any portion of the Land is ever revested in Grantor or Grantor's successors or assigns for any reason, these Protective Covenants shall cease to exist and be of no further force or effect with respect to the portion of the Land which is revested in Grantor, its successors or assigns.

1. Use. The Land may be used solely for the Permitted Uses (as defined in the body of this deed). The Land may not be used for any other purposes without the prior written consent of Grantor, which consent may be withheld by Grantor in Grantor's sole and absolute discretion, or may be conditioned in any manner by Grantor, in Grantor's sole and absolute discretion.

2. Construction of the Permitted Improvements. No improvements of any kind or nature, other than the Permitted Improvements (as defined in the body of this deed), may be constructed, installed or placed upon the Land without the prior written consent of Grantor, which consent may be withheld by Grantor in Grantor's sole and absolute discretion, or may be conditioned in any manner by Grantor in Grantor's sole and absolute discretion. In addition, no portion of the Permitted Improvements may be constructed, installed or placed upon the Land until final construction plans and specifications therefor have been approved in writing by Grantor, as provided hereinbelow.

3. Approval of Plans and Specifications. No improvements of any kind or nature may be constructed, installed or placed upon the Land without the prior written approval of Grantor, and no modifications or alterations may be subsequently made to any previously approved improvements without the prior written approval of Grantor. Without limitation on the generality of the foregoing, Grantee expressly understands and hereby agrees that: (a) no building, structure, temporary building, trailer, addition, sign, or other improvement or alteration of any kind may be constructed, placed, installed, remodeled, replaced or altered in any manner on the Land until the final construction plans and specifications therefor (including, but not limited to, plans and specifications adequate to depict and establish site layout, building and sign locations, building materials, exterior colors, dimensions, elevations, utility layout, the design and color scheme of all permanent and temporary signs, the location and configuration of all site and off-street parking of vehicles, landscaping and exterior lighting) have first been submitted to and approved in writing by Grantor; (b) Grantor will be reviewing all facets of any proposed alterations or improvements to the Land including without limitation, the quality and color of materials, the design and appearance of all existing and proposed structures and landscaping, and the location and finish grade elevation of all improvements; and (c) the improvements and alterations within the Land may not, in any event, create more than the maximum amount of "Impervious Cover" which is allowed with respect to the Permitted Improvements under the terms and provisions set out in the body of this deed. Notwithstanding any provision in this deed

to the contrary, it is agreed and understood that Grantor's approval of plans and specifications shall not be construed as any representation or warranty by Grantor as to the suitability of design or quality of any proposed improvements or as to the soundness or quality of the ultimate construction thereof.

4. Setbacks. Minimum building and parking setbacks shall be as follows (measured from the property line):

	<u>Building</u>	<u>Parking</u>
From adjacent roadways	200'	200'

No parking areas and/or paved area for vehicular circulation (except driveways which directly access a public right-of-way) shall be located within any setback area. Existing trees and landscaping located within building and parking setback areas or adjacent street right-of-way shall be fenced during construction activity in order to preserve such existing landscaping. The location of such fencing and access areas shall be subject to written approval by Grantor. Grantee shall nonetheless have reasonable access to the property across the setback areas for construction purposes, but Grantee shall be required to re-vegetate all disturbed areas after the completion of construction.

5. Exterior Illumination. All exterior lights shall be designed to illuminate only buildings, parking areas and walkways within the Land and shall not produce glare or illumination on adjacent streets or properties. All ground level floodlighting fixtures shall be depressed or screened from public view in a manner approved in writing by Grantor.

6. Signs and Entry Features. All signs and entry features and their locations (including all signs located outside of any building and all signs located within any building if such signs are visible from outside the building) must be approved by Grantor in writing prior to installation. No sign of a flashing or moving character shall be installed, and no sign shall project above the roof line of a building unless approved in writing by Grantor. Any sign or entry feature installed without Grantor's approval may be removed by Grantor, without liability for trespass or other legal wrong in Grantor. For the purposes of this provision signs and entry features shall include, without limitation, flags and flagpoles, awnings, mobile trailer signs, canopies, banners, and advertising placed on walls, automobiles, windows, or other objects located on the Land.

7. Maintenance. The Land shall be maintained in a neat and clean condition. Grantee shall: (a) keep and maintain all improvements in good condition and repair, well painted and free of graffiti; (b) keep all weeds and grass thereon cut in a sanitary, healthful, and attractive manner; (c) not permit the accumulation of garbage, trash, or rubbish of any kind thereon; and (d) not burn anything thereon except by use of an incinerator which is approved by Grantor.

8. Attorneys' Fees. Grantee and/or any person or business entity occupying the Land shall be liable for all expenses, including but not limited to attorneys' and professional fees, incurred by Grantor in acting against Grantee and/or any person or business entity

occupying the Land to cause compliance with or to cure violations of these Protective Covenants.

9. Variances. Grantor hereby retains the exclusive right to approve variances or otherwise enter into agreements with the owner or owners of the Land to change, rescind, or modify these Protective Covenants; provided, however, that: (a) no variance, change, rescission or modification will be effective until and unless it is approved in writing by Grantor; and (b) Grantor will in no event have any obligation to approve any requested variance or any requested change, rescission, or modification of these Protective Covenants, it being expressly agreed and understood that Grantor may, in Grantor's sole and absolute discretion, deny any such request, or condition approval of any such request upon any requirements or matters which Grantor may determine.

10. Assignment. Grantor has and hereby retains the right to assign all or any portion of Grantor's rights under these Protective Covenants, including, but not limited to, the right to approve or disapprove plans and specifications and the right to grant variances to any person or entity who or which acquires all or substantially all of the real property owned by Grantor. Grantor may not assign Grantor's rights under these Protective Covenants to any other person or entity without the prior written consent of Grantee. To be effective, any assignment of Grantor's rights under these Protective Covenants must be evidenced by an instrument in writing, executed and acknowledged by Grantor and filed in the Real Property Records of Travis County, Texas. Upon and after the recordation of any such assignment, these Protective Covenants may be enforced by Grantee's assignee and may be modified by written agreement of such assignee and the then current owner or owners of the Land which is filed in the Real Property Records of Travis County, Texas.

11. Enforceability. These Protective Covenants may be enforced by Grantor, by any successor of Grantor, or by any assignee of Grantor who has received a written assignment of Grantor's rights hereunder, as provided in the immediately preceding paragraph hereof. No other person or entity will be entitled to enforce these Protective Covenants.

12. Severability. The invalidation of any one of the covenants, conditions or restrictions of these Protective Covenants shall not affect any of the other provisions of these Protective Covenants, all of which shall remain in full force and effect.

13. Binding Effect. These Protective Covenants shall be binding upon and inure to the benefit of Grantor, Grantee, and their respective successors and assigns.

14. Governing Law. These Protective Covenants shall be governed by and in accordance with the laws of the State of Texas.

15. Terminology. The captions beside the numbered paragraphs herein are for convenience only and shall not limit, enlarge, modify, or otherwise affect these Protective Covenants in any manner whatsoever. Whenever required by the sense and circumstances of the context of these Protective Covenants or of any deed which these Protective Covenants have been made a part thereof, any gender shall include any other gender, the singular shall include the plural, and the plural shall include the singular.

16. Performance. Any obligations hereunder are performable in Travis County, Texas and any and all payments that are made hereunder are to be made in Travis County, Texas.

17. Notices. Any notice, communication, request, reply or advice (severally and collectively referred to as "Notice") in these Protective Covenants provided or permitted to be given, made or accepted by either party to the other must be in writing. Notice may, unless otherwise provided herein, be given or served: (i) by depositing the same in the United States Mail, certified, with return receipt requested, addressed to the party to be notified and with all charges prepaid; or (ii) by depositing the same with Federal Express or another service guaranteeing "next day delivery", addressed to the party to be notified and with all charges prepaid; or (iii) by delivering the same to such party, or an agent of such party by telecopy or by hand delivery. Notice deposited in the United States mail in the manner hereinabove described shall be deemed effective from and after the earlier of the date of actual receipt or three (3) days after the date of such deposit. Notice given in any other manner shall be effective only if and when received by the party to be notified. For the purposes of notice, the addresses of the parties shall, until changed as provided below, be as follows:

GRANTOR: Taylor Woodrow Communities/Steiner Ranch, Ltd.  
3405 Grimes Ranch Road  
Austin, Texas 78732  
Attn: Mr. James D. Plasek  
Telecopy No.: (512) 266-9342

with a copy to: Taylor Woodrow Communities  
877 Executive Center Drive West, Suite 205  
St. Petersburg, Florida 33702  
Attn: Legal Department  
Telecopy No.: (727) 563-9674

GRANTEE: Travis County Water Control and  
Improvement District No. 17  
3812 Eck Lane  
Austin, Texas 78734  
Attn: Ms. Deborah Gernes  
Telecopy No: (512) 266-2790

with a copy to: Lloyd Gosselink Blevins Rochelle  
& Townsend, P.C.  
111 Congress Avenue, Suite 1800  
Austin, Texas 78701  
Attn: Ms. Lauren Kalisek  
Telecopy: (512) 472-0532

The parties hereto shall have the right from time to time to change their respective addresses, and each shall have the right to specify as its address any other address within the United States of America by at least five (5) days written notice to the other party. If any date or any period provided in this Agreement ends on a Saturday, Sunday or holiday, the applicable period shall be extended to the first business day following such Saturday, Sunday or holiday.

18. Holidays. For the purposes of these Protective Covenants, the terms “holiday” and “holidays” shall mean and include all days on which banks are required or permitted to close in the State of Texas.

19. No Use of Common Amenities. Neither the owners nor any of the occupants of the Land will have the right to use any of amenities within Steiner Ranch (including trails, swimming pools, tennis courts, boat club, community buildings, and other similar improvements). For purposes hereof “Steiner Ranch” shall mean and include all of the real property described in and conveyed to Grantor in those certain deeds which are filed of record as Document Nos. 2000009808, 2000009809, 2000122020, 2001010461, 2002048964 and 2002209739 in the Official Public Records of Travis County, Texas.

20. Existing Improvements. Notwithstanding any provisions in these Protective Covenants to the contrary, it is agreed and understood that Grantee may keep the existing improvements listed hereinbelow on the Land so long as Grantee complies with all of the terms and conditions of these Protective Covenants which relate thereto, including without limitation the maintenance requirements set out in Paragraph 7 of these Protective Covenants. The existing improvements covered by this Paragraph 20 are as follows:

Wastewater Treatment Plant  
Lift Station No. 1  
Water Storage Tanks (0.5 MG and 1.5 MG) and Pump Station  
Maintenance Building and Parking Bay  
Reclaimed Water Storage Tank  
125,000-gpd Drip Irrigation  
12-acre site  
Irrigation and Pump-Over Pump Station  
Golf Course Pump Station  
2-Effluent Holding Ponds  
Proposed Improvements:  
67-acre site  
Wastewater Fine Screen Facility  
Wastewater Equalization Basin  
Wastewater Treatment Plant Expansion (SBR Basin)  
Compost Facility  
Landscape Building (by TWC)

**AGREEMENT CONCERNING  
DELIVERY AND DISPOSAL OF WASTEWATER EFFLUENT**

This Agreement Concerning Delivery and Disposal of Wastewater Effluent (this "Agreement") is made by and among **TAYLOR WOODROW COMMUNITIES/STEINER RANCH, LTD.**, a Texas limited partnership ("TWC/SR"), **MYERS GOLF COURSE AT STEINER RANCH, LTD.**, a Texas limited partnership ("Myers") and **TRAVIS COUNTY WATER CONTROL AND IMPROVEMENT DISTRICT NO. 17**, a political subdivision of the State of Texas ("District") and is as follows:

**RECITALS**

1. The District owns and operates a wastewater treatment plant that provides service to the Steiner Ranch Defined Area (the "Treatment Plant"). The Treatment Plant is located in the vicinity of property described as Replat of Lot 2, Steiner Ranch Phase 1 Irrigation Plat which is recorded as Document No. 199900326 in the Official Public Records of Travis County, Texas (the "Property"). The Property is currently owned by TWC/SR and used for disposal of wastewater effluent generated by the Treatment Plant through irrigation. The District holds certain easements on a portion of the Property, more particularly described in Exhibit "A" attached hereto and made a part hereof granting the District the right to irrigate the described area (the "Irrigation Easements").
2. The District and TWC/SR's predecessor in interest have previously entered into that certain Utility Development and Reimbursement Agreement dated May 6, 1993, which provides the terms and conditions by which water, wastewater, and drainage facilities necessary to serve the Steiner Ranch Defined Area are to be constructed and financed (the Utility Development and Reimbursement Agreement").
3. The District transfers wastewater effluent from the Treatment Plant to effluent ponds (the "Effluent Ponds") located in the vicinity of the Treatment Plant as shown on the attached Exhibit B. The wastewater effluent is then pumped from the Effluent Ponds by a pump station located adjacent to the Effluent Ponds to the effluent irrigation system ("Irrigation System") located on the Irrigation Easements, also as shown on the attached Exhibit B. The Irrigation System is utilized to spray irrigate wastewater effluent onto the Irrigation Easements in accordance with the Irrigation Easements and Texas Natural Resources Conservation Commission ("TNRCC") Permit No. 13294-01 issued to the District and including any amendments thereto resulting from the application currently pending before the TNRCC (the "TPDES Permit"). The District, at its sole cost and expense, currently spray irrigates on the Irrigation Easements all wastewater effluent delivered to the Effluent Ponds. The District's spray irrigation of wastewater effluent on the Irrigation Easements is required to comply with the TPDES Permit and other applicable governmental regulations.
4. A portion of the Property, including the Irrigation Easements described in Exhibit "C" attached hereto and made a part hereof is under contract for sale to Myers from TWC/SR.

(the "Golf Course Property") The parties acknowledge that the Golf Course Property will be developed as an 18 hole championship golf course (the "Golf Course").

5. Myers desires to irrigate the Golf Course with effluent provided by the District. The District is agreeable to the release and termination of the existing Irrigation Easements, and the creation of a new easement that conforms to the final Golf Course design, and the construction by Myers or TWC/SR of a new irrigation system under the terms and conditions set forth in this Agreement.

6. Under the terms of a Development Agreement which has been entered into or will be entered into between TWC/SR and Myers, TWC/SR has agreed or will agree to design and construct a system (the "Raw Water System") for the delivery of raw water from Lake Austin to a point established by the District at or near the Effluent Ponds to be pumped into the Effluent Ponds during and after construction of the Golf Course in order to provide sufficient raw water and effluent for irrigating the Golf Course. A separate agreement is being entered into among the parties regarding the construction of the Raw Water System.

NOW, THEREFORE, for and in consideration of the mutual promises and covenants contained herein, the District, Myers, and TWC/SR agree as follows:

## AGREEMENT

### I.

#### GENERAL PROVISIONS

1.01 Definitions, Golf Course Owner. The definitions contained in the above Recitals are incorporated in this Agreement for all purposes. In the event Myers, for any reason, does not complete the purchase of the Golf Course Property, TWC/SR shall be deemed to be the owner of the Golf Course Property. In this Agreement, the "Golf Course Owner" shall mean Myers, if Myers has closed on the purchase of the Golf Course Property. In the event Myers has not closed on the purchase of the Golf Course Property, TWC/SR is the Golf Course Owner. Myers and TWC/SR agree to inform the District in writing when the Golf Course Property has been conveyed to Myers, or in the alternative, if the contract for sale between Myers and TWC/SR has terminated.

### II.

#### SUPPLY OF EFFLUENT FOR IRRIGATION PURPOSES

2.01. District's Delivery of Treated Wastewater Effluent to the Effluent Ponds. The District agrees that Golf Course Owner shall be entitled to all wastewater effluent delivered to the Effluent Ponds for the purposes of irrigation under this Agreement, except for that effluent that may be used to irrigate common areas or green spaces within the Steiner Ranch Defined Area.

**2.02. Acceptance and Disposal of Treated Wastewater Effluent.** The Golf Course Owner shall be required to accept and dispose of all of the wastewater effluent which is delivered by the District to the Effluent Ponds; except, however, that the Golf Course Owner shall not be required to accept or dispose of more than 400,000 gallons per day (“gpd”) of effluent based upon a 30-day average. The Golf Course Owner may dispose of more effluent should it desire to do so, so long as such disposal is within the limits of the TPDES Permit. The Golf Course Owner agrees to dispose of all of the wastewater effluent within the Golf Course Irrigation Easements defined below unless both the District and TWC/SR agree that a portion of the 400,000 gpd to be disposed of by the Golf Course Owner may be disposed of on the additional land designated for the 125,000 gpd expansion described in Section 2.03 below.

**2.03 Additional Irrigation Area.** At such time as the amount of wastewater effluent generated from the Treatment Plant is anticipated to exceed the TNRCC permit limits for irrigation on the Golf Course, TWC/SR will provide, at its expense, additional land (or easements for irrigation) acceptable to the District, together with drip/spray irrigation facilities sufficient for disposal of the additional wastewater effluent in accordance with TNRCC permit requirements up to a maximum of 125,000 gpd on a 30-day average.

**2.04 Amount of Wastewater Effluent to be Delivered and Supplemental Raw Water Supply.** Golf Course Owner acknowledges that (i) the amount of wastewater effluent delivered and available for spray irrigation and/or drip irrigation pursuant to this Agreement may not be initially sufficient to provide all irrigation requirements for the Golf Course, but Golf Course Owner shall be entitled to all wastewater effluent produced pursuant to the TPDES Permit and delivered to the Effluent Ponds less any amounts used to irrigate common areas or green spaces within the Steiner Ranch Defined Area, and to additional raw water delivered to the Effluent Ponds through the Raw Water System required to supplement available wastewater effluent in order to meet the irrigation requirements for the Golf Course. All utility rates for additional raw water required to supplement available wastewater effluent to meet the irrigation requirements for the Golf Course shall be paid by Golf Course Owner.

**2.05 Costs and Charges for Delivery of Wastewater Effluent.** All costs (the “District’s Effluent Delivery Costs”), including, without limitation, all capital improvement costs, maintenance, and operation expenses, required in order to deliver the effluent to the Effluent Ponds and maintain the Effluent Ponds shall be paid by the District or, if required by the Utility Development and Reimbursement Agreement, by Golf Course Owner, as a beneficiary of such Agreement. Such costs paid by Golf Course Owner shall be subject to reimbursement to Golf Course Owner pursuant to the terms of the Utility Development and Reimbursement Agreement. The District shall not charge Golf Course Owner for the wastewater effluent delivered pursuant to this Section (excluding, however, any taxes or other charges Golf Course Owner pays to the District by virtue of being a utility customer of the District) unless there are incremental additional costs, if any, incurred by the District over and above the current costs incurred by the District for treatment and disposal, not recovered from retail wastewater customers through the retail rates, through spray irrigation of the wastewater effluent on the Property without a golf course.

### III.

#### GOLF COURSE IRRIGATION EASEMENTS AND IRRIGATION PLAN

**3.01 Golf Course Irrigation Easements.** It is acknowledged and understood that the land to be irrigated within the Golf Course will not be the exact same property currently irrigated by the District pursuant to the Irrigation Easements. The Golf Course Owner shall, prior to the "Golf Course Completion Date" (as defined in that certain "Development Agreement" dated of even date herewith by and between Myers and TWC/SR) dedicate easements allowing spray and/or drip irrigation in the form attached hereto as Exhibit "D" ("Golf Course Irrigation Easements"). The Golf Course Irrigation Easements shall cover and apply to 145 acres of land which is irrigable under the terms of the TPDES Permit (the "Golf Course Irrigation Easement Property"). The Golf Course Owner will have the right to designate the location and configuration of the Golf Course Irrigation Easement Property, but the District shall have the right to review and approve such configuration and location. The Golf Course Irrigation Easements shall provide an amount and quality of irrigation land adequate to meet the District's obligations under the TPDES Permit. The District will be provided a copy of the proposed Golf Course Irrigation Easements at the time the proposed configuration of the Golf Course is to be reviewed among the parties. The District and the Golf Course Owner agree to work in good faith to identify and establish the Golf Course Irrigation Easements in a timely manner. Conveyance of the Golf Course Irrigation Easements to the District shall be a condition precedent to the commencement of operation of the Golf Course Irrigation System.

**3.02 Release and Termination of Prior Irrigation Easements.** The District agrees to release and terminate the Irrigation Easements within thirty (30) days after the Golf Course Irrigation System is in operation; upon its approval of the metes and bounds description of the Golf Course Irrigation Easements; and upon its approval of the Golf Course Irrigation Plan described in Section 3.03 below. The parties to this Agreement acknowledge that TWC/SR may use portions of land not included in the Golf Course Property previously irrigated with effluent by the District pursuant to the terminated Irrigation Easement for other purposes. TWC/SR agrees to accept such property released by the District as is, and the District shall have no duty to take any action to make the land suitable for purposes other than irrigation, including but not limited to the removal and disposal of portions of the Irrigation System.

**3.03 Golf Course Irrigation Plan.** Upon final review and approval of the Golf Course configuration, the parties shall draft a detailed plan identifying the irrigation areas on the Golf Course Property, the type of irrigation to be used in each particular area, and a construction schedule ("Golf Course Irrigation Plan"). Upon approval by the parties, the Golf Course Irrigation Plan shall be deemed an amendment to this Agreement.

## IV.

### CONSTRUCTION OF GOLF COURSE IRRIGATION SYSTEM AND CONVEYANCE TO THE DISTRICT

**4.01 Construction of Golf Course Irrigation System.** Golf Course Owner shall undertake the development of the Golf Course, and Golf Course Owner will design and construct, at its own cost and expense, a new drip and/or spray irrigation system for the purpose of irrigating property located within the Golf Course under the terms and conditions set forth in this Agreement and the Golf Course Irrigation Plan ("Golf Course Irrigation System"). The Golf Course Irrigation System shall be designed and constructed to allow for the disposal of up to 400,000 gpd of effluent based upon a 30-day average. Golf Course Owner shall design and construct the Golf Course Irrigation System in compliance with all applicable local, state, or federal rules or regulations governing land disposal of effluent, including, but not limited to, Title 30 Texas Administrative Code, Chapter 210 as may be amended from time to time.

**4.02 Approval of Plans and Specs.** Golf Course Owner shall submit construction plans and specifications (the "Plans and Specifications") for the Golf Course Irrigation System to the District, and Golf Course Owner shall obtain approval of the Plans and Specifications from the District Board of Directors, which approval shall not be unreasonably withheld or delayed, prior to their submission to the TNRCC or any other agencies with applicable jurisdiction and prior to the award of construction contracts for such facilities.

**4.03 Construction Contracts.** All bids for the Golf Course Irrigation System shall be advertised and all construction contracts for such facilities shall be awarded in the manner provided by law applicable to water control and improvement districts and in full compliance with the rules and regulations of the TNRCC governing developer reimbursement. The District Board of Directors shall review all bids received by Golf Course Owner and Golf Course Owner shall obtain the Board's approval of any construction contract prior to its award. Board approval shall not be unreasonably withheld or delayed. All facilities shall be constructed and all related equipment, materials, and supplies shall be acquired in the name of Golf Course Owner. All contracts and agreements shall contain provisions to the effect that the contractor shall look solely to Golf Course Owner for payment.

**4.04 Timing of Construction and Inspections.** It shall be the responsibility of Golf Course Owner to construct the Golf Course Irrigation System in the time and manner that will allow the District to meet the conditions and requirements contained in the TPDES Permit. The District shall have the right to inspect the construction and to charge reasonable fees for such inspections. No changes to the Plans and Specifications for the Golf Course Irrigation System and no material change orders to any construction contract shall be made without the approval of the Board.

**4.05 Golf Course Owner Warranties.** Golf Course Owner warrants that the Golf Course Irrigation System shall be constructed in a good and workmanlike manner and in accordance with the Plans and Specifications, and that the materials used in the construction of the facilities shall be free from defects and fit for their intended purpose.

**4.06 Replacement of Existing Irrigation System.** The parties acknowledge that the Golf Course Irrigation System will be constructed in the same general area in which the current spray irrigation disposal system is located. The Golf Course Owner agrees to cooperate with the District to ensure that replacement of the current spray irrigation system is phased so that portions of the current system will not be taken out of service until adequate replacement components of the Golf Course Irrigation System are constructed and in place. The Golf Course Owner and the District further acknowledge that at all times there must be adequate irrigation available to dispose of the effluent.

**4.07 Completion of Construction.** Golf Course Owner and the District agree that construction of the Golf Course Irrigation System shall be deemed complete when the following conditions are met:

- (a) all facilities have been constructed that allow full and complete use of the disposal capacity available on the Golf Course Irrigation Easements defined in Section 4.01 and as shown on the Plans and Specifications previously approved by the Board under Section 4.02 above;
- (b) a complete set of as-built mylar plans of the facilities, substantially the same as those approved, including complete and accurate locations of all facilities in the Irrigation Easements created for the Golf Course Irrigation System is delivered to the District;
- (c) complete operations and maintenance manuals for those portions of the facilities deemed desirable by the District's General Manager are delivered to the District;
- (d) a completed affidavit by the Golf Course Owner's Engineer stating the facilities are fully completed in compliance with the Plans and Specifications and in accordance with the as-built plans delivered to the District;
- (e) the District receives a complete, signed and sealed affidavit from Golf Course Owner's Engineer stating the final costs of the facilities and providing a breakdown of such cost in a manner consistent with the bid therefor;
- (f) the District receives an assignment of all bonds, warranties, and guaranties by the contractor or other document(s) securing the contractor's warranty; and
- (g) the facilities, as constructed, are approved by the Board, which approval shall be granted if the requirements of Section 4.07(a)-(f) herein are met.

**4.08 Conveyance of Golf Course Irrigation System to District.** Golf Course Owner agrees to convey the Golf Course Irrigation System to the District in accordance with the Utility Development and Reimbursement Agreement. At the time of acquisition of the Golf Course Irrigation System by the District in accordance with the Utility Development and Conveyance Agreement, Golf Course Owner shall prepare, execute, and file all instruments reasonably

necessary to convey the Golf Course Irrigation System to the District, and shall execute an affidavit that, to the best of Golf Course Owner's knowledge, no debt remains unpaid to any contractor, laborer, or material supplier which has or could result in a valid lien encumbering, or constituting a claim against the facilities. The District agrees to reimburse Golf Course Owner a pro rata portion of its design, construction, and administrative costs attributable to the increase in disposal capacity made available by the Golf Course Irrigation System as compared to disposal capacity available in the existing Irrigation System subject to review and approval by the TNRCC. All costs and expenses included in the reimbursement application to the TNRCC shall be reviewed and approved by the District Board of Directors. The District shall reimburse Golf Course Owner the amount approved by the District and the TNRCC.

## V.

### OPERATION AND MAINTENANCE OF GOLF COURSE IRRIGATION SYSTEM AND REGULATORY MATTERS

**5.01. Golf Course Owner Responsible for Spray and/or Drip Irrigation of Wastewater Effluent.** Upon completion of the Golf Course and the Golf Course Irrigation System, Golf Course Owner shall, at its sole cost and expense, operate and maintain the Pump Station and the Golf Course Irrigation System except as provided in Section 5.04 below. Golf Course Owner shall spray irrigate and/or drip on the Golf Course all wastewater effluent delivered by the District to the Effluent Ponds in accordance with Section 2.02 subject to the limits of application rates provided in the TPDES Permit and the Golf Course Irrigation Plan. Golf Course Owner's operation and maintenance of the Golf Course Irrigation System shall continue after the facilities are conveyed to the District as provided in this Agreement. Golf Course Owner's irrigation of wastewater effluent on the Golf Course shall comply with the TPDES Permit and all other applicable governmental regulations. Golf Course Owner shall be responsible and shall pay all costs, including all capital, design, construction, maintenance, and operation costs, incurred in connection with the Golf Course Irrigation System (exclusive of the cost recited herein to be paid by the District) and spray and/or drip irrigating wastewater effluent as provided in this Section 5.01. The District acknowledges that the distribution of wastewater effluent through the Golf Course Irrigation System is permitted pursuant to the terms and provisions of the TPDES Permit, including all reporting requirements of the TNRCC. Golf Course Owner's design, construction, operation, renovation, or maintenance of the Golf Course Irrigation System shall comply with the TPDES Permit and all other applicable governmental regulations, specifically Chapter 210 of TNRCC rules. Golf Course Owner shall provide to the District on a weekly basis the daily irrigation volumes and locations.

**5.02. Amendments to TPDES Permit.** The parties understand and acknowledge that the District is currently processing an amendment to its existing TPDES permit to increase the disposal of treated effluent from the Treatment Plant to 525,000 gpd on a 30-day average. All references to future amendments shall mean any amendment process after the current pending amendment. The TPDES Permit may be renewed, amended, or modified in the future to meet governmental requirements imposed by the TNRCC, or its successor agency, for disposal of wastewater effluent on the Property. Any renewal of the TPDES Permit, or any amendment or other modification imposed or required by a governmental entity in order to maintain the TPDES

Permit or operate the wastewater disposal system shall, at the time it occurs, be deemed included within the definition of "TPDES Permit" and Golf Course Owner and the District agree to be bound by such renewal, amendment or other modification for all purposes. Notwithstanding anything in this Agreement to the contrary: (i) any modification or amendment to the Effluent Irrigation Permit which would result in any material adverse impact on Golf Course Owner shall not be instituted by the District without the advance written consent of Golf Course Owner unless required by the TNRCC; (ii) regardless of the amount of effluent which may be disposed of under the TPDES Permit, the Golf Course Owner will not be required to accept or dispose of more than 400,000 gpd of effluent on the Golf Course, based on a 30-day average; and (iii) Golf Course Owner shall have no obligation for any additional cost or expense associated with any amendment or modification to the TPDES Permit instituted by the District.

**5.03. Utility Commitment.** The District shall provide potable water service to the Property, including the Golf Course Property, in amounts sufficient for the present and future use of the Property, including the Golf Course Property, subject to District rules and policies and the limitations or other restrictions imposed by any TNRCC rate order, the terms and provisions of any contract between the District and the Lower Colorado River Authority (the "LCRA"), all applicable governmental rules and regulations, and the force majeure provision set forth below. The District shall also provide wastewater service to the Property and the Golf Course Property in accordance with any rate order, service fees, or other regulations adopted by the District from time to time, and all applicable governmental rules and regulations. Golf Course Owner and the District acknowledge that it may be necessary to supplement the irrigation of the Golf Course with raw water from time to time. TWC/SR agrees that it will be the responsibility of TWC/SR to obtain a water sales contract for the benefit of the District with the LCRA to provide such raw water through the Raw Water System for the Golf Course. Such contract shall be for a term that is generally included in such LCRA water sales contract and shall be between LCRA and the District. The District agrees that it will operate and maintain the Raw Water System constructed by TWC/SR to bring raw water to the Effluent Ponds, as needed, at Golf Course Owner's expense. Golf Course Owner agrees that the delivery of raw water to the Effluent Ponds shall not cause a violation of TNRCC storage requirements contained in TNRCC rules or the TPDES permit. Golf Course Owner agrees that it will pay for such raw water in accordance with the District's rate order.

**5.04. Maintenance and Operation of Improvements.** In the event Golf Course Owner fails to maintain and operate the Pump Station and the Golf Course Irrigation System, so that a violation of the TPDES permit or other applicable rule or regulation of a governmental entity with jurisdiction has occurred or is likely to occur, and Golf Course Owner fails to correct such defect on or before thirty (30) days after receipt of written notice from the District, the District shall be permitted to enter upon the Golf Course Property, assume operation of the facilities, and make any alterations, repairs, or installations required to remedy such defect. Notwithstanding the thirty (30) day notice and cure period provided in the previous sentence, in the event of an emergency, Golf Course Owner shall be required to begin the cure as soon as possible and, should it fail to do so, the District shall be entitled to commence the cure without delay. Any and all alterations or repairs permitted pursuant to this Section shall be prosecuted in such a manner as to not unreasonably interfere with Golf Course Owner's operation and maintenance of the Golf Course, and shall be conducted pursuant to plans and specifications

which are in compliance with all applicable governmental agency rules and regulations. All alterations, repairs, or installations conducted by the District shall be done in a good and workmanlike manner, and shall be prosecuted diligently to completion. In addition, if the District commences any alteration, repair, or installation, permitted by this Section, then to the extent necessary to minimize the interruption of Golf Course Owner's use of the Property as a Golf Course, the District shall, at Golf Course Owner's sole cost and expense, during the commission of such alteration, repair, or installation, provide temporary bridges, crosswalks, and other appropriate means of access over and across any open trench, ditch, or other obstruction which is required to complete such alterations, repairs, or installation. Notwithstanding any provision in this Agreement to the contrary, the District, at Golf Course Owner's sole cost and expense, shall, on or before thirty (30) days after completing such alterations, repairs, or installation, restore the surface of the Property and any improvements thereon to the condition, or as near as practical to the condition, found prior to such activity.

**5.05. Obligation to Maintain or Acquire Permit.** The District, at District's sole cost and expense, shall be required to maintain the Permit and acquire any applications or approvals associated therewith (collectively, the "Approvals") necessary or required to deliver or distribute effluent to the Golf Course Irrigation Property in accordance with the terms and provisions of this Agreement. Golf Course Owner agrees to cooperate with the District in obtaining all Approvals, and Golf Course Owner agrees to take whatever action is reasonably necessary including, but not limited to: (i) cooperating with the District and any applicable governmental agency in every reasonable manner and in good faith to ensure that the Approvals are obtained; (ii) executing such further documents, memoranda, assurances, certificates, and consents as shall be reasonably requested by the District from time to time to cause such Approvals to be obtained, provided said Approvals do not impose any materially unreasonable restriction or obligation on Golf Course Owner in the operation and use of the Golf Course. The District shall furnish to Golf Course Owner copies of all Approvals, as well as all inspections and reports associated with such Approvals, and shall notify Golf Course Owner of any public meetings to be held by any applicable governmental agency related to the Approvals. The District shall also provide Golf Course Owner copies of any and all notices or correspondence sent or received by the District related to any pending or existing investigation, action, or test results by any applicable governmental agency which are made available to the general public by any applicable governmental agency, and shall give Golf Course Owner prior written notice of any governmental agency meeting related to the Approvals, including but not limited to, any Approval issuance, amendment, renewal, violation, or revocation.

**5.06. Use Regulations.** Unless otherwise permitted by this Agreement, the District shall not: (i) interfere with any activities of Golf Course Owner, or the tenants, subtenants, and other licensees of any of them; (ii) construct, erect, or place any structure, installation, facility, or obstruction of any kind on, under, or above the surface of the Golf Course Property; (iii) damage, demolish, or destroy any structure, installation, facility, improvement, or obstruction of any kind or nature which may, from time to time, be placed or exist upon the Golf Course Property; (iv) leave any trash or debris within or upon the Golf Course Property; or (v) cut, remove, or damage any timber, vegetation, soil, rocks, or other materials of any kind or nature on or within the Golf Course Property. In addition, the District shall not permit or suffer any lien to be put upon or arise or accrue against any part of the Golf Course Property in favor of any parties furnishing

labor or material to the District (it being agreed and understood that the District shall hold Golf Course Owner and the Golf Course Property free from and against any and all liens, or rights or claims thereof, that may or might accrue under or be based upon any mechanic's lien law, now in force or hereinafter to be enacted, resulting from the District's use of the Golf Course Property, and cause the same to be released) or use, bring or cause any hazardous materials to be placed upon the Property.

**5.07. Termination.** The rights, privileges, and obligations reserved hereunder shall terminate in the event the District assumes operation of the facilities under Section 5.05 and Golf Course Owner fails to cure the defect giving rise to the District's assumption of operations within six (6) months of receipt of the written notice of the defect from the District. In the event the District elects to terminate this Agreement pursuant to the foregoing provision, the District shall provide written notice to Golf Course Owner in accordance with Section 6.01 below, whereupon this Agreement shall terminate on the thirtieth (30th) day after the District provides such notice. The Golf Course Irrigation Easements shall be released by the District and the District shall execute such release in a form suitable for recording in the Official Public Records of Travis County, Texas within thirty (30) days of the date when the District ceases to use the Golf Course Property for irrigation of effluent for a consecutive period of one hundred and eighty (180) days.

**5.08. Term.** This Agreement shall be in force and effect for a term of ninety-nine (99) years.

## VI.

### DEFAULT, NOTICE, AND REMEDIES

**6.01. Default and Remedies.** If any party fails in the performance of or compliance with any of the covenants, agreements, terms, or conditions contained in this Agreement, and such failure continues for a period of thirty (30) days after written notice thereof from another party specifying in reasonable detail the nature of such failure, or if such default cannot be cured in thirty (30) days due to unavoidable delay or force majeure and the party is using all reasonable due diligence to cure, then the thirty (30) day period shall be extended as long as the party is using all due diligence to cure such default, then the party shall be in default and the non-defaulting parties shall be entitled to exercise all or any of the following remedies in addition to other remedies provided in this Agreement:

- (i) Injunctive Relief.
- (ii) Specific Performance. A non-defaulting party may enforce specific performance of the defaulting party's obligations under this Agreement and recover from the defaulting party all costs and expenses, including reasonable attorney's fees, incurred in connection with enforcing specific performance.

6.02. **Termination of Myers' Interest in Golf Course Property.** In the event Myers' interest in the Golf Course Property terminates, Myers shall no longer be a party to this Agreement and TWC/SR shall be deemed to be the owner of the Golf Course Property as provided in Section 1.01.

VII.

MISCELLANEOUS PROVISIONS

7.01. **Assignment.** The terms, covenants, and conditions which relate to the Property and the Golf Course Property shall be covenants running with the Property and the Golf Course Property, and shall inure to the benefit of TWC/SR, Myers, and the District, their successors and assigns. The District hereby consents to an initial assignment of this Agreement to an entity created to develop the Golf Course Property. The District shall receive notice of such initial assignment within ten (10) working days of such assignment.

7.02. **Notice.** Any notice, communication, request, reply, or advice (severally and collectively referred to as "Notice") in this Agreement provided or permitted to be given, made or accepted by any party to the other must be in writing. Notice may, unless otherwise provided herein, be given or served: (i) by depositing the same in the United States Mail, certified, with return receipt requested, addressed to the party to be notified and with all charges prepaid; or (ii) by depositing the same with Federal Express or another service guaranteeing "next day delivery", addressed to the party to be notified and with all charges prepaid; or (iii) by delivering the same to such party, or an agent of such party by telecopy or by hand delivery. Notice deposited in the United States mail in the manner herein above described shall be deemed effective from and after the earlier of the date of actual receipt or three (3) days after the date of such deposit. Notice given in any other manner shall be effective only if and when received by the party to be notified. For the purposes of notice, the addresses of the parties shall, until changed as provided below, be as follows:

TWC/SR: Taylor Woodrow Communities/Steiner Ranch, Ltd.  
Attn: James D. Plasek  
3405 Grimes Ranch Road  
Austin, Texas 78732  
Telephone: (512) 266-3865  
Telecopy: (512) 266-9342

With Required Copy To: Armbrust Brown & Davis, L.L.P.  
Attn: Sharlene N. Collins  
100 Congress Avenue, Suite 1300  
Austin, Texas 78701  
Telephone: (512) 435-2300  
Telecopy: (512) 435-2360

Taylor Woodrow Communities/Steiner Ranch, Ltd.  
Legal Department  
8430 Enterprise Circle, Suite 100  
Bradenton, Florida 34202  
Telephone: (941) 554-3000  
Telecopy: (941) 554-3010

Myers: Myers Golf Course at Steiner Ranch, Ltd.  
Attention : Mike A. Myers  
6310 Lemmon Avenue, Suite 200  
Dallas, Texas 75209  
Telephone: (214) 350-6500  
Telecopy: (214) 352-7442

With Required  
Copy To: Thompson & Knight, L.L.P.  
Attention: James W. Rose  
1700 Pacific Avenue, Suite 3300  
Dallas, Texas 75201  
Telephone: (214) 969-1640  
Telecopy: (214) 969-1751

District: Travis County Water Control  
Improvement District No. 17  
Attn: General Manager  
3812 Eck Lane  
Austin, Texas 78734  
Telephone: (512) 266-1111  
Telecopy: (512) 266-2790

With Required  
Copy To: Lloyd, Gosselink, Blevins, Rochelle, Baldwin  
& Townsend, P.C.  
Attn: Lauren Kalisek  
111 Congress Avenue, Suite 1800  
Austin, Texas 78701  
Telephone: (512) 322-5800  
Telecopy: (512) 472-0532

The parties hereto shall have the right from time to time to change their respective addresses, and each shall have the right to specify as its address any other address within the United States of America by at least five (5) days written notice to the other party. If any date or any period provided in this Agreement ends on a Saturday, Sunday, or legal holiday, the applicable period shall be extended to the first business day following such Saturday, Sunday, or legal holiday.

7.03. **Time.** Time is of the essence in all things pertaining to the performance of this Agreement.

7.04. **Severability.** If any provision of this Agreement is illegal, invalid, or unenforceable under present or future laws, then, and in that event, it is the intention of the parties hereto that the remainder of this Agreement shall not be affected thereby, and it is also the intention of the parties to this Agreement that in lieu of each provision of this Agreement that is illegal, invalid, or unenforceable, there be added as a part of this Agreement a provision as similar in terms to such illegal, invalid, or unenforceable provision as may be possible, and be legal, valid, and enforceable.

7.05. **Waiver.** Any failure by a party hereto to insist, or any election by a party hereto not to insist, upon strict performance by the other party of any of the terms, provisions, or conditions of this Agreement shall not be deemed to be a waiver thereof or of any other term, provision, or condition hereof, and such party shall have the right at any time or times thereafter to insist upon strict performance of any and all of the terms, provisions, and conditions hereof.

7.06. **Applicable Law and Venue.** The construction and validity of this Agreement shall be governed by the laws of the State of Texas. Venue shall be in a court of appropriate jurisdiction in Travis County, Texas.

7.07. **Paragraph Headings.** The paragraph headings contained in this Agreement are for convenience only and shall in no way enlarge or limit the scope or meaning of the various and several paragraphs hereof.

7.08. **Grammatical Construction.** Wherever appropriate, the masculine gender may include the feminine or neuter, and the singular may include the plural, and vice versa.

7.09. **Counterpart Execution.** This Agreement may be executed in any number of counterparts with the same effect as if all parties hereto had signed the same document, and all counterparts will constitute one and the same agreement.

7.10. **Exhibits.** All exhibits and other documents attached to or referred to in this Agreement are incorporated by reference for all purposes.

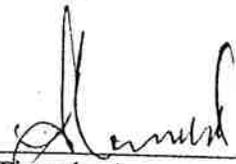
7.11. **Further Assurances.** To give effect to and implement this Agreement, the parties agree to take whatever action is reasonably necessary including, but not limited to, executing such further documents, memoranda, assurances, or certificates as shall be reasonably required by either party or by any third party to implement or give full effect to the terms and provisions of this Agreement.

This Agreement shall be as of and effective the 7th day of August 2007.

**TWC/SR:**

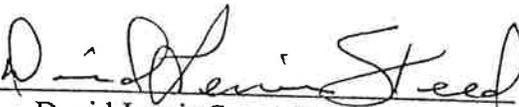
**TAYLOR WOODROW COMMUNITIES/  
STEINER RANCH, LTD.,**  
a Texas limited partnership

By: TWC/Steiner Ranch, LLC,  
a Texas limited liability company,  
General Partner

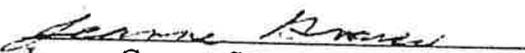
By:   
Timothy J. Towell, Manager

**DISTRICT:**

**TRAVIS COUNTY WATER CONTROL AND  
IMPROVEMENT DISTRICT NO. 17**

By:   
David Lewis Steed, President  
Board of Directors

**ATTEST:**

  
Jeanne Graves, Secretary  
Board of Directors

**MYERS:**

**MYERS GOLF COURSE AT STEINER  
RANCH, LTD.,** a Texas limited partnership

By: Myers Financial Management  
Company, L.L.C.,  
a Texas limited liability company

By:   
Mike A. Myers  
Sole Manager

## **LIST OF EXHIBITS**

Exhibit "A"	Description of Irrigation Easements owned by District
Exhibit "B"	Locations of Pump Stations and Effluent Ponds
Exhibit "C"	Description of Golf Course Property
Exhibit "D"	Description of Golf Course Irrigation Easements

254

WASTEWATER IRRIGATION FIELD EASEMENT

FILM CODE

00005642062

THE STATE OF TEXAS     §     KNOW ALL MEN BY THESE PRESENTS;  
                                  §  
COUNTY OF TRAVIS     §

That Quinlan Investments, Ltd., a Texas limited partnership, acting herein by and through its General Partner, Quinlan Properties, Inc., acting herein by and through its treasurer, James D. Plasek, of the County of Travis, State of Texas, hereinafter referred to as Grantors, whether one or more, for and in consideration of the sum of One Dollar (\$1.00) and other good and valuable consideration, to Grantors in hand paid by Travis County Water Control and Improvement District No. 17, the receipt and sufficiency of which is hereby acknowledged and confessed, and for which no lien, or encumbrance expressed or implied, is retained, has this day GRANTED and CONVEYED, and by these presents does hereby GRANT and CONVEY unto Travis County Water Control and Improvement District No. 17, a water control and improvement district situated in Travis County, Texas, an easement (the "Easement") for the construction, operation, maintenance, replacement, upgrade and repair of a wastewater irrigation field, upon and across the following described land (the "Land"), to-wit:

A tract of land of 155 acres being a portion of Lot 2 of Steiner Ranch Phase One, Irrigation Tract, a subdivision of record in book 87, Pages 196C - 197A of the Plat Records of Travis County, Texas which is more particularly described by metes and bounds on Exhibit A which is attached hereto and incorporated herein.

SUBJECT to the termination provisions hereinafter set forth, TO HAVE AND TO HOLD the Easement perpetually to the Travis County Water Control and Improvements District No. 17, its successors and assigns, together with the right and privilege at any and all times to enter said premises, or any part thereof, for the purpose of placing, constructing, operating, enlarging, repairing, maintaining, rebuilding, replacing, relocating, and removing said wastewater irrigation field together with all necessary pipes, conduits, vaults, meters, valves, and appurtenances and for making connections

REAL PROPERTY RECORDS  
TRAVIS COUNTY, TEXAS

13047     0083

therewith; all upon the condition that the Travis County Water Control and Improvement District No. 17 will at all times, after doing any work in connection with the construction or repair of said wastewater irrigation field, restore the surface of the Land to the condition in which same was found before such work was undertaken.

Grantor is conveying the Easement solely for the use as a wastewater irrigation field site. This Easement shall terminate and be of no further force and effect if Grantee, its successors or assigns, shall either (i) abandon the use of the Easement herein granted for a period of one hundred eighty (180) consecutive calendar days; (ii) cease for a period of one hundred eighty (180) consecutive calendar days to hold a wastewater discharge permit or the future equivalent of a wastewater discharge permit for the discharge of effluent utilizing the wastewater irrigation field Easement hereinabove described; or (iii) use the Easement for a purpose other than a wastewater irrigation field site and fail to cease such non-permitted use within thirty (30) days after written notice is given of such non-permitted use.

IN WITNESS WHEREOF, Grantors have caused this instrument to be executed on this 25<sup>th</sup> day of September, 1997.

**RECEIVED, ACCEPTED AND AGREED  
TO BY GRANTEE:**

**TRAVIS COUNTY WATER CONTROL AND  
IMPROVEMENT DISTRICT NO. 17, a water  
control and improvement district**

By: David Lewis Steed

Name: David Lewis Steed

Title: President

Grantee's Address:

Travis County Water Control and  
Improvement District No. 17  
3900 Eck Lane  
Austin, Texas 78734-1699

**QUINLAN INVESTMENTS, LTD.**

By: Quinlan Properties, Inc.,  
General Partner

By: James D. Plasek

James D. Plasek, Treasurer  
7200 N. Mopac, Suite 400  
Austin, Texas 78731

THE STATE OF TEXAS:  
COUNTY OF TRAVIS:

BEFORE ME, the undersigned, a Notary public in and for said County and State, on this day personally appeared James D. Plasek, Treasurer of Quinlan Properties, Inc., General Partner of Quinlan Investments, Ltd., known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 25<sup>th</sup> day of September, 1997.

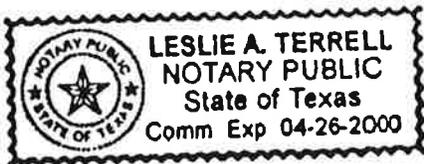


Diane Freytag Lutz  
Notary Public in and for Travis County,  
Texas

THE STATE OF TEXAS:  
COUNTY OF TRAVIS:

This instrument was acknowledged before me on the 16<sup>th</sup> day of OCTOBER, 1997, by DAVID LEWIS STEGO, acting on behalf of Travis County Water Control and Improvement District No. 17.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 16<sup>th</sup> day of OCTOBER, 1997.



Leslie A. Terrell  
Notary Public in and for Travis County,  
Texas

AFTER RECORDING, RETURN TO:  
QUINLAN INVESTMENTS, LTD.  
7200 N. MOPAC, SUITE 400  
AUSTIN, TEXAS 78731

REAL PROPERTY RECORDS  
TRAVIS COUNTY, TEXAS

13047 0085

155.00 ACRE TRACT  
STEINER RANCH, PHASE ONE  
IRRIGATION TRACT

FN5668(RLM)  
SEPTEMBER 15, 1997  
SRI JOB 16314-14

A DESCRIPTION OF A 155.00 ACRE TRACT OF LAND OUT OF THE E. S. HUGHES SURVEY NO. 115, AND THE W. B. ROYAL SURVEY NO. 75, IN TRAVIS COUNTY, TEXAS, BEING A PORTION OF LOT 2, OF STEINER RANCH PHASE ONE IRRIGATION TRACT, RECORDED IN VOLUME 87, PAGE 196C-197A OF THE TRAVIS COUNTY PLAT RECORDS, SAID 155.00 ACRE TRACT OF LAND AS SHOWN ON THE ACCOMPANYING SKETCH IS FURTHER DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

COMMENCING at a ½-inch iron rod found, on an east line of the said Steiner Ranch Phase One Irrigation Tract, being a ell corner of the said Lot 2 and of a 3594 acre tract as conveyed from T.C. Steiner, Jr., to THL Ranch LTD., as recorded in Volume 11963, Page 404 of the Travis County Deed Records, also being an ell corner of a City of Austin tract of land as recorded in Volume 11848, Page 1718 of the Travis County Deed Records;

THENCE, with the common line of the said Lot 2 of Steiner Ranch Phase One Irrigation Tract, the 3594 acre tract, and the said City of Austin tract, the following two (2) courses:

1. S 37° 23' 52" W, a distance of 144.25 feet to a ½-inch iron found, and
2. S 28° 42' 38" W, a distance of 802.49 feet to a point in the south line of a 100-foot Lower Colorado River Authority electric and telephone easement, as recorded in Volume 649, Page 544 of the Deed Records of Travis County, Texas;

THENCE, leaving the common line of the said Lot 2 of Steiner Ranch Phase One Irrigation Tract, the 3594 acre tract, and the said City of Austin tract, crossing the said Lot 2, with the south line of the said Lower Colorado River Authority electric and telephone easement, N 30° 53' 07" W, a distance of 232.28 feet to the POINT OF BEGINNING of the herein described tract;

THENCE, leaving the south line of the said Lower Colorado River Authority electric and telephone easement, continuing across the said Lot 2, the following two (2) courses:

1. S 28° 41' 15" W, a distance of 718.37 feet to a point, and
2. N 88° 19' 03" W, a distance of 99.59 feet to a point in the east line of a Drainage and Greenbelt Easement as shown on the said plat;

THENCE, continuing across the said Lot 2, with an east and north line of the said Drainage and Greenbelt Easement, the following two (2) courses:

1. N 44° 05' 24" W, a distance of 226.53 feet to a point,
2. S 53° 45' 38" W, a distance of 64.92 feet to a point,

THENCE, leaving the said Drainage and Greenbelt Easement, continuing across the said Lot 2, the following two (2) courses:

1. S 19° 26' 29" W, a distance of 871.75 feet to a point,
2. N 85° 17' 05" W, a distance of 415.26 feet to a point in the east line of a Drainage and Greenbelt Easement as shown on the said plat;

THENCE, continuing across the said Lot 2, with an east, north and west line of the said Drainage and Greenbelt Easement, the following six (6) courses:

1. N 14° 58' 59" W, a distance of 383.38 feet to a point,
2. N 08° 09' 22" W, a distance of 871.13 feet to a point,
3. N 40° 57' 17" W, a distance of 209.64 feet to a point,
4. S 64° 27' 10" W, a distance of 109.45 feet to a point,
5. S 30° 29' 56" E, a distance of 197.68 feet to a point, and

6. S 12° 54' 05" E, a distance of 363.14 feet to a point,

THENCE, leaving the said Drainage and Greenbelt Easement, continuing across the said Lot 2, S 41° 04' 30" W, a distance of 627.09 feet to a point in the north line of the said Drainage and Greenbelt Easement;

THENCE, continuing across the said Lot 2, with the north line of the said Drainage and Greenbelt Easement, S 88° 25' 50" W, a distance of 274.96 feet to a point;

THENCE, leaving the said Drainage and Greenbelt Easement, continuing across the said Lot 2, N 62° 01' 03" W, a distance of 969.05 feet to a point in the east line of a Drainage and Greenbelt Easement as shown on the said plat;

THENCE, continuing across the said Lot 2, with the said Drainage and Greenbelt Easement, the following twenty-four (24) courses:

1. N 21° 38' 52" W, a distance of 247.76 feet to a point,
2. N 04° 08' 01" W, a distance of 170.58 feet to a point,
3. N 36° 55' 01" E, a distance of 203.43 feet to a point,
4. N 49° 41' 01" E, a distance of 309.09 feet to a point,
5. N 08° 13' 10" W, a distance of 66.00 feet to a point,
6. S 77° 23' 05" W, a distance of 368.02 feet to a point,
7. S 66° 28' 11" W, a distance of 228.37 feet to a point,
8. N 71° 14' 59" W, a distance of 111.34 feet to a point,
9. N 31° 22' 09" W, a distance of 282.94 feet to a point,
10. N 16° 30' 08" E, a distance of 112.12 feet to a point,
11. N 48° 49' 47" E, a distance of 169.15 feet to a point,
12. N 17° 59' 41" E, a distance of 325.18 feet to a point,
13. N 68° 47' 09" E, a distance of 152.24 feet to a point,
14. N 36° 09' 13" E, a distance of 491.99 feet to a point,
15. S 61° 51' 45" E, a distance of 369.14 feet to a point,
16. N 32° 25' 17" E, a distance of 71.75 feet to a point,
17. N 35° 18' 26" W, a distance of 276.08 feet to a point,
18. N 51° 49' 18" W, a distance of 196.78 feet to a point,
19. N 06° 54' 26" W, a distance of 99.35 feet to a point,
20. N 36° 31' 13" E, a distance of 90.83 feet to a point,
21. N 65° 35' 09" E, a distance of 606.19 feet to a point,
22. S 75° 09' 49" E, a distance of 162.52 feet to a point,
23. S 33° 45' 32" E, a distance of 521.15 feet to a point, and
24. N 88° 15' 34" E, a distance of 101.94 feet to a point,

THENCE, leaving the said Drainage and Greenbelt Easement, continuing across the said Lot 2, S 53°

12' 20" E, a distance of 1162.54 feet to a point in the east line of a Drainage and Greenbelt Easement as shown on the said plat;

THENCE, continuing across the said Lot 2, with a south line of the said Drainage and Greenbelt Easement, the following two (2) courses:

1. S 11° 29' 30" W, a distance of 57.76 feet to a point, and
2. S 57° 09' 43" E, a distance of 174.80 feet to an angle point in the said Drainage and Greenbelt Easement;

THENCE, leaving the said Drainage and Greenbelt Easement, continuing across the said Lot 2, the following three (3) courses:

1. S 27° 02' 22" E, a distance of 83.38 feet to a point,
2. S 68° 47' 06" E, a distance of 259.80 feet to a point, and
3. S 87° 11' 02" E, a distance of 179.55 feet to a point in the south line of the said 100-foot Lower Colorado River Authority electric and telephone easement;

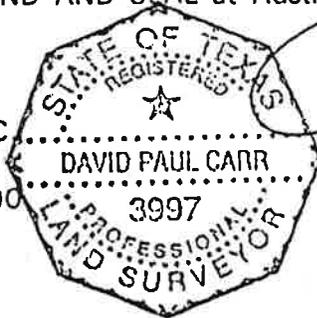
THENCE, continuing across the said Lot 2, with the south line of the said Lower Colorado River Authority electric and telephone easement, S 30° 53' 07" E, a distance of 672.07 feet to the POINT OF BEGINNING and containing 155.00 acres of land.

THE STATE OF TEXAS       |  
  |       KNOW ALL MEN BY THESE PRESENTS:  
COUNTY OF TRAVIS       |

That I, David P. Carr, a Registered Professional Land Surveyor, do hereby certify that the above description is true and correct to the best of my knowledge and belief and that the property described herein was determined by a survey made on the ground during April, 1996 under my direction and supervision.

WITNESS MY HAND AND SEAL at Austin, Travis County, Texas this the 15th day of September, 1997 A.D.

SURVEY RESOURCES, INC.  
P.O. Box 162690  
Austin, Texas 78716-2690



*David P. Carr*  
 \_\_\_\_\_  
 David P. Carr  
 Registered Professional Land Surveyor  
 No. 3997 - State of Texas



**WASTEWATER EFFLUENT IRRIGATION AREA EASEMENT**

**STATE OF TEXAS  
COUNTY OF TRAVIS**

**KNOW ALL MEN BY THESE PRESENTS:**

That EPSC, Inc., a Texas business Corporation, having its principal place of business in the City of Austin, Travis County, Texas hereinafter referred to as Grantors, whether one or more, for and in consideration of the sum of Ten Dollars (\$10.00) cash, to Grantors in hand paid by the Steiner Utility Company, Inc., a Texas corporation, which is located at 1301 Capital of Texas Highway, Suite C-300, Austin, Texas, 78746, hereinafter referred to as Grantee, the receipt of which consideration is hereby acknowledged, and for which no lien express or implied is retained, and the further consideration of the benefits to be derived by Grantors from having wastewater service available to the property, have this day Granted and Conveyed and by these presents do Grant and Convey, unto Grantee, an easement to construct and maintain a wastewater effluent irrigation area for the purpose of wastewater disposal from adjacent acreage, said easement in, upon and across the following described land, to wit:

A tract of land of 67.196 acres out of the Hattie E. Hancock Survey No. 72 and the Hattie E. Hancock Survey No. 70 in Travis County, Texas and being a portion of Lot 2 of "Steiner Ranch Phase One, Irrigation Tract" a subdivision of record in Book 87, Pages 196C-197A of the Plat Records of Travis County, Texas. Said tract being further described by metes and bounds on Exhibit A attached hereto for all purposes;

TO HAVE AND TO HOLD the same to Grantee and its successors and assigns, together with the right and privilege at any and all times to enter said premises, or any part thereof, for the purpose of

constructing and maintaining, said wastewater effluent irrigation area, all upon the condition that Grantee will at all times after doing work in connection with the construction or repair of said wastewater effluent irrigation area, restore the surface of the said premises to the condition in which the same was found before such work was undertaken.

EXECUTED this 8th day of June, 1989.

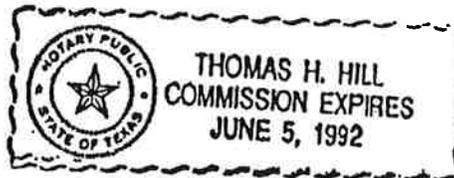
EPSC, INC.

By: Patricia Hughes  
Typed Name: PATRICIA HUGHES  
Title: VICE PRESIDENT

STATE OF TEXAS  
COUNTY OF TRAVIS

THIS INSTRUMENT was acknowledged before me this 8th day of June, 1989, by PATRICIA HUGHES, Vice President, of EPSC, Inc., a Texas corporation, on behalf of said corporation.

Thomas H. Hill  
Notary Public, State of Texas  
Printed Name \_\_\_\_\_  
Commission Expires \_\_\_\_\_



WST WTR IRR ESMT/70  
SS06.02.89

DESCRIPTION OF A 67.196 ACRE WASTEWATER EFFLUENT IRRIGATION AREA SITE OUT OF THE HATTIE E. HANCOCK SURVEY NO. 72 AND THE HATTIE E. HANCOCK SURVEY NO. 70 IN TRAVIS COUNTY, TEXAS; SAID 67.196 ACRE TRACT BEING A PORTION OF LOT 2 OF "STEINER RANCH PHASE ONE, IRRIGATION TRACT", A SUBDIVISION OF RECORD IN BOOK 87, PAGES 196C-197A OF THE PLAT RECORDS OF TRAVIS COUNTY, TEXAS; SAID 67.196 ACRE TRACT BEING FURTHER DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING at an iron rod found in the north line of said Lot 2 and being in the south line of Steiner Ranch Boulevard, a 90-foot right-of-way as shown on said plat, and also being the east end of circled curve No. 14 as shown on said plat;

THENCE with the common line of said Lot 2 and Steiner Ranch Boulevard the following two (2) courses:

1. S 68° 37' 15" E, a distance of 711.31 feet to an iron rod found for a point of curvature, and
2. a distance of 60.03 feet along a curve to the right with a radius of 1255.00 feet, a central angle of 02°44'26" and a chord which bears S 67° 15' 02" E, a distance of 60.03 feet,

THENCE leaving said common line, crossing said Lot 2, the following thirty-four (34) courses:

1. S 45° 03' 27" W, a distance of 128.78 feet,
2. S 62° 37' 32" W, a distance of 184.48 feet,
3. S 47° 00' 46" W, a distance of 337.47 feet,
4. S 67° 16' 03" W, a distance of 130.50 feet,
5. N 84° 39' 24" W, a distance of 197.40 feet,
6. S 65° 08' 22" W, a distance of 128.49 feet,
7. N 46° 27' 10" W, a distance of 200.61 feet,
8. S 60° 16' 16" W, a distance of 47.28 feet,
9. S 05° 22' 40" E, a distance of 287.09 feet,
10. S 30° 22' 45" W, a distance of 402.99 feet,
11. S 49° 06' 09" W, a distance of 146.40 feet,
12. S 24° 15' 05" W, a distance of 179.45 feet,
13. S 49° 48' 22" W, a distance of 343.24 feet,
14. S 16° 44' 14" W, a distance of 144.48 feet,
15. S 45° 23' 17" W, a distance of 129.14 feet,
16. S 72° 17' 05" W, a distance of 347.42 feet,
17. N 64° 20' 09" W, a distance of 78.39 feet,
18. N 03° 59' 50" W, a distance of 190.68 feet,
19. N 03° 22' 11" E, a distance of 194.10 feet,
20. N 20° 46' 43" W, a distance of 250.63 feet,

21. N 04° 00' 27" W, a distance of 690.84 feet,
22. N 10° 15' 33" E, a distance of 184.74 feet,
23. N 48° 35' 23" E, a distance of 186.10 feet,
24. N 22° 13' 11" E, a distance of 191.80 feet,
25. N 68° 56' 03" E, a distance of 86.69 feet,
26. S 56° 01' 47" E, a distance of 170.35 feet,
27. S 22° 40' 00" E, a distance of 279.22 feet,
28. S 87° 15' 01" E, a distance of 72.57 feet,
29. N 05° 05' 16" W, a distance of 300.96 feet,
30. N 58° 30' 24" W, a distance of 181.10 feet,
31. N 30° 01' 45" W, a distance of 157.24 feet,
32. N 09° 35' 04" E, a distance of 242.32 feet,
33. N 33° 19' 52" E, a distance of 152.90 feet,
34. N 62° 28' 11" E, a distance of 556.42 feet to a point in the curving north line of said Lot 2 (said circled curve no. 14) being the south line of said Steiner Ranch Blvd.;

THENCE with said common line a distance of 896.35 feet along a curve to the left with a radius of 1545.00 feet, a central angle of 33° 14' 26" and a chord which bears S 52° 00' 02" E a distance 883.83 feet to the POINT OF BEGINNING and containing 67.196 acres of land.

THE STATE OF TEXAS  
COUNTY OF TRAVIS

Y  
Y  
Y

KNOW ALL MEN BY THESE PRESENTS:

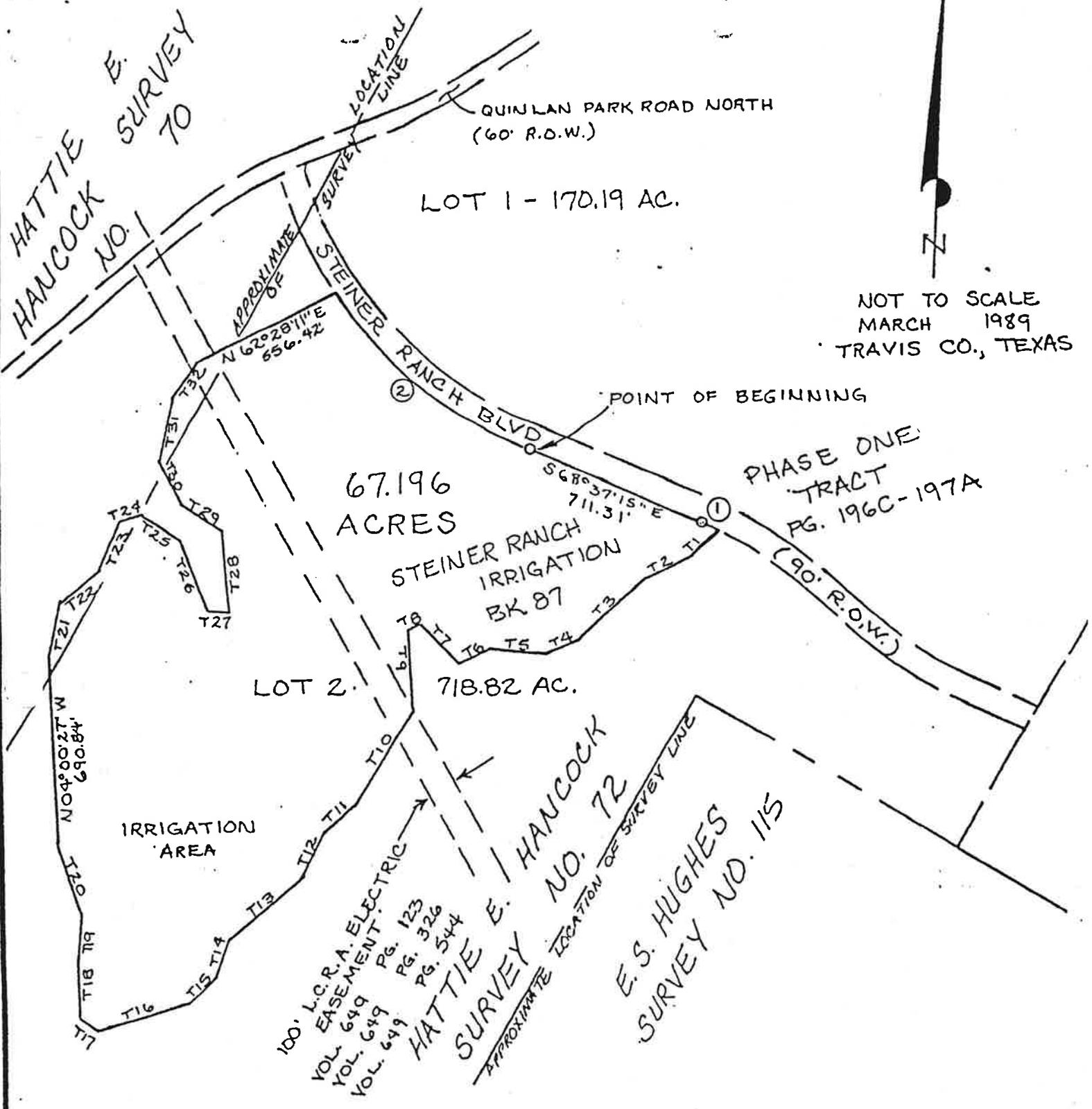
That I, Donald J. Kirby, a Registered Public Surveyor, do hereby certify that the above description is true and correct to the best of my knowledge and that the property described herein was determined by a survey made on the ground during July 1988 and under my direction and supervision.

WITNESS MY HAND AND SEAL at Austin, Travis County, Texas this the 17 day of April, 1989, A.D.

SURVEY RESOURCES, INC.  
P.O. Box 162690  
Austin, Texas 78716-2690



Donald J. Kirby  
Donald J. Kirby  
Registered Public Surveyor  
No. 2508 - State of Texas



NOT TO SCALE  
MARCH 1989  
TRAVIS CO., TEXAS

CIRCLED CURVE DATA

NO.	DELTA	RADIUS	LENGTH	CHORD	TAN	CH. BEARING
1.	82° 44' 26"	1255.00	60.03	60.03	30.02	S 67° 15' 02" E
2.	33° 14' 26"	1545.00	836.35	833.83	461.18	S 52° 00' 02" E

ADDITIONAL COURSES

1.	S 45° 03' 27" W	120.70'	17.	N 64° 20' 03" W	78.39'
2.	S 62° 37' 32" W	100.01'	18.	N 03° 59' 50" W	230.60'
3.	S 47° 00' 46" W	337.07'	19.	N 03° 22' 11" W	194.10'
4.	S 67° 16' 03" W	130.50'	20.	N 20° 46' 43" W	250.63'
5.	S 84° 39' 24" W	197.60'	21.	N 10° 15' 33" E	100.74'
6.	S 65° 01' 22" W	120.49'	22.	N 40° 35' 23" E	106.10'
7.	N 66° 27' 10" W	200.61'	23.	N 27° 13' 32" E	191.80'
8.	S 60° 16' 16" W	47.20'	24.	N 60° 56' 03" W	46.69'
9.	S 05° 22' 40" W	207.89'	25.	S 56° 01' 47" E	170.35'
10.	S 30° 32' 45" W	402.59'	26.	N 22° 40' 00" E	279.22'
11.	S 09° 06' 09" W	146.40'	27.	N 87° 15' 01" E	72.57'
12.	S 24° 15' 05" W	179.45'	28.	N 05° 05' 16" E	300.96'
13.	S 09° 48' 22" W	343.24'	29.	N 50° 30' 24" E	101.10'
14.	S 16° 44' 14" W	144.01'	30.	N 30° 01' 45" W	157.34'
15.	S 45° 23' 17" W	129.14'	31.	N 09° 35' 00" E	242.32'
16.	S 72° 17' 05" W	107.42'	32.	N 33° 19' 52" E	152.90'

JOB NAME: EFFLUENT POND  
OFFICE: R. MAUGHAN  
DRAFTING: J. HATCHER  
CREW:  
F.B. NO.:

SKETCH TO ACCOMPANY  
FIELD NOTE 4206



918 CAPITAL OF TEXAS HWY. S.  
P.O. BOX 182680  
AUSTIN TEXAS 78718-2680

SCALE : 1" = 200'  
AUGUST, 2001  
TRAVIS COUNTY, TEXAS

15' STRIP FOR  
WASTEWATER EFFLUENT LINE  
TRACT 1, 0.044 AC.  
TRACT 2, 0.308 AC.  
TRACT 3, 0.029 AC.  
VOL. 10959 PG. 100  
VOL. 12781 PG. 321

WASTEWATER EFFLUENT IRRIGATION AREA  
67.196 AC.  
VOL. 10959 PG. 119

WASTEWATER EFFLUENT  
POND SITE  
8.522 AC.  
VOL. 10959 PG. 125  
VOL. 12781 PG. 304

IRRIGATION  
PUMP STATION

Elec.  
Trans.

STEINER RANCH BLVD.  
(90' R-O-W) BK.87, PGS.196C-197A

WASTEWATER EFFLUENT POND SITE  
7.39 AC.  
VOL. 13047, PG. 91

2771 +/- ACRES  
TAYLOR WOODROW COMMUNITIES/  
STEINER RANCH, LTD.  
DOC. NO. 2000009809

LOT 2

REPLAT OF LOT 2  
OF STEINER RANCH  
PHASE ONE  
IRRIGATION PLAT  
DOC. NO. 199900326

CL 15' EFFLUENT LINE ESMT.  
VOL. 13074, PG. 160

WASTEWATER EFFLUENT  
IRRIGATION AREA  
67.196 AC.  
VOL. 10959 PG. 119

100' L.C.R.A. ELEC. & TELE. ESMT.  
Vol. 649, PG. 123

SKETCH OF STEINER RANCH EFFLUENT PONDS

**Carter-Burgess**  
Surveying

Carter and Burgess, Inc.

901 South MoPac Expressway Bldg. V Suite 200  
Austin, Texas 78746  
(512)314-3100 Fax (512)314-3135

**PROPERTY DESCRIPTION**

199.69 ACRES OUT OF THE HATTIE E. HANCOCK, SURVEY NO. 70, ABSTRACT 2589, THE HATTIE E. HANCOCK, SURVEY NO. 72, THE E. S. HUGHES SURVEY NO. 115 AND THE W. B. ROYAL SURVEY NO. 75, ABSTRACT NO. 666 IN TRAVIS COUNTY, TEXAS, BEING A PORTION OF THAT CALLED 2771 ACRE TRACT OF LAND, AS DESCRIBED IN A DEED TO TAYLOR WOODROW COMMUNITIES/STEINER RANCH, LTD., RECORDED IN DOCUMENT NO. 2000009809 OF THE OFFICIAL PUBLIC RECORDS OF TRAVIS COUNTY, TEXAS. SAID 199.69 ACRES BEING A PORTION OF LOT 2 OF THE REPLAT OF LOT 2 OF STEINER RANCH PHASE ONE IRRIGATION PLAT, AS RECORDED IN DOCUMENT NO. 199900326 OF THE PLAT RECORDS OF TRAVIS COUNTY, TEXAS. SAID 199.69 ACRES, (PARCELS 1 THROUGH 8), AS SHOWN ON THE ACCOMPANYING SKETCH, BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

**Parcel 1 – 40.54 Acres**

**COMMENCING** at a 5/8-inch iron rod with cap found in concrete for the most westerly corner of the said Lot 2, and being in the southeast line of Quinlan Park Road (120 foot right-of-way easement);

**THENCE**, leaving the southeast line of the said Quinlan Park Road, with a southwest line of the said Lot 2, S 75° 58' 09" E, a distance of 650.24 feet to a 5/8-inch iron rod with cap set for the **POINT OF BEGINNING** of the herein described 40.54 acre tract;

**THENCE**, leaving the said line, crossing the said Lot 2, the following three (3) courses:

1. N 11° 41' 53" W, a distance of 51.11 feet to a 5/8-inch iron rod with cap set,
2. N 05° 36' 09" E, a distance of 857.53 feet to a 5/8-inch iron rod with cap set, and
3. N 18° 44' 45" E, a distance of 510.02 feet to a 5/8-inch iron rod with cap set in the southeast line of the said Quinlan Park Road, being a northwest line of the said Lot 2;

**THENCE**, with the southeast line of the said Quinlan Park Road, being a northwest line of the said Lot 2, the following four (4) courses:

1. N 48° 20' 47" E, a distance of 109.42 feet to a 5/8-inch iron rod with cap set for a non-tangent point of curvature,
2. a distance of 189.72 feet with an arc of a curve to the left whose central angle is 18° 40' 01", with a radius of 582.31 feet and whose chord bears N 54° 20' 08" E, a distance of 188.88 to a 5/8-inch iron rod with cap set,
3. N 45° 00' 08" E, a distance of 337.85 feet to a 5/8-inch iron rod with cap set, and
4. N 48° 20' 47" E, a distance of 47.48 feet to a 5/8-inch iron rod with cap set;

**THENCE**, leaving the said line, crossing the said Lot 2, the following thirty-two (32) courses:

1. S 33° 48' 17" E, a distance of 428.11 feet to a 5/8-inch iron rod with cap set,
2. S 44° 03' 09" E, a distance of 254.40 feet to a 5/8-inch iron rod with cap set,

3. S 18° 11' 36" E, a distance of 220.85 feet to a 5/8-inch iron rod with cap set,
4. S 05° 25' 31" E, a distance of 445.13 feet to a 5/8-inch iron rod with cap set, being the POINT OF COMMENCING for the herein described Parcel 2;
5. a distance of 176.81 feet with an arc of a curve to the right whose central angle is 58° 42' 27", with a radius of 172.56 feet and whose chord bears S 24° 21' 52" W, a distance of 169.18 feet to a 5/8-inch iron rod with cap set,
6. S 64° 37' 27" W, a distance of 64.06 feet to a 5/8-inch iron rod with cap set,
7. S 73° 40' 43" W, a distance of 145.70 feet to a 5/8-inch iron rod with cap set,
8. a distance of 368.48 feet with an arc of a curve to the right whose central angle is 119° 13' 52", with a radius of 177.07 feet and whose chord bears N 46° 58' 56" W, a distance of 305.50 feet to a 5/8-inch iron rod with cap set,
9. N 12° 38' 00" E, a distance of 414.71 feet to a 5/8-inch iron rod with cap set,
10. N 18° 23' 02" W, a distance of 442.12 feet to a 5/8-inch iron rod with cap set,
11. S 43° 31' 33" W, a distance of 222.12 feet to a 5/8-inch iron rod with cap set,
12. S 17° 42' 02" W, a distance of 791.89 feet to a 5/8-inch iron rod with cap set,
13. S 33° 10' 23" E, a distance of 205.35 feet to a 5/8-inch iron rod with cap set,
14. a distance of 252.03 feet with an arc of a curve to the right whose central angle is 79° 07' 35", with a radius of 182.49 feet and whose chord bears S 62° 59' 36" E, a distance of 232.47 feet to a 5/8-inch iron rod with cap set,
15. S 23° 25' 48" E, a distance of 272.36 feet to a 5/8-inch iron rod with cap set,
16. S 08° 24' 46" W, a distance of 351.61 feet to a 5/8-inch iron rod with cap set,
17. S 40° 19' 17" E, a distance of 117.16 feet to a 5/8-inch iron rod with cap set,
18. N 41° 04' 37" E, a distance of 125.68 feet to a 5/8-inch iron rod with cap set,
19. N 53° 59' 19" E, a distance of 817.37 feet to a 5/8-inch iron rod with cap set,
20. N 72° 02' 07" E, a distance of 179.95 feet to a 5/8-inch iron rod with cap set,
21. S 39° 15' 47" E, a distance of 40.20 feet to a 5/8-inch iron rod with cap set,
22. S 34° 16' 27" W, a distance of 165.04 feet to a 5/8-inch iron rod with cap set,
23. S 39° 37' 15" W, a distance of 801.58 feet to a 5/8-inch iron rod with cap set,
24. S 41° 36' 03" W, a distance of 356.73 feet to a 5/8-inch iron rod with cap set,
25. a distance of 160.43 feet with an arc of a curve to the right whose central angle is 46° 47' 01",

with a radius of 196.48 feet and whose chord bears S 64° 59' 33" W, a distance of 156.01 feet to a 5/8-inch iron rod with cap set,

26. N 81° 38' 10" W, a distance of 206.06 feet to a 5/8-inch iron rod with cap set,

27. a distance of 96.54 feet with an arc of a curve to the right whose central angle is 78° 42' 38", with a radius of 70.28 feet and whose chord bears N 42° 16' 51" W, a distance of 89.13 feet to a 5/8-inch iron rod with cap set,

28. N 05° 11' 45" W, a distance of 761.45 feet to a 5/8-inch iron rod with cap set,

29. N 24° 21' 48" W, a distance of 232.91 feet to a 5/8-inch iron rod with cap set,

30. N 70° 53' 05" W, a distance of 118.99 feet to a 5/8-inch iron rod with cap set,

31. S 21° 09' 58" W, a distance of 199.28 feet to a 5/8-inch iron rod with cap set, and

32. S 39° 25' 37" W, a distance of 48.55 feet to a 5/8-inch iron rod with cap set in a southeast line of the said Lot 2;

**THENCE**, with a southwest line of the said Lot 2, N 75° 58' 09" W, a distance of 108.96 feet to the **POINT OF BEGINNING** and containing 40.54 acres of land.

**Parcel 2 – 15.78 Acres**

**COMMENCING** at the **POINT OF REFERENCE** described in Parcel 1 above;

**THENCE**, crossing the said Lot 2, S 70° 49' 05" E, a distance of 280.40 feet to a 5/8-inch iron rod with cap set for the **POINT OF BEGINNING** of the herein described 15.78 acres tract;

**THENCE**, continuing across the said Lot 2, the following twenty-two (22) courses:

1. N 89° 17' 11" E, a distance of 144.67 feet to a 5/8-inch iron rod with cap set,
2. N 67° 47' 43" E, a distance of 127.70 feet to a 5/8-inch iron rod with cap set,
3. N 88° 19' 49" E, a distance of 335.86 feet to a 5/8-inch iron rod with cap set,
4. S 31° 51' 55" E, a distance of 24.17 feet to a 5/8-inch iron rod with cap set,
5. a distance of 132.29 feet with an arc of a curve to the left whose central angle is 89° 10' 12", with a
6. radius of 85.00 feet and whose chord bears S 76° 27' 01" E, a distance of 119.33 feet to a 5/8-inch iron rod with cap set,
7. N 58° 57' 53" E, a distance of 454.56 feet to a 5/8-inch iron rod with cap set,
8. a distance of 90.37 feet with an arc of a curve to the left whose central angle is 60° 54' 48", with a radius of 85.00 feet and whose chord bears N 28° 30' 29" E, a distance of 86.17 feet to a 5/8-inch iron rod with cap set,
9. N 88° 03' 05" E, a distance of 53.09 feet to a 5/8-inch iron rod with cap set,

10. a distance of 391.13 feet with an arc of a curve to the right whose central angle is  $49^{\circ} 15' 11''$ , with a radius of 455.00 feet and whose chord bears  $S 09^{\circ} 56' 27'' E$ , a distance of 379.20 feet to a 5/8-inch iron rod with cap set,
11.  $S 14^{\circ} 41' 08'' W$ , a distance of 535.25 feet to a 5/8-inch iron rod with cap set,
12.  $N 90^{\circ} 00' 00'' W$ , a distance of 104.98 feet to a 5/8-inch iron rod with cap set,
13.  $S 52^{\circ} 07' 55'' W$ , a distance of 290.53 feet to a 5/8-inch iron rod with cap set,
14. a distance of 157.00 feet with an arc of a curve to the right whose central angle is  $51^{\circ} 47' 22''$ , with a radius of 173.69 feet and whose chord bears  $S 78^{\circ} 01' 37'' W$ , a distance of 151.71 feet to a 5/8-inch iron rod with cap set,
15.  $N 67^{\circ} 14' 56'' W$ , a distance of 48.24 feet to a 5/8-inch iron rod with cap set,
16. a distance of 316.41 feet with an arc of a curve to the right whose central angle is  $103^{\circ} 36' 30''$ , with a radius of 174.98 feet and whose chord bears  $N 10^{\circ} 12' 23'' W$ , a distance of 275.03 feet to a 5/8-inch iron rod with cap set,
17.  $N 64^{\circ} 56' 17'' E$ , a distance of 185.31 feet to a 5/8-inch iron rod with cap set,
18.  $N 45^{\circ} 23' 49'' W$ , a distance of 140.70 feet to a cotton spindle set in rock,
19.  $S 76^{\circ} 34' 53'' W$ , a distance of 122.47 feet to a 5/8-inch iron rod with cap set,
20.  $N 25^{\circ} 05' 21'' W$ , a distance of 70.24 feet to a 5/8-inch iron rod with cap set,
21.  $N 75^{\circ} 53' 45'' W$ , a distance of 527.62 feet to a 5/8-inch iron rod with cap set,
22.  $N 48^{\circ} 59' 02'' W$ , a distance of 54.90 feet to a 5/8-inch iron rod with cap set, and
23. a distance of 157.92 feet with an arc of a curve to the right whose central angle is  $118^{\circ} 17' 31''$ , with a radius of 76.49 feet and whose chord bears  $N 31^{\circ} 57' 31'' E$ , a distance of 131.33 feet to the **POINT OF BEGINNING** and containing 15.78 acres of land.

**Parcel 3 – 1.33 Acres**

**COMMENCING** at a 5/8-inch iron rod with cap set for a northwest corner of the said Lot 2, being in the southwest line of Steiner Ranch Boulevard (90-foot right-of-way), as shown on the said plat;

**THENCE**, with the northeast line of the said Lot 2, being the southwest line of the said Steiner Ranch Boulevard, the following two (2) courses:

1.  $S 21^{\circ} 39' 03'' E$ , a distance of 84.02 feet to a 5/8-inch iron rod with cap set for a point of curvature, and
2. a distance of 871.48 feet with an arc of a curve to the left whose central angle is  $32^{\circ} 19' 06''$ , with a radius of 1545.00 feet and whose chord bears  $S 37^{\circ} 48' 36'' E$ , a distance of 859.97 feet to 5/8-inch iron rod with cap set for the **POINT OF BEGINNING** of the herein described 1.33 acre tract;

**THENCE**, continuing with the said line, a distance of 266.77 feet with an arc of a curve to the left whose central angle is  $9^{\circ} 53' 34''$ , with a radius of 1545.00 feet and whose chord bears  $S 58^{\circ} 54' 56'' E$ , a distance of 266.43 feet to a 5/8-inch iron rod with cap set for the east corner of the herein described 1.33 acre tract;

**THENCE**, leaving the said line, crossing the said Lot 2, the following four (4) courses:

1.  $S 27^{\circ} 31' 01'' W$ , a distance of 189.71 feet to a 5/8-inch iron rod with cap set,
2.  $N 62^{\circ} 28' 59'' W$ , a distance of 35.14 feet to a 5/8-inch iron rod with cap set,
3.  $N 76^{\circ} 00' 55'' W$ , a distance of 237.37 feet to a 5/8-inch iron rod with cap set, and
4.  $N 27^{\circ} 31' 01'' E$ , a distance of 261.83 feet to the **POINT OF BEGINNING** and containing 1.33 acres of land.

**Parcel 4 – 93.95 Acres**

**COMMENCING** at a 1/2-inch iron rod found for an interior corner of the said Lot 2;

**THENCE**, crossing the said Lot 2,  $S 65^{\circ} 31' 02'' E$ , a distance of 272.19 feet to the **POINT OF BEGINNING** of the herein described 93.95 acre tract;

**THENCE**, continuing across the said Lot 2, the following seventy-eight (78) courses:

1. a distance of 181.11 feet with an arc of a curve to the right whose central angle is  $56^{\circ} 01' 29''$ , with a radius of 185.22 feet and whose chord bears  $N 17^{\circ} 02' 03'' E$ , a distance of 173.98 feet to a 5/8-inch iron rod with cap set,
2.  $N 51^{\circ} 29' 12'' E$ , a distance of 385.08 feet to a 5/8-inch iron rod with cap set,
3. a distance of 389.01 feet with an arc of a curve to the right whose central angle is  $127^{\circ} 16' 11''$ , with a radius of 175.13 feet and whose chord bears  $S 64^{\circ} 52' 43'' E$ , a distance of 313.82 feet to a 5/8-inch iron rod with cap set,
4.  $S 04^{\circ} 03' 02'' W$ , a distance of 34.03 feet to a 5/8-inch iron rod with cap set,
5.  $S 81^{\circ} 44' 58'' E$ , a distance of 87.45 feet to a 5/8-inch iron rod with cap set,
6.  $S 09^{\circ} 08' 31'' W$ , a distance of 331.31 feet to a 5/8-inch iron rod with cap set,
7.  $S 20^{\circ} 17' 23'' W$ , a distance of 416.57 feet to a 5/8-inch iron rod with cap set,
8.  $S 87^{\circ} 53' 43'' E$ , a distance of 180.21 feet to a 5/8-inch iron rod with cap set,
9.  $N 52^{\circ} 54' 01'' E$ , a distance of 244.84 feet to a 5/8-inch iron rod with cap set,
10.  $N 30^{\circ} 06' 13'' E$ , a distance of 157.52 feet to a 5/8-inch iron rod with cap set,
11.  $N 43^{\circ} 12' 49'' E$ , a distance of 144.97 feet to a 5/8-inch iron rod with cap set,
12.  $N 27^{\circ} 34' 50'' E$ , a distance of 176.27 feet to a 5/8-inch iron rod with cap set,

13. N 04° 29' 09" W, a distance of 44.40 feet to a 5/8-inch iron rod with cap set,
14. N 30° 19' 48" E, a distance of 53.30 feet to a 5/8-inch iron rod with cap set,
15. N 23° 32' 45" E, a distance of 482.40 feet to a 5/8-inch iron rod with cap set,
16. N 59° 25' 38" W, a distance of 66.55 feet to a 5/8-inch iron rod with cap set,
17. S 79° 40' 38" W, a distance of 217.98 feet to a 5/8-inch iron rod with cap set,
18. S 40° 54' 16" W, a distance of 145.85 feet to a 5/8-inch iron rod with cap set,
19. S 68° 58' 02" W, a distance of 36.28 feet to a 5/8-inch iron rod with cap set,
20. N 86° 30' 16" W, a distance of 38.54 feet to a 5/8-inch iron rod with cap set,
21. N 26° 54' 23" W, a distance of 105.73 feet to a 5/8-inch iron rod with cap set,
22. N 18° 52' 25" E, a distance of 515.47 feet to a 5/8-inch iron rod with cap set,
23. N 26° 34' 15" E, a distance of 199.16 feet to a 5/8-inch iron rod with cap set,
24. S 61° 01' 35" E, a distance of 233.78 feet to a 5/8-inch iron rod with cap set,
25. S 30° 53' 07" E, a distance of 257.38 feet to a 5/8-inch iron rod with cap set,
26. N 78° 40' 17" E, a distance of 109.08 feet to a 5/8-inch iron rod with cap set,
27. a distance of 103.31 feet with an arc of a curve to the right whose central angle is 80° 26' 30", with a radius of 73.58 feet and whose chord bears S 35° 39' 57" E, a distance of 95.03 feet to a 5/8-inch iron rod with cap set,
28. S 09° 07' 17" W, a distance of 822.68 feet to a 5/8-inch iron rod with cap set,
29. S 27° 21' 20" W, a distance of 788.26 feet to a 5/8-inch iron rod with cap set,
30. S 54° 41' 28" W, a distance of 615.91 feet to a 5/8-inch iron rod with cap set, being the POINT OF COMMENCING for the herein described Parcel 5;
31. a distance of 273.33 feet with an arc of a curve to the left whose central angle is 30° 24' 34", with a radius of 515.00 feet and whose chord bears S 39° 29' 11" W, a distance of 270.14 feet to a 5/8-inch iron rod with cap set,
32. S 24° 16' 54" W, a distance of 12.54 feet to a 5/8-inch iron rod with cap set,
33. a distance of 162.27 feet with an arc of a curve to the right whose central angle is 84° 29' 48", with a radius of 110.03 feet and whose chord bears N 69° 52' 47" W, a distance of 147.96 feet to a 5/8-inch iron rod with cap set,
34. S 88° 50' 40" W, a distance of 11.13 feet to a 5/8-inch iron rod with cap set,

35. a distance of 64.28 feet with an arc of a curve to the right whose central angle is  $21^{\circ} 02' 45''$ , with a radius of 175.00 feet and whose chord bears  $S 09^{\circ} 22' 03'' W$ , a distance of 63.92 feet to a 5/8-inch iron rod with cap set,
36.  $S 19^{\circ} 53' 26'' W$ , a distance of 447.72 feet to a 5/8-inch iron rod with cap set,
37.  $S 36^{\circ} 52' 37'' W$ , a distance of 97.42 feet to a 5/8-inch iron rod with cap set,
38.  $S 27^{\circ} 04' 56'' W$ , a distance of 913.44 feet to a 5/8-inch iron rod with cap set,
39.  $S 75^{\circ} 58' 02'' W$ , a distance of 96.88 feet to a 5/8-inch iron rod with cap set,
40.  $S 15^{\circ} 11' 47'' W$ , a distance of 78.47 feet to a 5/8-inch iron rod with cap set,
41.  $S 44^{\circ} 34' 15'' W$ , a distance of 818.33 feet to a 5/8-inch iron rod with cap set,
42.  $S 02^{\circ} 38' 39'' E$ , a distance of 31.80 feet to a 5/8-inch iron rod with cap set,
43.  $S 40^{\circ} 15' 48'' E$ , a distance of 39.01 feet to a 5/8-inch iron rod with cap set,
44.  $N 74^{\circ} 08' 38'' E$ , a distance of 94.65 feet to a 5/8-inch iron rod with cap set,
45.  $S 62^{\circ} 49' 59'' E$ , a distance of 252.74 feet to a 5/8-inch iron rod with cap set,
46.  $S 10^{\circ} 41' 33'' E$ , a distance of 74.05 feet to a 5/8-inch iron rod with cap set,
47.  $S 22^{\circ} 54' 26'' E$ , a distance of 304.24 feet to a 5/8-inch iron rod with cap set,
48.  $N 50^{\circ} 46' 02'' E$ , a distance of 829.69 feet to a 5/8-inch iron rod with cap set,
49. a distance of 131.46 feet with an arc of a curve to the right whose central angle is  $97^{\circ} 18' 11''$ , with a radius of 77.41 feet and whose chord bears  $S 80^{\circ} 34' 52'' E$ , a distance of 116.22 feet to a 5/8-inch iron rod with cap set,
50.  $S 10^{\circ} 01' 13'' E$ , a distance of 50.37 feet to a 5/8-inch iron rod with cap set,
51.  $S 30^{\circ} 08' 52'' W$ , a distance of 54.50 feet to a 60d nail set in a tree stump,
52. a distance of 81.93 feet with an arc of a curve to the left whose central angle is  $25^{\circ} 27' 04''$ , with a radius of 184.43 feet and whose chord bears  $S 17^{\circ} 25' 20'' W$ , a distance of 81.25 feet to a 5/8-inch iron rod with cap set,
53.  $S 02^{\circ} 36' 12'' E$ , a distance of 33.48 feet to a 5/8-inch iron rod with cap set,
54.  $S 73^{\circ} 02' 17'' W$ , a distance of 93.79 feet to a 5/8-inch iron rod with cap set,
55.  $S 37^{\circ} 00' 41'' W$ , a distance of 517.81 feet to a 5/8-inch iron rod with cap set,
56.  $S 19^{\circ} 15' 53'' W$ , a distance of 556.86 feet to a 5/8-inch iron rod with cap set,
57. a distance of 43.73 feet with an arc of a curve to the right whose central angle is  $14^{\circ} 18' 59''$ , with a radius of 175.00 feet and whose chord bears  $S 26^{\circ} 25' 22'' W$ , a distance of 43.61 feet to a 5/8-

inch iron rod with cap set,

58. a distance of 169.97 feet with an arc of a curve to the left whose central angle is  $32^{\circ} 27' 45''$ , with a radius of 300.00 feet and whose chord bears  $S 62^{\circ} 12' 44'' W$ , a distance of 167.71 feet to a 5/8-inch iron rod with cap set,
59. a distance of 233.03 feet with an arc of a curve to the right whose central angle is  $76^{\circ} 17' 38''$ , with a radius of 175.00 feet and whose chord bears  $N 51^{\circ} 00' 36'' W$ , a distance of 216.19 feet to a 5/8-inch iron rod with cap set,
60.  $N 12^{\circ} 51' 47'' W$ , a distance of 292.58 feet to a 5/8-inch iron rod with cap set,
61.  $N 21^{\circ} 31' 48'' W$ , a distance of 477.27 feet to a 5/8-inch iron rod with cap set,
62. a distance of 148.56 feet with an arc of a curve to the left whose central angle is  $34^{\circ} 02' 48''$ , with a radius of 250.00 feet and whose chord bears  $N 20^{\circ} 37' 13'' W$ , a distance of 146.38 feet to a 5/8-inch iron rod with cap set,
63.  $N 30^{\circ} 54' 29'' W$ , a distance of 280.69 feet to a 5/8-inch iron rod with cap set,
64.  $N 01^{\circ} 33' 02'' W$ , a distance of 149.65 feet to a 5/8-inch iron rod with cap set,
65.  $N 38^{\circ} 17' 04'' E$ , a distance of 617.74 feet to a 5/8-inch iron rod with cap set,
66.  $N 11^{\circ} 01' 50'' E$ , a distance of 315.83 feet to a 5/8-inch iron rod with cap set,
67.  $N 02^{\circ} 57' 21'' W$ , a distance of 131.25 feet to a 5/8-inch iron rod with cap set,
68.  $N 30^{\circ} 36' 55'' E$ , a distance of 178.13 feet to a 5/8-inch iron rod with cap set,
69.  $S 87^{\circ} 13' 16'' E$ , a distance of 113.43 feet to a 5/8-inch iron rod with cap set,
70.  $S 34^{\circ} 12' 33'' E$ , a distance of 195.53 feet to a 5/8-inch iron rod with cap set,
71.  $N 05^{\circ} 15' 47'' E$ , a distance of 832.50 feet to a 5/8-inch iron rod with cap set,
72.  $S 80^{\circ} 01' 05'' W$ , a distance of 259.12 feet to a 5/8-inch iron rod with cap set,
73.  $N 37^{\circ} 14' 38'' W$ , a distance of 302.33 feet to a 5/8-inch iron rod with cap set,
74.  $N 31^{\circ} 32' 53'' E$ , a distance of 130.11 feet to a 5/8-inch iron rod with cap set,
75.  $N 40^{\circ} 43' 13'' E$ , a distance of 161.10 feet to a 5/8-inch iron rod with cap set,
76.  $N 27^{\circ} 28' 43'' E$ , a distance of 329.64 feet to a 5/8-inch iron rod with cap set,
77.  $N 58^{\circ} 06' 09'' E$ , a distance of 149.41 feet to a 5/8-inch iron rod with cap set, and
78.  $N 28^{\circ} 10' 27'' E$ , a distance of 710.76 feet to the **POINT OF BEGINNING** and containing 93.95 acres of land.

**Parcel 5 – 8.56 Acres**

**COMMENCING** at the POINT OF REFERENCE described in Parcel 4 above;

**THENCE**, crossing the said Lot 2, S 35° 18' 32" E, a distance of 90.00 feet to the **POINT OF BEGINNING** of the herein described 8.56 acre tract;

**THENCE**, continuing across the said Lot 2, the following sixteen (16) courses:

1. N 54° 41' 28" E, a distance of 225.98 feet to a 5/8-inch iron rod with cap set,
2. S 17° 52' 23" E, a distance of 79.87 feet to a 5/8-inch iron rod with cap set,
3. N 75° 21' 12" E, a distance of 510.66 feet to a 5/8-inch iron rod with cap set,
4. S 82° 50' 15" E, a distance of 443.38 feet to a 5/8-inch iron rod with cap set,
5. S 53° 04' 41" E, a distance of 182.11 feet to a 5/8-inch iron rod with cap set,
6. S 07° 07' 37" E, a distance of 84.58 feet to a 5/8-inch iron rod with cap set,
7. S 15° 04' 20" W, a distance of 40.35 feet to a 5/8-inch iron rod with cap set,
8. S 50° 05' 12" W, a distance of 95.76 feet to a 5/8-inch iron rod with cap set,
9. S 68° 28' 57" W, a distance of 114.41 feet to a 5/8-inch iron rod with cap set,
10. N 79° 55' 19" W, a distance of 342.57 feet to a 5/8-inch iron rod with cap set,
11. N 86° 35' 03" W, a distance of 100.61 feet to a 5/8-inch iron rod with cap set,
12. S 85° 50' 06" W, a distance of 229.34 feet to a 5/8-inch iron rod with cap set,
13. N 86° 52' 06" W, a distance of 301.76 feet to a 5/8-inch iron rod with cap set,
14. S 75° 58' 02" W, a distance of 210.14 feet to a 5/8-inch iron rod with cap set,
15. N 42° 04' 18" W, a distance of 84.57 feet to a 5/8-inch iron rod with cap set, and
16. a distance of 177.75 feet with an arc of a curve to the right whose central angle is 23° 57' 47", with a radius of 425.00 feet and whose chord bears N 42° 42' 34" E, a distance of 176.46 feet to the **POINT OF BEGINNING** and containing 8.56 acres of land.

**Parcel 6 – 13.34 Acres**

**COMMENCING** at a ½-inch iron rod found in the southeast line of the said Lot 2 and the said 2771 acre tract, being a northwest line of a tract of land described in a deed to the City of Austin and recorded in Volume 11848, Page 1718 of the Real Property Records of Travis County, Texas;

**THENCE**, leaving the said line, crossing the said Lot 2, S 32° 35' 05" W, a distance of 740.05 feet to a 5/8-inch iron rod with cap set for the **POINT OF BEGINNING** of the herein described 13.34 acre tract;

**THENCE**, continuing across the said Lot 2, the following eleven (11) courses:

1. S 28° 42' 38" W, a distance of 324.26 feet to a 5/8-inch iron rod with cap set,
2. N 49° 32' 42" W, a distance of 224.53 feet to a 5/8-inch iron rod with cap set, being the **POINT OF COMMENCING** for the herein described Parcel 7,
3. N 31° 48' 26" W, a distance of 312.79 feet to a 5/8-inch iron rod with cap set,
4. N 38° 57' 50" W, a distance of 573.69 feet to a 5/8-inch iron rod with cap set,
5. N 49° 00' 09" W, a distance of 808.19 feet to a 5/8-inch iron rod with cap set,
6. N 11° 05' 20" W, a distance of 52.98 feet to a 5/8-inch iron rod with cap set,
7. N 31° 14' 12" E, a distance of 61.34 feet to a 5/8-inch iron rod with cap set,
8. N 79° 08' 58" E, a distance of 61.13 feet to a 5/8-inch iron rod with cap set,
9. S 63° 21' 50" E, a distance of 858.06 feet to a 5/8-inch iron rod with cap set,
10. S 38° 57' 50" E, a distance of 698.16 feet to a 5/8-inch iron rod with cap set, and
11. S 30° 53' 07" E, a distance of 339.99 feet to the **POINT OF BEGINNING** and containing 13.34 acres of land.

**Parcel 7 – 4.88 Acres**

**COMMENCING** at the **POINT OF REFERENCE** described in Parcel 6 above;

**THENCE**, crossing the said Lot 2, S 29° 07' 33" W, a distance of 289.24 feet to the **POINT OF BEGINNING** of the herein described 4.88 acre tract;

**THENCE**, continuing across the said Lot 2, the following eight (8) courses:

1. S 50° 36' 48" E, a distance of 215.02 feet to a 5/8-inch iron rod with cap set,
2. S 03° 19' 41" E, a distance of 85.98 feet to a 5/8-inch iron rod with cap set,
3. S 58° 10' 45" W, a distance of 51.16 feet to a 5/8-inch iron rod with cap set,
4. S 76° 21' 19" W, a distance of 482.83 feet to a 5/8-inch iron rod with cap set,
5. a distance of 447.49 feet with an arc of a curve to the right whose central angle is 147° 18' 39", with a radius of 174.05 feet and whose chord bears N 27° 21' 21" W, a distance of 334.03 feet to a 5/8-inch iron rod with cap set, being the **POINT OF COMMENCING** for the herein described Parcel 8,
6. N 46° 17' 58" E, a distance of 61.28 feet to a 5/8-inch iron rod with cap set,
7. N 69° 55' 20" E, a distance of 224.12 feet to a 5/8-inch iron rod with cap set, and

8. S 77° 36' 05" E, a distance of 245.92 feet to the **POINT OF BEGINNING** and containing 4.88 acres of land.

**Parcel 8 – 21.31 Acres**

**COMMENCING** at the POINT OF REFERENCE described in Parcel 7 above;

**THENCE**, crossing the said Lot 2, S 61° 58' 21" W, a distance of 217.77 feet to the **POINT OF BEGINNING** of the herein described 21.31 acre tract;

**THENCE**, continuing across the said Lot 2, the following twenty-four (24) courses:

1. a distance of 139.51 feet with an arc of a curve to the right whose central angle is 106° 34' 47", with a radius of 75.00 feet and whose chord bears S 25° 14' 06" W, a distance of 120.25 feet to a 5/8-inch iron rod with cap set,
2. N 60° 16' 12" W, a distance of 414.07 feet to a 5/8-inch iron rod with cap set,
3. a distance of 263.78 feet with an arc of a curve to the left whose central angle is 50° 42' 06", with a radius of 298.09 feet and whose chord bears N 56° 30' 12" W, a distance of 255.26 feet to a 5/8-inch iron rod with cap set,
4. a distance of 85.72 feet with an arc of a curve to the left whose central angle is 38° 54' 22", with a radius of 126.23 feet and whose chord bears S 78° 41' 34" W, a distance of 84.08 feet to a 5/8-inch iron rod with cap set,
5. N 21° 09' 58" W, a distance of 99.64 feet to a 5/8-inch iron rod with cap set,
6. N 57° 01' 05" W, a distance of 101.86 feet to a 5/8-inch iron rod with cap set,
7. S 84° 17' 27" W, a distance of 60.26 feet to a 5/8-inch iron rod with cap set,
8. S 08° 51' 48" W, a distance of 401.74 feet to a 5/8-inch iron rod with cap set,
9. S 29° 27' 00" W, a distance of 560.50 feet to a 5/8-inch iron rod with cap set,
10. S 14° 31' 13" E, a distance of 173.39 feet to a 5/8-inch iron rod with cap set,
11. S 22° 15' 19" W, a distance of 168.31 feet to a 5/8-inch iron rod with cap set,
12. S 67° 00' 34" W, a distance of 111.51 feet to a 5/8-inch iron rod with cap set,
13. N 60° 52' 56" W, a distance of 203.97 feet to a 5/8-inch iron rod with cap set,
14. N 12° 54' 36" W, a distance of 284.40 feet to a 5/8-inch iron rod with cap set,
15. N 27° 10' 31" E, a distance of 699.12 feet to a 5/8-inch iron rod with cap set,
16. N 29° 29' 51" E, a distance of 210.07 feet to a 5/8-inch iron rod with cap set,
17. N 18° 41' 22" E, a distance of 323.87 feet to a 5/8-inch iron rod with cap set,

18. N 22° 16' 09" E, a distance of 241.30 feet to a 5/8-inch iron rod with cap set,
19. N 14° 55' 00" E, a distance of 60.82 feet to a 5/8-inch iron rod with cap set,
20. N 87° 55' 24" E, a distance of 122.09 feet to a 5/8-inch iron rod with cap set,
21. S 00° 40' 03" E, a distance of 150.13 feet to a 5/8-inch iron rod with cap set,
22. N 78° 41' 34" E, a distance of 275.17 feet to a 5/8-inch iron rod with cap set,
23. a distance of 224.61 feet with an arc of a curve to the right whose central angle is 73° 15' 08", with a radius of 175.68 feet and whose chord bears S 64° 40' 52" E, a distance of 209.62 feet to a 5/8-inch iron rod with cap set,
24. S 28° 03' 18" E, a distance of 793.05 feet to the **POINT OF BEGINNING** and containing 21.31 acres of land.

THE STATE OF TEXAS

KNOW ALL MEN BY THESE PRESENTS:

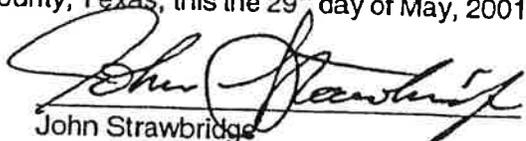
COUNTY OF TRAVIS

That I, John Strawbridge, a Registered Professional Land Surveyor, do hereby certify that the above description is true and correct to the best of my knowledge and belief.

WITNESS MY HAND AND SEAL at Austin, Travis County, Texas, this the 29<sup>th</sup> day of May, 2001 A.D.

Carter & Burgess, Inc.  
901 South Mopac Blvd., Suite 200  
Austin, Texas 78746



  
John Strawbridge  
Registered Professional Land Surveyor  
No. 4283 - State of Texas

PERMANENT IRRIGATION EASEMENT

THE STATE OF TEXAS

§

COUNTY OF TRAVIS

§

§

\_\_\_\_\_ (“Grantor”), for \$10.00 and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, does hereby grant, sell and convey unto Travis County Water Control & Improvement District No. 17, a water control and improvement district operating pursuant to Chapters 49 and 51 of the Texas Water Code, located in Travis County, Texas, and whose address is 3812 Eck Lane, Austin, Texas 78734, Attn: General Manager (“Grantee”) a permanent easement and right of way upon, in, and across the approximately \_\_\_\_ acres of land more specifically described by metes and bounds on the attached Exhibit A (collectively the “Easement Property”) for the following purposes:

- (i) constructing, maintaining, operating, repairing, or replacing an irrigation system on the Easement Property; and
- (ii) irrigating the Easement Property with treated wastewater effluent generated by Grantee in compliance with all applicable statutes, rules and regulations of all governmental agencies with jurisdiction, up to a maximum amount of 400,000 gallons per day calculated on a thirty-day average.

This Permanent Easement shall be exclusive as to its purpose. Grantor shall not grant any easements, licenses or similar rights to any other person or entity for the irrigation of the Easement Property with treated wastewater effluent.

Grantor, its successors and assigns, may use and enjoy the Easement Property for purposes consistent with Grantee’s rights herein, including Grantor’s construction, operation and maintenance of a golf course to be irrigated by Grantee’s treated wastewater effluent. Grantor may also grant easements for drainage purposes, for utility lines and facilities, for access purposes and other purposes not inconsistent with the rights granted to Grantee hereunder. In exercising its rights under this Permanent Easement, Grantee shall take all reasonable steps to avoid or minimize interference with Grantor’s use of the Easement Property, including the construction, operation and maintenance of a golf course. Grantor agrees it shall operate and maintain the golf course constructed on the Easement Property in a manner consistent with Grantee’s rights hereunder and Grantee’s duty to comply with all applicable permits, statutes, rules, or regulations governing land disposal of effluent.

The Permanent Easement rights and privileges herein granted shall be perpetual and said rights shall constitute covenants running with the land and shall be binding upon and inure to the benefit of Grantor and Grantee, respectively, and their respective successors and assigns.

In witness whereof this instrument is executed this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

By: \_\_\_\_\_

CONSENT AND SUBORDINATION BY LIENHOLDER

\_\_\_\_\_ (“Lienholder”), as the holder of lien(s) on the Easement Property, consents to the above grant of an easement, including the terms and conditions of such grant, and Lienholder subordinates its lien(s) to the rights and interests of the easement, such that a foreclosure of the lien(s) shall not extinguish the rights and interests of the easement.

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

STATE OF TEXAS       §  
                                  §  
COUNTY OF TRAVIS   §

This instrument was acknowledged before me on the \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ by \_\_\_\_\_ of {Lienholder} on behalf of said \_\_\_\_\_.

\_\_\_\_\_  
Notary Public, State of Texas  
Printed Name: \_\_\_\_\_  
My Commission expires:

STATE OF TEXAS           §  
                                  §  
COUNTY OF TRAVIS      -§

This instrument was acknowledged before me on the \_\_\_\_ day of \_\_\_\_\_ 2001 by \_\_\_\_\_, \_\_\_\_\_, on behalf of said corporation.

\_\_\_\_\_  
Notary Public, State of Texas  
Printed Name: \_\_\_\_\_  
My Commission expires: \_\_\_\_\_

Approved as to form:

TRAVIS COUNTY WATER CONTROL  
& IMPROVEMENT DISTRICT NO. 17

By: \_\_\_\_\_  
David Lewis Steed, President

ATTEST:

\_\_\_\_\_  
Jeanne Graves, Secretary

Date: \_\_\_\_\_

STATE OF TEXAS           §  
                                  §  
COUNTY OF TRAVIS      §

This instrument was acknowledged before me on the \_\_\_\_ day of \_\_\_\_\_ 2001 by David Lewis Steed, President of the Board of Directors of Travis County Water Control & Improvement District No. 17 on behalf of said District.

\_\_\_\_\_  
Notary Public, State of Texas  
Printed Name: \_\_\_\_\_  
My Commission expires: \_\_\_\_\_



City of Austin  
**Law Department**

Norwood Tower, 114 West 7<sup>th</sup> Street, P.O. Box 1546  
Austin, Texas 78767-1546  
512/974-2268

JUN 03 2002

Writer's Direct Line  
512/974-2159

Writer's Fax Line  
512/974-2912

TO BE PICKED UP

May 31, 2002

Sharlene N. Collins  
Armbrust & Brown, L.L.P.  
100 Congress  
Suite No. 1300  
Austin, Texas 78701

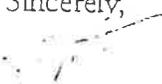
Re: Steiner Ranch; Wholesale Wastewater Agreement; Enclosed Duplicate Originals.

Dear Ms. Collins:

Enclosed for execution by the authorized representative of Taylor Woodrow Communities/Steiner Ranch, Ltd. ("Taylor Woodrow") and Steiner Utility Company, Inc. ("SUC") are seven (7) duplicate originals of the referenced Wholesale Wastewater Agreement.

Please present the duplicate originals for execution by the respective authorized representatives of Taylor Woodrow and SUC at the places marked for same, have your notary complete the attestation blocks. Following that, if you could forward them on to Ms. Kalisek for execution by the authorized representative of Travis County WCID No. 17, that would be helpful. After the District's execution, if you all could return all of the duplicate originals to me, we will then process them for final execution by the City's authorized representative and distribute signed duplicate originals and copies to the appropriate parties. Please let me know if you have any questions concerning the above.

Sincerely,

  
John M. Tresnicky  
Assistant City Attorney

JMT/jmt

cc: J. Chris Lippe, P.E., Director, Water and Wastewater Utility  
B. Jennings, Wholesale Services Division, Water and Wastewater Utility  
L. Kalisek, Lloyd, Gosselink, Blevins, Rochelle, Baldwin & Townsend, P.C.



WHEREAS, the parties desire to set forth in writing the terms and conditions to govern the provision of wholesale wastewater services from the City to the District for the Wholesale Service Area.

NOW, THEREFORE, in consideration of the terms, conditions, and covenants contained in this Agreement, City, the District and Developer agree as follows:

## ARTICLE I. DEFINITIONS

1.01. Definition of Terms. The terms used in this Agreement shall have the meanings set forth below, unless otherwise defined in the Agreement:

- (a) **Agreement:** this Wholesale Wastewater Agreement (Steiner Ranch Area).
- (b) **Austin City Code:** the Austin City Code, as amended from time to time by the Austin City Council.
- (c) **City:** the City of Austin, a Texas home rule municipal corporation acting through its City Manager or his authorized designee, unless otherwise indicated.
- (d) **City's System, City System or City Wastewater System:** the wastewater collection, transportation, and treatment system of the City of Austin.
- (e) **BOD (Biochemical Oxygen Demand):** the quantity of oxygen, expressed in milligrams per liter (mg/l), utilized in the biochemical oxidation of organic matter as determined by standard methods procedure in five days at twenty (20) degrees centigrade.
- (f) **Calibration:** the utilization of check meters, velocity tests, or verification of secondary instrumentation accuracy using a standard signal at the transmitter or calibrated primary sensor (manometer).
- (g) **CCN:** certificate of convenience and necessity issued by the Texas Natural Resource Conservation Commission to provide retail water or sewer service to a particular area.
- (h) **COD (Chemical Oxygen Demand):** the measure of the oxygen equivalent of the organic matter content of wastewater that is susceptible to oxidation by a strong chemical oxidant as determined by standard laboratory procedures specified in Standard Methods expressed in milligrams per liter according to City's Industrial Waste Ordinance, Chapter 18-2 of the Austin City Code.
- (i) **Commission or TNRCC:** the Texas Natural Resource Conservation Commission or its successor agency.
- (j) **Connecting Facilities:** the wastewater lines, lift stations, and other wastewater

facilities and appurtenances required to connect the District's Wastewater System to the City's Wastewater System, as more particularly shown on Exhibit A, together with any repairs, replacements or accessions to such wastewater facilities.

(k) **Developers:** the owners and developers of the Steiner Ranch development including, T.H.L. Ranch, Ltd. a Texas limited partnership, Taylor Woodrow Communities/Steiner Ranch, Ltd., a Texas limited partnership, and 139 Rio Vista, Ltd., a Texas limited partnership.

(l) **Development Agreement:** that certain Development Agreement between the City of Austin and the Developers executed to be effective October 26, 2000, which sets forth agreed development criteria for the Steiner Ranch development, a true copy of which has been provided to the District on or concurrent with the execution of this Agreement.

(m) **Director:** the Director of the City of Austin Water and Wastewater Utility or his authorized designee.

(n) **District:** Travis County Water Control and Improvement District No. 17.

(o) **District's System or District System or District Wastewater System:** the wastewater facilities of the District for collection, treatment and disposal of wastewater from its customers and for transportation of wastewater from the Wholesale Service Area to the Point of Entry to the City System.

(p) **Environmental Protection Agency or EPA:** the United States Environmental Protection Agency or its successor agency.

(q) **Gallons Per Day or GPD:** gallons per day based on a thirty (30) day average unless the context otherwise requires.

(r) **Industrial Waste:** industrial waste as defined in Chapter 18-2 of the Austin City Code.

(s) **Infiltration:** water that has migrated into a wastewater system from the ground through defects such as cracks or breaks in the piping, manholes or other appurtenances.

(t) **Inflow:** water that enters into a wastewater collection system through direct sources such as drain spouts, manholes, cleanouts, and other appurtenances.

(u) **Interference:** an inhibition or disruption of the City's System, treatment processes, or operations that causes or contributes to a violation of any requirement of the City's wastewater discharge permit(s).

(v) **Metering Facilities:** the wastewater flow meter, meter vault, piping and appurtenances, and all instrumentation and telemetry equipment required to measure the volume of wastewater delivered from the District to the City's System at the Point of Entry.

(w) **Non-Steiner Ranch Property:** those areas within the Wholesale Service Area that are not within Steiner Ranch as more particularly shown on Exhibit A.

(x) **Point of Entry:** the agreed location shown on Exhibit A to which all wastewater flows from the District will be directed and at which wastewater will pass from the District's System into the City's System.

(y) **Point of Entry Facilities:** the wastewater facilities and appurtenances necessary for connection of the District System to the City System at the Point of Entry.

(z) **Pretreatment Requirements:** the pollutant concentration, discharge limitations and other requirements described in Chapter 18-2 of the Austin City Code and the Federal and State Pretreatment and Monitoring Regulations promulgated by the EPA and the State of Texas, as amended.

(aa) **Prohibited Waste:** those substances prohibited from being discharged into City's System and the District's System except in accordance with Chapter 18-2 of the Austin City Code.

(bb) **Sewage:** water borne human excreta and gray water.

(cc) **Sewer Unit Equivalent or "SUE":** a unit of measurement used in estimating the sanitary sewer capacity required for various types of development in Steiner Ranch. The number of Sewer Unit Equivalents attributable to and required for a specific type of project shall be determined in accordance with the table attached as Exhibit B attached hereto and made a part hereof for all purposes.

(dd) **Steiner Ranch:** the mixed use development described in Exhibit A as Steiner Ranch.

(ee) **TSS (Total Suspended Solids):** the amount of solids expressed in milligrams per liter (mg/l) that float on the surface of or in suspension in water, sewage, industrial waste, or other liquid that are removable by laboratory filtering following standard methods.

(ff) **Waste or Wastewater:** liquid or water borne waste, including, without limitation, sewage, industrial waste or other wastes, whether separate or commingled.

(gg) **Wastewater Capital Recovery Fee:** a charge imposed on each service unit of new development pursuant to Chapter 25-9 of the Austin City Code to generate revenue to fund or recoup the costs of capital improvements or facility expansions of the City's System that serve new development.

(hh) **Wholesale Service Area:** the agreed geographic area to be provided with wholesale wastewater service from the City under this Agreement, the same being comprised of the Steiner Ranch and Non-Steiner Ranch Property, all of which is identified on Exhibit A attached hereto.

ARTICLE II  
PROVISION OF WHOLESALE SERVICE

2.31. Acknowledgments Concerning Wastewater Treatment and Disposal Services for the Wholesale Service Area. In regard to the treatment and disposal of wastewater generated from within the Wholesale Service Area, the parties agree and acknowledge as follows:

(a) the purpose of this Agreement is to set forth terms and conditions for wholesale wastewater service to the Wholesale Service Area in accordance with the provisions of the Development Agreement;

(b) the City and the Developers have agreed that, at full buildout of the Wholesale Service Area, wastewater generated from within the Steiner Ranch development will total approximately 1,200,000 GPD; the parties estimate that wastewater flows from the Non-Steiner Ranch Property within the Wholesale Service Area will not exceed 200,000 GPD;

(c) under the Development Agreement, the parties thereto set forth specific development criteria for the Steiner Ranch development;

(d) the District intends to expand the District WWTP from its current treatment capacity of 275,000 gallons per day to a maximum TNRCC permitted treatment and disposal capacity of 525,000 GPD; provided, however, that the City acknowledges that additional treatment capacity in excess of 525,000 GPD may be added at the District WWTP site for pretreatment of wastewater generated from within the Wholesale Service Area before delivery to the City System or for beneficial reuse of such treated wastewater within the Steiner Ranch Area as authorized by the TNRCC in accordance with the requirements of 30 Texas Administrative Code, Chapter 210 and the Development Agreement;

(e) except as set forth in (d) above, the District agrees that it will not expand the District WWTP to a maximum TNRCC permitted treatment and disposal capacity in excess of 525,000 GPD; for purposes of this Agreement, the parties have assumed that, at a maximum TNRCC permitted treatment and disposal capacity of 525,000 GPD, the District WWTP is capable of providing service to 2,150 SUEs based on an assumed flow of approximately 244 GPD per SUE; provided, however, that the calculation of 2,150 SUEs based on an assumed flow of approximately 244 gallons per SUE is not intended nor shall be a limitation, but rather an estimate of the number of connections which can be served through the District WWTP at its maximum TNRCC permitted treatment and disposal capacity of 525,000 GPD;

(f) subject to the terms and conditions of this Agreement and the Development Agreement, the City has agreed to provide wholesale wastewater service to treat and dispose of wastewater generated from within the Wholesale Service Area in excess of that which is to be treated and disposed of by the District's operation of the District WWTP at its maximum TNRCC permitted treatment and disposal capacity of 525,000 GPD;

(g) the Non-Steiner Ranch Property currently receives wastewater treatment and disposal services by means of individual on-site septic systems owned and maintained by the lot

owners within these areas, or through small package treatment plants which discharge into Lake Travis; it is contemplated that, at a future time, the on-site septic systems and package treatment plant systems will be abandoned and that wastewater generated within the Non-Steiner Ranch Property will be collected and transported to the District's System for treatment and disposal; in such event, the District will be responsible for the proper connection of such areas to the District System and for all aspects of retail wastewater service to such areas; the District agrees that Non-Steiner Ranch Property will not be connected to the District System until the City has commenced wholesale wastewater service to the District;

(h) this Agreement is intended to implement the provisions of the Development Agreement and is incorporated therein as part of the overall plan for development of Steiner Ranch; in the event of a conflict between this Agreement and the Development Agreement, the provisions of the Development Agreement will prevail;

(i) during the term of this Agreement, the City will not provide retail wastewater utility service to properties within the agreed Wholesale Service Area; and

(j) none of the wastewater facilities required to extend wholesale wastewater service to the Wholesale Service Area will be constructed by the City or at the City's expense; the District or the Developer shall be responsible for securing all permits, easements, approvals, consents or other authorizations required for the lawful connection of the District's Wastewater System to the City Wastewater System. The City agrees to provide reasonable assistance in obtaining the necessary approvals from state and federal regulatory agencies.

## 2.C2. Maximum Level of Wholesale Service.

(a) Subject to the terms and conditions of this Agreement and the requirements of applicable law, City agrees to provide wholesale wastewater service to the District for the Wholesale Service Area and to accept and treat all wastewater delivered by the District to the Point of Entry as follows:

(1) during periods when the District WWTP is operating normally, the maximum service level to be provided by the City for the Wholesale Service Area is that amount over and above the wastewater to be treated and irrigated by the District WWTP that is necessary for the full buildout of the Steiner Ranch portion of the Wholesale Service Area under the development criteria set out in the Development Agreement and the Non-Steiner Ranch Property up to a maximum volume not to exceed 975,000 gallons per day.

(2) notwithstanding the above, in the event of emergency conditions that render the District WWTP incapable of treating and disposing of wastewater generated from within the Wholesale Service Area, or in the event of temporary wet weather conditions or repairs that prevent the District from irrigating treated effluent from the District WWTP onto the designated irrigation areas located within Steiner Ranch, the City agrees to accept and treat all wastewater generated from within the Wholesale Service Area up to a maximum volume not to exceed 1,500,000 gallons per day for the duration of such emergency, temporary wet weather or repair conditions so long as the City may lawfully and safely receive and treat the wastewater without damage to the City's System or

interference with the City's wastewater collection, treatment and disposal operations and provided, further, that (i) in the event of an emergency, the District shall exercise due diligence to timely abate the emergency conditions rendering the District WWTP inoperable, and (ii) in the event of temporary wet weather conditions or repairs preventing irrigation of treated effluent on the designated irrigation areas within the Wholesale Service Area, the District shall timely resume irrigation from the District WWTP onto the designated irrigation areas after the wet weather conditions have subsided or repairs completed and irrigation may lawfully resume under applicable federal, state and local laws and regulations; the District agrees to provide notice to the Director by telephone or confirmed facsimile of the existence of emergency, wet weather or repair conditions requiring that all wastewater flows be transported to the City's System and the anticipated duration of the emergency, wet weather or repair event in question.

(3) The City and the District may agree to have the City accept additional wastewater flows from the Wholesale Service Area by written amendment of this Agreement duly authorized by the governing bodies of the City and the District.

(b) The City, the District and the Developers acknowledge that the maximum volumes provided above, in addition to the wastewater treatment capacity provided by the District WWTP, are intended to provide wastewater service sufficient for treatment and disposal of: (i) 1,200,000 GPD from Steiner Ranch; and (ii) approximately 200,000 gallons per day of wastewater treatment capacity for development in the Non-Steiner Ranch Property. The City, the District and the Developers agree that the maximum volumes shall be reviewed within ten (10) years of the Effective Date or when wastewater generated from within the Wholesale Service Area at the inflow to the District WWTP exceeds 900,000 GPD for any monthly billing period, whichever comes first, and raised upon such review and agreement by all parties that additional capacity is needed to ensure service for the full development of Steiner Ranch contemplated by the Development Agreement and development within the Non-Steiner Ranch Property subject to the availability of additional capacity in the City's System as determined by the Director. In addition, the maximum volumes may be lowered upon such review and agreement by all parties that the Wholesale Service Area will be adequately served at such lower maximum volumes. Any adjustment to the maximum volume as provided in this section shall only be effective upon written modification or amendment of this Agreement duly executed by the authorized representatives of the parties.

### 2.03. Consideration for Wholesale Wastewater Service.

(a) The District acknowledges that City has entered into this Agreement based in part on the District's agreement that:

(1) the District will not discharge wastewater into the City's System from any areas not included within the Wholesale Service Area without the prior written consent of the City evidenced by an amendment of this Agreement duly authorized by the governing bodies of the City and the District; and

(2) the District will limit its peak wastewater flows into City's System to the maximum volume and rate of flow described in Sec. 2.02 above.

(b) Subject to the further terms and conditions stated in this Agreement, City confirms that it has, and will have, adequate wastewater capacity to accept and treat wastewater from the District through the City System, and that the District is relying on this representation in entering into this Agreement provided, however, that none of the wastewater facilities required to extend wholesale wastewater service to the Wholesale Service Area will be constructed or acquired by the City or at the City's expense.

2.04. Wholesale Service Commitment Not Transferable. City's commitment to provide wholesale wastewater service is solely with the District and Developer. The District will not provide wastewater service through the City System to any areas outside the Wholesale Service Area without an appropriate amendment of this Agreement incorporating the agreed upon modification of the Wholesale Service Area.

2.05. District Responsible for Retail Wastewater Service. The District shall be solely responsible for all aspects of retail wastewater service within the Wholesale Service Area, including without limitation:

- (a) approval of all retail wastewater connections within the Wholesale Service Area;
- (b) setting and collection of all applicable fees, rates and charges payable by its retail customers;
- (c) the proper application and enforcement of all District policies, rules and regulations applicable to retail wastewater service within the Wholesale Service Area;
- (d) the appropriate allocation of wastewater capacity by and among its retail customers within the Wholesale Service Area;
- (e) ensuring compliance by its retail customers with the applicable terms of this Agreement and applicable federal, state and local laws and regulations;
- (f) the approval and performance of any retail service contracts or commitments made by and between the District and its retail customers within the Wholesale Service Area;
- (g) limiting the aggregate flows from the District's System into City's System to the maximum volume of wastewater prescribed in this Agreement;
- (h) monthly billings and collections for retail wastewater service to its retail customers within the Wholesale Service Area;
- (i) the lawful construction, operation and maintenance of all wastewater facilities constituting the District's System in accordance with applicable federal, state and local laws and regulations and the provisions of this Agreement; and
- (j) all other aspects of providing retail wastewater utility service to properties within the agreed Wholesale Service Area.

2.06. Conditions Precedent for Commencement of Wholesale Wastewater Service. The parties agree that they each commit to use their best efforts to perform every obligation described in this Agreement as efficiently as possible in as short a time as reasonably possible. City shall cooperate with the District and Developer in accomplishing the matters described in this Section and this Agreement and otherwise assist with obtaining the necessary approvals and satisfying the requirements to obtain wastewater service. The City, the District and Developer specifically agree that the commencement of wholesale wastewater service to the Wholesale Service Area shall be subject to the following conditions precedent:

(a) issuance of a letter from the Director to the District, following review of the Preliminary Engineering Report to be submitted by the Developer to the City under Sec. 4.04 below, indicating the concurrence of the City that the Connecting Facilities, Point of Entry Facilities and Metering Facilities proposed to be constructed by the Developer are feasible based on generally accepted engineering and utility principles, will deliver wastewater to the Point of Entry that meets all the requirements of this Agreement and applicable law; and will not damage the City's System;

(b) the construction of the Connecting Facilities, at no cost to City, in accordance with plans and specifications approved by the Director and the District;

(c) inspection the District of the construction work required to complete the Connecting Facilities in accordance with the approved plans and specifications;

(d) lawful dedication of the Connecting Facilities to the District in accordance with the District's rules and policies governing same, together with all easements determined by the District to be required for the lawful construction, reconstruction, operation, maintenance, repair, replacement, upgrade, decommissioning and removal of the Connecting Facilities;

(e) construction by the District or the Developer of the Metering Facilities and Point of Entry Facilities, at no cost to the City, in accordance with plans and specifications approved by the Director and the District;

(f) inspection and final acceptance of the Metering Facilities and Point of Entry Facilities by the City;

(g) lawful dedication of the Metering Facilities and Point of Entry Facilities to the City in accordance with the City's policies and ordinances governing the same, together with all easements determined by the Director and the City Attorney to be required for the lawful construction, reconstruction, operation, maintenance, repair, replacement, upgrade, decommissioning and removal of the Metering Facilities and Point of Entry Facilities;

(h) presentation by the District to the City of documentary evidence indicating that the District has established accounts for electric and telephone service to the Metering Facilities;

(i) the District has applied for and secured an industrial waste discharge permit from the City if prohibited waste, as defined in Chapter 13-2, City Code, will be discharged to the City's System;

(j) written authorization from the Director to the District acknowledging that all conditions precedent for commencement of wholesale wastewater service have been satisfied and that wholesale wastewater service to District may commence immediately, which authorization shall not be unreasonably withheld or delayed.

2.07. **Curtailment of Service.** The parties agree that, if wastewater service is curtailed within City or to other customers of the City System for like circumstances, City may impose a like curtailment on wholesale wastewater service delivered to the District. City shall impose such curtailments in a nondiscriminatory fashion. The parties agree that this Agreement will not be construed to prohibit City from curtailing service completely in the event of a maintenance operation or emergency for a reasonable period necessary to complete such maintenance operations or repairs or respond to an emergency circumstance; provided, however, in the case of scheduled or routine maintenance, City will consult with the District Manager prior to commencing maintenance that might cause service to be curtailed in order to allow District reasonable time to take those steps as may reasonably be necessary during the curtailment.

2.08. **Cooperation During Maintenance or Emergency.** The District shall cooperate with City during periods of emergency or required maintenance. Upon prior notice sufficient to allow the District to notify its customers if necessary, the District shall operate and maintain its lift stations or other equipment at its expense in a manner reasonably determined by the Director to be necessary to the safe and efficient completion of repairs or the replacement of facilities, the restoration of service, and the protection of the public health, safety, and welfare. The District may be required to discontinue use of, cycle, test, inspect, or otherwise operate and maintain its lift stations or other equipment in a manner reasonably determined by the Director to be necessary to the safe and efficient completion of repairs or replacements of facilities, the restoration of service, and the protection of the public health, safety and welfare, including, without limitation, the safety and welfare of City personnel performing such maintenance or repairs.

2.09. **CCNs for Retail Service Within Wholesale Service Area.** The parties acknowledge that pursuant to existing contracts between the Developer and the District, Developer's affiliate, SUC, owns wastewater CCN No. 20665 for portions of Steiner Ranch within the Wholesale Service Area; and as construction of each subdivision or phase thereof is complete; that portion of the CCN is released to the District. The City acknowledges that in the event the District is unable or otherwise refuses to extend wastewater service to property located within CCN No. 20665, Developer's affiliate, SUC, pursuant to its existing contractual rights, will not release such property from SUC's CCN to the District and may provide wastewater service to the property through collection and delivery of wastewater to the City's System through the Connection Facilities pursuant to the terms and conditions of this Agreement; provided, however, the City will continue to bill the District for all wholesale wastewater service for the entire Wholesale Service Area. SUC and the District agree to cooperate to install a separate metering device, at SUC's expense, to separately meter flows from CCN No. 20665 into the Connection Facilities and the District shall bill and SUC shall pay its pro rata share of the monthly statement received from the City, including any surcharges billed to the District in accordance with Section 8.04 below. With respect to their certificated retail service areas within the Wholesale Service Area, the City agrees that the District and SUC may transfer or release their respective certificated service areas within the Wholesale Service Area by and among them as

they deem appropriate and necessary subject to Commission approval provided, however, that notwithstanding the occurrence or non-occurrence of such releases or transfers of certificated service areas, or issues arising between the District and SUC with respect to same: (i) the District will remain the wholesale customer of the City under this Agreement; (ii) the District shall be solely responsible to the City for payment of monthly billings for wholesale wastewater services provided by the City under this Agreement; and (iii) the City will issue one monthly bill to the District for wastewater delivered to the City's System at the Point of Delivery (iv) it shall be the responsibility of the District and SUC to make appropriate cost-sharing arrangements between them with regard to their respective service areas and pro rata shares of the City's wholesale billing amounts; (v) the City will not be required to separately meter flows from the District and SUC or to prorate its wholesale wastewater billings between the District and SUC; and (vi) the District and SUC shall cooperate at all times to ensure that issues between them concerning their respective service areas or pro rata share of the City's wholesale billing do not cause any delay in payment to the City for wholesale wastewater services rendered by the City under this Agreement, or otherwise interfere in any manner with the City's provision of wholesale wastewater service hereunder. Nothing herein shall constitute a waiver of the City's rights in relation to any CCN proceeding brought before the Commission by the District and/or SUC.

### ARTICLE III. SERVICE AREA AND LIMITATIONS ON SERVICE

#### 3.01. Limitation on Service Area.

(a) The District and Developer acknowledge that, as the provider of wastewater service to other properties in this region, City must retain the ability to plan, fund, and operate City's wastewater facilities needed to serve not only the District but all other customers of City's wastewater system and that the expansion of customer service areas by any customer and without the consent of City detrimentally affects the capability of City to plan, fund and operate its wastewater system for the benefit of all City's customers.

(b) Accordingly, the parties agree:

(1) this Agreement is for an estimated level of wholesale wastewater service for the Wholesale Service Area as set forth in Section 2.02 above. The District may not provide service outside the Wholesale Service Area through the City System without written amendment of this Agreement duly incorporating the agreed modification to the Wholesale Service Area as provided in Section 3.02 below.

(2) if the District provides wastewater service through the City System outside the Wholesale Service Area, or delivers for transportation and treatment by the City wastewater generated from lands outside the Wholesale Service Area, without the approval of the City, as reflected by an amendment to the Agreement duly approved by the governing bodies of City and the District, the City may require the District to terminate wastewater service to the land outside the approved Wholesale Service Area.

(3) the District may not connect any customer that the District knows provides or intends to provide wastewater service directly or indirectly to another person or entity outside the Wholesale Service Area through the City System. The District will terminate the service of any such customer immediately on discovery of any such connection.

(4) the District agrees not to accept hauled waste or sludge generated from outside of the Wholesale Service Area for treatment or disposal at the District WWTP save and except for hauled waste or sludge generated from District-owned water and wastewater facilities that the District has reasonably determined will not damage the District WWTP or the City's System; and provided, further, that nothing in this subpart shall be construed to prohibit the District from introducing waste activated sludge into the District WWTP for the purpose of initiating the aerobic digestion process as the means of wastewater treatment.

(c) If within ten (10) days after notice from the City requesting that the District comply with the provisions of this Article, the District does not terminate wastewater service to the land outside the approved Wholesale Service Area, or its service to any customer that the District knows provides or intends to provide wastewater service to another person or entity outside the approved Wholesale Service Area, the District's failure or refusal to terminate such service shall constitute an event of default under this Agreement and the City may pursue all remedies available to it pursuant to this Agreement provided, however, it shall not be deemed a default and this section shall not apply in the event the District has been ordered to provide service by the Commission or another regulatory governmental agency or a court of competent jurisdiction provided that the District or the Developer has not petitioned for such an order from the Commission, another regulatory agency or a court of competent jurisdiction.

3.02. Amendment of Wholesale Service Area. The Wholesale Service Area may be modified or amended to include additional properties only by written amendment of this Agreement duly authorized by their respective governing bodies and executed by the authorized representatives of the City and the District and such properties shall be included, for the purposes of this Agreement, as the Non-Steiner Ranch Property.

#### ARTICLE IV. DESIGN AND CONSTRUCTION OF CONNECTING FACILITIES

4.01. Point of Entry. The agreed Point of Entry at which the District's wastewater facilities are connected to the City's System is shown on Exhibit A. It shall be the sole responsibility of the District to collect and transport wastewater from retail customers within the Wholesale Service Area in excess of that treated by the District WWTP to the agreed Point of Entry.

The Point of Entry may be changed or additional Points of Entry may be added by amendment of this Agreement authorized by the respective governing bodies of the District and the City and executed by their authorized representatives. For new Points of Entry or modifications to the existing Point of Entry, the District agrees that its request must be accompanied by an engineering report and plans, prepared by a Registered Professional Engineer licensed to practice in Texas and

approved by the District, describing the proposed new or modified Point(s) of Entry, the anticipated volume of wastewater proposed to be delivered to each new Point of Entry requested, engineering information indicating the feasibility of the proposed new Point of Entry, and such other and further information determined by the Director to be necessary to perform an adequate assessment of the District's request.

The party requesting approval of a new Point of Entry, or modification of an existing Point of Entry, shall bear all expenses associated with the design and construction of same.

#### 4.02. Construction of District System and Connecting Facilities.

(a) The District or the Developers shall be responsible for construction of the Connecting Facilities, the Metering Facilities and District wastewater collection, transportation and treatment facilities within the Wholesale Service Area.

(b) The Connecting Facilities shall not be oversized to serve areas outside the Wholesale Service Area. The Director shall have the right to approve the sizing of the Connecting Facilities as part of the Director's review of the proposed plans and specifications for the Connecting Facilities.

(c) The District and the Developer agree that the City is not required to design and construct, or pay any cost or expense for, any delivery, metering, pretreatment or other wastewater facilities necessary to the provision of wholesale wastewater service to the Wholesale Service Area.

#### 4.03. Cost of the District System and Connecting Facilities; Easements and Rights of Way.

(a) Responsibility for Costs of Connecting and Metering Facilities. The District or the Developer shall pay all costs for easements and rights-of-way, design, engineering, contracting, construction and inspection of the Connecting Facilities and Metering Facilities. To the extent authorized by applicable law or the instruments in question, the District will allow the use of any existing easements or rights-of-way that it currently has at no cost to the Developer or the City.

(b) Responsibility for Costs of the District's System. The District or the Developer shall pay all costs for necessary easements and rights-of-way, design, engineering, contracting, construction and inspection of all collection, delivery, metering, pretreatment, and other facilities required to be constructed for the District's System upstream from the Point of Entry to the City System. The District agrees to use its power of eminent domain to acquire necessary rights-of-way in the event Developers are unable to acquire rights-of-way by reasonable purchase price or by dedication from the landowner. Developer agrees that the costs of eminent domain shall be advanced to the District by the Developer and, in such event, shall be a cost of the project.

4.04. Required Preparation and Review of Preliminary Engineering Report Before Final Design or Construction. Within 120 calendar days following execution of this Agreement and before the submission of the final engineering design, plans and specifications for construction of the Metering Facilities and Point of Entry Facilities to the City under Sec. 4.05 below, the District, at its sole cost, agrees to submit to the Director a Preliminary Engineering Report containing all preliminary engineering necessary for the Director to determine whether the construction of the

Connecting Facilities, Metering Facilities and Point of Entry Facilities is feasible based on generally accepted engineering and utility principles, whether the Connecting Facilities, Metering Facilities and Point of Entry Facilities will deliver wastewater to the Point of Entry meeting all requirements of this Agreement and applicable law, and that the wastewater delivered through the Connecting Facilities, Metering Facilities and Point of Entry Facilities will not damage the City's System.

The City agrees that its review and comment with regard to the Preliminary Engineering Report will be completed and its written conclusions provided to all parties within 30 calendar days from the date of submission thereof by the District. In the event that the City determines that additional information is required to complete their review of the Preliminary Engineering Report, the District will submit the additional information required within ten (10) business days and the City agrees to complete its review of the additional information submitted within ten (10) business days of the District's submission of the additional information requested.

In the event that the City does not concur that the construction of the Connecting Facilities, Metering Facilities and Point of Entry Facilities is feasible based on generally accepted engineering and utility principles, or if the City does not concur that the Connecting Facilities, Metering Facilities and Point of Entry Facilities will deliver wastewater to the Point of Entry that meets all requirements of this Agreement and applicable law, or if the City does not concur that the wastewater to be delivered to the Point of Entry will not damage the City's System, neither the District nor the Developer will proceed with the construction of the Connecting Facilities, Metering Facilities and Point of Entry Facilities the parties will not proceed with the connection of the District's System to the City's System under this Agreement, and this Agreement will terminate upon ten (10) days written notice of termination from the City.

#### 4.05. Standards for Review of Plans.

(a) The District and Developer agree to submit the proposed engineering design, including plans and specifications for the Metering Facilities and Point of Entry Facilities to the Director for review and approval prior to advertising such construction work for bids.

(b) The engineering design, plans and specifications for the Metering Facilities and Point of Entry Facilities shall conform to City's design criteria and standard specifications and with applicable federal, state, and local laws, ordinances, and regulations in effect at the time of submission or resubmission as contemplated in this Agreement.

(c) The engineering design, plans and specifications for the Connecting Facilities shall conform to the design criteria and specifications established by the Commission and the District provided, however, that the design for lift stations and appurtenances that are part of the Connecting Facilities shall include, at a minimum the following protections:

(1) a backup power supply, which requirement may be satisfied by the District's purchase of a portable backup generator unless Commission regulations establish a more stringent requirement for backup power for lift stations in which case the District shall comply with the more stringent Commission requirement for backup power;

(2) equipment for chemical feed of biocides or other acceptable chemicals to inhibit the formation of hydrogen sulfide in wastewater transported to the Point of Entry;

(3) lift station telemetry and alarm equipment meeting the design criteria and specifications of the Commission and the District to notify the District of equipment malfunctions, power outages, or other problems affecting the pumping capability of the lift station(s);

(4) lift stations will be constructed outside the 100 year flood plains.

(d) The District agrees to design all Connecting Facilities to include the best leak prevention technology available at the time of plan submission that is practicable and financially feasible.

(e) Except as otherwise provided for the Metering Facilities that are to be constructed to the City's design criteria and specifications, the District shall have sole responsibility to construct, operate, and maintain all District wastewater collection, transportation and treatment facilities on its side of the Point of Entry in accordance with design criteria and standards established by the District and the Commission.

#### 4.06. Approval of Plans.

(a) All plans and specifications for Metering Facilities and Point of Entry Facilities shall be subject to review and approval of the Director prior to advertising the work for bids, which approval will not be unreasonably withheld or delayed. The Director will review any plans submitted under this subsection within 30 days of submittal. If any plans are not approved, the Director will provide written comments to the Developer and the District, specifying in detail the changes that will be required for approval of the plans and specifications.

(b) If after approval of plans and specifications for the Metering Facilities and Point of Entry Facilities by City, the District or Developer, on behalf of the District, fails to enter a construction contract for those facilities within two years, the District or Developer must resubmit the plans and specifications for review and approval by the Director to assure their conformity with then current specifications, current laws, ordinances, and regulations. If such plans and specifications do not conform to the then existing standards, then, upon request of the Director, the District or Developer agrees to revise the plans and specifications to meet City's standards before commencement of construction.

4.07. Notification of Commencement of Construction for Metering and Point of Entry Facilities. After all required approvals for construction of the Metering Facilities and Point of Entry Facilities are obtained but prior to commencement of construction, the District shall provide written notice to the Director of the date on which construction is scheduled to commence to allow the City to assign an inspector.

4.08. Inspection and Acceptance of Metering and Point of Entry Facilities. The District and Developer agree that City has the right to make periodic inspections during the construction phase of the Metering Facilities and Point of Entry Facilities. Upon request, the District agrees to

and Developer shall arrange to provide lawful access to City for such purposes. The District or Developers, as applicable, will pay all applicable inspection fees for the Metering Facilities and Point of Entry Facilities. City will use reasonable efforts to conduct its inspections in a manner to minimize interference with or delay the construction of the Metering Facilities and Point of Entry Facilities. Acceptance of the construction work for the Metering Facilities and Point of Entry Facilities is subject to final inspection by City and issuance of a letter of acceptance from the Director. Dedication of the Metering Facilities and Point of Entry Facilities to the City and associated easements or rights-of-way shall be performed in accordance with the City's policies and ordinances governing the same.

4.09. **As-Built or Record Drawings Required.** The District shall provide record drawings of the Connecting Facilities and as-built drawings of the Metering Facilities and Point of Entry Facilities to the Director before final acceptance.

4.10. **City Review and Approval of Easements for Facilities to Be Dedicated to City.** The form and content of easements for the Metering Facilities, Point of Entry Facilities, or any other wastewater facilities to be dedicated to City under this Agreement shall be subject to review and approval by the Director and the City Attorney or his designee before final acceptance of such facilities by City, which approval will not be unreasonably withheld or delayed.

## ARTICLE V. METERING OF WASTE WATER FLOWS

5.01. **Installation of Wastewater Flow Meter.** Without cost to the City, the District or Developer will install, or cause to be installed at the Point of Entry, an accurate wastewater flow meter of a design, size and location approved by the Director and the meter manufacturer for the application in question, the plans and specifications for which shall be submitted to the Director before the District advertises for bids for construction of the Metering Facilities and Point of Entry Facilities.

5.02. **Wastewater Flow Meter Installation.** From and after the commencement of wholesale wastewater service under this Agreement, the City shall monitor wastewater entering the City System from the District System and read the meter at least once per monthly billing period to determine the volume of wastewater transported from the District System to the City System for treatment and disposal. The wastewater volume so derived will be employed by the City to calculate the City's monthly billing to the District for wholesale wastewater service provided during each such monthly billing period.

5.03. **Meter Calibration and Testing.** City agrees to calibrate and routinely service the flow meter no less than once during each 12-month period at its expense. Calibration shall be accomplished according to City's standard methods. City shall notify the District of proposed calibrations in advance of such occurrence so that the District may observe if it desires. The City and the District agree to notify the other in the event the party becomes aware that the flow meter or other Metering Facilities are registering inaccurately or malfunctioning so that City can promptly repair the Metering Facilities. Each party shall have the right to test the Metering Facilities at any time. Notification of a proposed test shall be provided at least 48 hours before conduct of the test

except in the case of emergencies. Each party shall have the right but not the obligation to witness flow meter tests. Except for the annual calibration to be performed by the City at its cost, payment for additional meter calibration and testing within a twelve month period will be the responsibility of the party requesting the meter calibration and testing.

5.04. Ownership, Operation and Maintenance of the Metering Facilities and Point of Entry Facilities. Following completion and dedication of the Metering Facilities and Point of Entry Facilities by the Developer or the District, and final acceptance thereof by the City, the City shall be solely responsible for ownership, operation, and maintenance of the Metering Facilities and Point of Entry Facilities installed at the Point of Entry provided, however, the District shall timely pay all costs for electric and telephone service required by the City for operation of the Metering Facilities and Point of Entry Facilities.

5.05. Billing Adjustments. If, for any reason, the flow meter is out of service or inoperative, or if, upon any test, the meter is found to be inaccurate, City shall timely repair or replace the meter. Correction of inaccurate meter registration may be based on the most recent correct registration if such is reasonably ascertainable, provided, however, if the Director determines that a more accurate method for interim wastewater billing is available, the City may employ that method that the Director determines to be the most accurate under the circumstances. Alternatively, the District and City may agree to use future meter registrations as the basis for correction. City shall be allowed to bill the District based on estimated amounts prior to rendering a corrected billing. If it is determined that the District has been overbilled, City agrees to refund or credit overcharges following City's Utility Service Regulations, Chapter 18-4 of the Austin City Code.

## ARTICLE VI. RATES AND CHARGES

6.01. Wholesale Wastewater Rates. The rate charged the District for wholesale wastewater service shall be the wholesale wastewater rate established for the District by ordinance from time to time by the Austin City Council for the District pursuant to the exercise of the City's original ratemaking jurisdiction. The initial rate for service hereunder shall be a rate determined by the average of all wholesale rates established for the City's wholesale customers pending the establishment of a wholesale rate for the District under the City's cost of service methodology for the rate year succeeding the year in which wholesale service is commenced. Changes in the City's rates shall be developed pursuant to a cost of service study performed by the City. The District will be given notice of and an opportunity to participate in the wholesale ratemaking process.

6.02. District Right of Appeal. The District retains such rights as it may possess under applicable law to seek appellate review of the reasonableness of the City's wholesale wastewater rate by the Commission.

6.03. Review of City Books and Records by the District. The District will have the right to inspect and copy, at its expense, City's books and records to verify any statement, billing, charge, computation or demand made to the District by the City.

#### 6.04. Applicability of City Capital Recovery Fees.

(a) The City's Capital Recovery Fee Ordinance set forth in Chapter 25-9, Austin City Code requires that the City's Wastewater Capital Recovery Fee be collected from each service unit of new development connected within its Impact Fee Service Area and further mandates that contracts for wholesale service provide for collection of the Wastewater Capital Recovery Fee.

(b) For purposes of this Agreement, the parties have assumed that the District WWTP, when expanded to its maximum TNRCC permitted treatment and disposal capacity of 525,000 gallons per day, will be capable of treating and disposing of wastewater generated from 2,150 SUEs connected to the District's System within the Wholesale Service Area based on an assumed flow per SUE of approximately 244 GPD. Accordingly, the District and the Developer agree that new wastewater connections added to the District's System after 2,150 SUEs are connected within Steiner Ranch shall be considered additional service units of new development connected to the City System that are subject to payment of City's Wastewater Capital Recovery Fee. All wastewater connections added to the District's System from the Non-Steiner Ranch Property shall be subject to and shall pay the City's Wastewater Capital Recovery Fee. For purposes of the application of the City's Wastewater Capital Recovery Fee under this Agreement, the parties agree that an SUE is the equivalent of a "service unit" of new development as defined in the City's Capital Recovery Fee Ordinance.

#### 6.05. Collection and Remittance of City's Wastewater Capital Recovery Fee.

(a) The parties agree that the assessment and collection of City's Wastewater Capital Recovery Fee within the Wholesale Service Area is authorized by Texas Local Government Code Chapter 395 and this Agreement. After (1) the District System is connected to the City System; (2) the City begins to provide new wholesale wastewater service to the District under this Agreement; and (3) connections exceed 2,150 SUEs within Steiner Ranch, the District shall collect the City's Wastewater Capital Recovery Fee for each service unit of new development connected to the District's System within Steiner Ranch at the time the District connection is made provided, however, all wastewater connections added to the District's System from the Non-Steiner Ranch Property shall be charged the City's Wastewater Capital Recovery Fee as set forth in Section 6.04(b) above.

(b) The amount of the City's Wastewater Capital Recovery Fee shall be calculated per service unit in accordance with the provisions of Chapter 25-9 of the Austin City Code. As of the date of this Agreement, the applicable Wastewater Capital Recovery Fee is \$1300.00 per service unit. The amount collected by the District shall be the amount of City's Wastewater Capital Recovery Fee in effect at the time each connection of a new service unit is made. The number of service units for which the fee is charged shall be calculated in accordance with Chapter 25-9 of the Austin City Code.

(c) City agrees to provide the District with written notice of any change in the amount of the City's Wastewater Capital Recovery Fee to be collected by the District under this Agreement before such change is enacted and the District will have opportunity to participate in the process by which the Wastewater Capital Recovery Fee is to be changed, and, for purposes of this Agreement,

such change will be effective on the date written notice of the change is received by the District or the effective date of City's ordinance, whichever is later.

(d) Prior to the commencement of wholesale wastewater service under this Agreement, the District shall tender to the City an initial report depicting the service address of all existing connections to the District's System and associated SUEs. For each thirty (30) day period after the commencement of wholesale wastewater service under this Agreement, the District agrees to remit all City's Wastewater Capital Recovery Fees collected to City monthly together with a report of all new wastewater connections made within each calendar month, the service address of each new connection and the amount paid. The District shall retain no portion of the City Wastewater Capital Recovery Fees collected.

(e) In the event connections within the Steiner Ranch Area exceed 2,150 SUEs prior to the connection of the District System to the City System, the District shall collect the City Wastewater Capital Recovery Fee for each service unit of new development connected to the District's System at the time each such connection is made to the District System and hold the fees so collected in escrow, in an interest bearing account, for the benefit of the City. At such time as the District System is connected to the City System, the District shall pay to the City all such escrowed Wastewater Capital Recovery Fees plus interest earned thereon. In the event this Agreement is terminated prior to connection of the District System to the City System, such escrowed Wastewater Capital Recovery Fees shall be refunded by the District to the then current owner of the service address for which such fees have been collected.

6.06. **Other Service Fees.** The District or Developer shall make timely payment to City of all review fees, inspection fees, and other service fees or charges applicable to the District for construction of facilities within City.

6.07. **District Wastewater Rates and Charges.** The District shall be responsible for ensuring that its retail rates and charges are determined and collected in accordance with applicable law, and shall be just and reasonable and meet the requirements of Chapter 13 of the Texas Water Code.

6.08. **Verification of District Connections.** The District shall make available for inspection and copying during regular business hours, at City's expense, all records for retail wastewater connections to the District System. In addition, City shall have the right to inspect wastewater facilities within the Wholesale Service Area at any time, at City's sole expense, after giving the District written notice of its intention to inspect and allowing the opportunity for the District to be present, to verify the type and amount of retail connections made or the condition of the District System and the District shall provide lawful access to City for this purpose.

## ARTICLE VII. WHOLESALE BILLING METHODOLOGY

7.01. **Monthly Statement.** For each monthly billing period, City will forward to the District a bill providing a statement of charges for wholesale wastewater service provided to the District within such monthly billing period. The District agrees to make timely payment for wholesale wastewater service. Payment shall be considered past due 30 days from the date of receipt of each such

monthly bill for wholesale wastewater service. City may apply a late charge on past due payments in accordance with its policies and ordinances applicable to other customers of City. Billing or metering disputes arising between the District and SUC shall not excuse the District's obligation to make timely payment to the City for wholesale wastewater services provided under this Agreement.

7.02. **Monthly Billing Calculations.** City shall compute the monthly billing for wholesale wastewater service on the basis of monthly readings of metered wastewater flows at the Point of Entry and the wholesale wastewater rate, customer charge, and other fees set from time to time by the Austin City Council.

7.03. **Infiltration and Inflow.** The District acknowledges that water entering the City System from the District System from any source whatsoever must be given treatment and handling whether or not its source is revenue producing for the District. Therefore, the District agrees to pay for Infiltration and Inflow without abatement in the same manner and cost as other wastewater entering City's System from the District System. It shall be the responsibility of the District and SUC to undertake such measures as are necessary or prudent to minimize infiltration and inflow to its collection system. The District and SUC shall prohibit the discharge of drainage water, as defined in Chapter 18-2 of the Austin City Code into District's System.

7.04. **Effect of Nonpayment.** With respect to monthly billings, if City has not received payment from the District by the due date, the bill shall be considered delinquent, unless contested in good faith. In such event, City shall notify the District of such delinquency in writing, if the District fails to make payment of the delinquent billing within 30 calendar days from the date of transmittal of such written notice of delinquency from City, then City may, at its discretion, temporarily terminate service to the District until payment is made, subject to the District's right to continuity of service during a good faith appeal of a disputed bill as provided by applicable state laws and regulations and City's Utility Service Regulations, Chapter 18-4 of the Austin City Code. The District agrees that it will provide to the Developer a copy of any correspondence from the City claiming delinquency on the part of the District. Such notice shall be provided by the District to the Developer within three (3) business days of receipt by the District from the City.

7.05. **Late Payment Fees for Overdue Amounts.** The City may assess and collect late payment fees for all overdue amounts owed to the City under this Agreement in accordance with the City's Utility Service Regulations (Chapter 18-4 of the City Code), and the annual rate and fee ordinance adopted annually by the City Council.

7.06. **Billing Disputes.** The District has the right to appeal a disputed bill as provided in City's Utility Service Regulations. The District shall have the right to continuity of service pending the resolution of a good faith appeal of a disputed bill in accordance with such Utility Service Regulations.

## ARTICLE VIII. WASTE WATER QUALITY

8.01. **Condition of Wastewater Delivered.**

(a) The District agrees to operate and maintain the District System so as to ensure that wastewater delivered to the City System will have a pH factor of between 6 and 11.5 standard units and otherwise be in a condition that is noncorrosive and otherwise noninjurious to the publicly owned treatment works or any portion of the sanitary sewer constituting the City System. In the event wastewater delivered from the District System to the City System fails to meet the specified standards, or the Director determines that the addition of oxidizing chemicals or another acceptable method of pretreatment of wastewater or operation of the District System is necessary in order for wastewater delivered to the City System to be noncorrosive and noninjurious to the City System, the District agrees to install such facilities or implement such methods of operation and maintenance, at no expense to City, as are reasonably deemed by the Director to be necessary in order to meet such standards and render wastewater from the District noncorrosive and noninjurious to the City System. The District further agrees that the Director may set appropriate limits for dissolved oxygen, sulfides, or other substances in the event such limits are reasonably deemed by the Director to be necessary to protect the City System, provided, however, that the Director shall notify the District of any proposed change and consult with District on same prior to making such determination. The District agrees to use, maintain, and keep in operation at all times according to the manufacturer's specifications, the equipment installed for chemical feed of bioxides or other acceptable chemicals to inhibit the formation of hydrogen sulfide in wastewater transported to the Point of Entry.

(b) The District agrees to pay for all damage and the cost of repair to the City System that City can reasonably prove is caused by the District's delivery of wastewater that is corrosive or otherwise injurious to the City System.

(c) This Section shall apply whether or not the District is a permittee or is required to obtain a permit under City's Sewer Use Ordinance, Chapter 18-2 of the Austin City Code. In the event the District fails to implement the foregoing measures required for protection of the City System, City may require the District to implement an operation and maintenance plan to ensure that flows received from the District are noncorrosive or otherwise noninjurious to the City System, require payment of the cost of repair of damaged facilities as a condition to the further receipt of wastewater service, restrict the District's flows to the extent necessary to protect its system, file suit to recover for any and all damages to the City System caused by such failure on the part of the District, or seek such other and further relief, at law or in equity, as the Director shall deem advisable.

### 8.02. Industrial Discharges and Prohibited Wastes.

(a) The District acknowledges that City has the responsibility and authority under federal and state law to establish:

- (1) types and quantities of discharges that are prohibited for entry into the City System;
- (2) discharge prohibitions for certain substances, as may be amended from time to time;
- (3) pretreatment, permitting, monitoring, and other requirements for persons who discharge prohibited substances; and

(4) measures to protect City's System, including, without limitation, any portion of the sanitary sewer, and any receiving stream receiving a discharge of wastewater effluent from harmful discharges.

(b) The District shall require all persons discharging wastewater containing industrial waste or other prohibited waste to its system that ultimately discharges into the City System to obtain a wastewater permit from the District providing, at a minimum, information in the nature and detail required by Chapter 18-2 of the Austin City Code. Such permit shall require persons discharging prohibited waste to abate prohibited substances from their wastestream and conform such discharges to EPA and TNRCC regulations, the requirements of Chapter 18-2, as amended, and the District's regulations respecting the discharge of industrial waste and other prohibited waste.

(c) If it does not have a pretreatment and monitoring program approved by the EPA and/or TNRCC, the District will enact and enforce a pretreatment and monitoring program at least as stringent as that adopted by City, requiring those users connected to the District System that ultimately discharge into the City System to comply with the provisions of all the District regulations as well as prevailing City ordinances and applicable Federal and State regulations respecting the pretreatment, monitoring, and discharge of prohibited waste, as amended, including without limitation, those rules respecting prohibited discharges, pretreatment requirements, wastewater discharge permit system, self-monitoring reports and pretreatment plans. The District agrees to adopt its pretreatment and monitoring program prior to the discharge of wastewater to the City System. The District acknowledges that a true copy of Chapter 18-2 of the Austin City Code has been provided to the District. City shall give written notice to the District of any future ordinance changes governing the pretreatment, monitoring, or discharge of wastewater containing industrial waste or other prohibited waste, and those changes shall become applicable to wastewater discharges into the District System that ultimately discharge into the City System 60 days after the delivery of such notice to the District. As part of its pretreatment and monitoring program, the District will require that its retail customers who propose to discharge prohibited waste, as defined in Chapter 18-2, City Code, to submit construction plans for their proposed pretreatment system to the District for review and approval prior to commencing construction of same.

(d) The District agrees to seek injunctive or other appropriate relief to prohibit or abate wastewater discharges that the District becomes aware will damage or pass through City's System without adequate treatment, interfere with the treatment system, or otherwise pose an imminent danger to public health or when the specific person or industry is not making sufficient progress toward implementing an approved pretreatment system.

(e) Within thirty (30) days after the end of each calendar quarter, the District shall provide to the Special Services Division of City's Water and Wastewater Utility, or its successor, copies of all monitoring data and pretreatment enforcement actions by the District for each calendar quarter during the tenure of this Agreement.

(f) The parties agree that they will not construe this Agreement to limit, modify, restrict, or otherwise alter the responsibility or authority of City to enforce its ordinances governing the pretreatment, monitoring and discharge of wastewater containing industrial waste or other

prohibited waste, as amended, with respect to the District when and as such action is reasonably deemed necessary by the Director. In the event of a conflict between this Agreement and the provisions of federal, state or local law governing the pretreatment, monitoring and discharge of industrial waste or other prohibited waste, the provisions of federal, state or local law shall prevail.

### 8.03. Sampling and Testing.

(a) The District agrees that City shall have the right, at its option and expense, to sample wastewater discharges within the District System at:

- (1) the site of discharge within the Wholesale Service Area;
- (2) Points of Entry to the City System; and
- (3) other locations as required for the purpose of determining the source, type, and strength of discharge.

(b) The District shall make necessary arrangements and provide assistance to City in obtaining lawful access to sampling points within areas served by the District.

(c) The District agrees that any of its individual customers found in violation of allowable discharges or any of its individual customers who refuse access for the purpose of sampling may be disconnected from the District and City's wastewater system in accordance with applicable regulations of the District or City.

(d) In addition to other samples taken and tests made on an as required basis, City shall regularly take twenty-four hour composite samples of wastewater discharges at points of entry no less frequently than semiannually. Costs of sampling and testing at the point of entry shall be borne by City.

(e) The District, however, may request City to perform tests within areas served by the District pursuant to a separate interlocal agreement.

(f) The District shall be provided with a copy of the results of each sample test within 30 days of the date of taking of such sample.

(g) Unless otherwise stipulated in the wastewater discharge permit issued by City to the District, all samples shall be collected and analyzed in accordance with the methods approved by EPA as set forth in Title 40, Code of Federal Regulations, Part 136, as amended.

### 8.04. Surcharge for Excess Strength Wastewater.

(a) In accordance with the provisions of City's Industrial Waste Ordinance, Chapter 18-2 of the Austin City Code, an additional charge (surcharge) shall be billed to the District by City not as a penalty but as an additional charge for handling and treatment of wastewater of abnormal or excess strength discharged by the District into City's System. This charge is intended to defray the

added cost of sampling, testing, transporting and treating such extra strength wastewater. The surcharge shall be in addition to the usual monthly charge for wholesale wastewater service.

(b) A surcharge for each mg/l of BOD in excess of 200 mg/l, for each mg/l of TSS in excess of 200 mg/l, and for each mg/l of COD in excess of 450 mg/l shall be assessed and collected. The excess strength determination will be based on a minimum of two (2) days average data or as otherwise provided in Chapter 18-2, as amended.

(c) The District shall pay City for concentrations of BOD and TSS exceeding 200 mg/l and for COD concentrations exceeding 450 mg/l at the rate provided in the prevailing ordinances of City, subject to increase or decrease without formal amendment of this Agreement, as said ordinances might be amended from time to time. The industrial waste surcharge will be calculated and billed to the District each month in accordance with the formula set forth below.

#### 8.05. Computation of Surcharge.

(a) For excess strength wastewater having a COD concentration of 2.25 or more times that of the BOD concentration, the surcharge will be based on the COD category in lieu of the BOD category. The computations of the surcharge shall be based on the following formula set forth in Sec. 18-2-006, City Code, as amended:

$$S = V \times 8.34 (A [BOD - 200] + B [SS - 200])$$

or

$$S = V \times 8.34 (C [COD - 450] + B [SS - 200])$$

S	-	Surcharge in dollars that will appear on the District's monthly bills.
V	-	Wastewater actually billed during the billing period or the wastewater average in millions of gallons.
8.34	-	Pounds per gallons of water.
A	-	Unit charge in dollars per pound of BOD.
BOD	-	BOD strength in milligrams per liter (mg/l) by weight.
200	-	Normal BOD strength in milligrams per liter (mg/l) by weight.
B	-	Unit charge in dollars per pound for Suspended Solids (SS).
SS	-	Suspended solids concentration in milligrams per liter (mg/l) by weight.
200	-	Normal SS strength in milligrams per liter (mg/l) by weight.
C	-	Unit charge in dollars per pound for COD.
COD	-	COD strength in milligrams per liter (mg/l) by weight.
450	-	Normal COD strength in milligrams per liter (mg/l) by weight.

### ARTICLE IX STANDARDS FOR CONNECTIONS TO THE DISTRICT SYSTEM

9.01. District Prevention of Infiltration and Inflow. The District and SUC agree to undertake reasonable measures to prevent entrance of Infiltration and Inflow into local wastewater facilities within the District System that discharge to the City System.

9.02. Construction and Testing Criteria for District Sewer Connections.

(a) The District agrees that all sewer connections made within the Wholesale Service Area after the effective date of this Agreement will be constructed with a permanent type material, carefully bedded to prevent over-stressing of the material, and utilizing a joint that will provide a permanent water-tight connection. The District agrees that such installation shall pass an air test performed in accordance with applicable A.S.T.M. Standards and shall be done under the supervision of the District's authorized representative at the time of installation. All such tests shall be at the District's or its customer's expense. Each building lateral which interconnects private property to the public sewer shall be excluded from the air test requirements.

(b) The District agrees that the physical connection of each service line to the local wastewater facility shall be the responsibility of the District and shall not be left to the discretion of the plumber or contractor unless said plumber or contractor is under the direct supervision of or whose work is inspected by the District's authorized representative.

(c) The District further covenants that all future trunk sewer lines constructed within the Wholesale Service Area shall be built in accordance with appropriate State of Texas design criteria including infiltration/exfiltration limitations and that representative sections of each new line shall be subject to an air test or infiltration or exfiltration test at the time of installation at the option of City and at the sole expense of the District to assure the standards are met.

(d) The District agrees that it will maintain strict supervision and maintenance of its local wastewater facilities to prevent connections such as roof drains or any other means by which surface drainage can enter local wastewater facilities and then discharge to the City System.

(e) Connections made to the District System after the date of execution of this Agreement will be made using only materials permitted by appropriate State of Texas design criteria. The District will inspect all connections to its system in accordance with its own rules and regulations in order to insure compliance with same.

(f) Failure on the part of the District to provide and enforce such regulations governing connections to the District System shall, at the option of City after (i) notice to the District in writing of the specific violation, and (ii) failure to correct said violation within 30 days or, if the violation is of a nature that it cannot be corrected within 30 days, to begin to correct such violation and to diligently pursue such curative action, constitutes sufficient grounds for City to restrict or limit wastewater flows to such extent the Director deems reasonably necessary in order to protect the City System from damage or excessive flows.

ARTICLE X  
LIABILITY FOR DAMAGES AND RESPONSIBILITY FOR TREATMENT AND  
DISPOSAL OF WASTE WATER

10.01. Liability of the District. Liability for damages to third persons arising from the reception, transportation, delivery, and disposal of all wastewater discharged shall remain with the District to the Point of Entry.

10.02. Liability of the City. With the exception of incompatible wastes or the delivery by the District of prohibited wastes or wastewater that is corrosive or otherwise injurious to the City System or to persons or property, liability for damages to third persons shall pass to City at the Point of Entry. Incompatible wastes are substances not amenable to wastewater treatment processes that will damage or interfere with the operation of the publicly owned treatment works or any portion of the City System, including interference with the use or disposal of municipal sludge as well as pollutants that will pass through the treatment works unchanged by the treatment processes or cause a violation of the City's wastewater discharge permits.

#### ARTICLE XI. RIGHT OF ENTRY

11.01. Right of Entry. In cooperation with and after notice to the District, City shall have the right of entry and access to the Connecting Facilities and internal District wastewater facilities at all times in order to inspect those facilities, to investigate the source of operational or maintenance problems, to determine the source of a prohibited discharge, or for preventive purposes intended to detect, minimize, or avert operational or maintenance problems, or for any other purpose reasonably related to the provision of wholesale wastewater service. The District shall make all arrangements, reasonably required to provide such access, provided that City provides at least one (1) working day's written notice or, in the event of an emergency, prior notice by telephone or confirmed facsimile, to the District Manager describing the City's need for emergency access. This Agreement shall not affect the City's access for inspections conducted under the provisions of federal or state law, the City's EPA-required program governing the pretreatment, monitoring and discharge of industrial waste, or the industrial waste discharge permit issued by the City to the District.

#### ARTICLE XII. ANNUAL REPORT OF DISTRICT CONNECTIONS

12.01. Classification of Customers. For each calendar year, the District shall forward to City an annual report containing the following data not later than February 28 of the following year:

- (a) actual number of the District connections ultimately discharging into City's System as of the end of the calendar year for which report is made;
- (b) the total number of SUEs connected to the District's System as of the close of the preceding calendar year;
- (c) number of new wastewater connections made in the previous calendar year within the Wholesale Service Area and SUEs associated with each;
- (d) total of City Wastewater Capital Recovery Fees collected as of the year end;
- (e) classification by number and percentage, of accounts discharging to the District's

System according to the following:

- (1) residential;
- (2) multi-family;
- (3) business/commercial; and
- (4) other.

(f) if business or commercial connections were made, a description of the operations believed to be conducted on the premises, the volume of flow anticipated, and a copy of any District industrial waste discharge permit issued to such premises.

### ARTICLE XIII. FORCE MAJEURE

13.01. **Force Majeure.** If, by reason of force majeure, either party shall be rendered unable, in whole or in part, to carry out its obligations under this Agreement, the party whose performance is so affected shall give notice and the full particulars of such force majeure to the other party within a reasonable time after the occurrence of the event or cause relied on, the obligation of the party giving such notice, as far as it is affected by such force majeure, shall be suspended during the continuance of the inability then claimed but for no longer period and such party shall endeavor to remove or overcome such inability with all reasonable dispatch.

The term "force majeure" shall mean Acts of God, strikes, lockouts, or other industrial disturbances, acts of the public enemy, orders of any kind of the government of the United States or the State of Texas, or of any court or agency of competent jurisdiction or any civil or military authority, insurrection, riots, epidemics, landslides, lightning, earthquake, fires, hurricanes, storms, floods, washouts, droughts, arrests, restraints of government and people, civil disturbances, vandalism, explosions, breakage or accidents to machinery, pipelines or canals, or inability on the part of a party to perform due to any other causes not reasonably within the control of the party claiming such inability. Disputes between the District and SUC shall not be considered an event of force majeure.

### ARTICLE XIV. REGULATORY COMPLIANCE

14.01. **Agreement Subject to Applicable Law.** This Agreement shall be subject to all applicable rules, regulations, and laws of the United States of America, the State of Texas, City, the District, or any other governmental body or agency having lawful jurisdiction of the subject matter hereof.

14.02. **District, SUC and City Cooperation to Assure Regulatory Compliance.** The District, SUC, and City shall cooperate in good faith at all times to assure compliance with any such governmental requirements where noncompliance or non-cooperation may subject the parties to penalties, loss of grants or other funds, or other adverse regulatory action.

14.03. Sewer System Overflows. The District and SUC shall notify City of any sewer overflows occurring within the Wholesale Service Area. The District and SUC are responsible for timely providing any required notice of a sewer system overflow to the EPA, the Commission, and any other regulatory agency of relevant jurisdiction. The City shall be responsible for timely providing any required notice of a sewer system overflow within the City's System to the EPA, the Commission, and any other regulatory agency of relevant jurisdiction.

14.04. Responsibility for Events Inside The District and City System. In the event the EPA or Commission issues any form of order or penalty for violations of applicable law resulting from operation, maintenance, or other program associated with the District System, SUC or City System, the District, SUC and the City respectively shall take all necessary action to comply with the order.

#### ARTICLE XV. TERM OF AGREEMENT

15.01. Term of Agreement. Unless earlier terminated under the provisions of this Agreement, the term of this Agreement shall commence as of the effective date of this Agreement and shall remain in effect for a period of thirty (30) years after the effective date.

15.02. Extension of Term. This Agreement may be extended by mutual agreement of the City and the District in writing for such period as is mutually agreed upon and duly authorized by their respective governing bodies. The City and the District agree to work in good faith to extend the term of this Agreement if both parties deem such extension beneficial.

#### ARTICLE XVI. TERMINATION

16.01. Termination.

(a) This Agreement may also be terminated by mutual agreement of the parties in writing. In the event that the parties mutually elect to terminate this Agreement, the District shall exercise reasonable diligence to timely construct or otherwise secure an alternative source of wastewater treatment service prior to the effective date of such termination.

(b) This Agreement will expire of its own terms and be null and void and of no further effect if construction of the Connecting Facilities has not commenced on or before the expiration of five (5) years from the effective date of this Agreement. Within the five year period above described, the Developers may elect, at their sole discretion, not to proceed with construction of the Connecting Facilities. In such event, City wholesale wastewater service will not be provided to the Wholesale Service Area under this Agreement; provided, however that nothing herein shall be construed to limit the governmental power of the District and the City to make such other and further agreements concerning utility services to the area as they may deem necessary or appropriate.

(c) In the event of termination of this Agreement for any reason other than reason of the City's default, the District and the Developers, as applicable, shall be responsible for its costs and expenses related, directly or indirectly, to constructing or securing an alternative source of wastewater treatment.

#### 16.02. Default Process.

(a) **Default Proceedings for Non-Payment of Delinquent Bill.** If the City has not received payment from the District within thirty (30) days from the due date of the monthly bill, the bill will be considered delinquent, unless contested in good faith as provided above. In the event of a delinquency by the District in the payment of its monthly bill, the City will give written notice to the District of such delinquency and, if the District fails to make payment of the delinquent amount within thirty (30) calendar days from the receipt of such notice, then the City may, at its option, temporarily terminate or limit service to the District until payment is made provided, however, that the District will have the right to continue to receive service during a good faith appeal of a disputed bill.

In the event a default in the payment of a delinquent bill remains uncured by the District for a period of 90 calendar days, and there is no good faith appeal of a disputed bill pending, then the City shall have the right to (1) permanently restrict service to the District, (2) require the District to stop making new retail connections to the District System, after giving the District thirty (30) calendar days notice of same during which period the District shall have an opportunity to cure the default, or (3) pursue such other and further remedies at law or in equity as the City shall deem appropriate to the circumstances.

(b) **Process for Defaults Other Than Non-Payment of Delinquent Bill.** If one party believes that another party is in default of any provision of this Agreement, the non-defaulting party will give written notice to the other parties, specifying the event of default and extending the defaulting party 90 days to cure the default or, if the curative action cannot reasonably be completed within 90 days, the party alleged to be in default shall have 90 days to commence the curative action to completion. Except for instances presenting an imminent danger of irreparable harm to the non-defaulting party, this 90 day period for notice and opportunity to cure must pass before the non-defaulting party may initiate any remedies available for an alleged default. The non-defaulting party must mitigate any direct or consequential damages arising from the default to the extent reasonably possible under the circumstances. The parties agree that they will use good faith, reasonable efforts to resolve any dispute by agreement, including engaging in mediation, non-binding arbitration, or other alternative dispute resolution methods as recommended by the laws of the State of Texas, before initiating any lawsuit to enforce their respective rights under this Agreement. If the default is not cured in the 90 day period, or if curative action is not commenced and diligently pursued in the case of curative action that cannot reasonably be completed in 90 days, then the non-defaulting party may pursue all remedies, at law or in equity, that it deems appropriate to address such default.

### ARTICLE XVII. RIGHT OF FIRST REFUSAL

#### 17.01. Right of First Refusal.

(a) If the District receives a bona fide offer for the purchase of all or any portion of the facilities comprising the District System within the Wholesale Service Area which the District wishes to accept, then, before accepting the offer, the District agrees to deliver written notice to the City of the offer, describing the facilities and stating the price and terms upon which the District proposes to sell (the "Transfer Notice") accompanied by a copy of the offer. Thereafter, the City will have an exclusive option for a period of 180 days from the date of receipt of the Transfer Notice by the City to elect to purchase the District System or the portion thereof described in the Transfer Notice for the price and upon the terms specified in the Transfer Notice. During this 180 day period, the City may conduct an appropriate due diligence investigation of the value, condition and title of the District wastewater facilities that are the subject of the Transfer Notice. The District agrees to allow the City to inspect and copy all District records, files and documents relating to the wastewater facilities to be acquired during the regular business hours of the District office.

(b) The City may exercise its option by delivering written notice ("Exercise Notice") accompanied by contractual consideration of \$10.00 to the District within this 180 day period. If the terms on which the District is willing to sell materially change after the date of the Transfer Notice, the District must submit a new Transfer Notice to the City, which will again have a 180 day period to elect to purchase on the revised terms.

(c) If the City does not exercise its right of first refusal to purchase within the time and in the manner specified above, or if the City does not close its purchase of the subject District wastewater facilities on or before the expiration of 90 days after the date of the City's Exercise Notice, the District may sell the District System, or the portion described in the Transfer Notice, on the terms specified in the Transfer Notice and the City agrees to execute a recordable acknowledgment of the termination of its right to purchase under this Article upon request.

17.02. **Payment of Purchase Price.** The City will pay the purchase price of the wastewater facilities to be acquired under this Article by certified check payable to the District at closing.

17.03. **Transfer With General Warranty of Title.** The transfer of title to any facilities acquired by the City under this Article will be by an instrument of transfer with general warranty of title in form and content reasonably acceptable to the Director and the City Attorney. The transfer of the facilities that are the subject of the transfer will include all easements or other interests in land appurtenant to such facilities that are owned or held by the District and necessary for the lawful placement, operation, maintenance, repair, replacement, reconstruction and decommissioning of the identified facilities as well as all warranties, guaranties, and other assurances of performance owned or held by the District relating thereto. The City will assume and agree to perform all or a pro rata share of the District's obligations under its utility management contract, if any, which the District agrees will include a termination clause providing for termination thereof on six months written notice, and all contracts with customers of the District System and all wastewater service commitments with developers that apply to the portion of the Wholesale Service Area or the portion of the District System being acquired.

17.04. **Terms of Sale.** Except where otherwise provided in the terms of an offer to purchase from a third party with respect to which the City exercises its right of first refusal as above provided, any

facilities sold to the City under this Article will be sold and conveyed in their then-existing condition. As Is, Where Is and With All Faults, without warranty or representation by the District of any kind, except for the general warranty of title described above and any vendor warranties, bonds or other assurances of performance applicable to the wastewater facilities to be acquired which shall be assigned to the City at closing. The City acknowledges that it has the right to inspect and study the District System under this Agreement, and that, if it elects to purchase the District System, it will do so based on its own investigations and inspections, and not based upon any representation or warranty of the District. The District agrees to disclose to the City any dangerous conditions of which it has current actual knowledge that relate to the facilities to be acquired by the City.

#### ARTICLE XVIII. TERMINATION OF PARTY STATUS

18.01. Termination of Party Status. The parties recognize that the interest of Developer in the terms and conditions of this Agreement will terminate upon full development of the land owned by Developer within the Wholesale Service Area. Therefore, any provision in this or any other agreement between the parties, either jointly or severally notwithstanding, Developer will cease to be a party to this Agreement and have no further rights, privileges, or remedies hereunder upon the earlier of: (1) the development having reached 95% of the number of allowable SUEs within the Wholesale Service Area under the Development Agreement; or (2) the later of the expiration of 15 years from the effective date of this Agreement or twelve (12) years after the completion of the Connecting Facilities.

#### ARTICLE XIX. GENERAL PROVISIONS

19.01. Statement of Purpose. This Agreement is intended to set forth a comprehensive statement of all terms and conditions applicable to the provision of wholesale wastewater service by City to the District.

19.02. Authority. This Agreement is made and entered into pursuant to the provisions of the V.T.C.A. Local Government Code, Chapter 402; V.T.C.A. Water Code, §49.213, and other applicable law.

19.03. Covenant of Good Faith and Fair Dealing. The parties agree to cooperate and to deal with one another fairly and in good faith at all times to effectuate the purposes and intent of this Agreement.

19.04. Interpretation. The parties recognize that this Agreement is voluntary and consensual on the part of each party, that, absent this Agreement, City is not required by law to provide wholesale wastewater service to the District; that the District is not required by law to obtain wastewater service from City; and that each party has been represented by legal counsel who have participated throughout the formulation, drafting, and approval of this Agreement. Accordingly, this Agreement shall not be interpreted more favorably in favor of one party than the other.

19.05. Assignment. Neither the City nor the District may assign or otherwise transfer, in whole or in part, the Agreement or its other rights and obligations under this Agreement without the prior written approval of the governing body of other party. Upon written notice to the City and the District, the Developer may assign its rights under this Agreement to a subsequent purchaser of all of Developer's property within the Wholesale Service Area.

19.06. Amendment. Unless expressly provided otherwise, this Agreement may be amended or modified only by written agreement duly authorized by the respective governing bodies of the District, the City and the Developer, and executed by the duly authorized representative of each.

19.07. Necessary Documents and Actions. Each party agrees to execute and deliver all such other and further instruments and undertake such actions as are or may become necessary or convenient to effectuate the purposes and intent of this Agreement.

19.08. Entire Agreement. This Agreement constitutes the entire agreement of the parties and supersedes any prior or contemporaneous oral or written understandings or representations of the parties regarding wastewater service by City to the Wastewater Service Area.

19.09. Applicable Law. This Agreement shall be construed under and in accordance with the laws of the State of Texas.

19.10. Venue. All obligations of the parties created in this Agreement are performable in Travis County, Texas and venue for any action arising shall be in Travis County.

19.11. No Third Party Beneficiaries. Nothing in this Agreement, express or implied, is intended to confer upon any person or entity, other than to the parties, any rights, benefits, or remedies under or by reason of this Agreement.

19.12. Duplicate Originals. This Agreement may be executed in duplicate originals each of equal dignity.

19.13. Notices. Until changed by written notice, any notice required under this Agreement may be given to the respective parties by certified mail, postage prepaid, or by hand-delivery to the address of the other party shown below:

DISTRICT: Travis County Water Control and Improvement District No. 17  
Attn: General Manager  
3812 Eck Lane  
Austin, Texas 78734

CITY: City of Austin, Texas  
Attn: Director, Water and Wastewater Utility  
P.O. Box 1088  
Austin, Texas 78767-8828

DEVELOPER: Taylor Woodrow Communities/Steiner Ranch, Ltd.  
Attn: Timothy J. Towell  
3405 Grimes Ranch Road  
Austin, Texas 78732

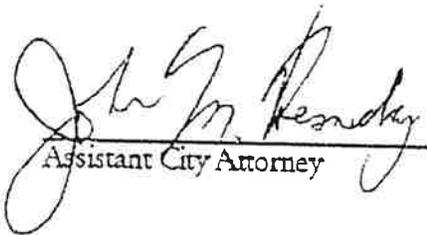
Steiner Utility Company, Inc.  
c/o Taylor Woodrow Communities/Steiner Ranch, Ltd.  
Attn: Timothy J. Towell  
3405 Grimes Ranch Road  
Austin, Texas 78732

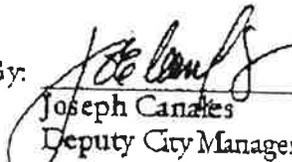
Each party shall forward to the others, within twenty-four (24) hours of filing, a true copy of any petition, application, or other communication to the Commission relating to this Agreement, whether directly or indirectly.

19.14. Effective Date. This Agreement shall be effective from and after the completion of due execution by all parties.

APPROVED AS TO FORM:

CITY OF AUSTIN:

  
Assistant City Attorney

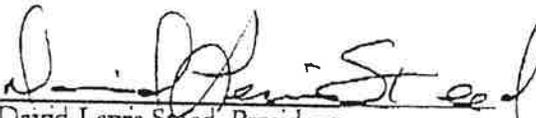
By:   
Joseph Canales  
Deputy City Manager

Date: 6/17/02

APPROVED AS TO FORM:

TRAVIS COUNTY WATER CONTROL  
AND IMPROVEMENT DISTRICT NO. 17:

  
Attorney for District

By:   
David Lewis Steed, President  
Board of Directors

Date: June 13, 2002

ATTEST:

Jeanne Graves  
Jeanne Graves, Secretary  
Board of Directors

TAYLOR WOODROW COMMUNITIES/  
STEINER RANCH, LTD., a Texas limited  
partnership:

By: TWC/Steiner Ranch, L.L.C.,  
a Texas limited liability company,  
General Partner

By: Timothy J. Towell  
Timothy J. Towell, Manager

Date: 6.6.02

STEINER UTILITY COMPANY,  
INC., a Texas corporation

By: Timothy J. Towell

Name: Timothy J. Towell

Title: President

Date: 6.6.02

THE STATE OF TEXAS §  
  §  
COUNTY OF TRAVIS §

THIS INSTRUMENT was acknowledged before me on the 17 day of June, 2002, by Joseph Canales, Deputy City Manager of the City of Austin, Texas, a municipal corporation, on behalf of said municipal corporation.

(SEAL)

Gloria L. Aguilera  
Notary Public Signature

(Rev. 5/16/02)

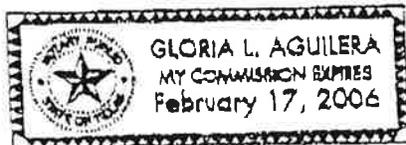


EXHIBIT "A"  
DEPICTION OF WHOLESALE SERVICE AREA, POINT OF ENTRY, LOCATION  
OF METERING FACILITIES AND CONNECTING FACILITIES

FOR ENERGY  
MASTER PLAN LOCATION  
FRANCIS COUNTY, W.C. & ID. No. 17  
OVER

DAVIS  
IDA

MONTVIEW HARBOR

MONTVIEW ACRES

EXISTING  
W.W.T.P./  
CONNECTING  
FACILITY

STEEPER  
RANGE  
DEVELOPMENT

RIVER BEND

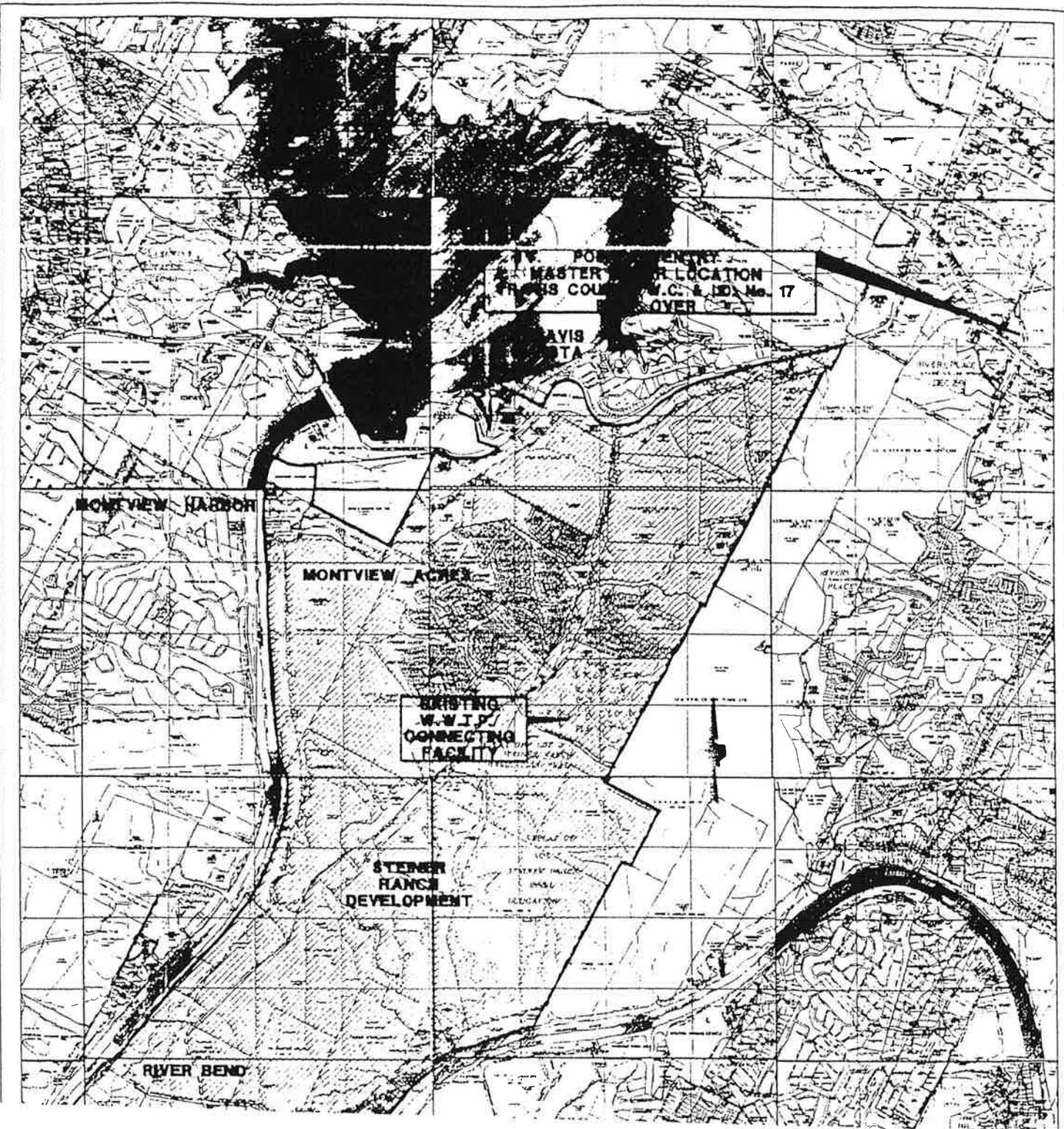


EXHIBIT "B"  
TABLE OF STEINER RANCH SEWER UNIT EQUIVALENTS

Required Sewer Unit Equivalents ("SUE") attributable to and needed for any development will be determined pursuant to the following table:

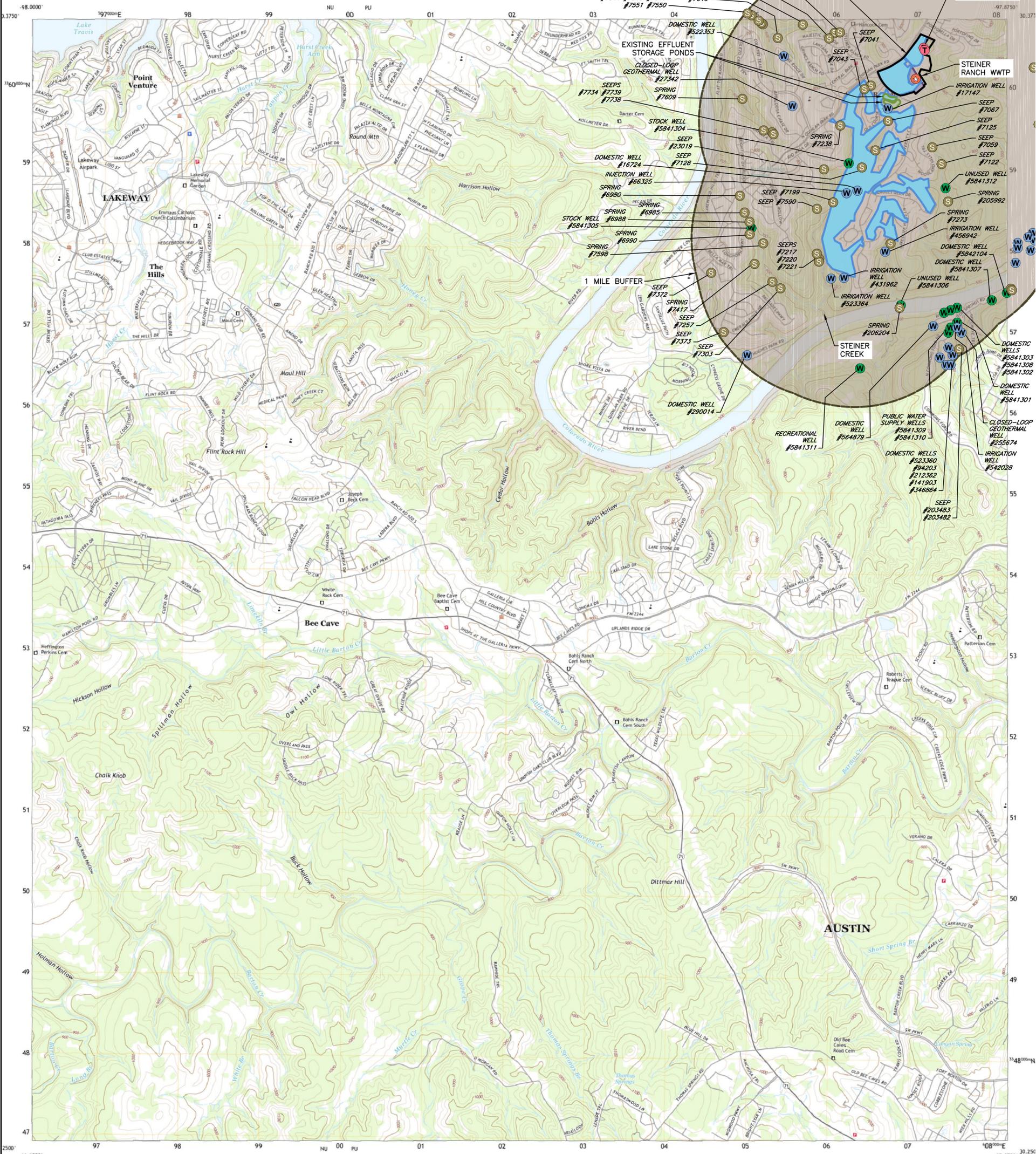
<u>Use</u>	<u>SUE</u>
Single Family and/or Duplex Residential	1 SUE per Residence
Multi-Family Residential	.7 SUE per residential unit
Office Use	1 SUE per each 3,000 square feet of Gross Floor Area
Office Warehouse Use	1 SUE per each 4,000 square feet of Gross Floor Area
Restaurant	1 SUE per each 200 square feet of Gross Floor Area
Retail Use	1 SUE per each 1,660 square feet of Gross Floor Area
Hotel/Motel/Casita Use	.5 SUE per each rental unit/room unit
Hospital	1 SUE per each bed
Church	1 SUE per each 70 seats
School (includes gym and cafeteria)	1 SUE per each 13 students
Rest Home	1 SUE per 2 beds

**ATTACHMENT C**

**USGS MAPS**



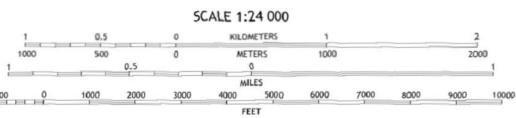
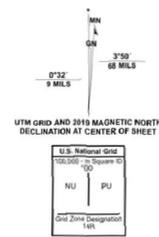
U.S. DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY



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: NIP, September 2016 - November 2016  
Roads: U.S. Census Bureau, 2015 - 2019  
Names: GNS, 1979 - 2022  
Hydrography: National Hydrography Dataset, 2002 - 2018  
Contours: National Elevation Dataset, 2019  
Boundaries: Multiple sources; see metadata file 2019 - 2024

Wetlands: FWS National Wetlands Inventory Not Available



1	2	3
4	5	6
7	8	

ADJACENT QUADRANGLES

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

BEE CAVE, TX  
2022

BEE CAVE	
	Map Base
	EXISTING WATER TANK
	EXISTING SPRING OR SEEP
	EXISTING WELL (SDRDB)
	EXISTING WELL (GWDB)
	WASTEWATER TREATMENT PLANT
	EFFLUENT STORAGE PONDS
	WWTP PROPERTY BOUNDARY
	EFFLUENT DISPOSAL SITE BOUNDARY
	TREATMENT PLANT BOUNDARY
	1 MILE BUFFER
	TX_Bee_Cave_20220811_TM_geo

**Green Civil Design**  
a BAXTER & WOODMAN company

301 DENALI PASS DR., SUITE 3  
CEDAR PARK, TEXAS 78613  
(281)-350-7027  
TEXAS REGISTERED ENGINEERING FIRM P-21783

TRAVIS COUNTY WCID NO. 17  
STEINER RANCH WWTP  
WQ0013294001

ATTACHMENT 'C'  
USGS MAP  
1 OF 4



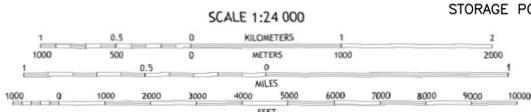
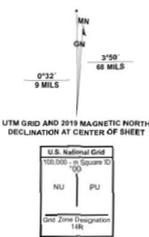
U.S. DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY



MANSFIELD DAM QUADRANGLE  
TEXAS - TRAVIS COUNTY  
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  
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entering private lands.  
Imagery: NAD, September 2016 - November 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



CONTOUR INTERVAL 20 FEET  
NORTH AMERICAN VERTICAL DATUM OF 1988  
This map was produced to conform with the  
National Geospatial Program US Topo Product Standard.



MANSFIELD	
Map Base	
	EXISTING WATER TANK
	EXISTING SPRING OR SEEP
	EXISTING WELL (SDRDB)
	EXISTING WELL (GWDB)
	WASTEWATER TREATMENT PLANT
	EFFLUENT STORAGE PONDS
	WWTP PROPERTY BOUNDARY
	EFFLUENT DISPOSAL SITE BOUNDARY
	TREATMENT PLANT BOUNDARY
	1 MILE BUFFER
	TX_Mansfield_Dam_20220811_TM_geo

**Green Civil Design**  
a BAXTER & WOODMAN company  
301 DENALI PASS DR., SUITE 3  
CEDAR PARK, TEXAS 78613  
(281)-350-7027  
TEXAS REGISTERED ENGINEERING FIRM F-21783

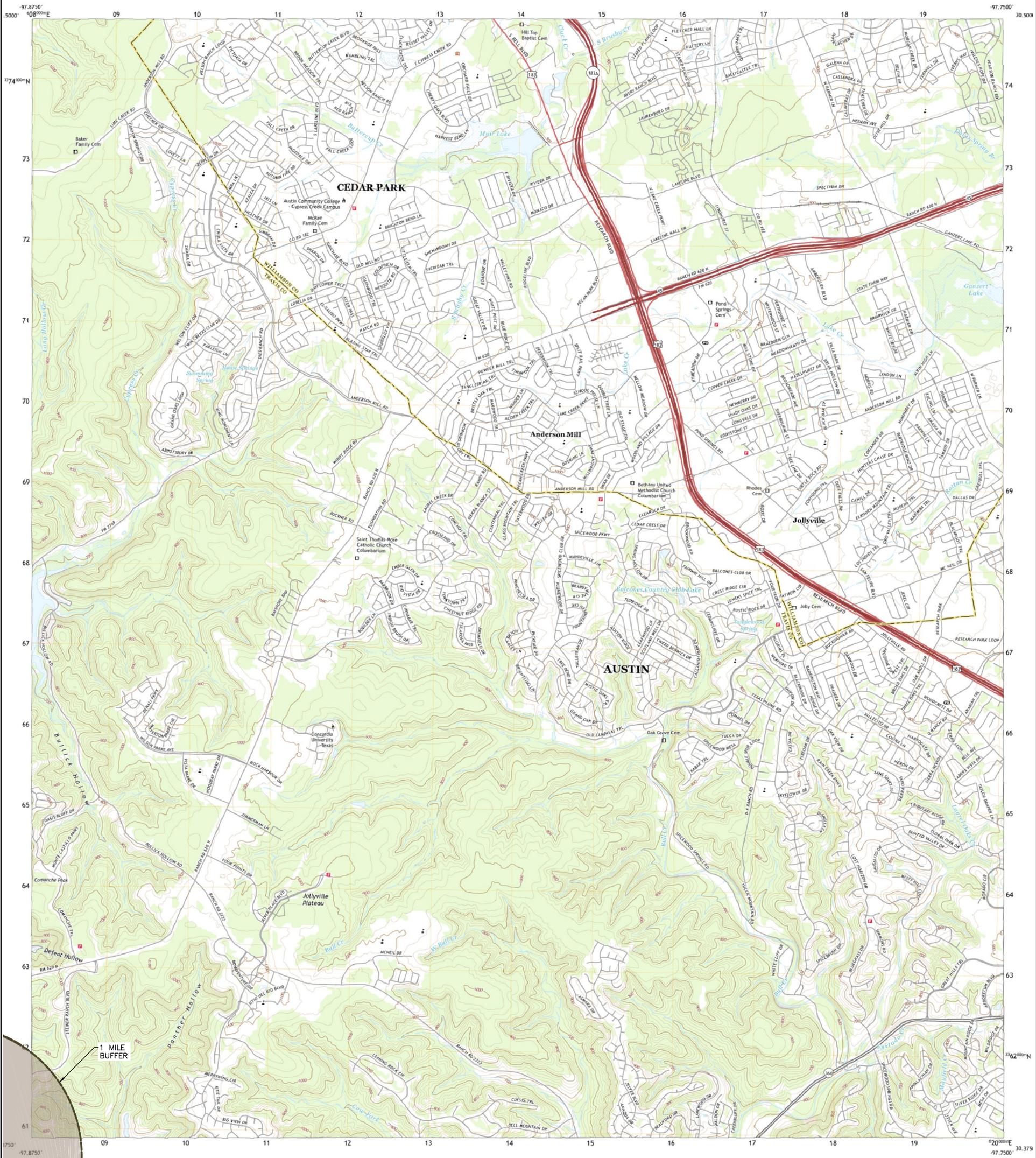
TRAVIS COUNTY WCID NO. 17  
STEINER RANCH WWTP  
WQ0013294001  
ATTACHMENT 'C'  
USGS MAP  
2 OF 4



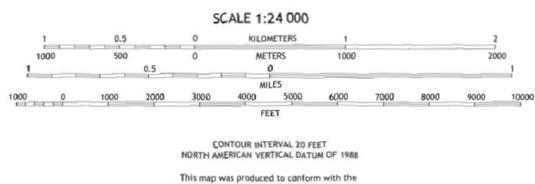
U.S. DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY



JOLLYVILLE 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  
1000-meter grid: Universal Transverse Mercator, Zone 14R  
This map is not a legal document. Boundaries may be  
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reservations may not be shown. Obtain permission before  
entering private lands.



1	2	3
4	5	6
7	8	

ADJOINING QUADRANGLES

JOLLYVILLE, TX  
2022

JOLLYVILLE	
Map Base	
	EXISTING WATER TANK
	EXISTING SPRING OR SEEP
	EXISTING WELL (SDRDB)
	EXISTING WELL (GWDB)
	WASTEWATER TREATMENT PLANT
	EFFLUENT STORAGE PONDS
	WWTP PROPERTY BOUNDARY
	EFFLUENT DISPOSAL SITE BOUNDARY
	TREATMENT PLANT BOUNDARY
	1 MILE BUFFER
	TX_Jollyville_20220811_TM_geo

**Green Civil Design**  
a BAXTER & WOODMAN company

301 DENALI PASS DR., SUITE 3  
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(281)-350-7027  
TEXAS REGISTERED ENGINEERING FIRM F-21783

TRAVIS COUNTY WCID NO. 17  
STEINER RANCH WWTP  
WQ0013294001

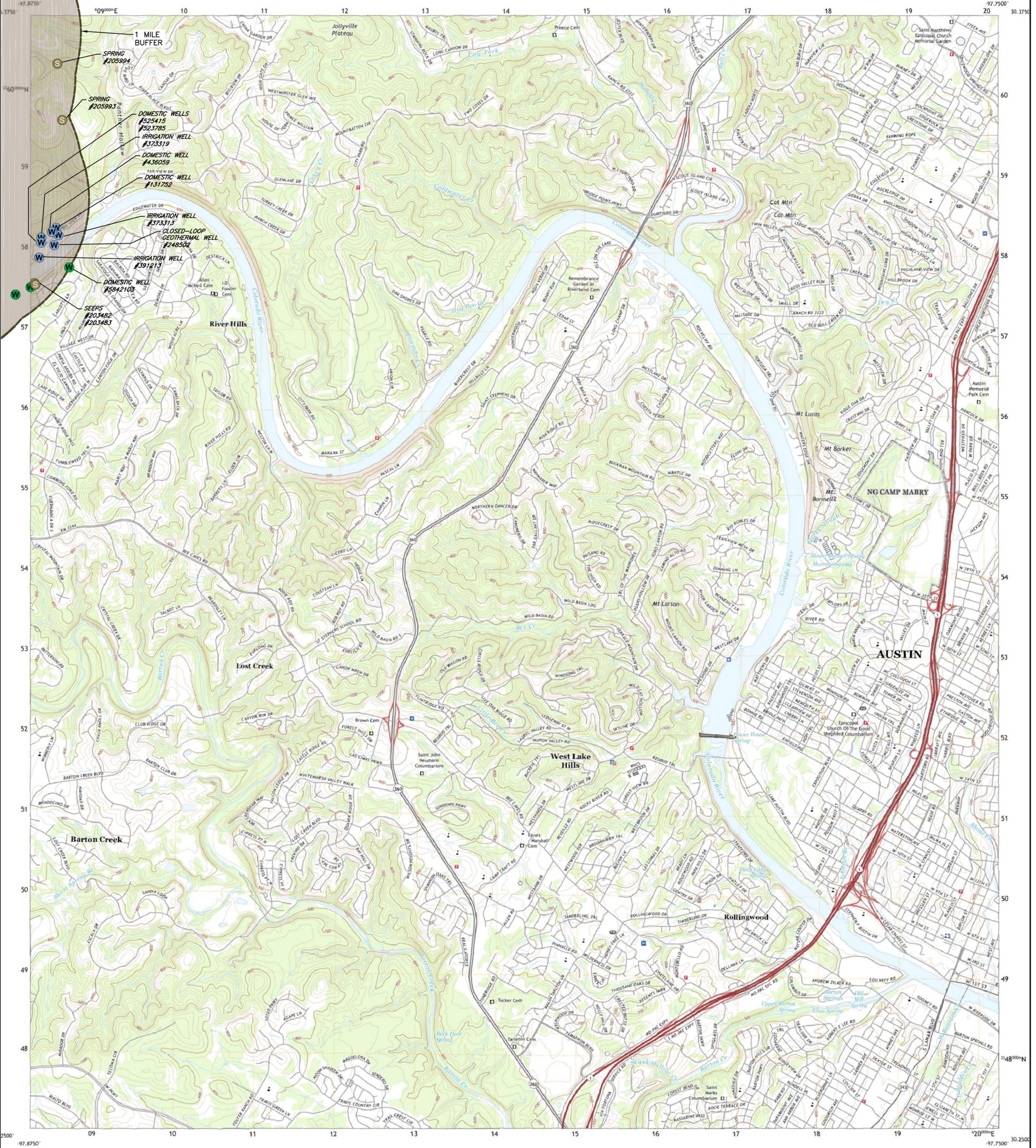
ATTACHMENT 'C'  
USGS MAP  
3 OF 4



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

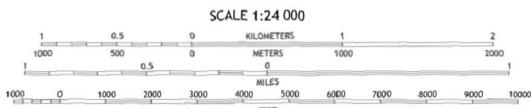
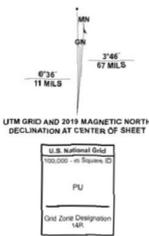


AUSTIN WEST QUADRANGLE  
TEXAS - TRAVIS COUNTY  
7.5-MINUTE SERIES



Produced by the United States Geological Survey  
North American Datum of 1983 (NAD83)  
World Geodetic System of 1984 (WGS84). Projection and  
1000-meter grid/Universal Transverse Mercator, Zone 14B  
This map is not a legal document. Boundaries may be  
generalized for this map scale. Private lands within government  
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Image:.....NADP, September 2016 - November 2016  
Roads:.....U.S. Census Bureau, 2015 - 2019  
Name:.....National Hydrography Dataset, 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



1	2	3	1 Mansfield Dam
2	3	4	2 Jollyville
3	4	5	3 Jollyville West
4	5	6	4 Bee Cave
5	6	7	5 Austin East
6	7	8	6 Signal Hill
			7 Oak Hill
			8 Montopolis

### AUSTIN WEST

- Map Base
- EXISTING WATER TANK
  - EXISTING SPRING OR SEEP
  - EXISTING WELL (SDRDB)
  - EXISTING WELL (GWDB)
  - WASTEWATER TREATMENT PLANT
  - EFFLUENT STORAGE PONDS
  - WWTP PROPERTY BOUNDARY
  - EFFLUENT DISPOSAL SITE BOUNDARY
  - TREATMENT PLANT BOUNDARY
  - 1 MILE BUFFER
  - TX\_Austin\_West\_20220811\_TM\_geo

**Green Civil Design**  
a BAXTER & WOODMAN company

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CEDAR PARK, TEXAS 78613  
(281)-350-7027  
TEXAS REGISTERED ENGINEERING FIRM F-21783

TRAVIS COUNTY WCID NO. 17  
STEINER RANCH WWTP  
WQ0013294001

ATTACHMENT 'C'  
USGS MAP  
4 OF 4

**ATTACHMENT D**

**TREATMENT PROCESS DESCRIPTION AND TREATMENT UNIT SIZING**

## **ATTACHMENT D – TREATMENT UNIT DETAIL**

### **Treatment Process Description**

The Steiner Ranch Wastewater Treatment Facility consist of an activated sludge process plant using the complete mix mode.

Influent is pumped through a step screen and into an Influent Equalization Basin. From the Influent Equalization Basin wastewater then enters either one (1) of two (2) SBR Basins. Wastewater then flows from the SBR Basins to a Chlorine Contact Basin and then to the one (1) of two (2) Holding Basins. Effluent is then pumped to one of two places; either the drip irrigation system where it is disposed of at a maximum average flow of 125,000 gallons per day (gpd), or though disk filters and then to holding ponds where it will be disposed of via spray irrigation at a maximum rate of 400,000-gpd at the University of Texas Golf Course. Sludge from the SBR Basins flows to an Aerobic Digester and then to the belt press where it is dewatered and then hauled to a registered landfill for disposal. Wastewater from the belt press and disk filters flow to a lift station where it is then pumped back into the influent equalization basin and through the plant again. A flow diagram is provided in Attachment ‘C’ of this application. Flows above 0.525-MGD are diverted from the Holding Ponds to the City of Austin regional system.

Activated Sludge Process: Lift Station ➡ Step Screen ➡ Influent Equalization Basin ➡ Sequencing Batch Reactors ➡ Chlorine Contact/Dosing ➡ Effluent Holding Tanks ➡ Drip Irrigation or Disk Filtration & Holding Ponds for Golf Course Spray Irrigation

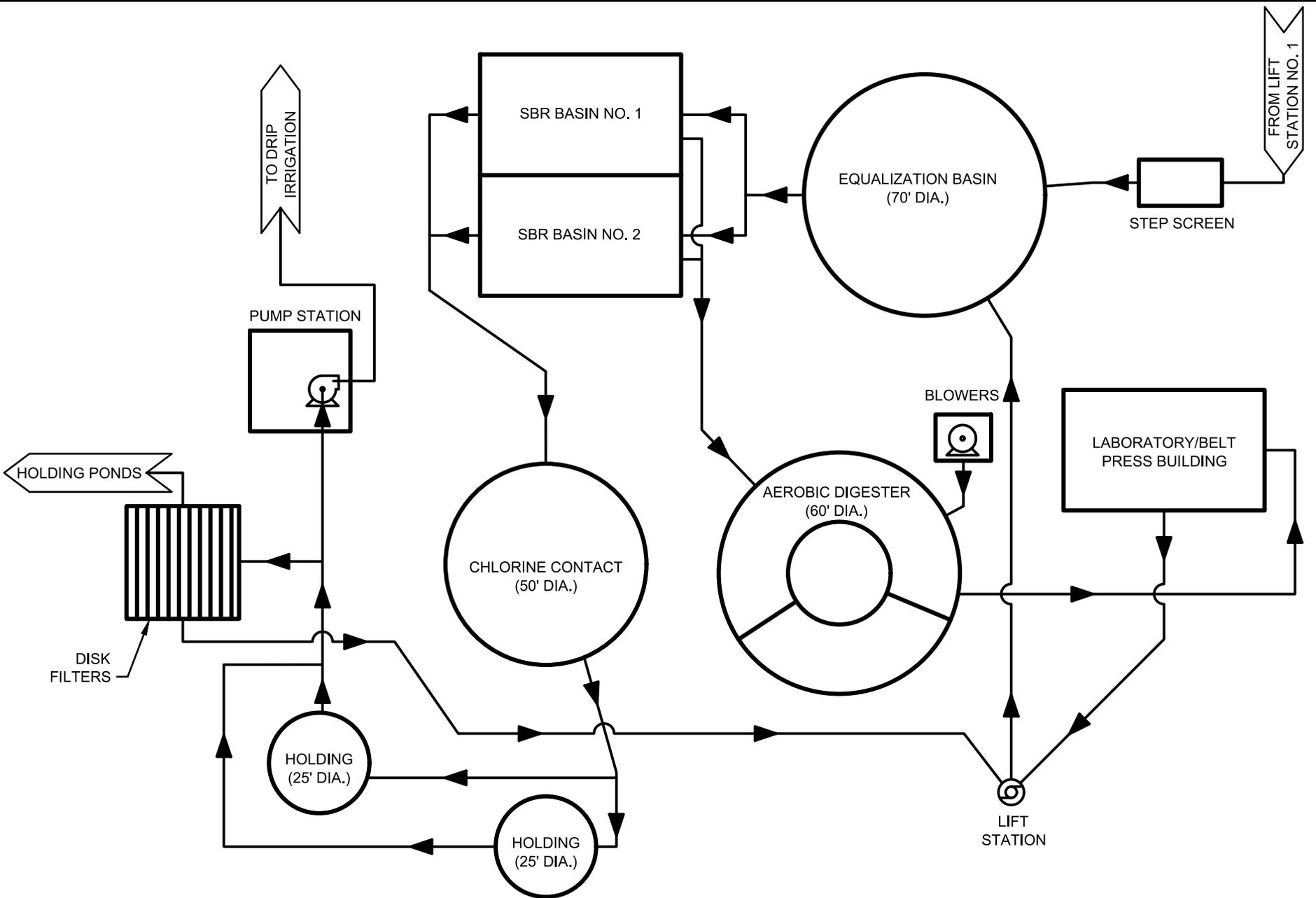
Sludge Process: Sludge Handling (storage) Tank ➡ TCEQ Permitted Land Application Site/Landfill

### **Treatment Unit Type & Dimensions**

<b>Treatment Unit</b>	<b># of Units</b>	<b>Dimensions (L x W x D)</b>
Step Screen	1	38' 11.25' x 4'
Influent Equalization Basin	1	70' Diameter, 20' Depth
SBR Basins	2	48' x 76' x 24'
Chlorine Contact Basin	1	50' Diameter, 16' Depth
Effluent Holding Tanks	2	25' Diameter, 19' Depth
Disk Filters	1	17' x 21' x 13'
Aerobic Digester	1	60' Diameter, 16.5' Depth

**ATTACHMENT E**  
**FLOW DIAGRAM**

FILE: FLOW DIAGRAM.dwg TAB: EXISTING FLOW DIAGRAM PLOTTED: 1/11/2024 7:25 PM BY: GLENN POPE

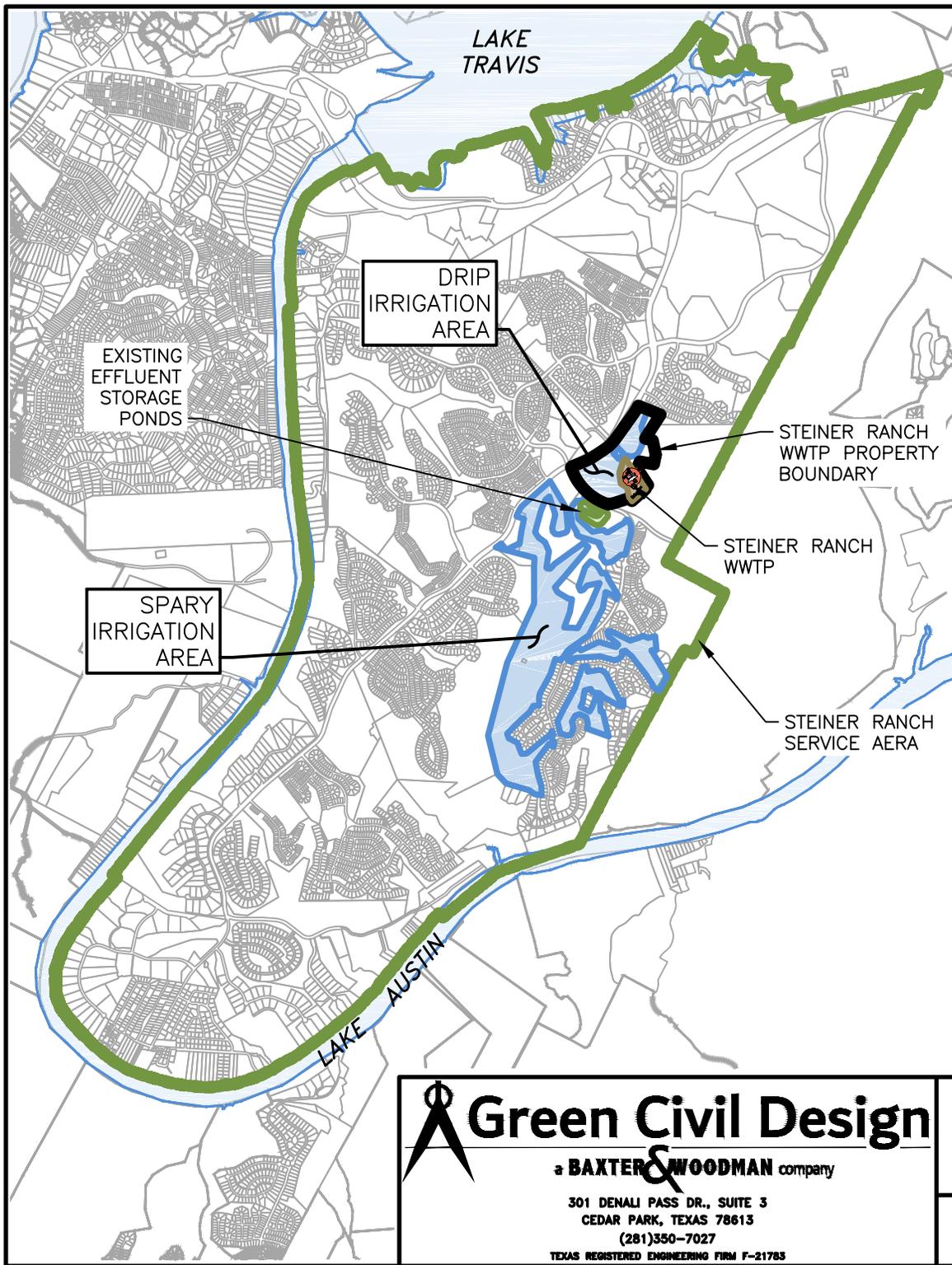


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TEXAS REGISTERED ENGINEERING FIRM F-21785

TRAVIS COUNTY WCID NO. 17  
STEINER RANCH WWTP  
WQ0013294001  
ATTACHMENT 'E'  
EXISTING FLOW DIAGRAM

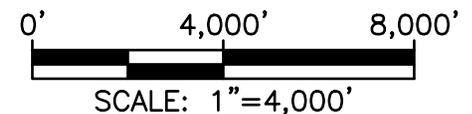
**ATTACHMENT F**  
**SITE DRAWING**

FILE: SITE DRAWING.dwg TAB: SITE DRAWING PLOTTED: 1/11/2024 7:24 PM BY: GLENN POPE



### LEGEND

-  WASTEWATER TREATMENT PLANT
-  TREATMENT PLANT BOUNDARY
-  WWTP PROPERTY BOUNDARY
-  EFFLUENT STORAGE PONDS
-  EFFLUENT DISPOSAL SITE BOUNDARY
-  STEINER RANCH SERVICE AREA BOUNDARY




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TRAVIS COUNTY WCID NO. 17  
 STEINER RANCH WWTP  
 WQ0013294001

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ATTACHMENT 'F'  
 SITE DRAWING

**ATTACHMENT G**  
**SEWAGE SLUDGE MANAGEMENT PLAN**

**Travis County WCID No. 17 Steiner Ranch Wastewater Treatment Plant  
Sewage Sludge Solids Management Plan  
ATTACHMENT G**

**Dimensions and Capacities of Sludge Holding Basin**

TCEQ Minimum Sludge Retention Time:	15	days		
SRT from SBR Treatment Basins:	11.00	days		
Minimum SRT needed in Sludge Holding:	4.00	days		
Minimum Proposed Sludge Holding Volume:	352,699	gallons =	47,149	cubic feet
Sludge Holding Sludge Retention Time:	4.0	days		
Total Sludge Retention Time:	15.0	days		

**Solids Generated**

BOD5 Removal	Influent concentration =	300	mg/l
	Effluent concentration =	10	mg/l
	Net removal =	290	mg/l

MLSS Operating Range = 3700 mg/l (in SBR)

BOD5 removed	3,628	lbs/day
Dry Sludge Produced	7,354	lbs/day
Wet Sludge Produced*	735,377	lbs/day
Wet Sludge Produced*	88,175	gal/day

\*Assuming Percent Solids in Sludge: 1.0 % Solids

Length of Sustained Peak (days)	Peaking Factor	Waste Sludge Mass Loading (lbs/day)	Total Sustained Loading (lb)
1	2.4	17,649	17,649
2	2.1	15,443	30,886
3	1.9	13,972	41,916
4	1.8	13,237	52,947
5	1.7	12,501	62,507
7	1.65	12,134	84,936
14	1.32	9,707	135,898
15	1.3	9,560	143,399
365	1	7,354	2,684,127

**Travis County WCID No. 17 Steiner Ranch Wastewater Treatment Plant  
Sewage Sludge Solids Management Plan  
ATTACHMENT G**

**Belt Filter Press**

Sludge Loading Rate: 800 lb/m\*hr (200 to 1500 lb/m\*hr typical)

**Scenario One:** One 2.0 m Belt Filter Press

Total Sludge Loading Rate: 1,600 lb/m\*hr

Average Mass Loading Condition (Press 7-days of Sludge in 5-day work week)

7,354 lbs/day x 7 days = 51,476 lbs

51,476 lbs / 5 days = 10,295 lbs /day

10,295 lbs/day / 1,600 lb/m\*hr = **6.43** hrs/day

Peak Mass Loading Condition (Press 14-days of Peak Sludge in 10-days)

9,707 lbs/day x 14 days = 135,898 lbs

135,898 lbs / 10 days = 13,590 lbs /day

13,590 lbs/day / 1,600 lb/m\*hr = **8.49** hrs/day

**Process:**

Sequencing Batch Reactor (SBR) basins will be utilized. Sludge will be wasted from the basins to the sludge holding basin. Sludge will then be sent to the belt filter press for dewatering. Supernatant from the belt press will be returned to the headworks of the plant. Dewatered sludge will be hauled by a licensed hauler to a TCEQ registered disposal site.

**ATTACHMENT H**  
**POLLUTANT ANALYSIS**

Email information for report date:  
4/22/24 17:20  
H011067

## Travis County WCID 17

Attn: Matt Gonzalez  
mgonzalez@wcid17.org

3812 ECK LANE  
AUSTIN, TX 78734

**Please contact us for your sampling needs or if you have any questions. Some convenient contacts are listed below. You can also access your results and reports through our ClientConnect™ portal on our website (www.aqua-techlabs.com).**

For sampling questions:

samplingbryan@aqua-techlabs.com (Bryan area)  
samplingaustin@aqua-techlabs.com (Austin area)

reporting@aqua-techlabs.com (report questions)

Aqua-Tech values you as a customer and encourages you to speak with our staff at 979-778-3707 or the above emails if you have questions.

Thank you for your business,  
June M. Brien  
Executive Technical Director

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Fax: (512) 301-9552

The analyses summarized in this report were performed by Aqua-Tech Laboratories, Inc. unless otherwise noted. Aqua-Tech Laboratories, Inc. holds accreditation from the State of Texas in accordance with TNI and/or through the TCEQ Drinking Water Commercial Laboratory Approval Program.

#### The following abbreviations indicate certification status:

NEL	TNI accredited parameter.
ANR	Accreditation not offered by the State of Texas.
DWP	Approval through the TCEQ Drinking Water Commercial Laboratory Approval Program.
INF	Aqua-Tech Laboratories, Inc. is not accredited for this parameter. It is reported on an informational basis only.

Certificate: T104704371-23-27



TCEQ Lab ID T104704371

Subcontracted data summarized in this report is indicated by "Sub" in the Lab column.

#### General Definitions:

NR	Not Reported.
RPD	Relative Percent Difference.
% R	Percent Recovery.
dry	Results with the "dry" unit designation are reported on a "dry weight" basis.
SQL	The Sample Quantitation Limit is the value below which the parameter cannot reliably be detected. The SQL includes all sample preparations, dilutions and / or concentrations.
Adj MDL	The Adjusted Method Detection Limit is the MDL value adjusted for any sample dilutions or concentrations .
MDL	The Method Detection Limit is the lowest theoretical value that is statistically different from zero for a specific method, taking into account all preparation steps and instrument settings.

All samples are reported on an "as received" basis unless the designation "dry" is added to the reported unit.

Copies of Aqua-Tech Laboratories, Inc. procedures and individual sampling plans are available upon request. Note that samples are collected by Aqua-Tech Laboratories, Inc. personnel unless otherwise noted in the "Sample Collected" field of this report as "Client" or "CLT".

Samples included in this report were received in acceptable condition according to Aqua-Tech Laboratories, Inc. procedures and 40 CFR, Chapter I, Subchapter D, Part 136.3, TABLE II. - *Required containers, preservation techniques, and holding times*, unless otherwise noted in this report.

#### Record Retention:

All reports, raw data, and associated quality control data are kept on file for 10 years before being destroyed. Any client that would like copies of records must contact Aqua-Tech Laboratories, Inc. no later than six months prior to the scheduled disposal. An administrative fee for retrieval and distribution will apply.

This report was approved by:

June M. Brien, Technical Director

The results in this report apply only to the samples analyzed. This analytical report must be reproduced in its entirety unless written permission is granted by Aqua-Tech Laboratories, Inc.

corp@aqua-techlabs.com

www.aqua-techlabs.com

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Analytical Report

Travis County WCID 17

Report Printed: 4/22/24 17:20  
 H011067

Steiner Ranch WWTP Effluent

Collected: 04/04/24 10:50 by CLIENT  
 Received: 04/04/24 14:22 by Katherine Borta

Type: Grab  
 Matrix: Non Potable  
 C-O-C #: H011067

Lab ID#	H011067-01	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch
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General Chemistry

Carbonaceous BOD (5 day)	2	mg/L			1	1	1	Austin	04/05/24 06:00 BAL	SM5210 B 2016	M175664	NEL
Total Dissolved Solids	514	mg/L			25.0	50.0	50.0	Austin	04/05/24 11:15 MAM	SM2540 C 2015	M175677	NEL
Ammonia as N	<0.05	mg/L			0.05	0.05	0.05	Bryan	04/09/24 12:26 KMA	SM4500-NH3 G 2011	M175797	NEL
Total Kjeldahl Nitrogen as N	1.14	mg/L			0.13	0.13	0.20	Bryan	04/09/24 14:46 KMA	EPA 351.2 R2.0	M175744	NEL
Nitrate as N	7.1	mg/L				0.10	0.12	Calc	04/10/24 12:20 MSA	SM4500-NO3-F 2011	[CALC]	NEL
Nitrite as N	<0.01	mg/L			0.002	0.002	0.01	Austin	04/05/24 08:20 MSA	SM4500 NO2- B 2011	M175685	NEL
Nitrate/Nitrite as N	7.1	mg/L			0.02	0.10	0.12	Bryan	04/10/24 12:20 KMA	SM4500-NO3-F 2011	M175864	ANR
Total Alkalinity as CaCO3 (pH4.5)	132	mg/L			5.00	20.0	20.0	Austin	04/05/24 11:07 MSA	SM2320 B 2011	M175695	DWP
Oil & Grease (HEM)	<4.9	mg/L			4.4	4.3	4.9	Bryan	04/16/24 10:37 HDH	EPA 1664B	M176085	NEL
Chloride	142	mg/L			0.60	2.41	20.0	Austin	04/05/24 13:15 MSA	SM4500-Cl- B 2011	M175716	NEL
Sulfate as SO4(2-)	48.5	mg/L			2.63	10.5	20.0	Austin	04/09/24 09:10 KFB	ASTM D0516-16	M175794	NEL
Specific Conductance (adjusted to 25.0°C)	895	uS/cm			2.00	2.00	2.00	Austin	04/05/24 12:15 MSA	SM2510 B 2011	M175714	NEL

Microbiological Analyses

E. Coli	<1.0	MPN/100 mL			1.0	1.0	1.0	Austin	04/04/24 15:33 ACG	SM9223 B 2004	M175649	NEL
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Results run by SM 9223B are reported as MPN (Most Probable Number). MPN is comparable to CFU (Colony Forming Units). Both MPN and CFU are allowed in most permits.

Metals (Total)

Phosphorus-Total	1.09	mg/L			0.082	0.041	0.050	Austin	04/09/24 12:30 KT	EPA 200.7 R4.4	M175770	NEL
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TSS cancelled due to hold time being missed.

Explanation of Notes

BOD-07	Optional second BOD/CBOD GG was outside expected range. Results accepted on one required passing GG.
G-01	This sample was added to an analytical run already in progress. See the prep time for when this sample was added.
J	Analyte detected below the SQL but above the MDL.
MS-01	The MS and/or MSD recovery was outside acceptance limits. Investigation concludes it is a sample- specific matrix effect and the batch was accepted based on acceptable LCS and /or LCSD recovery.

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**Analytical Report**

**Travis County WCID 17**

**Report Printed: 4/22/24 17:20**  
**H011067**

General Chemistry - Quality Control												
Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
<b>Ammonia as N - SM4500-NH3 G 2011</b>												<i>Bryan</i>
Initial Cal Check	0.97	mg/L			04/09/24 12:26 KMA	1.00		97.4	90 - 110			2404109
Low Cal Check	0.06	mg/L			04/09/24 12:26 KMA	0.0500		120	70 - 130			2404109
Blank	<0.05	mg/L	0.05	0.05	04/09/24 12:26 KMA							M175797
LCS	0.46	mg/L	0.05	0.05	04/09/24 12:26 KMA	0.500		91.4	85 - 115			M175797
LCS Dup	0.46	mg/L	0.05	0.05	04/09/24 12:26 KMA	0.500		92.4	85 - 115	1.09	20	M175797
Matrix Spike	0.46	mg/L	0.05	0.05	04/09/24 12:26 KMA	0.500	<0.05	92.6	70 - 130			M175797
Matrix Spike Dup	0.46	mg/L	0.05	0.05	04/09/24 12:26 KMA	0.500	<0.05	93.0	70 - 130	0.431	20	M175797
<b>Carbonaceous BOD (5 day) - SM5210 B 2016</b>												<i>Austin</i>
Diln Water Blk	<0.20	mg/L	1	1	04/05/24 06:00 BAL		0.0		< or = 0.2 mg/L			2404072
GGA	174	mg/L	1	1	04/05/24 06:00 BAL	198		87.9	84.6 - 115.4			2404072
GGA	163	mg/L	1	1	04/05/24 06:00 BAL	198		82.3	84.6 - 115.4			2404072
GGA	175	mg/L	1	1	04/05/24 06:00 BAL	198		88.4	84.6 - 115.4			2404072
Seed Blank	<1	mg/L	1	1	04/05/24 06:00 BAL							2404072
Seed Blank	<1	mg/L	1	1	04/05/24 06:00 BAL							2404072
Seed Blank	<1	mg/L	1	1	04/05/24 06:00 BAL							2404072
Duplicate	5	mg/L	1	1	04/05/24 06:00 BAL		5			5.97	47.7	M175664
<b>Chloride - SM4500-Cl- B 2011</b>												<i>Austin</i>
Initial Cal Check	49.7	mg/L			04/05/24 13:15 MSA	50.0		99.5	90 - 110			2404086
Low Cal Check	5.21	mg/L			04/05/24 13:15 MSA	4.95		105	70 - 130			2404086
Blank	<5.00	mg/L	0.60	5.00	04/05/24 13:15 MSA							M175716
LCS	20.8	mg/L	0.60	5.00	04/05/24 13:15 MSA	19.8		105	90 - 110			M175716
LCS Dup	20.4	mg/L	0.60	5.00	04/05/24 13:15 MSA	19.8		103	90 - 110	2.30	5.86	M175716
Matrix Spike	169	mg/L	2.41	20.0	04/05/24 13:15 MSA	79.2	91.0	98.1	83.4 - 113			M175716
Matrix Spike Dup	171	mg/L	2.41	20.0	04/05/24 13:15 MSA	79.2	91.0	101	83.4 - 113	2.41	10.7	M175716
MRL Check	5.21	mg/L	0.60	5.00	04/05/24 13:15 MSA	4.95		105	70 - 130			M175716
<b>Nitrate/Nitrite as N - SM4500-NO3-F 2011</b>												<i>Bryan</i>
Initial Cal Check	0.99	mg/L			04/10/24 12:20 KMA	0.959		103	90 - 110			2404133
Low Cal Check	0.02	mg/L			04/10/24 12:20 KMA	0.0200		105	70 - 130			2404133
Blank	<0.02	mg/L	0.02	0.02	04/10/24 12:20 KMA							M175864
LCS	0.51	mg/L	0.02	0.02	04/10/24 12:20 KMA	0.500		101	89.5 - 111			M175864
LCS Dup	0.51	mg/L	0.02	0.02	04/10/24 12:20 KMA	0.500		101	89.5 - 111	0.00	10	M175864
Matrix Spike	18	mg/L	0.17	0.20	04/10/24 12:20 KMA	5.00	13	101	80.1 - 118			M175864
Matrix Spike Dup	18	mg/L	0.17	0.20	04/10/24 12:20 KMA	5.00	13	101	80.1 - 118	0.634	10	M175864

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**Analytical Report**

Travis County WCID 17

Report Printed: 4/22/24 17:20  
 H011067

General Chemistry - Quality Control												
Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
<b>Nitrite as N - SM4500 NO2- B 2011</b>												<i>Austin</i>
	0.08	mg/L			04/05/24 08:20 MSA	0.0736		102	90 - 110			2404078
Blank	<0.01	mg/L	0.002	0.01	04/05/24 08:20 MSA							M175685
LCS	0.07	mg/L	0.002	0.01	04/05/24 08:20 MSA	0.0800		93.5	90 - 110			M175685
LCS Dup	0.08	mg/L	0.002	0.01	04/05/24 08:20 MSA	0.0800		95.3	90 - 110	1.90	10	M175685
Matrix Spike	0.06	mg/L	0.002	0.01	04/05/24 08:20 MSA	0.0800	<0.01	80.5	57 - 116			M175685
Matrix Spike Dup	0.07	mg/L	0.002	0.01	04/05/24 08:20 MSA	0.0800	<0.01	81.4	57 - 116	1.11	10	M175685
MRL Check	<0.01	mg/L	0.002	0.01	04/05/24 08:20 MSA	0.0100		80.9	70 - 130			M175685
Initial Cal Check	0.08	mg/L			10/06/23 11:00 MSA	0.0800		106	90 - 110			2310075
<b>Oil &amp; Grease (HEM) - EPA 1664B</b>												<i>Bryan</i>
Blank	<4.9	mg/L	4.4	4.9	04/16/24 10:37 HDH							M176085
LCS	42.3	mg/L	4.3	4.9	04/16/24 10:37 HDH	39.6		107	78 - 114			M176085
LCS	36.7	mg/L	4.3	4.9	04/16/24 10:37 HDH	39.3		93.4	78 - 114			M176085
Matrix Spike	6.1	mg/L	4.3	4.9	04/16/24 10:37 HDH	39.2	<4.9	15.6	78 - 114			M176085
Matrix Spike	38.3	mg/L	4.5	5.2	04/16/24 10:37 HDH	41.6	<5.2	92.0	78 - 114			M176085
Reference	30.8	mg/L	4.3	4.9	04/16/24 10:37 HDH	39.3		78.5	78 - 114			M176085
Reference	35.4	mg/L	4.3	4.9	04/16/24 10:37 HDH	39.6		89.4	78 - 114			M176085
<b>Specific Conductance (adjusted to 25.0°C) - SM2510 B 2011</b>												<i>Austin</i>
	524	uS/cm			04/05/24 12:15 MSA	545		96.1	90 - 110			2404083
Blank	<2.00	uS/cm	2.00	2.00	04/05/24 12:15 MSA							M175714
Duplicate	897	uS/cm	2.00	2.00	04/05/24 12:15 MSA		895			0.223	10	M175714
LCS	1410	uS/cm	2.00	2.00	04/05/24 12:15 MSA	1410		99.7	90 - 110			M175714
<b>Sulfate as SO4(2-) - ASTM D0516-16</b>												<i>Austin</i>
Initial Cal Check	30.8	mg/L			04/09/24 09:10 KFB	30.0		103	90 - 110			2404107
Low Cal Check	4.64	mg/L			04/09/24 09:10 KFB	5.00		92.7	70 - 130			2404107
Blank	<5.00	mg/L	2.63	5.00	04/09/24 09:10 KFB							M175794
Duplicate	50.6	mg/L	10.5	20.0	04/09/24 09:10 KFB		48.5			4.23	11.8	M175794
LCS	10.3	mg/L	2.63	5.00	04/09/24 09:10 KFB	10.0		103	85 - 115			M175794
LCS Dup	10.4	mg/L	2.63	5.00	04/09/24 09:10 KFB	10.0		104	85 - 115	0.648	13.5	M175794
Matrix Spike	90.5	mg/L	10.5	20.0	04/09/24 09:10 KFB	40.0	48.5	105	67.7 - 129			M175794
Matrix Spike Dup	88.6	mg/L	10.5	20.0	04/09/24 09:10 KFB	40.0	48.5	100	67.7 - 129	4.41	15	M175794
Initial Cal Check	28.9	mg/L			05/19/23 13:33 BEB	30.0		96.4	85 - 115			2305280

**General Chemistry - Quality Control**

Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
<b>Total Alkalinity as CaCO3 (pH4.5) - SM2320 B 2011</b>												<i>Austin</i>
Initial Cal Check	6.85	mg/L			04/05/24 11:07 MSA	6.86		99.9	97 - 103			2404081
Initial Cal Check	9.11	mg/L			04/05/24 11:07 MSA	9.18		99.2	97 - 103			2404081
Low Cal Check	20.3	mg/L			04/05/24 11:07 MSA	18.8		108	70 - 130			2404081
Duplicate	354	mg/L	20.0	20.0	04/05/24 11:07 MSA		345			2.52	5.52	M175695
LCS	77.4	mg/L	20.0	20.0	04/05/24 11:07 MSA	75.4		103	95.5 - 105			M175695
LCS Dup	76.7	mg/L	20.0	20.0	04/05/24 11:07 MSA	75.4		102	95.5 - 105	0.882	4.76	M175695
MRL Check	20.3	mg/L	20.0	20.0	04/05/24 11:07 MSA	18.8		107	70 - 130			M175695
<b>Total Dissolved Solids - SM2540 C 2015</b>												<i>Austin</i>
Blank	<25.0	mg/L	25.0	25.0	04/05/24 11:15 MAM							M175677
Duplicate	820	mg/L	100	100	04/05/24 11:15 MAM		780			5.00	10	M175677
Reference	664	mg/L	100	100	04/05/24 11:15 MAM	507		131	66 - 140			M175677
<b>Total Kjeldahl Nitrogen as N - EPA 351.2 R2.0</b>												<i>Bryan</i>
Initial Cal Check	4.58	mg/L			04/09/24 14:46 KMA	4.56		100	90 - 110			2404113
Low Cal Check	0.19	mg/L			04/09/24 14:46 KMA	0.200		96.0	70 - 130			2404113
Blank	<0.20	mg/L	0.13	0.20	04/09/24 14:46 KMA							M175744
LCS	4.21	mg/L	0.13	0.20	04/09/24 14:46 KMA	4.00		105	87.4 - 119			M175744
LCS Dup	4.25	mg/L	0.13	0.20	04/09/24 14:46 KMA	4.00		106	87.4 - 119	0.875	10	M175744
Matrix Spike	5.10	mg/L	0.13	0.20	04/09/24 14:46 KMA	4.00	1.24	96.5	70 - 130			M175744
Matrix Spike Dup	5.22	mg/L	0.13	0.20	04/09/24 14:46 KMA	4.00	1.24	99.4	70 - 130	3.04	17.5	M175744

**Metals (Total) - Quality Control**

Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
<b>Phosphorus-Total - EPA 200.7 R4.4</b>												<i>Austin</i>
Blank	<0.050	mg/L	0.041	0.050	04/09/24 12:12 KT							M175770
LCS	2.39	mg/L	0.041	0.050	04/09/24 12:15 KT	2.50		95.6	84.5 - 115.4			M175770
LCS Dup	2.37	mg/L	0.041	0.050	04/09/24 12:17 KT	2.50		94.8	84.5 - 115.4	0.861	20	M175770
Duplicate	0.336	mg/L	0.041	0.050	04/09/24 12:20 KT		0.296			12.5	20	M175770
Matrix Spike	3.12	mg/L	0.041	0.050	04/09/24 12:22 KT	2.50	0.296	113	69.5 - 130.4			M175770

**Microbiological Analyses - Quality Control**

Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	Log10 Comparison Control Range	Limit	Batch
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**BRYAN FACILITY**  
 635 Phil Gramm Boulevard  
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**AUSTIN FACILITY**  
 3512 Montopolis Dr. Suite A  
 Austin, TX 78744  
 Phone: (512) 301-9559  
 Fax: (512) 301-9552

**Analytical Report**

**Travis County WCID 17**

**Report Printed: 4/22/24 17:20**  
**H011067**

Microbiological Analyses - Quality Control											Log10 Comparison	
Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	Range	Control Limit	Batch
<b>E. Coli - SM9223 B 2004</b>												<i>Austin</i>
Blank	<1.0	MPN/100 mL	1.0	1.0	04/04/24 15:33 ACG							M175649
Dup Log10 Range		MPN/100 mL	1.0	1.0	04/04/24 15:33 ACG					0.000		M175649
Duplicate	<1.0	MPN/100 mL	1.0	1.0	04/04/24 15:33 ACG		<1.0				0.5	M175649

Sample Preparation Summary											External Dilution	Batch
Sample	Method	Prepared	Lab	Bottle	Initial	Units	Final	Units	Factor			
<b>H011067-01</b>												
Ammonia as N	SM4500-NH3 G 2011	4/9/24 9:52 KMA	Bryan	B	10.0	mL	10.0	mL	1		M175797	
Carbonaceous BOD (5 day)	SM5210 B 2016	4/5/24 6:00 BAL	Austin	C	300	mL	300	mL	1		M175664	
Chloride	SM4500-Cl- B 2011	4/5/24 13:15 MSA	Austin	D	25.0	mL	100	mL	1		M175716	
E. Coli	SM9223 B 2004	4/4/24 15:17 ACG	Austin	E	100	N/A	100	N/A	1		M175649	
Nitrate/Nitrite as N	SM4500-NO3-F 2011	4/10/24 10:37 KMA	Bryan	B	1.00	mL	6.00	mL	1		M175864	
Nitrite as N	SM4500 NO2- B 2011	4/5/24 8:20 MSA	Austin	F	25.0	mL	25.0	mL	1		M175685	
Oil & Grease (HEM)	EPA 1664B	4/16/24 10:37 HDH	Bryan	H	1020	mL	1000	mL	1		M176085	
Phosphorus-Total	EPA 200.7 R4.4	4/8/24 15:33 KT	Austin	J	50.0	mL	25.0	mL	1		M175770	
Specific Conductance (adjusted to 25.0°C)	SM2510 B 2011	4/5/24 12:15 MSA	Austin	D	25.0	mL	25.0	mL	1		M175714	
Sulfate as SO4(2-)	ASTM D0516-16	4/9/24 9:10 KFB	Austin	D	25.0	mL	100	mL	1		M175794	
Total Alkalinity as CaCO3 (pH4.5)	SM2320 B 2011	4/5/24 11:07 MSA	Austin	A	50.0	mL	200	mL	1		M175695	
Total Dissolved Solids	SM2540 C 2015	4/5/24 11:15 MAM	Austin	D	50.0	mL	100	mL	1		M175677	
Total Kjeldahl Nitrogen as N	EPA 351.2 R2.0	4/8/24 9:07 CTG	Bryan	B	25.0	mL	25.0	mL	1		M175744	



# Chain-of-Custody and Analysis Request



## Aqua-Tech laboratories, Inc.

C-O-C #

**Client / Project Name:** Travis County WCID 17  
Steiner Ranch Short New Permit

Austin  
3512 Montopolis Dr. Austin, TX 78744  
512.301.9559

Bryan  
635 Phil Gramm Blvd. Bryan, TX 77807  
979.778.3707

**H011067**

Page 1 of 1

**Contact Information**  
Name Matt Gonzalez  
Address 3812 ECK LANE  
City AUSTIN  
State TX Zip 78734  
Phone (512) 266-1111  
email

**Definitions**  
DW Drinking Water  
NP Non-Potable Water  
S Solid  
CM Custody Maintained  
CTU Custody Transfer Unbroken  
CT Corrected Temperature

Reagent tracking is available upon request.

TCEQ LAB ID:  
T104704371

Test results meet all accreditation/certification requirements unless stated otherwise.

rte\_ATL COC  
012723.rpt

### Sample Custody

Relinquished (print & sign)	<i>J. DEL TORO</i>	<input checked="" type="checkbox"/> Sampler <input checked="" type="checkbox"/> Client <input type="checkbox"/> ATL Field	Date <i>4/04/24</i>	<input type="checkbox"/> Iced / Refrig <input type="checkbox"/> Custody Sealed
Received (print & sign)	<i>KATHERINE BORTA</i>	<input type="checkbox"/> Client <input checked="" type="checkbox"/> ATL Field	Date <i>4/4/24</i>	<input checked="" type="checkbox"/> Iced / Refrig <input type="checkbox"/> CM / CTU
Relinquished (print & sign)	<i>[Signature]</i>	<input type="checkbox"/> Client <input type="checkbox"/> ATL Field	Date	<input type="checkbox"/> Iced / Refrig <input type="checkbox"/> CM / CTU
Received (print & sign)	<i>[Signature]</i>	<input type="checkbox"/> Client <input type="checkbox"/> ATL Field	Date	<input type="checkbox"/> Iced / Refrig <input type="checkbox"/> CM / CTU
Relinquished (print & sign)	<i>[Signature]</i>	<input type="checkbox"/> Client <input checked="" type="checkbox"/> ATL Field	Date <i>04/04/24</i>	<input checked="" type="checkbox"/> Iced / Refrig <input checked="" type="checkbox"/> CM / CTU / Sealed
Received (print & sign)	<i>[Signature]</i>	<input type="checkbox"/> Client <input checked="" type="checkbox"/> Lab	Date <i>04/04/24</i>	<input checked="" type="checkbox"/> Cond Good <input checked="" type="checkbox"/> Iced / Refrig <input checked="" type="checkbox"/> CM / CTU

Analyses Requested: "A" prefix indicates Austin, all others Bryan or Subcontracted, indicated by [SUB].  
Name format: Analysis-Matrix-Technology-Method.

[NEL] = NELAP accredited parameter [CNR] = No NELAP accreditation required or available  
[SUB] = NELAP accredited subcontracted parameter [INF] = Informational only (not NELAC certified)

By relinquishing the samples listed below to Aqua-Tech laboratories, Inc. (ATL), the client agrees to the following terms. Samples will be analyzed by a method that is within ATL's NELAP fields of accreditation (FoA). Analytes requiring an accredited method that is not within ATL's FoA will be subcontracted to a NELAP lab that is accredited for that method. Clients will be notified of the subcontract lab's details. Other analytes not requiring accreditation will be analyzed by a compendial method. If a specific method is required, the client will note the method in the "Analysis Requested" column. The client approves all method modifications documented by ATL or the subcontract lab.

A current list of ATL's NELAC fields of accreditation and other methods are available on request.

**Comments:**

- LAB RECEIPT - Y008	
Temperature - CT (C):	1.1
Preservation Correct:	Yes
Post-Preservatives:	N/A
Thermometer ID:	0811655
pH Paper ID:	0812800
ko_A COC MULTI 043020.rpt	

Field Sample ID	Start Date	Start Time	End Date	End Time	Composite Type	Sample Matrix	Container (Checked box indicates bottle arrived in lab) (Volume - Type - Preservative)	Lab ID	
Steiner Ranch WWTP Effluent	<i>4/04/24</i>	<i>10:50</i>	- N/A -	- N/A -	Grab	NP	<input checked="" type="checkbox"/> ALK 0.25LP <input checked="" type="checkbox"/> AMM NO3 TKN 0.25LP H2SO4 <input checked="" type="checkbox"/> CBOD TSS 2LP <input checked="" type="checkbox"/> CI Cond SO4 TDS 1LP <input checked="" type="checkbox"/> Ecoli 0.1L StP Na2S2O3 <input checked="" type="checkbox"/> NO2 0.25LP <input checked="" type="checkbox"/> OG - 1LG Amber HCl <input checked="" type="checkbox"/> OG - 1LG Amber HCl <input checked="" type="checkbox"/> OG pH Chk - 1LP HCl <input checked="" type="checkbox"/> P 0.1LP H2SO4	H011067-01	
A Alkalinity NP Probe SM 2320 B [NEL]	A CBOD NP Probe SM 5210 B [NEL]	A CI NP Tit SM 4500 Cl- B [NEL]							
A Cond Probe SM 2510 B [NEL]	A E.Coli MPN SM9223 B [NEL]	A NO2N NP Spec SM4500 NO2 B [NEL]							
A NO3N NP CALC SM4500 [NEL]	A P NP ICP EPA 200.7 [NEL]	A SO4 NP Spec D516 [NEL]							
A TDS NP Grav SM2540 C [NEL]	A TSS NP Grav SM 2540 D [NEL]	NH3N NP AUTO SM 4500 G [NEL]							
NO3N + NO2N NP RFA SM4500 NO3 F [CNR]	O&G NP Grav EPA 1664 B [NEL]	TKN NP AUTO EPA 351.2 [NEL]							

Email information for report date:  
4/27/24 16:18  
H012939

## Travis County WCID 17

Attn: Matt Gonzalez  
mgonzalez@wcid17.org

3812 ECK LANE  
AUSTIN, TX 78734

**Please contact us for your sampling needs or if you have any questions. Some convenient contacts are listed below. You can also access your results and reports through our ClientConnect™ portal on our website (www.aqua-techlabs.com).**

For sampling questions:

samplingbryan@aqua-techlabs.com (Bryan area)  
samplingaustin@aqua-techlabs.com (Austin area)

reporting@aqua-techlabs.com (report questions)

Aqua-Tech values you as a customer and encourages you to speak with our staff at 979-778-3707 or the above emails if you have questions.

Thank you for your business,  
June M. Brien  
Executive Technical Director

**BRYAN FACILITY**  
635 Phil Gramm Boulevard  
Bryan, TX 77807  
Phone: (979) 778-3707  
Fax: (979) 778-3193



**AUSTIN FACILITY**  
3512 Montopolis Dr. Suite A  
Austin, TX 78744  
Phone: (512) 301-9559  
Fax: (512) 301-9552

The analyses summarized in this report were performed by Aqua-Tech Laboratories, Inc. unless otherwise noted. Aqua-Tech Laboratories, Inc. holds accreditation from the State of Texas in accordance with TNI and/or through the TCEQ Drinking Water Commercial Laboratory Approval Program.

#### The following abbreviations indicate certification status:

NEL	TNI accredited parameter.
ANR	Accreditation not offered by the State of Texas.
DWP	Approval through the TCEQ Drinking Water Commercial Laboratory Approval Program.
INF	Aqua-Tech Laboratories, Inc. is not accredited for this parameter. It is reported on an informational basis only.

Certificate: T104704371-23-27



TCEQ Lab ID T104704371

Subcontracted data summarized in this report is indicated by "Sub" in the Lab column.

#### General Definitions:

NR	Not Reported.
RPD	Relative Percent Difference.
% R	Percent Recovery.
dry	Results with the "dry" unit designation are reported on a "dry weight" basis.
SQL	The Sample Quantitation Limit is the value below which the parameter cannot reliably be detected. The SQL includes all sample preparations, dilutions and / or concentrations.
Adj MDL	The Adjusted Method Detection Limit is the MDL value adjusted for any sample dilutions or concentrations .
MDL	The Method Detection Limit is the lowest theoretical value that is statistically different from zero for a specific method, taking into account all preparation steps and instrument settings.

All samples are reported on an "as received" basis unless the designation "dry" is added to the reported unit.

Copies of Aqua-Tech Laboratories, Inc. procedures and individual sampling plans are available upon request. Note that samples are collected by Aqua-Tech Laboratories, Inc. personnel unless otherwise noted in the "Sample Collected" field of this report as "Client" or "CLT".

Samples included in this report were received in acceptable condition according to Aqua-Tech Laboratories, Inc. procedures and 40 CFR, Chapter I, Subchapter D, Part 136.3, TABLE II. - *Required containers, preservation techniques, and holding times*, unless otherwise noted in this report.

#### Record Retention:

All reports, raw data, and associated quality control data are kept on file for 10 years before being destroyed. Any client that would like copies of records must contact Aqua-Tech Laboratories, Inc. no later than six months prior to the scheduled disposal. An administrative fee for retrieval and distribution will apply.

This report was approved by:

June M. Brien, Technical Director

The results in this report apply only to the samples analyzed. This analytical report must be reproduced in its entirety unless written permission is granted by Aqua-Tech Laboratories, Inc.

corp@aqua-techlabs.com

www.aqua-techlabs.com

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 Bryan, TX 77807  
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 3512 Montopolis Dr. Suite A  
 Austin, TX 78744  
 Phone: (512) 301-9559  
 Fax: (512) 301-9552

**Analytical Report**

**Travis County WCID 17**

**Report Printed: 4/27/24 16:18**

**H012939**

**Steiner Ranch WWTP Effluent**

Collected: 04/18/24 10:20 by CLIENT  
 Received: 04/18/24 14:01 by Katherine Borta

Type  
 Grab

Matrix  
 Non Potable

C-O-C #  
 H012939

Lab ID#	H012939-01	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch
<b>General Chemistry</b>											
Total Suspended Solids	1	mg/L			1	1	1	Austin	04/24/24 12:15 BEB	SM2540 D 2015	M176482

NEL

**General Chemistry - Quality Control**

Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
<b>Total Suspended Solids - SM2540 D 2015</b>												
Blank	<1	mg/L	1	1	04/24/24 12:15 BEB							M176482
Duplicate	3	mg/L	1	1	04/24/24 12:15 BEB		3			0.797	20	M176482
Reference	103	mg/L	10	10	04/24/24 12:15 BEB	102		101	80 - 120			M176482

Austin

**Sample Preparation Summary**

Sample	Method	Prepared	Lab	Bottle	Initial	Units	Final	Units	External Dilution Factor	Batch
<b>H012939-01</b>										
Total Suspended Solids	SM2540 D 2015	4/24/24 12:15 BEB	Austin	A	1000	mL	1000	mL	1	M176482

# Chain-of-Custody and Analysis Request

**Client / Project Name:** Travis County WCID 17  
Steiner Ranch Short New Permit

**Contact Information**  
Name: Matt Gonzalez  
Address: 3812 ECK LANE  
City: AUSTIN  
State: TX Zip: 78734  
Phone: (512) 266-1111  
email:

**Definitions**  
DW Drinking Water  
NP Non-Potable Water  
S Solid  
CM Custody Maintained  
CTU Custody Transfer Unbroken  
CT Corrected Temperature

Reagent tracking is available upon request.



**Aqua-Tech laboratories, Inc.**  
Austin  
3512 Montopolis Dr. Austin, TX 78744  
512.301.9559  
Bryan  
635 Phil Gramm Blvd. Bryan, TX 77807  
979.778.3707  
Test results meet all accreditation/certification requirements unless stated otherwise.

C-O-C #  
**H012939**  
Page 1 of 1  
rte\_ATL COC 012723.rpt

TCEQ LAB ID:  
T104704371

Analyses Requested: "A" prefix indicates Austin, all others Bryan or Subcontracted, indicated by [SUB].  
Name format: Analysis-Matrix-Technology-Method.  
[NEL] = NELAP accredited parameter [CNR] = No NELAP accreditation required or available  
[SUB] = NELAP accredited subcontracted parameter [INF] = Informational only (not NELAC certified)

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A current list of ATL's NELAC fields of accreditation and other methods are available on request.

**Comments:**

**- LAB RECEIPT - Y004**  
Temperature - CT (C): 1.6  
Preservation Correct: Yes  
Post-Preservatives: N/A  
Thermometer ID: 0811654  
pH Paper ID: 0812800  
ko\_A COC MULTI 043020.rpt

Sample Custody		
Relinquished (print & sign) <i>J. DEL TORO</i>	<input type="checkbox"/> Sampler <input checked="" type="checkbox"/> Client <input type="checkbox"/> ATL Field	Date: 4/18/24 Time: 10:25 <input checked="" type="checkbox"/> Iced / Refrig <input type="checkbox"/> Custody Sealed
Received (print & sign) <i>Katherine Borta</i>	<input type="checkbox"/> Client <input checked="" type="checkbox"/> ATL Field	Date: 4/18/24 Time: 1300 <input checked="" type="checkbox"/> Iced / Refrig <input type="checkbox"/> CM / CTU
Relinquished (print & sign) <i>NE 4/18/24</i>	<input type="checkbox"/> Client <input type="checkbox"/> ATL Field	Date: _____ Time: _____ <input type="checkbox"/> Iced / Refrig <input type="checkbox"/> CM / CTU
Received (print & sign) <i>Katherine Borta</i>	<input type="checkbox"/> Client <input checked="" type="checkbox"/> ATL Field	Date: 04/18/24 Time: 14:01 <input checked="" type="checkbox"/> Iced / Refrig <input type="checkbox"/> CM / CTU / Sealed
Received (print & sign) <i>Katherine Borta</i>	<input checked="" type="checkbox"/> Lab	Date: 04/18/24 Time: 14:01 <input checked="" type="checkbox"/> Cond Good <input checked="" type="checkbox"/> Iced / Refrig <input checked="" type="checkbox"/> CM / CTU

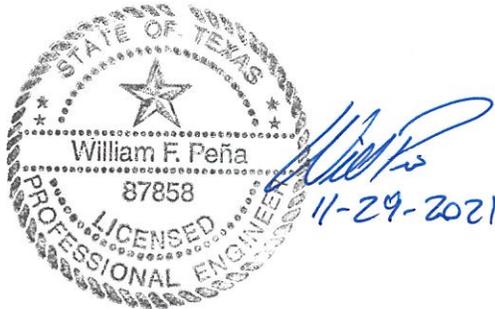
Field Sample ID	Start Date	Start Time	End Date	End Time	Composite Type	Sample Matrix	Container (Checked box indicates bottle arrived in lab) (Volume - Type - Preservative)	Lab ID
Steiner Ranch WWTP Effluent	4/18/24	10:20	- N/A -	- N/A -	Grab	NP	<input checked="" type="checkbox"/> TSS 2LP	H012939-01

A TSS NP Grav SM 2540 D [NEL]

**ATTACHMENT I**  
**LINER CERTIFICATION**

**STEINER RANCH WWTP  
EFFLUENT STORAGE POND  
SYNTHETIC LINER CERTIFICATION**

According to existing documentation the effluent storage ponds were installed with and currently have a 36 mil Hypalon polyethylene liner which meets the requirements of 30 TAC Chapters 309 and 317.

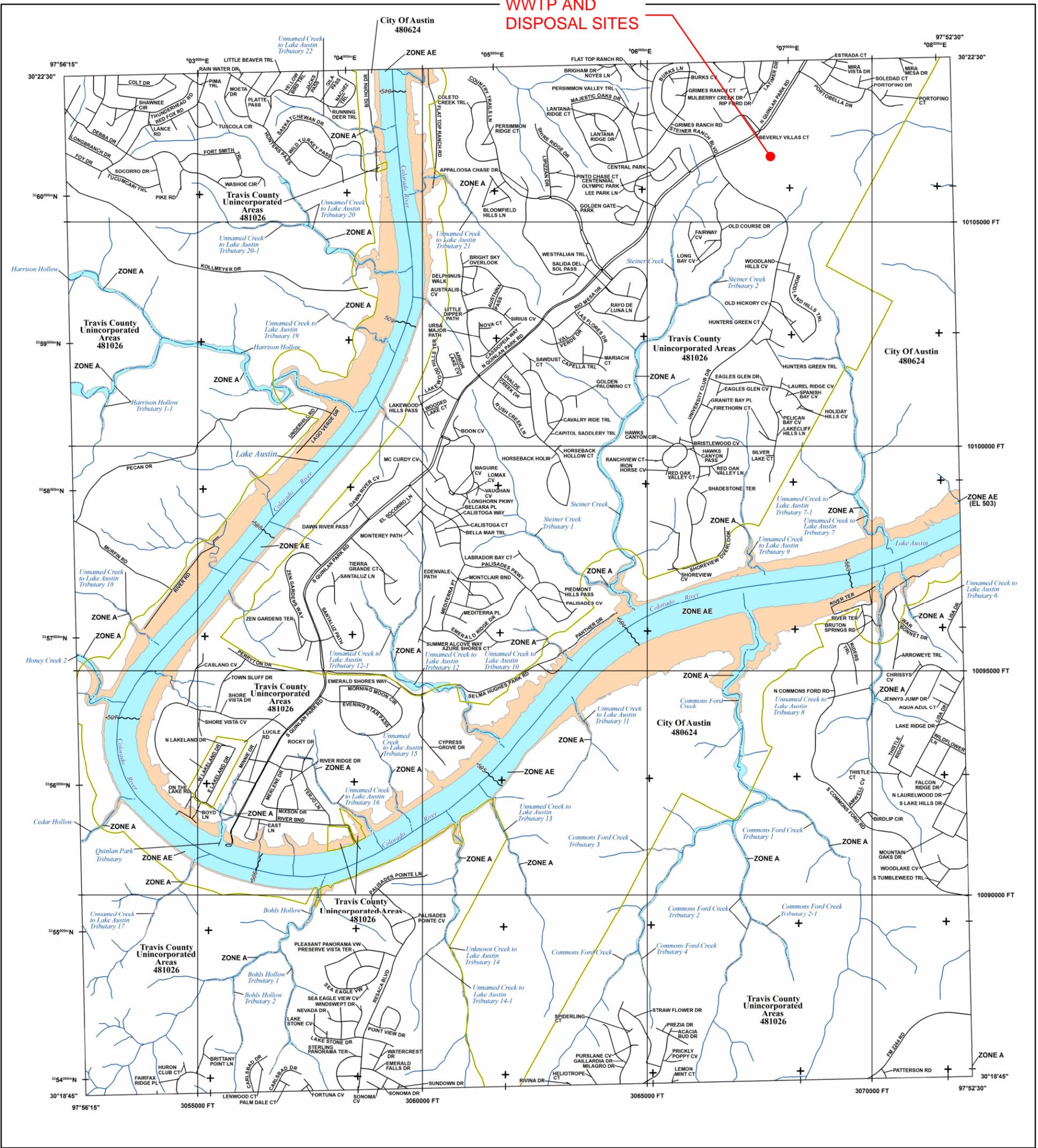


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William F. Peña, P.E.

**ATTACHMENT J**  
**FEMA FIRM MAP**

# WWTP AND DISPOSAL SITES



## FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT  
**THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT**  
[HTTPS://MSC.FEMA.GOV](https://MSC.FEMA.GOV)

	Without Base Flood Elevation (BFE) Zone A, V, A99
	With BFE or Depth Zone AE, AO, AH, VE, AR
	Regulatory Floodway
	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
	NO SCREEN Area of Minimal Flood Hazard Zone X
	Area of Undetermined Flood Hazard Zone D
	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
	Cross Sections with 1% Annual Chance Water Surface Elevation
	Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary

## NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at <https://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

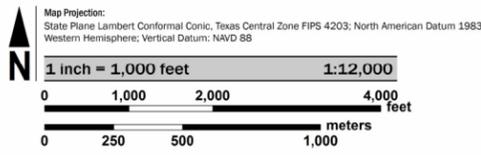
Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

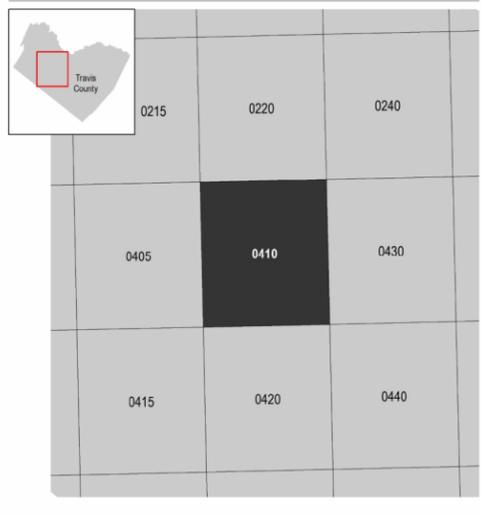
To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was derived from digital data obtained from City of Austin dated 2016, NPHL dated 2014, and CAPCOD dated 2014 and 2016.

## SCALE



## PANEL LOCATOR



**National Flood Insurance Program**

**NATIONAL FLOOD INSURANCE PROGRAM**  
**FLOOD INSURANCE RATE MAP**  
**TRAVIS COUNTY, TEXAS**  
 and Incorporated Areas  
 PANEL 410 OF 730

Panel Contains:  
 COMMUNITY: AUSTIN, CITY OF TRAVIS COUNTY  
 NUMBER: 480624  
 PANEL: 0410  
 SUFFIX: J

VERSION NUMBER: 2.3.3.3  
 MAP NUMBER: 48453C0410J  
 MAP REVISED: JANUARY 22, 2020

**ATTACHMENT K**  
**ANNUAL CROPPING PLAN**

## ATTACHMENT K – ANNUAL CROPPING PLAN

### 1.0 – Nitrogen Balance

This drip irrigation system disposes a maximum average flow rate of 125,000 gallons per day (gpd) of treated wastewater effluent, at a maximum application rate of 0.10 gpd per square foot. The treated wastewater effluent is generated by the Steiner Ranch Wastewater Treatment Plant. A possible limiting factor on irrigation rates is the nitrogen application rate. The nitrogen applied from the effluent shall not be greater than the amount that can be taken up and removed by vegetation, so that excess nitrogen does not leach into the ground water system or surface waters.

According to 30 TAC Section 222.83, the allowable annual hydraulic loading rate based on nitrogen limits is given by the following equation:

$$Lw(n) = [(Cp)(Pr-ET) + (U)(4.4)] / [(1-f)(Cn) - Cp]$$

$Lw(n)$  = allowable annual hydraulic loading rate based upon nitrogen limits in inches per year

$Cp$  = total nitrogen concentration in soil solution in milligrams per liter

Nitrogen concentration of soil solution is equal to 9.0 mg/L

$Pr$  = precipitation rate in inches per year

Average precipitation for Austin, over 25-year period of 1988-2012, according to NOAA average precipitation at Austin Bergstrom Airport, Austin, TX and is equal to 33.21 in/yr

$ET$  = evapotranspiration rate in inches per year

Average evapotranspiration rate, calculated using Blaney-Criddle method as described in FAO's "Irrigation Water Management" paper, was calculated to be 63.56 in/yr

$U$  = nitrogen uptake by crop in pounds per acre per year

Average nitrogen uptake for Bermuda Grass, according to Process Design Manual for Land Treatment of Municipal Wastewater, U.S. Environmental Protection, October 1981, is equal to 200 kg/ha/yr or 178 lb/acre/yr

4.4 = combined conversion factor

$Cn$  = total nitrogen concentration in wastewater at time of application to land in milligrams per liter

Proposed effluent maximum permitted concentration equal to 5.0 mg/L

$f$  = fraction of applied nitrogen removed by denitrification and volatilization and assumed to be 0.20

The above equation gives an allowable hydraulic loading rate, based on nitrogen limits, of 102.01 in/yr. The existing hydraulic application rate is 58.56 in/yr. Therefore, the anticipated nitrogen loading is less than what can be used through crop uptake, and nitrogen loading is not a controlling factor in the hydraulic loading rate.

## **2.0 – Annual Cropping Plan**

The existing drip irrigation site is predominantly occupied by oak and cedar trees. A relatively small number of other native trees are also present. A variety of shrubs exist under the trees and various native grasses exist in the open areas of the tract. The remaining area was seeded with Bermuda and Winter Rye grasses.

Bermuda grass has a typical growing season lasting from March through October. It will go dormant following the first frost and remain dormant until Spring. Winter Rye has a typical growing season lasting from October through February. Bermuda grass has a maximum height of 15 to 18 inches, and Winter Rye has a maximum height of approximately 12 inches.

As discussed further in Section 1.0 – Nitrogen Balance, the average nitrogen uptake for Bermuda grass is equal to 178 lb/acre/yr. An allowable hydraulic loading rate of 102.01 in/yr, based on nitrogen limits, was established for this system. The existing hydraulic loading rate is 58.56 in/yr. Therefore, the amount of nitrogen applied does not exceed the amount that can be removed by crop uptake. No additional fertilizer is proposed to be applied to the site. No supplemental watering is proposed for this site.

The crop salt tolerances were taken from Table 3 of 30 TAC Section 309.20. Bermuda grass is listed as Highly Salt Tolerant, with a maximum electrical conductivity of 8.0 – 12.0 millimhos/cm at 25 degrees Celsius. Winter Rye is listed as Relatively Salt Tolerant with a maximum electrical conductivity of 6.0 – 8.0 millimhos/cm at 25 degrees Celsius.

**ATTACHMENT L**  
**WELL AND MAP INFORMATION**

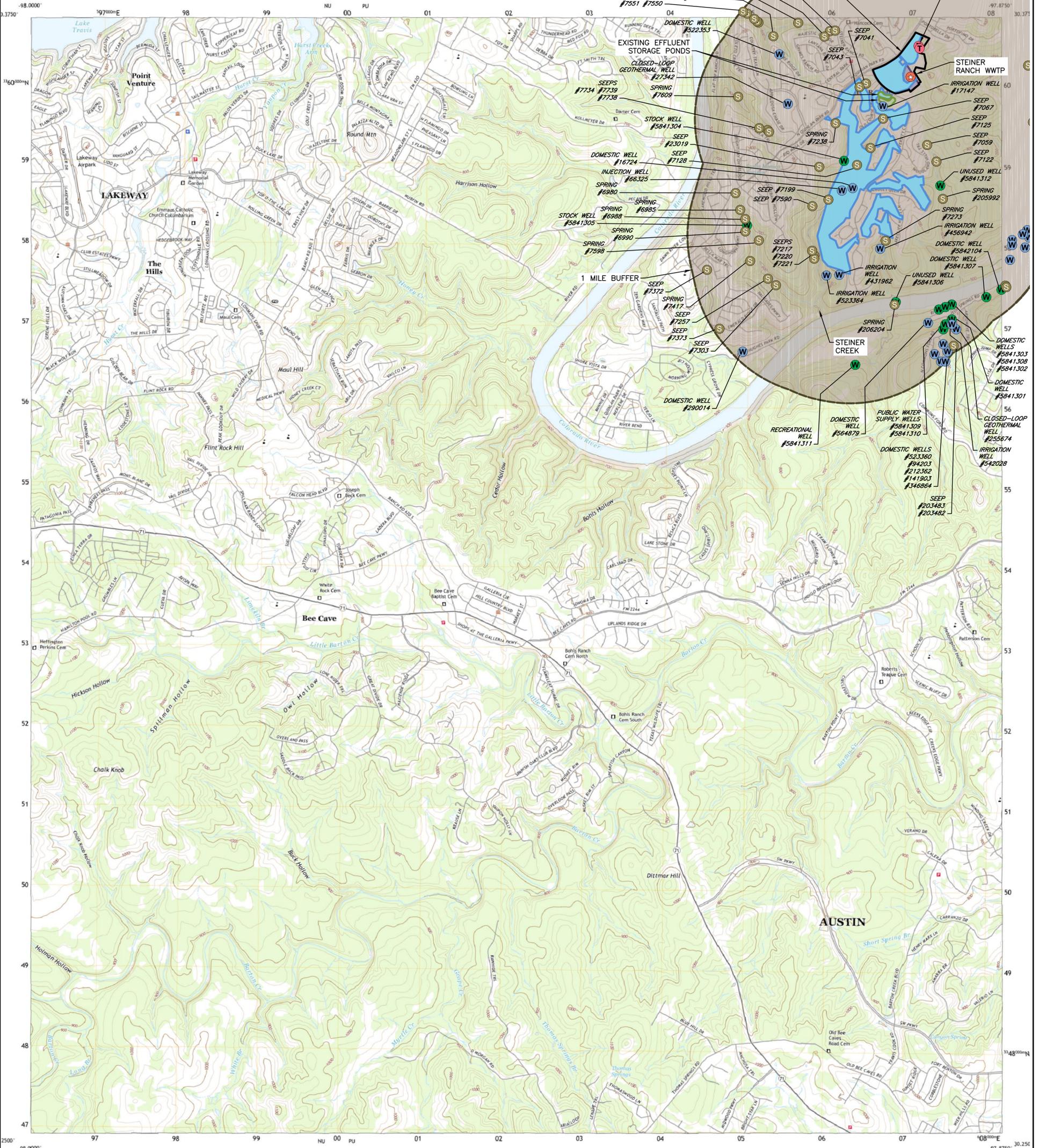
**TRAVIS COUNTY WCID NO. 17**  
**WQ0013294001**  
**ATTACHMENT L – WELL AND MAP INFORMATION**

**TABLE 1 – WATER WELL DATA**

WELL ID	WELL USE	PRODUCING (Y/N)	OPEN, CASED, CAPPED, OR PLUGGED?	PROPOSED BEST MANAGEMENT PRACTICE
522353	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
27342	Closed-Loop Geothermal	Y	Cased	Greater than 150-ft away from irrigation site.
5841304	Spring/Stock	Y	Open	Greater than 150-ft away from irrigation site.
17147	Irrigation	Y	Cased	Greater than 150-ft away from irrigation site.
66325	Injection	Y	Unknown	Greater than 150-ft away from irrigation site.
16724	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
5841312	Spring/Unused	N	Unknown	Greater than 150-ft away from irrigation site.
5841305	Spring/Stock	Y	Open	Greater than 150-ft away from irrigation site.
290014	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
5841311	Recreational	Y	Unknown	Greater than 150-ft away from irrigation site.
523364	Irrigation	Y	Cased	Greater than 150-ft away from irrigation site.
431962	Irrigation	Y	Cased	Greater than 150-ft away from irrigation site.
456942	Irrigation	Y	Cased	Greater than 150-ft away from irrigation site.
5841306	Spring/Unused	N	Buried under Lake Austin	Greater than 150-ft away from irrigation site.
5841303	Domestic	Y	Capped	Greater than 150-ft away from irrigation site.
5841308	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
5841302	Domestic	Y	Capped	Greater than 150-ft away from irrigation site.
5841301	Domestic	Y	Capped	Greater than 150-ft away from irrigation site.
542028	Irrigation	Y	Cased	Greater than 150-ft away from irrigation site.
255674	Closed-Loop Geothermal	N	Plugged	Greater than 150-ft away from irrigation site.
564879	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
5841310	Public Water Supply	Y	Cased	Greater than 500-ft away from irrigation site.
5841309	Public Water Supply	Y	Cased	Greater than 500-ft away from irrigation site.
523360	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
212362	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
94203	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
141903	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
346864	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
346868	Closed-Loop Geothermal	Y	Cased	Greater than 150-ft away from irrigation site.
5841307	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
5842104	Domestic	Y	Capped	Greater than 150-ft away from irrigation site.
5842103	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
391213	Irrigation	Y	Cased	Greater than 150-ft away from irrigation site.
248502	Closed-Loop Geothermal	N	Plugged	Greater than 150-ft away from irrigation site.
373313	Irrigation	Y	Cased	Greater than 150-ft away from irrigation site.
436059	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
131752	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
373319	Irrigation	Y	Cased	Greater than 150-ft away from irrigation site.
525415	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
523785	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.



U.S. DEPARTMENT OF THE INTERIOR  
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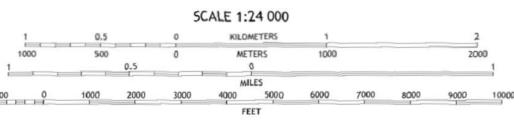
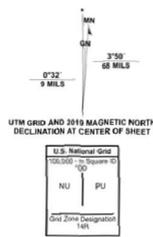


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Imagery: NAD, September 2016 - November 2016  
Roads: U.S. Census Bureau, 2015 - 2019  
Names: GNS, 1979 - 2022  
Hydrography: National Hydrography Dataset, 2002 - 2018  
Contours: National Elevation Dataset, 2019  
Boundaries: Multiple sources; see metadata file 2019 - 2024

Wetlands: FWS National Wetlands Inventory Not Available

BEE CAVE	
Map Base	
	EXISTING WATER TANK
	EXISTING SPRING OR SEEP
	EXISTING WELL (SDRDB)
	EXISTING WELL (GWDB)
	WASTEWATER TREATMENT PLANT
	EFFLUENT STORAGE PONDS
	WWTP PROPERTY BOUNDARY
	EFFLUENT DISPOSAL SITE BOUNDARY
	TREATMENT PLANT BOUNDARY
	1 MILE BUFFER
	TX_Bee_Cave_20220811_TM_geo



CONTOUR INTERVAL 20 FEET  
NORTH AMERICAN VERTICAL DATUM OF 1988  
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1	2	3
4	5	6
7	8	

ADJOINING QUADRANGLES

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

BEE CAVE, TX  
2022

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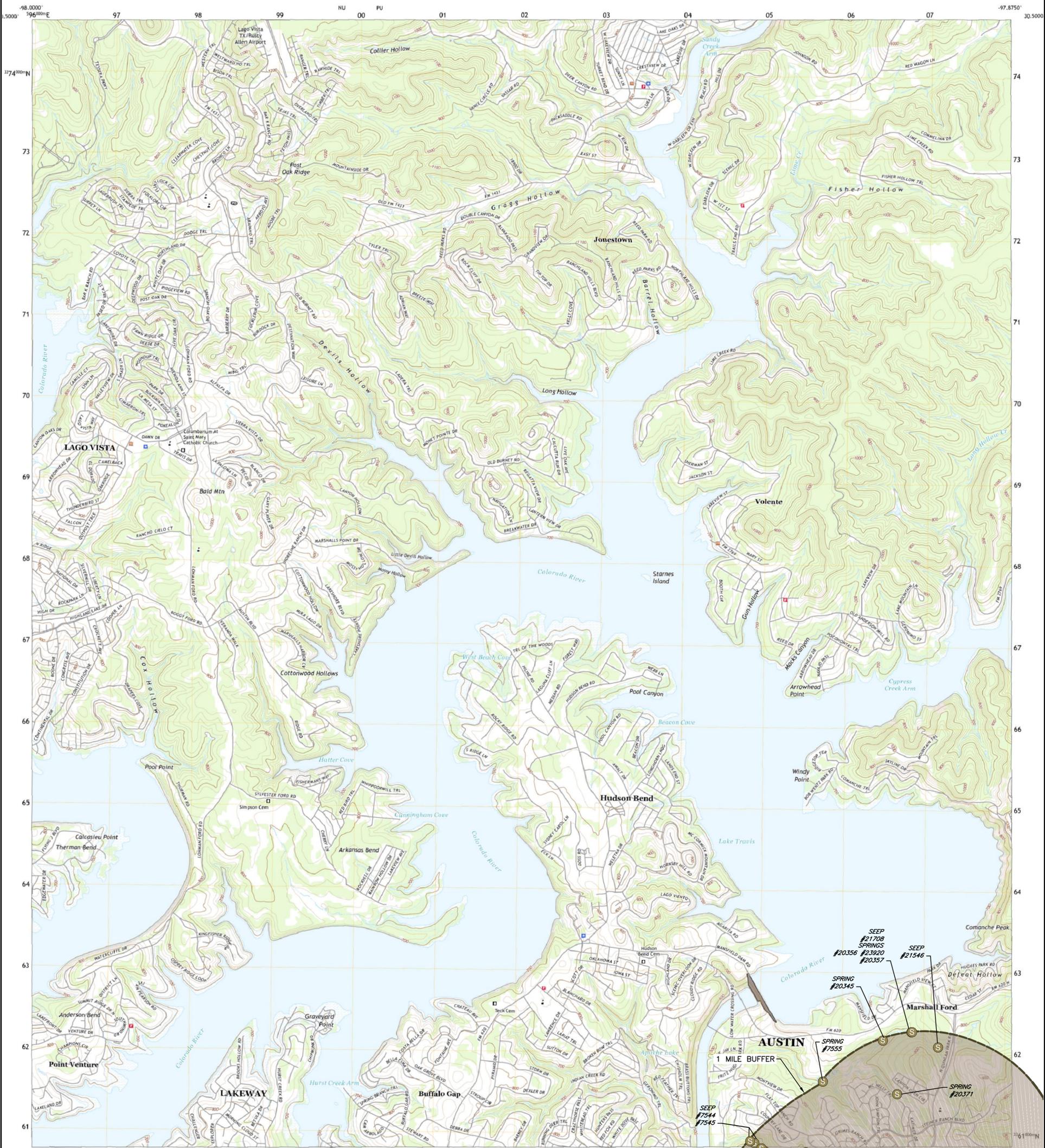
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STEINER RANCH WWTP  
WQ0013294001  
ATTACHMENT 'L'  
WELL & MAP INFORMATION  
1 OF 4



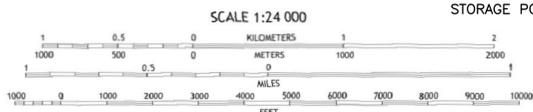
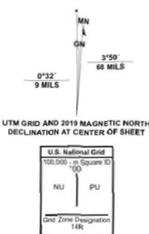
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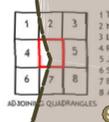
MANSFIELD DAM QUADRANGLE  
TEXAS - TRAVIS COUNTY  
7.5-MINUTE SERIES



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Imagery:.....NAP, September 2016 - November 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



CONTOUR INTERVAL 20 FEET  
NORTH AMERICAN VERTICAL DATUM OF 1988  
This map was produced to conform with the  
National Geospatial Program US Topo Product Standard.



### MANSFIELD

- Map Base
- EXISTING WATER TANK
  - EXISTING SPRING OR SEEP
  - EXISTING WELL (SDRDB)
  - EXISTING WELL (GWDB)
  - WASTEWATER TREATMENT PLANT
  - EFFLUENT STORAGE PONDS
  - WWTP PROPERTY BOUNDARY
  - EFFLUENT DISPOSAL SITE BOUNDARY
  - TREATMENT PLANT BOUNDARY
  - 1 MILE BUFFER
  - TX\_Mansfield\_Dam\_20220811\_TM\_geo

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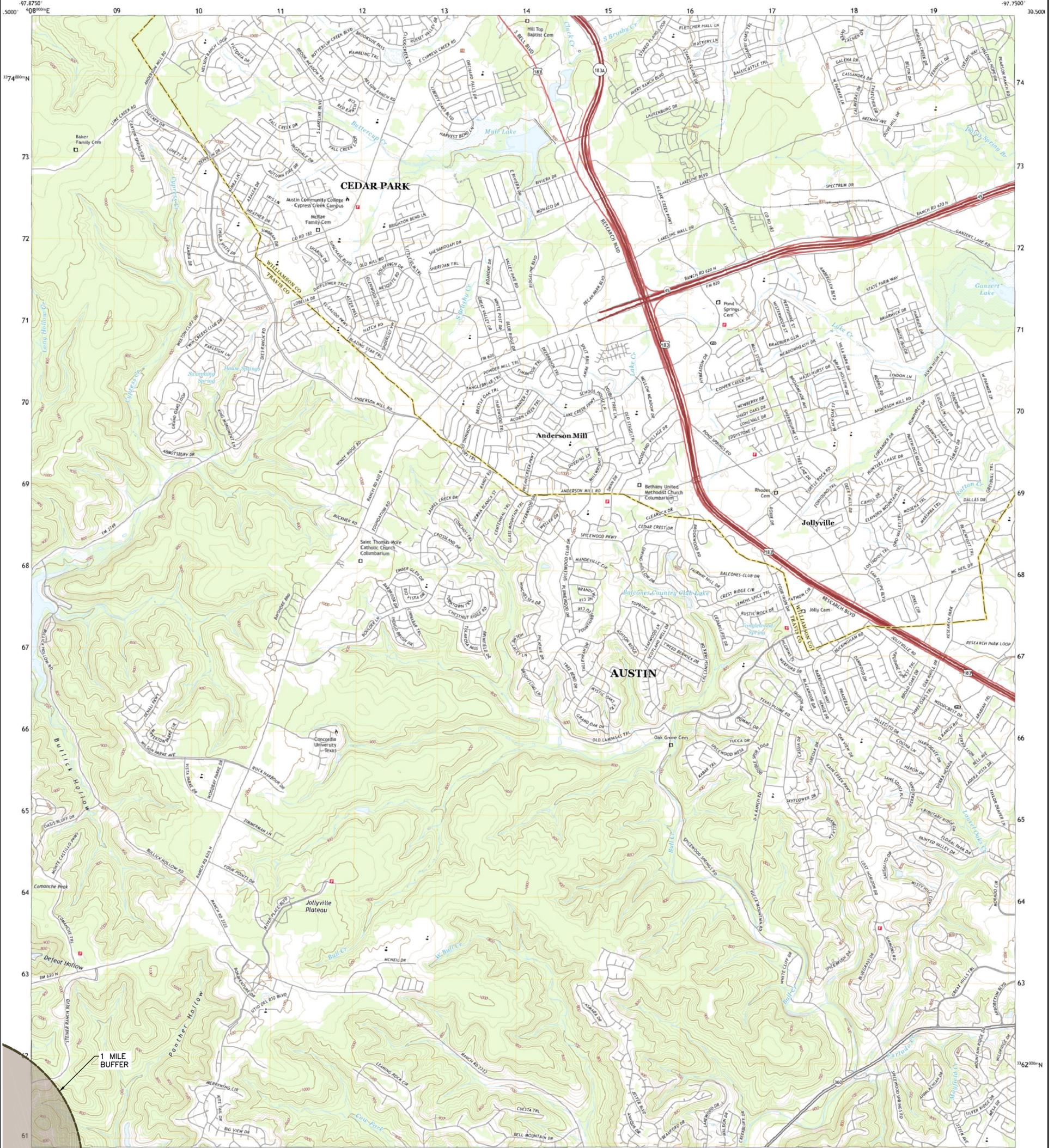
TRAVIS COUNTY WCID NO. 17  
STEINER RANCH WWTP  
WQ0013294001  
ATTACHMENT 'L'  
WELL & MAP INFORMATION  
2 OF 4



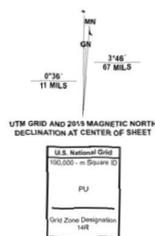
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U.S. GEOLOGICAL SURVEY



JOLLYVILLE QUADRANGLE  
TEXAS  
7.5-MINUTE SERIES



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ADJOINING QUADRANGLES

1	2	3
4	5	6
7	8	

1 Nameless  
2 Leander  
3 Round Rock  
4 Mansfield Dam  
5 Pflugerville West  
6 Bee Cave  
7 Austin West  
8 Austin East

ROAD CLASSIFICATION

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

JOLLYVILLE, TX  
2022

JOLLYVILLE	
Map Base	
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[Symbol]	EXISTING SPRINGS
[Symbol]	EXISTING WELL (SDRDB)
[Symbol]	EXISTING WELL (GWDB)
[Symbol]	WASTEWATER TREATMENT PLANT
[Symbol]	EFFLUENT STORAGE PONDS
[Symbol]	WWTP PROPERTY BOUNDARY
[Symbol]	EFFLUENT DISPOSAL SITE BOUNDARY
[Symbol]	TREATMENT PLANT BOUNDARY
[Symbol]	1 MILE BUFFER
[Symbol]	TX_Jollyville_20220811_TM_geo

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STEINER RANCH WWTP  
WQ0013294001

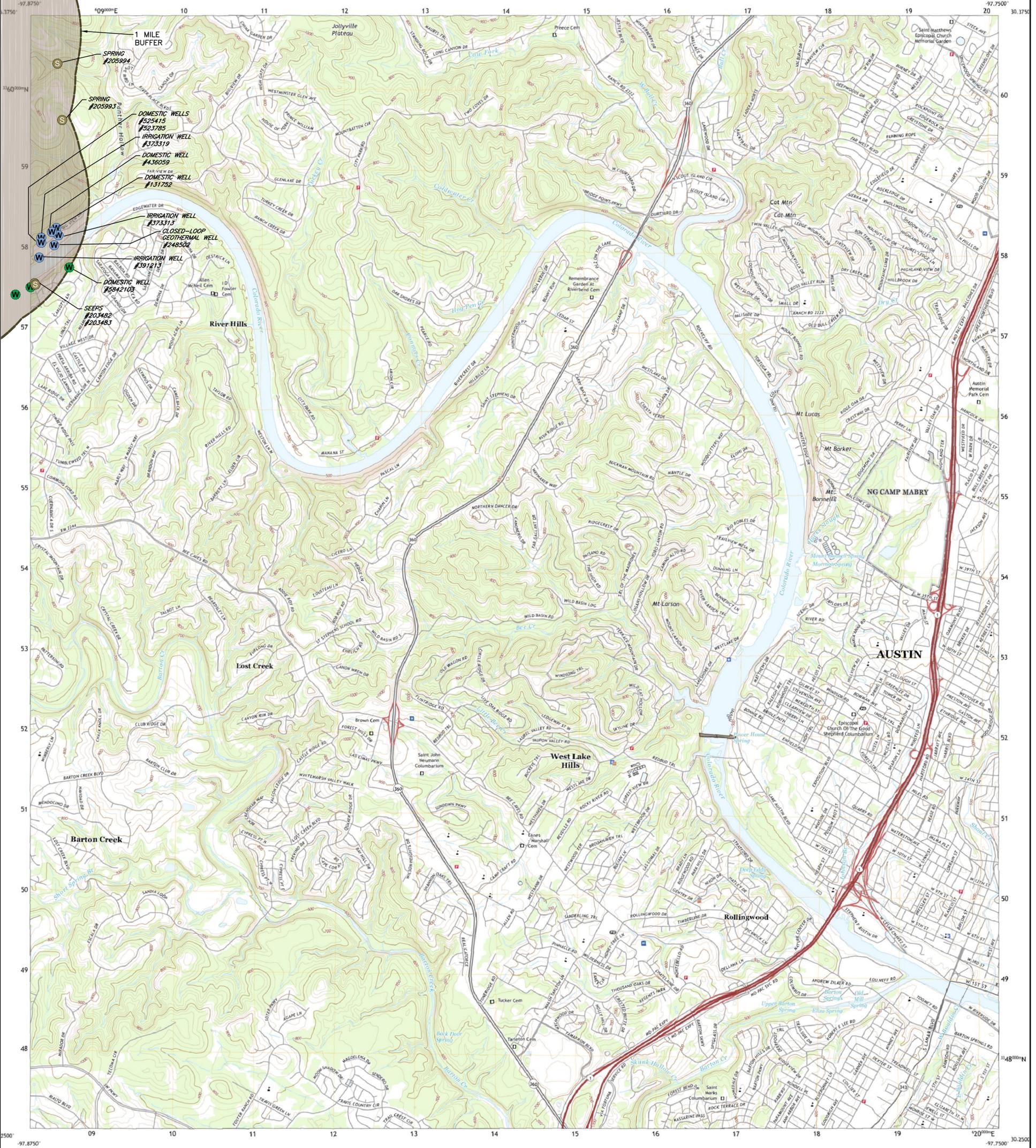
ATTACHMENT 'L'  
WELL & MAP INFORMATION  
3 OF 4



U.S. DEPARTMENT OF THE INTERIOR  
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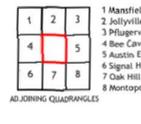
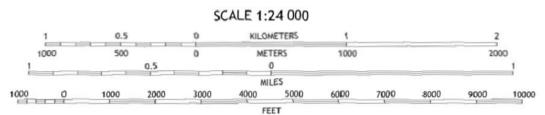
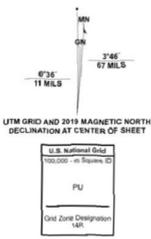
AUSTIN WEST QUADRANGLE  
TEXAS - TRAVIS COUNTY  
7.5-MINUTE SERIES



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Image:.....NAIP, September 2016 - November 2016  
Roads:.....U.S. Census Bureau, 2015 - 2019  
Name:.....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



AUSTIN WEST, TX  
2022

AUSTIN WEST	
Map Base	
	EXISTING WATER TANK
	EXISTING SPRINGS
	EXISTING WELL (SDRDB)
	EXISTING WELL (GWDB)
	WASTEWATER TREATMENT PLANT
	EFFLUENT STORAGE PONDS
	WWTP PROPERTY BOUNDARY
	EFFLUENT DISPOSAL SITE BOUNDARY
	TREATMENT PLANT BOUNDARY
	1 MILE BUFFER
	TX_Austin_West_20220811_TM_geo

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TRAVIS COUNTY WCID NO. 17  
STEINER RANCH WWTP  
WQ0013294001

ATTACHMENT 'L'  
WELL & MAP INFORMATION  
4 OF 4

## STATE OF TEXAS WELL REPORT for Tracking #522353

Owner: <b>Randal Park</b>	Owner Well #: <b>No Data</b>
Address: <b>1306 Fernglade Ln Cedar Park , TX 78613</b>	Grid #: <b>58-41-3</b>
Well Location: <b>18401 Angel Valley Leander, TX</b>	Latitude: <b>30° 22' 15" N</b>
Well County: <b>Travis</b>	Longitude: <b>097° 54' 13" W</b>
	Elevation: <b>No Data</b>

---

Type of Work: <b>New Well</b>	Proposed Use: <b>Domestic</b>
-------------------------------	-------------------------------

Drilling Start Date: **5/17/2019**      Drilling End Date: **5/20/2019**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	<b>10</b>	<b>0</b>	<b>19</b>
	<b>6.5</b>	<b>19</b>	<b>530</b>

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	<b>0</b>	<b>19</b>	<b>Cement 6 Bags/Sacks</b>

Seal Method: **Poured**

Sealed By: **Driller**

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

Distance to Septic Field or other concentrated contamination (ft.): **300**

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

Method of Verification: **Tape**

Surface Completion: **Surface Sleeve Installed**

**Surface Completion by Driller**

Water Level: **280 ft. below land surface on 2019-05-20**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **Estimated      Yield: 30 GPM**

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
<b>No Data</b>	<b>No Data</b>

Chemical Analysis Made: **No**

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

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

Company Information: **TOM ARNOLD DRILLING**  
**2750 SOUTH A. W. GRIMES BLVD**  
**ROUND ROCK, TX 78664**

Driller Name: **Tommy Arnold**

License Number: **2096**

Comments: **No Data**

Lithology:  
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>1</b>	<b>Top Soil &amp; Loose Rock</b>
<b>1</b>	<b>11</b>	<b>Loose Rock &amp; Gravel</b>
<b>11</b>	<b>19</b>	<b>Yellow Limestone</b>
<b>19</b>	<b>24</b>	<b>Bluw Limestone</b>
<b>24</b>	<b>31</b>	<b>Gray Limestone</b>
<b>31</b>	<b>54</b>	<b>Brown Limestone</b>
<b>54</b>	<b>180</b>	<b>Gray Limestone</b>
<b>180</b>	<b>185</b>	<b>Blue Limestone &amp; Shale</b>
<b>185</b>	<b>291</b>	<b>Gray Limestone</b>
<b>291</b>	<b>310</b>	<b>Bronw Limestone</b>
<b>310</b>	<b>315</b>	<b>Gray Sandstone</b>
<b>315</b>	<b>410</b>	<b>Gray Limestone</b>
<b>410</b>	<b>455</b>	<b>Gray Limestone &amp; Shale</b>
<b>455</b>	<b>470</b>	<b>Gray Limestone &amp; Sand</b>
<b>470</b>	<b>490</b>	<b>Red Sandstone</b>
<b>490</b>	<b>495</b>	<b>Red Sand</b>
<b>495</b>	<b>530</b>	<b>Red &amp; Gray Limestone</b>

<i>Dia (in.)</i>	<i>Type</i>	<i>Material</i>	<i>Sch./Gage</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
<b>4.5</b>	<b>Blank</b>	<b>New Plastic (PVC)</b>		<b>0</b>	<b>530</b>
<b>4.5</b>	<b>Perforated or Slotted</b>	<b>New Plastic (PVC)</b>	<b>0.032</b>	<b>450</b>	<b>490</b>

---

**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

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

## STATE OF TEXAS WELL REPORT for Tracking #27342

Owner: <b>Leander ISD</b>	Owner Well #: <b>No Data</b>
Address: <b>401 S. West Street Leander, TX 78641</b>	Grid #: <b>58-41-3</b>
Well Location: <b>12600 Country Trails Austin, TX</b>	Latitude: <b>30° 21' 55" N</b>
Well County: <b>Travis</b>	Longitude: <b>097° 54' 09" W</b>
	Elevation: <b>No Data</b>
Type of Work: <b>New Well</b>	
	Proposed Use: <b>Closed-Loop Geothermal</b>

Drilling Start Date: **7/21/2003**      Drilling End Date: **10/8/2003**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	<b>4.75</b>	<b>0</b>	<b>290</b>

Drilling Method: **Air Rotary**

Borehole Completion: **Filter Packed**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Filter Material</i>	<i>Size</i>
Filter Pack Intervals:	<b>30</b>	<b>290</b>	<b>Gravel</b>	

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks &amp; material)</i>
Annular Seal Data:	<b>0</b>	<b>30</b>	<b>3 Bentonite</b>

Seal Method: **Poured**

Distance to Property Line (ft.): **150**

Sealed By: **Driller**

Distance to Septic Field or other  
concentrated contamination (ft.): **N/A**

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

Method of Verification: **Measured**

Surface Completion: **Alternative Procedure Used**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	No Data

Chemical Analysis Made: **Unknown**

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

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

Company Information: **Ball Drilling Company**

**P. O. Box 201717  
Austin, TX 78720**

Driller Name: **Joshua Dickinson**

License Number: **54204**

Comments: **258 Geothermal Closed Loop Wells**

Lithology:  
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
BLANK PIPE & WELL SCREEN DATA

From (ft)	To (ft)	Description
0	12	Clay and Boulders
12	27	White Limestone
27	290	Gray Shale with limestone streaks
258 Geothermal Closed Loop Wells		

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
1-inch	New	PE Loop	5 to 290

### IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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

[GWDB Reports and Downloads](#)

**Well Basic Details**

[Scanned Documents](#)

State Well Number	5841304
County	Travis
River Basin	Colorado
Groundwater Management Area	8
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	GCD Does Not Exist
Latitude (decimal degrees)	30.358889
Latitude (degrees minutes seconds)	30° 21' 32" N
Longitude (decimal degrees)	-97.895278
Longitude (degrees minutes seconds)	097° 53' 43" W
Coordinate Source	+/- 5 Seconds
Aquifer Code	218GLRSL - Glen Rose Limestone, Lower Member
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	702
Land Surface Elevation Method	Digital Elevation Model -DEM
Well Depth (feet below land surface)	
Well Depth Source	
Drilling Start Date	
Drilling End Date	
Drilling Method	
Borehole Completion	

Well Type	Spring
Well Use	Stock
Water Level Observation	None
Water Quality Available	Yes
Pump	None
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	Tommy Steiner
Driller	Dick Sanders
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	<a href="#">302133097534401</a>
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	Santa Monica Spring
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	2/10/1972
Last Update Date	3/4/2020

**Remarks** Estimated discharge 100 GPM on 2/6/73. Santa Monica spring.

**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**

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**Water Level Measurements**

No Data Available

### Water Quality Analysis

**Sample Date:** 2/6/1973    **Sample Time:** 0000    **Sample Number:** 1    **Collection Entity:** Texas Water Development Board  
**Sampled Aquifer:** Glen Rose Limestone, Lower Member  
**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)		211	mg/L as CaCO 3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		257.49	mg/L	
01020	BORON, DISSOLVED (UG/L AS B)		100	ug/L	
00910	CALCIUM (MG/L)		69	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		15	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		0.2	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		246	mg/L as CaCO 3	
00920	MAGNESIUM (MG/L)		18	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		2.5	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		8	SU	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		8	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		0.22		
00932	SODIUM, CALCULATED, PERCENT		6	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		8	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		501	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		22	mg/L as SO4	
00010	TEMPERATURE, WATER (CELSIUS)		22	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		269	mg/L	

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

**GWDB DISCLAIMER:** Except where noted, all of the information provided in the Texas Water Development Board (TWDB) Groundwater Database (<https://www.twdb.texas.gov/groundwater/data/gwdbprpt.asp>) is believed to be accurate and reliable; however, the TWDB assumes no responsibility for any errors appearing in rules or otherwise. Further, TWDB assumes no responsibility for the use of the information provided. PLEASE NOTE that users of these data are responsible for checking the accuracy, completeness, currency and/or suitability of all information themselves. TWDB makes no guarantees or warranties as to the accuracy, completeness, currency, or suitability of the information provided via the Groundwater Database (GWDB). TWDB specifically disclaims any and all liability for any claims or damages that may result from providing GWDB data or the information it contains. For additional information or answers to questions concerning the TWDB GWDB, contact the Groundwater Data Team at [GroundwaterData@twdb.texas.gov](mailto:GroundwaterData@twdb.texas.gov).

TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer Kyle  
~~Stewart~~ Kyle

Field No. 5519  
Owner's Well No. \_\_\_\_\_

State Well No. 58-41-304  
County Texas

1. Location: 1/4, 1/4 Sec. \_\_\_\_\_, Block \_\_\_\_\_ Survey \_\_\_\_\_

2. Johnny Stewart Address: \_\_\_\_\_  
Address: \_\_\_\_\_  
Address: \_\_\_\_\_

3. LSD is 660 ft. above well, determined by 7 1/2 tops

4. 19; Dug, Cable Tool, Rotary, \_\_\_\_\_

5. Depth Spring ft. Meas. \_\_\_\_\_ ft.

6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfg. \_\_\_\_\_ Type \_\_\_\_\_  
No. Stages \_\_\_\_\_, Bore Dia. \_\_\_\_\_ in., Setting \_\_\_\_\_ ft.  
Column Dia. \_\_\_\_\_ in., Length Tailpipe \_\_\_\_\_ ft.

8. Motor: Fuel \_\_\_\_\_ Make & Model \_\_\_\_\_ HP \_\_\_\_\_

9. Yield: Flow 100 gpm, Pump \_\_\_\_\_ gpm, Meas., Rept., Est. 2-6-73

10. Performance Test: Date \_\_\_\_\_ Length of Test \_\_\_\_\_ Made by \_\_\_\_\_  
Static Level \_\_\_\_\_ ft. Pumping Level \_\_\_\_\_ ft. Drawdown \_\_\_\_\_ ft.  
Production \_\_\_\_\_ gpm Specific Capacity \_\_\_\_\_ gpm/ft.

11. Water Level: \_\_\_\_\_ ft. rept. \_\_\_\_\_ 19 \_\_\_\_\_ above \_\_\_\_\_ which is \_\_\_\_\_ ft. above surface.  
\_\_\_\_\_ ft. meas. \_\_\_\_\_ below \_\_\_\_\_ below surface.  
\_\_\_\_\_ ft. rept. \_\_\_\_\_ 19 \_\_\_\_\_ above \_\_\_\_\_ which is \_\_\_\_\_ ft. above surface.  
\_\_\_\_\_ ft. meas. \_\_\_\_\_ below \_\_\_\_\_ below surface.  
\_\_\_\_\_ ft. rept. \_\_\_\_\_ 19 \_\_\_\_\_ above \_\_\_\_\_ which is \_\_\_\_\_ ft. above surface.  
\_\_\_\_\_ ft. meas. \_\_\_\_\_ below \_\_\_\_\_ below surface.

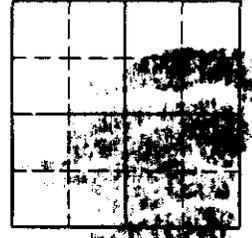
12. Use: Dom., Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used, \_\_\_\_\_

13. Quality: (Remarks on taste, odor, color, etc.) \_\_\_\_\_  
Temp. 70 °F, Date sampled for analysis 2-6-73 Laboratory SHD  
Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_  
Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_

14. Other data available as circled: Driller's Log, Radioactivity Log, Electric Log, \_\_\_\_\_  
Formation Sample Pumping Test, \_\_\_\_\_

15. Record by Gene Brune Date 2-10-72  
Source \_\_\_\_\_

16. Remarks \_\_\_\_\_  
\_\_\_\_\_



CASING & BLANK PIPE			
Cemented From _____ ft. to _____ ft.		Setting, ft.	
Diam. (in.)	Type	from	to

WELL SCREEN			
Screen Openings		Setting, ft.	
Diam. (in.)	Type	from	to

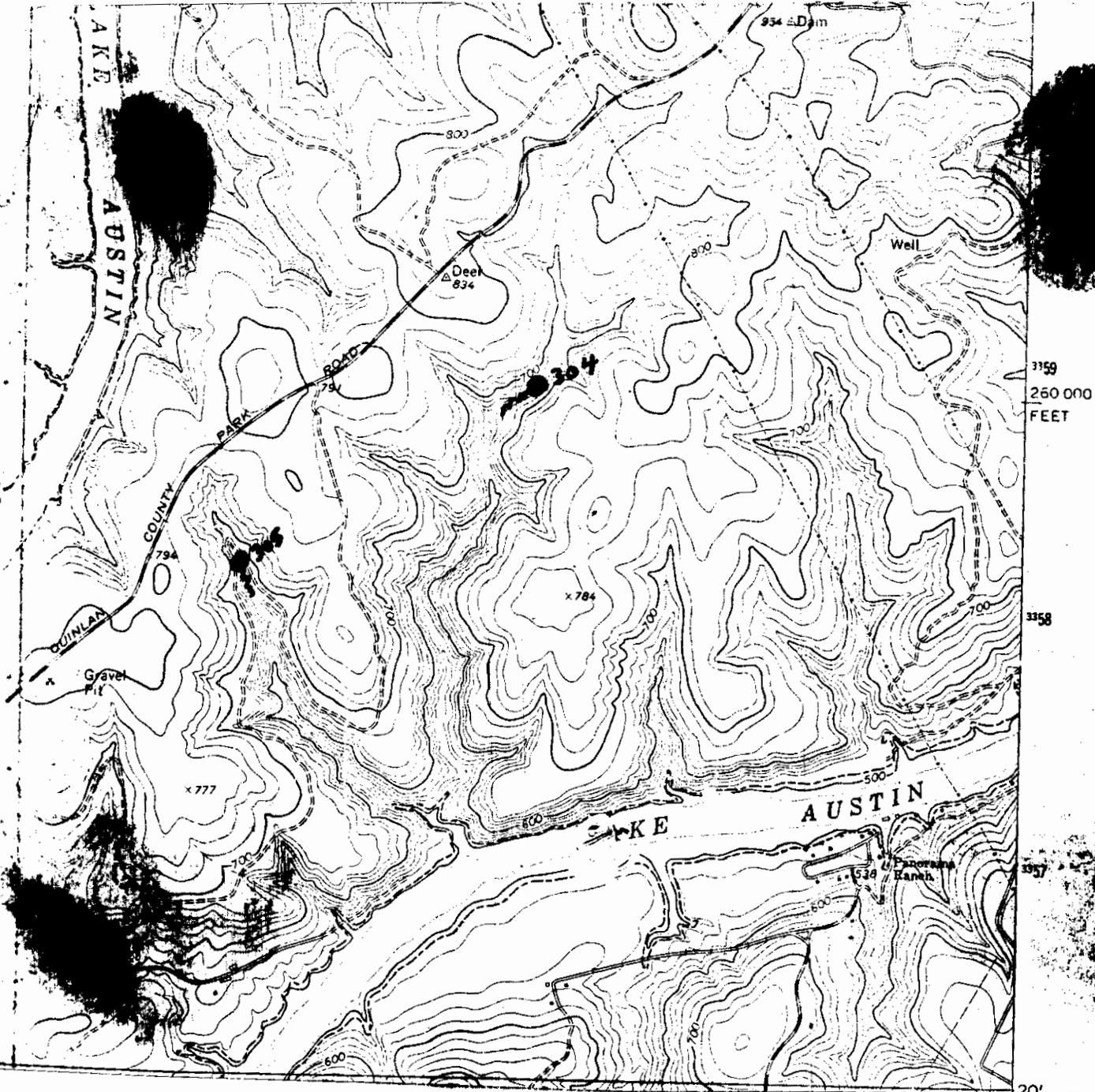
No. FF19. Santa Monica or Sulphur Springs. Latitude 30-21, longitude

1-54, 4 miles south of Marshall Ford. Aquifer: Glen Rose Limestone.

These springs were the basis for a Comanche Indian campground.

They were later a favorite resort for early Austinites. They are now ~~used~~

~~Lake Austin~~ Reference: Barkley 1963.



Typewrite (Black ribbon) or Print Plainly  
(soft pencil or black ink)  
Do not use ball point pen

Texas State Department of Health Laboratories  
1100 West 49th Street  
Austin, Texas 78755

TWDBE-GW ONLY

Program No. \_\_\_\_\_  
Proj. No. 421

CHEMICAL WATER ANALYSIS REPORT

Send report to:

Ground Water Data and Protection Division  
Texas Water Development Board  
P.O. Box 13087  
Austin, Texas 78711

County YD TRAVIS  
State Well No. 58-41-304  
Well No. \_\_\_\_\_  
Date Collected 2-6-73  
By G. Bruner

Location Santa Monica Springs  
Source (type of well) \_\_\_\_\_ Owner Fanny Steiner  
Date Drilled \_\_\_\_\_ Depth 0 ft. WBF None  
Producing intervals \_\_\_\_\_ Water level \_\_\_\_\_ ft.  
Sampled after pumping \_\_\_\_\_ hrs. Yield 100 GPM 1000 est. Temperature 72 °F \_\_\_\_\_ °C  
Point of collection \_\_\_\_\_ Appearance  clear  turbid  colored  other  
Use S Remarks \_\_\_\_\_

(FOR LABORATORY USE ONLY)

**243668**

CHEMICAL ANALYSIS  
**FEB 9 1973**

KEY PUNCHED

**FEB. 28 1973**

Laboratory No. \_\_\_\_\_ Date Received \_\_\_\_\_ Date Reported \_\_\_\_\_

	MG/L			ME/L		
Silica			8			
Calcium		69			3	45
Magnesium		18			1	45
Sodium		8			0	36
Total					5	26

<input type="checkbox"/> Potassium				%Na	_____
<input type="checkbox"/> Manganese				SAR	_____
<input checked="" type="checkbox"/> Boron		0.1		RSC	_____
<input checked="" type="checkbox"/> Total Iron					

(other) \_\_\_\_\_ MG/L

Specific Conductance (micromhos/cm<sup>3</sup>) 464

Diluted Conductance (micromhos/cm<sup>3</sup>) 3 x 167

**501**

" items will be analyzed if checked.

The bicarbonate reported in this analysis is converted by computation (multiplying by 0.4417) to an equivalent amount of carbonate, and the carbonate figure is used in the computation of this sum.

Nitrogen cycle requires separate sample.  
 Total iron requires separate sample.

	MG/L			ME/L		
Carbonate			126			0
Bicarbonate		257			4	22
Sulfate		22			0	45
Chloride		15			0	41
Fluoride		0.2				
Nitrate		2.5			0	04
pH		8.0		Total		5.12
<input checked="" type="checkbox"/> Dissolved Solids (sum in MG/L)						269
Phenolphthalein Alkalinity as CaCO <sub>3</sub>						0
Total Alkalinity as CaCO <sub>3</sub> (4.22)						211
Total Hardness as CaCO <sub>3</sub> (4.90)						245
<input checked="" type="checkbox"/> Nitrogen Cycle						
Ammonia - N						
Nitrite - N						
Nitrate - N						
Organic Nitrogen						

## STATE OF TEXAS WELL REPORT for Tracking #17147

Owner: <b>Sema Golf</b>	Owner Well #: <b>No Data</b>
Address: <b>7580 East Gray Road Scottsville, AZ 85260</b>	Grid #: <b>58-41-3</b>
Well Location: <b>3501 North Quinlan Park Road Austin, TX 78732</b>	Latitude: <b>30° 21' 54" N</b>
Well County: <b>Travis</b>	Longitude: <b>097° 53' 25" W</b>
	Elevation: <b>No Data</b>
<hr/>	
Type of Work: <b>New Well</b>	Proposed Use: <b>Irrigation</b>

Drilling Start Date: **2/11/2003**      Drilling End Date: **2/11/2003**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	<b>8</b>	<b>0</b>	<b>20</b>
	<b>6</b>	<b>20</b>	<b>707</b>

Drilling Method: **Air Rotary**

Borehole Completion: **cased**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks &amp; material)</i>
Annular Seal Data:	<b>0</b>	<b>30</b>	<b>6</b>

Seal Method: **Slurry**

Sealed By: **Driller**

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

Distance to Septic Field or other concentrated contamination (ft.): **100+**

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

Method of Verification: **as per landowner**

Surface Completion: **Surface Sleeve Installed**

Water Level: **No Data**

Packers: **Burlap 505',500',30'**

Type of Pump: **No Data**

Well Tests: **Estimated      Yield: 50-60 GPM**

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
<b>505-695</b>	<b>Trinity</b>

Chemical Analysis Made: **No**

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

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

Company Information: **APEX Drilling**  
**P.O. Box 867**  
**Marble Falls, TX 78654**

Driller Name: **Michael Becker** License Number: **54516**

Apprentice Name: **Andrew Johnson** Apprentice Number: **1116**

Comments: **No Data**

Lithology:  
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>20</b>	<b>Caliche</b>
<b>20</b>	<b>60</b>	<b>Blue LS</b>
<b>60</b>	<b>205</b>	<b>Lt Gry-Tan LS</b>
<b>205</b>	<b>235</b>	<b>Gry LS w/Clay</b>
<b>235</b>	<b>350</b>	<b>Tan LS</b>
<b>350</b>	<b>390</b>	<b>Tan Gry LS</b>
<b>390</b>	<b>430</b>	<b>Wht LS</b>
<b>430</b>	<b>460</b>	<b>Gry LS w/Clay</b>
<b>460</b>	<b>505</b>	<b>Blue Clay</b>
<b>505</b>	<b>545</b>	<b>Gry Sand w/LS</b>
<b>545</b>	<b>695</b>	<b>Red Sand-Red Clay</b>
<b>695</b>	<b>707</b>	<b>Tan LS w/Clay</b>

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
<b>5 New PVC +2 to 707 SDR17</b>			

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**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

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

## STATE OF TEXAS WELL REPORT for Tracking #66325

Owner:	UT Golf Club Teaching Academy	Owner Well #:	No Data
Address:	2200 University Club Drive Austin, TX 78704	Grid #:	58-41-3
Well Location:	2200 University Club Drive Austin, TX 78704	Latitude:	30° 21' 20" N
Well County:	Travis	Longitude:	097° 53' 44" W
		Elevation:	No Data
Type of Work: <b>New Well</b>		Proposed Use: <b>Injection</b>	

Drilling Start Date: **6/11/2005**      Drilling End Date: **6/19/2005**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	<b>4</b>	<b>0</b>	<b>250</b>

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	<b>0</b>	<b>250</b>	<b>112</b>

Seal Method: **Pressure Grout Benseal EZ Mud**

Sealed By: **Jose Lira**

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

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

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

Method of Verification: **No Data**

Surface Completion: **Unknown**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Water Quality:	<i>Strata Depth (ft.)</i>	<i>Water Type</i>
	<b>No Data</b>	<b>No Data</b>

Chemical Analysis Made: **Unknown**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **Unknown**

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

Company Information: **Geothermal Drilling, Inc.**  
**8840 Highway 75 South**  
**Huntsville, TX 77340**

Driller Name: **William McPike** License Number: **3166**

Apprentice Name: **Jose Lira** Apprentice Number: **00001791**

Comments: **No Data**

Lithology:  
 DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
 BLANK PIPE & WELL SCREEN DATA

<i>From (ft)</i>	<i>To (ft)</i>	<i>Description</i>
<b>0-4</b>		<b>Top Soil</b>
<b>4-15</b>		<b>Sand &amp; Rock</b>
<b>15-20</b>		<b>Limestone</b>
<b>20-170</b>		<b>Gray Shale Layered Limestone</b>
<b>170-180</b>		<b>Sand</b>
<b>180-250</b>		<b>Gray Shale Layered Limestone</b>
<b>16</b>		<b>Bore Holes</b>

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

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

## STATE OF TEXAS WELL REPORT for Tracking #16724

Owner: <b>Sema Golf</b>	Owner Well #: <b>No Data</b>
Address: <b>7580 East Gray Road Scottsville, AZ 85260</b>	Grid #: <b>58-41-3</b>
Well Location: <b>3501 North Quinlan Park Road Austin, TX 78732</b>	Latitude: <b>30° 21' 21" N</b>
Well County: <b>Travis</b>	Longitude: <b>097° 53' 39" W</b>
	Elevation: <b>No Data</b>
Type of Work: <b>New Well</b>	
	Proposed Use: <b>Domestic</b>

Drilling Start Date: **2/5/2003**      Drilling End Date: **2/5/2003**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	<b>8</b>	<b>0</b>	<b>20</b>
	<b>6</b>	<b>20</b>	<b>658</b>

Drilling Method: **Air Rotary**

Borehole Completion: **cased**

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

Seal Method: **Slurry**

Sealed By: **Driller**

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

Distance to Septic Field or other concentrated contamination (ft.): **100+**

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

Method of Verification: **as per landowner**

Surface Completion: **Surface Sleeve Installed**

Water Level: **No Data**

Packers: **Burlap 490',480',20'**

Type of Pump: **No Data**

Well Tests: **Unknown      Yield: 50-55 GPM**

Water Quality:	<i>Strata Depth (ft.)</i>	<i>Water Type</i>
	<b>495-645</b>	<b>Trinity</b>

Chemical Analysis Made: **No**

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

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

Company Information: **APEX Drilling**  
**P.O. Box 867**  
**Marble Falls, TX 78654**

Driller Name: **Michael Becker** License Number: **54516**

Apprentice Name: **Andrew Johnson** Apprentice Number: **1116**

Comments: **No Data**

Lithology:  
 DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
 BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>23</b>	<b>Caliche</b>
<b>23</b>	<b>95</b>	<b>Gry LS</b>
<b>95</b>	<b>330</b>	<b>Tan LS w/Grey LS</b>
<b>330</b>	<b>380</b>	<b>Wht Tan LS</b>
<b>380</b>	<b>425</b>	<b>Gry LS</b>
<b>425</b>	<b>469</b>	<b>Blue Clay</b>
<b>469</b>	<b>495</b>	<b>Gry Tan LS</b>
<b>495</b>	<b>515</b>	<b>Gry Sand</b>
<b>515</b>	<b>645</b>	<b>Red Sand-Clay</b>
<b>645</b>	<b>658</b>	<b>Tan LS-Clay</b>

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
<b>5 New PVC +2 to 658 SDR17</b>			

---

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

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**Well Basic Details**

[Scanned Documents](#)

State Well Number	5841312
County	Travis
River Basin	Colorado
Groundwater Management Area	8
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	GCD Does Not Exist
Latitude (decimal degrees)	30.3561111
Latitude (degrees minutes seconds)	30° 21' 22" N
Longitude (decimal degrees)	-97.8828611
Longitude (degrees minutes seconds)	097° 52' 58.3" W
Coordinate Source	Global Positioning System - GPS
Aquifer Code	218GLRSU - Glen Rose Limestone, Upper Member
Aquifer	Trinity
Aquifer Pick Method	Provided by Groundwater Conservation District
Land Surface Elevation (feet above sea level)	651
Land Surface Elevation Method	Digital Elevation Model -DEM
Well Depth (feet below land surface)	
Well Depth Source	
Drilling Start Date	
Drilling End Date	
Drilling Method	
Borehole Completion	

Well Type	Spring
Well Use	Unused
Water Level Observation	
Water Quality Available	Yes
Pump	
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	Box Elder Springs
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	Groundwater Conservation District
Created Date	11/29/2017
Last Update Date	3/4/2020

Remarks | Flow 8/4/2017: about 600 ml / 5 sec.

**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**

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**Water Level Measurements**

No Data Available

### Water Quality Analysis

**Sample Date:** 8/4/2017     **Sample Time:** 1300     **Sample Number:** 1     **Collection Entity:** Barton Springs/Edwards Aquifer CD

**Sampled Aquifer:** Glen Rose Limestone, Upper Member

**Analyzed Lab:** LCRA - Lower Colorado River Authority     **Reliability:** Sampled using TWDB protocols

**Collection Remarks:** Lab Calculated Anion/Cation Chg Bal set to TWDB Calculated Value due to an error in the lab calculated formula

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00425	ALKALINITY, BICARBONATE DISSOLVED (MG/L), LAB		303	mg/L	
00430	ALKALINITY, CARBONATE DISSOLVED (MG/L), LAB		0	mg/L	
00420	ALKALINITY, HYDROXIDE DISSOLVED (MG/L), LAB		0	mg/L	
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CaCO3)		303	mg/L as CaCO 3	
01106	ALUMINUM, DISSOLVED (UG/L AS AL)	<	5	ug/L	
50938	ANION/CATION CHG BAL, PERCENT		0.9265	PCT	
01095	ANTIMONY, DISSOLVED (UG/L AS SB)	<	1	ug/L	
01000	ARSENIC, DISSOLVED (UG/L AS AS)	<	1	ug/L	
01005	BARIUM, DISSOLVED (UG/L AS BA)		37.3	ug/L	
01010	BERYLLIUM, DISSOLVED (UG/L AS BE)	<	1	ug/L	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		369.765	mg/L	
01020	BORON, DISSOLVED (UG/L AS B)		132	ug/L	
71870	BROMIDE, DISSOLVED, (MG/L AS BR)		0.161	mg/L	
01025	CADMIUM, DISSOLVED (UG/L AS CD)	<	1	ug/L	
00915	CALCIUM, DISSOLVED (MG/L AS CA)		116	mg/L	
28004	CARBON-14 DISS APPARENT AGE (YEARS BP)		190	Y-BP	
82172	CARBON-14 FRACTION MODERN		1.0243		0.0037
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00941	CHLORIDE, DISSOLVED (MG/L AS CL)		64.7	mg/L	
01030	CHROMIUM, DISSOLVED (UG/L AS CR)	<	1	ug/L	
01035	COBALT, DISSOLVED (UG/L AS CO)	<	1	ug/L	
01040	COPPER, DISSOLVED (UG/L AS CU)	<	1	ug/L	
82081	DELTA CARBON 13 C13/C12 PER MIL		-12.6	0/00	
50791	DEUTERIUM, EXPRESSED AS PERMIL VSMOW		-17.2	0/00	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		0.194	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		364.428	mg/L as CaCO 3	
01046	IRON, DISSOLVED (UG/L AS FE)	<	50	ug/L	
01049	LEAD, DISSOLVED (UG/L AS PB)	<	1	ug/L	
01130	LITHIUM, DISSOLVED (UG/L AS LI)		5.61	ug/L	
00925	MAGNESIUM, DISSOLVED (MG/L AS MG)		18	mg/L	
01056	MANGANESE, DISSOLVED (UG/L AS MN)		10.4	ug/L	

**Texas Water Development Board (TWDB)  
Groundwater Database (GWDB)  
Well Information Report for State Well Number  
58-41-312**

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
71890	MERCURY, DISSOLVED (UG/L AS HG)	<	0.2	ug/L	
01060	MOLYBDENUM, DISSOLVED (UG/L AS MO)	<	1	ug/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		1.067	mg/L as NO3	
00631	NITRITE PLUS NITRATE, DISSOLVED (MG/L AS N)		0.241	mg/L as N	
50790	OXYGEN-18, EXPRESSED AS PERMIL VSMOW		-3.01	0/00	
00400	PH (STANDARD UNITS), FIELD		8.52	SU	
00666	PHOSPHORUS, DISSOLVED (MG/L AS P)		0.0294	mg/L as P	
00935	POTASSIUM, DISSOLVED (MG/L AS K)		1.42	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
01145	SELENIUM, DISSOLVED (UG/L AS SE)	<	5	ug/L	
00955	SILICA, DISSOLVED (MG/L AS SI02)		10.9	mg/L as SIO2	
01075	SILVER, DISSOLVED (UG/L AS AG)	<	1	ug/L	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		0.92		
00932	SODIUM, CALCULATED, PERCENT		19.429	PCT	
00930	SODIUM, DISSOLVED (MG/L AS NA)		40.3	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		25.41	MICR	
01080	STRONTIUM, DISSOLVED (UG/L AS SR)		511	ug/L	
48297	STRONTIUM, ISOTOPE OF MASS 86 AND 87 RATIO		0.7077724	N/A	
00946	SULFATE, DISSOLVED (MG/L AS SO4)		47.6	mg/L as SO4	
00010	TEMPERATURE, WATER (CELSIUS)		25.41	C	
01057	THALLIUM, DISSOLVED (UG/L AS TL)	<	1	ug/L	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		482.505	mg/L	
07012	TRITIUM IN WATER (TRITIUM UNITS)		0.32	TU	0.09
22703	URANIUM, NATURAL, DISSOLVED (UG/L AS U)	<	1	ug/L	
01085	VANADIUM, DISSOLVED (UG/L AS V)	<	1	ug/L	
01090	ZINC, DISSOLVED (UG/L AS ZN)	<	5	ug/L	

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

**GWDB DISCLAIMER:** Except where noted, all of the information provided in the Texas Water Development Board (TWDB) Groundwater Database (<https://www.twdb.texas.gov/groundwater/data/gwdb.rpt.asp>) is believed to be accurate and reliable; however, the TWDB assumes no responsibility for any errors appearing in rules or otherwise. Further, TWDB assumes no responsibility for the use of the information provided. PLEASE NOTE that users of these data are responsible for checking the accuracy, completeness, currency and/or suitability of all information themselves. TWDB makes no guarantees or warranties as to the accuracy, completeness, currency, or suitability of the information provided via the Groundwater Database (GWDB). TWDB specifically disclaims any and all liability for any claims or damages that may result from providing GWDB data or the information it contains. For additional information or answers to questions concerning the TWDB GWDB, contact the Groundwater Data Team at [GroundwaterData@twdb.texas.gov](mailto:GroundwaterData@twdb.texas.gov).

[GWDB Reports and Downloads](#)

**Well Basic Details**

[Scanned Documents](#)

State Well Number	5841305
County	Travis
River Basin	Colorado
Groundwater Management Area	8
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	GCD Does Not Exist
Latitude (decimal degrees)	30.351667
Latitude (degrees minutes seconds)	30° 21' 06" N
Longitude (decimal degrees)	-97.907778
Longitude (degrees minutes seconds)	097° 54' 28" W
Coordinate Source	+/- 5 Seconds
Aquifer Code	218GLRSL - Glen Rose Limestone, Lower Member
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	696
Land Surface Elevation Method	Digital Elevation Model -DEM
Well Depth (feet below land surface)	
Well Depth Source	
Drilling Start Date	
Drilling End Date	
Drilling Method	
Borehole Completion	

Well Type	Spring
Well Use	Stock
Water Level Observation	None
Water Quality Available	No
Pump	None
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	Tommy Steiner
Driller	
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	<a href="#">302107097542901</a>
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	2/6/1973
Last Update Date	3/4/2020

Remarks | Measured discharge 50 GPM on 2/6/- 73.

**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**

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**Water Level Measurements**

No Data Available

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**Water Quality Analysis - No Data Available**

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TEXAS WATER DEVELOPMENT BOARD  
WELL SCHEDULE

Aquifer Kla Kpd Field No. \_\_\_\_\_  
Owner's Well No. \_\_\_\_\_

State Well No. 58-41-305  
County Travis

1. Location: 1/4, 1/4 Sec., Block \_\_\_\_\_ Survey \_\_\_\_\_

2. Owner: Tommy Starnes Address: \_\_\_\_\_  
Tenant: \_\_\_\_\_ Address: \_\_\_\_\_  
Driller: \_\_\_\_\_ Address: \_\_\_\_\_

3. Elevation of LSD is 660 ft. above msl, determined by Topo.

4. Drilled: 19; Dug, Cable Tool, Rotary, \_\_\_\_\_

5. Depth: Rept. Spring ft. Meas. \_\_\_\_\_ ft.

6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfg. \_\_\_\_\_ Type \_\_\_\_\_  
No. Stages \_\_\_\_\_, Bore Diam. \_\_\_\_\_ in., Setting \_\_\_\_\_ ft.  
Column Diam. \_\_\_\_\_ in., Length Tailpipe \_\_\_\_\_ ft.

8. Motor: Fuel \_\_\_\_\_ Make & Model \_\_\_\_\_ HP.

9. Yield: Flow 50 gpm, Pump \_\_\_\_\_ gpm (Meas), Rept., Est. 2-6-73

10. Performance Test: Date \_\_\_\_\_ Length of Test \_\_\_\_\_ Made by \_\_\_\_\_

Static Level \_\_\_\_\_ ft. Pumping Level \_\_\_\_\_ ft. Drawdown \_\_\_\_\_ ft.  
\_\_\_\_\_ gpm Specific Capacity \_\_\_\_\_ gpm/ft.

11. Water \_\_\_\_\_ ft. rept. \_\_\_\_\_ 19 above \_\_\_\_\_ which is \_\_\_\_\_ ft. above surface.  
\_\_\_\_\_ ft. meas. \_\_\_\_\_ below \_\_\_\_\_ which is \_\_\_\_\_ ft. below surface.  
\_\_\_\_\_ ft. rept. \_\_\_\_\_ 19 above \_\_\_\_\_ which is \_\_\_\_\_ ft. above surface.  
\_\_\_\_\_ ft. meas. \_\_\_\_\_ below \_\_\_\_\_ which is \_\_\_\_\_ ft. below surface.  
\_\_\_\_\_ ft. rept. \_\_\_\_\_ 19 above \_\_\_\_\_ which is \_\_\_\_\_ ft. above surface.  
\_\_\_\_\_ ft. meas. \_\_\_\_\_ below \_\_\_\_\_ which is \_\_\_\_\_ ft. below surface.

12. Use: Dom., Stock Public Supply, Ind., Irr., Waterflooding, Observation, Not Used.

13. Quality: (Remarks on taste, odor, color, etc.) \_\_\_\_\_  
Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_  
Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_  
Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_

14. Other data available as circled: Driller's Log, Radioactivity Log, Electric Log,  
Formation Samples, Pumping Test,

15. Record by: J. Brown Date 2-6 1973  
Source of Data Obs.

16. Remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_


CASING & BLANK PIPE			
Cemented From		ft. to	
Diam. (in.)	Type	Setting, ft.	
		from	to

WELL SCREEN			
Screen Openings			
Diam. (in.)	Type	Setting, ft.	
		from	to



# STATE OF TEXAS WELL REPORT for Tracking #290014

Owner:	<b>WILLIAM DUVALL</b>	Owner Well #:	<b>No Data</b>
Address:	<b>12105 SELMA HUGHES AUSTIN, TX 78732</b>	Grid #:	<b>58-41-3</b>
Well Location:	<b>12105 SELMA HUGHES AUSTIN, TX 78732</b>	Latitude:	<b>30° 20' 15" N</b>
Well County:	<b>Travis</b>	Longitude:	<b>097° 54' 30" W</b>
		Elevation:	<b>No Data</b>
Type of Work:	<b>New Well</b>	Proposed Use:	<b>Domestic</b>

Drilling Start Date: **3/16/2012**      Drilling End Date: **3/16/2012**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	<b>9</b>	<b>0</b>	<b>50</b>
	<b>6.5</b>	<b>50</b>	<b>370</b>

Drilling Method: **Air Rotary**

Borehole Completion: **CASED**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks &amp; material)</i>
Annular Seal Data:	<b>0</b>	<b>50</b>	<b>6 CEMENT</b>
	<b>0</b>	<b>50</b>	<b>4 VOLCLAY</b>

Seal Method: **Slurry**

Sealed By: **Driller**

Distance to Property Line (ft.): **N/A**

Distance to Septic Field or other  
concentrated contamination (ft.): **N/A**

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

Method of Verification: **WELL DRILLED  
FIRST**

Surface Completion: **Surface Sleeve Installed**

Water Level: **No Data**

Packers: **5 BURLAP, PVC 50', 230', 250', 270', 290'**

Type of Pump: **Submersible**

Well Tests: **Jetted**      **Yield: 75 GPM**

Water Quality:	<i>Strata Depth (ft.)</i>	<i>Water Type</i>
	<b>80</b>	<b>MIDDLE TRINITY</b>

Chemical Analysis Made: **No**

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

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

Company Information: **CENTEX PUMP & SUPPLY, INC.**  
**2520 HWY. 290 WEST**  
**DRIPPING SPRINGS, TX 78620**

Driller Name: **AARON GLASS** License Number: **4227**

Comments: **No Data**

Lithology:  
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
BLANK PIPE & WELL SCREEN DATA

<i>From (ft)</i>	<i>To (ft)</i>	<i>Description</i>
<b>0-2</b>	<b>TOP SOIL</b>	
<b>2-8</b>	<b>SANDY LOAM</b>	
<b>8-14</b>	<b>GRAVEL</b>	
<b>14-18</b>	<b>TAN LIMESTONE</b>	
<b>18-20</b>	<b>BLUE/GRAY LIMESTONE</b>	
<b>20-50</b>	<b>GRAY LIMESTONE</b>	
<b>50-120</b>	<b>GRAY/TAN LIMESTONE</b>	
<b>120-160</b>	<b>TAN W/GRAY LIMESTONE</b>	
<b>160-180</b>	<b>TAN LIMESTONE</b>	
<b>180-185</b>	<b>GRAY LIMESTONE</b>	
<b>185-190</b>	<b>GRAY LIMESTONE W/CLAY STRIPS</b>	
<b>190-200</b>	<b>TAN LIMESTONE (H20)</b>	
<b>200-220</b>	<b>TAN/BROWN LIMESTONE</b>	
<b>220-230</b>	<b>GRAY LIMESTONE</b>	
<b>230-250</b>	<b>GRAY LIMESTONE/HAMMETT CLAY</b>	
<b>250-280</b>	<b>GRAY LIMESTONE W/RED CLAY</b>	

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
<b>5"</b>	<b>N</b>	<b>SDR17 PVC</b>	<b>+3 TO 370</b>
<b>5"</b>	<b>N</b>	<b>SDR17 PVC SLOT</b>	<b>290 TO 370</b>

280-315 GRAY/TAN LIMESTONE

315-370 TAN/RED SANDSTONE

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**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

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

[GWDB Reports and Downloads](#)

**Well Basic Details**

[Scanned Documents](#)

State Well Number	5841311
County	Travis
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Southwestern Travis County GCD
Latitude (decimal degrees)	30.3360278
Latitude (degrees minutes seconds)	30° 20' 09.7" N
Longitude (decimal degrees)	-97.8938333
Longitude (degrees minutes seconds)	097° 53' 37.8" W
Coordinate Source	Global Positioning System - GPS
Aquifer Code	218GRCCU - Lower Glen Rose and Cow Creek Limestones
Aquifer	Trinity
Aquifer Pick Method	Provided by Groundwater Conservation District
Land Surface Elevation (feet above sea level)	588
Land Surface Elevation Method	Digital Elevation Model -DEM
Well Depth (feet below land surface)	
Well Depth Source	Unknown
Drilling Start Date	
Drilling End Date	
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Recreation
Water Level Observation	Miscellaneous Measurements
Water Quality Available	Yes
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	City of Austin Commons Ford Park
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	Groundwater Conservation District
Created Date	11/27/2017
Last Update Date	3/4/2020

**Remarks** | Estimated aquifer based upon depth of water level.

**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	7/26/2017		241.93		346.07	1	Groundwater Conservation District	Electric Line		

### Code Descriptions

Status Code	Status Description
P	Publishable

### Water Quality Analysis

**Sample Date:** 7/26/2017    **Sample Time:** 1515    **Sample Number:** 1    **Collection Entity:** Barton Springs/Edwards Aquifer CD

**Sampled Aquifer:** Lower Glen Rose and Cow Creek Limestones

**Analyzed Lab:** LCRA - Lower Colorado River Authority                      **Reliability:** Sampled using TWDB protocols

**Collection Remarks:** Lab Calculated Anion/Cation Chg Bal set to TWDB Calculated Value due to an error in the lab calculated formula

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00425	ALKALINITY, BICARBONATE DISSOLVED (MG/L), LAB		181	mg/L	
00430	ALKALINITY, CARBONATE DISSOLVED (MG/L), LAB		0	mg/L	
00420	ALKALINITY, HYDROXIDE DISSOLVED (MG/L), LAB		0	mg/L	
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CaCO3)		181	mg/L as CaCO 3	
01106	ALUMINUM, DISSOLVED (UG/L AS AL)	<	5	ug/L	
50938	ANION/CATION CHG BAL, PERCENT		-0.8779	PCT	
01095	ANTIMONY, DISSOLVED (UG/L AS SB)	<	1	ug/L	
01000	ARSENIC, DISSOLVED (UG/L AS AS)		1.35	ug/L	
01005	BARIUM, DISSOLVED (UG/L AS BA)		14.5	ug/L	
01010	BERYLLIUM, DISSOLVED (UG/L AS BE)	<	1	ug/L	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		220.883	mg/L	
01020	BORON, DISSOLVED (UG/L AS B)		2440	ug/L	
71870	BROMIDE, DISSOLVED, (MG/L AS BR)		0.224	mg/L	
01025	CADMIUM, DISSOLVED (UG/L AS CD)	<	1	ug/L	
00915	CALCIUM, DISSOLVED (MG/L AS CA)		25.5	mg/L	
28004	CARBON-14 DISS APPARENT AGE (YEARS BP)	>	43500	Y-BP	
82172	CARBON-14 FRACTION MODERN	<	0.0044		
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00941	CHLORIDE, DISSOLVED (MG/L AS CL)		31.8	mg/L	
01030	CHROMIUM, DISSOLVED (UG/L AS CR)	<	1	ug/L	
01035	COBALT, DISSOLVED (UG/L AS CO)	<	1	ug/L	
01040	COPPER, DISSOLVED (UG/L AS CU)	<	1	ug/L	
82081	DELTA CARBON 13 C13/C12 PER MIL		-5	0/00	
50791	DEUTERIUM, EXPRESSED AS PERMIL VSMOW		-24.2	0/00	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		1.22	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		136.983	mg/L as CaCO 3	
01046	IRON, DISSOLVED (UG/L AS FE)		59.3	ug/L	
01049	LEAD, DISSOLVED (UG/L AS PB)	<	1	ug/L	
01130	LITHIUM, DISSOLVED (UG/L AS LI)		164	ug/L	
00925	MAGNESIUM, DISSOLVED (MG/L AS MG)		15.3	mg/L	
01056	MANGANESE, DISSOLVED (UG/L AS MN)		9.75	ug/L	

**Texas Water Development Board (TWDB)  
Groundwater Database (GWDB)  
Well Information Report for State Well Number  
58-41-311**

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
71890	MERCURY, DISSOLVED (UG/L AS HG)	<	0.2	ug/L	
01060	MOLYBDENUM, DISSOLVED (UG/L AS MO)	<	1	ug/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)	<	0.02	mg/L as NO3	
00631	NITRITE PLUS NITRATE, DISSOLVED (MG/L AS N)	<	0.02	mg/L as N	
50790	OXYGEN-18, EXPRESSED AS PERMIL VSMOW		-4.35	0/00	
00400	PH (STANDARD UNITS), FIELD		8.82	SU	
00666	PHOSPHORUS, DISSOLVED (MG/L AS P)	<	0.02	mg/L as P	
00935	POTASSIUM, DISSOLVED (MG/L AS K)		7.8	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		1.089		
01145	SELENIUM, DISSOLVED (UG/L AS SE)	<	5	ug/L	
00955	SILICA, DISSOLVED (MG/L AS SI02)		14.5	mg/L as SIO2	
01075	SILVER, DISSOLVED (UG/L AS AG)	<	1	ug/L	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		7.81		
00932	SODIUM, CALCULATED, PERCENT		77.634	PCT	
00930	SODIUM, DISSOLVED (MG/L AS NA)		202	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1810	MICR	
01080	STRONTIUM, DISSOLVED (UG/L AS SR)		9010	ug/L	
48297	STRONTIUM, ISOTOPE OF MASS 86 AND 87 RATIO		0.709131	N/A	
00946	SULFATE, DISSOLVED (MG/L AS SO4)		353	mg/L as SO4	
00010	TEMPERATURE, WATER (CELSIUS)		24.47	C	
01057	THALLIUM, DISSOLVED (UG/L AS TL)	<	1	ug/L	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		768.738	mg/L	
07012	TRITIUM IN WATER (TRITIUM UNITS)		0.01	TU	0.09
22703	URANIUM, NATURAL, DISSOLVED (UG/L AS U)	<	1	ug/L	
01085	VANADIUM, DISSOLVED (UG/L AS V)	<	1	ug/L	
01090	ZINC, DISSOLVED (UG/L AS ZN)	<	5	ug/L	

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

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## STATE OF TEXAS WELL REPORT for Tracking #523364

Owner: <b>Leslie Watson</b>	Owner Well #: <b>No Data</b>
Address: <b>1608 Shoreview Cove Austin, TX 78732</b>	Grid #: <b>58-41-3</b>
Well Location: <b>1608 Shoreview Cove Austin, TX 78732</b>	Latitude: <b>30° 20' 45.75" N</b>
Well County: <b>Travis</b>	Longitude: <b>097° 53' 51.15" W</b>
	Elevation: <b>675 ft. above sea level</b>
Type of Work: <b>New Well</b>	
	Proposed Use: <b>Irrigation</b>

Drilling Start Date: **9/17/2019**      Drilling End Date: **9/17/2019**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	<b>10.625</b>	<b>0</b>	<b>10</b>
	<b>8.5</b>	<b>10</b>	<b>25</b>
	<b>6.75</b>	<b>25</b>	<b>325</b>

Drilling Method: **Air Rotary**

Borehole Completion: **Perforated or Slotted**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	<b>0</b>	<b>20</b>	<b>Cement 8 Bags/Sacks</b>
	<b>20</b>	<b>25</b>	<b>Bentonite 2 Bags/Sacks</b>

Seal Method: **Poured**

Sealed By: **Driller**

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

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

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

Method of Verification: **No Data**

Surface Completion: **Pitless Adapter Used**

**Surface Completion by Driller**

Water Level: **197 ft. below land surface on 2019-09-24**

Packers: **Rubber at 25 ft.  
Rubber at 30 ft.  
Rubber at 220 ft.  
Rubber at 225 ft.**

Type of Pump: **Submersible**

Pump Depth (ft.): **300**

Well Tests: **Jetted                      Yield: 50+ GPM**

Water Quality:	<i>Strata Depth (ft.)</i>	<i>Water Type</i>
	<b>No Data</b>	<b>No Data</b>

Chemical Analysis Made: **No**

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

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

Company Information: **Bee Cave Drilling, Inc.**  
**185 Angel Fire Dr.**  
**Dripping Springs, TX 78620**

Driller Name: **Jim Blair** License Number: **54416**

Comments: **2500 tds**

Lithology:  
 DESCRIPTION & COLOR OF FORMATION MATERIAL

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>1</b>	<b>topsoil</b>
<b>1</b>	<b>20</b>	<b>caliche</b>
<b>20</b>	<b>220</b>	<b>gray limestone</b>
<b>220</b>	<b>280</b>	<b>tan limestone</b>
<b>280</b>	<b>325</b>	<b>light gray &amp; tan limestone</b>

Casing:  
 BLANK PIPE & WELL SCREEN DATA

<i>Dia (in.)</i>	<i>Type</i>	<i>Material</i>	<i>Sch./Gage</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
<b>4.5</b>	<b>Blank</b>	<b>New Plastic (PVC)</b>	<b>sdr-17</b>	<b>0</b>	<b>225</b>
<b>4.5</b>	<b>Perforated or Slotted</b>	<b>New Plastic (PVC)</b>	<b>sdr-17</b>	<b>225</b>	<b>325</b>

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

## STATE OF TEXAS WELL REPORT for Tracking #431962

Owner: <b>TEXERRA CONSTRUCTION (ROUNKEL RESIDENCE)</b>  Address: <b>7301 620 NORTH, STE. #155-310 AUSTIN, TX 78726</b>  Well Location: <b>1500 SHOREVIEW COVE AUSTIN, TX 78732</b>  Well County: <b>Travis</b>	Owner Well #: <b>No Data</b>  Grid #: <b>58-41-3</b>  Latitude: <b>30° 20' 46.02" N</b>  Longitude: <b>097° 53' 45.24" W</b>  Elevation: <b>No Data</b>
Type of Work: <b>New Well</b>	
Proposed Use: <b>Irrigation</b>	

Drilling Start Date: **6/28/2016**      Drilling End Date: **6/28/2016**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	<b>9</b>	<b>0</b>	<b>100</b>
	<b>6.5</b>	<b>100</b>	<b>300</b>

Drilling Method: **Air Rotary**

Borehole Completion: **CASED**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	<b>0</b>	<b>100</b>	<b>Cement 16 Bags/Sacks</b>
	<b>0</b>	<b>100</b>	<b>Bentonite 2 Bags/Sacks</b>

Seal Method: **Pressure**

Sealed By: **Driller**

Distance to Property Line (ft.): **40**

Distance to Septic Field or other concentrated contamination (ft.): **110+**

Distance to Septic Tank (ft.): **55+**

Method of Verification: **TAPE MEASURE**

Surface Completion: **Surface Sleeve Installed**

**Surface Completion by Driller**

Water Level: **186 ft. below land surface on 2016-06-30**      Measurement Method: **Electric Line**

Packers:  
**BURLAP & PVC at 100 ft.**  
**BURLAP & PVC at 180 ft.**  
**BURLAP & PVC at 200 ft.**  
**BURLAP & PVC at 260 ft.**

Type of Pump: **Submersible**      Pump Depth (ft.): **280**

Well Tests: **Jetted**      Yield: **50-60 GPM**

Water Quality:	<i>Strata Depth (ft.)</i>	<i>Water Type</i>
	<b>200 - 300</b>	<b>MIDDLE TRINITY</b>

Chemical Analysis Made: **No**

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

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

Company Information: **CENTEX PUMP & SUPPLY, INC.**  
**2520 HWY. 290 WEST**  
**DRIPPING SPRINGS, TX 78620**

Driller Name: **AARON GLASS** License Number: **4227**

Comments: **No Data**

Lithology:  
 DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
 BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>4</b>	<b>FILL</b>
<b>4</b>	<b>18</b>	<b>CALICHE</b>
<b>18</b>	<b>20</b>	<b>BLUE LIMESTONE</b>
<b>20</b>	<b>210</b>	<b>GRAY LIMESTONE</b>
<b>210</b>	<b>285</b>	<b>TAN LIMESTONE</b>
<b>285</b>	<b>290</b>	<b>TAN/GRAY LIMESTONE</b>
<b>290</b>	<b>300</b>	<b>GRAY LIMESTONE</b>

<i>Dia (in.)</i>	<i>Type</i>	<i>Material</i>	<i>Sch./Gage</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
<b>5</b>	<b>Blank</b>	<b>New Plastic (PVC)</b>	<b>SDR17</b>	<b>3</b>	<b>300</b>
<b>5</b>	<b>Perforated or Slotted</b>	<b>New Plastic (PVC)</b>	<b>SDR17 0.032</b>	<b>200</b>	<b>240</b>
<b>5</b>	<b>Perforated or Slotted</b>	<b>New Plastic (PVC)</b>	<b>SDR17 0.032</b>	<b>260</b>	<b>300</b>

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

## STATE OF TEXAS WELL REPORT for Tracking #456942

Owner: <b>TEXERRA CONSTRUCTION, LLC</b>	Owner Well #: <b>No Data</b>
Address: <b>7301 RANCH RD. 620 NORTH #155-310 AUSTIN, TX 78726</b>	Grid #: <b>58-41-3</b>
Well Location: <b>11401 SHOREVIEW COVE AUSTIN, TX 78732</b>	Latitude: <b>30° 20' 56.52" N</b>
Well County: <b>Travis</b>	Longitude: <b>097° 53' 26.22" W</b>
	Elevation: <b>No Data</b>

Type of Work: <b>New Well</b>	Proposed Use: <b>Irrigation</b>
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Drilling Start Date: **6/8/2017**      Drilling End Date: **6/8/2017**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	<b>9</b>	<b>0</b>	<b>100</b>
	<b>6.125</b>	<b>100</b>	<b>310</b>

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	<b>0</b>	<b>100</b>	<b>Cement 13 Bags/Sacks</b>
	<b>0</b>	<b>100</b>	<b>Bentonite 2 Bags/Sacks</b>

Seal Method: **PRESSURE TREMIE CEMENTING**

Distance to Property Line (ft.): **6**

Sealed By: **Driller**

Distance to Septic Field or other concentrated contamination (ft.): **N/A**

Distance to Septic Tank (ft.): **N/A**

Method of Verification: **TAPE MEASURE**

Surface Completion: <b>Surface Sleeve Installed</b>	<b>Surface Completion by Driller</b>
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Water Level: <b>184.3 ft. below land surface on 2017-06-10</b>	Measurement Method: <b>Electric Line</b>
--	--

Packers: **Burlap at 100 ft.  
BURLAP & PVC at 160 ft.  
BURLAP & PVC at 220 ft.**

Type of Pump: <b>Submersible</b>	Pump Depth (ft.): <b>280</b>
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Well Tests: **Jetted      Yield: 30-35 GPM**

Water Quality:	<i>Strata Depth (ft.)</i>	<i>Water Type</i>
	<b>200 - 310</b>	<b>MIDDLE TRINITY</b>

Chemical Analysis Made: **No**

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

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

Company Information: **Centex Pump & Supply, Inc.**  
**2520 Hwy. 290 West**  
**Dripping Springs, TX 78620**

Driller Name: **MARTIN DALE LINGLE** License Number: **54813**

Comments: **No Data**

Lithology:  
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>20</b>	<b>CALICHE</b>
<b>20</b>	<b>190</b>	<b>GRAY LIMESTONE</b>
<b>190</b>	<b>290</b>	<b>TAN LIMESTONE</b>
<b>290</b>	<b>310</b>	<b>GRAY LIMESTONE</b>

<i>Dia (in.)</i>	<i>Type</i>	<i>Material</i>	<i>Sch./Gage</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
<b>5</b>	<b>Blank</b>	<b>New Plastic (PVC)</b>	<b>SDR17</b>	<b>2</b>	<b>200</b>
<b>5</b>	<b>Perforated or Slotted</b>	<b>New Plastic (PVC)</b>	<b>SDR17 0.032</b>	<b>200</b>	<b>300</b>
<b>5</b>	<b>Blank</b>	<b>New Plastic (PVC)</b>	<b>SDR17</b>	<b>300</b>	<b>310</b>

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**Well Basic Details**

[Scanned Documents](#)

State Well Number	5841306
County	Travis
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	GCD Does Not Exist
Latitude (decimal degrees)	30.343056
Latitude (degrees minutes seconds)	30° 20' 35" N
Longitude (decimal degrees)	-97.888611
Longitude (degrees minutes seconds)	097° 53' 19" W
Coordinate Source	+/- 10 Seconds
Aquifer Code	218GLRSL - Glen Rose Limestone, Lower Member
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	606
Land Surface Elevation Method	Digital Elevation Model -DEM
Well Depth (feet below land surface)	
Well Depth Source	
Drilling Start Date	
Drilling End Date	
Drilling Method	
Borehole Completion	

Well Type	Spring
Well Use	Unused
Water Level Observation	None
Water Quality Available	Yes
Pump	None
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	City of Austin Santa Monica Spring
Driller	
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	<a href="#">302036097532001</a>
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	4/17/1973
Last Update Date	3/4/2020

Remarks Santa Monica Spring. It is now beneath Lake Austin.

**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**

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**Water Level Measurements**

No Data Available

### Water Quality Analysis

**Sample Date:** 5/26/1993    **Sample Time:** 0000    **Sample Number:** 1    **Collection Entity:**

**Sampled Aquifer:** Glen Rose Limestone, Lower Member

**Analyzed Lab:**

**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)		254.03	mg/L as CaCO 3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		310	mg/L	
00910	CALCIUM (MG/L)		260	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		670	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		1185	mg/L as CaCO 3	
01045	IRON, TOTAL (UG/L AS FE)		5000	ug/L	
00920	MAGNESIUM (MG/L)		130	mg/L	
00937	POTASSIUM, TOTAL (MG/L AS K)		30	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		2	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		9.86		
00932	SODIUM, CALCULATED, PERCENT		59	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		780	mg/L	
00945	SULFATE, TOTAL (MG/L AS SO4)		1640	mg/L as SO4	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		3664	mg/L	

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

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TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer Kho Field No. \_\_\_\_\_ State Well No. 58-41-306  
 Owner's Well No. \_\_\_\_\_ County Texas

1. Location: 1/4, 1/4 Sec., Block \_\_\_\_\_ Survey \_\_\_\_\_

2. Owner: City of Austin Address: \_\_\_\_\_  
 Tenant: \_\_\_\_\_ Address: \_\_\_\_\_  
 Driller: \_\_\_\_\_ Address: \_\_\_\_\_

3. Elevation of LSD is 480 ft. above sea level, determined by tops

4. Drilled: \_\_\_\_\_ 19 \_\_\_\_\_; Dug, Cable Tool, Rotary, \_\_\_\_\_

5. Depth: Rept. \_\_\_\_\_ ft. Meas. \_\_\_\_\_ ft. Spring

6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed \_\_\_\_\_

7. Pump: Mfgr. \_\_\_\_\_ Type \_\_\_\_\_  
 No. Stages \_\_\_\_\_, Bore Dia. \_\_\_\_\_ in., Setting \_\_\_\_\_ ft.  
 Column Diam. \_\_\_\_\_ in., Length Tailpipe \_\_\_\_\_ ft.

8. Motor: Fuel \_\_\_\_\_ Make & Model \_\_\_\_\_ HP \_\_\_\_\_

9. Yield: Flow \_\_\_\_\_ gpm, Pump \_\_\_\_\_ gpm, Meas., Rept., Est. \_\_\_\_\_

10. Performance Test: Date \_\_\_\_\_ Length of Test \_\_\_\_\_ Made by \_\_\_\_\_  
 Static Level \_\_\_\_\_ ft. Pumping Level \_\_\_\_\_ ft. Drawdown \_\_\_\_\_ ft.  
 Production \_\_\_\_\_ gpm Specific Capacity \_\_\_\_\_ gpm/ft.

11. Water Level: \_\_\_\_\_ ft. rept. \_\_\_\_\_ 19 \_\_\_\_\_ above \_\_\_\_\_ which is \_\_\_\_\_ ft. above surface.  
 \_\_\_\_\_ ft. meas. \_\_\_\_\_ below \_\_\_\_\_ which is \_\_\_\_\_ ft. below surface.  
 \_\_\_\_\_ ft. rept. \_\_\_\_\_ 19 \_\_\_\_\_ above \_\_\_\_\_ which is \_\_\_\_\_ ft. above surface.  
 \_\_\_\_\_ ft. meas. \_\_\_\_\_ below \_\_\_\_\_ which is \_\_\_\_\_ ft. below surface.  
 \_\_\_\_\_ ft. rept. \_\_\_\_\_ 19 \_\_\_\_\_ above \_\_\_\_\_ which is \_\_\_\_\_ ft. above surface.  
 \_\_\_\_\_ ft. meas. \_\_\_\_\_ below \_\_\_\_\_ which is \_\_\_\_\_ ft. below surface.

12. Use: Dom., Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used

13. Quality: (Remarks on taste, odor, color, etc.) \_\_\_\_\_  
 Temp. \_\_\_\_\_ °F, Date sampled for analysis 5-26-93 Laboratory UT  
 Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_  
 Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_

14. Other data available as circled: Driller's Log, Radioactivity Log, Electric Log, Formation Samples, Pumping Test, \_\_\_\_\_

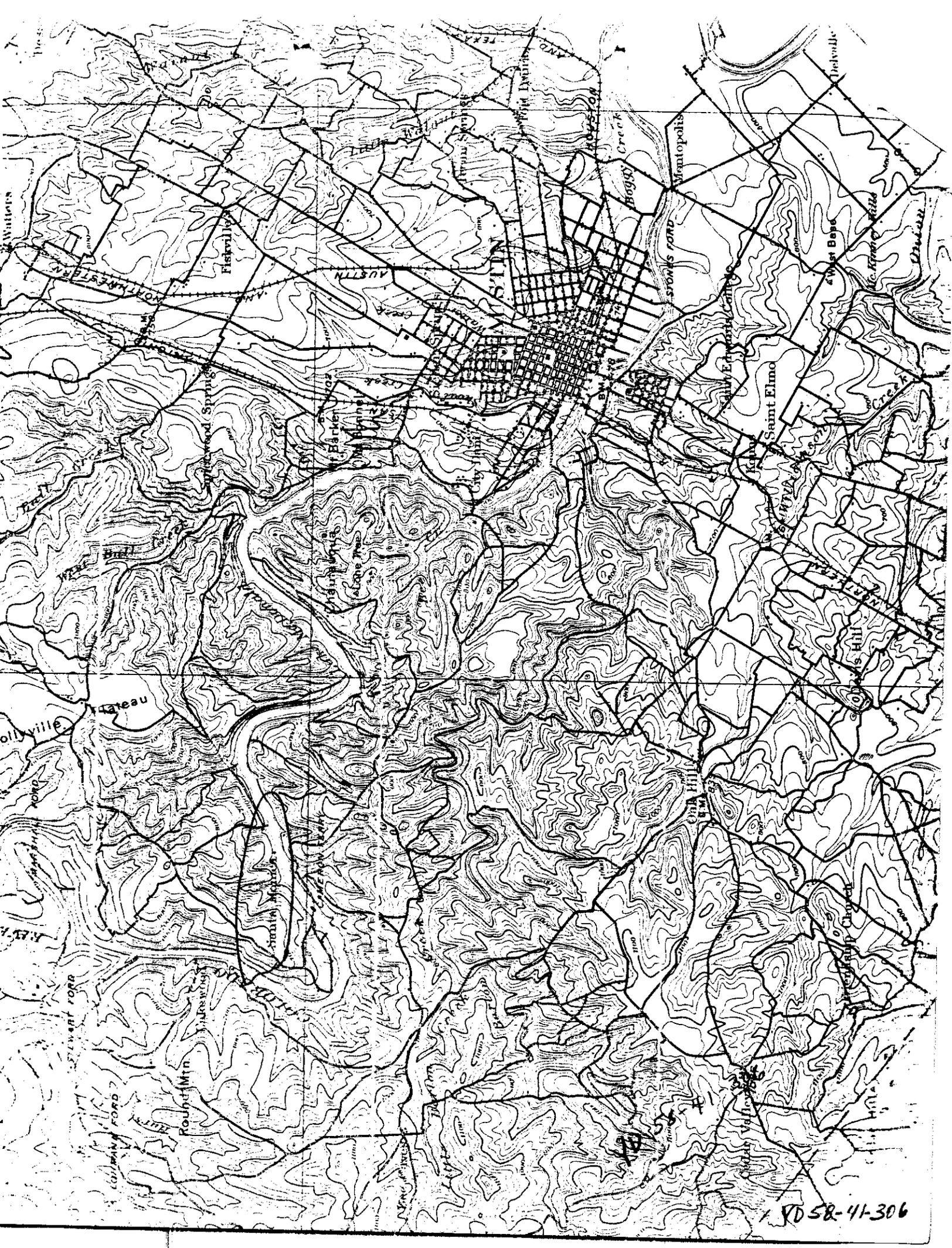
15. Record by: L. Brune Date 4-17-73  
 Source of Data Austin - Travis Co. Collection

16. Remarks: Public Library (Hart 73 and Barkley 63),  
Santa Monica Spr. Formerly a Comanche Indian  
Campground. Believed to have been visited by  
Comanche in the 17th century & early Austinites.  
Waters valued for medicinal purposes.


CASING & BLANK PIPE			
Cemented From _____ ft. to _____ ft.		Setting, ft.	
Diam. (in.)	Type	from	to

WELL SCREEN			
Screen Openings		Setting, ft.	
Diam. (in.)	Type	from	to

58-41-306



FD 58-41-306

Typewrite (Black ribbon) or Print Plainly  
(soft pencil or black ink)  
Do not use ball point pen

Texas State Department of Health Laboratories  
1100 West 49th Street  
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**TWDB USE ONLY**

Program No. \_\_\_\_\_

Proj. No. \_\_\_\_\_

**CHEMICAL WATER ANALYSIS REPORT**

Send report to:

Ground Water Data and Protection Division

Texas Water Development Board  
P.O. Box 13087  
Austin, Texas 78711

County **YD TRAVIS**

State Well No. **58-41-306**

Well No. \_\_\_\_\_

Date Collected **05-26-93 (1993)**

By \_\_\_\_\_

Location \_\_\_\_\_

Source (type of well) \_\_\_\_\_ Owner \_\_\_\_\_

Date Drilled \_\_\_\_\_ Depth **0** ft. WBF **KHO**

Producing intervals \_\_\_\_\_ Water level \_\_\_\_\_ ft.

Sampled after pumping \_\_\_\_\_ hrs. Yield \_\_\_\_\_ GPM meas. est. Temperature \_\_\_\_\_ °F \_\_\_\_\_ °C

Point of collection \_\_\_\_\_ Appearance  clear  turbid  colored  other

Use \_\_\_\_\_ Remarks \_\_\_\_\_

(FOR LABORATORY USE ONLY)

**CHEMICAL ANALYSIS**

**KEY PUNCHED**

Laboratory No. \_\_\_\_\_ Date Received \_\_\_\_\_ Date Reported \_\_\_\_\_

	MG/L	ME/L
Silica	2	
Calcium	260	
Magnesium	130	
Sodium	780	
Total		
<input type="checkbox"/> Potassium	30.0	
<input type="checkbox"/> Manganese		
<input type="checkbox"/> Boron		
<input checked="" type="checkbox"/> Total Iron	5.0	

(other) \_\_\_\_\_ MG/L

Specific Conductance (micromhos/cm<sup>3</sup>) \_\_\_\_\_

Diluted Conductance (micromhos/cm<sup>3</sup>) \_\_\_\_\_ X \_\_\_\_\_

	MG/L	ME/L
Carbonate		
Bicarbonate	310	
Sulfate	1640	
Chloride	670	
Fluoride		
Nitrate		
pH		
Total		

<input checked="" type="checkbox"/> Dissolved Solids (sum in MG/L)	3830
Phenolphthalein Alkalinity as CaCO <sub>3</sub>	
Total Alkalinity as CaCO <sub>3</sub>	
Total Hardness as CaCO <sub>3</sub>	
<input checked="" type="checkbox"/> Nitrogen Cycle	
Ammonia - N	
Nitrite - N	
Nitrate - N	
Organic Nitrogen	

"  " items will be analyzed if checked.

The bicarbonate reported in this analysis is converted by computation (multiplying by 0.4917) to an equivalent amount of carbonate, and the carbonate figure is used in the computation of this sum.

Nitrogen cycle requires separate sample.

Total Iron requires separate sample.

Analyst \_\_\_\_\_ Checked By \_\_\_\_\_

[GWDB Reports and Downloads](#)

**Well Basic Details**

[Scanned Documents](#)

State Well Number	5841303
County	Travis
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Southwestern Travis County GCD
Latitude (decimal degrees)	30.342222
Latitude (degrees minutes seconds)	30° 20' 32" N
Longitude (decimal degrees)	-97.883055
Longitude (degrees minutes seconds)	097° 52' 59" W
Coordinate Source	+/- 10 Seconds
Aquifer Code	218LGR LH - Lower Glen Rose and Hosston Formation
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	485
Land Surface Elevation Method	Digital Elevation Model -DEM
Well Depth (feet below land surface)	325
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	0/0/1968
Drilling Method	Cable Tool
Borehole Completion	Open Hole

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	Yes
Pump	None
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	Walton Wilson
Driller	Dick Sanders
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	10/22/1998
Last Update Date	3/4/2020

**Remarks** | Reported flow 35 gal/min. Cemented from 265 ft to surface.

**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	6/29/1973		-12.9		497.9	1	Other or Source of Measurement Unknown	Pressure Gage		

Code Descriptions

Status Code	Status Description
P	Publishable

### Water Quality Analysis

**Sample Date:** 3/10/1971    **Sample Time:** 0000    **Sample Number:** 1    **Collection Entity:** Texas Water Development Board  
**Sampled Aquifer:** Lower Glen Rose and Hosston Formation  
**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)		198	mg/L as CaCO 3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		241.63	mg/L	
00910	CALCIUM (MG/L)		24	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		39	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		1.5	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		121	mg/L as CaCO 3	
00920	MAGNESIUM (MG/L)		15	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)	<	0.4	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		8	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		6	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		1.53		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		15	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		8.13		
00932	SODIUM, CALCULATED, PERCENT		78	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		206	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1305	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		320	mg/L as SO4	
00010	TEMPERATURE, WATER (CELSIUS)		21	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		745	mg/L	

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

**GWDB DISCLAIMER:** Except where noted, all of the information provided in the Texas Water Development Board (TWDB) Groundwater Database (<https://www.twdb.texas.gov/groundwater/data/gwdbprpt.asp>) is believed to be accurate and reliable; however, the TWDB assumes no responsibility for any errors appearing in rules or otherwise. Further, TWDB assumes no responsibility for the use of the information provided. PLEASE NOTE that users of these data are responsible for checking the accuracy, completeness, currency and/or suitability of all information themselves. TWDB makes no guarantees or warranties as to the accuracy, completeness, currency, or suitability of the information provided via the Groundwater Database (GWDB). TWDB specifically disclaims any and all liability for any claims or damages that may result from providing GWDB data or the information it contains. For additional information or answers to questions concerning the TWDB GWDB, contact the Groundwater Data Team at [GroundwaterData@twdb.texas.gov](mailto:GroundwaterData@twdb.texas.gov).

TEXAS WATER DEVELOPMENT BOARD  
WELL SCHEDULE

Aquifer Trinity sands  
~~the top~~  
Field No. \_\_\_\_\_  
Owner's Well No. \_\_\_\_\_

State Well No. 58-41-303  
County TRAVIS

1. Location: 1/4, 1/4 Sec., Block \_\_\_\_\_ Survey \_\_\_\_\_

2. Owner: ~~HARVE WINORHAM~~ Walter Wilson Address: RT. 2 BOX 296 AUSTIN TEXAS

Tenant: SAME Address: \_\_\_\_\_

Driller: DICK SANDERS DRIG. CO. Address: AUSTIN, TEXAS

3. Elevation of LSD is 510 ft. above msl, determined by 7 1/2 top

4. Drilled: 3/15 19 68; Dug Cable Tool, Rotary, \_\_\_\_\_

5. Depth: Rept. 325 ft. Meas. \_\_\_\_\_ ft.

6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed 8"

7. Pump: Mfg. \_\_\_\_\_ Type 540M

No. Stages \_\_\_\_\_, Bore Dia. \_\_\_\_\_ in., Setting 60 ft. 1400 gph

Column Dia. \_\_\_\_\_ in., Length Tailpipe \_\_\_\_\_ ft.

8. Motor: Fuel ELEC. Make & Model \_\_\_\_\_ HP. 1

9. Yield: Flow 35 gpm, Pump \_\_\_\_\_ gpm, Meas., Rept., Est. \_\_\_\_\_

10. Performance Test: Date \_\_\_\_\_ Length of Test \_\_\_\_\_ Made by \_\_\_\_\_

Static Level \_\_\_\_\_ ft. Pumping Level \_\_\_\_\_ ft. Drawdown \_\_\_\_\_ ft.

Production \_\_\_\_\_ gpm Specific Capacity \_\_\_\_\_ gpm/ft.

11. Water Level: \_\_\_\_\_ ft. rept. 3-10 1971 above ARTESIAN which is \_\_\_\_\_ ft. above surface.

+12.9 ft. meas. 6-29 1973 above Used hose and ladder which is \_\_\_\_\_ ft. above surface.

\_\_\_\_\_ ft. rept. \_\_\_\_\_ 19 \_\_\_\_\_ above \_\_\_\_\_ which is \_\_\_\_\_ ft. above surface.

\_\_\_\_\_ ft. meas. \_\_\_\_\_ 19 \_\_\_\_\_ below \_\_\_\_\_ which is \_\_\_\_\_ ft. above surface.

12. Use: Dom., Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used, \_\_\_\_\_

13. Quality: (Remarks on taste, odor, color, etc.) \_\_\_\_\_

Temp. 70 °F, Date sampled for analysis 3-10-71 Laboratory TSHD

Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_

Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_

14. Other data available as circled: Driller's Log, Radioactivity Log, Electric Log, \_\_\_\_\_

Formation Samples, Pumping Test, DLOG See Back

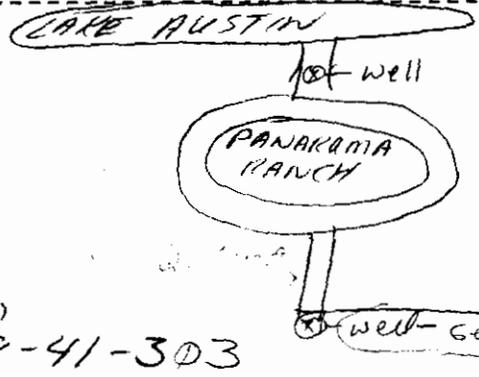
15. Record by: H. NICHOLS Date 10/14 1968

Source of Data W. W. Rept.

16. Remarks: Stopped flowing few days in Aug '72


CASTING & BLANK PIPE			
Cemented From <u>265</u> ft. to <u>0</u> ft.		Setting, ft.	
Diam. (in.)	Type	from	to
7"	DLO CASING	0	265

WELL SCREEN			
Screen Openings		Setting, ft.	
Diam. (in.)	Type	from	to



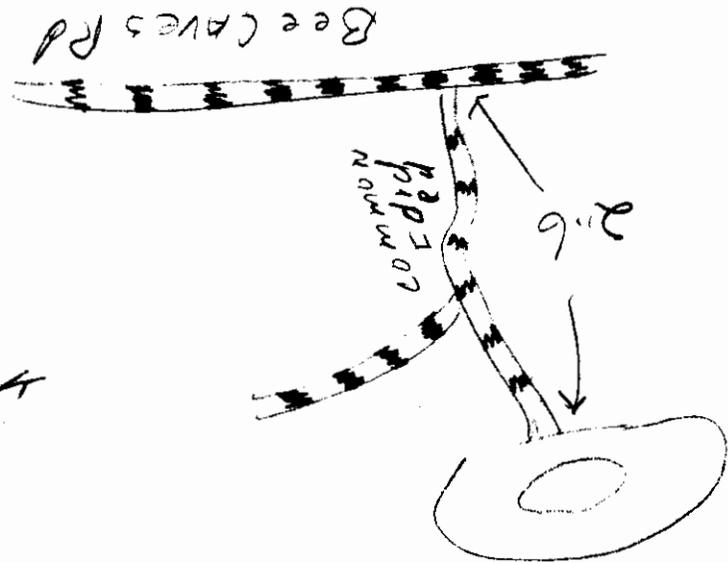
(Sketch)  
58-41-303

INDIUM

14.1

- 0-15 SAND
- 15-26 GRAVEL
- 26-40 HARD YELLOW ROCK
- 40-42 WHITE ROCK WATER
- 42-56 BLUE LIME
- 56-65 WHITE LIME
- 65-104 GRAY LIME
- 104-105 WATER
- 105-165 GRAY LIME
- 165-192 Blue Lime
- 192-250 SHALE TRAVIS Peak
- 250-304 GRAY LIME
- 304-314 BROWN LIME
- 314-322 BROWN WATER SAND - TRINITY SAND
- 322-325 BLUE SAND WATER - TRINITY SAND

YD 58-41-303



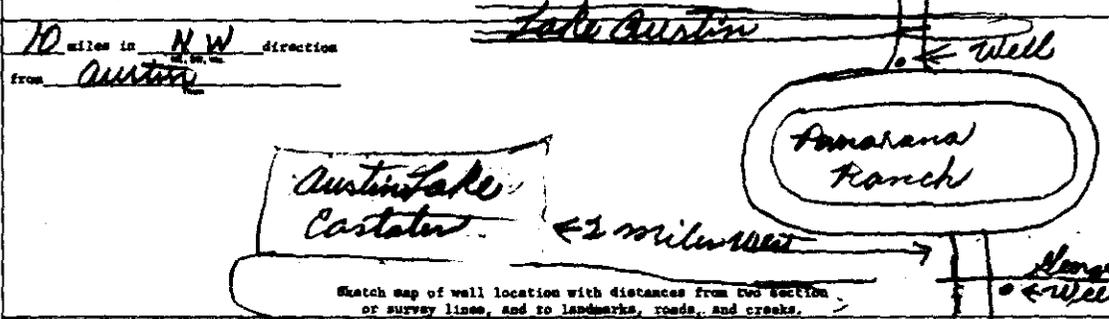
File or a copy with Texas Water Commission P. O. Box 2311, Capitol Station Austin 11, Texas

State of T

DRILLERS LOG AND WELL DATA REPORT

For use by TWC only Well No. 58-41-38 Located on map By 26 Date 68 Map no.

1) Well Owner: Harve Windrum Hd. 8 Box 296 Austin Texas  
 2) Land Owner: Same  
 3) Intended use: Industrial  Municipal  Irrigation  Other House  
 4) Location of well: County Tarrant Labor Parorama Ranch League Sec 1 Abstract No. Lot # 3  
(Circle or square on one corner)



Method of drilling: Cable Tool Diameter of hole 8" in. Date drilled 2-15-68

All measurements made from ft. above ground level.

From (ft)	To (ft)	Description and color of formation material	From (ft)	To (ft)	Description and color of formation material
0	15	Sand	105	165	Gray lime
15	26	Gravel	165	192	Blue lime
26	40	Hard yellow rock	192	250	Spale Tarrant Peak
40	50	White rock water	250	304	Gray lime
50	50	Blue lime	304	314	Brown lime
50	65	White lime	314	322	Fractured water
65	104	Gray sand	322	325	Blue sandstone
104	105	Water			

(Use continuation sheets if necessary)

COMPLETION DATA

COMPLETION	CASING	SCREEN
Straight wall <input type="checkbox"/> Under reamed <input type="checkbox"/> Gravel packed <input type="checkbox"/> Open hole <input type="checkbox"/> Other <u>Drilled</u>	Type: Old <input checked="" type="checkbox"/> New <input type="checkbox"/> Cemented from <u>0</u> ft. to <u>265</u> ft. Diameter (inches) <u>7"</u> Setting from (ft) <u>0</u> to (ft) <u>265</u>	Type <u>Perforated</u> Perforated <input type="checkbox"/> Slotted <input type="checkbox"/> Diameter (inches) <u>7"</u> Setting from (ft) <u>0</u> to (ft) <u>265</u>

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief.  
Dick Sanders Dick Sanders Drilling Reg. No. 526

Please attach electric log, chemical analysis, and other pertinent information if available.  
 If well was tested by your company or if you installed the permanent pump please complete the following:

WATER LEVEL AND PUMP DATA

Static water level <u>Water</u> ft. below <u>Flow 35 g.p.m.</u>	Pump type <u>Self</u>
Pumping level	Designed pumping rate <u>400</u> gpm ( ) gph ( )
feet	Type power unit <u>Elect</u>
hours	Horsepower <u>1 1/2 P</u>
gpm	Depth to bowl, cylinder, jet, etc., <u>60'</u> ft. below pump base

YD 58-41-303

Name of contractor testing well or installing permanent pump if other than your company:  
 C-36 (62-4)

TWDBE-GW ONLY

Program No. 7421

Proj. No. \_\_\_\_\_

CHEMICAL WATER ANALYSIS REPORT

Typewrite (Black ribbon) or Print Plainly  
(soft pencil or black ink)  
Do not use ball point pen

Texas State Department of Health Laboratories  
1100 West 49th Street  
Austin 5, Texas

Send report to:

Ground Water Division  
Texas Water Development Board  
P.O. Box 13087  
Austin, Texas 78711

County TRAVIS

State Well No. 58-41-303

Well No. \_\_\_\_\_

Date Collected 3-10-71

By JOHN DERTON

Location PANARAMA

Source (type of well) SUBMERSIBLE Owner HARVE WINDRUM

Date Drilled 2/15/68 Depth 325 ft. WEF \_\_\_\_\_

Producing intervals 265-325 Water level ARTESIAN ft.

Sampled after pumping \_\_\_\_\_ hrs. Yield \_\_\_\_\_ GPM <sup>meas.</sup> <sub>est.</sub> Temperature 70 °F °C

Point of collection overflow at well Appearance clear turbid - colored

Use DOM Remarks Send Copy to: Harve Windrum  
Rt. 2 Box 296 Austin

FOR LABORATORY USE ONLY

CHEMICAL ANALYSIS

KEY PUNCHED

Laboratory No. 186609 <sup>W</sup> Date Received MAR 12 1971 Date Reported MAR 24 1971

	MG/L	ME/L		MG/L	ME/L
Silica	<u>15</u>		Carbonate		<u>0</u>
Calcium	<u>24</u>	<u>1.32</u>	Bicarbonate	<u>242</u>	<u>3.96</u>
Magnesium	<u>15</u>	<u>1.24</u>	Sulfate	<u>320</u>	<u>6.66</u>
Sodium	<u>206</u>	<u>8.96</u>	Chloride	<u>39</u>	<u>1.09</u>
	Total	<u>11.42</u>	Fluoride	<u>1.5</u>	
<input type="checkbox"/> Potassium	<u>6</u>	<u>.15</u>	Nitrate	<u>20.4</u>	
<input type="checkbox"/> Manganese		<u>1.57</u>	pH	<u>8.0</u>	Total <u>11.71</u>
<input type="checkbox"/> Boron		SAR			<u>750</u>
<input type="checkbox"/> Total Iron		REC	1/ Dissolved Solids (sum)		
<input type="checkbox"/> (other)			Phenolphthalein Alkalinity as C aCO <sub>3</sub>	<u>0</u>	

Specific Conductance (microhos/cm<sup>3</sup>) 1050  
Total Alkalinity as C aCO<sub>3</sub> (3.96) 198

Diluted Conductance (microhos/cm<sup>3</sup>) 9 x 145  
Total Hardness as C aCO<sub>3</sub> (2.46) 123

"□" items will be analyzed if checked. 1305

Total Iron requires separate sample. Analyst \_\_\_\_\_  
Checked by \_\_\_\_\_

1/ The bicarbonate reported in this analysis is converted by computation (multiplying by 0.4917) to an equivalent amount of carbonate, and the carbonate figure is used in the computation of this sum.

[GWDB Reports and Downloads](#)

**Well Basic Details**

[Scanned Documents](#)

State Well Number	5841308
County	Travis
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Southwestern Travis County GCD
Latitude (decimal degrees)	30.3425
Latitude (degrees minutes seconds)	30° 20' 33" N
Longitude (decimal degrees)	-97.882222
Longitude (degrees minutes seconds)	097° 52' 56" W
Coordinate Source	+/- 1 Second
Aquifer Code	218GLRSL - Glen Rose Limestone, Lower Member
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	510
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	236
Well Depth Source	Owner
Drilling Start Date	
Drilling End Date	0/0/1969
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	None
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	C.H. McDonald
Driller	Glass
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	10/22/1998
Last Update Date	3/4/2020

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	6/29/1973		-10.5		520.5	1	Other or Source of Measurement Unknown	Pressure Gage		

### Code Descriptions

Status Code	Status Description
P	Publishable

---

**Water Quality Analysis - No Data Available**

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TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer Kyle

Field No. \_\_\_\_\_

State Well No. 58-41-308

Owner's Well No. \_\_\_\_\_

County Texas

1. Location: 1/4 1/4 Sec. \_\_\_\_\_, Block \_\_\_\_\_ Survey \_\_\_\_\_

2. Owner: C. H. McDonald Address: 476-6611

Tenant: V.P., Capital Nat. Bank Address: \_\_\_\_\_

Driller: \_\_\_\_\_ Address: \_\_\_\_\_

3. Elevation of LSD is 510 ft. above wsl, determined by tape.

4. Drilled: Jan. 19 69; Dug, Cable Tool, Rotary, \_\_\_\_\_

5. Depth: Rept. 236 ft. Meas. \_\_\_\_\_ ft.

6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfgr. \_\_\_\_\_ Type Subm.

No. Stages \_\_\_\_\_, Bwls Diam. \_\_\_\_\_ in., Setting \_\_\_\_\_ ft.

Column Diam. \_\_\_\_\_ in., Length Tailpipe \_\_\_\_\_ ft.

8. Motor: Fuel Elec. Make & Model \_\_\_\_\_ HP.

9. Yield: Flow \_\_\_\_\_ gpm, Pump \_\_\_\_\_ gpm, Meas., Rept., Est. \_\_\_\_\_

10. Performance Test: Date \_\_\_\_\_ Length of Test \_\_\_\_\_ Made by \_\_\_\_\_

Static Level \_\_\_\_\_ ft. Pumping Level \_\_\_\_\_ ft. Drawdown \_\_\_\_\_ ft.

Production \_\_\_\_\_ gpm Specific Capacity \_\_\_\_\_ gpm/ft.

11. Water Level: +10.5 ft. meas. 6-29 1973 above Flowing which is \_\_\_\_\_ ft. below used hose + ladder surface  
 \_\_\_\_\_ ft. meas. 19 above which is \_\_\_\_\_ ft. below surface  
 \_\_\_\_\_ ft. meas. 19 below which is \_\_\_\_\_ ft. below surface  
 \_\_\_\_\_ ft. meas. 19 above which is \_\_\_\_\_ ft. below surface

12. Use: Dom., Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used.

13. Quality: (Remarks on taste, odor, color, etc.) \_\_\_\_\_

Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_

Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_

Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_

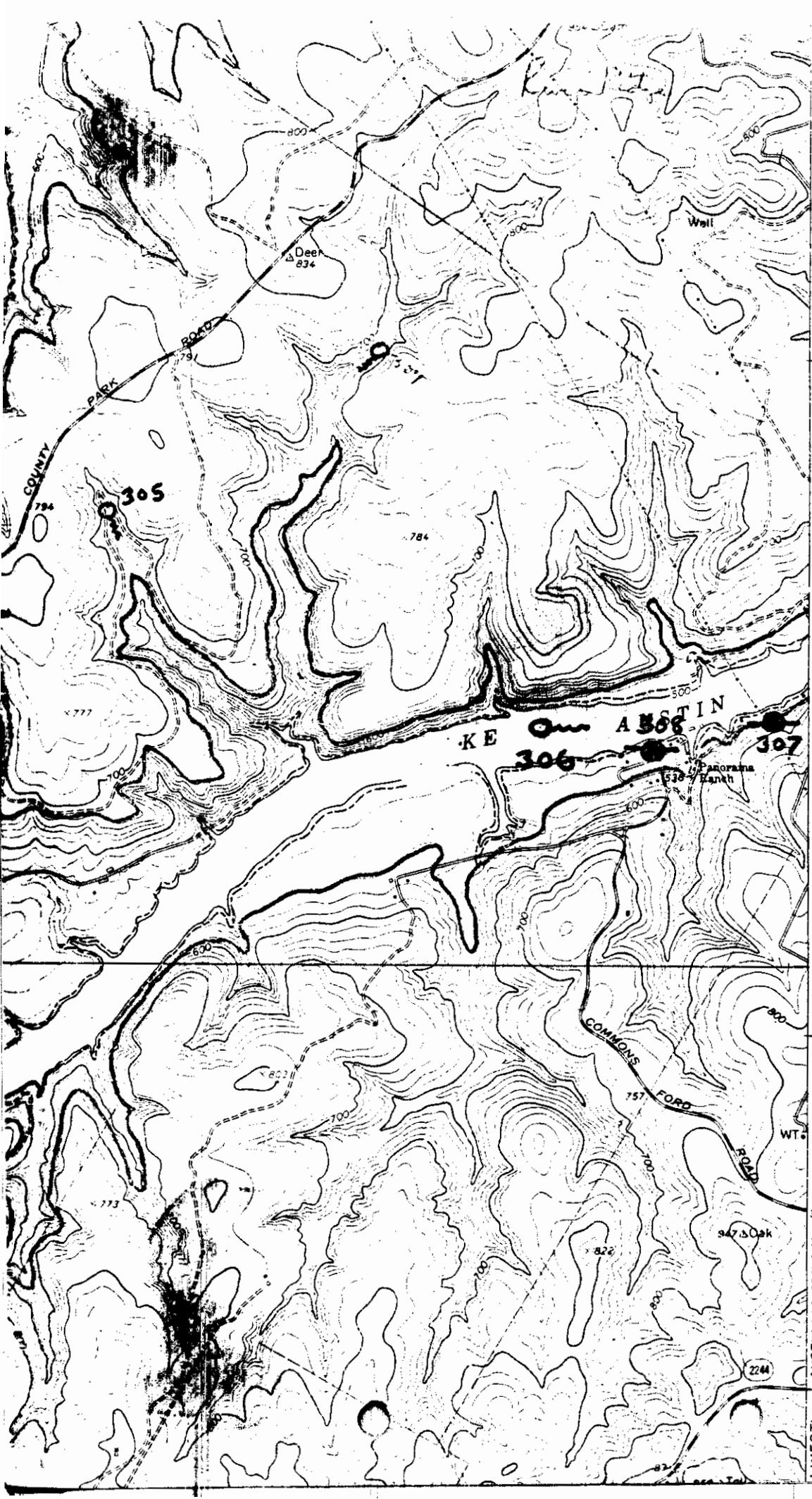
14. Other data available as circled: Driller's Log, Radioactivity Log, Electric Log, Formation Samples, Pumping Test, \_\_\_\_\_

15. Record by: Dr. Brune Date July 2 1973  
 Source of Data Owner

16. Remarks: \_\_\_\_\_


CASING & BLANK PIPE			
Cemented From		ft. to	
Diam. (in.)	Type	Setting, ft.	
		from	to
6	Steel	0	236

WELL SCREEN			
Screen Openings		Setting, ft.	
Diam. (in.)	Type	from	to
	None		



3360

3359  
260 000  
FEET

3358

3357

20'  
3356

3355

WEST  
AUSTIN (U.S. 200) 9 MI.  
N SE

YD58-41-308

[GWDB Reports and Downloads](#)

**Well Basic Details**

[Scanned Documents](#)

State Well Number	5841302
County	Travis
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Southwestern Travis County GCD
Latitude (decimal degrees)	30.342778
Latitude (degrees minutes seconds)	30° 20' 34" N
Longitude (decimal degrees)	-97.881389
Longitude (degrees minutes seconds)	097° 52' 53" W
Coordinate Source	+/- 10 Seconds
Aquifer Code	217HSTN - Hosston Formation
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	500
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	395
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	0/0/1968
Drilling Method	Cable Tool
Borehole Completion	Open Hole

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	Yes
Pump	None
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	Robert Stone
Driller	Dick Sanders
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	10/22/1998
Last Update Date	3/4/2020

**Remarks** | Reported flow 8 gal/min. Cemented from 302 ft to surface.

**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	6/29/1973		-66.2		566.2	1	Other or Source of Measurement Unknown	Pressure Gage		

### Code Descriptions

Status Code	Status Description
P	Publishable

### Water Quality Analysis

**Sample Date:** 12/9/1970    **Sample Time:** 0000    **Sample Number:** 1    **Collection Entity:** Texas Water Development Board  
**Sampled Aquifer:** Hosston Formation  
**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)		199	mg/L as CaCO 3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		242.85	mg/L	
00910	CALCIUM (MG/L)		22	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		40	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		1.5	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		96	mg/L as CaCO 3	
00920	MAGNESIUM (MG/L)		10	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)	<	0.4	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		8.1	SU	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		2.06		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		12	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		9.72		
00932	SODIUM, CALCULATED, PERCENT		83	PCT	
00929	SODIUM, TOTAL (MG/L AS NA)		219	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1314	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		306	mg/L as SO4	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		730	mg/L	

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

**GWDB DISCLAIMER:** Except where noted, all of the information provided in the Texas Water Development Board (TWDB) Groundwater Database (<https://www.twdb.texas.gov/groundwater/data/gwdbbrpt.asp>) is believed to be accurate and reliable; however, the TWDB assumes no responsibility for any errors appearing in rules or otherwise. Further, TWDB assumes no responsibility for the use of the information provided. PLEASE NOTE that users of these data are responsible for checking the accuracy, completeness, currency and/or suitability of all information themselves. TWDB makes no guarantees or warranties as to the accuracy, completeness, currency, or suitability of the information provided via the Groundwater Database (GWDB). TWDB specifically disclaims any and all liability for any claims or damages that may result from providing GWDB data or the information it contains. For additional information or answers to questions concerning the TWDB GWDB, contact the Groundwater Data Team at [GroundwaterData@twdb.texas.gov](mailto:GroundwaterData@twdb.texas.gov).

TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer Kcp Field No. \_\_\_\_\_ State Well No. 58-41-302  
Kho Owner's Well No. \_\_\_\_\_ County TRAVIS

1. Location: 1/4, 1/4 Sec., Block \_\_\_\_\_ Survey \_\_\_\_\_

2. Owner: MRS. ROBERT L. STONE Address: RT. D #8 BOX 911 AUSTIN TEXAS  
 Tenant: ROBERT L. & G. STONE Address: SAME  
 Driller: DICK SANDERS OIL CO. Address: AUSTIN TEXAS

3. Elevation of LSD is 500 ft. above msl, determined by 7 1/2 topo

4. Drilled: 4/23 19 68; Dug, Cable Tool Rotary, \_\_\_\_\_

5. Depth: Rept. 395 ft. Meas. \_\_\_\_\_ ft.

6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed 8"

7. Pump: Mfr. \_\_\_\_\_ Type 54BM  
 No. Stages \_\_\_\_\_, Bore Diam. \_\_\_\_\_ in., Setting 100 ft. 500 gpm  
 Column Diam. \_\_\_\_\_ in., Length Tailpipe \_\_\_\_\_ ft.

8. Motor: Fuel ELEC. Make & Model \_\_\_\_\_ HP. 1/2

9. Yield: Flow 8 gpm, Pump \_\_\_\_\_ gpm, Meas., Rept., Est. \_\_\_\_\_

10. Performance Test: Date \_\_\_\_\_ Length of Test \_\_\_\_\_ Made by \_\_\_\_\_  
 Static Level \_\_\_\_\_ ft. Pumping Level \_\_\_\_\_ ft. Drawdown \_\_\_\_\_ ft.  
 Production \_\_\_\_\_ gpm Specific Capacity \_\_\_\_\_ gpm/ft.


CASING & BLANK PIPE			
Cemented From <u>302</u> ft. to <u>0</u> ft.			
Diam. (in.)	Type	Setting, ft.	
		from	to
<u>7"</u>	<u>OLD CASING</u>	<u>0</u>	<u>302</u>

11. Water Level: \_\_\_\_\_ ft. rept. \_\_\_\_\_ 19 \_\_\_\_\_ above \_\_\_\_\_ surface.  
+66.2 ft. rept. 6-29 1973 above Maintain 22 lb. pressure in which is \_\_\_\_\_ ft. above surface  
 \_\_\_\_\_ ft. rept. \_\_\_\_\_ 19 \_\_\_\_\_ below \_\_\_\_\_ surface.  
tank 15' above well. which is \_\_\_\_\_ ft. above surface.  
 \_\_\_\_\_ ft. rept. \_\_\_\_\_ 19 \_\_\_\_\_ above \_\_\_\_\_ surface.  
 \_\_\_\_\_ ft. rept. \_\_\_\_\_ 19 \_\_\_\_\_ below \_\_\_\_\_ surface.

12. Use: Dom. Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used, HOME

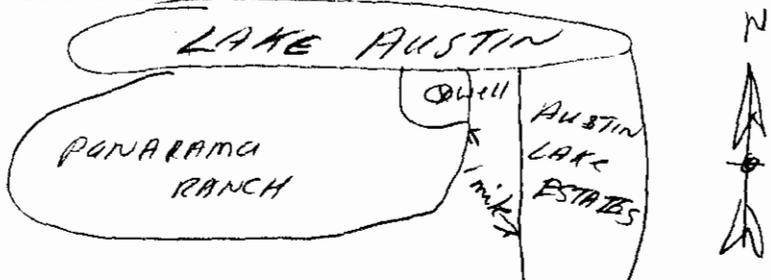
13. Quality: (Remarks on taste, odor, color, etc.) \_\_\_\_\_  
 Temp. 72 °F, Date sampled for analysis 12/9/70 Laboratory JSHD  
 Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_  
 Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_

14. Other data available as circled: Driller's Log, Radioactivity Log, Electric Log, Formation Samples, Pumping Test, D-LOG see Back

15. Record by: H. NICHOLS Date 10/14 1968  
 Source of Data W. W. Rept.

16. Remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

WELL SCREEN			
Screen Openings			
Diam. (in.)	Type	Setting, ft.	
		from	to



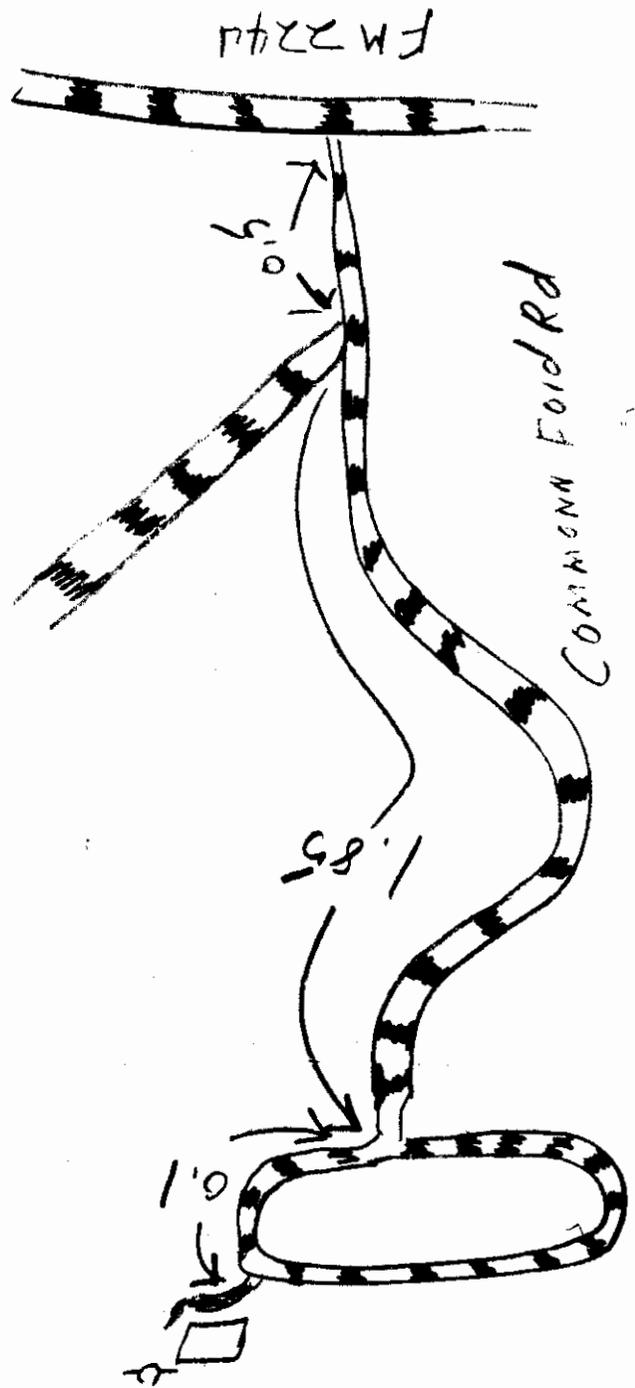
(Sketch)

stone

58-41-302

14.3

- 0 - 40 SANDY LOAM
- 40 - 100 WHITE LIME
- 100 - 178 GRAY LIME
- 178 - 182 WHITE WATER SAND
- 182 - 200 BLUE LIME
- 200 - 250 TRAVIS PEAT SHALE
- 250 - 290 BLUE LIME
- 290 - 325 Red ROCK
- 325 - 338 BLUE LIME
- 338 - 356 Red ROCK
- 356 - 361 Red WATER SAND
- 361 - 368 Red ROCK
- 368 - 376 Red WATER SAND
- 376 - 385 Red ROCK
- 385 - 392 Red WATER SAND
- 392 - 395 Red ROCK



File original copy with Texas Water Commission P. O. Box 2311, Capitol Station Austin 11, Texas

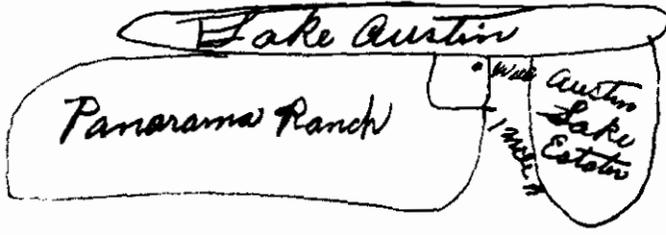
State of Texas

DRILLERS LOG AND WELL DATA REPORT

For use by TWC only Well No. 5742-12 Located on map By Date Map no.

1) Well Owner: Miss Robert L. Stone, RFR #8 Austin Tex 22  
 2) Land Owner: Robert L. & Addie M. Stone  
 3) Intended use: Industrial  Municipal  Irrigation  Other Home  
 4) Location of well: County Travis Labor League Abstract No. See #19  
 NE    SW    SE    NW    of Section    Block No.    Survey Panorama Ranch Lot #

7 miles in W direction from Austin Texas



Sketch map of well location with distances from two section or survey lines, and to landmarks, roads, and creeks.

Method of drilling: Cable Tool Diameter of hole 8 in. Date drilled 4-23-68

DRILLERS LOG OF WELL

All measurements made from 0 ft. above ground level.

From (ft)	To (ft)	Description and color of formation material	From (ft)	To (ft)	Description and color of formation material
0	40	Sandy loam	325	338	Blue lime
40	100	White lime	338	356	Red Rock
100	178	Gray lime	356	361	Red Water Land
178	182	White Water Land	361	368	Red Rock
182	200	Blue lime	368	376	Red Water Land
200	250	Travis Peak Shale	376	385	Red Rock
250	290	Blue lime	385	392	Red Water Land
290	325	Red Rock	392	395	Red Rock

(Use continuation sheets if necessary)

COMPLETION DATA

COMPLETION	CASING	SCREEN																		
Straight well <input type="checkbox"/> Under ramed <input type="checkbox"/> Gravel packed <input type="checkbox"/> Open hole <input type="checkbox"/> Other _____	Type: Old <input checked="" type="checkbox"/> New <input type="checkbox"/> Cemented from <u>0</u> ft. to <u>302</u> ft. <table border="1"> <thead> <tr> <th>Diameter (inches)</th> <th colspan="2">Setting</th> </tr> <tr> <td></td> <th>from (ft)</th> <th>to (ft)</th> </tr> </thead> <tbody> <tr> <td>7"</td> <td>0</td> <td>302</td> </tr> </tbody> </table>	Diameter (inches)	Setting			from (ft)	to (ft)	7"	0	302	Type _____ Perforated <input type="checkbox"/> Slotted <input type="checkbox"/> <table border="1"> <thead> <tr> <th>Diameter (inches)</th> <th colspan="2">Setting</th> </tr> <tr> <td></td> <th>from (ft)</th> <th>to (ft)</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Diameter (inches)	Setting			from (ft)	to (ft)			
Diameter (inches)	Setting																			
	from (ft)	to (ft)																		
7"	0	302																		
Diameter (inches)	Setting																			
	from (ft)	to (ft)																		

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief.  
Dick Lander Dick Lander Drilling Reg. No. 536

Please attach electric log, chemical analysis, and other pertinent information if available.  
 If well was tested by your company or if you installed the permanent pump please complete the following:

WATER LEVEL AND PUMP DATA

Static water level _____ ft. below <u>Surface</u>	Pump type <u>Submersible</u>						
<table border="1"> <thead> <tr> <th>feet</th> <th>hours</th> <th>gpm</th> </tr> </thead> <tbody> <tr> <td><u>4</u></td> <td><u>1</u></td> <td><u>9 gpm</u></td> </tr> </tbody> </table>	feet	hours	gpm	<u>4</u>	<u>1</u>	<u>9 gpm</u>	Designed pumping rate <u>500</u> gpm <input type="checkbox"/> ft. Type power unit <u>Elect</u> Horsepower <u>1/2</u> Depth to bowls, cylinder, jet, etc., <u>100</u> ft. below pump
feet	hours	gpm					
<u>4</u>	<u>1</u>	<u>9 gpm</u>					

Name of contractor testing well or installing permanent pump if other than your company: YD 58-41-302

TWDBE-GW ONLY  
 Program No. 7421  
 Proj. No. \_\_\_\_\_

CHEMICAL WATER ANALYSIS REPORT

Typewrite (Black ribbon) or Print Plainly  
 (soft pencil or black ink)  
 Do not use ball point pen

Texas State Department of Health Laboratories  
 1100 West 49th Street  
 Austin 5, Texas

Send report to:

Ground Water Division  
 Texas Water Development Board  
 P.O. Box 13087  
 Austin, Texas 78711

County TARRANT  
 State Well No. 58-41-302  
 Well No. \_\_\_\_\_

Date Collected 12/11/70  
 By John Dalton

Location Panorama Ranch off County Road  
 Source (type of well) Submersible Owner Robert L. Stone  
 Date Drilled 4/23/68 Depth 395 ft. WEP  
 Producing intervals 302-395 Water level Artesian ft.  
 Sampled after pumping \_\_\_\_\_ hrs. Yield \_\_\_\_\_ GPM meas. est. Temperature \_\_\_\_\_ °F °C  
 Point of collection overflow faucet Appearance clear turbid - colored  
 Use Dom Remarks Sandstone; Robert L. Stone  
Rt 8 Box 291 Austin

FOR LABORATORY USE ONLY

CHEMICAL ANALYSIS

KEY PUNCHER

Laboratory No. 178302 W Date Received DEC 11 1970 Date Reported DEC 30 1970

	MG/L	ME/L
Silica	<u>12</u>	
Calcium	<u>22</u>	<u>1.10</u>
Magnesium	<u>10</u>	<u>0.82</u>
Sodium	<u>219</u>	<u>9.51</u>
Total		<u>11.43</u>

- Potassium \_\_\_\_\_
- Manganese \_\_\_\_\_ %
- Boron \_\_\_\_\_ BAR
- Total Iron \_\_\_\_\_ REC
- \_\_\_\_\_ (other) \_\_\_\_\_

Specific Conductance (micromhos/cm<sup>3</sup>) 1125  
 Diluted Conductance (micromhos/cm<sup>3</sup>) 9 x 146

"□" items will be analyzed if checked. 1314

Total Iron requires separate sample.

	MG/L	ME/L
Carbonate		<u>0</u>
Bicarbonate	<u>119</u>	<u>3.98</u>
Sulfate	<u>306</u>	<u>6.37</u>
Chloride	<u>40</u>	<u>1.14</u>
Fluoride	<u>1.5</u>	
Nitrate	<u>50.4</u>	
pH	<u>8.1</u>	Total <u>11.49</u>

1/Dissolved Solids (sum) 730  
 Phenolphthalein Alkalinity as C aCO<sub>3</sub> 0  
 Total Alkalinity as C aCO<sub>3</sub> (3.98) 199  
 Total Hardness as C aCO<sub>3</sub> (1.92) 96

Analyst \_\_\_\_\_  
 Checked by \_\_\_\_\_

1/ The bicarbonate reported in this analysis is converted by computation (multiplying by 0.4917) to an equivalent amount of carbonate, and the carbonate figure is used in the computation of this sum.

[GWDB Reports and Downloads](#)

**Well Basic Details**

[Scanned Documents](#)

State Well Number	5841301
County	Travis
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Southwestern Travis County GCD
Latitude (decimal degrees)	30.341111
Latitude (degrees minutes seconds)	30° 20' 28" N
Longitude (decimal degrees)	-97.881389
Longitude (degrees minutes seconds)	097° 52' 53" W
Coordinate Source	+/- 10 Seconds
Aquifer Code	217HSTN - Hosston Formation
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	485
Land Surface Elevation Method	Digital Elevation Model -DEM
Well Depth (feet below land surface)	500
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	0/0/1967
Drilling Method	
Borehole Completion	Open Hole

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	Yes
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Robert Baldwin
Driller	W.H. Glass and Son
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	10/22/1998
Last Update Date	3/4/2020

**Remarks** | Reported 0 ft drawdown after pump- ing 30 minutes at 15 gal/min on July 16,1967. Cemented from 475 ft toosurface.

**Casing - No Data**

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

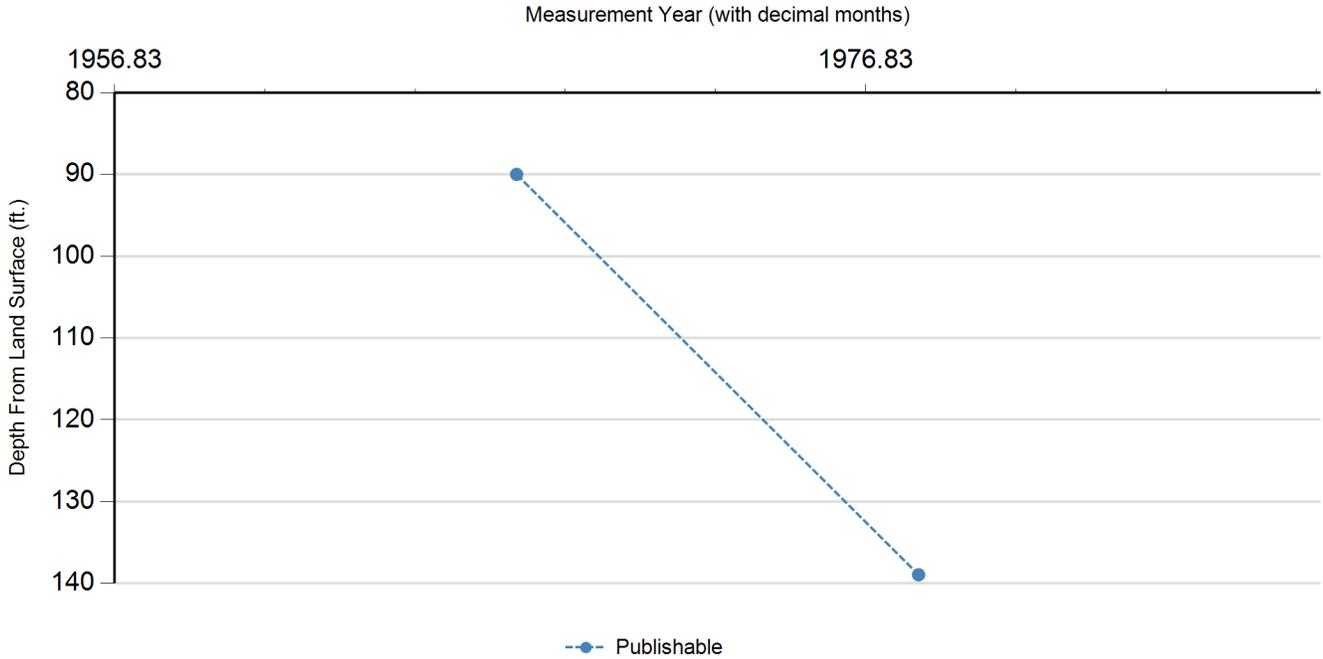
**Borehole - No Data**

**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	7/16/1967		90		395	1	Other or Source of Measurement Unknown	Unknown		
P	3/28/1978		138.95	48.95	346.05	1	Other or Source of Measurement Unknown	Unknown		

### Code Descriptions

Status Code	Status Description
P	Publishable

### Water Quality Analysis

**Sample Date:** 8/21/1967    **Sample Time:** 0000    **Sample Number:** 1    **Collection Entity:** Texas Water Development Board  
**Sampled Aquifer:** Hosston Formation  
**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)		192	mg/L as CaCO 3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		234.31	mg/L	
00910	CALCIUM (MG/L)		27	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		39	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		1.8	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		117	mg/L as CaCO 3	
00920	MAGNESIUM (MG/L)		12	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)	<	0.4	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		8.2	SU	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		1.51		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		12	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		8.74		
00932	SODIUM, CALCULATED, PERCENT		80	PCT	
00929	SODIUM, TOTAL (MG/L AS NA)		217	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1309	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		332	mg/L as SO4	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		756	mg/L	

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

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TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer Kop Kohl Field No. \_\_\_\_\_ State Well No. 58-41-301  
 Owner's Well No. \_\_\_\_\_ County Travis

1. Location: 1/4, 1/4 Sec., Block \_\_\_\_\_ Survey \_\_\_\_\_  
 2. Owner: Robert Baldwin Address: GR 67571 on 263-2463 RT 2 Box 282, Austin  
 Tenant: George Fullford Address: OR RO. Box 66, Austin, Texas  
 Driller: Hugh Glass Address: Austin, Texas

3. Elevation of \_\_\_\_\_ is 440 ft. above msl, determined by \_\_\_\_\_  
 4. Drilled: 3424 16 19 67; Dig, Cable Tool, Rotary, \_\_\_\_\_  
 5. Depth: Rept. 489 ft. Meas. \_\_\_\_\_ ft.  
 6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed 8"  
 7. Pump: Mfr. Sta-Rite Type Subm  
 No. Stages \_\_\_\_\_ Bows Diam. \_\_\_\_\_ in., Setting 360 ft. 157 gpm  
 Column Diam. \_\_\_\_\_ in., Length Tailpipe \_\_\_\_\_ ft.

CASING & BLANK PIPE			
Cemented From		ft. to	
Diam. (in.)	Type	Setting, ft.	
		from	to
<u>7.00</u>	<u>2 1/2" CASING 57' ST 5/16"</u>	<u>0</u>	<u>482</u>

8. Motor: Fuel Elec. Make & Model \_\_\_\_\_ HP. 2  
 9. Yield: Flow \_\_\_\_\_ gpm, Pump \_\_\_\_\_ gpm, Meas., Rept., Est. \_\_\_\_\_  
 10. Performance Test: Date 7/16/67 Length of Test 30 min Made by D.A.R.  
 Static Level \_\_\_\_\_ ft. Pumping Level \_\_\_\_\_ ft. Drawdown 0 ft.  
 Production 15 gpm Specific Capacity \_\_\_\_\_ gpm/ft.

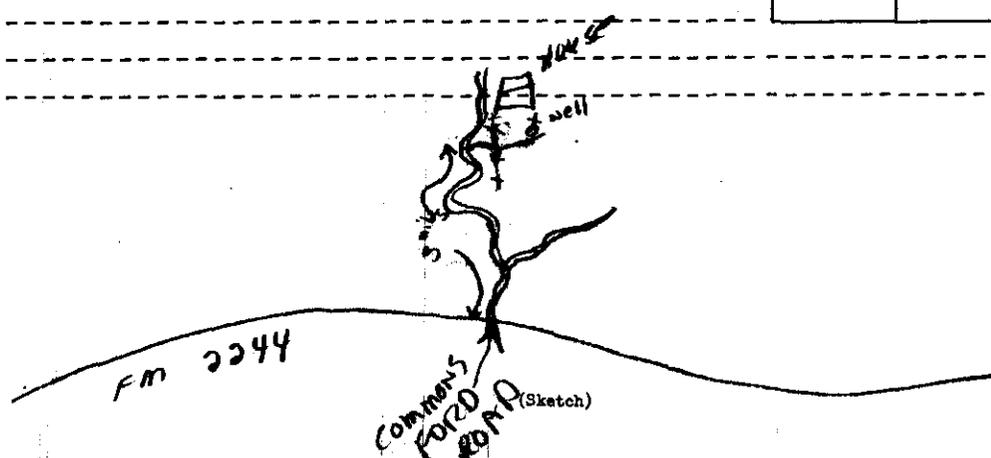
11. Water Level: 90 ft. 7-16-1967 above LSO which is \_\_\_\_\_ ft. above surface.  
72.93 ft. 4-30-1967 above \_\_\_\_\_ ft. below surface.  
 \_\_\_\_\_ ft. 19 above \_\_\_\_\_ ft. below surface.  
 \_\_\_\_\_ ft. 19 below \_\_\_\_\_ ft. above surface.  
 \_\_\_\_\_ ft. 19 above \_\_\_\_\_ ft. below surface.

12. Use: Dom. Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used.  
 13. Quality: (Remarks on taste, odor, color, etc.) \_\_\_\_\_  
 Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_  
 Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_  
 Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_

WELL SCREEN			
Screen Openings		Setting, ft.	
Diam. (in.)	Type	from	to
	<u>OPEN HOLE</u>	<u>482</u>	<u>489</u>

14. Other data available as circled: Driller's Log, Radioactivity Log, Electric Log, Formation Samples, Pumping Test Dr log see back  
 15. Record by: R Bluntzer Date 3/29 1968  
 Source of Data DLAWDR

16. Remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



58-41-301

14) Driller's Log 58-41-301.2

0 to 8 - Yellow shale

8 to 26 - Yellow lime

26 to 152 - Gray lime

152 to 180 - Blue lime

180 to 190 - Water sand

190 to 328 - Gray lime

328 to 394 - Gray shale

394 to 453 - Gray lime

453 to 476 - Travis Peak shale

\* Red clay

476 to 484 - Trinity sand

484 to 489 - Red clay

640  
475  

---

7165

+150

Send original copy by certified mail to the Texas Water Development Board P. O. Box 12386 Austin, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only Well No. Located on map Received: Form GW 8 Form GW 9

1) OWNER: Person having well drilled Mr. Steve Fulford Address 2415 Harford Austin Texas Landowner Same Address Same

2) LOCATION OF WELL: Travis Labor League Abstract No. NW 1/4 SE 1/4 SW 1/4 SE 1/4 of Section Block No. Survey miles in N.W. direction from Austin Bee Cave Rd 2414 Hwy Turn R. on Commons Ford Rd 3 mile turn

3) TYPE OF WORK (Check): New Well [X] Deepening [ ] Reconditioning [ ] Plugging [ ] 4) PROPOSED USE (Check): Domestic [X] Industrial [ ] Municipal [ ] Irrigation [ ] Test Well [ ] Other [ ] 5) TYPE OF WELL (Check): Rotary [ ] Driven [ ] Dug [ ] Cable [ ] Jetted [ ] Bored [ ]

6) WELL LOG: Diameter of hole 8 in. Depth drilled 489 ft. Depth of completed well 489 ft. Date drilled 2/16/67 All measurements made from 0 ft. above ground level.

Table with 2 columns: From (ft.) To (ft.) Description and color of formation material. Includes entries like Yellow shale, Yellow lime, Magnesian, Blue lime, water sand, Gray lime, Gray shale, Gray lime.

7) COMPLETION (Check): Straight well [X] Gravel packed [ ] Other [ ] Under reamed [ ] Open hole [ ] 8) WATER LEVEL: Static level 90 ft. below land surface Date 2/16/67 Artesian pressure lbs. per square inch Date

9) CASING: Type: old [X] New [ ] Steel [ ] Plastic [ ] Other [ ] Cemented from 0 ft. to 475 ft. 10) SCREEN: Type Perforated [ ] Slotted [ ]

Table with 2 columns: Diameter (inches) Setting From (ft.) To (ft.) Cage Slot size. Includes entry: 2 C.O. C 482 5/16

11) WELL TESTS: Was a pump test made? Yes [X] No [ ] If yes by whom W. Hugh Glass Yield: 15 gpm with 0 ft. drawdown after 1/2 hrs Bailor test 30 gpm with 0 ft. drawdown after 10 hrs Artesian flow gpm Date 2/16/67 Temperature of water Was a chemical analysis made? Yes [ ] No [X] Did any strata contain undesirable water? Yes [X] No [ ] Type of water? good depth of strata 6 ft.

12) PUMP DATA: Manufacturer's Name Sta-Rite Type 2 HP Schumacher P. 2 Designed pumping rate 15 gpm [X] gph [ ] Type power unit Electric Depth to bowls, cylinder, jet, etc., 360 ft. below land surface.

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. NAME W. Hugh Glass (Type or Print) Water Well Drillers Registration No. Address 2612 Sep 3rd St. Austin TX (Signed) W. Hugh Glass (Water Well Driller) W. Hugh Glass & Sons (Company Name)

Please attach electric log, chemical analysis, and other pertinent information, if available. YD 58-41-301

CHEMICAL WATER ANALYSIS REPORT

Typewrite (Black ribbon) or Print Plainly  
(soft pencil or black ink)  
Do not use ball point pen

Texas State Department of Health Laboratories  
1100 West 49th Street  
Austin 5, Texas

Send report to:

Ground Water Division  
Texas Water Development Board  
P. O. Box 12386  
Austin, Texas 78711

County Travis  
State Well No. 58-41-301  
Well No. \_\_\_\_\_  
Date Collected 8/21/67  
By R. Bluntzer

Location On L. Austin  
Source (type of well) Subm. - Elec. Owner George Fulford  
Date Drilled July 1967 Depth 500 ft. WEF \_\_\_\_\_  
Producing intervals OPEN HOLE 492-500' Water level WTM ft.  
Sampled after pumping 1/4 hrs. Yield ? GPM ? Temp. \_\_\_\_\_ °F  
Point of collection Faucet Appearance clear  
clear - turbid - colored  
Use Dom. Remarks Send Copy to George Fulford Rt. 7, Box 282 Austin, Texas

FOR LABORATORY USE ONLY

CHEMICAL ANALYSIS

KEY PUNCHED

AUG 22 1967

Laboratory No. 909104 Date Received \_\_\_\_\_ Date Reported 8-29-67

	PPM	PPM
Silica	<u>12</u>	
Calcium	<u>27</u>	<u>1.35</u>
Magnesium	<u>12</u>	<u>1.00</u>
Sodium	<u>217</u>	<u>9.44</u>
	Total	<u>11.79</u>
<input type="checkbox"/> Potassium		
<input type="checkbox"/> Manganese		<u>80</u>
<input type="checkbox"/> Boron		<u>8.66</u>
<input type="checkbox"/> Total Iron		
<input type="checkbox"/> (other)		

	PPM	PPM
Carbonate		<u>0</u>
Bicarbonate	<u>115</u>	<u>234</u>
Sulfate	<u>332</u>	<u>6.91</u>
Chloride	<u>39</u>	<u>1.10</u>
Fluoride	<u>1.8</u>	
Nitrate	<u>&lt;0.4</u>	
pH	<u>8.2</u>	Total <u>11.85</u>
1/ Dissolved Solids (sum)		<u>760</u>
Phenolphthalein Alkalinity as C aCO <sub>3</sub>	<u>0</u>	
Total Alkalinity as C aCO <sub>3</sub>	<u>3.84</u>	<u>192</u>
Total Hardness as C aCO <sub>3</sub>	<u>(2.35)</u>	<u>118</u>

Specific Conductance (micromhos/cm<sup>3</sup>) 1125  
Diluted Conductance (micromhos/cm<sup>3</sup>) 11 x 119  
"□" items will be analyzed if checked. 1309

AUG 30 67  
Analyst \_\_\_\_\_  
Checked by in

Total Iron requires separate sample.

/ The bicarbonate reported in this analysis is converted by computation (multiplying by 0.4917) to an equivalent amount of carbonate, and the carbonate figure is used in the computation of this sum.

# STATE OF TEXAS WELL REPORT for Tracking #542028

Owner: **Kim Smith** Owner Well #: **No Data**  
Address: **1200 Bruton Springs Rd  
Austin, TX 78733** Grid #: **58-41-3**  
Well Location: **1200 Bruton Springs Rd  
Austin, TX 78733** Latitude: **30° 20' 26" N**  
Longitude: **097° 52' 53" W**  
Well County: **Travis** Elevation: **520 ft. above sea level**

Type of Work: **New Well** Proposed Use: **Irrigation**

Drilling Start Date: **3/16/2020** Drilling End Date: **3/23/2020**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	<b>8.5</b>	<b>0</b>	<b>100</b>
	<b>6.75</b>	<b>100</b>	<b>185</b>

Drilling Method: **Air Rotary**  
Borehole Completion: **Perforated or Slotted**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks &amp; material)</i>
Annular Seal Data:	<b>0</b>	<b>10</b>	<b>Cement 2</b>
	<b>10</b>	<b>100</b>	<b>Bentonite 9</b>

Seal Method: **Pressure**

Sealed By: **Driller**

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

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

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

Method of Verification: **No Data**

Surface Completion: **Pitless Adapter Used**

Water Level: **No Data**

Packers: **Rubber at 100 ft.  
Rubber at 105 ft.  
Rubber at 110 ft.**

Type of Pump: **Submersible**

Well Tests: **Jetted** Yield: **30 GPM**

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
<b>No Data</b>	<b>No Data</b>

Chemical Analysis Made: **No**

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

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

Company Information: **Bee Cave Drilling, Inc.**  
**185 Angel Fire Dr.**  
**Dripping Springs, TX 78620**

Driller Name: **jim blair**

License Number: **54416**

Comments: **No Data**

Lithology:  
DESCRIPTION & COLOR OF FORMATION MATERIAL

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>2</b>	<b>topsoil</b>
<b>2</b>	<b>15</b>	<b>caliche</b>
<b>15</b>	<b>30</b>	<b>sandstone</b>
<b>30</b>	<b>40</b>	<b>sand</b>
<b>40</b>	<b>50</b>	<b>gravel</b>
<b>50</b>	<b>65</b>	<b>large gravel</b>
<b>65</b>	<b>90</b>	<b>gray limestone with clay stringers</b>
<b>90</b>	<b>170</b>	<b>gray limestone</b>
<b>170</b>	<b>190</b>	<b>gray / tan sandstone w/ 30 gpm</b>

Casing:  
BLANK PIPE & WELL SCREEN DATA

<i>Dia (in.)</i>	<i>Type</i>	<i>Material</i>	<i>Sch./Gage</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
<b>4.5</b>	<b>Blank</b>	<b>New Plastic (PVC)</b>	<b>sdr-17</b>	<b>0</b>	<b>125</b>
<b>4.5</b>	<b>Perforated or Slotted</b>	<b>New Plastic (PVC)</b>	<b>sdr-17</b>	<b>125</b>	<b>185</b>

---

**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

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

## STATE OF TEXAS WELL REPORT for Tracking #255674

Owner: <b>Percision Geothermal Drilling</b>	Owner Well #: <b>No Data</b>
Address: <b>P.O. Box 500188 Austin, TX 78750</b>	Grid #: <b>58-41-3</b>
Well Location: <b>1200 Bruton Springs Road Austin, TX 78733</b>	Latitude: <b>30° 20' 24" N</b>
Well County: <b>Travis</b>	Longitude: <b>097° 52' 51" W</b>
	Elevation: <b>No Data</b>

**\*\*Plugged Within 48 Hours\*\***

**\*\*This well has been plugged\*\***

**Plugging Report Tracking #131245**

Type of Work: <b>New Well</b>	Proposed Use: <b>Closed-Loop Geothermal</b>
-------------------------------	---

Drilling Start Date: **4/7/2011**      Drilling End Date: **4/11/2011**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	<b>4.75</b>	<b>0</b>	<b>300</b>

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed**

	Top Depth (ft.)	Bottom Depth (ft.)	Filter Material	Size
Filter Pack Intervals:	<b>0</b>	<b>30</b>	<b>Gravel</b>	<b>3/8</b>

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

Seal Method: **Poured**

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

Sealed By: **Anthony Sarris**

Distance to Septic Field or other concentrated contamination (ft.): **127**

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

Method of Verification: **Owner**

Surface Completion: **Alternative Procedure Used**

Water Level: <b>0 GPM</b> artesian flow on <b>No Data</b>	Measurement Method: <b>Unknown</b>
---	------------------------------------

Packers: **No Data**

Type of Pump: <b>Other - Not Specified</b>	Pump Depth (ft.): <b>0</b>
--	----------------------------

Well Tests: **Unknown**      Yield: **No Data GPM with 0 ft. drawdown after unspecified hours**

Water Quality:	<i>Strata Depth (ft.)</i>	<i>Water Type</i>
	<b>0</b>	<b>No Data</b>

Chemical Analysis Made: **No**

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

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

Company Information: **Precision Geothermal Drilling**  
**P.O. Box 500188**  
**Austin, TX 78750**

Driller Name: **Coy V. Goyne** License Number: **2103**

Apprentice Name: **Anthony Sarris** Apprentice Number: **Pending**

Comments: **8 closed Geothermal Wells Drilled**

Lithology:  
 DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
 BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>30</b>	<b>Shell</b>
<b>30</b>	<b>150</b>	<b>Limestone</b>
<b>150</b>	<b>280</b>	<b>Sand Stone, Limestone</b>
<b>280</b>	<b>300</b>	<b>Sand Stone</b>

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
<b>1 inch</b>	<b>new</b>	<b>Polyethylene</b>	<b>loop 0-300</b>

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



Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
<b>440</b>	<b>Hosston Trinity</b>

Chemical Analysis Made: **No**

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

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

Company Information: **Associated Drilling**  
**PO BOX 673**  
**Dripping Springs, TX 78620**

Driller Name: **James Beniot** License Number: **4064**

Comments: **Drilled for Glass Well Services**

Lithology:  
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>5</b>	<b>top loose bedrock</b>
<b>5</b>	<b>15</b>	<b>tan lime</b>
<b>15</b>	<b>30</b>	<b>red sand and gravel</b>
<b>30</b>	<b>35</b>	<b>white limestone</b>
<b>35</b>	<b>170</b>	<b>blue lime</b>
<b>170</b>	<b>260</b>	<b>tan white limestone</b>
<b>260</b>	<b>295</b>	<b>grey lime and shale</b>
<b>295</b>	<b>330</b>	<b>white tan limestone</b>
<b>330</b>	<b>360</b>	<b>red sandstone</b>
<b>360</b>	<b>370</b>	<b>tan yellow limestone H2O</b>
<b>370</b>	<b>570</b>	<b>red sandstone</b>
<b>570</b>	<b>585</b>	<b>tan white yellow limestone, H2O</b>
<b>585</b>	<b>600</b>	<b>white yellow limestone</b>
<b>600</b>	<b>610</b>	<b>yellow grey clay</b>

<i>Dia (in.)</i>	<i>Type</i>	<i>Material</i>	<i>Sch./Gage</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
<b>4.5</b>	<b>Blank</b>	<b>New Plastic (PVC)</b>	<b>sdr17</b>	<b>-3</b>	<b>510</b>
<b>6.25</b>	<b>Blank</b>	<b>New Plastic (PVC)</b>	<b>sch 40</b>	<b>0</b>	<b>20</b>
<b>4.5</b>	<b>Screen</b>	<b>New Plastic (PVC)</b>	<b>sdr17 0.020</b>	<b>510</b>	<b>590</b>
<b>4.5</b>	<b>Blank</b>	<b>New Plastic (PVC)</b>	<b>sdr17</b>	<b>590</b>	<b>610</b>

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

[GWDB Reports and Downloads](#)

**Well Basic Details**

[Scanned Documents](#)

State Well Number	5841310
County	Travis
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Southwestern Travis County GCD
Latitude (decimal degrees)	30.340556
Latitude (degrees minutes seconds)	30° 20' 26" N
Longitude (decimal degrees)	-97.882222
Longitude (degrees minutes seconds)	097° 52' 56" W
Coordinate Source	+/- 1 Second
Aquifer Code	217HSTN - Hosston Formation
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	503
Land Surface Elevation Method	Digital Elevation Model -DEM
Well Depth (feet below land surface)	560
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	9/13/1989
Drilling Method	Air Rotary
Borehole Completion	Perforated or Slotted

Well Type	Withdrawal of Water
Well Use	Public Supply
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	SWIG W.S.C.
Driller	Associated 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	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	8/2/1991
Last Update Date	3/4/2020

**Remarks** Yield 100 GPM.

<b>Casing</b>						
Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
6	Blank	Steel			0	434
6	Screen	Steel			434	539
6	Blank	Steel			539	560

**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	9/13/1989		200		303	1	Registered Water Well Driller	Logging Sonde		

### Code Descriptions

Status Code	Status Description
P	Publishable

---

**Water Quality Analysis - No Data Available**

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*GWDB DISCLAIMER: Except where noted, all of the information provided in the Texas Water Development Board (TWDB) Groundwater Database (<https://www.twdb.texas.gov/groundwater/data/gwdb rpt.asp>) is believed to be accurate and reliable; however, the TWDB assumes no responsibility for any errors appearing in rules or otherwise. Further, TWDB assumes no responsibility for the use of the information provided. PLEASE NOTE that users of these data are responsible for checking the accuracy, completeness, currency and/or suitability of all information themselves. TWDB makes no guarantees or warranties as to the accuracy, completeness, currency, or suitability of the information provided via the Groundwater Database (GWDB). TWDB specifically disclaims any and all liability for any claims or damages that may result from providing GWDB data or the information it contains. For additional information or answers to questions concerning the TWDB GWDB, contact the Groundwater Data Team at [GroundwaterData@twdb.texas.gov](mailto:GroundwaterData@twdb.texas.gov).*

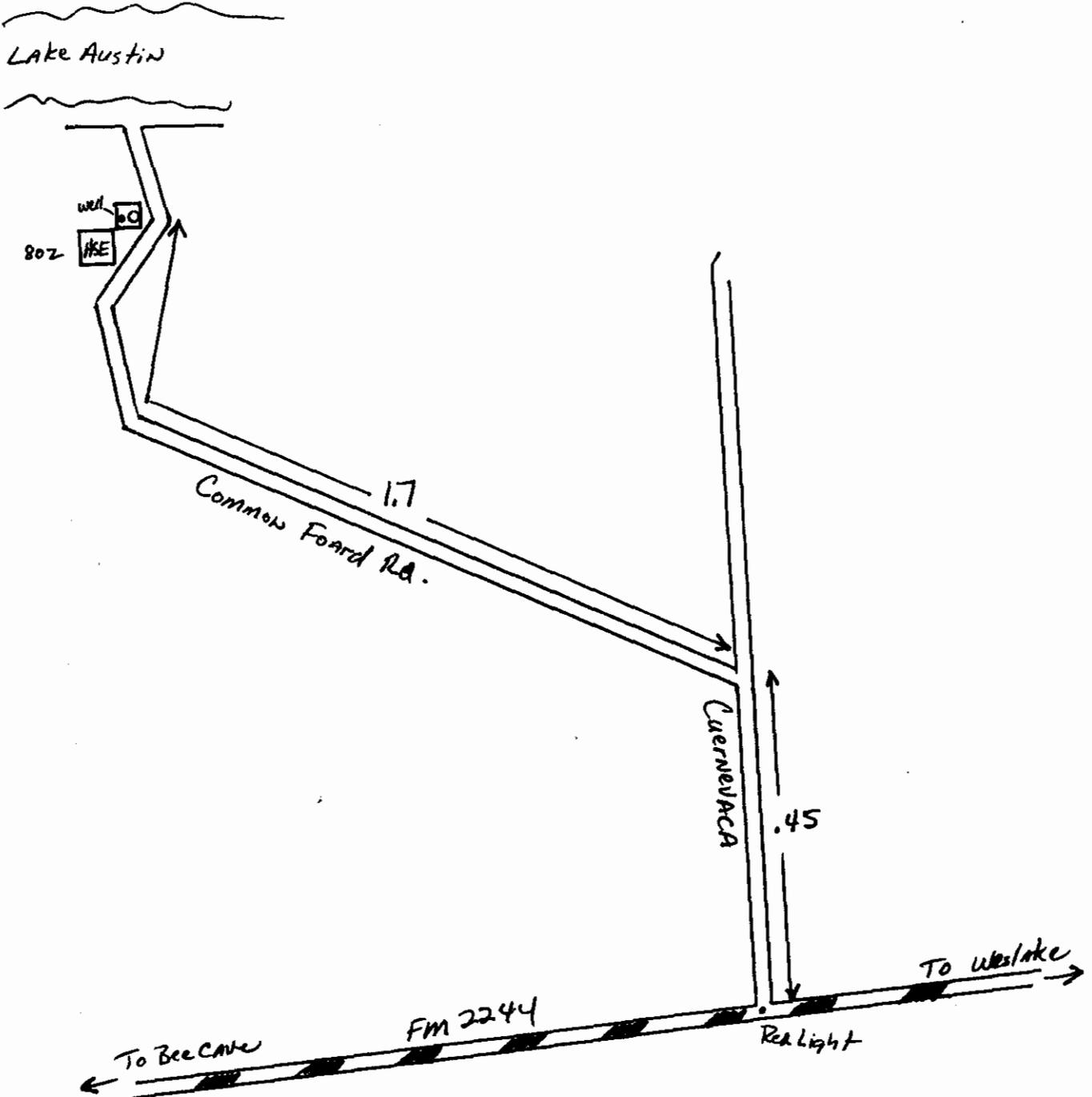


TEXAS DEPARTMENT OF WATER RESOURCES

BY \_\_\_\_\_ DATE \_\_\_\_\_ DIVISION \_\_\_\_\_ SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_

CHKD \_\_\_\_\_ DATE \_\_\_\_\_ JOB NAME \_\_\_\_\_

JOB NO. \_\_\_\_\_ PROG. CODE \_\_\_\_\_



58-41-310

OWNER: Confidentially  
Privilege Notice on Reverse Side

### State of Texas WELL REPORT

Texas Water Well Drillers Board  
P.O. Box 13067  
Austin, Texas 78711

227  
58-41-310

1) OWNER SWIG Water Supply Company ADDRESS 802 Commons Ford Rd. Austin, Texas 78733  
 (Name) (Street or RFD) (City) (State) (Zip)

2) LOCATION OF WELL: Travis 5 miles in W direction from Austin  
 County (NE, SW, etc.) (Town)

Driller must complete the legal description below with distance and direction from two intersecting section or survey lines, or he must locate and identify the well on an official Quarter- or Half-Scale Texas County General Highway Map and attach the map to this form.

LEGAL DESCRIPTION:  
 Section No. \_\_\_\_\_ Block No. \_\_\_\_\_ Township \_\_\_\_\_ Abstract No. \_\_\_\_\_ Survey Name \_\_\_\_\_  
 Distance and direction from two intersecting section or survey lines \_\_\_\_\_

SEE ATTACHED MAP

3) TYPE OF WORK (Check):  
 New Well  Deepening  Reconditioning  Plugging

4) PROPOSED USE (Check):  
 Domestic  Industrial  Monitor  Public Supply  Irrigation  Test Well  Injection  De-Watering

5) DRILLING METHOD (Check):  Driven  Mud Rotary  Air Hammer  Jetted  Bored  Air Rotary  Cable Tool  Other \_\_\_\_\_

6) WELL LOG:

Date Drilling:	DIAMETER OF HOLE		
	Dia. (in.)	From (ft.)	To (ft.)
Started <u>9-7</u> 19 <u>89</u>	<u>9 1/2</u>	Surface	<u>300</u>
Completed <u>9-13</u> 19 <u>89</u>	<u>8</u>	<u>300</u>	<u>560</u>

7) BOREHOLE COMPLETION:  
 Open Hole  Straight Wall  Underreamed  
 Gravel Packed  Other \_\_\_\_\_  
 If Gravel Packed give Interval ... from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

From (ft.)	To (ft.)	Description and color of formation material
0	45	Yellow limestone
45	145	Gray limestone
145	165	Tan Fractures
165	200	Gray limestone
200	260	Tan limestone
260	300	Gray limestone
*300	400	Gray limestone/sandstone
*400	560	Sandy limestone

(Use reverse side if necessary)

8) CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.)		Gage Casing Screen
			From	To	
5 9/16	N	Steel	-2	560	40
perforations 434' to 539'					

9) CEMENTING DATA [Rule 287.44(1)]  
 Cemented from -300 ft. to 0 ft. No. of Sacks Used 55  
 \_\_\_\_\_ ft. to \_\_\_\_\_ ft. No. of Sacks Used \_\_\_\_\_  
 Method used Pressure  
 Cemented by Associated Drilling Co.

13) TYPE PUMP:  
 Turbine  Jet  Submersible  Cylinder  
 Other \_\_\_\_\_  
 Depth to pump bowls, cylinder, jet, etc., \_\_\_\_\_

10) SURFACE COMPLETION  
 Specified Surface Slab Installed [Rule 287.44(2)(A)]  
 Pitless Adapter Used [Rule 287.44(3)(B)]  
 Approved Alternative Procedure Used [Rule 287.71]

14) WELL TESTS:  
 Type Test:  Pump  Bailor  Jetted  Estimator  
 Yield: 100 gpm with \_\_\_\_\_ ft. drawdown after \_\_\_\_\_ hrs.

11) WATER LEVEL:  
 Static level 200 ft. below land surface Date 9-13-89  
 Artesian flow \_\_\_\_\_ gpm. Date \_\_\_\_\_

15) WATER QUALITY:  
 Did the drilling penetrate any strata which contained undesirable constituents?  
 Yes  No If yes, submit "REPORT OF UNDESIRABLE WATER"  
 Type of water? Trinity Depth of strata \*see above  
 Was a chemical analysis made?  Yes  No

12) PACKERS:

Type	Depth
Shale trap	300'

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME Associated Drilling Co. WELL DRILLER'S LICENSE NO. 1955  
 (Type or print)

ADDRESS P.O. Box 1060 Manchaca Texas 78652  
 (Street or RFD) (City) (State) (Zip)

(Signed) [Signature] (Signed) \_\_\_\_\_  
 (Licensed Well Driller) (Registered Driller Trainee)

Please attach electric log, chemical analysis, and other pertinent information, if available. For TWC use only: Well No. 58-41-6 Located on map \_\_\_\_\_

58-41-310 X

[GWDB Reports and Downloads](#)

**Well Basic Details**

[Scanned Documents](#)

State Well Number	5841309
County	Travis
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Southwestern Travis County GCD
Latitude (decimal degrees)	30.34
Latitude (degrees minutes seconds)	30° 20' 24" N
Longitude (decimal degrees)	-97.8825
Longitude (degrees minutes seconds)	097° 52' 57" W
Coordinate Source	+/- 1 Second
Aquifer Code	217HSTN - Hosston Formation
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	515
Land Surface Elevation Method	Digital Elevation Model -DEM
Well Depth (feet below land surface)	480
Well Depth Source	Owner
Drilling Start Date	
Drilling End Date	1/0/1970
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Public Supply
Water Level Observation	Miscellaneous Measurements
Water Quality Available	Yes
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Panorama 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	Texas Water Development Board
Created Date	7/16/1973
Last Update Date	3/4/2020

**Remarks** | Supplies 5 homes.

<b>Casing</b>						
Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
7	Blank	Steel				

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

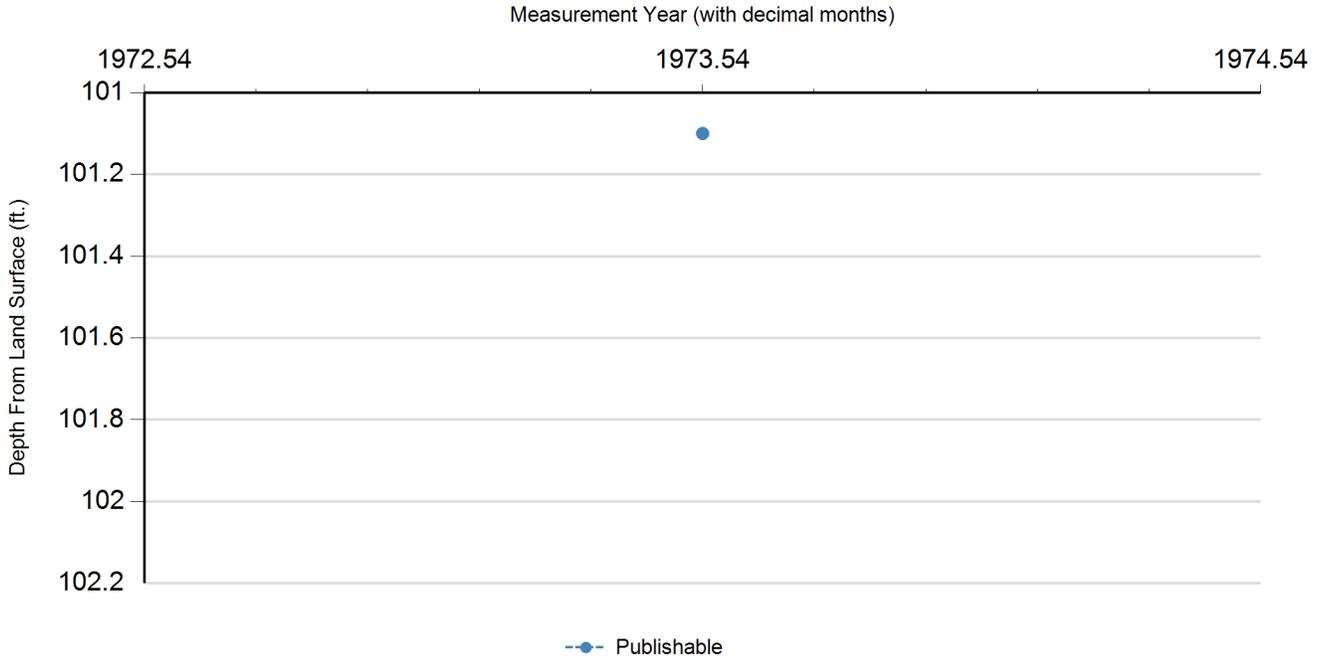
**Borehole - No Data**

**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	7/16/1973		101.1		413.9	1	Other or Source of Measurement Unknown	Unknown		

### Code Descriptions

Status Code	Status Description
P	Publishable

### Water Quality Analysis

**Sample Date:** 7/16/1973    **Sample Time:** 0000    **Sample Number:** 1    **Collection Entity:** Texas Water Development Board  
**Sampled Aquifer:** Hosston Formation  
**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)		200	mg/L as CaCO 3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		244.07	mg/L	
01020	BORON, DISSOLVED (UG/L AS B)		2200	ug/L	
00910	CALCIUM (MG/L)		29	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		43	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		1.8	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		130	mg/L as CaCO 3	
01045	IRON, TOTAL (UG/L AS FE)		40	ug/L	
00920	MAGNESIUM (MG/L)		14	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)	<	0.4	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.9	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		5	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		1.4		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		14	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		7.94		
00932	SODIUM, CALCULATED, PERCENT		77	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		208	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1350	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		325	mg/L as SO4	
00010	TEMPERATURE, WATER (CELSIUS)		24	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		760	mg/L	

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

*GWDB DISCLAIMER: Except where noted, all of the information provided in the Texas Water Development Board (TWDB) Groundwater Database (<https://www.twdb.texas.gov/groundwater/data/gwdb rpt.asp>) is believed to be accurate and reliable; however, the TWDB assumes no responsibility for any errors appearing in rules or otherwise. Further, TWDB assumes no responsibility for the use of the information provided. PLEASE NOTE that users of these data are responsible for checking the accuracy, completeness, currency and/or suitability of all information themselves. TWDB makes no guarantees or warranties as to the accuracy, completeness, currency, or suitability of the information provided via the Groundwater Database (GWDB). TWDB specifically disclaims any and all liability for any claims or damages that may result from providing GWDB data or the information it contains. For additional information or answers to questions concerning the TWDB GWDB, contact the Groundwater Data Team at [GroundwaterData@twdb.texas.gov](mailto:GroundwaterData@twdb.texas.gov).*

TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

*Kho and Karl*

Field No. \_\_\_\_\_  
Owner's Well No. \_\_\_\_\_

State Well No. **58 41 309**  
County *Texas*

1. Location: 1/4, 1/4 Sec. \_\_\_\_\_, Block \_\_\_\_\_ Survey \_\_\_\_\_

2. Owner: *Jim Trickey* 1122 Colorado St. 477-9651  
Tenant: *Panorama Ranch* Address: \_\_\_\_\_  
Driller: \_\_\_\_\_ Address: \_\_\_\_\_

3. Elevation of LSD is 630 ft. above mal, determined by tape

4. Drilled: Jan. 19 70; Dug, Cable Tool, Rotary, \_\_\_\_\_

5. Depth: Rept. 480 ft. Meas. \_\_\_\_\_ ft.

6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfr. \_\_\_\_\_ Type Inline  
No. Stages \_\_\_\_\_, Bwls Diam. \_\_\_\_\_ in., Setting 270 ft.  
Column Diam. \_\_\_\_\_ in., Length Tailpipe \_\_\_\_\_ ft.

8. Motor: Fuel Elec. Make & Model \_\_\_\_\_ HP. 5

9. Yield: Flow \_\_\_\_\_ gpm, Pump 30-50 gpm, Meas., (Rept), Est. \_\_\_\_\_

10. Performance Test: Date \_\_\_\_\_ Length of Test \_\_\_\_\_ Made by \_\_\_\_\_  
Static Level \_\_\_\_\_ ft. Pumping Level \_\_\_\_\_ ft. Drawdown \_\_\_\_\_ ft.  
Production \_\_\_\_\_ gpm Specific Capacity \_\_\_\_\_ gpm/ft.

11. Water Level: 101.92 ft. rept. 7-16 19 73 above Top casing which is 0.8 ft. above surface.  
\_\_\_\_\_ ft. rept. \_\_\_\_\_ 19 \_\_\_\_\_ below \_\_\_\_\_ which is \_\_\_\_\_ ft. above surface.  
\_\_\_\_\_ ft. meas. \_\_\_\_\_ 19 \_\_\_\_\_ below \_\_\_\_\_ which is \_\_\_\_\_ ft. above surface.  
\_\_\_\_\_ ft. rept. \_\_\_\_\_ 19 \_\_\_\_\_ below \_\_\_\_\_ which is \_\_\_\_\_ ft. above surface.  
\_\_\_\_\_ ft. meas. \_\_\_\_\_ 19 \_\_\_\_\_ below \_\_\_\_\_ which is \_\_\_\_\_ ft. above surface.

12. Use: Dom., Stock Public Supply Ind., Irr., Waterflooding, Observation, Not Used, 5 homes

13. Quality: (Remarks on taste, odor, color, etc.)  
Temp. 75 °F, Date sampled for analysis 7-16-73 Laboratory SHD  
Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_  
Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_

14. Other data available as circled: Driller's Log, Radioactivity Log, Electric Log, Formation Samples, Pumping Test,

15. Record by: J. Brune Date 7-16 19 73  
Source of Data Owner and observer

16. Remarks: \_\_\_\_\_


CASING & BLANK PIPE			
Cemented From _____ ft. to _____ ft.		Setting, ft.	
Diam. (in.)	Type	from	to
7	Steel		

WELL SCREEN			
Screen Openings			
Diam. (in.)	Type	Setting, ft.	
		from	to

*No coliform*

**58-41-309**



Typewrite (Black ribbon) or Print Plainly  
(soft pencil or black ink)  
Do not use ball point pen

Texas State Department of Health Laboratories  
1100 West 49th Street  
Austin, Texas 78756

TWDBE-GW ONLY

Program No. \_\_\_\_\_  
Proj. No. 421

CHEMICAL WATER ANALYSIS REPORT

Send report to:

Ground Water Data and Protection Division  
Texas Water Development Board  
P.O. Box 13087  
Austin, Texas 78711

County TRAVIS  
State Well No. 58-41-309  
Well No. \_\_\_\_\_  
Date Collected 7-16-72  
By G. Bruns

Location \_\_\_\_\_  
Source (type of well) \_\_\_\_\_ Owner Panorama Ranch  
Date Drilled 11/72 Depth 480 ft. WBF 140  
Producing intervals \_\_\_\_\_ Water level 102 ft.  
Sampled after pumping \_\_\_\_\_ hrs. Yield \_\_\_\_\_ GPM <sup>meas.</sup> est. Temperature 78 °F \_\_\_\_\_ °C  
Point of collection Panorama home Appearance  clear  turbid  colored  other  
Use \_\_\_\_\_ Remarks Primary analysis showed no coliform org.

(FOR LABORATORY USE ONLY)

CHEMICAL ANALYSIS

Laboratory No. 251945 Date Received \_\_\_\_\_ **KEY PUNCHED** Date Reported AUG - 1, 1973

	MG/L	ME/L
Silica	14	
Calcium	29	1.44
Magnesium	14	1.15
Sodium	208	9.04
Total		11.63
<input type="checkbox"/> Potassium	5.0	.13
<input type="checkbox"/> Manganese		11.76
<input checked="" type="checkbox"/> Boron	3.2	
<input checked="" type="checkbox"/> Total Iron		
<input type="checkbox"/> (other)		
Specific Conductance (micromhos/cm <sup>3</sup> )		1140
Diluted Conductance (micromhos/cm <sup>3</sup> )	9	1350

	MG/L	ME/L
Carbonate	120	.0
Bicarbonate	244	4.00
Sulfate	325	6.78
Chloride	43	1.20
Fluoride	1.8	
Nitrate	40.4	
pH	7.9	
Total		11.98
1/ Dissolved Solids (sum in MG/L)		760
Phenolphthalein Alkalinity as CaCO <sub>3</sub>		0
Total Alkalinity as CaCO <sub>3</sub> (4.00)		200
Total Hardness as CaCO <sub>3</sub> (2.59)		130
2/ Nitrogen Cycle		
Ammonia - N		
Nitrite - N		
Nitrate - N		
Organic Nitrogen		

1/ The bicarbonate reported in this analysis is converted by computation (multiplying by 0.4817) to an equivalent amount of carbonate, and the carbonate figure is used in the computation of this sum.  
2/ Nitrogen cycle requires separate sample.  
3/ Total Iron requires separate sample.



## STATE OF TEXAS WELL REPORT for Tracking #523360

Owner:	The Paddocks at Commons Ford	Owner Well #:	2
Address:	609 Riders Trail Austin, TX 78733	Grid #:	58-41-3
Well Location:	609 Riders Trail Austin, TX 78733	Latitude:	30° 20' 18" N
Well County:	Travis	Longitude:	097° 52' 57" W
		Elevation:	667 ft. above sea level
Type of Work: <b>New Well</b>		Proposed Use: <b>Domestic</b>	

Drilling Start Date: **8/12/2019**      Drilling End Date: **8/15/2019**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	<b>12.25</b>	<b>0</b>	<b>8</b>
	<b>10</b>	<b>8</b>	<b>680</b>

Drilling Method: **Air Rotary**

Borehole Completion: **Filter Packed**

	Top Depth (ft.)	Bottom Depth (ft.)	Filter Material	Size
Filter Pack Intervals:	<b>400</b>	<b>680</b>	<b>Gravel</b>	<b>3/8"</b>

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	<b>0</b>	<b>40</b>	<b>Cement 16 Bags/Sacks</b>
	<b>40</b>	<b>50</b>	<b>Bentonite 3 Bags/Sacks</b>

Seal Method: **Poured**

Sealed By: **Driller**

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

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

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

Method of Verification: **No Data**

Surface Completion: **Surface Sleeve Installed**

**Surface Completion by Driller**

Water Level: **233 ft. below land surface on 2019-08-16**

Packers: **No Data**

Type of Pump: **Submersible**

Pump Depth (ft.): **546**

Well Tests: **Jetted                      Yield: 50+ GPM**

Water Quality:	<i>Strata Depth (ft.)</i>	<i>Water Type</i>
	<b>440 - 680</b>	<b>Trinity</b>

Chemical Analysis Made: **No**

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

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

Company Information: **Bee Cave Drilling, Inc.**  
**185 Angel Fire Dr.**  
**Dripping Springs, TX 78620**

Driller Name: **Jim Blair** License Number: **54416**

Comments: **No Data**

Lithology:  
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>2</b>	<b>topsoil</b>
<b>2</b>	<b>5</b>	<b>tan limestone</b>
<b>5</b>	<b>230</b>	<b>gray limestone</b>
<b>230</b>	<b>340</b>	<b>gray sandstone wb 40 gpm 1500 tds</b>
<b>340</b>	<b>420</b>	<b>gray clay</b>
<b>420</b>	<b>440</b>	<b>gray limestone</b>
<b>440</b>	<b>680</b>	<b>red sandstone wb 50+ gpm 1000 tds</b>

<i>Dia (in.)</i>	<i>Type</i>	<i>Material</i>	<i>Sch./Gage</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
<b>6.25</b>	<b>Blank</b>	<b>New Plastic (PVC)</b>	<b>sdr-17</b>	<b>0</b>	<b>580</b>
<b>6.25</b>	<b>Perforated or Slotted</b>	<b>New Plastic (PVC)</b>	<b>sdr-17</b>	<b>580</b>	<b>680</b>

**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

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Please include the report's Tracking Number on your written request.

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

## STATE OF TEXAS WELL REPORT for Tracking #212362

Owner: <b>Bar-F Properties</b>	Owner Well #: <b>No Data</b>
Address: <b>4615 Bee Caves Rd Austin, TX 78746</b>	Grid #: <b>58-41-3</b>
Well Location: <b>501 Commons Ford Rd Austin, TX</b>	Latitude: <b>30° 20' 14" N</b>
Well County: <b>Travis</b>	Longitude: <b>097° 53' 01" W</b>
	Elevation: <b>No Data</b>
Type of Work: <b>New Well</b>	
	Proposed Use: <b>Domestic</b>

Drilling Start Date: **9/25/2003**      Drilling End Date: **9/25/2003**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	<b>8.75</b>	<b>0</b>	<b>100</b>
	<b>6</b>	<b>100</b>	<b>700</b>

Drilling Method: **Air Rotary**

Borehole Completion: **Open Hole**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:			<b>8 volclay</b>
	<b>0</b>	<b>100</b>	<b>7 cement</b>

Seal Method: **Pressure Tremie  
Cementing**

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

Sealed By: **C.T.D.**

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

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

Method of Verification: **Well drilled first**

Surface Completion: **Surface Sleeve Installed**

Water Level: **236 ft. below land surface on 2003-09-29**      Measurement Method: **Unknown**

Packers: **4 Burlap, Plastic 100', 110', 460', 480'**

Type of Pump: **No Data**

Well Tests: **Jetted**      Yield: **30 GPM**

Water Quality:

Strata Depth (ft.)	Water Type
45	Trinity

Chemical Analysis Made: **No**

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

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

Company Information: **Central Texas Drilling, Inc.**  
**2520 Hwy 290 West**  
**Dripping Springs, TX 78620**

Driller Name: **Aaron Glass**

License Number: **4227**

Comments: **\$mew**

Lithology:  
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	1	Top Soil
1	35	Caliche
35	190	Gray
190	192	White
192	300	Gray
300	350	Tan
350	370	Gray / Tan
370	380	Gray
380	390	Tan / Gray
390	410	Gray Sandstone
410	420	Gray
420	440	Hammid Clay
440	470	Hammid Clay
470	500	Gray
500	520	Blue / Gray with Sand
520	530	Blue / Gray Limestone with Red
530	550	Red Limestone

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
5	OD New	PVC +2 - 700	SDR17

550	575	Brown / Tan Sandstone with Blue Limestone
575	640	Red Sandstone
640	690	Sand / Gravel
690	700	Red Limestone with Red / Blue Clay (Shell)

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

## STATE OF TEXAS WELL REPORT for Tracking #94203

Owner: <b>Greg Vandevere</b>	Owner Well #: <b>No Data</b>
Address: <b>601 Riders Trail Austin, TX 78733</b>	Grid #: <b>58-41-3</b>
Well Location: <b>601 Riders Trail Austin, TX 78733</b>	Latitude: <b>30° 20' 15" N</b>
Well County: <b>Travis</b>	Longitude: <b>097° 52' 55" W</b>
	Elevation: <b>No Data</b>
<hr/>	
Type of Work: <b>New Well</b>	Proposed Use: <b>Domestic</b>

Drilling Start Date: **8/29/2003**      Drilling End Date: **8/29/2003**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	<b>8</b>	<b>0</b>	<b>100</b>
	<b>6</b>	<b>100</b>	<b>710</b>

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	<b>0</b>	<b>100</b>	<b>21</b>

Seal Method: **Pressure Trimmie**

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

Sealed By: **Western Water Wells**

Distance to Septic Field or other concentrated contamination (ft.): **100+**

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

Method of Verification: **Owner**

Surface Completion: **Surface Sleeve Installed**

Water Level: **No Data**

Packers: **3 PVC and Burlap 100',500',510'**

Type of Pump: **No Data**

Well Tests: **Jetted**                      **Yield: 0-10 GPM**

Water Quality:	<i>Strata Depth (ft.)</i>	<i>Water Type</i>
	<b>20-30</b>	<b>Trinity</b>

Chemical Analysis Made: **No**

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

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

Company Information: **Western Water Wells, LLC**  
**500 Southland Drive**  
**Burnet, TX 78611**

Driller Name: **Frank Glass** License Number: **1313**

Comments: **\$dfs**

Lithology:  
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>1</b>	<b>Top Soil</b>
<b>1</b>	<b>20</b>	<b>Caliche</b>
<b>20</b>	<b>110</b>	<b>Blue Lime</b>
<b>110</b>	<b>200</b>	<b>Gray Lime</b>
<b>200</b>	<b>240</b>	<b>White and Brown Lime</b>
<b>240</b>	<b>430</b>	<b>Gray Lime</b>
<b>430</b>	<b>460</b>	<b>Hummid</b>
<b>460</b>	<b>490</b>	<b>Gray Lime</b>
<b>490</b>	<b>710</b>	<b>Trinity</b>

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
<b>5 OD</b>	<b>New</b>	<b>Plastic</b>	<b>+2 710 SDR17</b>

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

## STATE OF TEXAS WELL REPORT for Tracking #141903

Owner:	JAKE & JILL GUARINO	Owner Well #:	No Data
Address:	9826 TIMBER RIDGE PASS AUSTIN, TX 78733	Grid #:	58-41-3
Well Location:	508 RIDERS TRAIL AUSTIN, TX 78733	Latitude:	30° 20' 11" N
		Longitude:	097° 52' 58" W
Well County:	Travis	Elevation:	708 ft. above sea level
Type of Work: <b>New Well</b>		Proposed Use: <b>Domestic</b>	

Drilling Start Date: **4/10/2008**      Drilling End Date: **4/14/2008**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	<b>10</b>	<b>0</b>	<b>12</b>
	<b>6.75</b>	<b>12</b>	<b>660</b>

Drilling Method: **Air Rotary**

Borehole Completion: **Open Hole**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	<b>0</b>	<b>6</b>	<b>6</b>
	<b>6</b>	<b>12</b>	<b>5</b>

Seal Method: **SLURRIED & POURED**

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

Sealed By: **BOBBY ROBERTS**

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

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

Method of Verification: **NOT YET INSTALLED**

Surface Completion: **Surface Sleeve Installed**

Water Level: **196 ft. below land surface on 2008-04-15**      Measurement Method: **Unknown**

Packers:  
**NEOPRENE 12**  
**NEOPRENE 205**  
**NEOPRENE 210**  
**NEOPRENE 525**  
**NEOPRENE 530**

Type of Pump: **Submersible**      Pump Depth (ft.): **500**

Well Tests: **Jetted**      Yield: **50 GPM**

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

Chemical Analysis Made: **Yes**

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

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

Company Information: **BEE CAVE DRILLING INC**  
**185 ANGELFIRE DR**  
**DRIPPING SPRINGS, TX 78620**

Driller Name: **JIM BLAIR** License Number: **54416**

Comments: **No Data**

Lithology:  
 DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
 BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	2	TOPSOIL
20	210	GRAY LIMESTONE
210	310	GRAY ROCK W/B 50 GPM TDS 300
310	390	GRAY LIMESTONE
390	430	GRAY CLAY
430	485	GRAY ROCK
485	490	BLUE CLAY
490	545	GRAY ROCK
545	660	TAN ROCK W/B 50 GPM TDS 300

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4,5	NEW	PLASTIC	0-610
4.5	NEW	SCREEN MFG	610-650 .050
4.5	NEW	PLASTIC	650-660

---

**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

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Please include the report's Tracking Number on your written request.

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

## STATE OF TEXAS WELL REPORT for Tracking #346864

Owner: <b>Curt Nelson</b>	Owner Well #: <b>No Data</b>
Address: <b>501 Riders Trail Austin, 78733</b>	Grid #: <b>58-41-3</b>
Well Location: <b>501 Riders Trail Austin, TX 78733</b>	Latitude: <b>30° 20' 11" N</b>
Well County: <b>Travis</b>	Longitude: <b>097° 52' 56" W</b>
	Elevation: <b>656 ft. above sea level</b>
Type of Work: <b>New Well</b>	
Proposed Use: <b>Domestic</b>	

Drilling Start Date: **9/27/2013**      Drilling End Date: **9/27/2013**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	<b>10</b>	<b>0</b>	<b>10</b>
	<b>8</b>	<b>10</b>	<b>100</b>
	<b>6.75</b>	<b>100</b>	<b>650</b>

Drilling Method: **Air Rotary**

Borehole Completion: **Open Hole**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	<b>0</b>	<b>10</b>	<b>4 cement</b>
	<b>10</b>	<b>100</b>	<b>16 bentonite</b>

Seal Method: **pressure cemented**

Sealed By: **Steve Stewart**

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

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

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

Method of Verification: **No Data**

Surface Completion: **Pitless Adapter Used**

Water Level: **187 ft. below land surface on 2013-10-01**      Measurement Method: **Unknown**

Packers: **neoprene 100, 105, 220, 225, 450, 550, 555**

Type of Pump: **Submersible**      Pump Depth (ft.): **500**

Well Tests: **Jetted**      Yield: **30 GPM**

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
<b>No Data</b>	<b>Trinity</b>

Chemical Analysis Made: **No**

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

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

Company Information: **Bee Cave Drilling, Inc.**  
**185 Angel Fire Dr.**  
**Dripping Springs, TX 78620**

Driller Name: **Jim Blair** License Number: **54416**

Apprentice Name: **Steve Stewart**

Comments: **No Data**

Lithology:  
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>2</b>	<b>topsoil</b>
<b>2</b>	<b>12</b>	<b>tan limestone</b>
<b>12</b>	<b>100</b>	<b>gray limestone</b>
<b>100</b>	<b>110</b>	<b>tan limestone w/ gravel wb 3 gpm</b>
<b>110</b>	<b>240</b>	<b>gray limestone</b>
<b>240</b>	<b>300</b>	<b>gray sandstone wb 30 gpm 1200 tds</b>
<b>300</b>	<b>360</b>	<b>tan &amp; gray limestone</b>
<b>360</b>	<b>400</b>	<b>gray clay</b>
<b>400</b>	<b>460</b>	<b>gray &amp; white sandstone</b>
<b>460</b>	<b>485</b>	<b>red &amp; gray sandstone</b>
<b>485</b>	<b>500</b>	<b>white limestone</b>
<b>500</b>	<b>550</b>	<b>red limestone w/ sand wb 10 gpm</b>
<b>550</b>	<b>650</b>	<b>red sandstone wb 20 gpm 900 tds</b>

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
<b>4.5</b>	<b>new</b>	<b>sdr-17</b>	<b>0 590</b>
<b>4.5</b>	<b>new</b>	<b>perf</b>	<b>590 650</b>

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

## STATE OF TEXAS WELL REPORT for Tracking #346868

Owner: <b>Curt Nelson</b>	Owner Well #: <b>No Data</b>
Address: <b>501 Riders Trail Austin, 78733</b>	Grid #: <b>58-41-3</b>
Well Location: <b>501 Riders Trail Austin, TX 78733</b>	Latitude: <b>30° 20' 11" N</b>
Well County: <b>Travis</b>	Longitude: <b>097° 52' 56" W</b>
	Elevation: <b>656 ft. above sea level</b>
<hr/>	
Type of Work: <b>New Well</b>	Proposed Use: <b>Closed-Loop Geothermal</b>

Drilling Start Date: **9/27/2013**      Drilling End Date: **9/27/2013**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	<b>6.75</b>	<b>0</b>	<b>100</b>

Drilling Method: **Air Rotary**

Borehole Completion: **grouted**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks &amp; material)</i>
Annular Seal Data:	<b>0</b>	<b>10</b>	<b>3 bentonite</b>

Seal Method: **Unknown**

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

Sealed By: **Unknown**

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

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

Method of Verification: **No Data**

Surface Completion: **Unknown**

---

Water Level: <b>No Data on 2013-10-01</b>	Measurement Method: <b>Unknown</b>
Packers: <b>No Data</b>	
Type of Pump: <b>No Data</b>	
Well Tests: <b>No Test Data Specified</b>	

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
<b>No Data</b>	<b>No Data</b>

Chemical Analysis Made: **Unknown**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **Unknown**

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

Company Information: **Bee Cave Drilling, Inc.**  
**185 Angel Fire Dr.**  
**Dripping Springs, TX 78620**

Driller Name: **Jim Blair** License Number: **54416**

Apprentice Name: **Steve Stewart**

Comments: **No Data**

Lithology:  
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>2</b>	<b>topsoil</b>
<b>2</b>	<b>12</b>	<b>tan limestone</b>
<b>12</b>	<b>100</b>	<b>gray limestone</b>

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
<b>2</b>	<b>new</b>	<b>pvc loop</b>	<b>0 100</b>

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**P.O. Box 12157**  
**Austin, TX 78711**  
**(512) 334-5540**

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**Well Basic Details**

[Scanned Documents](#)

State Well Number	5841307
County	Travis
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Southwestern Travis County GCD
Latitude (decimal degrees)	30.343611
Latitude (degrees minutes seconds)	30° 20' 37" N
Longitude (decimal degrees)	-97.876944
Longitude (degrees minutes seconds)	097° 52' 37" W
Coordinate Source	+/- 1 Second
Aquifer Code	218GRLH - Glen Rose Limestone, Lower and Hensell Shale Mbr of Pearsall Formation
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	483
Land Surface Elevation Method	Digital Elevation Model -DEM
Well Depth (feet below land surface)	400
Well Depth Source	Owner
Drilling Start Date	
Drilling End Date	0/0/1971
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	No
Pump	None
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	Charlie Holden
Driller	Emmett Glass
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	10/22/1998
Last Update Date	3/4/2020

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	6/29/1973		-46.6		529.6	1	Other or Source of Measurement Unknown	Pressure Gage		

### Code Descriptions

Status Code	Status Description
P	Publishable

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**Water Quality Analysis - No Data Available**

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TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer Kille Kille Kogel

Field No. \_\_\_\_\_  
Owner's Well No. \_\_\_\_\_

State Well No. 58-41-307  
County Texas

1. Location: 1/4, 1/4 Sec., Block \_\_\_\_\_ Survey \_\_\_\_\_

2. Owner: Charlie Holden Address: \_\_\_\_\_  
Tenant: \_\_\_\_\_ Address: \_\_\_\_\_  
Driller: Emmett Glass Address: \_\_\_\_\_

3. Elevation of LSD is 550 ft. above msl, determined by topo

4. Drilled: Dec 19 71; Dug, Cable Tool, Rotary, \_\_\_\_\_

5. Depth: Rept. 400 ft. Meas. \_\_\_\_\_ ft.

6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed \_\_\_\_\_

7. Pump: Mfg. \_\_\_\_\_ Type None  
No. Stages \_\_\_\_\_ Bowls Diam. \_\_\_\_\_ in., Setting \_\_\_\_\_ ft.  
Column Diam. \_\_\_\_\_ in., Length Tailpipe \_\_\_\_\_ ft.

8. Motor: Fuel \_\_\_\_\_ Make & Model \_\_\_\_\_ HP \_\_\_\_\_

9. Yield: Flow \_\_\_\_\_ gpm, Pump \_\_\_\_\_ gpm, Meas., Rept., Est. 20 lb. pressure

10. Performance Test: Date \_\_\_\_\_ Length of Test \_\_\_\_\_ Made by \_\_\_\_\_  
Static Level \_\_\_\_\_ ft. Pumping Level \_\_\_\_\_ ft. Drawdown \_\_\_\_\_ ft.  
Production \_\_\_\_\_ gpm Specific Capacity \_\_\_\_\_ gpm/ft.

11. Water Level: +46.6 ft. rept. 6-29 19 73 above \_\_\_\_\_ ft. above \_\_\_\_\_ surface.  
\_\_\_\_\_ ft. meas. 19 \_\_\_\_\_ ft. below \_\_\_\_\_ surface.  
\_\_\_\_\_ ft. rept. 19 \_\_\_\_\_ ft. above \_\_\_\_\_ surface.  
\_\_\_\_\_ ft. meas. 19 \_\_\_\_\_ ft. below \_\_\_\_\_ surface.  
\_\_\_\_\_ ft. rept. 19 \_\_\_\_\_ ft. above \_\_\_\_\_ surface.  
\_\_\_\_\_ ft. meas. 19 \_\_\_\_\_ ft. below \_\_\_\_\_ surface.

12. Use: Dom. Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used, \_\_\_\_\_

13. Quality: (Remarks on taste, odor, color, etc.) \_\_\_\_\_  
Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_  
Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_  
Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_

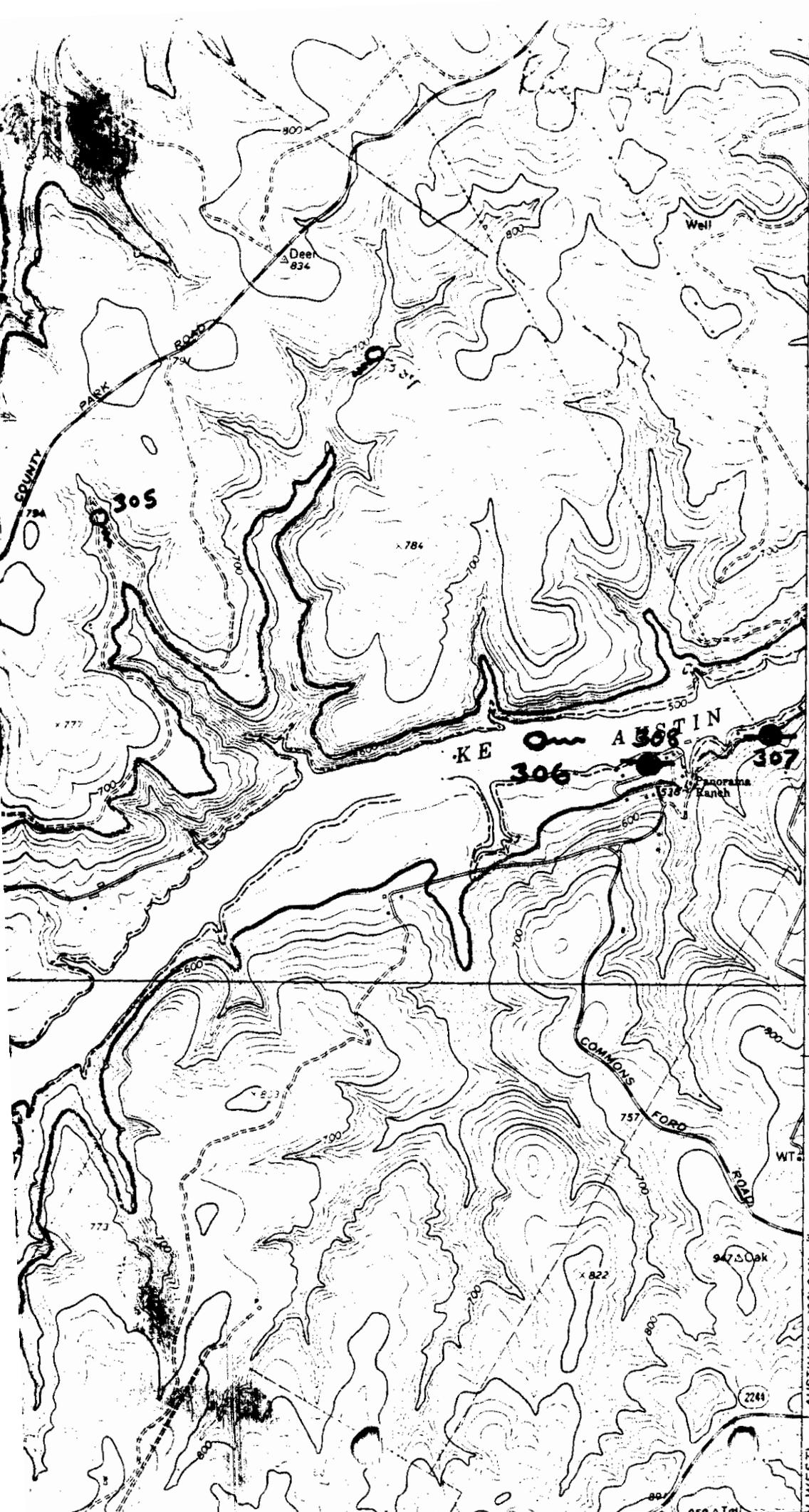
14. Other data available as circled: Driller's Log, Radioactivity Log, Electric Log, \_\_\_\_\_  
Formation Samples Pumping Test, \_\_\_\_\_

15. Record by: A. Brown Date 6-29 19 73  
Source of Data Cross

16. Remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_


CASING & BLANK PIPE			
Cemented From		ft. to	
Diam. (in.)	Type	Setting, ft.	
		from	to
7	Steel	0	290

WELL SCREEN			
Screen Openings			
Diam. (in.)	Type	Setting, ft.	
		from	to



3360

3359  
260 000  
FEET

3358

3357

20'  
3356

3355

N WEST  
1/4 SE  
AUSTIN U.S. 200 9 MI.

2244

SEE A Td

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**Well Basic Details**

[Scanned Documents](#)

State Well Number	5842104
County	Travis
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Southwestern Travis County GCD
Latitude (decimal degrees)	30.344445
Latitude (degrees minutes seconds)	30° 20' 40" N
Longitude (decimal degrees)	-97.875
Longitude (degrees minutes seconds)	097° 52' 30" W
Coordinate Source	+/- 10 Seconds
Aquifer Code	218HNSL - Hensell Sand Member of Travis Peak Formation
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	530
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	361
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	0/0/1968
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	Yes
Pump	None
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	Sam Crowther
Driller	Dick Sanders
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	10/27/1998
Last Update Date	3/4/2020

**Remarks** Estimated flow 40 gal/min on Oct.14 1968. Cemented from 310 ft to surface.

**Casing - No Data**

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

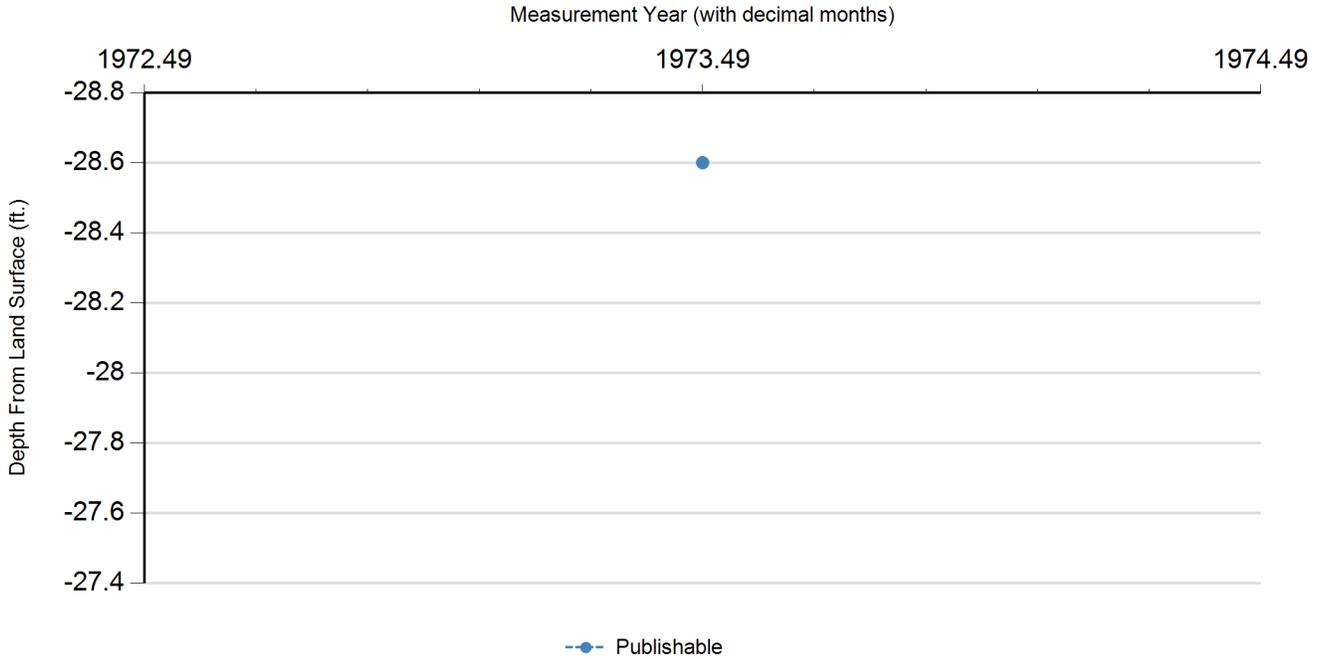
**Borehole - No Data**

**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	6/29/1973		-28.6		558.6	1	Other or Source of Measurement Unknown	Pressure Gage		

### Code Descriptions

Status Code	Status Description
P	Publishable

### Water Quality Analysis

**Sample Date:** 12/9/1970    **Sample Time:** 0000    **Sample Number:** 1    **Collection Entity:** Texas Water Development Board  
**Sampled Aquifer:** Hensell Sand Member of Travis Peak Formation  
**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)		199	mg/L as CaCO 3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		242.85	mg/L	
00910	CALCIUM (MG/L)		37	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		43	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		1.7	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		162	mg/L as CaCO 3	
00920	MAGNESIUM (MG/L)		17	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)	<	0.4	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.7	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		5	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0.74		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		14	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		7.21		
00932	SODIUM, CALCULATED, PERCENT		73	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		211	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1422	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		367	mg/L as SO4	
00010	TEMPERATURE, WATER (CELSIUS)		22	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		815	mg/L	

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

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TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer Kup Kond

Field No. \_\_\_\_\_  
Owner's Well No. \_\_\_\_\_

State Well No. 58-42-104  
County TRAVIS

1. Location: 1/4, 1/4 Sec., Block \_\_\_\_\_ Survey \_\_\_\_\_

2. Owner: E.W. CRAWLEY Dan Crowley Address: RT #9 BOX 286 AUSTIN TEXAS

Tenant: SAME Address: \_\_\_\_\_

Driller: DICK SANDERS DRUG CO Address: AUSTIN TEXAS

3. Elevation of \_\_\_\_\_ is 530 ft. above sea level, determined by \_\_\_\_\_

4. Drilled: 3/4 19 68; Dug Cable Tool, Rotary, \_\_\_\_\_

5. Depth: Rept. 361 ft. Meas. \_\_\_\_\_ ft.

6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed \_\_\_\_\_

7. Pump: Mfr. \_\_\_\_\_ Type SUBM.  
No. Stages \_\_\_\_\_, Bore Dia. \_\_\_\_\_ in., Setting 60 ft. 580 gpm  
Column Dia. \_\_\_\_\_ in., Length Tailpipe \_\_\_\_\_ ft.

8. Motor: Fuel ELEC. Make & Model \_\_\_\_\_ HP. 1

9. Yield: Flow 40 gpm, Pump \_\_\_\_\_ gpm, Meas., Rept., Est. 0.8 14.6 g

10. Performance Test: Date \_\_\_\_\_ Length of Test \_\_\_\_\_ Made by \_\_\_\_\_  
Static Level \_\_\_\_\_ ft. Pumping Level \_\_\_\_\_ ft. Drawdown \_\_\_\_\_ ft. (Well has 2.2# pressure)  
Production \_\_\_\_\_ gpm Specific Capacity \_\_\_\_\_ gpm/ft.

11. Water Level: \_\_\_\_\_ ft. rept. \_\_\_\_\_ 19 \_\_\_\_\_ above/below \_\_\_\_\_ which is \_\_\_\_\_ ft. above/below surface.  
+28.6 ft. rept. 6-29 1973 above/below \_\_\_\_\_ which is \_\_\_\_\_ ft. above/below surface.  
\_\_\_\_\_ ft. rept. \_\_\_\_\_ 19 \_\_\_\_\_ above/below \_\_\_\_\_ which is \_\_\_\_\_ ft. above/below surface.  
\_\_\_\_\_ ft. rept. \_\_\_\_\_ 19 \_\_\_\_\_ above/below \_\_\_\_\_ which is \_\_\_\_\_ ft. above/below surface.

12. Use: Dom. Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used, HOUSE

13. Quality: (Remarks on taste, odor, color, etc.) \_\_\_\_\_

Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_  
Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_  
Temp. \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_

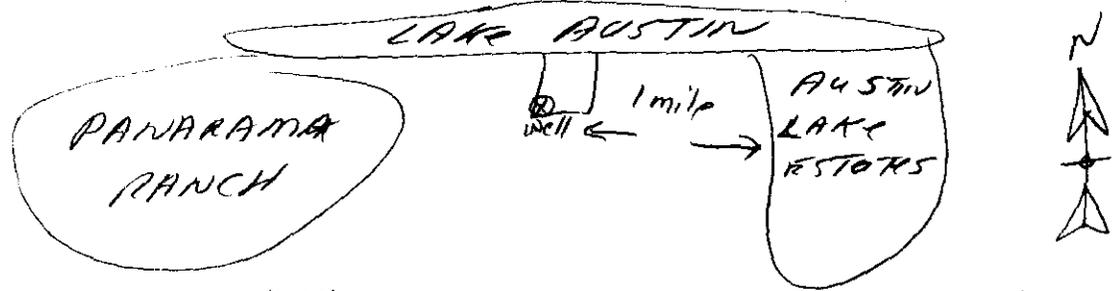
14. Other data available as circled: Driller's Log, Radioactivity Log, Electric Log,  
Formation Samples, Pumping Test, D-LOG See Back

15. Record by: M. NICHOLS Date 10/14 19 68  
Source of Data W.W. Rept.

16. Remarks: \_\_\_\_\_


CASING & BLANK PIPE			
Cemented From <u>310</u> ft. to <u>37</u> ft.			
Diam. (in.)	Type	Setting, ft.	
		from	to
<u>7"</u>	<u>OLD CASING</u>	<u>0</u>	<u>310</u>

WELL SCREEN			
Screen Openings			
Diam. (in.)	Type	Setting, ft.	
		from	to



(Sketch)

Crawley

58-42-104

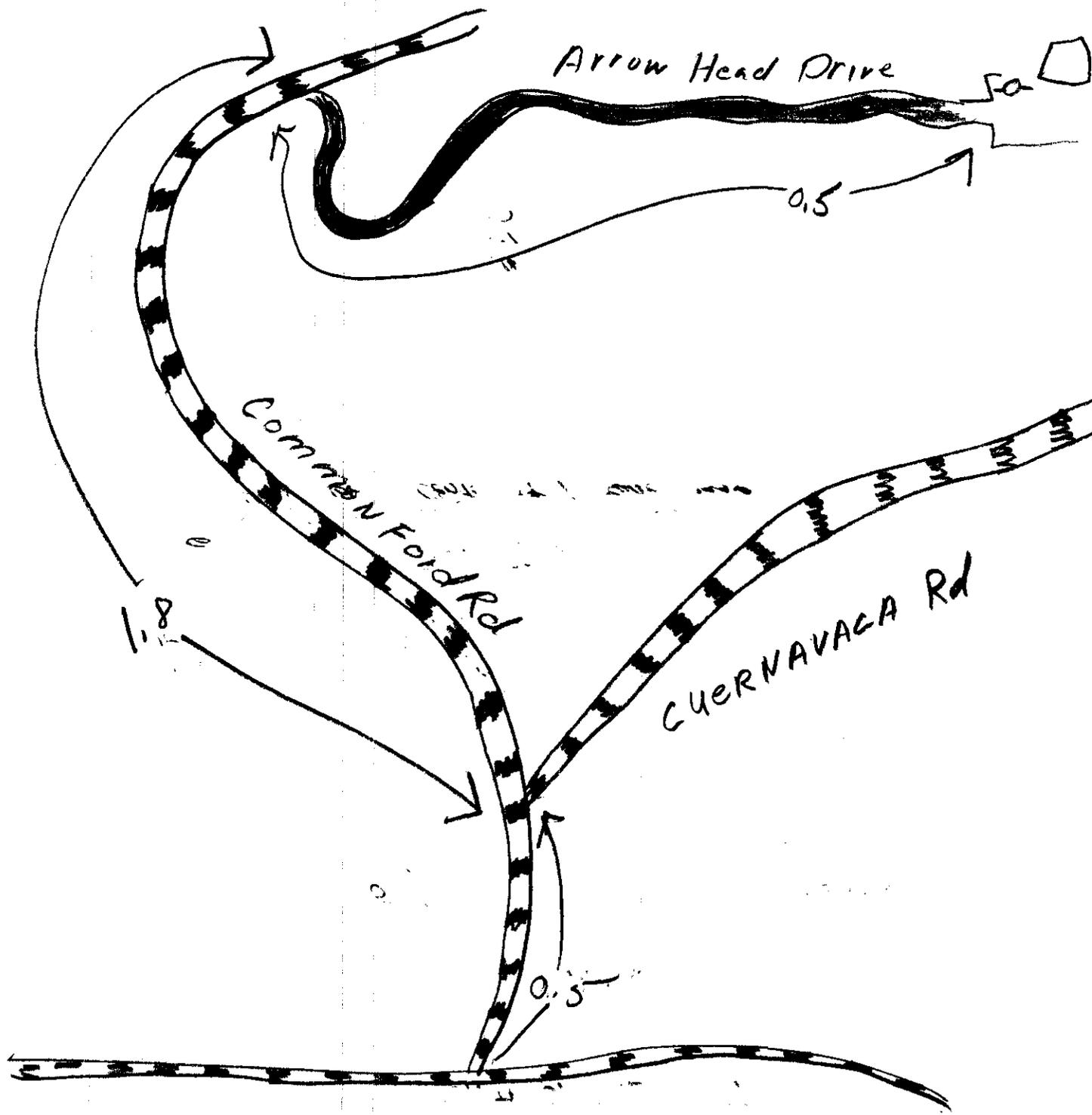
14.1

- 0 - 22 DIRT + BOULDERS  
22 - 37 yellow rock  
37 - 37'6" PAVE  
37'6" - 40 WHITE LIME WATER  
40 - 124 WHITE LIME WATER  
124 - 152 WHITE WATER SAND  
152 - 162 WHITE LIME  
162 - 168 WHITE WATER SAND  
168 - 195 GRAY LIME  
195 - 215 GRAY LIME  
215 - 230 BLUE LIME  
230 - 280 TRAVIS PEAK SHALE  
280 - 333 BLUE LIME  
333 - 342 BROWN ROCK TRINITY SAND  
342 - 349 BROWN WATER SAND  
349 - 350 BROWN ROCK TRINITY SAND  
350 - 361 BROWN WATER SAND

530



Crawley



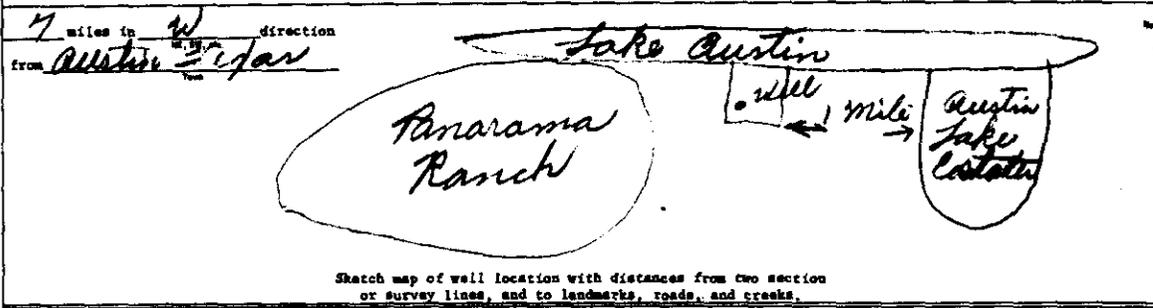
File original copy with Texas Water Commission P. O. Box 2311, Capitol Station Austin 11, Texas

State of Texas

DRILLERS LOG AND WELL DATA REPORT

For use by TWC only Well No. 55-42-104 Located on map 42-5 By Date Map no.

1) Well Owner: C.W. Crowley Rt 18 Box 286 Austin, Texas  
 2) Land Owner: Same  
 3) Intended use: Industrial  (Municipal  Irrigation  Other  House  
 4) Location of well: County Travis Labor Bruton Spg. Sub. E. side lot # 8 Abstract No. E. side lot # 8  
 Section 10 Range 10 Township 10 of Section 10 Block No. 10 Survey Thou Bird



Method of drilling: Cable Tool Diameter of hole 8" in. Date drilled 3-6-68

All measurements made from		ft. above ground level.	
From (ft)	To (ft)	From (ft)	To (ft)
0	22	195	215
22	37	215	230
37	37 1/2	230	280
37 1/2	40	280	333
40	124	333	342
124	152	342	349
152	162	349	350
162	168	350	361
168-195			

COMPLETION DATA: Trinity Sand

Straight wall <input type="checkbox"/> Under reamed <input type="checkbox"/> Gravel packed <input type="checkbox"/> Open hole <input checked="" type="checkbox"/> Other _____	Type: Old <input checked="" type="checkbox"/> New <input type="checkbox"/> Cemented from <u>37</u> ft. to <u>310</u> ft.	Type _____ Perforated <input type="checkbox"/> Slotted <input type="checkbox"/>															
	<table border="1"> <thead> <tr> <th rowspan="2">Diameter (inches)</th> <th colspan="2">Setting</th> </tr> <tr> <th>from (ft)</th> <th>to (ft)</th> </tr> </thead> <tbody> <tr> <td>7"</td> <td>0</td> <td>310</td> </tr> </tbody> </table>	Diameter (inches)	Setting		from (ft)	to (ft)	7"	0	310	<table border="1"> <thead> <tr> <th rowspan="2">Diameter (inches)</th> <th colspan="2">Setting</th> </tr> <tr> <th>from (ft)</th> <th>to (ft)</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Diameter (inches)	Setting		from (ft)	to (ft)		
Diameter (inches)	Setting																
	from (ft)	to (ft)															
7"	0	310															
Diameter (inches)	Setting																
	from (ft)	to (ft)															

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements hereon are true to the best of my knowledge and belief.  
Rick Sanders Rick Sanders Drilling Co. Reg. No. 526

Please attach electric log, chemical analysis, and other pertinent information if available.  
 If well was tested by your company or if you installed the permanent pump please complete the following:

Static water level _____ ft. below _____ Pumping level _____ <u>Flow 40 g.p.m.</u> <u>2.8 lbs pressure</u>	<b>WATER LEVEL AND PUMP DATA</b> Pump type <u>Sub</u> Designed pumping rate <u>500</u> gpm <input type="checkbox"/> gph <input type="checkbox"/> Type power unit <u>1 # Elect</u> Horsepower <u>1 H.P.</u> Depth to bowl, cylinder, jet, etc., <u>60'</u> ft. below pump base.
---	---

Name of contractor testing well or installing permanent pump if other than your company: \_\_\_\_\_  
 YD58-42-104  
 C-34 (62-4)

TWDBE-GW ONLY

Program No. 7421

Proj. No. \_\_\_\_\_

CHEMICAL WATER ANALYSIS REPORT

Typewrite (Black ribbon) or Print Plainly  
(soft pencil or black ink)  
Do not use ball point pen

Texas State Department of Health Laboratories  
1100 West 49th Street  
Austin 5, Texas

Send report to:

Ground Water Division  
Texas Water Development Board  
P.O. Box 13087  
Austin, Texas 78711

County TRAVIS  
State Well No. 88-02-104  
Well No. \_\_\_\_\_

Date Collected 12/19/70  
By J. K. [unclear]

Location ON LAKE AUSTIN off COMMON FARM RD  
Source (type of well) Subsidence Owner G.W. Crawley  
Date Drilled 3/1/68 Depth 361 ft. WBF \_\_\_\_\_  
Producing intervals 10-360 open hole water level Artesian well ft. \_\_\_\_\_  
Sampled after pumping \_\_\_\_\_ hrs. Yield \_\_\_\_\_ GPM meas. est. Temperature 71 °F \_\_\_\_\_ °C  
Point of collection Overflow at well Appearance clear turbid - colored  
Use Dam Remarks \_\_\_\_\_

FOR LABORATORY USE ONLY KEY PUNCHED

CHEMICAL ANALYSIS

Laboratory No. 178303 W Date Received DEC 11 1970 Date Reported DEC 30 1970

	MG/L	ME/L		MG/L	ME/L
Silica	<u>14</u>		Carbonate		<u>0</u>
Calcium	<u>37</u>	<u>1.86</u>	Bicarbonate	<u>243</u>	<u>3.98</u>
Magnesium	<u>17</u>	<u>1.36</u>	Sulfate	<u>367</u>	<u>7.65</u>
Sodium	<u>211</u>	<u>9.18</u>	Chloride	<u>43</u>	<u>1.20</u>
	Total	<u>12.40</u>	Fluoride	<u>1.7</u>	
<input type="checkbox"/> Potassium	<u>5</u>	<u>.13</u>	Nitrate	<u>&lt;0.4</u>	
<input type="checkbox"/> Manganese		<u>12.53</u>	pH	<u>7.7</u>	Total <u>12.83</u>
<input type="checkbox"/> Boron		SAR _____	<u>1/Dissolved Solids (sum)</u>		<u>820</u>
<input type="checkbox"/> Total Iron		RFC _____	Phenolphthalein Alkalinity as C aCO <sub>3</sub>	<u>0</u>	
<input type="checkbox"/> (other)			Total Alkalinity as C aCO <sub>3</sub>	<u>(3.98)</u>	<u>199</u>
Specific Conductance (micromhos/cm <sup>3</sup> )	<u>1185</u>		Total Hardness as C aCO <sub>3</sub>	<u>(3.22)</u>	<u>161</u>
Diluted Conductance (micromhos/cm <sup>3</sup> )	<u>9.158</u>				

"□" items will be analyzed if checked. 1422

Total Iron requires separate sample.

Analyst \_\_\_\_\_  
Checked by \_\_\_\_\_

1/ The bicarbonate reported in this analysis is converted by computation (multiplying by 0.4917) to an equivalent amount of carbonate, and the carbonate figure is used in the computation of this sum.

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	5842103
County	Travis
River Basin	Colorado
Groundwater Management Area	9
Regional Water Planning Area	K - Lower Colorado
Groundwater Conservation District	Southwestern Travis County GCD
Latitude (decimal degrees)	30.346667
Latitude (degrees minutes seconds)	30° 20' 48" N
Longitude (decimal degrees)	-97.87
Longitude (degrees minutes seconds)	097° 52' 12" W
Coordinate Source	+/- 1 Second
Aquifer Code	217HSTN - Hosston Formation
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	483
Land Surface Elevation Method	Digital Elevation Model -DEM
Well Depth (feet below land surface)	466
Well Depth Source	Unknown
Drilling Start Date	
Drilling End Date	0/0/1950
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	Yes
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Devereux School
Driller	A.C. Clements
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	
Last Update Date	3/4/2020

Remarks Well C-79 in 1957 Travis County report.

**Casing - No Data**

**Well Tests - No Data**

**Lithology - No Data**

**Annular Seal Range - No Data**

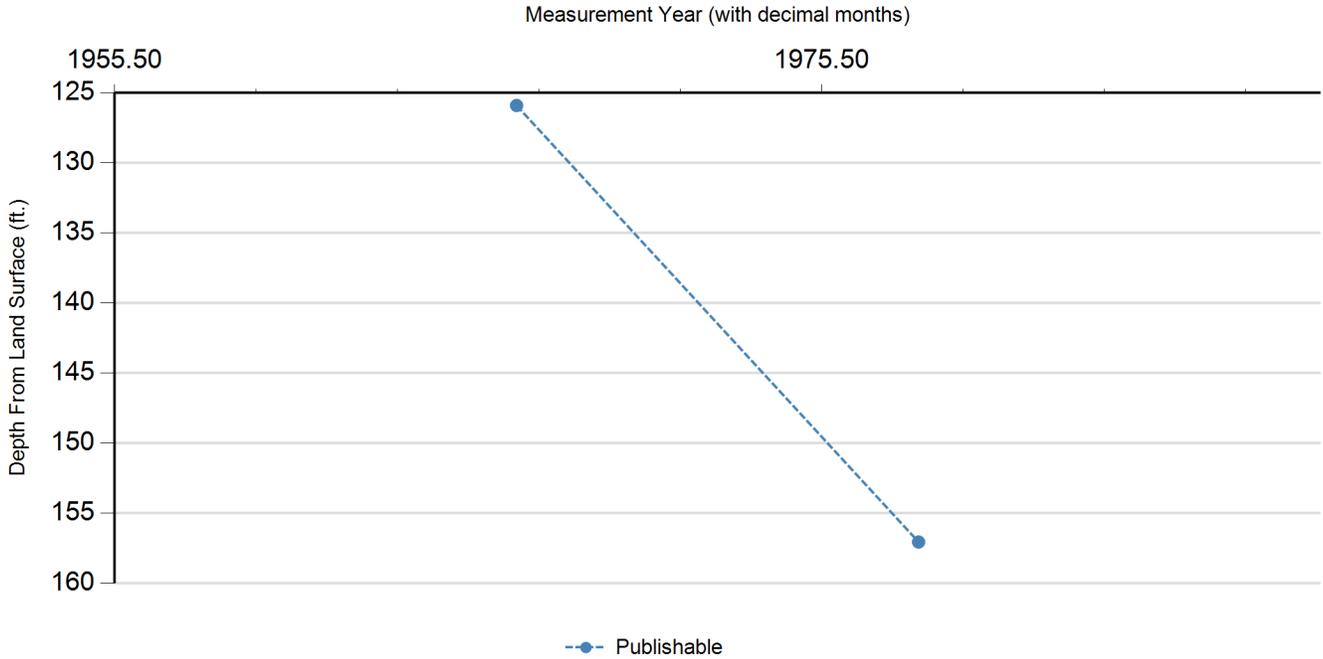
**Borehole - No Data**

**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	11/18/1966		125.92		357.08	1	Other or Source of Measurement Unknown	Unknown		
P	3/29/1978		157.05	31.13	325.95	1	Other or Source of Measurement Unknown	Unknown		

### Code Descriptions

Status Code	Status Description
P	Publishable

### Water Quality Analysis

**Sample Date:** 11/18/1966    **Sample Time:** 0000    **Sample Number:** 1    **Collection Entity:** Texas Water Development Board  
**Sampled Aquifer:** Hosston Formation  
**Analyzed Lab:** Texas Department of Health    **Reliability:** From well not sufficiently pumped; not filtered or preserved  
**Collection Remarks:** pressure tank

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CaCO3)		205	mg/L as CaCO 3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		250.17	mg/L	
00910	CALCIUM (MG/L)		29	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		43	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		1.6	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		142	mg/L as CaCO 3	
01045	IRON, TOTAL (UG/L AS FE)		40	ug/L	
00920	MAGNESIUM (MG/L)		17	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		1.5	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		8	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		11	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		1.25		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		12	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		7.37		
00932	SODIUM, CALCULATED, PERCENT		75	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		202	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1408	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		338	mg/L as SO4	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		778	mg/L	

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

**GWDB DISCLAIMER:** Except where noted, all of the information provided in the Texas Water Development Board (TWDB) Groundwater Database (<https://www.twdb.texas.gov/groundwater/data/gwdbprpt.asp>) is believed to be accurate and reliable; however, the TWDB assumes no responsibility for any errors appearing in rules or otherwise. Further, TWDB assumes no responsibility for the use of the information provided. PLEASE NOTE that users of these data are responsible for checking the accuracy, completeness, currency and/or suitability of all information themselves. TWDB makes no guarantees or warranties as to the accuracy, completeness, currency, or suitability of the information provided via the Groundwater Database (GWDB). TWDB specifically disclaims any and all liability for any claims or damages that may result from providing GWDB data or the information it contains. For additional information or answers to questions concerning the TWDB GWDB, contact the Groundwater Data Team at [GroundwaterData@twdb.texas.gov](mailto:GroundwaterData@twdb.texas.gov).

TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer <sup>Kop</sup> ~~Glen Rose~~ <sup>Kop</sup> ~~(USGS W.S.)~~

Field No. C-79 (None)  
 Owner's Well No. Garwood #

State Well No. 58-42-103  
 County Travis

1. Location: 1/4, 1/4 Sec, Block, Survey

See Sketch 3 1/2 mi. SE Mansfield Dam, Travis, Co.

2. Owner: Devereux School Address: RT 708 Box 3697, Austin

Tenant: Curtis Martin Address: Box 3697, Austin (ANB-2265)

Driller: A. C. Clements Address: \_\_\_\_\_

3. Elevation of LSP is 640 ft. above sea, determined by 15' topo

4. Drilled Sept 1950; Dug, Cable Tool, Rotary,

5. Depth: Rept. 466 ft. Meas. \_\_\_\_\_ ft.

6. Completion: Open Hole, Straight Wall, Underreamed, Gravel Packed

7. Pump: Mfr. \_\_\_\_\_ Type Submers

No. Stages \_\_\_\_\_, Bore Dia. \_\_\_\_\_ in., Setting \_\_\_\_\_ ft.  
 Column Dia. \_\_\_\_\_ in., Length Tailpipe \_\_\_\_\_ ft.

8. Motor: Fuel Elec. Make & Model \_\_\_\_\_ HP \_\_\_\_\_

9. Yield: Flow \_\_\_\_\_ gpm, Pump \_\_\_\_\_ gpm, Meas., Rept., Est. \_\_\_\_\_

10. Performance Test: Date \_\_\_\_\_ Length of Test \_\_\_\_\_ Made by \_\_\_\_\_  
 Static Level \_\_\_\_\_ ft. Pumping Level \_\_\_\_\_ ft. Drawdown \_\_\_\_\_ ft.

Production \_\_\_\_\_ gpm Specific Capacity \_\_\_\_\_ gpm/ft.

11. Water Level: 26.42 ft. rept. 11/18/66 19 66 Top of steel plate which is 0.5 ft. above surface.  
 \_\_\_\_\_ ft. meas. 19 above surface.  
 \_\_\_\_\_ ft. rept. 19 below surface.  
 \_\_\_\_\_ ft. meas. 19 above surface.  
 \_\_\_\_\_ ft. rept. 19 below surface.  
 \_\_\_\_\_ ft. meas. 19 above surface.

12. Use: Dom. Stock, Public Supply, Ind., Irr., Waterflooding, Observation, Not Used,

13. Quality: (Remarks on taste, odor, color, etc.)  
 Temp 67 °F, Date sampled for analysis 11/18/66 Laboratory TSHD  
 Temp \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_  
 Temp \_\_\_\_\_ °F, Date sampled for analysis \_\_\_\_\_ Laboratory \_\_\_\_\_

14. Other data available as circled: Driller's Log, Radioactivity Log, Electric Log, Formation Samples, Pumping Test, D-Log See Files and Bull 5708

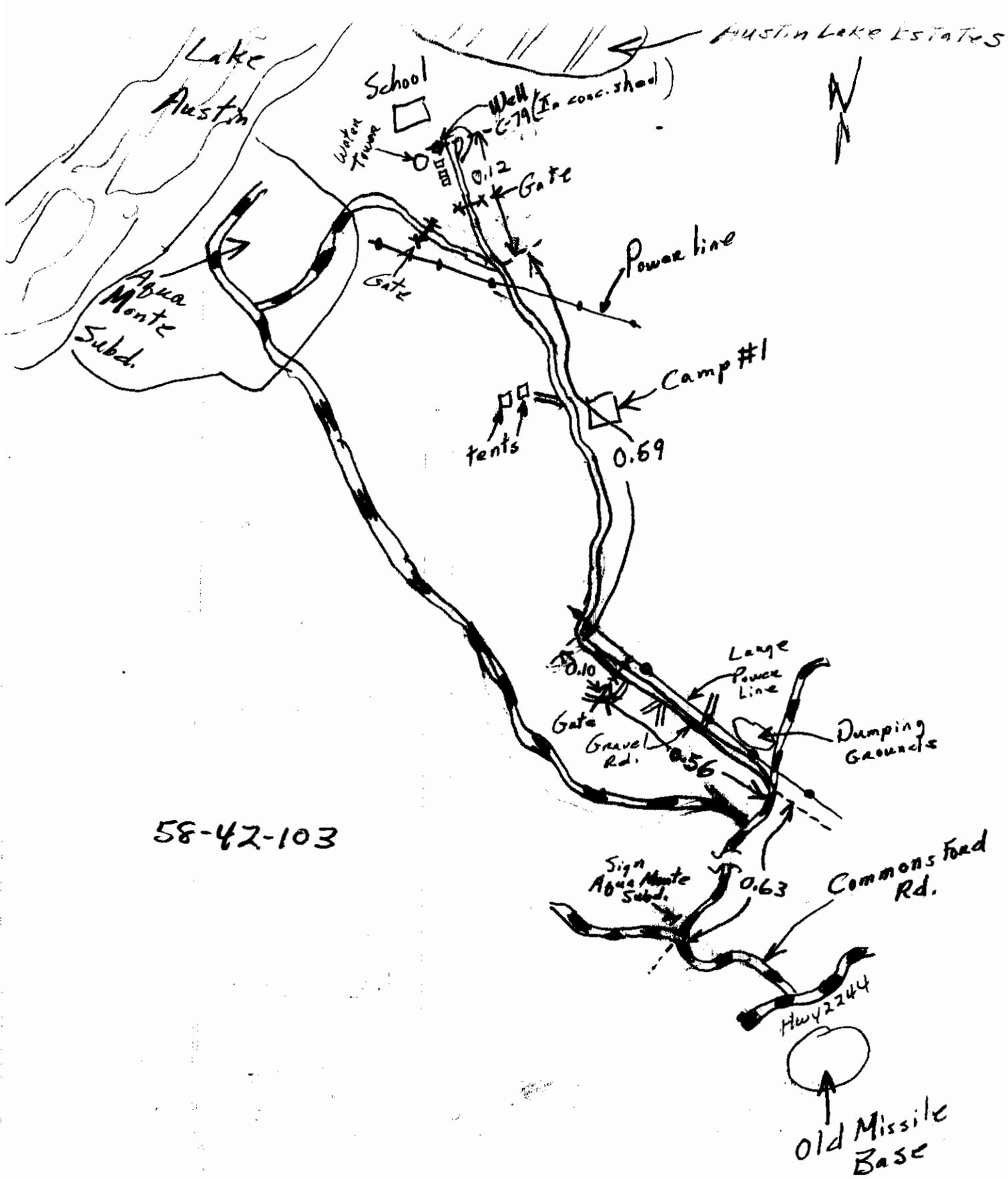
15. Record by: W.B. Klement TWDB Date 1/10 1966  
 Source of Data Cuttings Log + Bull 5708 + old W.S.

16. Remarks: \_\_\_\_\_


CASING & BLANK PIPE			
Cemented From		ft. to	
Diam. (in.)	Type	Setting, ft.	
		from	to
6	Steel	0	466

WELL SCREEN			
Screen Openings		Setting, ft.	
Diam. (in.)	Type	from	to

See Sketch over



58-42-103

CHEMICAL WATER ANALYSIS REPORT

Typewrite (Black ribbon) or Print Plainly  
(soft pencil or black ink)  
Do not use ball point pen

Texas State Department of Health Laboratories  
1100 West 49th Street  
Austin 5, Texas

Send report to:

Ground Water Division  
Texas Water Development Board  
P. O. Box 12386  
Austin, Texas 78711

Central Records  
Texas Water Development Board

County Travis

State Well No. 58-42-103

Bull 5708 Well No. C-79

Date Collected 11/18/66

R. Bluntack

Location between Agua Monte Subd. & Austin Lake Estates on L. Aust.

Source (type of well) Subm., Elec. Owner Devereux School

Date Drilled 9/30 Depth 466 ft. WRF

Producing intervals \_\_\_\_\_ Water level 125.92 below LSD (11/18/66) ft.

Sampled after pumping OFF + ON hrs. Yield \_\_\_\_\_ GPM <sup>meas.</sup> <sub>est.</sub> Temperature 67 °F

Point of collection Faucet in press. tank Appearance clean  
clear - turbid - colored

Use Dom. Remarks Send Copy to: Mr. Curtis Martin, Box 3697, Austin,

FOR LABORATORY USE ONLY

CHEMICAL ANALYSIS  
DEC 14 1966

KEY PUNCHED

Laboratory No. 8 32/2W Date Received DEC 14 1966 Date Reported 12-19-66

	PPM	EPM		PPM	EPM
Silica	<u>12</u>		Carbonate	<u>0</u>	
Calcium	<u>29</u>	<u>1.45</u>	<u>123</u>	<u>250</u>	<u>4.10</u>
Magnesium	<u>12</u>	<u>1.36</u>	Bicarbonate	<u>338</u>	<u>7.04</u>
Sodium	<u>202</u>	<u>8.77</u>	Sulfate	<u>43</u>	<u>1.20</u>
	Total	<u>11.58</u>	Chloride	<u>1.6</u>	
<input checked="" type="checkbox"/> Potassium	<u>11</u>	<u>28</u>	Fluoride	<u>1.5</u>	
<input type="checkbox"/> Manganese		<u>11.86</u>	Nitrate		
<input type="checkbox"/> Boron		<u>7.43</u>	pH	<u>8.0</u>	Total <u>12.34</u>
<input checked="" type="checkbox"/> Total Iron	<u>0.04</u>	<u>74</u>	<u>1</u> /Dissolved Solids (sum)	<u>780</u>	
<input type="checkbox"/> (other)			Phenolphthalein Alkalinity as C $\text{CaCO}_3$	<u>0</u>	
Specific Conductance (micromhos/cm <sup>3</sup> )	<u>1162</u>		Total Alkalinity as C $\text{CaCO}_3$	<u>(4.10)</u>	<u>26</u>
Diluted Conductance (micromhos/cm <sup>3</sup> )	<u>16.88</u>		Total Hardness as C $\text{CaCO}_3$	<u>(2.81)</u>	<u>16</u>
		<u>1408</u>			

"□" items will be analyzed if checked.  
Total Iron requires separate sample.

Analyst \_\_\_\_\_  
Checked by DEL 20

1/ The bicarbonate reported in this analysis is converted by computation (multiplying by 0.4917) to an amount of carbonate, and the carbonate figure is used in the computation of this sum.



Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
<b>No Data</b>	<b>No Data</b>

Chemical Analysis Made: **No**

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

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

Company Information: **Bee Cave Drilling, Inc.**  
**1**  
**Dripping Springs, TX 78620**

Driller Name: **Jim Blair** License Number: **54416**

Comments: **No Data**

**Report Amended on 6/17/2016 by Request #18052**

Lithology:  
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>45</b>	<b>red sand</b>
<b>45</b>	<b>85</b>	<b>gray sandstone</b>

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
<b>4.5</b>	<b>new</b>	<b>sdr-17</b>	<b>0 80</b>
<b>casing perforated 20'-80'</b>			

**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

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

# STATE OF TEXAS WELL REPORT for Tracking #248502

Owner: <b>American Geothermal Systems</b>	Owner Well #: <b>No Data</b>
Address: <b>8650 Spicewood Springs Rd #145 Austin, TX 78759</b>	Grid #: <b>58-42-1</b>
Well Location: <b>8024 Big View Austin, TX 78730</b>	Latitude: <b>30° 20' 57" N</b>
Well County: <b>Travis</b>	Longitude: <b>097° 52' 19" W</b>
	Elevation: <b>0 ft. above sea level</b>

**\*\*Plugged Within 48 Hours\*\***

**\*\*This well has been plugged\*\***

**Plugging Report Tracking #130429**

Type of Work: <b>New Well</b>	Proposed Use: <b>Closed-Loop Geothermal</b>
-------------------------------	---

Drilling Start Date: **2/28/2011**      Drilling End Date: **3/2/2011**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	<b>4.75</b>	<b>0</b>	<b>300</b>

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Filter Material</i>	<i>Size</i>
Filter Pack Intervals:	<b>0</b>	<b>30</b>	<b>Gravel</b>	<b>3/8</b>

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks &amp; material)</i>
Annular Seal Data:			<b>No Data</b>
			<b>No Data</b>
	<b>0</b>	<b>30</b>	<b>2 Bentionite</b>

Seal Method: **Poured**

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

Sealed By: **Anthony Sarris**

Distance to Septic Field or other concentrated contamination (ft.): **100**

Variance Number: **No Data**

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

Method of Verification: **Owner**

Surface Completion: **Alternative Procedure Used**

Water Level: <b>0 GPM</b> artesian flow on <b>2011-03-03</b>	Measurement Method: <b>Unknown</b>
--	------------------------------------

Packers: **No Data**

Type of Pump: <b>Other - Not Specified</b>	Pump Depth (ft.): <b>0</b>
--	----------------------------

Well Tests: <b>Unknown</b>	<b>Yield: No Data GPM</b>	
----------------------------	---------------------------	--

Plug Information:	<i>Description (number of sacks &amp; material)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
	<b>No Data</b>		

Water Quality:	<i>Strata Depth (ft.)</i>	<i>Water Type</i>
	<b>No Data</b>	<b>No Data</b>

Chemical Analysis Made: **No**

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

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

Company Information: **Precision Geothermal Drilling**  
**P.O. Box 500188**  
**Austin, TX 78750**

Driller Name: **Coy V. Goyne** License Number: **2103**

Apprentice Name: **Anthony Sarris** Apprentice Number: **App Pending**

Comments: **9 closed geothermal wells drilled**

Lithology:  
 DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
 BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>50</b>	<b>Gravel, Silt Clay</b>
<b>50</b>	<b>220</b>	<b>Limestone, Slate</b>
<b>220</b>	<b>260</b>	<b>Sand Gravel</b>

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
<b>1 inch new Polyethylene loop 0-300</b>			

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Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
<b>No Data</b>	<b>No Data</b>

Chemical Analysis Made: **No**

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

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

Company Information: **Tom Arnold Drilling**  
**2750 South A.W. Grimes Blvd.**  
**Round Rock, TX 78664**

Driller Name: **Tommy Arnold** License Number: **2096**

Comments: **^LA**

Lithology:  
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>1</b>	<b>topsoil</b>
<b>1</b>	<b>17</b>	<b>red sandy loam</b>
<b>17</b>	<b>20</b>	<b>red sand</b>
<b>20</b>	<b>68</b>	<b>gray limestone</b>
<b>68</b>	<b>69</b>	<b>fracture</b>
<b>69</b>	<b>85</b>	<b>gray limestone</b>

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
<b>4 1/2</b>	<b>N</b>	<b>plastic</b>	<b>0 85</b>
		<b>perf.</b>	<b>65 85</b>

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## STATE OF TEXAS WELL REPORT for Tracking #436059

Owner: <b>Blair Drenner</b>	Owner Well #: <b>No Data</b>
Address: <b>8109 Big View Austin, TX 78730</b>	Grid #: <b>58-42-1</b>
Well Location: <b>8109 Big View Austin, TX 78730</b>	Latitude: <b>30° 21' 02.34" N</b>
Well County: <b>Travis</b>	Longitude: <b>097° 52' 20.07" W</b>
	Elevation: <b>532 ft. above sea level</b>
Type of Work: <b>New Well</b>	
Proposed Use: <b>Domestic</b>	

Drilling Start Date: **9/13/2016**      Drilling End Date: **9/13/2016**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	<b>10</b>	<b>0</b>	<b>40</b>
	<b>6.75</b>	<b>40</b>	<b>130</b>

Drilling Method: **Air Rotary**  
 Borehole Completion: **Perforated or Slotted**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks &amp; material)</i>
Annular Seal Data:	<b>0</b>	<b>20</b>	<b>Cement 5 Bags/Sacks</b>
	<b>20</b>	<b>55</b>	<b>Bentonite 3 Bags/Sacks</b>

Seal Method: **Slurry**      Distance to Property Line (ft.): **No Data**  
 Sealed By: **Driller**      Distance to Septic Field or other concentrated contamination (ft.): **No Data**  
 Distance to Septic Tank (ft.): **No Data**  
 Method of Verification: **No Data**

Surface Completion: **Pitless Adapter Used**      **Surface Completion by Driller**

Water Level: **No Data**  
 Packers: **Rubber at 54 ft.  
Rubber at 60 ft.**  
 Type of Pump: **Submersible**      Pump Depth (ft.): **100**  
 Well Tests: **Jetted**      Yield: **50 GPM**

Water Quality:	<i>Strata Depth (ft.)</i>	<i>Water Type</i>
	<b>No Data</b>	<b>No Data</b>

Chemical Analysis Made: **No**

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

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

Company Information: **Bee Cave Drilling, Inc.**  
**185 Angel Fire Dr.**  
**Dripping Springs, TX 78620**

Driller Name: **Jim Blair** License Number: **54416**

Apprentice Name: **54416**

Comments: **No Data**

Lithology:  
 DESCRIPTION & COLOR OF FORMATION MATERIAL

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>20</b>	<b>sand</b>
<b>20</b>	<b>70</b>	<b>grey lime</b>
<b>70</b>	<b>90</b>	<b>brown lime wb 50 gpm @800 tds</b>
<b>90</b>	<b>130</b>	<b>grey lime</b>

Casing:  
 BLANK PIPE & WELL SCREEN DATA

<i>Dia (in.)</i>	<i>Type</i>	<i>Material</i>	<i>Sch./Gage</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
<b>4.5</b>	<b>Blank</b>	<b>New Plastic (PVC)</b>	<b>sdr17</b>	<b>-2</b>	<b>70</b>
<b>4.5</b>	<b>Perforated or Slotted</b>	<b>New Plastic (PVC)</b>	<b>sdr17</b>	<b>70</b>	<b>130</b>

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## STATE OF TEXAS WELL REPORT for Tracking #131752

Owner: <b>Chris Cloran</b>	Owner Well #: <b>No Data</b>
Address: <b>4012 River Place Blvd Austin, TX 78730</b>	Grid #: <b>58-42-1</b>
Well Location: <b>8201 Big View Dr Austin, TX 78730</b>	Latitude: <b>30° 21' 04" N</b>
Well County: <b>Travis</b>	Longitude: <b>097° 52' 18" W</b>
	Elevation: <b>No Data</b>
Type of Work: <b>New Well</b>	
Proposed Use: <b>Domestic</b>	

Drilling Start Date: **9/17/2007**      Drilling End Date: **9/17/2007**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	<b>8</b>	<b>0</b>	<b>100</b>
	<b>6.5</b>	<b>100</b>	<b>245</b>

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	<b>0</b>	<b>100</b>	<b>11 of Portland</b>

Seal Method: **Pressure Tremmie**

Sealed By: **Driller**

Distance to Property Line (ft.): **15**

Distance to Septic Field or other concentrated contamination (ft.): **100+**

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

Method of Verification: **Landowner**

Surface Completion: **Surface Sleeve Installed**

Water Level: **No Data**

Packers: **Burlap/Neoprene 130', 120', 100'**

Type of Pump: **No Data**

Well Tests: **Jetted**                      **Yield: 60 GPM**

Water Quality:	<i>Strata Depth (ft.)</i>	<i>Water Type</i>
	<b>130-230</b>	<b>Glenrose</b>

Chemical Analysis Made: **No**

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

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

Company Information: **Apex Drilling, Inc**  
**PO Box 867**  
**Marble Falls, TX 78654**

Driller Name: **Michael G Becker, P.G.** License Number: **54516**

Comments: **No Data**

Lithology:  
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>21</b>	<b>Sandy Loam</b>
<b>21</b>	<b>130</b>	<b>Tan-Grey Limestone</b>
<b>130</b>	<b>215</b>	<b>Tan Limestone</b>
<b>215</b>	<b>230</b>	<b>Grey-Tan Limestone</b>
<b>230</b>	<b>240</b>	<b>Grey Limestone</b>
<b>240</b>	<b>245</b>	<b>Grey Limestone w/ Clay</b>

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
<b>4.5" (5" OD)</b>	<b>New</b>	<b>PVC</b>	<b>+2' to 165' SDR17</b>
<b>4.5" (5" OD)</b>	<b>New</b>	<b>Slotted PVC</b>	<b>165' to 225' .035</b>
<b>4.5" (5" OD)</b>	<b>New</b>	<b>PVC</b>	<b>225' to 245' SDR17</b>

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## STATE OF TEXAS WELL REPORT for Tracking #373319

Owner:	TIM MADDOX	Owner Well #:	No Data
Address:	8001 BIG VIEW DRIVE AUSTIN, TX 78730	Grid #:	58-42-1
Well Location:	8001 BIG VIEW DRIVE AUSTIN, TX	Latitude:	30° 21' 00" N
Well County:	Travis	Longitude:	097° 52' 25" W
		Elevation:	No Data
Type of Work: <b>New Well</b>		Proposed Use: <b>Irrigation</b>	

Drilling Start Date: **3/25/2014**      Drilling End Date: **3/27/2014**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	<b>12</b>	<b>0</b>	<b>35</b>
	<b>8</b>	<b>35</b>	<b>106</b>
	<b>6.5</b>	<b>106</b>	<b>225</b>

Drilling Method: **Air Hammer**

Borehole Completion: **Straight Wall**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	<b>0</b>	<b>35</b>	<b>12</b>
	<b>0</b>	<b>70</b>	<b>13</b>

Seal Method: **TREMIE TUBE**

Sealed By: **Driller**

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

Distance to Septic Field or other concentrated contamination (ft.): **160**

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

Method of Verification: **TAPE MEASURE**

Surface Completion: **Surface Sleeve Installed**

Water Level: **40 ft. below land surface on 2014-03-27**      Measurement Method: **Unknown**

Packers: **SHALE TRAP 106'**

Type of Pump: **Submersible**      Pump Depth (ft.): **80**

Well Tests: **Estimated**      Yield: **100 GPM**

	Description (number of sacks & material)	Top Depth (ft.)	Bottom Depth (ft.)
Plug Information:	<b>106 225 34</b>		

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
<b>No Data</b>	<b>No Data</b>

Chemical Analysis Made: **No**

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

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

Company Information: **TOM ARNOLD DRILLING**  
**2750 SOUTH A. W. GRIMES BLVD**  
**ROUND ROCK, TX 78664**

Driller Name: **TOMMY D ARNOLD**

License Number: **2096**

Comments: **^BDG**

Lithology:  
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>2</b>	<b>TOP SOIL</b>
<b>2</b>	<b>21</b>	<b>RED SANDY LOAM</b>
<b>21</b>	<b>23</b>	<b>RED SAND &amp; GRAVEL</b>
<b>23</b>	<b>35</b>	<b>BROWN LIMESTONE</b>
<b>35</b>	<b>70</b>	<b>GRAY LIMESTONE</b>
<b>70</b>	<b>71</b>	<b>FRACTURE</b>
<b>71</b>	<b>75</b>	<b>BROWN LIMESTONE</b>
<b>75</b>	<b>155</b>	<b>GRAY LIMESTONE</b>
<b>155</b>	<b>165</b>	<b>BROWN &amp; WHITE LIMESTONE</b>
<b>165</b>	<b>181</b>	<b>GRAY LIMESTONE</b>
<b>181</b>	<b>200</b>	<b>BROWN LIMESTONE</b>
<b>200</b>	<b>225</b>	<b>GRAY LIMESTONE</b>

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
<b>4 1/2</b>	<b>N</b>	<b>PLASTIC</b>	<b>0' - 106'</b>
		<b>PERF</b>	<b>70' - 90'</b>

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## STATE OF TEXAS WELL REPORT for Tracking #525415

Owner: <b>Fariborz Karampour</b>	Owner Well #: <b>No Data</b>
Address: <b>8009 Big View Drive Austin, TX 78730</b>	Grid #: <b>58-42-1</b>
Well Location: <b>8009 Big View Drive Austin, TX 78730</b>	Latitude: <b>30° 20' 58" N</b>
Well County: <b>Travis</b>	Longitude: <b>097° 52' 25" W</b>
	Elevation: <b>No Data</b>
<hr/>	
Type of Work: <b>New Well</b>	Proposed Use: <b>Domestic</b>

Drilling Start Date: **8/19/2019**      Drilling End Date: **8/20/2019**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	<b>10</b>	<b>0</b>	<b>20</b>
	<b>8</b>	<b>20</b>	<b>70</b>
	<b>6.5</b>	<b>20</b>	<b>95</b>

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks &amp; material)</i>
Annular Seal Data:	<b>0</b>	<b>70</b>	<b>Cement 14 Bags/Sacks</b>

Seal Method: **TREMIE TUBE**

Distance to Property Line (ft.): **N/A**

Sealed By: **Driller**

Distance to Septic Field or other  
concentrated contamination (ft.): **142**

Distance to Septic Tank (ft.): **N/A**

Method of Verification: **TAPE MEASURE**

Surface Completion: **Surface Sleeve Installed**

**Surface Completion by Driller**

Water Level: **55 ft. below land surface on 2019-08-20**

Packers: **SHALE TRAP at 70 ft.**

Type of Pump: **Submersible**

Pump Depth (ft.): **80**

Well Tests: **Estimated      Yield: 30 GPM**

Water Quality:	<i>Strata Depth (ft.)</i>	<i>Water Type</i>
	<b>No Data</b>	<b>No Data</b>

Chemical Analysis Made: **No**

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

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

Company Information: **TOM ARNOLD DRILLING**  
**2750 SOUTH A. W. GRIMES BLVD**  
**ROUND ROCK, TX 78664**

Driller Name: **TOMMY ARNOLD** License Number: **2096**

Comments: **No Data**

Lithology:  
 DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:  
 BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>1</b>	<b>TOP SOIL &amp; LOOSE ROCK</b>
<b>1</b>	<b>3</b>	<b>RED SAND</b>
<b>3</b>	<b>7</b>	<b>GRAVEL</b>
<b>7</b>	<b>20</b>	<b>RED SANDY LOAM</b>
<b>20</b>	<b>31</b>	<b>BROWN LIMESTONE</b>
<b>31</b>	<b>70</b>	<b>GRAY LIMESTONE</b>
<b>70</b>	<b>95</b>	<b>GRAY &amp; BROWN LIMESTONE WITH FRACTURES</b>

<i>Dia (in.)</i>	<i>Type</i>	<i>Material</i>	<i>Sch./Gage</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
<b>4.5</b>		<b>New Plastic (PVC)</b>		<b>0</b>	<b>95</b>
	<b>Screen</b>		<b>0.032</b>	<b>70</b>	<b>95</b>

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## STATE OF TEXAS WELL REPORT for Tracking #523785

Owner: <b>FARIBORZ KARAMPOUR</b>	Owner Well #: <b>No Data</b>
Address: <b>8009 BIG VIEW DRIVE AUSTIN, TX 78730</b>	Grid #: <b>58-42-1</b>
Well Location: <b>8009 BIG VIEW DRIVE AUSTIN, TX 78730</b>	Latitude: <b>30° 20' 58" N</b>
Well County: <b>Travis</b>	Longitude: <b>097° 52' 25" W</b>
	Elevation: <b>No Data</b>
Type of Work: <b>New Well</b>	
Proposed Use: <b>Domestic</b>	

Drilling Start Date: **8/19/2019**      Drilling End Date: **8/20/2019**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	<b>10</b>	<b>0</b>	<b>20</b>
	<b>8</b>	<b>20</b>	<b>70</b>
	<b>6.5</b>	<b>20</b>	<b>95</b>

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	<b>0</b>	<b>70</b>	<b>Cement 14 Bags/Sacks</b>

Seal Method: **Tremie**

Sealed By: **Driller**

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

Distance to Septic Field or other concentrated contamination (ft.): **142**

Distance to Septic Tank (ft.): **UNKNOWN**

Method of Verification: **TAPE MEASURE**

Surface Completion: **Surface Sleeve Installed**

**Surface Completion by Driller**

Water Level: **55 ft. below land surface on 2019-08-20**

Packers: **SHALE TRAP at 70 ft.**

Type of Pump: **Submersible**

Pump Depth (ft.): **80**

Well Tests: **Estimated      Yield: 30 GPM**

Water Quality:	<i>Strata Depth (ft.)</i>	<i>Water Type</i>
	<b>No Data</b>	<b>No Data</b>

Chemical Analysis Made: **No**

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

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

Company Information: **TOM ARNOLD DRILLING**  
**2750 SOUTH A. W. GRIMES BLVD**  
**ROUND ROCK, TX 78664**

Driller Name: **Tommy D Arnold** License Number: **2096**

Comments: **No Data**

Lithology:  
 DESCRIPTION & COLOR OF FORMATION MATERIAL

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
<b>0</b>	<b>1</b>	<b>TOP SOIL &amp; LOOSE ROCK</b>
<b>1</b>	<b>3</b>	<b>RED SAND</b>
<b>3</b>	<b>7</b>	<b>GRAVEL</b>
<b>7</b>	<b>20</b>	<b>RED SANDY LOAM</b>
<b>20</b>	<b>31</b>	<b>BROWN LIMESTONE</b>
<b>31</b>	<b>70</b>	<b>GRAY LIMESTONE</b>
<b>70</b>	<b>95</b>	<b>GRAY &amp; BROWN LIMESTONE WITH FRACTURES</b>

Casing:  
 BLANK PIPE & WELL SCREEN DATA

<i>Dia (in.)</i>	<i>Type</i>	<i>Material</i>	<i>Sch./Gage</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
<b>4.5</b>		<b>New Plastic (PVC)</b>		<b>0</b>	<b>95</b>
	<b>Screen</b>		<b>0.032</b>	<b>70</b>	<b>95</b>

**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

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

**ATTACHMENT M**  
**GROUND WATER QUALITY TECHNICAL REPORT**

**TRAVIS COUNTY WCID NO. 17**  
**WQ0013294001**  
**ATTACHMENT M – GROUNDWATER QUALITY REPORT**

**Records Review**

The Steiner Ranch Wastewater Treatment Plant (WWTP) subsurface drip irrigation system (the drip system) is located at 3415 ½ Quinlan Park Road, and the spray irrigation system (the spray system) is located at 2200 University Club Drive, both being approximately 1.5 to 2.5 miles south/southwest of the Quinlan Park Road and FM 620 intersection in Travis County, Texas. This site is not located within a Groundwater Conservation District. A USGS Topographic map is provided in Attachment 1. A site drawing is provided in Attachment 2. A Web Soil Survey map has been provided in Attachment 3.

Records of the Railroad Commission of Texas, Texas Water Development Board (TWDB), TCEQ, Natural Resources Conservation Service (NRCS), were reviewed. After reviewing the records, it was determined there are no recharge features located within the irrigation boundaries, but several recharge features and wells are within (1) mile of the dispersal sites. A list of wells are available in Attachment 4 of this report and the wells and recharge features are shown on the USGS Map in Attachment 1. Special Provision #25 of the existing permit requires semi-annual monitoring results for a Surface Spring (#5841304) and a Seep as part of the permit conditions.

**Site Specific Geology and Groundwater**

Elevations of the drip system site range from approximately 950-ft to 785-ft MSEL. Elevations of the spray system range from approximately 840-ft to 550-ft MSEL. No portion of this site is located within the Edwards Aquifer Contributing or Recharge Zone. The site is lies within the Upper Glen Rose Formation. No shallow groundwater was found at the irrigation sites.

The drip and spray irrigation sites lie over the Trinity (outcrop) Aquifer. According to the Driller Logs in the area, the water surface elevation measured in the Wells range from about approximately 85-ft to 710-ft, and the strata ranges from approximately 20-ft to 695-ft below ground. The Trinity Aquifer generally flows to the southeast. The major uses of the Trinity Aquifer include residential drinking water and agricultural irrigation.

**Protective Measures**

A spring and seep are present near the irrigation site. Special Provision #25 of the permit requires semi-annual monitoring of these features. All existing domestic and public supply water wells are located more than 150-ft and 500-ft from the irrigation site, respectively; therefore, the proposed best management practice of a 150-ft and 500-ft setbacks will be met without any further effort. If features are found on the site, a 150-ft setback will be maintained unless other restrictive setbacks are required per local and state regulations.

Several other best management practices will be followed at the irrigation sites. These practices include:

1. Minimum setbacks of 500-ft from public drinking water wells, 150-ft from private drinking water wells, 100-ft from agriculture irrigation water wells, and 100-ft from surface water and water courses.
2. Disposal application rates low enough to prevent run-off and ensure use by cover crop without over saturation of the soil. Disposal application rates low enough to prevent application of more nitrogen that can be taken up and used by the cover crop.

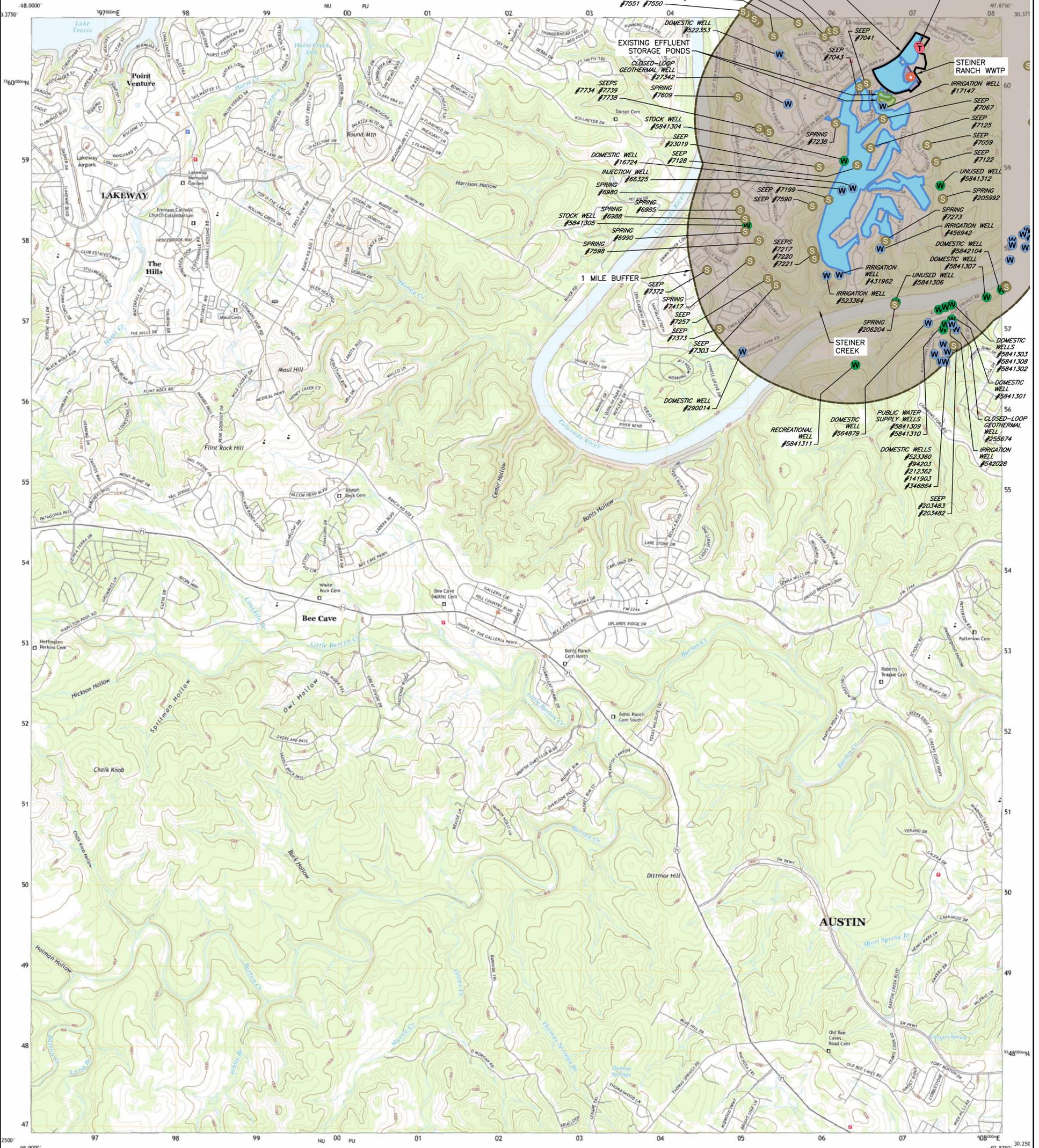
Due to the protective measures and existing well locations, groundwater quality will not be affected or impacted by this WWTP and drip irrigation system.

**TRAVIS COUNTY WCID NO. 17**  
**WQ0013294001**  
**ATTACHMENT M – GROUNDWATER QUALITY REPORT**

**ATTACHMENT 1 – USGS MAP**



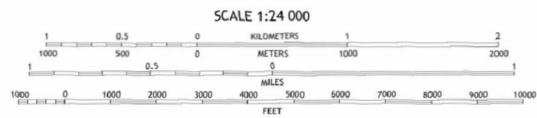
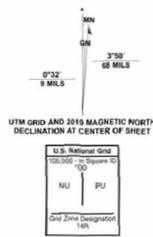
U.S. DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY



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: NMAP, September 2016 - November 2016  
Roads: U.S. Census Bureau, 2015 - 2019  
Names: U.S. Census Bureau, 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



1	2	3
4	5	6
7	8	9

ADJACENT QUADRANGLES

ROAD CLASSIFICATION

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

BEE CAVE, TX  
2022

BEE CAVE	
	Map Base
	EXISTING WATER TANK
	EXISTING SPRING OR SEEP
	EXISTING WELL (SDRDB)
	EXISTING WELL (GWDB)
	WASTEWATER TREATMENT PLANT
	EFFLUENT STORAGE PONDS
	WWTP PROPERTY BOUNDARY
	EFFLUENT DISPOSAL SITE BOUNDARY
	TREATMENT PLANT BOUNDARY
	1 MILE BUFFER
	TX_Bee_Cave_20220811_TM_geo

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(281)-350-7027  
TEXAS REGISTERED ENGINEERING FIRM #21783

TRAVIS COUNTY WCID NO. 17  
STEINER RANCH WWTP  
WQ0013294001

ATTACHMENT 1  
USGS MAP  
1 OF 4



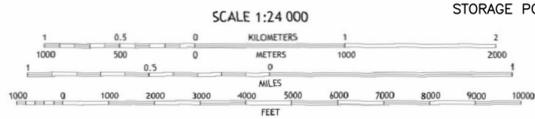
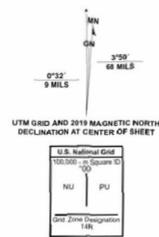
U.S. DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY



MANSFIELD DAM QUADRANGLE  
TEXAS - TRAVIS COUNTY  
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:.....NAP, September 2016 - November 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



CONTOUR INTERVAL 20 FEET  
NORTH AMERICAN VERTICAL DATUM OF 1988  
This map was produced to conform with the  
National Geospatial Program US Topo Product Standard.



MANSFIELD	
Map Base	
	EXISTING WATER TANK
	EXISTING SPRING OR SEEP
	EXISTING WELL (SDRDB)
	EXISTING WELL (GWDB)
	WASTEWATER TREATMENT PLANT
	EFFLUENT STORAGE PONDS
	WWTP PROPERTY BOUNDARY
	EFFLUENT DISPOSAL SITE BOUNDARY
	TREATMENT PLANT BOUNDARY
	1 MILE BUFFER
	TX_Mansfield_Dam_20220811_TM_geo

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(281)-350-7027  
TEXAS REGISTERED ENGINEERING FIRM F-21783

TRAVIS COUNTY WCID NO. 17  
STEINER RANCH WWTP  
WQ0013294001

ATTACHMENT 1  
USGS MAP  
2 OF 4

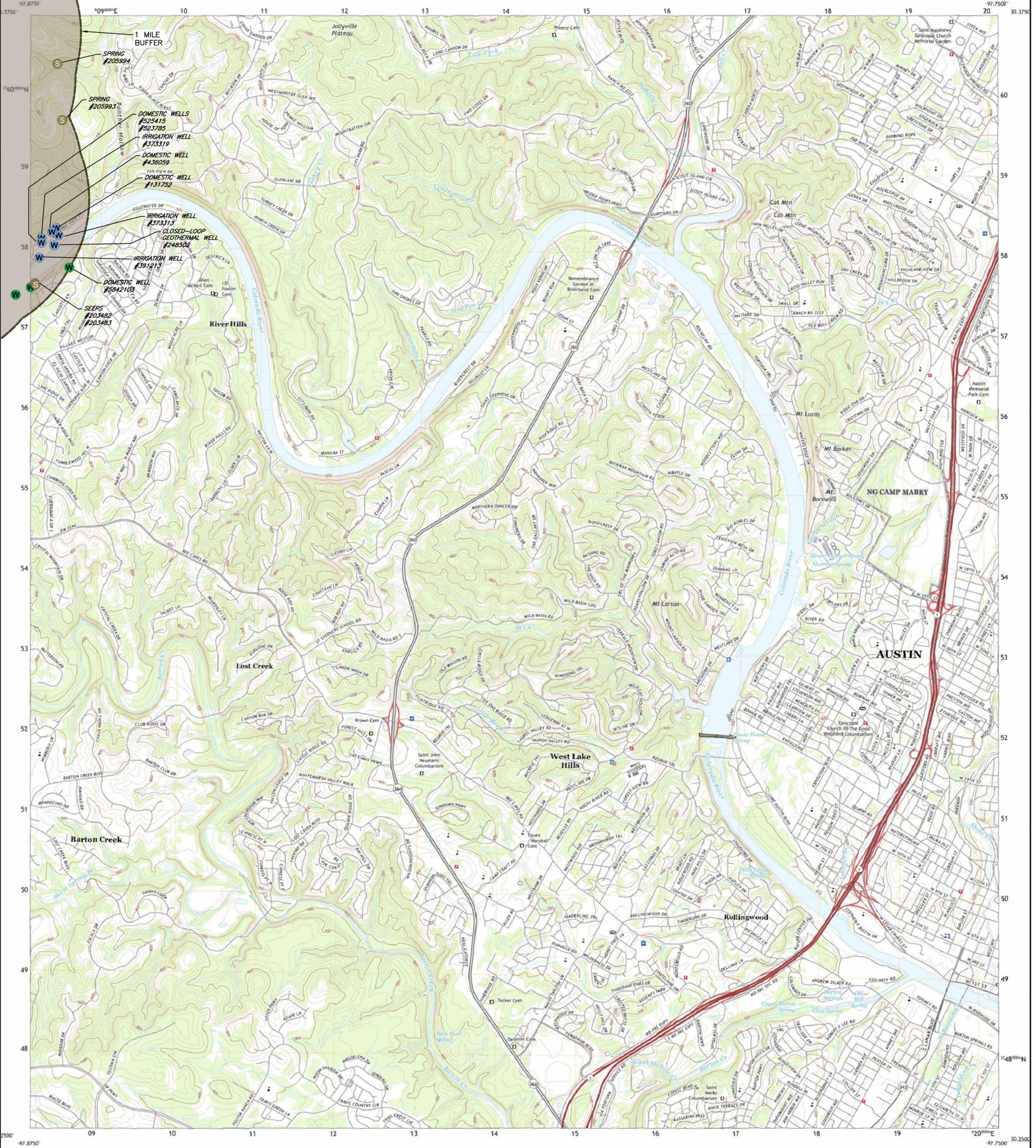




U.S. DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY

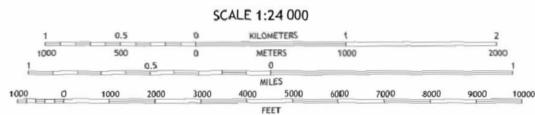
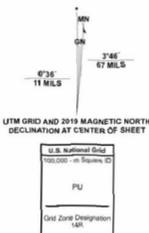


AUSTIN WEST QUADRANGLE  
TEXAS - TRAVIS COUNTY  
7.5-MINUTE SERIES



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.

Image:.....NMAP, September 2016 - November 2016  
Roads:.....U.S. Census Bureau, 2015 - 2019  
Names:.....National Hydrography Dataset, 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



1	2	3	1 Mansfield Dam
4	5	5 Austin East	2 Jollyville
6	7	7 Oak Hill	3 Pflugerville West
		8 Montopolis	4 Bee Cave

AUSTIN WEST, TX  
2022

### AUSTIN WEST

- Map Base
- EXISTING WATER TANK
  - EXISTING SPRING OR SEEP
  - EXISTING WELL (SDRDB)
  - EXISTING WELL (GWDB)
  - WASTEWATER TREATMENT PLANT
  - EFFLUENT STORAGE PONDS
  - WWTP PROPERTY BOUNDARY
  - EFFLUENT DISPOSAL SITE BOUNDARY
  - TREATMENT PLANT BOUNDARY
  - 1 MILE BUFFER
  - TX\_Austin\_West\_20220811\_TM\_geo

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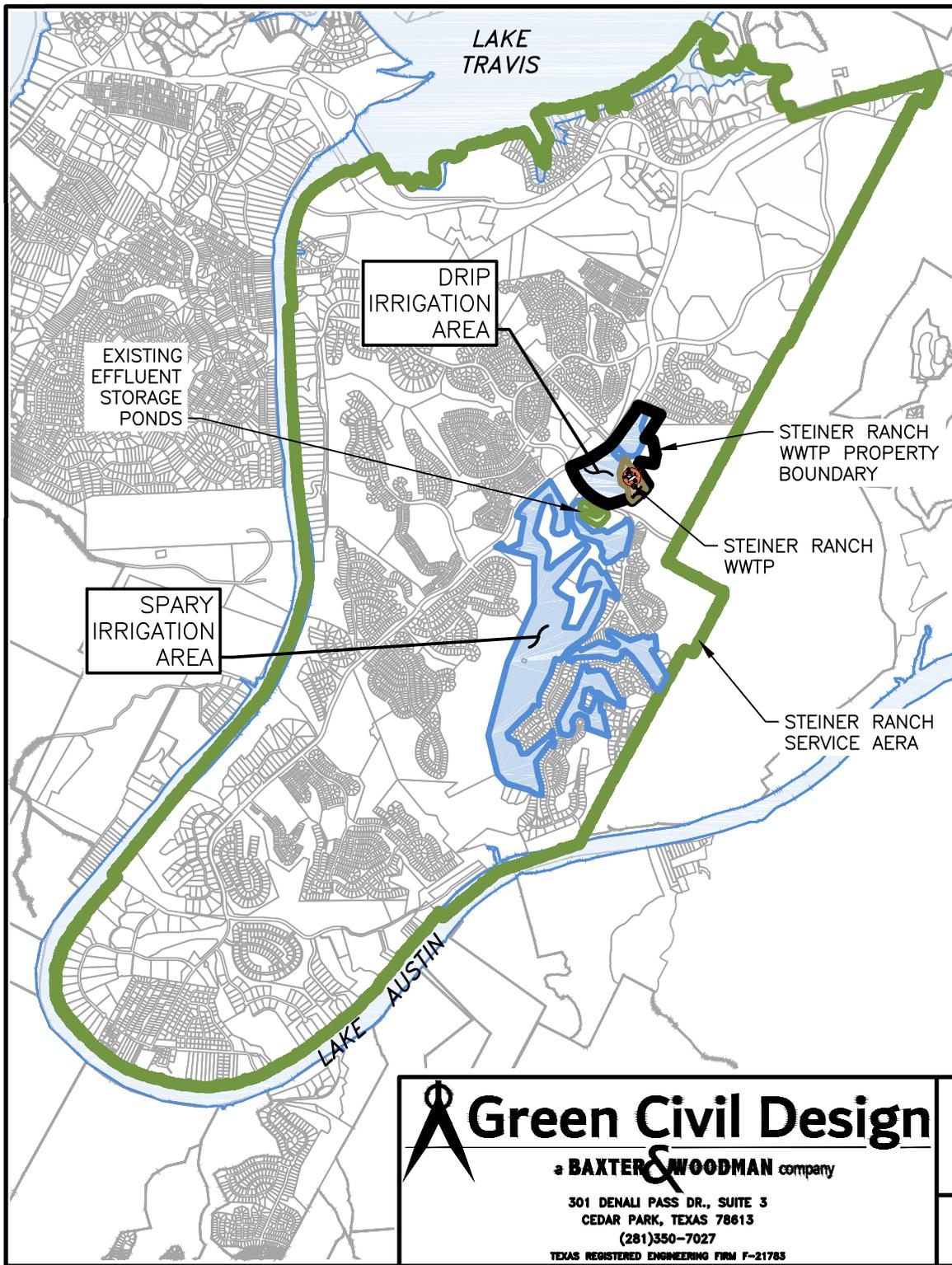
TRAVIS COUNTY WCID NO. 17  
STEINER RANCH WWTP  
WQ0013294001

ATTACHMENT 1  
USGS MAP  
4 OF 4

**TRAVIS COUNTY WCID NO. 17**  
**WQ0013294001**  
**ATTACHMENT M – GROUNDWATER QUALITY REPORT**

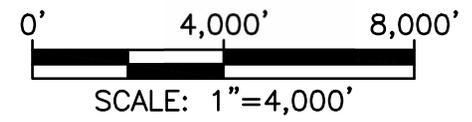
**ATTACHMENT 2 – SITE DRAWING**

FILE: SITE DRAWING.dwg TAB: SITE DRAWING PLOTTED: 1/11/2024 7:24 PM BY: GLENN POPE



### LEGEND

-  WASTEWATER TREATMENT PLANT
-  TREATMENT PLANT BOUNDARY
-  WWTP PROPERTY BOUNDARY
-  EFFLUENT STORAGE PONDS
-  EFFLUENT DISPOSAL SITE BOUNDARY
-  STEINER RANCH SERVICE AREA BOUNDARY



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 a **BAXTER & WOODMAN** company  
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 (281)350-7027  
 TEXAS REGISTERED ENGINEERING FIRM F-21783

TRAVIS COUNTY WCID NO. 17  
 STEINER RANCH WWTP  
 WQ0013294001

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ATTACHMENT 2  
 SITE DRAWING

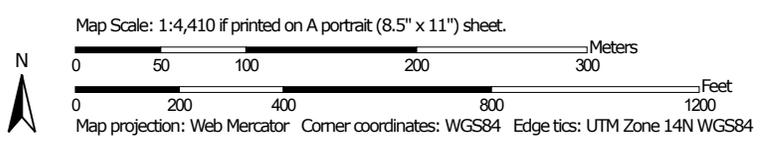
**TRAVIS COUNTY WCID NO. 17**  
**WQ0013294001**  
**ATTACHMENT M – GROUNDWATER QUALITY REPORT**

**ATTACHMENT 3 – WEB SOIL SURVEY**

Soil Map—Travis County, Texas  
(Drip Irrigation)



Soil Map may not be valid at this scale.



## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Travis County, Texas

Survey Area Data: Version 25, Sep 5, 2023

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

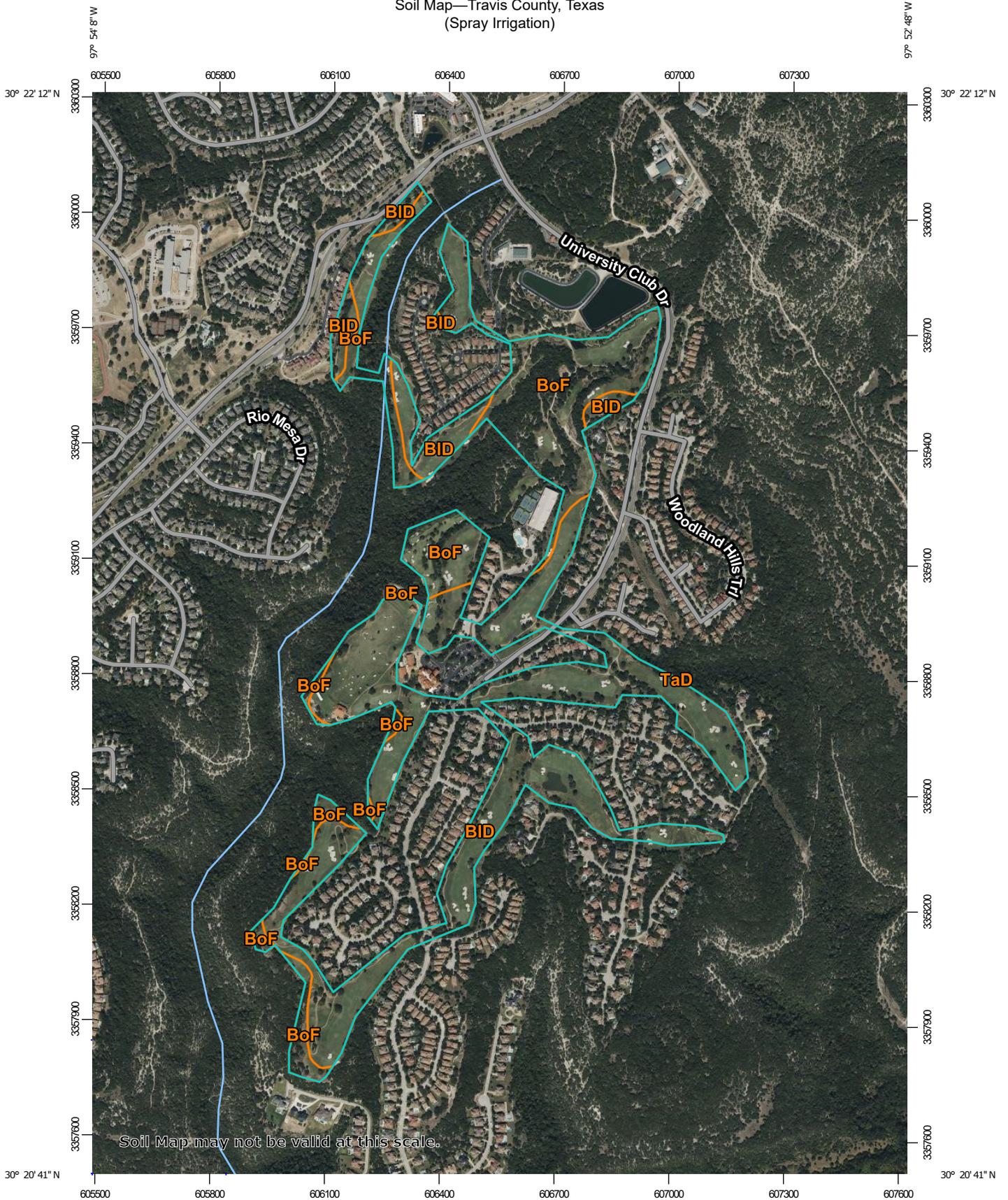
Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

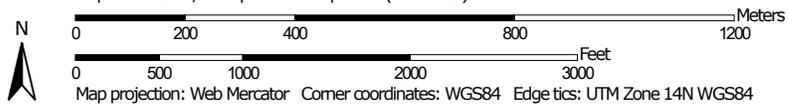
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BID	Brackett-Rock outcrop complex, 1 to 12 percent slopes	3.0	9.0%
BoF	Brackett-Rock outcrop-Real complex, 8 to 30 percent slopes	30.5	91.0%
<b>Totals for Area of Interest</b>		<b>33.5</b>	<b>100.0%</b>

Soil Map—Travis County, Texas  
(Spray Irrigation)



Soil Map may not be valid at this scale.

Map Scale: 1:13,700 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Travis County, Texas

Survey Area Data: Version 25, Sep 5, 2023

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

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BID	Brackett-Rock outcrop complex, 1 to 12 percent slopes	100.4	64.2%
BoF	Brackett-Rock outcrop-Real complex, 8 to 30 percent slopes	55.9	35.7%
TaD	Eckrant very stony clay, 5 to 18 percent slopes	0.0	0.0%
<b>Totals for Area of Interest</b>		<b>156.3</b>	<b>100.0%</b>

**TRAVIS COUNTY WCID NO. 17**  
**WQ0013294001**  
**ATTACHMENT M – GROUNDWATER QUALITY REPORT**

**ATTACHMENT 4 – WELL INFORMATION**

**ATTACHMENT 4 – WELL INFORMATION**

**TABLE 1 – WATER WELL DATA**

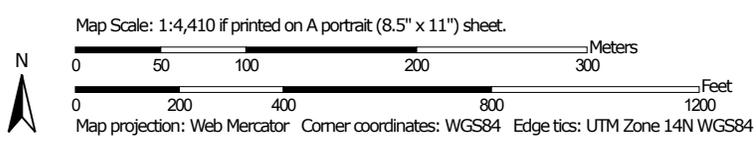
WELL ID	WELL USE	PRODUCING (Y/N)	OPEN, CASED, CAPPED, OR PLUGGED?	PROPOSED BEST MANAGEMENT PRACTICE
522353	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
27342	Closed-Loop Geothermal	Y	Cased	Greater than 150-ft away from irrigation site.
5841304	Spring/Stock	Y	Open	Greater than 150-ft away from irrigation site.
17147	Irrigation	Y	Cased	Greater than 150-ft away from irrigation site.
66325	Injection	Y	Unknown	Greater than 150-ft away from irrigation site.
16724	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
5841312	Spring/Unused	N	Unknown	Greater than 150-ft away from irrigation site.
5841305	Spring/Stock	Y	Open	Greater than 150-ft away from irrigation site.
290014	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
5841311	Recreational	Y	Unknown	Greater than 150-ft away from irrigation site.
523364	Irrigation	Y	Cased	Greater than 150-ft away from irrigation site.
431962	Irrigation	Y	Cased	Greater than 150-ft away from irrigation site.
456942	Irrigation	Y	Cased	Greater than 150-ft away from irrigation site.
5841306	Spring/Unused	N	Buried under Lake Austin	Greater than 150-ft away from irrigation site.
5841303	Domestic	Y	Capped	Greater than 150-ft away from irrigation site.
5841308	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
5841302	Domestic	Y	Capped	Greater than 150-ft away from irrigation site.
5841301	Domestic	Y	Capped	Greater than 150-ft away from irrigation site.
542028	Irrigation	Y	Cased	Greater than 150-ft away from irrigation site.
255674	Closed-Loop Geothermal	N	Plugged	Greater than 150-ft away from irrigation site.
564879	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
5841310	Public Water Supply	Y	Cased	Greater than 500-ft away from irrigation site.
5841309	Public Water Supply	Y	Cased	Greater than 500-ft away from irrigation site.
523360	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
212362	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
94203	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
141903	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
346864	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
346868	Closed-Loop Geothermal	Y	Cased	Greater than 150-ft away from irrigation site.
5841307	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
5842104	Domestic	Y	Capped	Greater than 150-ft away from irrigation site.
5842103	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
391213	Irrigation	Y	Cased	Greater than 150-ft away from irrigation site.
248502	Closed-Loop Geothermal	N	Plugged	Greater than 150-ft away from irrigation site.
373313	Irrigation	Y	Cased	Greater than 150-ft away from irrigation site.
436059	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
131752	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
373319	Irrigation	Y	Cased	Greater than 150-ft away from irrigation site.
525415	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.
523785	Domestic	Y	Cased	Greater than 150-ft away from irrigation site.

**ATTACHMENT N**  
**WEB SOIL SURVEY**

Soil Map—Travis County, Texas  
(Drip Irrigation)



Soil Map may not be valid at this scale.



## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Travis County, Texas

Survey Area Data: Version 25, Sep 5, 2023

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

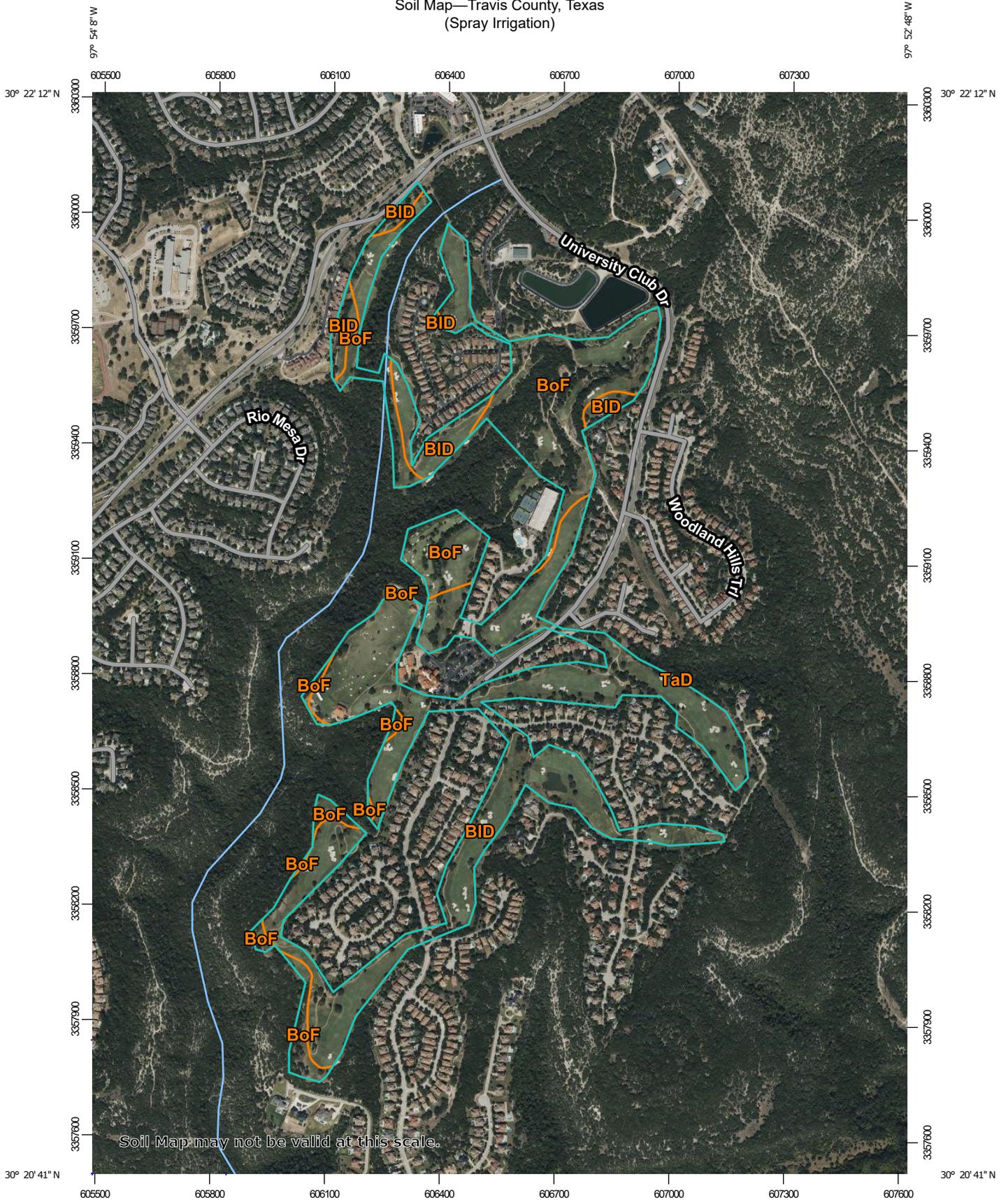
Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

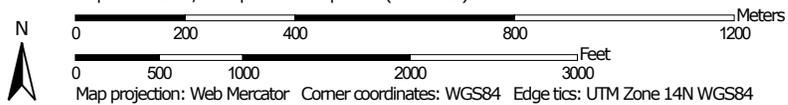
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BID	Brackett-Rock outcrop complex, 1 to 12 percent slopes	3.0	9.0%
BoF	Brackett-Rock outcrop-Real complex, 8 to 30 percent slopes	30.5	91.0%
<b>Totals for Area of Interest</b>		<b>33.5</b>	<b>100.0%</b>

Soil Map—Travis County, Texas  
(Spray Irrigation)



Soil Map may not be valid at this scale.

Map Scale: 1:13,700 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Travis County, Texas

Survey Area Data: Version 25, Sep 5, 2023

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

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BID	Brackett-Rock outcrop complex, 1 to 12 percent slopes	100.4	64.2%
BoF	Brackett-Rock outcrop-Real complex, 8 to 30 percent slopes	55.9	35.7%
TaD	Eckrant very stony clay, 5 to 18 percent slopes	0.0	0.0%
<b>Totals for Area of Interest</b>		<b>156.3</b>	<b>100.0%</b>

**ATTACHMENT O**  
**SOIL ANALYSIS**

Email information for report date:  
4/29/24 16:57  
H001054

## Travis County WCID 17

Attn: Matt Gonzalez  
adufek@wcid17.org

3812 ECK LANE  
AUSTIN, TX 78734

**Please contact us for your sampling needs or if you have any questions. Some convenient contacts are listed below. You can also access your results and reports through our ClientConnect™ portal on our website (www.aqua-techlabs.com).**

For sampling questions:

samplingbryan@aqua-techlabs.com (Bryan area)  
samplingaustin@aqua-techlabs.com (Austin area)

reporting@aqua-techlabs.com (report questions)

Aqua-Tech values you as a customer and encourages you to speak with our staff at 979-778-3707 or the above emails if you have questions.

Thank you for your business,  
June M. Brien  
Executive Technical Director

**BRYAN FACILITY**  
635 Phil Gramm Boulevard  
Bryan, TX 77807  
Phone: (979) 778-3707  
Fax: (979) 778-3193



**AUSTIN FACILITY**  
3512 Montopolis Dr. Suite A  
Austin, TX 78744  
Phone: (512) 301-9559  
Fax: (512) 301-9552

The analyses summarized in this report were performed by Aqua-Tech Laboratories, Inc. unless otherwise noted. Aqua-Tech Laboratories, Inc. holds accreditation from the State of Texas in accordance with TNI and/or through the TCEQ Drinking Water Commercial Laboratory Approval Program.

#### The following abbreviations indicate certification status:

NEL	TNI accredited parameter.
ANR	Accreditation not offered by the State of Texas.
DWP	Approval through the TCEQ Drinking Water Commercial Laboratory Approval Program.
INF	Aqua-Tech Laboratories, Inc. is not accredited for this parameter. It is reported on an informational basis only.

Certificate: T104704371-23-27



TCEQ Lab ID T104704371

Subcontracted data summarized in this report is indicated by "Sub" in the Lab column.

#### General Definitions:

NR	Not Reported.
RPD	Relative Percent Difference.
% R	Percent Recovery.
dry	Results with the "dry" unit designation are reported on a "dry weight" basis.
SQL	The Sample Quantitation Limit is the value below which the parameter cannot reliably be detected. The SQL includes all sample preparations, dilutions and / or concentrations.
Adj MDL	The Adjusted Method Detection Limit is the MDL value adjusted for any sample dilutions or concentrations .
MDL	The Method Detection Limit is the lowest theoretical value that is statistically different from zero for a specific method, taking into account all preparation steps and instrument settings.

All samples are reported on an "as received" basis unless the designation "dry" is added to the reported unit.

Copies of Aqua-Tech Laboratories, Inc. procedures and individual sampling plans are available upon request. Note that samples are collected by Aqua-Tech Laboratories, Inc. personnel unless otherwise noted in the "Sample Collected" field of this report as "Client" or "CLT".

Samples included in this report were received in acceptable condition according to Aqua-Tech Laboratories, Inc. procedures and 40 CFR, Chapter I, Subchapter D, Part 136.3, TABLE II. - *Required containers, preservation techniques, and holding times*, unless otherwise noted in this report.

#### Record Retention:

All reports, raw data, and associated quality control data are kept on file for 10 years before being destroyed. Any client that would like copies of records must contact Aqua-Tech Laboratories, Inc. no later than six months prior to the scheduled disposal. An administrative fee for retrieval and distribution will apply.

This report was approved by:

June M. Brien, Technical Director

The results in this report apply only to the samples analyzed. This analytical report must be reproduced in its entirety unless written permission is granted by Aqua-Tech Laboratories, Inc.

corp@aqua-techlabs.com

www.aqua-techlabs.com

**BRYAN FACILITY**  
 635 Phil Gramm Boulevard  
 Bryan, TX 77807  
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**Analytical Report**

**Travis County WCID 17**

**Report Printed: 4/29/24 16:57**  
**H001054**

**See attached subcontract report for additional analysis and fertilizer recommendations**

<b>Steiner Ranch WWTP Soil 0-6 Inches</b>		Collected: 02/20/24 12:00 by CLIENT Received: 02/21/24 13:35 by Bryce Jones					Type Comp	Matrix Solid	C-O-C # H001054		
Lab ID#	H001054-01	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch
<b>General Chemistry</b>											
% Solids		<b>83.7</b>	g/100g (%)		0.10	0.10	0.10	Austin	02/24/24 09:12 SR	SM2540 G 2015	M173817 <span style="color:blue">NEL</span>
Total Kjeldahl Nitrogen as N		<b>1640</b>	mg/kg dry		0.13	37.9	58.3	Bryan	03/05/24 16:27 KMA	SM4500-NH3 G 2011	M174210 <span style="color:red">ANR</span>
<b>Plant Available Parameters</b>											
Total Nitrogen		<b>1640</b>	mg/kg dry wt.			N/A	N/A	Calc	04/29/24 16:40 PMY	Calculation	M176680 <span style="color:red">ANR</span>
Please see the attached subcontract report for subcontracted data.											

<b>Steiner Ranch WWTP Soil 6-18</b>		Collected: 02/20/24 12:00 by CLIENT Received: 02/21/24 13:35 by Bryce Jones					Type Comp	Matrix Solid	C-O-C # H001054		
Lab ID#	H001054-02	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch
<b>General Chemistry</b>											
% Solids		<b>86.6</b>	g/100g (%)		0.10	0.10	0.10	Austin	02/24/24 09:12 SR	SM2540 G 2015	M173817 <span style="color:blue">NEL</span>
Total Kjeldahl Nitrogen as N		<b>1060</b>	mg/kg dry		0.13	31.8	48.9	Bryan	03/05/24 16:27 KMA	SM4500-NH3 G 2011	M174210 <span style="color:red">ANR</span>
<b>Plant Available Parameters</b>											
Total Nitrogen		<b>1060</b>	mg/kg dry wt.			N/A	N/A	Calc	04/29/24 16:40 PMY	Calculation	M176680 <span style="color:red">ANR</span>
Please see the attached subcontract report for subcontracted data.											

<b>Steiner Ranch WWTP Soil 18-30</b>		Collected: 02/20/24 12:00 by CLIENT Received: 02/21/24 13:35 by Bryce Jones					Type Comp	Matrix Solid	C-O-C # H001054		
Lab ID#	H001054-03	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch
<b>General Chemistry</b>											
% Solids		<b>91.2</b>	g/100g (%)		0.10	0.10	0.10	Austin	02/24/24 09:12 SR	SM2540 G 2015	M173817 <span style="color:blue">NEL</span>
Total Kjeldahl Nitrogen as N		<b>829</b>	mg/kg dry		0.13	34.2	52.5	Bryan	03/05/24 16:27 KMA	SM4500-NH3 G 2011	M174210 <span style="color:red">ANR</span>
<b>Plant Available Parameters</b>											
Total Nitrogen		<b>834</b>	mg/kg dry wt.			N/A	N/A	Calc	04/29/24 16:40 PMY	Calculation	M176680 <span style="color:red">ANR</span>
Please see the attached subcontract report for subcontracted data.											

**BRYAN FACILITY**  
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**Analytical Report**

**Travis County WCID 17**

**Report Printed: 4/29/24 16:57**  
**H001054**

**General Chemistry - Quality Control**

Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
<b>% Solids - SM2540 G 2015</b>												<i>Austin</i>
Blank	<0.10	g/100g (%)	0.10	0.10	02/24/24 09:12 SR							M173817
Duplicate	12.3	g/100g (%)	0.10	0.10	02/24/24 09:12 SR		12.7			3.21	10	M173817
Duplicate	12.3	%	0.100	0.100	02/24/24 09:12 SR		12.7			3.21	10	M173817

**Total Kjeldahl Nitrogen as N - SM4500-NH3 G 2011**

Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
<b>Total Kjeldahl Nitrogen as N - SM4500-NH3 G 2011</b>												<i>Bryan</i>
Initial Cal Check	4.78	mg/L			03/05/24 16:27 KMA	4.56		105	90 - 110			2403036
Low Cal Check	0.22	mg/L			03/05/24 16:27 KMA	0.200		108	70 - 130			2403036
Blank	<0.20	mg/kg wet	0.13	0.20	03/05/24 16:27 KMA							M174210
LCS	4.08	mg/kg wet	0.13	0.20	03/05/24 16:27 KMA	4.00		102	91 - 116			M174210
LCS Dup	4.16	mg/kg wet	0.13	0.20	03/05/24 16:27 KMA	4.00		104	91 - 116	1.89	10	M174210
Matrix Spike	2300	mg/kg dry	64.6	99.3	03/05/24 16:27 KMA	1990	411	95.2	88.2 - 119			M174210
Matrix Spike Dup	2310	mg/kg dry	64.6	99.3	03/05/24 16:27 KMA	1990	411	95.6	88.2 - 119	0.498	20	M174210
Reference	1140	mg/kg wet	31.5	48.5	03/05/24 16:27 KMA	1160		98.1	80 - 120			M174210

**Sample Preparation Summary**

Sample	Method	Prepared	Lab	Bottle	Initial	Units	Final	Units	External Dilution Factor	Batch
<b>H001054-01</b>										
% Solids	SM2540 G 2015	2/24/24 9:12 SR	Austin	B	10.0	g	10.0	mL	1	M173817
Subcontract	Sub Contract Data Entry	4/29/24 15:57 PMY	Bryan	-	-	-	-	-	-	M176678
Total Kjeldahl Nitrogen as N	SM4500-NH3 G 2011	3/5/24 9:20 KMA	Bryan	B	0.102	g	25.0	mL	1	M174210
Total Nitrogen	Calculation	4/29/24 16:40 PMY			1.00	g	1.00	mL	1	M176680
<b>H001054-02</b>										
% Solids	SM2540 G 2015	2/24/24 9:12 SR	Austin	B	10.0	g	10.0	mL	1	M173817
Subcontract	Sub Contract Data Entry	4/29/24 15:57 PMY	Bryan	-	-	-	-	-	-	M176678
Total Kjeldahl Nitrogen as N	SM4500-NH3 G 2011	3/5/24 9:20 KMA	Bryan	B	0.118	g	25.0	mL	1	M174210
Total Nitrogen	Calculation	4/29/24 16:40 PMY			1.00	g	1.00	mL	1	M176680
<b>H001054-03</b>										
% Solids	SM2540 G 2015	2/24/24 9:12 SR	Austin	B	10.0	g	10.0	mL	1	M173817
Subcontract	Sub Contract Data Entry	4/29/24 15:57 PMY	Bryan	-	-	-	-	-	-	M176678
Total Kjeldahl Nitrogen as N	SM4500-NH3 G 2011	3/5/24 9:20 KMA	Bryan	B	0.104	g	25.0	mL	1	M174210
Total Nitrogen	Calculation	4/29/24 16:40 PMY			1.00	g	1.00	mL	1	M176680



# Chain-of-Custody and Analysis Request



## Aqua-Tech laboratories, Inc.

C-O-C #

Austin

Bryan

**H001054**3512 Montopolis Dr.  
Austin, TX 78744  
512.301.9559635 Phil Gramm Blvd.  
Bryan, TX 77807  
979.778.3707

Page 1 of 2

**Client / Project Name:** Travis County WCID 17  
Steiner Ranch WWTP Soil**Contact Information**  
Name Matt Gonzalez  
Address 3812 ECK LANE  
City AUSTIN  
State TX Zip 78734  
Phone (512) 266-1111  
email**Definitions**  
DW Drinking Water Reagent tracking is available upon request.  
NP Non-Potable Water  
S Solid  
CM Custody Maintained  
CTU Custody Transfer Unbroken  
CT Corrected TemperatureTCEQ LAB ID:  
T104704371

Test results meet all accreditation/certification requirements unless stated otherwise.

rte\_ATL COC  
012723.rpt**Sample Custody**

Relinquished (print & sign) <i>GREG ADAMS</i>	<input checked="" type="checkbox"/> Sampler <input checked="" type="checkbox"/> Client <input type="checkbox"/> ATL Field	Date <u>02-20-24</u> Time <u>13:00</u>	<input type="checkbox"/> Iced / Refrigerated <input type="checkbox"/> Custody Sealed
Received (print & sign) <i>Bryce Jones</i>	<input type="checkbox"/> Client <input checked="" type="checkbox"/> ATL Field	Date <u>2/21/24</u> Time <u>1120</u>	<input checked="" type="checkbox"/> Iced / Refrigerated <input type="checkbox"/> CM / CTU
Relinquished (print & sign) <i>WIFE</i>	<input type="checkbox"/> Client <input type="checkbox"/> ATL Field	Date Time	<input type="checkbox"/> Iced / Refrigerated <input type="checkbox"/> CM / CTU
Received (print & sign) <i>BJV</i>	<input type="checkbox"/> Client <input type="checkbox"/> ATL Field	Date Time	<input type="checkbox"/> Iced / Refrigerated <input type="checkbox"/> CM / CTU
Relinquished (print & sign) <i>Bryce Jones</i>	<input type="checkbox"/> Client <input checked="" type="checkbox"/> ATL Field	Date <u>02/21/24</u> Time <u>13:35</u>	<input checked="" type="checkbox"/> Iced / Refrigerated <input checked="" type="checkbox"/> CM / CTU / Sealed
Received (print & sign) <i>Bryce Jones</i>	<input checked="" type="checkbox"/> Client <input checked="" type="checkbox"/> Lab	Date <u>02/21/24</u> Time <u>13:35</u>	<input checked="" type="checkbox"/> Cond Good <input checked="" type="checkbox"/> Iced / Refrigerated <input checked="" type="checkbox"/> CM / CTU

Analyses Requested: "A" prefix indicates Austin, all others Bryan or Subcontracted, indicated by [SUB]. Name format: Analysis-Matrix-Technology-Method.

[NEL] = NELAP accredited parameter

[CNR] = No NELAP accreditation required or available

[SUB] = NELAP accredited subcontracted parameter

[INF] = Informational only (not NELAP certified)

By relinquishing the samples listed below to Aqua-Tech laboratories, Inc. (ATL), the client agrees to the following terms. Samples will be analyzed by a method that is within ATL's NELAP fields of accreditation (FoA). Analytes requiring an accredited method that is not within ATL's FoA will be subcontracted to a NELAP lab that is accredited for that method. Clients will be notified of the subcontract lab's details. Other analytes not requiring accreditation will be analyzed by a compendial method. If a specific method is required, the client will note the method in the "Analysis Requested" column. The client approves all method modifications documented by ATL or the subcontract lab.

A current list of ATL's NELAP fields of accreditation and other methods are available on request.

**Comments:****- LAB RECEIPT -** AQU1

Temperature - CT (C): 3.6

Preservation Correct: Yes

Post-Preservatives: N/A

Thermometer ID: 0811654

pH Paper ID: 0812800

ko\_A COC MULTI 043020.rpt

Field Sample ID	Date	Start Time	Date	End Time	Composite Type	Sample Matrix	Container (Checked box indicates bottle arrived in lab) (Volume - Type - Preservative)	Lab ID
Steiner Ranch WWTP Soil 0-6 Inches	02-15-24	09:00	02-20-24	12:00	Comp	S	<input checked="" type="checkbox"/> A SOIL 1LP <input checked="" type="checkbox"/> B SOIL 1LP	H001054-01
A TS SL Grav SM2540 G [NEL] Ca TAMU Water Soluble SP MEQ [SUB] [ANR] Mg TAMU Plant Available Mehlich 3 CNR [SUB] [ANR] N Total SL PKG TAMU [CNR] Na TAMU Water Soluble Saturated Paste CNR [SUB] [ANR] P TAMU Plant Available Mehlich 3 CNR [SUB] SUB pH SL TAMU (1:2) CNR [SUB] Y Billing Ship to Sub-Contract Lab	Ca TAMU Plant Available Mehlich 3 CNR [SUB] [ANR] Cond SL (SP) Probe TAMU CNR [SUB] Mg TAMU Water Soluble Saturated Paste CNR [SUB] [ANR] N Total TAMU CALC ENTRY [CNR] Na TAMU Water Soluble SP MEQ [SUB] [ANR] SAR TAMU Plant Available CNR [SUB] TKN SL AUTO SM4500 NH3 G [CNR]		Ca TAMU Water Soluble Saturated Paste CNR [SUB] [ANR] K TAMU Plant Available Mehlich 3 CNR [SUB] Mg TAMU Water Soluble SP MEQ [SUB] [ANR] Na TAMU Plant Available Mehlich 3 CNR [SUB] [ANR] NO3N TAMU Extractable Mehlich 3 CNR [SUB] Solids, Dry Weight Y Billing N Total Calc					
Steiner Ranch WWTP Soil 6-18	02-15-24	09:00	02-20-24	12:00	Comp	S	<input checked="" type="checkbox"/> A SOIL 1LP <input checked="" type="checkbox"/> B SOIL 1LP	H001054-02
A TS SL Grav SM2540 G [NEL] Ca TAMU Water Soluble SP MEQ [SUB] [ANR] Mg TAMU Plant Available Mehlich 3 CNR [SUB] [ANR] N Total SL PKG TAMU [CNR] Na TAMU Water Soluble Saturated Paste CNR [SUB] [ANR] P TAMU Plant Available Mehlich 3 CNR [SUB] SUB pH SL TAMU (1:2) CNR [SUB]	Ca TAMU Plant Available Mehlich 3 CNR [SUB] [ANR] Cond SL (SP) Probe TAMU CNR [SUB] Mg TAMU Water Soluble Saturated Paste CNR [SUB] [ANR] N Total TAMU CALC ENTRY [CNR] Na TAMU Water Soluble SP MEQ [SUB] [ANR] SAR TAMU Plant Available CNR [SUB] TKN SL AUTO SM4500 NH3 G [CNR]		Ca TAMU Water Soluble Saturated Paste CNR [SUB] [ANR] K TAMU Plant Available Mehlich 3 CNR [SUB] Mg TAMU Water Soluble SP MEQ [SUB] [ANR] Na TAMU Plant Available Mehlich 3 CNR [SUB] [ANR] NO3N TAMU Extractable Mehlich 3 CNR [SUB] Solids, Dry Weight Y Billing N Total Calc					

Client : Travis County WCID 17

Field Sample ID	Start Date	Start Time	End Date	End Time	Composite Type	Sample Matrix	Container (Checked box indicates bottle arrived in lab) (Volume - Type - Preservative)	Lab ID
Steiner Ranch WWTP Soil 18-30	02-15-24	09:00	02-20-24	12:00	Comp	S	<input checked="" type="checkbox"/> A SOIL 1LP <input checked="" type="checkbox"/> B SOIL 1LP	H001054-03
A TS SL Grav SM2540 G [NEL]      Ca TAMU Plant Available Mehlich 3 CNR [SUB] [ANR]      Ca TAMU Water Soluble Saturated Paste CNR [SUB] [ANR] Ca TAMU Water Soluble SP MEQ [SUB] [ANR]      Cond SL (SP) Probe TAMU CNR [SUB]      K TAMU Plant Available Mehlich 3 CNR [SUB] Mg TAMU Plant Available Mehlich 3 CNR [SUB] [ANR]      Mg TAMU Water Soluble Saturated Paste CNR [SUB]      Mg TAMU Water Soluble SP MEQ [SUB] [ANR] N Total SL PKG TAMU [CNR]      N Total TAMU CALC ENTRY [CNR]      Na TAMU Plant Available Mehlich 3 CNR [SUB] [ANR] Na TAMU Water Soluble Saturated Paste CNR [SUB]      Na TAMU Water Soluble SP MEQ [SUB] [ANR]      NO3N TAMU Extractable Mehlich 3 CNR [SUB] P TAMU Plant Available Mehlich 3 CNR [SUB]      SAR TAMU Plant Available CNR [SUB]      Solids, Dry Weight SUB pH SL TAMU (1:2) CNR [SUB]      TKN SL AUTO SM4500 NH3 G [CNR]      Y Billing N Total Calc								



# Soil Analysis Report

Soil, Water and Forage Testing Laboratory  
 Department of Soil and Crop Sciences  
 2478 TAMU  
 College Station, TX 77843-2478  
 (979)321-5960

Report generated for:  
 Aqua-Tech Laboratories, Inc.  
 635 Phil Gramm Blvd  
 BRYAN, TX 77807

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 2/27/2024  
 Printed on: 3/6/2024  
 Area Represented: 28.7 acres

Travis County  
 Laboratory Number: 652459  
 Customer Sample ID: H001054-01A

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.		
pH	8.1	(5.8)	-	Mod. Alkaline								
Conductivity	122	(-)	umho/cm	None							CL*	<b>Fertilizer Recommended</b>
Nitrate-N	5	(-)	ppm**								<b>50 lbs N/acre</b>	
Phosphorus	9	(50)	ppm								<b>55 lbs P2O5/acre</b>	
Potassium	259	(125)	ppm								<b>0 lbs K2O/acre</b>	
Calcium	12,459	(180)	ppm								<b>0 lbs Ca/acre</b>	
Magnesium	449	(50)	ppm								<b>0 lbs Mg/acre</b>	
Sulfur	85	(13)	ppm								<b>0 lbs S/acre</b>	
Sodium	82	(-)	ppm									
Iron												
Zinc												
Manganese												
Copper												
Boron												
Limestone Requirement											<b>0.00 tons 100ECCE/acre</b>	
<b>Detailed Salinity Test (Saturated Paste Extract)</b>												
	pH										<b>7.0</b>	
	Conductivity										<b>0.64 mmhos/cm</b>	
	Sodium										<b>61 ppm</b> <b>2.657 meq/L</b>	
	Potassium										<b>11 ppm</b> <b>0.283 meq/L</b>	
	Calcium										<b>53 ppm</b> <b>2.637 meq/L</b>	
	Magnesium										<b>7 ppm</b> <b>0.584 meq/L</b>	
	SAR										<b>2.09</b>	
	SSP										<b>43.13</b>	

\*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 70 lbs/A of nitrogen for each subsequent heavy graze down.

Online fertilizer calculators to determine appropriate fertilizers and application rates.  
<http://soiltesting.tamu.edu>



# Soil Analysis Report

Soil, Water and Forage Testing Laboratory  
 Department of Soil and Crop Sciences  
 2478 TAMU  
 College Station, TX 77843-2478  
 (979)321-5960

Report generated for:  
 Aqua-Tech Laboratories, Inc.  
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Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 2/27/2024

Printed on: 3/6/2024

Area Represented: 28.7 acres

Travis County

Laboratory Number: 652459

Customer Sample ID: H001054-01A

Crop Grown: TURF FAIRWAYS , ATHLETIC FIELDS , ETC.

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.		
pH	8.1	(6.2)	-	Mod. Alkaline								
Conductivity	122	(-)	umho/cm	None							CL*	<b>Fertilizer Recommended</b>
Nitrate-N	5	(-)	ppm**									<b>50 lbs N/acre</b>
Phosphorus	9	(50)	ppm									<b>45 lbs P2O5/acre</b>
Potassium	259	(160)	ppm									<b>0 lbs K2O/acre</b>
Calcium	12,459	(180)	ppm									<b>0 lbs Ca/acre</b>
Magnesium	449	(50)	ppm									<b>0 lbs Mg/acre</b>
Sulfur	85	(13)	ppm									<b>0 lbs S/acre</b>
Sodium	82	(-)	ppm									
Iron												
Zinc												
Manganese												
Copper												
Boron												
Limestone Requirement												<b>0.00 tons 100ECCE/acre</b>
<b>Detailed Salinity Test (Saturated Paste Extract)</b>												
	pH	7.0										
	Conductivity	0.64 mmhos/cm										
	Sodium	61 ppm	2.657 meq/L									
	Potassium	11 ppm	0.283 meq/L									
	Calcium	53 ppm	2.637 meq/L									
	Magnesium	7 ppm	0.584 meq/L									
	SAR	2.09										
	SSP	43.13										

\*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. \*\*ppm=mg/kg

**Nitrogen:** Apply suggested nitrogen rate and then apply 40 lbs/A of nitrogen every 4 to 6 weeks as needed.

Online fertilizer calculators to determine appropriate fertilizers and application rates.

<http://soiltesting.tamu.edu>



# Soil Analysis Report

Soil, Water and Forage Testing Laboratory  
 Department of Soil and Crop Sciences  
 2478 TAMU  
 College Station, TX 77843-2478  
 (979)321-5960

Report generated for:  
 Aqua-Tech Laboratories, Inc.  
 635 Phil Gramm Blvd  
 BRYAN, TX 77807

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 2/27/2024  
 Printed on: 3/6/2024  
 Area Represented: 28.7 acres

Travis County  
 Laboratory Number: 652461  
 Customer Sample ID: H001054-02A

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.		
pH	8.2	(5.8)	-	Mod. Alkaline								
Conductivity	58	(-)	umho/cm	None							CL*	<b>Fertilizer Recommended</b>
Nitrate-N	4	(-)	ppm**									<b>50 lbs N/acre</b>
Phosphorus	0	(50)	ppm									<b>65 lbs P2O5/acre</b>
Potassium	142	(125)	ppm									<b>0 lbs K2O/acre</b>
Calcium	26,349	(180)	ppm									<b>0 lbs Ca/acre</b>
Magnesium	372	(50)	ppm									<b>0 lbs Mg/acre</b>
Sulfur	184	(13)	ppm									<b>0 lbs S/acre</b>
Sodium	47	(-)	ppm									
Iron												
Zinc												
Manganese												
Copper												
Boron												
Limestone Requirement												<b>0.00 tons 100ECCE/acre</b>
<b>Detailed Salinity Test (Saturated Paste Extract)</b>												
	pH			7.1								
	Conductivity			0.56 mmhos/cm								
	Sodium			46 ppm				1.990 meq/L				
	Potassium			10 ppm				0.256 meq/L				
	Calcium			49 ppm				2.463 meq/L				
	Magnesium			7 ppm				0.552 meq/L				
	SAR			1.62								
	SSP			37.82								

\*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 70 lbs/A of nitrogen for each subsequent heavy graze down.

Online fertilizer calculators to determine appropriate fertilizers and application rates.  
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Report generated for:  
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Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 2/27/2024

Printed on: 3/6/2024

Area Represented: 28.7 acres

Travis County

Laboratory Number: 652461

Customer Sample ID: H001054-02A

Crop Grown: TURF FAIRWAYS , ATHLETIC FIELDS , ETC.

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.		
pH	8.2	(6.2)	-	Mod. Alkaline								
Conductivity	58	(-)	umho/cm	None							CL*	<b>Fertilizer Recommended</b>
Nitrate-N	4	(-)	ppm**									<b>50 lbs N/acre</b>
Phosphorus	0	(50)	ppm									<b>55 lbs P2O5/acre</b>
Potassium	142	(160)	ppm									<b>15 lbs K2O/acre</b>
Calcium	26,349	(180)	ppm									<b>0 lbs Ca/acre</b>
Magnesium	372	(50)	ppm									<b>0 lbs Mg/acre</b>
Sulfur	184	(13)	ppm									<b>0 lbs S/acre</b>
Sodium	47	(-)	ppm									
Iron												
Zinc												
Manganese												
Copper												
Boron												
Limestone Requirement												<b>0.00 tons 100ECCE/acre</b>
<b>Detailed Salinity Test (Saturated Paste Extract)</b>												
	pH			7.1								
	Conductivity			0.56 mmhos/cm								
	Sodium			46 ppm 1.990 meq/L								
	Potassium			10 ppm 0.256 meq/L								
	Calcium			49 ppm 2.463 meq/L								
	Magnesium			7 ppm 0.552 meq/L								
	SAR			1.62								
	SSP			37.82								

\*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. \*\*ppm=mg/kg

**Nitrogen:** Apply suggested nitrogen rate and then apply 40 lbs/A of nitrogen every 4 to 6 weeks as needed.

Online fertilizer calculators to determine appropriate fertilizers and application rates.

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 635 Phil Gramm Blvd  
 BRYAN, TX 77807

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 2/27/2024  
 Printed on: 3/6/2024  
 Area Represented: 28.7 acres

Travis County  
 Laboratory Number: 652462  
 Customer Sample ID: H001054-03A

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS, GRAZING

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.		
pH	8.4	(5.8)	-	Mod. Alkaline								
Conductivity	54	(-)	umho/cm	None							CL*	<b>Fertilizer Recommended</b>
Nitrate-N	5	(-)	ppm**								<b>45 lbs N/acre</b>	
Phosphorus	0	(50)	ppm								<b>65 lbs P2O5/acre</b>	
Potassium	91	(125)	ppm								<b>30 lbs K2O/acre</b>	
Calcium	30,458	(180)	ppm								<b>0 lbs Ca/acre</b>	
Magnesium	296	(50)	ppm								<b>0 lbs Mg/acre</b>	
Sulfur	202	(13)	ppm								<b>0 lbs S/acre</b>	
Sodium	33	(-)	ppm									
Iron												
Zinc												
Manganese												
Copper												
Boron												
Limestone Requirement											<b>0.00 tons 100ECCE/acre</b>	
<b>Detailed Salinity Test (Saturated Paste Extract)</b>												
	pH										<b>7.0</b>	
	Conductivity										<b>0.55 mmhos/cm</b>	
	Sodium										<b>40 ppm</b> <b>1.726 meq/L</b>	
	Potassium										<b>11 ppm</b> <b>0.283 meq/L</b>	
	Calcium										<b>52 ppm</b> <b>2.615 meq/L</b>	
	Magnesium										<b>6 ppm</b> <b>0.467 meq/L</b>	
	SAR										<b>1.39</b>	
	SSP										<b>33.90</b>	

\*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 70 lbs/A of nitrogen for each subsequent heavy graze down.

Online fertilizer calculators to determine appropriate fertilizers and application rates.  
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Travis County

Laboratory Number: 652462

Customer Sample ID: H001054-03A

Crop Grown: TURF FAIRWAYS , ATHLETIC FIELDS , ETC.

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.		
pH	8.4	(6.2)	-	Mod. Alkaline								
Conductivity	54	(-)	umho/cm	None							CL*	<b>Fertilizer Recommended</b>
Nitrate-N	5	(-)	ppm**								<b>45 lbs N/acre</b>	
Phosphorus	0	(50)	ppm								<b>55 lbs P2O5/acre</b>	
Potassium	91	(160)	ppm								<b>60 lbs K2O/acre</b>	
Calcium	30,458	(180)	ppm								<b>0 lbs Ca/acre</b>	
Magnesium	296	(50)	ppm								<b>0 lbs Mg/acre</b>	
Sulfur	202	(13)	ppm								<b>0 lbs S/acre</b>	
Sodium	33	(-)	ppm									
Iron												
Zinc												
Manganese												
Copper												
Boron												
Limestone Requirement											<b>0.00 tons 100ECCE/acre</b>	
<b>Detailed Salinity Test (Saturated Paste Extract)</b>												
	pH										<b>7.0</b>	
	Conductivity										<b>0.55 mmhos/cm</b>	
	Sodium										<b>40 ppm</b>	
	Potassium										<b>1.726 meq/L</b>	
	Calcium										<b>11 ppm</b>	
	Magnesium										<b>0.283 meq/L</b>	
	SAR										<b>52 ppm</b>	
	SSP										<b>2.615 meq/L</b>	
											<b>6 ppm</b>	
											<b>1.39</b>	
											<b>33.90</b>	

\*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. \*\*ppm=mg/kg

**Nitrogen:** Apply suggested nitrogen rate and then apply 40 lbs/A of nitrogen every 4 to 6 weeks as needed.

Online fertilizer calculators to determine appropriate fertilizers and application rates.

<http://soiltesting.tamu.edu>

All analyses must be performed by a TNI approved method certified by the TCEQ. Contact ATL's sample custodian via voice and email if your methods do not meet this criteria.



**Aqua-Tech laboratories, Inc.**

Austin Bryan  
3512 Montopolis Dr. Suite A 635 Phil Gramm Blvd.  
Austin, TX 78744 Bryan, TX 77807  
512.301.9559 979.778.3707

C-O-C #  
**514 - H0010**

Page 1 of 2

sco\_ATL TAMU  
011921

**SHIPPED TO**  
**TAMU - Soil Lab**  
2610 F&B Road  
College Station, TX 77845  
Phone: (979) 845-4816

**DEFINITIONS**  
P Plastic  
G Glass  
L Liter  
CM Custody Maintained  
CTU Custody Transfer Unbroken  
ATL Aqua-Tech Laboratories, Inc

T104704371  
TX239

Test results meet all accreditation/certification requirements unless stated otherwise.

**Sample Custody**

Relinquished (print & sign) <i>Michelle Barton</i>	<input type="checkbox"/> Sampler <input type="checkbox"/> Client <input checked="" type="checkbox"/> ATL Field	Date <i>2-26-24</i>	<input checked="" type="checkbox"/> Iced / Re <input checked="" type="checkbox"/> Custody Sealed
Received (print & sign)	<input type="checkbox"/> Client <input type="checkbox"/> ATL Field	Date	<input type="checkbox"/> Iced / Re <input type="checkbox"/> CM / CT
Relinquished (print & sign)	<input type="checkbox"/> Client <input type="checkbox"/> ATL Field	Date	<input type="checkbox"/> Iced / Re <input type="checkbox"/> CM / CT
Received (print & sign)	<input type="checkbox"/> Client <input type="checkbox"/> ATL Field	Date	<input type="checkbox"/> Iced / Re <input type="checkbox"/> CM / CT
Relinquished (print & sign)	<input type="checkbox"/> Client <input type="checkbox"/> ATL Field	Date	<input type="checkbox"/> Iced / Re <input type="checkbox"/> CM / CT
Received (print & sign) <i>Jeff Waskow</i>	<input checked="" type="checkbox"/> Lab	Date <i>2/26/24</i>	<input checked="" type="checkbox"/> Cond Gd <input type="checkbox"/> Iced / Re <input type="checkbox"/> CM / CT

Comments:  
  
Please use Sample ID as PO# and email reports to reporting@aquatechlabs.com.

Lines below document condition at receipt in lab (shipped to) listed above.

Cooler ID	Temp Read (C)	Corrected Temp (C)	Thermometer ID	Please hold coolers for pick-up.
<i>AQU 777</i>		<i>NA</i>		

Sample ID Sampled / Matrix	Analysis Request	(ATL indicates cooler number in parentheses for each container - only required if more than one cooler listed above.)	Lab ID
<b>H001054-01</b> 02/20/24 12:00 Soil	<p><b>Calculation - TAMU</b></p> <p>SAR Plant Available</p> <p><b>Mehlich 3 - TAMU</b></p> <p>P Plant Available NO3N Extractable Na Plant Available Mg Plant Available K Plant Available Ca Plant Available</p> <p><b>Saturated Paste - TAMU</b></p> <p>Na Water Soluble MEQ Na Water Soluble Mg Water Soluble MEQ Mg Water Soluble Conductivity (SP) Ca Water Soluble MEQ Ca Water Soluble</p> <p><b>TAMU - 1:2 Soil Extract</b></p> <p>pH</p>	( ) H001054-01 [A] - SOIL 1LP	

Page 12 of 13 H001054\_1 ATL 041724 FIN\_Is 04 29 24 1657

SHIPPED TO: **TAMU - Soil Lab**

Sample ID Sampled / Matrix	Analysis Request	( ATL indicates cooler number in parentheses for each container - only required if more than one cooler listed above. )	Lab ID
<b>H001054-02</b> 02/20/24 12:00 Soil	<div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;"><b>Calculation - TAMU</b></div> SAR Plant Available  <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;"><b>Mehlich 3 - TAMU</b></div> P Plant Available      NO3N Extractable      Na Plant Available Mg Plant Available      K Plant Available      Ca Plant Available  <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;"><b>Saturated Paste - TAMU</b></div> Na Water Soluble MEQ      Na Water Soluble      Mg Water Soluble MEQ Mg Water Soluble      Conductivity (SP)      Ca Water Soluble MEQ Ca Water Soluble  <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;"><b>TAMU - 1:2 Soil Extract</b></div> pH	( ) H001054-02 [A] - SOIL 1LP	
<b>H001054-03</b> 02/20/24 12:00 Soil	<div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;"><b>Calculation - TAMU</b></div> SAR Plant Available  <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;"><b>Mehlich 3 - TAMU</b></div> P Plant Available      NO3N Extractable      Na Plant Available Mg Plant Available      K Plant Available      Ca Plant Available  <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;"><b>Saturated Paste - TAMU</b></div> Na Water Soluble MEQ      Na Water Soluble      Mg Water Soluble MEQ Mg Water Soluble      Conductivity (SP)      Ca Water Soluble MEQ Ca Water Soluble  <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;"><b>TAMU - 1:2 Soil Extract</b></div> pH	( ) H001054-03 [A] - SOIL 1LP	

**ATTACHMENT P**  
**EFFLUENT MONITORING DATA SUMMARY**

TRAVIS COUNTY WCID NO. 17

STEINER RANCH WWTP

WQ0013294001

ATTACHMENT P - EFFLUENT MONITORING DATA SUMMARY

Date	Avg Daily Flow (gpd)	BOD (mg/L)	CBOD (mg/L)	Turbidity (ntu)	E Coli (CFU)	pH	CL2 (mg/L)	Total Acres Irrigated
May-22	1,264,000	2.00	2.00	1.10	7.00	7.28	9.20	173.7
Jun-22	1,203,100	2.00	2.00	1.40	6.00	7.21	10.00	173.7
Jul-22	1,202,500	3.00	3.00	1.50	12.00	8.57	10.00	173.7
Aug-22	1,209,000	2.00	2.00	1.40	1.00	7.32	10.00	173.7
Sep-22	1,197,500	2.00	2.00	1.40	1.00	7.45	10.00	173.7
Oct-22	1,191,700	2.00	2.00	1.30	1.00	7.32	10.00	173.7
Nov-22	1,250,800	3.00	2.00	1.20	2.00	7.35	10.00	173.7
Dec-22	1,286,100	2.00	2.00	1.50	3.00	7.57	10.00	173.7
Jan-23	1,262,800	3.00	2.00	1.50	1.00	7.42	10.00	173.7
Feb-23	1,195,900	3.00	5.00	1.70	1.00	7.18	10.00	173.7
Mar-23	1,157,100	3.00	10.00	1.40	1.00	7.30	10.00	145.0
Apr-23	1,167,700	3.00	4.00	2.60	2.00	7.27	10.00	145.0
May-23	1,209,300	3.00	3.00	1.40	1.00	7.18	10.00	145.0
Jun-23	1,165,800	3.00	3.00	1.80	1.00	7.46	10.00	145.0
Jul-23	1,130,200	2.00	2.00	1.30	1.00	7.34	10.00	145.0
Aug-23	1,138,500	2.00	5.00	2.10	6.00	7.21	9.00	145.0
Sep-23	1,135,600	3.00	2.00	1.30	1.00	7.19	10.00	145.0
Oct-23***	1,142,700	3.00	3.00	1.80	4.00	7.25	10.00	0.0
Nov-23	1,302,400	3.00	3.00	2.70	2.00	7.07	10.00	145.0
Dec-23	1,273,000	4.00	3.00	1.90	1.00	7.07	9.90	173.7
Jan-24	1,298,800	4.00	3.00	5.40	1.00	7.30	10.00	173.7
Feb-24	1,191,600	3.00	4.00	2.00	1.00	7.12	10.00	173.7
Mar-24	1,083,300	3.00	4.00	2.10	1.00	7.02	10.00	173.7
Apr-24***	1,144,500	5.00	6.00	2.00	7.00	7.07	10.00	0.0

\*Data above is based on Monthly Effluent Reports (MER) received by WCID 17.

\*\*Flow is average flow per month listed on the MER

\*\*\*All flows conveyed to City of Austin

**ATTACHMENT Q**  
**COMPOST FACILITY ENGINEERING REPORT**

# TRAVIS COUNTY W.C.&I.D. NO. 17

## STEINER RANCH COMPOST FACILITY ENGINEER'S REPORT

TCEQ PERMIT NO. 13294-001

Owner:  
Travis County W.C.&I.D. No. 17  
3812 Eck Lane  
Austin, Texas 78734



APRIL 2004

PREPARED BY:

RIVER CITY ENGINEERING, LTD.  
3801 S. FIRST STREET  
AUSTIN, TEXAS 78704  
BUS: (512) 442-3008  
FAX (512) 442-6522

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- 3.4 Functional Arrangement
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- 4.3 Compost Controls
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- Figure 2 Design Calculations – Build-Out of Steiner Ranch Defined Area
- Figure 3 Design Calculations – Entire Wastewater Service Area

## Attachments

- Attachment ‘A’ Site Plan – Compost Site
- Attachment ‘B’ Overall of 67.41-Acre Site
- Attachment ‘C’ Process Flow Diagram
- Attachment ‘D’ Building Layout / Windrows

## **1.0 INTRODUCTION**

Travis County Water Control and Improvement District Number 17 (the District) proposes to construct and operate a bio-solids composition project. The purpose of this compost facility is to provide the District with a reliable, environmentally sound and cost effective method of disposing of wastewater sludge. This proposed facility would produce compost, Class A, for use in various unrestricted public access locations, such as right-of-way landscaping, golf courses and parks, as well as given or sold to public. The District proposes to use aerobic windrow composting to achieve this goal.

The compost facility will be located in the Steiner Ranch Subdivision, just to the west and on the same lot as the existing Steiner Ranch Wastewater Treatment Facilities (TCEQ Permit No. 13294-001). Steiner Ranch is located in northwest Travis County, adjacent to Lake Austin, on the south side of RM 620, approximately 1-mile west of the intersection of FM 2222 and RM 620.

This proposed compost facility would be owned and operated by Travis County W.C.&I.D. No. 17. The facility would be located on Lot 1, Block 'A' of Steiner Ranch Phase One Section 10A. This Lot has an area of 67.41-acres and is also the location of several other District facilities, including the Steiner Ranch Wastewater Treatment Facility, the 125,000 gallon per day drip irrigation system, a wastewater lift station, a maintenance facility, a reclaimed water storage tank and two water storage tanks. This lot is owned by the developer of Steiner Ranch Subdivision, Taylor Woodrow Communities / Steiner Ranch, Ltd. The entire 67.41-acre Lot is designated as a water and wastewater easement.

## **2.0 BIO-SOLIDS**

The following section describes the sources and amount of anticipated sludge, as well as the quality requirements for the sludge.

### **2.1 Sources and Anticipated Volume**

Digested, dewatered, bio-solids will be taken from the Steiner Ranch Wastewater Treatment Facilities, and potentially other wastewater treatment facilities owned and operated by Travis County W.C.&I.D. No. 17. The Steiner Ranch Wastewater Treatment Facilities serves the Steiner Ranch Defined Area (SRDA). The District and the subdivision developer, TWC/Steiner Ranch, Ltd., have entered into a Wholesale Wastewater Contract with the City of Austin. The details of this Contract are discussed in the main body of the Permit Renewal and Amendment Application. In regards to this compost facility, the Contract defines the area that can be served by the Steiner Ranch Wastewater Treatment Facilities. The majority of this service area is made up of the SRDA. In addition to the SRDA, there are several other properties immediately adjacent that are included in the service area. It is not certain that these properties will ever definitely be served through this facility. In order for service to be provided they would be required to pay a subsequent user fee, and construct the necessary connecting

facilities. Using 250 gallons per day (gpd) per Living Unit Equivalent (LUE), the anticipated wastewater flows generated from the SRDA, at build-out, will be approximately 1.30 million gallons per day (MGD). If the properties adjacent to the SRDA are served by this facility the anticipated wastewater flows would total approximately 1.50 MGD. The proposed compost facility has been sized to serve the SRDA only. If the properties adjacent to the SRDA are served, or the District delivers sludge from another of their wastewater treatment plants to this facility, the proposed compost facility could potentially need to be expanded.

The calculations used to determine the anticipated amount of sludge that will be delivered to this compost facility are shown as Figures 1 through 3. These figures show the calculations for three different wastewater flow rates: existing flows (0.30 MGD), anticipated flows from build-out of the SRDA (1.30 MGD), and anticipated flows from the SRDA and the adjacent properties (1.50 MGD). These calculations make several assumptions. These include: a sludge reduction of 25% through aerobic digestion, 0.8 pounds of sludge produced per 1.0 pounds of BOD removed, and that the dewatered sludge from the belt press will contain 15% solids. It is anticipated that this system will produce approximately 4.18 cubic yards (CY) of sludge per 1.0 MGD of wastewater treated. The anticipated sludge production, for each phase of wastewater flow, is shown below:

Phase	Wastewater Flow Rate	Dewatered Sludge Production
Existing	0.30 MGD	1.26 CY/Day
SRDA @ Build-Out	1.30 MGD	5.44 CY/Day
SRDA & Adjacent Properties	1.50 MGD	6.27 CY/Day

## 2.2 Quality Requirements

Guidelines in 30 TAC Section 312.43 state requirements for digested, dewatered, sludge. The sludge must meet the following requirements:

Pollutant	30 TAC Section 312 Maximum Limits	Steiner WWTP Sludge Results 6/24/2003
Arsenic	75 mg/kg	4.06 mg/kg
Cadmium	85 mg/kg	3.16 mg/kg
Chromium	3000 mg/kg	10.6 mg/kg
Copper	4300 mg/kg	423 mg/kg
Lead	840 mg/kg	36.4 mg/kg
Mercury	57 mg/kg	<1.00 mg/kg
Molybdenum	75 mg/kg	6.01 mg/kg
Nickel	420 mg/kg	19.6 mg/kg
Selenium	100 mg/kg	2.00 mg/kg
Zinc	7500 mg/kg	616 mg/kg

### **3.0 PROCESS**

The process to be used for disposal of waste solids is aerobic windrow composting. Sludge composting involves the aerobic decomposition of organic solids at elevated temperatures (50-70°C). The end result of composting is a highly stable, humus-like material. Although there are several composting techniques, the basic process is similar. Bulking agents such as wood chips, bark, sawdust, straw, lawn/leaf waste, or even finished compost are added to the sludge to absorb moisture and increase porosity to promote aeration of the windrow. This mixture is stored in windrows, for a period of time sufficient to allow substantial decomposition of organic matter (generally 3 to 4 weeks). The biological activity in the mixture creates temperatures ranging from 55° to 65° Celsius (131° to 149° Fahrenheit). Pathogen destruction depends on time and temperature variables.

Windrow composting involves stacking the mixture to be composted in long windrows. The piles are frequently aerated by mechanical turning and mixing to keep an adequate supply of oxygen available to the microorganisms. This process is shown on the Process Flow Diagram, Attachment 'C'. The final product will meet Class A requirements, per 30 TAC Section 312.

#### **3.1 Pathogen Reduction**

Pathogen reduction to meet Class A requirements will be accomplished through the natural heating generated by composting. Windrows will be turned periodically to assure uniform exposure to heat. Temperature will be measured and recorded daily. The pathogen reduction requirement will be met when the compost mixture has maintained a sufficient temperature (55° Celsius, or greater) for a time of 15 days.

#### **3.2 Vector Attraction Reduction**

Vector attraction reduction to meet Class A requirements will be met through a minimum volatile solids reduction requirement of 38%. This will be accomplished through a combination of aerobic digestion at the wastewater treatment plants, and mechanical dewatering also at the wastewater treatment plants. At the compost site, mixing with dry bulking agent and compost action will further dewater and reduce volatile solids.

#### **3.3 Quantity of Final Compost Expected**

The design calculations for this proposed compost facility are shown in Figures 1 – 3. The expected amount of compost produced, from the SRDA at build-out, is 391 CY per month. This volume assumes a 40% reduction in volume during the composting process.

### **3.4 Functional Arrangement**

A windrow composting machine, as manufactured by Scarab Manufacturing, is proposed to be used for turning and forming the windrows. This machine is approximately 18-feet wide, 12-feet long, and 11.5-feet tall. A windrow with dimensions of 12-feet wide at the base, 4-feet wide at the top and 4-feet tall was assumed for sizing the facility. Using these dimensions a total windrow length of 372-feet is needed. The proposed layout is shown on Attachment 'D'. This layout used 4 windrows, each 92-feet long. Using a minimum of 10-feet between each windrow for maneuvering space, the overall dimensions of the slab are 110-feet wide by 130-feet long.

### **3.5 Site Description**

This proposed facility would be located on the same 67.41-acre Lot as the existing Steiner Ranch Wastewater Treatment Facilities, as shown on Attachment 'B'. The proposed site plan is shown on Attachment 'A'. This plan includes the 110-ft by 130-ft compost building, storage bins for amendment and finished compost an access drive and a security fence surrounding the site.

The primary method of surface water and ground water protection is to avoid contact between storm water and the bio-solids. The proposed compost building will consist of a concrete slab with a metal roof. The roof will protect the compost area from rainwater. As shown on Attachment 'A' the site will be graded to drain away from the proposed compost building, so that storm water will drain away from the building. In addition, the proposed building is located approximately 40-feet away from the high-point of the drainage basin, so there will only be a negligible amount of rain water to contend with. Since the windrows will be protected from direct rainfall, it is anticipated that there will be little or no leachate from the compost piles. However, any leachate that does occur, or any other contaminated water that is generated (such as wash down water) will be collected in floor drains in the concrete slab. These floor drains will be piped to an existing wastewater lift station and pumped to the existing Steiner Ranch Wastewater Treatment Plant.

Since the windrows will be turned and aerated on a regular basis it is not anticipated that there will be an odor problem. Wash down water will be available at the site to wet the compost piles, or the site, if dust becomes an issue. As shown on Attachment 'B', the proposed compost site is located over 1,100-feet away from the nearest residential property, so an adequate buffer to any of these problems will exist.

The site will have access by the combination of existing and proposed access roads. An existing access road runs from Quinlan Park Road to the existing wastewater treatment plant. Another existing access road intersects that road and runs up the hill toward the proposed compost site. A proposed road will be constructed to finish access to the site. The entire site will be surrounded by a chain link security fence to prevent unwanted access.

## **4.0 OPERATION**

Travis County W.C.&I.D. No. 17 will transport dewatered bio-solids to the compost facility from the wastewater plant. Bulking agent, or amendment, consisting of wood or lawn and leaf material will be stockpiled at the compost site. This bulking material will be acquired from the Steiner Ranch neighborhood, surrounding areas, or an outside source. A tub grinder will be rented on a regular basis to grind wood waste to the appropriate size for use. When bio-solids are delivered to the site, District personnel will mix the bio-solids and bulking agent in a proportion determined by the moisture content of the ingredients. The objective will be to obtain a mixture with a dry solids content of 40%. This target may be modified based on operational experience. The mixture will be arranged in windrows and held, with occasional turning, for a period sufficient to meet the pathogen reduction and vector attraction reduction requirements of 30 TAC Chapter 312. The finished product will meet Class A sludge requirements of 30 TAC Chapter 312. The ultimate disposal method will be by use at recreational sites, the golf course, right-of-way landscaping, or to the general public.

### **4.1 Equipment and Personnel**

There are four primary pieces of equipment necessary to compost waste solids:

1. Roll-Off Unit to store the dewatered sludge.
2. Truck to haul the roll-off unit to the compost site.
3. Front-End Loader to handle and load the sludge, bulking agents and compost.
4. Windrow Composting Machine to shape, mix, turn, aerate and chop the sludge with the bulking agent in a triangular shaped windrow. The proposed machine is a Scarab Windrow Composting Machine.

In addition to these pieces of equipment, a long thermometer is required to measure the temperature within the compost windrow.

### **4.2 Compost Regulations**

Wastewater sludge has beneficial plant nutrients and soil conditioning properties, but it also contains bacteria, viruses, parasites and other microorganisms, which can cause disease. Federal (40 CFR 257) and State (TCEQ TAC 312 and 332) regulations protect public health by requiring sludge management practices that eliminate or minimize human contact with these disease-causing contaminants (pathogens). If wastewater sludge is to be applied to land where human contact is possible then certain treatment processes and operating conditions must be followed to ensure appropriate pathogen reduction.

These processes are divided into two categories based on the level of pathogen control they can achieve. These are:

1. Processes to Significantly Reduce Pathogens (PSRPs), which significantly reduce pathogens to a level comparable to, that achieved by sludge pasteurization. This process produces a Class B sludge.

2. Processes to Further Reduce Pathogens (PFRPs), which reduce pathogens to below detectable levels.

Since PSRPs reduce, but do not eliminate, pathogens, PSRP treated sludge still has a potential to transmit disease. To protect public health, the regulations minimize the potential for direct and indirect exposure to sludge by controlling public access, the growing of human food crops, and grazing by dairy or meat-producing livestock at sites where PSRP treated sludges have been applied. Specifically, public access to the site must be restricted for at least 12-months following application of the PSRP treated sludge, and grazing by animals whose products are consumed by humans must be prevented for at least one month following application. The one-month waiting period is based on the typical survival rate of viruses and bacteria on vegetation. Crops for direct human consumption (i.e. crops such as fruit and vegetables that will not be processed to minimize the presence of pathogens prior to distribution to the consumer) can be grown on the land only if the edible portion of the crop will not come in contact with the sludge, or if the growing of these crops is delayed by at least 18-months from the time of sludge application. The 18-month waiting period is based on the anticipated survival of the hardiest pathogens.

PFRPs reduce pathogens to below detectable levels, therefore there are no pathogen-related restrictions to managing sites where PFRP treated sludges have been applied. Treatment by a PFRP is important to protect human health one in situations where access to the land application site cannot be controlled, such as parks, and two at sites where crops for direct human consumption will be grown within 18-months of application and there may be contact between the sludge and the edible portion of the crop.

Sludge produced at the Steiner Ranch Wastewater Treatment Facilities will be treated by composting to PFRP standards. Therefore, it may be released for use in areas of uncontrolled public access (such as right-of-ways, golf courses, parks, and other public lands) as a soil conditioner.

To be considered a PFRP, or Class A, the composting operation must meet certain heat pasteurization conditions. These regulatory conditions are specific to the method of composting practiced. For windrow composting, the sludge must attain a temperature of 55 degrees Celsius (131 degrees Fahrenheit) or greater for at least 15 days during the composting period. In addition, during the high-temperature period, the windrow must be turned at least five times.

In general, the windrow process generally requires about 3 to 4 weeks. If the conditions specified are met, all pathogenic viruses, bacteria and parasites will be reduced to below detectable levels.

It is especially important to recognize that the process description above says “of 55 degrees Celsius or greater for at least 15 days.” There are few problems in exceeding these values, but there are great dangers in anything less than these values. Temperatures greater than 65 degrees Celsius can be detrimental to the biological compost action.

### 4.3 Compost Controls

As has been previously said, composting involves the aerobic decomposition of organic constituents. This means that it is a biological process and as such has all of the advantages and limitations of a biological process. It is not the intention of this section of the process description to review all of the factors, which influence the biological actions, but some basic understanding will aid in process control.

Because composting involves the interaction of microbiological components, it cannot be hurried. The success of the natural biological process depends upon nutritional and environmental factors. Unless each of these factors is adequately met, problems will arise.

#### *a. Nutritional Factors*

Carbon is used by microbes as a source of energy and it is the oxidation of carbon, which accounts for the greatest loss of mass and generation of heat in the windrow. The carbon must be readily available to the microbes. There is an adequate supply of carbon available in the sewage sludge, and is also available in the yard and garden debris or wood chips used as amendment.

Nitrogen is necessary for microbial growth. Nitrogen in sewage sludge is readily available for this purpose.

A ratio of available carbon to available nitrogen in the range of 20 to 30 parts of carbon to 1 part nitrogen is optimum for compost operation. If the C/N ratio goes above 30/1 then the biological action will slow and the temperature in the windrow will not rise, or it may drop. Therefore, composting slows or stops. Lowering the C/N ratio may be accomplished by adding grass clippings or similar material. It may also be that an increase in the use of finished compost as a bulking agent will help. The amount of available carbon can be lowered in this manner to control compost operation. At C/N ratios less than 20/1 excess nitrogen is lost to the atmosphere in the form of ammonia and the pH level may rise to excessive levels (more than 10). Low C/N levels may be raised by increasing the addition of wood chips, a carbon source, to the compost windrow.

There are other micronutrients, such as phosphorus, potassium and calcium, involved in the process. It is not likely that any deficiencies in these nutrients will be encountered. If any one of them would be low, it likely would be potassium, which is naturally low in sewage sludge.

### *b. Environmental Factors*

The three key environmental factors are moisture content, air availability and temperature. Each of these factors plays an important role in the composting process.

Moisture content is initially determined by the efficiency of the belt press operation. The belt cake will most likely be about 15 to 20-percent solids. A drier cake might be preferable, but the optimum operating efficiency of the belt press will be the controlling factor. The composting process will occur under a roofed area, which will prevent rainwater from wetting the mixture. The addition of the bulking agent aids in reducing the moisture content of the mass and improving its porosity.

Moisture content is important because it directly influences microbial activity. If the compost is too wet, oxygen (air) cannot be furnished to the aerobic bacteria and they die. The mixture of the cake and bulking agent as discussed will provide a suitable environment. Additional machine turning of the windrow will aid in air supply if the moisture level appears excessive. Operating experience will provide the best criteria for making this judgment. The compost mixture can be too dry. Microbial activity is severely limited when moisture levels drop to 25-percent and essentially stop at 10-percent. Optimum moisture levels should be about 60-percent.

Proper aeration is a key operational factor. It is excessive when the heat generation is slowed by the aeration or turning of the windrow. The temperature criteria discussed previously is critical. Also, aeration requirements are excessive when the moisture content is lowered sufficiently to inhibit the biological process. This slowing of the biological action will reduce temperatures and lead to the false conclusion that the mass has reached a stable condition and the compost is finished. It is important to remember that the process will require three to four weeks.

Proper temperature must be reached, and maintained, for pathogen destruction. The control of the nutritional and other environmental factors will allow the proper temperature to develop naturally.

## **4.4 Operations**

Digested biological waste solids are dewatered at the treatment plant by a belt filter press. The waste solids are contained in the "belt cake" which will generally be between 15 and 20-percent solids, or 80 to 85-percent liquid. The belt cake is discharged into a roll-off container located under the conveyor of the belt press. The consistency of the belt cake will vary depending upon the percent solids it contains. As the roll-off unit is filled with

belt cake, or the dewatering operations are complete for the day, the roll-off unit should be moved to the composting area.

Each of the roll-off units can be loaded with up to 24-cubic yards of belt cake, which is equal to about 43,000-pounds. Twenty-four (24) cubic yards is the level full (no mounding) capacity of the roll-off unit. Experience with the operation will quickly develop the ability to judge when the trailer is properly loaded. It is far better to be under-loaded than over-loaded.

The belt cake as it exists in its wet state, in the roll-off unit, cannot be composted. It is too wet to be mixed or aerated. The belt cake must be mixed with a bulking agent. The belt cake should be mixed with a bulking agent/drying agent approximately as follows:

1/3 Belt Cake

2/3 Bulking Agent

or

One Full Roll-Off Unit of Belt Cake (24 c.y.)

Forty-Eight (48) bucket loads of bulking agent (48 c.y.)

Beginning composting operations will use wood chips as the bulking agent. These chips will be obtained from one of several sources. The District will try to obtain an adequate amount from the Steiner Ranch neighborhood, by picking up lawn and garden debris. The District will try to obtain lawn and garden debris from surrounding neighborhoods if they are unable to acquire enough amendment from Steiner Ranch. If there is still an inadequate amount, then the District will purchase wood chips from an outside source. The wood chips should be finger size or less to allow for easy mixing. Any pieces of tree limbs which are bigger than thumb size will not compost as well and large limbs (arm size) may cause damage to the windrow composting equipment. Care must be taken to insure that these larger pieces are not allowed to enter the compost stream. A tub grinder will be brought in periodically to grind the collected material for operation in the compost process. Sufficient stock pile of bulk amendment is critical to insure continued operation of the compost process.

After finished compost has been generated, it may be used as a bulking agent. This finished compost can be substituted for part of the wood chips. A mixture might be:

1/3 Belt Cake

1/3 Finished Compost

1/3 Wood Chips

Experience gained through producing compost will be the best way to determine the right mixture, as the belt cake produced varies from location to location.

#### *a. Building a Windrow*

Generally, one windrow should be constructed for each day that the belt press is operated. This makes record keeping easier. When waste solids production is low, it may be that windrows constructed on two consecutive days may be combined. If two days are combined, the records should show this. Windrows

are to be constructed and processed on the concrete slab under the roofed area at the compost site. Windrows should be constructed along the long dimension of the roof. This will allow whatever rainwater that is blown under the roof to drain away. The windrows should be constructed away from the edge of the slab to lessen the amount of rain, which can be blown onto the edge of the windrows.

The front-end loader should be used to spread wood chips or a mixture of wood chips and finished compost the width of the bucket and approximately one foot in depth. Depending on the amount of belt cake in the trailer, the volume of bulking agent required will vary.

Utilizing the roll-off dump controls, elevate the bed and allow the belt cake to be discharged while moving the trailer forward to spread the belt cake as evenly as possible over the bulking agent. Some initial mixing and shaping of the windrow with the front-end loader may be necessary or desirable. As soon as the basic windrow is formed, the Scarab should be used to mix and shape the windrow. Sufficient passes should be made to thoroughly mix all of the materials.

#### *b. Processing the Windrow*

Each windrow must be turned a minimum of five times during the minimum processing time of fifteen days. This means that it should be turned and mixed about every three days. Temperatures within the windrow must be monitored to help decide when to turn the windrow. The day after building a windrow, measure the temperature and if the temperature inside the windrow is above 35 degrees Celsius, do not turn the windrow and measure the temperature the next day. As long as the temperature is increasing, biological action is occurring. When the temperature reaches 55 degrees Celsius, allow the windrow to sit one day and then turn it. As long as the temperature equals or exceeds 55 degrees Celsius, the windrow should be turned every third day. If temperatures are below 55 degrees Celsius within three days after building the windrow, turn it and refer to subsection 4.3, Compost Controls. Windrows are turned to insure that there are no pockets of material, which are not subjected to the high temperature, and that oxygen is available to promote decomposition by the aerobic bacteria.

#### *c. Measuring the Temperature*

Temperature within the windrow should be measured on the following schedule:

1. On each day that a windrow is turned, measure approximately four to six hours after turning the windrow.
2. Measure on each weekday.
3. Measure on Saturday or Sunday if windrows are processed.

To obtain the temperature within the windrow insert the thermometer to a depth of approximately 12-inches and leave it in place sufficiently long to achieve a constant reading. This time should be approximately five minutes, but may vary.

After this reading, insert the thermometer in the same area to a depth of approximately 18-inches and obtain a temperature. Repeat the procedure for a third time inserting the thermometer to a depth of 30-inches. Measurements should be made at approximately ten to fifteen feet intervals along the length of the windrow.

*d. Finished Compost*

After three to four weeks of active biological action, the composting action should be finished. Several factors are used to judge when the compost process is sufficiently complete to stop the mixing and turning of the windrows. These are:

1. Decline in temperature at the end of batch composting.
2. A low level of self-heating in the final product.
3. Organic content of the compost as measured by the volatile solids content, chemical oxygen demand (COD), percent carbon, ash content or carbon nitrogen ratio (C/N).
4. Oxygen uptake rate.
5. The presence of particular constituents such as nitrate, and the absence of others such as ammonia and starch.
6. Lack of attraction of insects or development of insect larvae in the final product.
7. Characteristic changes in odor during composting and odor producing potential of the final product upon rewetting.
8. Experience of the operator.

Certainly there is no such thing as complete stabilization as long as any organic compounds remain, because they will all decompose at some rate. In a strict sense, complete stabilization would be the oxidation of all organic material to CO<sub>2</sub> and H<sub>2</sub>O. Such a degree of stabilization would not be desirable because the value of compost as a soil amendment depends in part on its organic content. A working definition might be as follows: stabilization is sufficient when the rate of oxygen consumption is reduced to the point that anaerobic or odorous conditions are not produced to such an extent that they interfere with storage or end use of the product. Such a definition is not precise, but it is practical. Stabilization must be sufficient to reduce the nuisance potential but not so complete that organics are unnecessarily lost from the final product.

Temperature within finished compost may remain somewhat elevated above air temperature for two to three weeks after the windrow is judged finished. This shows that some biological action is continuing, but this is normal. When compost is judged to be finished, it may remain in place until it is removed from the processing area to either an off-site destination or to the on-site storage area. As long as the compost is located on the District's compost site, an active record must be maintained. When it leaves the compost site the final destination must be recorded.

**FIGURE 1**  
**STEINER RANCH COMPOST FACILITY**  
**DESIGN CALCULATIONS**  
**EXISTING CONDITIONS**

**GIVEN**

Q = 300,000 GPD  
 So = 225 mg/l, BOD<sub>5</sub>infl (Assumes 25% removal through fine screens)  
 S = 5 mg/l, BOD<sub>5</sub>eff

**ASSUME**

Sludge Production = 0.8 lb dry solids per lb BOD removed  
 Sludge Reduction = 25 % by Aerobic Digestion  
 Belt Press Cake = 15 % solids (typically 15% to 20%)

**DESIGN CALCULATIONS**

**1. Sludge Production**

**A. BOD<sub>5</sub> Loading**

$$F = \frac{8.34 \times Q \times (S_o - S)}{10^6}$$

F = 550.4 lb BOD<sub>5</sub>/day

**B. Sludge Production**

Sludge Production = F x 0.8  
**Sludge Production = 440.4 lb dry/day**

**C. In-Plant Sludge Reduction**

Sludge Reduction = Sludge Production x 0.75  
 Sludge for Disposal = 330.3 lb dry/day

Sludge Solids density = 65.0 lb/cf  
**Sludge for Disposal = 5.1 cf/day (Dry Volume)**

**D. Dewatering via Belt Press**

Belt Press Cake Volume = Sludge for Disposal / 0.15  
**Belt Press Cake Volume = 33.9 cf/day (Wet Volume)**

**2. Compost Operation**

**A. Bulking Agent (Amendment)**

Assume 1 part sludge to 3 parts bulking agent

Sludge = 33.9 cf/day  
 = 1.25 cy/day  
 Bulking Agent = 3.76 cy/day  
 Total Compost = 5.02 cy/day

**Amendment Supply = 1374 cy/yr**  
 (2 parts wood / lawn waste + 1 part recycle) : 1 part sludge

**Total Compost Supply = 1832 cy/yr**

**FIGURE 1**  
**STEINER RANCH COMPOST FACILITY**  
**DESIGN CALCULATIONS**  
**EXISTING CONDITIONS**

**B. Compost Inventory**

Residence Time = 30 day turnaround from initial sludge acceptance until operation complete  
 Compost Inventory = 5.02 cy/day x 30 days = 150.5 cy  
 Volume reduction during compost operation = 40%  
**Final volume = 90.3 cy / 30 days**  
**1099.0 cy / year**

**C. Windrow Sizing**

Assume a trapezoidal windrow:  
 Height = 4 ft  
 Bottom Width = 12 ft  
 Top Width = 4 ft  
 Area = 32 sf  
 Final Volume of Compost = 2710 cf  
  
**Windrow Length = 84.7 ft**

**D. Bulking Agent Storage Sizing**

Assume 60 days of storage

Volume of Bulking Agent Needed = 3.76 cy/day  
**Volume of Bulking Agent Storage Needed = 6097 cf**

**E. Final Compost Storage Sizing**

Assume 60 days of storage

Volume of Final Compost Produced = 3.01 cy/day  
**Volume of Final Compost Storage Needed = 4878 cf**

**FIGURE 2**  
**STEINER RANCH COMPOST FACILITY**  
**DESIGN CALCULATIONS**  
**FULL BUILD-OUT CONDITIONS**  
**FOR SRDA**

**GIVEN**

Q = 1,300,000 GPD  
 So = 225 mg/l, BOD<sub>5</sub>infl (Assumes 25% removal through fine screens)  
 S = 5 mg/l, BOD<sub>5</sub>eff

**ASSUME**

Sludge Production = 0.8 lb dry solids per lb BOD removed  
 Sludge Reduction = 25 % by Aerobic Digestion  
 Belt Press Cake = 15 % solids (typically 15% to 20%)

**DESIGN CALCULATIONS**

**1. Sludge Production**

**A. BOD<sub>5</sub> Loading**

$$F = \frac{8.34 \times Q \times (S_o - S)}{10^6}$$

F = 2385.2 lb BOD<sub>5</sub> /day

**B. Sludge Production**

Sludge Production = F x 0.8  
**Sludge Production = 1908.2 lb dry/day**

**C. In-Plant Sludge Reduction**

Sludge Reduction = Sludge Production x 0.75  
 Sludge for Disposal = 1431.1 lb dry/day

Sludge Solids density = 65.0 lb/cf  
**Sludge for Disposal = 22.0 cf/day (Dry Volume)**

**D. Dewatering via Belt Press**

Belt Press Cake Volume = Sludge for Disposal / 0.15  
**Belt Press Cake Volume = 146.8 cf/day (Wet Volume)**

**2. Compost Operation**

**A. Bulking Agent (Amendment)**

Assume 1 part sludge to 3 parts bulking agent

Sludge = 146.8 cf/day  
 = 5.44 cy/day  
 Bulking Agent = 16.31 cy/day  
 Total Compost = 21.75 cy/day

**Amendment Supply = 5953 cy/yr**  
 (2 parts wood / lawn waste + 1 part recycle) : 1 part sludge

**Total Compost Supply = 7937 cy/yr**

**FIGURE 2  
STEINER RANCH COMPOST FACILITY  
DESIGN CALCULATIONS  
FULL BUILD-OUT CONDITIONS  
FOR SRDA**

**B. Compost Inventory**

Residence Time = 30 day turnaround from initial sludge acceptance until operation complete  
 Compost Inventory = 21.75 cy/day x 30 days = 652.4 cy  
 Volume reduction during compost operation = 40%  
**Final volume = 391.4 cy / 30 days**  
**4762.3 cy / year**

**C. Windrow Sizing**

Assume a trapezoidal windrow:  
 Height = 4 ft  
 Bottom Width = 12 ft  
 Top Width = 4 ft  
 Area = 32 sf  
 Final Volume of Compost = 11743 cf  
**Windrow Length = 367.0 ft**

**D. Bulking Agent Storage Sizing**

Assume 60 days of storage  
 Volume of Bulking Agent Needed = 16.31 cy/day  
**Volume of Bulking Agent Storage Needed = 26421 cf**

**E. Final Compost Storage Sizing**

Assume 60 days of storage  
 Volume of Final Compost Produced = 13.05 cy/day  
**Volume of Final Compost Storage Needed = 21137 cf**

**FIGURE 3**  
**STEINER RANCH COMPOST FACILITY**  
**DESIGN CALCULATIONS**  
**FULL BUILD-OUT CONDITIONS**  
**FOR ENTIRE WASTEWATER SERVICE AREA**

**GIVEN**

Q = 1,500,000 GPD  
 So = 225 mg/l, BOD<sub>5</sub>infl (Assumes 25% removal through fine screens)  
 S = 5 mg/l, BOD<sub>5</sub>eff

**ASSUME**

Sludge Production = 0.8 lb dry solids per lb BOD removed  
 Sludge Reduction = 25 % by Aerobic Digestion  
 Belt Press Cake = 15 % solids (typically 15% to 20%)

**DESIGN CALCULATIONS**

**1. Sludge Production**

**A. BOD<sub>5</sub> Loading**

$$F = \frac{8.34 \times Q \times (S_o - S)}{10^6}$$

F = 2752.2 lb BOD<sub>5</sub>/day

**B. Sludge Production**

Sludge Production = F x 0.8  
**Sludge Production = 2201.8 lb dry/day**

**C. In-Plant Sludge Reduction**

Sludge Reduction = Sludge Production x 0.75  
 Sludge for Disposal = 1651.3 lb dry/day

Sludge Solids density = 65.0 lb/cf  
**Sludge for Disposal = 25.4 cf/day (Dry Volume)**

**D. Dewatering via Belt Press**

Belt Press Cake Volume = Sludge for Disposal / 0.15  
**Belt Press Cake Volume = 169.4 cf/day (Wet Volume)**

**2. Compost Operation**

**A. Bulking Agent (Amendment)**

Assume 1 part sludge to 3 parts bulking agent

Sludge = 169.4 cf/day  
 = 6.27 cy/day  
 Bulking Agent = 18.82 cy/day  
 Total Compost = 25.09 cy/day

**Amendment Supply = 6869 cy/yr**  
 (2 parts wood / lawn waste + 1 part recycle) : 1 part sludge

**Total Compost Supply = 9158 cy/yr**

**FIGURE 3**  
**STEINER RANCH COMPOST FACILITY**  
**DESIGN CALCULATIONS**  
**FULL BUILD-OUT CONDITIONS**  
**FOR ENTIRE WASTEWATER SERVICE AREA**

**B. Compost Inventory**

Residence Time = 30 day turnaround from initial sludge acceptance until operation complete  
 Compost Inventory = 25.09 cy/day x 30 days = 752.7 cy  
 Volume reduction during compost operation = 40%  
**Final volume = 451.6 cy / 30 days**  
**5495.0 cy / year**

**C. Windrow Sizing**

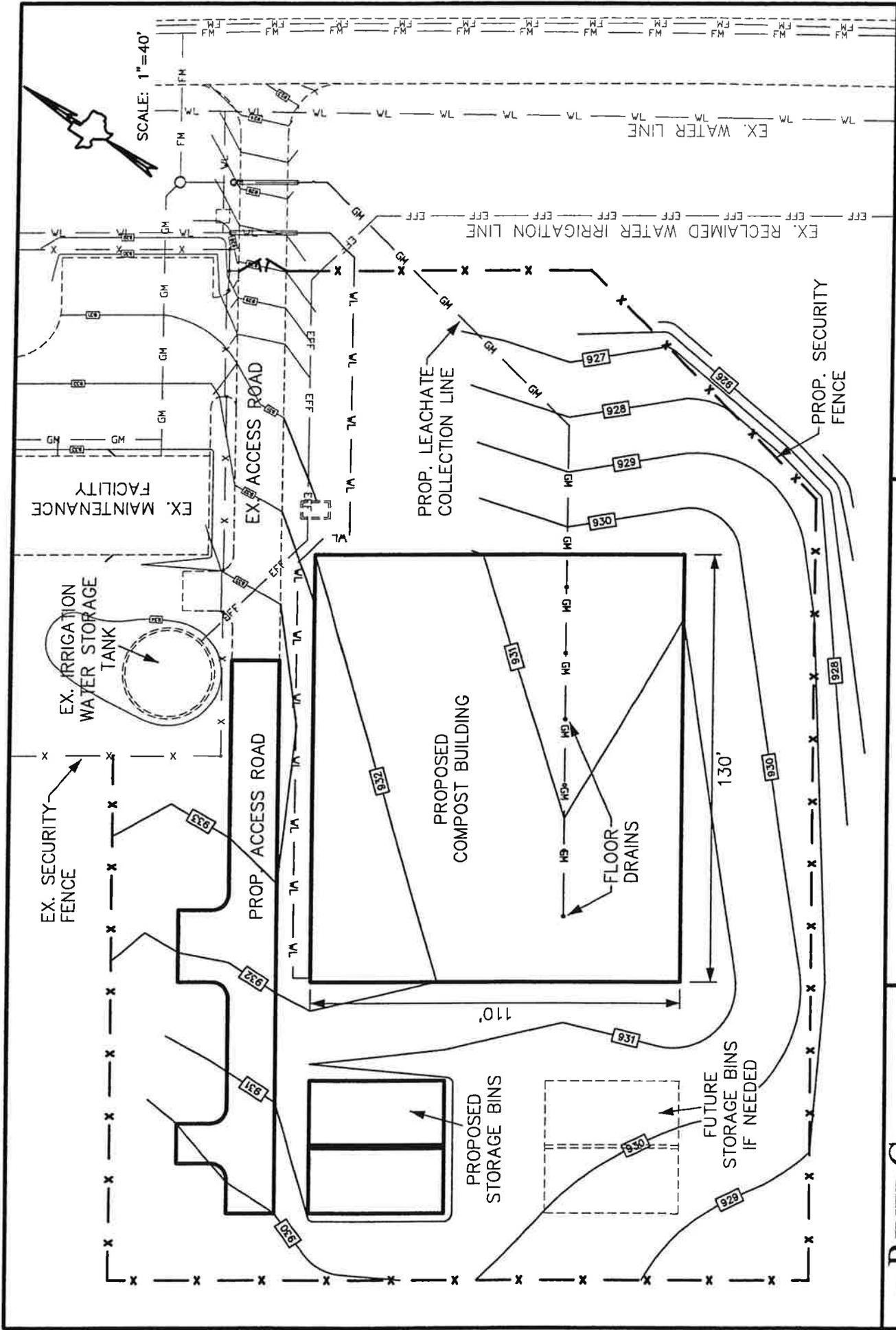
Assume a trapezoidal windrow:  
 Height = 4 ft  
 Bottom Width = 12 ft  
 Top Width = 4 ft  
 Area = 32 sf  
 Final Volume of Compost = 13549 cf  
**Windrow Length = 423.4 ft**

**D. Bulking Agent Storage Sizing**

Assume 60 days of storage  
 Volume of Bulking Agent Needed = 18.82 cy/day  
**Volume of Bulking Agent Storage Needed = 30486 cf**

**E. Final Compost Storage Sizing**

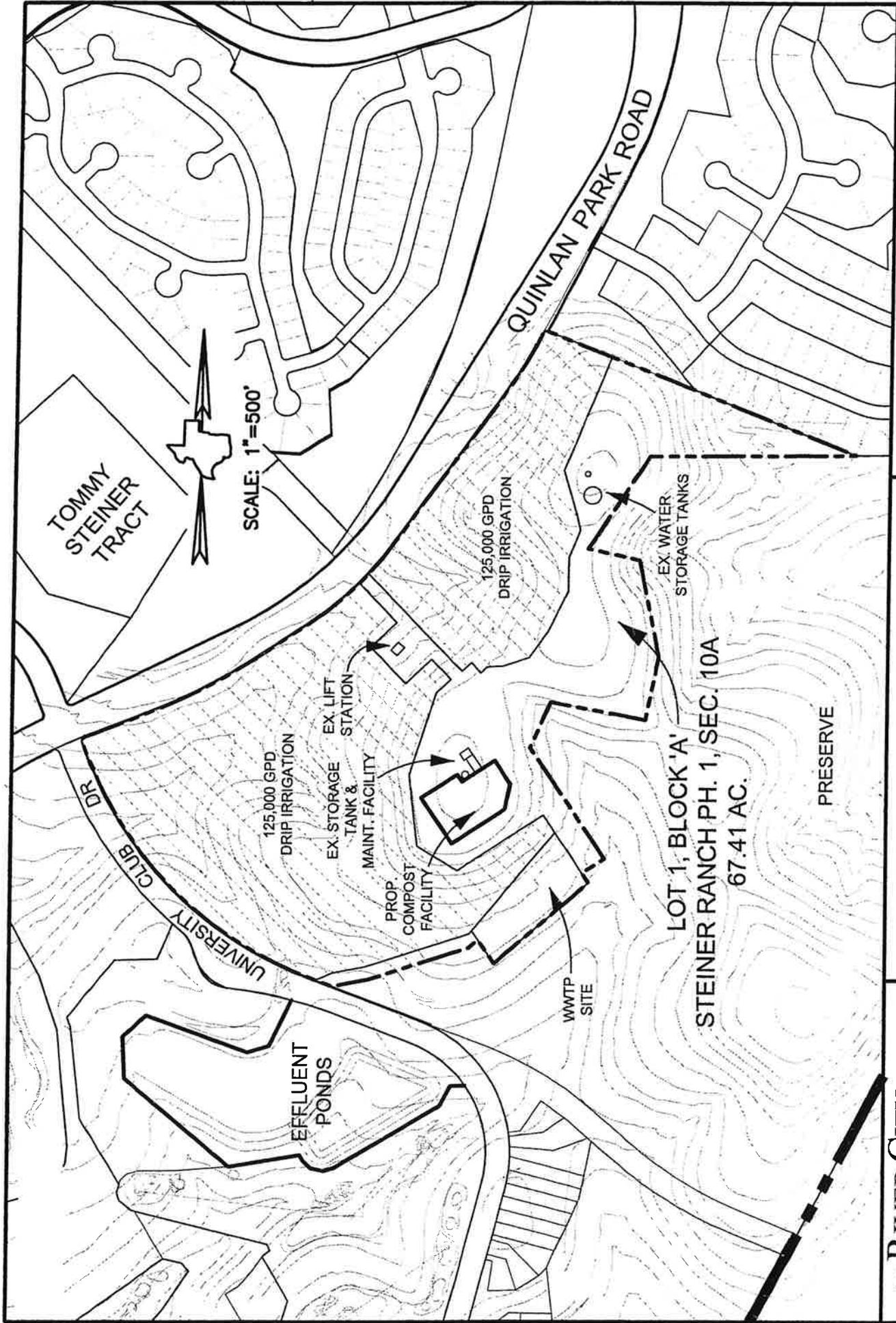
Assume 60 days of storage  
 Volume of Final Compost Produced = 15.05 cy/day  
**Volume of Final Compost Storage Needed = 24389 cf**



TRAVIS COUNTY W.C.&I.D. NO. 17  
 STEINER RANCH COMPOST FACILITY  
 TCEQ PERMIT NO. 13294-001  
 PERMIT RENEWAL APPLICATION

ATTACHMENT 'A'  
 SITE PLAN - COMPOST SITE

**RIVER CITY ENGINEERING**  
 CIVIL, ENVIRONMENTAL & CONSULTING  
 3801 South First Street, Austin, Texas 78704



TOMMY  
STEINER  
TRACT



SCALE: 1"=500'

QUINLAN PARK ROAD

UNIVERSITY CLUB DR

125,000 GPD  
DRIP IRRIGATION

EX. STORAGE  
TANK &  
MAINT. FACILITY

PROP.  
COMPOST  
FACILITY

EX. LIFT  
STATION

125,000 GPD  
DRIP IRRIGATION

LOT 1, BLOCK 'A'  
STEINER RANCH PH. 1, SEC. 10A  
67.41 AC.

WWTP  
SITE

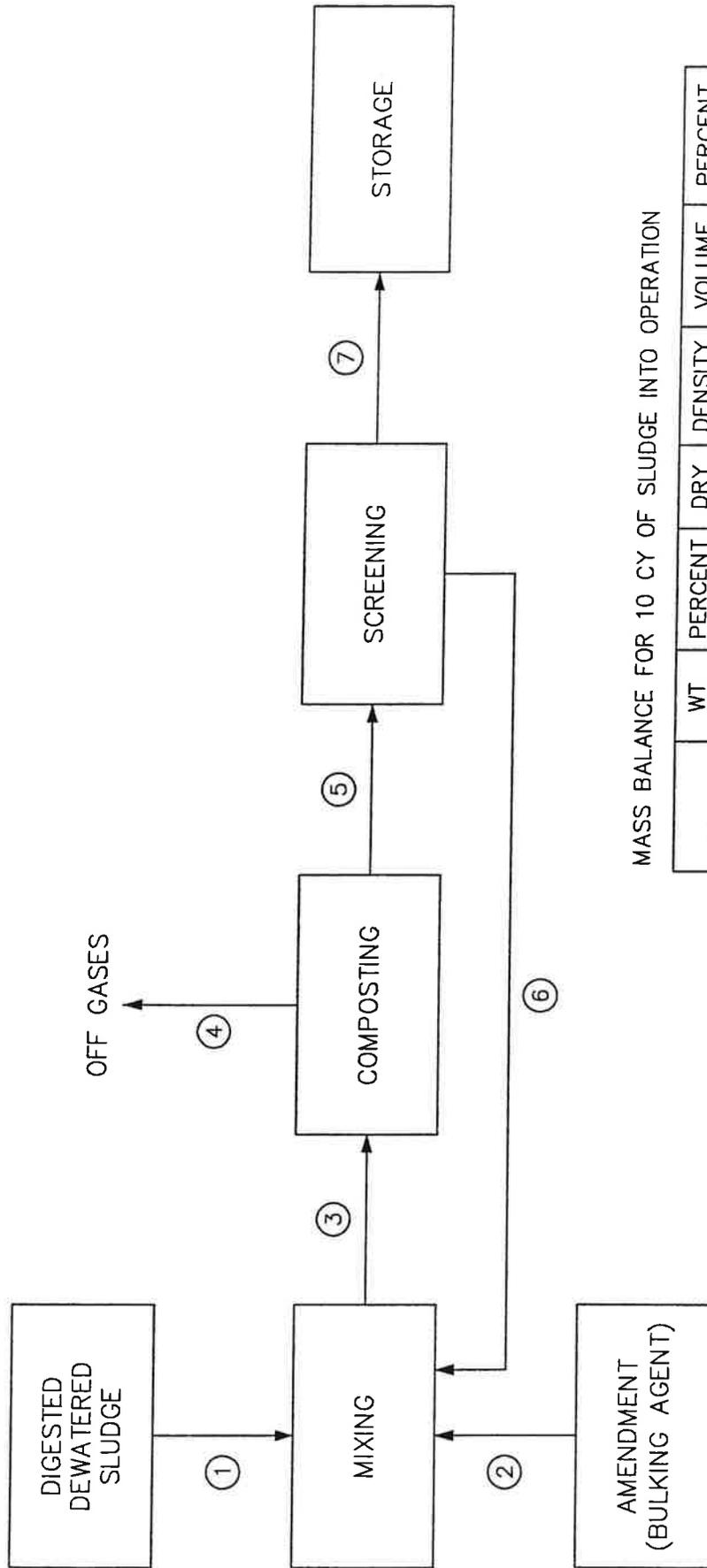
EX. WATER  
STORAGE TANKS

PRESERVE

**RIVER CITY  
ENGINEERING**  
CIVIL, ENVIRONMENTAL & CONSULTING  
3801 South First Street, Austin, Texas 78704

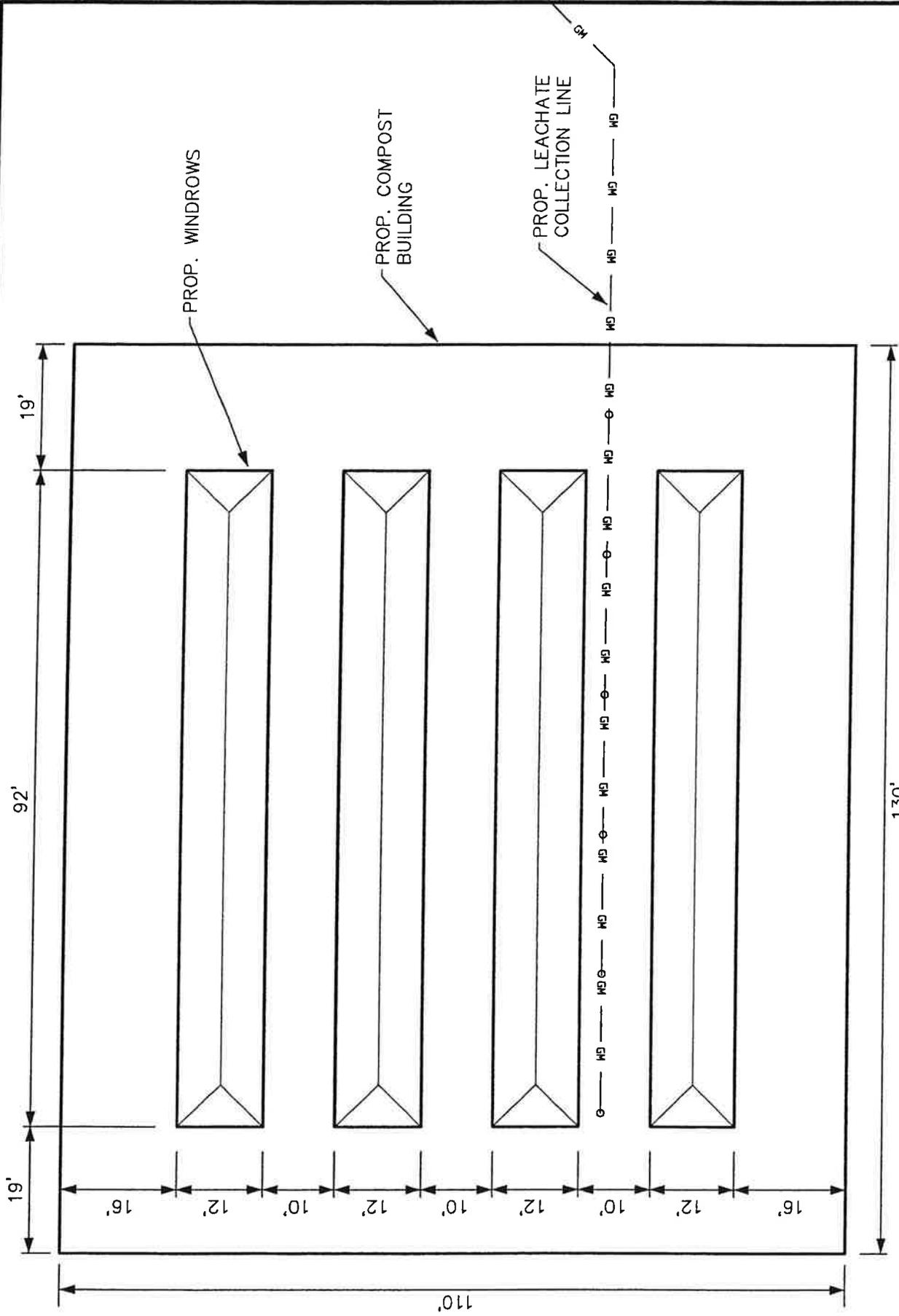
TRAVIS COUNTY W.C.&I.D. NO. 17  
STEINER RANCH COMPOST FACILITY  
TCEQ PERMIT NO. 13294-001  
PERMIT RENEWAL APPLICATION

ATTACHMENT 'B'  
OVERALL OF 67.41 - AC. LOT



MASS BALANCE FOR 10 CY OF SLUDGE INTO OPERATION

LOCATION	WT TONS	PERCENT SOLIDS	DRY TONS	DENSITY (LB/CY)	VOLUME (CY)	PERCENT VS
1	8	20%	1.6	1600	10	50%
2	10	60%	6.0	1000	20	70%
3	23	44%	10.1	1150	40	50%
4	11	N/A	4.0	N/A	N/A	N/A
5	12	50%	6.1	1000	24	35%
6	5	50%	2.5	1000	10	35%
7	7	50%	3.5	1000	14	35%



**ATTACHMENT 'D'**  
**BUILDING LAYOUT/WINDROWS**

TRAVIS COUNTY W.C.&I.D. NO. 17  
 STEINER RANCH COMPOST FACILITY  
 TCEQ PERMIT NO. 13294-001  
 PERMIT RENEWAL APPLICATION

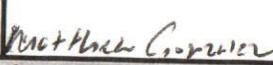
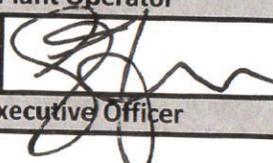
**RIVER CITY ENGINEERING**  
 CIVIL, ENVIRONMENTAL & CONSULTING  
 3801 South First Street, Austin, Texas 78704

**ATTACHMENT R**  
**SEWAGE SLUDGE LABEL/INFORMATION SHEET**

## Travis County WCID #17 2023 Annual Sludge Report for Steiner Ranch WWTP

<b>Sludge Hauler</b>	Sheridan Environmental #24220	<b>Total tons of dry sludge disposed of 9/1/22-8/31/23</b>
<b>Disposal Site</b>	DBA Texas Organic Recovery	
<b>Sludge applied dry tons/yr</b> 9/1/22-8/31/23	<b>343.06</b>	

Sludge meets the requirements of 30 TAC Chapter 330 concerning the quality of the sludge disposed in the municipal solid waste landfill.	Dates of dry sludge disposal				Dates of wet Sludge	
	2022		2023		<b>N/A</b>	
	September	1,8,12,13,15,19,21,23,28,	January	6,9,10,12,13,17,18,19,20,23,24,26,27,30		
			February	3,6,8,13,15,17,21,23,24,28		
	October	3,6,11,13,17,19,21,28	March	2,6,8,10,14,16,20,23,28,30		
			April	3,5,6,10,11,12,14,16,20,24,27,28		
	November	1,11,15,18,22,23,29	May	3,8,10,11,12,17,19,24,25,26,31		
	December	13,15,19,21,22,27,30	June	2,6,7,9,13,14,15,20,21,22,29		
			July	6,11,12,13,14,18,21,27,31		
			August	3,14,16,18,22,25,29		

I certify that I am familiar with the information contained in this report, and to the best of my knowledge and belief such information is true and complete.	<b>Name</b>	<b>Signature</b>	<b>Date</b>	<b>Travis County Water Control &amp; Improvement District 17</b> 3812 Eck Lane Austin Tx 78734 Phone: (512) 266-1111 Fax: (512) 266- 2790 <b>Wastewater Plant Supervisor:</b> Matthew Gonzalez phone: (512)801-4893
	Matthew Gonzalez		9/29/23	
	<b>Plant Operator</b>			
	Jason F. Homan		9/29/2023	
<b>Executive Officer</b>				

Site Address: 3315 1/2 Quinlan Park Rd. Austin Tx. 78732  
 Main Office: 3812 Eck Ln. Austin Tx 78734  
 TCEQ permit # **WQ0013294001**

**ATTACHMENT S**  
**SEEPAGE MONITORING RESULTS**



# Texas Commission on Environmental Quality

P.O. Box 13087 • Austin, TX 78711-3087

Semi Annual Seep Report

R13294001
PERMIT NUMBER

SET
-----

2023	7
YEAR	MO

EID
-----

This report to be used for  
Please retain a photocopy for your records.

## 401 - Steiner Ranch Seep D Report

Parameter Code/ Parameter	Effluent Condition		No. Ex	Frequency of Analysis	Sample Type
	Permitted	Value Units			
702951030 TDS	Permitted			semiannual	Grab
	Reported	630			
6201030 NO3-N	Permitted			semiannual	Grab
	Reported	1.4			
9401030 Chloride	Permitted			semiannual	Grab
	Reported	170			
6651030 Phosphorous	Permitted			semiannual	Grab
	Reported	1.570			
500498151 Flow	Permitted			semiannual	Grab
	Reported	0.0110			

COMMENTS AND EXPLANATIONS (Reference all attachments here.)

I CERTIFY THAT I AM FAMILIAR WITH THE INFORMATION CONTAINED IN THIS REPORT AND THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF SUCH INFORMATION IS TRUE, COMPLETE AND ACCURATE.

PLANT OPERATOR NAME	PLANT OPERATOR SIGNATURE	MONTH	DAY	YEAR
Matthew Gonzalez	<i>Matthew Gonzalez</i>	8	3	2023
EXECUTIVE OFFICER NAME	EXECUTIVE OFFICER SIGNATURE	MONTH	DAY	YEAR
Jason F. Homan	<i>Jason F. Homan</i>	8	4	2023
Telephone Number		512	266	1111
		Area code	Number	



# Texas Commission on Environmental Quality

*JHE*

P.O. Box 13087 • Austin, TX 78711-3087  
Semi Annual Seep Report

R13294001
PERMIT NUMBER

SET
-----

2023	7
YEAR	MO

EID
-----

This report to be used for \_\_\_\_\_  
Please retain a photocopy for your records.

## 401 - Steiner Ranch Seep C Report

Parameter Code/ Parameter	Effluent Condition	Effluent Condition		No. Ex	Frequency of Analysis	Sample Type
		Value	Units			
702951030 TDS	Permitted		mg/L		semiannual	Grab
	Reported	830				
6201030 NO3-N	Permitted		mg/L		semiannual	Grab
	Reported	0.73				
9401030 Chloride	Permitted		mg/L		semiannual	Grab
	Reported	49.8				
6651030 Phosphorous	Permitted		mg/L		semiannual	Grab
	Reported	0.050				
500498151 Flow	Permitted		FT3/SEC		semiannual	Grab
	Reported	0.0110				

COMMENTS AND EXPLANATIONS (Reference all attachments here.)

I CERTIFY THAT I AM FAMILIAR WITH THE INFORMATION CONTAINED IN THIS REPORT AND THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF SUCH INFORMATION IS TRUE, COMPLETE AND ACCURATE.

PLANT OPERATOR NAME	PLANT OPERATOR SIGNATURE	MONTH	DAY	YEAR
Matthew Gonzalez	<i>Matthew Gonzalez</i>	8	3	2023
EXECUTIVE OFFICER NAME	EXECUTIVE OFFICER SIGNATURE	MONTH	DAY	YEAR
Jason F. Homan	<i>Jason F. Homan</i>	8	4	2023
Telephone Number		512	266	1111
		Area code	Number	

Email information for report date:

7/19/23 17:52

G021546

**Travis County WCID 17**

Attn: Matt Gonzalez  
adufek@wcid17.org

3812 ECK LANE  
AUSTIN, TX 78734

**August 2023 price increase.**

Due to the increase in operational costs, Aqua-Tech Laboratories will be implementing a slight price increase. The new price list will be effective August 1, 2023.

Aqua-Tech values you as a customer and encourages you to reach out to our accounting staff at [accounting@aquatechlabs.com](mailto:accounting@aquatechlabs.com) if you have questions.

Thank you for your business,  
June M. Brien  
Executive Technical Director

**BRYAN FACILITY**  
635 Phil Gramm Boulevard  
Bryan, TX 77807  
Phone: (979) 778-3707  
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**AUSTIN FACILITY**  
3512 Montopolis Dr. Suite A  
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Fax: (512) 301-9552

The analyses summarized in this report were performed by Aqua-Tech Laboratories, Inc. unless otherwise noted. Aqua-Tech Laboratories, Inc. holds accreditation from the State of Texas in accordance with TNI and/or through the TCEQ Drinking Water Commercial Laboratory Approval Program.

**The following abbreviations indicate certification status:**

- NEL TNI accredited parameter.
- ANR Accreditation not offered by the State of Texas.
- DWP Approval through the TCEQ Drinking Water Commercial Laboratory Approval Program.
- INF Aqua-Tech Laboratories, Inc. is not accredited for this parameter. It is reported on an informational basis only.

Certificate: T104704371-22-26



Subcontracted data summarized in this report is indicated by "Sub" in the Lab column.

**General Definitions:**

- NR Not Reported.
- RPD Relative Percent Difference.
- % R Percent Recovery.
- dry Results with the "dry" unit designation are reported on a "dry weight" basis.
- SQL The Sample Quantitation Limit is the value below which the parameter cannot reliably be detected. The SQL includes all sample preparations, dilutions and / or concentrations.
- Adj MDL The Adjusted Method Detection Limit is the MDL value adjusted for any sample dilutions or concentrations .
- MDL The Method Detection Limit is the lowest theoretical value that is statistically different from zero for a specific method, taking into account all preparation steps and instrument settings.

TCEQ Lab ID T104704371

All samples are reported on an "as received" basis unless the designation "dry" is added to the reported unit.

Copies of Aqua-Tech Laboratories, Inc. procedures and individual sampling plans are available upon request. Note that samples are collected by Aqua-Tech Laboratories, Inc. personnel unless otherwise noted in the "Sample Collected" field of this report as "Client" or "CLT".

Samples included in this report were received in acceptable condition according to Aqua-Tech Laboratories, Inc. procedures and 40 CFR, Chapter I, Subchapter D, Part 136.3, TABLE II. - *Required containers, preservation techniques, and holding times*, unless otherwise noted in this report.

**Record Retention:**

All reports, raw data, and associated quality control data are kept on file for 10 years before being destroyed. Any client that would like copies of records must contact Aqua-Tech Laboratories, Inc. no later than six months prior to the scheduled disposal. An administrative fee for retrieval and distribution will apply.

This report was approved by:

  
June M. Brien, Technical Director

The results in this report apply only to the samples analyzed. This analytical report must be reproduced in its entirety unless written permission is granted by Aqua-Tech Laboratories, Inc.

corp@aquatechlabs.com

www.aquatechlabs.com

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Analytical Report

Travis County WCID 17

Report Printed: 7/19/23 17:52

G021546

Steiner Ranch Seep D		Collected: 07/05/23 09:50 by CLIENT Received: 07/05/23 14:34 by Bryce Jones					Type Grab	Matrix Non Potable		C-O-C # G021546		
Lab ID#	G021546-01	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch	
<b>General Chemistry</b>												
Total Dissolved Solids		630	mg/L		25.0	50.0	50.0	Austin	07/07/23 08:28 MAM	SM2540 C 2015	M163452	NEL
Nitrate as N		1.4	mg/L			0.051	0.060	Calc	07/12/23 11:15 BEB	SM4500-NO3-F 2011	[CALC]	NEL
Nitrite as N		<0.01	mg/L	J (0.008)	0.002	0.002	0.01	Austin	07/06/23 10:17 BEB	SM4500 NO2- B 2011	M163401	NEL
Nitrate/Nitrite as N		1.4	mg/L		0.02	0.05	0.06	Bryan	07/12/23 11:15 KMA	SM4500-NO3-F 2011	M163644	ANR
Chloride		170	mg/L		0.60	2.41	20.0	Austin	07/16/23 11:50 MSA	SM4500-Cl- B 2011	M163824	NEL
<b>Metals (Total)</b>												
Phosphorus-Total		1.57	mg/L		0.082	0.041	0.050	Austin	07/18/23 12:50 KT	EPA 200.7 R4.4	M163669	NEL

Steiner Ranch Seep C		Collected: 07/05/23 09:26 by CLIENT Received: 07/05/23 14:34 by Bryce Jones					Type Grab	Matrix Non Potable		C-O-C # G021546		
Lab ID#	G021546-02	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch	
<b>General Chemistry</b>												
Total Dissolved Solids		830	mg/L		25.0	50.0	50.0	Austin	07/07/23 08:28 MAM	SM2540 C 2015	M163452	NEL
Nitrate as N		0.73	mg/L			0.051	0.060	Calc	07/12/23 11:15 BEB	SM4500-NO3-F 2011	[CALC]	NEL
Nitrite as N		<0.01	mg/L	J (0.004)	0.002	0.002	0.01	Austin	07/06/23 10:17 BEB	SM4500 NO2- B 2011	M163401	NEL
Nitrate/Nitrite as N		0.73	mg/L		0.02	0.05	0.06	Bryan	07/12/23 11:15 KMA	SM4500-NO3-F 2011	M163644	ANR
Chloride		49.8	mg/L		0.60	1.21	10.0	Austin	07/16/23 11:50 MSA	SM4500-Cl- B 2011	M163825	NEL
<b>Metals (Total)</b>												
Phosphorus-Total		<0.050	mg/L		0.082	0.041	0.050	Austin	07/18/23 12:53 KT	EPA 200.7 R4.4	M163669	NEL

Explanation of Notes

J Analyte detected below the SQL but above the MDL.

**BRYAN FACILITY**  
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**Analytical Report**

**Travis County WCID 17**

Report Printed: 7/19/23 17:52  
 G021546

**General Chemistry - Quality Control**

Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
<i>Austin</i>												
<b>Chloride - SM4500-Cl- B 2011</b>												
Initial Cal Check	49.8	mg/L			07/16/23 11:50 MSA	50.0		99.5	90 - 110			2307160
Low Cal Check	5.07	mg/L			07/16/23 11:50 MSA	4.94		103	0 - 200			2307160
Blank	<5.00	mg/L	0.60	5.00	07/16/23 11:50 MSA							M163824
LCS	20.7	mg/L	0.60	5.00	07/16/23 11:50 MSA	19.8		105	90 - 110			M163824
LCS Dup	20.7	mg/L	0.60	5.00	07/16/23 11:50 MSA	19.8		105	90 - 110	0.00	5.86	M163824
Matrix Spike	297	mg/L	2.41	20.0	07/16/23 11:50 MSA	79.0	217	100	83.4 - 113			M163824
Matrix Spike Dup	299	mg/L	2.41	20.0	07/16/23 11:50 MSA	79.0	217	103	83.4 - 113	2.30	10.7	M163824
MRL Check	5.07	mg/L	0.60	5.00	07/16/23 11:50 MSA	4.94		103	70 - 130			M163825
Blank	<5.00	mg/L	0.60	5.00	07/16/23 11:50 MSA							M163825
LCS	20.3	mg/L	0.60	5.00	07/16/23 11:50 MSA	19.8		103	90 - 110			M163825
LCS Dup	20.7	mg/L	0.60	5.00	07/16/23 11:50 MSA	19.8		105	90 - 110	2.25	5.86	M163825
Matrix Spike	422	mg/L	2.41	20.0	07/16/23 11:50 MSA	79.0	345	97.9	83.4 - 113			M163825
Matrix Spike Dup	420	mg/L	2.41	20.0	07/16/23 11:50 MSA	79.0	345	95.6	83.4 - 113	2.41	10.7	M163825
<i>Bryan</i>												
<b>Nitrate/Nitrite as N - SM4500-NO3-F 2011</b>												
Initial Cal Check	1.2	mg/L			07/12/23 11:15 KMA	1.18		103	90 - 110			2307115
Low Cal Check	0.02	mg/L			07/12/23 11:15 KMA	0.0200		110	70 - 130			2307115
Blank	<0.02	mg/L	0.02	0.02	07/12/23 11:15 KMA							M163644
LCS	0.56	mg/L	0.02	0.02	07/12/23 11:15 KMA	0.500		112	90.1 - 115			M163644
LCS Dup	0.57	mg/L	0.02	0.02	07/12/23 11:15 KMA	0.500		113	90.1 - 115	1.42	6.1	M163644
Matrix Spike	13	mg/L	0.15	0.18	07/12/23 11:15 KMA	4.50	7.7	108	84.8 - 120			M163644
Matrix Spike Dup	13	mg/L	0.15	0.18	07/12/23 11:15 KMA	4.50	7.7	110	84.8 - 120	1.67	8.35	M163644
<i>Austin</i>												
<b>Nitrite as N - SM4500 NO2- B 2011</b>												
Initial Cal Check	0.10	mg/L			07/06/23 10:17 BEB	0.104		101	90 - 110			2307043
Low Cal Check	0.01	mg/L			07/06/23 10:17 BEB	0.0100		114	70 - 130			2307043
Blank	<0.01	mg/L	0.002	0.01	07/06/23 10:17 BEB							M163401
Filtered Blank	<0.01	mg/L	0.002	0.01	07/06/23 10:17 BEB							M163401
LCS	0.08	mg/L	0.002	0.01	07/06/23 10:17 BEB	0.0800		97.5	90 - 110			M163401
LCS Dup	0.08	mg/L	0.002	0.01	07/06/23 10:17 BEB	0.0800		97.5	90 - 110	0.00	6.71	M163401
Matrix Spike	0.07	mg/L	0.002	0.01	07/06/23 10:17 BEB	0.0800	0.004	88.0	74.6 - 107			M163401
Matrix Spike Dup	0.08	mg/L	0.002	0.01	07/06/23 10:17 BEB	0.0800	0.004	89.7	74.6 - 107	1.92	4.22	M163401
MRL Check	0.01	mg/L	0.002	0.01	07/06/23 10:17 BEB	0.0100		114	70 - 130			M163401
Initial Cal Check	0.11	mg/L			10/05/22 12:13 BEB	0.100		107	90 - 110			2210037

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**Analytical Report**

Travis County WCID 17

Report Printed: 7/19/23 17:52

G021546

**General Chemistry - Quality Control**

Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
<b>Total Dissolved Solids - SM2540 C 2015</b>												Austin
Blank	<25.0	mg/L	25.0	25.0	07/07/23 08:28 MAM							M163452
Duplicate	578	mg/L	50.0	50.0	07/07/23 08:28 MAM		568			1.75	13.9	M163452
Reference	488	mg/L	100	100	07/07/23 08:28 MAM	500		97.6	66 - 140			M163452

**Metals (Total) - Quality Control**

Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
<b>Phosphorus-Total - EPA 200.7 R4.4</b>												Austin
Blank	<0.050	mg/L	0.041	0.050	07/18/23 12:33 KT							M163669
LCS	2.59	mg/L	0.041	0.050	07/18/23 12:36 KT	2.50		104	84.5 - 115.4			M163669
LCS Dup	2.53	mg/L	0.041	0.050	07/18/23 12:38 KT	2.50		101	84.5 - 115.4	2.34	20	M163669
Duplicate	5.84	mg/L	0.041	0.050	07/18/23 12:43 KT		5.88			0.768	20	M163669
Matrix Spike	8.91	mg/L	0.041	0.050	07/18/23 12:45 KT	2.50	5.88	121	69.5 - 130.4			M163669

**Sample Preparation Summary**

Sample	Method	Prepared	Lab	Bottle	Initial	Units	Final	Units	External Dilution Factor	Batch
<b>G021546-01</b>										
Chloride	SM4500-Cl- B 2011	7/16/23 11:50 MSA	Austin	A	25.0	mL	100	mL	1	M163824
Nitrate/Nitrite as N	SM4500-NO3-F 2011	7/12/23 10:07 KMA	Bryan	C	2.00	mL	6.00	mL	1	M163644
Nitrite as N	SM4500 NO2- B 2011	7/6/23 10:17 BEB	Austin	C	25.0	mL	25.0	mL	1	M163401
Phosphorus-Total	EPA 200.7 R4.4	7/12/23 14:04 KT	Austin	D	50.0	mL	25.0	mL	1	M163669
Total Dissolved Solids	SM2540 C 2015	7/7/23 8:28 MAM	Austin	A	50.0	mL	100	mL	1	M163452
<b>G021546-02</b>										
Chloride	SM4500-Cl- B 2011	7/16/23 11:50 MSA	Austin	A	50.0	mL	100	mL	1	M163825
Nitrate/Nitrite as N	SM4500-NO3-F 2011	7/12/23 10:07 KMA	Bryan	C	2.00	mL	6.00	mL	1	M163644
Nitrite as N	SM4500 NO2- B 2011	7/6/23 10:17 BEB	Austin	B	25.0	mL	25.0	mL	1	M163401
Phosphorus-Total	EPA 200.7 R4.4	7/12/23 14:04 KT	Austin	D	50.0	mL	25.0	mL	1	M163669
Total Dissolved Solids	SM2540 C 2015	7/7/23 8:28 MAM	Austin	A	50.0	mL	100	mL	1	M163452

**Chain-of-Custody and Analysis Request**



**Aqua-Tech laboratories, Inc.**

C-O-C #

Austin Bryan  
3512 Montopolis Dr. 635 Phil Gramm Blvd.  
Austin, TX 78744 Bryan, TX 77807  
512.301.9559 979.778.3707

**G021546**

Page 1 of 1

TCEQ LAB ID:  
T104704371

Test results meet all accreditation/certification requirements unless stated otherwise.

re\_ATL COC  
012723.rpt

**Client / Project Name:** Travis County WCID 17 Steiner Ranch Seep

**Contact Information:**  
Name: Matt Gonzalez  
Address: 3812 ECK LANE  
City: AUSTIN  
State: TX Zip: 78734  
Phone: (512) 266-1111  
email:

**Definitions:**  
DW Drinking Water  
NP Non-Potable Water  
S Solid  
CM Custody Maintained  
CTU Custody Transfer Unbroken  
CT Corrected Temperature

Reagent tracking is available upon request.

Analyses Requested: "A" prefix indicates Austin, all others Bryan or Subcontracted, indicated by [SUB].  
Name format: Analysis-Matrix-Technology-Method.

[NEL] = NELAP accredited parameter [CNR] = No NELAP accreditation required or available  
[SUB] = NELAP accredited subcontracted parameter [INF] = Informational only (not NELAC certified)

By relinquishing the samples listed below to Aqua-Tech Laboratories, Inc. (ATL), the client agrees to the following terms. Samples will be analyzed by a method that is within ATL's NELAP fields of accreditation (FoA). Analytes requiring an accredited method that is not within ATL's FoA will be subcontracted to a NELAP lab that is accredited for that method. Clients will be notified of the subcontract lab's details. Other analytes not requiring accreditation will be analyzed by a compendial method. If a specific method is required, the client will note the method in the "Analysis Requested" column. The client approves all method modifications documented by ATL or the subcontract lab.

A current list of ATL's NELAC fields of accreditation and other methods are available on request.

**Comments:**

G021546 - LAB RECEIPT - T07

Temperature - CT (C): 2.7

Preservation Correct: Yes

Post-Preservatives: N/A

Thermometer ID: 0715672

pH Paper ID: 0802385

rintlwko\_A COC 042120.rpt

Sample Custody			
Relinquished (print & sign)	Tim Priem	<input checked="" type="checkbox"/> Sampler <input type="checkbox"/> Client <input type="checkbox"/> ATL Field	Date: 7/5/23 Time: 9:26
Received (print & sign)	Bryce Jones	<input type="checkbox"/> Client <input checked="" type="checkbox"/> ATL Field	Date: 7/5/23 Time: 11:40
Relinquished (print & sign)	N/A	<input type="checkbox"/> Client <input type="checkbox"/> ATL Field	Date: Time:
Received (print & sign)	N/A	<input type="checkbox"/> Client <input type="checkbox"/> ATL Field	Date: Time:
Relinquished (print & sign)	Bryce Jones	<input type="checkbox"/> Client <input checked="" type="checkbox"/> ATL Field	Date: 7/5/23 Time: 00:00
Received (print & sign)	Bryce Jones	<input checked="" type="checkbox"/> Client <input type="checkbox"/> Lab	Date: 7/5/23 Time: 00:00

Field Sample ID	Date	Start Time	End Date	End Time	Composite Type	Sample Matrix	Container (Checked box indicates bottle arrived in lab) (Volume - Type - Preservative)	Lab ID
Steiner Ranch Seep D A CI NP Tit SM 4500 Cl- B [NEL] A TDS NP Grav SM2540 C [NEL]	7/5/23	9:50	- N/A -	- N/A -	Grab	NP	<input checked="" type="checkbox"/> A CL TDS 1LP <input checked="" type="checkbox"/> B NO2 0.25LP <input checked="" type="checkbox"/> C NO3 0.1LP H2SO4 pH < 2 <input checked="" type="checkbox"/> D P 0.25LP H2SO4 pH < 2	G021546-01
Steiner Ranch Seep C A CI NP Tit SM 4500 Cl- B [NEL] A TDS NP Grav SM2540 C [NEL]	7/5/23	9:26	- N/A -	- N/A -	Grab	NP	<input checked="" type="checkbox"/> A CL TDS 1LP <input checked="" type="checkbox"/> B NO2 0.25LP <input checked="" type="checkbox"/> C NO3 0.1LP H2SO4 pH < 2 <input checked="" type="checkbox"/> D P 0.25LP H2SO4 pH < 2	G021546-02

**ATTACHMENT T**  
**SPECIAL PROVISIONS SUMMARY LETTER & TCEQ APPROVAL**

Buddy Garcia, *Chairman*  
 Larry R. Soward, *Commissioner*  
 Bryan W. Shaw, Ph.D., *Commissioner*  
 Mark R. Vickery, P.G., *Executive Director*



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

June 18, 2009

RECEIVED  
 JUN 24 2009  
 RIVER CITY ENGINEERING

MR WILLIAM F PENA PE  
 RIVER CITY ENGINEERING LTD  
 3801 S FIRST ST  
 AUSTIN TX 78704

Re: TRAVIS COUNTY WCID 17  
 STEINER RANCH WWTP EXPANSION 2009  
 TEXAS COMMISSION ON ENVIRONMENTAL QUALITY PERMIT NO 13294-001  
 WWPR LOG NO 0609/025  
 CN600669048 RN101227973  
 TRAVIS COUNTY

Dear Mr. Peña:

We have received the project summary transmittal letter dated June 11, 2009.

The rules which regulate the design, installation and testing of domestic wastewater projects are found in 30 TAC, Chapter 217, of the Texas Commission on Environmental Quality (TCEQ) rules titled, Design Criteria for Sewerage Systems.

Section 217.6(d), relating to case-by-case reviews, states in part that upon submittal of a summary transmittal letter, the executive director may approve of the project without reviewing a complete set of plans and specifications.

Under the authority of §217.6(e) a technical review of complete plans and specifications is not required. **However, the project proposed in the summary transmittal letter is approved for construction. Please note, that this conditional approval does not relieve the applicant of any responsibilities to obtain all other necessary permits or authorizations, such as wastewater treatment permit or other authorization as required by Chapter 26 of the Texas Water Code.** Below are provisions of the Chapter 217 regulations, which must be met as a condition of approval. These items are provided as a reminder. If you have already met these requirements, please disregard this additional notice.

1. You must keep certain materials on file for the life of the project and provide them to TCEQ upon request. These materials include an engineering report, test results, a summary transmittal letter, and the final version of the project plans and specifications. These materials shall be prepared and sealed by a Professional Engineer licensed in the State of Texas and must show substantial compliance with Chapter 217. All plans and specifications must conform to any waste discharge requirements authorized in a permit by the TCEQ. Certain specific items which shall be addressed in the engineering report are discussed in §217.6(c). Additionally, the engineering report must include all constants, graphs, equations, and calculations needed to show substantial compliance with Chapter 217. The items which shall be included in the summary transmittal letter are addressed in §217.6(c)(1)-(10).

Mr. William F. Peña, P.E.

Page 2

June 18, 2009

2. Any deviations from Chapter 217 shall be disclosed in the summary transmittal letter and the technical justifications for those deviations shall be provided in the engineering report. Any deviations from Chapter 217 shall be based on the best professional judgement of the licensed professional engineer sealing the materials and the engineer's judgement that the design would not result in a threat to public health or the environment.
3. Any variance from a Chapter 217 requirement disclosed in your summary transmittal letter is approved. If in the future, additional variances from the Chapter 217 requirements are desired for the project, each variance must be requested in writing by the design engineer. Then, the TCEQ will consider granting a written approval to the variance from the rules for the specific project and the specific circumstances.
4. Within 60 days of the completion of construction, an appointed engineer shall notify both the Wastewater Permits Section of the TCEQ and the appropriate Region Office of the date of completion. The engineer shall also provide written certification that all construction, materials, and equipment were substantially in accordance with the approved project, the rules of the TCEQ, and any change orders filed with the TCEQ. All notifications, certifications, and change orders must include the signed and dated seal of a Professional Engineer licensed in the State of Texas.

This approval does not mean that future projects will be approved without a complete plans and specifications review. The TCEQ will provide a notification of intent to review whenever a project is to undergo a complete plans and specifications review. Please be reminded of §217.5 of the rules which states, "Approval given by the executive director...shall not relieve the sewerage system owner or the design engineer of any liabilities or responsibilities with respect to the proper design, construction, or authorized operation of the project in accordance with applicable commission rules."

If you have any questions or if we can be of any further assistance, please call me at (512) 239-4552.

Sincerely,



Louis C. Herrin, III, P.E.  
Wastewater Permits Section (MC 148)  
Water Quality Division  
Texas Commission on Environmental Quality

LCH/ms

cc: TCEQ, Region 11 Office



June 11, 2009

Louis C. Herrin III, P.E.  
TNRCC – MC 148  
12100 Park 35 Circle  
Austin, Texas 78753  
P.O. Box 13087  
Austin, Texas 78711-3087

**Re: Chapter 217 Summary Transmittal Letter**  
**Permittee: Travis County W.C. & I.D. No. 17**  
**3812 Eck Lane, Austin, Texas 78734**  
**Permit Number: 13294-001**  
**Project Name: Steiner Ranch WWTP Expansion – 2009**  
**County: Travis**

Dear Mr. Herin:

The purpose of this letter is to provide the TNRCC with the information necessary to comply with the requirements of § 217.6(c) of the TCEQ's rules entitled, Design Criteria for Domestic Wastewater Systems. The necessary information includes:

1. Engineering Firm:  
River City Engineering, Ltd.  
3801 South First Street  
Austin, Texas 78704
2. Design Engineer:  
William F. Peña, P.E.  
Phone: (512) 442-3008  
Fax: (512) 442-6522
3. Entity to Own, Operate and Maintain the project through its design life:  
Travis County Water Control and Improvement District No. 17  
3812 Eck Lane  
Austin, Texas 78734
4. Wastewater Treatment Plant Operator:  
Kevin Sattler

P:\Projects\6014 (WCID No 17)\222-Steiner WWTP Expansion - 1.5  
MGD\docs\Ltr.2009.06.11 LHerrin.doc

*Austin:* 3801 S. First Street, Austin, TX 78704 • BUS (512) 442-3008 • FAX (512) 442-6522  
*San Antonio Area:* 1011 W. County Line Rd., Suite C, New Braunfels, TX 78130 • BUS (830) 626-3588 • FAX (830) 626-3601

5. Variances from Chapter 217, which are a part of the design:  
This design contains no Variances from Chapter 217.
6. Innovative or Nonconforming Technologies:  
No innovative or nonconforming technologies are proposed as part of this project.
7. The plans and specification:  
The plans and specifications which describe the project identified in this letter are in substantial compliance with all the requirements of Chapter 217.
8. Description of the project and it's scope:  
This project entails expanding the treatment capacity of the existing Steiner Ranch Wastewater Treatment Plant. Travis County WC&ID No. 17 (the District) currently holds TPDES Permit No. 13294-001, allowing disposal of a maximum average flow rate of 525,000 gallons per day (gpd). At full build-out of the Steiner Ranch service area a maximum of 1.50 million gallons per day (MGD) would be generated. The excess treated effluent, up to a maximum of 975,000-gpd, would be sent to the City of Austin's collection system for disposal, in accordance with the Special Provision of the existing Permit.

This project involves constructing a new disk filter facility, increasing the storage volume of the existing effluent holding basins, and associated yard piping, site work, and electrical. A new disk filter facility, with an average daily capacity of 1.50 MGD, will be constructed to provide tertiary treatment of the effluent. There are currently two (2) effluent holding basins. This project will increase the capacity of each of these basins by adding to the height of each of the storage tanks. In addition to these improvements associated yard piping, site work and electrical will be constructed. These improvements would increase the treatment capacity of the existing plant from 1,330,000-gpd to 1,500,000-gpd.

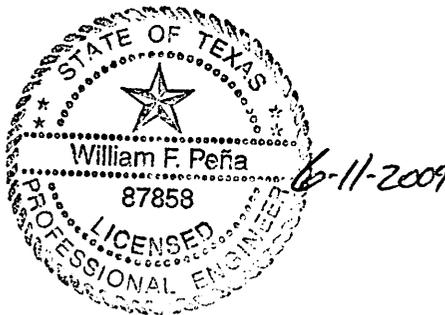
Current wastewater flows average approximately 700,000-gpd. The permitted effluent limitations consist of a maximum daily average BOD of 10mg/L. The pH of the effluent shall not be less than 6.0 mgd not greater than 9.0. The effluent shall be chlorinated to a residual of 1.0mg/L with a minimum detention time of 20 minutes.

If you have any questions, or need any additional information, please do not hesitate to contact us.

Sincerely,



William F. Peña, P. E.



Cc: Firoj Vahora – TCEQ – MC 148  
Deborah Gernes – Travis County W.C & I.D. No. 17

**ATTACHMENT U**  
**PLAIN LANGUAGE SUMMARIES**



## 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 Enter 'INDUSTRIAL' or 'DOMESTIC' here 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.*

Travis County Water Control and Improvement District No. 17 (CN600669048) operates the Steiner Ranch Wastewater Facility (RN101227973), an activated sludge process facility. The facility is located at 3415 ½ N. Quinlan Park Road, in Austin, Travis County, Texas 78732. This application is for a renewal to dispose of treated domestic wastewater at a daily average flow not to exceed 0.525 million gallons per day (MGD) via drip and spray irrigation, and to pre-treat and divert flows above 0.525 MGD but not exceeding 1.5 MGD to the City of Austin regional wastewater system. This permit will not authorize a discharge of pollutants into water in the state.

Discharges from the facility are expected to contain Biochemical Oxygen Demand (BOD<sub>5</sub>), pH, and Chlorine (CL<sub>2</sub>). Domestic wastewater is treated by a step screen headworks, influent equalization basin, sequencing batch reactor basins, chlorine contact basins, effluent holding basins, and tertiary filters. Sludge is treated by aerobic digesters and a belt press.

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

**AGUAS RESIDUALES** Introduzca 'INDUSTRIALES' o 'DOMÉSTICAS' aquí /**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.*

Travis County Water Control and Improvement District No 17 (CN600669048) opera la instalación de tratamiento de aguas residuales de Steiner Ranch (RN101227973, una instalación de proceso de lodos activados. La instalación está ubicada en 3415 ½ N. Quinlan Park Road, en la ciudad de Austin, Condado de Travis, Texas 78732. Esta solicitud es para una renovación para eliminar aguas residuales domésticas tratadas a un flujo promedio diario que no exceda los 0.525 millones de galones por día (MGD) mediante riego por goteo y aspersión, y para pretratar y desviar flujos superiores a 0.525 MGD pero que no excedan los 1.5 MGD al sistema regional de aguas residuales de la ciudad de Austin. 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 (BOD<sub>5</sub>) y pH y cloro (CL<sub>2</sub>). Aguas residuales domésticas. está tratado por mediante cabezales de criba escalonada, cuencas de equalización de afluentes, cuencas de reactores discontinuos de secuenciación, cuencas de contacto con cloro, cuencas de retención de efluentes y filtros terciarios. El tratamiento de lodos se realiza mediante digestores aeróbicos y una prensa de cinta.

## INSTRUCTIONS

1. Enter the name of applicant in this section. The applicant name should match the name associated with the customer number.
2. Enter the Customer Number in this section. Each Individual or Organization is issued a unique 11-digit identification number called a CN (e.g. CN123456789).
3. Choose “operates” in this section for existing facility applications or choose “proposes to operate” for new facility applications.
4. Enter the name of the facility in this section. The facility name should match the name associated with the regulated entity number.
5. Enter the Regulated Entity number in this section. Each site location is issued a unique 11-digit identification number called an RN (e.g. RN123456789).
6. Choose the appropriate article (a or an) to complete the sentence.
7. Enter a description of the facility in this section. For example: steam electric generating facility, nitrogenous fertilizer manufacturing facility, etc.
8. Choose “is” for an existing facility or “will be” for a new facility.
9. Enter the location of the facility in this section.
10. Enter the City nearest the facility in this section.
11. Enter the County nearest the facility in this section.
12. Enter the zip code for the facility address in this section.
13. Enter a summary of the application request in this section. For example: renewal to discharge 25,000 gallons per day of treated domestic wastewater, new application to discharge process wastewater and stormwater on an intermittent and flow-variable basis, or major amendment to reduce monitoring frequency for pH, etc. If more than one outfall is included in the application, provide applicable information for each individual outfall.
14. List all pollutants expected in the discharge from this facility in this section. If applicable, refer to the pollutants from any federal numeric effluent limitations that apply to your facility.
15. Enter the discharge types from your facility in this section (e.g., stormwater, process wastewater, once through cooling water, etc.)
16. Choose the appropriate verb tense to complete the sentence.
17. Enter a description of the wastewater treatment used at your facility. Include a description of each process, starting with initial treatment and finishing with the outfall/point of disposal. Use additional lines for individual discharge types if necessary.

Questions or comments concerning this form may be directed to the Water Quality Division’s Application Review and Processing Team by email at [WQ-ARPTeam@tceq.texas.gov](mailto:WQ-ARPTeam@tceq.texas.gov) or by phone at (512) 239-4671.

## Example

### Individual Industrial Wastewater Application

*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 are not federal enforceable representations of the permit application.*

ABC Corporation (CN600000000) operates the Starr Power Station (RN10000000000), a two-unit gas-fired electric generating facility. Unit 1 has a generating capacity of 393 megawatts (MWs) and Unit 2 has a generating capacity of 528 MWs. The facility is located at 1356 Starr Street, near the City of Austin, Travis County, Texas 78753.

This application is for a renewal to discharge 870,000,000 gallons per day of once through cooling water, auxiliary cooling water, and also authorizes the following waste streams monitored inside the facility (internal outfalls) before it is mixed with the other wastewaters authorized for discharge via main Outfall 001, referred to as “previously monitored effluents” (low-volume wastewater, metal-cleaning waste, and stormwater (from diked oil storage area yards and storm drains)) via Outfall 001. Low-volume waste sources, metal-cleaning waste, and stormwater drains on a continuous and flow-variable basis via internal Outfall 101.

The discharge of once through cooling water via Outfall 001 and low-volume waste and metal-cleaning waste via Outfall 101 from this facility is subject to federal effluent limitation guidelines at 40 CFR Part 423. The pollutants expected from these discharges based on 40 CFR Part 423 are: free available chlorine, total residual chlorine, total suspended solids, oil and grease, total iron, total copper, and pH. Temperature is also expected from these discharges. Additional potential pollutants are included in the Industrial Wastewater Application Technical Report, Worksheet 2.0.

Cooling water and boiler make-up water are supplied by Lake Starr Reservoir. The City of Austin municipal water plant (CN600000000, PWS 00000) supplies the facility’s potable water and serves as an alternate source of boiler make-up water. Water from the Lake Starr Reservoir is withdrawn at the intake structure and treated with sodium hypochlorite to prevent biofouling and sodium bromide as a chlorine enhancer to improve efficacy and then passed through condensers and auxiliary equipment on a once-through basis to cool equipment and condense exhaust steam.

Low-volume wastewater from blowdown of boiler Units 1 and 2 and metal-cleaning wastes receive no treatment prior to discharge via Outfall 101. Plant floor and equipment drains and stormwater runoff from diked oil storage areas, yards, and storm drains are routed through an oil and water separator prior to discharge via Outfall 101. Domestic wastewater, blowdown, and backwash water from the service water filter, clarifier, and sand filter are routed to the Starr Creek Domestic Sewage Treatment Plant, TPDES Permit No. WQ0010000001, for treatment and disposal. Metal-cleaning waste from equipment cleaning is generally disposed of off-site.

**ATTACHMENT V**  
**PUBLIC INVOLVEMENT PLAN FORM**



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 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)

(County)

(Census Tract)

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

City

County

Census Tract

- (a) Percent of people over 25 years of age who at least graduated from high school
  
- (b) Per capita income for population near the specified location
  
- (c) Percent of minority population and percent of population by race within the specified location
  
- (d) Percent of Linguistically Isolated Households by language within the specified location
  
- (e) Languages commonly spoken in area by percentage
  
- (f) Community and/or Stakeholder Groups
  
- (g) Historic public interest or involvement

## Section 6. Planned Public Outreach Activities

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

Yes      No

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

Yes      No

If Yes, please describe.

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

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

Yes      No

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

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

- Publish in alternative language newspaper
- Posted on Commissioner’s Integrated Database Website
- Mailed by TCEQ’s Office of the Chief Clerk
- Other (specify)

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

Yes      No

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

Yes      No

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

- TCEQ Regional Office      TCEQ Central Office
- Public Place (specify)

## Section 7. Voluntary Submittal

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

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

Yes      No

What types of notice will be provided?

- Publish in alternative language newspaper
- Posted on Commissioner’s Integrated Database Website
- Mailed by TCEQ’s Office of the Chief Clerk
- Other (specify)

RE: Application to Renew Permit No. WQ0013294001 - Notice of Deficiency Letter

Mike Bevilacqua <mbevilacqua@baxterwoodman.com>

Wed 5/29/2024 5:13 PM

To:Savannah Jackson <Savannah.Jackson@tceq.texas.gov>

Ccjunks@wcid17.org <jkunz@wcid17.org>;Erwin Madrid <Erwin.Madrid@tceq.texas.gov>

2 attachments (591 KB)

NORI Comments.pdf; Steiner NORI Spanish.docx;

Hi Savannah,

We had three (3) minor comments on the NORI. They are all adding "No." to the applicant's name in the notice. See attached in red.

Also attached is the Spanish NORI.

Please let me know if you have any questions or need any additional information from us.

Thanks

**Michael E. Bevilacqua, P.E.**  
Senior Project Manager

**Green Civil Design**  
A Baxter & Woodman Company  
Direct: 737-358-8103  
Cell: 512-568-9974  
301 Denali Pass, Suite #3  
Cedar Park, TX 78613  
TBPELS Registration No. F-21783

This email and any attachments are confidential and are intended solely for the use of the intended addressee(s). If you have received this email in error, please notify the sender immediately or call 815,459,1260 and delete this email. If you are not the intended recipient(s), any use, retention, dissemination, forwarding, printing, or copying of this e-mail is strictly prohibited. The integrity and security of this message cannot be guaranteed on the Internet. Thank You.

---

**From:** Savannah Jackson <Savannah.Jackson@tceq.texas.gov>  
**Sent:** Wednesday, May 29, 2024 10:42 AM  
**To:** Mike Bevilacqua <mbevilacqua@baxterwoodman.com>  
**Cc:** jkunz@wcid17.org; Erwin Madrid <Erwin.Madrid@tceq.texas.gov>  
**Subject:** Application to Renew Permit No. WQ0013294001 - Notice of Deficiency Letter

You don't often get email from [savannah.jackson@tceq.texas.gov](mailto:savannah.jackson@tceq.texas.gov). [Learn why this is important](#)

\*\*\* **CAUTION: Think Security!** This email originated from outside of Baxter & Woodman, Inc. Do not click on links or open attachments unless you recognize the sender and know that the content is safe.

Dear Mr. Michael Bevilacqua,

The attached Notice of Deficiency letter sent on May 29, 2024, requests additional information needed to declare the application administratively complete. Please send the complete response to my attention by June 12, 2024.

Thank you,



**Savannah Jackson**

Texas Commission on Environmental Quality

Water Quality Division

512-239-4306

[savannah.jackson@tceq.texas.gov](mailto:savannah.jackson@tceq.texas.gov)

Jon Niermann, *Chairman*  
Bobby Janecka, *Commissioner*  
Catarina R. Gonzales, *Commissioner*  
Kelly Keel, *Executive Director*



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

May 29, 2024

Mr. Michael Bevilacqua, P.E.  
Senior Project Manager  
Baxter and Woodman  
301 Denali Pass, Suite #3  
Cedar Park, Texas 78613

RE: Application to Renew Permit No.: WQ0013294001  
Applicant Name: Travis County Water Control and Improvement District 17 (CN600669048)  
Site Name: Travis County WCID 17 WWTP (RN104397161)  
Type of Application: Renewal without changes

Add "No."

### VIA EMAIL

Dear Mr. Bevilacqua:

Add "No."

We have received the application for the above referenced permit, and it is currently under review. Your attention to the following item(s) are requested before we can declare the application administratively complete. Please submit responses to the following items via email.

1. The following is a portion of the NORI which contains information relevant to your application. Please read it carefully and indicate if it contains any errors or omissions. The complete notice will be sent to you once the application is declared administratively complete.

**APPLICATION.** Travis County Water Control and Improvement District 17, 3812 Eck Lane, Austin, Texas 78734, has applied to the Texas Commission on Environmental Quality (TCEQ) to renew Texas Land Application Permit (TLAP) No. WQ0013294001 to authorize the disposal of treated wastewater at a volume not to exceed a daily average flow of 525,000 gallons per day via surface irrigation of 145 acres of golf course and subsurface drip irrigation of 28.7 acres of nonpublic access perennial pastureland. The domestic wastewater treatment facility and disposal area are located at 3415 1/2 North Quinlan Park Road, in the city of Austin, in Travis County, Texas 78732. TCEQ received this application on May 20, 2024. The permit application will be available for viewing and copying at Travis County WCID No. 17, Conference Room, 3812 Eck Lane, Austin, in Travis County, Texas prior to the date this notice is published in the newspaper. 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=-97.886446,30.368383&level=18>

Mr. Michael Bevilacqua, P.E.

Page 2

May 29, 2024

Permit No. WQ0013294001 **Add "No."**

Further information may also be obtained from Travis County Water Control and Improvement District 17 at the address stated above or by calling Mr. Michael Bevilacqua, P.E., Baxter and Woodman, at 737-358-8103.

2. The application indicates that public notices in Spanish are required. After confirming the portion of the NORI above does not contain any errors or omissions, please use the attached template to translate the NORI into Spanish. Only the first and last paragraphs are unique to this application and require translation. Please provide the translated Spanish NORI in a Microsoft Word document.

Please submit the complete response, addressed to my attention by June 12, 2024. If you should have any questions, please do not hesitate to contact me by phone at (512) 239-4306 or by email at [savannah.jackson@tceq.texas.gov](mailto:savannah.jackson@tceq.texas.gov)

Sincerely,



Savannah Jackson  
Applications Review and Processing Team (MC148)  
Water Quality Division  
Texas Commission of Environmental Quality

slj

Enclosure(s):

Attachment 1 - Municipal Discharge Renewal Spanish NORI

cc: Mr. Joe Kunz, Operations Manager, Travis County Water Control and Improvement District No. 17, 3812 Eck Lane, Austin, Texas 78734

# Comisión de Calidad Ambiental del Estado de Texas



## AVISO DE RECIBO DE LA SOLICITUD Y EL INTENTO DE OBTENER PERMISO PARA LA CALIDAD DEL AGUA RENOVACION

### PERMISO NO. WQ0013294001

**SOLICITUD.** Travis County Water Control and Improvement District No. 17, 3812 Eck Lane, Austin, Texas 78734 ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para renovar el Permiso de Solicitud de Tierras de Texas (TLAP) No. WQ0013294001 para autorizar la disposición de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio diario de 525.000 galones por día mediante riego superficial de 145 acres de campo de golf y riego por goteo subterráneo de 28.7 acres de pastizales perennes de acceso no público. La instalación de tratamiento de aguas residuales domésticas y el área de eliminación están ubicadas en 3415 1/2 Norte Quinlan Park Road en la ciudad de Austin, en el Condado de Travis, Texas 78732. La TCEQ recibió esta solicitud el 20 de mayo de 2024. La solicitud para el permiso estará disponible para leerla y copiarla en Travis County WCID No. 17, Sala de Conferencias, 3812 Eck Lane, Austin, en Condado de Travis, 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=-97.886446,30.368383&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 por qué 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. Si ciertos criterios se cumplen, la TCEQ puede actuar sobre una solicitud para renovar un permiso sin proveer una oportunidad de una audiencia administrativa de lo contencioso.

**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. Además, puede pedir que la TCEQ ponga su nombre en una o más de las listas de 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 específico. Si desea que se agregue su nombre en una de las listas designe cual lista(s) y envía 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 Travis County Water Control and Improvement District No. 17 a la dirección indicada arriba o llamando a Michael E. Bevilacqua, P.E., Baxter and Woodman al 737-358-8103

Fecha de emission: