



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

English Plain Language Summary

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 Texas Administrative Code 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.

Sapelo Liberty Hill LP, 1608 W 5th Street, Suite 240, Austin, TX 78703 applied to the Texas Commission on Environmental Quality (TCEQ) for a New (TLAP) Permit to authorize the disposal of treated wastewater at a volume not to exceed a daily average flow of 95,400 gallons per day via public access surface spray irrigation system with a minimum of 26.5 acres.

The domestic wastewater treatment facility will be located approximately 0.54 miles west of the intersection of SH 183 and Agua Fria Rd in the city of Liberty Hill in Williamson County, Texas 78642. The permit application will be available for viewing and copying Liberty Hill Public Library, 355 Main St, Liberty Hill in Williamson County TX 78642.

Discharges from the facility are expected to contain five-day carbonaceous biochemical oxygen demand (CBOD5), total suspended solids (TSS), ammonia nitrogen (NH3-N), and Escherichia coli. Domestic wastewater will be treated by an MBR, and the system will have a primary screen, equalization tank, multiple process trains consisting of anoxic, aeration, membrane zones, and sludge holding tanks. The facility will utilize chlorine or UV disinfection.



Spanish Plain Language Summary

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 exige 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 federal. representaciones ejecutables de la solicitud de permiso.

Sapelo Liberty Hill LP, 1608 W 5th Street, Suite 240, Austin, TX 78703 solicitó a la Comisión de Calidad Ambiental de Texas (TCEQ) un nuevo permiso (TLAP) para autorizar la eliminación de aguas residuales tratadas en un volumen que no exceda el diario. Flujo promedio de 95,400 galones por día a través de un sistema de riego por aspersión superficial de acceso público con un mínimo de 26.5 acres.

La instalación de tratamiento de aguas residuales domésticas estará ubicada aproximadamente a 0.54 millas al oeste de la intersección de SH 183 y Agua Fria Rd en la ciudad de Liberty Hill en el condado de Williamson, Texas 78642. La solicitud de permiso estará disponible para ver y copiar en la Biblioteca Pública de Liberty Hill. 355 Main St, Liberty Hill en el condado de Williamson TX 78642.

Se espera que las descargas de la instalación contengan demanda bioquímica de oxígeno carbonoso (CBOD5) de cinco días, sólidos suspendidos totales (SST), nitrógeno amoniacal (NH3-N) y Escherichia coli. Las aguas residuales domésticas serán tratadas mediante un MBR y el sistema tendrá una pantalla primaria, un tanque de ecualización, múltiples trenes de proceso que constan de zonas anóxicas, de aireación, de membrana y tanques de retención de lodos. La instalación utilizará cloro o desinfección UV.



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



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

PROPOSED PERMIT NO. WQ0016683001

APPLICATION. Sapelo Liberty Hill, LP, 1608 West 5th Street, Unit 240, Austin, Texas 78703, has applied to the Texas Commission on Environmental Quality (TCEQ) for proposed Texas Land Application Permit (TLAP) No. WQ0016683001 to authorize the disposal of treated wastewater at a volume not to exceed a daily average flow of 95,400 gallons per day via public access surface spray irrigation system with a minimum of 26.5 acres. The domestic wastewater treatment facility and disposal area will be located approximately 0.54 miles west of the intersection of Agua Fria Road and U.S. Highway 183, near the city of Liberty Hill, in Williamson County, Texas 78642. TCEQ received this application on December 10, 2024. The permit application will be available for viewing and copying at Liberty Hill Public Library, 355 Main Street, Liberty Hill, in Williamson 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=-97.8875,30.678888&level=18>

ALTERNATIVE LANGUAGE NOTICE. Alternative language notice in Spanish is available at:

<https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tlap-applications>.

El aviso de idioma alternativo en español está disponible en

<https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tlap-applications>.

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

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

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

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

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

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

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

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

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

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

Further information may also be obtained from Sapelo Liberty Hill, LP at the address stated above or by calling Mr. Ashraya Upadhyaya, JA Wastewater LLC, at 903-414-0307.

Issuance Date: February 12, 2025

Comisión de Calidad Ambiental del Estado de Texas



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

PERMISO PROPUESTO NO. WQ0016683001

SOLICITUD. Sapelo Liberty Hill, LP, 1608 West 5th Street, Unit 240, Austin, Texas 78703, ha solicitado a la Comisión de Calidad Ambiental de Texas (TCEQ) para el propuesto Permiso No. WQ0016683001 de disposición de aguas residuales para autorizar la disposición de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio diario de 95,400 galones por día por medio de acceso público sistema de riego por aspersión superficial con un mínimo de 26.5 acres. La planta de tratamiento de aguas domésticos residuales y el área de disposición estarán ubicados en aproximadamente 0,54 millas al oeste de la intersección de Agua Fria Road y U.S. Highway 183, cerca de la ciudad de Liberty Hill, en Williamson Condado, Texas 78642. La TCEQ recibió esta solicitud el día 10 de diciembre de 2024. La solicitud para el permiso estará disponible para leerla y copiarla en Liberty Hill Public Library, 355 Main Street, Liberty Hill, en el condado de Williamson, Texas antes de la fecha de publicación de este aviso en el periódico. La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página web:

<https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tlap-applications>.

Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud.

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-97.8875,30.678888&level=18>

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

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

COMENTARIO PUBLICO / REUNION PUBLICA. Usted puede presentar comentarios públicos o pedir una reunión pública sobre esta solicitud. El propósito de una reunión pública es dar la oportunidad de presentar comentarios o hacer preguntas acerca de la solicitud. La TCEQ realiza una reunión pública si el Director Ejecutivo determina que hay un grado de interés

público suficiente en la solicitud o si un legislador local lo pide. Una reunión pública no es una audiencia administrativa de lo contencioso.

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

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

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

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

solicitudes en un condado 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.

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

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

También se puede obtener información adicional del Sapelo Liberty Hill, LP a la dirección indicada arriba o llamando a Ashraya Upadhyaya, JA Wastewater LLC, al 903-414-0307.

Fecha de emisión el 12 de febrero de 2025

Leah Whallon

From: Janela Revilla <jrevilla@jawastewater.com>
Sent: Tuesday, February 11, 2025 10:32 AM
To: Leah Whallon; Ash Upadhyaya
Cc: Jamie Miller; justin.reynolds@sapelogroup.com
Subject: Re: Application for Proposed Permit No. WQ0016683001; Sapelo Liberty Hill, LP; Canady Tract WWTF; Notice of Deficiency 30-Day Will Return Letter
Attachments: Updated_Forms_and_Exhibits_2.pdf
Follow Up Flag: Follow up
Flag Status: Flagged

Part 2 of 2:

- Updated Forms and Exhibits 2

Please let me know if they all went through! I'm happy to send a Dropbox link as a backup.

Thanks,
Janela Revilla



Janela Revilla
Project Engineer
JA Wastewater, LLC
(737) 864-3476
jrevilla@jawastewater.com

From: Janela Revilla <jrevilla@jawastewater.com>
Sent: Tuesday, February 11, 2025 10:30 AM
To: Leah Whallon <Leah.Whallon@Tceq.Texas.Gov>; Ash Upadhyaya <aupadhyaya@jawastewater.com>
Cc: Jamie Miller <jmiller@jawastewater.com>; justin.reynolds@sapelogroup.com <justin.reynolds@sapelogroup.com>
Subject: Re: Application for Proposed Permit No. WQ0016683001; Sapelo Liberty Hill, LP; Canady Tract WWTF; Notice of Deficiency 30-Day Will Return Letter

Hi Leah,

I attached the responses here. Sorry about that! The files sent previously were under 20MB but perhaps outlook did not let it go through.

Here is part 1 of 2:

- Setback request
- Storage request
- Updated Forms and Exhibits 1

Thanks,
Janela Revilla



Janela Revilla
Project Engineer
JA Wastewater, LLC
(737) 864-3476
jrevilla@jawastewater.com

From: Leah Whallon <Leah.Whallon@Tceq.Texas.Gov>

Sent: Tuesday, February 11, 2025 10:18 AM

To: Janela Revilla <jrevilla@jawastewater.com>; Ash Upadhyaya <aupadhyaya@jawastewater.com>

Cc: Jamie Miller <jmiller@jawastewater.com>; justin.reynolds@sapelogroup.com <justin.reynolds@sapelogroup.com>

Subject: RE: Application for Proposed Permit No. WQ0016683001; Sapelo Liberty Hill, LP; Canady Tract WWTF; Notice of Deficiency 30-Day Will Return Letter

Good Morning Janela,

I'm following up again, I didn't see an email response for this application yet.

Thanks,



Leah Whallon

Texas Commission on Environmental Quality

Water Quality Division

512-239-0084

leah.whallon@tceq.texas.gov

How is our customer service? Fill out our online customer satisfaction survey at

www.tceq.texas.gov/customersurvey

From: Janela Revilla <jrevilla@jawastewater.com>

Sent: Monday, February 10, 2025 9:57 AM

To: Leah Whallon <Leah.Whallon@Tceq.Texas.Gov>; Ash Upadhyaya <aupadhyaya@jawastewater.com>

Cc: Jamie Miller <jmiller@jawastewater.com>; justin.reynolds@sapelogroup.com

Subject: Re: Application for Proposed Permit No. WQ0016683001; Sapelo Liberty Hill, LP; Canady Tract WWTF; Notice of Deficiency 30-Day Will Return Letter

Good morning Leah,

I believe we have sent the responses in a different email chain. I will forward it shortly!

Thanks,

Janela Revilla



Janela Revilla
Project Engineer
JA Wastewater, LLC
(737) 864-3476
jrevilla@jawastewater.com

From: Leah Whallon <Leah.Whallon@Tceq.Texas.Gov>

Sent: Monday, February 10, 2025 9:16 AM

To: Ash Upadhyaya <aupadhyaya@jawastewater.com>

Cc: Jamie Miller <jmiller@jawastewater.com>; Janela Revilla <jrevilla@jawastewater.com>; justin.reynolds@sapelogroup.com <justin.reynolds@sapelogroup.com>

Subject: RE: Application for Proposed Permit No. WQ0016683001; Sapelo Liberty Hill, LP; Canady Tract WWTF; Notice of Deficiency 30-Day Will Return Letter

Good Morning,

I wanted to follow up on this application. I have not received the updated response and application. Please let me know if you have any questions.

Thank you,



Leah Whallon

Texas Commission on Environmental Quality

Water Quality Division

512-239-0084

leah.whallon@tceq.texas.gov

How is our customer service? Fill out our online customer satisfaction survey at

www.tceq.texas.gov/customersurvey

From: Leah Whallon

Sent: Thursday, January 9, 2025 4:26 PM

To: Ash Upadhyaya <aupadhyaya@jawastewater.com>

Cc: Jamie Miller <jmiller@jawastewater.com>; Janela Revilla <jrevilla@jawastewater.com>; justin.reynolds@sapelogroup.com

Subject: Application for Proposed Permit No. WQ0016683001; Sapelo Liberty Hill, LP; Canady Tract WWTF; Notice of Deficiency 30-Day Will Return Letter

Good Afternoon,

Please see the attached Notice of Deficiency 30-Day Will Return Letter dated January 10, 2025 requesting the response needed to declare the application administratively complete. The original will be sent by certified mail. Please send the complete response by February 9, 2025.

Thank you,



Leah Whallon

Texas Commission on Environmental Quality

Water Quality Division

512-239-0084

leah.whallon@tceq.texas.gov

How is our customer service? Fill out our online customer satisfaction survey at www.tceq.texas.gov/customersurvey



January 21, 2025

Texas Commission on Environmental Quality
12100 Park 35 Circle
Austin, TX 78753

Subject: Request for Variance on Setback Requirement from Water Bodies

Hello,

I am writing to formally request a variance to the setback requirement for the TLAP Application for Canady Tract WWTF (WQ0016683001). The current regulation stipulates a 100-foot setback from waters of the state. We are requesting approval for a 50-foot setback instead of the required 100 feet.

We recognize the importance of protecting water bodies and maintaining water quality. We plan to integrate environmental safeguards into the disposal area design to minimize potential impacts on water bodies. These measures include the construction of berms and the installation of erosion control structures to mitigate any runoff into the water bodies. With these measures in place, we believe that a 50-foot setback will provide adequate protection while allowing us to proceed with the project in an efficient manner.

We are committed to ensuring that all aspects of the project adhere to regulatory requirements and best practices for environmental protection. We are happy to provide any additional information or documentation needed to support this request.

Thank you for your time and consideration. We look forward to your favorable response.

Sincerely,

A handwritten signature in black ink that reads 'Jamie L. Miller'.

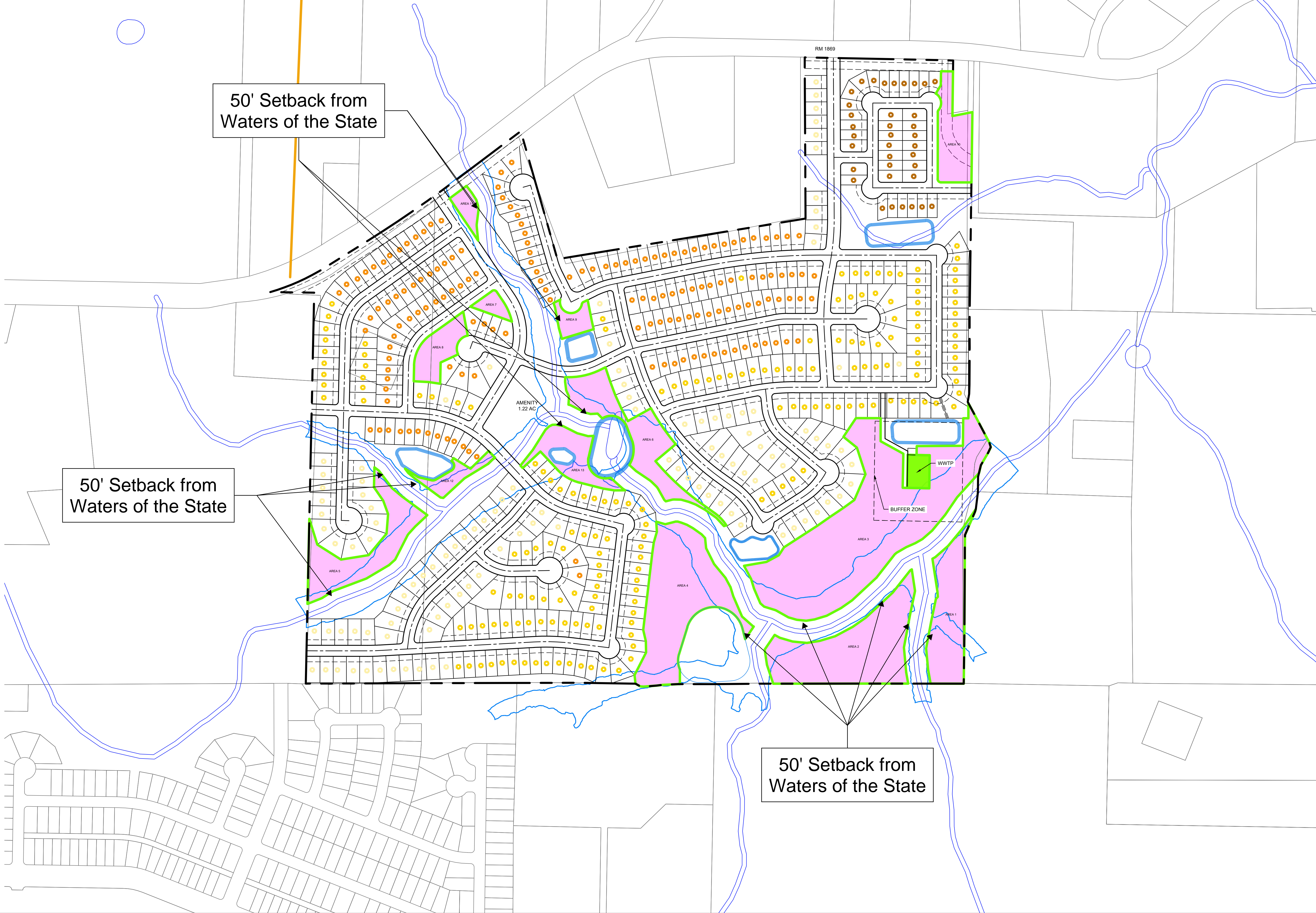
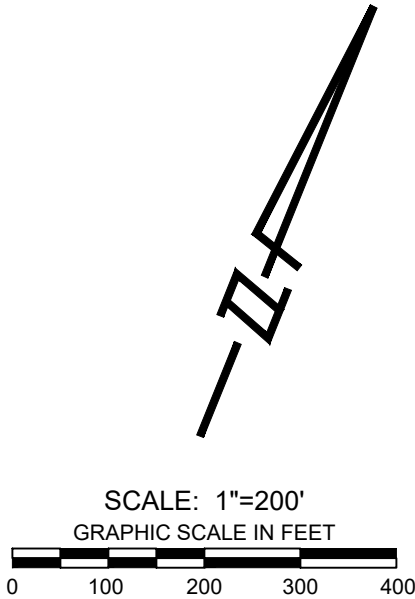
Jamie Miller, PE
President
JA Wastewater, LLC
Firm Number F-23372

Canady Tract WWTF - Attachment A

50' Setback from Waters of the State

50' Setback from Waters of the State

50' Setback from Waters of the State





January 21, 2025

Texas Commission on Environmental Quality
12100 Park 35 Circle
Austin, TX 78753

Subject: Request for Reduction in Wastewater Treatment Facility Storage Requirement

Hello,

I am writing to formally request a modification to the storage requirements for the TLAP Application for Canady Tract WWTF (WQ0016683001). Specifically, we are requesting a reduction in the required storage duration from 109 days shown on the water balance to 50 days of storage.

While our water balance calculations indicate a need for 109 days of storage, experience with similar WWTFs in the area show that these systems typically remain empty. Additionally, it is important to note that extreme weather events have occurred in certain years, which skews the water balance, exaggerating the required pond size.

Based on this regional operational data and an analysis of flows, we believe that a 50-day storage capacity is sufficient for the Canady Tract WWTF. In the event that the 50-day threshold is exceeded, we are fully prepared to implement pump and haul procedures to manage any excess volume as needed.

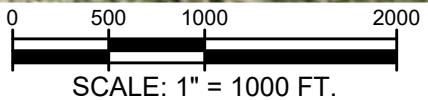
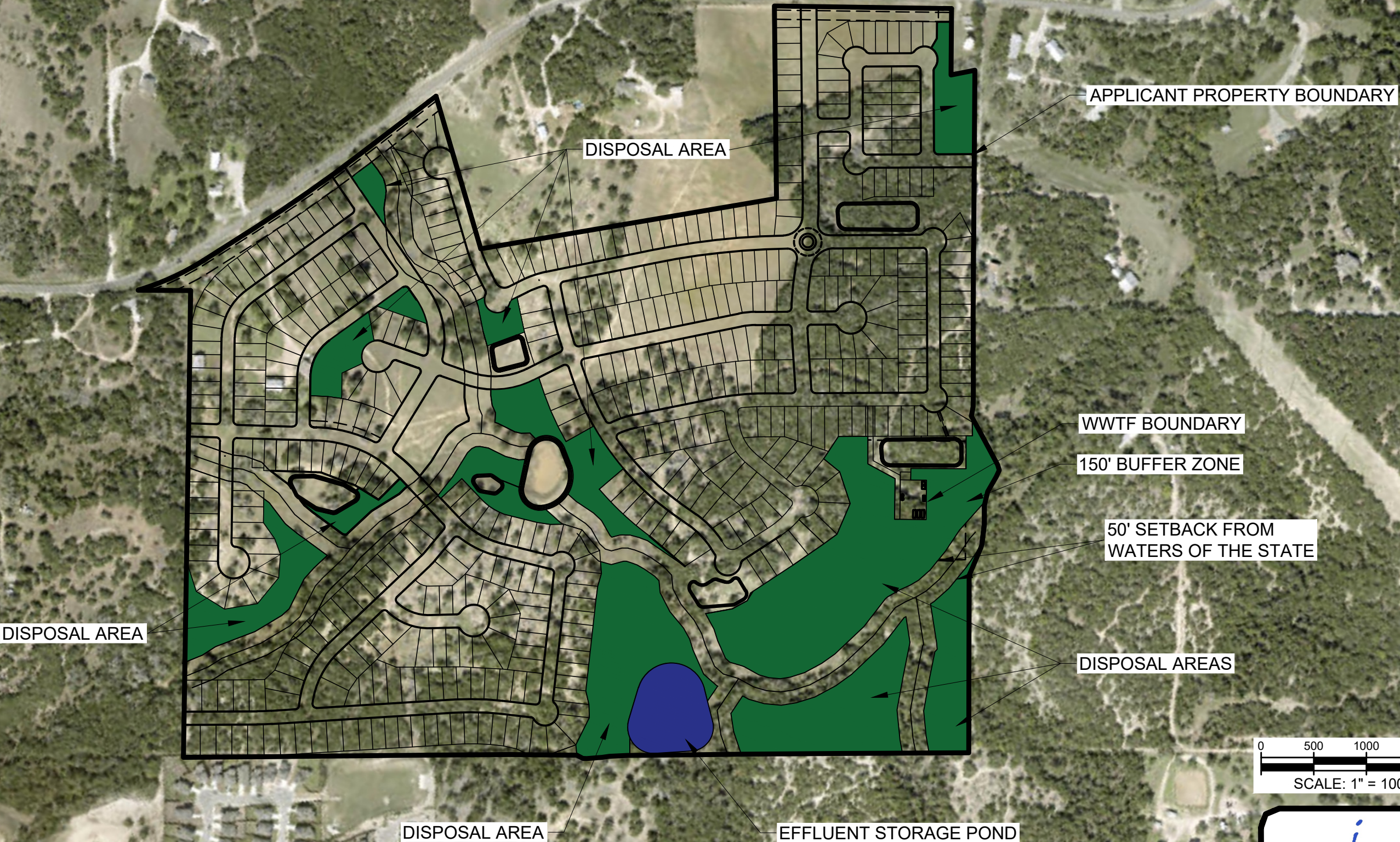
We kindly request your consideration of this adjustment and look forward to your feedback. If additional information or documentation is needed, please do not hesitate to contact me directly.

Sincerely,

A handwritten signature in black ink that reads 'Jamie L. Miller'.

Jamie Miller, PE
President
JA Wastewater, LLC
Firm Number F-23372

Canady Tract WWTF - Site Map



NOTE: A MINIMUM OF 26.5 ACRES
WILL BE IRRIGATED PER WATER
BALANCE CALCULATIONS

The logo for 'j & a WASTEWATER' is located in the bottom right corner. It features the letters 'j & a' in a large, elegant, blue script font. Below this, the word 'WASTEWATER' is written in a smaller, blue, all-caps sans-serif font. The entire logo is enclosed within a black rectangular border with rounded corners.

Canady Tract WWTF - Buffer Zone Map



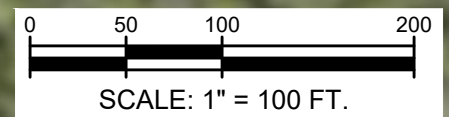
APPLICANT PROPERTY BOUNDARY

WWTF BOUNDARY

150' BUFFER ZONE

ACCESS ROAD

DISPOSAL AREA



Canady Tract WWTF - Water Balance

Phase 1 (47,700 GPD)

1	2	3	4	5	6	7	8		9	10	11
	Avg Rain	Avg Runoff	Avg Infiltrated Rainfall	Evapo transpiration	Required Leaching	Total Water Needs	Effluent Req'd in Root Zone	Avg Evaporation	Evap from Reservoir	Effluent Applied to Land	Consumption from Reservoir
JAN	2.46	0.86	1.60	1.30	0.00	1.30	0.00	2.20	0.33	0.00	0.33
FEB	1.95	0.53	1.42	2.30	0.35	2.65	1.24	2.31	0.35	1.45	1.80
MAR	2.88	1.16	1.72	5.70	1.59	7.29	5.57	3.38	0.51	6.56	7.07
APR	2.63	0.98	1.65	3.42	0.71	4.13	2.48	4.19	0.63	2.92	3.55
MAY	4.31	2.30	2.01	6.12	1.64	7.76	5.75	4.62	0.70	6.77	7.47
JUN	2.96	1.22	1.74	6.48	1.90	8.38	6.64	6.11	0.92	7.81	8.73
JUL	2.21	0.69	1.52	6.66	2.06	8.72	7.20	6.94	1.05	8.47	9.52
AUG	2.36	0.79	1.57	4.59	1.21	5.80	4.23	7.02	1.06	4.98	6.04
SEP	3.13	1.35	1.78	5.13	1.34	6.47	4.69	5.31	0.80	5.51	6.32
OCT	4.20	2.21	1.99	4.05	0.82	4.87	2.88	4.03	0.61	3.39	4.00
NOV	2.81	1.11	1.70	1.60	0.00	1.60	0.00	2.84	0.43	0.00	0.43
DEC	2.25	0.72	1.53	1.30	0.00	1.30	0.00	2.11	0.32	0.00	0.32
TOTAL	34.15	13.93	20.22	48.65	11.62	60.27	40.68	51.06	7.71	47.86	55.57

12	13	14a	14b	15	16	17	18a		18b	19	20
	Effluent Applied to Land (in)	Mean Rainfall Distribution (%)	Rainfall (Max) (in)	Runoff (Max) (in)	Infiltrated Rainfall (in)	Total Avail H2O (in)	% Distribution of Mean	Min Annual Net Evap Proportionally Distributed (in)	Net Evaporation (min) (in)	Storage (in-ac/ac)	Accumulated Storage (in-ac/ac)
JAN	4.033	7.2	3.74	1.83	1.91	5.94	4.31	1.75	0.26	3.77	11.24
FEB	4.033	5.7	2.96	1.22	1.74	5.77	4.52	1.84	0.28	2.68	13.92
MAR	4.033	8.4	4.38	2.36	2.02	6.05	6.62	2.69	0.41	-2.58	11.34
APR	4.033	7.7	4.00	2.04	1.96	5.99	8.21	3.34	0.50	0.98	12.32
MAY	4.033	12.6	6.55	4.28	2.27	6.30	9.05	3.68	0.56	-2.99	9.33
JUN	4.033	8.7	4.50	2.46	2.04	6.07	11.97	4.87	0.73	-4.16	5.17
JUL	4.033	6.5	3.36	1.52	1.83	5.87	13.59	5.53	0.83	-4.90	0.27
AUG	4.033	6.9	3.59	1.70	1.88	5.91	13.75	5.59	0.84	-1.42	-1.15
SEP	4.033	9.2	4.76	2.68	2.07	6.11	10.40	4.23	0.64	-1.78	-2.93
OCT	4.033	12.3	6.38	4.13	2.25	6.29	7.89	3.21	0.48	0.47	-2.46
NOV	4.033	8.2	4.27	2.27	2.00	6.04	5.56	2.26	0.34	3.69	3.69
DEC	4.033	6.6	3.42	1.57	1.85	5.88	4.13	1.68	0.25	3.78	7.47
TOTAL	48.39	100.00	51.88	28.05	23.83	72.22	100.00	40.68	6.14		

Hydro Group:

D

Curve Number (N):

80

S = 1000/N - 10:

2.500

C_E:

2

C_I:

7

irrigation efficiency:

0.85

Required Capacity:

15.37 acre-ft

5.01 MG

5008038 gal

app rate:

0.083 gal/sqft/day

4.03251793 ac-ft/ac/yr

Effluent Quantity:

47,700 gpd

Pond Size:

2 acres

Disposal area:

13.25 acres

Ratio:

0.1509

Max Year Annual Rainfall:

51.88 in

Min Year Annual Evaporation:

40.68 in



Canady Tract WWTF - Water Balance

Phase 1 (95,400 GPD)

1	2	3	4	5	6	7	8		9	10	11
	Avg Rain	Avg Runoff	Avg Infiltrated Rainfall	Evapo transpiration	Required Leaching	Total Water Needs	Effluent Req'd in Root Zone	Avg Evaporation	Evap from Reservoir	Effluent Applied to Land	Consumption from Reservoir
JAN	2.46	0.86	1.60	1.30	0.00	1.30	0.00	2.20	0.17	0.00	0.17
FEB	1.95	0.53	1.42	2.30	0.35	2.65	1.24	2.31	0.17	1.45	1.63
MAR	2.88	1.16	1.72	5.70	1.59	7.29	5.57	3.38	0.26	6.56	6.81
APR	2.63	0.98	1.65	3.42	0.71	4.13	2.48	4.19	0.32	2.92	3.23
MAY	4.31	2.30	2.01	6.12	1.64	7.76	5.75	4.62	0.35	6.77	7.12
JUN	2.96	1.22	1.74	6.48	1.90	8.38	6.64	6.11	0.46	7.81	8.27
JUL	2.21	0.69	1.52	6.66	2.06	8.72	7.20	6.94	0.52	8.47	9.00
AUG	2.36	0.79	1.57	4.59	1.21	5.80	4.23	7.02	0.53	4.98	5.51
SEP	3.13	1.35	1.78	5.13	1.34	6.47	4.69	5.31	0.40	5.51	5.92
OCT	4.20	2.21	1.99	4.05	0.82	4.87	2.88	4.03	0.30	3.39	3.69
NOV	2.81	1.11	1.70	1.60	0.00	1.60	0.00	2.84	0.21	0.00	0.21
DEC	2.25	0.72	1.53	1.30	0.00	1.30	0.00	2.11	0.16	0.00	0.16
TOTAL	34.15	13.93	20.22	48.65	11.62	60.27	40.68	51.06	3.85	47.86	51.71

12	13	14a	14b	15	16	17	18a		18b	19	20
	Effluent Applied to Land (in)	Mean Rainfall Distribution (%)	Rainfall (Max) (in)	Runoff (Max) (in)	Infiltrated Rainfall (in)	Total Avail H2O (in)	% Distribution of Mean	Min Annual Net Evap Proportionally Distributed (in)	Net Evaporation (min) (in)	Storage (in-ac/ac)	Accumulated Storage (in-ac/ac)
JAN	4.033	7.2	3.74	1.83	1.91	5.94	4.31	1.75	0.13	3.90	11.67
FEB	4.033	5.7	2.96	1.22	1.74	5.77	4.52	1.84	0.14	2.82	14.49
MAR	4.033	8.4	4.38	2.36	2.02	6.05	6.62	2.69	0.20	-2.37	12.12
APR	4.033	7.7	4.00	2.04	1.96	5.99	8.21	3.34	0.25	1.23	13.34
MAY	4.033	12.6	6.55	4.28	2.27	6.30	9.05	3.68	0.28	-2.71	10.63
JUN	4.033	8.7	4.50	2.46	2.04	6.07	11.97	4.87	0.37	-3.79	6.84
JUL	4.033	6.5	3.36	1.52	1.83	5.87	13.59	5.53	0.42	-4.48	2.36
AUG	4.033	6.9	3.59	1.70	1.88	5.91	13.75	5.59	0.42	-1.00	1.36
SEP	4.033	9.2	4.76	2.68	2.07	6.11	10.40	4.23	0.32	-1.46	-0.10
OCT	4.033	12.3	6.38	4.13	2.25	6.29	7.89	3.21	0.24	0.71	0.61
NOV	4.033	8.2	4.27	2.27	2.00	6.04	5.56	2.26	0.17	3.86	3.86
DEC	4.033	6.6	3.42	1.57	1.85	5.88	4.13	1.68	0.13	3.91	7.77
TOTAL	48.39	100.00	51.88	28.05	23.83	72.22	100.00	40.68	3.07		

Hydro Group: D
Curve Number (N): 80
S = 1000/N - 10: 2.500
C_E: 2
C_I: 7
irrigation efficiency: 0.85

Required Capacity: 32.00 acre-ft
10.43 MG
10425365 gal
app rate: 0.083 gal/sqft/day
4.03251793 ac-ft/ac/yr

Effluent Quantity: 95,400 gpd
Pond Size: 2 acres
Disposal area: 26.5 acres
Ratio: 0.0755

Max Year Annual Rainfall: 51.88 in
Min Year Annual Evaporation: 40.68 in



Canady Tract WWTF – Domestic Worksheet 3.1

Surface Land Disposal of Effluent Engineering Report

Water balance and storage volume calculations have been completed for final phase. The effluent storage pond required for full buildout is 2 acres. At full buildout of 95,400 gpd, 26.5 acres area disposal is required. The following is a summary providing references/sources for the data used to develop the tables. Also enclosed are the irrigation efficiency assumptions, summary of the application rates per month per acre, nitrogen loading, and water balance. The clarifications are below, water balance with storage volume calculations is presented separately as their own attachments titled “Water Balance”.

Water Balance Table Column	Assumptions and References/Sources
Column 2: Average Rainfall	Data obtained from Texas Water Development Board Quadrangle 710; https://waterdatafortexas.org/lake-evaporation-rainfall ; years 1998 – 2023.
Column 3: Average Runoff	Curve number (CN) was obtained from SCS Technical Release No. 55. A curve number of 80 was used, considering lawns and parks in fair condition (grass cover between 50% to 75%) in soils that fall into hydro groups D.
Column 4: Average Infiltrated Rainfall	Obtained by subtracting average runoff from average rainfall.
Column 5: Evapotranspiration	Data obtained from Texas Board of Water Engineers, Bulletin 6019 (Consumptive Use of Water by Major Crops in Texas). Average monthly and annual consumptive use, Table 5 – Area 7C for Warm Season (April – Oct), Kc of 0.9 used for Zoysia Grass. Table 8 – Area 7C for Cool Season (Nov-March), used for small grain, Cereal Rye.
Column 6: Required Leaching	Ce (electrical conductivity) was based on a close by groundwater well, a value of 2 mmhos/cm was used. CI (allowable conductivity of soil) = 7 based on 30 TAC 309.20, Table 3, Cereal Rye and Zoysia Grass.
Column 7: Total Water Needs	Obtained by adding evapotranspiration and required leaching.
Column 8: Effluent Needed in Root Zone	Obtained by subtracting average infiltrated rainfall from total water needs (assume zero if value is less than zero).
Column 9: Net Evaporation from Reservoir Surface	Data obtained from Texas Water Development Board Quadrangle 710; https://waterdatafortexas.org/lake-evaporation-rainfall ; years 1998 – 2023.
Column 10: Effluent Applied to Land	Obtained by dividing the effluent needed in root zone by the irrigation efficiency, K, assumed to be 0.85 or 85%
Column 11: Consumption from Reservoir	Obtained by adding net evaporation and effluent applied to land.
Column 13: Effluent Received for Application or Storage	Based on full buildout flows of 95,400 gpd and 26.5 acres of TLAP disposal area.
Column 14: Rainfall (Maximum)	Data on maximum rainfall year in the past 25 years was obtained from Texas Water Development Board Quadrangle 710 Precipitation (inches) from 1998 to 2023, 51.88 inches in 2004. The total was distributed proportionally to monthly average rainfall.

Canady Tract WWTF – Domestic Worksheet 3.1 Surface Land Disposal of Effluent Engineering Report

Column 15: Runoff (Maximum)	Calculated as shown above for Column 3 using maximum rainfall numbers from Column 14.
Column 16: Infiltrated Rainfall	Obtained by subtracting maximum runoff (Column 15) from maximum rainfall (Column 14).
Column 17: Available Water	Obtained by adding effluent received (Column 13) and infiltrated rainfall (Column 16).
Column 18b: Lowest Annual Net Evaporation	Data on minimum net evaporation year in the past 25 years was obtained from Texas Water Development Board Quadrangle 710, Monthly Evaporation (inches) from 1998 to 2023: 40.68 inches in 2021. The total was distributed proportionally to monthly average evaporation.
Column 19: Storage	Obtained by subtracting lowest annual net evaporation (Column 18b) from effluent received (Column 13), then subtracting total water needs (Column 7) – infiltrated rainfall (Column 16) divided by k (irrigation efficiency of 0.85). If total water needs (Column 7) – infiltrated rainfall (Column 16) divided by k (irrigation efficiency of 0.85) is < 0, then storage = Column 13 – Column 18b).
Column 20: Accumulated Storage	Summation beginning with the first consecutive month of possible values from Column 19.

Irrigation Efficiency

Based on Howell 2003, average irrigation efficiency for spray irrigation in a field environment ranges from 85 to 90 percent. Therefore, an efficiency of 85 percent was assumed for water balance and storage calculations.

Nitrogen Balance

It is anticipated that total nitrogen in the effluent will be ≤30 mg/L. Loading will be as follows:

$$30 \text{ mg/L} \times 95,400 \text{ g/day} \times 3.78 \text{ L/g} / 453,592 \text{ lbs/mg} \times 365 \text{ day/year} =$$

$$8,705.40 \text{ lbs/year spread across 26.5 acres} = 328 \text{ lbs/acre/year}$$

Zoysia Grass is able to utilize large amounts of nitrogen, with excellent yield response at around 400 pounds per acre per year.

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 type="checkbox"/> Irrigation | <input type="checkbox"/> Subsurface soils absorption |
| <input type="checkbox"/> Drip irrigation system | <input type="checkbox"/> Subsurface area drip dispersal system |
| <input type="checkbox"/> Evaporation | <input type="checkbox"/> Evapotranspiration beds |
| <input type="checkbox"/> Other (describe in detail): | |

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

For existing authorizations, provide Registration Number:

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
Cereal Rye and Zoysia Grass (Phase 1)	13.25	47,700	Y
Cereal Rye and Zoysia Grass (Final Phase)	26.50	95,400	Y

DOMESTIC WASTEWATER PERMIT APPLICATION

WORKSHEET 3.1: SURFACE LAND DISPOSAL OF EFFLUENT

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

Section 1. Surface Disposal (Instructions Page 72)

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

A. Irrigation

Area under irrigation, in acres: 26.5

Design application frequency:

hours/day 0.33(20 min/d) And days/week 7

Land grade (slope):

average percent (%): 3-5

maximum percent (%): 3-8

Design application rate in acre-feet/acre/year: 4.03

Design total nitrogen loading rate, in lbs N/acre/year: 328

Soil conductivity (mmhos/cm): See Soil Report

Method of application: Spray Irrigation

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

Attachment: Water Balance and 3.1 Surface Land Disposal Engineering Report

B. Evaporation ponds

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

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

Attachment:

C. Evapotranspiration beds

Number of beds:

Area of bed(s), in acres:

Depth of bed(s), in feet:

Void ratio of soil in the beds:

Storage volume within the beds, in acre-feet:

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

Attachment:

DOMESTIC WASTEWATER PERMIT APPLICATION

WORKSHEET 3.1: SURFACE LAND DISPOSAL OF EFFLUENT

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

Section 1. Surface Disposal (Instructions Page 72)

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

A. Irrigation

Area under irrigation, in acres: 26.5

Design application frequency:

hours/day 0.33(20 min/d) And days/week 7

Land grade (slope):

average percent (%): 3-5

maximum percent (%): 3-8

Design application rate in acre-feet/acre/year: 4.03

Design total nitrogen loading rate, in lbs N/acre/year: 347

Soil conductivity (mmhos/cm): See Soil Report

Method of application: Spray Irrigation

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

Attachment: Water Balance and 3.1 Surface Land Disposal Engineering Report

B. Evaporation ponds

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

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

Attachment:

C. Evapotranspiration beds

Number of beds:

Area of bed(s), in acres:

Depth of bed(s), in feet:

Void ratio of soil in the beds:

Storage volume within the beds, in acre-feet:

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

Attachment:

Canady Tract WWTF – Annual Cropping Plan

a. Soils map depicting the location of the crops proposed or currently being grown. These locations should be identified by field and crop on the soils map.

A USDA Soils Map has been provided with the permit application.

b. All types of crops and acreage irrigated for each crop, including warm and cool season crops.

The 26.5-acre area will be seeded with Zoysia Grass and Cereal Rye.

c. Crop yield goals or estimates.

Yield estimate: Zoysia Grass will produce about 1 ton per acre with no applied fertilizer. Cereal Rye produces 2 to 3 tons per acres.

d. Growing seasons for each crop including months the field is left fallow (no crops).

Growing season for Zoysia Grass is from April through October. The growing season for Cereal Rye is November through March, the fields are never left fallow.

e. Nutrient requirements for each crop, including additional fertilizer requirements for each crop, proposed additional fertilizer applications for each crop, and methods of fertilizer application for each crop, based on annual soil sampling and analysis.

The proposed design total nitrogen loading rate is 0.90 lb/acre/day or 328 lb/acre/year. Zoysia Grass can utilize large amounts of nitrogen, with excellent yield response at 400 lbs/ acre/ year. To most effectively use nitrogen, other nutrients are required such as phosphorus and potassium. These nutrient levels will be monitored through annual soil analysis and supplemented if required. Additional fertilizer is not anticipated but a manual spreader would be used if needed.

f. Provide the minimum and maximum harvest height for the crop (e.g. mowing height of grasses).

Minimum mowing height will be such that the grass is not scorched, approximately 3". The maximum growing height will be determined by the operator, 18" is anticipated maximum height prior to mowing.

g. Supplemental watering requirements for each crop.

No supplemental watering is anticipated.

h. Salt tolerances of each crop.

Zoysia Grass is highly salt tolerant, Cereal Rye is considered to be intermediate in salt tolerance.

i. Describe the harvesting method and the proposed number of harvests for each crop.

The irrigation fields will be regularly mowed with clippings hauled off.

j. If the proposed crop is existing native vegetation that will not be harvested, include a justification that the non-removal of crops will not lead to a buildup in nutrients. If the proposed system is drip irrigation with a proposal to use the existing forested vegetation as a crop, then provide a vegetation survey by a certified arborist describing at a minimum: (1) the number of mature ashe juniper (*Juniperus ashei*) and oaks (*Quercus virginiana*) trees per acre, (2) the number of other trees per acre, (3) percent of overstory canopy cover, (4) the extent of open

Canady Tract WWTF – Annual Cropping Plan

spaces, and (5) areas with forbs and grasses expressed as percent of the land of each application site. A mature tree is one with a minimum height of 14 feet.

Varies

Canady Tract WWTF – Groundwater Quality Report

Background

The Canady Tract WWTF will serve a new development that generates 95,400 gpd at full buildout. The treated effluent will be disposed of via spray irrigation of 26.5 acres at full buildout.

Aquifer

The nearby aquifer codes are:

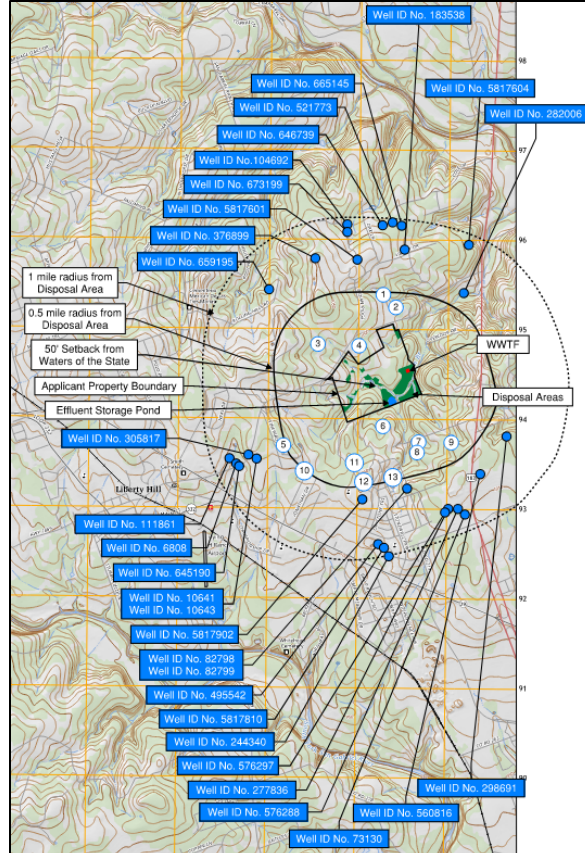
- 218HNSL - Hensell Sand Member of Travis Peak Formation
- 217HSTN - Hosston Formation

Nearby Well Information

A USGS map showing all wells within 1 mile of the property boundaries has been included with the application. A well reference list with well attributes such as the well ID number, well depth, well status, and proposed management practice is provided with this application. There are no wells located within 500' of the disposal areas. The well logs for the wells on the reference list are included with this application. There are no monitoring wells available, and therefore no groundwater quality baseline data has been established. Below is a portion of the USGS map depicting the WWTF site, effluent disposal areas, 0.5 mi and 1-mile radius from the property boundaries, and well locations.

Impact on Local Groundwater Resources

The wastewater effluent is used to irrigate publicly accessible fields. The effluent applied to the land has a maximum application rate of 0.087 gal/sqft/day to ensure the effluent is taken up by the crop root systems and that potential contaminants do not migrate below the root zone. The treated effluent will be stored in a pond with a liner certified by a Texas Professional Engineer prior to being conveyed to the disposal areas.



English Plain Language Summary

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 Texas Administrative Code 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.

Sapelo Liberty Hill LP, 1608 W 5th Street, Suite 240, Austin, TX 78703 applied to the Texas Commission on Environmental Quality (TCEQ) for a New (TLAP) Permit to authorize the disposal of treated wastewater at a volume not to exceed a daily average flow of 95,400 gallons per day via public access surface spray irrigation system with a minimum of 26.5 acres.

The domestic wastewater treatment facility will be located approximately 0.54 miles west of the intersection of SH 183 and Agua Fria Rd in the city of Liberty Hill in Williamson County, Texas 78642. The permit application will be available for viewing and copying Liberty Hill Public Library, 355 Main St, Liberty Hill in Williamson County TX 78642.

Discharges from the facility are expected to contain five-day carbonaceous biochemical oxygen demand (CBOD5), total suspended solids (TSS), ammonia nitrogen (NH3-N), and Escherichia coli. Domestic wastewater will be treated by an MBR, and the system will have a primary screen, equalization tank, multiple process trains consisting of anoxic, aeration, membrane zones, and sludge holding tanks. The facility will utilize chlorine or UV disinfection.



Spanish Plain Language Summary

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 exige 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 federal. representaciones ejecutables de la solicitud de permiso.

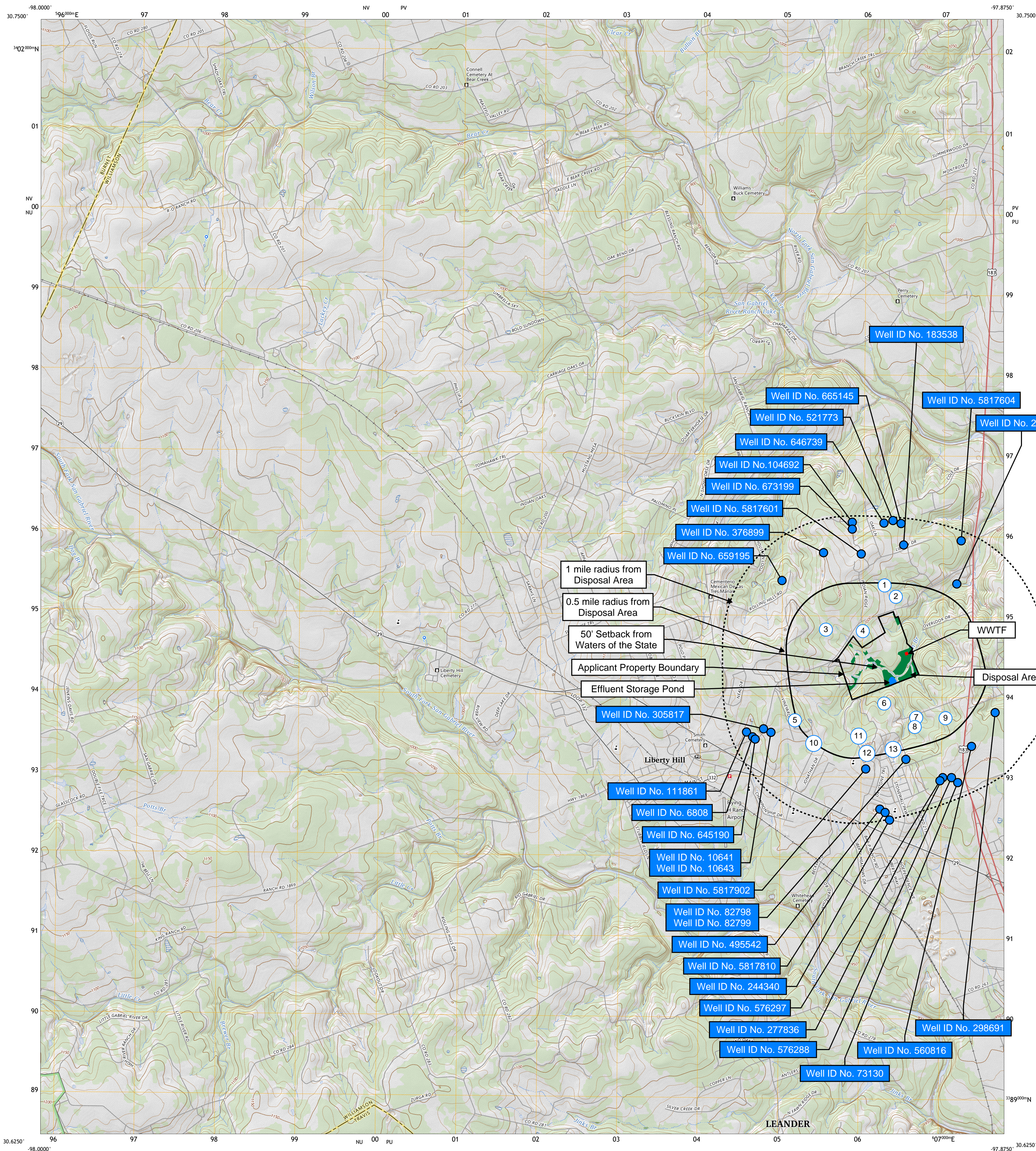
Sapelo Liberty Hill LP, 1608 W 5th Street, Suite 240, Austin, TX 78703 solicitó a la Comisión de Calidad Ambiental de Texas (TCEQ) un nuevo permiso (TLAP) para autorizar la eliminación de aguas residuales tratadas en un volumen que no exceda el diario. Flujo promedio de 95,400 galones por día a través de un sistema de riego por aspersión superficial de acceso público con un mínimo de 26.5 acres.

La instalación de tratamiento de aguas residuales domésticas estará ubicada aproximadamente a 0.54 millas al oeste de la intersección de SH 183 y Agua Fria Rd en la ciudad de Liberty Hill en el condado de Williamson, Texas 78642. La solicitud de permiso estará disponible para ver y copiar en la Biblioteca Pública de Liberty Hill. 355 Main St, Liberty Hill en el condado de Williamson TX 78642.

Se espera que las descargas de la instalación contengan demanda bioquímica de oxígeno carbonoso (CBOD5) de cinco días, sólidos suspendidos totales (SST), nitrógeno amoniacal (NH3-N) y Escherichia coli. Las aguas residuales domésticas serán tratadas mediante un MBR y el sistema tendrá una pantalla primaria, un tanque de ecualización, múltiples trenes de proceso que constan de zonas anóxicas, de aireación, de membrana y tanques de retención de lodos. La instalación utilizará cloro o desinfección UV.



Canady Tract WWTF - TLAP Map

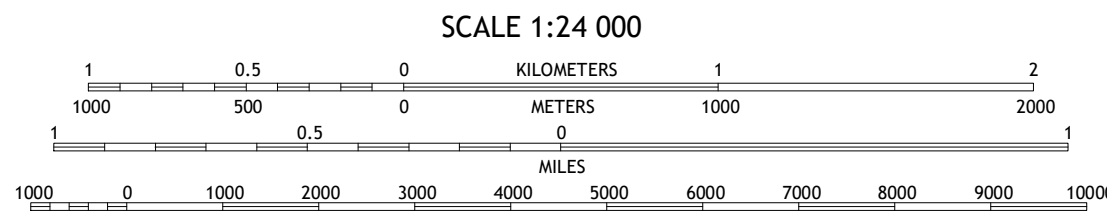
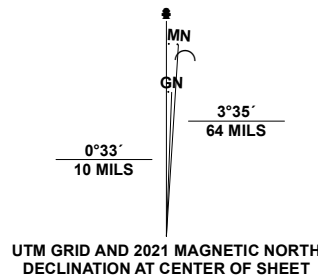


Produced by the United States Geological Survey

North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid/Universal Transverse Mercator, Zone 14R.
Data is provided by The National Map (TNM), is the best available at the time of map
generation, and includes data content from supporting themes of Elevation,
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and Orthoimagery. Refer to associated Federal Geographic Data Committee (FGDC)
Metadata for additional source data information.

This map is not a legal document. Boundaries may be generalized for this map scale.
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before entering private lands. Temporal changes may have occurred since these data
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Learn About The National Map: <https://nationalmap.gov>



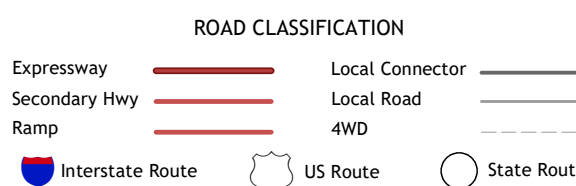
CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988
CONTOUR SMOOTHNESS = Medium

USER DEFINED CONTENT



QUADRANGLE LOCATION		
Joppa	Mahomet	Florence
Bertram	Liberty Hill	Leander NE
Travis Peak	Nameless	Leander

ADJOINING QUADRANGLES



LIBERTY HILL, TX
2024

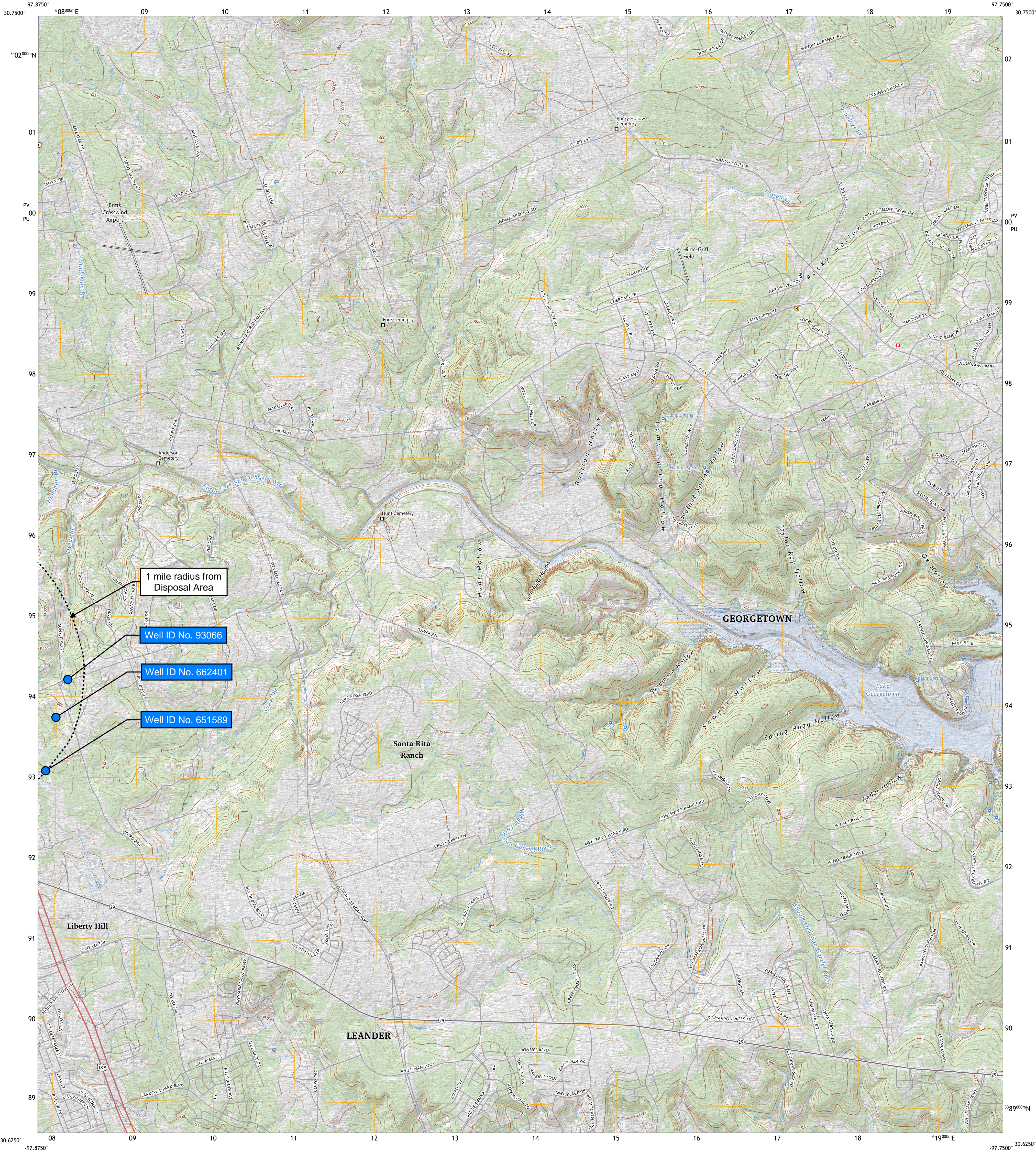




U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Canady Tract WWTF - TLAP Map

LEANDER NE QUADRANGLE
TEXAS - WILLIAMSON COUNTY
7.5-MINUTE TOPO

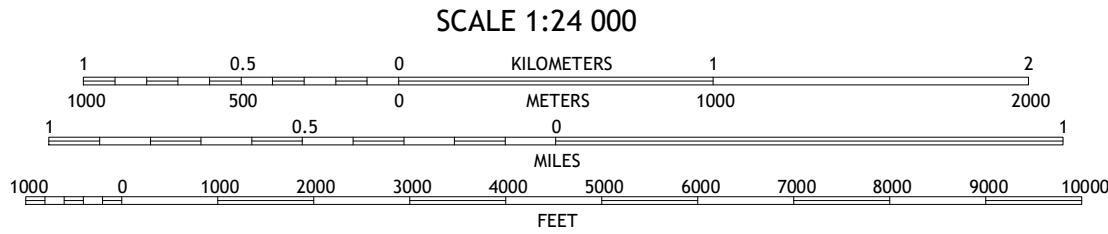
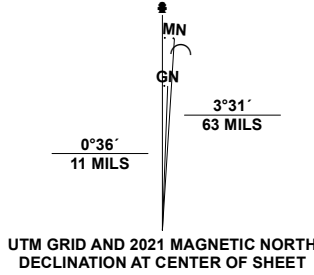


Produced by the United States Geological Survey

North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84) Projection and
1 000-meter grid/Universal Transverse Mercator, Zone 14R
Data is provided by The National Map (TNM), is the best available at the time of map
generation, and includes data content from supporting themes of Elevation,
Hydrography, Geographic Names, Boundaries, Transportation, Structures, Land Cover,
and Orthoregistry. Refer to associated Federal Geographic Data Committee (FGDC)
Metadata for additional source data information.

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CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988
CONTOUR SMOOTHNESS = Medium

USER DEFINED CONTENT



QUADRANGLE LOCATION		
Mahomet	Florence	Gabbs Cavern
Liberty Hill	Leander NE	Georgetown
Nameless	Leander	Round Rock

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

LEANDER NE, TX
2024

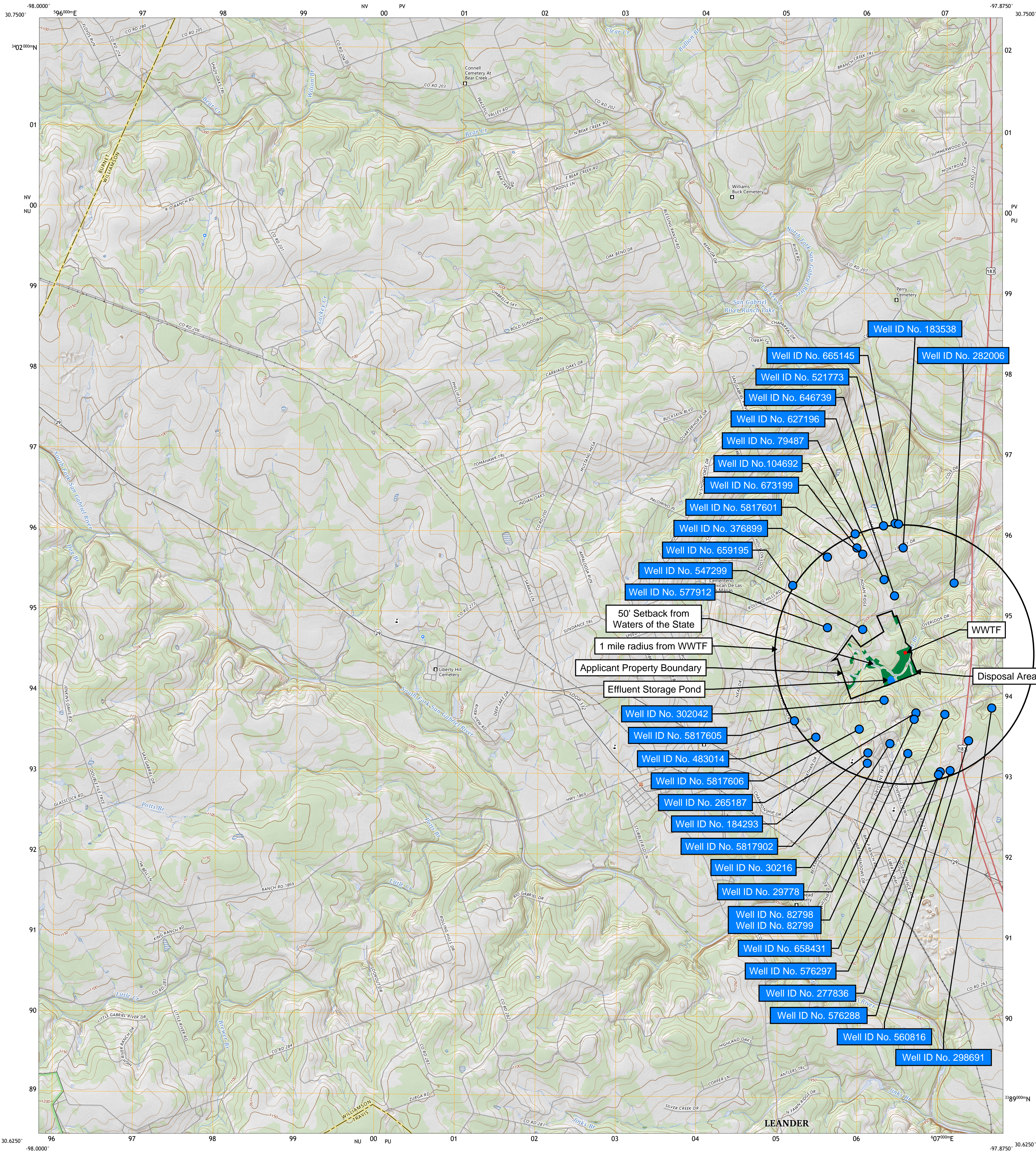




U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Canady Tract WWTF - USGS Map

LIBERTY HILL QUADRANGLE
TEXAS
7.5-MINUTE TOPO

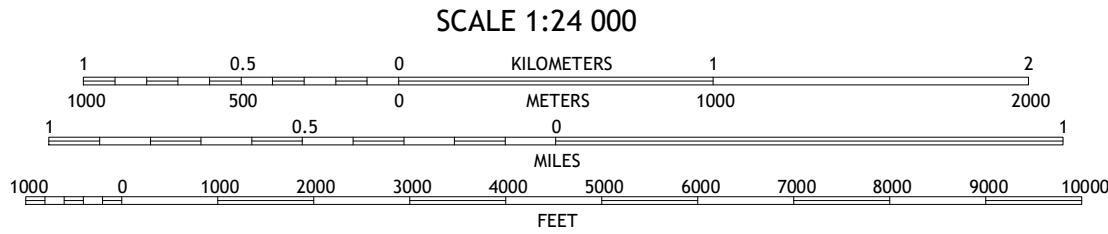
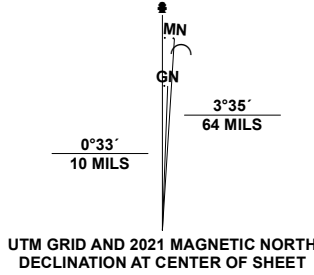


Produced by the United States Geological Survey

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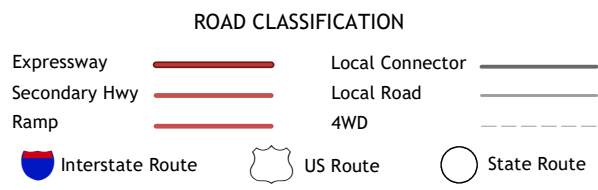
CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988
CONTOUR SMOOTHNESS = Medium

USER DEFINED CONTENT



QUADRANGLE LOCATION		
Joppa	Mahomet	Florence
Bertram	Liberty Hill	Leander NE
Travis Peak	Nameless	Leander

ADJOINING QUADRANGLES



LIBERTY HILL, TX
2024

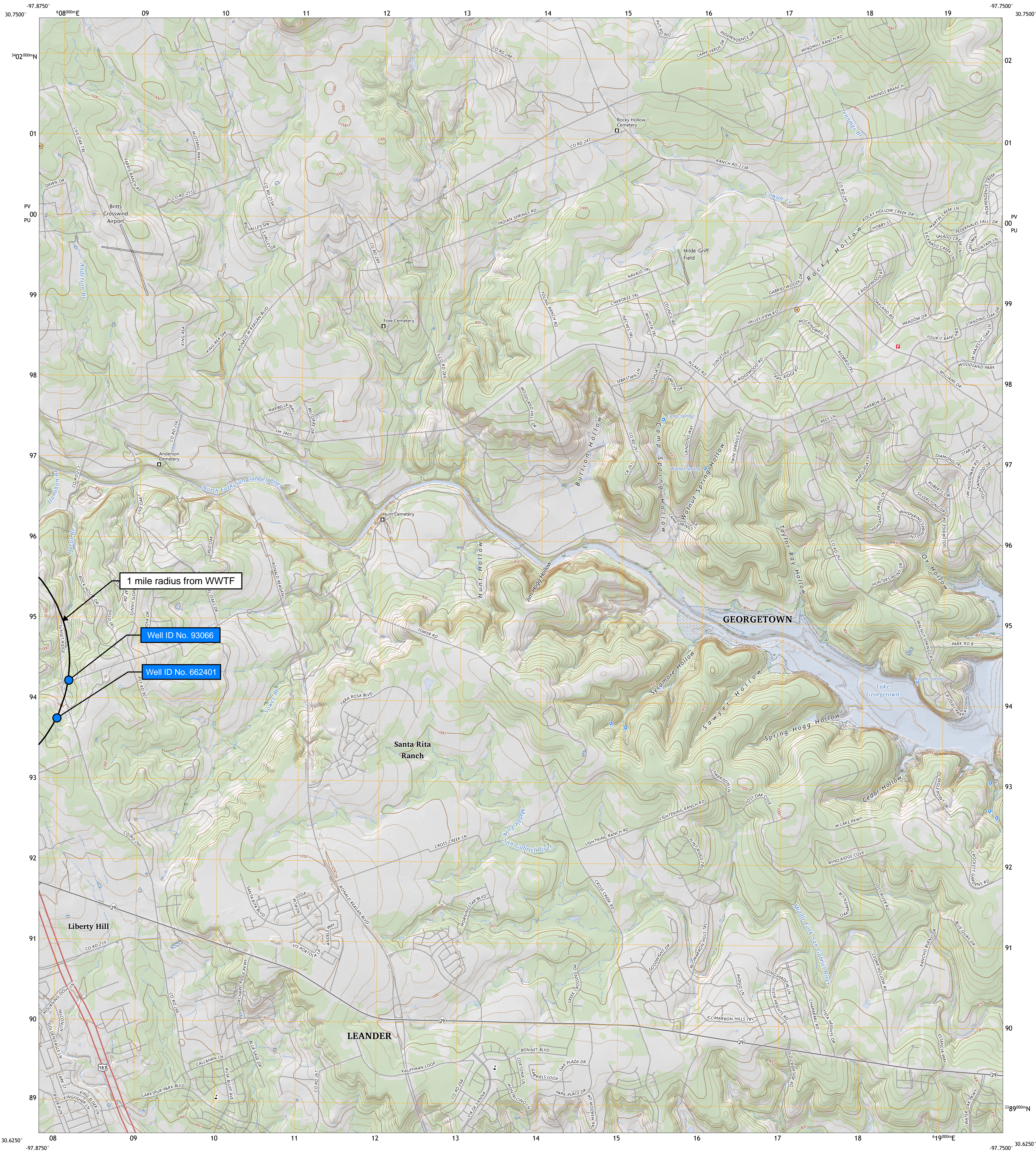




U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Canady Tract WWTF - USGS Map

LEANDER NE QUADRANGLE
TEXAS - WILLIAMSON COUNTY
7.5-MINUTE TOPO

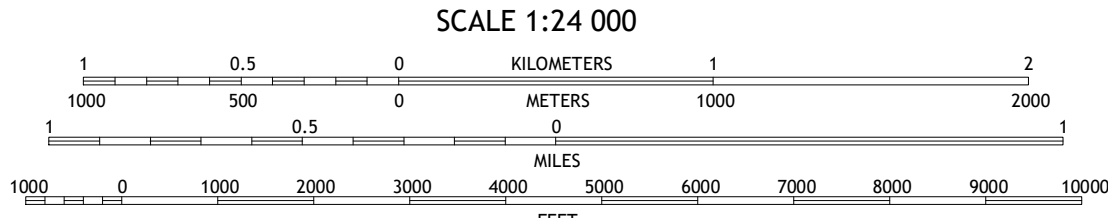
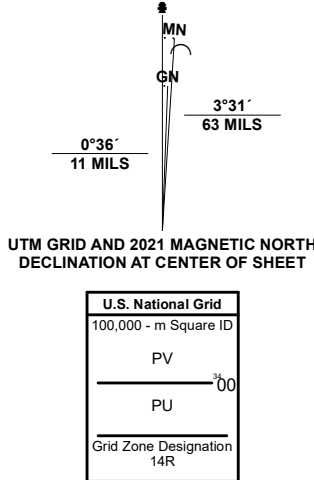


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North American Datum of 1983 (NAD83)
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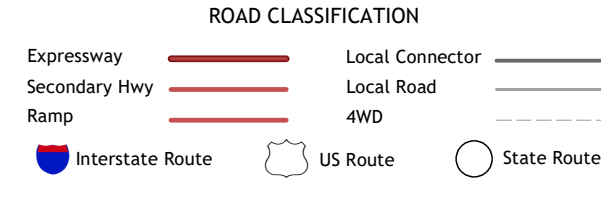
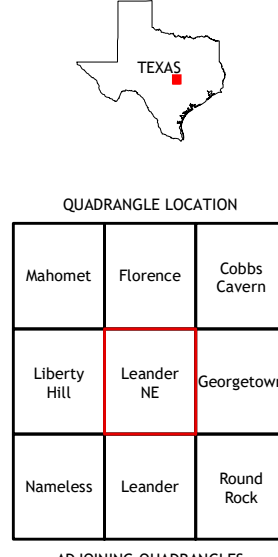
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NORTH AMERICAN VERTICAL DATUM OF 1988
CONTOUR SMOOTHNESS = Medium

USER DEFINED CONTENT



LEANDER NE, TX
2024



Leah Whallon

From: Janela Revilla <jrevilla@jawastewater.com>
Sent: Friday, December 20, 2024 4:58 PM
To: Leah Whallon
Cc: Ash Upadhyaya; Jamie Miller
Subject: Re: Application for Proposed Permit No. WQ0016683001; Sapelo Liberty Hill, LP; Canady Tract WWTF
Attachments: Municipal Disposal New Spanish NORI.docx
Follow Up Flag: Follow up
Flag Status: Flagged

Good afternoon Leah,

The NORI preview is correct. Please see attached Spanish translation.

Thanks,
Janela Revilla



Janela Revilla
Project Engineer
JA Wastewater, LLC
(737) 864-3476
jrevilla@jawastewater.com

From: Ash Upadhyaya <aupadhyaya@jawastewater.com>
Sent: Friday, December 20, 2024 2:44 PM
To: Janela Revilla <jrevilla@jawastewater.com>
Subject: Fw: Application for Proposed Permit No. WQ0016683001; Sapelo Liberty Hill, LP; Canady Tract WWTF



Ashraya Upadhyaya, M.S
Project Engineer
JA Wastewater, LLC
903-414-0307
aupadhyaya@jawastewater.com

From: Leah Whallon <Leah.Whallon@Tceq.Texas.Gov>
Sent: Friday, December 20, 2024 2:40 PM
To: Ash Upadhyaya <aupadhyaya@jawastewater.com>
Cc: Jamie Miller <jmiller@jawastewater.com>
Subject: Application for Proposed Permit No. WQ0016683001; Sapelo Liberty Hill, LP; Canady Tract WWTF

Good Afternoon,

Please see the attached Notice of Deficiency letter dated December 20, 2024 requesting additional information needed to declare the application administratively complete. Please send the complete response by January 3, 2025.

Please let me know if you have any questions.

Thank you,



Leah Whallon

Texas Commission on Environmental Quality

Water Quality Division

512-239-0084

leah.whallon@tceq.texas.gov

How is our customer service? Fill out our online customer satisfaction survey at
www.tceq.texas.gov/customersurvey

Comisión de Calidad Ambiental del Estado de Texas



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

PERMISO PROPUESTO NO. WQ00_____

SOLICITUD. Sapelo Liberty Hill, LP, 1608 West 5th Street, Unit 240, Austin, Texas 78703, ha solicitado a la Comisión de Calidad Ambiental de Texas (TCEQ) para el propuesto Permiso No. WQ0016683001 de disposición de aguas residuales para autorizar la disposición de aguas residuales tratadas en un volumen que no sobrepasa un flujo promedio diario de 95,400 galones por día por medio de acceso público sistema de riego por aspersión superficial con un mínimo de 25.1 acres. La planta de tratamiento de aguas domésticos residuales y el área de disposición están ubicados en aproximadamente 0,54 millas al oeste del intersección de Agua Fria Road y U.S. Highway 183, cerca de la ciudad de Liberty Hill, en Williamson Condado, Texas 78642. La TCEQ recibió esta solicitud el día 10 de diciembre de 2024. La solicitud para el permiso estará disponible para leerla y copiarla en Liberty Hill Public Library, 355 Main Street, Liberty Hill, en el condado de Williamson, 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://www.tceq.texas.gov/permitting/wastewater/pending-permits/tlap-applications>.

Include the following non-italicized sentence if the facility is located in the Coastal Management Program boundary. The Coastal Management Program boundary is the area along the Texas Coast of the Gulf of México as depicted on the map in 31 TAC §503.1 and includes part or all of the following counties: Cameron, Willacy, Kenedy, Kleberg, Nueces, San Patricio, Aransas, Refugio, Calhoun, Victoria, Jackson, Matagorda, Brazoria, Galveston, Harris, Chambers, Jefferson y Orange. El Director Ejecutivo de la TCEQ ha revisado esta medida para ver si está de acuerdo con los objetivos y las regulaciones del Programa de Administración Costero de Texas (CMP) de acuerdo con las regulaciones del Consejo Coordinador de la Costa (CCC) y ha determinado que la acción es conforme con las metas y regulaciones pertinentes del CMP.

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 todos 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.

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 Sapelo Liberty Hill, LP a la dirección indicada arriba o llamando a Ashraya Upadhyaya al 903-414-0307.

Fecha de emisión _____ *[Date notice issued]*

**Canady Tract
Wastewater Treatment Facility**

TCEQ Application for New TLAP Permit

**Submitted to
Texas Commission on Environmental Quality**

November 2024





TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION CHECKLIST

Complete and submit this checklist with the application.

APPLICANT NAME: Sapelo Liberty Hill LP

PERMIT NUMBER (If new, leave blank): WQ00

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 checked="" type="checkbox"/>	<input type="checkbox"/>	Affected Landowners Map	<input checked="" type="checkbox"/>	<input type="checkbox"/>
SPIF	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Landowner Disk or Labels	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Core Data Form	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Buffer Zone Map	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Public Involvement Plan Form	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	Original Photographs	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Worksheet 2.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Design Calculations	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Worksheet 2.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Solids Management Plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Worksheet 3.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Water Balance	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Worksheet 3.1	<input checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" 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 checked="" 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 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

Your transaction is complete. Thank you for using TCEQ ePay.

Note: It may take up to 3 working days for this electronic payment to be processed and be reflected in the TCEQ ePay system. Print this receipt and the vouchers for your records. An email receipt has also been sent.

Transaction Information

Trace Number: 582EA000635773
Date: 11/22/2024 02:28 PM
Payment Method: CC - Authorization 0000142840
ePay Actor: JUSTIN REYNOLDS
Actor Email: justin.reynolds@sapelogroup.com
IP: 129.222.79.203
TCEQ Amount: \$550.00
Texas.gov Price: \$562.63*

* This service is provided by Texas.gov, the official website of Texas. The price of this service includes funds that support the ongoing operations and enhancements of Texas.gov, which is provided by a third party in partnership with the State.

Payment Contact Information

Name: JUSTIN REYNOLDS
Company: SAPELO LIBERTY HILL LP
Address: 1608 W 5TH STREET, AUSTIN, TX 78703
Phone: 512-470-9297

Cart Items

Click on the voucher number to see the voucher details.

Voucher	Fee Description	AR Number	Amount
732515	WW PERMIT - FACILITY WITH FLOW >= .05 & < .10 MGD - NEW AND MAJOR AMENDMENTS		\$500.00
732516	30 TAC 305.53B WQ NOTIFICATION FEE		\$50.00
TCEQ Amount:			\$550.00

ePay Again

Exit ePay

Note: It may take up to 3 working days for this electronic payment to be processed and be reflected in the TCEQ ePay system. Print this receipt for your records.

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:

f. For existing permits:

Permit Number: WQ00

EPA I.D. (TPDES only): TX

Expiration Date:

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

Sapelo Liberty Hill LP

(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: None

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: Reynolds, Justin

Title: Manager

Credential:

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?

(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:

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: _

Last Name, First Name:

Title: _

Credential:

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

C. Core Data Form

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

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: Upadhyaya, Ashraya
Title: Project Engineer Credential: E.I.T.
Organization Name: JA Wastewater LLC
Mailing Address: 5765 Fig Way City, State, Zip Code: Arvada, CO 80002
Phone No.: (903) 414-0307 E-mail Address: aupadhyaya@jawastewater.com
Check one or both: ☒ Administrative Contact ☒ Technical Contact

B. Prefix: Ms. Last Name, First Name: Miller, Jamie
Title: President Credential: P.E.
Organization Name: JA Wastewater LLC
Mailing Address: 5765 Fig Way City, State, Zip Code: Arvada, CO 80002
Phone No.: (970) 443-9096 E-mail Address: jmiller@jawastewater.com
Check one or both: ☒ Administrative Contact ☒ Technical Contact

Section 5. Permit Contact Information (Instructions Page 27)

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

A. Prefix: Mr. Last Name, First Name: Upadhyaya, Ashraya
Title: Project Engineer Credential: E.I.T.
Organization Name: JA Wastewater LLC
Mailing Address: 5765 Fig Way City, State, Zip Code: Arvada, CO 80002
Phone No.: (903) 414-0307 E-mail Address: aupadhyaya@jawastewater.com

B. Prefix: Mr. Last Name, First Name: Reynolds, Justin
Title: Manager Credential:
Organization Name: Sapelo Liberty Hill LP
Mailing Address: 1608 W 5th St, Ste 240 City, State, Zip Code: Austin TX 78703
Phone No.: (512) 470-9297 E-mail Address: justin.reynolds@sapelogroup.com

Section 6. Billing Contact Information (Instructions Page 27)

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

Prefix: Mr. Last Name, First Name: Reynolds, Justin
Title: Sapelo Liberty Hill LP Credential:
Organization Name: Sapelo Liberty Hill LP
Mailing Address: 1608 W 5th St, Ste 240 City, State, Zip Code: Austin TX 78703
Phone No.: (512) 470-9297 E-mail Address: justin.reynolds@sapelogroup.com

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

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

Prefix: Mr. Last Name, First Name: Reynolds, Justin
Title: Manager Credential:
Organization Name: Sapelo Liberty Hill LP
Mailing Address: 1608 W 5th St, Ste 240 City, State, Zip Code: Austin TX 78703
Phone No.: (512) 470-9297 E-mail Address: justin.reynolds@sapelogroup.com

Section 8. Public Notice Information (Instructions Page 27)

A. Individual Publishing the Notices

Prefix: Mr. Last Name, First Name: Upadhyaya, Ashraya
Title: Project Engineer Credential: E.I.T.
Organization Name: JA Wastewater LLC
Mailing Address: 5765 Fig Way City, State, Zip Code: Arvada CO 80002
Phone No.: (903) 414-0307 E-mail Address: aupadhyaya@jawastewater.com

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

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

☒ E-mail Address

☐ Fax

☐ Regular Mail

C. Contact permit to be listed in the Notices

Prefix: Mr.

Last Name, First Name: Upadhyaya, Ashraya

Title: Project Engineer

Credential: E.I.T.

Organization Name: JA Wastewater LLC

Mailing Address: 5765 Fig Way

City, State, Zip Code: Arvada CO 80002

Phone No.: (903) 414-0307

E-mail Address: aupadhyaya@jawastewater.com

D. Public Viewing Information

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

Public building name: Liberty Hill Public Library

Location within the building: Circulation Desk

Physical Address of Building: 355 Main St

City: Liberty Hill

County: Williamson

Contact (Last Name, First Name):

Phone No.: (512) 778-5822 Ext.: None

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: Plain Language Summary

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: Public Involvement Plan Form

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 None

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):

Canady Tract WWTF

C. Owner of treatment facility: Sapelo Liberty Hill LP

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

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

Prefix: Mr.

Last Name, First Name: Reynolds, Justin

Title: Manager

Credential:

Organization Name: Sapelo Liberty Hill LP

Mailing Address: 1608 W 5th St, Ste 240

City, State, Zip Code: Austin TX 78703

Phone No.: (512) 470-9297

E-mail Address: justin.reynolds@sapelogroup.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:

E. Owner of effluent disposal site:

Prefix: Mr

Last Name, First Name: Reynolds, Justin

Title: Manager

Credential:

Organization Name: Sapelo Liberty Hill LP

Mailing Address: 1608 W 5th St, Ste 240

City, State, Zip Code: Austin TX 78703

Phone No.: (512) 470-9297

E-mail Address: justin.reynolds@sapelogroup.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:

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

Prefix: _

Last Name, First Name:

Title: _

Credential:

Organization Name:

Mailing Address: _

City, State, Zip Code:

Phone No.: _

E-mail Address:

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

Attachment:

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:

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:

City nearest the outfall(s):

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

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:

- 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:

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:

The disposal area is located approximately 0.54 miles west of the intersection of SH 183 and Agua Fria Rd in the city of Liberty Hill in Williamson County, Texas 78642.

- B. City nearest the disposal site: Liberty Hill

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

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

Treated effluent will be routed to the effluent disposal site via a pipe.

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

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.

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

☐ Yes ☒ No

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

D. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If yes, provide the following information:

Account number:

Amount past due:

E. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If yes, please provide the following information:

Enforcement order number:

Amount past due:

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:

Section 14. Signature Page (Instructions Page 34)

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

Permit Number:

Applicant: Sapelo Liberty Hill LP


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): Justin Reynolds

Signatory title: Manager

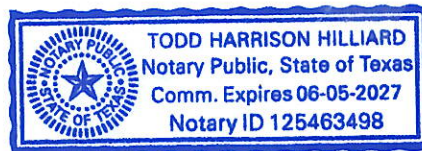
Signature:  Date: 11/25/2024
(Use blue ink)

Subscribed and Sworn to before me by the said Justin Reynolds
on this 25th day of November, 20 24.
My commission expires on the 5th day of June, 20 27.


Notary Public

[SEAL]

Travis, Texas
County, Texas



DOMESTIC WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

The following information is required for new and amendment applications.

Section 1. Affected Landowner Information (Instructions Page 36)

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

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

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

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

- ☐ USB Drive ☒ Four sets of labels

D. Provide the source of the landowners' names and mailing addresses: Williamson County Appraisal District Map

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

- ☐ Yes ☒ No

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

Section 2. Original Photographs (Instructions Page 38)

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

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

Section 3. Buffer Zone Map (Instructions Page 38)

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

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

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

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

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

- ☒ Yes ☐ No

English Plain Language Summary

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 Texas Administrative Code 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.

Sapelo Liberty Hill LP, 1608 W 5th Street, Suite 240, Austin, TX 78703 applied to the Texas Commission on Environmental Quality (TCEQ) for a New (TLAP) Permit to authorize the disposal of treated wastewater at a volume not to exceed a daily average flow of 95,400 gallons per day via public access surface spray irrigation system with a minimum of 25.1 acres.

The domestic wastewater treatment facility will be located approximately 0.54 miles west of the intersection of SH 183 and Agua Fria Rd in the city of Liberty Hill in Williamson County, Texas 78642. The permit application will be available for viewing and copying Liberty Hill Public Library, 355 Main St, Liberty Hill in Williamson County TX 78642.

Discharges from the facility are expected to contain five-day carbonaceous biochemical oxygen demand (CBOD5), total suspended solids (TSS), ammonia nitrogen (NH3-N), and Escherichia coli. Domestic wastewater will be treated by an MBR, and the system will have a primary screen, equalization tank, multiple process trains consisting of anoxic, aeration, membrane zones, and sludge holding tanks. The facility will utilize chlorine or UV disinfection.



Spanish Plain Language Summary

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 exige 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 federal. representaciones ejecutables de la solicitud de permiso.

Sapelo Liberty Hill LP, 1608 W 5th Street, Suite 240, Austin, TX 78703 solicitó a la Comisión de Calidad Ambiental de Texas (TCEQ) un nuevo permiso (TLAP) para autorizar la eliminación de aguas residuales tratadas en un volumen que no exceda el diario. Flujo promedio de 95,400 galones por día a través de un sistema de riego por aspersión superficial de acceso público con un mínimo de 25.1 acres.

La instalación de tratamiento de aguas residuales domésticas estará ubicada aproximadamente a 0.54 millas al oeste de la intersección de SH 183 y Agua Fria Rd en la ciudad de Liberty Hill en el condado de Williamson, Texas 78642. La solicitud de permiso estará disponible para ver y copiar en la Biblioteca Pública de Liberty Hill. 355 Main St, Liberty Hill en el condado de Williamson TX 78642.

Se espera que las descargas de la instalación contengan demanda bioquímica de oxígeno carbonoso (CBOD5) de cinco días, sólidos suspendidos totales (SST), nitrógeno amoniacal (NH3-N) y Escherichia coli. Las aguas residuales domésticas serán tratadas mediante un MBR y el sistema tendrá una pantalla primaria, un tanque de ecualización, múltiples trenes de proceso que constan de zonas anóxicas, de aireación, de membrana y tanques de retención de lodos. La instalación utilizará cloro o desinfección UV.





TCEQ Core Data Form

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

SECTION I: General Information

1. Reason for Submission (If other is checked please describe in space provided.)		
<input checked="" type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)		<input type="checkbox"/> Other
2. Customer Reference Number (if issued)	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number (if issued)
CN None		RN None

SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)			
<input checked="" type="checkbox"/> New Customer <input type="checkbox"/> Update to Customer Information <input type="checkbox"/> Change in 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>					
6. Customer Legal Name (If an individual, print last name first: eg: Doe, John)				<i>If new Customer, enter previous Customer below:</i>	
Sapelo Liberty Hill LP					
7. TX SOS/CPA Filing Number		8. TX State Tax ID (11 digits)		9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)
0805462136		32094192104			
11. Type of Customer:		<input checked="" type="checkbox"/> Corporation		<input type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> Local <input type="checkbox"/> State <input type="checkbox"/> Other		<input type="checkbox"/> Sole Proprietorship		<input type="checkbox"/> Other:	
12. Number of Employees				13. Independently Owned and Operated?	
<input checked="" type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following					
<input checked="" type="checkbox"/> Owner <input type="checkbox"/> Operator <input type="checkbox"/> Owner & Operator <input type="checkbox"/> Other: <input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> VCP/BSA Applicant					
15. Mailing Address:		1608 W 5 th St			
		Ste 240			
City		Austin		State	TX
ZIP		78703		ZIP + 4	
16. Country Mailing Information (if outside USA)				17. E-Mail Address (if applicable)	
				justin.reynolds@sapelogroup.com	

18. Telephone Number	19. Extension or Code	20. Fax Number (if applicable)
(512) 470-9297	0	() -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information (If 'New Regulated Entity' is selected, a new permit application is also required.)								
<input checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information								
<i>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).</i>								
22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.)								
Canady Tract WWTF								
23. Street Address of the Regulated Entity: (No PO Boxes)								
	City	Liberty Hill	State	TX	ZIP	78642	ZIP + 4	
24. County	Williamson							

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

25. Description to Physical Location:	The WWTF is located approximately 0.54 miles west of the intersection of SH 183 and Agua Fria Rd							
26. Nearest City					State	Nearest ZIP Code		
Liberty Hill					TX	78642		
<i>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).</i>								
27. Latitude (N) In Decimal:	30.6788 N				28. Longitude (W) In Decimal:	97.8876 W		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds			
30	40	43.84	-97	53	15.59			
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)			
33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)								
Wastewater Treatment								
34. Mailing Address:	1608 W 5 th St							
	Ste 240							
	City	Austin	State	TX	ZIP	78703	ZIP + 4	
35. E-Mail Address:	justin.reynolds@sapelogroup.com							
36. Telephone Number	37. Extension or Code		38. Fax Number (if applicable)					
(512) 470-9297	None		() -					

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.

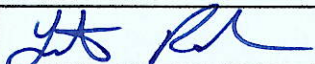
<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input type="checkbox"/> Edwards Aquifer	<input type="checkbox"/> Emissions Inventory Air	<input type="checkbox"/> Industrial Hazardous Waste
<input type="checkbox"/> Municipal Solid Waste	<input type="checkbox"/> New Source Review 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

40. Name:	Ashraya Upadhyahya		41. Title:	Project Engineer
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address	
(903) 414-0307	None	() -	aupadhyahya@jawastewater.com	

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Sapelo Liberty Hill LP	Job Title:	Manager
Name (In Print):	Justin Reynolds	Phone:	(512) 470- 9297
Signature:		Date:	11/22/2024



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:

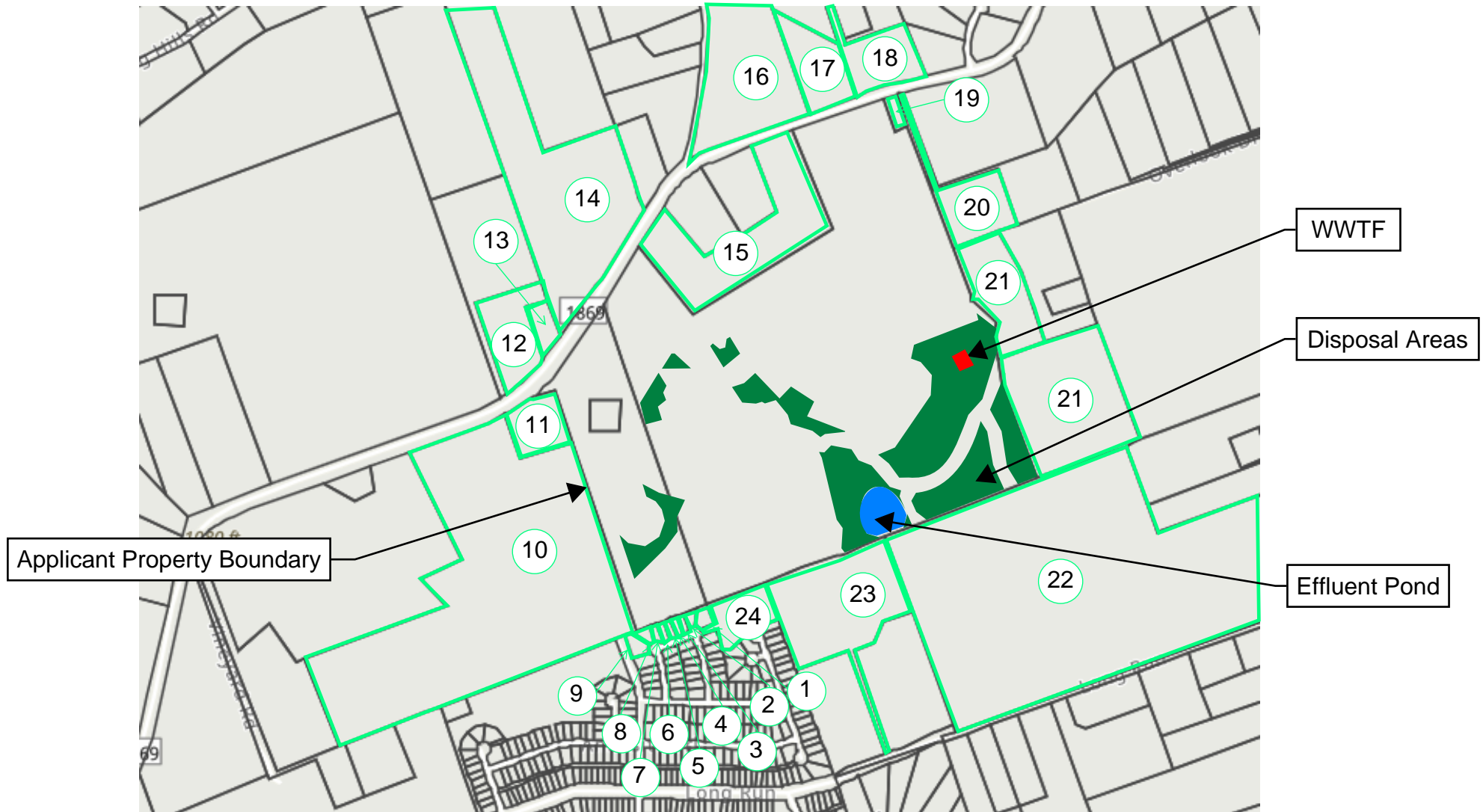
- Austin
- Dallas
- Fort Worth
- Houston
- San Antonio
- West Texas
- Texas Panhandle
- Along the Texas/Mexico Border
- Other geographical locations should be decided on a case-by-case basis

**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.

This project is not considered to have significant public interest.

Canady Tract - Affected Landowner Map



AFFECTED LAND OWNER LIST

Address Source: [Williamson Central Appraisal District Map \(wcad.org\)](http://Williamson Central Appraisal District Map (wcad.org))

On September 5, 2024

Map Label	Property ID Number	Owner Name	Mailing Address
1	R624803	RUTLAND TAYLOR BRAMLETT & BRITTNEY ARMIDA	134 RAMPART LOOP LIBERTY HILL, TX 78642
2	R624804	GUDURI, KIRAN KUMAR	138 RAMPART LOOP LIBERTY HILL, TX 78642-2494
3	R624805	PURANDARE, SUJAY VIJAY & UNNATI MILIND GORE	142 RAMPART LOOP LIBERTY HILL, TX 78642-2494
4	R624806	GANDHI, DHHRUVKUMAR VIMALKUMAR & STEFI DHHRUVKUMAR	146 RAMPART LOOP LIBERTY HILL, TX 78642
5	R624807	MOECKEL, NATALIE B VALENTA & CALEB WAYNE	150 RAMPART LOOP LIBERTY HILL, TX 78642
6	R624808	GUERRA, ROSALIE TOLEDO & RENE ROBERTO JR	154 RAMPART LOOP LIBERTY HILL, TX 78642
7	R624809	NAG, NILANJAN & MOUPARNA DAS	158 RAMPART LOOP LIBERTY HILL, TX 78642-2494
8	R624810	ALAGUMALAI, RAJ K & AMUDHA R IRUDAYAM	162 RAMPART LOOP LIBERTY HILL, TX 78642
9	R624811	DASH, SOUMYARANJAN & SUBHALAXMI PAL	166 RAMPART LOOP LIBERTY HILL, TX 78642
10	R023137	LUKER, LLOYD B & JANIE R	PO BOX 1000 LIBERTY HILL, TX 78642-1000
11	R332901	LUKER, MARK	PO BOX 730 LIBERTY HILL, TX 78642-0730
12	R023150	HARRIS, THOMAS & RITA	1300 RANCH ROAD 1869 LIBERTY HILL, TX 78642-6248
13	R023151	WARRINER, RAYMOND LEE & RAYMOND II	9809 QUEENSLAND DR AUSTIN, TX 78729
14	R080965	CK, RAYMOND J & CANDICE K TRUSTEES OF ESTOCK LIVING TR	984 INDIAN RDG LIBERTY HILL, TX 78642
15	R654750	CANADY, BRANDON & JESSICA	951 RANCH ROAD 1869 LIBERTY HILL, TX 78642-2312
16	R023148	STRAZZA, JOSEPH	850 RR 1869 LIBERTY HILL, TX 78642
17	R023154	PREECE, STEPHEN M & BARBARA R	PO BOX 748 CEDAR PARK, TX 78630-0748
18	R023152	PREECE, JIMMY L	750 RANCH ROAD 1869 LIBERTY HILL, TX 78642-6247
19	R385057	CHISHOLM TRAIL SPECIAL UTILITY DISTRICT	PO BOX 249 FLORENCE, TX 76527-0249
20	R415117	RIOS, MICHAEL RUEBEN	743 RANCH ROAD 1869 LIBERTY HILL, TX 78642-6247
21	R023143, R023142	WU, CHING-SHUENN & MEI-JANE	10608 BRADEL CV AUSTIN, TX 78726-1343
22	R022795	LIBERTY 1651 LLC	416 PALUXY DR IRVING, TX 75039
23	R516597	YARBOROUGH, JAMES KLEBERG & HILLARY JEAN	500 LONG RUN RD LIBERTY HILL, TX 78642
24	R607246	STONEWALL RANCH MUNICIPAL UTILITY DISTRICT	901 S MOPAC EXPY #STE 225 AUSTIN, TX 78746

RUTLAND TAYLOR BRAMLETT &
BRITTNEY ARMIDA
134 RAMPART LOOP
LIBERTY HILL TX 78642

GUDURI KIRAN KUMAR
138 RAMPART LOOP
LIBERTY HILL TX 78642-2494

PURANDARE SUJAY VIJAY & UNNATI
MILIND GORE
142 RAMPART LOOP
LIBERTY HILL TX 78642-2494

GANDHI DHRUVKUMAR VIMALKUMAR &
STEFI DHRUVKUMAR
146 RAMPART LOOP
LIBERTY HILL TX 78642

MOECKEL NATALIE B VALENTA & CALEB
WAYNE
150 RAMPART LOOP
LIBERTY HILL TX 78642

GUERRA ROSALIE TOLEDO & RENE
ROBERTO JR
154 RAMPART LOOP
LIBERTY HILL TX 78642

NAG NILANJAN & MOUPARNA DAS
158 RAMPART LOOP
LIBERTY HILL TX 78642-2494

ALAGUMALAI RAJ K & AMUDHA R
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TRUSTEES OF ESTOCK LIVING TRUST
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LIBERTY HILL TX 78642

PREECE STEPHEN M & BARBARA R
PO BOX 748
CEDAR PARK TX 78630-0748

PREECE JIMMY L
750 RANCH ROAD 1869
LIBERTY HILL TX 78642-6247

CHISHOLM TRAIL SPECIAL UTILITY
DISTRICT
PO BOX 249
FLORENCE TX 76527-0249

RIOS MICHAEL RUEBEN
743 RANCH ROAD 1869
LIBERTY HILL TX 78642-6247

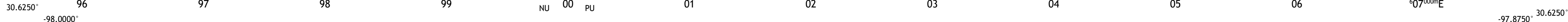
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10608 BRADEL CV
AUSTIN TX 78726-1343

LIBERTY 1651 LLC
416 PALUXY DR
IRVING TX 75039

YARBOROUGH JAMES KLEBERG &
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500 LONG RUN RD
LIBERTY HILL TX 78642

STONEWALL RANCH MUNICIPAL UTILITY
DISTRICT
901 S MOPAC EXPY #STE 225
AUSTIN TX 78746

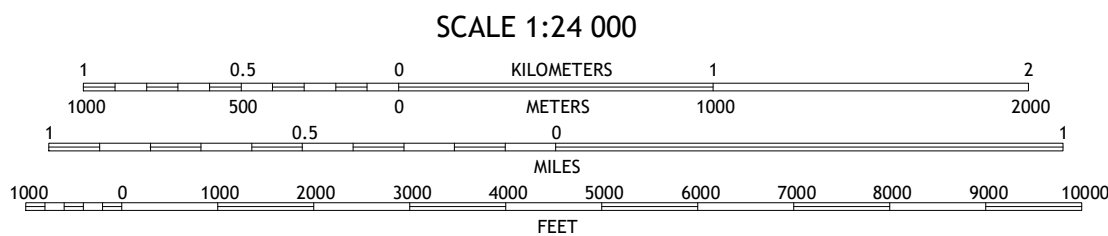
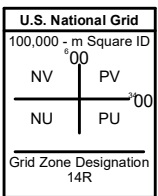
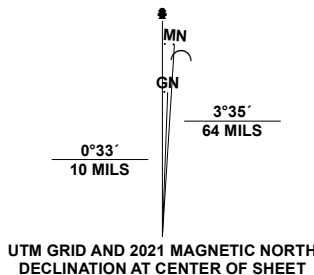
LIBERTY HILL QUADRANGLE
TEXAS
7.5-MINUTE TOPO



North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 14R
Data is provided by The National Map (TNM), is the best available at the time of map generation, and includes data content from supporting themes of Elevation, Hydrography, Geographic Names, Boundaries, Transportation, Structures, Land Cover, and Orthoimagery. Refer to associated Federal Geographic Data Committee (FGDC) Metadata for additional source data information.

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. Temporal changes may have occurred since these data were collected and some data may no longer represent actual surface conditions.

Learn About The National Map: <https://nationalmap.gov>



CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988
CONTOUR SMOOTHNESS = Medium







USER DEFINED CONTENT






Joppa	Mahomet	Florence
Bertram	Liberty Hill	Leander NE
Travis Peak	Nameless	Leander

ADJOINING QUADRANGLES

ROAD CLASSIFICATION

Expressway		Local Connector	
Secondary Hwy		Local Road	
Ramp		4WD	

 Interstate Route	 US Route	 State Route
--	--	---

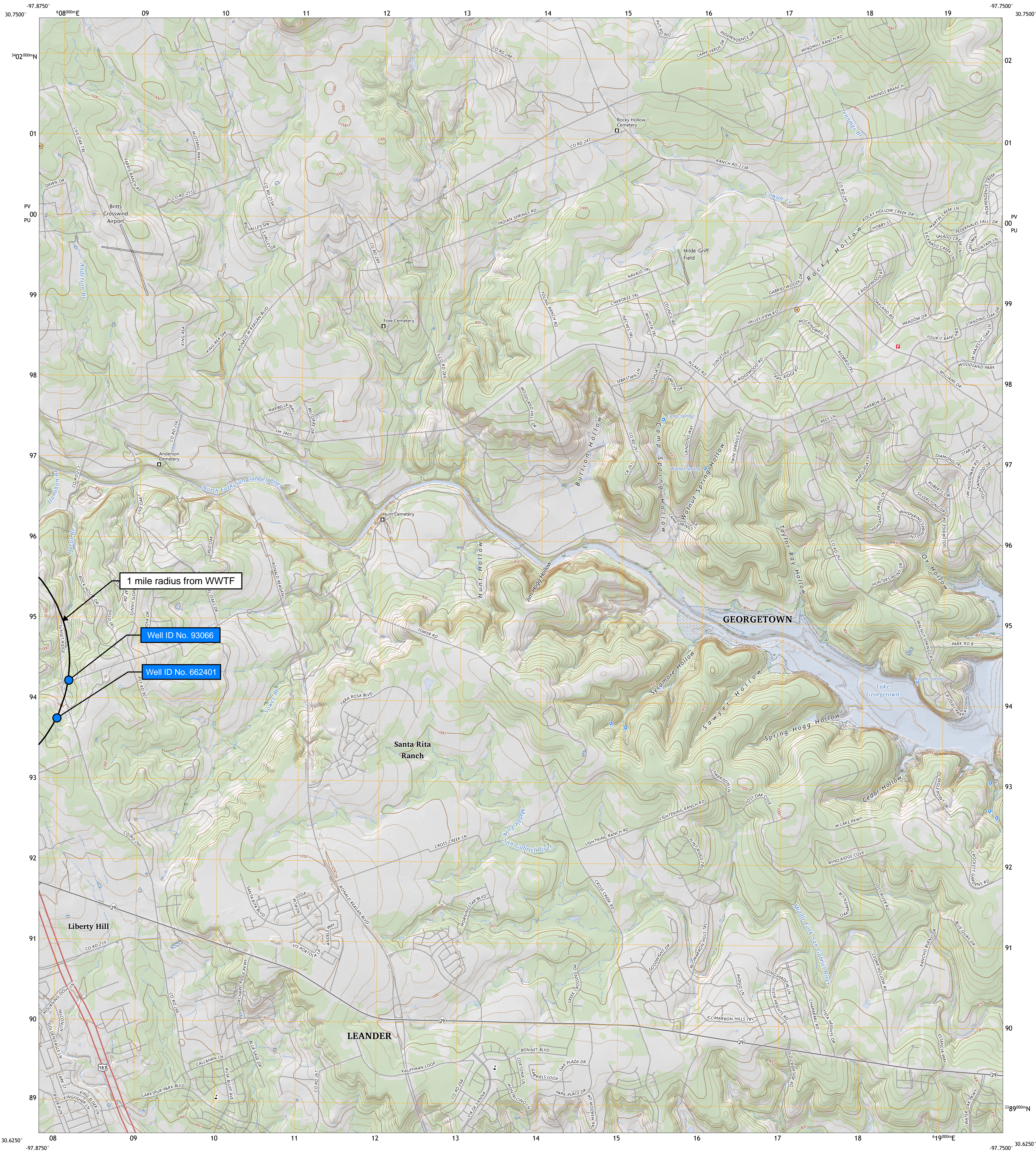
LIBERTY HILL, TX
2024



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

Canady Tract WWTF - USGS Map

LEANDER NE QUADRANGLE
TEXAS - WILLIAMSON COUNTY
7.5-MINUTE TOPO

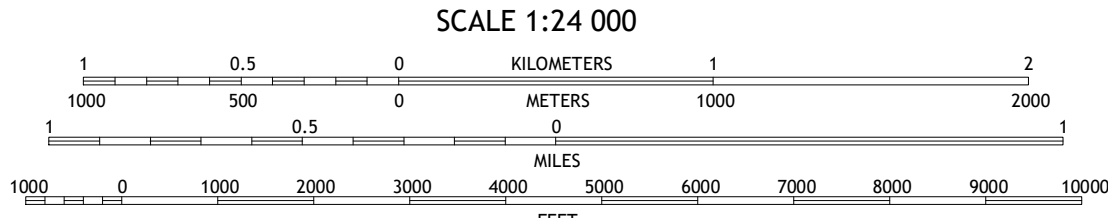
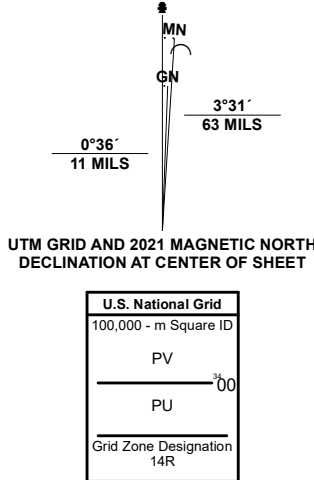


Produced by the United States Geological Survey

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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Metadata for additional source data information.

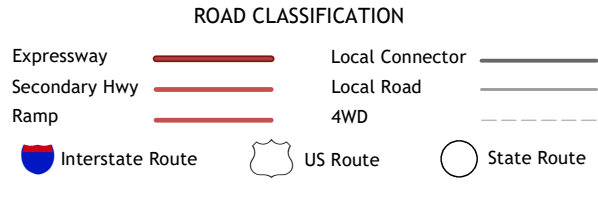
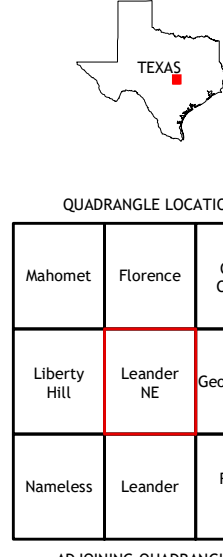
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CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988
CONTOUR SMOOTHNESS = Medium

USER DEFINED CONTENT



LEANDER NE, TX
2024



STATE OF TEXAS PLUGGING REPORT for Tracking #30216

Owner:	Lennar Buffington Stonewall Ra	Owner Well #:	No Data
Address:	12301 Research Rd, Bldg 4, Suite 450 Austin, TX 78759	Grid #:	58-17-6
Well Location:	HWY 29 Liberty Hill, TX 78648	Latitude:	30° 40' 06" N
Well County:	Williamson	Longitude:	097° 53' 23" W
		Elevation:	No Data

Well Type: **Withdrawal of Water**

Drilling Information

Company:	No Data	Date Drilled:	No Data
Driller:	No Data	License Number:	No Data

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	5		600

Plugging Information

Date Plugged: **2/10/2006** Plugger: **David McDearmon**

Plug Method: **Tremmie pipe bentonite from bottom to 2 feet from surface, cement top 2 feet**

Casing Left in Well:

Plug(s) Placed in Well:

No Data

Top (ft.)	Bottom (ft.)	Description (number of sacks & material)
0	20	2 bags cement
20	600	22 Benseal

Certification Data: The driller certified that the driller plugged this well (or the well was plugged 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 reports(s) being returned for completion and resubmittal.

Company Information: **David McDearmon**
12907 Lowden Rd
Manchaca, TX 78652

Driller Name: **David McDearmon** License Number: **2563**

Comments: **No Data**

STATE OF TEXAS PLUGGING REPORT for Tracking #82798

Owner: **The Lookout Group**

Owner Well #: **No Data**

Address: **1001 Crystal Falls Pkwy.
Leander, TX 78641**

Grid #: **58-17-6**

Well Location: **299 Limestone Rd.
Liberty Hill, TX 78642**

Latitude: **30° 40' 02" N**

Longitude: **097° 53' 15" W**

Well County: **Williamson**

Elevation: **No Data**

Well Type: **Withdrawal of Water**

Drilling Information

Company: **No Data**

Date Drilled: **No Data**

Driller: **No Data**

License Number: **No Data**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	4.5		500

Plugging Information

Date Plugged: **8/8/2012**

Plugger: **Jimmy Arnold**

Plug Method: **Pour in 3/8 bentonite chips when standing water in well is less than 100 feet depth,
cement top 2 feet**

Casing Left in Well:

Plug(s) Placed in Well:

<i>Dia (in.)</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
4.5	2	500

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description (number of sacks & material)</i>
0	2	1
0	500	1

Certification Data: The driller certified that the driller plugged this well (or the well was plugged 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 reports(s) being returned for completion and resubmittal.

Company Information: **Tom Arnold Drilling
2750 S AW Grimes Blvd.
Round Rock, TX 78664**

Driller Name: **Jimmy Arnold**

License Number: **4200**

Comments: **^EAD**

STATE OF TEXAS PLUGGING REPORT for Tracking #82799

Owner: **The Lookout Group**

Owner Well #: **No Data**

Address: **1001 Crystal Falls Pkwy.
Leander, TX 78641**

Grid #: **58-17-6**

Well Location: **299 Limestone Rd.
Liberty Hill, TX 78642**

Latitude: **30° 40' 02" N**

Longitude: **097° 53' 15" W**

Well County: **Williamson**

Elevation: **No Data**

Well Type: **Withdrawal of Water**

Drilling Information

Company: **No Data**

Date Drilled: **No Data**

Driller: **No Data**

License Number: **No Data**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	4.75		343

Plugging Information

Date Plugged: **8/8/2012**

Plugger: **Jimmy Arnold**

Plug Method: **Pour in 3/8 bentonite chips when standing water in well is less than 100 feet depth,
cement top 2 feet**

Casing Left in Well:

<i>Dia (in.)</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
7	2	40

Plug(s) Placed in Well:

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description (number of sacks & material)</i>
0	2	1
2	343	49

Certification Data: The driller certified that the driller plugged this well (or the well was plugged 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 reports(s) being returned for completion and resubmittal.

Company Information: **Tom Arnold Drilling
2750 S AW Grimes Blvd.
Round Rock, TX 78664**

Driller Name: **Jimmy Arnold**

License Number: **4200**

Comments: **^EAD**

[GWDB Reports and Downloads](#)
[Well Basic Details](#)
[Scanned Documents](#)

State Well Number	5817601
County	Williamson
River Basin	Brazos
Groundwater Management Area	8
Regional Water Planning Area	G - Brazos G
Groundwater Conservation District	GCD Does Not Exist
Latitude (decimal degrees)	30.69
Latitude (degrees minutes seconds)	30° 41' 24" N
Longitude (decimal degrees)	-97.893334
Longitude (degrees minutes seconds)	097° 53' 36" W
Coordinate Source	Global Positioning System - GPS
Aquifer Code	218HNSL - Hensell Sand Member of Travis Peak Formation
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	1025
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	492
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	5/0/1968
Drilling Method	Cable Tool
Borehole Completion	Open Hole

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	Historical
Water Quality Available	Yes
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Rick Hollar
Driller	Hunt Drlg. Co.
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	11/2/1994
Last Update Date	3/4/2020

Remarks	Observation well. Measured yield 50 GPM with 60 feet drawdown after pumping 14 hours. Specific capacity 2.5 GPM/ft. Pump set at 280 feet.
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Casing						
Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
7	Blank	Steel			0	455
	Open Hole				455	492

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

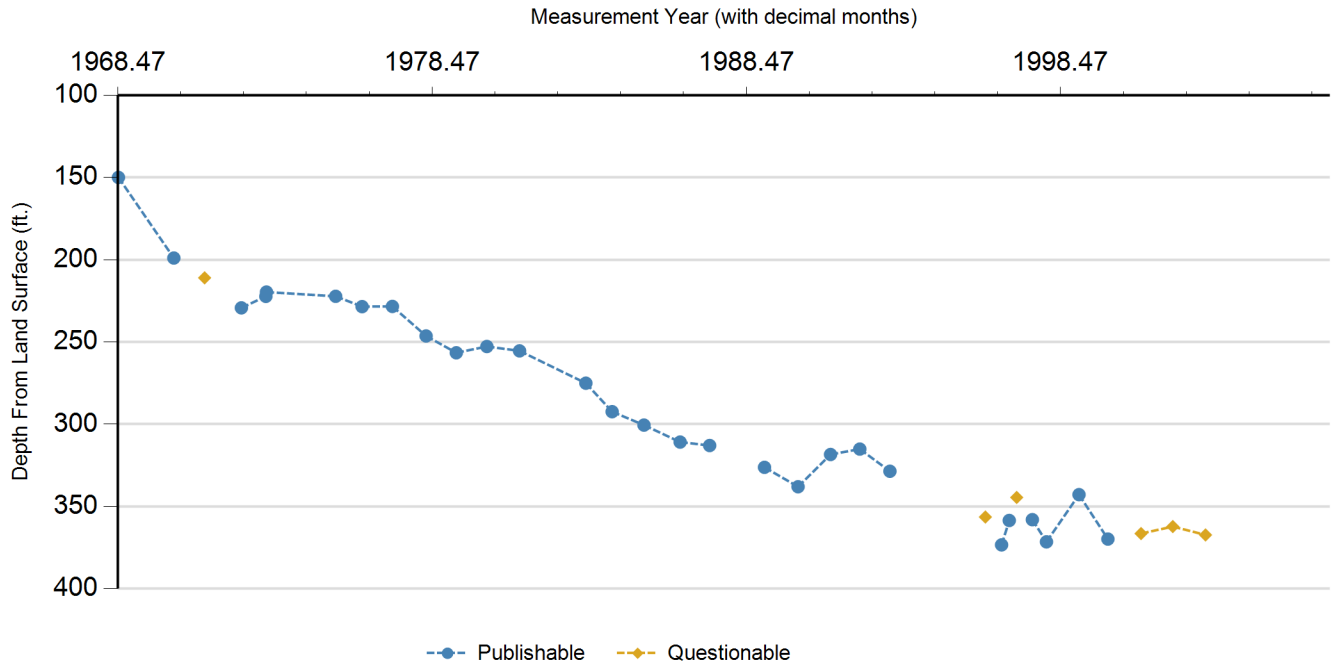
Borehole - No Data

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	5/0/1968		150		875	1	Registered Water Well Driller	Unknown		
P	4/2/1970		198.99	48.99	826.01	1	Texas Water Development Board	Steel Tape		
Q	3/25/1971		211.03	12.04	813.97	1	Texas Water Development Board	Steel Tape	4	
P	5/27/1972		229.27	18.24	795.73	1	Texas Water Development Board	Steel Tape		
P	3/6/1973		222.29	(6.98)	802.71	1	Texas Water Development Board	Steel Tape		
P	3/13/1973		219.67	(2.62)	805.33	1	Texas Water Development Board	Steel Tape		
P	5/27/1975		222.25	2.58	802.75	1	Texas Water Development Board	Steel Tape		
P	3/29/1976		228.52	6.27	796.48	1	Texas Water Development Board	Steel Tape		
P	3/16/1977		228.4	(0.12)	796.6	1	Texas Water Development Board	Steel Tape		
P	4/12/1978		246.35	17.95	778.65	1	Texas Water Development Board	Steel Tape		
P	3/28/1979		256.58	10.23	768.42	1	Texas Water Development Board	Steel Tape		
P	3/18/1980		252.76	(3.82)	772.24	1	Texas Water Development Board	Steel Tape		
P	4/3/1981		255.42	2.66	769.58	1	Texas Water Development Board	Steel Tape		
P	5/13/1983		275.06	19.64	749.94	1	Texas Water Development Board	Steel Tape		
P	3/13/1984		292.37	17.31	732.63	1	Texas Water Development Board	Steel Tape		
P	3/18/1985		300.53	8.16	724.47	1	Texas Water Development Board	Steel Tape		
P	5/13/1986		310.85	10.32	714.15	1	Texas Water Development Board	Steel Tape		
P	4/21/1987		312.93	2.08	712.07	1	Texas Water Development Board	Steel Tape		
X	2/26/1988					1	Texas Water Development Board		20	
P	1/18/1989		326.2		698.8	1	Texas Water Development Board	Steel Tape		
P	2/13/1990		338	11.80	687	1	Texas Water Development Board	Steel Tape		

**Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number
58-17-601**

Status Code	Date	Time	Water Level (ft. below land surface)	Change value in () indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	2/25/1991		318.4	(19.60)	706.6	1	Texas Water Development Board	Steel Tape		
P	1/30/1992		315.1	(3.30)	709.9	1	Texas Water Development Board	Steel Tape		
P	1/15/1993		328.6	13.50	696.4	1	Texas Water Development Board	Steel Tape		
X	2/24/1994					1	Texas Water Development Board		20	
X	11/9/1994					1	Texas Water Development Board		20	
Q	1/29/1996		356.4		668.6	1	Texas Water Development Board	Steel Tape	10	
P	8/7/1996		373.35	16.95	651.65	1	Texas Water Development Board	Steel Tape		
P	11/6/1996		358.5	(14.85)	666.5	1	Texas Water Development Board	Steel Tape		
Q	1/28/1997		344.5	(14.00)	680.5	1	Texas Water Development Board	Steel Tape	10	
P	7/29/1997		358	13.50	667	1	Texas Water Development Board	Steel Tape		
P	1/8/1998		371.5	13.50	653.5	1	Texas Water Development Board	Steel Tape		
P	1/21/1999		342.8	(28.70)	682.2	1	Texas Water Development Board	Steel Tape		
P	12/27/1999		369.8	27.00	655.2	1	Texas Water Development Board	Steel Tape		
Q	1/12/2001		366.45	(3.35)	658.55	1	Texas Water Development Board	Steel Tape	10	
Q	1/16/2002		362.2	(4.25)	662.8	1	Texas Water Development Board	Steel Tape	10	
Q	1/31/2003		367.3	5.10	657.7	1	Texas Water Development Board	Steel Tape	10	
X	2/26/2004					1	Texas Water Development Board	Steel Tape	25	
X	1/28/2005					1	Texas Water Development Board	Steel Tape	25	
X	1/26/2006					1	Texas Water Development Board	Steel Tape	25	
X	1/8/2007					1	Texas Water Development Board	Steel Tape	25	

Code Descriptions

Status Code	Status Description
P	Publishable
Q	Questionable
X	No Measurement

Remark ID	Remark Description
4	Well pumped recently
10	Inconsistent or spotty tape mark due to wet or leaking casing
20	Unable to insert tape into well
25	Unable to measure due to wet or leaking casing

**Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number
58-17-601**

Water Quality Analysis

Sample Date: 5/27/1972 **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)		302	mg/L as CaCO 3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		368.54	mg/L	
00910	CALCIUM (MG/L)		67	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		119	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		3.5	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		422	mg/L as CaCO 3	
00920	MAGNESIUM (MG/L)		62	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		1.5	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.6	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		31	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		12	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		3.07		
00932	SODIUM, CALCULATED, PERCENT		42	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		145	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1705	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		296	mg/L as SO4	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		918	mg/L	

Water Quality Analysis

Sample Date: 3/18/1980 **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:** From well not sufficiently pumped; not filtered or preserved

Collection Remarks: faucet at 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)		340	mg/L as CaCO3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		414.92	mg/L	
00910	CALCIUM (MG/L)		79	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		100	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		4	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		530	mg/L as CaCO3	
00920	MAGNESIUM (MG/L)		81	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		0.6	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.9	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		34	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		9	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		2.46		
00932	SODIUM, CALCULATED, PERCENT		34	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		130	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1823	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		335	mg/L as SO4	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		976	mg/L	

Water Quality Analysis

Sample Date: 5/13/1986 **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)		332	mg/L as CaCO3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		405.15	mg/L	
00910	CALCIUM (MG/L)		71	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		101	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		3.5	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		452	mg/L as CaCO3	
00920	MAGNESIUM (MG/L)		67	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		0.58	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		8	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		22	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		10	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		2.68		
00932	SODIUM, CALCULATED, PERCENT		38	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		131	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1705	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		288	mg/L as SO4	
00010	TEMPERATURE, WATER (CELSIUS)		24	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		893	mg/L	

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

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State Well Number	5817605
County	Williamson
River Basin	Brazos
Groundwater Management Area	8
Regional Water Planning Area	G - Brazos G
Groundwater Conservation District	GCD Does Not Exist
Latitude (decimal degrees)	30.671111
Latitude (degrees minutes seconds)	30° 40' 16" N
Longitude (decimal degrees)	-97.903612
Longitude (degrees minutes seconds)	097° 54' 13" W
Coordinate Source	+/- 5 Seconds
Aquifer Code	218TRNT - Trinity Group
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	1065
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	555
Well Depth Source	Geophysical Log
Drilling Start Date	
Drilling End Date	9/0/1978
Drilling Method	Air Rotary
Borehole Completion	Open Hole

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	None
Water Quality Available	Yes
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Garry Goerdel
Driller	Harrison Drlg.
Other Data Available	Caliper; Electric Log; Gamma Ray; Neutron
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	11/2/1994
Last Update Date	3/4/2020

Remarks	
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Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
6	Blank	Plastic (PVC)			0	31
	Open Hole				31	423

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements

No Data Available

Water Quality Analysis

Sample Date: 2/19/1979 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:** Texas Water Development Board

Sampled Aquifer: Trinity Group

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)		312	mg/L as CaCO 3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		380.75	mg/L	
01020	BORON, DISSOLVED (UG/L AS B)		3800	ug/L	
00910	CALCIUM (MG/L)		94	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		116	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		3.8	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		538	mg/L as CaCO 3	
01045	IRON, TOTAL (UG/L AS FE)		260	ug/L	
00920	MAGNESIUM (MG/L)		74	mg/L	
01055	MANGANESE, TOTAL (UG/L AS MN)	<	20	ug/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		2.2	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.7	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		26	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		12	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		2.55		
00932	SODIUM, CALCULATED, PERCENT		35	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		136	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1968	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		394	mg/L as SO4	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		1045	mg/L	

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

**Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number
58-17-605**

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[Well Basic Details](#)
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State Well Number	5817606
County	Williamson
River Basin	Brazos
Groundwater Management Area	8
Regional Water Planning Area	G - Brazos G
Groundwater Conservation District	GCD Does Not Exist
Latitude (decimal degrees)	30.669722
Latitude (degrees minutes seconds)	30° 40' 11" N
Longitude (decimal degrees)	-97.893889
Longitude (degrees minutes seconds)	097° 53' 38" W
Coordinate Source	+/- 1 Second
Aquifer Code	217HSTN - Hosston Formation
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	1035
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	604
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	5/27/1973
Drilling Method	Cable Tool
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	Westwood Boys Ranch
Driller	Bonnet Drilling Co.
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	8/1/1988
Last Update Date	3/4/2020

Remarks Owner's #2 well. Measured yield 25 GPM with 20 feet drawdown after pumping 2 hours in 1973. Pump set at 380 feet.

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
6	Blank	Plastic (PVC)			0	260
6	Screen	Plastic (PVC)			260	300
6	Blank	Plastic (PVC)			300	523
6	Screen	Plastic (PVC)			523	563
6	Blank	Plastic (PVC)			563	585
7	Open Hole				585	604

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

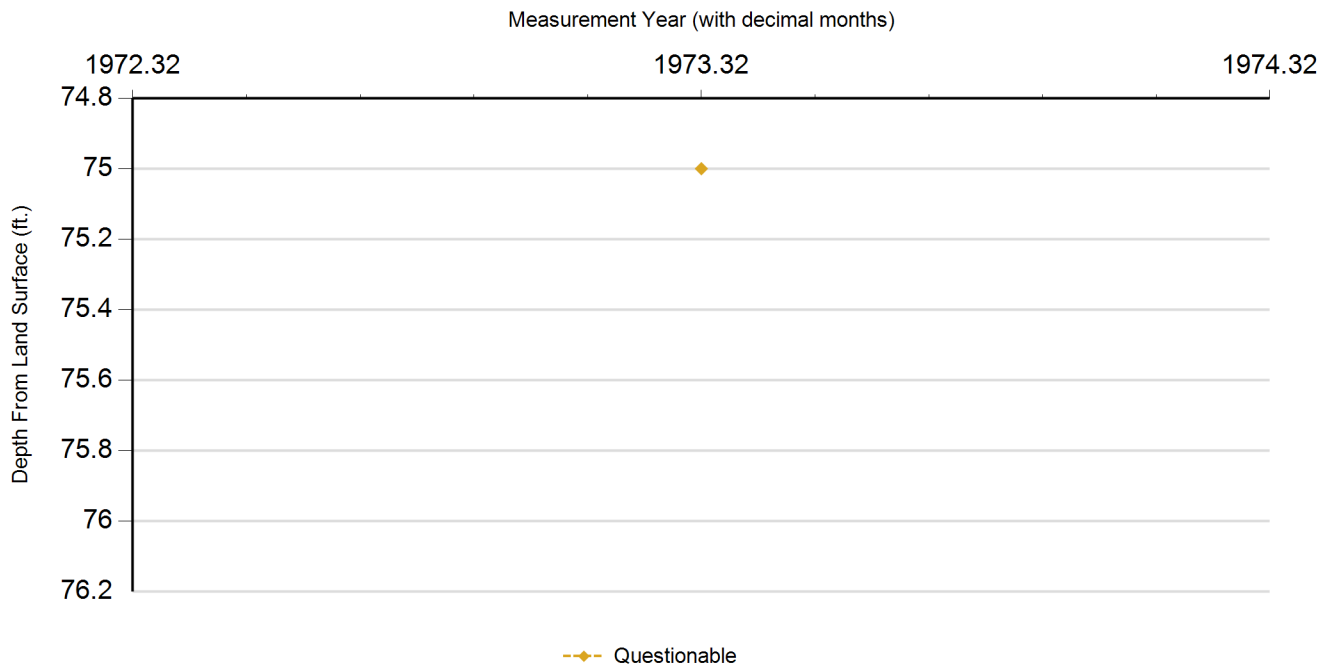
Borehole - No Data

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
Q	4/27/1973		75		960	1	Registered Water Well Driller	Unknown	17	

Code Descriptions

Status Code	Status Description
Q	Questionable

Remark ID	Remark Description
17	Measurement before well completion

Water Quality Analysis - No Data Available

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**Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number
58-17-902**

[GWDB Reports and Downloads](#)

Well Basic Details

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State Well Number	5817902
County	Williamson
River Basin	Brazos
Groundwater Management Area	8
Regional Water Planning Area	G - Brazos G
Groundwater Conservation District	GCD Does Not Exist
Latitude (decimal degrees)	30.6661111
Latitude (degrees minutes seconds)	30° 39' 58" N
Longitude (decimal degrees)	-97.8927778
Longitude (degrees minutes seconds)	097° 53' 34" W
Coordinate Source	Global Positioning System - GPS
Aquifer Code	217HSTN - Hosston Formation
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	1045
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	740
Well Depth Source	Measured
Drilling Start Date	
Drilling End Date	10/20/1967
Drilling Method	Mud (Hydraulic) Rotary
Borehole Completion	Unknown

Well Type	Withdrawal of Water
Well Use	Unused
Water Level Observation	TWDB Current Site Visit
Water Quality Available	Yes
Pump	None
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	Unknown
Surface Completion	Unknown
Owner	Westwood Boys Ranch Meridell Achievement
Driller	Central Texas Drilling Company
Other Data Available	Drillers Log; Specific Capacity
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	1/8/2007
Last Update Date	3/4/2020

Remarks Owner's #2 well. Unused public supply well. Measured yield 14.7 GPM with 20 feet drawdown after pumping 8 hours in 1967. Specific capacity .88 GPM/ft. Pump set at 525 feet.

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
7	Blank	Steel			0	580
4	Blank	Steel			580	740

Well Tests - No Data

Lithology

Top Depth (ft.)	Bottom Depth (ft.)	Description
0	18	Caliche
18	42	Blue Shale
42	103	Limestone
103	140	Blue Shale & Clay
140	360	Limestone
360	370	Sand
370	530	Limestone & Shale
530	580	Sand & Limestone
580	610	Blue Clay & Shale
610	660	Blue & Red Clay
660	740	Sandstone

Annular Seal Range - No Data

Borehole

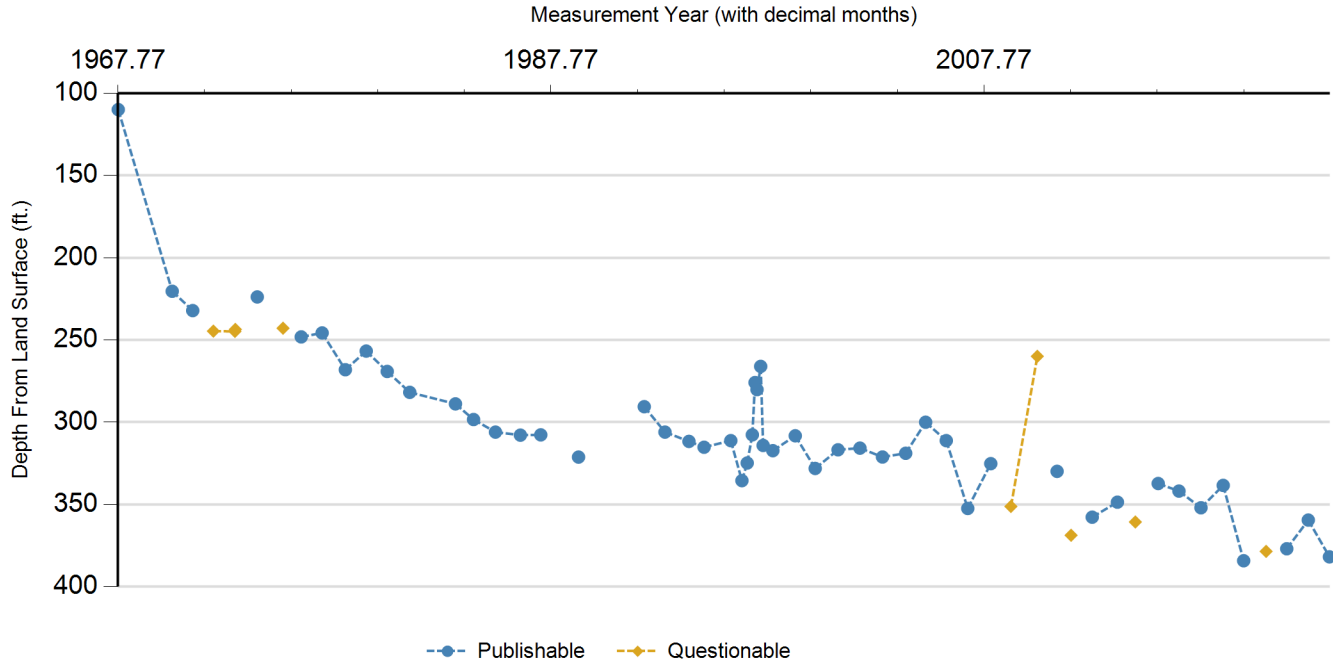
Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
8.75	0	740

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	10/20/1967		110		935	1	Registered Water Well Driller	Unknown		
P	4/14/1970		220.4	110.40	824.6	1	Texas Water Development Board	Electric Line		
P	3/25/1971		232.15	11.75	812.85	1	Texas Water Development Board	Steel Tape		
Q	3/8/1972		244.63	12.48	800.37	1	Texas Water Development Board	Steel Tape	4	
Q	3/6/1973		244.8	0.17	800.2	1	Texas Water Development Board	Steel Tape	4	
Q	3/13/1973		243.6	(1.20)	801.4	1	Texas Water Development Board	Steel Tape	4	
P	3/18/1974		223.85	(19.75)	821.15	1	Texas Water Development Board	Steel Tape		
Q	5/27/1975		242.85	19.00	802.15	1	Texas Water Development Board	Steel Tape	4	
P	3/29/1976		248.15	5.30	796.85	1	Texas Water Development Board	Steel Tape		
P	3/16/1977		245.72	(2.43)	799.28	1	Texas Water Development Board	Steel Tape		
P	4/12/1978		268.1	22.38	776.9	1	Texas Water Development Board	Steel Tape		
P	3/29/1979		256.75	(11.35)	788.25	1	Texas Water Development Board	Steel Tape		
P	3/18/1980		269.15	12.40	775.85	1	Texas Water Development Board	Steel Tape		
P	4/3/1981		281.85	12.70	763.15	1	Texas Water Development Board	Steel Tape		
P	5/13/1983		288.85	7.00	756.15	1	Texas Water Development Board	Steel Tape		
P	3/13/1984		298.37	9.52	746.63	1	Texas Water Development Board	Steel Tape		
P	3/18/1985		306	7.63	739	1	Texas Water Development Board	Steel Tape		
P	5/13/1986		307.85	1.85	737.15	1	Texas Water Development Board	Steel Tape		
P	4/21/1987		307.68	(0.17)	737.32	1	Texas Water Development Board	Steel Tape		
X	2/26/1988					1	Texas Water Development Board	Steel Tape	22	
P	1/18/1989		321.2		723.8	1	Texas Water Development Board	Steel Tape		

**Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number
58-17-902**

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
X	2/13/1990					1	Texas Water Development Board	Steel Tape	22	
X	2/11/1991					1	Texas Water Development Board	Steel Tape	22	
P	1/30/1992		290.55		754.45	1	Texas Water Development Board	Steel Tape		
P	1/15/1993		306	15.45	739	1	Texas Water Development Board	Steel Tape		
P	2/24/1994		311.65	5.65	733.35	1	Texas Water Development Board	Steel Tape		
P	11/9/1994		315.2	3.55	729.8	1	Texas Water Development Board	Steel Tape		
P	1/29/1996		311.2	(4.00)	733.8	1	Texas Water Development Board	Steel Tape		
P	8/7/1996		335.5	24.30	709.5	1	Texas Water Development Board	Steel Tape		
P	11/6/1996		324.8	(10.70)	720.2	1	Texas Water Development Board	Steel Tape		
P	1/27/1997		307.65	(17.15)	737.35	1	Texas Water Development Board	Steel Tape		
P	3/13/1997		275.9	(31.75)	769.1	1	Texas Water Development Board	Electric Line		
P	4/16/1997		280.16	4.26	764.84	1	Texas Water Development Board	Steel Tape		
P	6/18/1997		266.07	(14.09)	778.93	1	Texas Water Development Board	Steel Tape		
P	7/29/1997		314.11	48.04	730.89	1	Texas Water Development Board	Steel Tape		
P	1/8/1998		317.3	3.19	727.7	1	Texas Water Development Board	Steel Tape		
P	1/21/1999		308.25	(9.05)	736.75	1	Texas Water Development Board	Steel Tape		
P	12/27/1999		328.1	19.85	716.9	1	Texas Water Development Board	Steel Tape		
P	1/12/2001		316.75	(11.35)	728.25	1	Texas Water Development Board	Steel Tape		
P	1/16/2002		315.75	(1.00)	729.25	1	Texas Water Development Board	Steel Tape		
P	1/31/2003		321.15	5.40	723.85	1	Texas Water Development Board	Steel Tape		
P	2/27/2004		318.88	(2.27)	726.12	1	Texas Water Development Board	Steel Tape		
P	1/28/2005		300	(18.88)	745	1	Texas Water Development Board	Steel Tape		
P	1/11/2006		311.18	11.18	733.82	1	Texas Water Development Board	Steel Tape		
P	1/8/2007		352.4	41.22	692.6	1	Texas Water Development Board	Steel Tape		
P	1/31/2008		325.19	(27.21)	719.81	1	Texas Water Development Board	Steel Tape		
Q	1/6/2009		351.2	26.01	693.8	1	Texas Water Development Board	Steel Tape	10	
Q	3/26/2010		259.94	(91.26)	785.06	1	Texas Water Development Board	Steel Tape	10	
P	2/24/2011		329.85	69.91	715.15	1	Texas Water Development Board	Steel Tape		
Q	10/20/2011		368.72	38.87	676.28	1	Texas Water Development Board	Steel Tape	10	
P	10/11/2012		357.71	(11.01)	687.29	1	Texas Water Development Board	Steel Tape		
P	12/11/2013		348.58	(9.13)	696.42	1	Texas Water Development Board	Steel Tape		
Q	10/8/2014		360.64	12.06	684.36	1	Texas Water Development Board	Steel Tape	10	
P	10/28/2015	1220	337.26	(23.38)	707.74	1	Texas Water Development Board	Steel Tape		
P	10/13/2016	1000	341.85	4.59	703.15	1	Texas Water Development Board	Electric Line		
P	10/19/2017	1350	352	10.15	693	1	Texas Water Development Board	Electric Line		
P	10/29/2018	1245	338.4	(13.60)	706.6	1	Texas Water Development Board	Electric Line		
P	10/9/2019	1050	384.2	45.80	660.8	1	Texas Water Development Board	Electric Line		
Q	10/23/2020	1000	378.49	(5.71)	666.51	1	Texas Water Development Board	Electric Line	15	Eline hung frequently and right near water level.

**Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number
58-17-902**

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	10/5/2021	1029	376.91	(1.58)	668.09	1	Texas Water Development Board	Electric Line		Tape hangs at 200 and water level a lot
P	10/3/2022	1234	359.48	(17.43)	685.52	1	Texas Water Development Board	Electric Line		Eline hangs a lot
P	9/25/2023	1156	381.82	22.34	663.18	1	Texas Water Development Board	Electric Line		

Code Descriptions

Status Code	Status Description
P	Publishable
Q	Questionable
X	No Measurement

Remark ID	Remark Description
4	Well pumped recently
10	Inconsistent or spotty tape mark due to wet or leaking casing
15	Tape may not have fallen free in well during measurement
22	Unable to measure because tape hangs before reaching water level

Water Quality Analysis

Sample Date: 5/27/1972 **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)		285	mg/L as CaCO 3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		347.8	mg/L	
00910	CALCIUM (MG/L)		49	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		111	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		0.9	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		250	mg/L as CaCO 3	
00920	MAGNESIUM (MG/L)		31	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)	<	0.4	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.5	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		14	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0.7		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		18	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		3		
00932	SODIUM, CALCULATED, PERCENT		48	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		109	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1064	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		53	mg/L as SO4	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		557	mg/L	

Water Quality Analysis

Sample Date: 10/23/1973 **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)		287	mg/L as CaCO3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		350.24	mg/L	
00910	CALCIUM (MG/L)		52	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		114	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		1	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		248	mg/L as CaCO3	
01045	IRON, TOTAL (UG/L AS FE)		1300	ug/L	
00920	MAGNESIUM (MG/L)		29	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)	<	0.4	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.8	SU	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0.76		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		16	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		3.2		
00932	SODIUM, CALCULATED, PERCENT		50	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		116	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1104	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		64	mg/L as SO4	
00010	TEMPERATURE, WATER (CELSIUS)		23	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		564	mg/L	

Water Quality Analysis

Sample Date: 8/1/1974 **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)		307	mg/L as CaCO3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		374.65	mg/L	
00910	CALCIUM (MG/L)		74	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		102	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		2.2	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		377	mg/L as CaCO3	
00920	MAGNESIUM (MG/L)		47	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		1.5	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.8	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		14	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		13	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		2.19		
00932	SODIUM, CALCULATED, PERCENT		36	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		98	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1332	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		155	mg/L as SO4	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		690	mg/L	

Water Quality Analysis

Sample Date: 3/18/1980 **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)		293	mg/L as CaCO3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		357.56	mg/L	
00910	CALCIUM (MG/L)		85	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		278	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		3.3	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		495	mg/L as CaCO3	
00920	MAGNESIUM (MG/L)		69	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		0.5	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.9	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		31	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		9	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		4.41		
00932	SODIUM, CALCULATED, PERCENT		49	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		226	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		2320	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		333	mg/L as SO4	
00010	TEMPERATURE, WATER (CELSIUS)		16	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		1210	mg/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 #29778

Owner:	Larry Dayhoff	Owner Well #:	No Data
Address:	1497 North Hwy 183 Leander, TX 78641	Grid #:	58-17-6
Well Location:	1497 North Hwy 183 Leander, TX 78641	Latitude:	30° 40' 16" N
Well County:	Williamson	Longitude:	097° 53' 12" W
		Elevation:	887 ft. above sea level
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: 11/15/2003 Drilling End Date: 11/19/2003

Borehole:	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
	7.875	0	20
	7	20	360
	6.75	360	600

Drilling Method: Air Rotary

Borehole Completion: Straight Wall

Annular Seal Data:	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
	0	30	9

Seal Method: Gravity

Sealed By: ADC

Distance to Property Line (ft.): No Data

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

Distance to Septic Tank (ft.): No Data

Method of Verification: No Data

Surface Completion: Surface Sleeve Installed

Water Level:	344 ft. below land surface on 2003-11-21	Measurement Method:	Unknown
Packers:	Neoprene/Burlap 30, 120 & 440		
Type of Pump:	Submersible	Pump Depth (ft.):	500
Well Tests:	Estimated	Yield:	30 GPM

Water Quality:

Strata Depth (ft.)	Water Type
440-600	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: **Associated Drilling Company**

**P.O. Box 1060
Manchaca, TX 78652**

Driller Name: **Byron Benoit**

License Number: **1955**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	1	topsoil
1	20	caliche-tan sandstone
20	52	broken gray lime
52	58	Void-Lost returns
58	200	Lime
200	260	Broken lime
260	360	lime with shale
360	420	sandstone
420	480	broken sandstone
480	500	sandstone
500	560	broken sandstone
560	600	clay with shale

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	New	Plastic	-2 to 600
SDR 17			perf. from 440-600

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

STATE OF TEXAS WELL REPORT for Tracking #79487

Owner: **Shawn Preece**

Owner Well #: **No Data**

Address: **PO Box 1238
Liberty Hill, TX 78642**

Grid #: **58-17-6**

Well Location: **CR 1869
Liberty Hill, TX 78642**

Latitude: **30° 41' 13" N**

Longitude: **097° 53' 26" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **12/5/2005**

Drilling End Date: **12/6/2005**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	9.75	0	20
	6	20	520

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	40	5

Seal Method: **mixed**

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: **Surface Slab Installed**

Water Level: **No Data**

Packers: **Rubber 40'
Rubber 440'**

Type of Pump: **Submersible**

Well Tests: **Jetted** **Yield: 50 GPM**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	Good

Chemical Analysis Made: No

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

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

Company Information: Hill Country Water Well

PO Box 220
Briggs, TX 78608

Driller Name: Joe E McDearmon

License Number: 2334

Comments: Verbal Warning issued late filing 8/13/09

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	16	cal
16	25	gry lime
25	35	cal
35	90	gry lime
90	95	gry shale
95	115	gry lime
115	117	gry shale
117	180	gry lime
180	185	bro shale
185	260	bro lime
260	365	gry lime
365	370	sand water
370	385	gry shale
385	395	gry shale
395	445	sandstone
445	450	trinty sand water
450	465	sand stone
465	470	trinty sandwater

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
6 New Plastic 0-520 sdr-17			

470	490	sandstone
490	500	trinty sand water
500	520	sandstone

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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 #93066

Owner: **OMAR GALLE**

Owner Well #: **No Data**

Address: **1401 CR 258
LIBERTY HILL, TX 78642**

Grid #: **58-18-4**

Well Location: **1401 CR 258
LIBERTY HILL, TX 78642**

Latitude: **30° 40' 37" N**

Longitude: **097° 52' 13" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **8/19/2006**

Drilling End Date: **8/21/2006**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	9	0	25
	6	25	563

Drilling Method: **Air Hammer**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	25	5 CEMENT

Seal Method: **GRAVITY FEED**

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

Sealed By: **Driller**

Distance to Septic Field or other
concentrated contamination (ft.): **100+**

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

Method of Verification: **VISUAL**

Surface Completion: **Surface Sleeve Installed**

Water Level: **383 ft. below land surface on 2006-08-21** Measurement Method: **Unknown**

Packers: **RUBBER 470'**

Type of Pump: **No Data**

Well Tests: **Estimated** Yield: **40 GPM**

Water Quality:

Strata Depth (ft.)	Water Type
470	GOOD

Chemical Analysis Made: **No**

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

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

Company Information: **HARRISON WELL SERVICE, INC**
P.O. BOX 986
LAMPASAS, TX 76550

Driller Name: **JUAN MUNOZ** License Number: **54176**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	25	OVERBURDEN
25	390	GRAY SHALE
390	392	SAND/LIMESTONE MIX
392	452	GREEN SHALE
452	470	SANDSTONE/OIL SPOTS
470	490	SAND (WATER)
490	500	SAND/LIMESTONE MIX
500	508	SAND (WATER)
508	523	BROWN LIMESTONE
523	531	SAND/LIMESTONE MIX
531	555	SANDSTONE
555	563	BLACK SHALE

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
6"	NEW	SCH 40 PVC	0-25
4 1/2"	NEW	SDR 17 PVC	3-563
		SLOTTED	503-563

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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 #104692

Owner: **Wayne Christi**

Owner Well #: **No Data**

Address: **601 Oak Lane
Liberty Hill, TX 78642**

Grid #: **58-17-6**

Well Location: **601 Oak Lane
Liberty Hill, TX 78642**

Latitude: **30° 41' 36" N**

Longitude: **097° 53' 41" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **8/7/2003**

Drilling End Date: **8/14/2003**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	10	0	18
	6.5	18	505

Drilling Method: **Air Hammer**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	18	6

Seal Method: **Hand Poured**

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

Sealed By: **Driller**

Distance to Septic Field or other
concentrated contamination (ft.): **155**

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

Method of Verification: **Tape Measure**

Surface Completion: **Surface Sleeve Installed**

Water Level: **359 ft. below land surface on 2003-08-14** Measurement Method: **Unknown**

Packers: **Shale Catcher 445**

Type of Pump: **Submersible**

Pump Depth (ft.): **440**

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

Water Quality:

Strata Depth (ft.)	Water Type
No Data	No Data

Chemical Analysis Made: **No**

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

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

Company Information: **Tom Arnold Drilling**
1147 CR 170
Round Rock, TX 78664

Driller Name: **Tommy D. Arnold**

License Number: **2096**

Comments: **Logged by DT\$**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	1	Top Soil
1	8	Brown Limestone
8	19	Yellow Limestone
19	51	Gray Limestone
51	60	Brown Limestone
60	66	Blue Limestone
66	168	Gray Limestone
168	178	Blue Limestone and Shale
178	200	Brown Limestone
200	324	Gray Limestone
324	347	Blue Shale
347	360	Brown Limestone
360	365	Gray Sandstone and Shale
365	368	Blue Shale
368	405	Gray Sandstone
405	475	Gray and White Sand and Sandstone
475	480	Gray Sandstone

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
6 N	Plastic	0/18	
4 1/2 N	Plastic	0/505	
Perf.	445/485		

480	492	Gray Limestone
492	505	Green Limestone

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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 #183538

Owner: **Kathy Adams**

Owner Well #: **No Data**

Address: **480 Liberty Drive
Liberty Hill, TX 78642**

Grid #: **58-17-6**

Well Location: **480 Liberty Drive
Liberty Hill, TX 78642**

Latitude: **30° 41' 27" N**

Longitude: **097° 53' 17" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **9/16/2004**

Drilling End Date: **9/19/2004**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	9	0	25
	6	25	483

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	25	6

Seal Method: **Gravity Feed**

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

Sealed By: **Driller**

Distance to Septic Field or other
concentrated contamination (ft.): **100+**

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

Method of Verification: **Visual**

Surface Completion: **Surface Sleeve Installed**

Water Level: **335 ft. below land surface on 2004-09-19** Measurement Method: **Unknown**

Packers: **Rubber 45',400'**

Type of Pump: **No Data**

Well Tests: **Jetted** Yield: **30 GPM**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	Good

Chemical Analysis Made: **No**

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

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

Company Information: **Harrison Drilling**
P. O. Box 986
Lampasas, TX 76550

Driller Name: **Juan Munoz** License Number: **54176**

Comments: **\$dfs**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	25	Overburden
25	180	Gray Shale
180	182	Hard Limestone
182	194	Sandstone
194	364	Gray Shale
364	434	Hard Limestone
434	453	Sand (water)
453	483	Hard White Limestone

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
6	New	Sch40 PVC	0 25
4.5	New	SDR 17 PVC	3 483
		Perforated	423 483

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P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #184293

Owner:	Buffington Capital Holdings	Owner Well #:	StonewallRanch3
Address:	3600 Capital of Tx Hwy, B170 Austin, TX 78746	Grid #:	58-17-6
Well Location:	Stonewall Ranch-Phase 3 Liberty Hill, TX 78642	Latitude:	30° 40' 02" N
		Longitude:	097° 53' 34" W
Well County:	Williamson	Elevation:	1001 ft. above sea level
Type of Work:	New Well	Proposed Use:	Irrigation

Drilling Start Date: **5/13/2009** Drilling End Date: **5/27/2009**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	8	0	600

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	100	16PORTLD2HP6BEN
	350	360	1BENSEAL

Seal Method: **Pressure Grout**

Distance to Property Line (ft.): **45'**

Sealed By: **Driller**

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

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

Method of Verification: **Measured**

Surface Completion: **Surface Slab Installed**

Water Level: **422 ft. below land surface on 2009-05-22** Measurement Method: **Unknown**

Packers: **6MIL POLY 100'**
6MIL POLY 280'
6MIL POLY/SHALE PACKER 360'

Type of Pump: **Submersible** Pump Depth (ft.): **500**

Well Tests: **Jetted** Yield: **20+ GPM**

Water Quality:

Strata Depth (ft.)	Water Type
500'-600'	Good

Chemical Analysis Made: **No**

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

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

Company Information: **Whisenant & Lyle Water Services Inc**
P.O. Box 525
Dripping Springs, TX 78620

Driller Name: **Martin D. Lingle** License Number: **54813**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

From (ft)	To (ft)	Description
0-1/2		topsoil
1/2-5		brown clay
5-8		white limestone clay
8-15		white limestone hard
15-180		grey limestone
180-240		white sandstone
240-263		grey white sandstone
263-266		grey clay
266-307		white limestone
307-309		brown clay
309-392		grey white limestone
392-460		grey limestone hard
460-500		grey white blue shale hard
500-590		grey white brown limestone fractured
590-600		grey light clay

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	PVC-SDR17IB	+2'-500'
4.5	N	PVC-17SLOTTED.085	500'-600'

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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 #265187

Owner: **Frank Acosta**

Owner Well #: **No Data**

Address: **P.O. Box 369
Liberty Hill, TX 78642**

Grid #: **58-17-6**

Well Location: **381 Lone Run
Liberty Hill, TX 78642**

Latitude: **30° 40' 19" N**

Longitude: **097° 53' 11" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **8/3/2011**

Drilling End Date: **8/3/2011**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	9	0	30
	6	30	565

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	30	6

Seal Method: **Slurry**

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

Sealed By: **Driller**

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 Packers, PVC & Burlap, 30,460,480**

Type of Pump: **Submersible**

Well Tests: **Jetted** **Yield: 20-30 GPM**

Water Quality:

Strata Depth (ft.)	Water Type
50	Hensell

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**
500 Southland Dr.
Burnet, TX 78611

Driller Name: **Frank Glass**

License Number: **1313**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	1	Top Soil
1	16	Caliche & Lime
16	65	Blue Lime
65	170	Gray Lime
170	200	Brown Lime
200	440	Gray Lime & stripes Shale & Clay
440	480	Hensell Sand & Clay
480	560	Hensell Sand
560	565	White Lime

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
5" OD, New, Plastic, +2'-565', 17, 60' of Screen			

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

STATE OF TEXAS WELL REPORT for Tracking #277836

Owner:	Lawrence Gabel	Owner Well #:	1
Address:	987 HWY 183 Liberty Hill, TX 78642	Grid #:	58-17-9
Well Location:	987 HWY 183 LIBERTY HILL, TX 78642	Latitude:	30° 39' 55" N
Well County:	Williamson	Longitude:	097° 52' 59" W
		Elevation:	1068 ft. above sea level
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: **12/3/2011** Drilling End Date: **12/5/2011**

Borehole:	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
	9.75	0	20
	7.25	20	100
	6.25	120	620

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

Annular Seal Data:	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
	0	120	18

Seal Method: **PRESSURE CEMENTED**

Sealed By: **Driller**

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

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

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

Method of Verification: **No Data**

Surface Completion: **Surface Sleeve Installed**

Water Level: **469 ft. below land surface on 2011-12-05** Measurement Method: **Unknown**

Packers: **RUBBER 120'
RUBBER 500'**

Type of Pump: **OWNER WAITING TO
INSTALL PUMP**

Well Tests: **Jetted** **Yield: 45 GPM**

Water Quality:

Strata Depth (ft.)	Water Type
459	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: **HILL COUNTRY WATER WELL**

**POBOX 220
BRIGGS, TX 78608**

Driller Name: **JOE MCDEARMON**

License Number: **2334**

Comments: **PUMP INSTALLATION AT A LATER DATE PER OWNERS INSTRUCTION.**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	6	WHITE LIME
6	18	CALICHE
18	180	GRAY LIME
180	260	BROWN LIME
260	380	GRAY LIME
380	440	BROWN LIME
440	445	GRAY SHALE
445	510	SANDSTONE
510	512	SAND DRY
512	550	SANDSTONE
550	570	TRINITY SAND
570	585	SANDSTONE
585	590	TRINITY SAND
590	605	SANDSTONE
605	610	TRINITY SAND
610	620	SANDSTONE

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	NEW	PLASTIC	0'/620
4.5	NEW	SCREEN	560' .032
4.5	NEW	SCREEN	580' .032
4.5	NEW	SCREEN	620' .032

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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 #282006

Owner: **Larry Smith**

Owner Well #: **No Data**

Address: **281 CR 1869
Liberty Hill, TX 78642**

Grid #: **58-17-6**

Well Location: **281 CR 1869
Liberty Hill, TX 78642**

Latitude: **30° 41' 12" N**

Longitude: **097° 52' 53" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **7/11/2011**

Drilling End Date: **7/19/2011**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	9	0	20
	6.5	20	505

Drilling Method: **Air Hammer**

Borehole Completion: **Straight Wall**

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

Seal Method: **Hand Poured**

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

Sealed By: **Driller**

Distance to Septic Field or other
concentrated contamination (ft.): **176**

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

Method of Verification: **Tape Measure**

Surface Completion: **Surface Sleeve Installed**

Water Level: **326 ft. below land surface on 2011-07-12** Measurement Method: **Unknown**

Packers: **Shale Trap 405', 385', and 20'**

Type of Pump: **Submersible**

Pump Depth (ft.): **440**

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

Water Quality:

Strata Depth (ft.)	Water Type
No Data	No Data

Chemical Analysis Made: **No**

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

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

Company Information: **Tom Arnold Drilling**
2750 S A. W. Grimes Blvd.
Round Rock, TX 78664

Driller Name: **Not Given**

License Number: **2096**

Comments: **^EAD**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	2	topsoil
2	16	yellow shale & gravel
16	19	yellow limestone
19	26	blue limestone & shale
26	150	gray limestone
150	166	brown limestone
166	254	gray limestone
254	260	gray limestone & shale
260	320	gray limestone
320	330	blue limestone & shale
330	390	gray sandstone & sand
390	404	green limestone & shale

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4 1/2"	N	Plastic	0'-505'
		Perf.	405'-445'

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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 #298691

Owner: **liberty hill isd**
Address: **p.o. box 68
liberty hill, TX 78642**
Well Location: **16500 w.s.h 29
liberyhill, TX 78642**
Well County: **Williamson**

Owner Well #: **978**
Grid #: **58-17-6**
Latitude: **30° 40' 21" N**
Longitude: **097° 52' 35" W**
Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Closed-Loop Geothermal**

Drilling Start Date: **4/5/2012**

Drilling End Date: **8/12/2012**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	4.75	0	250

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:	14	250	Gravel	3/8

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	14	5 bags hole plu
	14	250	pea gravel 6 wh

Seal Method: **pourd with water**

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: **Unknown**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

	<i>Description (number of sacks & material)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Plug Information:	14 to 0 hole plug		

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
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: **central north const.**
5970 lindsey lane
allen, TX 75002

Driller Name: **Tracy Niles** License Number: **3139**

Comments: **hard drilling with fractures**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
0	2	top soil
2	250	hard limestone

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
One inch polly pipe coil 0 to 250			

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Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #302042

Owner: **Alex Dossey**

Owner Well #: **No Data**

Address: **500 Long Run
Liberty Hill, TX 78642**

Grid #: **58-17-6**

Well Location: **500 Long Run
Liberty Hill, TX 78642**

Latitude: **30° 40' 24" N**

Longitude: **097° 53' 26" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **9/18/2012**

Drilling End Date: **9/18/2012**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	8	0	20
	6.5	20	565

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

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

Seal Method: **Slurry**

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

Sealed By: **Driller**

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 440', 430', 100', 20'**

Type of Pump: **No Data**

Well Tests: **Jetted** **Yield: 35 GPM**

Water Quality:

Strata Depth (ft.)	Water Type
440-537	M.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: **Apex Drilling, Inc.**
P.O. Box 867
Marble Falls, TX 78654

Driller Name: **Michael G. Becker** License Number: **54516**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	11	Tan Limestone
11	440	Gran/Tan Limestone **Oil Stain @ 408
440	456	Gray/Tan Sandstone **H2O
456	485	Green Sandstone
485	522	Sand & Tan Limestone **H2O
522	524	Green Clay
524	537	Tan Limestone **H2O
537	565	Gray/Tan Limestone

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5"	(5" OD)	New PVC	+2' to 485' SDR17
4.5"	(5" OD)	New Slotted PVC	485' to 545' .035
4.5"	(5" OD)	New PVC	545' to 565' SDR17

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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 #376899

Owner: **Running W Land Co. S. Watson**

Owner Well #: **No Data**

Address: **777 Oak Lane
Liberty Hill, TX 78642**

Grid #: **58-17-6**

Well Location: **777 Oak Lane
Liberty Hill, TX 78642**

Latitude: **30° 41' 24" N**

Longitude: **097° 53' 54" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Stock**

Drilling Start Date: **8/14/2014**

Drilling End Date: **8/14/2014**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	9	0	50
	6.25	50	625

Drilling Method: **Air Rotary**

Borehole Completion: **cased; Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	1	50	6cmt 2gel

Seal Method: **hand poured**

Distance to Property Line (ft.): **75+**

Sealed By: **ADC**

Distance to Septic Field or other
concentrated contamination (ft.): **300+**

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

Method of Verification: **owner**

Surface Completion: **Surface Sleeve Installed**

Water Level: **413 ft. below land surface on 2014-08-14** Measurement Method: **Unknown**

Packers: **burlap,plastic,rubber @ 485,465,50**

Type of Pump: **Submersible**

Pump Depth (ft.): **0**

Well Tests: **Jetted** **Yield: 10-12 GPM**

	<i>Description (number of sacks & material)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Plug Information:	n/a		

Water Quality:

Strata Depth (ft.)	Water Type
505-570	Glen Rose

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 Inc.**
PO Box 673
Dripping Springs, TX 78620

Driller Name: **James Benoit** License Number: **4064**

Comments: **Bud Dobson**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	20	white limestone
20	505	gray lime few strips of shale
505	570	tan and white limestone
570	615	gray and white limestone
615	625	gray shale

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
5 od	new	sdr17 pvc	-3 to 545
5 od	new	sdr17 pvc (.032)	screen 545 to 605
5 od	new	sdr17 pvc	605 to 625

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Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #483014

Owner:	Bailey and Colt Hamilton	Owner Well #:	No Data
Address:	11797 HWY 183 Florence, TX 76527	Grid #:	58-17-6
Well Location:	11797 HWY 183 Florence, TX 76527	Latitude:	30° 40' 08.4" N
Well County:	Williamson	Longitude:	097° 53' 58.74" W
		Elevation:	1136 ft. above sea level
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: 5/9/2018

Drilling End Date: 5/9/2018

Borehole:	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
	9	0	50
	6.25	50	610

Drilling Method: Air Rotary

Borehole Completion: Straight Wall

Annular Seal Data:	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
	-1	50	7 Cement 2 Benseal Bags/Sacks

Seal Method: Slurry

Sealed By: Driller

Distance to Property Line (ft.): +100

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

Distance to Septic Tank (ft.): Unknown

Method of Verification: Well drilled first by
owner

Surface Completion: Surface Sleeve Installed

Surface Completion by Driller

Water Level: No Data

Packers: Burlap at 50 ft.
Burlap & Plastic at 490 ft.
Burlap & Plastic at 510 ft.

Type of Pump: Submersible

Well Tests: Estimated Yield: 15-20 GPM

Water Quality:

Strata Depth (ft.)	Water Type
515 - 570	Mid 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: **Associated Drilling Co.**
PO Box 673
Dripping Springs, TX 78620

Driller Name: **James Benoit**License Number: **4064**Apprentice Number: **4064**Comments: **Drilled for J&J Well Service**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	2	Topsoil
2	15	Tan Lime
15	135	Blue Lime
135	145	Grey Sand
145	485	Blue Lime
485	490	Grey Lime and Clay
490	515	Tan Limestone
515	545	Tan White Limestone, H2O
545	570	Tan and Grey Limestone
570	595	Blue White limestone
595	610	Grey Limestone

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)	SDR17	-3	530
4.5	Screen	New Plastic (PVC)	SDR17 0.020	530	590
4.5	Blank	New Plastic (PVC)	SDR17	590	610

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**

STATE OF TEXAS WELL REPORT for Tracking #521773

Owner: **Michael Ferguson**

Owner Well #: **No Data**

Address: **1003 Suffolk
Cedar park, TX 78613**

Grid #: **58-17-6**

Well Location: **850 Cole Dr.
Liberty Hill, TX 78642**

Latitude: **30° 41' 42" N**

Longitude: **097° 53' 22" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **5/13/2019**

Drilling End Date: **5/15/2019**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	10	0	19
	6.5	19	570

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

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

Seal Method: **Poured**

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

Sealed By: **Driller**

Distance to Septic Field or other
concentrated contamination (ft.): **140**

Distance to Septic Tank (ft.): **na**

Method of Verification: **Tape Measure**

Surface Completion: **Surface Sleeve Installed**

Surface Completion by Driller

Water Level: **380 ft. below land surface on 2019-05-15**

Packers: **Shale trap at 50 ft.
Shale trap at 250 ft.
Shale trap at 450 ft.**

Type of Pump: **Submersible**

Pump Depth (ft.): **460**

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

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
No Data	No Data

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

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

Company Information: **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>
0	1	Topsoil & loose rock
1	18	Yellow Limestone
18	67	Blue Limestone
67	171	Gray Limestone
171	180	Brown Limestone
180	214	Gray Limestone
214	232	Brown Limestone
232	350	Gray Limestone
350	430	Gray Sandstone
430	435	Gray Sand
435	450	Brown Limestone
450	468	Gray Sand & Sandstone
468	512	Green & Gray Sandstone
512	530	Gray sandstone
530	570	Gray Limestone & Shale

<i>Dia (in.)</i>	<i>Type</i>	<i>Material</i>	<i>Sch./Gage</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
4.5	Blank	New Plastic (PVC)		0	570
	Screen		0.032	450	490

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STATE OF TEXAS WELL REPORT for Tracking #547299

Owner: **TERRY JOHNSON**

Owner Well #: **No Data**

Address: **101 LONGHORN DR.
BERTRAM, TX 78605**

Grid #: **58-17-6**

Well Location: **1001 RR 1869
LIBERTY HILL, TX 78642**

Latitude: **30° 40' 53" N**

Longitude: **097° 53' 36" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **4/17/2020**

Drilling End Date: **4/18/2020**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	10	0	19
	6.5	19	530

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

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

Seal Method: **Poured**

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

Sealed By: **Driller**

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

Variance Number: **NA**

Distance to Septic Tank (ft.): **NA**

Method of Verification: **TAPE MEASURE**

Surface Completion: **Surface Sleeve Installed**

Surface Completion by Driller

Water Level: **393 ft. below land surface on 2020-04-18**

Packers: **SHALE TRAP at 20 ft.
SHALE TRAP at 360 ft.
SHALE TRAP at 470 ft.**

Type of Pump: **Submersible**

Pump Depth (ft.): **500**

Well Tests: **No Test Data Specified**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	No Data

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

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

Company Information: **TOM ARNOLD DRILLING**
2750 SOUTH A. W. GRIMES BLVD
ROUND ROCK, TX 78664

Driller Name: **TOM ARNOLD**License Number: **2096**Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	1	TOPSOIL & LOOSE ROCK
1	21	YELLOW LIMESTONE
21	31	BLUE LIMESTONE
31	136	GRAY LIMESTONE
136	148	BROWN LIMESTONE
148	210	GRAY LIMESTONE
210	219	BLUE LIMESTONE & SHALE
219	313	GRAY LIMESTONE
313	319	BLUE LIMESTONE & SHALE
319	387	GRAY LIMESTONE
387	391	BLUE LIMESTONE & SHALE
391	415	GRAY LIMESTONE
415	420	GRAY SAND
420	470	GRAY SANDSTONE & SAND STRIPS
470	480	GRAY SAND
480	488	WHITE SANDSTONE
488	501	GRAY SAND

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)		0	530
	Perforated or Slotted		0.032	470	530

501	514	GRAY SANDSTONE & SAND
514	530	GRAY LIMESTONE

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STATE OF TEXAS WELL REPORT for Tracking #560816

Owner: **Green Water Site Works**

Owner Well #: **No Data**

Address: **506 West Drive
Leander, TX 78641**

Grid #: **58-17-6**

Well Location: **640 Whitaker
Florence, TX**

Latitude: **30° 40' 07" N**

Longitude: **097° 52' 46" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **9/17/2020**

Drilling End Date: **9/18/2020**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	10	0	19
	6.5	19	630

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	20	Cement 6 Bags/Sacks

Seal Method: **Hand Mixed**

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

Sealed By: **Driller**

Distance to Septic Field or other
concentrated contamination (ft.): **157**

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

Method of Verification: **Tape**

Surface Completion: **Surface Sleeve Installed**

Surface Completion by Driller

Water Level: **424 ft. below land surface on 2020-09-17**

Packers: **Shale Trap at 20 ft.
Shale Trap at 350 ft.
Shale Trap at 550 ft.
Shale Trap at 570 ft.**

Type of Pump: **No Data**

Well Tests: **Estimated** **Yield: 40 GPM**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	No Data

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

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

Company Information: **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

Top (ft.)	Bottom (ft.)	Description
0	1	Top Soil & Loose Rock
1	21	Yellow Limestone
21	41	Tan Limestone
41	44	Blue Limestone
44	170	Gray Limestone
170	189	Brown Limestone
189	380	Gray Limestone
380	440	Gray Limestone
440	451	Brown Limestone
451	460	Blue LimeStone & Shale
460	551	Gray Sandstone
551	570	Gray Sandstone & Sand Strips

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)		0	570
4.5	Perforated or Slotted	New Plastic (PVC)	0.032	570	630

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STATE OF TEXAS WELL REPORT for Tracking #576288

Owner:	MBS Family LP	Owner Well #:	No Data
Address:	4500 Williams Dr, 212-423 Georgetown , TX 78633	Grid #:	58-17-9
Well Location:	951 Highway 183 Liberty Hill, TX 78633	Latitude:	30° 39' 54.8" N
Well County:	Williamson	Longitude:	097° 52' 54.84" W
		Elevation:	1051 ft. above sea level
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: **5/17/2021** Drilling End Date: **5/18/2021**

Borehole:	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
	10.625	0	10
	8.5	10	620

Drilling Method: **Air Rotary**

Borehole Completion: **Perforated or Slotted**

Annular Seal Data:	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
	0	40	Cement 8
	40	50	Bentonite 3

Seal Method: **Poured**

Sealed By: **Driller**

Distance to Property Line (ft.): **58**

Distance to Septic Field or other
concentrated contamination (ft.): **100+**

Distance to Septic Tank (ft.): **50+**

Method of Verification: **No Data**

Surface Completion: **Pitless Adapter Used**

Water Level: **No Data**

Packers: **Rubber at 50 ft.
Rubber at 55 ft.
Rubber at 495 ft.
Rubber at 500 ft.**

Type of Pump: **Submersible**

Well Tests: **Jetted Yield: 5 GPM**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	No Data

Chemical Analysis Made: **No**

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

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

Company Information: **Bee Cave Drilling, Inc.**
185 Angel Fire Rd.
Dripping Springs, TX 78620

Driller Name: **Michael Scott**

License Number: **59719**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	10	tan limestone
10	240	grey limestone
240	510	grey / tan limestone
510	615	grey / tan sandstone wb 5+ gpm at 1100 tds
615	620	grey clay

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)	sdr-17	0	20
5	Blank	New Plastic (PVC)	sch-80	20	560
5	Perforated or Slotted	New Plastic (PVC)	sch-80	560	620

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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 #576297

Owner:	MBS Family LP	Owner Well #:	No Data
Address:	4500 Williams Dr. Suite 212-423 Georgetown , TX 78633	Grid #:	58-17-9
Well Location:	951 Highway 183 Liberty Hill, TX 78633	Latitude:	30° 39' 52.99" N
Well County:	Williamson	Longitude:	097° 52' 59.38" W
		Elevation:	1055 ft. above sea level
Type of Work:	New Well	Proposed Use:	Industrial

Drilling Start Date: 5/19/2021 Drilling End Date: 5/24/2021

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	10.625	0	10
	8.5	10	620

Drilling Method: Air Rotary

Borehole Completion: Perforated or Slotted

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	0	10	Cement 4
	10	100	Bentonite 9

Seal Method: Pressure

Sealed By: Driller

Distance to Property Line (ft.): 12

Distance to Septic Field or other
concentrated contamination (ft.): 100+

Distance to Septic Tank (ft.): 100+

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 495 ft.
Rubber at 500 ft.

Type of Pump: Submersible

Well Tests: Jetted Yield: 10 GPM

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
No Data	No Data

Chemical Analysis Made: **No**

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

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

Company Information: **Bee Cave Drilling, Inc.**
185 Angel Fire Rd.
Dripping Springs, TX 78620

Driller Name: **Michael Scott**

License Number: **59719**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
0	20	tan limestone
20	270	grey limestone
270	520	grey / tan limestone
520	610	grey sandstone mix wb 10 gpm 1213 tds
610	620	grey clay

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>
4.5	Blank	New Plastic (PVC)	sdr-17	0	100
5	Blank	New Plastic (PVC)	sch-80	100	540
5	Perforated or Slotted	New Plastic (PVC)	sch-80	540	600
5	Blank	New Plastic (PVC)	sch-80	600	620

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STATE OF TEXAS WELL REPORT for Tracking #577912

Owner:	Zeb Miller Homes	Owner Well #:	No Data
Address:	1354 RM 1869 Liberty Hill, TX 78642	Grid #:	58-17-6
Well Location:	1354 RM 1869 Liberty Hill, TX 78642	Latitude:	30° 40' 53.77" N
		Longitude:	097° 53' 53.07" W
Well County:	Williamson	Elevation:	1032 ft. above sea level
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: **4/23/2021** Drilling End Date: **4/24/2021**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	11.75	0	20
	6.75	20	540

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	40	Cement 6 Bags/Sacks

Seal Method: **Hand Mixed**

Sealed By: **Driller**

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

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

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

Method of Verification: **No Data**

Surface Completion: **Surface Sleeve Installed**

Surface Completion by Driller

Water Level: **No Data on 2021-04-24**

Packers: **Rubber at 40 ft.
Rubber at 480 ft.**

Type of Pump: **Submersible** Pump Depth (ft.): **500**

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

Water Quality:

Strata Depth (ft.)	Water Type
No Data	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: **HILL COUNTRY WATER WELL**
POBOX 220
BRIGGS, TX 78608

Driller Name: **Joe McDearmon**

License Number: **2334**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	1	Top Soil
1	14	Caliche
14	385	Grey Lime
385	400	Dry Sands
400	420	Grey Lime
420	450	Tan
450	460	Dry Sands
460	465	Oil Spots
465	485	Sandstone
485	525	Trinity Sands
525	535	Sandstone
535	540	Grey Lime

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)	SDR17 0.032	0	480
4.5	Screen	New Plastic (PVC)	SDR17 0.032	480	500
4.5	Screen	New Plastic (PVC)	SDR17 0.032	500	520
4.5	Blank	New Plastic (PVC)	SDR17 0.032	520	540

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(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #627196

Owner:	Alex Thornton	Owner Well #:	No Data
Address:	748 RR 1869 Liberty Hill, TX 78642	Grid #:	58-17-6
Well Location:	748 RR 1869 Liberty Hill, TX 78642	Latitude:	30° 41' 07.01" N
Well County:	Williamson	Longitude:	097° 53' 20.9" W
		Elevation:	No Data
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: 10/25/2022 Drilling End Date: 10/26/2022

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	8	0	20
	6.25	20	520

Drilling Method: Air Rotary

Borehole Completion: Straight Wall

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	0	20	Cement 5 Bags/Sacks

Seal Method: Slurry

Sealed By: Driller

Distance to Property Line (ft.): 50+

Distance to Septic Field or other
concentrated contamination (ft.): 100+

Distance to Septic Tank (ft.): 100+

Method of Verification: No Data

Surface Completion: Surface Sleeve Installed

Surface Completion by Driller

Water Level: 380 ft. below land surface on 2022-11-10

Packers: Rubber at 40 ft.
Rubber at 340 ft.
Rubber at 420 ft.
Rubber at 440 ft.

Type of Pump: Submersible

Pump Depth (ft.): 460

Well Tests: Estimated Yield: 50+ GPM

Water Quality:

Strata Depth (ft.)	Water Type
No Data	No Data

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

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

Company Information: **B & B Water Well Service, Inc**
PO Box 232
Bertram, TX 78605

Driller Name: **Joshua Dickinson**License Number: **54204**Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	5	TOPSOIL
5	20	CALICHE
20	80	BLUE/GREY LIMESTONE
80	180	GREY LIMESTONE
180	300	TAN/GREY LIMESTONE
300	320	GREY LIMESTONE
320	340	DARK GREY LIMESTONE (H2O)
340	360	GREY LIMESTONE W/SHALE
360	380	TAN/DARK GREY LIMESTONE
380	420	GREY LIMESTONE W/SHALE
420	460	SANDSTONE/ BLUE SANDS (H2O)
460	480	SAND
480	520	LIGHT GREY LIMESTONE /GREEN

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)	SDR17	0	460
4.5	Perforated or Slotted	New Plastic (PVC)	SDR17	460	520

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STATE OF TEXAS WELL REPORT for Tracking #646739

Owner:	Lance Jones	Owner Well #:	No Data
Address:	756 Oak Ln. Liberty Hill, TX 78642	Grid #:	58-17-6
Well Location:	756 Oak Ln. Liberty Hill, TX 78642	Latitude:	30° 41' 38.51" N
Well County:	Williamson	Longitude:	097° 53' 27.1" W
		Elevation:	No Data
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: **8/14/2023** Drilling End Date: **8/14/2023**

Borehole:	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
	8.75	0	20
	6.25	20	510

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

Annular Seal Data:	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
	-1	30	4 cement, 1 Benseal Bags/Sacks

Seal Method: **Slurry**

Sealed By: **Driller**

Distance to Property Line (ft.): **+100**

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

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

Method of Verification: **Owner**

Surface Completion: **Surface Sleeve Installed**

Surface Completion by Driller

Water Level:	413 ft. below land surface on 2023-08-14	Measurement Method:	Sonic/Radar
Packers:	Burlap & PVC 390', 370' Burlap 30'		
Type of Pump:	Submersible		
Well Tests:	Estimated	Yield: 10-13 GPM	

Water Quality:

Strata Depth (ft.)	Water Type
413 - 510	Hensel

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**
500 Southland Drive
Burnet, TX 78611

Driller Name: **James Benoit**

License Number: **4064**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	5	white chalk
5	355	blue lime some clay
355	400	gray lime & clay
400	440	tan limestone some sand
440	480	tan gray limestone
480	500	white limestone
500	510	blue clay

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)	SDR17	-3	430
4.5	Screen	New Plastic (PVC)	SDR17 0.032	430	490
4.5	Blank	New Plastic (PVC)	SDR17	490	510

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

STATE OF TEXAS WELL REPORT for Tracking #658431

Owner: **Maria Magallon**

Owner Well #: **No Data**

Address: **201 Long Run
Liberty Hill, TX 78642**

Grid #: **58-17-6**

Well Location: **201 Long Run
Liberty Hill, TX 78642**

Latitude: **30° 40' 18.73" N**

Longitude: **097° 52' 57.68" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **1/10/2024**

Drilling End Date: **1/10/2024**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	8.75	0	20
	6.25	20	610

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	-1	30	4 cement, 1 Benseal Bags/Sacks

Seal Method: **Slurry**

Distance to Property Line (ft.): **+75**

Sealed By: **Driller**

Distance to Septic Field or other
concentrated contamination (ft.): **+100**

Distance to Septic Tank (ft.): **+50**

Method of Verification: **Owner**

Surface Completion: **Surface Sleeve Installed**

Surface Completion by Driller

Water Level: **485 ft. below land surface on 2024-01-10**

Measurement Method: **Sonic/Radar**

Packers: **Burlap & PVC 490', 470'
Burlap 30'**

Type of Pump: **Submersible**

Well Tests: **Estimated** **Yield: 10-13 GPM**

Water Quality:

Strata Depth (ft.)	Water Type
485 - 610	Hensel

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 Inc**
PO BOX 673
Dripping Springs, TX 78620

Driller Name: **James Benoit** License Number: **4064**

Comments: **Drilled for A&W Water Well Service.**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	10	white chalk
10	410	blue lime
410	450	gray lime & clay
450	490	tan lime
490	515	tan white limestone
515	560	white limestone some sand
560	590	tan limestone
590	610	gray limestone

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)	SDR17	-3	530
4.5	Screen	New Plastic (PVC)	SDR17 0.020	530	590
4.5	Blank	New Plastic (PVC)	SDR17	590	610

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

STATE OF TEXAS WELL REPORT for Tracking #659195

Owner:	Clint Riding	Owner Well #:	No Data
Address:	775 Rolling Hills Liberty Hill , TX 78642	Grid #:	58-17-6
Well Location:	775 Rolling Hills Liberty Hill, TX 78642	Latitude:	30° 41' 12.7" N
Well County:	Williamson	Longitude:	097° 54' 12.53" W
		Elevation:	No Data
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: **2/16/2023** Drilling End Date: **2/18/2023**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	8	0	100
	6.75	100	540

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	0	120	Bentonite 15 Bags/Sacks

Seal Method: **Tremie**

Sealed By: **Driller**

Distance to Property Line (ft.): **10 FT**

Distance to Septic Field or other
concentrated contamination (ft.): **Wasn't Available**

Distance to Septic Tank (ft.): **NOT THEIR**

Method of Verification: **Tape**

Surface Completion: **Surface Sleeve Installed**

Surface Completion by Driller

Water Level: **420 ft. below land surface on 2023-02-22** Measurement Method: **Sonic/Radar**

Packers: **Plastic at 120 ft.**
Plastic at 400 ft.
Plastic at 440 ft.
Plastic at 460 ft.

Type of Pump: **No Data**

Well Tests: **Jetted** **Yield: 30+ gpm GPM**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	No Data

Chemical Analysis Made: **No**

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

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

Company Information: **B & B Water Well Service, Inc**
PO Box 232
Bertram, TX 78605

Driller Name: **JOSUA DICKINSON**

License Number: **54204**

Apprentice Name: **JOSHUA DYLAN DICKINSON**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	1	Top Soil
1	30	Caliche
30	100	Blue Lime
100	280	Grey Lime
280	300	Brown / Grey Lime
300	400	Grey / Clay Strips
400	520	Sand Stone /Trinity Sand's / Layers
520	540	Sand Stone / Grey Clay

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)	SDR 17	0	460
4.5	Screen	New Plastic (PVC)	SDR 17 0.032	460	540

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

STATE OF TEXAS WELL REPORT for Tracking #662401

Owner:	Liberty Hill High School	Owner Well #:	No Data
Address:	Sunset Ridge Dr &, Co Rd 258 Williamson, TX 78642	Grid #:	58-18-4
Well Location:	Sunset Ridge Dr &, Co Rd 258 Williamson, TX 78642	Latitude:	30° 40' 22" N
Well County:	Williamson	Longitude:	097° 52' 18" W
		Elevation:	998 ft. above sea level
Type of Work:	New Well	Proposed Use:	Irrigation

Drilling Start Date: **2/29/2024**

Drilling End Date: **3/4/2024**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	10.625	0	10
	8.5	10	640

Drilling Method: **Air Rotary**

Borehole Completion: **Filter Packed**

	Top Depth (ft.)	Bottom Depth (ft.)	Filter Material	Size
Filter Pack Intervals:	100	490	Gravel	3/8
	510	640	Gravel	3/8

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	0	10	Cement 5
	10	100	Bentonite 12
	490	510	Bentonite 3

Seal Method: **Pressure**

Distance to Property Line (ft.): **35**

Sealed By: **Driller**

Distance to Septic Field or other
concentrated contamination (ft.): **100**

Distance to Septic Tank (ft.): **100**

Method of Verification: **No Data**

Surface Completion: **Pitless Adapter Used**

Water Level: **462 ft. below land surface on 2024-03-15** Measurement Method: **Electric Line**

Packers: **No Data**

Type of Pump: **Submersible** Pump Depth (ft.): **600**

Well Tests: **Jetted** Yield: **20-30 GPM**

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
No Data	No Data

Chemical Analysis Made: **No**

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

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

Company Information: **Bee Cave Drilling, Inc.**
185 Angel Fire Rd.
Dripping Springs, TX 78620

Driller Name: **Michael Scott**

License Number: **59719**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
0	1	topsoil
1	5	caliche
5	25	tan limestone
25	250	grey limestone
250	490	grey limestone / tan strips
490	640	Partial / no returns

<i>Dia (in.)</i>	<i>Type</i>	<i>Material</i>	<i>Sch./Gage</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
5	Blank	New Plastic (PVC)		0	600
5	Screen	New Plastic (PVC)		600	640

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

STATE OF TEXAS WELL REPORT for Tracking #665145

Owner:	Linda Cole	Owner Well #:	No Data
Address:	801 Cole Dr. Liberty Hill, TX 78642	Grid #:	58-17-6
Well Location:	801 Cole Dr. Liberty Hill, TX 78642	Latitude:	30° 41' 39.67" N
Well County:	Williamson	Longitude:	097° 53' 19.86" W
		Elevation:	988 ft. above sea level
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: **3/14/2024** Drilling End Date: **3/15/2024**

Borehole:	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
	11.75	0	20
	6.75	20	520

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

Annular Seal Data:	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
	0	40	Cement 7 Bags/Sacks

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **200**

Distance to Septic Field or other
concentrated contamination (ft.): **100**

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

Method of Verification: **Tape**

Surface Completion: **Surface Sleeve Installed**

Surface Completion by Driller

Water Level: **274 ft. below land surface, and 15 GPM**
artesian flow on **2024-03-15**

Packers: **Rubber at 40 ft.**
Rubber at 400 ft.
Rubber at 420 ft.

Type of Pump: **Submersible**

Pump Depth (ft.): **480**

Well Tests: **Jetted** **Yield: 15 GPM**

Water Quality:

Strata Depth (ft.)	Water Type
420 - 520	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: **Hill Country Water Well**
2740 COUNTY ROAD 210
Briggs, TX 78608

Driller Name: **Bradley Cowan**

License Number: **61014**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	1	Top Soil
1	6	White Limestone
6	360	Gray Limestone
360	520	Lost Circulation

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)	SDR17 0.032	0	420
4.5	Screen	New Plastic (PVC)	SDR17 0.032	420	440
4.5	Blank	New Plastic (PVC)	SDR17 0.032	440	460
4.5	Screen	New Plastic (PVC)	SDR17 0.032	460	480
4.5	Blank	New Plastic (PVC)	SD17 0.032	480	520

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

STATE OF TEXAS WELL REPORT for Tracking #673199

Owner:	Mike Vague	Owner Well #:	No Data
Address:	605 Oak Lane Liberty Hill, TX 78642	Grid #:	58-17-6
Well Location:	605 Oak Lane Liberty Hill, TX 78642	Latitude:	30° 41' 33.43" N
Well County:	Williamson	Longitude:	097° 53' 40.27" W
		Elevation:	No Data
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: **6/11/2024** Drilling End Date: **6/11/2024**

Borehole:	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
	8.75	0	100
	6.25	100	530

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

Annular Seal Data:	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
	-1	100	6 cement, 4 Benseal Bags/Sacks

Seal Method: **Pressure Tremie**

Sealed By: **Driller**

Distance to Property Line (ft.): **30**

Distance to Septic Field or other
concentrated contamination (ft.): **+100**

Distance to Septic Tank (ft.): **+100**

Method of Verification: **Owner**

Surface Completion: **Surface Sleeve Installed**

Surface Completion by Driller

Water Level:	425 ft. below land surface on 2024-06-11	Measurement Method:	Sonic/Radar
Packers:	Burlap & PVC 430', 410' Burlap & Rubber 100'		
Type of Pump:	Submersible		
Well Tests:	Estimated	Yield: 10-15 GPM	

Water Quality:

Strata Depth (ft.)	Water Type
425 - 530	Hensel

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**
500 Southland Drive
Burnet, TX 78611

Driller Name: **James Benoit**

License Number: **4064**

Comments: **Drilled for A&W Water Well Service.**

Report Amended on 7/22/2024 by Request #42840

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	10	tan lime
10	365	blue lime
365	410	white limestone & blue clay
410	445	tan white limestone
445	460	tan limestone some sand
460	490	white limestone
490	510	gray limestone
510	530	blue clay

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)	SDR17	-3	450
4.5	Screen	New Plastic (PVC)	SDR17	450	510
4.5	Blank	New Plastic (PVC)	SDR17	510	530

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



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.0

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

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

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

A. Existing/Interim I Phase

Design Flow (MGD): 0.0477

2-Hr Peak Flow (MGD): 0.1908

Estimated construction start date: January 2026

Estimated waste disposal start date: July 2026

B. Interim II Phase

Design Flow (MGD):

2-Hr Peak Flow (MGD):

Estimated construction start date:

Estimated waste disposal start date:

C. Final Phase

Design Flow (MGD): 0.0954

2-Hr Peak Flow (MGD): 0.3816

Estimated construction start date: January 2027

Estimated waste disposal start date: July 2027

D. Current Operating Phase

Provide the startup date of the facility:

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 Treatment Unit Sizing and Process Description

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 Treatment Unit Sizing and Process Description		

C. Process Flow Diagram

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

Attachment: Process Flow Diagram

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

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

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

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

- Latitude: 30°40'36.8"N
- Longitude: 97°53'18.2"W

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: Site Drawing

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

The facility will serve Canady Tract Development, a new subdivision in Williamson County, Texas.

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

Collection System Information

Collection System Name	Owner Name	Owner Type	Population Served

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.**

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.

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:

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

B. Buffer zones

Have the buffer zone requirements been met?

☒ Yes ☐ No

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

The buffer zone will be met by ownership.

C. Other actions required by the current permit

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

☐ Yes ☒ No

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

D. Grit and grease treatment

1. Acceptance of grit and grease waste

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

☐ Yes ☒ No

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

2. Grit and grease processing

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

3. Grit disposal

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

☐ Yes ☒ No

If **No**, contact the TCEQ Municipal Solid Waste team at 512-239-2335. 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.

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.

E. Stormwater management

1. Applicability

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

☐ Yes ☒ No

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

☐ Yes ☒ No

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

2. MSGP coverage

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

☐ Yes ☒ No

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

TXR05 _ or TXRNE

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

☐ Yes ☒ No

3. Conditional exclusion

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

☐ Yes ☒ No

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

4. Existing coverage in individual permit

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

☐ Yes ☒ No

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

5. Zero stormwater discharge

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

☐ Yes ☒ No

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

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

6. Request for coverage in individual permit

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

☐ Yes ☒ No

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

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

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

F. Discharges to the Lake Houston Watershed

Does the facility discharge in the Lake Houston watershed?

☐ Yes ☒ No

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

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

1. Acceptance of sludge from other WWTPs

Does 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 BOD₅ concentration of the sludge, and the design BOD₅ concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

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

2. Acceptance of septic waste

Is the facility accepting or will it accept septic waste?

☐ Yes ☒ No

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

☐ Yes ☐ No

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

☐ Yes ☐ No

If **yes to any of the above**, provide 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 BOD₅ concentration of the septic waste, and the design BOD₅ concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

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

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

Is 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.

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

Is the facility in operation?

☐ Yes ☒ No

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

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

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

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

Pollutant	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
CBOD ₅ , mg/l					
Total Suspended Solids, mg/l					
Ammonia Nitrogen, mg/l					
Nitrate Nitrogen, mg/l					
Total Kjeldahl Nitrogen, mg/l					
Sulfate, mg/l					
Chloride, mg/l					
Total Phosphorus, mg/l					
pH, standard units					
Dissolved Oxygen*, mg/l					
Chlorine Residual, mg/l					
<i>E.coli</i> (CFU/100ml) freshwater					
Enterococci (CFU/100ml) saltwater					
Total Dissolved Solids, mg/l					
Electrical Conductivity, μ mohs/cm, †					
Oil & Grease, mg/l					
Alkalinity (CaCO ₃)*, mg/l					

*TPDES permits only

†TLAP permits only

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

Pollutant	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
Total Suspended Solids, mg/l					
Total Dissolved Solids, mg/l					
pH, standard units					
Fluoride, mg/l					
Aluminum, mg/l					
Alkalinity (CaCO ₃), mg/l					

Section 8. Facility Operator (Instructions Page 50)

Facility Operator Name: To be determinedFacility Operator's License Classification and Level: To be determinedFacility Operator's License Number: To be determined

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 (≥ 2 years)
- ☐ Methane or Biogas Recovery
- ☐ Other Treatment Process:

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

If "Other" is selected for Management Practice, please explain (e.g. monofill or transport to another WWTP): Monofill – transported to processing facility for disposal

D. Disposal site

Disposal site name: To be determined

TCEQ permit or registration number: To be determined

County where disposal site is located: To be determined

E. Transportation method

Method of transportation (truck, train, pipe, other): To be determined

Name of the hauler: To be determined

Hauler registration number: To be determined

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 type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Marketing and Distribution of sludge	<input type="checkbox"/> Yes	<input checked="" 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:
- USDA Natural Resources Conservation Service Soil Map:
Attachment:
- Federal Emergency Management Map:
Attachment:
- Site map:
Attachment:

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

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

Attachment:

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

B. Temporary storage information

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

Nitrate Nitrogen, mg/kg:

Total Kjeldahl Nitrogen, mg/kg:

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

Phosphorus, mg/kg:

Potassium, mg/kg:

pH, standard units:

Ammonia Nitrogen mg/kg:

Arsenic:

Cadmium:

Chromium:

Copper:

Lead:

Mercury:

Molybdenum:

Nickel:

Selenium:

Zinc:

Total PCBs:

Provide the following information:

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

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

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

C. Liner information

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

☐ Yes ☐ No

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

D. Site development plan

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

Attach the following documents to the application.

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

E. Groundwater monitoring

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

☐ Yes ☒ No

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

Attachment:

Section 12. Authorizations/Compliance/Enforcement (Instructions Page 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:

B. Permittee enforcement status

Is the permittee currently under enforcement for this facility?

☐ Yes ☒ No

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

☐ Yes ☒ No

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

Section 13. RCRA/CERCLA Wastes (Instructions Page 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:

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.

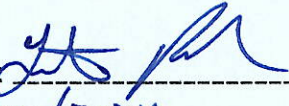
The following certification statement shall be signed and submitted with every application. See the Signature Page section in the Instructions, for a list of designated representatives who may sign the certification.

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: Justin Reynolds

Title: Manager

Signature: -----

Date: 11/22/2024-----

DOMESTIC WASTEWATER PERMIT APPLICATION

TECHNICAL REPORT 1.1

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

Section 1. Justification for Permit (Instructions Page 57)

A. Justification of permit need

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

The Canady Tract WWTF will serve approximately 477 units at 200 gpd/unit. This will generate 95,400 gallons per day of domestic strength wastewater at full build-out. This is in line with other communities in the general vicinity that uses similar flow generation. There are no facilities within 3 miles that have capacity and/or it is not economically feasible to convey the sewer there.

B. Regionalization of facilities

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

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

1. *Municipally incorporated areas*

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

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

☐ Yes ☒ No ☐ Not Applicable

If yes, within the city limits of:

If yes, attach correspondence from the city.

Attachment:

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

Attachment:

2. *Utility CCN areas*

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

☐ Yes ☒ No

¹ <https://www.tceq.texas.gov/permitting/wastewater/tceq-regionalization-for-wastewater>

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

Attachment:

3. Nearby WWTPs or collection systems

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

☒ Yes ☐ No

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

Attachment: Nearby Facilities

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

Attachment:

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

Attachment:

Section 2. Proposed Organic Loading (Instructions Page 59)

Is this facility in operation?

☐ Yes ☒ No

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

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

A. Current organic loading

Facility Design Flow (flow being requested in application):

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

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

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

B. Proposed organic loading

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

Table 1.1(1) – Design Organic Loading

Source	Total Average Flow (MGD)	Influent BOD ₅ Concentration (mg/l)
Municipality		
Subdivision	0.0954	350
Trailer park - transient		
Mobile home park		
School with cafeteria and showers		
School with cafeteria, no showers		
Recreational park, overnight use		
Recreational park, day use		
Office building or factory		
Motel		
Restaurant		
Hospital		
Nursing home		
Other		
TOTAL FLOW from all sources	0.0954	
AVERAGE BOD ₅ from all sources		350

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

A. Existing/Interim I Phase Design Effluent Quality

Biochemical Oxygen Demand (5-day), mg/l: 20

Total Suspended Solids, mg/l: 20

Ammonia Nitrogen, mg/l:

Total Phosphorus, mg/l:

Dissolved Oxygen, mg/l: ≥2

Other:

B. Interim II Phase Design Effluent Quality

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

Total Suspended Solids, mg/l:

Ammonia Nitrogen, mg/l:

Total Phosphorus, mg/l:

Dissolved Oxygen, mg/l:

Other:

C. Final Phase Design Effluent Quality

Biochemical Oxygen Demand (5-day), mg/l: 20

Total Suspended Solids, mg/l: 20

Ammonia Nitrogen, mg/l:

Total Phosphorus, mg/l:

Dissolved Oxygen, mg/l: ≥2

Other:

D. Disinfection Method

Identify the proposed method of disinfection.

☒ Chlorine: 1-4 mg/l after 20 minutes detention time at peak flow

Dechlorination process: OR

☒ Ultraviolet Light: 10 seconds contact time at peak flow

☐ Other:

Section 4. Design Calculations (Instructions Page 59)

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

Attachment: Design Calculations

Section 5. Facility Site (Instructions Page 60)

A. 100-year floodplain

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

☒ Yes ☐ No

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

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

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

☐ Yes ☒ No

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

☐ Yes ☒ No

If **yes**, provide the permit number:

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

B. Wind rose

Attach a wind rose: Windrose

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

A. Beneficial use authorization

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

☐ Yes ☒ No

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

B. Sludge processing authorization

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

- ☐ Sludge Composting
- ☐ Marketing and Distribution of sludge
- ☐ Sludge Surface Disposal or Sludge Monofill

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

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

Attach a solids management plan to the application.

Attachment: Solids Management Plan

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

- Treatment units and processes dimensions and capacities

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

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

DOMESTIC 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 type="checkbox"/> Irrigation | <input type="checkbox"/> Subsurface soils absorption |
| <input type="checkbox"/> Drip irrigation system | <input type="checkbox"/> Subsurface area drip dispersal system |
| <input type="checkbox"/> Evaporation | <input type="checkbox"/> Evapotranspiration beds |
| <input type="checkbox"/> Other (describe in detail): | |

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

For existing authorizations, provide Registration Number:

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
Bermuda Grass and Rye Grass (Phase 1)	12.55	47,700	Y
Bermuda Grass and Rye Grass (Final Phase)	25.1	95,400	Y

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	2	15.43	See Site Drawing	Synthetic membrane or clay liner

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

Attachment: Liner Certification

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.

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

FEMA NFHL Viewer: 48491C0245F

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

The land application will be graded to protect it from rainfall runoff and protected from inundation by swales and other constructed landforms to direct water away from the land application site.

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:** Annual Cropping Plan

- 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:** USGS TLAP Map

- 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
See Well ID Attachment				

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

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

Attachment: Well ID Attachment

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: Groundwater Quality Report

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:

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: USDA Soils Map

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: Soil Report

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

Table 3.0(4) – Soil Data

Soil Series	Depth from Surface	Permeability	Available Water Capacity	Curve Number
See Soil Report				

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

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

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

DOMESTIC WASTEWATER PERMIT APPLICATION

WORKSHEET 3.1: SURFACE LAND DISPOSAL OF EFFLUENT

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

Section 1. Surface Disposal (Instructions Page 72)

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

A. Irrigation

Area under irrigation, in acres: 25.1

Design application frequency:

hours/day 0.33(20 min/d) And days/week 7

Land grade (slope):

average percent (%): 3-5

maximum percent (%): 3-8

Design application rate in acre-feet/acre/year: 4.25

Design total nitrogen loading rate, in lbs N/acre/year: 347

Soil conductivity (mmhos/cm): See Soil Report

Method of application: Spray Irrigation

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

Attachment: Water Balance and 3.1 Surface Land Disposal Engineering Report

B. Evaporation ponds

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

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

Attachment:

C. Evapotranspiration beds

Number of beds:

Area of bed(s), in acres:

Depth of bed(s), in feet:

Void ratio of soil in the beds:

Storage volume within the beds, in acre-feet:

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

Attachment:

D. Overland flow

Area used for application, in acres:

Slopes for application area, percent (%):

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

Slope length, in feet:

Design BOD₅ loading rate, in lbs BOD₅/acre/day:

Design application frequency:

hours/day: _ **And** days/week:

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

Attachment:

Section 2. Edwards Aquifer (Instructions Page 73)

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

☒ Yes ☐ No

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

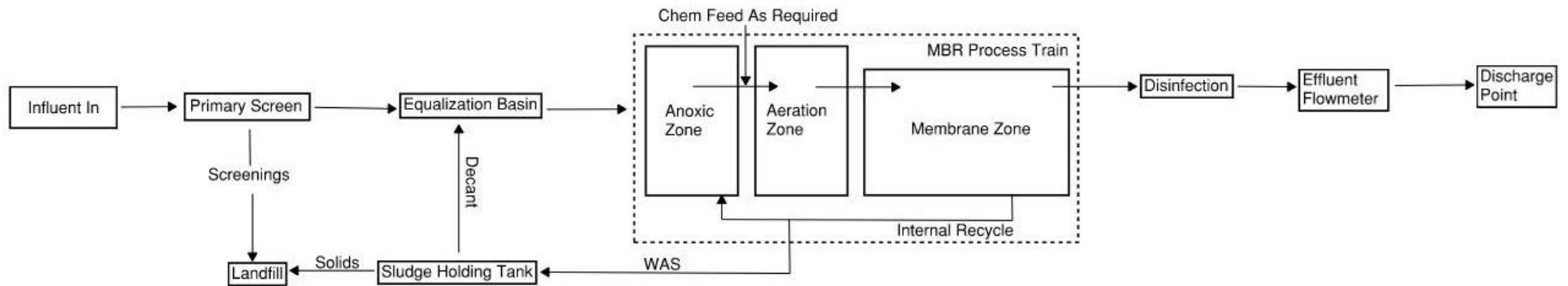
☐ Yes ☒ No

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

Attachment:

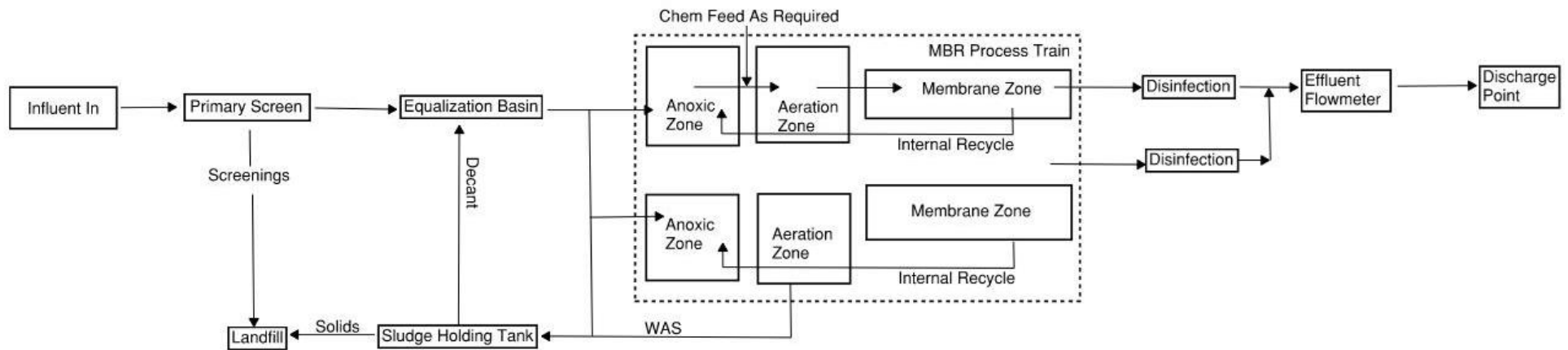
Canady Tract WWTF - Process Description

Phase 1 – 47,700 gpd



Canady Tract WWTF - Process Description

Final Phase – 95,400 gpd



Canady Tract WWTF – Treatment Unit Sizing and Process Description

Treatment Process Description

Canady Tract WWTF will be an MBR system consisting of several process trains. The system will have a primary screen, equalization tanks, multiple process trains consisting of anoxic, aeration, membrane zones, and sludge holding tanks. The facility will utilize UV or Chlorine disinfection. The design will be in accordance with Texas Administrative Code Title 30, Part 1: Texas Commission on Environmental Quality (TCEQ) Chapter 217 (Design Criteria for Domestic Wastewater Systems).

Treatment Unit Sizing

Phase 1 – 47,700 GPD

Headworks with Screening	
Equalization Tank	(1) 12' x 12' x 10' SWD = 10,771 gal
Sludge Holding Tank	(1) 10' dia x 17' SWD = 9,982 gal
Process Units (MBR)	(2) 30' x 10' x 8' SWD = 35,904 gal
Chlorine Contact Chamber	(1) 8' x 8' x 6' SWD = 2,872 gal

Final Phase – 94,500 GPD

Headworks with Screening	
Equalization Tank	(2) 12' x 12' x 10' SWD = 21,542 gal
Sludge Holding Tank	(2) 10' dia x 17' SWD = 19,964 gal
Process Units (MBR)	(3) 30' x 10' x 8' SWD = 53,856 gal
Chlorine Contact Chamber	(2) 8' x 8' x 6' = 5,745 gal

Canady Tract WWTF - Design Calculations

Phase 1

Flow **47,000** gpd
2 hr peak 188,000 gpd

Equalization Sizing Minimum
2.5Q for 2 hours 9,792 gal

Chlorine Sizing Minimum
4Q for 20 min 2,611 gal

Using 2% Flow for WAS Rate
WAS Rate

940 gpd

Sludge Storage Days **10** days
Sludge Holding Minimum 9400 gal

Final Phase

Flow **95,400** gpd
2 hr peak 381,600 gpd

Equalization Sizing Minimum
2.5Q for 2 hours 19,875 gal

Chlorine Sizing Minimum
4Q for 20 min 5,300 gal

Using 2% Flow for WAS Rate
WAS Rate

1908 gpd

Sludge Storage Days **10** days
Sludge Holding Minimum 19080 gal

Canady Tract WWTF - Design Calculations

Bioreactor Calculation							
1. Design Calculation							
1.1 Influent (m3/day)				1.2 Factors			
Items	unit	m3/day	gal/day	Items	HRT	19.0	hr
	Average	360	95,400		SRT	25.0	day
					C/N	4.7	
	Design Flow	360	95,400		C/P	29.6	
					Temp	20.0	°C
					Sludge return	250	%
1.3 Influent Quality							
Items	BOD	COD _{Mn}	SS	T-N	T-P	E.coli.	Remarks
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(Count/mL)	
Water quality	350.0	525.0	300.0	70.0	9.0	55000	
1.4 Influent and Effluent Water Quality							
Items	BOD	COD _{Mn}	SS	T-N	T-P	E.coli.	
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(Count/mL)	
Influent quality	350.0	525.0	300.0	70.0	9.0	55,000	
Effluent quality	5.0	10.0	5.0	20.0	1.0	1.26	
1.5 Bioreactor Volume							
Items	Width	Length	Depth	Height	tank	Volume	HRT
	(mW)	(mL)	(mHe)	(mH)	(#)	(m ³)	(hr)
Anoxic	2.4	12.0	2.2	2.3	2	124.1	7.9
Oxic	2.4	12.0	2.1	2.3	2	118.4	7.5
MBR	2.4	12.0	2.0	2.3	1	56.4	3.6
Total						363.8	19.0
Note: If bioreactor volume sizes are above the volume calcauted by 30-40%, it will be okay.							
1.6 Sludge Production				1.7 Air Requirement			
Items	Sludge (m ³ /day)	Water contents (%)	Items	Oxic reactor (m ³ /min)	3.11		
	6.0	99.2		MBR (m ³ /min)	12.0		

Canady Tract WWTF - Design Calculations

2 MASS BALANCE

(Q = 360 m³/day)

95,400 GPD

Temp.: 20 °C
68 F

Influent		
Q	360	
BOD	350.0	132.5
COD	525.0	198.7
SS	300.0	113.6
T-N	70.0	26.5
T-P	9.0	3.4
E.Coli	55,000	Count/ml

EQ Tank		
Q	360	
BOD	315.0	119.2
COD	472.5	178.8
SS	210.0	79.5
T-N	66.5	25.2
T-P	8.6	3.2
E.Coli	55,000	Count/ml

Bioreactors		
Q	360	
BOD	315.0	119.2
COD	472.5	178.8
SS	210.0	79.5
T-N	66.5	25.2
T-P	8.6	3.2
E.Coli	55,000	Count/ml

Factors	
MLSS	5,800
	5,800
	8,000
F/M	0.06
TEMP.	20
SRT	42.6
MLVSS	0.69
FLUX	0.4

Effluent		
Q	360	
BOD	5.0	1.9
COD	10.0	3.7
SS	5.0	1.9
T-N	20.0	7.5
T-P	1.0	0.4
E.Coli	1	Count/ml

Reuse		
Q	360	
BOD	5.0	1.9
COD	10.0	3.7
SS	5.0	1.9
T-N	20.0	7.5
T-P	1.0	0.4
E.Coli	1	Count/ml

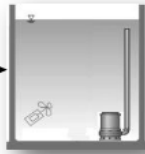


Influent



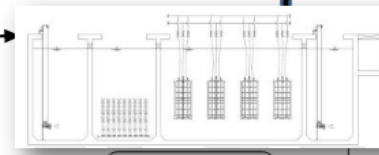
Drum Screen

Drum Screen	
BOD	10%
COD	10%
SS	30%
T-N	5%
T-P	5%



EQ Tank

Aerated EQ



Bioreactors + Membrane

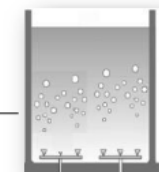
Sludge Return = 2.5 Q

Sludge		
Q	6.0	
BOD	4,567	27.4
COD	3,928	23.6
SS	8,000	48.0
T-N	664	4.0
T-P	478	2.9

Bioreactors	
BOD	98.4
COD	97.9
SS	97.6
T-N	69.9
T-P	88.3
E.Coli	100.0



Effluent



Sludge Tank

Legend	
→	Sewage
→	Sludge

Unit	
Q	m ³ /d
Con.	mg/L
Load	kg/day

Canady Tract WWTF - Design Calculations

Items	Ranges			Design Values	Unit
Anoxic/Oxic MLSS (X_{TSS})	4,000	~	9,500	5,800	mg/L
Oxic MLSS (X_{OX})	6,000	~	12,000	8,000	mg/L
MLVSS/MLSS(X_V)	MLVSS	/	MLSS	0.7	
F/M ration	0.01	~	0.30	0.06	kgBOD/kgMLVSS-d
Sludge return (X_{r1})	50	~	400	250	%
Sludge retention time (SRT)	15	~	50	35.6	day
Bio reactor temperature	10	~	30	20	°C
Bio reactor pH	6.8	~	7.2	7.0	
Dissolved Oxygen concentration (DO)	2.0	~	5.0	2.0	mg/L
Y(net), Sludge yield	0.30	~	0.60	0.47	mgVSS/mgBOD _{rem}
b, Sludge decay coefficient	0.05	~	0.30	0.15	day ⁻¹
μ_{Nm} , Max nitrifier production	0.30	~	0.60	0.47	day ⁻¹
Y _N (net), Nitrifier yield	0.10	~	0.30	0.20	mgVSS/mgNH ₄ N _{rem}
K _O , O ₂ Half saturation coefficient	0.40	~	0.60	0.50	O ₂ mg/L
K _N NH ₄ -N Half saturation coefficient	0.20	~	5.00	0.74	NH ₄ -N mg/L
Membrane Flux	Design			0.40	m ³ /m ² ·d
				16.7	LMH
				9.8	GFD
SNR, Specific Nitrification Rate	Oxic			2.70	mgNH ₄ N/gMLVSS-hr
SDNR, Specific denitrification Rate				2.70	mgNO ₃ N/gMLVSS-hr
SPUR				1.24	mg P/gMLSS-hr
BOD/P _{rel}				12.0	P releasing
BOD/No _x -N _{rem}				2.86	Denitrification
N/VSS, Nitrogen % in Biomass	5.00	~	12.0	12.0	%
P/VSS, Phosphorus % in Biomass	1.00	~	7.50	5.8	P uptaking (%)

Canady Tract WWTF – Solids Management Plan

The permit application includes three phases of flows as described below:

- Phase 1 = 0.0477 MGD
- Final Phase = 0.0954 MGD

Estimated solids generation is based on the below listed criteria:

- Average Influent BOD = 350 mg/L
- Design Influent BOD = 350 mg/L
- Solids Generated = 0.98 Pound Solids per Pound of BOD applied
- Calculations are based on the average influent BOD, as stipulated in Chapter 217.250 for firm dewatering capacity.

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

Phase #	Operating Range (mg/L)
Phase 1	8,000 – 12,000
Final Phase	8,000 – 12,000

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

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

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

Solids will be removed from the sludge holding basin on a 10-day rotation during final phase. Canady Tract WWTF currently does not plan to process waste activated sludge from other wastewater treatment plants in liquid or cake form through its sludge processing facilities.

Solids Generated at 100, 75, 50, and 25 percent Design Flow:

Phase 1: 0.0477 MGD

100% Flow: Solids Generation = $(350 \text{ mg/l})(0.0477 \text{ MGD})(8.34 \text{ lb/mg})(0.98) = 136 \text{ lb/day}$

75% Flow: Solids Generation = $(350 \text{ mg/l})(0.0358 \text{ MGD})(8.34 \text{ lb/mg})(0.98) = 102 \text{ lb/day}$

50% Flow: Solids Generation = $(350 \text{ mg/l})(0.0239 \text{ MGD})(8.34 \text{ lb/mg})(0.98) = 68 \text{ lb/day}$

25% Flow: Solids Generation = $(350 \text{ mg/l})(0.0119 \text{ MGD})(8.34 \text{ lb/mg})(0.98) = 34 \text{ lb/day}$

Final Phase: 0.0954 MGD

100% Flow: Solids Generation = $(350 \text{ mg/l})(0.0954 \text{ MGD})(8.34 \text{ lb/mg})(0.98) = 273 \text{ lb/day}$

75% Flow: Solids Generation = $(350 \text{ mg/l})(0.0716 \text{ MGD})(8.34 \text{ lb/mg})(0.98) = 205 \text{ lb/day}$

50% Flow: Solids Generation = $(350 \text{ mg/l})(0.0477 \text{ MGD})(8.34 \text{ lb/mg})(0.98) = 136 \text{ lb/day}$

25% Flow: Solids Generation = $(350 \text{ mg/l})(0.0239 \text{ MGD})(8.34 \text{ lb/mg})(0.98) = 68 \text{ lb/day}$

Canady Tract WWTF - Buffer Zone Map



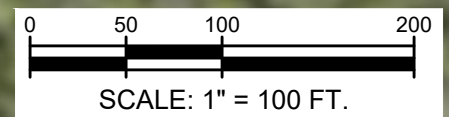
APPLICANT PROPERTY BOUNDARY

WWTF BOUNDARY

150' BUFFER ZONE

ACCESS ROAD




DISPOSAL AREA



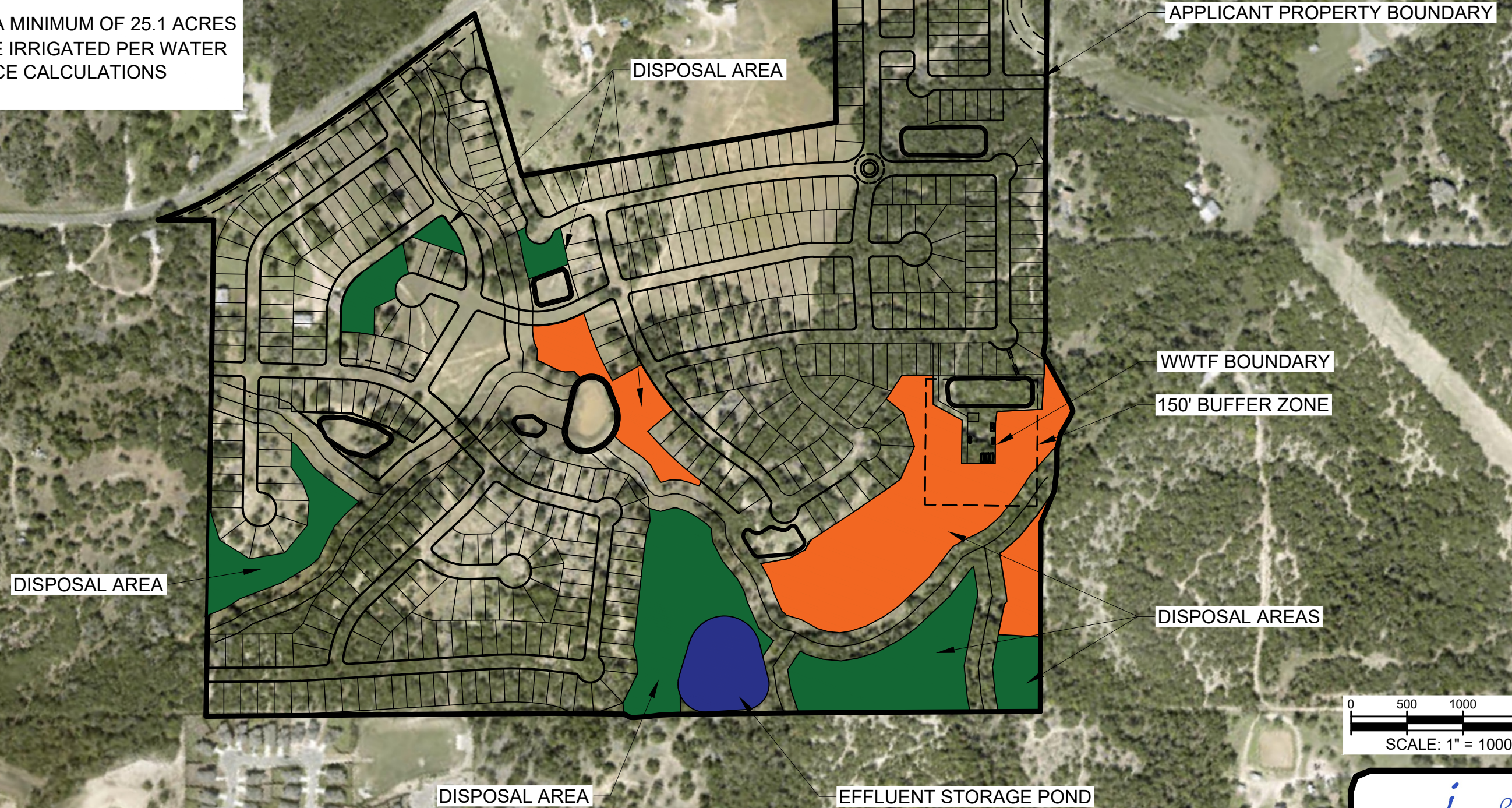
Canady Tract WWTF - Disposal Phasing Map



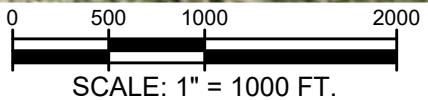
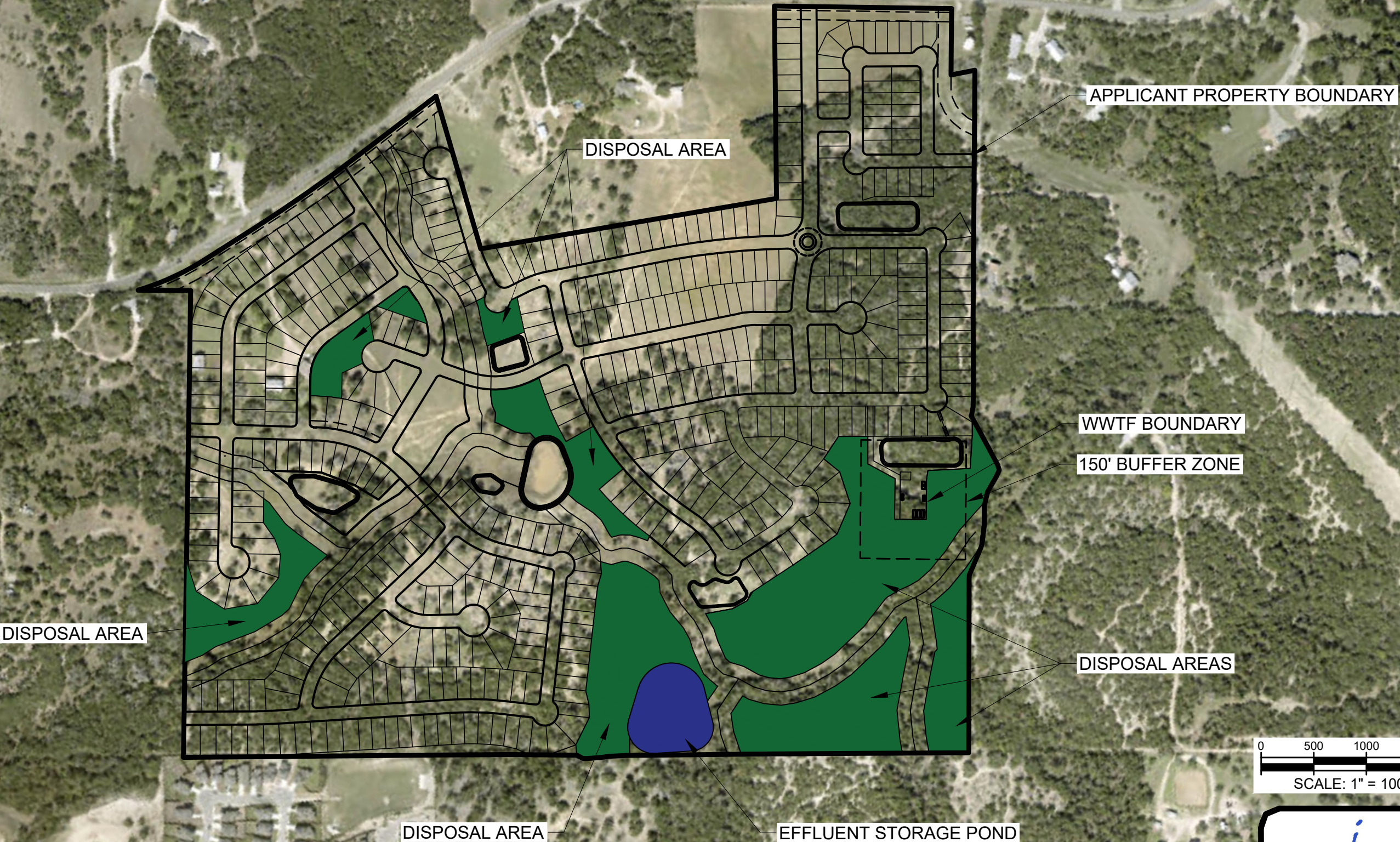
DISPOSAL PHASING

-  PHASE 1 12.55 ACRES
-   FINAL PHASE 25.7 ACRES

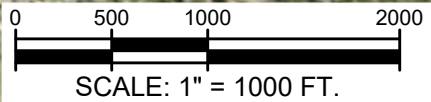
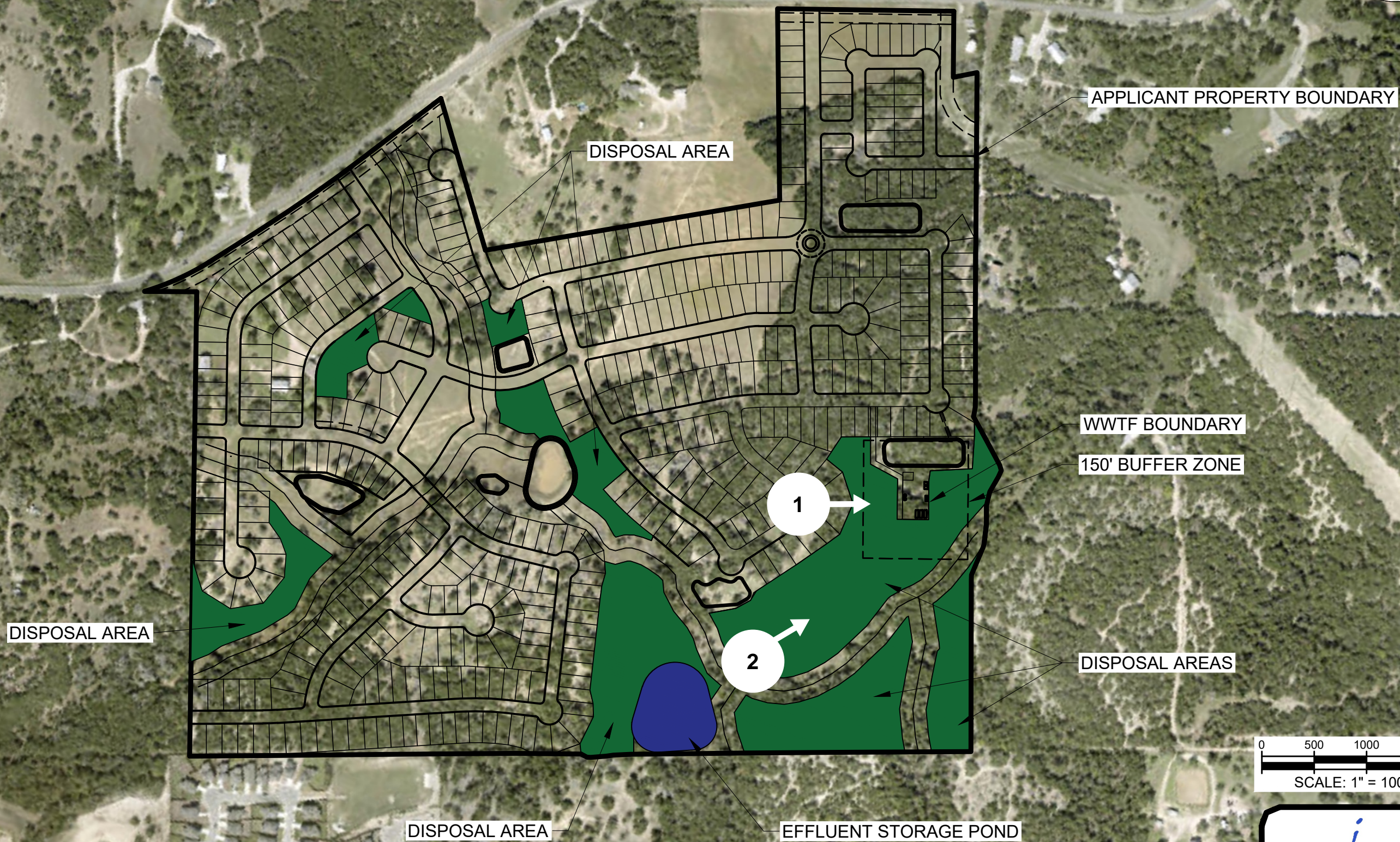
NOTE: A MINIMUM OF 25.1 ACRES
WILL BE IRRIGATED PER WATER
BALANCE CALCULATIONS



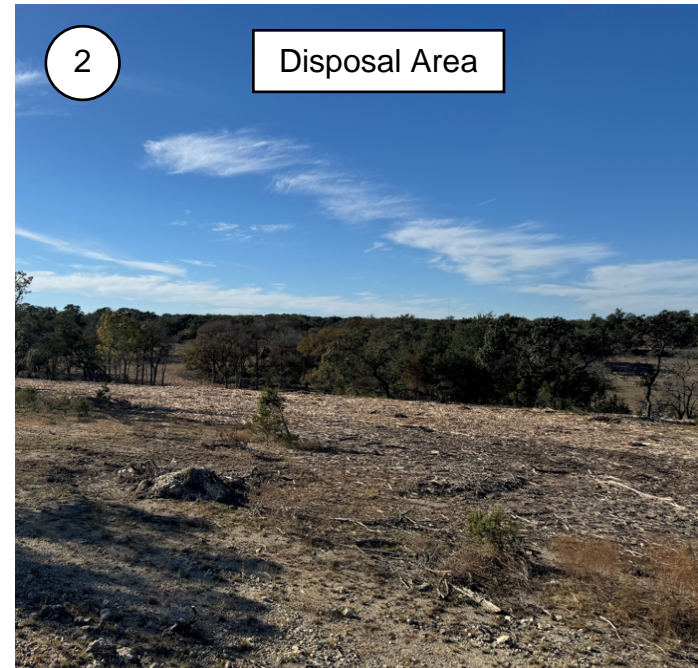
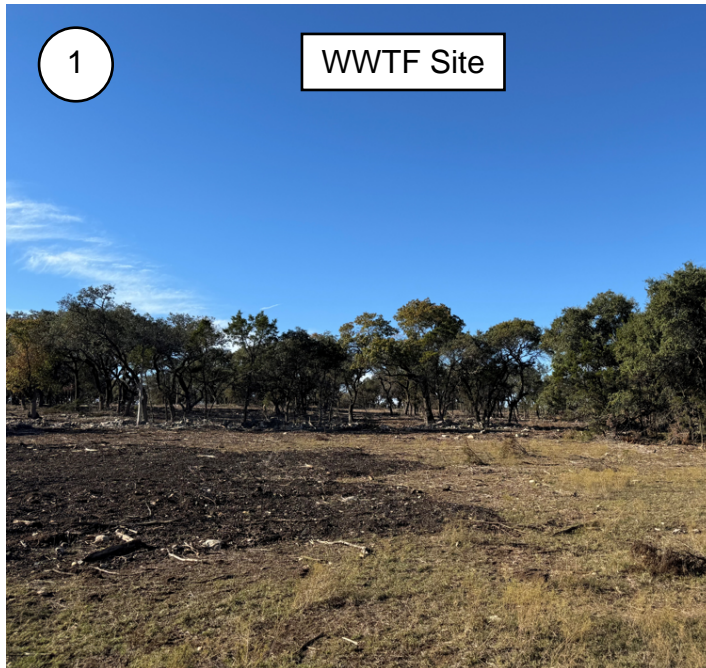
Canady Tract WWTF - Site Map



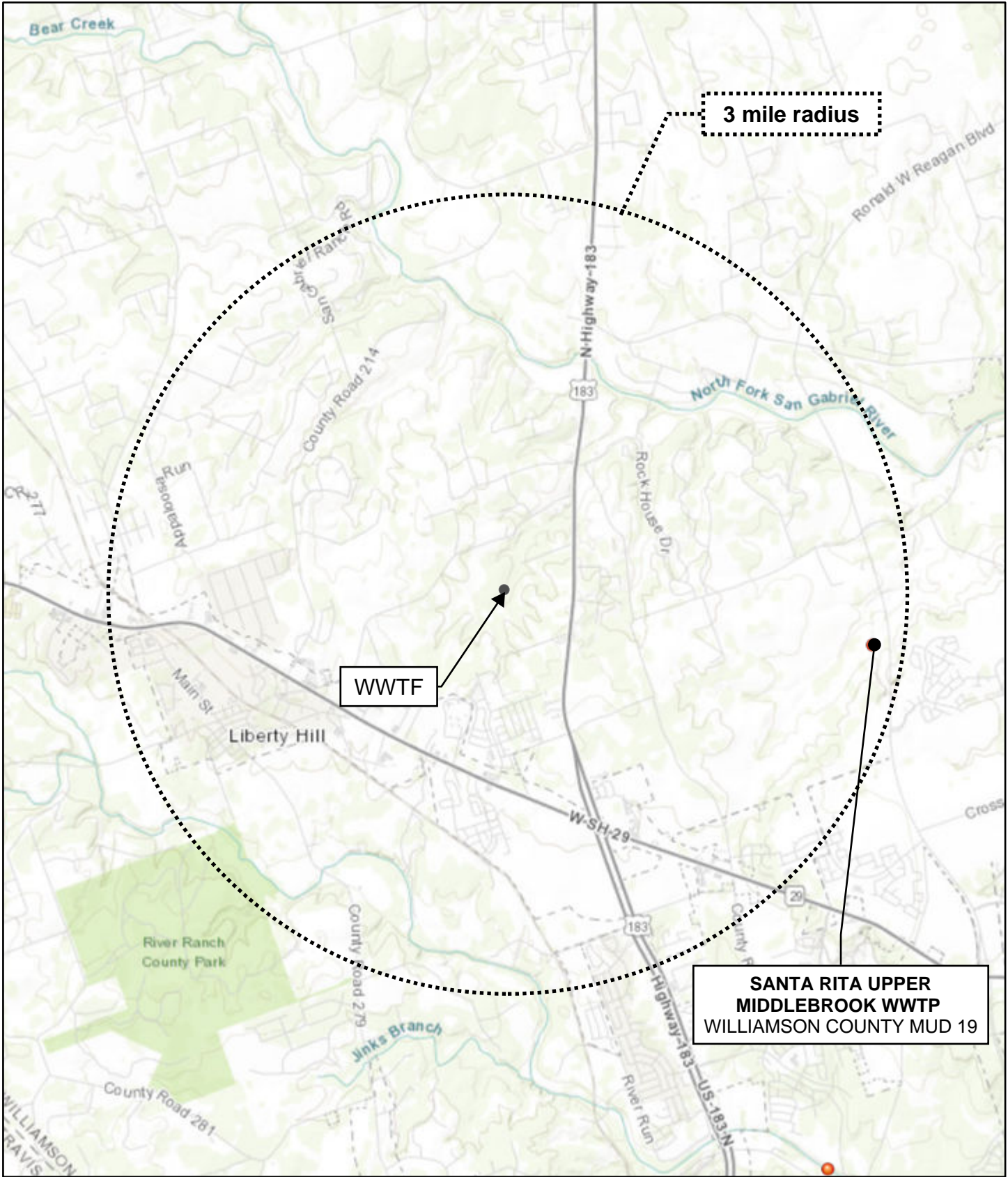
Canady Tract WWTF - Original Photos Map



Canady Tract WWTF - Original Photos



Canady Tract WWTF - Nearby Facilities



11/12/2024, 11:24:45 AM

Wastewater Outfalls



County of Williamson, Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, NGA, EPA, USDA, TCEQ



December 2024

926 Main St
Liberty Hill, TX 78642

Subject: Santa Rita Upper Middlebrook WWTP

To Whom it May Concern,

Sapelo Liberty Hill LP is applying for a TLAP permit and is located within three miles of the Santa Rita Upper Middlebrook WWTP. It is our understanding that the Santa Rita Upper Middlebrook WWTP may not have the capacity and doesn't have the infrastructure (collection system) to accept waste from the new proposed subdivision. Please confirm in writing at your earliest convenience.

Sincerely,

A handwritten signature in black ink that reads 'Jamie L. Miller'.

Jamie L. Miller, P.E.
President
JA Wastewater
5765 Fig Way
Arvada, CO 80002
Firm Number F-23372



December 2024

Jamie L. Miller P.E.
J&A Wastewater
5765 Fig Way
Arvada, CO 80002

Subject: Liner Certification for Canady Tract WWTF

To Whom it May Concern,

The proposed liner for the storage pond for the Canady Tract WWTF will be required to be designed to meet the liner requirements of 30 TAC Chapters 309 and 217. The liner system will consist of either a synthetic membrane, or a clay liner.

Sincerely,

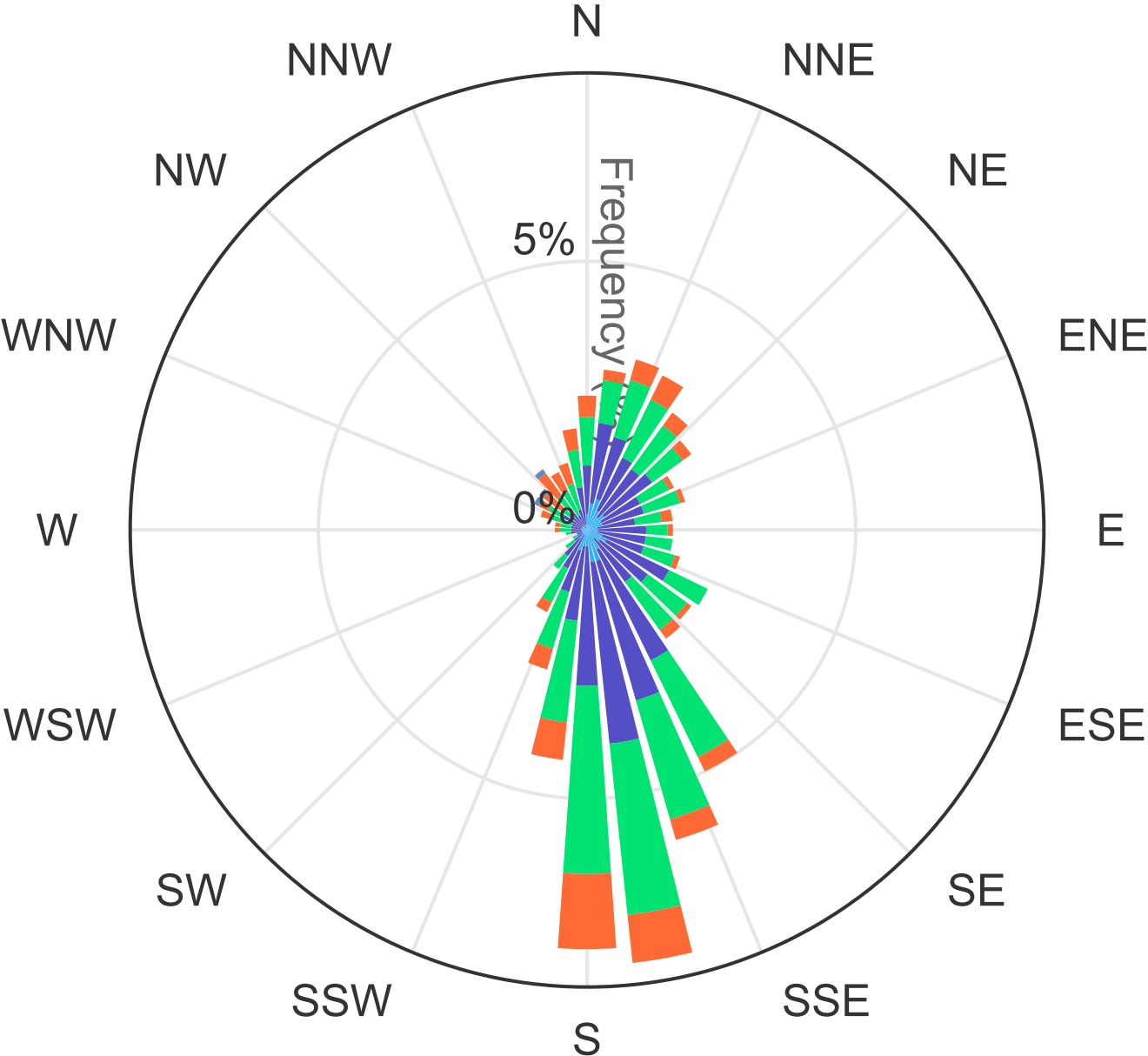
A handwritten signature in blue ink, appearing to read 'Jamie Miller', is written over the 'Sincerely,' text.

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



BURNET MUNICIPAL AP (TX) Wind Rose

November 01, 2023 - November 01, 2024
Sub-Interval: January 1 - December 31, 0 - 24



Wind Speed (mph)

- 1.3 - 4
- 4 - 8
- 8 - 13
- 13 - 19
- 19 - 25
- 25 - 32
- 32 - 39
- 39 - 47
- 47 -

Canady Tract WWTF – Annual Cropping Plan

a. Soils map depicting the location of the crops proposed or currently being grown. These locations should be identified by field and crop on the soils map.

A USDA Soils Map has been provided with the permit application.

b. All types of crops and acreage irrigated for each crop, including warm and cool season crops.

The 25.1-acre area will be seeded with Bermuda and Rye grasses.

c. Crop yield goals or estimates.

Yield estimate: Bermuda grass will produce about 1 ton per acre with no applied fertilizer. Rye produces 2 to 3 tons per acres.

d. Growing seasons for each crop including months the field is left fallow (no crops).

Growing season for Bermuda grass is from May through October. The growing season for Rye grass is November through March, the fields are never left fallow.

e. Nutrient requirements for each crop, including additional fertilizer requirements for each crop, proposed additional fertilizer applications for each crop, and methods of fertilizer application for each crop, based on annual soil sampling and analysis.

The proposed design total nitrogen loading rate is 0.95 lb/acre/day or 347 lb/acre/year. Bermuda grass can utilize large amounts of nitrogen, with excellent yield response at 400 lbs/ acre/ year. (See Nutrient Demand High in Bermudagrass by Darst, et al. 1996). To most effectively use nitrogen, other nutrients are required such as phosphorus and potassium. These nutrient levels will be monitored through annual soil analysis and supplemented if required. Additional fertilizer is not anticipated but a manual spreader would be used if needed.

f. Provide the minimum and maximum harvest height for the crop (e.g. mowing height of grasses).

Minimum mowing height will be such that the grass is not scorched, approximately 3". The maximum growing height will be determined by the operator, 18" is anticipated maximum height prior to mowing.

g. Supplemental watering requirements for each crop.

No supplemental watering is anticipated.

h. Salt tolerances of each crop.

Bermuda grass is highly salt tolerant, Rye grass is considered to be intermediate in salt tolerance.

i. Describe the harvesting method and the proposed number of harvests for each crop.

The irrigation fields will be regularly mowed with clippings hauled off.

j. If the proposed crop is existing native vegetation that will not be harvested, include a justification that the non-removal of crops will not lead to a buildup in nutrients. If the proposed system is drip irrigation with a proposal to use the existing forested vegetation as a crop, then provide a vegetation survey by a certified arborist describing at a minimum: (1) the number of mature ashe juniper (*Juniperus ashei*) and oaks (*Quercus virginiana*) trees per acre, (2) the

Canady Tract WWTF – Annual Cropping Plan

number of other trees per acre, (3) percent of overstory canopy cover, (4) the extent of open spaces, and (5) areas with forbs and grasses expressed as percent of the land of each application site. A mature tree is one with a minimum height of 14 feet.

Varies

Canady Tract WWTF – Groundwater Quality Report

Background

The Canady Tract WWTF will serve a new development that generates 95,400 gpd at full buildout. The treated effluent will be disposed of via spray irrigation of 25.1 acres at full buildout.

Aquifer

The nearby aquifer codes are:

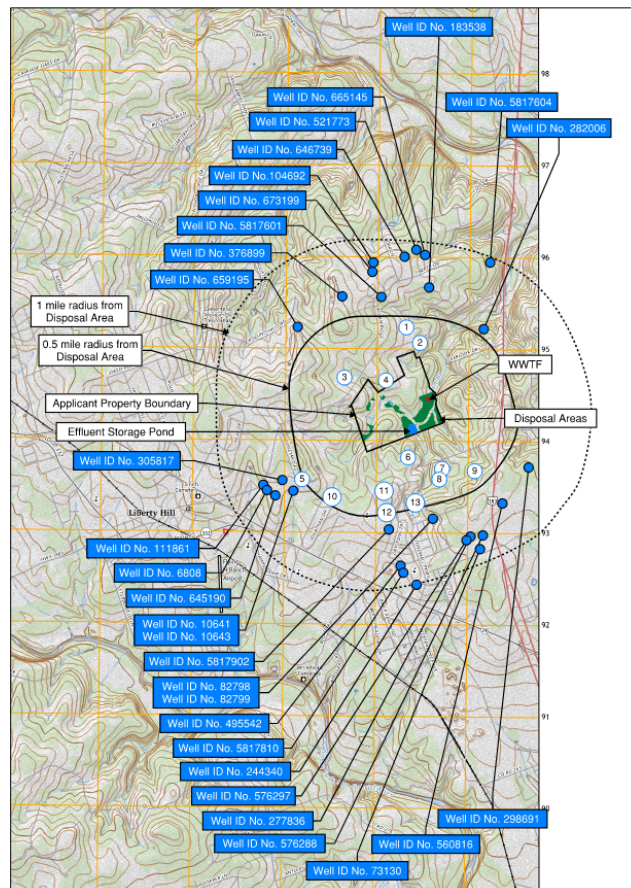
- 218HNSL - Hensell Sand Member of Travis Peak Formation
- 217HSTN - Hosston Formation

Nearby Well Information

A USGS map showing all wells within 1 mile of the property boundaries has been included with the application. A well reference list with well attributes such as the well ID number, well depth, well status, and proposed management practice is provided with this application. There are no wells located within 500' of the disposal areas. The well logs for the wells on the reference list are included with this application. There are no monitoring wells available, and therefore no groundwater quality baseline data has been established. Below is a portion of the USGS map depicting the WWTF site, effluent disposal areas, 0.5 mi and 1-mile radius from the property boundaries, and well locations.

Impact on Local Groundwater Resources

The wastewater effluent is used to irrigate publicly accessible fields. The effluent applied to the land has a maximum application rate of 0.087 gal/sqft/day to ensure the effluent is taken up by the crop root systems and that potential contaminants do not migrate below the root zone. The treated effluent will be stored in a pond with a liner certified by a Texas Professional Engineer prior to being conveyed to the disposal areas.



Canady Tract WWTF - Water Balance

Phase 1 (47,700 GPD)

1	2	3	4	5	6	7	8		9	10	11
	Avg Rain	Avg Runoff	Avg Infiltrated Rainfall	Evapo transpiration	Required Leaching	Total Water Needs	Effluent Req'd in Root Zone	Avg Evaporation	Evap from Reservoir	Effluent Applied to Land	Consumption from Reservoir
JAN	2.46	0.86	1.60	1.30	0.00	1.30	0.00	2.20	0.35	0.00	0.35
FEB	1.95	0.53	1.42	2.30	0.35	2.65	1.24	2.31	0.37	1.45	1.82
MAR	2.88	1.16	1.72	5.70	1.59	7.29	5.57	3.38	0.54	6.56	7.10
APR	2.63	0.98	1.65	5.41	1.50	6.91	5.26	4.19	0.67	6.19	6.86
MAY	4.31	2.30	2.01	6.12	1.64	7.76	5.75	4.62	0.74	6.77	7.51
JUN	2.96	1.22	1.74	6.48	1.90	8.38	6.64	6.11	0.97	7.81	8.78
JUL	2.21	0.69	1.52	6.66	2.06	8.72	7.20	6.94	1.11	8.47	9.58
AUG	2.36	0.79	1.57	4.59	1.21	5.80	4.23	7.02	1.12	4.98	6.10
SEP	3.13	1.35	1.78	5.13	1.34	6.47	4.69	5.31	0.85	5.51	6.36
OCT	4.20	2.21	1.99	4.05	0.82	4.87	2.88	4.03	0.64	3.39	4.03
NOV	2.81	1.11	1.70	1.60	0.00	1.60	0.00	2.84	0.45	0.00	0.45
DEC	2.25	0.72	1.53	1.30	0.00	1.30	0.00	2.11	0.34	0.00	0.34
TOTAL	34.15	13.93	20.22	50.64	12.42	63.06	43.47	51.06	8.14	51.14	59.27

12	13	14a	14b	15	16	17	18a		18b	19	20
	Effluent Applied to Land (in)	Mean Rainfall Distribution (%)	Rainfall (Max) (in)	Runoff (Max) (in)	Infiltrated Rainfall (in)	Total Avail H2O (in)	% Distribution of Mean	Min Annual Net Evap Proportionally Distributed (in)	Net Evaporation (min) (in)	Storage (in-ac/ac)	Accumulated Storage (in-ac/ac)
JAN	4.258	7.2	3.74	1.83	1.91	6.17	4.31	1.75	0.28	3.98	11.87
FEB	4.258	5.7	2.96	1.22	1.74	6.00	4.52	1.84	0.29	2.89	14.76
MAR	4.258	8.4	4.38	2.36	2.02	6.28	6.62	2.69	0.43	-2.37	12.38
APR	4.258	7.7	4.00	2.04	1.96	6.22	8.21	3.34	0.53	-2.11	10.28
MAY	4.258	12.6	6.55	4.28	2.27	6.53	9.05	3.68	0.59	-2.79	7.48
JUN	4.258	8.7	4.50	2.46	2.04	6.30	11.97	4.87	0.78	-3.97	3.51
JUL	4.258	6.5	3.36	1.52	1.83	6.09	13.59	5.53	0.88	-4.72	-1.21
AUG	4.258	6.9	3.59	1.70	1.88	6.14	13.75	5.59	0.89	-1.24	-2.46
SEP	4.258	9.2	4.76	2.68	2.07	6.33	10.40	4.23	0.67	-1.59	-4.04
OCT	4.258	12.3	6.38	4.13	2.25	6.51	7.89	3.21	0.51	0.66	-3.38
NOV	4.258	8.2	4.27	2.27	2.00	6.26	5.56	2.26	0.36	3.90	3.90
DEC	4.258	6.6	3.42	1.57	1.85	6.10	4.13	1.68	0.27	3.99	7.89
TOTAL	51.09	100.00	51.88	28.05	23.83	74.92	100.00	40.68	6.48		

Hydro Group:

Curve Number (N):

S = 1000/N - 10:

C_E:

C₁:

irrigation efficiency:

Required Capacity:

D

80

2.500

2

7

0.85

15.43 acre-ft

5.03 MG

5028440 gal

0.087 gal/sqft/day

4.257439249 ac-ft/ac/yr

Effluent Quantity:

Pond Size:

Disposal area:

Ratio:

Max Year Annual Rainfall:

Min Year Annual Evaporation:

47,700 gpd

2 acres

12.55 acres

0.1594

51.88 in

40.68 in



Canady Tract WWTF - Water Balance
Phase 1 (95,400 GPD)

1	2	3	4	5	6	7	8		9	10	11
	Avg Rain	Avg Runoff	Avg Infiltrated Rainfall	Evapo transpiration	Required Leaching	Total Water Needs	Effluent Req'd in Root Zone	Avg Evaporation	Evap from Reservoir	Effluent Applied to Land	Consumption from Reservoir
JAN	2.46	0.86	1.60	1.30	0.00	1.30	0.00	2.20	0.18	0.00	0.18
FEB	1.95	0.53	1.42	2.30	0.35	2.65	1.24	2.31	0.18	1.45	1.64
MAR	2.88	1.16	1.72	5.70	1.59	7.29	5.57	3.38	0.27	6.56	6.83
APR	2.63	0.98	1.65	5.41	1.50	6.91	5.26	4.19	0.33	6.19	6.53
MAY	4.31	2.30	2.01	6.12	1.64	7.76	5.75	4.62	0.37	6.77	7.14
JUN	2.96	1.22	1.74	6.48	1.90	8.38	6.64	6.11	0.49	7.81	8.29
JUL	2.21	0.69	1.52	6.66	2.06	8.72	7.20	6.94	0.55	8.47	9.03
AUG	2.36	0.79	1.57	4.59	1.21	5.80	4.23	7.02	0.56	4.98	5.54
SEP	3.13	1.35	1.78	5.13	1.34	6.47	4.69	5.31	0.42	5.51	5.94
OCT	4.20	2.21	1.99	4.05	0.82	4.87	2.88	4.03	0.32	3.39	3.71
NOV	2.81	1.11	1.70	1.60	0.00	1.60	0.00	2.84	0.23	0.00	0.23
DEC	2.25	0.72	1.53	1.30	0.00	1.30	0.00	2.11	0.17	0.00	0.17
TOTAL	34.15	13.93	20.22	50.64	12.42	63.06	43.47	51.06	4.07	51.14	55.21

12	13	14a	14b	15	16	17	18a		18b	19	20
	Effluent Applied to Land (in)	Mean Rainfall Distribution (%)	Rainfall (Max) (in)	Runoff (Max) (in)	Infiltrated Rainfall (in)	Total Avail H2O (in)	% Distribution of Mean	Min Annual Net Evap Proportionally Distributed (in)	Net Evaporation (min) (in)	Storage (in-ac/ac)	Accumulated Storage (in-ac/ac)
JAN	4.258	7.2	3.74	1.83	1.91	6.17	4.31	1.75	0.14	4.12	12.32
FEB	4.258	5.7	2.96	1.22	1.74	6.00	4.52	1.84	0.15	3.04	15.36
MAR	4.258	8.4	4.38	2.36	2.02	6.28	6.62	2.69	0.21	-2.16	13.20
APR	4.258	7.7	4.00	2.04	1.96	6.22	8.21	3.34	0.27	-1.84	11.36
MAY	4.258	12.6	6.55	4.28	2.27	6.53	9.05	3.68	0.29	-2.50	8.86
JUN	4.258	8.7	4.50	2.46	2.04	6.30	11.97	4.87	0.39	-3.59	5.27
JUL	4.258	6.5	3.36	1.52	1.83	6.09	13.59	5.53	0.44	-4.28	0.99
AUG	4.258	6.9	3.59	1.70	1.88	6.14	13.75	5.59	0.45	-0.80	0.19
SEP	4.258	9.2	4.76	2.68	2.07	6.33	10.40	4.23	0.34	-1.25	-1.06
OCT	4.258	12.3	6.38	4.13	2.25	6.51	7.89	3.21	0.26	0.92	-0.14
NOV	4.258	8.2	4.27	2.27	2.00	6.26	5.56	2.26	0.18	4.08	4.08
DEC	4.258	6.6	3.42	1.57	1.85	6.10	4.13	1.68	0.13	4.12	8.20
TOTAL	51.09	100.00	51.88	28.05	23.83	74.92	100.00	40.68	3.24		

Hydro Group: D
Curve Number (N): 80
S = 1000/N - 10: 2.500
C_E: 2
C₁: 7
irrigation efficiency: 0.85

Required Capacity: 32.12 acre-ft
10.47 MG
10466169 gal
app rate: 0.087 gal/sqft/day
4.257439249 ac-ft/ac/yr

Effluent Quantity: 95,400 gpd
Pond Size: 2 acres
Disposal area: 25.1 acres
Ratio: 0.0797

Max Year Annual Rainfall: 51.88 in
Min Year Annual Evaporation: 40.68 in



Canady Tract WWTF – Domestic Worksheet 3.1

Surface Land Disposal of Effluent Engineering Report

Water balance and storage volume calculations have been completed for final phase. The effluent storage pond required for full buildout is 2 acres. At full buildout of 95,400 gpd, 25.1 acres area disposal is required. The following is a summary providing references/sources for the data used to develop the tables. Also enclosed are the irrigation efficiency assumptions, summary of the application rates per month per acre, nitrogen loading, and water balance. The clarifications are below, water balance with storage volume calculations is presented separately as their own attachments titled “Water Balance”.

Water Balance Table Column	Assumptions and References/Sources
Column 2: Average Rainfall	Data obtained from Texas Water Development Board Quadrangle 710; https://waterdatafortexas.org/lake-evaporation-rainfall ; years 1998 – 2023.
Column 3: Average Runoff	Curve number (CN) was obtained from SCS Technical Release No. 55. A curve number of 80 was used, considering lawns and parks in fair condition (grass cover between 50% to 75%) in soils that fall into hydro groups D.
Column 4: Average Infiltrated Rainfall	Obtained by subtracting average runoff from average rainfall.
Column 5: Evapotranspiration	Data obtained from Texas Board of Water Engineers, Bulletin 6019 (Consumptive Use of Water by Major Crops in Texas). Average monthly and annual consumptive use, Table 5 – Area 7C for Warm Season (May – Oct), Kc of 0.9 used for Bermuda Grass. Table 8 – Area 7C for Cool Season (Nov-March), used for small grain, Ryegrass. Assuming 50% Warm and 50% Cool Season, an average evapotranspiration value from Table 5 and Table 8 used for April.
Column 6: Required Leaching	Ce (electrical conductivity) was based on a close by groundwater well, a value of 2 mmhos/cm was used. Cl (allowable conductivity of soil) = 7 based on 30 TAC 309.20, Table 3, Rye grass and Bermuda grass.
Column 7: Total Water Needs	Obtained by adding evapotranspiration and required leaching.
Column 8: Effluent Needed in Root Zone	Obtained by subtracting average infiltrated rainfall from total water needs (assume zero if value is less than zero).
Column 9: Net Evaporation from Reservoir Surface	Data obtained from Texas Water Development Board Quadrangle 710; https://waterdatafortexas.org/lake-evaporation-rainfall ; years 1998 – 2023.
Column 10: Effluent Applied to Land	Obtained by dividing the effluent needed in root zone by the irrigation efficiency, K, assumed to be 0.85 or 85%
Column 11: Consumption from Reservoir	Obtained by adding net evaporation and effluent applied to land.
Column 13: Effluent Received for Application or Storage	Based on full buildout flows of 95,400 gpd and 25.1 acres of TLAP disposal area.
Column 14: Rainfall (Maximum)	Data on maximum rainfall year in the past 25 years was obtained from Texas Water Development Board Quadrangle 710

Canady Tract WWTF – Domestic Worksheet 3.1 Surface Land Disposal of Effluent Engineering Report

	Precipitation (inches) from 1998 to 2023, 51.88 inches in 2004. The total was distributed proportionally to monthly average rainfall.
Column 15: Runoff (Maximum)	Calculated as shown above for Column 3 using maximum rainfall numbers from Column 14.
Column 16: Infiltrated Rainfall	Obtained by subtracting maximum runoff (Column 15) from maximum rainfall (Column 14).
Column 17: Available Water	Obtained by adding effluent received (Column 13) and infiltrated rainfall (Column 16).
Column 18b: Lowest Annual Net Evaporation	Data on minimum net evaporation year in the past 25 years was obtained from Texas Water Development Board Quadrangle 710, Monthly Evaporation (inches) from 1998 to 2023: 40.68 inches in 2021. The total was distributed proportionally to monthly average evaporation.
Column 19: Storage	Obtained by subtracting lowest annual net evaporation (Column 18b) from effluent received (Column 13), then subtracting total water needs (Column 7) – infiltrated rainfall (Column 16) divided by k (irrigation efficiency of 0.85). If total water needs (Column 7) – infiltrated rainfall (Column 16) divided by k (irrigation efficiency of 0.85) is < 0, then storage = Column 13 – Column 18b).
Column 20: Accumulated Storage	Summation beginning with the first consecutive month of possible values from Column 19.

Irrigation Efficiency

Based on Howell 2003, average irrigation efficiency for spray irrigation in a field environment ranges from 85 to 90 percent. Therefore, an efficiency of 85 percent was assumed for water balance and storage calculations.

Nitrogen Balance

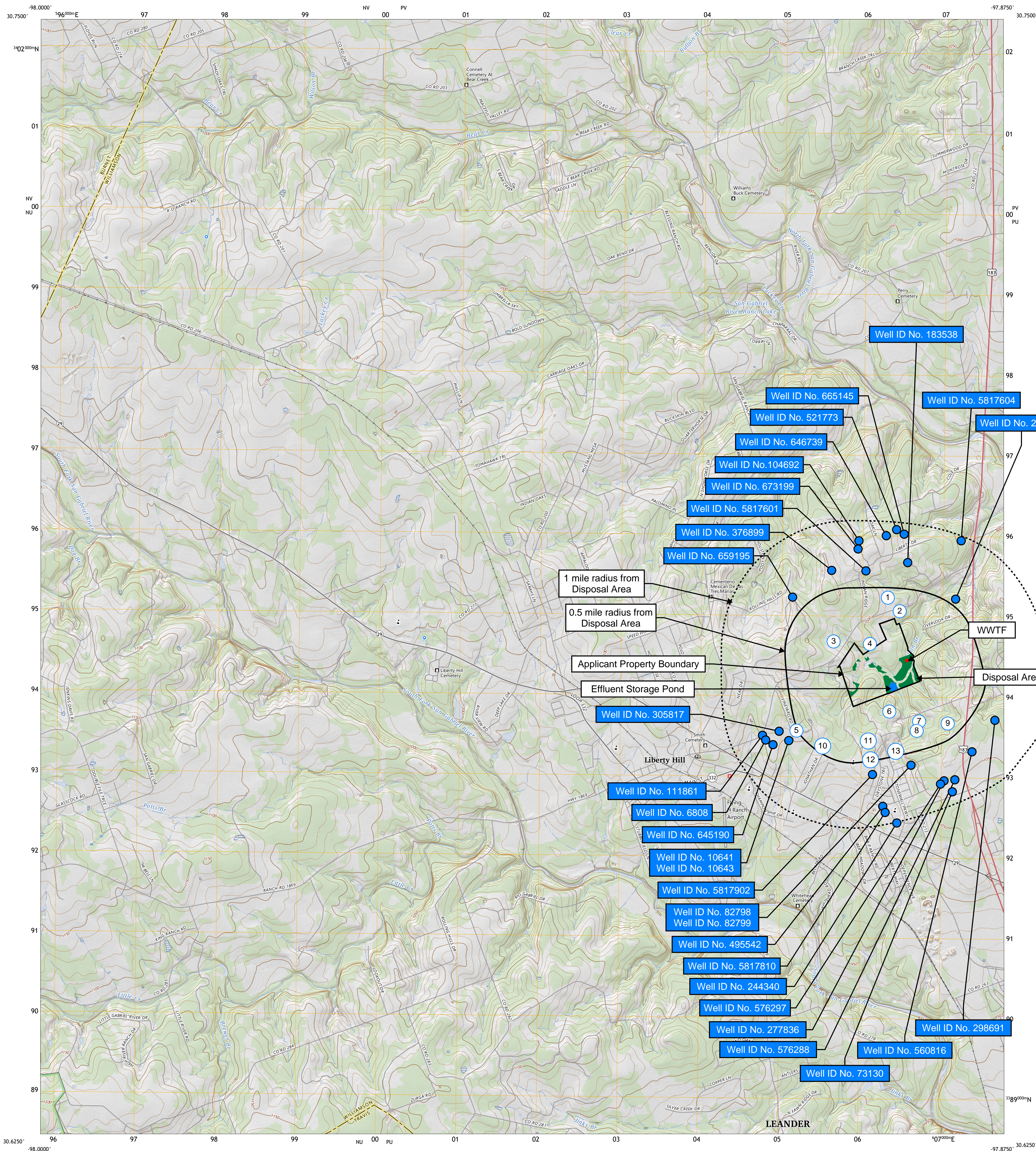
It is anticipated that total nitrogen in the effluent will be ≤30 mg/L. Loading will be as follows:

$$30 \text{ mg/L} \times 95,400 \text{ g/day} \times 3.78 \text{ L/g} / 453,592 \text{ lbs/mg} \times 365 \text{ day/year} =$$

$$8,705.40 \text{ lbs/year spread across 25.1 acres} = 347 \text{ lbs/acre/year}$$

Bermuda grass is able to utilize large amounts of nitrogen, with excellent yield response at around 400 pounds per acre per year. (See: Nutrient Demand High In Bermudagrass by Darst, et al. 1996).

Canady Tract WWTF - TLAP Map

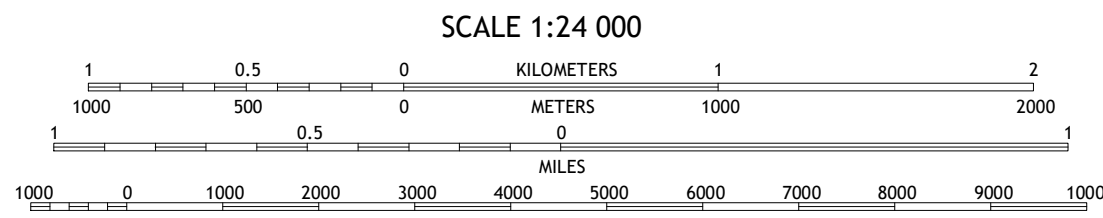
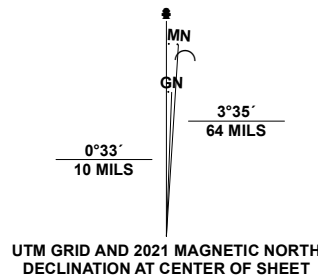


Produced by the United States Geological Survey

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1 000-meter grid/Universal Transverse Mercator, Zone 14R.
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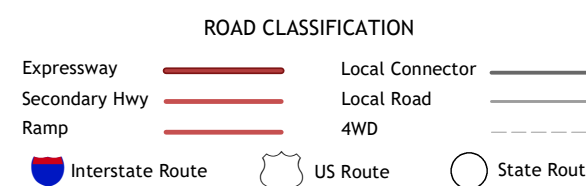
CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988
CONTOUR SMOOTHNESS = Medium

USER DEFINED CONTENT



QUADRANGLE LOCATION		
Joppa	Mahomet	Florence
Bertram	Liberty Hill	Leander NE
Travis Peak	Nameless	Leander

ADJOINING QUADRANGLES



LIBERTY HILL, TX
2024

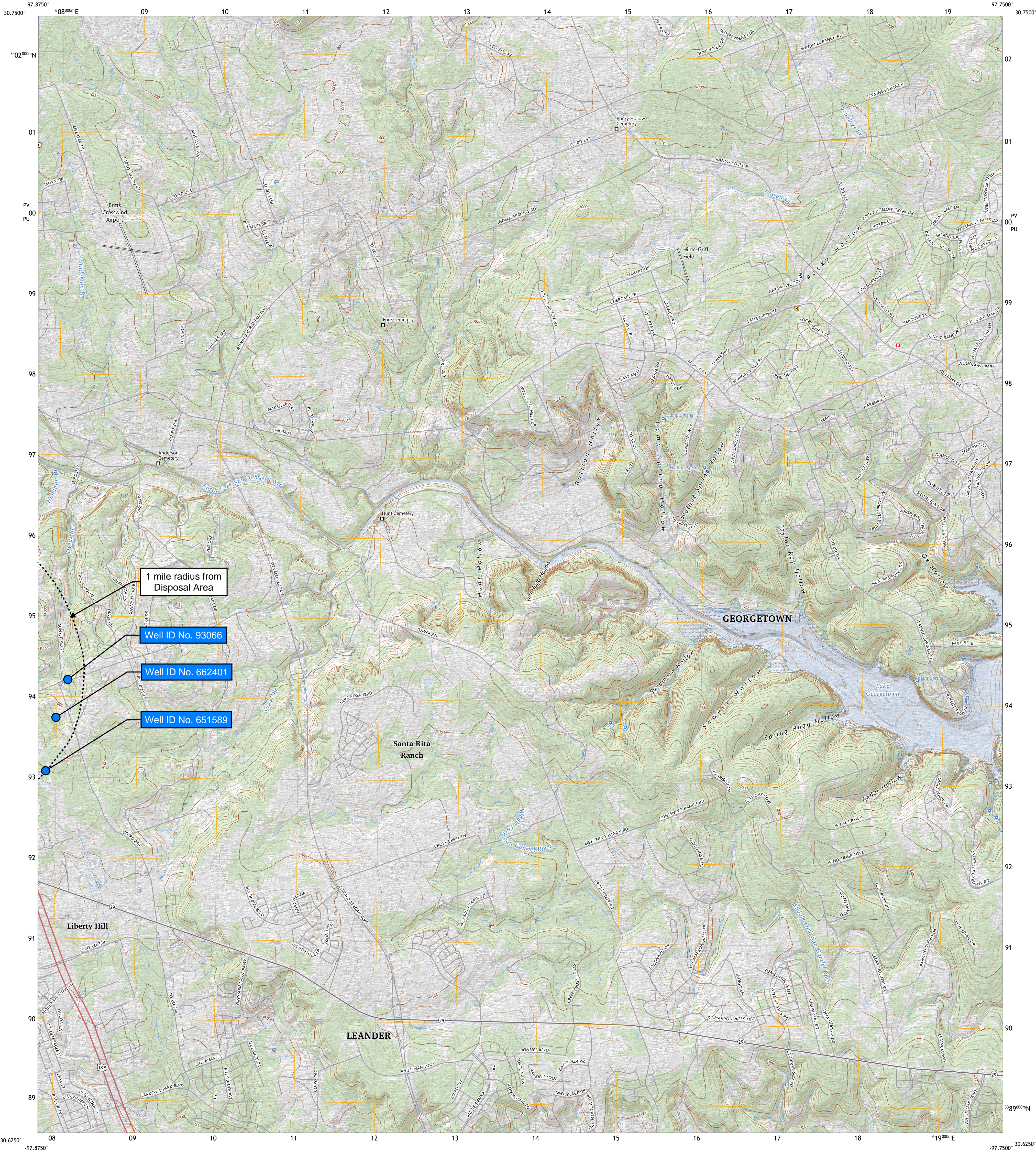




U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Canady Tract WWTF - TLAP Map

LEANDER NE QUADRANGLE
TEXAS - WILLIAMSON COUNTY
7.5-MINUTE TOPO

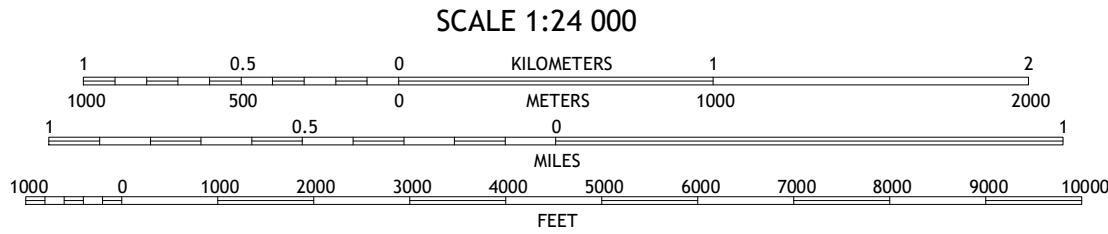
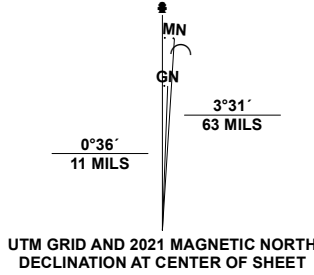


Produced by the United States Geological Survey

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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CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988
CONTOUR SMOOTHNESS = Medium

USER DEFINED CONTENT



QUADRANGLE LOCATION		
Mahomet	Florence	Gabbs Cavern
Liberty Hill	Leander NE	Georgetown
Nameless	Leander	Round Rock

ADJOINING QUADRANGLES

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

LEANDER NE, TX
2024



Canady Tract WWTF - USGS Well ID Attachment						
Map Reference Number	Well ID #	Well Use	Producing Y/N	Open, cased, capped, or Plugged?	Proposed Best Management Practice	Well Log Included? Y/N
1	79487	Domestic	Y	Cased	Buffer requirement will be met	Y
2	627196	Domestic	Y	Cased	Buffer requirement will be met	Y
3	577912	Domestic	Y	Cased	Buffer requirement will be met	Y
4	547299	Domestic	Y	Cased	Buffer requirement will be met	Y
5	5817605	Irrigation	Y	Cased	Buffer requirement will be met	Y
6	302042	Domestic	Y	Cased	Buffer requirement will be met	Y
7	265187	Domestic	Y	Cased	Buffer requirement will be met	Y
8	29448	Domestic	Y	Cased	Buffer requirement will be met	Y
9	658431	Domestic	Y	Cased	Buffer requirement will be met	Y
10	483014	Domestic	Y	Cased	Buffer requirement will be met	Y
11	5817606	Public Supply	Y	Cased	Buffer requirement will be met	Y
12	184293	Irrigation	Y	Cased	Buffer requirement will be met	Y
13	30216	Withdrawal of Water	N	Plugged	Buffer requirement will be met	Y

STATE OF TEXAS WELL REPORT for Tracking #79487

Owner: **Shawn Preece**

Owner Well #: **No Data**

Address: **PO Box 1238
Liberty Hill, TX 78642**

Grid #: **58-17-6**

Well Location: **CR 1869
Liberty Hill, TX 78642**

Latitude: **30° 41' 13" N**

Longitude: **097° 53' 26" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **12/5/2005**

Drilling End Date: **12/6/2005**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	9.75	0	20
	6	20	520

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	40	5

Seal Method: **mixed**

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: **Surface Slab Installed**

Water Level: **No Data**

Packers: **Rubber 40'
Rubber 440'**

Type of Pump: **Submersible**

Well Tests: **Jetted** **Yield: 50 GPM**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	Good

Chemical Analysis Made: No

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

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

Company Information: Hill Country Water Well

PO Box 220
Briggs, TX 78608

Driller Name: Joe E McDearmon

License Number: 2334

Comments: Verbal Warning issued late filing 8/13/09

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	16	cal
16	25	gry lime
25	35	cal
35	90	gry lime
90	95	gry shale
95	115	gry lime
115	117	gry shale
117	180	gry lime
180	185	bro shale
185	260	bro lime
260	365	gry lime
365	370	sand water
370	385	gry shale
385	395	gry shale
395	445	sandstone
445	450	trinty sand water
450	465	sand stone
465	470	trinty sandwater

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
6	New	Plastic	0-520 sdr-17

470	490	sandstone
490	500	trinty sand water
500	520	sandstone

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 #627196

Owner:	Alex Thornton	Owner Well #:	No Data
Address:	748 RR 1869 Liberty Hill, TX 78642	Grid #:	58-17-6
Well Location:	748 RR 1869 Liberty Hill, TX 78642	Latitude:	30° 41' 07.01" N
Well County:	Williamson	Longitude:	097° 53' 20.9" W
		Elevation:	No Data
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: **10/25/2022** Drilling End Date: **10/26/2022**

Borehole:	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
	8	0	20
	6.25	20	520

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

Annular Seal Data:	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
	0	20	Cement 5 Bags/Sacks

Seal Method: **Slurry**

Sealed By: **Driller**

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

Distance to Septic Field or other
concentrated contamination (ft.): **100+**

Distance to Septic Tank (ft.): **100+**

Method of Verification: **No Data**

Surface Completion: **Surface Sleeve Installed**

Surface Completion by Driller

Water Level: **380 ft. below land surface on 2022-11-10**

Packers: **Rubber at 40 ft.
Rubber at 340 ft.
Rubber at 420 ft.
Rubber at 440 ft.**

Type of Pump: **Submersible**

Pump Depth (ft.): **460**

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

Water Quality:

Strata Depth (ft.)	Water Type
No Data	No Data

Chemical Analysis Made: **No**

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

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

Company Information: **B & B Water Well Service, Inc**
PO Box 232
Bertram, TX 78605

Driller Name: **Joshua Dickinson**

License Number: **54204**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	5	TOPSOIL
5	20	CALICHE
20	80	BLUE/GREY LIMESTONE
80	180	GREY LIMESTONE
180	300	TAN/GREY LIMESTONE
300	320	GREY LIMESTONE
320	340	DARK GREY LIMESTONE (H2O)
340	360	GREY LIMESTONE W/SHALE
360	380	TAN/DARK GREY LIMESTONE
380	420	GREY LIMESTONE W/SHALE
420	460	SANDSTONE/ BLUE SANDS (H2O)
460	480	SAND
480	520	LIGHT GREY LIMESTONE /GREEN

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)	SDR17	0	460
4.5	Perforated or Slotted	New Plastic (PVC)	SDR17	460	520

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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 #577912

Owner:	Zeb Miller Homes	Owner Well #:	No Data
Address:	1354 RM 1869 Liberty Hill, TX 78642	Grid #:	58-17-6
Well Location:	1354 RM 1869 Liberty Hill, TX 78642	Latitude:	30° 40' 53.77" N
Well County:	Williamson	Longitude:	097° 53' 53.07" W
		Elevation:	1032 ft. above sea level
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: **4/23/2021** Drilling End Date: **4/24/2021**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	11.75	0	20
	6.75	20	540

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	40	Cement 6 Bags/Sacks

Seal Method: **Hand Mixed**

Sealed By: **Driller**

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

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

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

Method of Verification: **No Data**

Surface Completion: **Surface Sleeve Installed**

Surface Completion by Driller

Water Level: **No Data on 2021-04-24**

Packers: **Rubber at 40 ft.
Rubber at 480 ft.**

Type of Pump: **Submersible** Pump Depth (ft.): **500**

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

Water Quality:

Strata Depth (ft.)	Water Type
No Data	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: **HILL COUNTRY WATER WELL**
POBOX 220
BRIGGS, TX 78608

Driller Name: **Joe McDearmon**

License Number: **2334**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	1	Top Soil
1	14	Caliche
14	385	Grey Lime
385	400	Dry Sands
400	420	Grey Lime
420	450	Tan
450	460	Dry Sands
460	465	Oil Spots
465	485	Sandstone
485	525	Trinity Sands
525	535	Sandstone
535	540	Grey Lime

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)	SDR17 0.032	0	480
4.5	Screen	New Plastic (PVC)	SDR17 0.032	480	500
4.5	Screen	New Plastic (PVC)	SDR17 0.032	500	520
4.5	Blank	New Plastic (PVC)	SDR17 0.032	520	540

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**

STATE OF TEXAS WELL REPORT for Tracking #547299

Owner: **TERRY JOHNSON**

Owner Well #: **No Data**

Address: **101 LONGHORN DR.
BERTRAM, TX 78605**

Grid #: **58-17-6**

Well Location: **1001 RR 1869
LIBERTY HILL, TX 78642**

Latitude: **30° 40' 53" N**

Longitude: **097° 53' 36" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **4/17/2020**

Drilling End Date: **4/18/2020**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	10	0	19
	6.5	19	530

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

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

Seal Method: **Poured**

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

Sealed By: **Driller**

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

Variance Number: **NA**

Distance to Septic Tank (ft.): **NA**

Method of Verification: **TAPE MEASURE**

Surface Completion: **Surface Sleeve Installed**

Surface Completion by Driller

Water Level: **393 ft. below land surface on 2020-04-18**

Packers: **SHALE TRAP at 20 ft.
SHALE TRAP at 360 ft.
SHALE TRAP at 470 ft.**

Type of Pump: **Submersible**

Pump Depth (ft.): **500**

Well Tests: **No Test Data Specified**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	No Data

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

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

Company Information: **TOM ARNOLD DRILLING**
2750 SOUTH A. W. GRIMES BLVD
ROUND ROCK, TX 78664

Driller Name: **TOM ARNOLD**License Number: **2096**Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	1	TOPSOIL & LOOSE ROCK
1	21	YELLOW LIMESTONE
21	31	BLUE LIMESTONE
31	136	GRAY LIMESTONE
136	148	BROWN LIMESTONE
148	210	GRAY LIMESTONE
210	219	BLUE LIMESTONE & SHALE
219	313	GRAY LIMESTONE
313	319	BLUE LIMESTONE & SHALE
319	387	GRAY LIMESTONE
387	391	BLUE LIMESTONE & SHALE
391	415	GRAY LIMESTONE
415	420	GRAY SAND
420	470	GRAY SANDSTONE & SAND STRIPS
470	480	GRAY SAND
480	488	WHITE SANDSTONE
488	501	GRAY SAND

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)		0	530
	Perforated or Slotted		0.032	470	530

501	514	GRAY SANDSTONE & SAND
514	530	GRAY LIMESTONE

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**Texas Department of Licensing and Regulation
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**Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number
58-17-605**

[GWDB Reports and Downloads](#)

Well Basic Details

[Scanned Documents](#)

State Well Number	5817605
County	Williamson
River Basin	Brazos
Groundwater Management Area	8
Regional Water Planning Area	G - Brazos G
Groundwater Conservation District	GCD Does Not Exist
Latitude (decimal degrees)	30.671111
Latitude (degrees minutes seconds)	30° 40' 16" N
Longitude (decimal degrees)	-97.903612
Longitude (degrees minutes seconds)	097° 54' 13" W
Coordinate Source	+/- 5 Seconds
Aquifer Code	218TRNT - Trinity Group
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	1065
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	555
Well Depth Source	Geophysical Log
Drilling Start Date	
Drilling End Date	9/0/1978
Drilling Method	Air Rotary
Borehole Completion	Open Hole

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	None
Water Quality Available	Yes
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Garry Goerdel
Driller	Harrison Drlg.
Other Data Available	Caliper; Electric Log; Gamma Ray; Neutron
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	11/2/1994
Last Update Date	3/4/2020

Remarks	
---------	--

Casing						
Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
6	Blank	Plastic (PVC)			0	31
	Open Hole				31	423

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements

No Data Available

Water Quality Analysis

Sample Date: 2/19/1979 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:** Texas Water Development Board

Sampled Aquifer: Trinity Group

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)		312	mg/L as CaCO3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		380.75	mg/L	
01020	BORON, DISSOLVED (UG/L AS B)		3800	ug/L	
00910	CALCIUM (MG/L)		94	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		116	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		3.8	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		538	mg/L as CaCO3	
01045	IRON, TOTAL (UG/L AS FE)		260	ug/L	
00920	MAGNESIUM (MG/L)		74	mg/L	
01055	MANGANESE, TOTAL (UG/L AS MN)	<	20	ug/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		2.2	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.7	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		26	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		12	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		2.55		
00932	SODIUM, CALCULATED, PERCENT		35	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		136	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1968	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		394	mg/L as SO4	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		1045	mg/L	

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

**Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number
58-17-605**

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.

STATE OF TEXAS WELL REPORT for Tracking #302042

Owner: **Alex Dossey**

Owner Well #: **No Data**

Address: **500 Long Run
Liberty Hill, TX 78642**

Grid #: **58-17-6**

Well Location: **500 Long Run
Liberty Hill, TX 78642**

Latitude: **30° 40' 24" N**

Longitude: **097° 53' 26" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **9/18/2012**

Drilling End Date: **9/18/2012**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	8	0	20
	6.5	20	565

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

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

Seal Method: **Slurry**

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

Sealed By: **Driller**

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 440', 430', 100', 20'**

Type of Pump: **No Data**

Well Tests: **Jetted** **Yield: 35 GPM**

Water Quality:

Strata Depth (ft.)	Water Type
440-537	M.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: **Apex Drilling, Inc.**
P.O. Box 867
Marble Falls, TX 78654

Driller Name: **Michael G. Becker** License Number: **54516**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	11	Tan Limestone
11	440	Gran/Tan Limestone **Oil Stain @ 408
440	456	Gray/Tan Sandstone **H2O
456	485	Green Sandstone
485	522	Sand & Tan Limestone **H2O
522	524	Green Clay
524	537	Tan Limestone **H2O
537	565	Gray/Tan Limestone

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5"	(5" OD)	New PVC	+2' to 485' SDR17
4.5"	(5" OD)	New Slotted PVC	485' to 545' .035
4.5"	(5" OD)	New PVC	545' to 565' SDR17

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Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #265187

Owner: **Frank Acosta**

Owner Well #: **No Data**

Address: **P.O. Box 369
Liberty Hill, TX 78642**

Grid #: **58-17-6**

Well Location: **381 Lone Run
Liberty Hill, TX 78642**

Latitude: **30° 40' 19" N**

Longitude: **097° 53' 11" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **8/3/2011**

Drilling End Date: **8/3/2011**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	9	0	30
	6	30	565

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	30	6

Seal Method: **Slurry**

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

Sealed By: **Driller**

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 Packers, PVC & Burlap, 30,460,480**

Type of Pump: **Submersible**

Well Tests: **Jetted** **Yield: 20-30 GPM**

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
50	Hensell

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**
500 Southland Dr.
Burnet, TX 78611

Driller Name: **Frank Glass**

License Number: **1313**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
0	1	Top Soil
1	16	Caliche & Lime
16	65	Blue Lime
65	170	Gray Lime
170	200	Brown Lime
200	440	Gray Lime & stripes Shale & Clay
440	480	Hensell Sand & Clay
480	560	Hensell Sand
560	565	White Lime

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
5" OD, New, Plastic, +2'-565', 17, 60' of Screen			

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P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #29778

Owner:	Larry Dayhoff	Owner Well #:	No Data
Address:	1497 North Hwy 183 Leander, TX 78641	Grid #:	58-17-6
Well Location:	1497 North Hwy 183 Leander, TX 78641	Latitude:	30° 40' 16" N
Well County:	Williamson	Longitude:	097° 53' 12" W
		Elevation:	887 ft. above sea level
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: 11/15/2003 Drilling End Date: 11/19/2003

Borehole:	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
	7.875	0	20
	7	20	360
	6.75	360	600

Drilling Method: Air Rotary

Borehole Completion: Straight Wall

Annular Seal Data:	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
	0	30	9

Seal Method: Gravity

Sealed By: ADC

Distance to Property Line (ft.): No Data

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

Distance to Septic Tank (ft.): No Data

Method of Verification: No Data

Surface Completion: Surface Sleeve Installed

Water Level: 344 ft. below land surface on 2003-11-21 Measurement Method: Unknown

Packers: Neoprene/Burlap 30, 120 & 440

Type of Pump: Submersible Pump Depth (ft.): 500

Well Tests: Estimated Yield: 30 GPM

Water Quality:

Strata Depth (ft.)	Water Type
440-600	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: **Associated Drilling Company**

**P.O. Box 1060
Manchaca, TX 78652**

Driller Name: **Byron Benoit**

License Number: **1955**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	1	topsoil
1	20	caliche-tan sandstone
20	52	broken gray lime
52	58	Void-Lost returns
58	200	Lime
200	260	Broken lime
260	360	lime with shale
360	420	sandstone
420	480	broken sandstone
480	500	sandstone
500	560	broken sandstone
560	600	clay with shale

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	New	Plastic	-2 to 600
17	SDR		
perf.	from	440-600	

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Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #658431

Owner:	Maria Magallon	Owner Well #:	No Data
Address:	201 Long Run Liberty Hill, TX 78642	Grid #:	58-17-6
Well Location:	201 Long Run Liberty Hill, TX 78642	Latitude:	30° 40' 18.73" N
Well County:	Williamson	Longitude:	097° 52' 57.68" W
		Elevation:	No Data
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: **1/10/2024** Drilling End Date: **1/10/2024**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	8.75	0	20
	6.25	20	610

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	-1	30	4 cement, 1 Benseal Bags/Sacks

Seal Method: **Slurry**

Sealed By: **Driller**

Distance to Property Line (ft.): **+75**

Distance to Septic Field or other
concentrated contamination (ft.): **+100**

Distance to Septic Tank (ft.): **+50**

Method of Verification: **Owner**

Surface Completion: **Surface Sleeve Installed**

Surface Completion by Driller

Water Level:	485 ft. below land surface on 2024-01-10	Measurement Method:	Sonic/Radar
Packers:	Burlap & PVC 490', 470' Burlap 30'		
Type of Pump:	Submersible		
Well Tests:	Estimated	Yield: 10-13 GPM	

Water Quality:

Strata Depth (ft.)	Water Type
485 - 610	Hensel

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 Inc**
PO BOX 673
Dripping Springs, TX 78620

Driller Name: **James Benoit** License Number: **4064**

Comments: **Drilled for A&W Water Well Service.**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	10	white chalk
10	410	blue lime
410	450	gray lime & clay
450	490	tan lime
490	515	tan white limestone
515	560	white limestone some sand
560	590	tan limestone
590	610	gray limestone

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)	SDR17	-3	530
4.5	Screen	New Plastic (PVC)	SDR17 0.020	530	590
4.5	Blank	New Plastic (PVC)	SDR17	590	610

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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 #483014

Owner:	Bailey and Colt Hamilton	Owner Well #:	No Data
Address:	11797 HWY 183 Florence, TX 76527	Grid #:	58-17-6
Well Location:	11797 HWY 183 Florence, TX 76527	Latitude:	30° 40' 08.4" N
Well County:	Williamson	Longitude:	097° 53' 58.74" W
		Elevation:	1136 ft. above sea level
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: 5/9/2018

Drilling End Date: 5/9/2018

Borehole:	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
	9	0	50
	6.25	50	610

Drilling Method: Air Rotary

Borehole Completion: Straight Wall

Annular Seal Data:	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
	-1	50	7 Cement 2 Benseal Bags/Sacks

Seal Method: Slurry

Sealed By: Driller

Distance to Property Line (ft.): +100

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

Distance to Septic Tank (ft.): Unknown

Method of Verification: Well drilled first by
owner

Surface Completion: Surface Sleeve Installed

Surface Completion by Driller

Water Level: No Data

Packers: Burlap at 50 ft.
Burlap & Plastic at 490 ft.
Burlap & Plastic at 510 ft.

Type of Pump: Submersible

Well Tests: Estimated Yield: 15-20 GPM

Water Quality:

Strata Depth (ft.)	Water Type
515 - 570	Mid 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: **Associated Drilling Co.**
PO Box 673
Dripping Springs, TX 78620

Driller Name: **James Benoit**License Number: **4064**Apprentice Number: **4064**Comments: **Drilled for J&J Well Service**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	2	Topsoil
2	15	Tan Lime
15	135	Blue Lime
135	145	Grey Sand
145	485	Blue Lime
485	490	Grey Lime and Clay
490	515	Tan Limestone
515	545	Tan White Limestone, H2O
545	570	Tan and Grey Limestone
570	595	Blue White limestone
595	610	Grey Limestone

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)	SDR17	-3	530
4.5	Screen	New Plastic (PVC)	SDR17 0.020	530	590
4.5	Blank	New Plastic (PVC)	SDR17	590	610

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.

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[Well Basic Details](#)
[Scanned Documents](#)

State Well Number	5817606
County	Williamson
River Basin	Brazos
Groundwater Management Area	8
Regional Water Planning Area	G - Brazos G
Groundwater Conservation District	GCD Does Not Exist
Latitude (decimal degrees)	30.669722
Latitude (degrees minutes seconds)	30° 40' 11" N
Longitude (decimal degrees)	-97.893889
Longitude (degrees minutes seconds)	097° 53' 38" W
Coordinate Source	+/- 1 Second
Aquifer Code	217HSTN - Hosston Formation
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	1035
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	604
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	5/27/1973
Drilling Method	Cable Tool
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	Westwood Boys Ranch
Driller	Bonnet Drilling Co.
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	8/1/1988
Last Update Date	3/4/2020

Remarks Owner's #2 well. Measured yield 25 GPM with 20 feet drawdown after pumping 2 hours in 1973. Pump set at 380 feet.

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
6	Blank	Plastic (PVC)			0	260
6	Screen	Plastic (PVC)			260	300
6	Blank	Plastic (PVC)			300	523
6	Screen	Plastic (PVC)			523	563
6	Blank	Plastic (PVC)			563	585
7	Open Hole				585	604

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

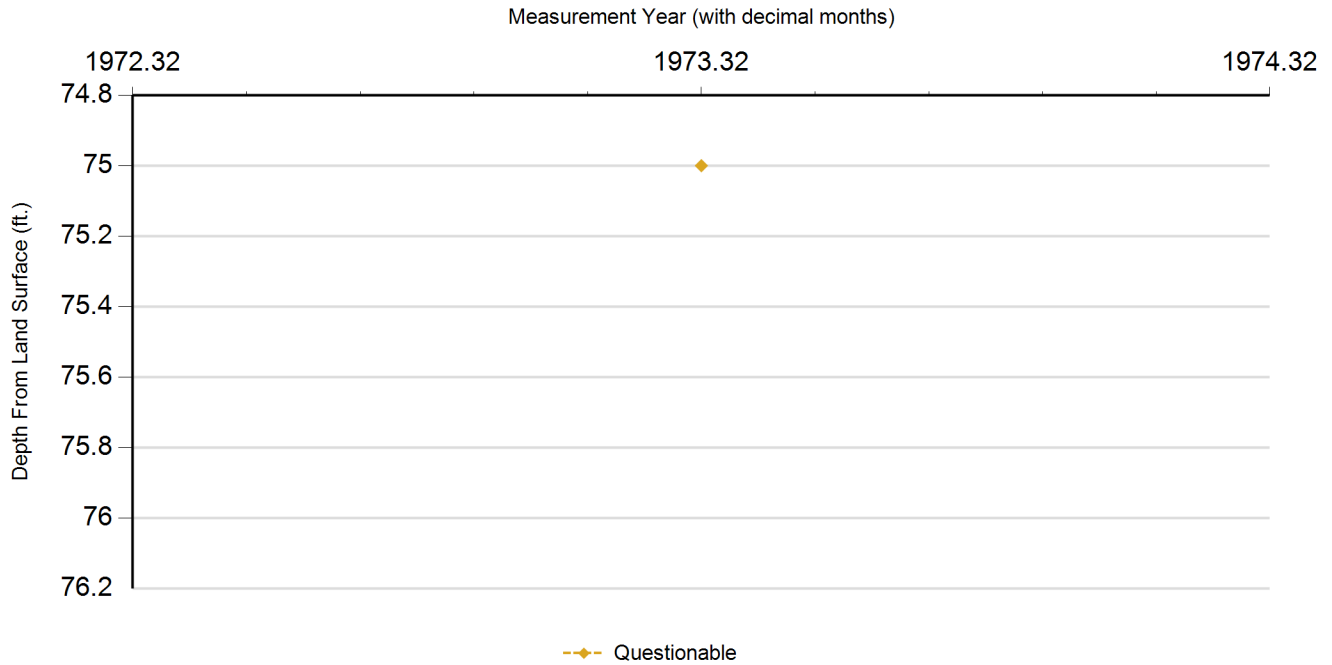
Borehole - No Data

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
Q	4/27/1973		75		960	1	Registered Water Well Driller	Unknown	17	

Code Descriptions

Status Code	Status Description
Q	Questionable

Remark ID	Remark Description
17	Measurement before well completion

Water Quality Analysis - No Data Available

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.

STATE OF TEXAS WELL REPORT for Tracking #184293

Owner:	Buffington Capital Holdings	Owner Well #:	StonewallRanch3
Address:	3600 Capital of Tx Hwy, B170 Austin, TX 78746	Grid #:	58-17-6
Well Location:	Stonewall Ranch-Phase 3 Liberty Hill, TX 78642	Latitude:	30° 40' 02" N
Well County:	Williamson	Longitude:	097° 53' 34" W
		Elevation:	1001 ft. above sea level
Type of Work:	New Well	Proposed Use:	Irrigation

Drilling Start Date: **5/13/2009** Drilling End Date: **5/27/2009**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	8	0	600

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	100	16PORTLD2HP6BEN
	350	360	1BENSEAL

Seal Method: **Pressure Grout**

Distance to Property Line (ft.): **45'**

Sealed By: **Driller**

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

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

Method of Verification: **Measured**

Surface Completion: **Surface Slab Installed**

Water Level: **422 ft. below land surface on 2009-05-22** Measurement Method: **Unknown**

Packers: **6MIL POLY 100'**
6MIL POLY 280'
6MIL POLY/SHALE PACKER 360'

Type of Pump: **Submersible** Pump Depth (ft.): **500**

Well Tests: **Jetted** Yield: **20+ GPM**

Water Quality:

Strata Depth (ft.)	Water Type
500'-600'	Good

Chemical Analysis Made: **No**

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

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

Company Information: **Whisenant & Lyle Water Services Inc**
P.O. Box 525
Dripping Springs, TX 78620

Driller Name: **Martin D. Lingle** License Number: **54813**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

From (ft)	To (ft)	Description
0-1/2		topsoil
1/2-5		brown clay
5-8		white limestone clay
8-15		white limestone hard
15-180		grey limestone
180-240		white sandstone
240-263		grey white sandstone
263-266		grey clay
266-307		white limestone
307-309		brown clay
309-392		grey white limestone
392-460		grey limestone hard
460-500		grey white blue shale hard
500-590		grey white brown limestone fractured
590-600		grey light clay

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	PVC-SDR17IB	+2'-500'
4.5	N	PVC-17SLOTTED.085	500'-600'

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STATE OF TEXAS PLUGGING REPORT for Tracking #30216

Owner:	Lennar Buffington Stonewall Ra	Owner Well #:	No Data
Address:	12301 Research Rd, Bldg 4, Suite 450 Austin, TX 78759	Grid #:	58-17-6
Well Location:	HWY 29 Liberty Hill, TX 78648	Latitude:	30° 40' 06" N
		Longitude:	097° 53' 23" W
Well County:	Williamson	Elevation:	No Data

Well Type: **Withdrawal of Water**

Drilling Information

Company:	No Data	Date Drilled:	No Data
Driller:	No Data	License Number:	No Data

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	5		600

Plugging Information

Date Plugged: **2/10/2006** Plugger: **David McDearmon**

Plug Method: **Tremmie pipe bentonite from bottom to 2 feet from surface, cement top 2 feet**

Casing Left in Well:

Plug(s) Placed in Well:

No Data

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description (number of sacks & material)</i>
0	20	2 bags cement
20	600	22 Benseal

Certification Data: The driller certified that the driller plugged this well (or the well was plugged 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 reports(s) being returned for completion and resubmittal.

Company Information: **David McDearmon**
12907 Lowden Rd
Manchaca, TX 78652

Driller Name: **David McDearmon** License Number: **2563**

Comments: **No Data**

STATE OF TEXAS PLUGGING REPORT for Tracking #6808

Owner: **WILLIAMSON CO. MAINT.**

Owner Well #: **MW 16**

Address: **FM 1869W & HWY 29
LIBERTY HILL, TX 78642**

Grid #: **58-17-6**

Well Location: **FM 1869W & HWY 29
LIBERTY HILL, TX 78642**

Latitude: **30° 40' 12" N**

Longitude: **097° 54' 28" W**

Well County: **Williamson**

Elevation: **No Data**

Well Type: **Monitor**

Drilling Information

Company: **No Data**

Date Drilled: **No Data**

Driller: **No Data**

License Number: **No Data**

Borehole: **No Data**

Plugging Information

Date Plugged: **4/25/2002**

Plugger: **JAMES E. NEAL**

Plug Method: **Pour in 3/8 bentonite chips when standing water in well is less than 100 feet depth,
cement top 2 feet**

Casing Left in Well:

Plug(s) Placed in Well:

Dia (in.)	Top (ft.)	Bottom (ft.)
4	0	0

Top (ft.)	Bottom (ft.)	Description (number of sacks & material)
0	10	4

Certification Data: The driller certified that the driller plugged this well (or the well was plugged 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 reports(s) being returned for completion and resubmittal.

Company Information: **VORTEX DRILLING, INC.
4412 BLUEMEL RD.
SAN ANTONIO, TX 78240**

Driller Name: **JAMES E. NEAL**

License Number: **4868**

Comments: **ENTERED BY WLS**

STATE OF TEXAS PLUGGING REPORT for Tracking #82798

Owner: **The Lookout Group**

Owner Well #: **No Data**

Address: **1001 Crystal Falls Pkwy.
Leander, TX 78641**

Grid #: **58-17-6**

Well Location: **299 Limestone Rd.
Liberty Hill, TX 78642**

Latitude: **30° 40' 02" N**

Longitude: **097° 53' 15" W**

Well County: **Williamson**

Elevation: **No Data**

Well Type: **Withdrawal of Water**

Drilling Information

Company: **No Data**

Date Drilled: **No Data**

Driller: **No Data**

License Number: **No Data**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	4.5		500

Plugging Information

Date Plugged: **8/8/2012**

Plugger: **Jimmy Arnold**

Plug Method: **Pour in 3/8 bentonite chips when standing water in well is less than 100 feet depth,
cement top 2 feet**

Casing Left in Well:

Plug(s) Placed in Well:

<i>Dia (in.)</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
4.5	2	500

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description (number of sacks & material)</i>
0	2	1
0	500	1

Certification Data: The driller certified that the driller plugged this well (or the well was plugged 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 reports(s) being returned for completion and resubmittal.

Company Information: **Tom Arnold Drilling
2750 S AW Grimes Blvd.
Round Rock, TX 78664**

Driller Name: **Jimmy Arnold**

License Number: **4200**

Comments: **^EAD**

STATE OF TEXAS PLUGGING REPORT for Tracking #82799

Owner: **The Lookout Group**

Owner Well #: **No Data**

Address: **1001 Crystal Falls Pkwy.
Leander, TX 78641**

Grid #: **58-17-6**

Well Location: **299 Limestone Rd.
Liberty Hill, TX 78642**

Latitude: **30° 40' 02" N**

Longitude: **097° 53' 15" W**

Well County: **Williamson**

Elevation: **No Data**

Well Type: **Withdrawal of Water**

Drilling Information

Company: **No Data**

Date Drilled: **No Data**

Driller: **No Data**

License Number: **No Data**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	4.75		343

Plugging Information

Date Plugged: **8/8/2012**

Plugger: **Jimmy Arnold**

Plug Method: **Pour in 3/8 bentonite chips when standing water in well is less than 100 feet depth,
cement top 2 feet**

Casing Left in Well:

Plug(s) Placed in Well:

<i>Dia (in.)</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
7	2	40

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description (number of sacks & material)</i>
0	2	1
2	343	49

Certification Data: The driller certified that the driller plugged this well (or the well was plugged 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 reports(s) being returned for completion and resubmittal.

Company Information: **Tom Arnold Drilling
2750 S AW Grimes Blvd.
Round Rock, TX 78664**

Driller Name: **Jimmy Arnold**

License Number: **4200**

Comments: **^EAD**

[GWDB Reports and Downloads](#)
[Well Basic Details](#)
[Scanned Documents](#)

State Well Number	5817601
County	Williamson
River Basin	Brazos
Groundwater Management Area	8
Regional Water Planning Area	G - Brazos G
Groundwater Conservation District	GCD Does Not Exist
Latitude (decimal degrees)	30.69
Latitude (degrees minutes seconds)	30° 41' 24" N
Longitude (decimal degrees)	-97.893334
Longitude (degrees minutes seconds)	097° 53' 36" W
Coordinate Source	Global Positioning System - GPS
Aquifer Code	218HNSL - Hensell Sand Member of Travis Peak Formation
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	1025
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	492
Well Depth Source	Driller's Log
Drilling Start Date	
Drilling End Date	5/0/1968
Drilling Method	Cable Tool
Borehole Completion	Open Hole

Well Type	Withdrawal of Water
Well Use	Irrigation
Water Level Observation	Historical
Water Quality Available	Yes
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Rick Hollar
Driller	Hunt Drlg. Co.
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	11/2/1994
Last Update Date	3/4/2020

Remarks	Observation well. Measured yield 50 GPM with 60 feet drawdown after pumping 14 hours. Specific capacity 2.5 GPM/ft. Pump set at 280 feet.
---------	---

Casing						
Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
7	Blank	Steel			0	455
	Open Hole				455	492

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

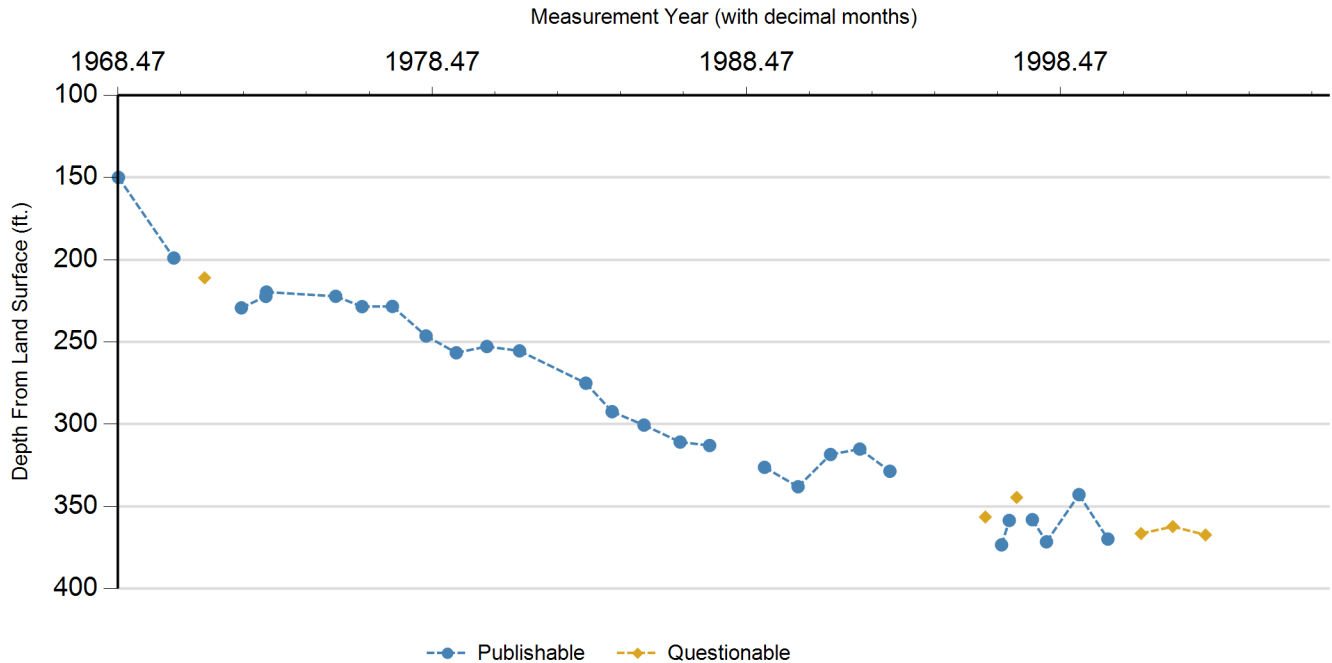
Borehole - No Data

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	5/0/1968		150		875	1	Registered Water Well Driller	Unknown		
P	4/2/1970		198.99	48.99	826.01	1	Texas Water Development Board	Steel Tape		
Q	3/25/1971		211.03	12.04	813.97	1	Texas Water Development Board	Steel Tape	4	
P	5/27/1972		229.27	18.24	795.73	1	Texas Water Development Board	Steel Tape		
P	3/6/1973		222.29	(6.98)	802.71	1	Texas Water Development Board	Steel Tape		
P	3/13/1973		219.67	(2.62)	805.33	1	Texas Water Development Board	Steel Tape		
P	5/27/1975		222.25	2.58	802.75	1	Texas Water Development Board	Steel Tape		
P	3/29/1976		228.52	6.27	796.48	1	Texas Water Development Board	Steel Tape		
P	3/16/1977		228.4	(0.12)	796.6	1	Texas Water Development Board	Steel Tape		
P	4/12/1978		246.35	17.95	778.65	1	Texas Water Development Board	Steel Tape		
P	3/28/1979		256.58	10.23	768.42	1	Texas Water Development Board	Steel Tape		
P	3/18/1980		252.76	(3.82)	772.24	1	Texas Water Development Board	Steel Tape		
P	4/3/1981		255.42	2.66	769.58	1	Texas Water Development Board	Steel Tape		
P	5/13/1983		275.06	19.64	749.94	1	Texas Water Development Board	Steel Tape		
P	3/13/1984		292.37	17.31	732.63	1	Texas Water Development Board	Steel Tape		
P	3/18/1985		300.53	8.16	724.47	1	Texas Water Development Board	Steel Tape		
P	5/13/1986		310.85	10.32	714.15	1	Texas Water Development Board	Steel Tape		
P	4/21/1987		312.93	2.08	712.07	1	Texas Water Development Board	Steel Tape		
X	2/26/1988					1	Texas Water Development Board		20	
P	1/18/1989		326.2		698.8	1	Texas Water Development Board	Steel Tape		
P	2/13/1990		338	11.80	687	1	Texas Water Development Board	Steel Tape		

**Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number
58-17-601**

Status Code	Date	Time	Water Level (ft. below land surface)	Change value in () indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	2/25/1991		318.4	(19.60)	706.6	1	Texas Water Development Board	Steel Tape		
P	1/30/1992		315.1	(3.30)	709.9	1	Texas Water Development Board	Steel Tape		
P	1/15/1993		328.6	13.50	696.4	1	Texas Water Development Board	Steel Tape		
X	2/24/1994					1	Texas Water Development Board		20	
X	11/9/1994					1	Texas Water Development Board		20	
Q	1/29/1996		356.4		668.6	1	Texas Water Development Board	Steel Tape	10	
P	8/7/1996		373.35	16.95	651.65	1	Texas Water Development Board	Steel Tape		
P	11/6/1996		358.5	(14.85)	666.5	1	Texas Water Development Board	Steel Tape		
Q	1/28/1997		344.5	(14.00)	680.5	1	Texas Water Development Board	Steel Tape	10	
P	7/29/1997		358	13.50	667	1	Texas Water Development Board	Steel Tape		
P	1/8/1998		371.5	13.50	653.5	1	Texas Water Development Board	Steel Tape		
P	1/21/1999		342.8	(28.70)	682.2	1	Texas Water Development Board	Steel Tape		
P	12/27/1999		369.8	27.00	655.2	1	Texas Water Development Board	Steel Tape		
Q	1/12/2001		366.45	(3.35)	658.55	1	Texas Water Development Board	Steel Tape	10	
Q	1/16/2002		362.2	(4.25)	662.8	1	Texas Water Development Board	Steel Tape	10	
Q	1/31/2003		367.3	5.10	657.7	1	Texas Water Development Board	Steel Tape	10	
X	2/26/2004					1	Texas Water Development Board	Steel Tape	25	
X	1/28/2005					1	Texas Water Development Board	Steel Tape	25	
X	1/26/2006					1	Texas Water Development Board	Steel Tape	25	
X	1/8/2007					1	Texas Water Development Board	Steel Tape	25	

Code Descriptions

Status Code	Status Description
P	Publishable
Q	Questionable
X	No Measurement

Remark ID	Remark Description
4	Well pumped recently
10	Inconsistent or spotty tape mark due to wet or leaking casing
20	Unable to insert tape into well
25	Unable to measure due to wet or leaking casing

Water Quality Analysis

Sample Date: 5/27/1972 **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)		302	mg/L as CaCO 3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		368.54	mg/L	
00910	CALCIUM (MG/L)		67	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		119	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		3.5	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		422	mg/L as CaCO 3	
00920	MAGNESIUM (MG/L)		62	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		1.5	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.6	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		31	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		12	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		3.07		
00932	SODIUM, CALCULATED, PERCENT		42	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		145	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1705	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		296	mg/L as SO4	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		918	mg/L	

Water Quality Analysis

Sample Date: 3/18/1980 **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:** From well not sufficiently pumped; not filtered or preserved

Collection Remarks: faucet at 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)		340	mg/L as CaCO3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		414.92	mg/L	
00910	CALCIUM (MG/L)		79	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		100	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		4	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		530	mg/L as CaCO3	
00920	MAGNESIUM (MG/L)		81	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		0.6	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.9	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		34	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		9	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		2.46		
00932	SODIUM, CALCULATED, PERCENT		34	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		130	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1823	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		335	mg/L as SO4	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		976	mg/L	

Water Quality Analysis

Sample Date: 5/13/1986 **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)		332	mg/L as CaCO3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		405.15	mg/L	
00910	CALCIUM (MG/L)		71	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		101	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		3.5	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		452	mg/L as CaCO3	
00920	MAGNESIUM (MG/L)		67	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		0.58	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		8	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		22	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		10	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		2.68		
00932	SODIUM, CALCULATED, PERCENT		38	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		131	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1705	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		288	mg/L as SO4	
00010	TEMPERATURE, WATER (CELSIUS)		24	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		893	mg/L	

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

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[Well Basic Details](#)
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State Well Number	5817604
County	Williamson
River Basin	Brazos
Groundwater Management Area	8
Regional Water Planning Area	G - Brazos G
Groundwater Conservation District	GCD Does Not Exist
Latitude (decimal degrees)	30.692778
Latitude (degrees minutes seconds)	30° 41' 34" N
Longitude (decimal degrees)	-97.8775
Longitude (degrees minutes seconds)	097° 52' 39" W
Coordinate Source	+/- 1 Second
Aquifer Code	100ALVM - Alluvium
Aquifer	Other
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	875
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	30
Well Depth Source	Measured
Drilling Start Date	
Drilling End Date	
Drilling Method	Dug
Borehole Completion	Open End

Well Type	Withdrawal of Water
Well Use	Unused
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	J.E.Ross
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	11/2/1994
Last Update Date	3/4/2020

Remarks	
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Casing						
Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
36	Blank	Brick			0	30

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

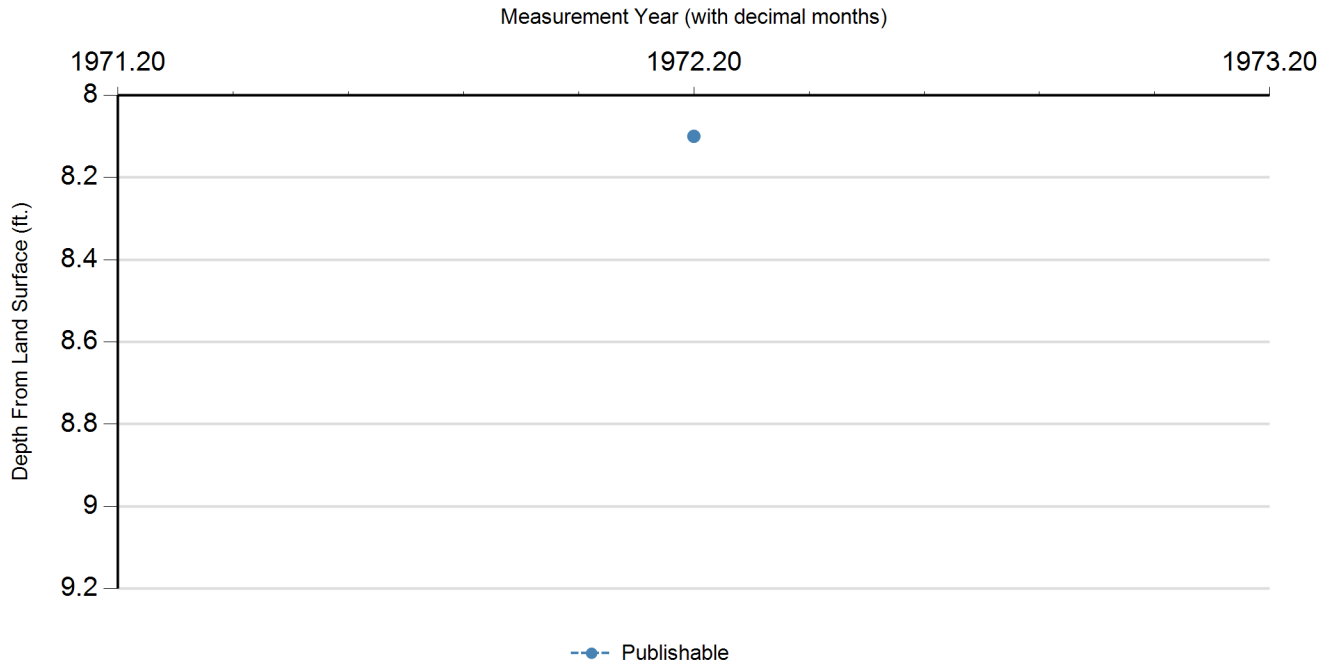
Borehole - No Data

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	3/13/1972		8.1		866.9	1	Texas Water Development Board	Steel Tape		

Code Descriptions

Status Code	Status Description
P	Publishable

Water Quality Analysis

Sample Date: 3/13/1972 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:** Texas Water Development Board

Sampled Aquifer: Alluvium

Analyzed Lab: Texas Department of Health

Reliability: Not indicative of aquifer quality.

Collection Remarks: bailer

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CaCO3)		237	mg/L as CaCO3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		289.22	mg/L	
00910	CALCIUM (MG/L)		79	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		16	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		0.2	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		275	mg/L as CaCO3	
00920	MAGNESIUM (MG/L)		19	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		2	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.4	SU	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		9	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		0.21		
00932	SODIUM, CALCULATED, PERCENT		5	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		8	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		580	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		24	mg/L as SO4	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		299	mg/L	

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

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[Well Basic Details](#)
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State Well Number	5817810
County	Williamson
River Basin	Brazos
Groundwater Management Area	8
Regional Water Planning Area	G - Brazos G
Groundwater Conservation District	GCD Does Not Exist
Latitude (decimal degrees)	30.6617222
Latitude (degrees minutes seconds)	30° 39' 42.2" N
Longitude (decimal degrees)	-97.8911111
Longitude (degrees minutes seconds)	097° 53' 28" W
Coordinate Source	Global Positioning System - GPS
Aquifer Code	
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	1013
Land Surface Elevation Method	
Well Depth (feet below land surface)	
Well Depth Source	
Drilling Start Date	
Drilling End Date	
Drilling Method	
Borehole Completion	

Well Type	
Well Use	
Water Level Observation	
Water Quality Available	No
Pump	
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	Stonewall Ranch MUD
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	G2460013F
Groundwater Conservation District Well Number	
Owner Well Number	6
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	8/2/2023
Last Update Date	2/8/2024

Remarks	
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Casing - No Data

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements

No Data Available

Water Quality Analysis - No Data Available

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**Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number
58-17-902**

[GWDB Reports and Downloads](#)

Well Basic Details

[Scanned Documents](#)

State Well Number	5817902
County	Williamson
River Basin	Brazos
Groundwater Management Area	8
Regional Water Planning Area	G - Brazos G
Groundwater Conservation District	GCD Does Not Exist
Latitude (decimal degrees)	30.6661111
Latitude (degrees minutes seconds)	30° 39' 58" N
Longitude (decimal degrees)	-97.8927778
Longitude (degrees minutes seconds)	097° 53' 34" W
Coordinate Source	Global Positioning System - GPS
Aquifer Code	217HSTN - Hosston Formation
Aquifer	Trinity
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	1045
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	740
Well Depth Source	Measured
Drilling Start Date	
Drilling End Date	10/20/1967
Drilling Method	Mud (Hydraulic) Rotary
Borehole Completion	Unknown

Well Type	Withdrawal of Water
Well Use	Unused
Water Level Observation	TWDB Current Site Visit
Water Quality Available	Yes
Pump	None
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	Unknown
Surface Completion	Unknown
Owner	Westwood Boys Ranch Meridell Achievement
Driller	Central Texas Drilling Company
Other Data Available	Drillers Log; Specific Capacity
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Water Development Board
Created Date	1/8/2007
Last Update Date	3/4/2020

Remarks	Owner's #2 well. Unused public supply well. Measured yield 14.7 GPM with 20 feet drawdown after pumping 8 hours in 1967. Specific capacity .88 GPM/ft. Pump set at 525 feet.
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Casing						
Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
7	Blank	Steel			0	580
4	Blank	Steel			580	740

Well Tests - No Data

Lithology

Top Depth (ft.)	Bottom Depth (ft.)	Description
0	18	Caliche
18	42	Blue Shale
42	103	Limestone
103	140	Blue Shale & Clay
140	360	Limestone
360	370	Sand
370	530	Limestone & Shale
530	580	Sand & Limestone
580	610	Blue Clay & Shale
610	660	Blue & Red Clay
660	740	Sandstone

Annular Seal Range - No Data

Borehole

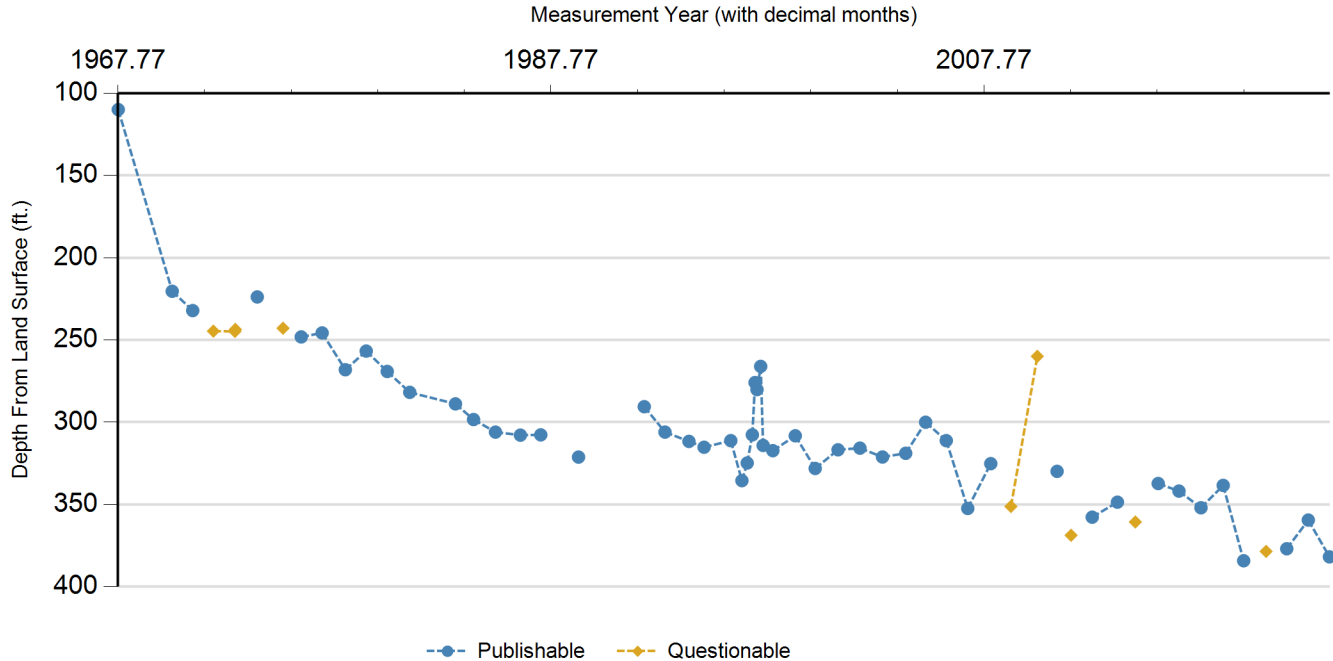
Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
8.75	0	740

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	10/20/1967		110		935	1	Registered Water Well Driller	Unknown		
P	4/14/1970		220.4	110.40	824.6	1	Texas Water Development Board	Electric Line		
P	3/25/1971		232.15	11.75	812.85	1	Texas Water Development Board	Steel Tape		
Q	3/8/1972		244.63	12.48	800.37	1	Texas Water Development Board	Steel Tape	4	
Q	3/6/1973		244.8	0.17	800.2	1	Texas Water Development Board	Steel Tape	4	
Q	3/13/1973		243.6	(1.20)	801.4	1	Texas Water Development Board	Steel Tape	4	
P	3/18/1974		223.85	(19.75)	821.15	1	Texas Water Development Board	Steel Tape		
Q	5/27/1975		242.85	19.00	802.15	1	Texas Water Development Board	Steel Tape	4	
P	3/29/1976		248.15	5.30	796.85	1	Texas Water Development Board	Steel Tape		
P	3/16/1977		245.72	(2.43)	799.28	1	Texas Water Development Board	Steel Tape		
P	4/12/1978		268.1	22.38	776.9	1	Texas Water Development Board	Steel Tape		
P	3/29/1979		256.75	(11.35)	788.25	1	Texas Water Development Board	Steel Tape		
P	3/18/1980		269.15	12.40	775.85	1	Texas Water Development Board	Steel Tape		
P	4/3/1981		281.85	12.70	763.15	1	Texas Water Development Board	Steel Tape		
P	5/13/1983		288.85	7.00	756.15	1	Texas Water Development Board	Steel Tape		
P	3/13/1984		298.37	9.52	746.63	1	Texas Water Development Board	Steel Tape		
P	3/18/1985		306	7.63	739	1	Texas Water Development Board	Steel Tape		
P	5/13/1986		307.85	1.85	737.15	1	Texas Water Development Board	Steel Tape		
P	4/21/1987		307.68	(0.17)	737.32	1	Texas Water Development Board	Steel Tape		
X	2/26/1988					1	Texas Water Development Board	Steel Tape	22	
P	1/18/1989		321.2		723.8	1	Texas Water Development Board	Steel Tape		

**Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number
58-17-902**

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
X	2/13/1990					1	Texas Water Development Board	Steel Tape	22	
X	2/11/1991					1	Texas Water Development Board	Steel Tape	22	
P	1/30/1992		290.55		754.45	1	Texas Water Development Board	Steel Tape		
P	1/15/1993		306	15.45	739	1	Texas Water Development Board	Steel Tape		
P	2/24/1994		311.65	5.65	733.35	1	Texas Water Development Board	Steel Tape		
P	11/9/1994		315.2	3.55	729.8	1	Texas Water Development Board	Steel Tape		
P	1/29/1996		311.2	(4.00)	733.8	1	Texas Water Development Board	Steel Tape		
P	8/7/1996		335.5	24.30	709.5	1	Texas Water Development Board	Steel Tape		
P	11/6/1996		324.8	(10.70)	720.2	1	Texas Water Development Board	Steel Tape		
P	1/27/1997		307.65	(17.15)	737.35	1	Texas Water Development Board	Steel Tape		
P	3/13/1997		275.9	(31.75)	769.1	1	Texas Water Development Board	Electric Line		
P	4/16/1997		280.16	4.26	764.84	1	Texas Water Development Board	Steel Tape		
P	6/18/1997		266.07	(14.09)	778.93	1	Texas Water Development Board	Steel Tape		
P	7/29/1997		314.11	48.04	730.89	1	Texas Water Development Board	Steel Tape		
P	1/8/1998		317.3	3.19	727.7	1	Texas Water Development Board	Steel Tape		
P	1/21/1999		308.25	(9.05)	736.75	1	Texas Water Development Board	Steel Tape		
P	12/27/1999		328.1	19.85	716.9	1	Texas Water Development Board	Steel Tape		
P	1/12/2001		316.75	(11.35)	728.25	1	Texas Water Development Board	Steel Tape		
P	1/16/2002		315.75	(1.00)	729.25	1	Texas Water Development Board	Steel Tape		
P	1/31/2003		321.15	5.40	723.85	1	Texas Water Development Board	Steel Tape		
P	2/27/2004		318.88	(2.27)	726.12	1	Texas Water Development Board	Steel Tape		
P	1/28/2005		300	(18.88)	745	1	Texas Water Development Board	Steel Tape		
P	1/11/2006		311.18	11.18	733.82	1	Texas Water Development Board	Steel Tape		
P	1/8/2007		352.4	41.22	692.6	1	Texas Water Development Board	Steel Tape		
P	1/31/2008		325.19	(27.21)	719.81	1	Texas Water Development Board	Steel Tape		
Q	1/6/2009		351.2	26.01	693.8	1	Texas Water Development Board	Steel Tape	10	
Q	3/26/2010		259.94	(91.26)	785.06	1	Texas Water Development Board	Steel Tape	10	
P	2/24/2011		329.85	69.91	715.15	1	Texas Water Development Board	Steel Tape		
Q	10/20/2011		368.72	38.87	676.28	1	Texas Water Development Board	Steel Tape	10	
P	10/11/2012		357.71	(11.01)	687.29	1	Texas Water Development Board	Steel Tape		
P	12/11/2013		348.58	(9.13)	696.42	1	Texas Water Development Board	Steel Tape		
Q	10/8/2014		360.64	12.06	684.36	1	Texas Water Development Board	Steel Tape	10	
P	10/28/2015	1220	337.26	(23.38)	707.74	1	Texas Water Development Board	Steel Tape		
P	10/13/2016	1000	341.85	4.59	703.15	1	Texas Water Development Board	Electric Line		
P	10/19/2017	1350	352	10.15	693	1	Texas Water Development Board	Electric Line		
P	10/29/2018	1245	338.4	(13.60)	706.6	1	Texas Water Development Board	Electric Line		
P	10/9/2019	1050	384.2	45.80	660.8	1	Texas Water Development Board	Electric Line		
Q	10/23/2020	1000	378.49	(5.71)	666.51	1	Texas Water Development Board	Electric Line	15	Eline hung frequently and right near water level.

**Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number
58-17-902**

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	10/5/2021	1029	376.91	(1.58)	668.09	1	Texas Water Development Board	Electric Line		Tape hangs at 200 and water level a lot
P	10/3/2022	1234	359.48	(17.43)	685.52	1	Texas Water Development Board	Electric Line		Eline hangs a lot
P	9/25/2023	1156	381.82	22.34	663.18	1	Texas Water Development Board	Electric Line		

Code Descriptions

Status Code	Status Description
P	Publishable
Q	Questionable
X	No Measurement

Remark ID	Remark Description
4	Well pumped recently
10	Inconsistent or spotty tape mark due to wet or leaking casing
15	Tape may not have fallen free in well during measurement
22	Unable to measure because tape hangs before reaching water level

Water Quality Analysis

Sample Date: 5/27/1972 **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)		285	mg/L as CaCO 3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		347.8	mg/L	
00910	CALCIUM (MG/L)		49	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		111	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		0.9	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		250	mg/L as CaCO 3	
00920	MAGNESIUM (MG/L)		31	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)	<	0.4	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.5	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		14	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0.7		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		18	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		3		
00932	SODIUM, CALCULATED, PERCENT		48	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		109	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1064	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		53	mg/L as SO4	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		557	mg/L	

Water Quality Analysis

Sample Date: 10/23/1973 **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)		287	mg/L as CaCO3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		350.24	mg/L	
00910	CALCIUM (MG/L)		52	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		114	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		1	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		248	mg/L as CaCO3	
01045	IRON, TOTAL (UG/L AS FE)		1300	ug/L	
00920	MAGNESIUM (MG/L)		29	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)	<	0.4	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.8	SU	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0.76		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		16	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		3.2		
00932	SODIUM, CALCULATED, PERCENT		50	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		116	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1104	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		64	mg/L as SO4	
00010	TEMPERATURE, WATER (CELSIUS)		23	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		564	mg/L	

Water Quality Analysis

Sample Date: 8/1/1974 **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)		307	mg/L as CaCO3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		374.65	mg/L	
00910	CALCIUM (MG/L)		74	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		102	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		2.2	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		377	mg/L as CaCO3	
00920	MAGNESIUM (MG/L)		47	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		1.5	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.8	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		14	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		13	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		2.19		
00932	SODIUM, CALCULATED, PERCENT		36	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		98	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1332	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		155	mg/L as SO4	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		690	mg/L	

Water Quality Analysis

Sample Date: 3/18/1980 **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)		293	mg/L as CaCO3	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		357.56	mg/L	
00910	CALCIUM (MG/L)		85	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		278	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		3.3	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CaCO3)		495	mg/L as CaCO3	
00920	MAGNESIUM (MG/L)		69	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		0.5	mg/L as NO3	
00400	PH (STANDARD UNITS), FIELD		7.9	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		31	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SiO2)		9	mg/L as SiO2	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		4.41		
00932	SODIUM, CALCULATED, PERCENT		49	PCT	
00929	SODIUM, TOTAL (MG/L AS Na)		226	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		2320	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		333	mg/L as SO4	
00010	TEMPERATURE, WATER (CELSIUS)		16	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		1210	mg/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 #10641

Owner:	Tom Hogan	Owner Well #:	No Data
Address:	111 Quarter Horse Court Liberty Hill, TX 78642	Grid #:	58-17-6
Well Location:	111 Quarter Horse Court Liberty Hill, TX 78642	Latitude:	30° 40' 13" N
Well County:	Williamson	Longitude:	097° 54' 18" W
		Elevation:	No Data
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: 5/16/2002 Drilling End Date: 5/18/2002

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	8	0	120
	6.75	120	550

Drilling Method: Air Rotary

Borehole Completion: Straight Wall

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	0	30	13

Seal Method: Gravity

Sealed By: ADC

Distance to Property Line (ft.): No Data

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

Distance to Septic Tank (ft.): No Data

Method of Verification: No Data

Surface Completion: Surface Sleeve Installed

Water Level: 359 ft. below land surface on 2002-05-20 Measurement Method: Unknown

Packers: Neoprene/burlap 420' & 30'

Type of Pump: Submersible Pump Depth (ft.): 500

Well Tests: Estimated Yield: 45 GPM

Water Quality:

Strata Depth (ft.)	Water Type
440-550	trinity

Chemical Analysis Made: **No**

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

The driller did certify that while drilling, deepening or otherwise altering the above described well, injurious water or constituents was encountered and the landowner or person having the well drilled was informed that such well must be completed or plugged in such a manner as to avoid injury or pollution.

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 Company**

**P.O. Box 1060
Manchaca, TX 78652**

Driller Name: **Byron Benoit**

License Number: **1955**

Apprentice Name: **Byron Benoit**

Apprentice Number: **1955**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	1	Top soil
0	45	broken tan lime with caliche
45	130	gray lime
130	160	broken tan lime
160	280	gray lime
280	320	broken tan lime
320	400	gray lime with shale
400	540	broken tan and white sandstone
540	550	Black shale

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	Plastic	-2 to 550
SDR 17			perf. from 420-550

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 #10643

Owner: **Randy Odell**

Owner Well #: **No Data**

Address: **13951 West Hwy 29
Liberty Hill, TX 78642**

Grid #: **58-17-6**

Well Location: **2224 RR 869
Liberty Hill, TX 78642**

Latitude: **30° 40' 13" N**

Longitude: **097° 54' 18" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **6/5/2002**

Drilling End Date: **6/6/2002**

Borehole:

<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
7.875	0	20
7	20	420
6.75	420	560

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

Annular Seal Data:

<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
0	30	11

Seal Method: **Gravity**

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

Sealed By: **SDC**

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

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

Method of Verification: **No Data**

Surface Completion: **Surface Sleeve Installed**

Water Level: **360 ft. below land surface on 2002-06-06** Measurement Method: **Unknown**

Packers: **Neoprene/burlap 30' & 440'**

Type of Pump: **installed by other**

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

Water Quality:

Strata Depth (ft.)	Water Type
320-420	trinity

Chemical Analysis Made: **No**

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

The driller did certify that while drilling, deepening or otherwise altering the above described well, injurious water or constituents was encountered and the landowner or person having the well drilled was informed that such well must be completed or plugged in such a manner as to avoid injury or pollution.

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 Company**

**P.O. Box 1060
Manchaca, TX 78652**

Driller Name: **Byron Benoit**

License Number: **1955**

Apprentice Name: **Byron Benoit**

Apprentice Number: **1955**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	4	topsoil with clay
4	12	tan clay
12	30	caliche
30	140	gray lime
140	180	broken tan lime
180	300	gray lime with shale
300	360	Broken tan and white lime
360	400	gray lime
400	440	gray lime with shale
440	560	broken tan sandstone

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	Plastic	-2 to 560 SDR 17
			perf. from 440-560

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**

STATE OF TEXAS WELL REPORT for Tracking #73130

Owner:	4 STAR AUTOMOTIVE	Owner Well #:	1
Address:	925 North 183 LIBERTY HILL, TX 78642	Grid #:	58-17-9
Well Location:	925 N 183 LIBERTY HILL, TX 78642	Latitude:	30° 39' 53" N
Well County:	Williamson	Longitude:	097° 52' 52" W
		Elevation:	1035 ft. above sea level
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: **11/9/2005** Drilling End Date: **11/9/2005**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	8	0	56

Drilling Method: **Air Hammer**

Borehole Completion: **Straight Wall**

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

Seal Method: **POURED SLURRY**

Distance to Property Line (ft.): **84**

Sealed By: **Driller**

Distance to Septic Field or other
concentrated contamination (ft.): **168**

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

Method of Verification: **measuring wheel**

Surface Completion: **Surface Sleeve Installed**

Water Level: **361 ft. below land surface on 2005-11-09** Measurement Method: **Unknown**

Packers: **RUBBER 20'**

Type of Pump: **Submersible**

Well Tests: **Estimated Yield: 30 GPM**

	<i>Description (number of sacks & material)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Plug Information:	N/A		

Water Quality:

Strata Depth (ft.)	Water Type
No Data	No Data

Chemical Analysis Made: **No**

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

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

Company Information: **Highland Drilling Inc.**
309 Frazier St.
Tow, TX 78672

Driller Name: **Clifford Bohannon**

License Number: **4386**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

From (ft)	To (ft)	Description
0-1		TOP SOIL
1-28		LIMESTONE
28-229		BLUE SHALE
229-443		BLUE SANDSTONE
443-472		BLUE SHALE
472- 515		BLUE SANDSTONE
515- 520		SAND
520- 530		BLUE SANDSTONE
530-537		SAND
537-543		BLUE SANDSTONE
543-550		SAND
550-560		WHITE SANDSTONE

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4 1/2	NEW	PVC	0/420 Sch40
4 1/2	NEW	PERF. PVC	420/460 Sch40

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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 #93066

Owner: **OMAR GALLE**

Owner Well #: **No Data**

Address: **1401 CR 258
LIBERTY HILL, TX 78642**

Grid #: **58-18-4**

Well Location: **1401 CR 258
LIBERTY HILL, TX 78642**

Latitude: **30° 40' 37" N**

Longitude: **097° 52' 13" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **8/19/2006**

Drilling End Date: **8/21/2006**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	9	0	25
	6	25	563

Drilling Method: **Air Hammer**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	25	5 CEMENT

Seal Method: **GRAVITY FEED**

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

Sealed By: **Driller**

Distance to Septic Field or other
concentrated contamination (ft.): **100+**

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

Method of Verification: **VISUAL**

Surface Completion: **Surface Sleeve Installed**

Water Level: **383 ft. below land surface on 2006-08-21** Measurement Method: **Unknown**

Packers: **RUBBER 470'**

Type of Pump: **No Data**

Well Tests: **Estimated** Yield: **40 GPM**

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
470	GOOD

Chemical Analysis Made: **No**

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

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

Company Information: **HARRISON WELL SERVICE, INC**
P.O. BOX 986
LAMPASAS, TX 76550

Driller Name: **JUAN MUNOZ** License Number: **54176**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
0	25	OVERBURDEN
25	390	GRAY SHALE
390	392	SAND/LIMESTONE MIX
392	452	GREEN SHALE
452	470	SANDSTONE/OIL SPOTS
470	490	SAND (WATER)
490	500	SAND/LIMESTONE MIX
500	508	SAND (WATER)
508	523	BROWN LIMESTONE
523	531	SAND/LIMESTONE MIX
531	555	SANDSTONE
555	563	BLACK SHALE

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
6"	NEW	SCH 40 PVC	0-25
4 1/2"	NEW	SDR 17 PVC	3-563
		SLOTTED	503-563

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**

STATE OF TEXAS WELL REPORT for Tracking #104692

Owner: **Wayne Christi**

Owner Well #: **No Data**

Address: **601 Oak Lane
Liberty Hill, TX 78642**

Grid #: **58-17-6**

Well Location: **601 Oak Lane
Liberty Hill, TX 78642**

Latitude: **30° 41' 36" N**

Longitude: **097° 53' 41" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **8/7/2003**

Drilling End Date: **8/14/2003**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	10	0	18
	6.5	18	505

Drilling Method: **Air Hammer**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	18	6

Seal Method: **Hand Poured**

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

Sealed By: **Driller**

Distance to Septic Field or other
concentrated contamination (ft.): **155**

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

Method of Verification: **Tape Measure**

Surface Completion: **Surface Sleeve Installed**

Water Level: **359 ft. below land surface on 2003-08-14** Measurement Method: **Unknown**

Packers: **Shale Catcher 445**

Type of Pump: **Submersible**

Pump Depth (ft.): **440**

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

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
No Data	No Data

Chemical Analysis Made: **No**

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

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

Company Information: **Tom Arnold Drilling**
1147 CR 170
Round Rock, TX 78664

Driller Name: **Tommy D. Arnold**

License Number: **2096**

Comments: **Logged by DT\$**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
0	1	Top Soil
1	8	Brown Limestone
8	19	Yellow Limestone
19	51	Gray Limestone
51	60	Brown Limestone
60	66	Blue Limestone
66	168	Gray Limestone
168	178	Blue Limestone and Shale
178	200	Brown Limestone
200	324	Gray Limestone
324	347	Blue Shale
347	360	Brown Limestone
360	365	Gray Sandstone and Shale
365	368	Blue Shale
368	405	Gray Sandstone
405	475	Gray and White Sand and Sandstone
475	480	Gray Sandstone

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
6 N	Plastic	0/18	
4 1/2 N	Plastic	0/505	
Perf.	445/485		

480	492	Gray Limestone
492	505	Green Limestone

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**

STATE OF TEXAS WELL REPORT for Tracking #111861

Owner:	R H BALZEN	Owner Well #:	No Data
Address:	309 BLESSING RANCH ROAD LIBERTY HILL, TX 78642	Grid #:	58-17-6
Well Location:	731 LACKEY CREEK RD LIBERTY HILL, TX 78642	Latitude:	30° 40' 13" N
Well County:	Williamson	Longitude:	097° 54' 29" W
		Elevation:	No Data
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: **4/20/2004** Drilling End Date: **4/29/2004**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	8	0	20
	6.5	20	420

Drilling Method: **Air Hammer**

Borehole Completion: **Straight Wall**

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

Seal Method: **HAND POURED**

Sealed By: **Driller**

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

Distance to Septic Field or other
concentrated contamination (ft.): **145**

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

Method of Verification: **TAPE MEASURE**

Surface Completion: **Surface Sleeve Installed**

Water Level: **254 ft. below land surface on 2004-04-29** Measurement Method: **Unknown**

Packers: **SHALE TRAP 380 360 20**

Type of Pump: **No Data**

Well Tests: **Estimated** Yield: **100 GPM**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	No Data

Chemical Analysis Made: **No**

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

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

Company Information: **TOM ARNOLD DRILLING**
1147 CR 170
ROUND ROCK, TX 78664

Driller Name: **Tommy D Arnold**

License Number: **2096**

Comments: **LCS\$**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	6	CALICHE
6	11	YELLOW LIMESTONE
11	88	GREY LIMESTONE
88	106	BROWN LIMESTONE
106	109	BLUE LIMESTONE & SHALE
109	138	GREY LIMESTONE
138	141	BLUE LIMESTONE & SHALE
141	172	BROWN LIMESTONE
172	208	GREY LIMESTONE
208	289	BROWN LIMESTONE
289	339	GREY LIMESTONE
339	341	SAND
341	345	GREY SANDSTONE
345	346	GREY SAND
346	350	GREY SANDSTONE
350	360	GREY SAND
360	364	GREY SANDSTONE
364	366	GREY & WHITE SAND

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4 1/2	NEW	PLASTIC	0 420
	PERF	380	400

366	383	GREY SANDSTONE
383	395	GREY SAND
395	405	GREEN SANDSTONE & SHALE
405	426	GREEN LIMESTONE & SHALE

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P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #183538

Owner: **Kathy Adams**

Owner Well #: **No Data**

Address: **480 Liberty Drive
Liberty Hill, TX 78642**

Grid #: **58-17-6**

Well Location: **480 Liberty Drive
Liberty Hill, TX 78642**

Latitude: **30° 41' 27" N**

Longitude: **097° 53' 17" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **9/16/2004**

Drilling End Date: **9/19/2004**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	9	0	25
	6	25	483

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	25	6

Seal Method: **Gravity Feed**

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

Sealed By: **Driller**

Distance to Septic Field or other
concentrated contamination (ft.): **100+**

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

Method of Verification: **Visual**

Surface Completion: **Surface Sleeve Installed**

Water Level: **335 ft. below land surface on 2004-09-19** Measurement Method: **Unknown**

Packers: **Rubber 45',400'**

Type of Pump: **No Data**

Well Tests: **Jetted** Yield: **30 GPM**

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
No Data	Good

Chemical Analysis Made: **No**

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

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

Company Information: **Harrison Drilling**
P. O. Box 986
Lampasas, TX 76550

Driller Name: **Juan Munoz** License Number: **54176**

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>
0	25	Overburden
25	180	Gray Shale
180	182	Hard Limestone
182	194	Sandstone
194	364	Gray Shale
364	434	Hard Limestone
434	453	Sand (water)
453	483	Hard White Limestone

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
6	New	Sch40 PVC	0 25
4.5	New	SDR 17 PVC	3 483
Perforated		423	483

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

STATE OF TEXAS WELL REPORT for Tracking #244340

Owner: **Liberty Hill ISD**

Owner Well #: **No Data**

Address: **1009 Hwy. 29 West
Liberty Hill, TX 78642**

Grid #: **58-17-9**

Well Location: **315 Stonewall Blvd.
Liberty Hill, TX 78642**

Latitude: **30° 39' 38" N**

Longitude: **097° 53' 23" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Irrigation**

Drilling Start Date: **7/24/2006**

Drilling End Date: **8/24/2006**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	8	0	20
	6.5	20	565

Drilling Method: **Air Hammer**

Borehole Completion: **Straight Wall**

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

Seal Method: **Hand Poured**

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: **Municipal Sewer
System**

Surface Completion: **Surface Sleeve Installed**

Water Level: **362 ft. below land surface on 2006-07-24** Measurement Method: **Unknown**

Packers: **Shale Trap 20',265',465',505'**

Type of Pump: **Submersible**

Pump Depth (ft.): **500**

Well Tests: **Estimated** **Yield: 75 GPM**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	No Data

Chemical Analysis Made: **No**

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

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

Company Information: **Tom Arnold Drilling**
1147 CR 170
Round Rock, TX 78664

Driller Name: **Tommy D. Arnold**

License Number: **2096**

Comments: **\$dfs**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	17	Yellow Limestone
17	44	Blue Limestone
44	266	Gray Limestone
266	290	Brown Limestone
290	380	Gray Limestone
380	391	Blue Limestone and Shale
391	480	Gray Limestone
480	525	Gray Sandstone and Sand Strips
525	545	Coarse Gray Sand
545	565	Gray Sandstone and Sand Strips

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	New	Plastic	0 565
		Perforated	525 565

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**Texas Department of Licensing and Regulation
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Austin, TX 78711
(512) 334-5540**

STATE OF TEXAS WELL REPORT for Tracking #277836

Owner:	Lawrence Gabel	Owner Well #:	1
Address:	987 HWY 183 Liberty Hill, TX 78642	Grid #:	58-17-9
Well Location:	987 HWY 183 LIBERTY HILL, TX 78642	Latitude:	30° 39' 55" N
Well County:	Williamson	Longitude:	097° 52' 59" W
		Elevation:	1068 ft. above sea level
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: **12/3/2011** Drilling End Date: **12/5/2011**

Borehole:	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
	9.75	0	20
	7.25	20	100
	6.25	120	620

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

Annular Seal Data:	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
	0	120	18

Seal Method: **PRESSURE CEMENTED**

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: **Surface Sleeve Installed**

Water Level: **469 ft. below land surface on 2011-12-05** Measurement Method: **Unknown**

Packers: **RUBBER 120'
RUBBER 500'**

Type of Pump: **OWNER WAITING TO
INSTALL PUMP**

Well Tests: **Jetted** **Yield: 45 GPM**

Water Quality:

Strata Depth (ft.)	Water Type
459	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: **HILL COUNTRY WATER WELL**
POBOX 220
BRIGGS, TX 78608

Driller Name: **JOE MCDEARMON**

License Number: **2334**

Comments: **PUMP INSTALLATION AT A LATER DATE PER OWNERS INSTRUCTION.**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	6	WHITE LIME
6	18	CALICHE
18	180	GRAY LIME
180	260	BROWN LIME
260	380	GRAY LIME
380	440	BROWN LIME
440	445	GRAY SHALE
445	510	SANDSTONE
510	512	SAND DRY
512	550	SANDSTONE
550	570	TRINITY SAND
570	585	SANDSTONE
585	590	TRINITY SAND
590	605	SANDSTONE
605	610	TRINITY SAND
610	620	SANDSTONE

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	NEW	PLASTIC	0'/620
4.5	NEW	SCREEN	560' .032
4.5	NEW	SCREEN	580' .032
4.5	NEW	SCREEN	620' .032

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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 #282006

Owner: **Larry Smith**

Owner Well #: **No Data**

Address: **281 CR 1869
Liberty Hill, TX 78642**

Grid #: **58-17-6**

Well Location: **281 CR 1869
Liberty Hill, TX 78642**

Latitude: **30° 41' 12" N**

Longitude: **097° 52' 53" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **7/11/2011**

Drilling End Date: **7/19/2011**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	9	0	20
	6.5	20	505

Drilling Method: **Air Hammer**

Borehole Completion: **Straight Wall**

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

Seal Method: **Hand Poured**

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

Sealed By: **Driller**

Distance to Septic Field or other
concentrated contamination (ft.): **176**

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

Method of Verification: **Tape Measure**

Surface Completion: **Surface Sleeve Installed**

Water Level: **326 ft. below land surface on 2011-07-12** Measurement Method: **Unknown**

Packers: **Shale Trap 405', 385', and 20'**

Type of Pump: **Submersible**

Pump Depth (ft.): **440**

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

Water Quality:

Strata Depth (ft.)	Water Type
No Data	No Data

Chemical Analysis Made: **No**

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

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

Company Information: **Tom Arnold Drilling**
2750 S A. W. Grimes Blvd.
Round Rock, TX 78664

Driller Name: **Not Given**

License Number: **2096**

Comments: **^EAD**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	2	topsoil
2	16	yellow shale & gravel
16	19	yellow limestone
19	26	blue limestone & shale
26	150	gray limestone
150	166	brown limestone
166	254	gray limestone
254	260	gray limestone & shale
260	320	gray limestone
320	330	blue limestone & shale
330	390	gray sandstone & sand
390	404	green limestone & shale

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4 1/2"	N	Plastic	0'-505'
		Perf.	405'-445'

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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 #298691

Owner: **liberty hill isd**
Address: **p.o. box 68
liberty hill, TX 78642**
Well Location: **16500 w.s.h 29
liberyhill, TX 78642**
Well County: **Williamson**

Owner Well #: **978**
Grid #: **58-17-6**
Latitude: **30° 40' 21" N**
Longitude: **097° 52' 35" W**
Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Closed-Loop Geothermal**

Drilling Start Date: **4/5/2012**

Drilling End Date: **8/12/2012**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	4.75	0	250

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:	14	250	Gravel	3/8

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	14	5 bags hole plu
	14	250	pea gravel 6 wh

Seal Method: **pourd with water**

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: **Unknown**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

	<i>Description (number of sacks & material)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Plug Information:	14 to 0 hole plug		

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: **central north const.**
5970 lindsey lane
allen, TX 75002

Driller Name: **Tracy Niles** License Number: **3139**

Comments: **hard drilling with fractures**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	2	top soil
2	250	hard limestone

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
One inch polly pipe coil 0 to 250			

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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 #305817

Owner:	MARTIN DENBAR	Owner Well #:	1
Address:	CR 1869 LIBERTY HILL, TX 78642	Grid #:	58-17-6
Well Location:	CR 1869 LIBERTY HILL, TX 78642	Latitude:	30° 40' 14" N
Well County:	Williamson	Longitude:	097° 54' 21" W
		Elevation:	1049 ft. above sea level
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: 11/13/2012 Drilling End Date: 11/15/2012

Borehole:	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
	9.75	0	20
	8	20	100

Drilling Method: Air Rotary

Borehole Completion: Straight Wall

Annular Seal Data:	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
	0	100	12

Seal Method: MIXED

Sealed By: Driller

Distance to Property Line (ft.): No Data

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

Distance to Septic Tank (ft.): No Data

Method of Verification: OWNER

Surface Completion: Surface Sleeve Installed

Water Level: 420 ft. below land surface on 2012-11-15 Measurement Method: Unknown

Packers: RUBBER 40'
RUBBER 400'
RUBBER 500'

Type of Pump: Submersible Pump Depth (ft.): 500

Well Tests: Jetted Yield: 30 GPM

Water Quality:

Strata Depth (ft.)	Water Type
No Data	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: **HILL COUNTRY WATER WELL**

**POBOX 220
BRIGGS, TX 78608**

Driller Name: **JOE MCDEARMON**

License Number: **2334**

Apprentice Name: **COTY BLAIR**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	2	TOP SOIL
2	18	CALICHE
18	25	WHITE LIME
25	160	GREY LIME
160	165	GREY SHALE
165	280	BROWN LIME
280	400	GREY LIME
400	405	GREY SHALE
405	480	GREY LIME
480	520	SANDSTONE
520	535	TRINITY SAND
535	545	SANDSTONE
545	550	TRINITY SAND
550	560	SANDSTONE

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	NEW	PLASTIC SDR17	0-560
4.5	NEW	PLASTIC SCREEN	520 - 540 .032

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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 #376899

Owner: **Running W Land Co. S. Watson**

Owner Well #: **No Data**

Address: **777 Oak Lane
Liberty Hill, TX 78642**

Grid #: **58-17-6**

Well Location: **777 Oak Lane
Liberty Hill, TX 78642**

Latitude: **30° 41' 24" N**

Longitude: **097° 53' 54" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Stock**

Drilling Start Date: **8/14/2014**

Drilling End Date: **8/14/2014**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	9	0	50
	6.25	50	625

Drilling Method: **Air Rotary**

Borehole Completion: **cased; Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	1	50	6cmt 2gel

Seal Method: **hand poured**

Distance to Property Line (ft.): **75+**

Sealed By: **ADC**

Distance to Septic Field or other
concentrated contamination (ft.): **300+**

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

Method of Verification: **owner**

Surface Completion: **Surface Sleeve Installed**

Water Level: **413 ft. below land surface on 2014-08-14** Measurement Method: **Unknown**

Packers: **burlap,plastic,rubber @ 485,465,50**

Type of Pump: **Submersible**

Pump Depth (ft.): **0**

Well Tests: **Jetted** **Yield: 10-12 GPM**

	<i>Description (number of sacks & material)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Plug Information:	n/a		

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
505-570	Glen Rose

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 Inc.**
PO Box 673
Dripping Springs, TX 78620

Driller Name: **James Benoit** License Number: **4064**

Comments: **Bud Dobson**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
0	20	white limestone
20	505	gray lime few strips of shale
505	570	tan and white limestone
570	615	gray and white limestone
615	625	gray shale

<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
5 od	new	sdr17 pvc	-3 to 545
5 od	new	sdr17 pvc (.032)	screen 545 to 605
5 od	new	sdr17 pvc	605 to 625

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

STATE OF TEXAS WELL REPORT for Tracking #495542

Owner:	Stonewall Ranch MUD	Owner Well #:	No Data
Address:	P.O. Box 2029 Pflugerville, TX 78691	Grid #:	58-17-9
Well Location:	231 Drystone Trail Liberty Hill, TX 78642	Latitude:	30° 39' 42.7" N
Well County:	Williamson	Longitude:	097° 53' 28.3" W
		Elevation:	1015 ft. above sea level
Type of Work:	New Well	Proposed Use:	Irrigation

Drilling Start Date: **9/13/2018** Drilling End Date: **9/14/2018**

Borehole:	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
	10.625	0	10
	8.5	10	50
	6.75	50	575

Drilling Method: **Air Rotary**

Borehole Completion: **Perforated or Slotted**

Annular Seal Data:	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
	0	20	Cement 7 Bags/Sacks
	20	50	Bentonite 7 Bags/Sacks

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: **432 ft. below land surface on 2018-09-25**

Packers: **Rubber at 50 ft.
Rubber at 55 ft.
Rubber at 460 ft.
Rubber at 480 ft.**

Type of Pump: **Submersible**

Pump Depth (ft.): **540**

Well Tests: **Jetted Yield: 25 GPM**

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
490 - 560	No Data

Chemical Analysis Made: **No**

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

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

Company Information: **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>
0	5	topsoil
5	20	tan limestone
20	280	gray limestone
280	340	gray sandstone
340	380	clay
380	460	gray limestone
460	575	gray & brown sandstone wb 25 gpm 800 tds

<i>Dia (in.)</i>	<i>Type</i>	<i>Material</i>	<i>Sch./Gage</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
4.5	Blank	New Plastic (PVC)	sdr-17	0	485
4.5	Perforated or Slotted	New Plastic (PVC)	sdr-17	485	575

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Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #521773

Owner: **Michael Ferguson**

Owner Well #: **No Data**

Address: **1003 Suffolk
Cedar park, TX 78613**

Grid #: **58-17-6**

Well Location: **850 Cole Dr.
Liberty Hill, TX 78642**

Latitude: **30° 41' 42" N**

Longitude: **097° 53' 22" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **5/13/2019**

Drilling End Date: **5/15/2019**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	10	0	19
	6.5	19	570

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

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

Seal Method: **Poured**

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

Sealed By: **Driller**

Distance to Septic Field or other
concentrated contamination (ft.): **140**

Distance to Septic Tank (ft.): **na**

Method of Verification: **Tape Measure**

Surface Completion: **Surface Sleeve Installed**

Surface Completion by Driller

Water Level: **380 ft. below land surface on 2019-05-15**

Packers: **Shale trap at 50 ft.
Shale trap at 250 ft.
Shale trap at 450 ft.**

Type of Pump: **Submersible**

Pump Depth (ft.): **460**

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

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
No Data	No Data

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

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

Company Information: **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>
0	1	Topsoil & loose rock
1	18	Yellow Limestone
18	67	Blue Limestone
67	171	Gray Limestone
171	180	Brown Limestone
180	214	Gray Limestone
214	232	Brown Limestone
232	350	Gray Limestone
350	430	Gray Sandstone
430	435	Gray Sand
435	450	Brown Limestone
450	468	Gray Sand & Sandstone
468	512	Green & Gray Sandstone
512	530	Gray sandstone
530	570	Gray Limestone & Shale

<i>Dia (in.)</i>	<i>Type</i>	<i>Material</i>	<i>Sch./Gage</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
4.5	Blank	New Plastic (PVC)		0	570
	Screen		0.032	450	490

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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 #560816

Owner: **Green Water Site Works**

Owner Well #: **No Data**

Address: **506 West Drive
Leander, TX 78641**

Grid #: **58-17-6**

Well Location: **640 Whitaker
Florence, TX**

Latitude: **30° 40' 07" N**

Longitude: **097° 52' 46" W**

Well County: **Williamson**

Elevation: **No Data**

Type of Work: **New Well**

Proposed Use: **Domestic**

Drilling Start Date: **9/17/2020**

Drilling End Date: **9/18/2020**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	10	0	19
	6.5	19	630

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	20	Cement 6 Bags/Sacks

Seal Method: **Hand Mixed**

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

Sealed By: **Driller**

Distance to Septic Field or other
concentrated contamination (ft.): **157**

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

Method of Verification: **Tape**

Surface Completion: **Surface Sleeve Installed**

Surface Completion by Driller

Water Level: **424 ft. below land surface on 2020-09-17**

Packers: **Shale Trap at 20 ft.
Shale Trap at 350 ft.
Shale Trap at 550 ft.
Shale Trap at 570 ft.**

Type of Pump: **No Data**

Well Tests: **Estimated** **Yield: 40 GPM**

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
No Data	No Data

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

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

Company Information: **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>
0	1	Top Soil & Loose Rock
1	21	Yellow Limestone
21	41	Tan Limestone
41	44	Blue Limestone
44	170	Gray Limestone
170	189	Brown Limestone
189	380	Gray Limestone
380	440	Gray Limestone
440	451	Brown Limestone
451	460	Blue LimeStone & Shale
460	551	Gray Sandstone
551	570	Gray Sandstone & Sand Strips

<i>Dia (in.)</i>	<i>Type</i>	<i>Material</i>	<i>Sch./Gage</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
4.5	Blank	New Plastic (PVC)		0	570
4.5	Perforated or Slotted	New Plastic (PVC)	0.032	570	630

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

STATE OF TEXAS WELL REPORT for Tracking #576288

Owner:	MBS Family LP	Owner Well #:	No Data
Address:	4500 Williams Dr, 212-423 Georgetown , TX 78633	Grid #:	58-17-9
Well Location:	951 Highway 183 Liberty Hill, TX 78633	Latitude:	30° 39' 54.8" N
Well County:	Williamson	Longitude:	097° 52' 54.84" W
		Elevation:	1051 ft. above sea level
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: **5/17/2021** Drilling End Date: **5/18/2021**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	10.625	0	10
	8.5	10	620

Drilling Method: **Air Rotary**

Borehole Completion: **Perforated or Slotted**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	0	40	Cement 8
	40	50	Bentonite 3

Seal Method: **Poured**

Sealed By: **Driller**

Distance to Property Line (ft.): **58**

Distance to Septic Field or other
concentrated contamination (ft.): **100+**

Distance to Septic Tank (ft.): **50+**

Method of Verification: **No Data**

Surface Completion: **Pitless Adapter Used**

Water Level: **No Data**

Packers: **Rubber at 50 ft.
Rubber at 55 ft.
Rubber at 495 ft.
Rubber at 500 ft.**

Type of Pump: **Submersible**

Well Tests: **Jetted Yield: 5 GPM**

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
No Data	No Data

Chemical Analysis Made: **No**

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

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

Company Information: **Bee Cave Drilling, Inc.**
185 Angel Fire Rd.
Dripping Springs, TX 78620

Driller Name: **Michael Scott**

License Number: **59719**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
0	10	tan limestone
10	240	grey limestone
240	510	grey / tan limestone
510	615	grey / tan sandstone wb 5+ gpm at 1100 tds
615	620	grey clay

<i>Dia (in.)</i>	<i>Type</i>	<i>Material</i>	<i>Sch./Gage</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
4.5	Blank	New Plastic (PVC)	sdr-17	0	20
5	Blank	New Plastic (PVC)	sch-80	20	560
5	Perforated or Slotted	New Plastic (PVC)	sch-80	560	620

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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 #576297

Owner:	MBS Family LP	Owner Well #:	No Data
Address:	4500 Williams Dr. Suite 212-423 Georgetown , TX 78633	Grid #:	58-17-9
Well Location:	951 Highway 183 Liberty Hill, TX 78633	Latitude:	30° 39' 52.99" N
Well County:	Williamson	Longitude:	097° 52' 59.38" W
		Elevation:	1055 ft. above sea level
Type of Work:	New Well	Proposed Use:	Industrial

Drilling Start Date: 5/19/2021 Drilling End Date: 5/24/2021

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	10.625	0	10
	8.5	10	620

Drilling Method: Air Rotary

Borehole Completion: Perforated or Slotted

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	0	10	Cement 4
	10	100	Bentonite 9

Seal Method: Pressure

Sealed By: Driller

Distance to Property Line (ft.): 12

Distance to Septic Field or other
concentrated contamination (ft.): 100+

Distance to Septic Tank (ft.): 100+

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 495 ft.
Rubber at 500 ft.

Type of Pump: Submersible

Well Tests: Jetted Yield: 10 GPM

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
No Data	No Data

Chemical Analysis Made: **No**

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

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

Company Information: **Bee Cave Drilling, Inc.**
185 Angel Fire Rd.
Dripping Springs, TX 78620

Driller Name: **Michael Scott**

License Number: **59719**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
0	20	tan limestone
20	270	grey limestone
270	520	grey / tan limestone
520	610	grey sandstone mix wb 10 gpm 1213 tds
610	620	grey clay

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>
4.5	Blank	New Plastic (PVC)	sdr-17	0	100
5	Blank	New Plastic (PVC)	sch-80	100	540
5	Perforated or Slotted	New Plastic (PVC)	sch-80	540	600
5	Blank	New Plastic (PVC)	sch-80	600	620

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P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #645190

Owner:	Liberty Hill RV Resort	Owner Well #:	No Data
Address:	2224 RR 1869 Liberty Hill, TX 78642	Grid #:	58-17-6
Well Location:	2224 RR 1869 Liberty Hill, TX 78642	Latitude:	30° 40' 10.89" N
Well County:	Williamson	Longitude:	097° 54' 25.36" W
		Elevation:	1045 ft. above sea level
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: **3/28/2023** Drilling End Date: **3/30/2023**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	11.75	0	20
	6.75	20	600

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	40	Cement 7 Bags/Sacks

Seal Method: **Hand Mixed**

Sealed By: **Driller**

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

Distance to Septic Field or other
concentrated contamination (ft.): **100**

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

Method of Verification: **Tape**

Surface Completion: **Surface Sleeve Installed**

Surface Completion by Driller

Water Level: **454 ft. below land surface, and 27 GPM
artesian flow on 2023-04-07**

Packers: **Rubber at 40 ft.
Rubber at 420 ft.
Rubber at 440 ft.**

Type of Pump: **Submersible**

Pump Depth (ft.): **560**

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

Water Quality:

Strata Depth (ft.)	Water Type
No Data	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: **Hill Country Water Well**
2740 COUNTY ROAD 210
Briggs, TX 78608

Driller Name: **Bradley Cowan**

License Number: **61014**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	2	Top Soil
2	20	Caliche
20	32	Tan Limestone
32	150	Gray Limestone
150	210	Tan Limestone
210	325	Gray Limestone
325	380	Tan Limestone
380	440	Gray Limestone
440	460	Dry Sand
460	560	Broken Tan Sandstone/ White Limestone (Water)
560	585	Gray Limestone
585	600	Gray Clay

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)	SDR17 0.032	0	480
4.5	Screen	New Plastic (PVC)	SDR17 0.032	480	500
4.5	Blank	New Plastic (PVC)	SDR17 0.032	500	520
4.5	Screen	New Plastic (PVC)	SDR17 0.032	520	540
4.5	Blank	New Plastic (PVC)	SDR17 0.032	540	560
4.5	Screen	New Plastic (PVC)	SDR17 0.032	560	580
4.5	Blank	New Plastic (PVC)	SDR17 0.032	580	600

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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 #646739

Owner:	Lance Jones	Owner Well #:	No Data
Address:	756 Oak Ln. Liberty Hill, TX 78642	Grid #:	58-17-6
Well Location:	756 Oak Ln. Liberty Hill, TX 78642	Latitude:	30° 41' 38.51" N
Well County:	Williamson	Longitude:	097° 53' 27.1" W
		Elevation:	No Data
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: **8/14/2023** Drilling End Date: **8/14/2023**

Borehole:	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
	8.75	0	20
	6.25	20	510

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

Annular Seal Data:	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
	-1	30	4 cement, 1 Benseal Bags/Sacks

Seal Method: **Slurry**

Sealed By: **Driller**

Distance to Property Line (ft.): **+100**

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

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

Method of Verification: **Owner**

Surface Completion: **Surface Sleeve Installed**

Surface Completion by Driller

Water Level:	413 ft. below land surface on 2023-08-14	Measurement Method:	Sonic/Radar
Packers:	Burlap & PVC 390', 370' Burlap 30'		
Type of Pump:	Submersible		
Well Tests:	Estimated	Yield: 10-13 GPM	

Water Quality:

Strata Depth (ft.)	Water Type
413 - 510	Hensel

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**
500 Southland Drive
Burnet, TX 78611

Driller Name: **James Benoit**

License Number: **4064**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	5	white chalk
5	355	blue lime some clay
355	400	gray lime & clay
400	440	tan limestone some sand
440	480	tan gray limestone
480	500	white limestone
500	510	blue clay

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)	SDR17	-3	430
4.5	Screen	New Plastic (PVC)	SDR17 0.032	430	490
4.5	Blank	New Plastic (PVC)	SDR17	490	510

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #651589

Owner:	Vick Nuuttila	Owner Well #:	No Data
Address:	353 CR 258 Liberty Hill, TX 78642	Grid #:	58-18-7
Well Location:	353 CR 258 Liberty Hill, TX 78642	Latitude:	30° 39' 58.46" N
Well County:	Williamson	Longitude:	097° 52' 24.92" W
		Elevation:	No Data
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: 10/20/2023 Drilling End Date: 10/20/2023

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	8.75	0	20
	6.25	20	690

Drilling Method: Air Rotary

Borehole Completion: Straight Wall

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	-1	30	4 cement, 1 Benseal Bags/Sacks

Seal Method: Slurry

Sealed By: Driller

Distance to Property Line (ft.): 75

Distance to Septic Field or other
concentrated contamination (ft.): +100

Distance to Septic Tank (ft.): +100

Method of Verification: Owner

Surface Completion: Surface Sleeve Installed

Surface Completion by Driller

Water Level:	510 ft. below land surface on 2023-10-20	Measurement Method:	Sonic/Radar
Packers:	Burlap & PVC 530', 510' Burlap 30'		
Type of Pump:	Submersible		
Well Tests:	Estimated	Yield:	5-7 GPM

Water Quality:

Strata Depth (ft.)	Water Type
510 - 690	Hensel

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**
500 Southland Drive
Burnet, TX 78611

Driller Name: **James Benoit**

License Number: **4064**

Comments: **Drilled for A&W Water Well Service.**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	20	white limestone
20	505	blue lime
505	530	blue lime & clay
530	570	white limestone
570	600	tan limestone some sand
600	635	white limestone
635	645	gray limestone
645	690	blue clay

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)	SDR17	-3	590
4.5	Screen	New Plastic (PVC)	SDR17 0.020	590	650
4.5	Blank	New Plastic (PVC)	SDR17	650	690

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(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #659195

Owner:	Clint Riding	Owner Well #:	No Data
Address:	775 Rolling Hills Liberty Hill , TX 78642	Grid #:	58-17-6
Well Location:	775 Rolling Hills Liberty Hill, TX 78642	Latitude:	30° 41' 12.7" N
Well County:	Williamson	Longitude:	097° 54' 12.53" W
		Elevation:	No Data
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: **2/16/2023** Drilling End Date: **2/18/2023**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	8	0	100
	6.75	100	540

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	0	120	Bentonite 15 Bags/Sacks

Seal Method: **Tremie**

Sealed By: **Driller**

Distance to Property Line (ft.): **10 FT**

Distance to Septic Field or other
concentrated contamination (ft.): **Wasn't Available**

Distance to Septic Tank (ft.): **NOT THEIR**

Method of Verification: **Tape**

Surface Completion: **Surface Sleeve Installed**

Surface Completion by Driller

Water Level: **420 ft. below land surface on 2023-02-22** Measurement Method: **Sonic/Radar**

Packers: **Plastic at 120 ft.**
Plastic at 400 ft.
Plastic at 440 ft.
Plastic at 460 ft.

Type of Pump: **No Data**

Well Tests: **Jetted** **Yield: 30+ gpm GPM**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	No Data

Chemical Analysis Made: **No**

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

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

Company Information: **B & B Water Well Service, Inc**
PO Box 232
Bertram, TX 78605

Driller Name: **JOSUA DICKINSON**

License Number: **54204**

Apprentice Name: **JOSHUA DYLAN DICKINSON**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	1	Top Soil
1	30	Caliche
30	100	Blue Lime
100	280	Grey Lime
280	300	Brown / Grey Lime
300	400	Grey / Clay Strips
400	520	Sand Stone /Trinity Sand's / Layers
520	540	Sand Stone / Grey Clay

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)	SDR 17	0	460
4.5	Screen	New Plastic (PVC)	SDR 17 0.032	460	540

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STATE OF TEXAS WELL REPORT for Tracking #662401

Owner:	Liberty Hill High School	Owner Well #:	No Data
Address:	Sunset Ridge Dr &, Co Rd 258 Williamson, TX 78642	Grid #:	58-18-4
Well Location:	Sunset Ridge Dr &, Co Rd 258 Williamson, TX 78642	Latitude:	30° 40' 22" N
Well County:	Williamson	Longitude:	097° 52' 18" W
		Elevation:	998 ft. above sea level
Type of Work:	New Well	Proposed Use:	Irrigation

Drilling Start Date: **2/29/2024** Drilling End Date: **3/4/2024**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	10.625	0	10
	8.5	10	640

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:	100	490	Gravel	3/8
	510	640	Gravel	3/8

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks & material)</i>
Annular Seal Data:	0	10	Cement 5
	10	100	Bentonite 12
	490	510	Bentonite 3

Seal Method: **Pressure**

Distance to Property Line (ft.): **35**

Sealed By: **Driller**

Distance to Septic Field or other
concentrated contamination (ft.): **100**

Distance to Septic Tank (ft.): **100**

Method of Verification: **No Data**

Surface Completion: **Pitless Adapter Used**

Water Level: **462 ft. below land surface on 2024-03-15** Measurement Method: **Electric Line**

Packers: **No Data**

Type of Pump: **Submersible** Pump Depth (ft.): **600**

Well Tests: **Jetted** Yield: **20-30 GPM**

Water Quality:

<i>Strata Depth (ft.)</i>	<i>Water Type</i>
No Data	No Data

Chemical Analysis Made: **No**

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

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

Company Information: **Bee Cave Drilling, Inc.**
185 Angel Fire Rd.
Dripping Springs, TX 78620

Driller Name: **Michael Scott**

License Number: **59719**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>
0	1	topsoil
1	5	caliche
5	25	tan limestone
25	250	grey limestone
250	490	grey limestone / tan strips
490	640	Partial / no returns

<i>Dia (in.)</i>	<i>Type</i>	<i>Material</i>	<i>Sch./Gage</i>	<i>Top (ft.)</i>	<i>Bottom (ft.)</i>
5	Blank	New Plastic (PVC)		0	600
5	Screen	New Plastic (PVC)		600	640

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STATE OF TEXAS WELL REPORT for Tracking #665145

Owner:	Linda Cole	Owner Well #:	No Data
Address:	801 Cole Dr. Liberty Hill, TX 78642	Grid #:	58-17-6
Well Location:	801 Cole Dr. Liberty Hill, TX 78642	Latitude:	30° 41' 39.67" N
Well County:	Williamson	Longitude:	097° 53' 19.86" W
		Elevation:	988 ft. above sea level
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: **3/14/2024** Drilling End Date: **3/15/2024**

Borehole:	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
	11.75	0	20
	6.75	20	520

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

Annular Seal Data:	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
	0	40	Cement 7 Bags/Sacks

Seal Method: **Hand Mixed**

Sealed By: **Driller**

Distance to Property Line (ft.): **200**

Distance to Septic Field or other
concentrated contamination (ft.): **100**

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

Method of Verification: **Tape**

Surface Completion: **Surface Sleeve Installed**

Surface Completion by Driller

Water Level: **274 ft. below land surface, and 15 GPM**
artesian flow on **2024-03-15**

Packers: **Rubber at 40 ft.**
Rubber at 400 ft.
Rubber at 420 ft.

Type of Pump: **Submersible**

Pump Depth (ft.): **480**

Well Tests: **Jetted** **Yield: 15 GPM**

Water Quality:

Strata Depth (ft.)	Water Type
420 - 520	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: **Hill Country Water Well**
2740 COUNTY ROAD 210
Briggs, TX 78608

Driller Name: **Bradley Cowan**

License Number: **61014**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	1	Top Soil
1	6	White Limestone
6	360	Gray Limestone
360	520	Lost Circulation

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)	SDR17 0.032	0	420
4.5	Screen	New Plastic (PVC)	SDR17 0.032	420	440
4.5	Blank	New Plastic (PVC)	SDR17 0.032	440	460
4.5	Screen	New Plastic (PVC)	SDR17 0.032	460	480
4.5	Blank	New Plastic (PVC)	SD17 0.032	480	520

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STATE OF TEXAS WELL REPORT for Tracking #673199

Owner:	Mike Vague	Owner Well #:	No Data
Address:	605 Oak Lane Liberty Hill, TX 78642	Grid #:	58-17-6
Well Location:	605 Oak Lane Liberty Hill, TX 78642	Latitude:	30° 41' 33.43" N
Well County:	Williamson	Longitude:	097° 53' 40.27" W
		Elevation:	No Data
Type of Work:	New Well	Proposed Use:	Domestic

Drilling Start Date: **6/11/2024** Drilling End Date: **6/11/2024**

Borehole:	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
	8.75	0	100
	6.25	100	530

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

Annular Seal Data:	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
	-1	100	6 cement, 4 Benseal Bags/Sacks

Seal Method: **Pressure Tremie**

Sealed By: **Driller**

Distance to Property Line (ft.): **30**

Distance to Septic Field or other
concentrated contamination (ft.): **+100**

Distance to Septic Tank (ft.): **+100**

Method of Verification: **Owner**

Surface Completion: **Surface Sleeve Installed**

Surface Completion by Driller

Water Level:	425 ft. below land surface on 2024-06-11	Measurement Method:	Sonic/Radar
Packers:	Burlap & PVC 430', 410' Burlap & Rubber 100'		
Type of Pump:	Submersible		
Well Tests:	Estimated	Yield: 10-15 GPM	

Water Quality:

Strata Depth (ft.)	Water Type
425 - 530	Hensel

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**
500 Southland Drive
Burnet, TX 78611

Driller Name: **James Benoit**

License Number: **4064**

Comments: **Drilled for A&W Water Well Service.**

Report Amended on 7/22/2024 by Request #42840

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Casing:
BLANK PIPE & WELL SCREEN DATA

Top (ft.)	Bottom (ft.)	Description
0	10	tan lime
10	365	blue lime
365	410	white limestone & blue clay
410	445	tan white limestone
445	460	tan limestone some sand
460	490	white limestone
490	510	gray limestone
510	530	blue clay

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)	SDR17	-3	450
4.5	Screen	New Plastic (PVC)	SDR17	450	510
4.5	Blank	New Plastic (PVC)	SDR17	510	530

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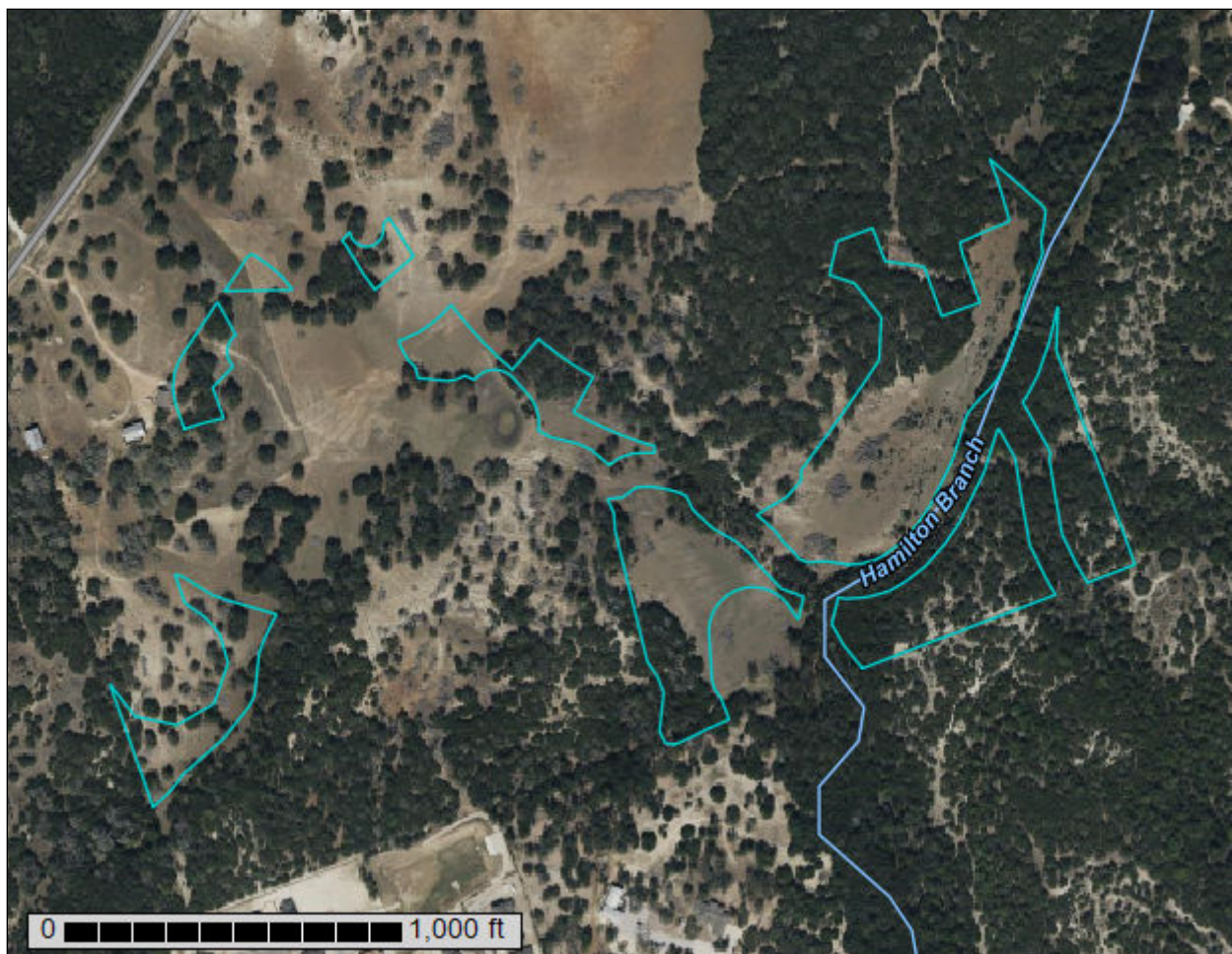
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NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Williamson County, Texas**



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

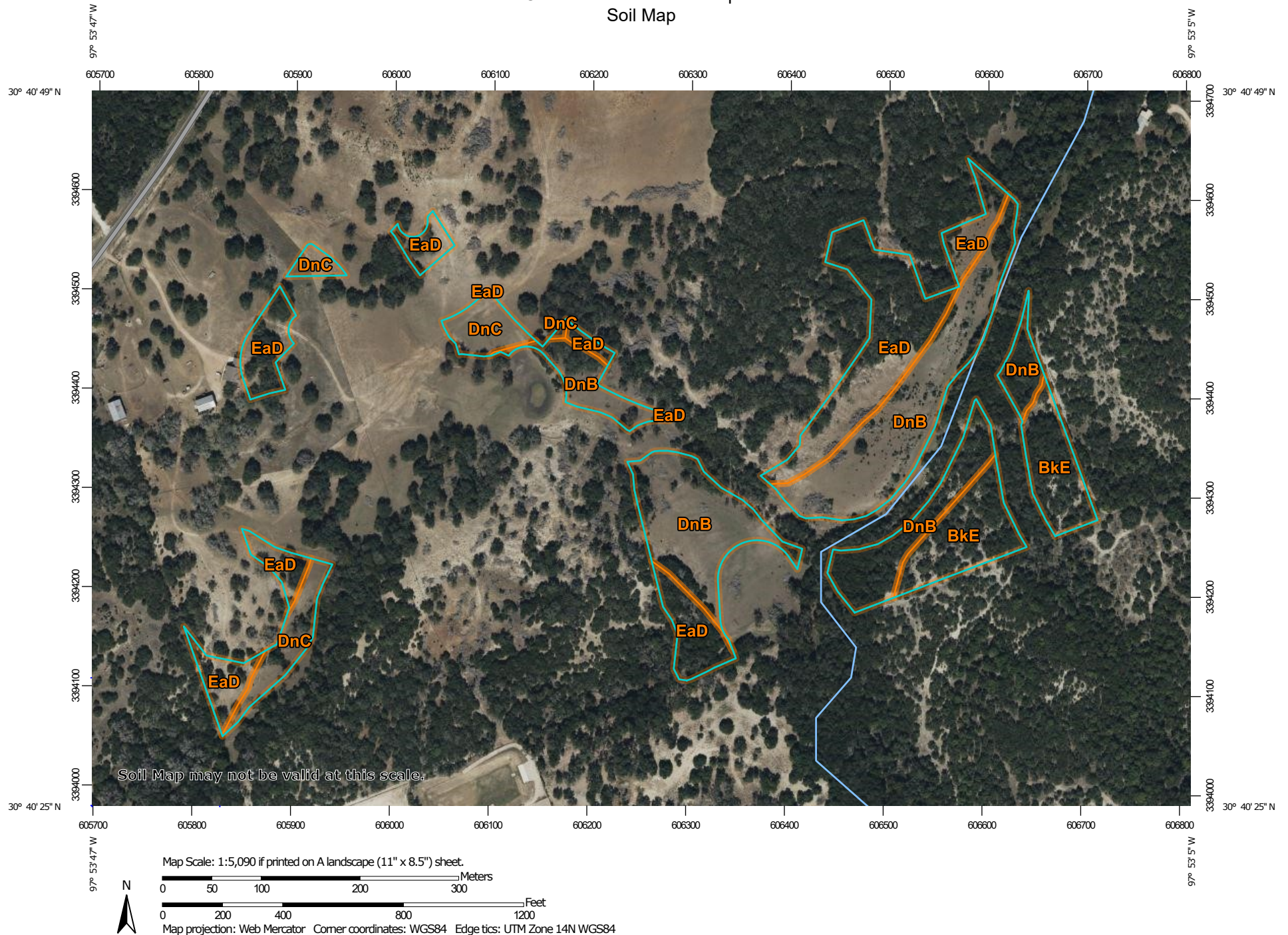
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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.


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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 1:20,000.

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: Williamson County, Texas
Survey Area Data: Version 25, Aug 30, 2024

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
BkE	Brackett gravelly clay loam, 3 to 12 percent slopes	3.5	13.7%
DnB	Denton silty clay, 1 to 3 percent slopes	11.6	45.2%
DnC	Denton silty clay, 3 to 5 percent slopes	2.2	8.7%
EaD	Eckrant cobbly clay, 1 to 8 percent slopes	8.3	32.3%
Totals for Area of Interest		25.7	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Williamson County, Texas

BkE—Brackett gravelly clay loam, 3 to 12 percent slopes

Map Unit Setting

National map unit symbol: 2t2m5
Elevation: 700 to 1,450 feet
Mean annual precipitation: 30 to 36 inches
Mean annual air temperature: 66 to 69 degrees F
Frost-free period: 230 to 265 days
Farmland classification: Not prime farmland

Map Unit Composition

Brackett and similar soils: 92 percent
Minor components: 8 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brackett

Setting

Landform: Ridges
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from limestone

Typical profile

A - 0 to 5 inches: gravelly clay loam
Bk - 5 to 16 inches: clay loam
Cr - 16 to 60 inches: bedrock

Properties and qualities

Slope: 3 to 12 percent
Surface area covered with cobbles, stones or boulders: 3.0 percent
Depth to restrictive feature: 6 to 20 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high
(0.06 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 90 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R081CY355TX - Adobe 29-35 PZ
Hydric soil rating: No

Minor Components

Sunev

Percent of map unit: 6 percent
Landform: Drainageways
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R081CY357TX - Clay Loam 29-35 PZ
Hydric soil rating: No

Austin

Percent of map unit: 2 percent
Landform: Ridges
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: R081CY357TX - Clay Loam 29-35 PZ
Hydric soil rating: No

DnB—Denton silty clay, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2t26l
Elevation: 570 to 1,870 feet
Mean annual precipitation: 31 to 36 inches
Mean annual air temperature: 65 to 68 degrees F
Frost-free period: 220 to 260 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Denton and similar soils: 88 percent
Minor components: 12 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Denton

Setting

Landform: Hillslopes
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Silty and clayey slope alluvium over residuum weathered from limestone

Typical profile

A - 0 to 14 inches: silty clay

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Bw - 14 to 25 inches: silty clay
Bk - 25 to 33 inches: silty clay
Ck - 33 to 36 inches: gravelly silty clay
R - 36 to 80 inches: bedrock

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: 22 to 60 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 80 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: D
Ecological site: R081CY357TX - Clay Loam 29-35 PZ
Hydric soil rating: No

Minor Components

Krum

Percent of map unit: 6 percent
Landform: Drainageways
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R081CY357TX - Clay Loam 29-35 PZ
Hydric soil rating: No

Doss

Percent of map unit: 4 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R081BY343TX - Shallow 23-31 PZ
Hydric soil rating: No

Anhalt

Percent of map unit: 2 percent
Landform: Hillslopes
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R081CY358TX - Deep Redland 29-35 PZ
Hydric soil rating: No

DnC—Denton silty clay, 3 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2t26r
Elevation: 570 to 1,870 feet
Mean annual precipitation: 31 to 36 inches
Mean annual air temperature: 65 to 68 degrees F
Frost-free period: 220 to 260 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Denton and similar soils: 88 percent
Minor components: 12 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Denton

Setting

Landform: Hillslopes
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Silty and clayey slope alluvium over residuum weathered from limestone

Typical profile

A - 0 to 14 inches: silty clay
Bw - 14 to 25 inches: silty clay
Bk - 25 to 33 inches: silty clay
Ck - 33 to 36 inches: gravelly silty clay
R - 36 to 80 inches: bedrock

Properties and qualities

Slope: 3 to 5 percent
Depth to restrictive feature: 22 to 60 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 80 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 3s

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Hydrologic Soil Group: D

Ecological site: R081CY357TX - Clay Loam 29-35 PZ

Hydric soil rating: No

Minor Components

Brackett

Percent of map unit: 6 percent

Landform: Hillslopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Convex

Ecological site: R081CY355TX - Adobe 29-35 PZ

Hydric soil rating: No

Doss

Percent of map unit: 4 percent

Landform: Hillslopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Linear

Ecological site: R081CY574TX - Shallow 29-35 PZ

Hydric soil rating: No

Purves

Percent of map unit: 2 percent

Landform: Hillslopes

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Interfluve

Down-slope shape: Convex

Across-slope shape: Linear

Ecological site: R081CY574TX - Shallow 29-35 PZ

Hydric soil rating: No

EaD—Eckrant cobbly clay, 1 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t0sg

Elevation: 650 to 1,900 feet

Mean annual precipitation: 30 to 35 inches

Mean annual air temperature: 65 to 69 degrees F

Frost-free period: 210 to 250 days

Farmland classification: Not prime farmland

Map Unit Composition

Eckrant and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Eckrant

Setting

Landform: Ridges

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Interfluvium, side slope

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Residuum weathered from limestone

Typical profile

A1 - 0 to 4 inches: cobbly clay

A2 - 4 to 11 inches: very cobbly clay

R - 11 to 80 inches: bedrock

Properties and qualities

Slope: 1 to 8 percent

Surface area covered with cobbles, stones or boulders: 2.3 percent

Depth to restrictive feature: 4 to 20 inches to lithic bedrock

Drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 1.0

Available water supply, 0 to 60 inches: Very low (about 1.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: D

Ecological site: R081CY360TX - Low Stony Hill 29-35 PZ

Hydric soil rating: No

Minor Components

Brackett

Percent of map unit: 7 percent

Landform: Ridges

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Convex

Ecological site: R081CY355TX - Adobe 29-35 PZ

Hydric soil rating: No

Bexar

Percent of map unit: 5 percent

Landform: Ridges

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Linear

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Across-slope shape: Linear
Ecological site: R081CY361TX - Redland 29-35 PZ
Hydric soil rating: No

Krum

Percent of map unit: 3 percent
Landform: Ridges
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R081CY357TX - Clay Loam 29-35 PZ
Hydric soil rating: No

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf