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Jim Hogg Dr.

Georgetown, Texas

Sewage Collection System Plan

June 2025

TBPE # F-4512

MHE 3456.00

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& SURVEYING

June 2, 2025

Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
Austin Regional Office
12100 Park 35 Circle
Austin, Texas 78753

Re: Jim Hogg Dr.
Organized Sewage Collection System Plan

Please find attached one digital copy of the Jim Hogg Dr. Sewer Collection System Plan (SCS). The SCS has been prepared in accordance with the Texas Commission on Environmental Quality (30 TAC 217) and current policies for development over the Edwards Aquifer Recharge Zone.

This Organized Sewage Collection System Plan applies to a sanitary sewer main extension to a 1.41-acre tract located in the city limits of Georgetown, TX on the Northwest corner of the intersection between Jim Hogg Dr. and Williams Dr. and proposes to tie into the existing sewage collection system to the Southeast corner across Jim Hogg Drive.

Please review the attached SCS information for the items it is intended to address, and if acceptable, provide a written approval of the plan in order that construction may begin at the earliest opportunity.

Appropriate review fees of $650.00 and fee application are included. If you have any questions regarding this information, please call our office.

Sincerely,
Matkin Hoover Engineering & Surveying
TBPE Firm No. F-4512

Garrett Keller, P.E.
President & COO

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

The Edwards Aquifer Program staff conducts an administrative and technical review of all applications. The turnaround time for administrative review can be up to 30 days as outlined in 30 TAC 213.4(e). Generally administrative completeness is determined during the intake meeting or within a few days of receipt. The turnaround time for technical review of an administratively complete Edwards Aquifer application is 90 days as outlined in 30 TAC 213.4(e). Please know that the review and approval time is directly impacted by the quality and completeness of the initial application that is received. In order to conduct a timely review, it is imperative that the information provided in an Edwards Aquifer application include final plans, be accurate, complete, and in compliance with 30 TAC 213.

Administrative Review

1. Edwards Aquifer applications must be deemed administratively complete before a technical review can begin. To be considered administratively complete, the application must contain completed forms and attachments, provide the requested information, and meet all the site plan requirements. The submitted application and plan sheets should be final plans. Please submit one full-size set of plan sheets with the original application, and half-size sets with the additional copies.

   To ensure that all applicable documents are included in the application, the program has developed tools to guide you and web pages to provide all forms, checklists, and guidance. Please visit the below website for assistance: http://www.tceq.texas.gov/field/eapp.

2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.

3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.

4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

   An appointment should be made to resubmit the application. The application is re-examined to ensure all deficiencies are resolved. The application will only be deemed administratively complete when all administrative deficiencies are addressed.

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.

6. If the geologic assessment was completed before October 1, 2004 and the site contains "possibly sensitive" features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

Technical Review

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.

2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.
3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or if not withdrawn the application will be denied and the application fee will be forfeited.
4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

It is important to have final site plans prior to beginning the permitting process with TCEQ to avoid delays.

Occasionally, circumstances arise where you may have significant design and/or site plan changes after your Edwards Aquifer application has been deemed administratively complete by TCEQ. This is considered a "Mid-Review Modification". Mid-Review Modifications may require redistribution of an application that includes the proposed modifications for public comment.

If you are proposing a Mid-Review Modification, two options are available to you:

- You can withdraw your application, and your fees will be refunded or credited for a resubmittal.
- TCEQ can continue the technical review of the application as it was submitted, and a modification application can be submitted at a later time.

If the application is withdrawn, the resubmitted application will be subject to the administrative and technical review processes and will be treated as a new application. The application will be redistributed to the effected jurisdictions.

Please contact the regional office if you have questions. If your project is located in Williamson, Travis, or Hays County, contact TCEQ's Austin Regional Office at 512-339-2929. If your project is in Comal, Bexar, Medina, Uvalde, or Kinney County, contact TCEQ's San Antonio Regional Office at 210-490-3096

Please fill out all required fields below and submit with your application.

1. Regulated Entity Name: Jim Hogg Dr.						**2. Regulated Entity No.:**			
3. Customer Name: JDW Partners, LP						**4. Customer No.:**			
5. Project Type: **(Please circle/check one)**	New		Modification			Extension		Exception	
6. Plan Type: **(Please circle/check one)**	WPAP	CZP	[SCS]	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		Non-residential			**8. Site (acres):**		1.41	
9. Application Fee:	$650.00		**10. Permanent BMP(s):**			*N/A*			
11. SCS (Linear Ft.):	284		**12. AST/UST (No. Tanks):**			*N/A*			
13. County:	Williamson		**14. Watershed:**			North San Gabriel River			

Application Distribution

Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected incorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which cross into multiple jurisdictions, can require additional copies. Refer to the "Texas Groundwater Conservation Districts within the EAPP Boundaries" map found at:

http://www.tceq.texas.gov/assets/public/compliance/field_ops/eapp/EAPP%20GWCD%20map.pdf

For more detailed boundaries, please contact the conservation district directly.

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	___	___	_X_
Region (1 req.)	___	___	_X_
County(ies)	___	___	_X_
Groundwater Conservation District(s)	___Edwards Aquifer Authority ___Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	___Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	___Austin ___Buda ___Dripping Springs ___Kyle ___Mountain City ___San Marcos ___Wimberley ___Woodcreek	___Austin ___Bee Cave ___Pflugerville ___Rollingwood ___Round Rock ___Sunset Valley ___West Lake Hills	___Austin ___Cedar Park ___Florence ___Georgetown _X_Jarrell ___Leander ___Liberty Hill ___Pflugerville ___Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	___	___	___	___	___
Region (1 req.)	___	___	___	___	___
County(ies)	___	___	___	___	___
Groundwater Conservation District(s)	___ Edwards Aquifer Authority ___Trinity-Glen Rose	___Edwards Aquifer Authority	___Kinney	___EAA ___Medina	___EAA ___Uvalde
City(ies) Jurisdiction	___Castle Hills ___Fair Oaks Ranch ___Helotes ___Hill Country Village ___Hollywood Park ___San Antonio (SAWS) ___Shavano Park	___Bulverde ___Fair Oaks Ranch ___Garden Ridge ___New Braunfels ___Schertz	NA	___San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. Garrett Keller, P.E. Print Name of Customer/Authorized Agent
Signature of Customer/Authorized Agent Date 5/16/25

FOR TCEQ INTERNAL USE ONLY				
Date(s)Reviewed:		Date Administratively Complete:		
Received From:		Correct Number of Copies:		
Received By:		Distribution Date:		
EAPP File Number:		Complex:		
Admin. Review(s) (No.):		No. AR Rounds:		
Delinquent Fees (Y/N):		Review Time Spent:		
Lat./Long. Verified:		SOS Customer Verification:		
Agent Authorization Complete/Notarized (Y/N):		Fee Check:	Payable to TCEQ (Y/N):	
Core Data Form Complete (Y/N):			Signed (Y/N):	
Core Data Form Incomplete Nos.:			Less than 90 days old (Y/N):	

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Jim Hogg Dr.

SCS

Section 2 – General Information

General Information Form

Texas Commission on Environmental Quality

For Regulated Activities on the Edwards Aquifer Recharge and Transition Zones and Relating to 30 TAC §213.4(b) & §213.5(b)(2)(A), (B) Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **General Information Form** is hereby submitted for TCEQ review. The application was prepared by:

Print Name of Customer/Agent: Garrett Keller, P.E.

Date: 5/16/25

Signature of Customer/Agent:

Project Information

1. Regulated Entity Name: Jim Hogg Dr.
2. County: Williamson
3. Stream Basin: North San Gabriel River
4. Groundwater Conservation District (If applicable): N/A
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

   ☐ WPAP
   ☒ SCS
   ☐ Modification
   ☐ AST
   ☐ UST
   ☐ Exception Request

7. Customer (Applicant):

   Contact Person: Chance Leigh
   Entity: JDW Partners, LP
   Mailing Address: 1952 Austin Ave.
   City, State: Georgetown, TX Zip: 78626
   Telephone: 512-848-1185 FAX: N/A
   Email Address: Chance@chanceleigh.com

8. Agent/Representative (If any):

   Contact Person: Garrett Keller
   Entity: Matkin Hoover Engineering & Surveying
   Mailing Address: 8 Spencer Road, Suite 100
   City, State: Boerne, Texas Zip: 78006
   Telephone: 830 - 249 - 0600 FAX: 830 - 249 - 0099
   Email Address: GKeller@matkinhoover.com

9. Project Location:

   ☒ The project site is located inside the city limits of Georgetown, Texas.
   ☐ The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of _____.
   ☐ The project site is not located within any city's limits or ETJ.

10. ☒ The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

    In Georgetown, Texas just northwest of the intersection between Jim Hogg Dr and Williams Dr.

11. ☒ **Attachment A – Road Map**. A road map showing directions to and the location of the project site is attached. The project location and site boundaries are clearly shown on the map.

12. ☒ **Attachment B - USGS / Edwards Recharge Zone Map**. A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached. The map(s) clearly show:

    ☒ Project site boundaries.
    ☒ USGS Quadrangle Name(s).
    ☒ Boundaries of the Recharge Zone (and Transition Zone, if applicable).
    ☒ Drainage path from the project site to the boundary of the Recharge Zone.

13. ☒ **The TCEQ must be able to inspect the project site or the application will be returned**. Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment.

☐ Survey staking will be completed by this date: _____

14. ☒ **Attachment C – Project Description**. Attached at the end of this form is a detailed narrative description of the proposed project. The project description is consistent throughout the application and contains, at a minimum, the following details:

    ☒ Area of the site
    ☒ Offsite areas
    ☒ Impervious cover
    ☒ Permanent BMP(s)
    ☒ Proposed site use
    ☒ Site history
    ☒ Previous development
    ☒ Area(s) to be demolished

15. Existing project site conditions are noted below:

    ☐ Existing commercial site
    ☐ Existing industrial site
    ☐ Existing residential site
    ☐ Existing paved and/or unpaved roads
    ☐ Undeveloped (Cleared)
    ☒ Undeveloped (Undisturbed/Uncleared)
    ☐ Other: _____

Prohibited Activities

16. ☒ I am aware that the following activities are prohibited on the Recharge Zone and are not proposed for this project:

    (1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);

    (2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;

    (3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;

    (4) The use of sewage holding tanks as parts of organized collection systems; and

    (5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).

    (6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.

17. ☒ I am aware that the following activities are prohibited on the Transition Zone and are not proposed for this project:

    (1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);

(2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and

(3) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

Administrative Information

18. The fee for the plan(s) is based on:

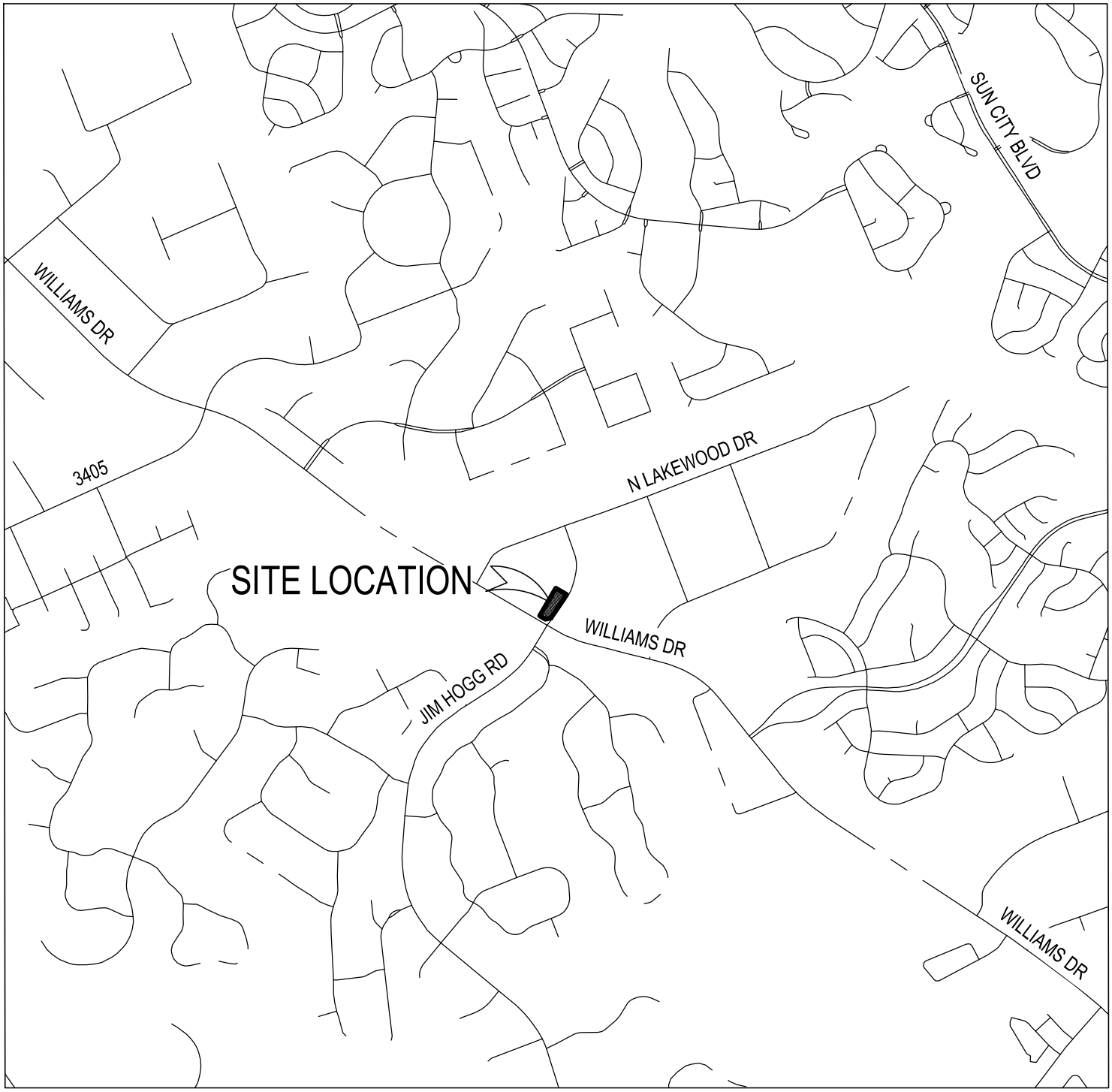
- ☐ For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
- ☒ For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
- ☐ For a UST Facility Plan or Modification or an AST Facility Plan or Modification, the total number of tanks or piping systems.
- ☐ A request for an exception to any substantive portion of the regulations related to the protection of water quality.
- ☐ A request for an extension to a previously approved plan.

19. ☒ Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:

- ☐ TCEQ cashier
- ☒ Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
- ☐ San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

20. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

21. ☒ No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the Executive Director.



SCALE: 1"=2000'

0 1000' 2000' 3000' 4000'

N

Date: May 05, 2025, 10:01am User ID: cbell G:\PROJECTS\3456 - 6602 Jim Hogg Drive\01 - Mavis Site Development\Submittals\TCEQ\SCS\02 - General Information\2.1 - Road Map (Attachment A).dwg

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3303 SHELL ROAD SUITE 3
GEORGETOWN, TEXAS 78628
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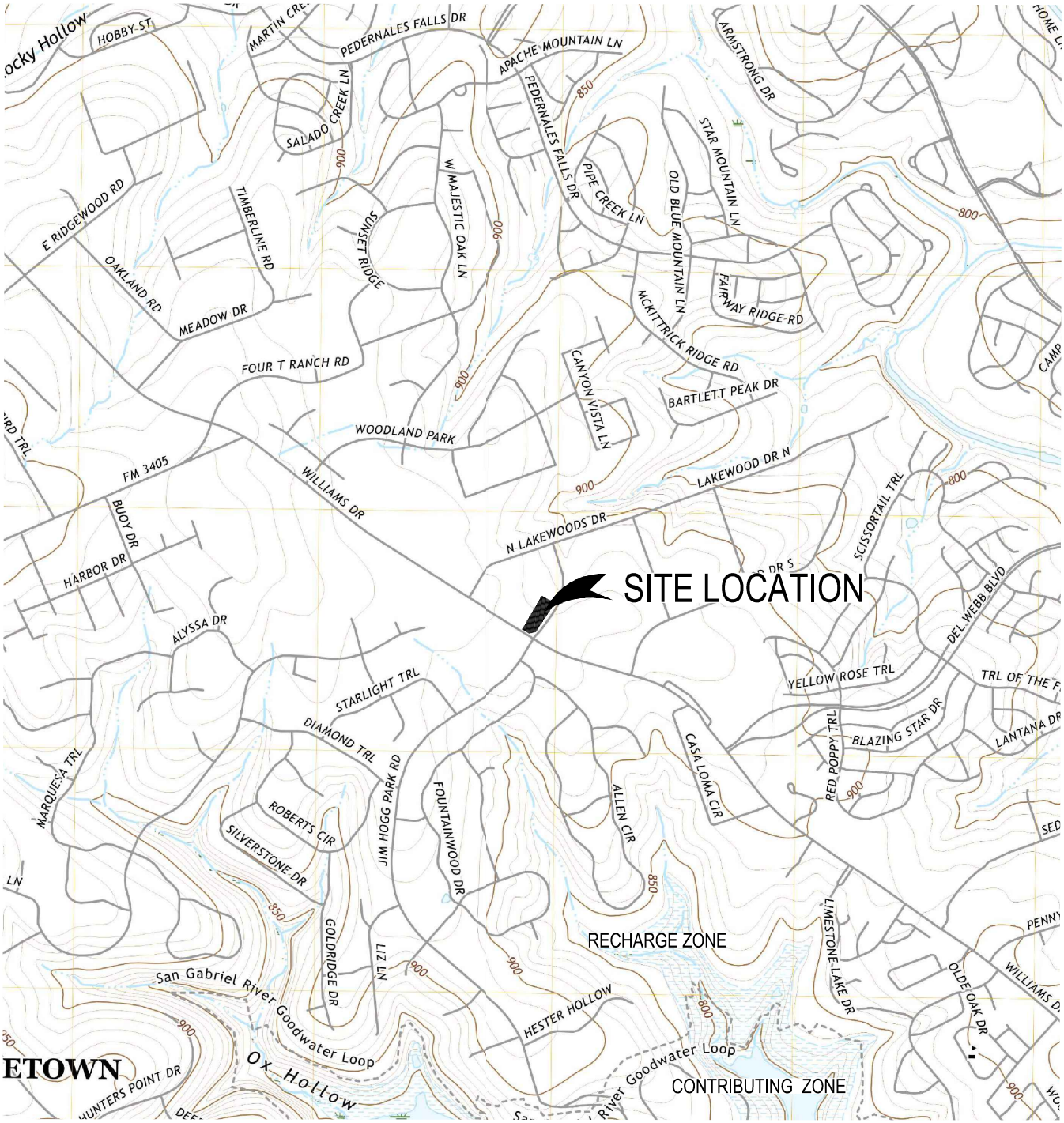
TEXAS REGISTERED ENGINEERING FIRM F-004512 SURVEYING FIRM F-10024000

ROAD MAP
FOR
JIM HOGG DRIVE
GEORGETOWN , TEXAS

JOB NO.	3456.00
DRAWN	MS
DESIGNED	HS
CHECKED	GK
SHEET ID	
SHEET #	



USGS QUADRANGLE: GEORGETOWN

Date: Jun 09, 2025, 9:39am User ID: tkulbeth G:\PROJECTS\3456 - 6602 Jim Hogg Drive\01 - Mavis Site Development\Submittals\TCEQ\SCS\02 - General Information\2.3 - USGS Edwards Recharge Zone Map.dwg

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USGS EDWARDS RECHARGE ZONE MAP

FOR

JIM HOGG DRIVE

GEORGETOWN , TEXAS

JOB NO.	3456.00
DRAWN	MS
DESIGNED	HS
CHECKED	GK
SHEET ID	
SHEET #	

JIM HOGG DR.
PROJECT DESCRIPTION

The proposed Jim Hogg Dr. wastewater extension is in Georgetown, TX just northwest of the intersection between Jim Hogg Dr and Williams Dr. The project area is 1.41 acres of undeveloped/uncleared land. No portion of this property is located within Zone 'A' or Zone 'AE' of the FEMA Floodplain as denoted herein, and as defined by Federal Emergency Management Administration Flood Hazard Boundary Map, community panel number 48491C0280E, dated effective September 26, 2008. The entire property lies within the Edwards Aquifer Recharge Zone and drains into the North San Gabriel River.

The proposed development is called "Jim Hogg Dr" and is proposing a wastewater extension only. The proposed site is currently undeveloped but includes a constructed driveway and has historically been a vacant lot or rented as a firework stand. The proposed development will include the extension of lines to the site from the City of Georgetown existing utility infrastructure.

Included within this application 284 LF of 8" SDR 26 sanitary sewer will connect to an existing manhole on the south side of Jim Hogg Dr. This submittal is for permit of the wastewater extension only.

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Jim Hogg Dr.

SCS

Section 3 – Geologic Assessment

Geologic Assessment

Texas Commission on Environmental Quality

For Regulated Activities on The Edwards Aquifer Recharge/transition Zones and Relating to 30 TAC §213.5(b)(3), Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Signature

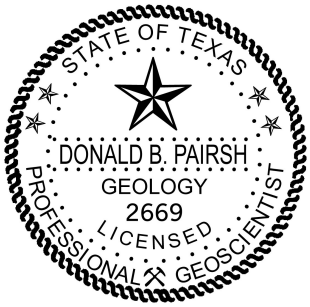
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: D Bryan Pairsh Telephone: 512-535-4368

Date: 01/30/2025 Fax: 512-535-4451

Representing: Capitol Environmental, Inc TBPG Firm Registration #50389 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: 6602 Jim Hogg Drive

Project Information

1. Date(s) Geologic Assessment was performed: January 17, 2025
2. Type of Project:
   - ☒ WPAP
   - ☐ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition Zone

4. ☒ **Attachment A - Geologic Assessment Table**. Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.

5. ☒ Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups* (Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A, Soil Conservation Service, 1986). If there is more than one soil type on the project site, show each soil type on the site Geologic Map or a separate soils map.

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)

Soil Name	Group*	Thickness(feet)
Fairlie clay (FaB) 1-2% slope	D	1-10'
Doss silty clay (DoC) 1-5% slope	D	1-10'

** Soil Group Definitions (Abbreviated)*

A. Soils having a high infiltration rate when thoroughly wetted.

B. Soils having a moderate infiltration rate when thoroughly wetted.

C. Soils having a slow infiltration rate when thoroughly wetted.

D. Soils having a very slow infiltration rate when thoroughly wetted.

6. ☒ **Attachment B – Stratigraphic Column**. A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.

7. ☒ **Attachment C – Site Geology**. A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.

8. ☒ **Attachment D – Site Geologic Map(s)**. The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1": 400'

   Applicant's Site Plan Scale: 1" = 20'
   Site Geologic Map Scale: 1" = 20'
   Site Soils Map Scale (if more than 1 soil type): 1" = 20'

9. Method of collecting positional data:

   ☒ Global Positioning System (GPS) technology.
   ☐ Other method(s). Please describe method of data collection: _____

10. ☒ The project site and boundaries are clearly shown and labeled on the Site Geologic Map.

11. ☒ Surface geologic units are shown and labeled on the Site Geologic Map.

12. ☒ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.

    ☐ Geologic or manmade features were not discovered on the project site during the field investigation.

13. ☒ The Recharge Zone boundary is shown and labeled, if appropriate.

14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.

    ☒ There are 0 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    - ☐ The wells are not in use and have been properly abandoned.
    - ☐ The wells are not in use and will be properly abandoned.
    - ☒ The wells are in use and comply with 16 TAC Chapter 76.

    ☐ There are no wells or test holes of any kind known to exist on the project site.

Administrative Information

15. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

Attachment A – Geologic Table

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: 6602 JIM HOGG DRIVE

LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
F-1	30.70529	-97.74734	CD	5	Ked	1.5	1.2	1					O	10	15	X		X		Hilltop
F-2	30.70488	-97.74732	CD	5	Ked	3	2	1.5					O	15	20	X		X		Drainage
F-3	30.70527	-97.74745	CD	5	Ked	6	5	0.8					V	15	20	X		X		Hilltop
F-4	30.70515	-97.74751	O	5	Ked	2	1	0.5					O	10	15	X		X		Hilltop
F-5	30.70486	-97.74739	CD	5	Ked	1	1.5	1.5					O	15	20	X		X		Hilltop

***DATUM**: NAD 83 StatePlane Texas Central

2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
O	Other natural bedrock features	5
MB	Manmade feature in bedrock	30
SW	Swallow hole	30
SH	Sinkhole	20
CD	Non-karst closed depression	5
Z	Zone, clustered or aligned features	30

8A INFILLING	
N	None, exposed bedrock
C	Coarse - cobbles, breakdown, sand, gravel
O	Loose or soft mud or soil, organics, leaves, sticks, dark colors
F	Fines, compacted clay-rich sediment, soil profile, gray or red colors
V	Vegetation. Give details in narrative description
FS	Flowstone, cements, cave deposits
X	Other materials

12 TOPOGRAPHY
Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field.

My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Date: 01/30/2025

Sheet: 1 of 1

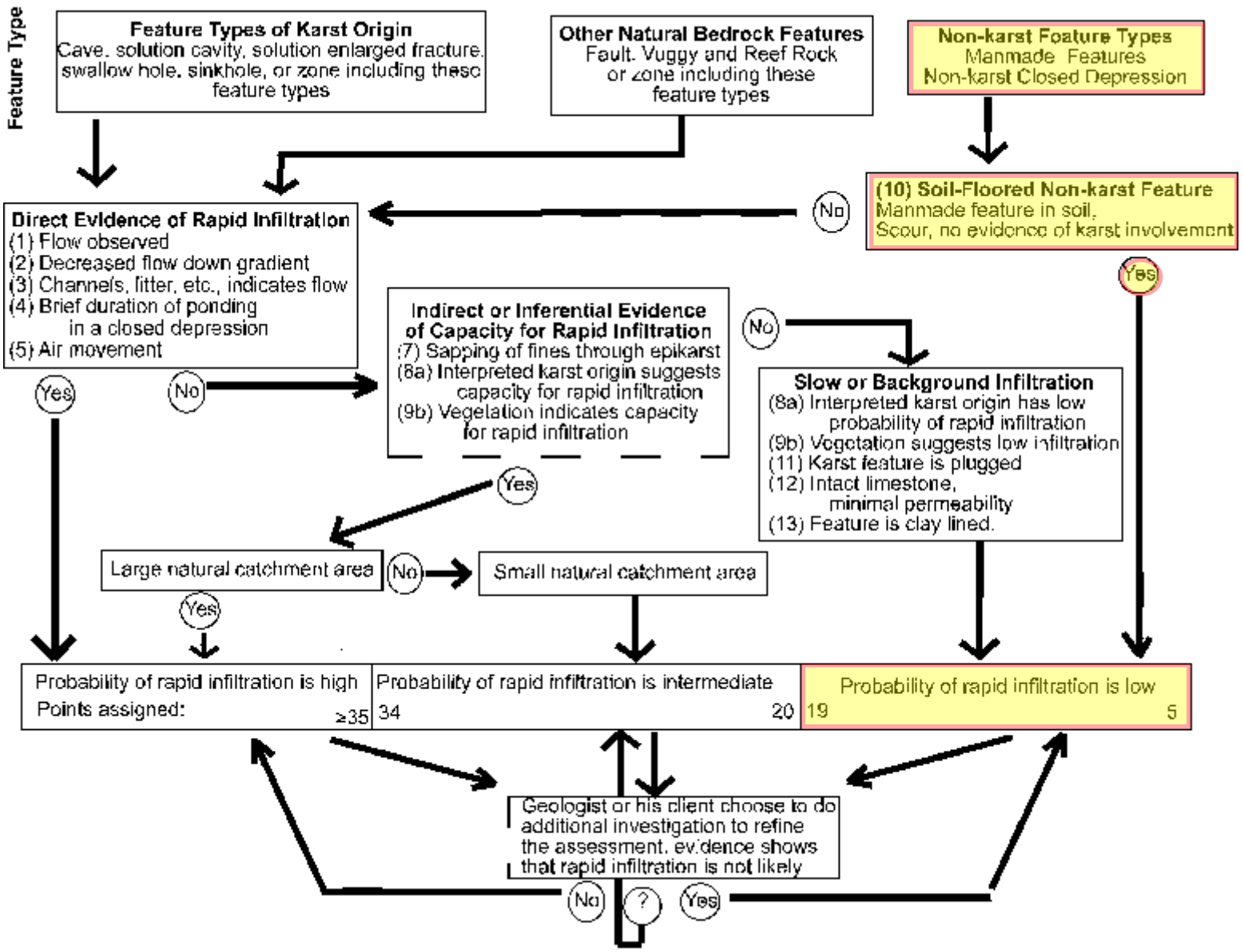
STATE OF TEXAS
DONALD B. PAIRSH
GEOLOGY
2669
LICENSED
PROFESSIONAL GEOSCIENTIST

1/30/25

TCEQ-0585-Table (Rev. 10-01-04)

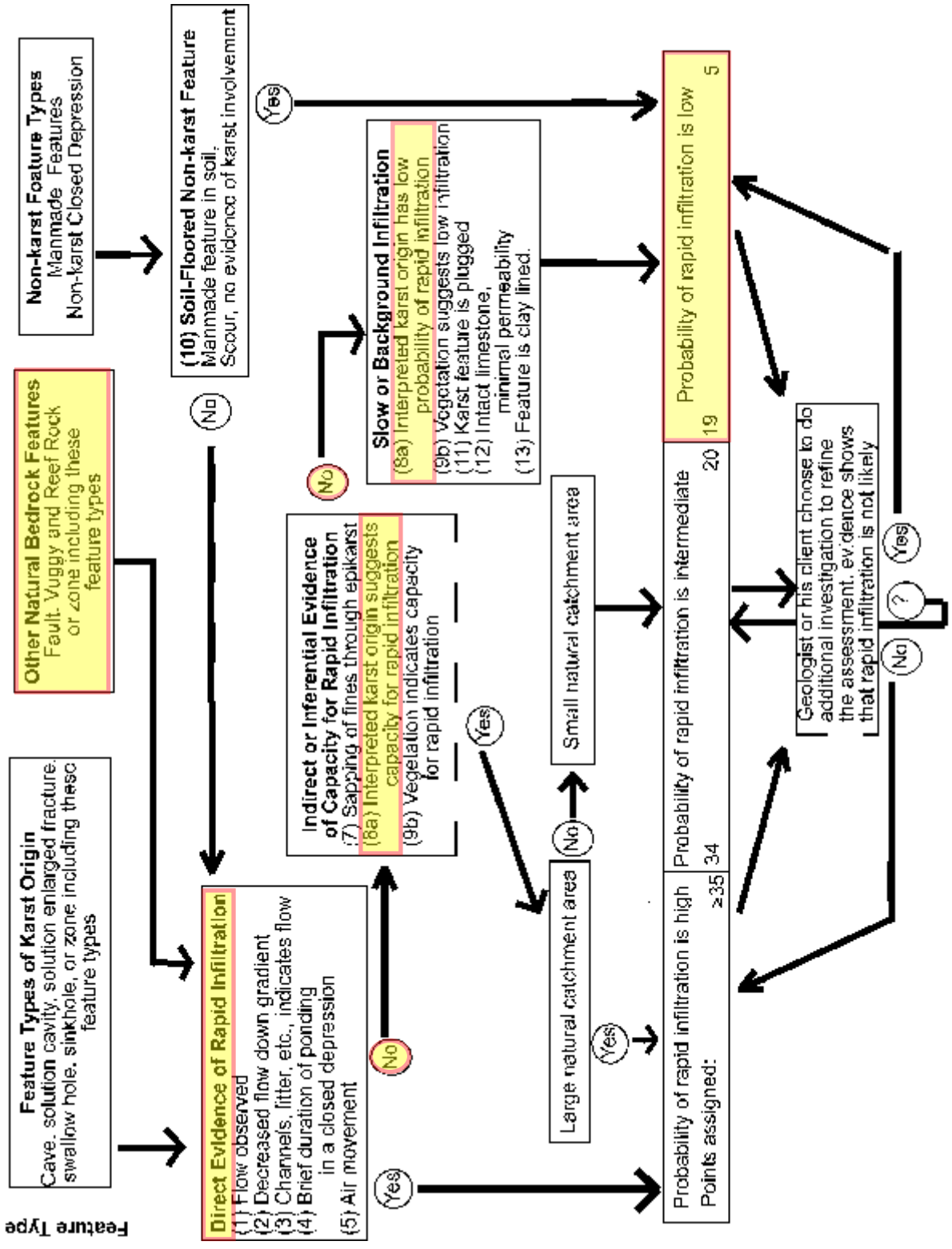
Feature: F-1, F-2, F-3, F-5 (Non-karst Closed Depression)

Figure 1: Assessing the Probability that Rapid Infiltration May Occur at a Feature



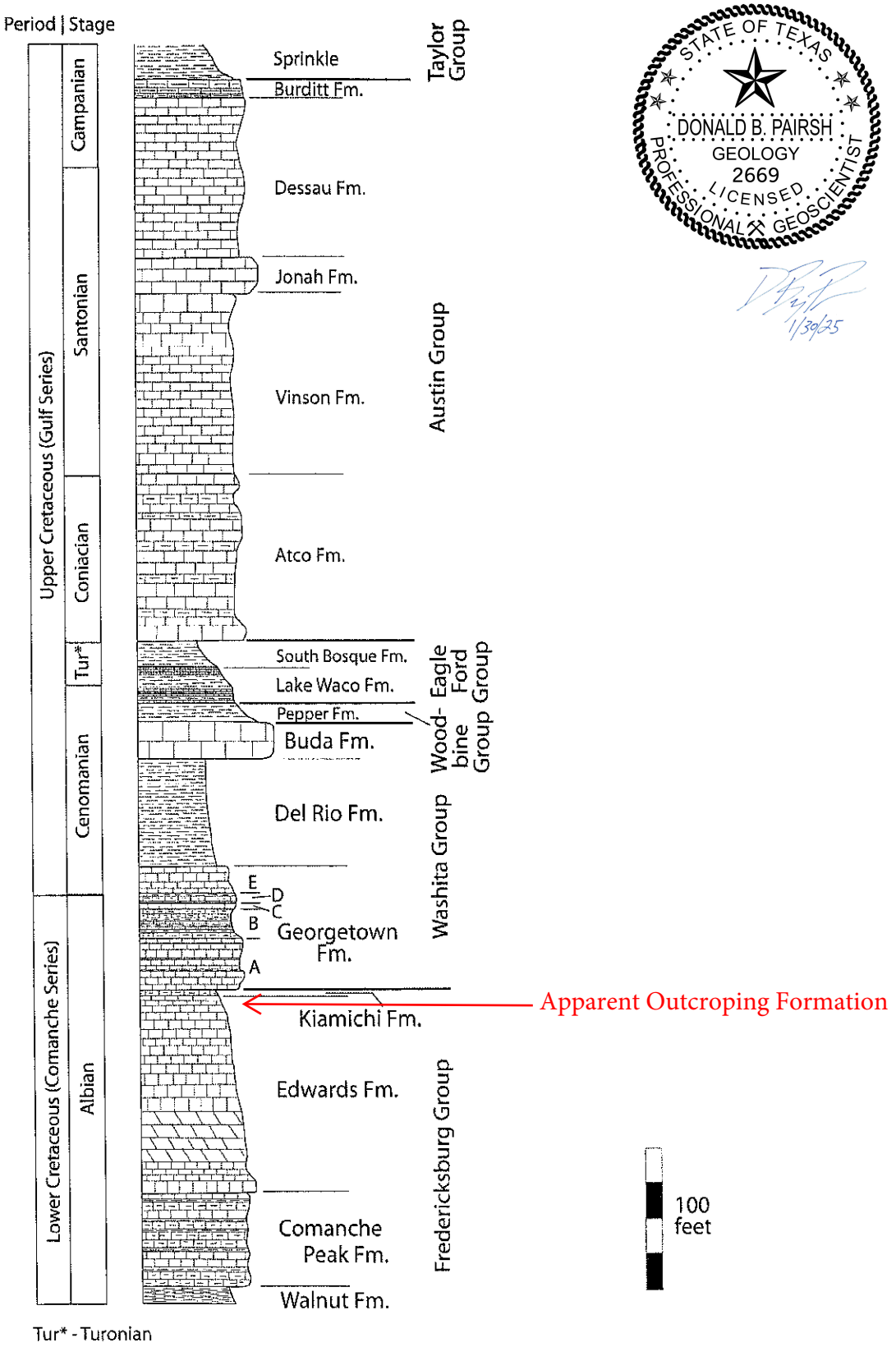
Feature F-4: Surface Outcrop

Figure 1: Assessing the Probability that Rapid Infiltration May Occur at a Feature



Attachment B – Stratigraphic Column

Generalized Stratigraphic Column of the Round Rock Area



Tur* - Turonian

STATE OF TEXAS
DONALD B. PAIRSH
GEOLOGY
2669
LICENSED
PROFESSIONAL GEOSCIENTIST

1/30/25

Source:
Bedrock Geology of Round Rock and Surrounding Areas, Williamson and Travis Counties, Texas
By: Todd B. Housh

Attachment C – Site Geology

NARRATIVE DESCRIPTION OF SITE-SPECIFIC GEOLOGY
COMMERCIAL TRACT
1.44 ACRE TRACT
GEORGETOWN, WILLIAMSON COUNTY, TEXAS
01/17/2025

LOCATION

The subject site is approximately 1.44 acres, more or less, tract of land located at 6602 Jim Hogg Drive in Georgetown, Williamson County, Texas at approximately 30.7047° North Latitude and approximately -97.7476° West Longitude. This location lies within the designated Edwards Aquifer Recharge Zone. Therefore, future intended development of the site must conform to criteria in accordance with the Texas Commission on Environmental Quality (TCEQ) Edwards Aquifer Protection Program Rules in accordance with Title 30 of the Texas Administrative Code, Section 213 (30 TAC§ 213).

EXPLANATION OF ASSESSMENT

This assessment follows general guidelines contained in Texas Commission on Environmental Quality (TCEQ) "*Instruction for Geologist for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones"* (TCEQ Guidance 0585). The site is located on an area of the recharge zone that may contain karst features formed by selective solutioning of limestone minerals by water. Karst features may be expressed as surface features but more commonly tend to persist with depth. This assessment documents the presence or absence of site conditions that were present at the time the site visit that was performed on 01/17/2025. The site visit consisted of a walk-through survey that consisted of a non-intrusive visual observation or survey of readily accessible, easily visible surface property conditions that were present on the subject property at the time of the site visit. Intrusive subsurface testing such as excavation, cave mapping, infiltrometer test, geophysical studies or tracer studies are not required for the geologic assessment of any feature in accordance with this practice.

A sensitive geologic or manmade feature, for the purpose of this practice is a feature on the recharge zone or transition zone of the Edwards Aquifer with a superficial appearance that suggest a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer and that has the apparent potential for rapid infiltration into the subsurface.

PHYSICAL DESCRIPTION OF SITE

The subject site is currently an undeveloped commercial tract.

SURFACE DRAINAGE

After reviewing the project site topographic survey, storm water runoff appears to flow toward the North / Northeast.

SOIL DESCRIPTION

The site soil is composed of:

Doss silty clay, moist, 1 to 5 percent slopes (DoC), Hydrologic Group D

The Doss series consists of shallow to weakly cemented limestone, well drained, moderately slow permeable soils that formed in calcareous loamy and clayey residuum derived from marls and limestone. These very gently to moderately sloping soils occur on hill slopes on dissected plateaus. Slope ranges from 1 to 8 percent. Mean annual precipitation is about 762 mm (30 in) and mean annual air temperature is about 18.9 degrees C (66 degrees F). Well drained. Permeability is moderately slow. Runoff is medium on 1 to 5 percent slopes and high on 5 to 8 percent slopes.

Fairlie clay, 1 to 2 percent slopes (FaB), Hydrologic Group D

The Fairlie series consists of deep, moderately well drained, very slowly permeable soils. These soils are on nearly level to gently sloping uplands. The slope is typically 1 to 3 percent but ranges from 0 to 5 percent. Fairlie soils are moderately well drained and very slow permeablility. Water enters the soil rapidly when it is dry and cracked, and very slow when the soil is saturated. Runoff is low on 0 to 1 percent slopes; moderate on 1 to 3 percent slopes; and high on 3 to 5 percent slopes.

GEOLOGY

The site is located on the:

Edwards Limestone (Ked)

The Edwards Limestone consist of limestone, dolomite, and chert; limestone aphanitic to fine grained, massive to thin bedded, hard, brittle, in part rudistid biostromes, much miliolid biosparite; dolomite fine to very fine grained, porous, medium gray to grayish brown; chert, nodules and plates common, varies in amount from bed to bed, some intervals free of chert, mostly white to light gray; in zone of weathering considerably recrystallized, "honeycombed," and cavernous forming an aquifer; forms flat areas and plateaus bordered by scarps; thickness 60-350 feet, thins northward.

Georgetown Formation (Kgt)

The Georgetown Formation consists of limestone and marl; mostly limestone, fine grained, argillaceous, nodular, moderately indurated, light gray; some limestone, hard, brittle, thick bedded, white; some shale, marly, soft, light gray to yellowish gray; marine megafossils include Kingena wacoensis and Gryphaea washitaensis; thickness 30-80 feet, thins southward.

STRUCTURAL TREND and FEATURES:

The subject site is located on the Edwards Plateau within the Balcones / Ouachita structural province in central Texas. The Balcones / Ouachita structural province is an arcuate band of mostly down-to–the-coast normal faults that sub-parallels the Gulf of Mexico. In Williamson County, the regional structural trend of the Balcones / Ouachita province is generally southwest to northeast.

(Source: "*Lineament Analysis and Inference of Geologic Structure-Examples from the Balcones/Ouachita Trend of Texas.*" Curan, Woodfruff, Jr, and Thompson, 1982)

The site is not located in the vicinity of mapped regional faulting. No surface expressions of local structural features were observed during this assessment.

SITE SPECIFIC GEOLOGIC FEATURE DESCRIPTIONS
Identified 01/17/2025

To the extent that surface property features were readily accessible and observable at the time the site was evaluated on 01/17/2025 no geologic features were identified on the subject tract of land that has observed potential to affect recharge to the Edwards Aquifer except for the following:

F-1 CD: **Non-Karst Closed Depression:** This feature appears to be a natural, soil floored topographic depression. Non-karst closed depressions are not formed by karst processes and are not bedrock floored. This Closed Depression, as observed at the time of the assessment, is relatively shallow, soil floored with evidence of activity around opening indicative of a large animal burrow.

Surface conditions observed in connection with this feature are not believed to persist in the subsurface at depth and do not appear to have the potential for hydraulic interconnectedness between the surface and the Edwards Aquifer. Therefore, this feature is not identified as sensitive feature at this time.

F-2 CD: **Non-Karst Closed Depression:** This feature appears to be a natural, soil floored topographic depression. Non-karst closed depressions are not formed by karst processes and are not bedrock floored. This Closed Depression, as observed at the time of the assessment, is relatively shallow, soil floored and appears to result from localized erosion from drainage.

Surface conditions observed in connection with this feature are not believed to persist in the subsurface at depth and do not appear to have the potential for hydraulic interconnectedness between the surface and the Edwards Aquifer. Therefore, this feature is not identified as sensitive feature at this time.

F-3 CD: **Non-Karst Closed Depression:** This feature appears to be a natural, soil floored topographic depression. Non-karst closed depressions are not formed by karst processes and are not bedrock floored. This Closed Depression, as observed at the time of the assessment, is relatively shallow, soil floored and appears to result from differential settling of surface soil from previous site grading or clearing.

Surface conditions observed in connection with this feature are not believed to persist in the subsurface at depth and do not appear to have the potential for hydraulic interconnectedness between the surface and the Edwards Aquifer. Therefore, this feature is not identified as sensitive feature at this time.

F-4 O: **Other Natural Bedrock Feature - Surface Out Crop**. This feature is a weathered limestone surface located in a zone of apparent Epikarst. Epikarst is used herein to identify the zone of weathering at the upper surface of a limestone that includes the solutionally modified (karren) bedrock surface and the overlying regolith. The extent of weathering and dissolution within the Epikarst will diminish with depth.

This feature, as observed at the time of the assessment, is relatively shallow, soil floored with evidence of activity around opening indicative of an animal burrow.

Surface conditions observed in connection with this feature are not believed to persist in the subsurface at depth and do not appear to have the potential for hydraulic interconnectedness between the surface and the Edwards Aquifer. Therefore, this feature is not identified as sensitive feature at this time.

F-5 CD: **Non-Karst Closed Depression:** This feature appears to be a natural, soil floored topographic depression. Non-karst closed depressions are not formed by karst processes and are not bedrock floored. This Closed Depression, as observed at the time of the assessment, is relatively shallow, soil floored with evidence of activity around opening indicative of a large animal burrow.

Surface conditions observed in connection with this feature are not believed to persist in the subsurface at depth and do not appear to have the potential for hydraulic interconnectedness between the surface and the Edwards Aquifer. Therefore, this feature is not identified as sensitive feature at this time.

OBSERVATIONS

To the extent that surface property features were readily accessible and observable at the time the site was evaluated on 01/17/2025 no sensitive features were identified on the subject tract of land that has observed potential to affect recharge to the Edwards Aquifer.

CONCLUDING STATEMENTS

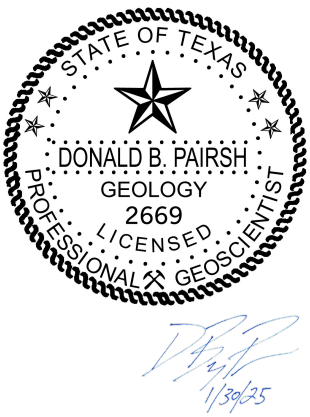
The Client understands that no non-intrusive visual observation or survey can wholly eliminate uncertainty regarding the possible presence of geologic conditions in connection with the subject property. Due to the inherent limits in connection with the agreed Scope of Work, this report does not address uncertainty about site conditions across those portions of the subject property not specifically addressed in this report.

Development of the site is planned. Additional modification of site surface conditions can be expected as construction proceeds. An unsuspected solution enlarged fractures, caves and cavities may be discovered during construction operations.

This assessment does not address the possible presence of subsurface conditions that may be exposed during construction operations. Should solution features or conditions be exposed during construction operations that indicate a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer, operations in the vicinity of the feature should be halted and the Texas Commission on Environmental Quality (TCEQ) Edwards Aquifer Protection Program should be contacted immediately in accordance with 30 TAC §213.5(f)(2).

Respectfully,

D Bryan Pairsh, P.G.
Project Geologist
Capitol Environmental, Inc
TBPG Firm Registration #50389
Austin, Texas



1/30/25

DISCLAIMER:

Under standard geologic assessment practice, this assessment is an assessment of surface property conditions that were readily accessible and easily visible at the time of the assessment.

Services performed under this contract were conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions. Under standard geologic assessment practice, information developed in this report represents an assessment of environmental conditions observed as present or absent on portions of the surface of the subject property at the time of the assessment. The field observations, measurements and research reported in this report are considered sufficient in detail and scope to form a contained assessment of discrete portions of the subject property. Capitol warrants that the findings and conclusions contained in this report have been prepared in accordance with generally accepted methods normal for the subject site described in this report.

Not every property will warrant the same level of assessment. Consistent with good commercial and customary practice, the appropriate level of assessment will be guided by the type of property subject to assessment, the expertise and risk tolerance of the Client and information developed in the course of the inquiry. The Assessment has been developed to provide the Client with information regarding apparent indications of the presence of absence of geologic conditions relating to the surface of the subject site. The Geologic Assessment report is necessarily limited to the conditions observed and to the information available at the time the work was performed. Due to the limited nature of the work, there is a possibility that conditions may exist in connection with the subject site which could not be identified within the scope of this assessment practice, or which were not easily visible or not disclosed at the time the report was prepared.

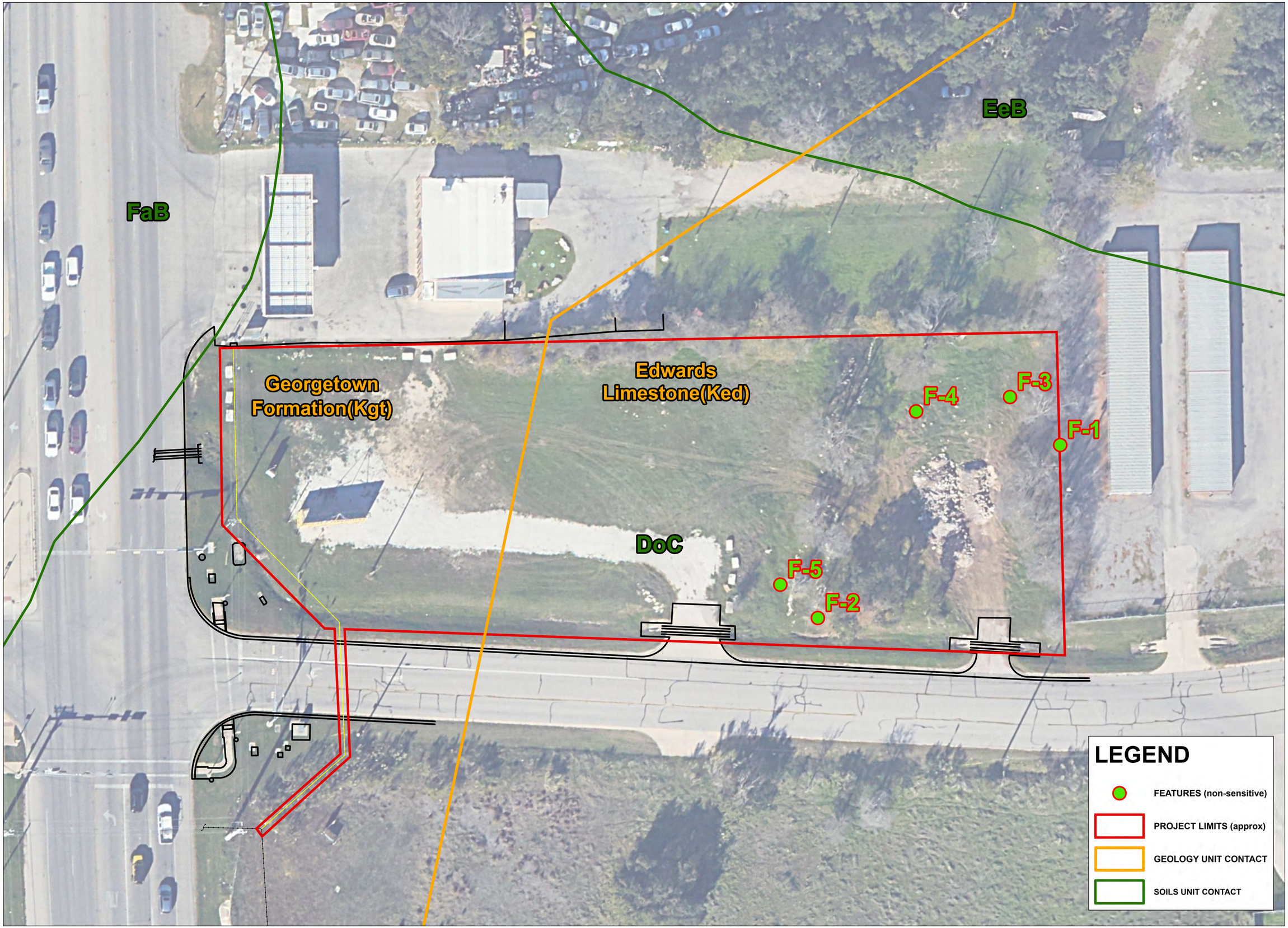
It is also possible that assessment methods employed at the time the report was prepared may be later superseded by more discrete assessment methods. The definition of a “sensitive geologic feature” and / or a “critical environmental feature” can also change statutorily over time. Capitol does not warrant the content or findings of this report in the event of changes in conditions in connection with the subject property; in the event of changes in assessment methods; or in the event of changes in statute that may apply to the subject property in the future.

In preparing this report, Capitol has relied on information derived from third party sources and personal interviews, as well as other investigative work. Except as set forth in this report, Capitol has made no independent investigation as to the accuracy or completeness of the information derived from third party sources.

This report does not address uncertainty about site conditions across those portions of the subject property not specifically assessed in this report. The Client understands that no surface assessment can wholly eliminate uncertainty regarding the possible presence of geologic conditions at depth in connection with the subject property. The Client should recognize that conditions elsewhere in the assessment area may differ from those at the study /sample locations, and that surface conditions described in the assessment practice herein may change at depth. This assessment should not be used as a basis for engineering design.

This report was prepared for the Client, to identify the presence or absence of geologic conditions on surface portions of the subject property. Any use of this report for other purposes or any use of information presented in this report by other parties other than the Client is the Client’s responsibility.

Attachment D – Site Geologic Map
&
Site Soil Site Map



6602 JIM HOGG DR

GEOLOGIC & SOILS

SITE MAP

Prepared under the supervision of: D. Bryan Pairsh, P. G.

TBPG Firm Registration #50389

CAPITOL ENVIRONMENTAL

www.capitolenvironmental.com

512.535.4368

1" = 20 '

STATE OF TEXAS
DONALD B. PAIRSH
GEOLOGY
2669
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Not For Construction or Building Purposes

Sheet No. 1 of 1

NARRATIVE DESCRIPTION OF ADDITIONAL INVESTIGATION
COMMERCIAL TRACT
1.44 ACRE TRACT
CITY OF GEORGETOWN
EDWARDS AQUIFER RECHARGE ZONE WATER QUALITY ORDINANCE
01/17/2025

PROJECT INFORMATION

The subject site is an approximate 1.44 acres, more or less, tract(s) of land located at 6602 Jim Hogg Drive in Georgetown, Williamson County, Texas at approximately 30.7047° North Latitude and approximately -97.7476° West Longitude. This proposed development project location lies within the designated Edwards Aquifer Recharge Zone and the mapped limits of the City of Georgetown.

The City of Georgetown recently adopted the Edwards Aquifer Recharge Zone Water Quality Ordinance (the Ordinance). The Ordinance applies to all property within the corporate limits of the City of Georgetown and the within the limit of its ETJ. The Ordinance adopted local regulations intended to protect water quality for spring and stream features in the Edwards Aquifer recharge zone and to identify and protect habitat of the Georgetown Salamander.

City of Georgetown Edwards Aquifer Recharge Zone Water Quality Ordinance:

Information found in this assessment addresses site conditions that were observed by Capitol Environmental on 01/17/2025. In accordance with the City of Georgetown Edwards Aquifer Recharge Zone Water Quality Ordinance (Ordinance), the following matters are respectfully addressed:

[a] Identify the presence or absence of all springs and streams on the subject property or Certify that no springs or streams exist as “Springs” and “Streams” as these terms are defined in the Ordinance.

- Comment: No “Springs” or “Streams” are identified in connection with the subject property.

[b] Describe, if any, each spring and/or stream on a site as defined in the Ordinance, including determining the location of any spring outlet or stream.

- Comment: No “Springs” or “Streams” are identified in connection with the subject property.

[c] For Occupied Sites identified in Section 2 of the Ordinance, delineate the No-Disturbance Zone and the Minimal- Disturbance Zone as described in Section 4 of The Ordinance.

- Comment: The subject property is not located within an “Occupied Site” as defined in the Ordinance and as shown on Exhibit A, attached thereto.

- Comment: The subject property, therefore, is not located within a City of Georgetown mapped No-Disturbance Zone (Red Zone), therefore, the establishment of a City of Georgetown “Minimal-Distance Zone (Orange Zone) is not warranted.

[d] Spring Buffer and Stream Buffer Protection of Non-Occupied Sites. The subject property is identified as a "Non-Occupied Site" as defined in the Ordinance and as shown on Exhibit A, attached thereto.

- Comment: No "Springs" or "Streams" are identified in connection with the subject property. Therefore, a stream buffer coincidental with the FEMA 1% Floodplain to protect water quality for spring and stream features in the Edwards Aquifer Recharge Zone in accordance with the Ordinance is not warranted.

[e] All Red Zones, Orange Zones and spring and stream buffers as required in the Ordinance will be shown on all Plats, Site Plan and infrastructure Construction Plans.

- Comment: Based on the above conditions, no spring and / or stream buffers are required to be shown on Plats, Site Plan and infrastructure Construction Plans.

CONCLUDING STATEMENTS

This Letter Report is prepared in response to City of Georgetown Ordinance Number 2013-59. As such, it is necessarily a stand apart document that does not conform to, nor is it a required part of a Geologic Assessment as required by Title 30, Texas Administrative Code Chapter 213.5.

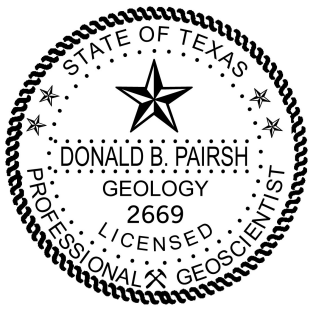
The Client understands that no survey can wholly eliminate uncertainty regarding the possible presence of geologic conditions in connection with the subject property. Due to the inherent limits in connection with the agreed Scope of Work, this report does not address uncertainty about site conditions across those portions of the subject property not specifically addressed in this report.

Development of the site is planned. Additional modification of site surface conditions can be expected as construction proceeds. Unsuspected solution enlarged fractures, caves and cavities may be discovered during construction operations.

This investigation does not address the possible presence of subsurface conditions that may be exposed during construction operations. Should solution features or conditions be exposed during construction operations that indicate a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer, operations in the vicinity of the feature should be halted and the Texas Commission on Environmental Quality (TCEQ) Edwards Aquifer Protection Program should be contacted immediately in accordance with 30 TAC §213.5(f)(2).

Prepared by:

D Bryan Pairsh, P.G.
Project Geologist
Capitol Environmental, Inc.
TBPG Firm Registration #50389
Austin, Texas



1/30/25

MATKINHOOVER
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ENGINEERING & SURVEYING

Jim Hogg Dr.

SCS

Section 4 – SCS Applications

Organized Sewage Collection System Application

Texas Commission on Environmental Quality

For Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(c), Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

Regulated Entity Name: Jim Hogg Dr.

1. ☒ **Attachment A – SCS Engineering Design Report.** This Engineering Design Report is provided to fulfill the requirements of 30 TAC Chapter 217, including 217.10 of Subchapter A, §§217.51 – 217.70 of Subchapter C, and Subchapter D as applicable, and is required to be submitted with this SCS Application Form.

Customer Information

2. The entity and contact person responsible for providing the required engineering certification of testing for this sewage collection system upon completion (including private service connections) and every five years thereafter to the appropriate TCEQ region office pursuant to 30 TAC §213.5(c) is:

   Contact Person: Chance Leigh
   Entity: JDW Partners, LP
   Mailing Address: 1952 Austin Ave.
   City, State: Georgetown, TX Zip: 78626
   Telephone: 512-848-1185 Fax: _____
   Email Address: Chance@chanceleigh.com
   The appropriate regional office must be informed of any changes in this information within 30 days of the change.

3. The engineer responsible for the design of this sewage collection system is:

   Contact Person: Garrett Keller, P.E.
   Texas Licensed Professional Engineer's Number: 111511
   Entity: MatkinHoover Engineering & Surveying
   Mailing Address: 8 Spencer Road
   City, State:Boerne, Texas Zip: 78006
   Telephone:(830) 249-0600 Fax:_____
   Email Address:gkeller@matkinhoover.com

Project Information

4. Anticipated type of development to be served (estimated future population to be served, plus adequate allowance for institutional and commercial flows):

   ☐ Residential: Number of single-family lots: _____
   ☐ Multi-family: Number of residential units: _____
   ☒ Commercial
   ☐ Industrial
   ☐ Off-site system (not associated with any development)
   ☐ Other: _____

5. The character and volume of wastewater is shown below:

100% Domestic	20,880 gallons/day
_____% Industrial	_____ gallons/day
_____% Commingled	_____ gallons/day

   Total gallons/day: _____

6. Existing and anticipated infiltration/inflow is 23,040 gallons/day. This will be addressed by: Pecan Branch Wastewater Treatment Plant.

7. A Water Pollution Abatement Plan (WPAP) is required for construction of any associated commercial, industrial or residential project located on the Recharge Zone.

   ☐ The WPAP application for this development was approved by letter dated _____. A copy of the approval letter is attached.
   ☐ The WPAP application for this development was submitted to the TCEQ on _____, but has not been approved.
   ☐ A WPAP application is required for an associated project, but it has not been submitted.
   ☒ There is no associated project requiring a WPAP application.

8. Pipe description:

Table 1 - Pipe Description

Pipe Diameter(Inches)	*Linear Feet (1)*	*Pipe Material (2)*	*Specifications (3)*
8	284	SDR 26 Class 160	ASTM D2241

Total Linear Feet: 284

(1) Linear feet - Include stub-outs and double service connections. Do not include private service laterals.
(2) Pipe Material - If PVC, state SDR value.
(3) Specifications - ASTM / ANSI / AWWA specification and class numbers should be included.

9. The sewage collection system will convey the wastewater to the Pecan Branch Wasterwater Treatmemt Plant (name) Treatment Plant. The treatment facility is:

   ☒ Existing
   ☐ Proposed

10. All components of this sewage collection system will comply with:

   ☒ The City of Georgetown standard specifications.
   ☐ Other. Specifications are attached.

11. ☒ No force main(s) and/or lift station(s) are associated with this sewage collection system.

   ☐ A force main(s) and/or lift station(s) is associated with this sewage collection system and the **Lift Station/Force Main System Application** form (TCEQ-0624) is included with this application.

Alignment

12. ☒ There are no deviations from uniform grade in this sewage collection system without manholes and with open cut construction.

13. ☒ There are no deviations from straight alignment in this sewage collection system without manholes.

   ☐ **Attachment B - Justification and Calculations for Deviation in Straight Alignment without Manholes.** A justification for deviations from straight alignment in this sewage collection system without manholes with documentation from pipe manufacturer allowing pipe curvature is attached.

   ☒ For curved sewer lines, all curved sewer line notes (TCEQ-0596) are included on the construction plans for the wastewater collection system.

Manholes and Cleanouts

14. ☒ Manholes or clean-outs exist at the end of each sewer line(s). These locations are listed below: (Please attach additional sheet if necessary)

Table 2 - Manholes and Cleanouts

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
A	CU201 Of CU201	3+78.94	MH
A	CU201 Of CU201	2+97.77	MH
A	CU201 Of CU201	2+32.84	MH
A	CU201 Of CU201	1+51.25	MH
	Of		
	Of		
	Of		

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
	Of		
	Of		
	Of		

15. ☒ Manholes are installed at all Points of Curvature and Points of Termination of a sewer line.

16. ☒ The maximum spacing between manholes on this project for each pipe diameter is no greater than:

Pipe Diameter (inches)	Max. Manhole Spacing (feet)
6 - 15	500
16 - 30	800
36 - 48	1000
≥54	2000

☐ **Attachment C – Justification for Variance from Maximum Manhole Spacing.** The maximum spacing between manholes on this project (for each pipe diameter used) is greater than listed in the table above. A justification for any variance from the maximum spacing is attached, and must include a letter from the entity which will operate and maintain the system stating that it has the capability to maintain lines with manhole spacing greater than the allowed spacing.

17. ☐ All manholes will be monolithic, cast-in-place concrete.

☒ The use of pre-cast manholes is requested for this project. The manufacturer's specifications and construction drawings, showing the method of sealing the joints, are attached.

Site Plan Requirements

Items 18 - 25 must be included on the Site Plan.

18. ☒ The Site Plan must have a minimum scale of 1" = 400'.

Site Plan Scale: 1" = 20'.

19. ☒ The Site Plan must include the sewage collection system general layout, including manholes with station numbers, and sewer pipe stub outs (if any). Site plan must be overlain by topographic contour lines, using a contour interval of not greater than ten feet and showing the area within both the five-year floodplain and the 100-year floodplain of any drainage way.

20. Lateral stub-outs:

☒ The location of all lateral stub-outs are shown and labeled.
☐ No lateral stub-outs will be installed during the construction of this sewer collection system.

21. Location of existing and proposed water lines:

☐ The entire water distribution system for this project is shown and labeled.
☐ If not shown on the Site Plan, a Utility Plan is provided showing the entire water and sewer systems.
☒ There will be no water lines associated with this project.

22. 100-year floodplain:

☒ After construction is complete, no part of this project will be in or cross a 100-year floodplain, either naturally occurring or manmade. (Do not include streets or concrete-lined channels constructed above of sewer lines.)
☐ After construction is complete, all sections located within the 100-year floodplain will have water-tight manholes. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

Table 3 - 100-Year Floodplain

Line	*Sheet*	*Station*
	of	to
	of	to
	of	to
	of	to

23. 5-year floodplain:

☒ After construction is complete, no part of this project will be in or cross a 5-year floodplain, either naturally occurring or man-made. (Do not include streets or concrete-lined channels constructed above sewer lines.)
☐ After construction is complete, all sections located within the 5-year floodplain will be encased in concrete or capped with concrete. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

Table 4 - 5-Year Floodplain

Line	*Sheet*	*Station*
	of	to
	of	to
	of	to
	of	to

24. ☒ Legal boundaries of the site are shown.

25. ☒ The ***final plans and technical specifications*** are submitted for the TCEQ's review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.

Items 26 - 33 must be included on the Plan and Profile sheets.

26. ☐ All existing or proposed water line crossings and any parallel water lines within 9 feet of sewer lines are listed in the table below. These lines must have the type of pressure rated pipe to be installed shown on the plan and profile sheets. Any request for a variance from the required pressure rated piping at crossings must include a variance approval from 30 TAC Chapter 290.

☒ There will be no water line crossings.
☒ There will be no water lines within 9 feet of proposed sewer lines.

Table 5 - Water Line Crossings

Line	*Station or Closest Point*	*Crossing or Parallel*	*Horizontal Separation Distance*	*Vertical Separation Distance*

27. Vented Manholes:

☒ **No part** of this sewer line is within the 100-year floodplain and vented manholes are not required by 30 TAC Chapter 217.

☐ **A portion** of this sewer line is within the 100-year floodplain and vented manholes will be provided at less than 1500 foot intervals. These water-tight manholes are listed in the table below and labeled on the appropriate profile sheets.

☐ **A portion** of this sewer line is within the 100-year floodplain and an alternative means of venting shall be provided at less than 1500 feet intervals. A description of the alternative means is described on the following page.

☐ **A portion** of this sewer line is within the 100-year floodplain; however, there is no interval longer than 1500 feet located within. No vented manholes will be used.

Table 6 - Vented Manholes

Line	*Manhole*	*Station*	*Sheet*

Line	*Manhole*	*Station*	*Sheet*

28. Drop manholes:

☒ There are no drop manholes associated with this project.
☐ Sewer lines which enter new or existing manholes or "manhole structures" higher than 24 inches above the manhole invert are listed in the table below and labeled on the appropriate profile sheets. These lines meet the requirements of 30 TAC §217.55(l)(2)(H).

Table 7 - Drop Manholes

Line	*Manhole*	*Station*	*Sheet*

29. Sewer line stub-outs (For proposed extensions):

☒ The placement and markings of all sewer line stub-outs are shown and labeled.
☐ No sewer line stub-outs are to be installed during the construction of this sewage collection system.

30. Lateral stub-outs (For proposed private service connections):

☐ The placement and markings of all lateral stub-outs are shown and labeled.
☒ No lateral stub-outs are to be installed during the construction of this sewage collection system.

31. Minimum flow velocity (From Appendix A)

☒ Assuming pipes are flowing full; all slopes are designed to produce flows equal to or greater than 2.0 feet per second for this system/line.

32. Maximum flow velocity/slopes (From Appendix A)

☒ Assuming pipes are flowing full, all slopes are designed to produce maximum flows of less than or equal to 10 feet per second for this system/line.
☐ **Attachment D – Calculations for Slopes for Flows Greater Than 10.0 Feet per Second.** Assuming pipes are flowing full, some slopes produce flows which are greater than 10 feet per second. These locations are listed in the table below. Calculations are attached.

Table 8 - Flows Greater Than 10 Feet per Second

Line	*Profile Sheet*	*Station to Station*	*FPS*	*% Slope*	*Erosion/Shock Protection*

33. Assuming pipes are flowing full, where flows are ≥ 10 feet per second, the provisions noted below have been made to protect against pipe displacement by erosion and/or shock under 30 TAC §217.53(l)(2)(B).

☐ Concrete encasement shown on appropriate Plan and Profile sheets for the locations listed in the table above.

☐ Steel-reinforced, anchored concrete baffles/retards placed every 50 feet shown on appropriate Plan and Profile sheets for the locations listed in the table above.

☒ N/A

Administrative Information

34. ☒ The final plans and technical specifications are submitted for TCEQ review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.

35. ☒ Standard details are shown on the detail sheets, which are dated, signed, and sealed by the Texas Licensed Professional Engineer, as listed in the table below:

Table 9 - Standard Details

Standard Details	*Shown on Sheet*
Lateral stub-out marking **[Required]**	N/A of N/A
Manhole, showing inverts comply with 30 TAC §217.55(l)(2) **[Required]**	CU201 of CU201
Alternate method of joining lateral to existing SCS line for potential future connections **[Required]**	N/A of N/A
Typical trench cross-sections **[Required]**	CU501 of CU502
Bolted manholes **[Required]**	CU502 of CU502
Sewer Service lateral standard details **[Required]**	N/A of N/A
Clean-out at end of line **[Required, if used]**	N/A of N/A
Baffles or concrete encasement for shock/erosion protection **[Required, if flow velocity of any section of pipe >10 fps]**	N/A of N/A
Detail showing Wastewater Line/Water Line Crossing **[Required, if crossings are proposed]**	N/A of N/A
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) **[Required, if Flexible Pipe is used]**	CU502 of CU502

Standard Details	*Shown on Sheet*
Drop manholes **[Required, if a pipe entering a manhole is more than 24 inches above manhole invert]**	N/A of N/A

36. ☒ All organized sewage collection system general construction notes (TCEQ-0596) are included on the construction plans for this sewage collection system.

37. ☒ All proposed sewer lines will be sufficiently surveyed/staked to allow an assessment prior to TCEQ executive director approval. If the alignments of the proposed sewer lines are not walkable on that date, the application will be deemed incomplete and returned.

    ☐ Survey staking was completed on this date: _____

38. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

39. ☒ Any modification of this SCS application will require TCEQ approval, prior to construction, and may require submission of a revised application, with appropriate fees.

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Organized Sewage Collection System Application** is hereby submitted for TCEQ review and executive director approval. The system was designed in accordance with the requirements of 30 TAC §213.5(c) and 30 TAC §217 and prepared by:

Print Name of Licensed Professional Engineer: Garrett Keller, PE

Date: 5/16/25

Place engineer's seal here:

Signature of Licensed Professional Engineer:

Appendix A-Flow Velocity Table

Flow Velocity (Flowing Full) All gravity sewer lines on the Edwards Aquifer Recharge Zone shall be designed and constructed with hydraulic slopes sufficient to give a velocity when flowing full of not less than 2.0 feet per second, and not greater than 10 feet per second. The grades shown in the following table are based on Manning's formula and an n factor of 0.013 and shall be the minimum and maximum acceptable slopes unless provisions are made otherwise.

Table 10 - Slope Velocity

Pipe Diameter(Inches)	*% Slope required for minimum flow velocity of 2.0 fps*	*% Slope which produces flow velocity of 10.0 fps*
6	0.50	12.35
8	0.33	8.40
10	0.25	6.23
12	0.20	4.88
15	0.15	3.62
18	0.11	2.83
21	0.09	2.30
24	0.08	1.93
27	0.06	1.65
30	0.055	1.43
33	0.05	1.26
36	0.045	1.12
39	0.04	1.01
>39	*	*

**For lines larger than 39 inches in diameter, the slope may be determined by Manning's formula (as shown below) to maintain a minimum velocity greater than 2.0 feet per second when flowing full and a maximum velocity less than 10 feet per second when flowing full.*

$$v = \frac{1.49}{n} \times R_h^{0.67} \times \sqrt{S}$$

Figure 1 - Manning's Formula

Where:

v = velocity (ft/sec)
n = Manning's roughness coefficient (0.013)
Rh = hydraulic radius (ft)
S = slope (ft/ft)

The following Engineering Design Report (EDR) for the Jim Hogg Dr. Sewage Collection System, is in compliance with the 30 TAC Chapter 217, Subchapter A, Rule 217.10 "Final Engineering Design Report", and 30 TAC Chapter 217, Subchapter C, Rule 217.55 "Manholes and Related Structures". Information provided on this form will follow the order provided by item (e) "The report for a wastewater collection system must include the following:", located in 30 TAC Chapter 217, Subchapter A, Rule 217.10 "Final Engineering Design Report". The intent of the design report is to meet the Texas Commission on Environmental Quality (TCEQ) plan review of SCS applications.

This project consists of 284 lf of proposed sewer line into the existing Pecan Branch Wastewater Treatment Plant. The sewage collection system will service approximately 20,880 GPD.

(e-1) **X** Map showing the current service area, the proposed service area, and any area proposed for future expansion.

- Attachment - "**Sewer Shed Map**"- shows the current service area for the Pecan Branch WWTP.

(e-2) **X** The topographical features of the current, the proposed, and any future service areas. (Refer to Attachment **"Sewage Collection Site Plan"** and "**Jim Hogg Dr. Sanitary Sewer Plan and Profile Sheets: CU201** (CU201 for Topographic details)

(e-3) **X** A description of how the design flow was determined. (Attachment – **"General Notes Sheet C-001"**)

The design flow for Jim Hogg Dr., SCS, was derived using the Water and Wastewater DCM for the City of Georgetown.

- Inflow/Infiltration rates are derived from section the City of Georgetown which includes an approximation of 1,000 gallons/acre/day. This provides a multiplier of 0.022957 gpd/ft2, for a contributing area of ± 23.11 acres.

- Peak dry weather flow calculations are derived from formula provided by the City of Georgetown are provided below. The PDWF is derived from the formula:

  - Qpdwf = (GWI + BWF * LUEs / 1,440) * 1.5
  - Where: DWF = 30 gallons per capita per day
  - Where: BWF = 175 gal/day/LUE
  - Where: LUE = Living Equivalent Units

- Peak wet weather flow is obtained by adding inflow and infiltration to the peak dry weather flow. Refer to attachment for site residential, and the associated flow values used for design.

- Flow for the 50-year lifetime of the system is obtained by assuming a manning's roughness coefficient of 0.013 when determining capacity of the system. The appropriate conservative "n" value for minimum slope design of PVC sewer pipe is 0.009. As the pipe degrades over time the roughness coefficient will increase to approximately 0.013. Sizing the system using the 50-year "n" value and 65% full will yield the most conservative capacity and calculation have been provided within this report **(Refer to Minimum and Maximum Slope Table and Calculation.)**

(e-4) **X** The minimum and maximum grades for each size and type of pipe. (Refer to Attachment **"General Notes Sheet C-001 and the attached calculations"**)

Pipe sizing and minimum/maximum grades for Jim Hogg Dr. SCS, was derived using the Water and Wastewater DCM for the City of Georgetown.

"Percent Pipe Full at Design Flow", requires a minimum diameter of eight (8) inches for all gravity lines sewer mains. Jim Hogg Dr. Development sanitary sewer system contains 8" lines. Minimum allowable slopes for mains conform with the Water and Wastewater DCM for the City of Georgetown provided and shown on (Refer to Attachment **"General Notes Sheet C-001 and the attached calculations")**

(e-5) **X** Calculations of expected minimum and maximum velocities in the system for each size and type of a pipe. (Refer to attachment **"General Notes Sheet C-001 –Flow Velocity Table & Calculations Above"**)

Minimum maximum velocities for Jim Hogg Dr. SCS, was derived using Water and Wastewater DCM for the City of Georgetown "Minimum Slope page 19".

- **"Design Velocities"** requires a minimum design velocity calculated using the Peak Dry Weather flow not be less than two (2) feet per second (fps). The maximum design velocity calculated using the Peak Wet Weather Flow should not exceed ten (10) fps. Slopes per pipe diameter size comply with Appendix A, listed above to meet minimum and maximum velocity requirements.

(e-6) **X** The proposed system's effect on an associated existing system's capacity.
The proposed system for the entire system will discharge at peak wet weather flow rate of 30.6 gpm.

(e-7) **X** The existing and anticipated inflow and infiltration, the hydraulic effect of the inflow and infiltration on the proposed and existing systems, any inflow and infiltration flow rate monitoring, and any inflow and infiltration abatement measures.

- Jim Hogg Dr. sanitary sewer design complies with design standards to prevent infiltration into the system. This will be prevented through sealing manholes (where required), by means of gasketing and bolts shown in the utility detail sheets attached

(e-8) **N/A** A description of the ability of the existing and proposed trunk and interceptor wastewater collection systems and lift stations to handle the peak flow. (Refer to attachment - **"City of Georgetown Serviceability Letter"**).

(e-9) **X** The capability of the receiving treatment facility to receive and adequately treat the anticipated peak flow. The proposed system for the entire site will discharge at peak wet weather flow rate of 30.6 gpm (Refer to attachment - **"City of Georgetown Serviceability Letter"**).

(e-10) **X** An engineering analysis showing compliance with structural design, minimization of odor-causing conditions, and the pipe design requirements of 217.55 of this title (relating to Manholes and Related Structures)

30 TAC 217, Subchapter C, Rule 217.55 Manholes and Related Structures

217.55(a) Manholes for the proposed wastewater system are included at all points of change in alignment, grade, size, intersection of all pipes, and at the end of all pipes that may be extended at a future date. **(Complied – Refer to SCS Site Plan)**

217.55(b) Manholes placed at the end of a wastewater collection system pipe that may be extended in the future must include pipe stub outs with plugs **(Complied - Refer to SCS Site Plan)**

217.55(c) A clean-out with watertight plugs may be installed in lieu of a manhole at the end of a wastewater collection system pipe if no extensions are anticipated. **(Complied - Refer to SCS Site Plan)**

217.55(d) Cleanout installations must pass all applicable testing requirements outlined for gravity collection pipes in 217.57 of this title (relating to Testing Requirements for Installation of Gravity Collection System Pipes). **(Complied - Refer to SCS Site Plan)**

217.55(e) A manhole must be made of monolithic, cast-in-place concrete, fiberglass, pre-cast concrete, high density polyethylene, or equivalent material that provides adequate structural integrity. **(Pre-cast Concrete. Location in submittal: CU501)**

217.55(f) The use of bricks to adjust a manhole cover to grade or construct a manhole is prohibited. **(Complied)**

217.55(g) Manholes may be spaced no further apart than the distances specified in the following table for a wastewater collection system with straight alignment and uniform grades, unless a variance based on the

availability of cleaning equipment that is capable of servicing greater distances is granted by the executive director.

The maximum manhole spacing allowed by the TCEQ are as follows:

Pipe Diameter (in)	Maximum Manhole Spacing (ft)
6 - 15	500
18 - 30	800
36 - 48	1000
54 or Larger	2000

Indicate what the maximum spacing in this project will be for each proposed diameter of pipe.
Pipe Diameter: **8"** Max. Spacing: **81.59'**

217.55(h) Tunnels are exempt from manhole spacing requirements because of construction constraints. **(N/A)**

217.55(i) An intersection of three or more collection pipes must have a manhole. **(Complied)**

217.55(j) A manhole must not be located in the flow path of a watercourse, or in an area where ponding of surface water is probable. **(See below)**

Manhole covers which lie within a 100-year flood plain must be sealed and gasketed or otherwise provided with adequate protection against inflow. Such measures should also be provided to any manholes lying in drainage ways or streets subject to carrying drainage flows. Will this requirement be met? **N/A**

(k) The inside diameter of a manhole must be no less than 48 inches. A manhole diameter must be sufficient to allow personnel and equipment to enter, exit, and work in the manhole and to allow proper joining of the collection system pipes in the manhole wall.

(1) Manhole Covers:

(A) A manhole where personnel entry is anticipated requires at least a 30 inch diameter clear opening. **(Complied – Refer to Sheet CU501)**

(B) A manhole located within a 100-year flood plain must have a means of preventing inflow. **(N/A – No manholes are within the 100-year flood plain. Refer to FEMA F.I.R.M. Map #48491C0280E dated 9-26-2008).**

(C) A manhole cover construction must be constructed of impervious material. **(Complied)**

(D) A manhole cover that is located in a roadway must meet or exceed the American Association of State Highways and Transportation Officials standard M-306 for load bearing. **(Complied)**

(2) Manhole Inverts:

(A) The bottom of a manhole must contain a U-shaped channel that is a smooth continuation of the inlet and outlet pipes. **(Complied – Refer to Sheet CU501)**

(B) A manhole connected to a pipe less than 15 inches in diameter must have a channel depth equal to at least half the largest pipe's diameter. **(Complied – Refer to Sheet CU501)**

(C) A manhole connected to a pipe at least 15 inches in diameter but not more than 24 inches in diameter must have a channel depth equal to at least three-fourths of the largest pipe's diameter. **(N/A)**

(D) A manhole connected to a pipe greater than 24 inches in diameter must have a channel depth equal to at least the largest pipe's diameter. **(N/A)**

(E) A manhole with pipes of different sizes must have the tops of the pipes at the same elevation and flow channels in the invert sloped on an even slope from pipe to pipe. **(Complied)**

(F) A bench provided above a channel must slope at a minimum of 0.5 inch per foot. **(Complied)**

(G) An invert must be filleted to prevent solids from being deposited if a wastewater collection system pipe enters a manhole higher than 24 inches above a manhole invert. **(Complied)**

(H) A wastewater collection system pipe entering a manhole more than 24 inches above an invert must have a drop pipe. **(Complied)**

(m) The inclusion of steps in a manhole is prohibited. **(N/A)**

(n) Connections. A manhole-pipe connection must use watertight, size-on-size resilient connectors that allow for differential settlement and must conform to American Society for Testing and Materials C-923. **(Location in submittal: Plan sheet CU501)**

(o) Venting. An owner must use an alternate means of venting if manholes are at more than 1,500 foot intervals and gasketed manhole covers are required for more than three manholes in sequence. **(N/A)**

(p) Cleanouts. The size of a cleanout must be equal to the size of the wastewater collection system main. **(Complied)**

Structural Analysis of Wastewater System, 30 TAC, 217.53 Pipe Design.

Proposed Pipe Information:

S-1) List all the pipe diameters proposed for this project. Specify the total linear feet of pipe proposed for each listed diameter, the pipe material proposed for each diameter, the national standard specifications (ASTM, AWWA, ANSI, etc...) which govern each proposed pipe material and the appropriate national standard specifications for joints which correspond to each of these proposed materials.

Pipe Diameter	Linear Feet	Pipe Material	National Standard Specification for Pipe Material	National Standard for Pipe Joints
8"	284	PVC SDR 26	ASTM D-2241	ASTM D-3139

Utility Trench Information:

S-2) For purposes of TCEQ review, flexible materials include, but are not limited to, plastics, PVC, ABS, fiberglass, and, polyethylene. If the design does not include flexible pipe, skip to T13. If the design includes flexible pipe materials, the specified bedding must comply with ASTM D-2321 class IA, IB, II or III for materials and densification. A minimum of 6 inches of bedding is required for all pipe. Will the proposed project comply with these requirements? **Yes**

S-3) The trench width must be minimized while still allowing adequate width for proper compaction of backfill, and while still ensuring that at least 6 inches of backfill exists on each side of the pipe. Will this be accomplished? **Yes**

S-4) For each diameter of pipe, indicate minimum and maximum trench width: Pipe Diameter: **8"** Min. Trench Width: **24"** Max. Trench Width: **36"**

S-5) Will the trench walls be vertical to at least one foot above the pipe? **Yes**

Location in submittal: Plan sheets **CU501**

S-6) Will the backfill be free of stones greater than 6 inches in diameter and free of organic or any other unstable material? **Yes**

General Requirements: 30 TAC 217.53

Structural Analysis: 30 TAC 217.53(k)
Flexible Pipe Design

Live Load Analysis:

For the purposes of this application, the minimum depth of burial for gravity sanitary sewer pipe, from the ground surface to the crown of the pipe (H) is 2 feet. Does the submitted design comply with this minimum H? **Yes**

Live Load due to H-25 or HS-25 vehicle loading per AASHTO Table 5-3 (N/A)

(L_V) = 6.5 cover = 1.64 psi

Live Load due to 100-yr surface water elevation in water quality pond (See Attachment for L_l calculation) **N/A**

S-7) Indicate maximum anticipated L_l as determined in T63: **N/A**

S-8) Are all proposed flexible pipe materials capable of supporting this L_l? **N/A**

S-9) Indicate source of maximum L_l: **N/A**

Buckling Analysis:

S-10) Calculate allowable and predicted buckling pressure based on Moser's book. Predicted and allowable buckling pressures must be calculated for each size of pipe and type of flexible pipe material. For the purposes of this application form, the buckling analysis must be performed using the method outlined below. The method of calculating allowable buckling pressure provided below is only valid for lines which are installed at depths of 2 ft ≤ H ≤ 80 feet, and where the groundwater elevation is below the ground surface.

a) Calculate allowable bucking pressure as follows:
(Areas where groundwater elevation is below the ground surface)

$$q_a = 0.4\sqrt[2]{32 * R_W * B' * (E * \frac{I}{D^3})} \qquad \text{Equation (1)}$$

$$q_a = 0.4\sqrt[2]{32 * 1.00 * 0.59 * (400{,}000 * \frac{0.00305}{7.921^3})} = 106.81 \text{ (8" PVC SDR 26 160 PSI)}$$

See attachment for q_a calculation.

$$R_W = 1 - 0.33 * \left(\frac{h_W}{h}\right) \quad \text{Equation (2)}$$

For unsaturated: $R_W = 1 - 0.33 * \left(\frac{0}{123.42}\right) = 1.00$ (8" PVC SDR 26 160 PSI)

For fully saturated hw = h: $R_w = 1 - 0.33 * (1) = 0.67$ **N/A**

$$B' = \frac{1}{1+4*e^{-0.213H}} \quad \text{Equation (3)}$$

See attachment for B' calculation.*

$$I = \left(\frac{t^3}{12}\right)\left(\frac{inches^4}{inch_{Linear}}\right) \quad \text{Equation (4)}$$

See attachment for I calculation.

q_a = allowable buckling pressure, pounds per square inch (psi)

h = height of soil surface above top of pipe in inches (in)

h_w = height of water surface above top of pipe in inches (in) (groundwater elevation)

R_w = Water buoyancy factor. If $h_w = 0$, $R_w = 1$. If $0 \leq h_w \leq h$ (groundwater elevation is between the top of the pipe and the ground surface), calculate R_w with Equation 2

H = Depth of burial in feet (ft) from ground surface to crown of pipe.

B' = Empirical coefficient of elastic support

E_b = modulus of soil reaction for the bedding material (psi)

E = modulus of elasticity of the pipe material (psi)

I = moment of inertia of the pipe wall cross section per linear inch of pipe, $inch^4$/linear inch = $inch^3$. For solid wall pipe, I can be calculated with equation 4. If the pipe used is not solid wall pipe (for example a pipe with a ribbed cross section), the proper moment of inertia formula must be obtained from the manufacturer.

t = pipe structural wall thickness (in)

D = mean pipe diameter (in)

b) Calculate pressure applied to pipe under installed conditions:

$$q_P = \gamma_w * h_w + R_w * \left(\frac{W_c}{D}\right) + L_1 \qquad \text{Equation (5)}$$

$q_P = 0.0361 * 0 + 1 * \left(\frac{73.68}{8}\right) + 0 = 7.36$ ("Worst Case" Max. Depth - 8" PVC SDR 26 160 PSI)

$$W_c = \gamma_s * H * \frac{(D+t)}{144} \qquad \text{Equation (6)}$$

$W_c = 125 * 10.29 * \frac{8+0.332}{144} = 58.32$ ("Worst Case" Max. Depth - 8" PVC SDR 26 160 PSI)

q_P = pressure applied to pipe under installed conditions (psi)

γ_w = 0.0361 pounds per cubic inch (pci), specific weight of water

γ_s = specific weight of soil in pounds per cubic foot (pcf)

W_c = vertical soil load on the pipe per unit length in pounds per linear inch (lb/in)

L_l = Live load as determined in T63 (see attached Capacity Design)

S-11) Report qa and qp for each pipe diameter proposed and for each type of pipe material proposed:

γ_s = 125 pcf ; h_w = 0; t = 0.332" (8" PVC SDR 26 160 PSI);

Pipe Diameter: **8"** Pipe Material: **PVC SDR 26 160 PSI** q_a:**106.81** q_P:**7.36**

S-12) If $q_a \geq q_p$, specified pipe is acceptable for the proposed installation. If $q_a \leq q_P$, the wall thickness of the pipe must be increased and/or a pipe with a larger modulus of elasticity (E) must be used. Make the appropriate modifications and repeat the buckling analysis, showing that for the upgraded pipe, $q_a \geq q_P$. Does all the pipe proposed for this project meet these requirements? **Yes**

Wall Crushing:

S-13) If no concrete cradled flexible pipe is proposed for the submitted project, skip to T73. If any flexible pipe will be installed in rigid cradle (e.g. concrete), calculate the maximum depth that the pipe can be buried before wall crushing (or failure by ring compression) will occur using the method outlined below. It

should be noted that cement stabilized sand or soil is not considered a rigid cradle for purposes of TCEQ review: No concrete cradle proposed, calculations shown for information only.

$$H = \frac{24 * P_C * A}{\gamma_S * D_o} \quad \text{Equation (7)}$$

$$H = \frac{24 * 4000 * 3.984}{125 * 8.625} = 354.75' \textbf{ (8" PVC SDR 26 160 PSI)}$$

D_o = outside pipe diameter, in.

P_c = compressive stress or hydrostatic design basis (HDB). For typical PVC pipe assume 4,000 psi. For any other pipe material the HDB must be supplied by the pipe manufacturer.

A = surface area of the pipe wall, $\frac{in^2}{ft}$

γ_s = specific weight of soil in pounds per cubic foot (pcf)

H = Depth of burial in feet (ft) from ground surface to crown of pipe.

24 = conversions and coefficients

S-14) Will all pipe installations proposed for this project have an H less than or equal to the maximum allowable H calculated in S-13 and greater than or equal to 2 feet? **Yes** Report maximum allowable H, (H_a), and the maximum H which is proposed, (H), for each proposed pipe diameter and each type of flexible pipe material. **N/A**

Pipe Diameter: **8"** Pipe Material: **PVC SDR 26 ASTM D-2241** H_a: **354.75 ft** H: **8.14 ft**

Tensile Strength:

S-15) The project specifications need to indicate minimum allowable tensile **strength** in psi for each flexible pipe material. If PVC pipe is proposed, specify cell class:

Pipe Material: **PVC SDR 26 CL 160** Tensile Strength: **7,000** Cell Class (PVC only): **12364/12454**
"Handbook of PVC Pipe, Design and Construction" Table 2.1 pg. 14-15.

Strain:

S-16) Are the conditions of this installation such that strain-related failure will not be a problem? **Yes** If any proposed flexible pipe material is considered to be susceptible to strain-related failure at less than 5% long-term deflection provide analysis for predicted strain due to hoop stress and bending strain.

Deflection Analysis:

S-17) Indicate E_b (modulus of soil reaction for the bedding material) in psi. If E_b is greater than 750 psi, justification must be provided: **2,000 psi**

How was E_b determined or estimated? **"AWWA , M23 Manual" Table 4-5 pg. 30.**

S-18) Indicate E'n (modulus of soil reaction for the in-situ soil) in psi: **5,000 psi**

How was E'n determined or estimated? **"Table 5 – E'native for Various Native Soil Conditions" (Reference: American Concrete Pipe Association, Page 20)**

S-19) Calculate the ratio of bedding modulus to soil modulus:

$$Eb/E'n = \frac{2{,}000\ psi}{5{,}000\ psi} = \mathbf{0.40}$$

If this ratio is greater than 1.25, a zeta factor must be calculated, where zeta is a factor which corrects for the effect of in-situ soil on pipe stability. If the ratio of bedding modulus to soil modulus is less than or equal to 1.25, assume zeta = **1.0**.

S-20) Where native soil is significantly weaker than bedding material, or where predicted deflection approaches 5%, the effect of native soil must be quantified using Leonhardt's Zeta factor. Zeta must be determined for each diameter of pipe and corresponding trench width. Zeta may be estimated graphically or calculated directly. If zeta is estimated graphically, identify the source for tables, figures, etc...(including page numbers and table numbers or figure numbers for each source) which were used to estimate zeta.

Calculations:

$$zeta = \frac{1.44}{f+(1.44-f)*(\frac{E_b}{E'_n})} \qquad \text{Equation (8)}$$

$$zeta = \frac{1.44}{0.99+(1.44-0.99)*(\frac{2{,}000}{5{,}000})} = 1.00 \quad 8\text{" PIPE}$$

$$f = \frac{\frac{b}{d_a}-1}{1.154+0.444*(\frac{b}{d_a}-1)} \qquad \text{Equation (9)}$$

$$f = \frac{\frac{24}{7.921}-1}{1.154+0.444*(\frac{24}{8}-1)} = 0.99 \qquad 8\text{" PIPE}$$

f = pipe/trench width coefficient

b = trench width

d_a = pipe diameter

E_b = modulus of soil reaction for the bedding material (psi)

E'_n = modulus of soil reaction for the in-situ soil (psi)

S-21) For each size of pipe, report zeta factor determined:

Pipe Diameter: **8"** Trench Width: **24"** zeta: **1.00**

S-22) Determine pipe stiffness (P_s) in psi. P_s can be determined either by parallel plate test at 5% deflection, based on manufacturer's data or national reference standards; or, calculated using either equation 10 or equation 11. As an example, the minimum pipe stiffness at 5% deflection for PVC pipe less than 15 inches in diameter meeting ASTM D 3034, is 46 psi for SDR-35 and 115 psi for SDR 26. If equation 11 is used, the ring stiffness constant (RSC) is provided by the pipe manufacturer. Show calculations, or provide proper references, for each size of pipe and for each flexible pipe material.

$$P_s = \frac{EI}{0.149 * r^3} \qquad \text{Equation (10)}$$

or

$$P_s = 0.80 * RSC * \left(\frac{8.337}{D}\right) \qquad \text{Equation (11)}$$

E = modulus of elasticity of the pipe material (psi)

I = moment of inertia of the pipe wall cross section per linear inch of pipe, $inch^4$/linear inch = $inch^3$. For solid wall pipe, I can be calculated with equation 4. If the pipe used is not solid wall pipe (for example a pipe with a ribbed cross section), the proper moment of inertia formula must be obtained from the manufacturer.

D = mean pipe diameter (in)

r = mean radius (in)

S-23) Report P_s for each pipe size and each type of flexible pipe material as determined.

Pipe Diameter: **8"** Pipe Material: **PVC SDR 26/ASTM D-2241** P_s: **160 psi**

S-24) Because the terms in the denominator of the modified Iowa formula (Equation 13) are added, it is theoretically possible to have zero pipe stiffness (P_s=0) and still predict flexible pipe deflections less than 5%. In order to ensure that the stiffness being provided to the installation has a reasonable contribution from pipe stiffness, and does not rely solely on the stiffness provided by the soil stiffness factor (SSF), the ratio of P_s/SSF must be calculated. If P_s/SSF < 0.15, S-22 and S-23 must be repeated such that a higher stiffness pipe is chosen for each portion of the project where P_s/SSF < 0.15. The P_s/SSF ratio(s) must then be recalculated for the new higher stiffness pipe. This process must be repeated until P_s/SSF ≥ 0.15 exists for all proposed pipe sizes and for all types of flexible pipe materials.

$$\frac{P_s}{SSF} = \frac{P_s}{(0.061*zeta*E_b)} \geq 0.15 \qquad \text{Equation (12)}$$

$$\frac{P_s}{SSF} = \frac{160}{(0.061*1*2{,}000)} = 1.31 \geq 0.15 \quad \text{(8" PVC SDR 26 160 PSI)}$$

E_b = modulus of soil reaction for the bedding material (psi) [from T76]

zeta = 1.0, or a value calculated with the method in T79

SSF = soil stiffness factor (0.061*zeta*E_b)

S-25) Indicate the final values calculated for P_s/SSF for each diameter of pipe and for each pipe material:

Pipe Diameter: **8"** Pipe Material: **PVC SDR 26/ASTM D-2241** P_s/SSF: **1.31**

S-26) Do all proposed pipe sizes and flexible pipe materials have a pipe stiffness to soil stiffness factor ratio of greater than or equal to 0.15? **Yes**

S-27) Calculate and report predicted deflection. Predicted deflection must be calculated for each size of pipe and type of flexible pipe material. For the purposes of this application form, predicted deflection must be calculated using the method outlined below. Show calculations and report calculated maximum deflection for each size of pipe and type of flexible pipe material. Maximum allowable deflection in installed lines is 5%, as determined by the deflection analysis and verified by a mandrel test. Some conservatism should be employed in determining allowable predicted deflections. This conservatism is necessary to allow for variability in the quality of installation.

$$\frac{\Delta Y}{D(\%)} = \frac{K*(L_p+L_1)*100}{(0.149*P_s)+(0.061*zeta*E_b)} \qquad \text{Equation (13)}$$

$$\frac{\Delta Y}{D(\%)} = \frac{0.11*(13.39+0.00)*100}{(0.149*160)+(0.061*1.00*2{,}000)} = 0.84\% \quad \text{(8" PVC SDR 26 160 PSI)}$$

See attachment for calculation.

$\frac{\Delta Y}{D(\%)}$ = Predicted % vertical deflection under load.

ΔY = Change in vertical pipe diameter under load

D = Undeflected mean pipe diameter (in)

$$L_p = \frac{\gamma_s * H}{144} * 1.5 \qquad \text{Equation (14)}$$

$$L_p = \frac{125*8.14}{144} * 1.5 = 10.59 \qquad \text{(8" PVC SDR 26 160 PSI, H=10.31 ft)}$$

K = Bedding angle constant. Assumed to be 0.110 unless otherwise justified.

γ_s = Unit weight of soil (pcf). γ_s less than 120 pcf must be justified.

H = Depth of burial (ft) from ground surface to crown of pipe.

L_p = Prism load (psi). If prism load is calculated using Marston's load formula, or other formulas less conservative than the one provided above, the load should be multiplied by a deflection lag factor $D_L = 1.5$ to account for long-term deflection of the pipe as the bedding consolidates S-27) Report the final pipe diameters, types of pipe material proposed for each diameter, type of pipe material, pipe stiffness for each pipe material (P_s), zeta factors assumed or calculated for each pipe diameter, modulus of the pipe bedding material (E_b) and % deflection predicted for each pipe size and type of pipe material.

	Type of Pipe Material	P_s (psi)	zeta Factor Assumed or Calculated	E_b (psi)	% Deflection
Pipe Diameter 1	8" PVC SDR 26/ASTM D-2241	160	1.00	2,000	0.84

S-28) Do all pipes proposed for this project have a maximum predicted deflection of 5.0%? **Yes**

217.10(e)(11) **X** A description of the areas not initially served by a project, and the projected means of providing service to these areas, including special provisions incorporated in the present plans for future expansion.

- Refer to Attachment - **"No future areas served by this development."**

- 217.10(e)(12) __**N/A**__ The calculations and curves showing the operating characteristics of all system lift stations at minimum, maximum, and design flows during both present and future conditions.

217.10(e)(13) __**N/A**__ The safety considerations incorporated into a project design, including ventilation, entrances, working areas, and explosion prevention

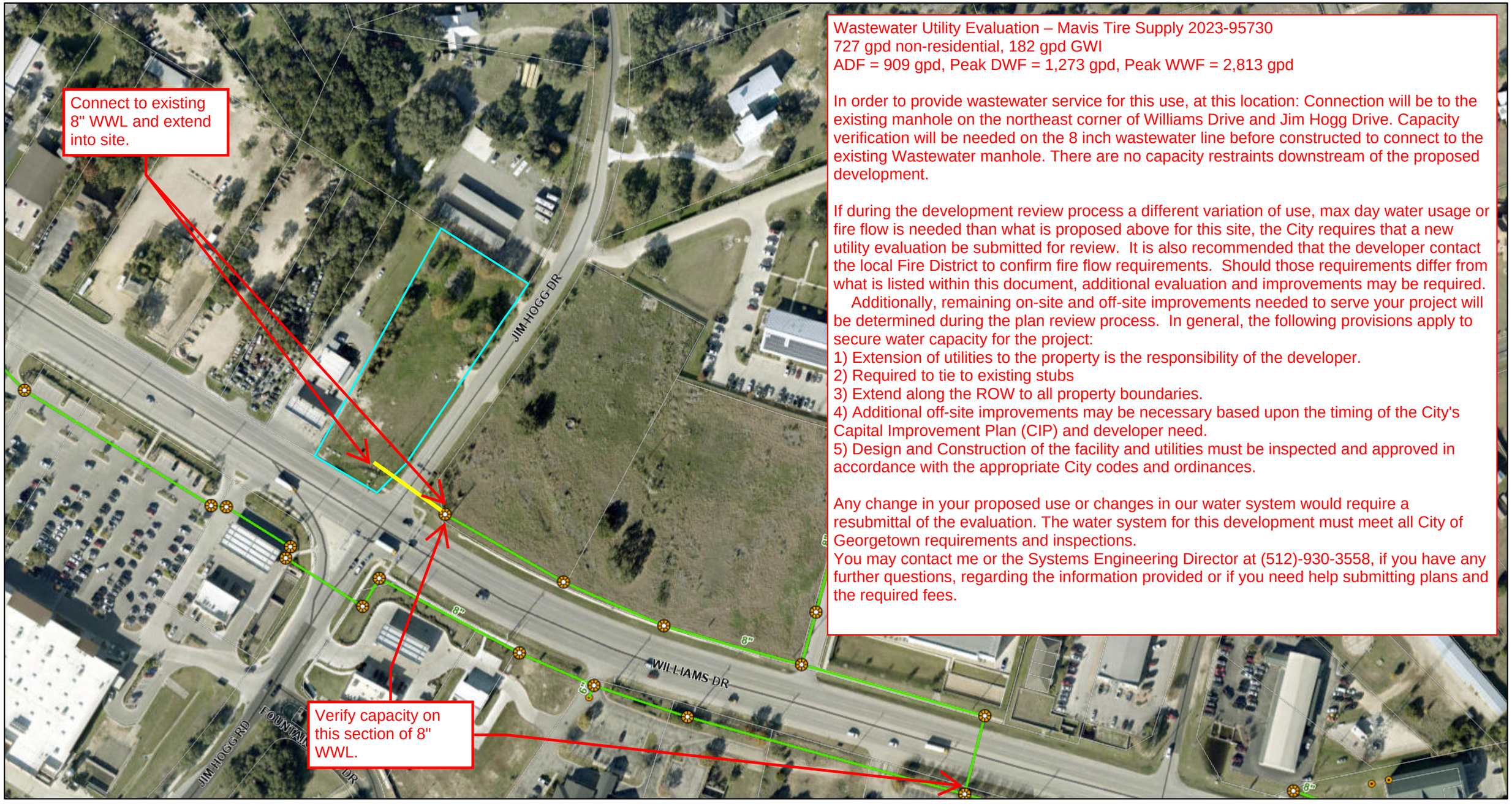
Place engineer's seal here:

Garrett Keller, P.E.
Print Name of Licensed Professional Engineer

Signature of Licensed Professional Engineer

6/2/25
Date

Mavis Tire Supply WW Eval 2023-95730



Wastewater Utility Evaluation – Mavis Tire Supply 2023-95730
727 gpd non-residential, 182 gpd GWI
ADF = 909 gpd, Peak DWF = 1,273 gpd, Peak WWF = 2,813 gpd

In order to provide wastewater service for this use, at this location: Connection will be to the existing manhole on the northeast corner of Williams Drive and Jim Hogg Drive. Capacity verification will be needed on the 8 inch wastewater line before constructed to connect to the existing Wastewater manhole. There are no capacity restraints downstream of the proposed development.

If during the development review process a different variation of use, max day water usage or fire flow is needed than what is proposed above for this site, the City requires that a new utility evaluation be submitted for review. It is also recommended that the developer contact the local Fire District to confirm fire flow requirements. Should those requirements differ from what is listed within this document, additional evaluation and improvements may be required.

Additionally, remaining on-site and off-site improvements needed to serve your project will be determined during the plan review process. In general, the following provisions apply to secure water capacity for the project:

1) Extension of utilities to the property is the responsibility of the developer.
2) Required to tie to existing stubs
3) Extend along the ROW to all property boundaries.
4) Additional off-site improvements may be necessary based upon the timing of the City's Capital Improvement Plan (CIP) and developer need.
5) Design and Construction of the facility and utilities must be inspected and approved in accordance with the appropriate City codes and ordinances.

Any change in your proposed use or changes in our water system would require a resubmittal of the evaluation. The water system for this development must meet all City of Georgetown requirements and inspections.
You may contact me or the Systems Engineering Director at (512)-930-3558, if you have any further questions, regarding the information provided or if you need help submitting plans and the required fees.

CONSTRUCTION DRAWINGS

FOR

6602 JIM HOGG DRIVE

SEWAGE COLLECTION SYSTEM EXTENSION

CITY OF GEORGETOWN

PROJECT # :2025 - 10 - CON

NOTES:

1. THESE PLANS WERE PREPARED, SEALED, SIGNED, AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE, BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE PLANS FOR CONSTRUCTION OF THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.

2. THIS PROJECT IS SUBJECT TO ALL CITY STANDARD SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE CITY.

3. WHERE NO EXISTING OVERHEAD INFRASTRUCTURE EXISTS, UNDERGROUND ELECTRIC UTILITY LINES SHALL BE LOCATED ALONG THE STREET AND WITHIN THE SITE.WHERE EXISTING OVERHEAD INFRASTRUCTURE IS TO BE RELOCATED, IT SHALL BE RE-INSTALLED UNDERGROUND AND THE EXISTING FACILITIES SHALL BE REMOVED AT THE DISCRETION OF THE DEVELOPMENT ENGINEER(ONLY APPLICABLE FOR NON-RESIDENTIAL AND MULTI-FAMILY DEVELOPMENT).

4. ALL ELECTRIC AND COMMUNICATION INFRASTRUCTURE SHALL COMPLYWITH UDC SECTION13.06.

5. THE PROPERTY SUBJECT TO THIS APPLICATION IS SUBJECT TO THE WATER QUALITY REGULATIONS OF THE CITY OF GEORGETOWN.

6. A GEOLOGIC ASSESSMENT, IN ACCORDANCE WITH THE CITY OF GEORGETOWN WATER QUALITY REGULATIONS, WAS COMPLETED ON JANUARY 17, 2025. ANY SPRINGS AND STREAMS AS IDENTIFIED IN THE GEOLOGIC ASSESSMENT ARE SHOWN HEREIN.

7. 811 NOTE: CONTRACTOR SHALL SUBMIT A LOCATE REQUEST TO TEXAS 811 FOR MARKING OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. EXCEPT WHERE OTHERWISE NOTED, THE DEPTH AND SIZE OF UNDERGROUND UTILITIES ARE UNKNOWN. UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION. FOR ANY ADDITIONAL INFORMATION REGARDING UTILITIES PLEASE CONTACT THE APPROPRIATE AGENCY.

SITE DATA:

SITE ADDRESS:
6602 JIM HOGG DRIVE
GEORGETOWN, TX 78633

LEGAL DESCRIPTION:
S3970 - LAKEWOOD ESTATES SEC 2, BLOCK 2,
LOT 8, ACRES 1.442

PROJECT DESCRIPTION:
EXTEND WASTEWATER SERVICE TO SITE

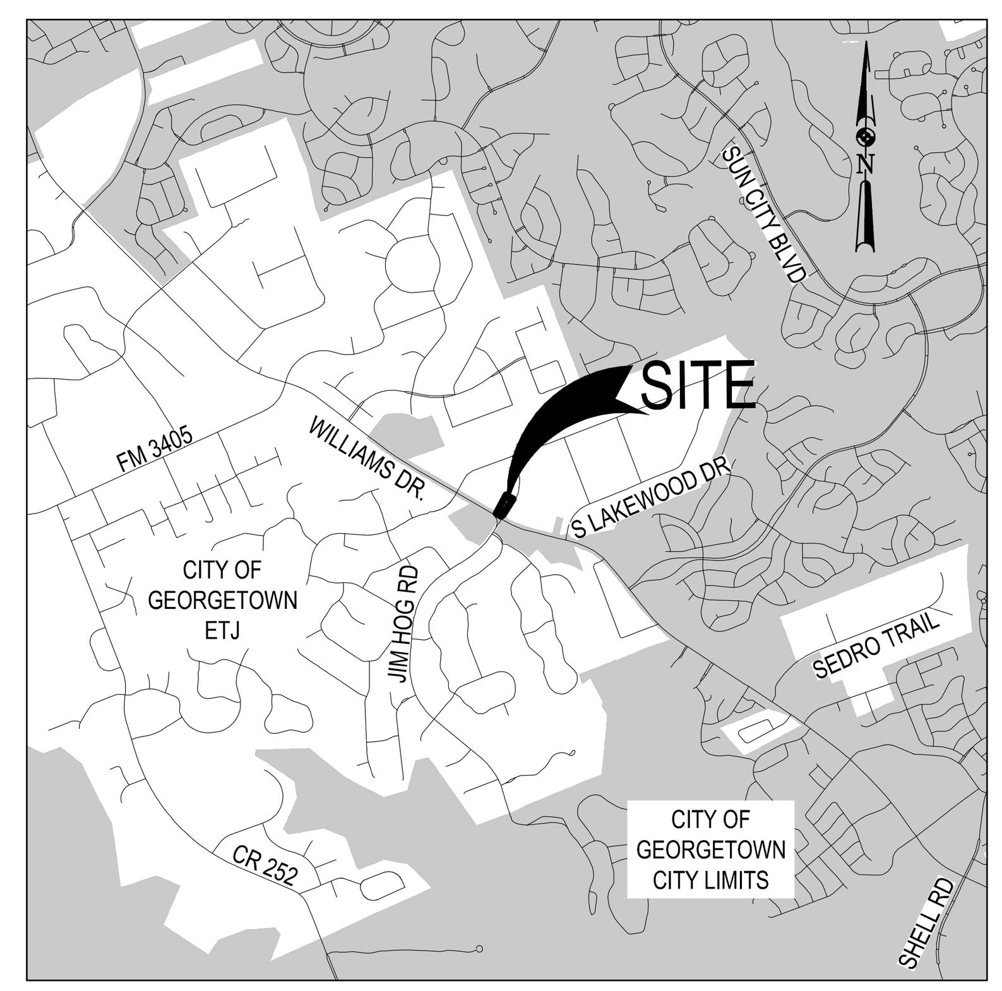
PROPOSED IMPERVIOUS COVER
0%

PROPOSED LOT USE:
COMMERCIAL

ZONING:
C-3

UTILITY PROVIDERS:
WATER / ELECTRIC - WASTEWATER
SERVICE BY:
GEORGETOWN UTILITY SYSTEMS
300-1 INDUSTRIAL AVENUE
GEORGETOWN, TEXAS 78626
(512) 930-3640

FIRE AND EMERGENCY
SERVICES BY:
GEORGETOWN FIRE DEPARTMENT
3500 DB WOOD RD.
GEORGETOWN, TEXAS 78628
(512) 930-3473



LOCATION MAP
1" = 4000'

OWNER / OWNERS'S REPRESENATIVE
JDW PARTNERS, LP
CHANCE LEIGH CUSTOM HOMES, LLC
1952 AUSTIN AVE.
GEORGETOWN, TX. 78633
(512) 846-1185
CHANCE@CHANCELEIGH.COM

CIVIL ENGINEER:
GARRETT D. KELLER, PE
MATKIN HOOVER ENGINEERING & SURVEYING
1701 WILLIAMS DRIVE
GEORGETOWN, TX 78628
GKELLER@MATKINHOOVER.COM

SURVEYOR:
KYLE L. PRESSLER, RPLS
MATKIN HOOVER ENGINEERING & SURVEYING
8 SPENCER RD., SUITE 100
BOERNE, TX 78006
KYLE.PRESSLER@MATKINHOOVER.COM

GEOLOGIST:
BRYAN PARISH
CAPITAL ENVIRONMENTAL, INC
REGISTERED GEOSCIENCES FIRM
TEXAS REGISTRATION No. 50389

Sheet List Table

SUBMITTED FOR REVIEW BY:

GARRETT D. KELLER, P.E. DATE

PREPARATION: FEBRUARY, 2025

Rev.	Date	Description	Apv.

STATE OF TEXAS
GARRETT KELLER
111511
LICENSED
PROFESSIONAL ENGINEER

FOR REVIEW ONLY - NOT FOR CONSTRUCTION

MATKINHOOVER
ENGINEERING & SURVEYING
HEADQUARTERS
8 SPENCER ROAD SUITE 300
BOERNE, TEXAS 78006
OFFICE: 830.249.0600 FAX:830.249.0099
1701 WILLIAMS DR.
GEORGETOWN, TEXAS 78628
OFFICE: 830.249.0600
2219 SAWDUST RD. SUITE 1201
SPRING, TEXAS 77380
OFFICE: 830.249.0600
BOERNE, TEXAS REGISTERED SURVEYING FIRM F-10024000
BOERNE, TEXAS REGISTERED ENGINEERING FIRM F-004512
CIVIL ENGINEERS SURVEYORS LAND PLANNERS
CONSTRUCTION MANAGERS CONSULTANTS

G-001
2025-10-CON
MHE JOB NO # 3456.01

G:\PROJECTS\3456 - 6602 Jim Hogg Drive\01 - Mavis Site Development\C - Systems Engineering Permit\01 345601 COVER SHEET-G-001.dwg
Date: May 19, 2025, 2:43pm User ID: cbell

Date: May 19, 2025, 2:24pm User ID: cbell

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
ORGANIZED SEWAGE COLLECTION SYSTEM
GENERAL CONSTRUCTION NOTES.

1. THIS ORGANIZED SEWAGE COLLECTION SYSTEM (SCS) MUST BE CONSTRUCTED IN ACCORDANCE WITH 30 TEXAS ADMINISTRATIVE CODE (TAC) §213.5(C), THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) EDWARDS AQUIFER RULES AND ANY LOCAL GOVERNMENT STANDARD SPECIFICATIONS.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROPOSED REGULATED PROJECT MUST BE PROVIDED WITH COPIES OF THE SCS PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS MUST BE REQUIRED TO KEEP ON-SITE COPIES OF THE PLAN AND THE APPROVAL LETTER.
3. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE PRESIDING TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
   - THE NAME OF THE APPROVED PROJECT;
   - THE ACTIVITY START DATE; AND
   - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.
4. ANY MODIFICATION TO THE ACTIVITIES DESCRIBED IN THE REFERENCED SCS APPLICATION FOLLOWING THE DATE OF APPROVAL MAY REQUIRE THE SUBMITTAL OF AN SCS APPLICATION TO MODIFY THIS APPROVAL, INCLUDING THE PAYMENT OF APPROPRIATE FEES AND ALL INFORMATION NECESSARY FOR ITS REVIEW AND APPROVAL.
5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
6. IF ANY SENSITIVE FEATURES ARE DISCOVERED DURING THE WASTEWATER LINE TRENCHING ACTIVITIES, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPLICANT MUST IMMEDIATELY NOTIFY THE APPROPRIATE REGIONAL OFFICE OF THE TCEQ OF THE FEATURE DISCOVERED. A GEOLOGIST'S ASSESSMENT OF THE LOCATION AND EXTENT OF THE FEATURE DISCOVERED MUST BE REPORTED TO THAT REGIONAL OFFICE IN WRITING AND THE APPLICANT MUST SUBMIT A PLAN FOR ENSURING THE STRUCTURAL INTEGRITY OF THE SEWER LINE OR FOR MODIFYING THE PROPOSED COLLECTION SYSTEM ALIGNMENT AROUND THE FEATURE. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE EXECUTIVE DIRECTOR HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY WHILE MAINTAINING THE STRUCTURAL INTEGRITY OF THE LINE.
7. SEWER LINES LOCATED WITHIN OR CROSSING THE 5-YEAR FLOODPLAIN OF A DRAINAGE WAY WILL BE PROTECTED FROM INUNDATION AND STREAM VELOCITIES WHICH COULD CAUSE EROSION AND SCOURING OF BACKFILL. THE TRENCH MUST BE CAPPED WITH CONCRETE TO PREVENT SCOURING OF BACKFILL, OR THE SEWER LINES MUST BE ENCASED IN CONCRETE. ALL CONCRETE SHALL HAVE A MINIMUM THICKNESS OF 6 INCHES.
8. BLASTING PROCEDURES FOR PROTECTION OF EXISTING SEWER LINES AND OTHER UTILITIES WILL BE IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION CRITERIA. SAND IS NOT ALLOWED AS BEDDING OR BACKFILL IN TRENCHES THAT HAVE BEEN BLASTED. IF ANY EXISTING SEWER LINES ARE DAMAGED, THE LINES MUST BE REPAIRED AND RETESTED.
9. ALL MANHOLES CONSTRUCTED OR REHABILITATED ON THIS PROJECT MUST HAVE WATERTIGHT SIZE ON SIZE RESILIENT CONNECTORS ALLOWING FOR DIFFERENTIAL SETTLEMENT. IF MANHOLES ARE CONSTRUCTED WITHIN THE 100-YEAR FLOODPLAIN, THE COVER MUST HAVE A GASKET AND BE BOLTED TO THE RING. WHERE GASKETED MANHOLE COVERS ARE REQUIRED FOR MORE THAN THREE MANHOLES IN SEQUENCE OR FOR MORE THAN 1500 FEET, ALTERNATE MEANS OF VENTING WILL BE PROVIDED. BRICKS ARE NOT AN ACCEPTABLE CONSTRUCTION MATERIAL FOR ANY PORTION OF THE MANHOLE. THE DIAMETER OF THE MANHOLES MUST BE A MINIMUM OF FOUR FEET AND THE MANHOLE FOR ENTRY MUST HAVE A MINIMUM CLEAR OPENING DIAMETER OF 30 INCHES. THESE DIMENSIONS AND OTHER DETAILS SHOWING COMPLIANCE WITH THE COMMISSION'S RULES CONCERNING MANHOLES AND SEWER LINE/MANHOLE INVERTS DESCRIBED IN 30 TAC §217.55 ARE INCLUDED ON PLAN SHEET CU501 & CU502. IT IS SUGGESTED THAT ENTRANCE INTO MANHOLES IN EXCESS OF FOUR FEET DEEP BE ACCOMPLISHED BY MEANS OF A PORTABLE LADDER. THE INCLUSION OF STEPS IN A MANHOLE IS PROHIBITED.
10. WHERE WATER LINES AND NEW SEWER LINE ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO MANHOLES) THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(D) (PIPE DESIGN) AND 30 TAC §290.44(E) (WATER DISTRIBUTION).
11. WHERE SEWERS LINES DEVIATE FROM STRAIGHT ALIGNMENT AND UNIFORM GRADE ALL CURVATURE OF SEWER PIPE MUST BE ACHIEVED BY THE FOLLOWING PROCEDURE WHICH IS RECOMMENDED BY THE PIPE MANUFACTURER: .
    IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE USED. SPECIFIC CARE MUST BE TAKEN TO ENSURE THAT THE JOINT IS PLACED IN THE CENTER OF THE TRENCH AND PROPERLY BEDDED IN ACCORDANCE WITH 30 TAC §217.54.
12. NEW SEWAGE COLLECTION SYSTEM LINES MUST BE CONSTRUCTED WITH STUB OUTS FOR THE CONNECTION OF ANTICIPATED EXTENSIONS. THE LOCATION OF SUCH STUB OUTS MUST BE MARKED ON THE GROUND SUCH THAT THEIR LOCATION CAN BE EASILY DETERMINED AT THE TIME OF CONNECTION OF THE EXTENSIONS. SUCH STUB OUTS MUST BE MANUFACTURED WYES OR TEES THAT ARE COMPATIBLE IN SIZE AND MATERIAL WITH BOTH THE SEWER LINE AND THE EXTENSION. AT THE TIME OF ORIGINAL CONSTRUCTION, NEW STUB-OUTS MUST BE CONSTRUCTED SUFFICIENTLY TO EXTEND BEYOND THE END OF THE STREET PAVEMENT. ALL STUB-OUTS MUST BE SEALED WITH A MANUFACTURED CAP TO PREVENT LEAKAGE. EXTENSIONS THAT WERE NOT ANTICIPATED AT THE TIME OF ORIGINAL CONSTRUCTION OR THAT ARE TO BE CONNECTED TO AN EXISTING SEWER LINE NOT FURNISHED WITH STUB OUTS MUST BE CONNECTED USING A MANUFACTURED SADDLE AND IN ACCORDANCE WITH ACCEPTED PLUMBING TECHNIQUES. IF NO STUB-OUT IS PRESENT AN ALTERNATE METHOD OF JOINING LATERALS IS SHOWN IN THE DETAIL ON PLAN SHEET CU501 & CU 502. (FOR POTENTIAL FUTURE LATERALS). THE PRIVATE SERVICE LATERAL STUB-OUTS MUST BE INSTALLED AS SHOWN ON THE PLAN AND PROFILE SHEETS ON PLAN SHEET CU501 & CU 502 AND MARKED AFTER BACKFILLING AS SHOWN IN THE DETAIL ON PLAN SHEET CU501 & CU 502.
13. TRENCHING, BEDDING AND BACKFILL MUST CONFORM WITH 30 TAC §217.54. THE BEDDING AND BACKFILL FOR FLEXIBLE PIPE MUST COMPLY WITH THE STANDARDS OF ASTM D-2321, CLASSES IA, IB, II OR III. RIGID PIPE BEDDING MUST COMPLY WITH THE REQUIREMENTS OF ASTM C 12 (ANSI A 106.2) CLASSES A, B OR C.
14. SEWER LINES MUST BE TESTED FROM MANHOLE TO MANHOLE. WHEN A NEW SEWER LINE IS CONNECTED TO AN EXISTING STUB OR CLEAN-OUT, IT MUST BE TESTED FROM EXISTING MANHOLE TO NEW MANHOLE. IF A STUB OR CLEAN-OUT IS USED AT THE END OF THE PROPOSED SEWER LINE, NO PRIVATE SERVICE ATTACHMENTS MAY BE CONNECTED BETWEEN THE LAST MANHOLE AND THE CLEANOUT UNLESS IT CAN BE CERTIFIED AS CONFORMING WITH THE PROVISIONS OF 30 TAC §213.5(C)(3)(E).
15. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH 30 TAC §217.57. THE ENGINEER MUST RETAIN COPIES OF ALL TEST RESULTS WHICH MUST BE MADE AVAILABLE TO THE EXECUTIVE DIRECTOR UPON REQUEST. THE ENGINEER MUST CERTIFY IN WRITING THAT ALL WASTEWATER LINES HAVE PASSED ALL REQUIRED TESTING TO THE APPROPRIATE REGIONAL OFFICE WITHIN 30 DAYS OF TEST COMPLETION AND PRIOR TO USE OF THE NEW COLLECTION SYSTEM. TESTING METHOD WILL BE:

(a) FOR A COLLECTION SYSTEM PIPE THAT WILL TRANSPORT WASTEWATER BY GRAVITY FLOW, THE DESIGN MUST SPECIFY AN INFILTRATION AND EXFILTRATION TEST OR A LOW-PRESSURE AIR TEST. A TEST MUST CONFORM TO THE FOLLOWING REQUIREMENTS:

(1) LOW PRESSURE AIR TEST.

(A) A LOW PRESSURE AIR TEST MUST FOLLOW THE PROCEDURES DESCRIBED IN AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C-828, ASTM C- 924, OR ASTM F-1417 OR OTHER PROCEDURE APPROVED BY THE EXECUTIVE DIRECTOR, EXCEPT AS TO TESTING TIMES AS REQUIRED IN TABLE C.3 IN SUBPARAGRAPH (C) OF THIS PARAGRAPH OR EQUATION C.3 IN SUBPARAGRAPH (B)(ii) OF THIS PARAGRAPH.

(B) FOR SECTIONS OF COLLECTION SYSTEM PIPE LESS THAN 36 INCH AVERAGE INSIDE DIAMETER, THE FOLLOWING PROCEDURE MUST APPLY, UNLESS A PIPE IS TO BE TESTED AS REQUIRED BY PARAGRAPH (2) OF THIS SUBSECTION.

(i) A PIPE MUST BE PRESSURIZED TO 3.5 POUNDS PER SQUARE INCH (PSI) GREATER THAN THE PRESSURE EXERTED BY GROUNDWATER ABOVE THE PIPE.

(ii) ONCE THE PRESSURE IS STABILIZED, THE MINIMUM TIME ALLOWABLE FOR THE PRESSURE TO DROP FROM 3.5 PSI GAUGE TO 2.5 PSI GAUGE IS COMPUTED FROM THE FOLLOWING EQUATION: EQUATION C.3

WHERE:

$$T = \frac{0.085xDxK}{Q}$$

T = TIME FOR PRESSURE TO DROP 1.0 POUND PER SQUARE INCH GAUGE IN SECONDS
K = 0.000419 X D X L, BUT NOT LESS THAN 1.0
D = AVERAGE INSIDE PIPE DIAMETER IN INCHES
L = LENGTH OF LINE OF SAME SIZE BEING TESTED, IN FEET
Q = RATE OF LOSS, 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE WILL BE USED.

(C) SINCE A K VALUE OF LESS THAN 1.0 MAY NOT BE USED, THE MINIMUM TESTING TIME FOR EACH PIPE DIAMETER IS SHOWN IN THE FOLLOWING TABLE C.3:

Pipe Diameter *(inches)*	**Minimum Time** *(seconds)*	**Maximum Length for Minimum Time** *(feet)*	**Time for Longer Length** *(seconds/foot)*
6	340	398	0.855
8	454	298	1.520
10	567	239	2.374
12	680	199	3.419
15	850	159	5.342
18	1020	133	7.693
21	1190	114	10.471
24	1360	100	13.676
27	1530	88	17.309
30	1700	80	21.369
33	1870	72	25.856

(D) AN OWNER MAY STOP A TEST IF NO PRESSURE LOSS HAS OCCURRED DURING THE FIRST 25% OF THE CALCULATED TESTING TIME.

(E) IF ANY PRESSURE LOSS OR LEAKAGE HAS OCCURRED DURING THE FIRST 25% OF A TESTING PERIOD, THEN THE TEST MUST CONTINUE FOR THE ENTIRE TEST DURATION AS OUTLINED ABOVE OR UNTIL FAILURE.

(F) WASTEWATER COLLECTION SYSTEM PIPES WITH A 27 INCH OR LARGER AVERAGE INSIDE DIAMETER MAY BE AIR TESTED AT EACH JOINT INSTEAD OF FOLLOWING THE PROCEDURE OUTLINED IN THIS SECTION.

(G) A TESTING PROCEDURE FOR PIPE WITH AN INSIDE DIAMETER GREATER THAN 33 INCHES MUST BE APPROVED BY THE EXECUTIVE DIRECTOR.

(2) INFILTRATION/EXFILTRATION TEST.

(A) THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH OF DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF 2.0 FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE.

(B) AN OWNER SHALL USE AN INFILTRATION TEST IN LIEU OF AN EXFILTRATION TEST WHEN PIPES ARE INSTALLED BELOW THE GROUNDWATER LEVEL.

(C) THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE, OR AT LEAST TWO FEET ABOVE EXISTING GROUNDWATER LEVEL, WHICHEVER IS GREATER.

(D) FOR CONSTRUCTION WITHIN A 25-YEAR FLOOD PLAIN, THE INFILTRATION OR EXFILTRATION MUST NOT EXCEED 10 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT THE SAME MINIMUM TEST HEAD AS IN SUBPARAGRAPH (C) OF THIS PARAGRAPH.

(E) IF THE QUANTITY OF INFILTRATION OR EXFILTRATION EXCEEDS THE MAXIMUM QUANTITY SPECIFIED, AN OWNER SHALL UNDERTAKE REMEDIAL ACTION IN ORDER TO REDUCE THE INFILTRATION OR EXFILTRATION TO AN AMOUNT WITHIN THE LIMITS SPECIFIED. AN OWNER SHALL RETEST A PIPE FOLLOWING A REMEDIATION ACTION.

(b) IF A GRAVITY COLLECTION PIPE IS COMPOSED OF FLEXIBLE PIPE, DEFLECTION TESTING IS ALSO REQUIRED. THE FOLLOWING PROCEDURES MUST BE FOLLOWED:

(1) FOR A COLLECTION PIPE WITH INSIDE DIAMETER LESS THAN 27 INCHES, DEFLECTION MEASUREMENT REQUIRES A RIGID MANDREL.

(A) MANDREL SIZING.

(i) A RIGID MANDREL MUST HAVE AN OUTSIDE DIAMETER (OD) NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER (ID) OR AVERAGE ID OF A PIPE, AS SPECIFIED IN THE APPROPRIATE STANDARD BY THE ASTMS, AMERICAN WATER WORKS ASSOCIATION, UNI-BELL, OR AMERICAN NATIONAL STANDARDS INSTITUTE, OR ANY RELATED APPENDIX.

(ii) IF A MANDREL SIZING DIAMETER IS NOT SPECIFIED IN THE APPROPRIATE STANDARD, THE MANDREL MUST HAVE AN OD EQUAL TO 95% OF THE ID OF A PIPE. IN THIS CASE, THE ID OF THE PIPE, FOR THE PURPOSE OF DETERMINING THE OD OF THE MANDREL, MUST EQUAL BE THE AVERAGE OUTSIDE DIAMETER MINUS TWO MINIMUM WALL THICKNESSES FOR OD CONTROLLED PIPE AND THE AVERAGE INSIDE DIAMETER FOR ID CONTROLLED PIPE.

(iii) ALL DIMENSIONS MUST MEET THE APPROPRIATE STANDARD.

(B) MANDREL DESIGN.

(i) A RIGID MANDREL MUST BE CONSTRUCTED OF A METAL OR A RIGID PLASTIC MATERIAL THAT CAN WITHSTAND 200 PSI WITHOUT BEING DEFORMED.

(ii) A MANDREL MUST HAVE NINE OR MORE ODD NUMBER OF RUNNERS OR LEGS.

(iii) A BARREL SECTION LENGTH MUST EQUAL AT LEAST 75% OF THE INSIDE DIAMETER OF A PIPE.

(iv) EACH SIZE MANDREL MUST USE A SEPARATE PROVING RING.

(C) METHOD OPTIONS.

(i) AN ADJUSTABLE OR FLEXIBLE MANDREL IS PROHIBITED.

(ii) A TEST MAY NOT USE TELEVISION INSPECTION AS A SUBSTITUTE FOR A DEFLECTION TEST.

(iii) IF REQUESTED, THE EXECUTIVE DIRECTOR MAY APPROVE THE USE OF A DEFLECTOMETER OR A MANDREL WITH REMOVABLE LEGS OR RUNNERS ON A CASE-BY-CASE BASIS.

(2) FOR A GRAVITY COLLECTION SYSTEM PIPE WITH AN INSIDE DIAMETER 27 INCHES AND GREATER, OTHER TEST METHODS MAY BE USED TO DETERMINE VERTICAL DEFLECTION.

(3) A DEFLECTION TEST METHOD MUST BE ACCURATE TO WITHIN PLUS OR MINUS 0.2% DEFLECTION.

(4) AN OWNER SHALL NOT CONDUCT A DEFLECTION TEST UNTIL AT LEAST 30 DAYS AFTER THE FINAL BACKFILL.

(5) GRAVITY COLLECTION SYSTEM PIPE DEFLECTION MUST NOT EXCEED FIVE PERCENT (5%).

(6) IF A PIPE SECTION FAILS A DEFLECTION TEST, AN OWNER SHALL CORRECT THE PROBLEM AND CONDUCT A SECOND TEST AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS.

16. ALL MANHOLES MUST BE TESTED TO MEET OR EXCEED THE REQUIREMENTS OF 30 TAC §217.58.

(a) ALL MANHOLES MUST PASS A LEAKAGE TEST.

(b) AN OWNER SHALL TEST EACH MANHOLE (AFTER ASSEMBLY AND BACKFILLING) FOR LEAKAGE, SEPARATE AND INDEPENDENT OF THE COLLECTION SYSTEM PIPES, BY HYDROSTATIC EXFILTRATION TESTING, VACUUM TESTING, OR OTHER METHOD APPROVED BY THE EXECUTIVE DIRECTOR.

(1) HYDROSTATIC TESTING.

(A) THE MAXIMUM LEAKAGE FOR HYDROSTATIC TESTING OR ANY ALTERNATIVE TEST METHODS IS 0.025 GALLONS PER FOOT DIAMETER PER FOOT OF MANHOLE DEPTH PER HOUR.

(A) TO PERFORM A HYDROSTATIC EXFILTRATION TEST, AN OWNER SHALL SEAL ALL WASTEWATER PIPES COMING INTO A MANHOLE WITH AN INTERNAL PIPE PLUG, FILL THE MANHOLE WITH WATER, AND MAINTAIN THE TEST FOR AT LEAST ONE HOUR.

(B) A TEST FOR CONCRETE MANHOLES MAY USE A 24-HOUR WETTING PERIOD BEFORE TESTING TO ALLOW SATURATION OF THE CONCRETE.

(2) VACUUM TESTING.

(A) TO PERFORM A VACUUM TEST, AN OWNER SHALL PLUG ALL LIFT HOLES AND EXTERIOR JOINTS WITH A NON-SHRINK GROUT AND PLUG ALL PIPES ENTERING A MANHOLE.

(B) NO GROUT MUST BE PLACED IN HORIZONTAL JOINTS BEFORE TESTING.

(C) STUB-OUTS, MANHOLE BOOTS, AND PIPE PLUGS MUST BE SECURED TO PREVENT MOVEMENT WHILE A VACUUM IS DRAWN.

(D) AN OWNER SHALL USE A MINIMUM 60 INCH/LB TORQUE WRENCH TO TIGHTEN THE EXTERNAL CLAMPS THAT SECURE A TEST COVER TO THE TOP OF A MANHOLE.

(E) A TEST HEAD MUST BE PLACED AT THE INSIDE OF THE TOP OF A CONE SECTION, AND THE SEAL INFLATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

(F) THERE MUST BE A VACUUM OF 10 INCHES OF MERCURY INSIDE A MANHOLE TO PERFORM A VALID TEST.

(G) A TEST DOES NOT BEGIN UNTIL AFTER THE VACUUM PUMP IS OFF.

(H) A MANHOLE PASSES THE TEST IF AFTER 2.0 MINUTES AND WITH ALL VALVES CLOSED, THE VACUUM IS AT LEAST 9.0 INCHES OF MERCURY.

17. ALL PRIVATE SERVICE LATERALS MUST BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH 30 TAC §213.5(C)(3)(I). AFTER INSTALLATION OF AND, PRIOR TO COVERING AND CONNECTING A PRIVATE SERVICE LATERAL TO AN EXISTING ORGANIZED SEWAGE COLLECTION SYSTEM, A TEXAS LICENSED PROFESSIONAL ENGINEER, TEXAS REGISTERED SANITARIAN, OR APPROPRIATE CITY INSPECTOR MUST VISUALLY INSPECT THE PRIVATE SERVICE LATERAL AND THE CONNECTION TO THE SEWAGE COLLECTION SYSTEM, AND CERTIFY THAT IT IS CONSTRUCTED IN CONFORMITY WITH THE APPLICABLE PROVISIONS OF THIS SECTION. THE OWNER OF THE COLLECTION SYSTEM MUST MAINTAIN SUCH CERTIFICATIONS FOR FIVE YEARS AND FORWARD COPIES TO THE APPROPRIATE REGIONAL OFFICE UPON REQUEST. CONNECTIONS MAY ONLY BE MADE TO AN APPROVED SEWAGE COLLECTION SYSTEM.

SEWER PIPE SIZING CALCULATIONS:

Peak Dry Weather Flow (PDWF) / Peak Wet Weather Flow (PWWF)		
PDWF		
GPD		500,000
GPM		30.60
INFILTRATION		
GPD / acre		1000
GPM acre		0.69
DRAIN AREA (ACRES)		16.0 gmp
TOTAL (GPM)		13.89
PWWF (GPM)		30.60

FLOW CAPACITIES					
Pipe Material	Inside Diameter (in.)	Min Slope (%)	Q 85% Full (gpm)	Max Slope (%)	Max Flow Velocity (f/s)
8" SDR 26, CL 160	7.961	0.50	246.70	8.40	10.00
Note: Manning's "n" value = 0.013					

SEQUENCE OF CONSTRUCTION

1. CALL ALL AFFECTED PARTIES AT LEAST 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION TO SCHEDULE A PRE-CONSTRUCTION CONFERENCE AND SECURE ALL REQUIRED PERMITS.
2. INSTALL TEMPORARY EROSION CONTROLS AND TREE PROTECTION FENCING PRIOR TO ANY CLEARING AND GRUBBING. NOTIFY THE CITY OF GEORGETOWN WHEN INSTALLED.
3. INSTALL ALL UNDERGROUND UTILITIES
4. COMPLETE ALL CONSTRUCTION AND INSTALLATIONS WITHIN THE SITE.
5. COMPLETE PERMANENT EROSION CONTROL AND RESTORATION OF SITE VEGETATION.
6. FINAL WALK THROUGH AND PUNCH LIST
7. REMOVE AND DISPOSE OF TEMPORARY EROSION CONTROL AND TREE PROTECTION.
8. COMPLETE ANY NECESSARY FINAL DRESS-UP
9. FINAL ACCEPTANCE

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF GEORGETOWN STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS.
2. ANY EXISTING UTILITIES, PAVEMENT, CURBS, SIDEWALKS, STRUCTURES, TREES, ETC., THAT ARE DAMAGED OR REMOVED SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER.
3. THE CONTRACTOR SHALL VERIFY ALL DEPTHS AND LOCATIONS OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES WITH THE CONSTRUCTION PLANS FOUND IN THE FIELD SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE ENGINEER.
4. THE CONTRACTOR SHALL CLEAN ALL STORM DRAIN STRUCTURES, PIPES, CULVERTS, ETC. PRIOR TO THE FINAL PAYMENT.
5. THE CONTRACTOR SHALL GIVE THE CITY OF GEORGETOWN 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION 512-930-3555 (COMMUNITY OWNED UTILITIES DEPARTMENT).
6. ALL AREAS DISTURBED OR EXPOSED DURING CONSTRUCTION SHALL BE RE-VEGETATED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. RE-VEGETATION OF ALL DISTURBED OR EXPOSED AREAS SHALL CONSIST OF SODDING OR SEEDING, AT THE CONTRACTOR'S OPTION. HOWEVER, THE TYPE OF RE-VEGETATION MUST EQUAL OR EXCEED THE TYPE OF VEGETATION PRESENT BEFORE CONSTRUCTION, UNLESS OTHERWISE REQUESTED BY THE PROPERTY OWNER.
7. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONVENE A PRE-CONSTRUCTION CONFERENCE BETWEEN THE CITY OF GEORGETOWN, THE ENGINEER, OTHER UTILITY COMPANIES, ANY AFFECTED PARTIES AND ANY OTHER ENTITY THE CITY OR ENGINEER MAY REQUIRE.
8. THE CONTRACTOR AND ENGINEER SHALL KEEP ACCURATE RECORDS OF ALL CONSTRUCTION THAT DEVIATES FROM THE PLANS. THE ENGINEER SHALL FURNISH THE CITY OF GEORGETOWN WITH ACCURATE "AS-BUILT" DRAWINGS FOLLOWING THE COMPLETION OF CONSTRUCTION. THESE "AS-BUILT" DRAWINGS SHALL MEET WITH THE SATISFACTION OF THE COMMUNITY OWNED UTILITIES DEPARTMENT PRIOR TO FINAL ACCEPTANCE.
9. THE CITY OF GEORGETOWN SHALL NOT BE PETITIONED FOR ACCEPTANCE UNTIL ALL NECESSARY EASEMENT DOCUMENTS HAVE BEEN FILED AND RECORDED.
10. WHEN CONSTRUCTION IS BEING CARRIED OUT WITH THE EASEMENTS, THE CONTRACTOR SHALL CONFINE HIS WORK TO WITHIN THE PERMANENT AND ANY TEMPORARY EASEMENTS. PRIOR TO FINAL ACCEPTANCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TRASH AND DEBRIS WITHIN THE PERMANENT AND TEMPORARY EASEMENTS. CLEAN-UP SHALL BE TO THE SATISFACTION OF THE ENGINEER.
11. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL APPLY FOR AND SECURE ALL PROJECT PERMITS FROM THE APPROPRIATE AUTHORITIES.
12. DEPTH OF COVER FOR ALL CROSSINGS UNDER PAVEMENT INCLUDING GAS, ELECTRIC, TELEPHONE, CABLE TV, WATER SERVICES, ETC., REFERENCE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATION AND STANDARDS MANUAL DETAILS WW01A AND WWO1B FOR ALL CROSSINGS.
13. WHERE DISCREPANCIES ARISE BETWEEN PLANS AND SPECIFICATIONS, PLANS GOVERN UNLESS OTHERWISE NOTED.
14. TRAFFIC IMPACT ANALYSIS WILL BE REQUIRED WHEN THE AVERAGE DAILY TRIPS FOR THIS DEVELOPMENT EXCEEDS 10,000 TRIPS PER DAY.
15. TRAFFIC IMPACT ANALYSIS (TIA) REQUIREMENTS HAVE BEEN MET FOR THIS PLAN

CITY OF GEORGETOWN GENERAL PLAN NOTES:

1. THESE CONSTRUCTION PLANS WERE PREPARED, SEALED, SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE CONSTRUCTION PLANS FOR CONSTRUCTION OF THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.
2. THIS PROJECT IS SUBJECT TO ALL CITY STANDARD SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE CITY.
3. THE SITE CONSTRUCTION PLANS SHALL MEET ALL REQUIREMENTS OF THE APPROVED SITE PLAN.
4. WASTEWATER MAINS AND SERVICE LINES SHALL BE SDR 26 PVC.
5. WASTEWATER MAINS SHALL BE INSTALLED WITHOUT HORIZONTAL OR VERTICAL BENDS.
6. MAXIMUM DISTANCE BETWEEN WASTEWATER MANHOLES IS 500 FEET.
7. WASTEWATER MAINS SHALL BE LOW PRESSURE AIR TESTED AND MANDREL TESTED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.
8. WASTEWATER MANHOLES SHALL BE VACUUM TESTED AND COATED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIRMENTS.
9. WASTEWATER MAINS SHALL BE CAMERA TESTED BY THE CONACTOR AND SUBMITTED TO THE CITY ON DVD FORMAT PRIOR TO PAVING OF STREETS.
10. PRIVATE WATER SYSTEM FIRE LINES SHALL BE TESTED BY THE CONTRACTOR TO 200 PSI FOR 2 HOURS.
11. PRIVATE WATER SYSTEM FIRE LINES SHALL BE DUCTILE IRON PIPING FROM THE WATER MAIN TO THE BUILDING SPRINKLER SYSTEM, AND 200 PSI C900 PVC FOR ALL OTHERS.
12. PUBLIC WATER SYSTEM MAINS SHALL BE 150 PSI C900 PVC AND TESTED BY THE CONTRACTOR AT 200 PSI FOR 15 MINUTES AND 150 PSI FOR 2 HOURS.
13. ALL BENDS AND CHANGES IN DIRECTION ON WATER MAINS SHALL BE RESTRAINED AND THRUST BLOCKED.
14. LONG FIRE HYDRANT LEADS SHALL BE RESTRAINED.
15. ALL WATER LINES ARE TO BE BACTERIA TESTED BY THE CONTRACTOR ACCORDING TO THE CITY STANDARDS AND SPECIFICATIONS.
16. WATER AND SEWER MAIN CROSSINGS SHALL MEET ALL REQUIREMENTS OF THE TCEQ AND THE CITY.
17. FLEXIBLE BASE MATERIAL FOR PUBLIC STREETS SHALL BE TXDOT TYPE A GRADE 1.
18. HOT MIX ASPHALTIC CONCRETE PAVEMENT SHALL BE TYPE D UNLESS OTHERWISE SPECIFIED AND SHALL BE A MINIMUM OF 2 INCHES THICK ON PUBLIC STREETS AND ROADWAYS.
19. ALL SIDEWALK RAMPS ARE TO BE INSTALLED WITH THE PUBLIC INFRASTRUCTURE.
20. A MAINTENANCE BOND IS REQUIRED TO BE SUBMITTED TO THE CITY PRIOR TO ACCEPTANCE OF THE PUBLIC IMPROVEMENTS. THIS BOND SHALL BE ESTABLISHED FOR 1 YEAR IN THE AMOUNT OF 25% OF THE COST OF THE PUBLIC IMPROVEMENTS AND SHALL FOLLOW THE CITY FORMAT.
21. RECORD DRAWINGS OF THE PUBLIC IMPROVEMENTS SHALL BE SUBMITTED TO THE CITY BY THE DESIGN ENGINEER PRIOR TO ACCEPTANCE OF THE PROJECT. THESE DRAWINGS SHALL BE ON MYLAR OR ON TIFF OR PDF DISK (300DPI). IF A DISK IS SUBMITTED, A BOND SET SHALL BE INCLUDED WITH THE DISK.

WASTEWATER NOTES:

1. ALL NON-PRESSURE RATED SANITARY SEWER PIPE FOR THIS PROJECT SHALL BE SDR 26 PVC ASTM D-3034 WITH A BELLED JOINT TYPE CONFORMING TO ASTM D-3212. ALL PRESSURE RATED SANITARY SEWER PIPE FOR THIS PROJECT SHALL BE SDR 26 IPS PRESSURE ASTM 2241, CLASS160 PVC PIPE WITH INTEGRAL BELL JOINT TYPE CONFORMING TO ASTM D-3139 (160 PSI MIN. WORKING PRESSURE). ALL STANDARD GASKETS FOR JOINTS ASSOCIATED WITH THIS PROJECT SHALL CONFORM TO ASTM F-477. ALL SEWER SERVICE CONNECTION THAT CROSS A WATERLINE SHALL BE PRESSURE RATED SDR 26 CLASS 160 CONFORMING TO ASTM D-2241, ALL OTHER SEWER SERVICE CONNECTIONS SHALL BE SDR 26 CLASS 115 CONFORMING TO ASTM D-3034.

GENERAL UTILITY NOTES:

1. ALL MAINS SHALL BE FLUSHED, HYDROSTATICALLY TESTED AND DISINFECTED BY THE CONTRACTOR, PER THE CITY OF GEORGETOWN STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. FOR PURPOSES OF RECORD DRAWINGS FOR THE CITY OF GEORGETOWN, THE CONTRACTOR SHALL FURNISH THE ENGINEER WITH ALL THE FINAL MEASUREMENTS, TAPS AND LENGTH OF SERVICE CONNECTIONS.
3. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT.
4. ALL GARBAGE OR SPOIL MATERIAL FROM THIS WORK SHALL BE REMOVED AND DISPOSED OF FROM THE SITE BY THE CONTRACTOR, AT THEIR EXPENSE.
5. ALL TRENCH BACKFILL FOR THIS PROJECT SHALL BE ACCOMPLISHED ACCORDING TO THE UTILITY DETAIL SHEET AND SHALL MEET ALL REQUIREMENTS OF THE CITY OF GEORGETOWN. NO WATER JETTING WILL BE ALLOWED. OBSERVATION OF TRENCH BACKFILL WILL BE SUPPLEMENTED BY MOISTURE-DENSITY TESTING CONDUCTED AT PERIODIC INTERVALS DURING THE COMPACTION PROCESS. THE CONTRACTOR WILL BE REQUIRED TO MAKE SUITABLE EXCAVATION TO ALLOW ACCESS FOR SUCH TESTING, AND WILL BE REQUIRED TO REMOVE AND REPLACE BACKFILL AS MANY TIMES AS NECESSARY TO ACHIEVE 95% STANDARD PROCTOR.
6. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS PROJECT SHALL CONFORM TO ALL APPLICABLE TCEQ AND CITY OF GEORGETOWN WATER STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION(LATEST EDITION), CITY OF GEORGETOWN BUILDING CODE AND REGULATIONS, AS WELL AS OTHER SAFETY CODES AND INSPECTION PROVISIONS APPLICABLE TO THE PROJECT.
7. ALL ITEMS NOT SPECIFICALLY CALLED FOR ON THE PLANS, OR IN THE SPECIFICATIONS, BUT NECESSARY TO REASONABLY CONSTRUCT THE FACILITY OR IMPROVEMENT, SHALL BE CONSIDERED INCIDENTAL TO THE OVERALL PROJECT AND NO SEPARATE PAYMENTS WILL BE MADE FOR THESE ITEMS.
8. THE CONTRACTOR SHALL EXCAVATE AROUND EXISTING UTILITIES WHICH INTERSECT THE PROPOSED ALIGNMENT OF THE SERVICES AND NOTIFY THE ENGINEER OF POTENTIAL CONFLICTS, PRIOR TO ANY CONSTRUCTION IN THE AREA.
9. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
10. THE CONTRACTOR SHALL NOTIFY THE GOVERNMENTAL AND/OR UTILITY COMPANIES REGARDING THE LOCATION OF EXISTING FACILITIES PRIOR TO CONSTRUCTION.
11. FIRE HYDRANTS SHALL BE A MINIMUM OF EIGHTEEN (18) INCHES AND A MAXIMUM OF TWENTY FOUR (24) INCHES TO THE BACK OF THE CURB. THE STEAMER CONNECTION SHALL BE A MINIMUM OF ONE AND ONE-HALF (1.5) FEET AND A MAXIMUM OF TWO (2) FEET ABOVE GRADE. HYDRANTS SHALL BE KEPT CLEAR OF ALL OBSTACLES WITHIN THREE (3) FEET.
12. CONTRACTOR SHALL USE SPECIAL CARE AND MINIMIZE ANY DISTURBANCE WITHIN EXCAVATING NEAR OR WITHIN THE DRIPLINE OF TREES TO REMAIN.
13. THE ELECTRIC UTILITY HAS THE RIGHT TO PRUNE AND/OR REMOVE TREES, SHRUBBERY VEGETATION AND OTHER OBSTRUCTIONS TO THE EXTENT NECESSARY TO KEEP THE EASEMENTS CLEAR. THE OWNER/DEVELOPER OF THIS SUBDIVISION/LOT SHALL PROVIDE THE CITY OF GEORGETOWN ELECTRIC UTILITY DEPARTMENT WITH ANY EASEMENT AND/OR ACCESS REQUIRED, IN ADDITION TO THOSE INDICATED, FOR THE INSTALLATION AND ONGOING MAINTENANCE OF OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES.
14. THE TRENCH EXCAVATION STANDARDS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION ARE HEREBY INCLUDED AND SHALL BE APPLICABLE TO ALL TRENCH EXCAVATION WORK WITHIN THE CITY WHICH EXCEEDS FOUR (4) FEET IN DEPTH.
15. ALL STORM DRAIN PIPES FOR THIS PROJECT SHALL BE REINFORCED CONCRETE PIPE WITH AN N=0.013.
16. ALL WATER DISTRIBUTION LINES (8" OR 12" DIAMETER PIPE) SHALL BE AWWA C-900 PVC CLASS 150 PSI, UNLESS OTHERWISE SPECIFIED.

TREE PROTECTION NOTES:

1. ALL TREES SHOWN ON THIS PLAN TO BE RETAINED OR REPLANTED SHALL BE PROTECTED DURING CONSTRUCTION WITH TEMPORARY CHAIN LINK FENCING.
2. TREE PROTECTION FENCES SHALL BE ERECTED ACCORDING TO THESE CONSTRUCTION SPECIFICATIONS.
3. TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING), AND SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE CONSTRUCTION PROJECT.
4. FENCES SHALL COMPLETELY SURROUND THE TREE OR CLUSTERS OF TREES; SHALL BE LOCATED AT THE OUTERMOST LIMITS OF THE TREE BRANCHES (DRIPLINE); AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT IN ORDER TO PREVENT THE FOLLOWING:
   - A. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC OR STORAGE OF EQUIPMENT OR MATERIALS.
   - B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 6 INCHES CUT OR FILL) OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE PARK NATURALIST.
   - C. WOUNDS TO EXPOSED ROOTS, TRUNKS OR LIMBS BY MECHANICAL EQUIPMENT.
   - D. OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CONCRETE TRUCK CLEANING AND FIRES.
5. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIPLINES MAY BE PERMITTED IN THE FOLLOWING CASES:
   - A. WHERE PERMEABLE PAVING IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA.
   - B. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN 6 FEET TO THE BUILDING.
6. WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN A FENCE THAT IS CLOSER THAN 4 FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF 8 FEET (OR THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE REDUCED FENCING PROVIDED.
7. WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN AREAS OF UNPROTECTED ROOT ZONES (UNDER DRIPLINES) THOSE AREAS SHOULD BE COVERED WITH 4 INCHES OF ORGANIC MULCH OR GRAVEL TO MINIMIZE SOIL COMPACTION.
8. ALL GRADING WITHIN PROTECTED ROOT ZONE AREAS SHALL BE DONE BY HAND OR WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE. PRIOR TO GRADING, RELOCATE PROTECTIVE FENCING TO 2 FEET BEHIND THE GRADE CHANGE AREA.
9. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
10. PRIOR TO EXCAVATION OR GRADE CUTTING WITHIN TREE DRIPLINES, A CLEAN CUT SHALL BE MADE BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH ROCK SAW OR SIMILAR EQUIPMENT TO MINIMIZE DAMAGE TO REMAINING ROOTS.
11. TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES WILL BE WATERED DEEPLY ONCE A WEEK DURING PERIODS OF HOT, DRY WEATHER. TREE CROWNS ARE TO BE SPRAYED WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
12. WHEN INSTALLING CONCRETE ADJACENT TO THE ROOT ZONE OF A TREE USE A PLASTIC VAPOR BARRIER BEHIND THE CONCRETE TO PROHIBIT LEACHING OF LIME INTO THE ROOT ZONE.
13. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE
14. NO LANDSCAPE TOPSOIL DRESSING GREATER THAN 4 INCHES SHALL BE PERMITTED WITHIN THE DRIPLINE OF TREES. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
15. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND CONSTRUCTION EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS (BEFORE DAMAGE OCCURS). ALL FINISHED PRUNING MUST BE DONE ACCORDING TO THE RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY; REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES, CLASS II OF PRUNING.
16. ALL WOUNDS WHICH OCCUR TO TREE TRUNKS AND LIMBS MUST BE REPAIRED WITHIN 24 HOURS OF OCCURRENCE BY BARK TRACING TO REMOVE DAMAGED WOOD AND BARK AND THOROUGHLY SEALED WITH AN ACCEPTABLE TREE WOUND DRESSING. THIS SPECIFICALLY APPLIES TO WOUNDS CREATED BY CONSTRUCTION VEHICLES AND EQUIPMENT, INSTALLATION OF TOWERS AND PIERS AND STRINGING OF ELECTRICAL LINES.
17. TREES APPROVED FOR REMOVAL OR REPLANTING SHALL BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.

EROSION CONTROL NOTES:

1. CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASHOUT PIT AND CONSTRUCTION EQUIPMENT STORAGE AREA ARE TO BE DETERMINED IN THE FIELD. THEY ARE SHOWN ON THIS PLAN FOR ILLUSTRATIVE PURPOSES ONLY. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AROUND CONCRETE WASH PIT AND MATERIAL STORAGE AREA BASED ON FINAL LOCATION AND SIZE.
2. CONTRACTOR MAY MODIFY STORM WATER CONTROLS TO ACHIEVE THE DESIRED INTENT. ANY CHANGES ARE TO BE NOTED, SIGNED AND DATED BY THE RESPONSIBLE PARTY IN THE TPDES BOOK (NO SEPARATE PAY ITEM).
3. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL STORM WATER CONTROLS.
4. CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER OF ANY QUESTIONS REGARDING THE INTENT OF THIS PLAN.
5. IF REQUIRED, CONTRACTOR SHALL FILE NOI'S (NOTICE OF INTENT) AND NOT'S (NOTICE OF TERMINATION) FOR THIS PROJECT. REFER TO TPDES FOR PROPER POSTING REQUIREMENTS AND DOCUMENTS.
6. CONTRACTOR SHALL PERFORM INSPECTIONS OF CONTROLS ONCE EVERY FOURTEEN (14) DAYS AND WITHIN TWENTY-FOUR (24) HOURS OF A STORM EVENT OF 0.5 INCHES OR GREATER OR AS AN ALTERNATIVE METHOD CONTRACTOR SHALL PERFORM INSPECTIONS AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS.
7. A COPY OF THIS PLAN, TPDES BOOK AND INSPECTION REPORTS MUST REMAIN AT THE CONSTRUCTION SITE AT ALL TIMES.
8. EROSION CONTROL AND STABILIZATION MEASURES MUST BE INITIATED IMMEDIATELY IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY CEASED AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. STABILIZATION MEASURES THAT PROVIDE A PROTECTIVE COVER MUST BE INITIATED IMMEDIATELY IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE PERMANENTLY CEASED. THE TERM "IMMEDIATELY" IS USED TO DEFINE THE DEADLINE FOR INITIATING STABILIZATION MEASURES. IN THE CONTEXT OF THIS REQUIREMENT, "IMMEDIATELY" MEANS AS SOON AS PRACTICAL, BUT NO LATER THAN THE END OF THE NEXT WORK DAY, FOLLOWING THE DAY WHEN THE EARTH-DISTURBING ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED.
9. ALL DEBRIS AND CONSTRUCTION MATERIALS SHALL BE REMOVED PRIOR TO FINAL INSPECTION AND THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY. THE CITY RETAINS THE RIGHT TO REQUIRE THE PLACEMENT OF A COMMERCIAL DUMPSTER FOR COLLECTION OF DEBRIS IF THE SITE IS NOT PROPERLY MAINTAINED. THE COST ASSOCIATED WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND/OR OWNER.
10. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM PRODUCTS BASED UPON TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
11. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ADJACENT ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
12. REFER TO THE TPDES BOOK FOR THIS PROJECT FOR MORE INFORMATION/ DETAILS.
13. SCREENING AND LOCATION OF OUTDOOR STORAGE SHALL COMPLY WITH SECTION 5.09 OF THE UDC.

2025 - 10 - CON

STATE OF TEXAS
GARRETT KELLER
111511
LICENSED PROFESSIONAL ENGINEER
5/16/25

REVISIONS:

MATKINHOOVER
ENGINEERING
& SURVEYING

8 SPENCER ROAD SUITE 100
BOERNE, TEXAS 78006
OFFICE: 830.249.0600
CONTACT@MATKINHOOVER.COM

3303 SHELL ROAD SUITE 3
GEORGETOWN, TEXAS 78628
OFFICE: 512.868.2244

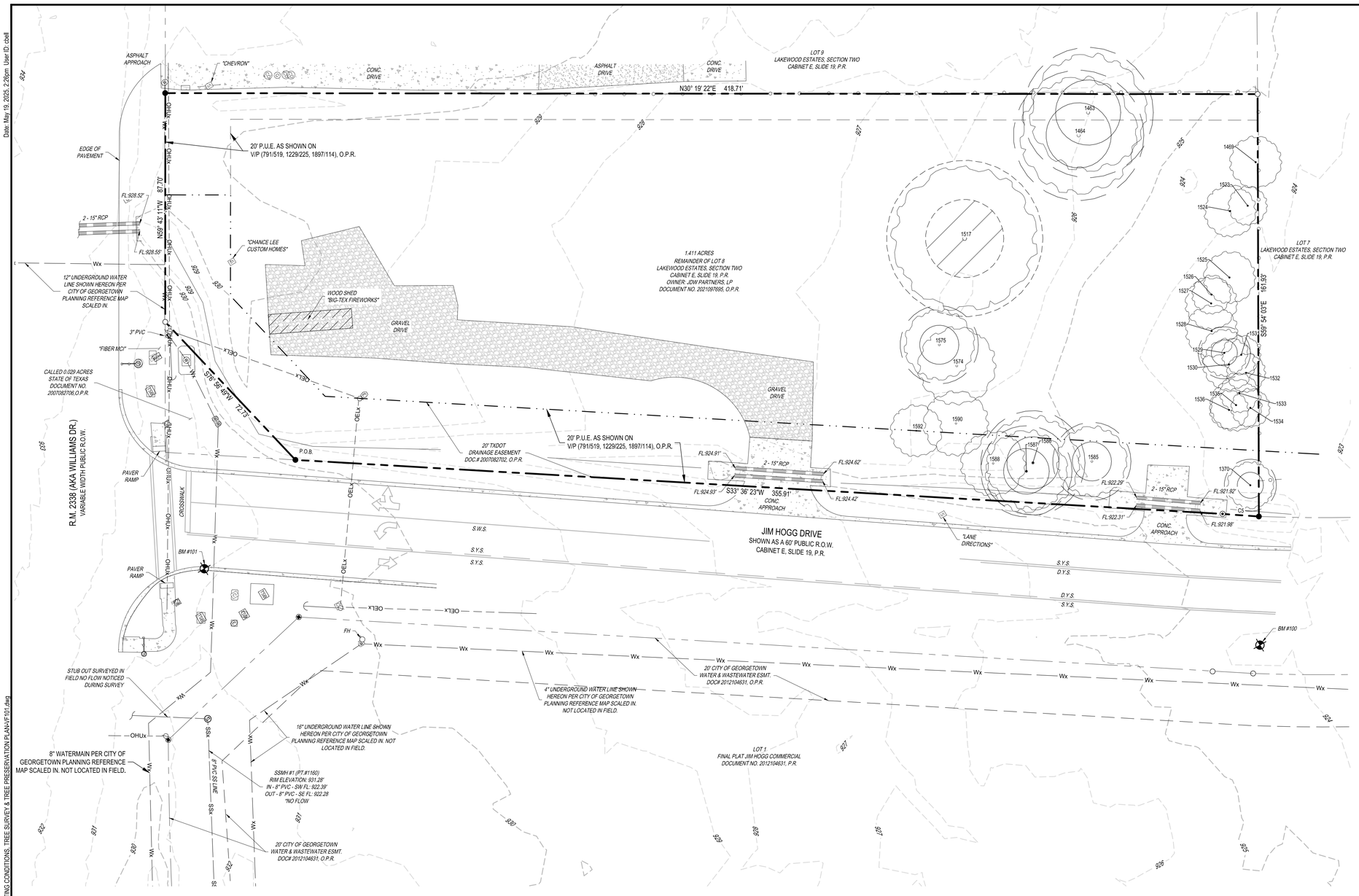
TEXAS REGISTERED ENGINEERING FIRM F-004512 SURVEYING FIRM F-10024000

GENERAL CIVIL NOTES
FOR
6602 JIM HOGG DRIVE
GEORGETOWN, TEXAS

C-001

JOB NO.	3456.00
DESIGNED BY:	DAP
DRAWN BY:	DAP
CHECKED BY:	GDK
SHEET #	02 OF 08

G:\PROJECTS\3456 - 6602 Jim Hogg Drive\01 - Mavis Site Development\C - Systems Engineering Permit\02 345601 GENERAL CIVIL NOTES-C-001.dwg



LEGEND

S.Y.S.	SOLID YELLOW STRIPE
D.Y.S.	DASHED YELLOW STRIPE
S.W.S.	SOLID WHITE STRIPE
CONC.	CONCRETE
P.O.B.	POINT OF BEGINNING
P.R.	PLAT RECORDS
O.P.R.	OFFICIAL PUBLIC RECORDS
( )	RECORD CALL PER CABINET E, SLIDE 19, P.R.
[ ]	FOUND 1/2" IRON ROD WITH A PINK "HAYNIE" PLASTIC CAP
●	FOUND MAG NAIL
◉	FOUND TXDOT TYPE II MONUMENT (BRASS DISK IN CONCRETE)
○	POINT
	BENCHMARK
C	COMMUNICATION VAULT
CP	COMMUNICATION PEDESTAL
G	GREASE TRAP
S	SANITARY SEWER MANHOLE
S	SANITARY SEWER CLEANOUT
∅	UTILITY POLE
∅	UTILITY POLE WITH GUY WIRE
∅	UTILITY POLE WITH ELECTRIC TRANSFORMER
E	ELECTRIC METER
W	WATER METER
W	WATER VALVE
	FIRE HYDRANT
MB	MAILBOX
	UTILITY STUBOUT
S	TRAFFIC SIGN
	UTILITY MARKERPOST
TSB	TRAFFIC SIGNAL BOX
	TRAFFIC SIGNAL POLE
	CROSSWALK POLE
W	WATER VAULT
	CHAIN-LINK FENCE
OELx	ELECTRIC (OVERHEAD)
OHUx	GENERAL OVERHEAD UTILITY
CRZ / CANOPY / 1/2 CRZ	HERITAGE TREE
CRZ / CANOPY / 1/2 CRZ	PROTECTED TREE
	CREDIT TREE

SCALE: 1"=20'
0 10' 20' 30' 40'

STATE OF TEXAS
GARRETT KELLER
111511
LICENSED
PROFESSIONAL ENGINEER

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OFFICE: 512.868.2244
TEXAS REGISTERED ENGINEERING FIRM F-606512 SURVEYING FIRM F-10024000

EXISTING CONDITIONS, TREE SURVEY
FOR
6602 JIM HOGG DRIVE
GEORGETOWN, TEXAS

VF-101

JOB NO.	3456.00
DESIGNED BY:	DAP
DRAWN BY:	DAP
CHECKED BY:	GDK
SHEET #	03 OF 08

2025 - 10 - CON

NOTES:

1) BEARINGS ARE BASED ON THE STATE PLANE COORDINATE SYSTEM ESTABLISHED FOR THE TEXAS CENTRAL ZONE 4203, NORTH AMERICAN DATUM (NAD) OF 1983. SCALE FACTOR: 1.0001452154

2) A METES AND BOUNDS DESCRIPTION WAS PREPARED BY A SEPARATE DOCUMENT.

3) "THIS DOCUMENT WAS PREPARED UNDER 22 TEXAS ADMINISTRATIVE CODE § 138.95, DOES NOT REFLECT THE RESULTS OF AN ON THE GROUND SURVEY, AND IS NOT TO BE USED TO CONVEY OR ESTABLISH INTERESTS IN REAL PROPERTY EXCEPT THOSE RIGHTS AND INTERESTS IMPLIED OR ESTABLISHED BY THE CREATION OR RECONFIGURATION OF THE BOUNDARY OF THE POLITICAL SUBDIVISION FOR WHICH IT WAS PREPARED."

4) VERTICAL RELIEF WAS MADE FROM AN ON THE GROUND SURVEY, CONTOURS SHOWN HEREON ARE AT 1' INTERVALS USING THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), GEOID 18.

5) "ONE-CALL" SERVICE WAS ORDERED ON AUGUST 8, 2024 (TICKET NO. 2472111987 & 2472111985), A FIELD CREW PERFORMED A SITE VISIT FROM 8/09/2024-8/12/2024 TO LOCATE ANY VISIBLE MARKINGS. BELOW ARE THE RESPONSES FROM PROVIDERS THAT WERE NOTIFIED PER RESPONSE FROM "TEXAS811LOCATES.ORG"

CODE	NAME	RESPONSE
TXS1	AT&T	NO RESPONSE (NOT OBSERVED)
ASW	ATMOS MIDTX	LOCATED (NOT OBSERVED)
MCT	MCI	LOCATED (NOT OBSERVED)
P79	PEDERNALES ELECTRIC COOPERATIVE	NO RESPONSE (NOT OBSERVED)
CXM	SUDDENLINK COMMUNICATIONS EAST TEXAS	LOCATED (NOT OBSERVED)
UFTRTX01	FRONTIER COMMUNICATIONS INC	LOCATED (NOT OBSERVED)
GEO	CITY OF GEORGETOWN TX	LOCATED (NOT OBSERVED)
GRAND06	ASTOUND BROADBAND	CLEAR (NOT OBSERVED)

6) THIS SURVEY WAS DONE WITHOUT THE BENEFIT OF A CURRENT TITLE COMMITMENT, THEREFORE ALL SETBACKS, EASEMENTS, ENCUMBRANCES AND RESTRICTIONS MAY NOT BE SHOWN HEREON. THE SURVEYOR DID NOT COMPLETE AN ABSTRACT OF TITLE.

NO TREES ARE REQUIRED TO BE REMOVED OR PROTECTED FOR THE CONSTRUCTION OF THIS PROJECT.

COMMON ABBREVIATIONS

APPROX	APPROXIMATELY
BFF	BELOW FINISHED FLOOR
DOM	DOMESTIC
DOMW	DOMESTIC WATER
EXIST	EXISTING
F	FIRE
FFE	FINISHED FLOOR ELEVATION
FT	FOOT
FL	FLOW LINE
IE	INVERT ELEVATION
LF	LINEAR FEET
PG	PROPOSED GRADE
POC	POINT OF CONNECTION
MIN	MINIMUM
W	WATER
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE

VERTICAL SITE CONTROL

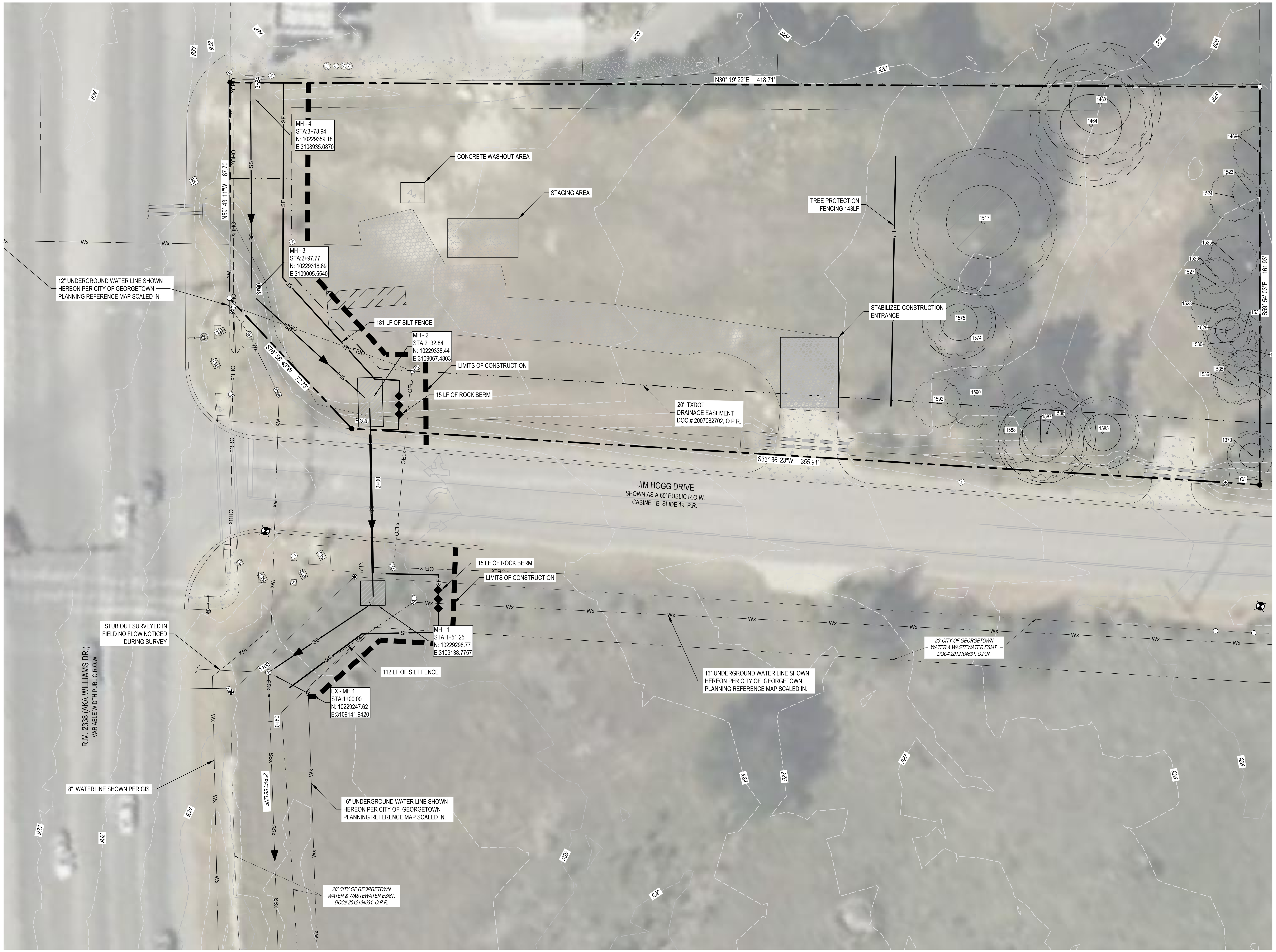
PT. NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
100	10229610.02	3109321.06	924.25	SET MAG WITH WASHER STAMPED "MATKIN HOOVER ENG. & SVY."
101	10229275.47	3109091.58	931.12	SET MAG WITH WASHER STAMPED "MATKIN HOOVER ENG. & SVY."

TREE TABLE

KEY	POINT NUMBER	SPECIES	TRUNK DIA (IN)	SPREAD (FT)	MULTI-TRUNK DIA (IN)
PT	1370	ELM	12	20	N / A
PT	1463	ELM	16	50	N / A
PT	1464	ELM	16	50	N / A
CT	1469	ELM	9	20	N / A
HT	1517	ELM	30	60	N / A
CT	1523	ELM	8	15	N / A
CT	1524	ELM	11	20	N / A
CT	1525	ELM	11	20	N / A
CT	1526	ELM	8	15	N / A
CT	1527	ELM	9	20	N / A
CT	1528	ELM	10	20	N / A
PT	1529	ELM	13	20	N / A
CT	1530	ELM	9	20	N / A
CT	1531	ELM	8	15	N / A

TREE TABLE

KEY	POINT NUMBER	SPECIES	TRUNK DIA (IN)	SPREAD (FT)	MULTI-TRUNK DIA (IN)
CT	1532	ELM	8	15	N / A
CT	1533	ELM	8	15	N / A
CT	1534	ELM	9	15	N / A
CT	1535	ELM	11	20	N / A
CT	1536	ELM	7	15	N / A
CT	1574	ELM	11	30	N / A
PT	1575	ELM	23	30	14X11X7
PT	1585	LIVE OAK	18	30	N / A
PT	1586	LIVE OAK	17	40	N / A
PT	1587	LIVE OAK	15	35	N / A
CT	1588	ELM	11	25	N / A
CT	1590	ELM	11	25	N / A
CT	1592	ELM	11	20	N / A



SCS SITE PLAN

LEGEND

- PROPERTY BOUNDARY
- LIMITS OF CONSTRUCTION
- EXISTING 1' CONTOUR — 870
- EXISTING 5' CONTOUR — 875
- EXISTING WATERLINE — Wx
- EXISTING SEWER LINE — SSx
- EXISTING OVERHEAD UTILITY — OHUx
- EXISTING OVERHEAD ELECTRIC — OELx
- EXISTING SANITARY SEWER MAIN — SSx
- PROPOSED SANITARY SEWER MAIN — SS
- EXISTING SANITARY SEWER MANHOLE — S
- PROPOSED SANITARY SEWER MANHOLE — S
- PROPOSED SILT FENCE — SF
- FLOW ARROW
- ROCK BERM
- BORE PIT
- PUBLIC UTILITY EASEMENT
- OPEN SPACE/DRAINAGE EASEMENT
- STABILIZED CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT AREA
- STAGING AREA
- HERITAGE TREE — CRZ, CANOPY, 1/2 CRZ
- PROTECTED TREE — CRZ, CANOPY, 1/2 CRZ
- CREDIT TREE

NOTES:

1. THIS SUBDIVISION IS NOT ENCROACHED BY A ZONE A FLOOD AREA, AS DENOTED HEREIN, AND AS DEFINED BY FEDERAL EMERGENCY MANAGEMENT ADMINISTRATION FLOOD HAZARD BOUNDARY MAP, COMMUNITY PANEL NUMBER 48491C0280E, DATED EFFECTIVE SEPTEMBER 16, 2008 AND THAT EACH LOT CONFORMS TO THE CITY OF GEORGETOWN REGULATIONS.

SCALE: 1"=20'
0 10' 20' 30' 40'

STATE OF TEXAS
GARRETT KELLER
111511
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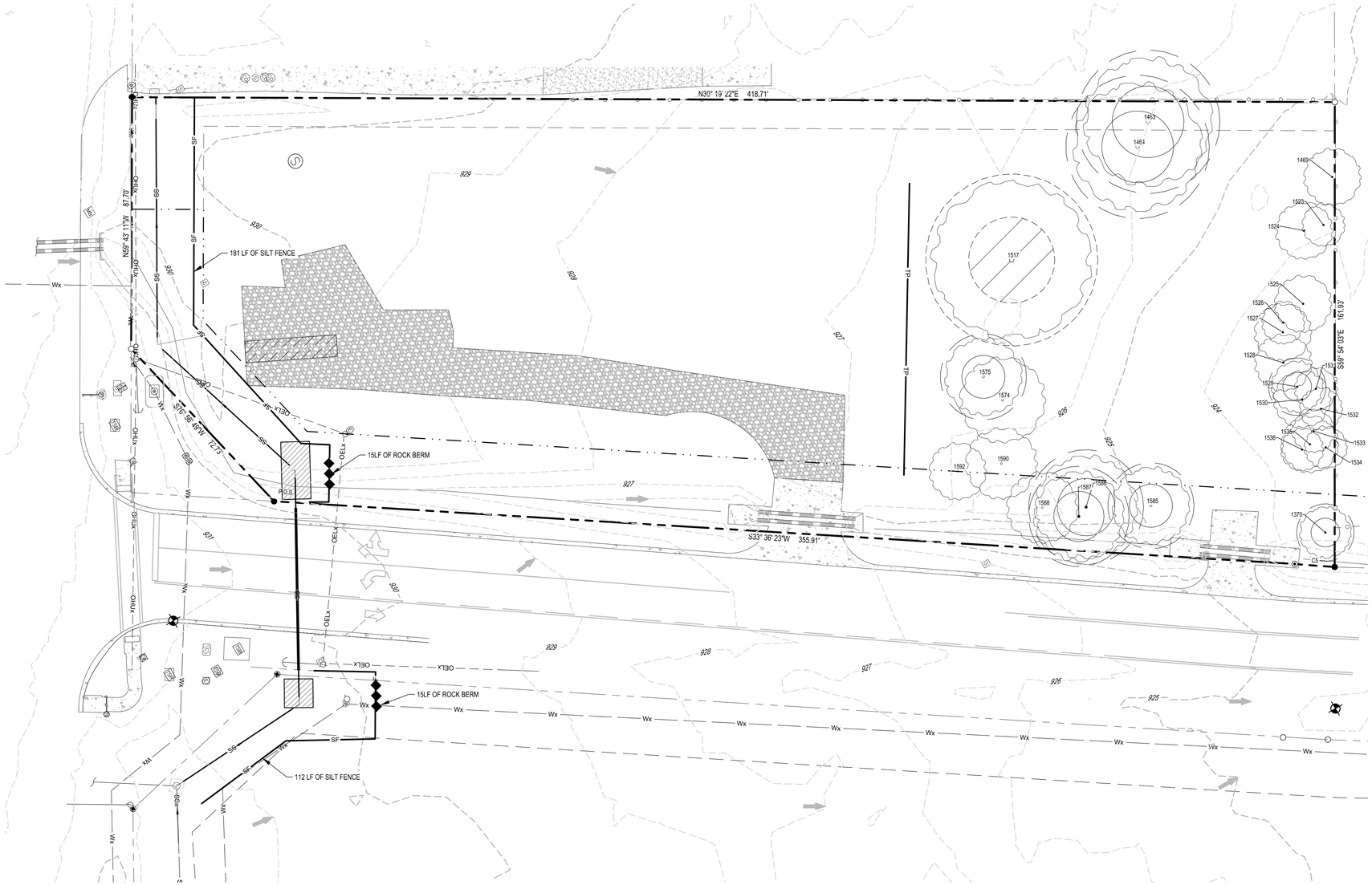
CONTACT@MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-004512 SURVEYING FIRM F-10024000

SEWAGE COLLECTION SYSTEM SITE PLAN
FOR
6602 JIM HOGG DRIVE
GEORGETOWN, TEXAS

V100

JOB NO.	3456.00
DESIGNED BY:	DAP
DRAWN BY:	DAP
CHECKED BY:	GDK
SHEET #	04 OF 08

2025 - 10 - CON



PROPERTY BOUNDARY

EXISTING 1' CONTOURS 1141

EXISTING 5' CONTOURS 1140

PROPOSED 1' CONTOURS 1441

PROPOSED 5' CONTOURS 1440

DRAINAGE EASEMENT

FLOW ARROW

ROCK BERM

SILT FENCE SF

SCALE: 1"=20'

0 10' 20' 30' 40'

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
WATER POLLUTION ABATEMENT PLAN
GENERAL CONSTRUCTION NOTES

1. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
   - THE NAME OF THE APPROVED PROJECT;
   - THE ACTIVITY START DATE; AND
   - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN (WPAP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.
3. IF ANY SENSITIVE FEATURE(S) (CAVES, SOLUTION CAVITY, SINK HOLE, ETC.) IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES MAY NOT BE RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE APPROPRIATE PROTECTIVE MEASURES IN ORDER TO PROTECT ANY SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.
4. NO TEMPORARY OR PERMANENT HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE.
5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
6. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC.
7. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS NOT LATER THAN TCEQ-0592 (REV. JULY 15, 2015) PAGE 2 OF 2 WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.
8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.
9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.
10. IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.
11. THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST:
    - THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR;
    - THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND
    - THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.
12. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:

A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;

B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;

C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

AUSTIN REGIONAL OFFICE	SAN ANTONIO REGIONAL OFFICE
12100 PARK 35 CIRCLE, BUILDING A	14250 JUDSON ROAD
AUSTIN, TEXAS 78753-1808	SAN ANTONIO, TEXAS 78233-4480
PHONE (512) 339-2929	PHONE (210) 490-3096
FAX (512) 339-3795	FAX (210) 545-4329

NOTES:

1. INTERIM OR FINAL GRADING MUST BE COMPLETED PRIOR TO SEEDING, MINIMIZING ALL STEEP SLOPES.
2. FERTILIZER SHOULD BE APPLIED AT THE RATE OF 40 POUNDS OF NITROGEN AND 40 POUNDS OF PHOSPHORUS PER ACRE. COMPOST CAN BE USED INSTEAD OF FERTILIZER AND APPLIED AT THE SAME TIME AS THE SEED.
3. ALL DISTURBED AREAS SHALL BE PERMANENTLY SEEDED OR OTHERWISE STABILIZED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED FOR MORE THAN 21 DAYS.

CONTRACTOR MUST HAVE A COPY OF THE CONTRIBUTING ZONE PLAN ON SITE AS REQUIRED BY TEXAS COMMISSION ON ENVIRONMENTAL QUAITY

SWPPP MODIFICATIONS AND MAINTENACE

DATE	SIGNATURE	DESCRIPTION

2025 - 10 - CON

STATE OF TEXAS
GARRETT KELLER
111511
LICENSED
PROFESSIONAL ENGINEER

REVISIONS:

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BOERNE, TEXAS 78006
OFFICE: 830.249.0600
CONTACT@MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-9045 | SURVEYING FIRM F-10024900

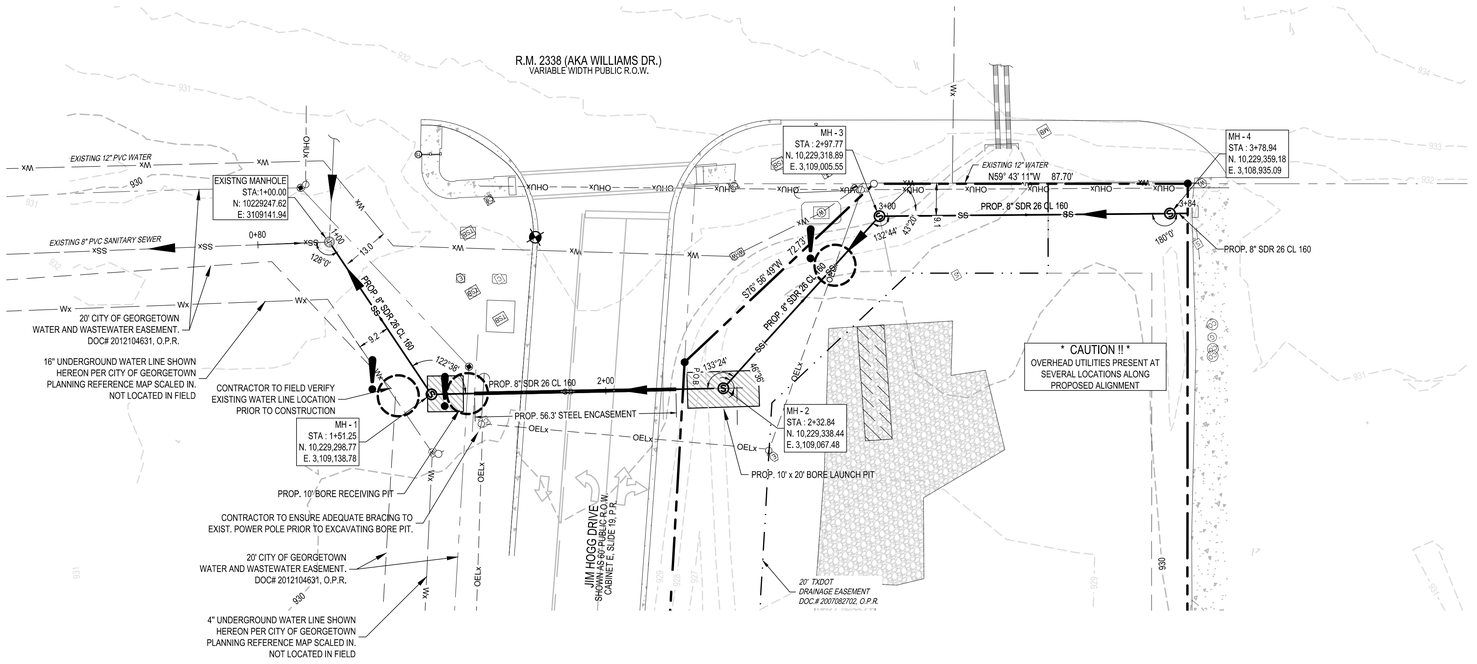
EROSION CONTROL & SEDIMENTATION PLAN
FOR
6602 JIM HOGG DRIVE
GEORGETOWN, TEXAS

CG801

JOB NO.	3456.00
DESIGNED BY:	DAP
DRAWN BY:	DAP
CHECKED BY:	GDK
SHEET #	05 OF 08

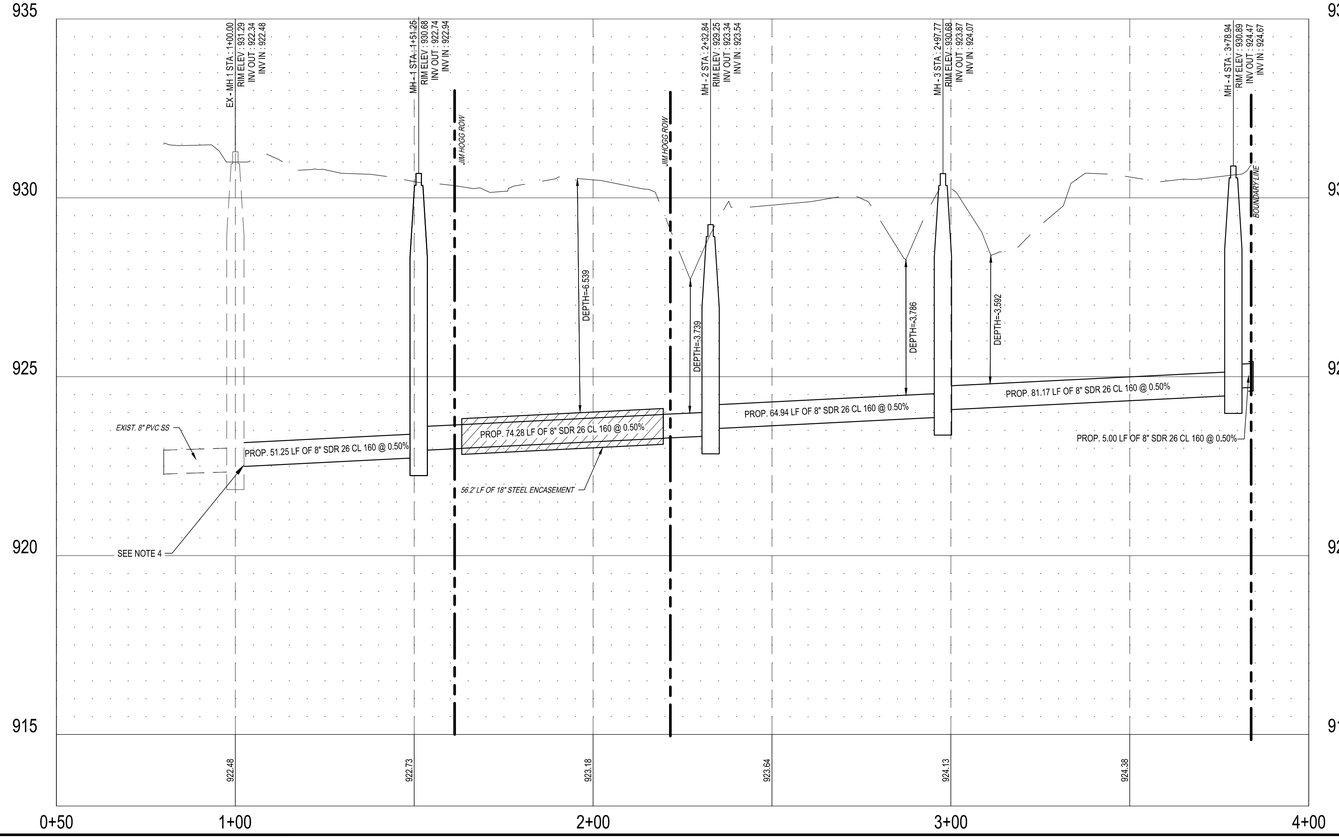
Date: May 19, 2025, 2:27pm User ID: cbell

G:\PROJECTS\3456 - 6602 Jim Hogg Drive\01 - Mavis Site Development\C - Systems Engineering Permit\05 345601 EROSION CONTROL & SEDIMENTATION PLAN-CG801.dwg



PROP. 8" SAN. SWR. - STA. 1+00.00 TO 3+79

SCALES : 1" = 20' HORIZ. - 1" = 2' VERT.



WARNING! CONTRACTOR TO FIELD VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN / GEOTECHNICAL / SAFETY / EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS COVERING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATIONS.

DENOTES UTILITY CROSSING, SEE UTILITY DETAIL SHEET FOR UTILITY CROSSING DETAIL

TRAFFIC CONTROL NOTES:

CONTRACTOR SHALL ADHERE TO ALL STATE AND LOCAL GOVERNMENT CODE REGARDING TRAFFIC CONTROL DURING CONSTRUCTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BLOCK TRAFFIC DURING CONSTRUCTION. IF A SAFETY CONCERN ARISES DURING CONSTRUCTION, CONTRACT SHALL NOTIFY SEALING ENGINEER AND PROJECT INSPECTOR OF ALL CONCERNS AS SOON AS POSSIBLE.

CONTRACTOR CAN UTILIZE TXDOT TRAFFIC CONTROL PLAN (TCP(1-1)-18) TO ENSURE ALL WORKERS ARE BEHIND BARRIERS.

PRIOR TO COMMENCEMENT OF CONTSTRUCTION ACTIVITIES:

1. CONTRACTOR TO ENSURE PROPER MAINTENANCE AND INSTALLATION OF ALL TREE PRESERVATION METHODS DURING CONSTRUCTION. THIS PLAN DOES NOT PROPOSE ANY REMOVAL OF HERITAGE OR PROTECTED TREES.
2. WARNING!! CONTRACTOR TO FIELD VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO START OF CONSTRUCTION. READ GENERAL UTILITY NOTES ON SHEET [C-001].
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL BMP'S PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES. READ EROSION CONTROL NOTES ON SHEET [C-001], THE EROSION CONTROL DETAILS ON SHEET [CU502], AND THE EROSION AND SEDIMENTATION CONTROL PLANS ON SHEET [CGR01].
4. CONTRACTOR SHALL CORE EXISTING MANHOLE AND INSTALL A CITY OF GEORGETOWN APPROVED RESILIENT CONNECTOR WITH A MECHANICAL SEAL. THE EXISTING MANHOLE SE COMPLETELY RE-COATED PER CITY OF GEORGETOWN SPECIFICATION AFTER THE NEW CONNECTION IS MADE.
5. PROPOSED WATER LINE IMPROVEMENTS SHALL BE INSTALLED PER CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS MANUAL.

PRIOR TO ACCEPTANCE OF ALL CONSTRUCTION ACTIVITIES:

1. CONTRACTOR TO RESTORE EXISTING SAWLES TO MATCH EXISTING CONDITIONS AFTER CONSTRUCTION TO ENSURE POSITIVE DRAINAGE AROUND STRUCTURES AND MATCH EXISTING CAPACITY

EXISTING UTILITIES

- THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
- 811 NOTE: CONTRACTOR SHALL SUBMIT A LOCATE REQUEST TO TEXAS 811 FOR MARKING OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION, EXCEPT WHERE OTHERWISE NOTED, THE DEPTH AND SIZE OF UNDERGROUND UTILITIES ARE UNKNOWN. UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION. FOR ANY ADDITIONAL INFORMATION REGARDING UTILITIES PLEASE CONTACT THE APPROPRIATE AGENCY.

LEGEND

- PROPERTY BOUNDARY
- LIMITS OF CONSTRUCTION
- EXISTING 1' CONTOUR (870)
- EXISTING 5' CONTOUR (875)
- EXISTING WATERLINE (Wx)
- EXISTING SEWER LINE (SSx)
- EXISTING OVERHEAD UTILITY (OHUx)
- EXISTING OVERHEAD ELECTRIC (OELx)
- EXISTING SANITARY SEWER MAIN (SSx)
- PROPOSED SANITARY SEWER MAIN (SS)
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SILT FENCE (SF)
- FLOW ARROW
- BORE PIT
- PUBLIC UTILITY EASEMENT
- OPEN SPACE/DRAINAGE EASEMENT

N

SCALE: 1"=20'

0 10' 20' 30' 40'

STATE OF TEXAS
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LICENSED
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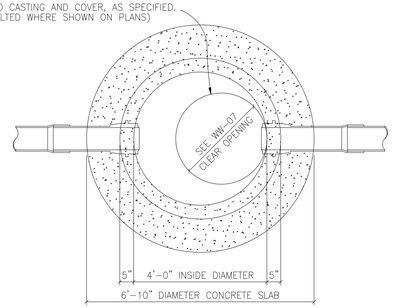
TEXAS REGISTERED ENGINEERING FIRM F-004513 SURVEYING FIRM F-10024000

SANITARY SEWER PLAN & PROFILE
FOR
6602 JIM HOGG DRIVE
GEORGETOWN, TEXAS

CU201

JOB NO.	3456.00
DESIGNED BY:	DAP
DRAWN BY:	DAP
CHECKED BY:	GDK
SHEET #	06 OF 08

2025 - 10 - CON



MANHOLE PLAN

CITY OF GEORGETOWN NOTES:

MANHOLE DETAILS SHALL REFLECT THE CITY'S MINIMUM SPECIFICATIONS, AS STATED BELOW:

ALL MANHOLES SHALL BE 48" I.D., R.C.P., CLASS III, WITH RUBBER PROFILE GASKET – SINGLE OFF-SET JOINT CONFORMING TO ASTM C478, C433 AND C76.

ALL MANHOLES SHALL HAVE FRAME AND COVER, AS MANUFACTURED BY EAST JORDAN IRON WORKS (AS PER DETAIL # WW-07) OR APPROVED EQUIVALENT.

ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON FRAME AND COVER.

ALL MANHOLES SHALL HAVE AN ECCENTRIC CONE.

MANHOLES MAY HAVE A FLAT LID, IF APPROVED BY CITY OF GEORGETOWN, BEING 12" THICK WITH A MINIMUM 30" OPENING, AS MANUFACTURED BY HANSEN PIPE AND PRECAST OR APPROVED EQUAL M.F.G. CONFORMING TO ASTM C478, 5000 P.S.I. CONCRETE, TRAFFIC BEARING AND WITH PROFILE GASKET – SINGLE OFF-SET JOINT CONFORMING TO ASTM C443.

INVERTS AND FLEXIBLE SEAL BOOTS, PER ASTM C-923, SHALL BE CAST INTO BASE SECTION.

MINIMUM DROP BETWEEN INVERTS SHALL BE ONE-TENTH OF A FOOT (0.1').

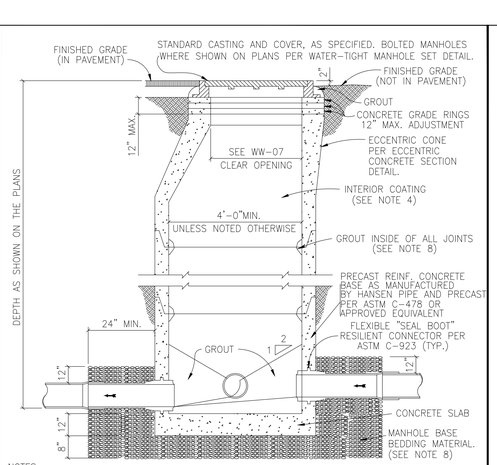
GRADE RINGS WITH AN I.D. TO MATCH FRAMES CLEAR OPENING WITH A MAXIMUM ADJUSTMENT OF 12" ARE ALLOWED.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

REVISION NOTE: ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STANDARD MANHOLE – PLAN

DRAWING NAME: WW02
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB
05



NOTES:

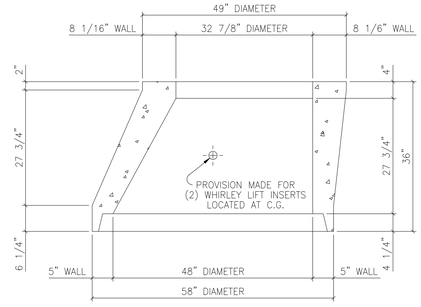
1. MANHOLES SHALL BE PRECAST ASTM C-478 BELL AND SPIGOT WITH PROFILE GASKET – SINGLE OFF-SET JOINTS.
2. SEE PLANS AND MANHOLE SCHEDULE, FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZE AND TYPES.
3. SEE SPECIFICATIONS ON MATERIALS AND CONSTRUCTION.
4. AN 80 MIL. COAT OF RAVEN LINING SYSTEMS, RAVEN 405 ULTRA HIGH BUILD EPOXY COATING, OR SPRAY WALL EPOXY COATING, OR APPROVED EQUAL, TO BE APPLIED TO ENTIRE INTERIOR OF EACH WASTEWATER MANHOLE AND UNDERSIDE OF FLAT TOPS.
5. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETTED WHEN MANHOLES ARE LOCATED OUT FROM PAVEMENT.
6. MANHOLES TO BE VENTED ARE IDENTIFIED ON MANHOLE SCHEDULE. REFERENCE MANHOLE VENT DETAIL.
7. MANHOLES ARE TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR HS-20 TRAFFIC LOADS.
8. GROUT SHALL MEET THE REQUIREMENTS AS STATED BY THE COATING MANUFACTURER.
9. MANHOLE BASE BEDDING MATERIAL SPECS. FOR 3/4" WASHED GRAVEL:
   SIEVE SIZE 2", PERCENT (%) RETAINED 0
   SIEVE SIZE 1 1/2", % RETAINED 0-10
   SIEVE SIZE 1", % RETAINED 45-80
   SIEVE SIZE 3/4", % RETAINED 85-100
   SIEVE SIZE 3/8", % RETAINED 95-100

The Architect/Engineer assumes responsibility for appropriate use of this standard.

REVISION NOTE: ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STANDARD MANHOLE – SECTION

DRAWING NAME: WW03
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB
02

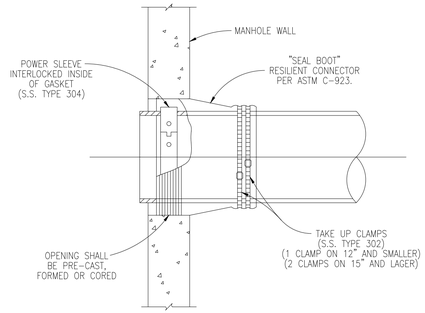


The Architect/Engineer assumes responsibility for appropriate use of this standard.

REVISION NOTE: ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
48"X5" TO 33"X8"X36" TALL
ECCENTRIC CONCRETE SECTION

DRAWING NAME: WW08
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB
03



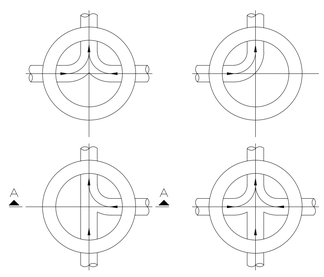
The Architect/Engineer assumes responsibility for appropriate use of this standard.

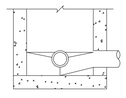
REVISION NOTE: ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
FLEXIBLE "SEAL BOOT" CONNECTOR

DRAWING NAME: WW10
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB
04

FLOW PATTERNS FOR INVERT CHANNELS





SECTION "A-A"

NOTES:

1. INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS.
2. SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING FOR SMOOTH FLOW.
3. CHANNELS FOR FUTURE CONSTRUCTIONS (STUBS) SHALL BE CONSTRUCTED, FILLED WITH SAND, AND COVERED WITH 1" OF MORTAR.
4. SLOPE MANHOLE ITSELF WITH A 1:2 SLOPE FROM MANHOLE WALL TO CHANNEL.
5. INVERT SHALL BE A MINIMUM OF 1/2 THE DIAMETER OF THE LARGEST PIPE OR 4" DEEP.

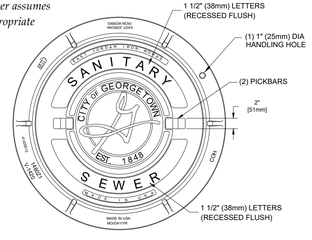
The Architect/Engineer assumes responsibility for appropriate use of this standard.

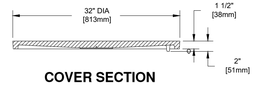
REVISION NOTE: ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
FLOW PATTERNS FOR
INVERT CHANNELS

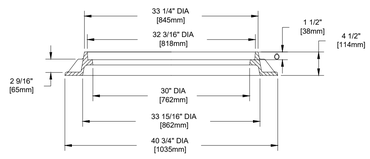
DRAWING NAME: WW06
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB
05

The Architect/Engineer assumes responsibility for appropriate use of this standard.





COVER SECTION



FRAME SECTION

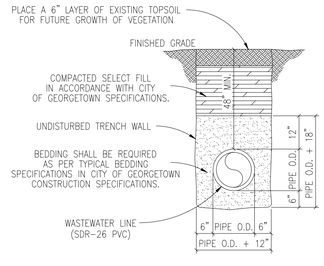
NOTES:

1. STANDARD WASTEWATER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480A V-1420/1480Z1, COVER TO BE STAMPED WITH "SANITARY SEWER".
2. STANDARD WASTEWATER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING 41420012 00148390.
4. FOR BOLTED WASTEWATER MANHOLE SET REFER TO DETAIL WW07A.

REVISION NOTE: ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STANDARD WASTEWATER
MANHOLE SET

DRAWING NAME: WW07
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB
06



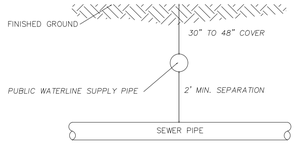
TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

REVISION NOTE: ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDDMENT DETAIL
UNDER NON-PAVED AREAS

DRAWING NAME: WW16
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB
07



08 TYPICAL SEWER CROSSING DETAIL
N.T.S.

NOTE:
1. ALL SANITARY SEWER PIPE AT WATER LINE CROSSINGS SHALL BE CONSTRUCTED OF PRESSURE RATED SANITARY SEWER PIPE AS STATED IN THE BOXED NOTE BELOW AND COMPLY WITH ALL REQUIREMENTS PER 30 TAC, CHAPTER 290 AND 30 TAC, CHAPTER 217.53 PIPE DESIGN. ANY SEWER MAIN OR SEWER LATERAL CROSSING A WATER LINE OR WATER SERVICE SHALL BE CONSTRUCTED OF PRESSURE RATED PIPE FOR A LENGTH OF 20'. THE 20' PRESSURE RATED LENGTH OF PIPE SHALL BE CENTERED ON THE WATER LINE CROSSING.
2. ALL STANDARD PIPE SEGMENTS LENGTH FOR THIS PROJECT ASSUMED TO BE 20 FOOT SEGMENTS.
3. WATERLINE SHALL REMAIN A MINIMUM OF 2 FEET ABOVE SEWER LINE AND COMPLY WITH ALL DESIGN REQUIREMENTS PER 30 TAC CHAPTER 217 AND 290.

SANITARY SEWER PIPE PRESSURE RATING:
ALL NON-PRESSURE RATED SANITARY SEWER PIPE FOR THIS PROJECT SHALL BE SDR 26 PVC ASTM D-3034 WITH A BELLED JOINT TYPE CONFORMING TO ASTM D-3212. ALL PRESSURE RATED SANITARY SEWER PIPE FOR THIS PROJECT SHALL BE SDR 26 IPS PRESSURE ASTM 2241, CLASS 160 PVC PIPE WITH INTEGRAL BELL JOINT TYPE CONFORMING TO ASTM D-3139 (160 PSI MIN. WORKING PRESSURE). ALL STANDARD GASKETS FOR JOINTS ASSOCIATED WITH THIS PROJECT SHALL CONFORM TO ASTM F-477. ALL SEWER SERVICE CONNECTION THAT CROSS A WATERLINE SHALL BE PRESSURE RATED SDR 26 CLASS 160 CONFORMING TO ASTM D-2241, ALL OTHER SEWER SERVICE CONNECTIONS SHALL BE SDR 26 CLASS 115 CONFORMING TO ASTM D-3034. ALL STANDARD GASKETS FOR JOINTS ASSOCIATED WITH THIS PROJECT SHALL CONFORM TO ASTM F-477.

NOTE (REFER TO 30 TAC CHAPTER 217):
1. IF A SEWER MAIN PIPE CROSSES A PUBLIC WATER SUPPLY PIPE, THE FOLLOWING APPLIES: PER 30 TAC CHAPTER 217.53(a)(3)(B)(i)
   1.1. IF A COLLECTION SYSTEM IS CONSTRUCTED OF CAST IRON, DUCTILE IRON, OR PVC WITH A MINIMUM PRESSURE RATING OF 150 PSI, THE FOLLOWING REQUIREMENTS APPLY:
   – A COLLECTION SYSTEM PIPE MUST BE BELOW A PUBLIC WATER SUPPLY PIPE.
   – COLLECTION SYSTEM PIPE JOINTS MUST BE LOCATED AS FAR AS POSSIBLE FROM AN INTERSECTION WITH A PUBLIC WATER SUPPLY LINE.

CHART "I"

SIZE	A	B*	MANDREL O.D. PVC (SDR-35)	MANDREL O.D. PVC (SDR-26)	RING O.D. PVC (SDR-35)	RING O.D. PVC (SDR-26)
6"	4"	4.5"	5.62	5.50	4.91	4.79
8"	5.5"	6"	7.52	7.37	6.81	6.66
10"	7"	7.5"	9.41	9.21	8.70	8.50
12"	8"	9"	11.19	10.96	10.48	10.25
15"	10"	11"	13.70	13.42	12.99	12.71
18"	12"	13.5"	16.75	-----	16.04	-----
21"	14"	16"	19.74	-----	19.03	-----
24"	16"	18"	22.21	-----	21.50	-----
27"	18"	20"	25.03	-----	24.32	-----

*MINIMUM LENGTH
NOTE:
SDR-26 MANDREL SHALL BE USED FOR SDR-18 PVC PIPE

PVC PIPES AND FITTINGS SIX INCHES (6") TO FIFTEEN INCHES (15") IN DIAMETER SHALL CONFORM TO ASTM D-3034. PVC PIPES AND FITTINGS EIGHTEEN INCHES (18") TO TWENTY-SEVEN INCHES (27") IN DIAMETER SHALL CONFORM TO ASTM F-679.

THIS INFORMATION IS PROVIDED AS A REFERENCE. ALL DEFLECTION TESTING SHALL BE DONE IN ACCORDANCE WITH TCEQ CHAPTER 217.

STATE OF TEXAS
GARRETT KELLER
111511
LICENSED
PROFESSIONAL ENGINEER
05/19/25

REVISIONS:

MATKINHOOVER ENGINEERING & SURVEYING
8 SPENCER ROAD SUITE 100
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OFFICE: 512.868.2244
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3303 SHELL ROAD SUITE 3
GEORGETOWN, TEXAS 78628
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TEXAS REGISTERED ENGINEERING FIRM F-004512 SURVEYING FIRM F-10024000

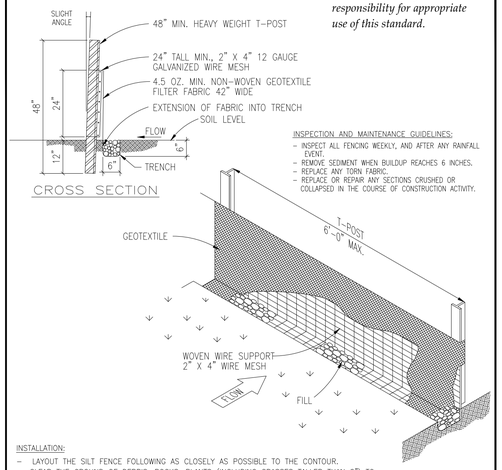
UTILITY DETAILS 1
FOR
6602 JIM HOGG DRIVE
GEORGETOWN, TEXAS

CU501

JOB NO. 3456.00
DESIGNED BY: DAP
DRAWN BY: DAP
CHECKED BY: GDK
SHEET # 07 OF 08

2025 - 10 - CON

The Architect/Engineer assumes responsibility for appropriate use of this standard.

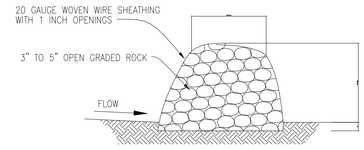


INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL EVENT.
- REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.
- REPLACE ANY TORN FABRIC.
- REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY.

INSTALLATION:
- LAYOUT THE SILT FENCE FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS, PLANTS (INCLUDING GRASSES TALLER THAN 2") TO PROVIDE A SMOOTH FLOW APPROACH SURFACE. EXCAVATE 6" DEEP X 6" WIDE TRENCH ON UPSTREAM SIDE OF FACE PER PLANS.
- DRIVE THE HEAVY DUTY T-POST AT LEAST 12 INCHES INTO THE GROUND AND AT A SLIGHT ANGLE TOWARDS THE FLOW.
- ATTACH THE 2" X 4" 12 GAUGE WELDED WIRE MESH TO THE T-POST WITH 11 1/2 GAUGE GALVANIZED T-POST CLIPS. THE TOP OF THE WIRE TO BE 24" ABOVE GROUND LEVEL. THE WELDED WIRE MESH TO BE OVERLAPPED 6" AND TIED AT LEAST 6 TIMES WITH HOG RINGS.
- THE SILT FENCE TO BE INSTALLED WITH A SKIRT A MINIMUM OF 6" WIDE PLACED ON THE UPHILL SIDE OF THE FENCE INSIDE EXCAVATED TRENCH. THE FABRIC TO OVERLAP THE TOP OF THE WIRE BY 1".
- ANCHOR THE SILT FENCE BY BACKFILLING WITH EXCAVATED DIRT AND ROCKS (NOT LARGER THAN 2").
- GEOTEXTILE SPLICES SHOULD BE A MINIMUM OF 18" WIDE ATTACHED IN AT LEAST 6 PLACES. SPLICES IN CONCENTRATED FLOW AREAS WILL NOT BE ACCEPTED.
- SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
SILT FENCE DETAIL
EC02 | NTS | 1/2003 | MRS | TRB | 01



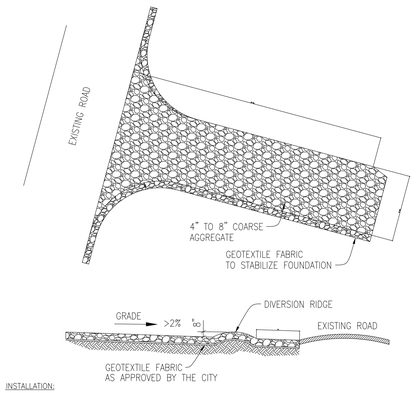
INSTALLATION:
- LAYOUT THE ROCK BERM FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- PLACE WOVEN WIRE FABRIC ON THE GROUND ALONG THE PROPOSED INSTALLATION WITH ENOUGH OVERLAP TO COMPLETELY ENCIRCLE THE FINISHED SIZE OF THE BERM.
- PLACE THE ROCK ALONG THE CENTER OF THE WIRE TO THE DESIGNATED HEIGHT.
- WRAP THE STRUCTURE WITH THE PREVIOUSLY PLACED WIRE MESH SECURE ENOUGH SO THAT WHEN WALKED ACROSS THE STRUCTURE RETAINS IT'S SHAPE.
- SECURE WITH TIE WIRE.
- THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROX. 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.
- THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL EVENT BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
- REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER.
- REPAIR ANY LOOSE WIRE SHEATHING.
- THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
- THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
ROCK BERM DETAIL
EC03 | NTS | 1/2003 | MRS | TRB | 02



INSTALLATION:
- CLEAR THE AREA OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- GRADE THE AREA FOR THE ENTRANCE TO FLOW BACK ON TO THE CONSTRUCTION SITE. RUNOFF FROM THE STABILIZED CONSTRUCTION
- PLACE GEOTEXTILE FABRIC AS APPROVED BY THE CITY.
- PLACE ROCK AS APPROVED BY THE CITY.

INSPECTIONS AND MAINTENANCE GUIDELINES:
- THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
- WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY.
- WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
- ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STABILIZED CONSTRUCTION ENTRANCE
EC06 | NTS | 1/2003 | MRS | TRB | 03

GUIDELINES FOR DESIGN AND INSTALLATION OF TEMPORARY EROSION AND SEDIMENTATION CONTROLS

TYPE OF STRUCTURE	REACH LENGTH	MAXIMUM DRAINAGE AREA	SLOPE
SILT FENCE	N/A	2 ACRES	0 – 10%
	200 FEET	2 ACRES	10 – 20%
	100 FEET	1 ACRE	20 – 30%
	50 FEET	1/2 ACRE	> 30%
TRIANGLE FILTER DIKE	100 FEET	1/2 ACRE	< 30% SLOPE
	50 FEET	1/4 ACRE	> 30% SLOPE
ROCK BERM *, **	500 FEET	< 5 ACRES	0 – 10%

* FOR ROCK BERM DESIGN WHERE PARAMETERS ARE OTHER THAN STATED, DRAINAGE AREA CALCULATIONS AND ROCK BERM DESIGN MUST BE SUBMITTED FOR REVIEW.

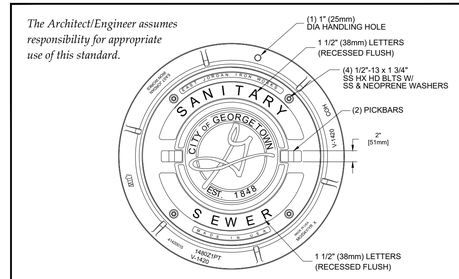
** HIGH SERVICE ROCK BERMS MAY BE REQUIRED IN AREAS OF ENVIRONMENTAL SIGNIFICANCE AS DETERMINED BY THE CITY OF GEORGETOWN.

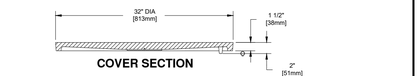
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

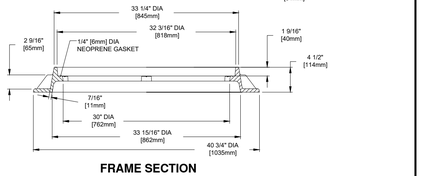
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TEMPORARY EROSION AND SEDIMENTATION CONTROL GUIDELINES
EC01 | NTS | 1/2003 | MRS | TRB | 04

The Architect/Engineer assumes responsibility for appropriate use of this standard.





COVER SECTION

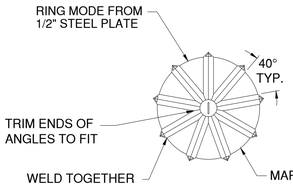


FRAME SECTION

NOTES:
1. BOLTED WASTEWATER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480APT V-1420/1480Z1PT, COVER TO BE STAMPED WITH "SANITARY SEWER".
2. BOLTED WASTEWATER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING 00148392 41420015.
4. FOR STANDARD WASTEWATER MANHOLE SET REFER TO DETAIL WW07.

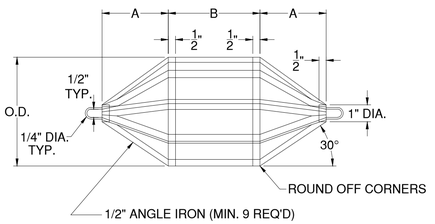
ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
BOLTED WASTEWATER MANHOLE SET
WW07A | NTS | 1/2003 | MRS | TRB | 05



FRONT VIEW

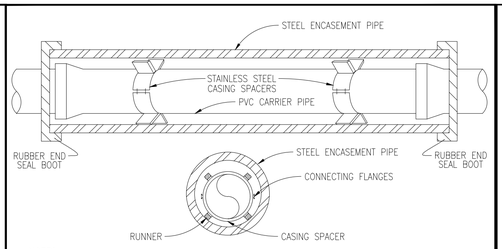
GO, NO GO DEFLECTION TESTING MANDREL



SIDE OR TOP VIEW

DRAWING NAME: *GO, NO GO DEFLECTION TESTING MANDREL*

06



NOTES:
1. CASING SPACERS SHALL BE BOLT ON STYLE WITH A SHELL MADE IN TWO SECTIONS OF HEAVY T-304 STAINLESS STEEL. CONNECTING FLANGES SHALL BE RIBBED FOR EXTRA STRENGTH. CASING SPACERS SHALL BE MADE BY CASCADE WATERWORKS MFG. CO. OR APPROVED EQUAL.
2. CASING SPACERS SHALL HAVE RUNNERS MADE OF ULTRA HIGH MOLECULAR WEIGHT POLYMER, WITH A MINIMUM HEIGHT OF 2 INCHES.
3. DO NOT USE WEDGES BETWEEN TOP OF PVC CARRIER PIPE AND INSIDE OF CASING TO KEEP PVC FROM MOVING.
4. PRIOR TO INSERTING PVC CARRIER PIPE, ANY WATER SHOULD BE PUMPED OUT OF THE CASING PIPE SO THAT NO MORE THAN A FEW INCHES OF WATER REMAINS.
5. SPACERS WILL BE REQUIRED WITHIN AT LEAST 3 FEET FROM BOTH OPENINGS OF THE ENCASEMENT PIPE AND SPACED NO GREATER THAN 6 FEET THROUGHOUT THE ENCASEMENT PIPE.
6. ENCASEMENT PIPE SHALL BE SMOOTH STEEL 35,000 PSI YIELD STRENGTH WITH THICKNESS ACCORDING TO THE FOLLOWING TABLE:
7. WHEN CASING IS REQUIRED UNDER PAVEMENT WITHIN THE R.O.W., THE CASING SHALL EXTEND OUT TO WITHIN 4' INSIDE OF THE R.O.W. LINE, ON BOTH SIDES.
8. ALL JOINTS SHALL BE RESTRAINED ON PVC CARRIER PIPE.

PIPE SIZE–CARRIER (DIAMETER)	PIPE SIZE–CASING (DIAMETER)(MIN.)	MINIMUM PIPE THICKNESS (INCHES)	
6"	16"	1/4	0.2500
8"	18"	5/16	0.3125
10"	20"	3/8	0.3750
12" – 14"	24"	7/16	0.4375
16" – 18"	30"	1/2	0.5000
20"	36"	1/2	0.5000
24"	42"	1/2	0.5000
30"	48"		

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
INSTALLATION OF P.V.C. PIPE THROUGH CASING
W14 | NTS | 1/2003 | MRS | TRB | 07

NOTE: THIS SECTION IS INTENDED TO ASSIST THOSE PERSONS PREPARING WATER POLLUTION ABATEMENT PLANS (WPAP) OR STORM WATER POLLUTION PREVENTION PLANS (SW3P) THAT COMPLY WITH FEDERAL, STATE AND/OR LOCAL STORM WATER REGULATIONS.

1. THE CONTRACTOR TO INSTALL AND MAINTAIN EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, GRADING, OR EXCAVATION). CONTRACTOR TO REMOVE EROSION/SEDIMENTATION CONTROLS AT THE COMPLETION OF PROJECT AND GRASS RESTORATION.
2. ALL PROJECTS WITHIN THE RECHARGE ZONE OF THE EDWARD'S AQUIFER SHALL SUBMIT A BEST MANAGEMENT PRACTICES AND WATER POLLUTION AND ABATEMENT PLAN TO THE TNRCC FOR APPROVAL PRIOR TO ANY CONSTRUCTION.
3. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS TO BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN AND WATER POLLUTION ABATEMENT PLAN. DEVIATIONS FROM THE APPROVED PLAN MUST BE SUBMITTED TO AND APPROVED BY THE OWNER'S REPRESENTATIVE.
4. ALL PLANTING SHALL BE DONE BETWEEN MAY 1 AND SEPTEMBER 15 EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING. IF PLANTING IS AUTHORIZED TO BE DONE OUTSIDE THE DATES SPECIFIED, THE SEED SHALL BE PLANTED WITH THE ADDITION OF WINTER FESCUE (KENTUCKY 31) AT A RATE OF 100lb/ACRE. GRASS SHALL BE COMMON BERMUDA GRASS, HULLED, MINIMUM 82% PURE LIVE SEED. ALL GRASS SEED SHALL BE FREE FROM NOXIOUS WEED, GRADE "A" RECENT CROP, RECLEANED AND TREATED WITH APPROPRIATE FUNGICIDE AT TIME OF MIXING. SEED SHALL BE FURNISHED IN SEALED, STANDARD CONTAINERS WITH DEALER'S GUARANTEED ANALYSIS.
5. ALL DISTURBED AREAS TO BE RESTORED AS NOTED IN THE WATER POLLUTION ABATEMENT PLAN.
6. THE PLANTED AREA TO BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF FOUR (4) INCHES. THE IRRIGATION TO OCCUR AT 10-DAY INTERVALS DURING THE FIRST TWO MONTHS TO INSURE GERMINATION AND ESTABLISHMENT OF THE GRASS . RAINFALL OCCURRENCES OF 1/2 INCH OR GREATER TO POSTPONE THE WATERING SCHEDULE ONE WEEK.
7. RESTORATION TO BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1-1/2 INCHES HIGH WITH 95% *COVERAGE*, PROVIDED NO BARE SPOTS LARGER THAN 25 SQUARE FEET EXIST.
8. A MINIMUM OF FOUR (4) INCHES OF TOPSOIL TO BE PLACED IN ALL AREAS DISTURBED BY CONSTRUCTION.
9. THE CONTRACTOR TO HYDROMULCH OR SOD (AS SHOWN ON PLANS) ALL EXPOSED CUTS AND FILLS UPON COMPLETION OF CONSTRUCTION.
10. EROSION AND SEDIMENTATION CONTROLS TO BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILDUP WITHIN TREE DRIPLINE.
11. TO AVOID SOIL COMPACTION, CONTRACTOR SHALL NOT ALLOW VEHICULAR TRAFFIC, PARKING, OR STORAGE OF EQUIPMENT OR MATERIALS IN THE TREE DRIPLINE AREAS.
12. WHERE A FENCE IS CLOSER THAN FOUR (4) FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF EIGHT (8) FEET (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE FENCING.
13. TREES TO BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
14. ANY ROOT EXPOSED BY CONSTRUCTION ACTIVITY TO BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOPSOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN TWO DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
15. CONTRACTOR TO PRUNE VEGETATION TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND EQUIPMENT BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.). ALL FINISHED PRUNING TO BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE "NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES").
16. THE CONTRACTOR IS TO INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY RAINFALL EXCEEDING 1/4 INCH TO VERIFY THAT THEY HAVE NOT BEEN SIGNIFICANTLY DISTURBED. ANY ACCUMULATED SEDIMENT AFTER A SIGNIFICANT RAINFALL TO BE REMOVED AND PLACED IN THE OWNER DESIGNATED SPOIL DISPOSAL SITE. THE CONTRACTOR TO CONDUCT PERIODIC INSPECTIONS OF ALL EROSION/SEDIMENTATION CONTROLS AND TO MAKE ANY REPAIRS OR MODIFICATIONS NECESSARY TO ASSURE CONTINUED EFFECTIVE OPERATION OF EACH DEVICE.
17. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT IMMEDIATELY ADJACENT TO A PROTECTED TREE, ERECT THE FENCE APPROXIMATELY TWO TO FOUR FEET (2'-4') BEHIND THE AREA IN QUESTION.
18. NO ABOVE AND/OR BELOW GROUND TEMPORARY FUEL STORAGE FACILITIES TO BE STORED ON THE PROJECT SITE.
19. IF EROSION AND SEDIMENTATION CONTROL SYSTEMS ARE EXISTING FROM PRIOR CONTRACTS, OWNER'S REPRESENTATIVE AND THE CONTRACTOR TO EXAMINE THE EXISTING EROSION AND SEDIMENTATION CONTROL SYSTEMS FOR DAMAGE PRIOR TO CONSTRUCTION. ANY DAMAGE TO PREEXISTING EROSION AND SEDIMENTATION CONTROLS NOTED TO BE REPAIRED AT OWNERS EXPENSE.
20. INTENTIONAL RELEASE OF VEHICLE OR EQUIPMENT FLUIDS ONTO THE GROUND IS NOT ALLOWED. CONTAMINATED SOIL RESULTING FROM ACCIDENTAL SPILL TO BE REMOVED AND DISPOSED OF PROPERLY.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
EROSION AND SEDIMENTATION AND TREE PROTECTION NOTES
EC01A | NTS | 1/2003 | MRS | TRB | 08

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STATE OF TEXAS
GARRETT KELLER
111511
LICENSED
PROFESSIONAL ENGINEER
5/19/25

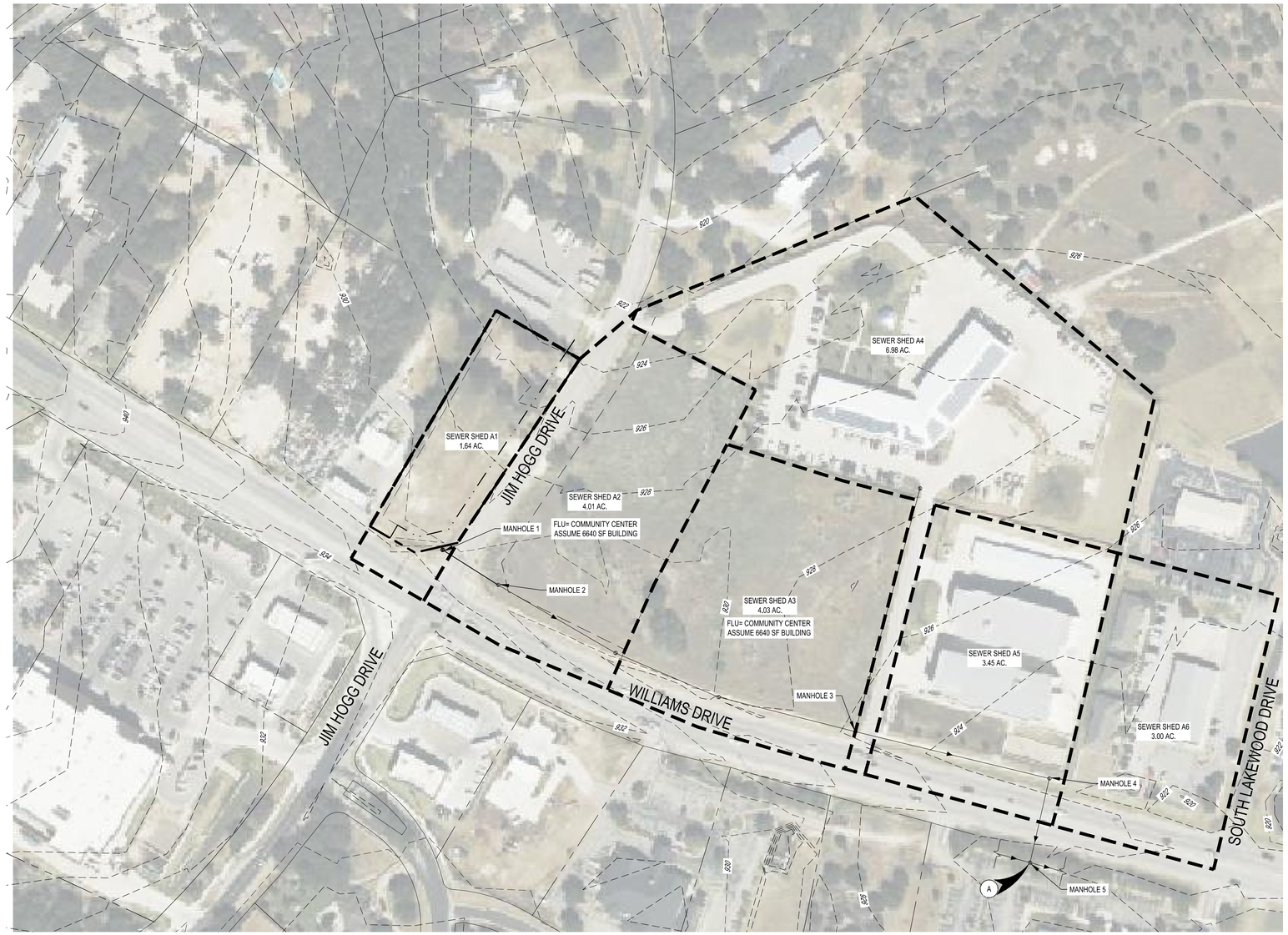
REVISIONS:

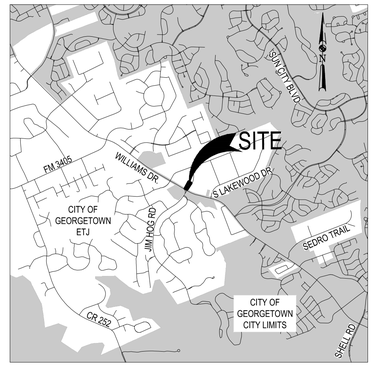
UTILITY DETAILS 2
FOR
6602 JIM HOGG DRIVE
GEORGETOWN, TEXAS

CU502

JOB NO.	3456.00
DESIGNED BY:	DAP
DRAWN BY:	DAP
CHECKED BY:	GDK
SHEET #	08 OF 08

2025 - 10 - CON





Date: Jun 03, 2025, 9:14am User ID: tkulbeth

WASTE WATER LOADING					
AREA	LUE	AVERAGE DRY WEATHER	LOADING @ PDWF REQUIRED (GPM)	RDII (GPM)	LOADING @ PWWF REQUIRED (GPM)
A1	4	0.6	14.5	1.1	-
A2	4	0.5	14.5	2.8	-
A3	4	0.6	14.5	2.8	-
A4	18	2.6	14.5	4.8	-
A5	25	3.6	14.5	2.4	-
A6	12	1.8	14.5	2.1	-
TOTAL		9.7	14.5	16.0	30.6

WASTE WATER PIPE CAPACITY		
PIPE TYPE, SIZE, SLOPE	85% FULL FLOW CHECK (GPM)	65% FULL FLOW CHECK (GPM)
SDR 26, 8", 0.5% (MIN.)	353	255
SDR 26, 8", 0.33% (MIN.)	**289**	**211**

LOCATION MAP

1" = 4000'

LEGEND

EXISTING 5' CONTOUR	— — —1275— — —
SEWER SHED BOUNDARY	▬ ▬ ▬ ▬
EVALUATION POINT	X.X
MANHOLE	Ⓢ

NOTES:

1. CITY RESERVE IS SET AT 1487 LUES (83.6 GPM) THE SOURCE OF THE WASTEWATER IS CURRENTLY NOT DEFINED
2. AREA AX (1,036.54 ACRES) DOES NOT CONTRIBUTE TO INFLUENT AT THE LIFT STATION. THIS WASTE WATER CONTRIBUTION IS SLATED TO BE CONVEYED BY THE STONE LEGEND LIFT STATION (FUTURE)

PROPOSED WASTE WATER FLOW SCHEMATIC

N

SCALE: 1"=100'
0 50' 100' 150' 200'

GARRETT KELLER
111511
5/16/25

REVISIONS:

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OFFICE: 512.868.2244

TEXAS REGISTERED ENGINEERING FIRM F-004512 SURVEYING FIRM F-10024000

SEWER SHED MAP
FOR
6602 JIM HOGG DRIVE
GEORGETOWN, TEXAS

2025 - 10 - CON

JOB NO.	3456.00
DESIGNED BY:	DAP
DRAWN BY:	DAP
CHECKED BY:	GDK
SHEET #	OF

G:\PROJECTS\3456 - 6602 Jim Hogg Drive\01 - Mavis Site Development\General Engineering\Wastewater Analysis\CoG Sewer Capacity Analysis\01 - Sewershed Map & Analysis.dwg

Project: **6602 Jim Hogg Drive**
MHES Job No. 3456.01
Date: 1/14/2025

Wastewater Flow Calculations						
Average Dry Weather Flow (F), in gallons per minute (gpm) non-residential- Using City of Georgetown						
DWF = [(GWI gallons / capita / day) + (BWF gpcd)]*(LUE's) / 1440					GWI = 30 gpcd (Office per CoG studies)	
	Building SF	# LUEs*	GWI (gpcd)	BWF (gal./day/LUE)	DWF, gpm	Sewer Shed ID
DWF =	**7000**	4	30	175	**0.6**	A1
DWF =	**6640**	4	30	175	**0.6**	A2
DWF =	**6640**	4	30	175	**0.6**	A3
DWF =	**30641**	18	30	175	**2.6**	A4
DWF =	**41540**	25	30	175	**3.6**	A5
DWF =	**20602**	12	30	175	**1.8**	A6
			Total DWF (Non-residential)		**9.7**	
*For non-residential every 1660 SF is equal to 1 LUE at 175 gpd/LUE						
*For large develment areas (20 AC or more), utilize non-residential flows developed on future land use maps.						
Average Dry Weather Flow (F), in gallons per minute (gpm) residential- Using City of Georgetown						
DWF = [(GWI gallons / capita / day) + (BWF gpcd)]*(SFU people) / 1440						
	GWI gpcd	BWF gpcd	SFU people	gpd to gpm	DWF, gpm	
DWF =	30	**70**	0.0	1440	**0.0**	
DWF =	30	**70**	0.0	1440	**0.0**	
			Total DWF (Residential)		**0.0**	
				DWF total =	**9.7**	
Peaking Factor (PF) = 2.8 x (DWF gpm)^(-0.0732)						
		DWF	PF,			
PF =	2.8	9.7	**1.5**	Commercial		
Peak Dry Weather Flow (PDWF) (gpm) = (PF) x (DWF gpm)						
	PF	DWF	PDWF, gpm			
PDWF =	1.5	9.7	**14.5**	Combined (All)		
Peak Wet Weather Flow (PWWF)						
PWWF = PDWF + Rainfall Dependent Inflow and Infiltration (RDII)						
RDII = acres x gallons per day per acre						
	acres	gal./day/acres	gal./day	gpm		
RDII=	1.64	1000	1640	1.1	A1	
RDII=	4.01	1000	4010	2.8	A2	
RDII=	4.03	1000	4030	2.8	A3	
RDII=	6.98	1000	6980	4.8	A4	
RDII=	3.45	1000	3450	2.4	A5	
RDII=	3.00	1000	3000	2.1	A6	
			Total	**16.0**		
	PDWF, gpm	RDII, gpm	gpm			
PWWF =	14.5	16.0	**30.6**	Wet Weather Demand #1		
Pipe Capacity Calculations						
Gravity Sewer Mains (GSM) ≤15" Diameter						
GSM capacity at PDWF conditions must be ≤ the 65% capacity of the pipe						
GSM capacity at PWWF conditions must be ≤ the 85% capacity of the pipe						
CPA			Pipe Size (Nom in)-		Low Slope	
			8		0.33%	
PDWF =	14.5		65% Pipe Capacity		**211**	**OK**
RDII =	16.0					
PWWF =	30.6		85% Pipe Capacity		**289**	**OK**

	SDR 26 160 PSI	SDR 26 160 PSI
	Worse Case Line A, Sta: 1+00.00 (Deepest Depth of Cover)	Line A, Sta: 1+95.00 (Minimum Depth of Cover and Max Live Load)
General		
E (psi) =	400000	400000
Eb (psi) =	2000	2000
E'n (psi) =	5000	5000
Ys (pcf) =	125	125
Yw (pci) =	0.0361	0.0361
(pcf) =	62.4	62.4
b (min trench width)(in) =	24	24
Pc =	4000	4000
K =	0.11	0.11
Total length of Pipe (ft.)	313.00	313.00
SCS Cost	$156.50	$156.50

	Type of Pipe	*ASTM 2241*	*ASTM 2241*
	SDR	26 CL 160	26 CL 160
	D (Pipe Diameter) (in)	**7.921**	**7.921**
	length of Pipe (LF)	**284.00**	**284.00**
	Do (outside Dia.) (in)	8.625	8.625
	T (thickness) (in)	0.332	0.332
	(Fill Height) H (ft)	**8.14**	**6.539**
	(Fill Height) h (in)	97.68	78.47
	hw (in)	0	0
	Pipe Stiffness Ps (psi)	160	160
Equations	**Surface Water Depth (SWD) (in)**	0	0
T68) Allowable Buckling Pressure			
$q_a = 0.4 * \sqrt[3]{32 * R_w * B' * E_b * (E * I / D^3)}$ *Allowable Buckling Pressure (psi)*	**qa**	106.81	98.82
$R_w = 1 - 0.33 * (h_w / h)$ *Water Buoyancy Factor*	**Rw**	1.00	1.00
$B' = \frac{1}{1 + 4 * e^{-0.213 H}}$ *Empirical Coefficient of Elastic Support*	**B'**	0.59	0.50
$I = (t^3 / 12)(\text{inches}^4 / \text{Linch})$ *Moment of Inertia of the Pipe Wall Cross Section (in^3)*	**I**	0.00305	0.00305
$L_l = \frac{\gamma_w * SWD}{144}$ *Live Load (psi)*	**L_l**	0.00	0.00
$q_p = \gamma_w * h_w + R_w * (W_c / D) + L_l$ *Pressure Applied to Pipe Under Installed Conditions (psi)*	**qp**	7.36	5.91
$W_c = \gamma_s * H * (D + t)/144$ *Vertical Soil Load on the Pipe (lb/in)*	**Wc**	58.32	46.85
	TEST: if qa<qp wrong	Acceptable	Acceptable
T71) Concrete Cradle			
$H_a = (24 * P_c * A)/(\gamma_s * D_o)$	**Ha**	354.75	354.75
	A	3.984	3.984
	Test if Hp>Ha	Acceptable	Acceptable
T78) Ratio of Bedding Modulus to Soil Modulus			
	Eb/E'n	0.40	0.40

T79) Zeta Factor			
$zeta = \frac{1.44}{f + (1.44 - f) * (E_b / E_{n'})}$	**zeta**	1.00	1.00
$f = \frac{b/d_a - 1}{1.154 + 0.444 * (b/d_a - 1)}$	**f**	0.99	0.99

T83) Pipe Stiffness			
$\frac{P_s}{SSF} = \frac{P_s}{(0.061 * zeta * E_b)} \geq 0.15$	**SSF**	122.00	122.00
	Ps/SSF	1.31	1.31
	Test if >0.15	Acceptable	Acceptable

T86) Deflection			
$\Delta Y / D(\%) = \frac{K * (L_p + L_1) * 100}{(0.149 * P_s) + (0.061 * zeta * E_b)}$	**ΔY**	122.00	122.00
	D(%)	145.84	145.84
	ΔY/D(%)	0.84%	0.84%
$L_p = \frac{\gamma_s * H}{144} x1.5$	**Lp**	Acceptable	Acceptable

Note: Deflection Lag Factor = 1.5 (as shown above)

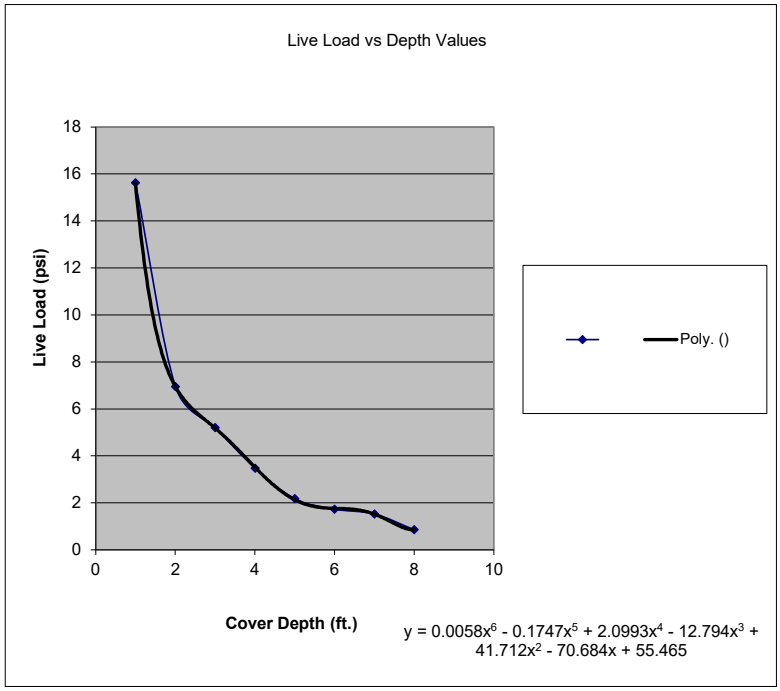
T-63) Live Load Analysis

Vehicle Live Load (Lv)	
Cover(ft)	Live Load (psi)
1	15.63
2	6.95
3	5.21
4	3.48
5	2.18
6	1.74
7	1.53
8	0.86

(Reference Table 2-7 Live Load Data AASHTO H-25)

	(min depth of cover, ft.)
SDR 26	3

(through interpolation)



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ENGINEERING & SURVEYING

Jim Hogg Dr.

SCS

Section 5 – Temporary Stormwater

Temporary Stormwater Section

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(A), (B), (D)(I) and (G); Effective June 1, 1999

To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.

Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.

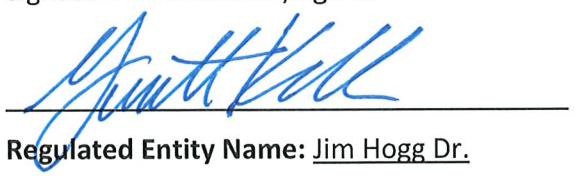
Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Temporary Stormwater Section** is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

Print Name of Customer/Agent: Garrett Keller, P.E.

Date: 5/16/25

Signature of Customer/Agent:



Regulated Entity Name: Jim Hogg Dr.

Project Information

Potential Sources of Contamination

Examples: Fuel storage and use, chemical storage and use, use of asphaltic products, construction vehicles tracking onto public roads, and existing solid waste.

1. Fuels for construction equipment and hazardous substances which will be used during construction:

   ☐ The following fuels and/or hazardous substances will be stored on the site: _____

   These fuels and/or hazardous substances will be stored in:

   ☐ Aboveground storage tanks with a cumulative storage capacity of less than 250 gallons will be stored on the site for less than one (1) year.

☐ Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.

☐ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.

☒ Fuels and hazardous substances will not be stored on the site.

2. ☒ **Attachment A - Spill Response Actions.** A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.

3. ☐ Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

4. ☒ **Attachment B - Potential Sources of Contamination.** A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

Sequence of Construction

5. ☒ **Attachment C - Sequence of Major Activities.** A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.

   ☒ For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.

   ☐ For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.

6. ☒ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: North San Gabriel River

Temporary Best Management Practices (TBMPs)

Erosion control examples: tree protection, interceptor swales, level spreaders, outlet stabilization, blankets or matting, mulch, and sod. Sediment control examples: stabilized construction exit, silt fence, filter dikes, rock berms, buffer strips, sediment traps, and sediment basins. Please refer to the Technical Guidance Manual for guidelines and specifications. All structural BMPs must be shown on the site plan.

7. ☒ **Attachment D – Temporary Best Management Practices and Measures.** TBMPs and measures will prevent pollution of surface water, groundwater, and stormwater. The construction-phase BMPs for erosion and sediment controls have been designed to retain sediment on site to the extent practicable. The following information is attached:

☒ A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.

☒ A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.

☒ A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.

☒ A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.

8. ☒ The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.

   ☐ **Attachment E - Request to Temporarily Seal a Feature**. A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.

   ☒ There will be no temporary sealing of naturally-occurring sensitive features on the site.

9. ☒ **Attachment F - Structural Practices**. A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.

10. ☒ **Attachment G - Drainage Area Map**. A drainage area map supporting the following requirements is attached:

    ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.

    ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.

    ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.

    ☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

☒ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.

11. ☐ **Attachment H - Temporary Sediment Pond(s) Plans and Calculations.** Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.

☒ N/A

12. ☒ **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.

13. ☒ All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.

14. ☒ If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).

15. ☒ Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.

16. ☒ Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

Soil Stabilization Practices

Examples: establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, or preservation of mature vegetation.

17. ☒ **Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices.** A schedule of the interim and permanent soil stabilization practices for the site is attached.

18. ☒ Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

19. ☒ Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

Administrative Information

20. ☒ All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.

21. ☒ If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.

22. ☒ Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

JIM HOGG DR.
SPILL RESPONSE ACTIONS (ATTACHMENT A)

General Response Actions

1. All leaks and spills should be cleaned immediately.
2. Rags, mops, and absorbent material may all be used to cleanup a spill.
3. If these materials are used to clean a hazardous material, then they must be disposed of as hazardous waste.
4. Never hose down or bury dry material spills.

Minor Spills

If a minor spill occurs (typically small quantities of oil, gasoline, etc.) the following actions should be taken.

1. Contain the spread of the spill
2. Recover spilled materials
3. Clean the contaminated area and properly dispose of contaminated materials

Semi-Significant Spills

If a semi-significant spill occurs the following actions should be taken.

1. Contain spread of the spill
2. Notify the project foreman immediately.
3. If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.
4. If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
5. If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

Significant/Hazardous Spills

If a significant or hazardous spill occurs in reportable quantities the following actions should be taken.

1. Notify the TCEQ by telephone as soon as possible and within 24 hours at (512) 339-2929 (Austin) or (210) 490-3096 (San Antonio) between 8 am and 5 pm. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.
2. For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110, 119, and 302, the contactor should notify the National Response Center at 1-800-424-8802.
3. Notification should first be made by telephone and followed up with a written report.
4. The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
5. Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

JIM HOGG DR.
POTENTIAL SOURCES OF CONTAMINATION (ATTACHMENT B)

Potential sources of contamination that may occur are:

- Oil, grease, fuel, and hydraulic fluid from construction equipment and vehicle drippings
- Miscellaneous trash and litter from construction workers and material wrappings
- Construction debris
- Excess application of fertilizers, herbicides, and pesticides

Preventative measures that will be taken to reduce contamination are:

- Vehicle maintenance will be performed within the construction staging area
- Trash containers will be placed throughout the site to encourage proper trash disposal if necessary
- Construction debris will be monitored daily be the contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis
- Fertilizers, herbicides, and pesticides will be applied only when necessary and in accordance with manufacturer's directions

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Utility Construction

1. Mobilization of the contractor's equipment. (.5 acres disturbed)
2. Installation of temporary best management practices as described in attachment "D" of this section (Silt Fence, Construction Entrance, and Rock Berms).
3. Trenching and installation of utilities
    a. Within Site (0.096) acres disturbed)
4. Establishment of permanent soil stabilization on disturbed areas for utility construction.

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a. All upgradient stormwater entering the site will be treated by the BMPs that will prevent pollution of surface water or groundwater that originates on-site or flows off site. See a list of these BMPs in section "b."

b. The BMPs that will prevent pollution of surface water or groundwater that originates on-site or flows off site are:

i. **Temporary Construction Entrance/Exit** – The installation of a stabilized construction entrance/exit will reduce the dispersion of sediment from the site.
ii. **Silt Fence** – The erection of silt fence along the boundary of construction activities will provide temporary erosion and sedimentation control.
iii. **Rock Berm** – The use of rock berms throughout the site will provide temporary erosion and sedimentation control.
iv. **Construction Staging Area** – The construction staging area will provide on-site pollution prevention.
v. **Concrete Truck Washout Pit** – A concrete truck washout pit aids in the final cleanup and prevents unnecessary discharge of concrete residue from contaminating the storm water runoff.

c. Silt fence and rock berms (see section "b") will be used to prevent sediment-laden runoff from entering sensitive features on this site and surface streams off the site.

d. The flow to the natural sensitive features on this site, to a maximum practical extent, will not be disturbed. No clearing, excavation or grading will occur within the buffer zone of the sensitive feature. If another naturally occurring sensitive feature is identified during construction all activity will be stopped and the contractor should notify TCEQ.

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JIM HOGG DR.
STRUCTURAL PRACTICES (ATTACHMENT F)

Structural practices installed to prevent the runoff of pollutants from exposed areas of the site are:

- Silt fence
- Stabilized Construction Entrance/Exit
- Construction Staging Area
- Concrete Truck Washout Pit
- Rock Berm

For the majority of the disturbed soil within the limits of this project, silt fence will capture and hold sediment laden runoff.

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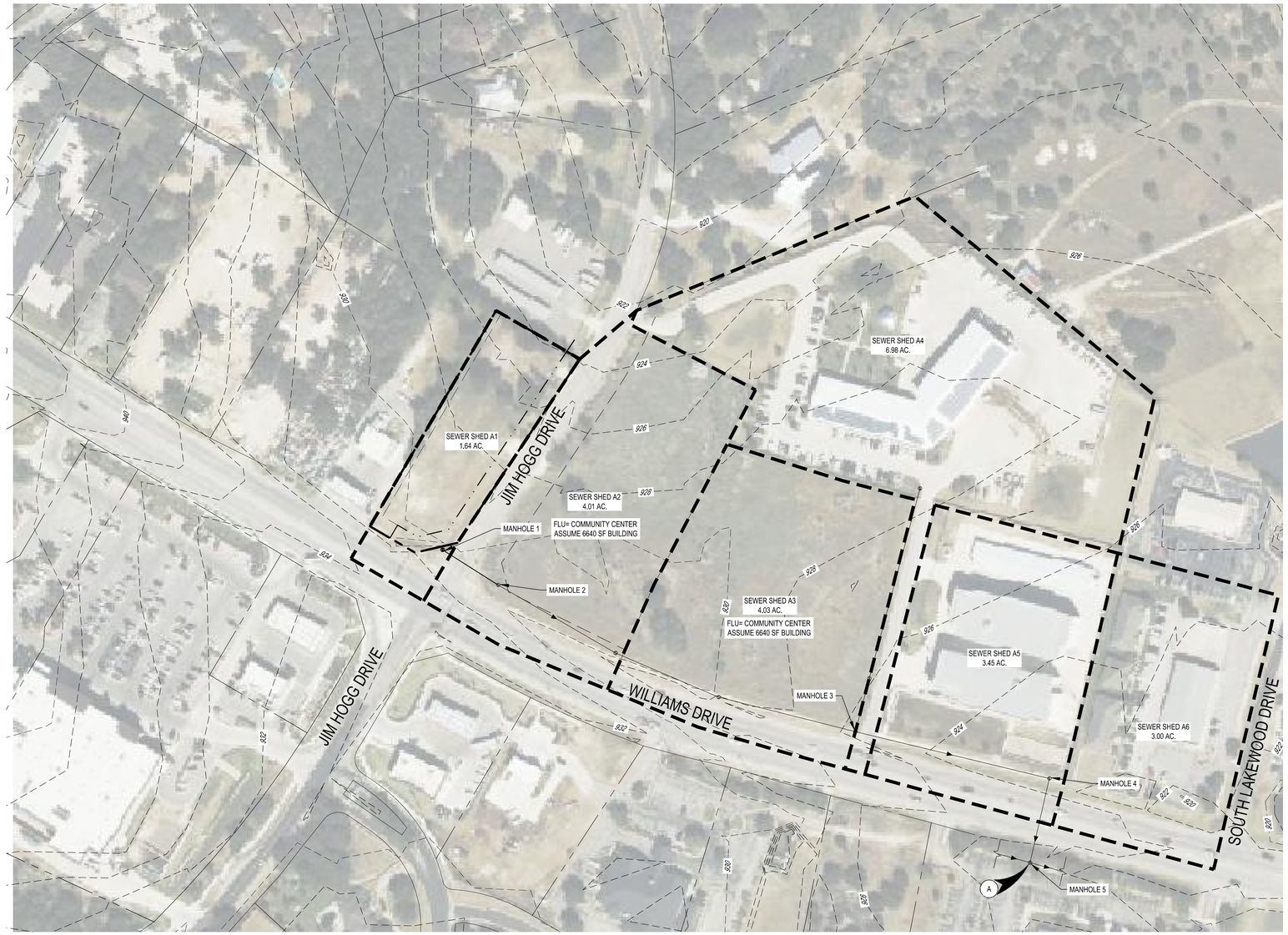

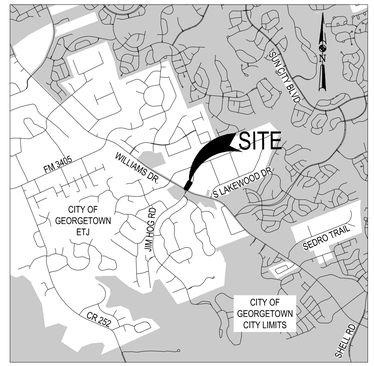

WASTE WATER LOADING

AREA	LUE	AVERAGE DRY WEATHER	LOADING @ PDWF REQUIRED (GPM)	RDII (GPM)	LOADING @ PWWF REQUIRED (GPM)
A1	4	0.6	14.5	1.1	-
A2	4	0.5	14.5	2.8	-
A3	4	0.6	14.5	2.8	-
A4	18	2.6	14.5	4.8	-
A5	25	3.6	14.5	2.4	-
A6	12	1.8	14.5	2.1	-
TOTAL		9.7	14.5	16.0	30.6

WASTE WATER PIPE CAPACITY

PIPE TYPE, SIZE, SLOPE	85% FULL FLOW CHECK (GPM)	65% FULL FLOW CHECK (GPM)
SDR 26, 8", 0.5% (MIN.)	353	255
SDR 26, 8", 0.33% (MIN.)	**289**	**211**

LOCATION MAP

1" = 4000'

LEGEND

EXISTING 5' CONTOUR	— — — — —1275— — — — —
SEWER SHED BOUNDARY	▬ ▬ ▬ ▬ ▬
EVALUATION POINT	X.X
MANHOLE	Ⓢ

NOTES:

1. CITY RESERVE IS SET AT 1487 LUES (83.6 GPM) THE SOURCE OF THE WASTEWATER IS CURRENTLY NOT DEFINED
2. AREA AX (1,036.54 ACRES) DOES NOT CONTRIBUTE TO INFLUENT AT THE LIFT STATION. THIS WASTE WATER CONTRIBUTION IS SLATED TO BE CONVEYED BY THE STONE LEGEND LIFT STATION (FUTURE)

PROPOSED WASTE WATER FLOW SCHEMATIC

GARRETT KELLER
111511
5/16/25

REVISIONS:

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ENGINEERING & SURVEYING

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CONTACT@MATKINHOOVER.COM

3303 SHELL ROAD SUITE 3
GEORGETOWN, TEXAS 78628
OFFICE: 512.868.2244

TEXAS REGISTERED ENGINEERING FIRM F-004512 SURVEYING FIRM F-10024000

SEWER SHED MAP
FOR
6602 JIM HOGG DRIVE
GEORGETOWN, TEXAS

JOB NO.	3456.00
DESIGNED BY:	DAP
DRAWN BY:	DAP
CHECKED BY:	GDK
SHEET #	OF

2025 - 10 - CON

JIM HOGG DR.
INSPECTION AND MAINTENANCE FOR BMPs (ATTACHMENT I)

Designated and qualified person(s) shall inspect Pollution Control Measures every seven days and within 24 hours after a storm event. An inspection report that summarized the scope of the inspection, names and qualifications of personnel conducting the inspection, date of inspection, major observations, and actions taken as a result of the inspection shall be recorded and maintained as part of the Storm Water T.P.D.E.S. Plan. A copy of the inspection report form is provided as page 2 of this attachment. Inspection and Maintenance Guidelines are as follows:

Construction Entrance:
(1) The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.
(2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.
(3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.
(4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
(5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

Inlet Protection:
(1) Inspection should be made weekly and after each rainfall. Repair or replacement should be made promptly as needed by the contractor.
(2) Remove sediment when buildup reaches a depth of 3 inches. Removed sediment should be deposited in a suitable area and in such a manner that it will not erode.
(3) Check placement of device to prevent gaps between device and curb.
(4) Inspect filter fabric and patch or replace if torn or missing.
(5) Structures should be removed and the area stabilized only after the remaining drainage area has been properly stabilized.

Silt Fence:
(1) Inspect all fencing weekly, and after any rainfall.
(2) Remove sediment when buildup reaches 6 inches.
(3) Replace any torn fabric or install a second line of fencing parallel to the torn section.
(4) Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.

(5) When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

Temporary/Permanent Vegetation:
(1) Permanent vegetation should be inspected weekly and after each rain event to locate and repair any erosion.
(2) Erosion from storms or other damage should be repaired as soon as practical by regrading the area and applying new seed.
(3) If the vegetated cover is less than 80%, the area should be reseeded.

Rock Berm:
(1) Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made.
(2) Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.
(3) Repair any loose wire sheathing.
(4) The berm should be reshaped as needed during inspection.
(5) The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.
(6) The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

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INSPECTION AND MAINTENANCE FOR BMPs (ATTACHMENT I)

INSPECTION REPORT

Approved Inspection intervals:

i. Conducted once every 7 days AND within 24 hours after rainfall event greater than 0.5 inch

PROJECT NAME _____
REPORT # _____ DATE _____
INSPECTOR _____ TITLE _____
REASON FOR INSPECTION (CHECK ONE) Weekly ____ Or ½" Rain ____
DATE OF LAST RAINFALL _____ AMOUNT _____

SITE CONDITIONS:

EROSION AND SEDIMENTATION CONTROLS	IN CONFORMANCE		EFFECTIVE	
Concrete Washout Area		Yes/No/Na		Yes/No
Construction Entrance		Yes/No/Na		Yes/No
Permanent Vegetation		Yes/No/Na		Yes/No
Silt Fence		Yes/No/Na		Yes/No
Rock Berm		Yes/No/Na		Yes/No

RECOMMENDED REMEDIAL ACTIONS:

COMMENTS:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision with a system designed to assure that qualified personnel properly gathered and evaluated 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 that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

INSPECTOR: _____ DATE: _____

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JIM HOGG DR.
SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES
(ATTACHMENT J)

Soil stabilization practices will be used to reduce the amount of erosion from the site. Only the areas essential for immediate construction should be cleared. This will keep a buffer zone around the area of construction as these areas will remain undisturbed until construction begins there.

Interim soil stabilization areas are determined in the field. Temporary vegetation will be used as an aid to control erosion on critical sites during establishment period of protective vegetation when construction is temporarily ceased.

Permanent soil stabilization areas are indicated on the included Site Plan. Permanent seeding will take place in these areas when construction is permanently ceased.

Stabilization practices should be installed according to the following rules:

- Stabilization measures shall be initiated as soon as practical in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.

- Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceased is precluded by weather conditions, stabilization measures shall be initiated as soon as practical.

- In areas experiencing droughts where the initiation of stabilization measure by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practical.

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Section 6 – Application Fee

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Jim Hogg Dr.
Regulated Entity Location: Georgetown, Texas
Name of Customer: JDW Partners, LP
Contact Person: Chance Leigh Phone: (512) 966-7434
Customer Reference Number (if issued):CN _____
Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☐ Hays ☐ Travis ☒ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

Application fees must be paid by check, certified check, or money order, payable to the **Texas Commission on Environmental Quality**. Your canceled check will serve as your receipt. **This form must be submitted with your fee payment.** This payment is being submitted to:

☒ Austin Regional Office
☐ Mailed to: TCEQ - Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ San Antonio Regional Office
☐ Overnight Delivery to: TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

Site Location (Check All That Apply):

☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

Type of Plan	***Size***	***Fee Due***
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	$
Sewage Collection System	283.39 L.F.	$ 650.00
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: _____

Date:

Application Fee Schedule

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

Project	*Project Area in Acres*	*Fee*
One Single Family Residential Dwelling	< 5	$650
Multiple Single Family Residential and Parks	< 5 5 < 10 10 < 40 40 < 100 100 < 500 ≥ 500	$1,500 $3,000 $4,000 $6,500 $8,000 $10,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	< 1 1 < 5 5 < 10 10 < 40 40 < 100 ≥ 100	$3,000 $4,000 $5,000 $6,500 $8,000 $10,000

Organized Sewage Collection Systems and Modifications

Project	*Cost per Linear Foot*	*Minimum Fee-Maximum Fee*
Sewage Collection Systems	$0.50	$650 - $6,500

Underground and Aboveground Storage Tank System Facility Plans and Modifications

Project	*Cost per Tank or Piping System*	*Minimum Fee-Maximum Fee*
Underground and Aboveground Storage Tank Facility	$650	$650 - $6,500

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

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Jim Hogg Dr.

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Section 7 – Agent Authorization

Agent Authorization Form
For Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

I Chance Leigh / Billy Wehring,
Print Name

Owner,
Title - Owner/President/Other

of JDW PARTNERS, LP,
Corporation/Partnership/Entity Name

have authorized Garrett Keller, PE
Print Name of Agent/Engineer

of Matkin Hoover Engineering & Surveying
Print Name of Firm

to represent and act on the behalf of the above named Corporation, Partnership, or Entity for the purpose of preparing and submitting this plan application to the Texas Commission on Environmental Quality (TCEQ) for the review and approval consideration of regulated activities.

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to $10,000 per day per violation.

2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.

3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.

4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.

5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

Applicant's Signature

6/02/2025
Date

THE STATE OF Texas §

County of Williamson §

BEFORE ME, the undersigned authority, on this day personally appeared Billy Wehring known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 2nd day of June, 2025.

HADEN SIMMONS
My Notary ID # 134834447
Expires April 3, 2028

NOTARY PUBLIC

Haden Simmons
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: April 3rd, 2028

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Jim Hogg Dr.

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Section 8 – Core Data Form

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

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

SECTION II: Customer Information

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

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

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

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

JDW Partners, 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)*
800177792	32035801102	061689648	NA

11. Type of Customer: ☐ Corporation ☐ Individual Partnership: ☐ General ☒ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees
☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?
☒ Yes ☐ No

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

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

15. Mailing Address:	1952 Austin Ave						
	City	Georgetown	State	TX	ZIP	78626	ZIP + 4

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

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(512) 848-1185		( ) -

SECTION III: Regulated Entity Information

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

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

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

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

Jim Hogg Dr.

23. Street Address of the Regulated Entity: *(No PO Boxes)*	6602 Jim Hogg Dr.							
	City	Georgetown	**State**	TX	**ZIP**	78633	**ZIP + 4**	
24. County	Williamson							

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

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

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

27. Latitude (N) In Decimal:			**28. Longitude (W) In Decimal:**		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
6552			

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

Land Development of Single-Family Homes

34. Mailing Address:	1952 Austin Ave.							
	City	Georgetown	**State**	TX	**ZIP**	78626	**ZIP + 4**	
35. E-Mail Address:	Chance@Chanceleigh.com							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(512) 848-1185		( ) -

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

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

SECTION IV: Preparer Information

40. Name:	Garrett Keller	41. Title:	Senior Civil Designer

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(830) 249-0600		( ) -	gkeller@matkinhoover.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:	MatkinHoover Engineering & Surveying	Job Title:	President	
Name *(In Print)*:	Garrett Keller		Phone:	(830) 249- 600
Signature:			Date:	6/5/25