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 will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **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:

- If the technical review has begun your application can be denied/withdrawn, your fees will be forfeited, and the plan will have to be resubmitted.
- 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 denied/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 affected 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: CrossPoint - Frontage						**2. Regulated Entity No.:**			
3. Customer Name: JSACQ GEORGETOWN LP						**4. Customer No.: CN606274660**			
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):**			
9. Application Fee:	$1,873.50		**10. Permanent BMP(s):**						
11. SCS (Linear Ft.):	3747		**12. AST/UST (No. Tanks):**						
13. County:	Williamson County		**14. Watershed:**						

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 _x_Georgetown ___Jerrell ___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. Hollis Scheffler, P.E.
Print Name of Customer/Authorized Agent
Signature of Customer/Authorized Agent 8/15/2025 Date

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):	

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.

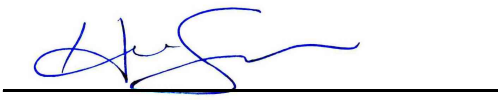
Signature

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: Hollis Scheffler, P.E.

Date: 7/15/2025

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: CrossPoint - Frontage
2. County: Williamson
3. Stream Basin: Dry Berry Creek
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: Miles Terry
   Entity: JSACQ GEORGETOWN LP
   Mailing Address: 4890 Alpha Road Ste. 100
   City, State: Dallas, TX Zip: 75244
   Telephone: (405) 570-8713 FAX: N/A
   Email Address: mterry@jacksonshaw.com

8. Agent/Representative (If any):

   Contact Person: Hollis Scheffler, P.E.
   Entity: Westwood Professional Services
   Mailing Address: 8701 N. Mopac Expy Ste. 320
   City, State: Austin, TX Zip: 78759
   Telephone: (512) 485-0831 FAX: _____
   Email Address: hollis.scheffler@westwoodps.com

9. Project Location:

   ☒ The project site is located inside the city limits of Georgetown.
   ☐ 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.

    The project is located directly northeast of the intersection of N IH-35 and SH-195 at the existing CrossPoint Phase 1 site. The project address is 4815 N Interstate Hwy 35, Georgetown, TX 78633.

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:

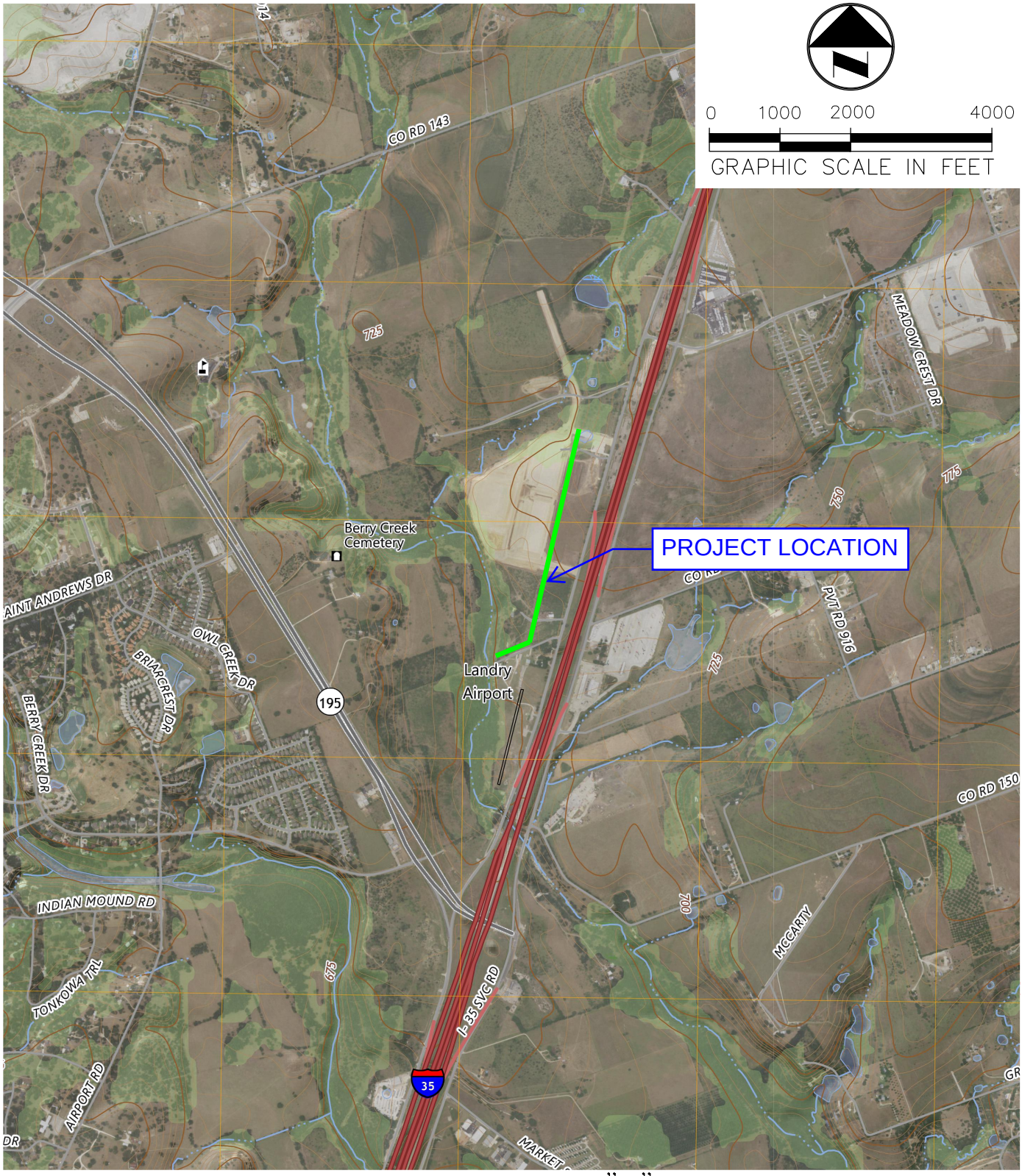
- ☐ TCEQ cashier
- ☒ Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
- ☐ San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

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.

Attachment A – Road Map

Attachment B – USGS / Edwards Recharge Zone Map



ATTACHMENT "B"

USGS/EDWARDS RECHARGE ZONE MAP

7.5-MINUTE TOPO

Westwood
Westwood Professional Services, Inc.
Phone (512) 485-0831
Toll Free (888) 937-5150
8701 N. Mopac Expy, Suite 320
Austin, TX 78759
westwoodps.com

TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

DRAWN BY	CHECKED BY	SCALE	DATE	JOB NUMBER
HAS	HAS	1"=2000'	7/24/2025	R0040131.09

CROSSPOINT - FRONTAGE

JGUJARLAPUDI 7/24/2025 10:16 AM
N:\0040131.09\06 CAD\DWG\SITE DESIGN C3D\EXHIBITS\SCS APPLICATION\QUAD MAP.DWG

Attachment C – Project Description

The proposed project will consist of off-site sanitary sewer improvements, including manholes, cleanouts, mains, and building services to serve a partially developed site. The proposed site consists of 36.8 acres located at 4805 IH 35 North in Georgetown, Williamson County, Texas and is within City of Georgetown limits. The proposed sanitary sewer improvements will consist of 2.62 acres. There is an existing development on the site, CrossPoint Phase 1, which consists of 3 buildings totaling 488,758 square feet as well as paved roads and parking lots. There is an undeveloped grass meadow to the east of the site and an undeveloped meadow with trees and brushy vegetation to the north and west. A partially developed tract with a single-family home and brushy vegetation is located south of the site.

Relative to a true north orientation, the proposed sanitary sewer system will connect to an existing sanitary sewer system on the south side of the adjacent tract below the site and will run northwest approximately 700 feet toward IH 35. The sewer line will then run northbound for approximately 3146 feet directly east of the site and parallel to IH 35.

The proposed sewer system consists of:

3747 LF of 12" PVC SDR-35 ASTM D3034 sewer line

Geologic Assessment

GEOLOGIC ASSESSMENT

For

JACKSON SHAW
AN APPROXIMATE 215 ACRE TRACT
IH 35 North of Texas Hwy 195
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

Prepared for

Jackson Shaw
4890 Alpha Road, Suite 100
Dallas, Texas 75244

Prepared by

Professional Service Industries, Inc.
2600 McHale Court, Suite 125
Austin, Texas 78758
Telephone (512) 491-0200

PSI PROJECT NO.: 0435-4973

August 17, 2021

Project Number: 0435-4973
August 12, 2021

Professional Service Industries, Inc.
2600 McHale Court, Austin, TX 78758
Phone: (512) 491-0200
Fax: (512) 491-0221

Jackson Shaw
4890 Alpha Road, Suite 100
Dallas, TX 75244
Attention: Zac McGuire

Re: Geologic Assessment, Edwards Aquifer Recharge Zone
215 Acre Ranch, IH 35 North of State Hwy 195. South of FM 972, southbound side
Georgetown, Williamson County, Texas
PSI Project No.: 0435-4973

Dear Mr. McGuire:

Professional Service Industries, Inc. (PSI) has completed a geologic recharge assessment for the above referenced project in compliance with the Texas Commission on Environmental Quality (TCEQ) requirements for regulated developments located on the Edwards Aquifer Recharge Zone (EARZ). The purpose of this report is to describe surficial geologic units and identify the locations and extent of significant recharge features present in the development area.

AUTHORIZATION

Authorization to perform this assessment was given on by a signed copy of PSI Proposal PSI Proposal No. 0435-348168, dated July 7, 2021.

PROJECT DESCRIPTION

The subject site consists of an irregular shaped tract of land that is approximately 215 acres in size. The subject site is developed as a livestock ranch, just north of Georgetown, Texas. The site includes a ranch house and associated buildings, 2 ponds, and 2 water wells.

The online Edwards Aquifer Map provided by the TCEQ was reviewed for this assessment. According to the contour lines on the maps, the elevation of the property is approximately 740 feet above mean sea level (MSL) in the eastern and northeastern parts of the site. Drainage appears to be to the predominantly west in an unnamed creek that flows across the site. This creek flows WSW and approximately parallel and mostly south of, the east/west entry road at the north gate. This creek is depicted on Figure 2B, the topographic map. Another drainage feature, apparently beginning at the southbound service road, south of the north entry gate flows west onto the subject property and joins the unnamed creek near the entry road about halfway to the ranch house. Parts of the site not near the unnamed creek slope southwest. Southwest and western parts of the site have an elevation of about 710 feet. Also 2 water wells were found onsite.

REGIONAL GEOLOGY

Physiography

From west to east, the two physiographic provinces in Travis and Williamson County are: the Edwards Plateau and the Blackland Prairie. The Edwards Plateau terrain is rugged and hilly, with elevations ranging from 800 feet to 1,400 feet above sea level. This area is underlain by beds of limestone that dip gently to the southeast. Southeast of the Edwards Plateau is the Balcones Fault Zone, which is also the northernmost limit of the Blackland Prairie. The Balcones Fault Zone extends north-south across Williamson County and Travis County and is composed of fault blocks of limestone, chalk, shale and marl. The undulating, hilly topography of the Blackland Prairie ranges in elevation from about 400 feet to 800 feet above sea level. The faults are predominantly normal, down thrown-to-the Gulf Coast, with near vertical throws.

Geology

The subject property lies primarily on the geologic formation Qt, which is a Quaternary fluviatile terrace deposit. See Figure 1, which is based on the online State of Texas Bureau of Economic Geology (Texas Geologic Atlas, published 1974). See also Figure 2, which is based on the online US Geological Survey map for the vicinity. A small amount of the Edwards Limestone (Ked) is present near the north gate entry (the point onsite farthest north on the IH35 frontage Road) for approximately 0.1 miles after you enter the property. A small amount of Qal (Quaternary Alluvium) appears on the western fringe of the site, apparently associated with south flowing Dry Berry Creek. Further south of the site, at approximately 2.5 miles, Dry Berry Creek empties into southeast flowing Berry Creek. Further upstream, both of these creeks flow across the Georgetown Limestone (Kgt), and Ked, recharging the aquifer.

Near the site's NE boundary is the stratigraphic contact between the Qt and the Ked. Also nearby, there is a normal fault, downthrown to the SE, with a strike of about N 20 degrees east. This is depicted on the Atlas (Figure 1) and reproduced on the Site Geologic Map (Figure 2). The Buda (Kbu), Eagle Ford (Kef), and Austin Chalk (Kau) are to the east and southeast of the fault. However, it is noted that Kau, Kef, Kbu, and the Del Rio (Kdr) are on both sides of the fault as depicted on the Atlas. This implies that there is only limited vertical throw on the fault, and hence it would seem to be of limited significance. Also, it is one of the last faults as you go southeast (downgradient regionally).

Also, near the northeast of the site, and just offsite, there is a large pond that appears to straddle the above referenced fault. However, this pond is manmade, has an earthen dam on the south side of this pond, with tire tracks is evident on aerial software. Thus, this large pond does not appear to be spring fed via fault related hydrology. Rather, the pond appears to be fed by surface flow from topographically higher areas to the northeast (Kau). Surface flow to the pond is depicted on Topographic Map Figure 2C. The spill over from that large pond continues onto the subject site and becomes the small creek that crosses the entry road from the north gate of the subject site.

The small west-southwest flowing creek originates as surface flow on the Kau to the northeast. The flow path is depicted on Figure 2C. Because this creek does not originate from springs in the Edwards or Georgetown, endangered salamander habitat is not evident. Also, the creek is seasonal, and hence unable to sustain the local endangered salamander species.

In summary for the hydrology, there are no springs onsite. There is a stream onsite that is seasonal but does not flow in the summer or extended dry periods. The stream originates offsite to the northeast on the Austin chalk, and feeds a large pond just offsite to the northeast. In wetter months of the year, the overflow from that pond

feeds the stream onsite. This stream is intermittent and is not spring-fed. Hence it is not suitable for salamanders or any other species that require constant water flow.

PSI found no obvious evidence of faulting on the subject site. But the Qt surface cover onsite may mask such evidence regarding the above referenced fault, if any such evidence actually exists in the shallow subsurface.

Stratigraphy and Structure

According to the USGS online map cited above, the site is mapped as the Qt Quaternary Fluviatile Deposits. The USGS for the above referenced map describes this formation as " in north, central, and south Texas including Quaternary for all of west Texas- gravel commonly exposed to the surface, in northwest part of Austin Sheet (Atlas, 1974) composed of an upper silty clay unit good for crop production and a lower coarse unit that yields some water (possibly correlates with the Onion Creek Marl)."

The Edwards Limestone is described as "fine to coarse grained, with abundant chert, medium gray to grayish brown; Fossils in the formation are rudistids as reefs and individuals, miliolid (microfossils), and shell fragments; solution zones and collapse breccia common; thickness 300-500 feet".

According to the TCEQ's online Edwards Aquifer Map (Figure 3), the subject site is located on the Edwards recharge zone. The Edwards Aquifer maps are based on official printed maps, containing regulatory boundaries. They are also based on previous geologic studies and interpretations of the Edwards Aquifer zones, including recharge, transition, contributing, artesian and saline zones, as defined in 30 TAC 213.

PSI located features onsite. Both were water wells but neither was found in the online GIS software maintained by the Texas Water Development Board (TWDB). According to the TWDB website, most wells in the area are 200 – 250 feet deep and completed in the Edwards and associated limestones.

STRATIGRAPHIC COLUMN
Approximate 215 Acre Tract
North of Georgetown, Texas (See Maps)
Georgetown, Williamson County, Texas
PSI Project No.: 0435-4973

FORMATION	THICKNESS	LITHOLOGIC DESCRIPTION
Quaternary Terrace Deposit Qt	Variable	Quaternary Terrace Deposits. The USGS for the above referenced map describes this formation as " in north, central, and south Texas including Quaternary for all of west Texas- gravel commonly exposed to the surface, in northwest part of Austin Sheet (1974) composed of an upper silty clay unit good for crop production and a lower coarse unit that yields some water (possibly correlates with the Onion Creek Marl)."
Del Rio Clay Kdr	40-70'	Calcareous and gypsiferous, with pyrite common, with a blocky structure that weathers to light gray or yellowish gray. The characteristic marine

		mega fossil, Ilmatogyra arietina (formerly exogyra arietina) is widespread throughout the formation.
Georgetown Formation Kgt	30-80'	Light tan limestone identified by proximity to Del Rio clay and diagnostic marker fossil: *waconella wacoensis* brachiopod; low porosity and permeability development.
Edwards Limestone Ked	60-350'	Limestones and dolomites, extensive porosity development in "honeycomb sections, interbedded with massive recrystallized limestones with more limited permeabilities
Glen Rose Limestone (upper) Kgr(u)	220	Yellowish-tan thinly bedded limestone and marl. Alternating beds of varying hardness erodes to "stair step" topography. Marine fossils common.

SOILS NARRATIVE

According to the website https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm soils beneath the subject property are about 50% Denton silty clay (DnB) -1 to 3 percent slopes, about 10% are Heiden extremely stony clay (HesE)- 3 to 12 percent slopes, and 10% are Sunev silty clay loam(SvA)-0 to 1 percent slopes. Seven other soil types make up the remaining 30% of the soils onsite. The reader is referred to the soils section of this report where detailed information for all 10 soil types present onsite is available.

According to the Soil web survey, Denton silty clay (DnB)-1 to 3 percent slopes soil profile consists of the following: Typical profile
A - 0 to 14 inches: silty clay
Bw - 14 to 25 inches: silty clay
Bk - 25 to 33 inches: silty clay
Ck - 33 to 36 inches: gravelly silty clay
R - 36 to 80 inches: bedrock

DnB parent material is Silty and clayey slope alluvium over residuum weathered from limestone. It is classified as having high runoff and being well drained. Finally, this soil is non-hydric and in Hydrologic Soil Group D.

According to the Soil web survey, Heiden extremely stony clay (HesE)-3 to 12 percent slopes consists of the following: Typical profile
H1 - 0 to 8 inches: very stony clay
H2 - 8 to 60 inches: clay

HesE parent material is Clayey residuum weathered from clayey shale of Eagleford shale or Taylor marl. These soils are well drained with high runoff. The water table is expected at more than 80 inches. It belongs to Group D in the hydrologic soil groups and is non-hydric.

According to the Soil web survey, Sunev silty clay loam (SvA)-0 to 1 percent slopes consists of the following: Typical profile
A - 0 to 12 inches: silty clay loam
Bk - 12 to 42 inches: clay loam

BCk - 42 to 80 inches: clay loam

SvA parent material is Loamy alluvium derived from limestone. These soils are well drained with high runoff. The water table is expected at more than 80 inches. It belongs to Group B in the hydrologic soil groups and is non-hydric.

SITE INVESTIGATION

The site investigation was performed by systematically traversing the subject tract, and mapping fractured or vuggy rock outcrops, closed depressions, sinkholes, caves, or indications of fault/fracture zones. The purpose of the site investigation was to delineate features with recharge potential that may warrant special protection or consideration. The results of the site investigation are included in the attached TCEQ report format.

The subject site consists of an irregular shaped tract of land that is approximately 215 acres in size. The subject site is developed as a livestock ranch, just north of Georgetown, Texas. The site includes a ranch house and associated buildings, 2 ponds, and 2 water wells. PSI located no natural features onsite, and no obvious evidence of faulting. The water wells found onsite are documented on the site geologic map (Figure 2, WW1 and WW2) and in the Geologic Assessment Table. Neither well was found in the online GIS software maintained by the Texas Water Development Board (TWDB). According to the TWDB website, most wells in the area are 200 – 250 feet deep and completed in the "Edwards and associated limestones".

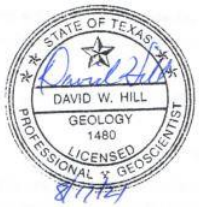
SUMMARY

No natural features and no faults were noted on the subject site. Two water wells were located onsite as described above.

It is possible that clearing/construction activities will reveal the presence of features currently hidden by thick vegetation, pavement, or soil cover. If caves, sinkholes, or solution cavities are encountered during future clearing/construction activities, please contact our office for additional assistance.

We appreciate this opportunity to be of service to you. If you have any questions, please do not hesitate to contact our office.

Respectfully Submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.



Dave Hill, P.E., P.G.
Environmental Services

WARRANTY

The field observations and research reported herein are considered sufficient in detail and scope to form a reasonable basis for a general geological recharge assessment of this site. PSI warrants that the findings and conclusions contained herein have been promulgated in accordance with generally accepted geologic methods, only for the site described in this report. These methods have been developed to provide the client with information regarding apparent indications of existing or potential conditions relating to the subject site and are necessarily limited to the conditions observed at the time of the site visit and research. This report is also limited to the information available at the time it was prepared. In the event additional information is provided to PSI following the report, it will be forwarded to the client in the form received for evaluation by the client. There is a possibility that conditions may exist which could not be identified within the scope of the assessment or which were not apparent during the site visit. PSI believes that the information obtained from others during the review of public information is reliable; however, PSI cannot warrant or guarantee that the information provided by others is complete or accurate.

This report has been prepared for the exclusive use of the client for the site discussed herein. Reproductions of this report cannot be made without the expressed approval the client. The general terms and conditions under which this assessment was prepared apply solely to the client for this site. No other warranties are implied or expressed.

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

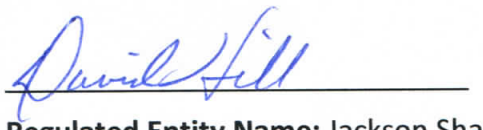
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

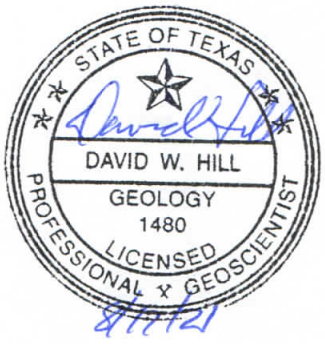
Print Name of Geologist: Dave Hill Telephone: 512-491-0200

Date: 8/17/21 Fax: 512-491-0221

Representing: PSI TBPG No. 50128 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:





Regulated Entity Name: Jackson Shaw

Project Information

1. Date(s) Geologic Assessment was performed: 8/9-10/21
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)
Denton silty clay (DnB)-1 to 3 % slopes	D	6.7
Heiden Clay extremely stony 3-12% slopes	D	5.0
Sunev silty clay loam (SvA)-0 to 1 percent slopes	B	6.8

** 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" = _____'
   Site Geologic Map Scale: 1" = _____'
   Site Soils Map Scale (if more than 1 soil type): 1" = _____'

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.

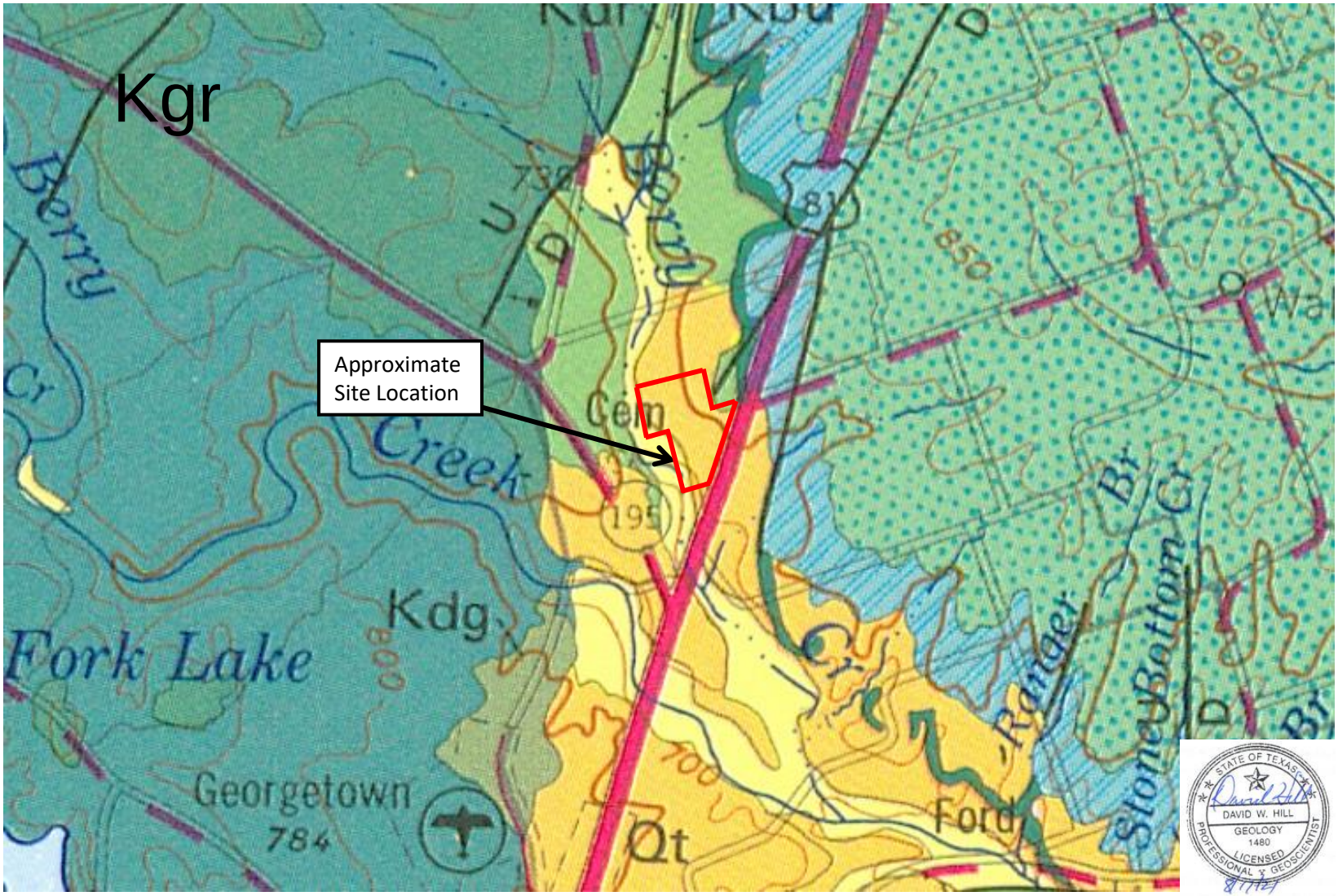
14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.

    ☒ There are 2 (#) 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.



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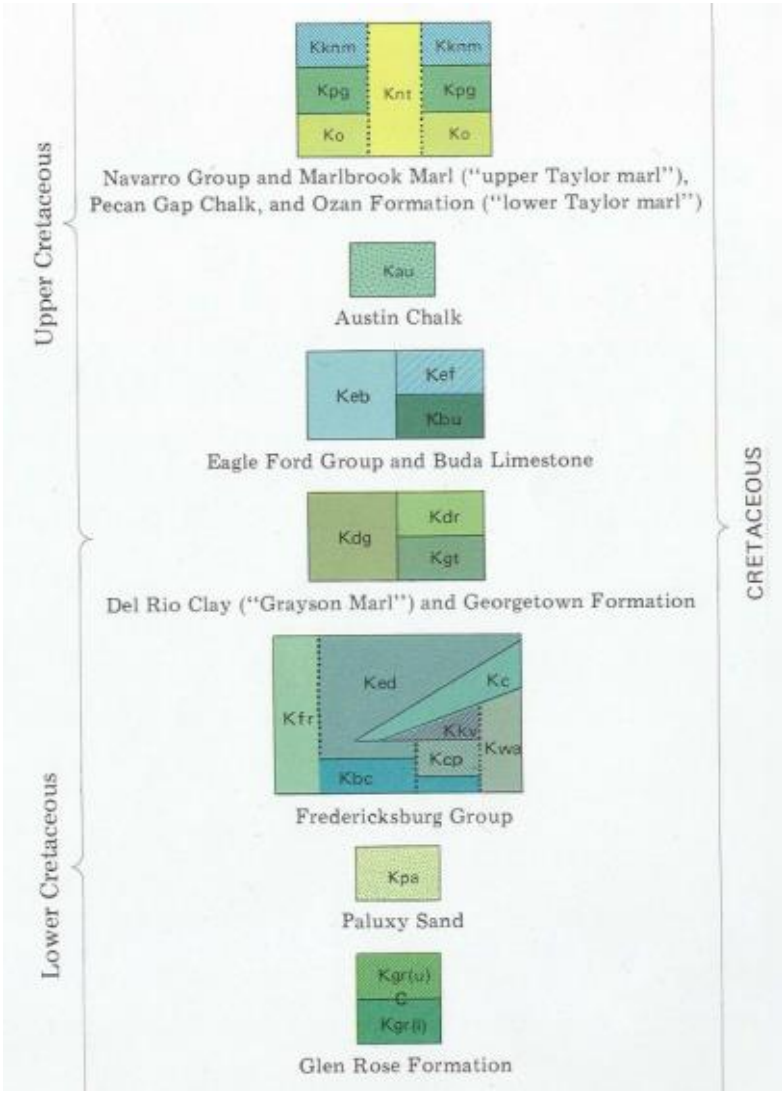
Suite 125
Austin, Texas 78758

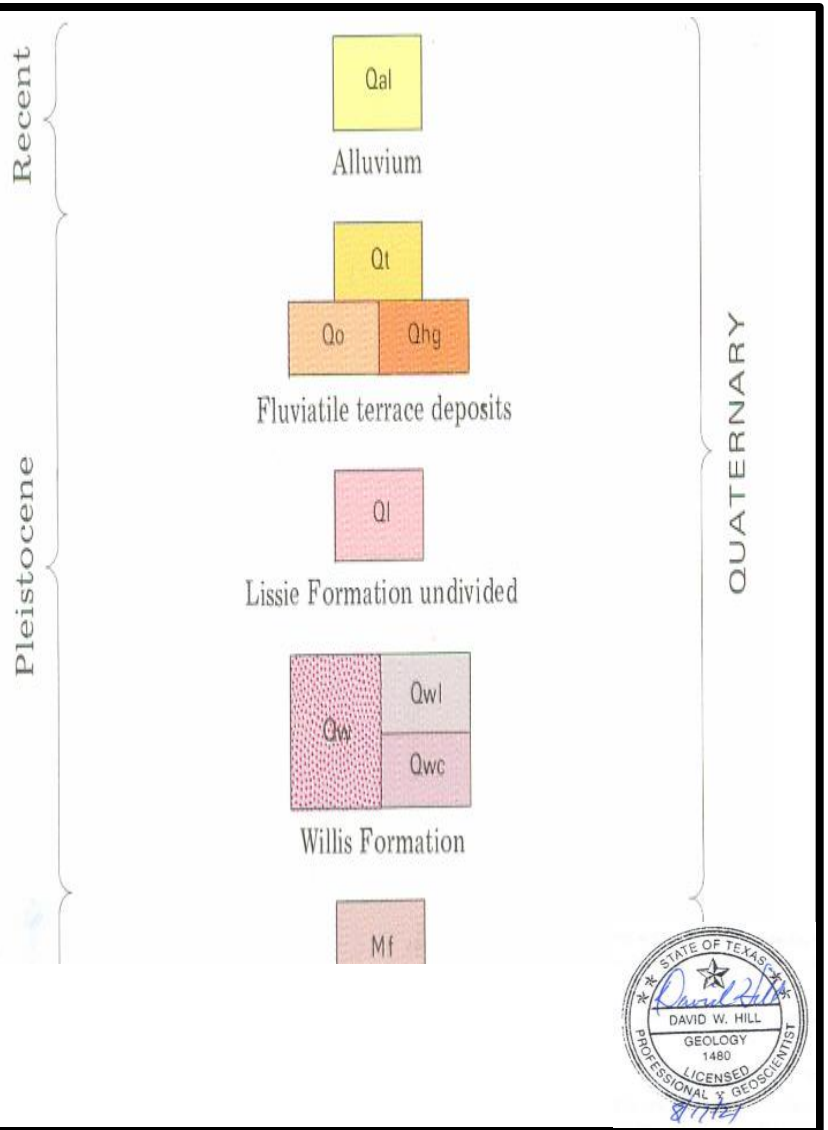
Figure 1 - Area Geology Map

Jackson Shaw
Approximate 215 Acre Tract
Georgetown, Texas
PSI Project No.: 0435-4973

Approximate Scale Miles
0 0.5 1

N





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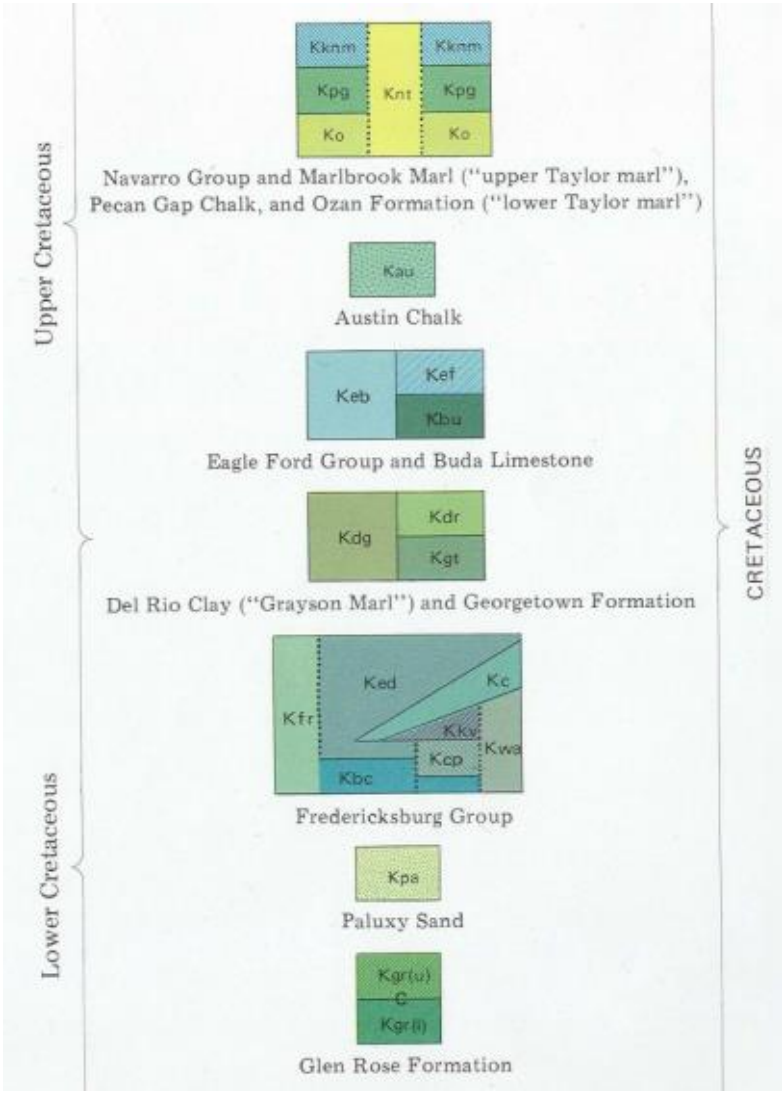
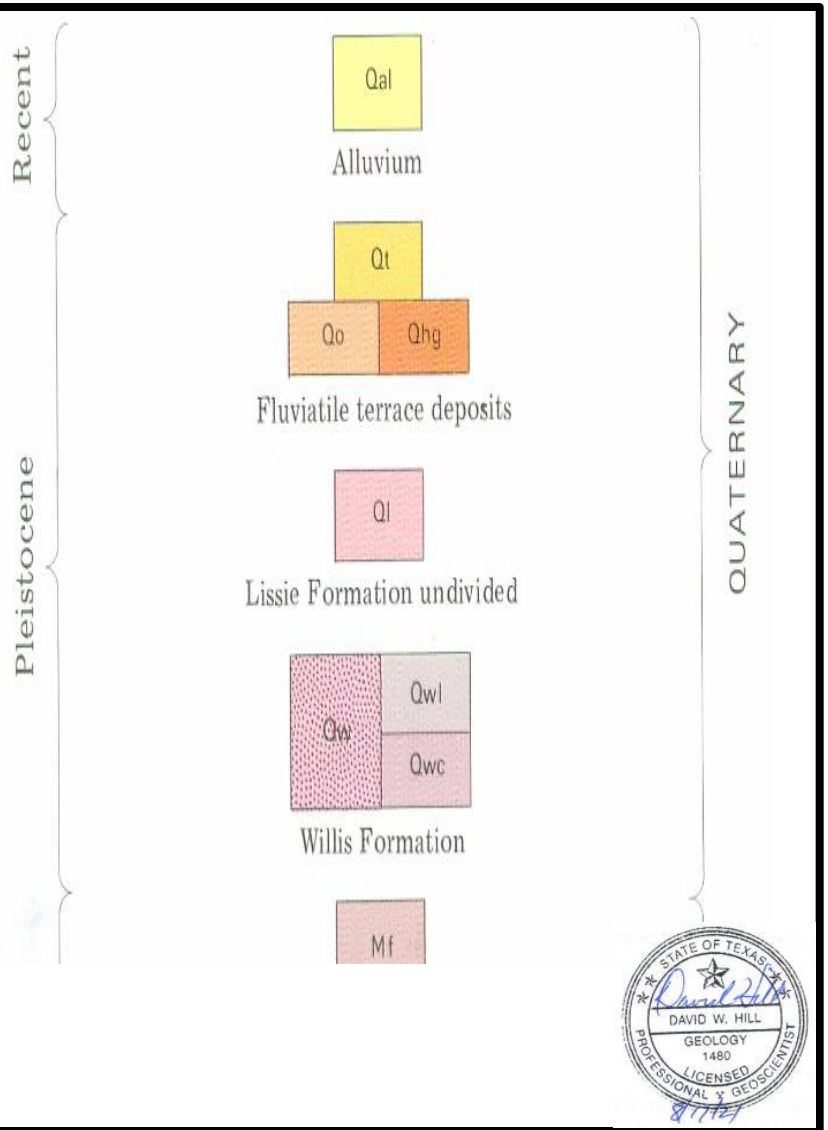
Austin, Texas 78758

Geology Map Stratigraphy

Strait Music Site
2428 West Ben White Road
Austin, Travis County, Texas
PSI Project No.: 0435-4904

N





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Suite 125
Austin, Texas 78758

Geology Map Stratigraphy

Strait Music Site
2428 West Ben White Road
Austin, Travis County, Texas
PSI Project No.: 0435-4904

N

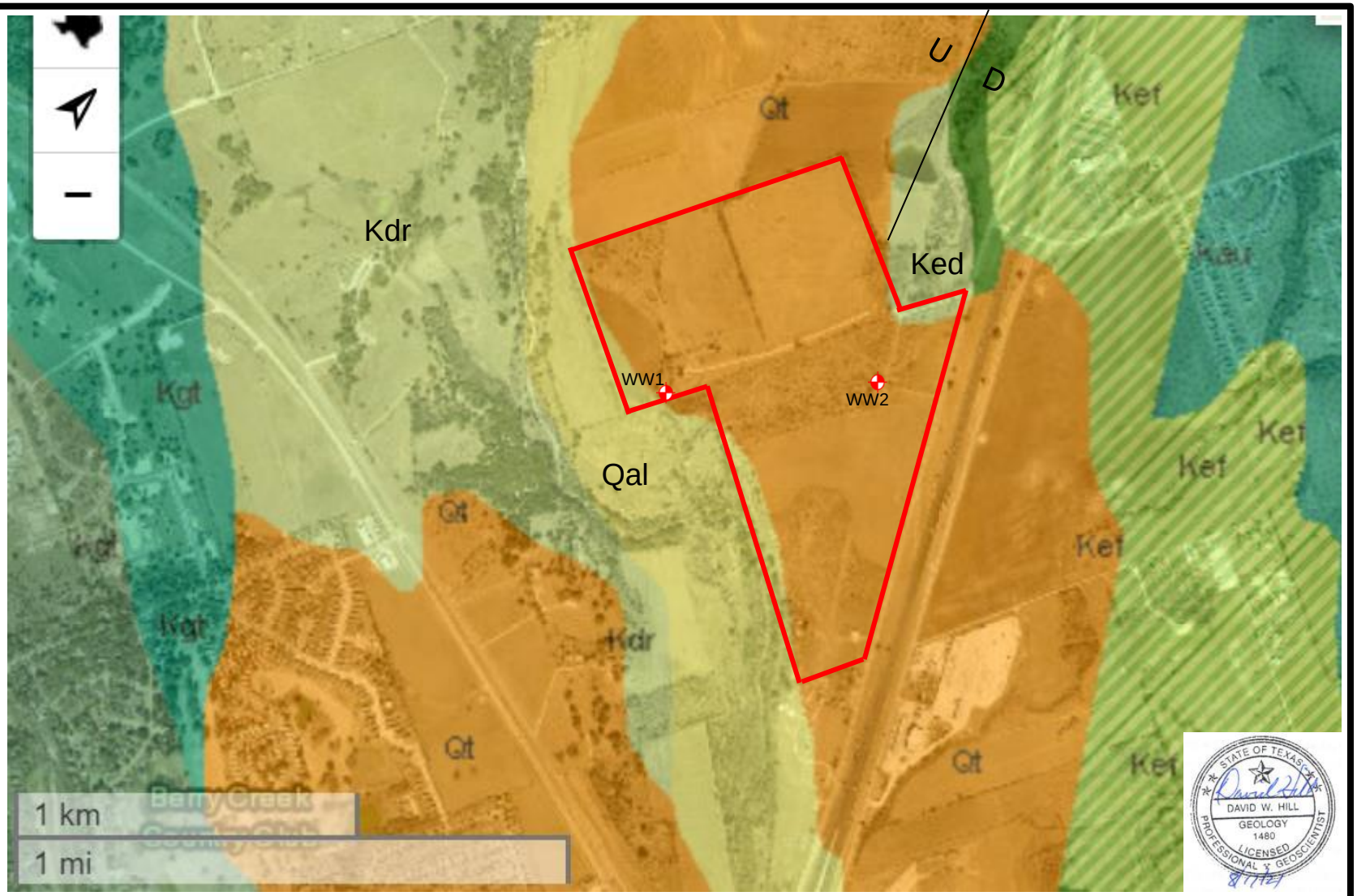

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Figure 2 - Site Geology Map

Jackson Shaw
Approximate 215 Acre Tract
Georgetown, Texas
PSI Project No.: 0435-4973

N

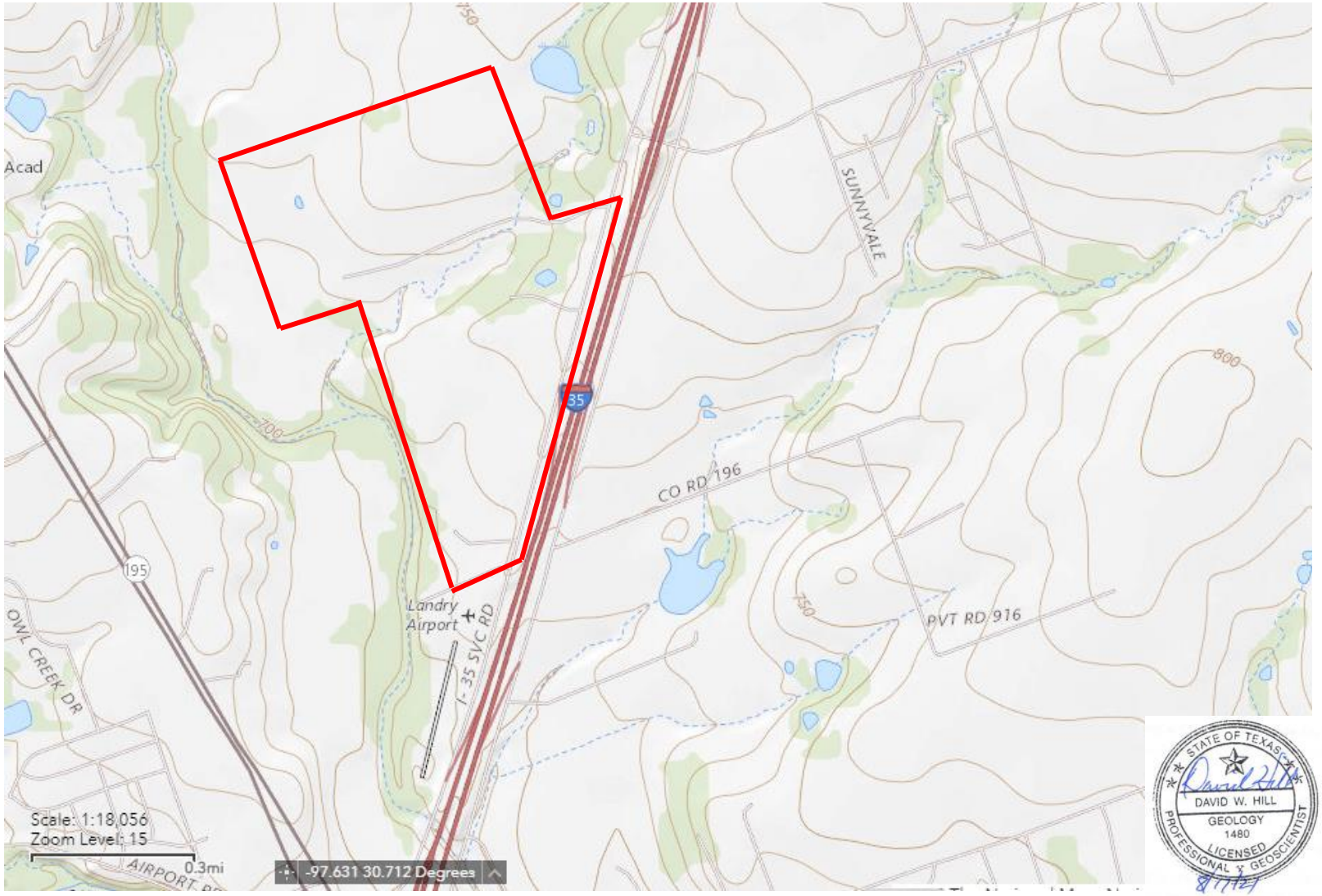

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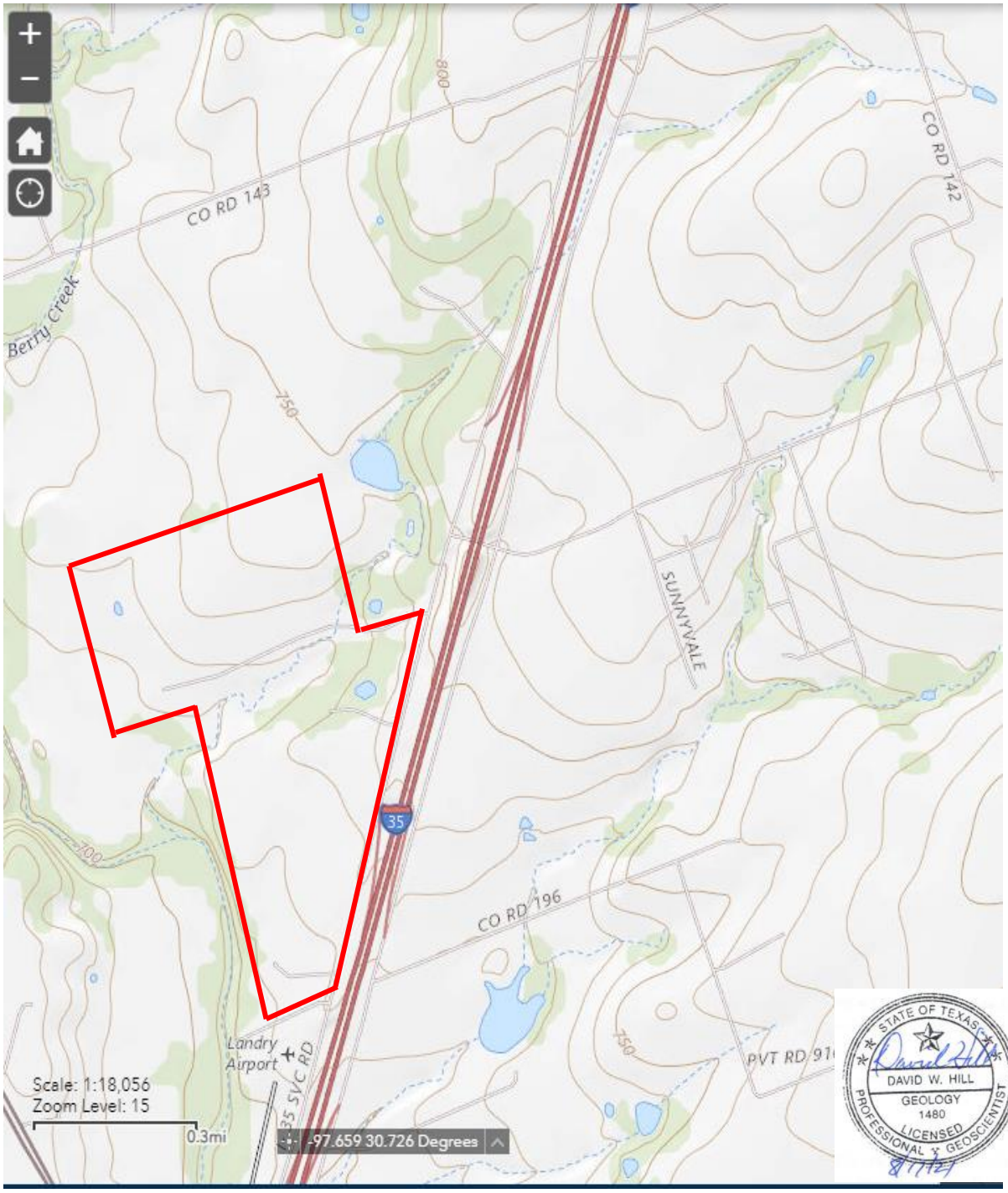
Figure 2B – Topographic Map

Jackson Shaw
Approximate 215 Acre Tract
Georgetown, Texas
PSI Project No.: 0435-4973

N



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Austin, Texas 788758
Office - 512.491.0200

Figure 2C – Topographic Map
Jackson Shaw
Approximate 215 Acre Tract
Georgetown, Texas
PSI Project No.: 0435-4973

N

GEOLOGIC ASSESSMENT TABLE PSI 04354973 — PROJECT NAME: Approx 215-Acre Tract-depicted in related maps, Georgetown, Tx

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	
WW1	30 43 10.10	97 38 54.48				unable to measure								5	35	x		x		Hilltop
WW2	30 43 09.87	97 39 17.27				unable to measure								5	35	x		x		Hilltop

* DATUM:_____

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.

_____

David Hill

STATE OF TEXAS — DAVID W. HILL — GEOLOGY — 1480 — LICENSED PROFESSIONAL GEOSCIENTIST

Date 8/17/21

Sheet 1 of 1

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

Soil Map—Williamson County, Texas
(4973 Soil Map N of Georgetown)

Map Scale: 1:9,090 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 100 200 400 600

Feet
0 400 800 1600 2400

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Williamson County, Texas
Survey Area Data: Version 21, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 27, 2018—Dec 4, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AsB	Austin silty clay, 1 to 3 percent slopes	0.3	0.1%
DnA	Denton silty clay, 0 to 1 percent slopes	15.0	6.9%
DnB	Denton silty clay, 1 to 3 percent slopes	108.0	49.5%
DoC	Doss silty clay, moist, 1 to 5 percent slopes	16.9	7.8%
HesE	Heiden extremely stony clay, 3 to 12 percent slopes	22.5	10.3%
KrB	Krum silty clay, 1 to 3 percent slopes	17.4	8.0%
OaA	Oakalla silty clay loam, 0 to 2 percent slopes, occasionally flooded	0.0	0.0%
OkA	Oakalla silty clay loam, 0 to 2 percent slopes, frequently flooded	8.6	3.9%
QuC	Queeny clay loam, 1 to 5 percent slopes	7.6	3.5%
SvA	Sunev silty clay loam, 0 to 1 percent slopes	21.8	10.0%
Totals for Area of Interest		**218.1**	**100.0%**

Williamson County, Texas

AsB—Austin silty clay, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2vtgj
Elevation: 440 to 810 feet
Mean annual precipitation: 30 to 40 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 228 to 293 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Austin and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Austin

Setting

Landform: Ridges
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Residuum weathered from chalk

Typical profile

Ap - 0 to 16 inches: silty clay
Bw - 16 to 22 inches: silty clay
Bk - 22 to 29 inches: silty clay
Cr - 29 to 57 inches: bedrock

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: 22 to 39 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 85 percent
Maximum salinity: Nonsaline to very slightly saline (0.5 to 2.1 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water capacity: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: R086AY007TX - Southern Clay Loam
Hydric soil rating: No

Minor Components

Houston black
Percent of map unit: 10 percent
Landform: Ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Microfeatures of landform position: Linear gilgai
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Ecological site: R086AY011TX - Southern Blackland
Hydric soil rating: No

Data Source Information

Soil Survey Area: Williamson County, Texas
Survey Area Data: Version 21, Jun 11, 2020

Williamson County, Texas

DnA—Denton silty clay, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2tc46
Elevation: 400 to 1,900 feet
Mean annual precipitation: 29 to 37 inches
Mean annual air temperature: 64 to 67 degrees F
Frost-free period: 220 to 250 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Denton and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Denton

Setting

Landform: Ridges
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey slope alluvium and/or residuum over calcareous residuum weathered from limestone

Typical profile

Ap - 0 to 13 inches: silty clay
Bw - 13 to 19 inches: silty clay
2Bk - 19 to 36 inches: silt loam
2CBk - 36 to 52 inches: silt loam
2R - 52 to 80 inches: bedrock

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 80 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: C
Ecological site: R085XY179TX - Clayey Slope 30-38
Hydric soil rating: No

Minor Components

Crawford

Percent of map unit: 5 percent
Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R085XY180TX - Deep Redland 30-38" PZ
Hydric soil rating: No

Krum

Percent of map unit: 5 percent
Landform: Draws
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R085XY279TX - Clayey Swale 30-38
Hydric soil rating: No

Data Source Information

Soil Survey Area: Williamson County, Texas
Survey Area Data: Version 21, Jun 11, 2020

Williamson County, Texas

DnB—Denton silty clay, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2t26l
Elevation: 570 to 1,870 feet
Mean annual precipitation: 31 to 36 inches
Mean annual air temperature: 65 to 68 degrees F
Frost-free period: 220 to 260 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Denton and similar soils: 88 percent
Minor components: 12 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Denton

Setting

Landform: Hillslopes
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Silty and clayey slope alluvium over residuum weathered from limestone

Typical profile

A - 0 to 14 inches: silty clay
Bw - 14 to 25 inches: silty clay
Bk - 25 to 33 inches: silty clay
Ck - 33 to 36 inches: gravelly silty clay
R - 36 to 80 inches: bedrock

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: 22 to 60 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 80 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: D
Ecological site: R081CY357TX - Clay Loam 29-35 PZ
Hydric soil rating: No

Minor Components

Krum

Percent of map unit: 6 percent
Landform: Drainageways
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R081CY357TX - Clay Loam 29-35 PZ
Hydric soil rating: No

Doss

Percent of map unit: 4 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R081BY343TX - Shallow 23-31 PZ
Hydric soil rating: No

Anhalt

Percent of map unit: 2 percent
Landform: Hillslopes
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R081CY358TX - Deep Redland 29-35 PZ
Hydric soil rating: No

Data Source Information

Soil Survey Area: Williamson County, Texas
Survey Area Data: Version 21, Jun 11, 2020

Williamson County, Texas

DoC—Doss silty clay, moist, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2s0st
Elevation: 630 to 1,840 feet
Mean annual precipitation: 30 to 36 inches
Mean annual air temperature: 66 to 68 degrees F
Frost-free period: 210 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Doss and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Doss

Setting

Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from limestone

Typical profile

A - 0 to 9 inches: silty clay
Bk - 9 to 17 inches: silty clay
Cr - 17 to 80 inches: bedrock

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: 11 to 20 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 70 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D

Ecological site: R081CY574TX - Shallow 29-35 PZ
Hydric soil rating: No

Minor Components

Brackett
Percent of map unit: 7 percent
Landform: Ridges
Landform position (two-dimensional): Shoulder, backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R081CY362TX - Steep Adobe 29-35 PZ
Hydric soil rating: No

Bolar
Percent of map unit: 5 percent
Landform: Ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R081CY357TX - Clay Loam 29-35 PZ
Hydric soil rating: No

Purves
Percent of map unit: 1 percent
Landform: Plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R081CY574TX - Shallow 29-35 PZ
Hydric soil rating: No

Denton
Percent of map unit: 1 percent
Landform: Plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R081CY357TX - Clay Loam 29-35 PZ
Hydric soil rating: No

Eckrant
Percent of map unit: 1 percent
Landform: Ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R081CY360TX - Low Stony Hill 29-35 PZ

Hydric soil rating: No

Data Source Information

Soil Survey Area: Williamson County, Texas
Survey Area Data: Version 21, Jun 11, 2020

Williamson County, Texas

HesE—Heiden extremely stony clay, 3 to 12 percent slopes

Map Unit Setting

National map unit symbol: djq8
Elevation: 400 to 1,000 feet
Mean annual precipitation: 28 to 42 inches
Mean annual air temperature: 64 to 70 degrees F
Frost-free period: 225 to 275 days
Farmland classification: Not prime farmland

Map Unit Composition

Heiden and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Heiden

Setting

Landform: Ridges
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Microfeatures of landform position: Linear gilgai
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Clayey residuum weathered from clayey shale of eagleford shale or taylor marl

Typical profile

H1 - 0 to 8 inches: very stony clay
H2 - 8 to 60 inches: clay

Properties and qualities

Slope: 3 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Gypsum, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 12.0
Available water capacity: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: R086AY011TX - Southern Blackland
Hydric soil rating: No

Data Source Information

Soil Survey Area: Williamson County, Texas
Survey Area Data: Version 21, Jun 11, 2020

Williamson County, Texas

KrB—Krum silty clay, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: djqf
Elevation: 600 to 1,300 feet
Mean annual precipitation: 26 to 36 inches
Mean annual air temperature: 63 to 70 degrees F
Frost-free period: 230 to 250 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Krum and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Krum

Setting

Landform: Stream terraces, stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Clayey alluvium of pleistocene age derived from mixed sources

Typical profile

H1 - 0 to 6 inches: silty clay
H2 - 6 to 44 inches: silty clay
H3 - 44 to 72 inches: silty clay

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 50 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 3.0
Available water capacity: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C

Ecological site: R086AY007TX - Southern Clay Loam
Hydric soil rating: No

Data Source Information

Soil Survey Area: Williamson County, Texas
Survey Area Data: Version 21, Jun 11, 2020

Williamson County, Texas

OaA—Oakalla silty clay loam, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2wg93
Elevation: 400 to 1,070 feet
Mean annual precipitation: 32 to 35 inches
Mean annual air temperature: 66 to 70 degrees F
Frost-free period: 271 to 278 days
Farmland classification: Not prime farmland

Map Unit Composition

Oakalla, occasionally flooded, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Oakalla, Occasionally Flooded

Setting

Landform: Flood plains, flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Loamy alluvium derived from limestone

Typical profile

Ap - 0 to 8 inches: silty clay loam
Ak - 8 to 23 inches: silty clay loam
Bk1 - 23 to 53 inches: silty clay loam
Bk2 - 53 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: NoneOccasional
Frequency of ponding: None
Calcium carbonate, maximum content: 60 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B
Ecological site: R086AY012TX - Loamy Bottomland
Hydric soil rating: No

Minor Components

Frio, occasionally flooded
Percent of map unit: 5 percent
Landform: Flood plains, flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R086AY012TX - Loamy Bottomland
Hydric soil rating: No

Tinn, frequently flooded
Percent of map unit: 4 percent
Landform: Flood plains, flood plains
Landform position (three-dimensional): Tread
Microfeatures of landform position: Circular gilgai
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R086AY013TX - Clayey Bottomland
Hydric soil rating: No

Gladewater, frequently flooded
Percent of map unit: 1 percent
Landform: Flood plains, flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R086AY013TX - Clayey Bottomland
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Williamson County, Texas
Survey Area Data: Version 21, Jun 11, 2020

Williamson County, Texas

OkA—Oakalla silty clay loam, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 2t26p
Elevation: 370 to 1,450 feet
Mean annual precipitation: 24 to 35 inches
Mean annual air temperature: 64 to 69 degrees F
Frost-free period: 210 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Oakalla and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Oakalla

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy alluvium derived from limestone

Typical profile

Ap - 0 to 8 inches: silty clay loam
Ak - 8 to 23 inches: silty clay loam
Bk1 - 23 to 53 inches: silty clay loam
Bk2 - 53 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Calcium carbonate, maximum content: 60 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): 5w
Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: B
Ecological site: R081CY561TX - Loamy Bottomland 29-35 PZ
Hydric soil rating: No

Minor Components

Oakalla, occasionally flooded
Percent of map unit: 4 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R081CY561TX - Loamy Bottomland 29-35 PZ
Hydric soil rating: No

Dev
Percent of map unit: 3 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R081CY561TX - Loamy Bottomland 29-35 PZ
Hydric soil rating: No

Krum
Percent of map unit: 2 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R081CY357TX - Clay Loam 29-35 PZ
Hydric soil rating: No

Unnamed, hydric
Percent of map unit: 1 percent
Landform: Depressions, flood-plain steps
Landform position (three-dimensional): Tread
Down-slope shape: Concave, linear
Across-slope shape: Concave
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Williamson County, Texas
Survey Area Data: Version 21, Jun 11, 2020

Williamson County, Texas

QuC—Queeny clay loam, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: djql
Elevation: 450 to 800 feet
Mean annual precipitation: 29 to 34 inches
Mean annual air temperature: 64 to 70 degrees F
Frost-free period: 235 to 255 days
Farmland classification: Not prime farmland

Map Unit Composition

Queeny and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Queeny

Setting

Landform: Paleoterraces
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Gravelly alluvium of quaternary age derived from mixed sources

Typical profile

H1 - 0 to 18 inches: clay loam
H2 - 18 to 32 inches: cemented material
H3 - 32 to 99 inches: variable

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: 10 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: D
Ecological site: R086AY002TX - Southern Chalky Ridge

Hydric soil rating: No

Data Source Information

Soil Survey Area: Williamson County, Texas
Survey Area Data: Version 21, Jun 11, 2020

Williamson County, Texas

SvA—Sunev silty clay loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2s1qh
Elevation: 510 to 640 feet
Mean annual precipitation: 34 to 37 inches
Mean annual air temperature: 67 to 69 degrees F
Frost-free period: 255 to 266 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Sunev and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sunev

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy alluvium derived from limestone

Typical profile

A - 0 to 12 inches: silty clay loam
Bk - 12 to 42 inches: clay loam
BCk - 42 to 80 inches: clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 70 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: R086AY007TX - Southern Clay Loam

Hydric soil rating: No

Minor Components

Krum

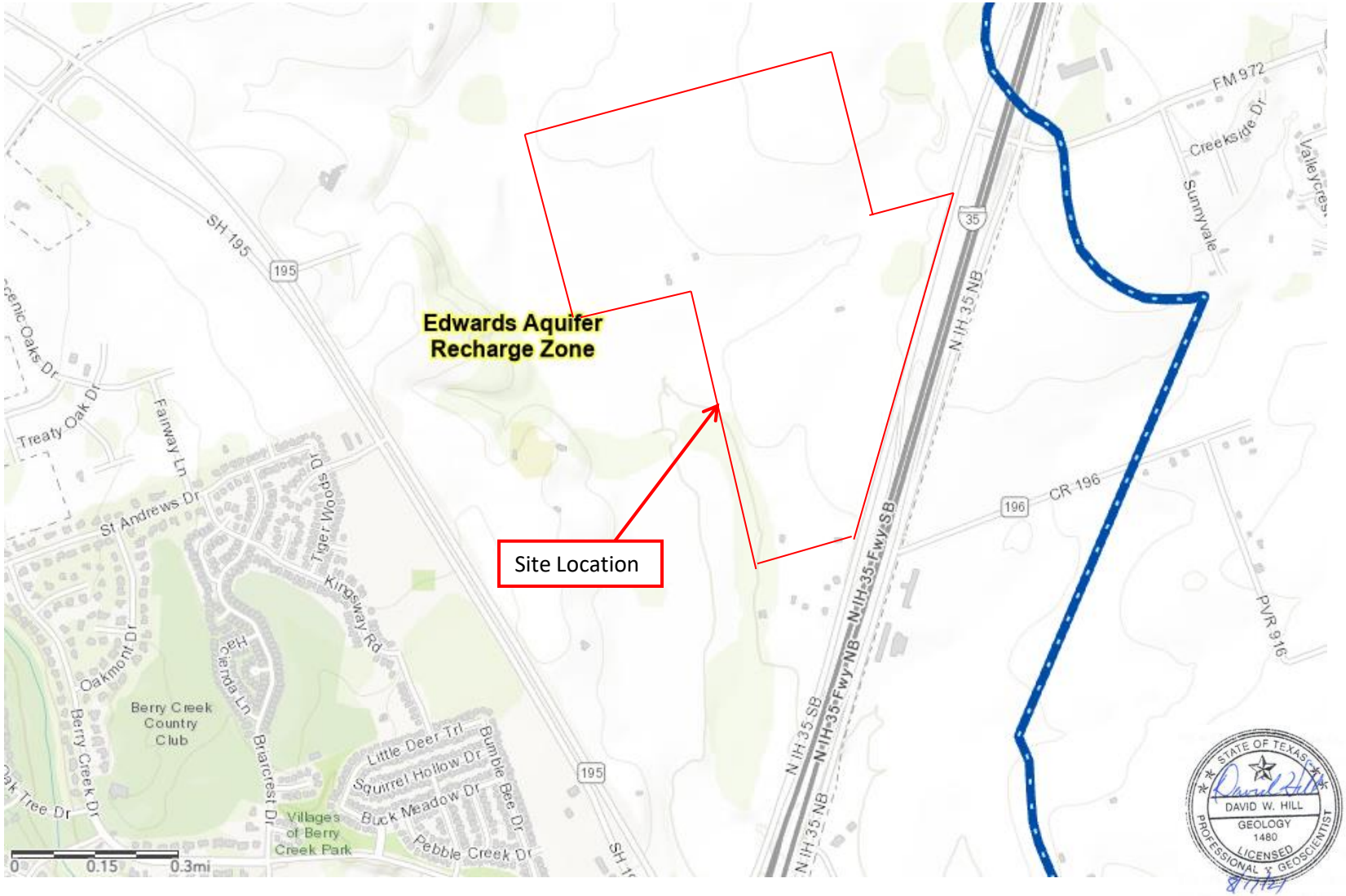
Percent of map unit: 10 percent
Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R086AY007TX - Southern Clay Loam
Hydric soil rating: No

Queeny

Percent of map unit: 5 percent
Landform: Paleoterraces
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R086AY002TX - Southern Chalky Ridge
Hydric soil rating: No

Data Source Information

Soil Survey Area: Williamson County, Texas
Survey Area Data: Version 21, Jun 11, 2020



intertek psi
2600 McHale Court
Suite 125
Austin, Texas 78758

Figure 3 Edwards Map
Jackson Shaw
Approximate 215 Acre Tract
Georgetown, Texas
PSI Project No.: 0435-4973

N

PHOTOGRAPHS

1. North Gate entry

2. Pond Near North Gate

3. Well near ranch house

4. Pond in northern part of site

5. Well House in Central part of site

6. Well in Central part of site

7. Creek on north entry road at bridge

8. Drainage feature near creek near north gate

9. Livestock barn near residence

10 Field in Northern part of the site

11. Central part of site, facing East

12. Eastern part of site, facing north along power line easement

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: CrossPoint - Frontage

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: Miles Terry
   Entity: JSACQ GEORGETOWN LP
   Mailing Address: 4890 Alpha Road Ste. 100
   City, State: Dallas, Texas Zip: 75244
   Telephone: (405) 570-8713 Fax: N/A
   Email Address: mterry@jacksonshaw.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: Hollis Scheffler, P.E.
   Texas Licensed Professional Engineer's Number: 136049
   Entity: Westwood Professional Services
   Mailing Address: 8701 N. Mopacy Expy. Ste. 320
   City, State:Austin, Texas Zip: 78759
   Telephone:(512) 485-0831 Fax:N/A
   Email Address:hollis.scheffler@westwoodps.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:

67% Domestic	727,934 gallons/day
_____% Industrial	_____ gallons/day
33% Commingled	482,385 gallons/day

   Total gallons/day: 1,210,319

6. Existing and anticipated infiltration/inflow is 278,535 gallons/day. This will be addressed by: following TCEQ & City of Georgetown santiary sewer collection system standards.

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 2/25/2022. 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)*
12	3747	PVC SDR-35	ASTM D3034

Total Linear Feet: 3747

(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 San Gabriel WWTP (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	7 Of 12	1+00.00	MANHOLE W/ DROP
A	7 Of 12	4+00.10	MANHOLE
A	7 Of 12	7+00.69	MANHOLE
A	8 Of 12	11+50.18	MANHOLE
A	8 Of 12	16+00.18	MANHOLE
A	9 Of 12	20+50.18	MANHOLE
A	9 Of 12	25+00.18	MANHOLE

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
A	10 Of 12	29+50.18	MANHOLE
A	11 Of 12	34+00.18	MANHOLE
A	11 Of 12	38+46.84	MANHOLE

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" = 120'.

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*
A	7 of 12	1+00 to 1+17.52
	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*
A	18+24.93	CROSSING	0	13.3'
A	36+88.90	CROSSING	0	7.74'

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*
A	6"	1+00.00	7 OF 12

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]**	of
Manhole, showing inverts comply with 30 TAC §217.55(l)(2) **[Required]**	12 of 12
Alternate method of joining lateral to existing SCS line for potential future connections **[Required]**	12 of 12
Typical trench cross-sections **[Required]**	12 of 12
Bolted manholes **[Required]**	12 of 12
Sewer Service lateral standard details **[Required]**	of
Clean-out at end of line **[Required, if used]**	of
Baffles or concrete encasement for shock/erosion protection **[Required, if flow velocity of any section of pipe >10 fps]**	of
Detail showing Wastewater Line/Water Line Crossing **[Required, if crossings are proposed]**	11 of 12
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) **[Required, if Flexible Pipe is used]**	of

Standard Details	*Shown on Sheet*
Drop manholes **[Required, if a pipe entering a manhole is more than 24 inches above manhole invert]**	12 of 12

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.

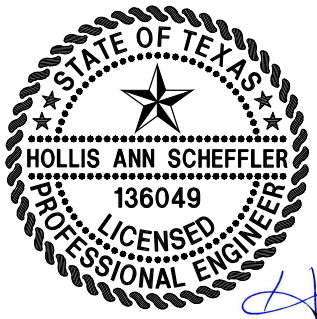
Signature

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: Hollis Scheffler, P.E.

Date: 8/11/2025

Place engineer's seal here:



Signature of Licensed Professional Engineer: 8/15/2025

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)

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 25, 2022

Mr. Miles Terry
Jackson-Shaw Company
4890 Alpha Road, Suite 100
Dallas, Texas 75244

Re: Edwards Aquifer, Williamson County

NAME OF PROJECT: Jackson-Shaw Phase 1; Located at 4811 N. HWY 35; Georgetown, Texas

TYPE OF PLAN: Request for Approval of a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer

Edwards Aquifer Protection Program ID No. 11002817; Regulated Entity No. RN111383972

Dear Mr. Terry:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP application for the above-referenced project submitted to the Austin Regional Office by Pacheco Koch Consulting Engineers, Inc. on behalf of Jackson-Shaw Company on December 3, 2021. Final review of the WPAP was completed after additional material was received on February 22, 2022. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected, and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed, and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed non-residential project will have an area of approximately 73.85 acres. It will include 3 buildings, grading, drainage improvements, drives, parking, utilities, detention, water quality facilities, and associated appurtenances. The impervious cover will be 45.87 acres (62.11 percent). Project wastewater will be disposed of by conveyance to the existing Pecan Branch Wastewater Treatment Plant.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, a wet basin (Pond 1) and an extended detention (Pond 2) in series with a grassy swale, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 39,928 pounds of TSS generated from the 45.87 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

GEOLOGY

According to the Geologic Assessment included with the application, the site is characterized surficially by Edwards Limestone and Quaternary fluviatile terrace deposits. No sensitive geologic features were identified in the Geologic Assessment. The TCEQ site assessment conducted on February 15, 2022, revealed the site to be generally as described.

SPECIAL CONDITIONS

I. All permanent pollution abatement measures shall be operational prior to occupancy of the facility.

II. All sediment and/or media removed from the water quality basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.
3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the Austin Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.

6. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.
8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction, and maintained during construction. Temporary E&S controls may be removed when vegetation is established, and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

<u>During Construction:</u>

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the Austin Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.

14. If sediment escapes the construction site, the 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). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director 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.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

<u>After Completion of Construction:</u>

18. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the Austin Regional Office within 30 days of site completion.
19. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through Austin Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
21. An Edwards Aquifer protection plan approval or extension will expire, and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
22. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact James "Bo" Slone, P.G. of the Edwards Aquifer Protection Program of the Austin Region office at (512) 339-2929.

Sincerely,

Lillian Butler

Lillian Butler, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

LIB/jcs

Enclosure: Deed Recordation Affidavit, Form TCEQ-0625
Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

Cc: Ms. Hollis Scheffler, P.E., Pacheco Koch Consulting Engineers, Inc.

SANITARY SEWER COLLECTION SYSTEM ENGINEERING DESIGN REPORT

CROSSPOINT - FRONTAGE
CITY OF GEORGETOWN

PREPARED BY:

Westwood

August 15, 2025

TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001
Project No. 4670-20.448

8701 N. Mopac Expy, Suite #320
Austin, TX 78759

Westwood

Contact Information

Description	Name	Company	Email
Director, Commercial	Hollis A. Scheffler, PE	Westwood Professional Services	hollis.scheffler@westwoodps.com

Table of Contents

List of Attachments

1.0 Introduction

1.1 Background and Scope of Work

JSACQ Georgetown LP ("JacksonShaw") is installing an offsite sanitary sewer system on a partially developed tract within the City of Georgetown ("City") to serve future industrial developments on and around the site. The sanitary sewer collection system for the proposed development and the proposed public infrastructure will tie into the City's existing sanitary sewer collection system.

1.2 Project Location

The development is located in Georgetown, Williamson County, Texas directly north of the intersection of IH 35 and SH 195, see **Attachment 1 - Overall Aerial.** The proposed collection system lies within City limits and will serve the future industrial development and surrounding tracts. The proposed sanitary sewer collection is primarily in an area of minimal flood hazard, Zone X. However, a small portion of the system falls in the 100-year floodplain, Zone A, at the connection point to the existing sewer line. See **Attachment 2 - FEMA FIRM Exhibit**. The proposed collection system lies within the Edwards Aquifer Recharge Zone, see **Attachment 3 - Edwards Aquifer Zone Exhibit**. This engineering report and the sanitary sewer collection system design are in accordance with TCEQ Regulations Chapter 213 and 217.

1.3 Proposed Development

The proposed development includes the construction of a sanitary sewer collection system on partially developed land. The proposed collection system will be designed, constructed, and implemented to serve future industrial developments as well as surrounding tracts, and includes a stub-out for future connections. The overall preliminary development plan is attached as **Attachment 4 – CrossPoint - Frontage Development Plan**. The development is a sewer infrastructure extension and will connect to an existing 36" sanitary sewer line.

2.0 Wastewater Capacity Analysis

2.1 Wastewater Demand Calculations

Utilizing the City's Water & Wastewater Master Plan ("WWMP") in combination with the proposed development site layout, estimates for wastewater demand have been determined to utilize for site planning and utility design. Attached to this analysis are the calculations for the demand determination, see **Attachment 5 –Wastewater Demand Calculations**.

The process for estimating the wastewater demand is as follows.

- Number of LUEs = Building Square Footage / 1,660 Square Feet per LUE
- Average Dry Weather Flow = Base Wastewater Flow (BWF) + Groundwater Infiltration (GWI)
- BWF = Number of People x 80 gallons per day (gpd) per person
- GWI = 25% of BWF for non-residential PF
- Peaking Factor for Dry Weather Flow = 1.5
- Rainfall Dependent Inflow & Infiltration (RDII) = Acreage x 1000 gpd per acre
- Peak Wet Weather Flow = Q_{PDWF} + I/I

The total estimated wastewater demand for the development is as follows:

- Average Dry Weather Flow = 171.63 gpm = 247,147 gpd
- Peak Wet Weather Flow = 840.90 gpm = 1,210,896 gpd

See **Attachment 5 – Wastewater Demand Calculations** for the full wastewater calculations for the proposed sanitary sewer extension.

According to email correspondence from the City of Georgetown Engineering Systems Director, the receiving wastewater treatment facility (San Gabriel WWTP) has sufficient capacity for this development's additional flow. See **Attachment 6 – WWTP Capacity Verification.**

2.2 Existing Wastewater Utilities

There is existing wastewater utility infrastructure located along SH-195. See **Attachment 7 – Existing GUS Utilities** and **Attachment 9 – Construction Plans.** This information was obtained from the GUS GIS system and correlated with the topographic survey conducted. The SH-195 existing sanitary sewer line ultimately conveys wastewater to the Pecan Branch WWTP.

2.3 Wastewater Capacity Analysis & Recommended Improvements

The wastewater system was designed for the following criteria:

- Wastewater lines stay below 65% of the capacity of the pipe flowing full during Peak Dry Weather Flow (PDWF).
- Wastewater lines stay below 85% of the capacity of the pipe flowing full during Peak Wet Weather Flows (PWWF).

The 12" line segment full flow capacity is 1,625,242 gpd. This was calculated using Manning's Formula for PVC pipe with a roughness coefficient of 0.013 and slope of 0.50%.

A service area map is included as **Attachment 8 – Existing Wastewater Service Area Map** which illustrates the existing service area.

2.4 Recommended Improvements Design

The design criteria for the proposed sanitary sewer gravity collection lines are as follows:

TABLE 2 – DESIGN CRITERIA

Pipe Size	Min. Grade (%)	Max. Grade (%)	Cross-Sectional Area
12"	0.50%	0.50%	0.79

Pipe Diameter (Inches)	Linear Feet (1)	Pipe Material (2)	Specifications (3)
12	3747	SDR-35 PVC	ASTM D3034

2.5 Safety Considerations

Ample space for working areas is provided outside of the right of way and away from the direct flow of traffic. The design of this system is resistant to the 100-year flood. Proposed manholes are

heavy duty traffic rated and bolted where required by the City's requirements. Piping in the system has ample cover as to not inhibit the structural integrity of any part of the system.

2.6 Inflow & Infiltration Abatement Measures

The calculations for inflow & infiltration were completed in accordance with the City's WWMP. The proposed design is in accordance with the City's design standards including that all proposed sanitary sewer manholes within the 100-year floodplain will be watertight with watertight rings and covers to minimize inflow & infiltration.

ATTACHMENT 1

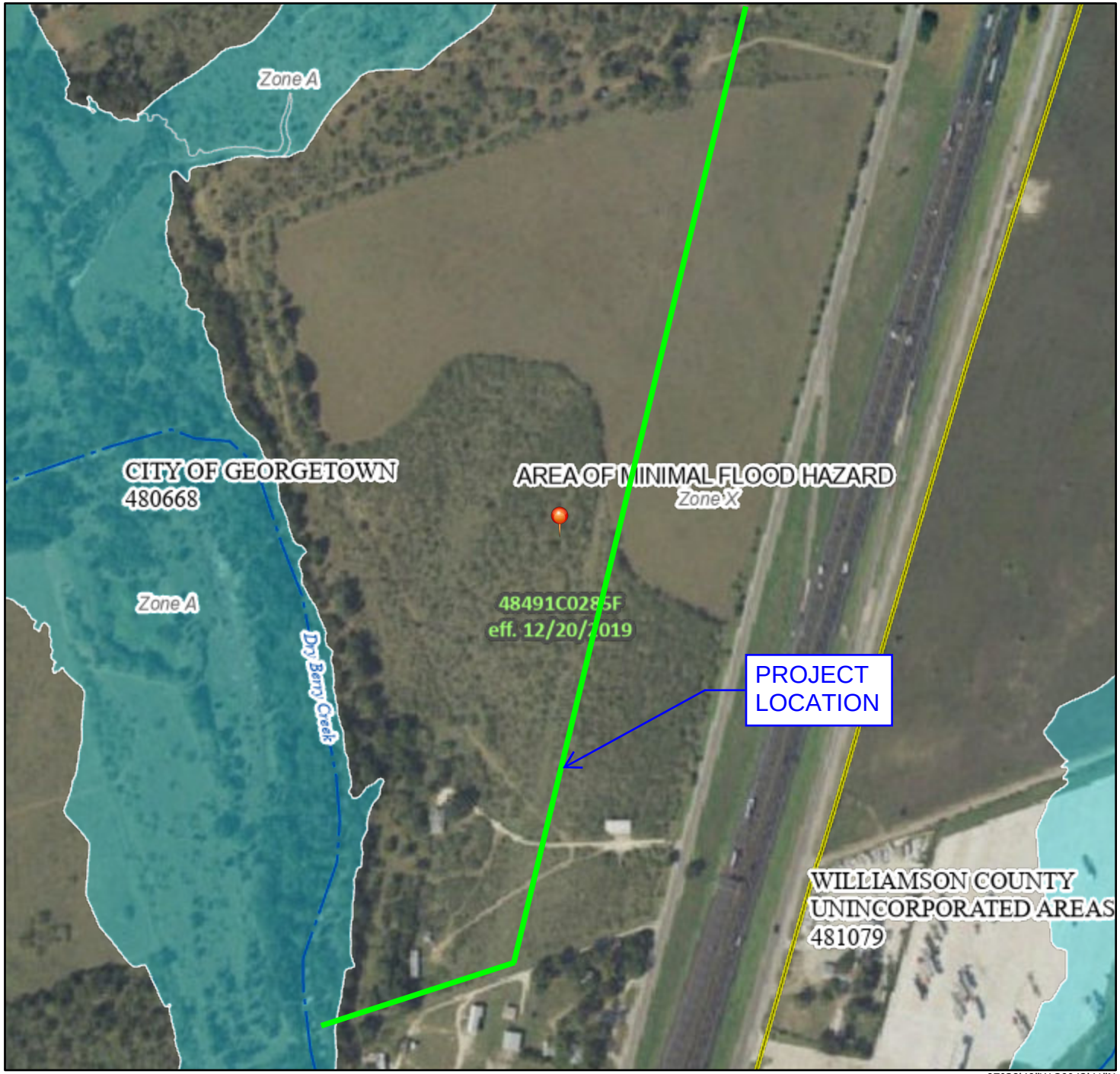
OVERALL AERIAL

ATTACHMENT 2
FEMA FIRM EXHIBITS

National Flood Hazard Layer FIRMette

FEMA

97°39'17"W 30°43'12"N



97°38'40"W 30°42'41"N

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

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

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

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

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

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

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

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

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

N

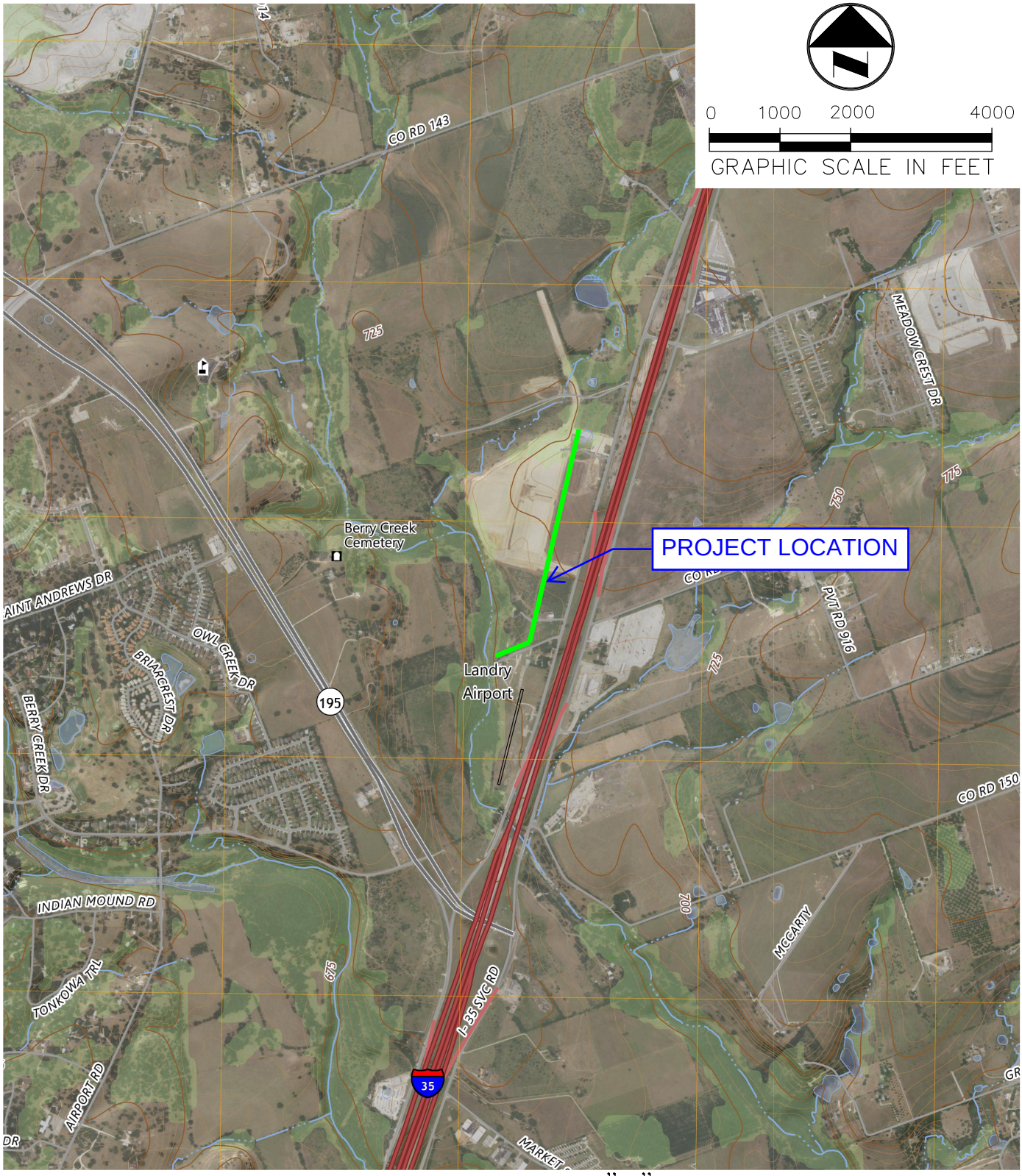
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/24/2025 at 10:09 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

ATTACHMENT 3
EDWARDS AQUIFER ZONE EXHIBIT



ATTACHMENT "B"

USGS/EDWARDS RECHARGE ZONE MAP

7.5-MINUTE TOPO

Westwood
Westwood Professional Services, Inc.
Phone (512) 485-0831
Toll Free (888) 937-5150
8701 N. Mopac Expy, Suite 320
Austin, TX 78759
westwoodps.com

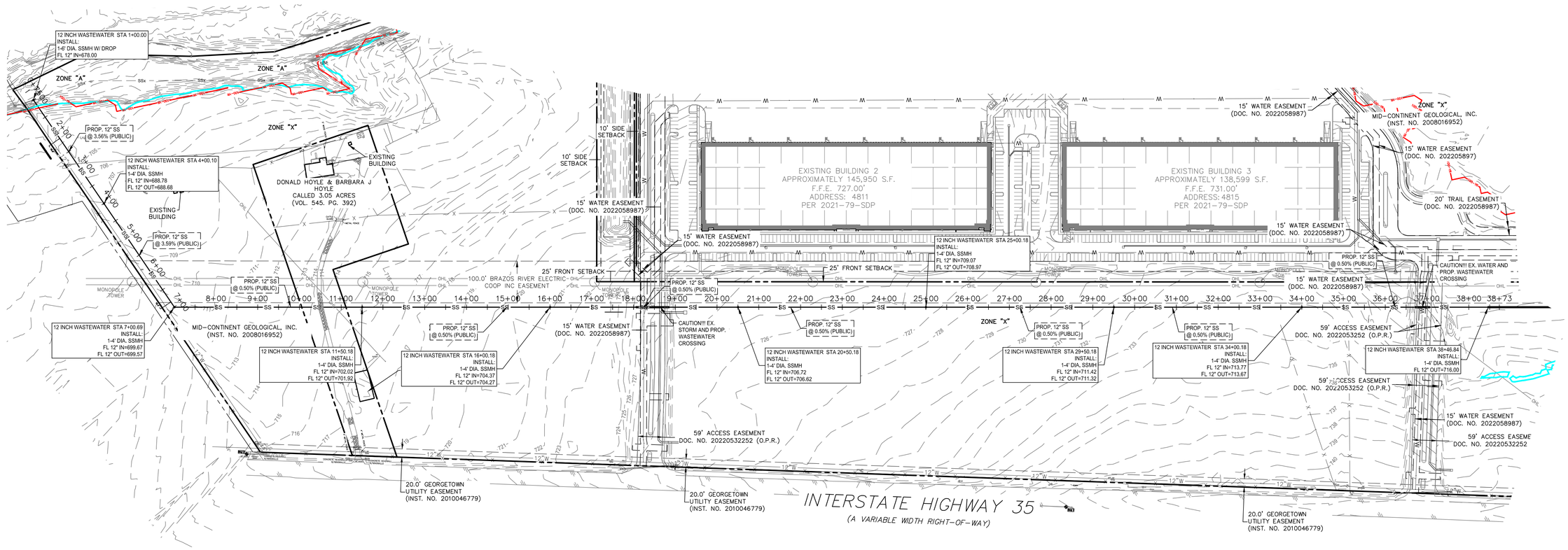
TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

DRAWN BY	CHECKED BY	SCALE	DATE	JOB NUMBER
HAS	HAS	1"=2000'	7/24/2025	R0040131.09

CROSSPOINT - FRONTAGE

JGUJARLAPUDI 7/24/2025 10:16 AM
N:\0040131.09\06 CAD\DWG\SITE DESIGN C3D\EXHIBITS\SCS APPLICATION\QUAD MAP.DWG

ATTACHMENT 4
CROSSPOINT - FRONTAGE DEVELOPMENT PLAN



LEGEND

- PROPERTY LINE
- EASEMENT LINE
- EXISTING WATERLINE
- EXISTING SEWER LINE
- EXISTING STORM DRAIN LINE
- PROPOSED WATERLINE
- PROPOSED SEWER LINE
- 100 YR FLOODPLAIN GEORGETOWN
- 100 YR FLOODPLAIN FEMA
- TREE
- DEMO TREE

NOTES:

1. THE CITY OF GEORGETOWN DESIGN AND CONSTRUCTION STANDARDS APPLY WHETHER INDICATED ON THESE PLANS OR NOT.
2. CONTRACTOR SHALL FIELD VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. ALL T.C.E.Q. PIPE SEPARATION MUST BE MET.
4. ALL WYE CONNECTIONS AND BENDS SHALL BE MANUFACTURED FITTINGS.
5. SANITARY SEWER CONSTRUCTION WILL INCLUDE FURNISHING AND INSTALLING THE MATERIALS AND ALL SAN. SEWER PIPES, MANHOLES, CLEANOUTS, APPURTENANCE, INCLUDING EXCAVATION, EMBEDMENT AND BACKFILL, AS SHOWN ON THESE PLANS.

2025-XX-CON

Westwood
Westwood Professional Services, Inc.
8701 NORTH MOPAC EXPY, SUITE 320
AUSTIN, TX 78759
T: 512.485.0831
F: 888.937.5150
TBPELS ENGINEERING FIRM NO. 11756
TBPELS SURVEYING FIRM NO. 10074301

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF GEORGETOWN, TEXAS

CITY OF GEORGETOWN

JACKSON SHAW

CROSSPOINT FRONTAGE 12" WASTEWATER MAIN

OVERALL WASTEWATER PLAN

DATE: August, 2025
DRAFTER: CYS
DESIGNER: HAS
CHECKED: HAS

PROJECT NO.
R0040131.09

8/15/2025

STATE OF TEXAS
Hollis A. Scheffler
136049
LICENSED
PROFESSIONAL ENGINEER

6
6 OF 12

2025-XX-CON

Last Saved by: Jjogijetapudi
Last Saved: 8/15/2025 3:11 PM
Plot Date/Time: 8/15/2025 11:19 AM
Drawing: N:\0040131.09\06 CAD\DWG\Site Design C3D\Sheet\0040131.09-C-SSWR-PNP

ATTACHMENT 5
WASTEWATER DEMAND CALCULATIONS

$$Q_{pdwf} = ([18 + (0.018 \times F)^{0.5}] / [4 + (0.018 \times F)^{0.5}]) \times F$$

Where: F = 80 gal./person/day x No. of LUEs x 3.5/1440 = average dry-weather flow in gpm

DRAINAGE AREA	PARCEL	Land Use	Land Area (Ac)	Amt	Unit	LUE's/Unit*	LUE	F (gpm)	Q_{pdwf} (gpm)	I/I (gpd)	I/I (gpm)	PWWF (gpm)
DA-1	DBC-S4 Lower	MIXED USE COMMUNITY	248.00		SF	1/1660	185.0	35.97	140.79	186000	129.17	269.96
DA-2	Niemann	50% Industrial and 50% Retail	67.69	693,953	SF	1/1660	418.0	81.29	299.73	50768	35.26	334.99
DA-3	Frontage	Retail (Restuarants and Office space)	55.69	464,209	SF	1/1660	279.6	54.38	206.95	41768	29.01	235.96
-	-	-	0.00	-	SF	1/1660	0.0	0.00	0.00	0	0.00	0.00
		TOTAL	371.38									

*LUE Calculation from City of Austin LUE Guidance Document included as Attachment 4.1. Please refer to report Section 2.1 for reference on Subject Property LUE calculation.

Wastewater Flows at Specific Nodes

MH-Node	DA Contributing At Node	Land Area (Ac)	Amt	LUE	Cumulative LUE	Cumulative F (gpm)	Q_{pdwf} (gpm)	I/I (gpd)	Cumulative I/I (gpm)	PWWF (gpm)	Cumulative PWWF (gpm)
MH-3	DA-1	248.00	-	185.00	185.00	35.97	140.79	186000	129.17	269.96	269.96
MH-2	DA-2	67.69	693,953	418.04	603.04	117.26	418.32	50768	164.42	334.99	582.74
MH-1	DA-3	55.69	464,209	279.64	882.69	171.63	588.97	41768	193.43	235.96	782.39

Line Segments Capacities and Calculated Flows

U/S Node	D/S Node	Pipe Diameter (inches)	Pipe Slope (ft/ft)	Manning's n	Cross Sectional Area	Full Flow (gpm)	85% of Full Flow (gpm)	Calculated PWWF (gpm)	Calculated % Full PWWF (%)	65% of Full Flow (gpm)	Calculated PDWF (gpm)	Calculated % Full PDWF (%)	Pipe Length (ft)
MH-3	MH-3	12	0.0050	0.013	0.79	1128.64	959.34	269.96	23.92%	733.6	140.79	12.47%	
MH-3	MH-2	12	0.0050	0.013	0.79	1128.64	959.34	582.74	51.63%	733.6	418.32	37.06%	
MH-2	MH-1	12	0.0050	0.013	0.79	1128.64	959.34	782.39	69.32%	733.6	588.97	52.18%	

ATTACHMENT 6
WWTP CAPACITY VERIFICATION

Outlook

RE: [EXTERNAL] Pecan Branch WWTP Flows

From Wesley Wright <Wesley.Wright@georgetown.org>
Date Mon 8/11/2025 4:46 PM
To Joel Gujjarlapudi <Joel.Gujjarlapudi@westwoodps.com>
Cc Caleb Fuhrer <Caleb.Fuhrer@georgetowntexas.gov>

Not sure you want it, but we show the following percent flows for the past 7 days: 97, 80, 101, 116, 118, 107, 106.

However, TCEQ should be advised that Pecan Branch has a sister plant (San Gabriel) that is actively undergoing renovations and averaged 74% full across this time.

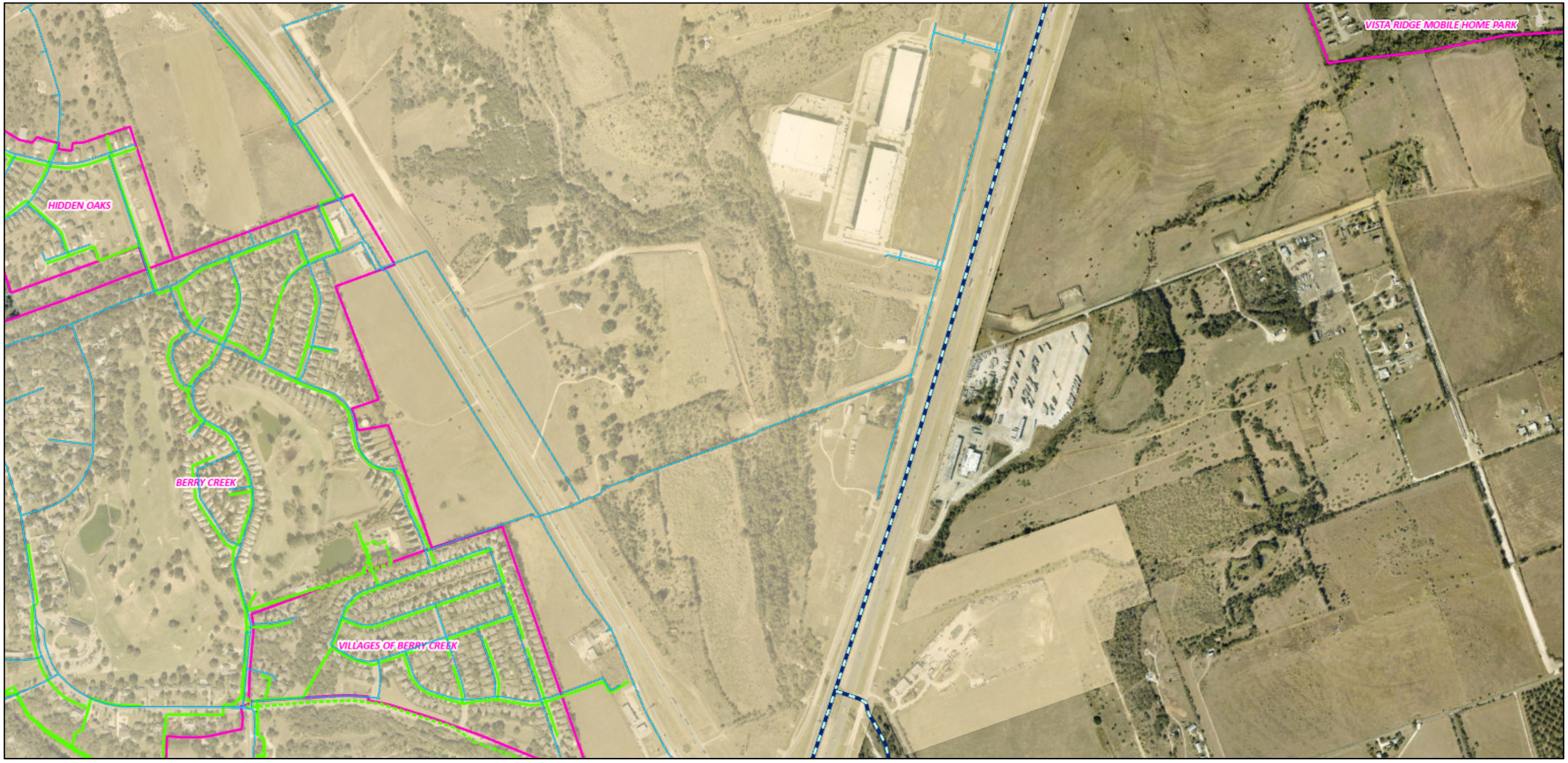
Wesley Wright, PE
Systems Engineering Director
City of Georgetown Municipal Complex
300-1 Industrial Ave.
Georgetown, TX 78627
Phone: 512-931-7672

****PLEASE NOTE NEW EMAIL ADDRESS**

Email: wesley.wright@georgetowntexas.gov

ATTACHMENT 7
EXISTING GUS UTILITIES

Georgetown Map Overall



7/25/2025, 10:54:38 AM

Water Mains
City Limits
General Subdivisions
Gravity Mains
Pressurized Mains
Water Service Areas
Extra-Territorial Jurisdiction

1:11,238

0 0.1 0.2 0.4 mi

0 0.17 0.35 0.7 km

Georgetown, Williamson County TX, Maxar

Georgetown Map South

7/25/2025, 10:57:53 AM

Water Mains

Georgetown Hydrants

Georgetown

Private

City Limits

General Subdivisions

Gravity Mains

Pressurized Mains

Water Service Areas

Extra-Territorial Jurisdiction

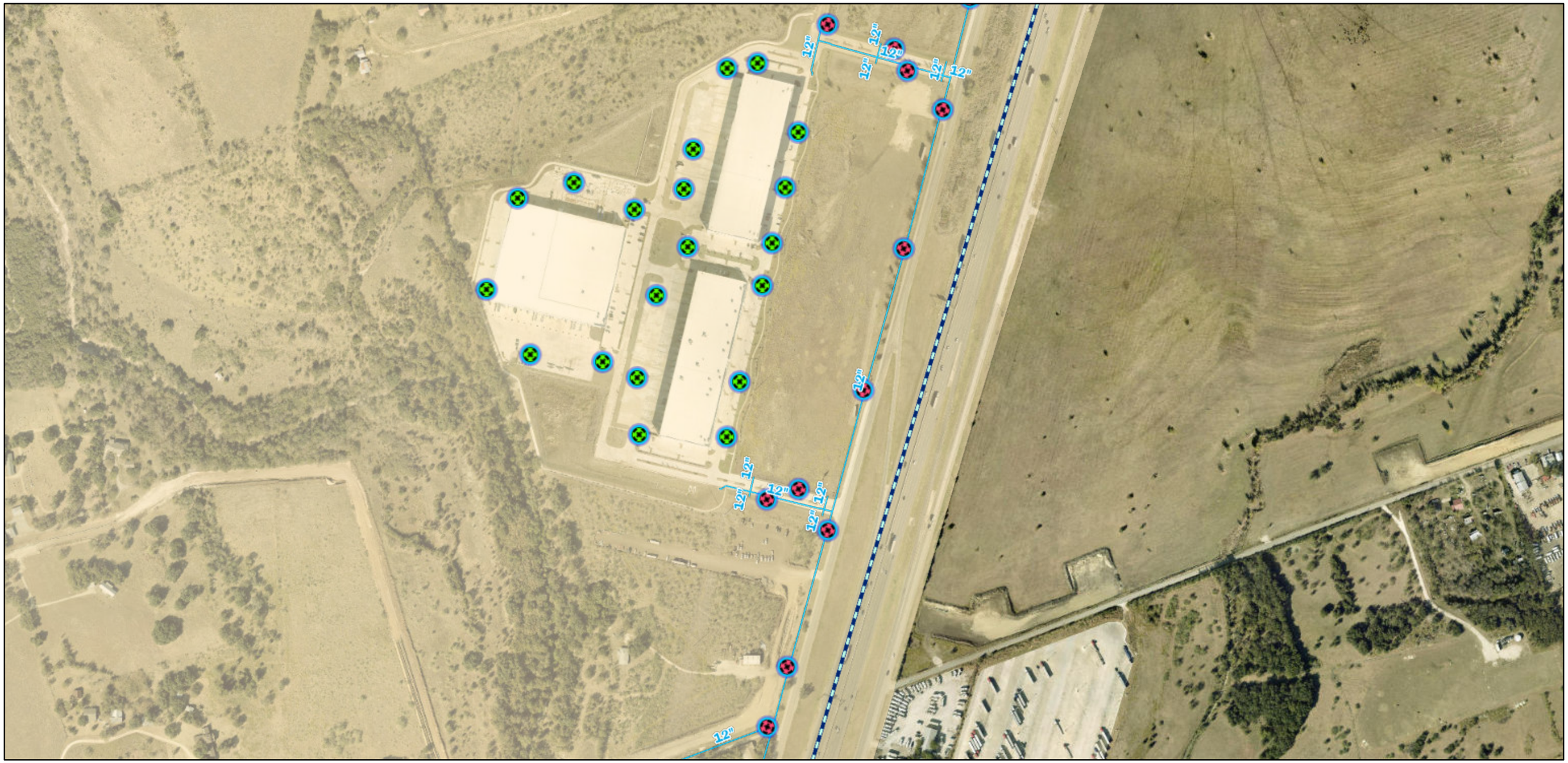
1:5,619

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Georgetown, Williamson County TX, Maxar

Georgetown Map North



7/25/2025, 10:56:40 AM

Water Mains

Georgetown Hydrants

Georgetown

Private

City Limits

General Subdivisions

Water Service Areas

Extra-Territorial Jurisdiction

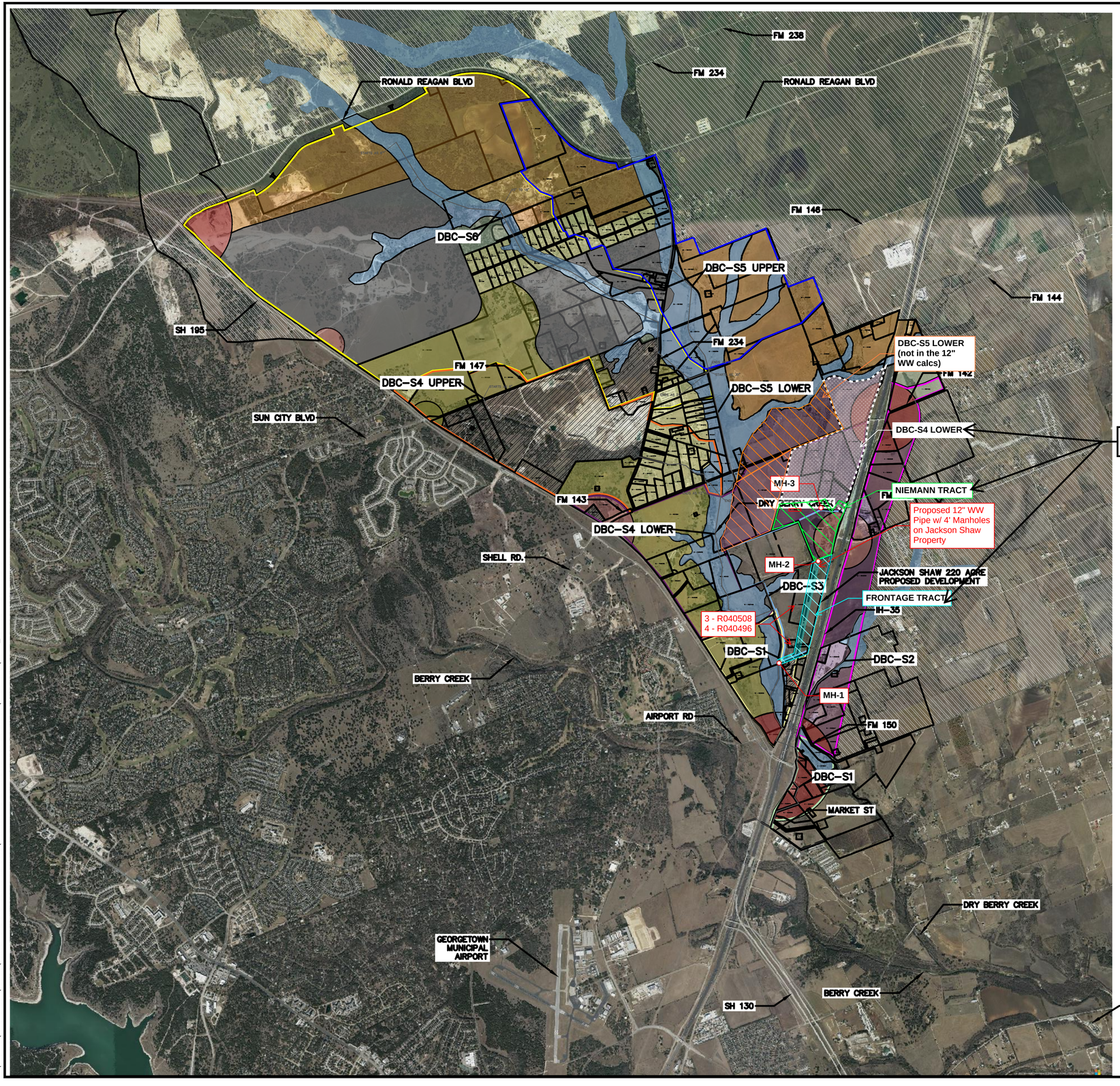
1:5,619

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Georgetown, Williamson County TX, Maxar

ATTACHMENT 8
EXISTING WASTEWATER SERVICE AREA MAP



0 937.50 1,875 3,750 5,625

1"=1,875'

- DBC-S1 LOWER SERVICE AREA
- DBC-S1 UPPER SERVICE AREA
- DBC-S2 SERVICE AREA
- DBC-S3 SERVICE AREA
- DBC-S4 LOWER SERVICE AREA
- DBC-S4 UPPER SERVICE AREA
- DBC-S5 LOWER SERVICE AREA
- DBC-S5 UPPER SERVICE AREA
- DBC-S6 SERVICE AREA

ISSUED FOR PRELIMINARY PRICING PURPOSES ONLY
(SUBJECT TO REVISION PRIOR TO CONSTRUCTION)

THESE DOCUMENTS HAVE BEEN PREPARED BY THE ENGINEER WITH THE INTENT OF COMPLYING WITH ALL CITY STANDARD REQUIREMENTS. THESE DOCUMENTS HAVE **NOT** BEEN APPROVED AND RELEASED FOR CONSTRUCTION BY THE CITY AS OF THIS DATE AND, THEREFORE, REVISIONS MAY BE REQUIRED PRIOR TO CONSTRUCTION. BY ANY USE OF THESE DOCUMENTS, THE USER AFFIRMS THEIR UNDERSTANDING OF THE PRELIMINARY STATUS OF THE PLANS AND THE POTENTIAL FOR REVISION PRIOR TO ANY CONSTRUCTION.

Pacheco Koch
8701 N MOPAC EXPY, SUITE 320
AUSTIN, TX 78759 512.485.0831
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008000

MOD. FUT. LAND USE EHXIBIT

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
JWV	JWV	FEB 2022	1"=1,875'			EX7

JACKSON SHAW 220 ACRES - DRY BERRY CREEK WASTEWATER INTERCEPTOR EVALUATION

ATTACHMENT 9
CONSTRUCTION PLANS

CONSTRUCTION PLANS
FOR
CROSS POINT FRONTAGE 12" WASTEWATER MAIN
GEORGETOWN, TEXAS, 78633

DEVELOPER / OWNER

JACKSON SHAW
4890 ALPHA ROAD, SUITE 100
DALLAS, TX 75244
PHONE: (972) 628-7400
MTERRY@JACKSONSHAW.COM
WWW.JACKSONSHAW.COM

ENGINEER

Westwood
Westwood Professional Services, Inc.

HOLLIS SCHEFFLER, P.E.
8701 N. MOPAC EXPY, SUITE 320
AUSTIN, TX 78759
PHONE: (512) 485-0831
HOLLIS.SCHEFFLER@WESTWOODPS.COM
WWW.WESTWOODPS.COM

FLOODPLAIN INFORMATION:
PER FEMA FIRM PARCEL NO: 48491C0285F, DATED 12/19/2019. THE PROPOSED IMPROVEMENTS ARE IN THE AREA OF FLOOD PLAIN ZONE A, AND ARE IN THE 100 YEAR FLOOD PLAIN.

PROPOSED USE:
SANITARY SEWER FOR PUBLIC INFRASTRUCTURE

ACREAGE:
27.53 AC (1,199,277 SF) - LIMITS OF CONSTRUCTION

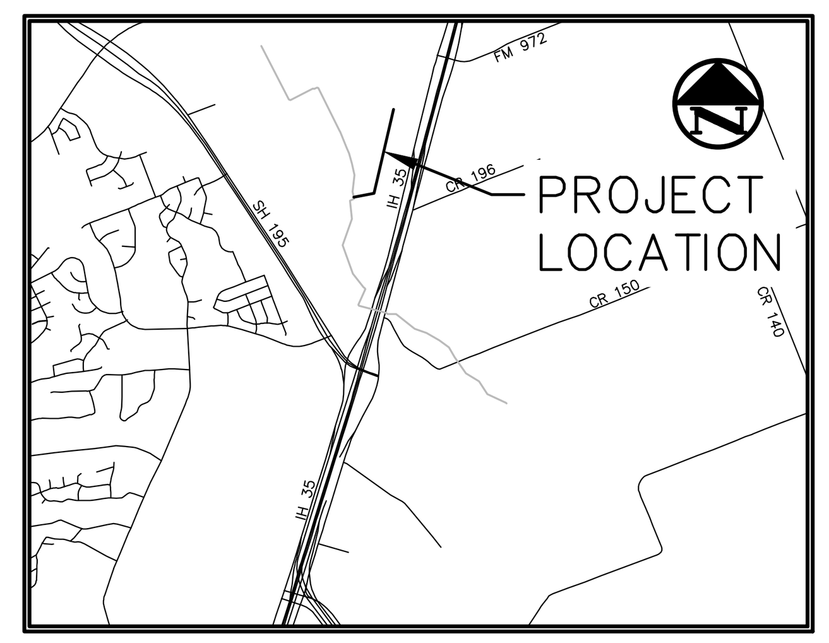
FIRE DEPARTMENT:
GEORGETOWN FIRE DEPARTMENT
3500 DB WOOD RD.
GEORGETOWN, TX 78626

ELECTRICITY, WATER, WASTEWATER:
GEORGETOWN UTILITY SYSTEMS
300-1 INDUSTRIAL AVENUE
GEORGETOWN, TX 78626
512-930-3555
GUS.GEORGETOWN.ORG

PEDERNALES ELECTRICAL COOPERATIVE, INC
201 S. AVENUE F
JOHNSON CITY, TX 78636
830-868-7155
PEC.COOP

TXDOT
2727 S. AUSTIN AVE.
GEORGETOWN, TX 78626
512-930-5402

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. ALL ELECTRIC DISTRIBUTION LINES AND INDIVIDUAL SERVICE LINES SHALL BE INSTALLED UNDERGROUND. IF OVERHEAD LINES EXISTED PRIOR TO UNDERGROUND INSTALLATION, SUCH POLES, GUY WIRES, AND RELATED STRUCTURES SHALL BE REMOVED FOLLOWING CONSTRUCTION OF THE UNDERGROUND INFRASTRUCTURE (ONLY APPLICABLE FOR RESIDENTIAL PROPERTY).
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 COMPLY WITH 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 AUGUST 17, 2021. ANY SPRINGS AND STREAMS AS IDENTIFIED IN THE GEOLOGIC ASSESSMENT ARE SHOWN HEREIN.



VICINITY MAP
(1:5,000)

PROJECT ZONING: N/A

PROJECT ADDRESS: 4805 IH-35 N, GEORGETOWN, TX 78633

SUBMITTAL DATE: 08/18/2025

SHEET INDEX

BENCHMARK LIST

BM# 1 " ☒ " CUT SET IN CONCRETE ON THE SOUTHEAST SIDE OF SH 35 SOUTHBOUND FRONTAGE ROAD, ±263' SOUTHWEST FROM THE INTERSECTION OF SH 35 SOUTHBOUND FRONTAGE ROAD AND CR 972, ±78' SOUTHEAST FROM POWER POLE..

SURFACE COORDINATES:
NORTHING= 10,238,113.29
EASTING=3,141,506.66
ELEV=749.11

BM# 3 " ☒ " CUT SET IN CONCRETE CURB ON THE SOUTHEAST SIDE OF SH 35 SOUTHBOUND FRONTAGE ROAD, ±55' SOUTHEAST FROM SIGN, ±64' NORTHEAST FROM LIGHT STANDARD.

SURFACE COORDINATES:
NORTHING= 10,236,140.16
EASTING=3,141,012.53
ELEV=740.02

BM# 5 " ☒ " CUT SET IN CONCRETE HEADWALL ON THE NORTHWEST SIDE OF SH 35 SOUTHBOUND FRONTAGE ROAD, ±36' SOUTHEAST FROM FIRE HYDRANT, ±34' SOUTH FROM POWER POLE WITH GUY WIRE..

SURFACE COORDINATES:
NORTHING= 10,140,483.61
EASTING=3,140,483.61
ELEV=717.57

REVISIONS/CORRECTIONS

NO.	DESCRIPTION	REVISE (R) ADD (A) VOID (V) SHEET NO.S	TOTAL # SHEETS IN PLAN SET	NET CHANGE TO IMP. COVER (sq. ft.)	TOTAL SITE IMP. COVER (sq. ft.) (%)	CITY OF GEORGETOWN APPROVAL/DATE	DATE IMAGED

PREPARED BY

Westwood

Phone (512) 485-0831 8701 N. Mopac Expy, Suite 320
Toll Free (888) 937-5150 Austin, TX 78759
westwoodps.com

Westwood Professional Services, Inc.
TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

2025-XX-CON

Westwood
Westwood Professional Services, Inc.
8701 NORTH MOPAC EXPY, SUITE 320
AUSTIN, TX 78759
T: 512.485.0831
F: 888.937.5150
TBPELS ENGINEERING FIRM NO. 11756
TBPELS SURVEYING FIRM NO. 10074301
westwoodps.com

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF GEORGETOWN, TEXAS

JACKSON SHAW

CROSSPOINT FRONTAGE 12" WASTEWATER MAIN

COVER

CITY OF GEORGETOWN

DATE: August, 2025
DRAFTER: CYS
DESIGNER: HAS
CHECKED: HAS

PROJECT NO. R0040131.09

8/15/2025
STATE OF TEXAS
Hollis A Scheffler
136049
LICENSED
PROFESSIONAL ENGINEER

GENERAL NOTES

1. ALL WORK, UNLESS OTHERWISE NOTED, SHALL CONFORM TO TEXAS DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION SPECIFICATIONS OR THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ISSUED BY THE CITY OF GEORGETOWN STANDARD CONSTRUCTION SPECIFICATIONS.
2. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL BE FAMILIAR WITH THE PLANS, ALL NOTES, THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ISSUED BY THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS, THE CITY STANDARDS FOR CONSTRUCTION, AND ANY OTHER APPLICABLE STANDARDS AND SPECIFICATIONS RELEVANT TO THE PROPER COMPLETION OF THE WORK SPECIFIED. FAILURE ON THE PART OF THE CONTRACTOR TO BE FAMILIAR WITH ALL STANDARDS AND SPECIFICATIONS PERTAINING TO THIS WORK SHALL IN NO WAY RELIEVE THE CONTRACTOR OF RESPONSIBILITY OF PERFORMING THE WORK IN ACCORDANCE WITH ALL SUCH APPLICABLE STANDARDS AND SPECIFICATIONS.
3. THE HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING SUBSURFACE UTILITIES HAVE BEEN DETERMINED FROM DATA RECORDED BY OTHERS. CONTRACTOR SHALL VERIFY ELEVATIONS SHOWN AND ENSURE THAT NECESSARY CROSSING CLEARANCES BETWEEN EXISTING AND PROPOSED UTILITIES EXIST PRIOR TO CONSTRUCTION OF ANY SUCH CROSSINGS. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL UTILITIES IN THE CONSTRUCTION OF THIS PROJECT. CONTRACTOR TO VERIFY SIZE AND LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
4. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL MANHOLES, CLEANOUTS, VALVE BOXES, AND FIRE HYDRANTS, ETC. CONTRACTOR TO ADJUST TO PROPER LINE AND GRADE PRIOR TO AND AFTER THE PLACING OF PERMANENT PAVING AND GRADING. UTILITIES MUST BE MAINTAINED TO PROPER LINE AND GRADE DURING THE CONSTRUCTION OF THE PAVING FOR THIS DEVELOPMENT.
5.
    - 5.1. PROTECT AND MAINTAIN ROADWAY TRAFFIC THROUGHOUT THE PROJECT, PROVIDING A MINIMUM OF ONE (1) LANE OPEN IN EACH DIRECTION;
    - 5.2. PROVIDE AND MAINTAIN INTERIM ACCESS FROM ROADWAYS CURRENTLY IN USE TO ALL DRIVEWAYS AND INTERSECTING STREETS OR ALLEYS;
    - 5.3. MAINTAIN NORMAL PROJECT DRAINAGE UNTIL NEW DRAINAGE FACILITIES ARE FUNCTIONAL, INCLUDING, WHERE NECESSARY, INTERIM REPLACEMENT OF EXISTING DRAINAGE STRUCTURES REMOVED FOR CONSTRUCTION OF NEW DRAINAGE FACILITIES;
    - 5.4. MAINTAIN ALL WORK AND MATERIAL STORAGE AREAS IN ORDERLY CONDITION, FREE OF DEBRIS AND WASTE. ON COMPLETION OF CONSTRUCTION, CLEAN UP THE PROJECT AND ADJACENT AFFECTED AREAS TO ACCEPTABLE CONDITION, ALL AS PROVIDED IN THE GENERAL CONDITIONS.
6. PRIOR TO COMMENCEMENT OF CONSTRUCTION, BONDS AND THREE-WAY CONTRACTS SHALL BE SUBMITTED TO THE CITY AS REQUIRED.
7. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS REGARDING TRENCH SAFETY.
8. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS TO VERIFY ALL BUILDING DIMENSIONS.
9. REFER TO ARCHITECTURAL PLANS FOR DETAILED BUILDING ENTRANCE LAYOUTS, RAMPS, LANDSCAPE, AND SIDEWALKS.
10. BARRICADING AND PROJECT SIGNS SHALL CONFORM TO TEXAS DEPARTMENT OF TRANSPORTATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND LATEST UPDATES.
11. EXACT SAWCUT PAVEMENT REMOVAL AND REPLACEMENT LIMITS WITHIN THE PUBLIC RIGHT-OF-WAY IS TO BE IN ACCORDANCE WITH THE CITY PAVEMENT REPAIR MANUAL AND INCLUDED IN THE BASE BID.

DEMOLITION GENERAL NOTES

1. CONTRACTOR IS TO REVIEW ALL GENERAL NOTES PRIOR TO BEGINNING WORK.
2. REMOVE ALL EXISTING PAVEMENT AND STRUCTURES WITHIN THE LIMITS OF DEMOLITION UNLESS OTHERWISE NOTED. SAWCUT AND REMOVE ALL EXISTING DRIVE APPROACHES (WITHIN THE LIMITS OF DEMOLITION) TWO FEET FROM BACK OF CURB. SIDEWALKS, PAVEMENT, AND UTILITIES WITHIN THE PUBLIC RIGHT-OF-WAY ARE TO REMAIN UNLESS OTHERWISE NOTED.
3. CONSULT THE DIMENSIONAL CONTROL PLAN. VERIFY THE PORTION OF EXISTING CONCRETE CURBS AND PAVEMENT WHICH ARE TO REMAIN.
4. COORDINATE WITH LOCAL POWER, TELEPHONE, CABLE, AND GAS COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF EXISTING UTILITIES.
5. ALL UTILITIES SHOULD BE CUT AND PLUGGED IN ACCORDANCE WITH THEIR RESPECTIVE UTILITY COMPANY REQUIREMENTS AND PRIOR TO DEMOLITION OF THE EXISTING BUILDINGS.
6. CONTRACTOR TO PLUG ALL EXISTING EXPOSED ENDS OF ABANDONED UTILITIES.
7. CONTRACTOR TO DETERMINE SOURCE OF ALL EXPOSED UTILITIES AND, IF REQUIRED, RECONNECT TO PROPOSED UTILITIES.
8. CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND LEGAL DISPOSAL OF ALL THE UNSUITABLE MATERIALS FROM THE PROJECT SITE. CONTRACTOR SHALL CONTACT ALL LOCAL AUTHORITIES TO DETERMINE DISPOSAL REQUIREMENTS.
9. ALL TREES ON THE PROPERTY SHALL BE PROTECTED AGAINST DAMAGE DURING DEMOLITION OPERATIONS UNLESS OTHERWISE NOTED. THE TREE PROTECTION SHALL BE PLACED AROUND TREES PRIOR TO ANY DEMOLITION OR GRADING. TREE PROTECTION SHALL REMAIN UNTIL ALL WORK IS COMPLETED. REFER TO LANDSCAPE PLANS FOR TREE REMOVAL AND PROTECTION DETAILS.
10. ANY DAMAGE DONE TO EXISTING TREE CROWNS OR ROOT SYSTEMS SHALL BE REPAIRED IMMEDIATELY BY AN APPROVED TREE SURGEON AT THE OWNER'S DIRECTION. ROOTS EXPOSED AND/OR DAMAGED DURING DEMOLITION AND/OR GRADING OPERATIONS SHALL BE CUT OFF CLEANLY INSIDE THE EXPOSED OR DAMAGED AREA, CUT SURFACES PAINTED WITH AN APPROVED TREE PAINT, AND TOPSOIL AND MULCH PLACED OVER THE EXPOSED ROOT AREA IMMEDIATELY.
11. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AND MAINTAINING EROSION CONTROL MEASURES ON THE SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS UNTIL THE SITE HAS BEEN STABILIZED.
12. CONTRACTOR IS RESPONSIBLE FOR GRADING ALL DISTURBED AREAS TO ALLOW FOR POSITIVE DRAINAGE. GRADING SLOPES ARE NOT TO EXCEED 3:1.
13. AREAS EXCAVATED FOR FOUNDATION OR UNDERGROUND STRUCTURE REMOVAL SHALL BE BACK-FILLED AND COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY.
14. CONTRACTOR IS RESPONSIBLE FOR SECURITY OF THE SITE DURING DEMOLITION ACTIVITIES AND UNTIL SUBSTANTIAL COMPLETION.
15. ALL WORK, UNLESS OTHERWISE NOTED, SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ISSUED BY THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS AND CITY STANDARD CONSTRUCTION SPECIFICATIONS.
16. THE HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING SUBSURFACE UTILITIES HAVE BEEN DETERMINED FROM DATA RECORDED BY OTHERS. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL UTILITY MAINS, MANHOLES, CLEANOUTS, VALVE BOXES, AND FIRE HYDRANTS, ETC. IN THE AREA OF DEMOLITION.
17. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS REGARDING TRENCH SAFETY.
18. BARRICADING AND PROJECT SIGNS SHALL CONFORM TO TEXAS DEPARTMENT OF TRANSPORTATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND LATEST UPDATES.
19. CONTRACTOR SHALL MAINTAIN EXISTING PAVEMENT AND ACCESS TO FIRE HYDRANTS ON SITE UNTIL THE BUILDINGS AND STRUCTURES IN THAT AREA HAVE BEEN DEMOLISHED AND REMOVED.
20. CONTRACTOR WILL PROVIDE ON-SITE PARKING FOR WORKERS. VEHICLE PARKING WILL NOT BE ALLOWED WITHIN THE PUBLIC RIGHT-OF-WAY.
21. CONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING ADEQUATE DUST CONTROL MEASURES DURING DEMOLITION ACTIVITIES.
22. CONTRACTOR IS TO COORDINATE DEMOLITION ACTIVITIES WITH THE HAZARDOUS MATERIAL ABATEMENT CONTRACTORS' ACTIVITIES, IF APPLICABLE.
23. THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING ALL TEMPORARY UTILITY SERVICES REQUIRED TO COMPLETE THE SCOPE OF WORK.

GRADING & DRAINAGE GENERAL NOTES

1. REFER TO GEOTECHNICAL REPORT 19106100.094 BY MLA GEOTECHNICAL FOR REQUIREMENTS REGARDING FILL COMPACTION AND MOISTURE CONTENT.
2. UNLESS NOTED, ALL FILL IS TO BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY WITHIN 3% OF OPTIMUM MOISTURE CONTENT. FILL TO BE PLACED IN MAXIMUM LIFTS OF 6 INCHES.
3. SIDEWALKS AND ACCESSIBLE ROUTES SHALL HAVE A RUNNING SLOPE NO GREATER THAN 5% (UNLESS OTHERWISE NOTED) AND A CROSS SLOPE NO GREATER THAN 2%.
4. GRADING OF ALL HANDICAPPED SPACES AND ROUTES TO CONFORM TO FEDERAL, STATE, AND LOCAL GUIDELINES.
5. ALL PROPOSED AND EXISTING GRADES IN NON-PAVED AREAS ARE "FINISHED GRADE" (i.e. IN LANDSCAPE BEDS, TOP OF MULCH/BEDDING MATERIAL).
6. UNLESS NOTED, STORM DRAIN LINES SHALL BE OF THE FOLLOWING MATERIALS AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS:
    - 6.A. RCP C-76, CLASS III
    - 6.B. ADS N-12
    - 6.C. HANCOR HI-Q
    - 6.D. CONTECH ALUMINIZED ULTRA FLOW
    - 6.E. LANE ENTERPRISES HDPE OR APPROVED EQUAL
7. UNLESS NOTED, STORM STRUCTURES TO BE "FORTERRA PIPE AND PRECAST" SIZED AS SHOWN, OR APPROVED EQUAL.
8. FINAL PAVING, CURB, AND SIDEWALK ELEVATIONS WILL BE PLACED AT PLUS OR MINUS 0.03 FOOT.
9. REFER TO LANDSCAPE SPECIFICATIONS FOR SEEDING AND SODDING REQUIREMENTS.
10. ANY CONCRETE, ROCK, OR MATERIAL DEEMED BY THE ENGINEER TO BE UNSUITABLE FOR SUBGRADE SHALL BE DISPOSED OF OFFSITE AT CONTRACTOR'S EXPENSE.
11. TRENCH BACKFILL MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF CITY OF GEORGETOWN STANDARDS AND SHALL BE MECHANICALLY COMPACTED IN 6-INCH LIFTS TO THE TOP OF SUBGRADE TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY IN ACCORDANCE WITH CITY OF GEORGETOWN STANDARDS UNLESS OTHERWISE SHOWN ON THESE PLANS OR STATED IN THE STANDARD CITY SPECIFICATIONS.
12. EMBEDMENT SHALL CONFORM TO THE REQUIREMENTS OF CITY OF AUSTIN ITEM 510 UNLESS OTHERWISE SHOWN ON THESE PLANS OR STATED IN THE STANDARD CITY SPECIFICATIONS.
13. A ROUND MANHOLE COVER MEETING CITY SPECIFICATIONS SHALL BE PLACED IN ALL INLET TOPS NEAR THE OUTLET PIPE.
14. ALL CONCRETE FOR INLETS AND DRAINAGE STRUCTURES SHALL CONFORM TO CITY OF GEORGETOWN, CLASS "A" (3000 PSI) UNLESS OTHERWISE SHOWN ON THESE PLANS OR STATED IN STANDARD CITY SPECIFICATIONS.
15. CRUSHED STONE BEDDING OR APPROVED EQUAL SHALL BE PROVIDED BY THE CONTRACTOR WHEN ROCK IS ENCOUNTERED IN TRENCHES. THERE SHALL BE NO ADDITIONAL PAY ITEM FOR CRUSHED STONE BEDDING.
16. IF REQUIRED DUE TO CONSTRUCTION, POWER POLES TO BE BRACED OR RELOCATED AT CONTRACTOR'S EXPENSE.

WATER & SANITARY SEWER GENERAL NOTES

1. ALL CONCRETE SHALL BE CLASS "A" (3000 PSI), UNLESS OTHERWISE NOTED.
2. ALL WATER MAINS SHALL BE PVC C900, DR 18, CLASS 235. FIRE PROTECTION SERVICES SHALL BE PVC C900, DR 14, CLASS 305 AND INSTALLED IN ACCORDANCE WITH THE DESIGN AND SPECIFICATIONS OF THE FIRE PROTECTION PLANS TO BE PREPARED BY A LICENSED FIRE PROTECTION CONTRACTOR.
3. WATER AND SANITARY SEWER SERVICES SHALL MEET PLUMBING CODE REQUIREMENTS.
4. ALL WATER MAINS SHALL HAVE A MINIMUM COVER OF 48 INCHES BELOW IMPROVED FINISHED GRADE, UNLESS OTHERWISE NOTED.
5. SANITARY SEWER PIPE SHALL BE PVC SDR-35.
6. WHEN WATER AND SANITARY SEWER MAINS, SERVICES, AND LATERALS ARE INSTALLED, THEY SHALL BE INSTALLED NO CLOSER TO EACH OTHER THAN NINE FEET IN ALL DIRECTIONS AND PARALLEL LINES MUST BE INSTALLED IN SEPARATE TRENCHES. WHERE THE NINE FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE FOLLOWING TCEQ CHAPTERS SHALL APPLY:
    - 6.A. TCEQ CHAPTER 217.53 PIPE DESIGN, SECTION (d) SEPARATION DISTANCES.
    - 6.B. TCEQ CHAPTER 290.44 WATER DISTRIBUTION, SECTION (e) LOCATION OF WATERLINES.
7. CONTRACTOR TO VERIFY ALL EXISTING SEWER FLOW LINES BEFORE BEGINNING CONSTRUCTION.
8. CONTRACTOR SHALL TIE A ONE INCH WIDE PIECE OF RED PLASTIC FLAGGING TO THE END OF SEWER SERVICE AND SHALL LEAVE A MINIMUM OF 36 INCHES OF FLAGGING EXPOSED AFTER BACKFILL. AFTER CURB AND PAVING IS COMPLETED, CONTRACTOR SHALL MARK THE LOCATION OF THE SEWER SERVICE ON THE CURB OR ALLEY IN ACCORDANCE WITH THE STANDARD CITY SPECIFICATIONS.
9. ALL SANITARY SEWER LINES SHALL BE TESTED IN ACCORDANCE WITH THE STANDARD CITY SPECIFICATIONS.
10. THE UTILITY CONTRACTOR SHALL INSTALL THE WATER SERVICES TO A POINT TWO FEET BACK OF THE CURB LINE AT A DEPTH OF 12 INCHES. THE METER BOX SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AFTER THE PAVING CONTRACTOR HAS COMPLETED THE FINE GRADING BEHIND THE BACK OF THE CURB. EACH SERVICE LOCATION SHALL BE MARKED ON THE CURB WITH A BLUE LETTER "W" BY THE UTILITY CONTRACTOR AND TIED TO PROPERTY CORNERS ON THE "RECORD DRAWINGS."
11. ALL METER BOXES SHALL BE LOCATED IN NON-TRAFFIC AREAS.
12. TRENCH BACKFILL MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF NCTCOG ITEM 504.2 AND SHALL BE MECHANICALLY COMPACTED IN 6-INCH LIFTS TO THE TOP OF SUBGRADE TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY IN ACCORDANCE WITH NCTCOG ITEM 504.5 UNLESS OTHERWISE SHOWN ON THESE PLANS OR STATED IN THE STANDARD CITY SPECIFICATIONS.
13. EMBEDMENT SHALL CONFORM TO THE REQUIREMENTS OF NCTCOG ITEM 504.5 UNLESS OTHERWISE SHOWN ON THESE PLANS OR STATED IN THE STANDARD CITY SPECIFICATIONS.
14. VALVE BOXES SHALL BE FURNISHED AND SET ON EACH GATE VALVE. AFTER THE FINAL CLEAN-UP AND ALIGNMENT HAS BEEN COMPLETED, THE UTILITY CONTRACTOR SHALL POUR A 24"X24"X6" CONCRETE BLOCK AROUND ALL VALVE BOX TOPS LEVEL WITH THE FINISHED GRADE.
15. CONTRACTOR SHALL RECONNECT ALL EXISTING SERVICES AND MAINTAIN EXISTING SERVICES THROUGHOUT CONSTRUCTION.
16. IF REQUIRED DUE TO CONSTRUCTION, POWER POLES TO BE BRACED OR RELOCATED AT CONTRACTOR'S EXPENSE.

FIRE GENERAL NOTES

AT THE CONCLUSION OF CONSTRUCTION AND AS PART OF THE PROCESS FOR THE CITY TO ACCEPT THIS PHASE, THE FIRE HYDRANTS SHALL BE FLOWED AND TESTED AND A COPY OF THE REPORT SHALL BE EMAILED INTO THE FIRE DEPARTMENT AND THE HYDRANTS SHALL BE PAINTED AND COLOR CODED.
CAUTION: IF PRESSURE REDUCING VALVES WERE INSTALLED IN THIS PHASING THEY MUST BE SET PRIOR TO FIRE HYDRANT FLOW TESTING.
LA-507.5.7
A. ALL PRIVATE HYDRANT BARRELS WILL BE PAINTED RED WITH THE BONNET PAINTED USING THE HYDRANT FLOW STANDARD IN PARAGRAPH C OF THIS SECTION TO INDICATE FLOW. IT WILL BE THE CUSTOMER'S RESPONSIBILITY TO TEST AND MAINTAIN THEIR PRIVATE FIRE HYDRANT(S).
B. ALL PRIVATE FIRE HYDRANTS SHOULD BE TESTED ANNUALLY AND SHALL BE COLOR CODED TO INDICATE THE EXPECTED FIRE FLOW FROM THE HYDRANT DURING NORMAL OPERATION. SUCH COLOR APPLIED TO THE FIRE HYDRANT BY PAINTING THE BONNET THE APPROPRIATE COLOR FOR THE EXPECTED FLOW CONDITION.
C. HYDRANT FLOW CODING STANDARDS.

FLOW	COLOR
GREATER THAN 1500 GPM	BLUE
1000 TO 1500 GPM	GREEN
500 TO 999 GPM	ORANGE
LESS THAN 500 GPM	RED
NOT WORKING	BLACK OR BAGGED

PAVING GENERAL NOTES

1. ALL DIMENSIONS ARE FROM BACK OF CURB UNLESS OTHERWISE NOTED.
2. ALL CONCRETE SHALL CONFORM TO CITY OF GEORGETOWN STANDARDS, UNLESS OTHERWISE SHOWN ON THESE PLANS, STATED IN STANDARD CITY SPECIFICATIONS OR STATED IN TXDOT STANDARD SPECIFICATIONS.
3. SUBGRADE PREPARATION IN RIGHT OF WAY SHALL CONFORM TO STANDARD CITY SPECIFICATIONS OR TXDOT STANDARD SPECIFICATIONS.
4. ALL FILL PLACED UNDER PAVING SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY IN 6 INCH LIFTS, UNLESS OTHERWISE NOTED, OR STATED IN GEOTECH REPORT. REFER TO STRUCTURAL SPECIFICATIONS FOR FILL PLACED BENEATH BUILDING AREAS. ALL OTHER FILL AREAS TO BE COMPACTED TO 90% STANDARD PROCTOR.
5. THE CONTRACTOR SHALL SUBMIT A JOINT SPACING PLAN TO THE ENGINEER FOR APPROVAL. EXPANSION JOINT SPACING SHALL BE 90' MAXIMUM EACH WAY WITH NO KEYWAYS AND SAWED DUMMY JOINTS SHALL BE 15' EACH WAY, UNLESS OTHERWISE NOTED.
6. TRANSVERSE CONSTRUCTION JOINTS SHALL BE USED AT THE END OF EACH DAYS PAVING AND WHERE INTERRUPTIONS SUSPEND OPERATIONS FOR 30 MINUTES OR MORE.
7. ALL PAVING TO BE REMOVED SHALL BE SAWCUT TO A NEAT LINE, MINIMUM 1-1/2" DEEP, AND THE PAVEMENT REMOVED IN SUCH A MANNER AS TO PRESERVE THE EXISTING TRANSVERSE REINFORCING STEEL TO THE MAXIMUM EXTENT POSSIBLE.
8. ALL CURB AND GUTTER SHALL BE INTEGRAL WITH THE PAVEMENT AND HAVE THE SAME COMPRESSIVE STRENGTH.
9. PAVEMENT REINFORCEMENT SHALL BE #3 BARS, SPACED AT 18 INCHES CENTER TO CENTER EACH WAY EXCEPT WHERE OTHERWISE NOTED IN THE PLANS OR GEOTECH REPORT.
10. BAR LAPS SHALL BE 30 DIAMETERS IN LENGTH.
11. ALL STRIPES SHALL BE 4 INCHES WIDE, UNLESS OTHERWISE NOTED.
12. INSTALLATION AND PLACEMENT OF IRRIGATION SLEEVES AND UTILITY CONDUITS SHALL BE IN ACCORDANCE WITH LANDSCAPE ARCHITECT AND MEP PLANS. CONTRACTOR TO VERIFY ALL SLEEVES HAVE BEEN PLACED PRIOR TO PAVING BEING PLACED.
13. SIDEWALKS AND ACCESSIBLE ROUTES SHALL HAVE A RUNNING SLOPE NO GREATER THAN 5% (UNLESS OTHERWISE NOTED) AND A CROSS SLOPE NO GREATER THAN 2%.

FIRE PROTECTION NOTES

1. APPROVAL OF THIS SITE PLAN DOES NOT IMPLY APPROVAL TO INSTALL UNDERGROUND FIRE LINES. PRIOR TO INSTALLATION OF UNDERGROUND FIRE LINES, A SEPARATE PERMIT SHALL BE SUBMITTED, UNDER GROUND FIRE LINE SUPPLY.
2. BACKFLOW PROTECTION WILL BE PROVIDED IN ACCORDANCE WITH THE CITY OF GEORGETOWN REQUIREMENTS WHEN REQUIRED. BACKFLOW PROTECTION WILL BE INSTALLED IN ACCORDANCE WITH THE DETAIL PROVIDED IN THE UTILITY DRAWINGS.
3. ALL PRIVATE FIRE LINES AND WHAT THEY PROVIDE SERVICE TO WILL BE INSTALLED IN ACCORDANCE WITH NFPA 24 INSTULLATION OF PRIVATE SERVICE MAINS AND THEIR APPURTENANCES.
4. ALL TEES, PLUGS, CAPS, BENDS, REDUCERS, VALVES SHALL BE RESTRAINED AGAINST MOVEMENT. THRUST BLOCKING WILL BE INSTALLED IN ACCORDANCE WITH NFPA 24.
5. ALL UNDERGROUND SHALL REMAIN UNCOVERED UNTIL A VISUAL INSPECTION IS CONDUCTED BY THE GEORGETOWN FIRE MARSHAL'S OFFICE (FMO). ALL JOINTS AND THRUST BLOCKING SHALL BE UNCOVERED FOR VISUAL INSPECTION.
6. ALL UNDERGROUND SHALL BE FLUSHED PER THE REQUIREMENTS OF NFPA STANDARD 24 AND WITNESSED BY GEORGETOWN FMO.
7. ALL UNDERGROUND SHALL PASS A HYDROSTATIC TEST WITNESSED BY GEORGETOWN FMO. ALL JOINTS SHALL BE UNCOVERED FOR HYDROSTATIC TESTING. ALL PIPING AND ATTACHMENTS SUBJECTED TO SYSTEM WORKING PRESSURE SHALL BE TESTED AT 200 PSI. OR 50 PSI IN EXCESS OF THE SYSTEM WORKING PRESSURE, WHICHEVER IS GREATER, AND SHALL MAINTAIN THAT PRESSURE + OR - 5 PSI FOR 2 HOURS.
8. FENCES, LANDSCAPING AND OTHER ITEMS WILL NOT BE INSTALLED WITHIN 3 FT, AND WHERE THEY WILL OBSTRUCT THE VISIBILITY OR ACCESS TO HYDRANTS, OR REMOTE FDCS.
9. LICENSE REQUIREMENTS OF EITHER RME-U OR G. WHEN CONNECTING BY UNDERGROUND TO THE WATER PURVEYOR'S MAIN FROM THE POINT OF CONNECTION OR VALVE WHERE THE PRIMARY PURPOSE OF WATER IS FOR FIRE PROTECTION SPRINKLER SYSTEM.

EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS, TREE/NATURAL AREA PROTECTIVE FENCING, AND CONDUCT "PRE-CONSTRUCTION" TREE FERTILIZATION (IF APPLICABLE) PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR EXCAVATION).
2. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE ENVIRONMENTAL CRITERIA MANUAL AND THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN. THE COA ESC PLAN SHALL BE CONSULTED AND USED AS THE BASIS FOR A TPDES REQUIRED SWPPP. IF A SWPPP IS REQUIRED, IT SHALL BE AVAILABLE FOR REVIEW BY THE CITY OF AUSTIN ENVIRONMENTAL INSPECTOR AT ALL TIMES DURING CONSTRUCTION, INCLUDING AT THE PRE-CONSTRUCTION MEETING. THE CHECKLIST BELOW CONTAINS THE BASIC ELEMENTS THAT SHALL BE REVIEWED FOR PERMIT APPROVAL BY COA EV PLAN REVIEWERS AS WELL AS COA EV INSPECTORS.
3. THE PLACEMENT OF TREE/NATURAL AREA PROTECTIVE FENCING SHALL BE IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD NOTES FOR TREE AND NATURAL AREA PROTECTION AND THE APPROVED GRADING/TREE AND NATURAL AREA PLAN.
4. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD ON-SITE WITH THE CONTRACTOR, DESIGN ENGINEER/PERMIT APPLICANT AND ENVIRONMENTAL INSPECTOR AFTER INSTALLATION OF THE EROSION/SEDIMENTATION CONTROLS, TREE/NATURAL AREA PROTECTION MEASURES AND "PRE-CONSTRUCTION" TREE FERTILIZATION (IF APPLICABLE) PRIOR TO BEGINNING ANY SITE PREPARATION WORK. THE OWNER OR OWNER'S REPRESENTATIVE SHALL NOTIFY THE DEVELOPMENT SERVICES DEPARTMENT, 512-974-2278 OR BY EMAIL AT ENVIRONMENTAL.INSPECTIONS@AUSTINTEXAS.GOV, AT LEAST THREE DAYS PRIOR TO THE MEETING DATE. COA APPROVED ESC PLAN AND TPDES SWPPP (IF REQUIRED) SHOULD BE REVIEWED BY COA EV INSPECTOR AT THIS TIME.
5. ANY MAJOR VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS WILL REQUIRE A REVISION AND MUST BE APPROVED BY THE REVIEWING ENGINEER, ENVIRONMENTAL SPECIALIST OR CITY ARBORIST AS APPROPRIATE. MAJOR REVISIONS MUST BE APPROVED BY AUTHORIZED COA STAFF. MINOR CHANGES TO BE MADE AS FIELD REVISIONS TO THE EROSION AND SEDIMENTATION CONTROL PLAN MAY BE REQUIRED BY THE ENVIRONMENTAL INSPECTOR DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES.
6. THE CONTRACTOR IS REQUIRED TO PROVIDE A CERTIFIED INSPECTOR THAT IS EITHER A LICENSED ENGINEER (OR PERSON DIRECTLY SUPERVISED BY THE LICENSED ENGINEER) OR CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC OR CPESC - IT), CERTIFIED EROSION, SEDIMENT AND STORMWATER - INSPECTOR (CESSWI OR CESSWI - IT) OR CERTIFIED INSPECTOR OF SEDIMENTATION AND EROSION CONTROLS (CISEC OR CISEC - IT) CERTIFICATION TO INSPECT THE CONTROLS AND FENCES AT WEEKLY OR BI-WEEKLY INTERVALS AND AFTER ONE-HALF (½) INCH OR GREATER RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES OR ONE-THIRD (⅓) OF THE INSTALLED HEIGHT OF THE CONTROL WHICHEVER IS LESS.
7. PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF IN APPROVED SPOIL DISPOSAL SITES.
8. ALL WORK MUST STOP IF A VOID IN THE ROCK SUBSTRATE IS DISCOVERED WHICH IS; ONE SQUARE FOOT IN TOTAL AREA; BLOWS AIR FROM WITHIN THE SUBSTRATE AND/OR CONSISTENTLY RECEIVES WATER DURING ANY RAIN EVENT. AT THIS TIME IT IS THE RESPONSIBILITY OF THE PROJECT MANAGER TO IMMEDIATELY CONTACT A CITY OF AUSTIN ENVIRONMENTAL INSPECTOR FOR FURTHER INVESTIGATION. IN ADDITION, IF THE PROJECT SITE IS LOCATED WITHIN THE EDWARDS AQUIFER, THE PROJECT MANAGER MUST NOTIFY THE TRAVIS COUNTY BALCONES CANYONLANDS CONSERVATION PRESERVE (BCCP) BY EMAIL AT BCCP@TRAVISCOUNTYTX.GOV. CONSTRUCTION ACTIVITIES WITHIN 50 FEET OF THE VOID MUST STOP.
9. TEMPORARY AND PERMANENT EROSION CONTROL: ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW:
    - A. ALL DISTURBED AREAS TO BE REVEGETATED ARE REQUIRED TO PLACE A MINIMUM OF SIX (6) INCHES OF TOPSOIL [SEE STANDARD SPECIFICATION ITEM NO. 601S.3(A)]. DO NOT ADD TOPSOIL WITHIN THE CRITICAL ROOT ZONE OF EXISTING TREES.

TOPSOIL SALVAGED FROM THE EXISTING SITE IS ENCOURAGED FOR USE, BUT IT SHOULD MEET THE STANDARDS SET FORTH IN 601S.

AN OWNER/ENGINEER MAY PROPOSE USE OF ONSITE SALVAGED TOPSOIL WHICH DOES NOT MEET THE CRITERIA OF STANDARD SPECIFICATION 601S BY PROVIDING A SOIL ANALYSIS AND A WRITTEN STATEMENT FROM A QUALIFIED PROFESSIONAL IN SOILS, LANDSCAPE ARCHITECTURE, OR AGRONOMY INDICATING THE ONSITE TOPSOIL WILL PROVIDE AN EQUIVALENT GROWTH MEDIA AND SPECIFYING WHAT, IF ANY, SOIL AMENDMENTS ARE REQUIRED.

SOIL AMENDMENTS SHALL BE WORKED INTO THE EXISTING ONSITE TOPSOIL WITH A DISC OR TILLER TO CREATE A WELL-BLENDED MATERIAL.

THE VEGETATIVE STABILIZATION OF AREAS DISTURBED BY CONSTRUCTION SHALL BE AS FOLLOWS:

TEMPORARY VEGETATIVE STABILIZATION:

1. FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH OR INCLUDE A COOL SEASON COVER CROP: (WESTERN WHEATGRASS (*PASCOPYRUM SMITHII*) AT 5.6 POUNDS PER ACRE, OATS (*AVENA SATIVA*) AT 4.0 POUNDS PER ACRE, CEREAL RYE GRAIN (*SECALE CEREALE*) AT 45 POUNDS PER ACRE. CONTRACTOR MUST ENSURE THAT ANY SEED APPLICATION REQUIRING A COOL SEASON COVER CROP DOES NOT UTILIZE ANNUAL RYEGRASS (*LOLIUM MULTIFLORUM*) OR PERENNIAL RYEGRASS (*LOLIUM PERENNE*). COOL SEASON COVER CROPS ARE NOT PERMANENT EROSION CONTROL.
2. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 45 POUNDS PER ACRE OR A NATIVE PLANT SEED MIX CONFORMING TO ITEM 604S OR 609S.
    - A. FERTILIZER SHALL BE APPLIED ONLY IF WARRANTED BY A SOIL TEST AND SHALL CONFORM TO ITEM NO. 606S, FERTILIZER. FERTILIZATION SHOULD NOT OCCUR WHEN RAINFALL IS EXPECTED OR DURING SLOW PLANT GROWTH OR DORMANCY. CHEMICAL FERTILIZER MAY NOT BE APPLIED IN THE CRITICAL WATER QUALITY ZONE.
    - B. HYDROMULCH SHALL COMPLY WITH TABLE 1, BELOW.
    - C. TEMPORARY EROSION CONTROL SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1½ INCHES HIGH WITH A MINIMUM OF 95% TOTAL COVERAGE SO THAT ALL AREAS OF A SITE THAT RELY ON VEGETATION FOR TEMPORARY STABILIZATION ARE UNIFORMLY VEGETATED, AND PROVIDED THERE ARE NO BARE SPOTS LARGER THAN 10 SQUARE FEET.
    - D. WHEN REQUIRED, NATIVE PLANT SEEDING SHALL COMPLY WITH REQUIREMENTS OF THE CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL, AND STANDARD SPECIFICATION 604S OR 609S.

TABLE 1: HYDROMULCHING FOR TEMPORARY VEGETATIVE STABILIZATION

MATERIAL DESCRIPTION LONGEVITY TYPICAL APPLICATIONS APPLICATION RATES 100% OR ANY BLEND OF WOOD, CELLULOSE, STRAW, AND/OR COTTON PLANT MATERIAL (EXCEPT NO MULCH SHALL EXCEED 30% PAPER)
70% OR GREATER
WOOD/STRAW 30% OR LESS PAPER OR NATURAL FIBERS 0--3 MONTHS MODERATE SLOPES; FROM FLAT TO 3:1
1,500 TO 2,000 LBS PER ACRE

PERMANENT VEGETATIVE STABILIZATION:

1. FROM SEPTEMBER 15 TO MARCH 1, SEEDING IS CONSIDERED TO BE TEMPORARY STABILIZATION ONLY. IF COOL SEASON COVER CROPS EXIST WHERE PERMANENT VEGETATIVE STABILIZATION IS DESIRED, THE GRASSES SHALL BE MOWED TO A HEIGHT OF LESS THAN ONE-HALF (½) INCH AND THE AREA SHALL BE RE-SEEDED IN ACCORDANCE WITH TABLE 2 BELOW. ALTERNATIVELY, THE COOL SEASON COVER CROP CAN BE MIXED WITH BERMUDAGRASS OR NATIVE SEED AND INSTALLED TOGETHER, UNDERSTANDING THAT GERMINATION OF WARM-SEASON SEED TYPICALLY REQUIRES SOIL TEMPERATURES OF 60 TO 70 DEGREES.
2. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 45 POUNDS PER ACRE WITH A PURITY OF 95% AND A MINIMUM PURE LIVE SEED (PLS) OF 0.83. BERMUDA GRASS IS A WARM SEASON GRASS AND IS CONSIDERED PERMANENT EROSION CONTROL. PERMANENT VEGETATIVE STABILIZATION CAN ALSO BE ACCOMPLISHED WITH A NATIVE PLANT SEED MIX CONFORMING TO ITEM 604S OR 609S.
    - A. FERTILIZER USE SHALL FOLLOW THE RECOMMENDATION OF A SOIL TEST. SEE ITEM 606S, FERTILIZER. APPLICATIONS OF FERTILIZER (AND PESTICIDE) ON CITY-OWNED AND MANAGED PROPERTY REQUIRES THE YEARLY SUBMITTAL OF A PESTICIDE AND FERTILIZER APPLICATION RECORD, ALONG WITH A CURRENT COPY OF THE APPLICATOR'S LICENSE. FOR CURRENT COPY OF THE RECORD TEMPLATE CONTACT THE CITY OF AUSTIN'S IPM COORDINATOR.
    - B. HYDROMULCH SHALL COMPLY WITH TABLE 2, BELOW.
    - C. WATER THE SEEDED AREAS IMMEDIATELY AFTER INSTALLATION TO ACHIEVE GERMINATION AND A HEALTHY STAND OF PLANTS THAT CAN ULTIMATELY SURVIVE WITHOUT SUPPLEMENTAL WATER. APPLY THE WATER UNIFORMLY TO THE PLANTED AREAS WITHOUT CAUSING DISPLACEMENT OR EROSION OF THE MATERIALS OR SOIL. MAINTAIN THE SEEDBED IN A MOIST CONDITION FAVORABLE FOR PLANT GROWTH. ALL WATERING SHALL COMPLY WITH CITY CODE CHAPTER 6-4 (WATER CONSERVATION), AT RATES AND FREQUENCIES DETERMINED BY A LICENSED IRRIGATOR OR OTHER QUALIFIED PROFESSIONAL, AND AS ALLOWED BY THE AUSTIN WATER UTILITY AND CURRENT WATER RESTRICTIONS AND WATER CONSERVATION INITIATIVES.
    - D. PERMANENT EROSION CONTROL SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1½ INCHES HIGH WITH A MINIMUM OF 95 PERCENT FOR THE NON-NATIVE MIX, AND 95 PERCENT COVERAGE FOR THE NATIVE MIX SO THAT ALL AREAS OF A SITE THAT RELY ON VEGETATION FOR STABILITY MUST BE UNIFORMLY VEGETATED, AND PROVIDED THERE ARE NO BARE SPOTS LARGER THAN 10 SQUARE FEET.
    - E. WHEN REQUIRED, NATIVE PLANT SEEDING SHALL COMPLY WITH REQUIREMENTS OF THE CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL, ITEMS 604S AND 609S.

TABLE 2: HYDROMULCHING FOR PERMANENT VEGETATIVE STABILIZATION

MATERIAL DESCRIPTION LONGEVITY TYPICAL APPLICATIONS APPLICATION RATES BONDED FIBER MATRIX (BFM) 80% ORGANIC DEFIBRATED FIBERS 10% TACKIFIER 6 MONTHS ON SLOPES UP TO 2:1 AND EROSIVE SOIL CONDITIONS 2,500 TO 4,000 LBS PER ACRE (SEE MANUFACTURERS RECOMMENDATIONS) FIBER REINFORCED MATRIX (FRM) 65% ORGANIC DEFIBRATED FIBERS
25% REINFORCING FIBERS OR LESS
10% TACKIFIER UP TO 12 MONTHS ON SLOPES UP TO 1:1 AND EROSIVE SOIL CONDITIONS 3,000 TO 4,500 LBS PER ACRE (SEE MANUFACTURERS RECOMMENDATIONS)

10. DEVELOPER INFORMATION:

DEVELOPER: JACKSON SHAW

PHONE #: (972) 628-7400

ADDRESS: 4890 ALPHA ROAD, SUITE 100 DALLAS, TX 75229

OWNER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS: WESTWOOD

PHONE #: (512) 485-0831

PERSON OR FIRM RESPONSIBLE FOR EROSION/SEDIMENTATION CONTROL MAINTENANCE: WESTWOOD

PHONE #: (512) 485-0831

PERSON OR FIRM RESPONSIBLE FOR TREE/NATURAL AREA PROTECTION MAINTENANCE: TBD

PHONE #: TBD

11. THE CONTRACTOR SHALL NOT DISPOSE OF SURPLUS EXCAVATED MATERIAL FROM THE SITE WITHOUT NOTIFYING THE DEVELOPMENT SERVICES DEPARTMENT AT 512-974-2278 AT LEAST 48 HOURS PRIOR WITH THE LOCATION AND A COPY OF THE PERMIT ISSUED TO RECEIVE THE MATERIAL.

CITY OF GEORGETOWN GENERAL NOTES
1. THESE CONSTRUCTION PLANS WERE PREPARED, SEALED, SIGNED, AND DATED BY A TEXAS LICENSED PROFFESIONAL ENGINEER. THEREFORE BASED ON THE ENGINEER'S CONCURRAENCE 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 REQUIREMENT.
8. WASTEWATER MANHOLES SHALL BE VACUUM TESTED AND COATED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.
9. WASTEWATER MAINS SHALL BE CAMERA TESTED BY THE CONTRACTOR AND SUBMITTED TO THE CITY ON DVD FORMAT PRIOR TO PAVING THE 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 150 PSI FOR 4 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 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 2 YEARS IN THE AMOUNT OF 10% OF THE COST OF THE PUBLIC IMPROVEMENTS AND SHALL FOLLOW THE CITY FORMAT.
21. RECORD DRAWINGS OF 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.

Last Saved by: Jgujjarlapudi
Last Saved: 8/15/2025 11:37 AM
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Westwood
Westwood Professional Services, Inc.
8701 NORTH MOPAC EXPY, SUITE 320
AUSTIN, TX 78759
T: 512.485.0831
F: 888.937.5150
TBPELS ENGINEERING FIRM NO. 11756
TBPELS SURVEYING FIRM NO. 10074301
westwoodps.com

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF GEORGETOWN
CITY OF GEORGETOWN, TEXAS

JACKSON SHAW

CROSSPOINT FRONTAGE 12" WASTEWATER MAIN

GENERAL NOTES

DATE: August, 2025
DRAFTER: CYS
DESIGNER: HAS
CHECKED: HAS

PROJECT NO.
R0040131.09

8/15/2025
Hollis A. Scheffler
136049

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.

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 TCEQ-0596 (REV. JULY 15, 2015) PAGE 2 OF 6 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 __ OF __.

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: N/A

IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE N/A 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. TCEQ-0596 (REV. JULY 15, 2015) PAGE 3 OF 6 IF NO STUB-OUT IS PRESENT AN ALTERNATE METHOD OF JOINING LATERALS IS SHOWN IN THE DETAIL ON PLAN SHEET __ OF __. (FOR POTENTIAL FUTURE LATERALS). THE PRIVATE SERVICE LATERAL STUB-OUTS MUST BE INSTALLED AS SHOWN ON THE PLAN AND PROFILE SHEETS ON PLAN SHEET __ OF __ AND MARKED AFTER BACKFILLING AS SHOWN IN THE DETAIL ON PLAN SHEET __ OF __.

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 C924, 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.

(C) 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.

(J) 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 = 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

(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	*467*	*239*	*2.374*
12	*680*	*199*	*3.419*
15	*850*	*159*	*5.342*
19	*1020*	*133*	*7.693*
21	*1190*	*114*	*10.471*
14	*1360*	*100*	*13.676*
17	*1530*	*88*	*17.309*
30	*1700*	*80*	*21.369*
33	*1870*	*72*	*25.856*

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

(B) 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.

(C) 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.

(D) 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 TCEQ-0596 (REV. JULY 15, 2015) PAGE 5 OF 6 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 THICKNESS FOR OD CONTROLLED PIPE AND THE AVERAGE INSIDE DIAMETER FOR ID CONTROLLED PIPE.

(iii) ALL DIMENSIONS MUST MEET THE APPROPRIATE STANDARD.

(B) MANDREL DESIGN. 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.

(B) 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.

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

(C) 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.

(D) 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.

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

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

(G) 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.

(a)

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
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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 TCEQ-0596 (REV. JULY 15, 2015) PAGE 2 OF 6 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 __ OF __. 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: N/A. IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE N/A 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.

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 C924, 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 = 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

(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:

$$T = \frac{0.085 * D * K}{Q}$$

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	467	239	2.374
12	680	199	3.419
15	850	159	5.342
19	1020	133	7.693
21	1190	114	10.471
14	1360	100	13.676
17	1530	88	17.309
30	1700	80	21.369
33	1870	72	25.856

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

(B) 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.

(C) 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.

(D) 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 TCEQ-0596 (REV. JULY 15, 2015) PAGE 5 OF 6 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 THICKNESS 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.

(ij) 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 DEFLECTO-METER 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. 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 EX-FILTRATION 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.

(B) 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.

(C) 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.

1. 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.

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NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF GEORGETOWN, TEXAS

CITY OF GEORGETOWN

JACKSON SHAW

CROSSPOINT FRONTAGE 12" WASTEWATER MAIN

TCEQ NOTES

DATE: August, 2025
DRAFTER: CYS
DESIGNER: HAS
CHECKED: HAS

PROJECT NO.
R0040131.09

8/15/2025
Hollis A. Scheffler
136049

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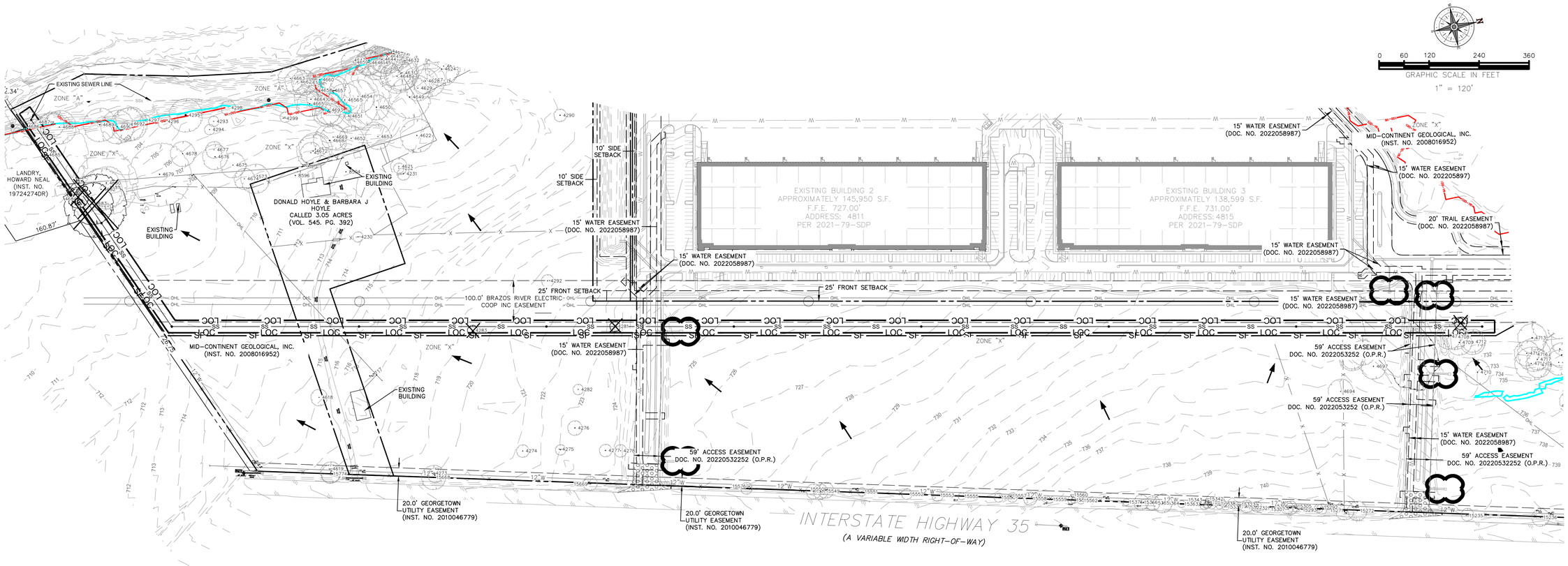
3 OF 12

2025-XX-CON



LEGEND

- PROPERTY LINE
- EASEMENT LINE
- 100-YR — 100 YR FLOODPLAIN GEORGETOWN
- 100 YR FLOODPLAIN FEMA
- 133 — PROPOSED CONTOUR
- EXISTING CONTOUR
- SF — PROPOSED SILT FENCE
- LOC — PROPOSED LIMITS OF CONSTRUCTION
- TP — PROPOSED TREE PROTECTION
- RB — PROPOSED ROCK BERM
- PROPOSED CHECK DAM
- INLET PROTECTION
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED TEMPORARY ROCK RIPRAP
- PROPOSED VEGETATIVE FILTER STRIP
- PROPOSED SOIL RETENTION BLANKET
- DRAINAGE FLOW DIRECTION
- TREE
- DEMO TREE

2025-XX-CON

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NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF GEORGETOWN, TEXAS

CITY OF GEORGETOWN

JACKSON SHAW

CROSSPOINT FRONTAGE 12" WASTEWATER MAIN
EROSION CONTROL PLAN

DATE: August, 2025
DRAFTER: CYS
DESIGNER: HAS
CHECKED: HAS
PROJECT NO. R0040131.09

8/15/2025
STATE OF TEXAS
Hollis A. Scheffler
136049
LICENSED
PROFESSIONAL ENGINEER

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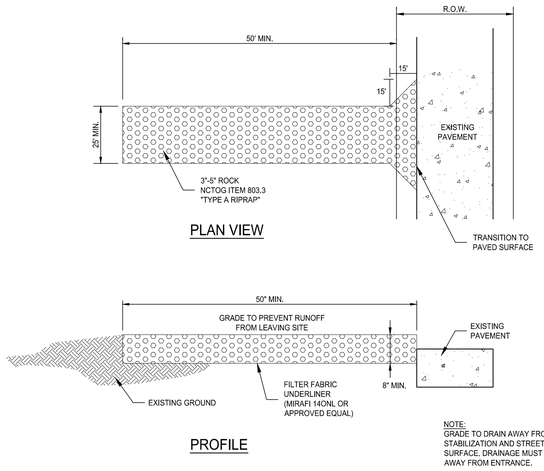

1 STABILIZED CONSTRUCTION ENTRANCE
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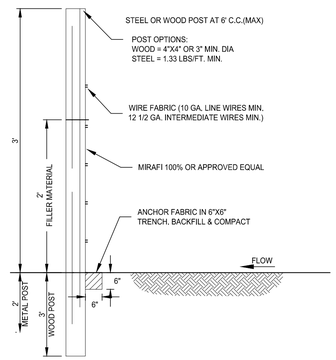

2 SILT FENCE
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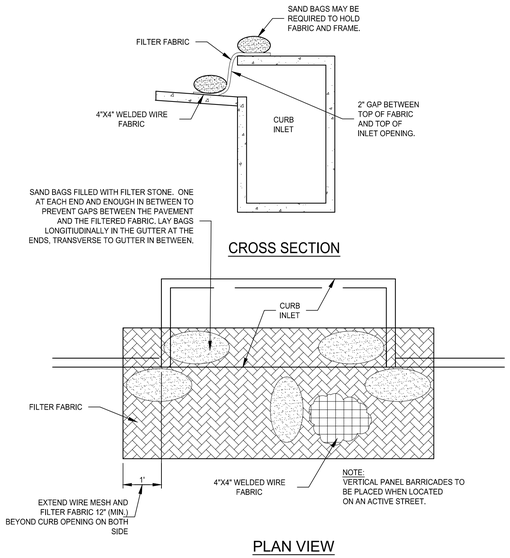
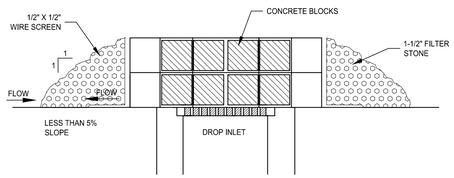
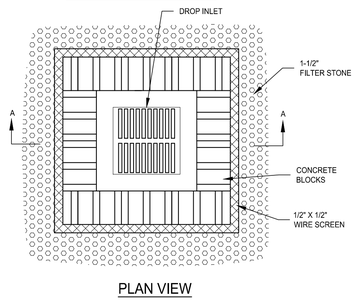


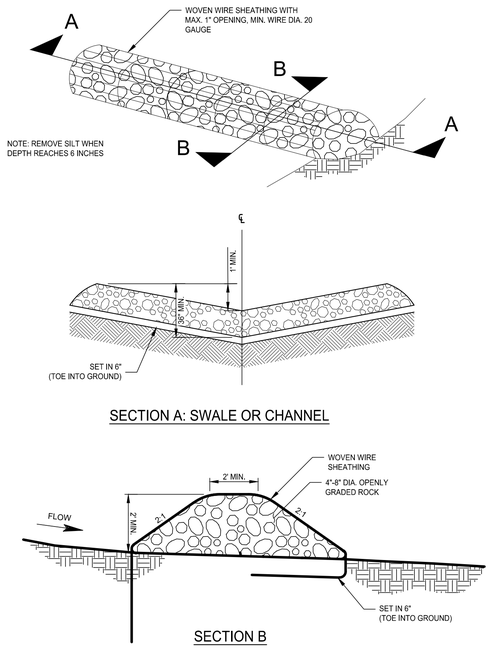
3 CURB INLET PROTECTION
NOT TO SCALE

NOTES:
1. SOIL EROSION AND SEDIMENT CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH CITY OF GEORGETOWN EROSION REGULATIONS.
2. RESPONSIBILITY FOR INSTALLATION, ROUTINE INSPECTION, AND MAINTENANCE OF EROSION CONTROL SHOULD BE DEFINED AND ASSIGNED TO APPROPRIATE PERSON(S) PRIOR TO COMMENCEMENT OF ANY SOIL DISTURBING ACTIVITY.
3. EROSION CONTROL MEASURES MUST BE CONSTRUCTED AND FUNCTION BEFORE ANY GRADING OR LAND DISTURBANCE TAKES PLACE.
4. TEMPORARY OR PERMANENT SOIL STABILIZATION MUST BE APPLIED TO DISTURBED AREA LEFT DORMANT FOR 14 DAYS.
5. IN THE EVENT THAT MEASURES BEING USED ARE DEEMED TO BE INEFFECTIVE BY CITY INSPECTORS, ADDITIONAL MEASURES OR CHANGES IN THE ORIGINAL PLAN MAY BE REQUIRED BY THE CITY OF GEORGETOWN.
6. ALL EROSION CONTROL DEVICES SHALL BE INSPECTED BY THE SITE FOREMAN DAILY, ANY STRUCTURE OR CONTROL DEVICES WHICH IS DAMAGED OR INOPERATIVE WILL BE REPAIRED OR REPLACED IMMEDIATELY.
7. SANITARY FACILITIES SHALL BE PROVIDED ON THE SITE & REGULARLY SERVICED AS RECOMMENDED BY THE SUPPLIER, TRASH & DEBRIS SHALL BE STORED IN COVERED BINS OR ENCLOSURES.
8. CONSTRUCTION ENTRANCES/EXITS SHOULD BE LIMITED AND PROTECTION PROVIDED TO PREVENT TRACKING OF SOILS ONTO CITY STREETS.
9. REMOVE SILT OR SEDIMENTS FROM STREETS, CURBS, GUTTERS, FLUMES, HANDICAP ACCESS RAMPS, CURB INLETS, STORM DRAINS, AND ANY OTHER PUBLIC DRAINAGE FACILITIES DAILY OR AS ACCUMULATION OCCURS.
10. EROSION CONTROL SHOULD BE EVALUATED TO DETERMINE THE EFFECTIVENESS OF THOSE DEVICES BY THE PERSON ASSIGNED TO INSPECT EROSION CONTROL DEVICES, AND CHANGES MADE IF NECESSARY.
11. SOIL TRACKED ONTO PUBLIC ROADS SHALL BE REMOVED DAILY IF FEASIBLE, OR WHEN VISIBLY ACCUMULATED SEDIMENT HAS BEEN DEPOSITED. DISCHARGED SEDIMENT SHALL BE REMOVED AS SOON AS POSSIBLE.
12. USING WASH WATER TO WASH SEDIMENT FORM STREETS IS PROHIBITED.





4 DROP INLET PROTECTION
NOT TO SCALE



5 ROCK CHECK DAM
NOT TO SCALE

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NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF GEORGETOWN, TEXAS

CITY OF GEORGETOWN
JACKSON SHAW

CROSSPOINT FRONTAGE 12" WASTEWATER MAIN
EROSION CONTROL DETAILS

DATE: August, 2025
DRAFTER: CYS
DESIGNER: HAS
CHECKED: HAS
PROJECT NO.
R0040131.09

8/15/2025
STATE OF TEXAS
Hollis A. Scheffler
136049
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PROFESSIONAL ENGINEER

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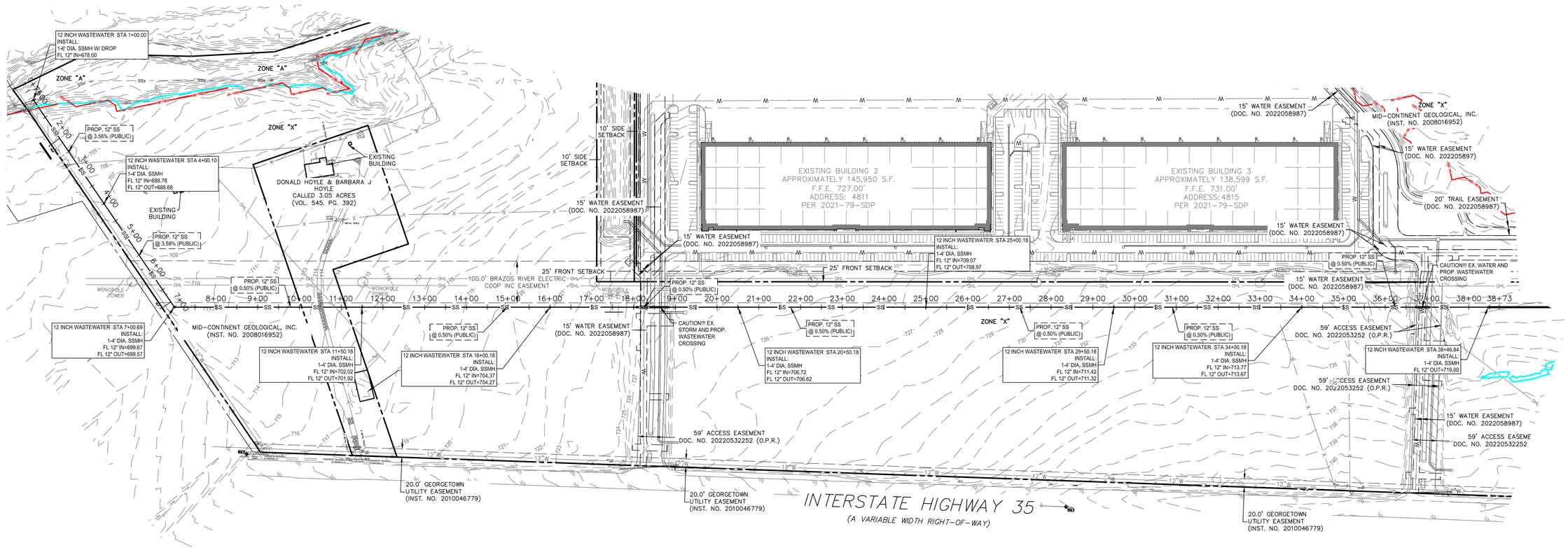

LEGEND

- PROPERTY LINE
- EASEMENT LINE
- EXISTING WATERLINE
- EXISTING SEWER LINE
- EXISTING STORM DRAIN LINE
- PROPOSED WATERLINE
- PROPOSED SEWER LINE
- 100 YR FLOODPLAIN GEORGETOWN
- 100 YR FLOODPLAIN FEMA
- TREE
- DEMO TREE

NOTES:

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2025-XX-CON

Westwood
Westwood Professional Services, Inc.
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TBPELS ENGINEERING FIRM NO. 11756
TBPELS SURVEYING FIRM NO. 10074301

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF GEORGETOWN, TEXAS

CITY OF GEORGETOWN

JACKSON SHAW

CROSSPOINT FRONTAGE 12" WASTEWATER MAIN

OVERALL WASTEWATER PLAN

DATE: August, 2025
DRAFTER: CYS
DESIGNER: HAS
CHECKED: HAS

PROJECT NO.
R0040131.09

8/15/2025

STATE OF TEXAS
Hollis A. Scheffler
136049
LICENSED
PROFESSIONAL ENGINEER

6
6 OF 12

2025-XX-CON

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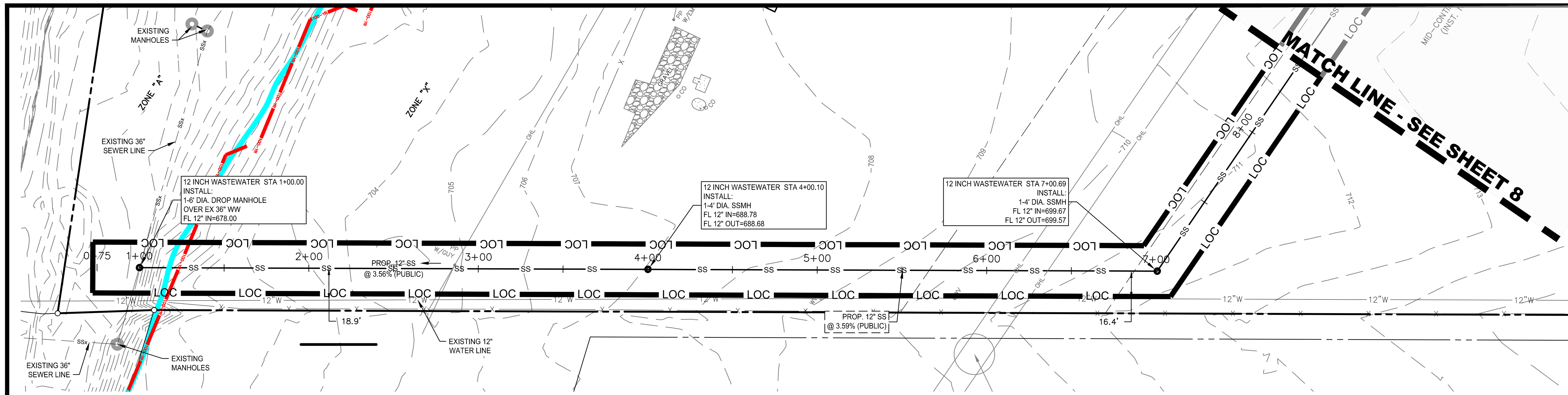

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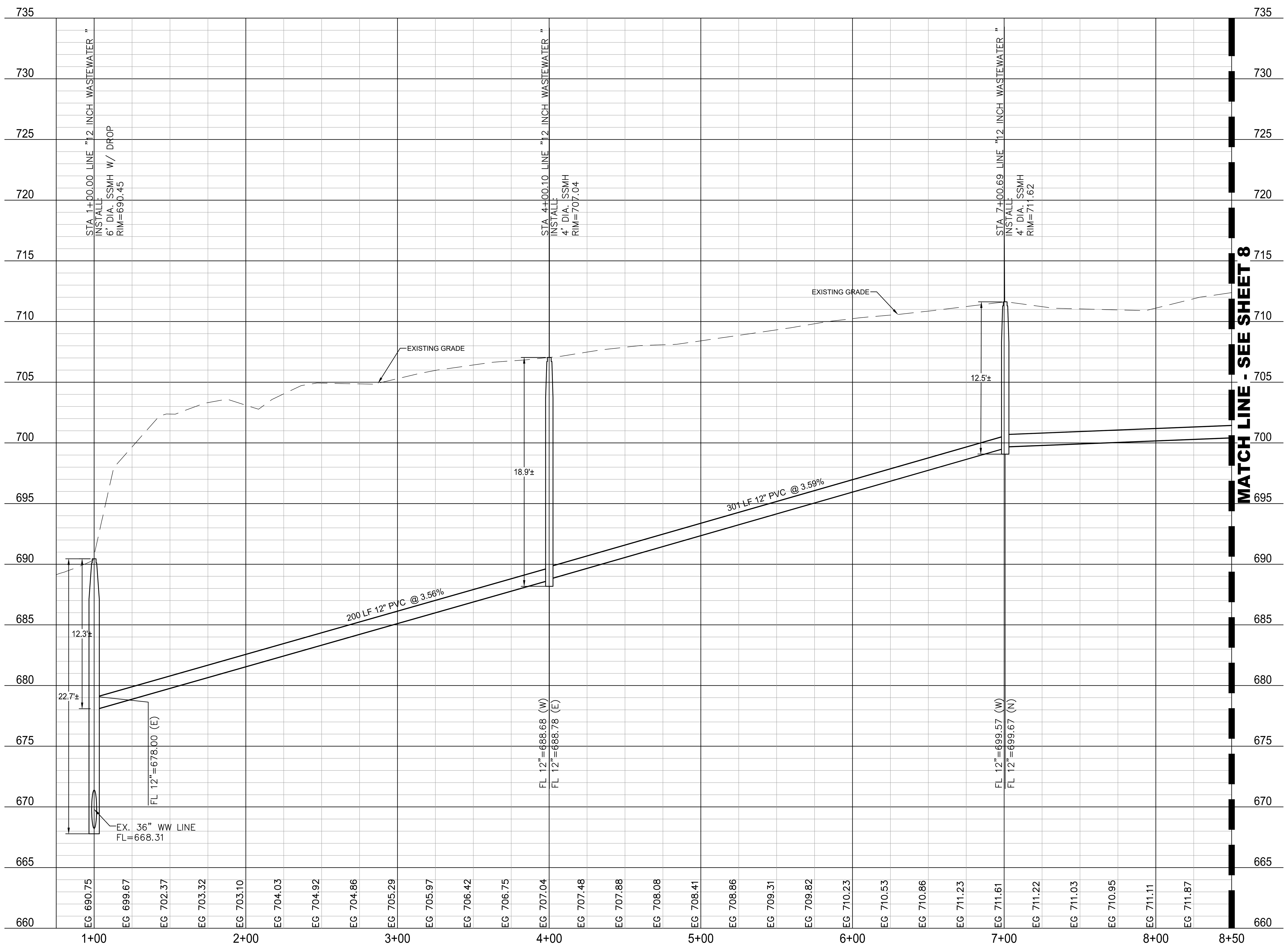
GRAPHIC SCALE IN FEET
1"=40'
0 5 10 15
VERTICAL SCALE IN FEET
1"=5'

12 INCH WASTEWATER



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- EXISTING STORM DRAIN LINE
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- TREE
- DEMO TREE

2025-XX-CON

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NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF GEORGETOWN — CITY OF GEORGETOWN, TEXAS

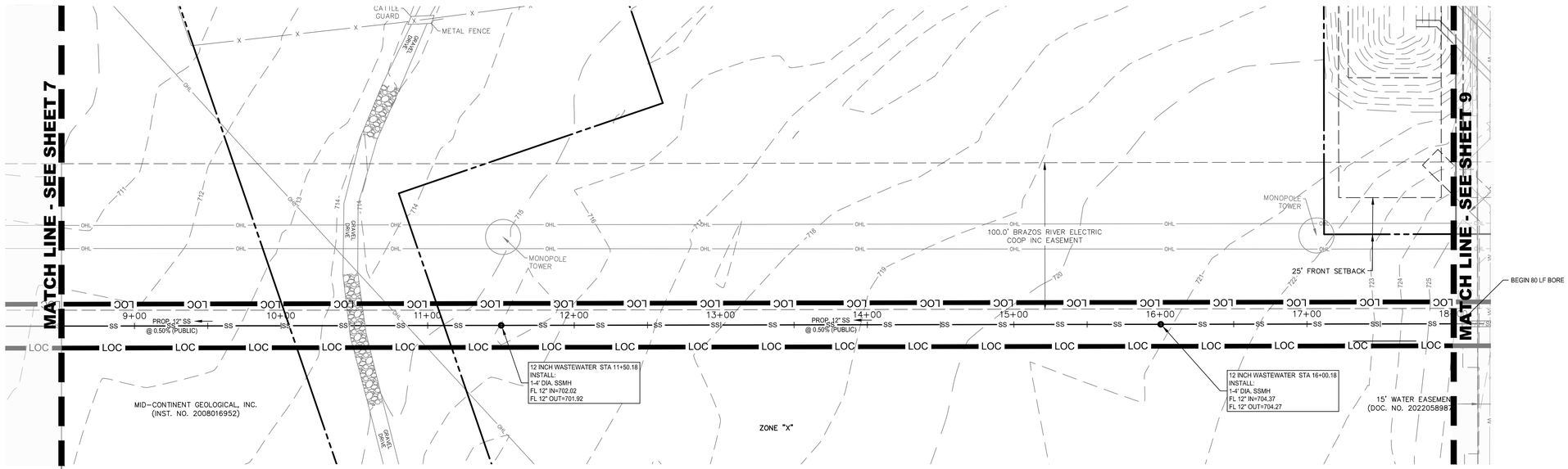
JACKSON SHAW

CROSSPOINT FRONTAGE 12" WASTEWATER MAIN

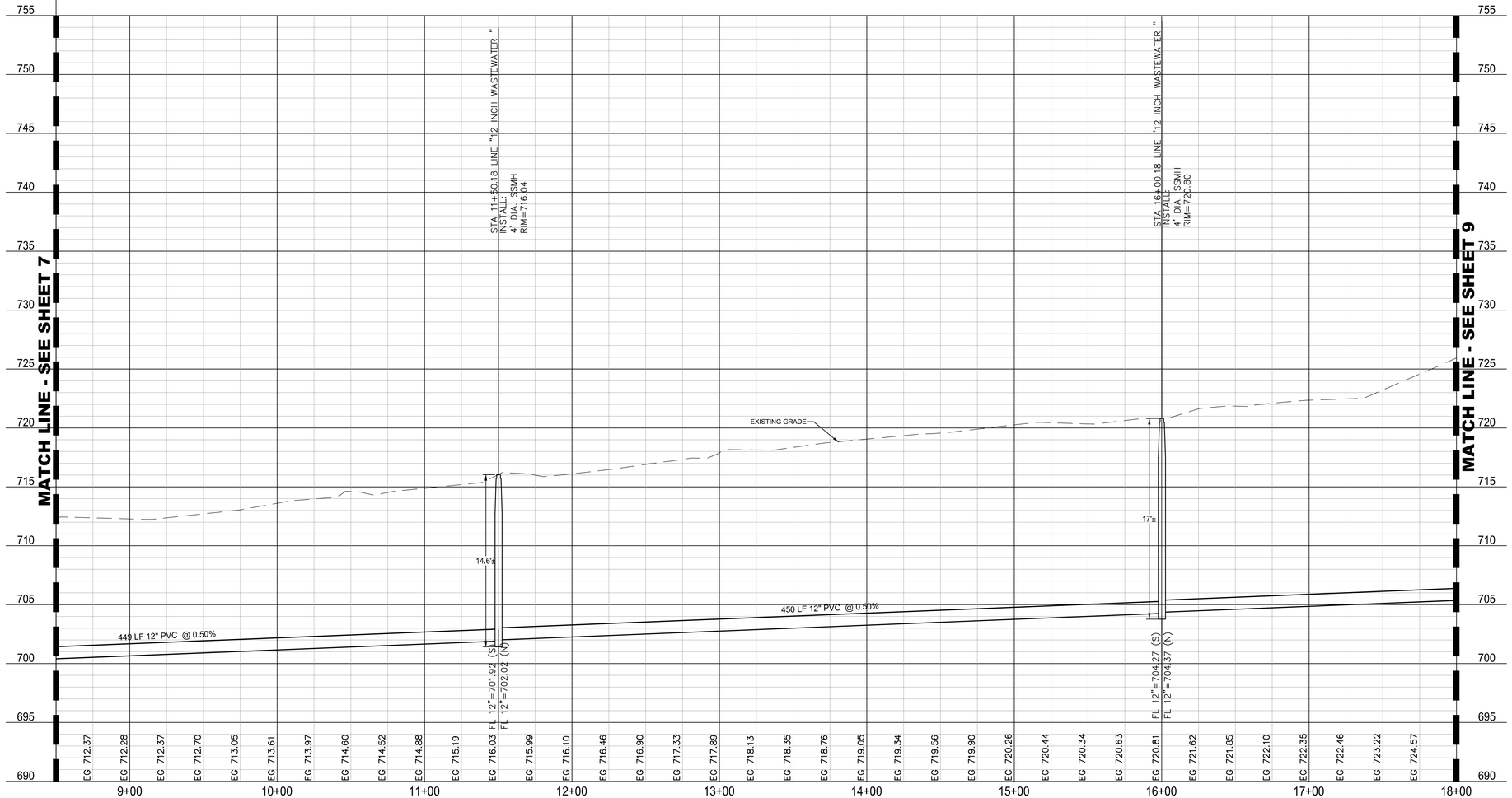
PLAN & PROFILE - LINE A STA. 1+00-08+50

DATE: August, 2025
DRAFTER: CYS
DESIGNER: HAS
CHECKED: HAS
PROJECT NO. R0040131.09

8/15/2025
STATE OF TEXAS
Hollis A. Scheffler
136049
LICENSED PROFESSIONAL ENGINEER



12 INCH WASTEWATER



LEGEND

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- EXISTING WATERLINE
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NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF GEORGETOWN, TEXAS

CITY OF GEORGETOWN

JACKSON SHAW

CROSSPOINT FRONTAGE 12" WASTEWATER MAIN

PLAN & PROFILE - LINE A STA. 08+50-18+00

DATE:	August, 2025
DRAFTER:	CYS
DESIGNER:	HAS
CHECKED:	HAS

PROJECT NO.
R0040131.09

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136048
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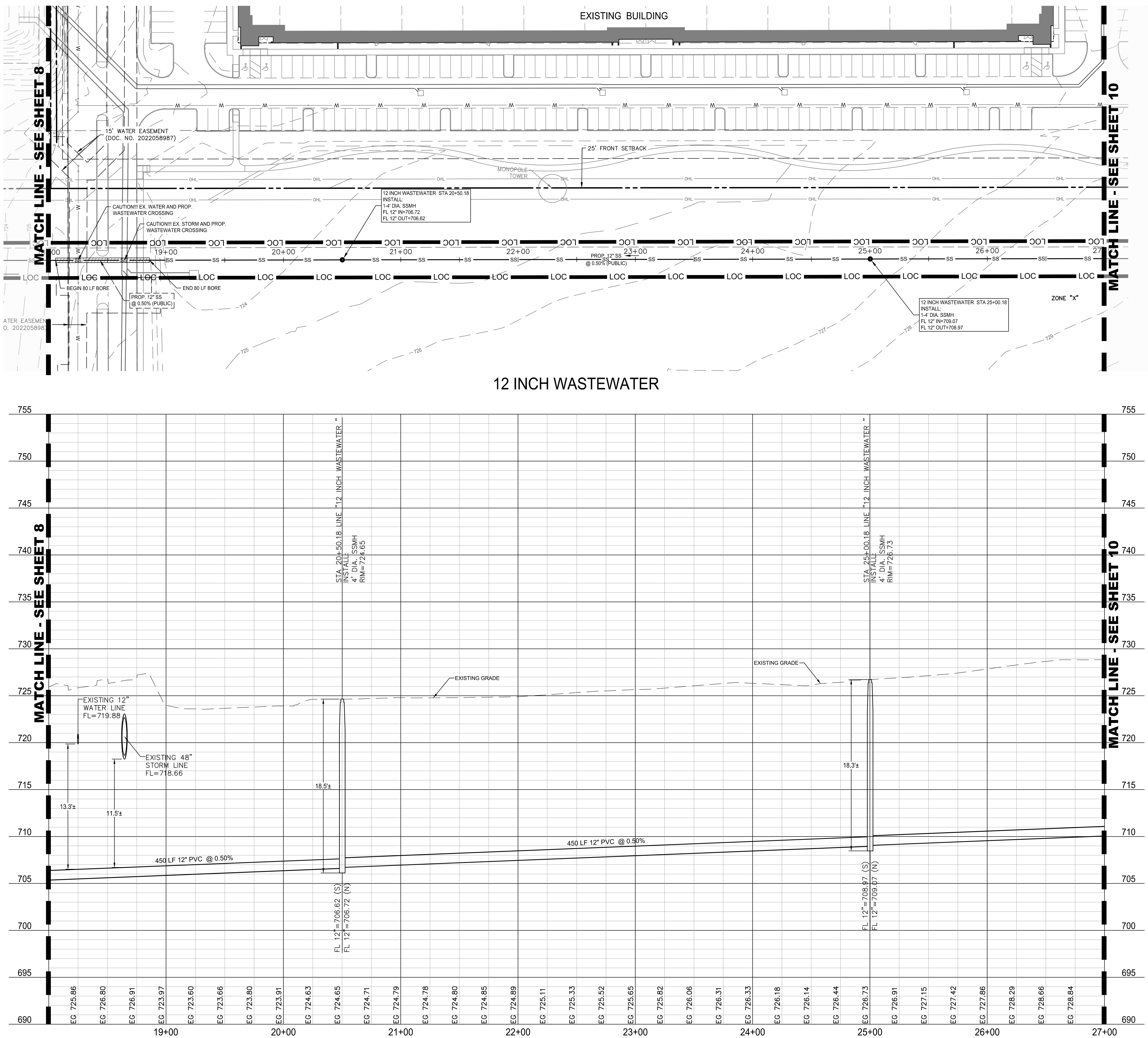

0 20 40 80 120
GRAPHIC SCALE IN FEET
1"=40'

0 5 10 15
VERTICAL SCALE IN FEET
1"=5'

LEGEND

- PROPERTY LINE
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NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF GEORGETOWN, TEXAS

JACKSON SHAW

CITY OF GEORGETOWN

CROSSPOINT FRONTAGE 12" WASTEWATER MAIN

PLAN & PROFILE - LINE A STA. 18+00-27+00

DATE: August, 2025
DRAFTER: CYS
DESIGNER: HAS
CHECKED: HAS

PROJECT NO. R0040131.09

8/15/2025
STATE OF TEXAS
Hollis A. Scheffler
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LICENSED PROFESSIONAL ENGINEER

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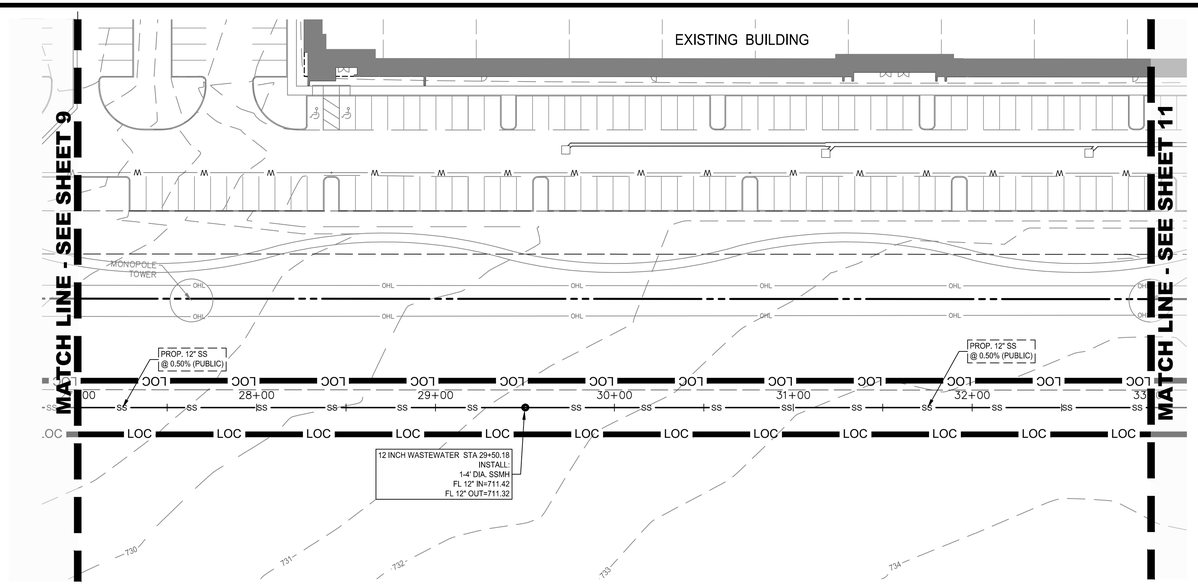
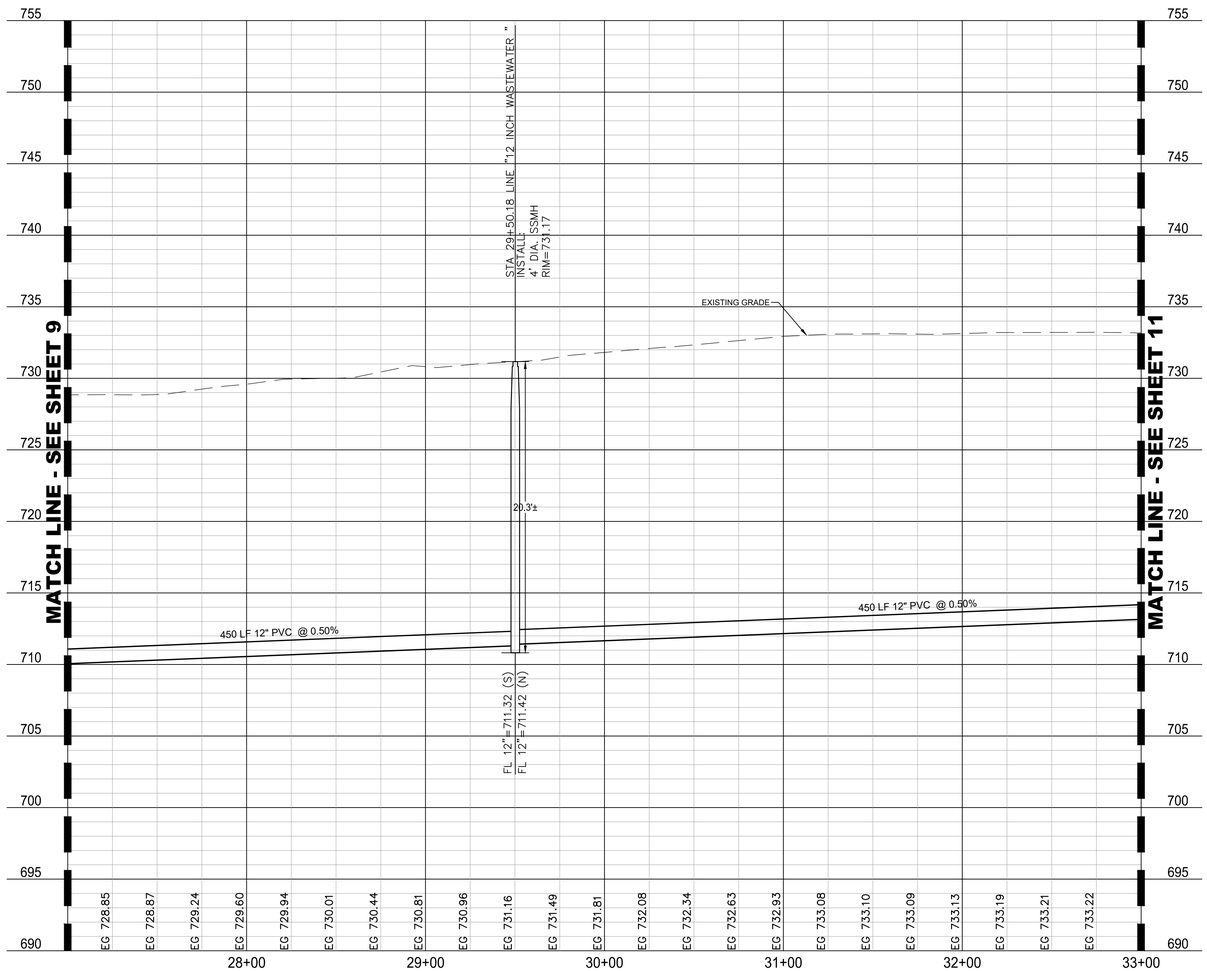


12 INCH WASTEWATER



0 20 40 80 120
GRAPHIC SCALE IN FEET
1"=40'

0 5 10 15
VERTICAL SCALE IN FEET
1"=5'

LEGEND

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NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF GEORGETOWN, TEXAS

CITY OF GEORGETOWN
JACKSON SHAW

CROSSPOINT FRONTAGE 12" WASTEWATER MAIN
PLAN & PROFILE - LINE A STA. 27+00-33+00

DATE: August, 2025
DRAFTER: CYS
DESIGNER: HAS
CHECKED: HAS
PROJECT NO.
R0040131.09

8/15/2025
STATE OF TEXAS
Hollis A Scheffler
136049
LICENSED
PROFESSIONAL ENGINEER

10
10 OF 12

2025-XX-CON

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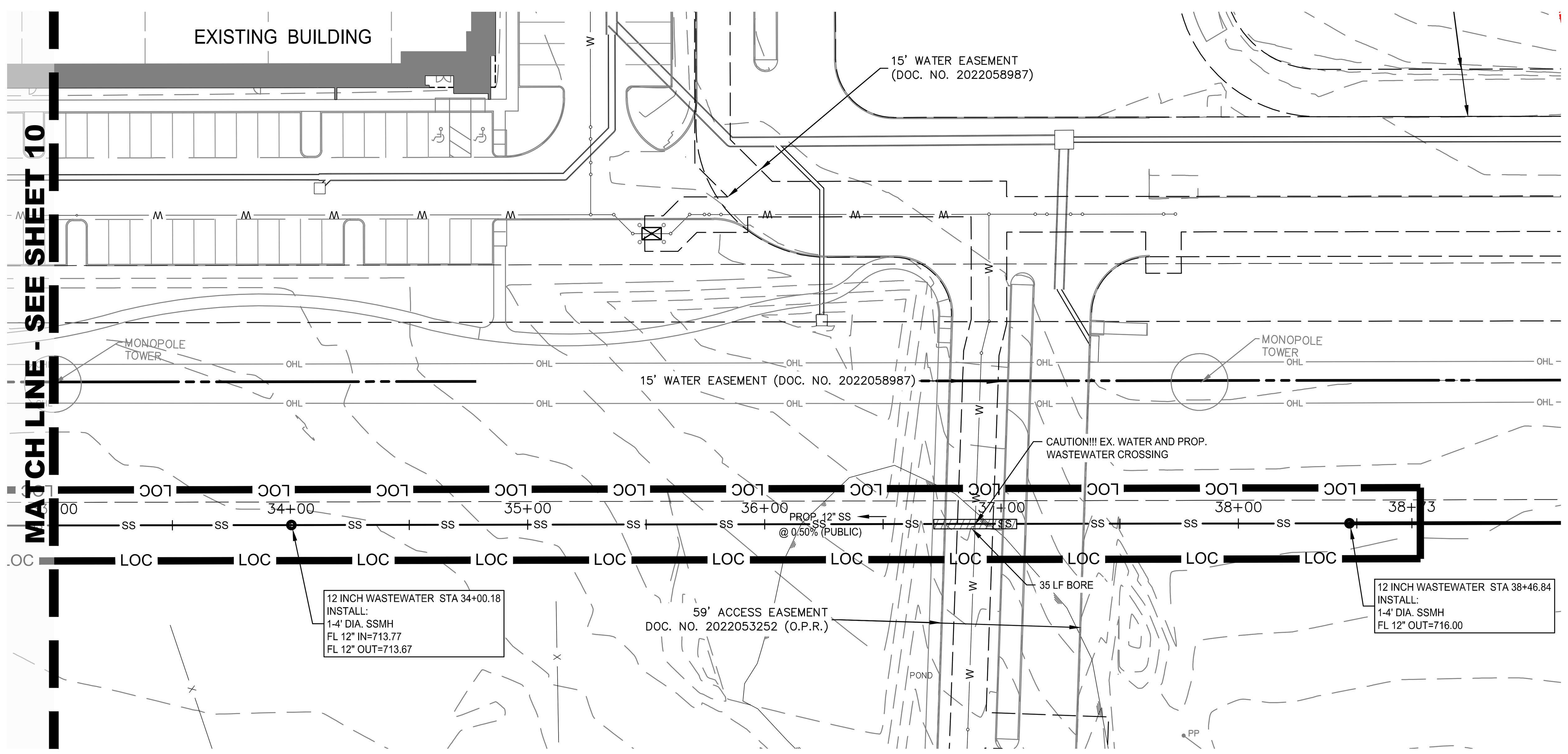
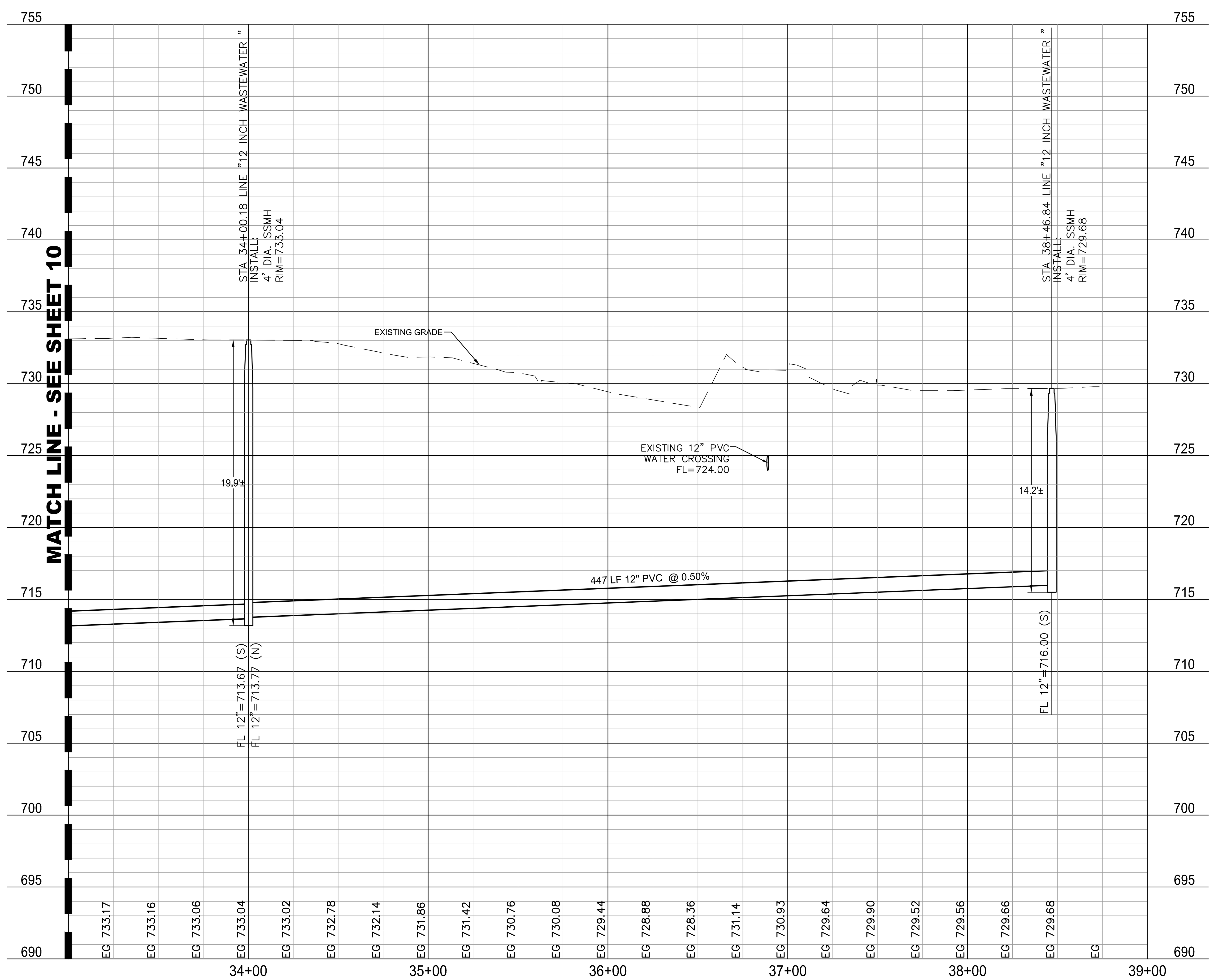


12 INCH WASTEWATER



GRAPHIC SCALE IN FEET 1"=40'

VERTICAL SCALE IN FEET 1"=5'

LEGEND

- PROPERTY LINE
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2025-XX-CON

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NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF GEORGETOWN, TEXAS

JACKSON SHAW

CITY OF GEORGETOWN

CROSSPOINT FRONTAGE 12" WASTEWATER MAIN

PLAN & PROFILE - LINE A STA. 33+00-END

DATE: August, 2025

DRAFTER: CYS

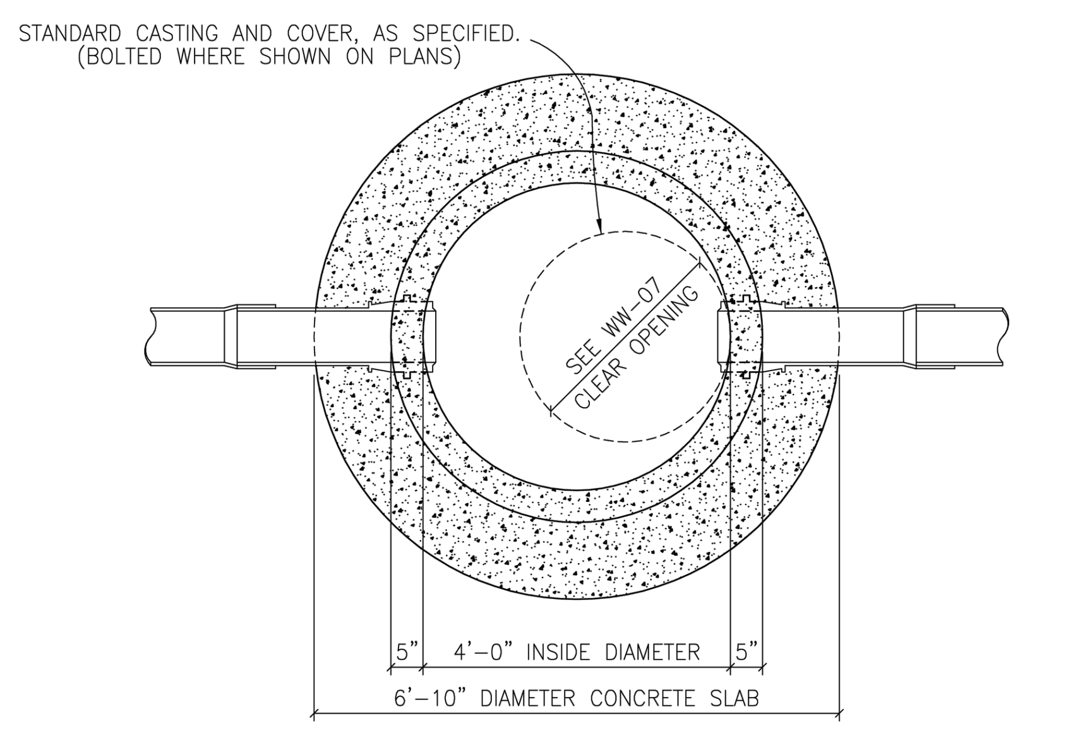
DESIGNER: HAS

CHECKED: HAS

PROJECT NO. R0040131.09

8/15/2025

STATE OF TEXAS
Hollis A. Scheffler
136049
LICENSED PROFESSIONAL ENGINEER



SEE DETAIL WW-03

MANHOLE PLAN

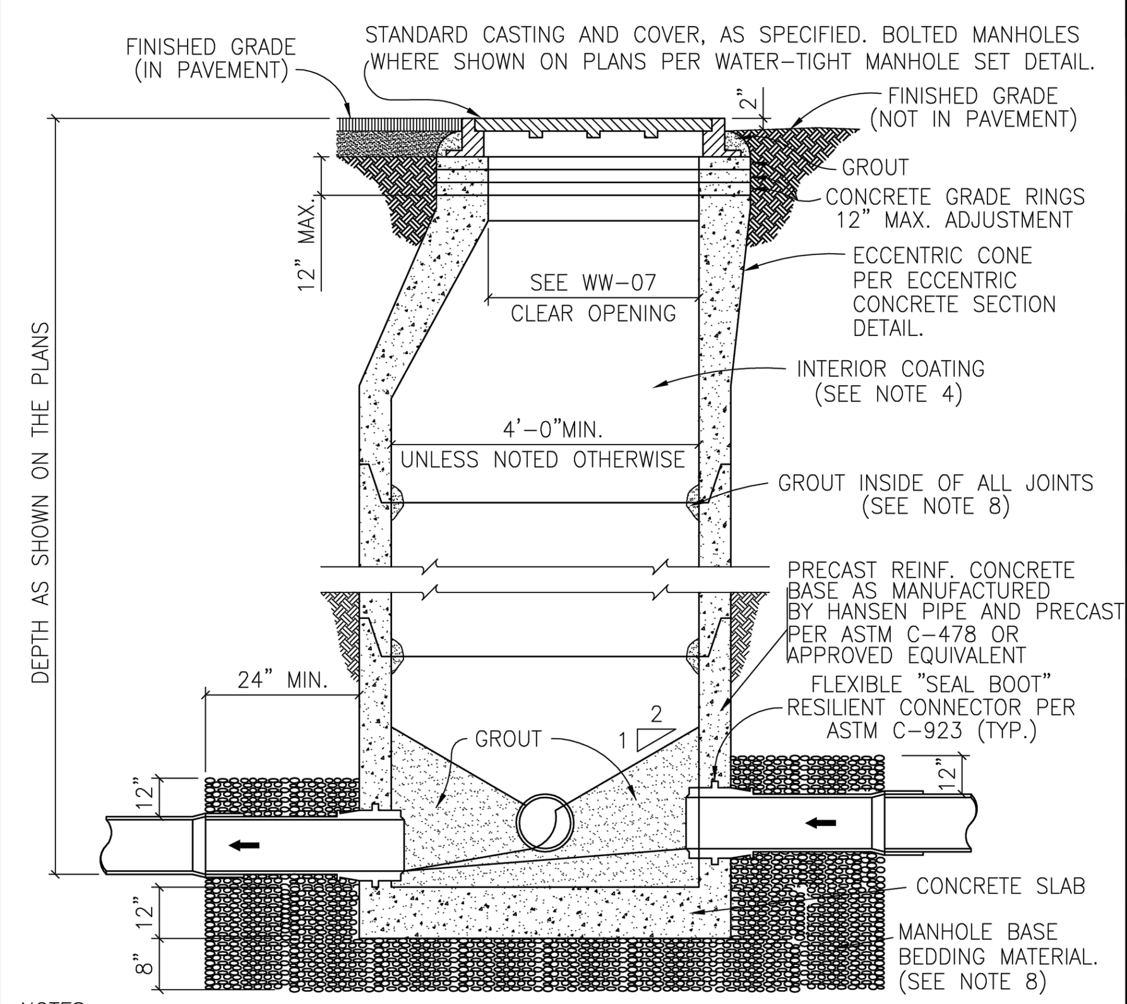
CITY OF GEORGETOWN NOTES:

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

A. 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.
B. ALL MANHOLES SHALL HAVE FRAME AND COVER, AS MANUFACTURED BY EAST JORDAN IRON WORKS (AS PER DETAIL # WW-07) OR APPROVED EQUIVALENT.
C. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON FRAME AND COVER.
D. ALL MANHOLES SHALL HAVE AN ECCENTRIC CONE.
E. 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.
F. INVERTS AND FLEXIBLE SEAL BOOTS, PER ASTM C-923, SHALL BE CAST INTO BASE SECTION.
G. MINIMUM DROP BETWEEN INVERTS SHALL BE ONE-TENTH OF A FOOT (0.1').
H. 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.

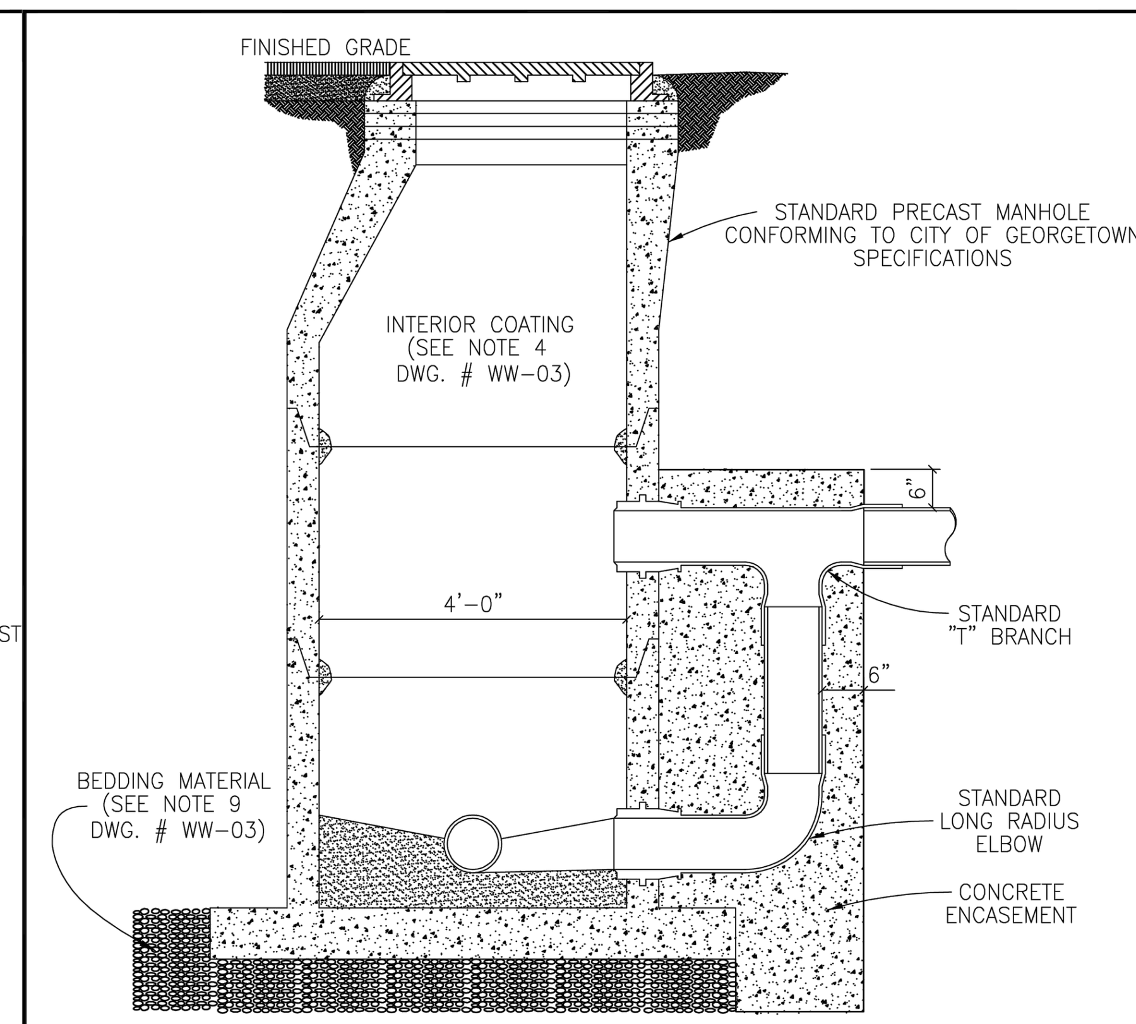
REVISION NOTE: ADOPTED 6/21/2006		
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME:	WW02
STANDARD MANHOLE – PLAN	SCALE: NTS	DATE: 1/2003
GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	DRAWN BY: MRS	APPROVED BY: TRB



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.

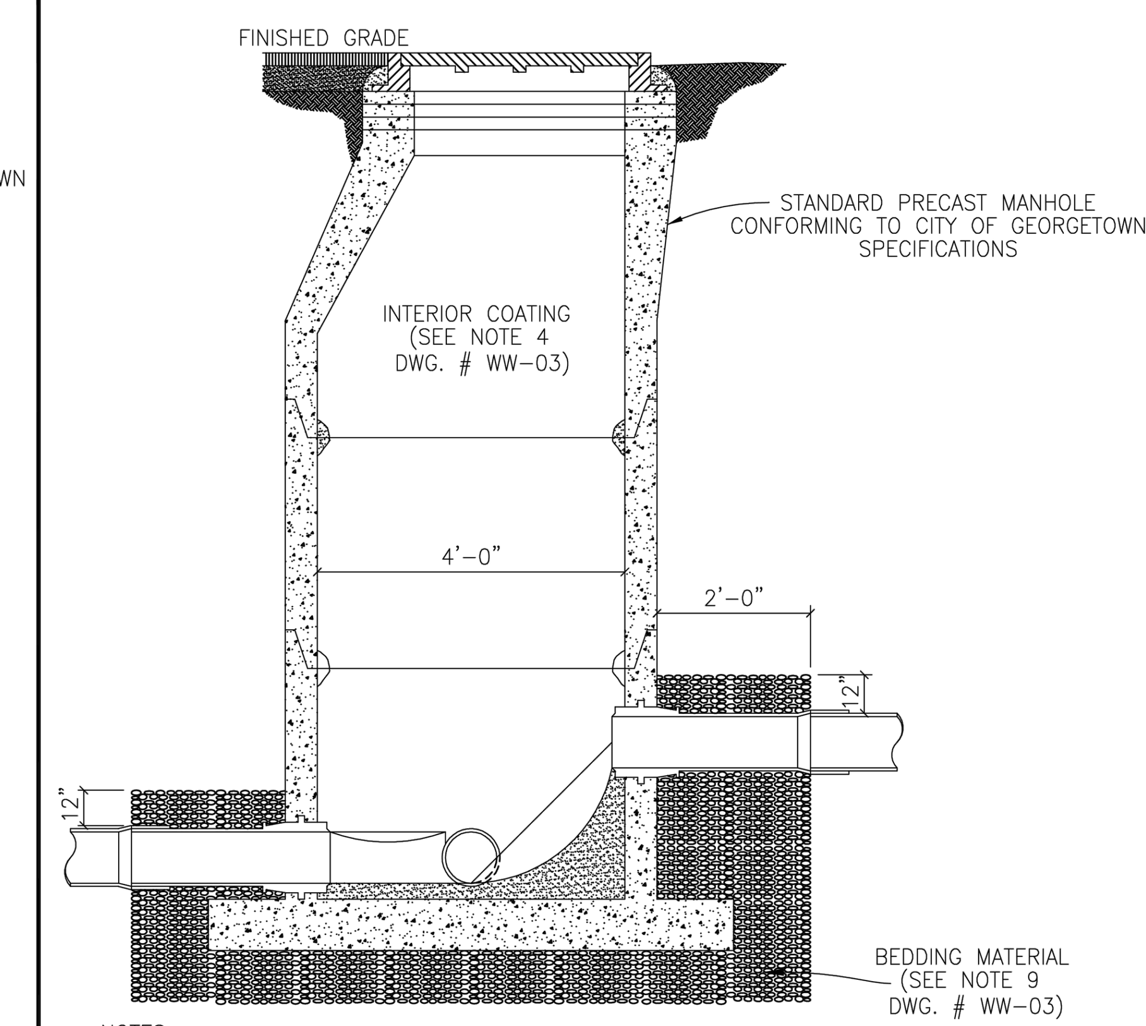
REVISION NOTE: ADOPTED 6/21/2006		
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME:	WW03
STANDARD MANHOLE – SECTION	SCALE: NTS	DATE: 1/2003
GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	DRAWN BY: MRS	APPROVED BY: TRB



NOTES:
1. CONCRETE ENCASEMENT FOR DROP CONNECTION TO BE POURED INTEGRALLY WITH BOTH MANHOLE SLAB AND WALL.
2. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT SEWER IS LOCATED TWO FEET (2') OR MORE ABOVE THE MAIN INVERT CHANNEL.
3. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM.
4. WHEN P.V.C. IS USED IN SANITARY SEWER LINES, SOLVENT TYPE JOINT P.V.C. FITTINGS MAY BE UTILIZED IN THE DROP ASSEMBLY ONLY.
5. MINIMUM PIPE SIZE FOR DROP IS EIGHT INCHES (8").
6. SEE STANDARD MANHOLE DETAIL (DWG. # WW-03) FOR ADDITIONAL REQUIREMENTS.

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

REVISION NOTE: ADOPTED 6/21/2006		
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME:	WW04
DROP CONNECTION–PRECAST MANHOLE TYPE "A"	SCALE: NTS	DATE: 1/2003
GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	DRAWN BY: MRS	APPROVED BY: TRB



NOTES:
1. TO BE USED WHERE DROP IS SIX INCHES (6") TO TWO FEET (2'-0").
2. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM.
3. CONSTRUCTION OF DROP SHALL PROVIDE AN OVERSIZED SLAB TO EXTEND UNDER THE DROP CONNECTION.
4. MINIMUM PIPE SIZE FOR DROP IS EIGHT INCHES (8").
5. SEE STANDARD MANHOLE DETAIL (DWG. # WW-03) FOR ADDITIONAL REQUIREMENTS.

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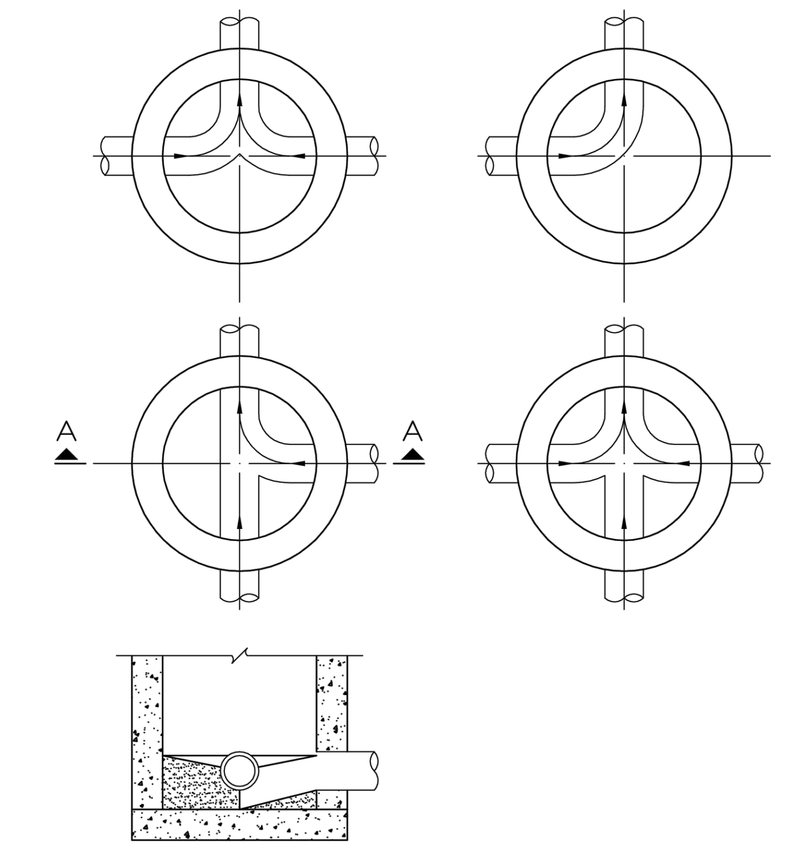
REVISION NOTE: ADOPTED 6/21/2006		
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME:	WW05
DROP CONNECTION–PRECAST MANHOLE TYPE "B"	SCALE: NTS	DATE: 1/2003
GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	DRAWN BY: MRS	APPROVED BY: TRB

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	DRAWING NAME:	WW06
FLOW PATTERNS FOR INVERT CHANNELS	SCALE: NTS	DATE: 1/2003
GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	DRAWN BY: MRS	APPROVED BY: TRB

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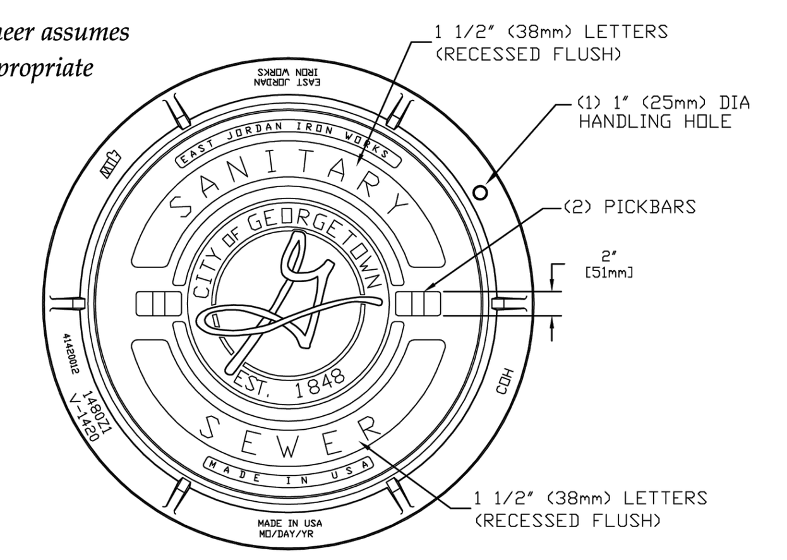
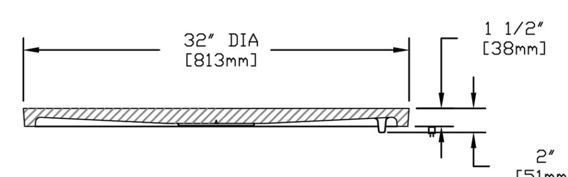
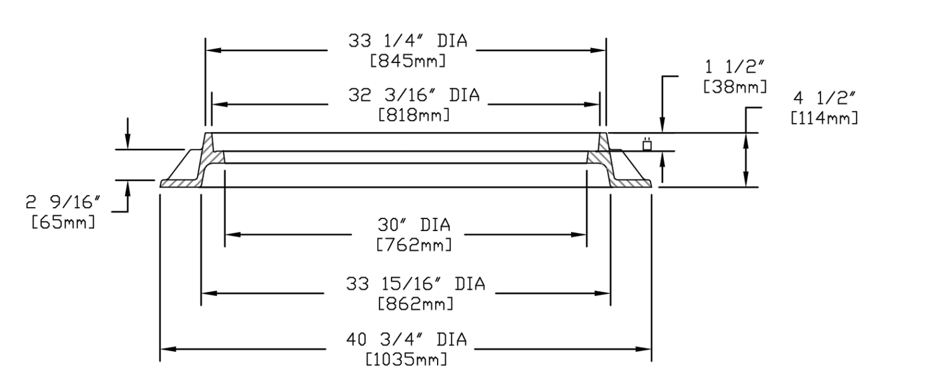




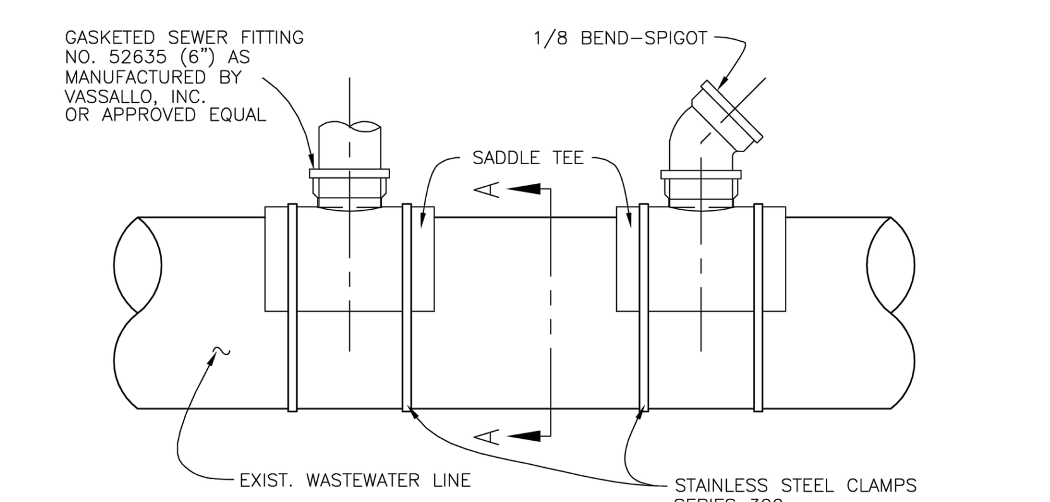
COVER SECTION



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.

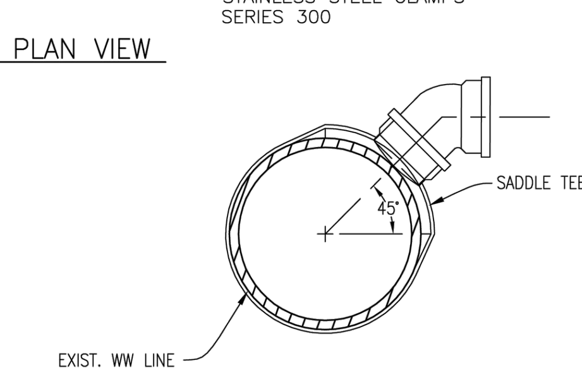
REVISION NOTE: ADOPTED 6/21/2006		
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME:	WW07
STANDARD WASTEWATER MANHOLE SET	SCALE: NTS	DATE: 1/2003
GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	DRAWN BY: MRS	APPROVED BY: TRB



PLAN VIEW

SADDLE TEE				
PART NO.	SIZE	L1	H	P
52635	8"X6"	5.625	5.659	1.448

PLASTIC TRENDS INC. – 1/8 BEND – SPIGOT					
PART NO.	SIZE	A	B	C	D
G 406	6	11.270	6.146	1.870	6.090

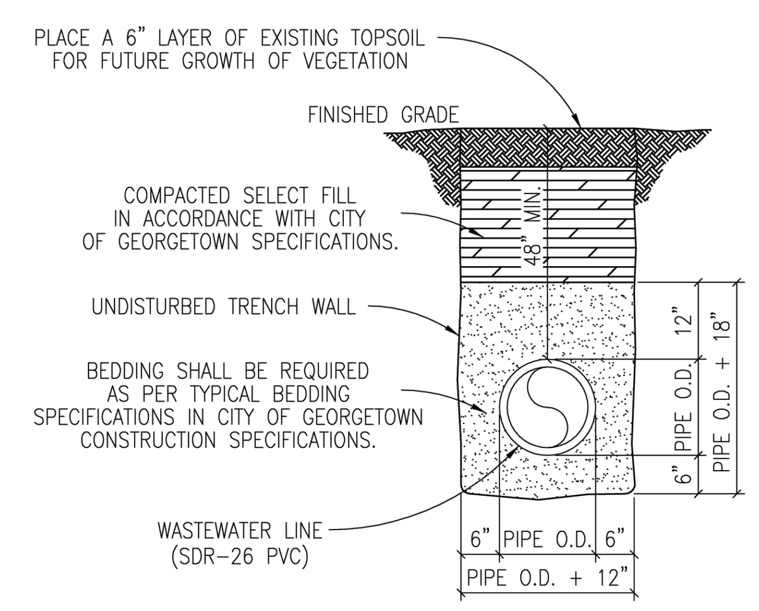


SECTION A–A

NOTES:
1. FLEXIBLE SADDLE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
2. SADDLE TEE SHALL BE ORIENTATED 45° TO MAIN. (SEE SEWER SERVICE CONNECTIONS DETAIL – DWG # WW-13)
3. EXCAVATE AROUND EXISTING 8-INCH PIPE, EXPOSING SUFFICIENT ROOM FOR S.S. CLAMPS.
4. THOROUGHLY CLEAN AND DRY THE MATING SURFACE WITH RAG OR PAPER TOWEL MAKE SURE THEY ARE FREE OF DUST AND MOISTURE.
5. MARK THE SIZE OF THE HOLE TO BE CUT USING THE GASKET SKIRT OR THE SADDLE ITSELF AS THE TEMPLATE.
6. SAW OUT THE SECTION OF THE PIPE WHERE THE SADDLE WILL BE LOCATED, WITH A SABER OR KEY HOLE SAW.
7. TEST TO MAKE SURE SADDLE FITS HOLE PROPERLY.
8. SERVICE PIPE SHALL NOT EXTEND MORE THAN ONE-HALF INCH INTO THE MAIN.
9. PLACE GASKET SKIRT AND SADDLE OVER OPENING AND TIGHTEN BAND CLAMPS EVENLY UNTIL SADDLE IS FIRMLY ATTACHED TO THE PIPE. APPLY PRESSURE ON THE SADDLE AGAINST THE PIPE WHILE TIGHTENING THE CLAMPS AS INDICATED ABOVE. DO NOT OVER TIGHTEN, DO NOT STRIP THREAD.
10. REPLACE THE BEDDING AND BACKFILL IN ACCORDANCE WITH THE TRENCH EMBEDMENT DETAIL.

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

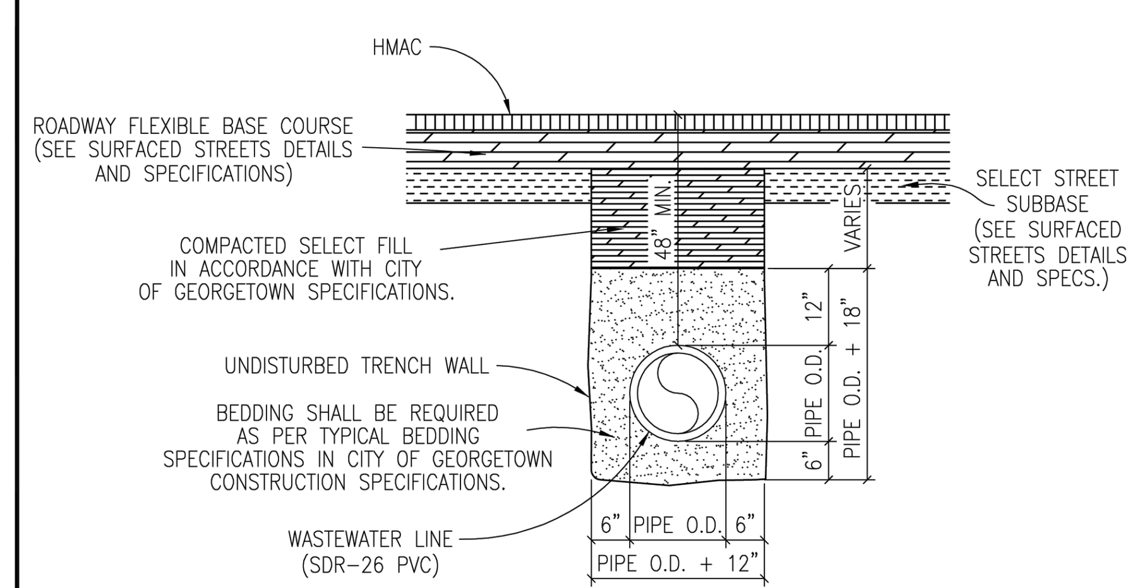
REVISION NOTE: ADOPTED 6/21/2006		
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME:	WW13A
GASKETED SEWER FITTING FOR SEWER SERVICE CONNECTIONS TO EXISTING MAINS	SCALE: NTS	DATE: 1/2003
GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	DRAWN BY: MRS	APPROVED BY: TRB



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	DRAWING NAME:	WW16
TRENCH AND EMBEDMENT DETAIL UNDER NON-PAVED AREAS	SCALE: NTS	DATE: 1/2003
GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	DRAWN BY: MRS	APPROVED BY: TRB

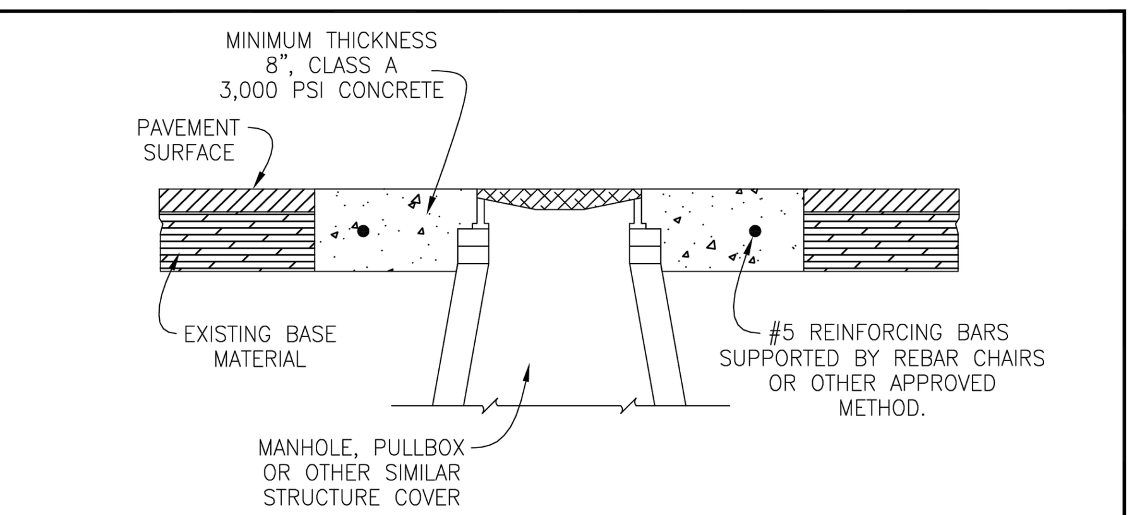


TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

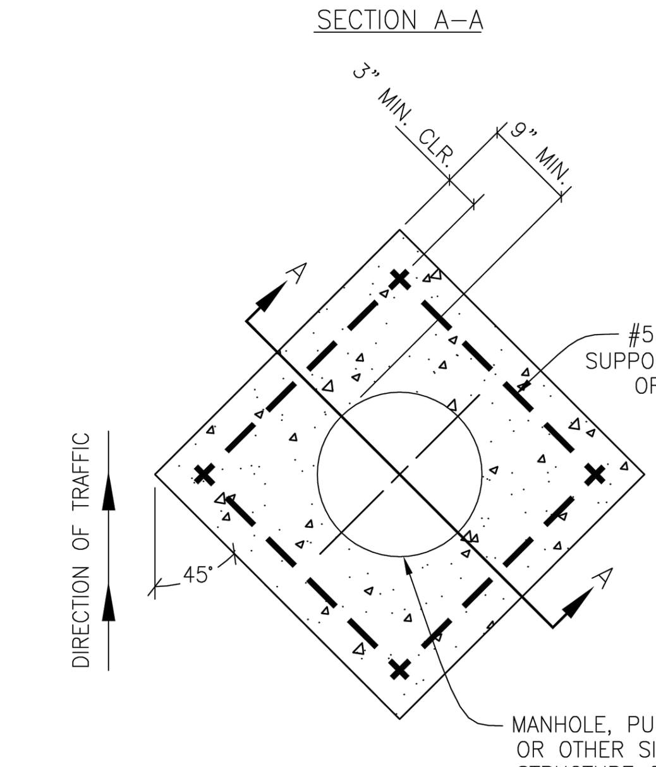
NOTES:
1. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
2. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

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

REVISION NOTE: ADOPTED 6/21/2006		
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME:	WW18
TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY	SCALE: NTS	DATE: 1/2003
GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	DRAWN BY: MRS	APPROVED BY: TRB



SECTION A–A



PLAN OF STRUCTURE IN ROADWAY

NOTE:
INSTALLATION OF THE CONCRETE CASTING IS REQUIRED FOR AND APPLIES TO ALL TYPES OF MANHOLES TO BE LOCATED IN THE ROADWAY.

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

REVISION NOTE: APPROVED 6/21/2006		
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING NAME:	WW21
CONCRETE CASTING MANHOLE DETAIL	SCALE: NTS	DATE: 1/2006
GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	DRAWN BY: MRS	APPROVED BY: TRB

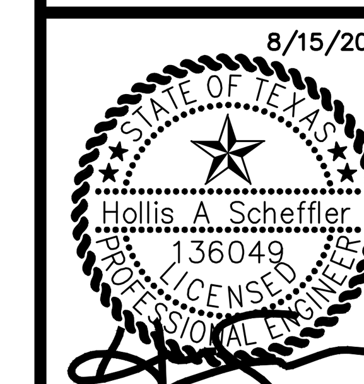
2025-XX-CON

Westwood
Westwood Professional Services, Inc.
8701 NORTH MOPAC EXPY, SUITE 320
AUSTIN, TX 78759
T: 512.485.0831
F: 888.937.5150
westwoodps.com
TBPELS ENGINEERING FIRM NO. 11756
TBPELS SURVEYING FIRM NO. 10074301

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

CITY OF GEORGETOWN, TEXAS
JACKSON SHAW
CROSSPOINT FRONTAGE 12" WASTEWATER MAIN
WASTEWATER DETAILS
CITY OF GEORGETOWN

DATE: August, 2025
DRAFTER: CYS
DESIGNER: HAS
CHECKED: HAS
PROJECT NO. R0040131.09



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.

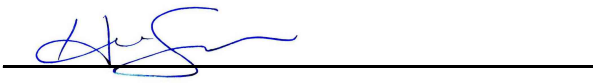
Signature

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: Hollis Scheffler, P.E.

Date: 7/23/2025

Signature of Customer/Agent:



Regulated Entity Name: CrossPoint - Frontage

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: Berry Creek

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.

Attachment A – Spill Response Actions

In accordance with Edwards Aquifer Technical Guidance on Best Management Practices Section 1.4.16, the following actions will be followed to ensure appropriate measures are taken in the event of a spill:

Education

- Be aware that different materials pollute in different amounts. Make sure that each employee knows what a "significant spill" is for each material they use, and what is the appropriate response for "significant" and "insignificant" spills. Employees should also be aware of when spill must be reported to the TCEQ. Information available in 30 TAC 327.4 and 40 CFR 302.4.
- Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.
- Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
- Establish a continuing education program to indoctrinate new employees.
- Have contractor's superintendent or representative oversee and enforce proper spill prevention and control measures.

General Measures

- To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
- Store hazardous materials and wastes in covered containers and protect from vandalism.
- Place a stockpile of spill cleanup materials where it will be readily accessible.
- Train employees in spill prevention and cleanup.
- Designate responsible individuals to oversee and enforce control measures.
- Spills should be covered and protected from stormwater runon during rainfall to the extent that it doesn't compromise clean up activities.
- Do not bury or wash spills with water.
- Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.
- Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.
- Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.
- Place Material Safety Data Sheets (MSDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.
- Keep waste storage areas clean, well organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

- Clean up leaks and spills immediately
- Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be disposed of as hazardous waste.
- Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMPs in this section for specific information.

Minor Spills

- Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.
- Use absorbent materials on small spills rather than hosing down or burying the spill.
- Absorbent materials should be promptly removed and disposed of properly.
- Follow the practice below for a minor spill:
    - Contain the spread of the spill.
    - Recover spilled materials.
    - Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

- Contain spread of the spill.
- Notify the project foreman immediately.
- 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.
- If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
- If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

Significant/Hazardous Spills

- 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.
- For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
- Notification should first be made by telephone and followed up with a written report.
- 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.
- Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

Attachment B – Potential Sources of Contamination

Activities or processes which may be a potential source of contamination affecting surface water quality include:

- Clearing and grubbing
- Grading and site excavation
- Vehicle tracking
- Topsoil stripping and stockpiling
- Landscaping work
- Staging and storage spoils
- Paving of roadways and curb & gutter
- Construction activities
- Concrete washout runoff
- Sanitary waste (from portable toilets and sanitation facilities)

Attachment C – Sequence of Major Activities

The sequence of major activities which will disturb soils for major portions of the site is as follows:

1. Temporary erosion controls, silt fencing and tree protection fencing to be installed.
Estimated area disturbed = 2.62 ac
Estimated timing = 1 week

2. Pre-construction meeting to be held on-site.
Estimated area disturbed = n/a ac
Estimated timing = 1 day

3. Demolition of existing materials.
Estimated area disturbed = 2.62 ac
Estimated timing = 6 weeks

4. Site staking and rough grading.
Estimated area disturbed = 2.62 ac
Estimated timing = 6 weeks

5. Sanitary sewer line to be installed.
Estimated area disturbed = 2.225 ac
Estimated timing = 8 weeks

6. Temporary erosion control measures to be inspected on a regular basis; any sediment buildup to be removed.
Estimated area disturbed = n/a
Estimated timing = 1 week

7. Site to be cleaned up and revegetated.
Estimated area disturbed = 2.225 ac
Estimated timing = 6 weeks

8. Temporary erosion controls to be removed after permanent restoration of site is established.
Estimated area disturbed = n/a
Estimated timing = 1 week

Attachment D – Temporary Best Management Practices and Measures

The following best management practices will be conducted to prevent pollution of surface water, groundwater, and stormwater in accordance with Edwards Aquifer Technical Guidance on Best Management Practices:

Temporary Vegetation (Section 1.3.8)

Vegetation is used as a temporary or permanent stabilization technique for areas disturbed by construction, but not covered by pavement, buildings, or other structures. As a temporary control, vegetation can be used to stabilize stockpiles and barren areas that are inactive for long periods of time.

Dust Control (Section 1.3.12)

The purpose of dust control is to prevent blowing and movement of dust from exposed soil surfaces, reduce on and off-site damage, health hazards and improve traffic safety. This practice is applicable to areas subject to dust blowing and movement where on and off-site damage is likely without treatment.

Temporary Construction Entrance/Exit (Section 1.4.2)

The purpose of a temporary gravel construction entrance is to provide a stable entrance/exit condition from the construction site and keep mud and sediment off public roads. A stabilized construction entrance is a stabilized pad of crushed stone located at any point traffic will be entering or leaving the construction site from a public right-ofway, street, alley, sidewalk or parking area. The purpose of a stabilized construction entrance is to reduce or eliminate the tracking or flowing of sediment onto public rightsof-way. This practice should be used at all points of construction ingress and egress.

Silt Fence (Section 1.4.3)

A silt fence is a barrier consisting of geotextile fabric supported by metal posts to prevent soil and sediment loss from a site. When properly used, silt fences can be highly effective at controlling sediment from disturbed areas. They cause runoff to pond, allowing heavier solids to settle out.

Inlet Protection (Section 1.4.11)

Temporary inlet protection is a series of different measures that provide protection against silt transport or accumulation in storm sewer systems. This clogging can greatly reduce or completely stop the flow in the pipes. The different measures are used for different site conditions and inlet types. The following inlet protection devices are for drainage areas of one acre or less. Runoff from larger disturbed areas should be routed to a temporary sediment trap or basin. Filter barrier protection using silt fence is appropriate when the drainage area is less than one acre and the basin slope is less than five percent. This type of protection is not applicable in paved areas. Block and gravel protection is used when flows exceed 0.5 cubic feet per second and it is necessary to allow for overtopping to prevent flooding. This form of protection is also useful for curb type inlets as it works well in paved areas. 1-90 Wire mesh and

gravel protection is used when flows exceed 0.5 cubic feet per second and construction traffic may occur over the inlet. This form of protection may be used with both curb and drop inlets.

Concrete Washout Areas (Section 1.4.18)

The purpose of concrete washout areas is to prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout offsite, performing onsite washout in a designated area, and training employees and subcontractors.

The following steps will help reduce stormwater pollution from concrete wastes:

- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
- Avoid mixing excess amounts of fresh concrete.
- Perform washout of concrete trucks in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped onsite, except in designated areas.

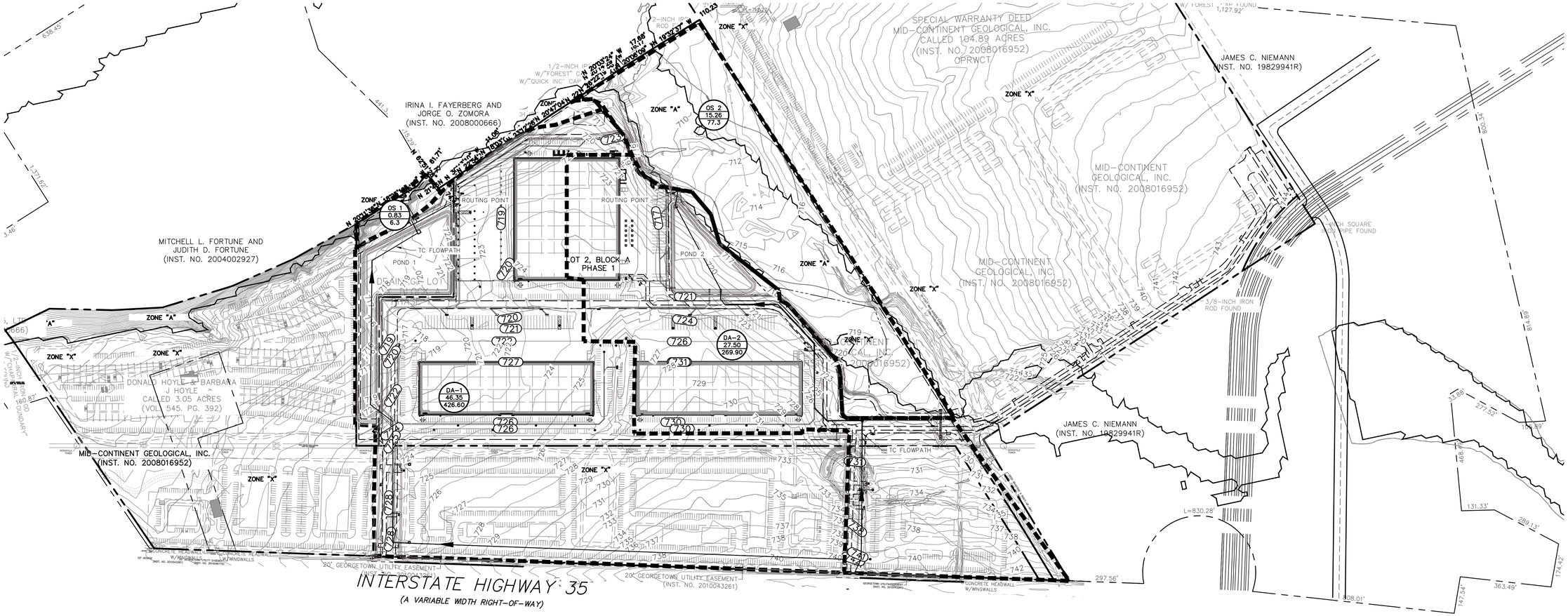
For onsite washout:

- Locate washout area at least 50 feet from sensitive features, storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.

Attachment F – Structural Practices

Stormwater will be routed through the proposed silt fence and inlet protection for pollutant removal. The proposed permanent BMPs are to be constructed to intercept stormwater flowing from the roadway and other impervious areas. The silt fence will provide temporary sedimentation control during construction prior to the permanent BMPs being finalized. Placement of structural practices in floodplains will be avoided.

Attachment G – Drainage Area Map



HEC-HMS SUMMARY: DEVELOPED CONDITONS													
						2 YEAR STORM		10 YEAR STORM		25 YEAR STORM		100 YEAR STORM	
Drainage Area Basin Designation	Drainage Area (ac)	Base Curve Number CN	Lag Time (min)	Impervious Cover %	Cumulative Drainage Area (ac)	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)
DA 1	46.35	80	4.69	61.00%		235.90		284.50		345.20		426.60	
POND 1					46.35		56.50		74.60		133.40		187.60
DA 2	27.50	80	3.51	64.00%		160.90		182.20		218.70		269.90	
POND 2					27.50		43.80		57.30		76.90		124.80
OS 1	0.83	80	5.61	0.00%		2.00		3.60		4.70		6.30	
OS 2	15.26	80	18.60	0.00%		20.80		42.70		56.60		77.30	

TIME OF CONCENTRATION CALCULATIONS																					
		Overland Flow						Shallow Concentrated Flow						Channel Flow							
Basin ID	Flowpath Length (ft)	Length	Slope	Surface Cover	Velocity	*Manning's n	T_0	Length	Slope	Surface Type	Velocity	*K	T_s	Length	Slope	Type	*K	Velocity	T_h	T_C	T_C (design)	Lag Time
	(ft) (1)	(ft) (2)	(ft/ft) (3)	(4)	(ft/s) (5)	(6)	(min) (7)	(ft) (8)	(ft/ft) (9)	(10)	(ft/s) (11)	(12)	(min) (13)	(ft) (14)	(ft/ft) (15)	(16)	(ft) (17)	(ft/s) (18)	(min) (19)	(min) (20)	(min) (21)	(min) (22)
EX 1	1051	150	0.010	SHORT GRASS PRAIRIE	0.160	0.15	15.61	901	0.015	UNPAVED	1.97	16.1	7.62							23.22	23.22	13.93
EX 2	742	150	0.010	SHORT GRASS PRAIRIE	0.160	0.15	15.61	592	0.010	UNPAVED	1.61	16.1	6.13							21.74	21.74	13.04
OS 1	79	79	0.010	SHORT GRASS PRAIRIE	0.141	0.15	9.35	0	0.010	UNPAVED	0.00	16.1	0.00							9.35	9.35	5.61
OS 2	1598	150	0.010	SHORT GRASS PRAIRIE	0.160	0.15	15.61	1448	0.010	UNPAVED	1.61	16.1	14.99							30.60	30.60	18.36

0 100 200 400 600
GRAPHIC SCALE IN FEET
1"=200'

LEGEND

- BOLLARD
- ELECTRIC METER
- POWER POLE
- LIGHT STANDARD
- WATER METER
- WATER VALVE
- IRRIGATION CONTROL VALVE
- FIRE HYDRANT
- CLEANOUT
- MANHOLE
- TRAFFIC SIGNAL CONTROL
- TRAFFIC SIGNAL POLE
- TELEPHONE BOX
- FLOOD LIGHT
- FLAG POLE
- TRAFFIC SIGN
- PROPERTY LINE
- FENCE
- 613 EXISTING CONTOUR
- 450 PROPOSED CONTOUR
- DRAINAGE FLOW DIRECTION
- TC FLOW PATH
- TC FLOW PATH ARROW
- FEMA FLOOD PLAIN
- 100 YEAR FLOOD PLAIN
- DRAINAGE DIVIDE
- U 8 / 1.00 / 7.99 — PROPOSED DRAINAGE AREA ID, AREA IN ACRES, Q_{100} IN CUBIC FEET PER SECOND

2021-79-SDP

Pacheco Koch
8701 N. MOPAC EXPY, SUITE 320
AUSTIN, TX 78759
T: 512.485.0831
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008000

REVISIONS

NO.	DATE	DESCRIPTION	BY

JACKSON SHAW - PHASE 1
4811, 4813, & 4815 N IH-35
GEORGETOWN, TEXAS, 78633

PROPOSED DRAINAGE AREA MAP

LOUIS ANN SCHEFFLER 136049 LICENSED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY SUPERVISON OF KELLIS ANN SCHEFFLER, P.E. 136049 ON 8/15/2025. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

DESIGN	DRAWN	DATE
HAS	NBB	MAR 2022

SHEET NO.
12

JGLUARLAPUDI
8/15/2025 2:28 PM
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PK-4670-21.576_DAMS.DWG

Attachment I – Inspection and Maintenance for BMPs

The following inspection and maintenance guidelines for the temporary best management practices will be followed in accordance with Edwards Aquifer Technical Guidance on Best Management Practices. Inspections of the temporary BMPs will be documented in an inspection report. Inspection reports will document maintenance activities, sediment removal, and modifications to the sediment and erosion controls.

Temporary Vegetation (Section 1.3.8)

1. Temporary 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.

Dust Control (Section 1.3.12)

1. When dust is evident during dry weather, reapply dust control BMPs.

Temporary Construction Entrance/Exit (Section 1.4.3)

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.

Silt Fence (Section 1.4.3)

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.

Inlet Protection (Section 1.4.11)

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.

Concrete Washout Area (Section 1.4.18)

When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and disposed of. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and disposed of. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

Attachment J – Schedule of Interim and Permanent Soil Stabilization Practices

Seeding of the disturbed areas will be on-going after completion of the rough grading process. Temporary seeding will be utilized until permanent landscaping is installed. Seeding will occur on any areas that are undisturbed for a period of 14 days. If construction progress is stopped for a period of 14 days, soil stabilization practices must be initiated by the contractor. Permanent landscaping will be provided as soon as final grades are achieved and the final paving and building operations are completed.

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

I John Stone,
Print Name

Vice President,
Title - Owner/President/Other

of JSACQ Georgetown, LP,
Corporation/Partnership/Entity Name

have authorized Hollis Scheffler, P.E.
Print Name of Agent/Engineer

of Westwood Professional Services
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:

Jon Stone
Applicant's Signature

08/12/2025
Date

THE STATE OF Texas §

County of Dallas §

BEFORE ME, the undersigned authority, on this day personally appeared JohnStone 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 12 day of August, 2025.

Holli Grier
NOTARY PUBLIC

HOLLI GRIER
My Notary ID # 2582155
Expires April 1, 2029

Holli Grier
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 04/01/2029

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: CrossPoint - Frontage
Regulated Entity Location: Georgetown, Williamson County, Texas
Name of Customer: JSACQ GEORGETOWN LP
Contact Person: Miles Terry Phone: (405) 570-8713
Customer Reference Number (if issued):CN CN606274660
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:

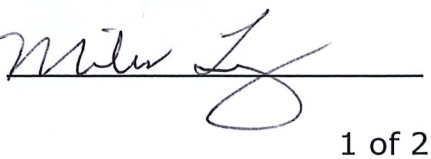
☒ Austin Regional Office
☐ Mailed to: TCEQ - Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ 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	3747 L.F.	$ 1,873.50
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: 7/14/25

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

TCEQ Core Data Form

TCEQ Use Only

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

SECTION I: General Information

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

☒ 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 603356718		RN N/A

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:*

JSACQ / Georgetown, 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*)
0804336547	32082163455		

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

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

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

13. Independently Owned and Operated?
☐ **Yes** ☐ **No**

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

☒ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

15. Mailing Address:

4890 Alpha Road, Ste. 100

City	State	ZIP	ZIP + 4
Dallas	TX	75244	

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

18. Telephone Number	19. Extension or Code	20. Fax Number (*if applicable*)
(972) 628-7400		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information (*If 'New Regulated Entity" is selected below this form should be accompanied by a permit application*)

☒ 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 Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC).

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

CrossPoint - Frontage

23. Street Address of the Regulated Entity: *(No PO Boxes)*	4811 IH 35 North							
	City	Georgetown	**State**	TX	**ZIP**	78633	**ZIP + 4**	
24. County	Williamson							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	The property is located just north of the intersection of IH-35 and SH-195 in Georgetown, TX.

26. Nearest City	**State**	**Nearest ZIP Code**

27. Latitude (N) In Decimal:	30.717844°N		**28. Longitude (W) In Decimal:**	97.648447°W	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	43	4.24	97	38	54.51

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)
1623		221320	

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

Sanitary sewer line extension

34. Mailing Address:	**4811 Interstate 35**							
	City	**Georgetown**	**State**	**TX**	**ZIP**	**78633**	**ZIP + 4**	

35. E-Mail Address:	**mterry@jacksonshaw.com**

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(405) 570-8713		**( ) -**

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	☐ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

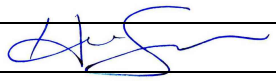
40. Name:	Hollis Scheffler, P.E.	**41. Title:**	Director, Commercial

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512) 485-0831		( ) -	hollis.scheffler@westwoodps.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:	Westwood PS	**Job Title:**	Director, Commercial
Name *(In Print):*	Hollis Scheffler	**Phone:**	(512) 485- **831**

Signature:		Date:	8/15/2025