

Organized Sewage Collection System Plan

For

Neighborhood 61 - Sun City, Texas

In

City of Georgetown
Williamson County, Texas

Job Number: 22226-NH61

Prepared by:

Texas Registered Engineering Firm-181 1978 S. Austin Ave

Georgetown, TX 78626

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

- 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: Sun City Neighborhood 61				2. Regulated Entity No.:				
3. Customer Name: Pulte Homes of Texas, LP				4. Customer No.: 603410499				
5. Project Type: (Please circle/check one)	New	Modif	icatior	on 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-r	esiden	idential		8. Site (acres):		17.27
9. Application Fee:	\$1611.50	10. Permanent I			BMP(s):		No	
11. SCS (Linear Ft.):	3223	12. AST/UST (No			o. Tanks):		N/A	
13. County:	Williamson	14. Watershed:					Berry Creek	

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%2oGWCD%2omap.pdf

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

Austin Region					
County:	Hays	Travis	Williamson		
Original (1 req.)	_	_	<u>X</u>		
Region (1 req.)	_	_	<u>X</u>		
County(ies)	_	_	<u>X</u>		
Groundwater Conservation District(s)	Edwards Aquifer AuthorityBarton Springs/ Edwards AquiferHays TrinityPlum Creek	Barton Springs/ Edwards Aquifer	NA		
City(ies) Jurisdiction	AustinBudaDripping SpringsKyleMountain CitySan MarcosWimberleyWoodcreek	AustinBee CavePflugervilleRollingwoodRound RockSunset ValleyWest Lake Hills	AustinCedar ParkFlorence _X_GeorgetownJerrellLeanderLiberty HillPflugervilleRound 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 HillsFair Oaks RanchHelotesHill Country VillageHollywood ParkSan Antonio (SAWS)Shavano Park	BulverdeFair Oaks RanchGarden RidgeNew BraunfelsSchertz	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.					
Erik Habarman					
	Erik Haberman				
Print Name of Customer/Authorized Agent					
Frich J. Haberon	09/22/2025				
Signature of Customer/Authorized Agent	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):	Payable to TCEQ (Y/N):				
Core Data Form Complete (Y/N):	Check: Signed (Y/N):				
Core Data Form Incomplete Nos.:	Less than 90 days old (Y/N):				

Organized Sewage Collection System Plan Checklist

- Edwards Aquifer Application Cover Page (TCEQ-20705)
- General Information Form (TCEQ-0587)

Attachment A - Road Map

Attachment B - USGS / Edwards Recharge Zone Map

Attachment C - Project Description

Geologic Assessment Form (TCEQ-0585)

Attachment A - Geologic Assessment Table (TCEQ-0585-Table)

Comments to the Geologic Assessment Table

Attachment B - Soil Profile and Narrative of Soil Units

Attachment C - Stratigraphic Column

Attachment D - Narrative of Site Specific Geology

Site Geologic Map(s)

Table or list for the position of features' latitude/longitude (if mapped using GPS)

Organized Sewage Collection System Plan (TCEQ-0582)

Attachment A - Engineering Design Report

Attachment B - Justification and Calculations for Deviation in Straight Alignment Without Manholes

Attachment C - Justification for Variance from Manhole Spacing

Attachment D - Explanation of Slopes for Flows Greater Than 10.0 Feet Per Second

Site Plan

Final Plan and Profile Sheets

Lift Station / Force Main System Application (TCEQ-0624) if applicable

Attachment A - Engineering Design Report

Site Plan

Final Plan and Profile Sheets

Temporary Stormwater Section (TCEQ-0602)

Attachment A - Spill Response Actions

Attachment B - Potential Sources of Contamination

Attachment C - Sequence of Major Activities

Attachment D - Temporary Best Management Practices and Measures

Attachment E - Request to Temporarily Seal a Feature, if sealing a feature

Attachment F - Structural Practices

Attachment G - Drainage Area Map

Attachment H - Temporary Sediment Pond(s) Plans and Calculations

Attachment I - Inspection and Maintenance for BMPs

Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices

Agent Authorization Form (TCEQ-0599), if application submitted by agent

- Application Fee Form (TCEQ-0574)
- Check Payable to the "Texas Commission on Environmental Quality"
- Core Data Form (TCEQ-10400)

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: Pulte Homes of Texas, L.P. / Steger Bizzell, Erik Haberman, P.E.

Date: September 22, 2025

Signature of Customer/Agent:

Project Information

1.	Regulated	Entity	Name:	Sun	City	Neig	<u>hborh</u>	ood	61

2. County: Williamson

3. Stream Basin: Berry Creek

4. Groundwater Conservation District (If applicable): n/a

5. Edwards Aquifer Zone:

☐ Recharge Zone
☐ Transition Zone

6. Plan Type:
☐ WPAP
☐ AST
☐ SCS
☐ UST

Exception Request

Modification

7.	Customer (Applicant):	
	Contact Person: Mr. Steve Ashlock Entity: Pulte Homes of Texas, L.P. Mailing Address: 9401 Amberglen Drive, Building I, City, State: Austin, TX Telephone: (512) 532-3355 Email Address: stephen.ashlock@pultegroup.com	<u>Suite 150</u> Zip: <u>78729</u> FAX: <u>n/a</u>
8.	Agent/Representative (If any):	
	Contact Person: Erik Haberman, P.E. Entity: Steger Bizzell Mailing Address: 1978 S. Austin Ave City, State: Georgetown, TX Telephone: 512-930-9412 Email Address: ehaberman@stegerbizzell.com	Zip: <u>78626</u> FAX: <u>n/a</u>
9.	Project Location:	
	 ☐ The project site is located inside the city limits of the project site is located outside the city limits jurisdiction) of n/a. ☐ The project site is not located within any city's 	s but inside the ETJ (extra-territorial
10.	The location of the project site is described belower detail and clarity so that the TCEQ's Regional st boundaries for a field investigation.	
	FROM AUSTIN: TRAVELLING NORTH ON I-35, TA 195 W FOR APPROXIMATELY 4 MILES. TURN WILL BE LOCATED IMMEDIATELY TO THE RI	N LEFT ON SUN CITY BLVD AND THE SITE
11.	Attachment A – Road Map. A road map showi project site is attached. The project location an the map.	-
12.	Attachment B - USGS / Edwards Recharge Zon USGS Quadrangle Map (Scale: 1" = 2000') of the The map(s) clearly show:	
	 ☑ Project site boundaries. ☑ USGS Quadrangle Name(s). ☑ Boundaries of the Recharge Zone (and Tran ☑ Drainage path from the project site to the boundaries. 	
13.	The TCEQ must be able to inspect the project solution Sufficient survey staking is provided on the prothe boundaries and alignment of the regulated features noted in the Geologic Assessment.	ject to allow TCEQ regional staff to locate

\boxtimes Survey staking will be completed by this date: <u>11/15/2025</u>
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. \boxtimes I am aware that the following activities are prohibited on the Recharge Zone and are not proposed for this project:
 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. X I am aware that the following activities are prohibited on the Transition Zone and are not proposed for this project:

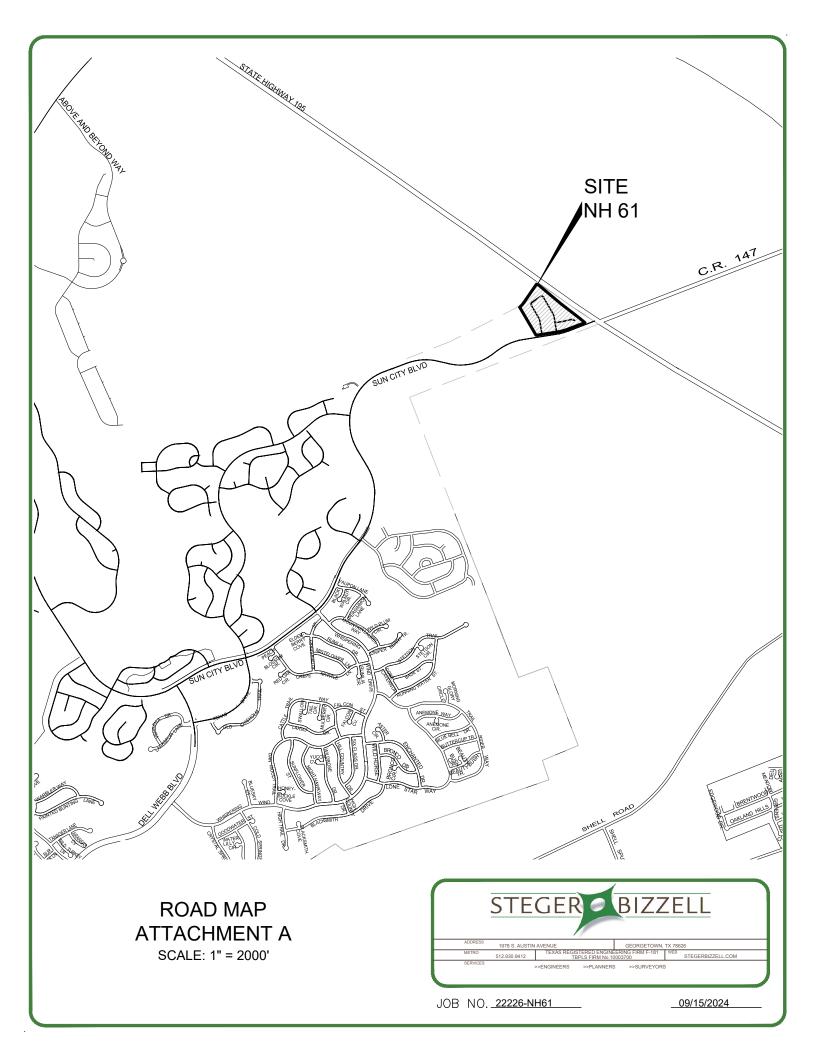
(1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground

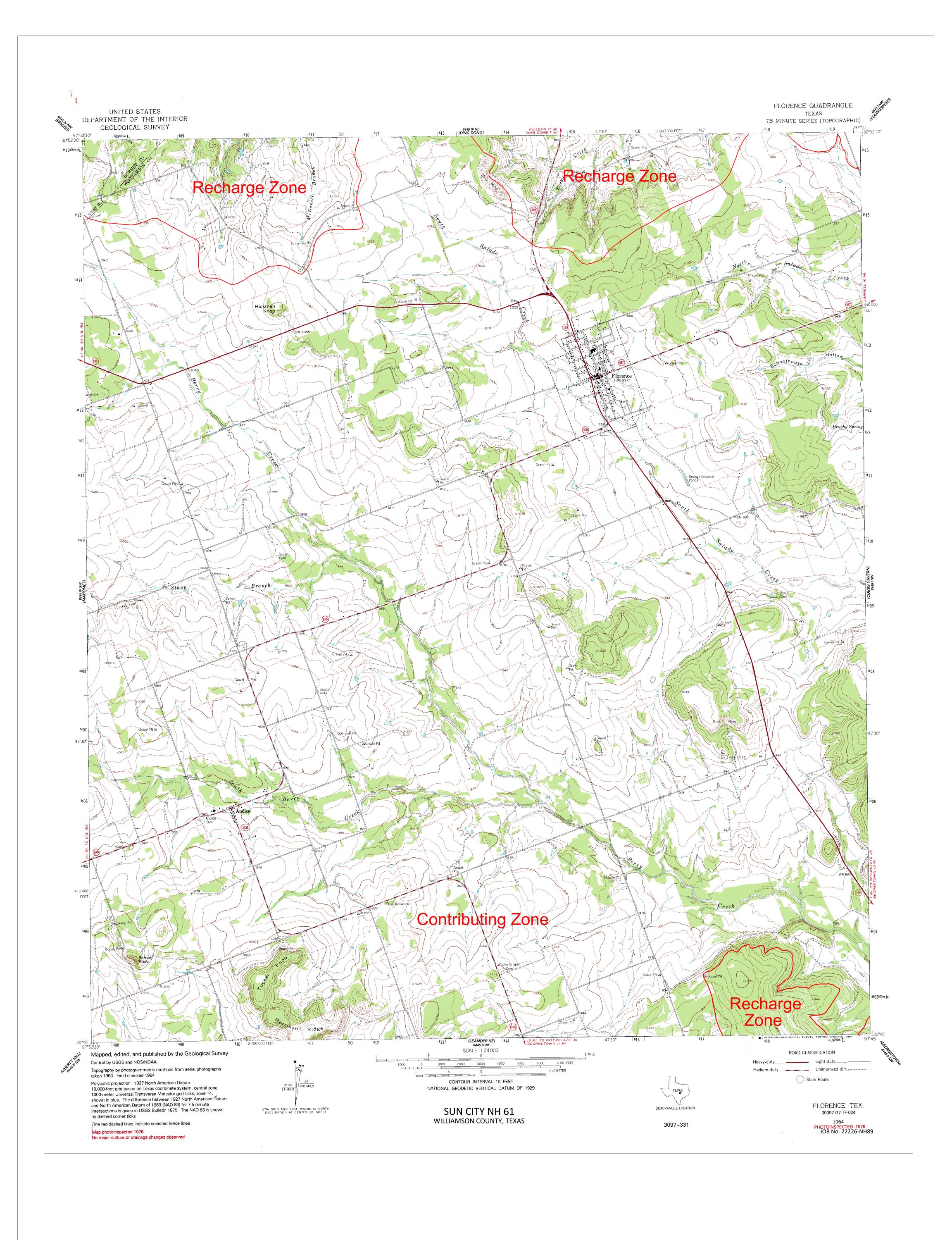
Injection Control);

- (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.

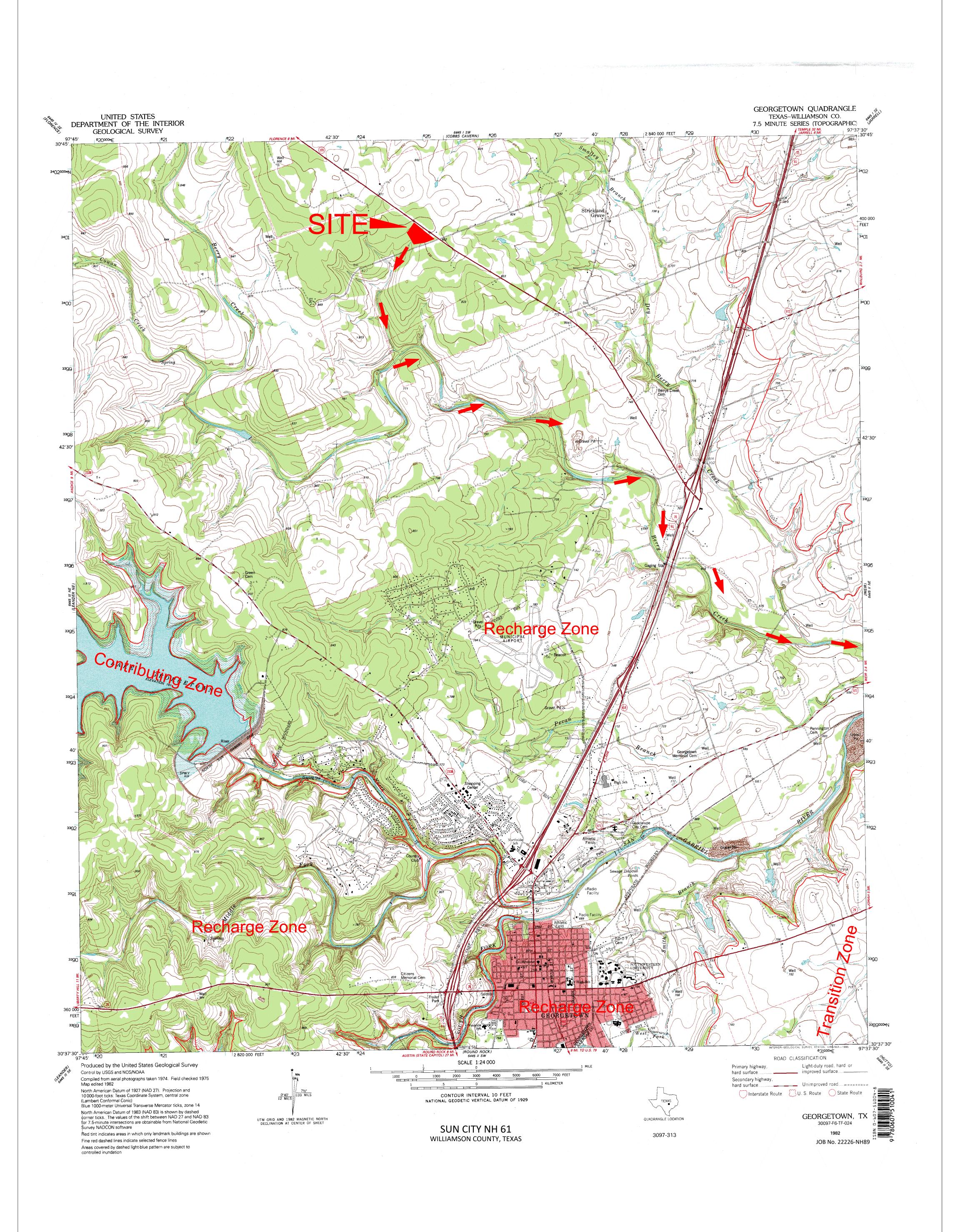
Administrative Information

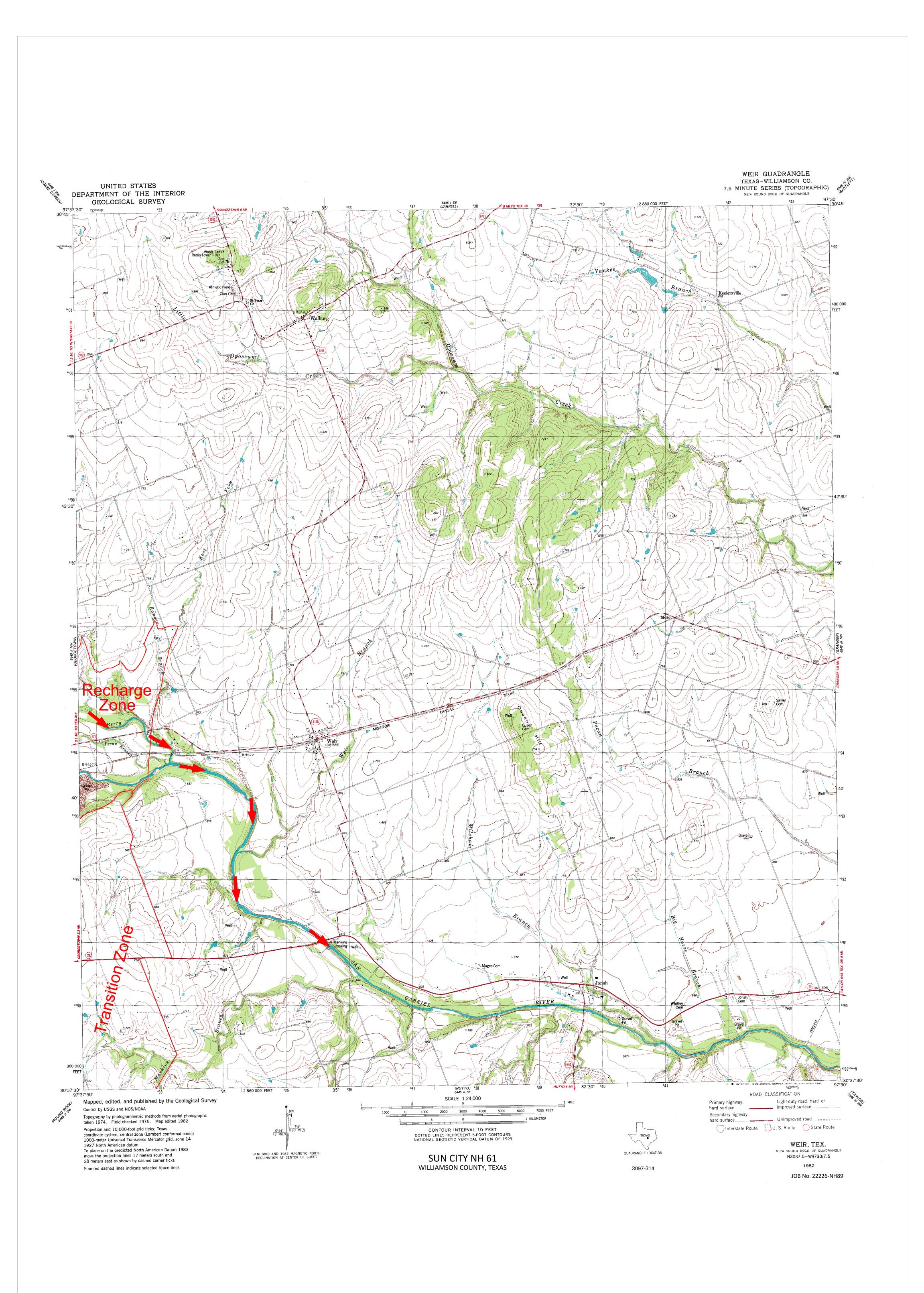
18. Th	e fee for the plan(s) is based on:
	For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur. For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines. For a UST Facility 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 regiona 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.











<u>Attachment C – Project Description</u>

This project consists of the development of a single-family residential site to be known as Sun City Neighborhood (NH) 61.

The NH 61 development is located within the city limits of Georgetown, Texas. It is bound by Oak Branch Drive to the north, Sun City Boulevard to the south, and SH-195 to the east. The site is previously undeveloped agricultural ranch land, and no demolition activities will be required as a part of the project.

The project and SCS application will include grading, drainage, water, wastewater, and paving improvements for NH 61. The neighborhood will consist of 36 duplex homes. The WPAP for this site was approved November 2, 1995, which includes Area 2 in Sun City Georgetown. Temporary BMPs are shown in this application with Permanent BMPs in accordance with the approved WPAP.

The proposed gravity wastewater system will consist of 8-inch SDR-26 PVC wastewater lines and 6-inch SDR-26 PVC lines for service laterals. At all waterline crossings, one (1) 20-foot joint length of 8-inch C900 DR-18 PVC wastewater pipe will be installed, as required. The proposed collection system will convey and connect the site's wastewater to an existing 8-inch wastewater line along Sun City Boulevard. The wastewater will ultimately be conveyed to the City of Georgetown Pecan Branch Wastewater Treatment Plant.

Stormwater from this site generally drains from east to west into an adjacent regional detention pond. The site's stormwater will be captured in the proposed channel or storm sewer then will be routed under Sun City Boulevard into the existing pond. Offsite drainage will be channelized and diverted through the NH-61 development, be handled by the site's storm system, or continue to drain naturally as appropriate.

The following geologic features are located within the 50-foot SCS alignment buffer and are shown in the geologic assessment to be non-sensitive and not requiring any setbacks: F01.

SUN CITY NEIGHBORHOOD 61 SCS ALIGNMENT



Geologic Assessment Report

Williamson County, TX
September 2025

Submitted to:

Pulte Group 9401 Amberglen Blvd Building 1, Ste 150



aci-consulting.net

1001 Mopac Circle | Austin, TX 78746

austin (512) 347-9000

denver (720) 440-5320

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.

213	•	
Prir	nt Name of Geologist: <u>Stan Reece</u>	Telephone: <u>(512)</u> 852-3872
Dat	e: <u>9/11/2025</u>	Fax: <u>(512) 852-3872</u>
	resenting: <u>aci environmnetal consulting, LLC TB</u> TBPG or TBPE registration number)	PG License No. 50713 (Name of Company
_(nature of Geologist: Sulated Entity Name: Sun City Neighborhood 61	STAN REECE GEOLOGY No. 3295
Pr	oject Information	ONAL X GEOS
1.	Date(s) Geologic Assessment was performed: <u>8</u>	/19/2025
2.	Type of Project:	
3.	WPAPSCSLocation of Project:	☐ AST ☐ UST
	Recharge Zone Transition Zone	

Contributing Zone within the Transition Zone

4. [ologic Assessmen Table) is attached.	t Table . Complete	d Geologic Assessment Table				
5. [``								
Cha S		Group* See Section 4.0 of the Report		А. В. С.	Group Definitions (Abbreviated) Soils having a high infiltration rate when thoroughly wetted. Soils having a moderate infiltration rate when thoroughly wetted. Soils having a slow infiltration rate when thoroughly wetted. Soils having a very slow infiltration rate when thoroughly wetted.				
6. [7. [me to the X At inc	embers, and thic p of the stratigra e stratigraphic co tachment C – Sit cluding any featu	knesses is attached phic column. Other plumn. e Geology . A narra ares identified in the movement to the E	d. The outcroppinerwise, the upper etive description of the Geologic Assess	column showing formations, g unit, if present, should be at the most unit should be at the top of of the site specific geology sment Table, a discussion of the stratigraphy, structure(s), and				
8. [At the Ap	tachment D – Sit e applicant's Site pplicant's Site Pla e Geologic Map S	te Geologic Map(s Plan. The minimu n Scale: 1" = <u>60</u> '	ım scale is 1": 400					
9. r	Metho	od of collecting p	ositional data:						
		_	System (GPS) tech lease describe me		ction:				
10. [⊠ Th	e project site and	d boundaries are c	learly shown and	labeled on the Site Geologic Map.				
					2 of 3				

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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September 2025

Geologic Assessment for the Sun City Neighborhood 61 SCS Alignment located in Williamson County, Texas

1.0 INTRODUCTION

The Texas Commission on the Environmental Quality (TCEQ) regulates activities that have the potential to pollute the Edwards Aquifer through the Edwards Aquifer Protection Program. Projects meeting a certain criterion over the Edwards Aquifer Recharge Zone must submit an Edwards Aquifer Protection Plan (EAPP).

The purpose of this report is to identify all potential pathways for contaminant movement to the Edwards Aquifer and provide sufficient geologic information so that the appropriate Best Management Practices (BMPs) can be proposed in the Edwards Aquifer Protection Plan (EAPP). This report complies with the requirements of Title 30, Texas Administrative Code (TAC) Chapter 213 relating to the protection of the Edwards Aquifer Recharge Zone. Per the Rules, the Geologic Assessment must be completed by a Geologist licensed according to the Texas Geoscience Practice Act.

2.0 PROJECT INFORMATION

The Sun City Neighborhood 61 SCS alignment, hereafter referred to as the survey area or site, is located on the western corner of the intersection of State Highway 195 and Sun City Boulevard in the City Limits of Georgetown, Williamson County, Texas (Attachment A, Figure 1). Pedestrian investigations of the 4.6-acre survey area were performed on August 19, 2025, by Andrew McGlothlin, G.I.T., and Justin Rains, under the supervision of Stan Reece, P.G., with aci environmental consulting.

This report is intended to satisfy the requirements for a Geologic Assessment, which shall be included as a component of a Sewage Collection System Plan (SCS). The site is approximately 4.6 acres in total. The proposed site use is for low-density, single-family, residential development. The scope of the report consists of a site reconnaissance, field survey, and review of existing data and reports. Features identified during the field survey were ranked utilizing the Texas Commission on Environmental Quality (TCEQ)

aci Project No.: 22-14-009D

September 2025



matrix for Edwards Aquifer Recharge Zone features. The ranking of the features will determine their viability as "sensitive" features.

3.0 INVESTIGATION METHODS

The following investigation methods and activities were used to develop this report:

- Review of existing files and literature to determine the regional geology and any known caves associated with the project area;
- Review of past geological field reports, cave studies, and correspondence regarding the existing geologic features on the project area, if available;
- Site reconnaissance by a registered professional geologist to identify and examine caves, recharge features, and other significant geological structures;
- Evaluation of collected field data and a ranking of features using the TCEQ Ranking Table 0585 for the Edwards Aquifer Recharge Zone; and
- Review of historic aerial photographs to determine if there are any structural features present, and to determine any past disturbances on the subject property.

4.0 SOILS AND GEOLOGY

The following includes a site-specific description of the soils, geologic stratigraphy, geologic structure, and karstic characteristics as they relate to the Edwards aquifer. Also included in this section is a review of historic aerials for presence of geologic changes or changes to manmade features in bedrock.

Soils

According to the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey (2025), two soil units occur within the survey area (**Attachment A, Figure 2**):

• EaD—Eckrant cobbly clay, 1 to 8 percent slopes

The Eckrant component makes up 85 percent of the map unit. Slopes are 1 to 8 percent. This component is on ridges on dissected plateaus. The parent material consists of residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 4 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is high. This soil is not flooded. It is not ponded.



There is no zone of water saturation within a depth of 72 inches. This soil does not meet the criteria for hydric soils. Hydrologic Soil Group: D.

• EeB—Eckrant stony clay, 0 to 3 percent slopes, stony

The Eckrant, stony component makes up 85 percent of the map unit. Slopes are 0 to 3 percent. This component is on ridges on dissected plateaus. The parent material consists of residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 4 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. This soil does not meet the criteria for hydric soils. Hydrologic Soil Group: D.

Geologic Stratigraphy

According to the Geologic Map of the Georgetown Quadrangle, Texas, two geologic units occur within the survey area (**Attachment A, Figure 3**). These units and a description by Collins (1997) are as follows:

• Georgetown Formation (Kgt)

"Limestone and marl. Nodular, very fossiliferous; diagnostic marine megafossils include *Waconella wacoensis* (formerly *Kingena wacoensis*) and *Gryphaneea washitaensis*. Rare small vugs. Uppermost Edwards aquifer strata. Thickness increases northward from ~65 ft to 110 ft."

• Edwards Limestone (Ked)

"Limestone, dolomitic limestone and marl. Massive to thin beds, chert, and fossiliferous; fossils include rudistids. Shallow subtidal to tidal-flat cycles. Honeycomb textures, voids in collapsed breccias, and cavern systems. Accounts for most of the Edwards aquifer strata. Thickness is between 100ft to 300ft; thins northward."



Site-Specific Stratigraphic Column

Formation	Members	Thickness (Collins, 1997)
Georgetown Formation	Georgetown Formation	65-110 feet
Edwards Limestone	Edwards Limestone	0-100 feet

Geologic Structure

The geologic strata associated with the Edwards Aquifer include the Georgetown Limestone Formation of the Washita Group, the Edwards Limestone Group which is interfingered with the Comanche Peak Formation, followed by the Walnut formation, and finally the Glen Rose Formation of the Trinity Group. These Groups dip gently to the southeast and are a characterized by the Balcones Fault Escarpment, a zone of en echelon normal faults downthrown to the southeast. Locally, the dominant structural trend of faults within the area is 25°, as evidenced by the mapped fault patterns (**Attachment A**, **Figure 4**). Thus, all features that have a trend ranging from 10° to 40° are considered "on trend" and were awarded the additional 10 points in the Geologic Assessment Table.

Karstic Characteristics

In limestone landscapes, karst is expressed by erratically developed cavernous porosity from dissolution of bedrock as water combined with weak acids moves through the subsurface. Karst terrains are typical of the Edwards Limestone, occurring across a vast region of Central Texas, including the Balcones Fault Escarpment. The features produced by karst processes include, but are not limited to, sinkholes, solution cavities, solution enlarged fractures, and caves. These features can eventually provide conduits for fluid movement such as surface water runoff, as "point recharge" to the Edwards Aquifer. Faults and manmade features within bedrock can also provide conduits for point recharge in many cases.

According to Edwards aquifer zone map produced by the TCEQ (2005), the entire survey area is within the northern segment of the Edwards aquifer Recharge Zone. Thus, all karst



features identified as sensitive within the project limits have the potential to be point recharge features into the Edwards aquifer.

Review of Historic Aerials

Aerial photographs were reviewed for the survey area, and it was determined that the site has been largely undeveloped since the first aerial photograph dated 1941 (**Attachment C**). Clearing appears within the survey area in the 2004 aerial, relating to construction staging for the expansion of Sun City Boulevard to the south of the survey area. No other disturbances were noted within the survey area in the reviewed aerial photographs.

5.0 GEORGETOWN WATER QUALITY ORDINANCE

On February 24, 2015, the City of Georgetown (CoGt) passed a finalized ordinance (the Ordinance) regarding water quality regulations over the Edwards Aquifer Recharge Zone (EARZ), which established setbacks or buffers around springs and streams in the EARZ as well as for occupied salamander sites (CoGt 2015). **aci environmental consulting** scientists surveyed the survey area as part of the Geologic Assessment (GA) and included obtained pertinent information on springs, streams, and Georgetown salamander Critical Habitat Units (CHUs) as part of the assessment.

aci environmental consulting verified that the entire site is contained within the Edwards Aquifer Recharge Zone (EARZ), based on the mapped boundaries (TCEQ 2005). There were no springs or mapped salamander sites or known surface or subsurface CHUs within the survey area. The nearest CHU for the Georgetown salamander occurs approximately 4.9 miles south of the project area, along the North Fork San Gabriel River. According to the National Hydrography Dataset (NHD) produced by the U.S. Geologic Survey (USGS), one mapped flowline intersects the site (USGS NHD 2025). During site inspection it was noted that the mapped NHD line exists as an ephemeral drainage and does not have a defined channel or bank within the survey area. As such, it fails to meet the definition of a stream as defined by the Ordinance. Additionally, no FEMA flood hazard zones extend onto the site (FEMA 2025).

As there are no springs or streams located within the project area, there are no buffers or setbacks required as part of the Ordinance.

aci Project No.: 22-14-009D

September 2025



6.0 SUMMARY OF FINDINGS

This report documents the findings of a geologic assessment conducted by **aci environmental consulting** personnel on August 19, 2025. One feature (a karst feature) was noted on the site and one feature (a manmade feature in bedrock) was noted within 50 feet of the site. Comprehensive descriptions and recommendations for each feature can be found in **Attachment B**. Based on assessment of each feature, it was determined that there are no sensitive karst features on or adjacent to the survey area.

As there are no springs or streams located within the project area, there are no buffers or setbacks required as part of the Georgetown Water Quality Ordinance.

aci Project No.: 22-14-009D

September 2025



7.0 REFERENCES

- Banks Environmental Data. 2025. Historical Aerial Photographs for the Sun City Neighborhood 61 SCS. Williamson County, Texas. ES-146387.
- (CoGt) City of Georgetown, Texas. 2015. Ordinance No. 2015-14; Water Quality Regulations for the EARZ. Date approved: February 24, 2025.
- Collins, E.W., 1997. *Geologic Map of the Georgetown Quadrangle, Texas*. Bureau of Economic Geology. Austin, Texas.
- (FEMA) Federal Emergency Management Agency. 2025. Flood Map Service Center. https://msc.fema.gov/portal. Accessed September 3, 2025.
- (TCEQ) Texas Commission on Environmental Quality. 2004. Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones. October 1, 2004. Austin, Texas.
- (TCEQ) Texas Commission on Environmental Quality. 2005. "Edwards Aquifer Protection Program, Chapter 213 Rules Recharge Zone, Transition Zone, Contributing Zone, and Contributing Zone within the Transition Zone." Map. Digital data. September 1, 2005. Austin, Texas.
- (USDA NRCS) U.S. Department of Agriculture Natural Resources Conservation Service. 2025. WebSoilSurvey.com. Soil Survey Area: Williamson County, Texas. Date accessed: September 4, 2025.
- (USGS NHD) U.S. Geologic Survey National Hydrography Dataset. 2025. Hydrography The National Map Viewer. U.S. Geologic Survey. Last Accessed: September 3, 2025. http://viewer.nationalmap.gov/viewer/nhd.html?p=nhd.



ATTACHMENT A

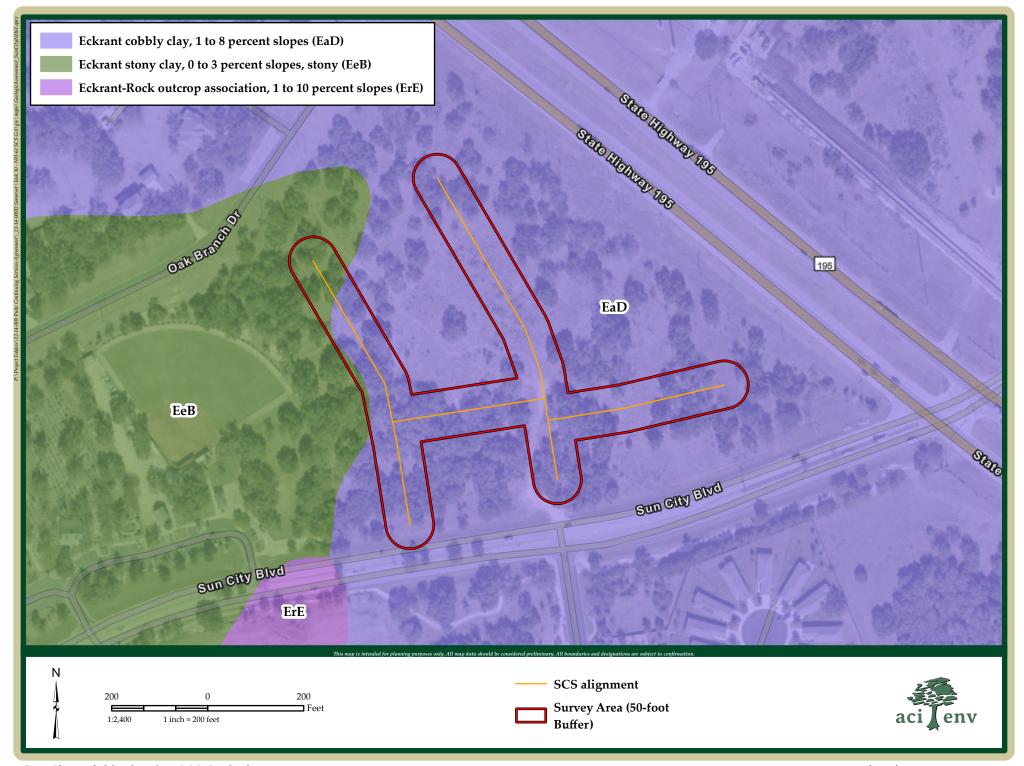
Site Maps

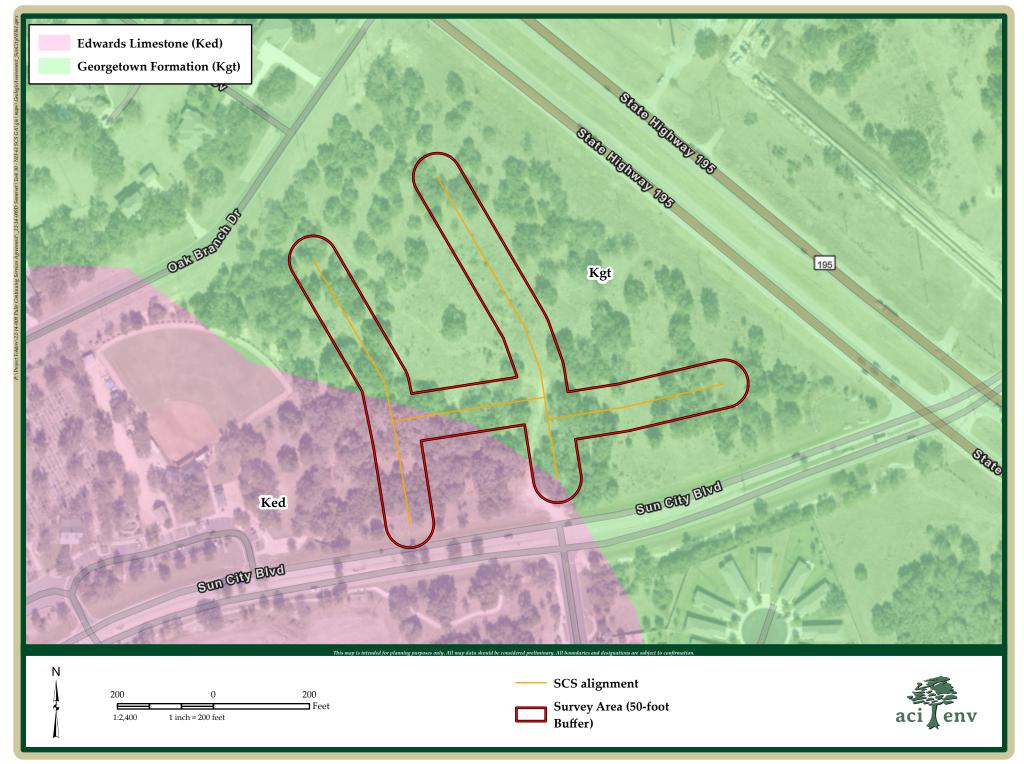
9

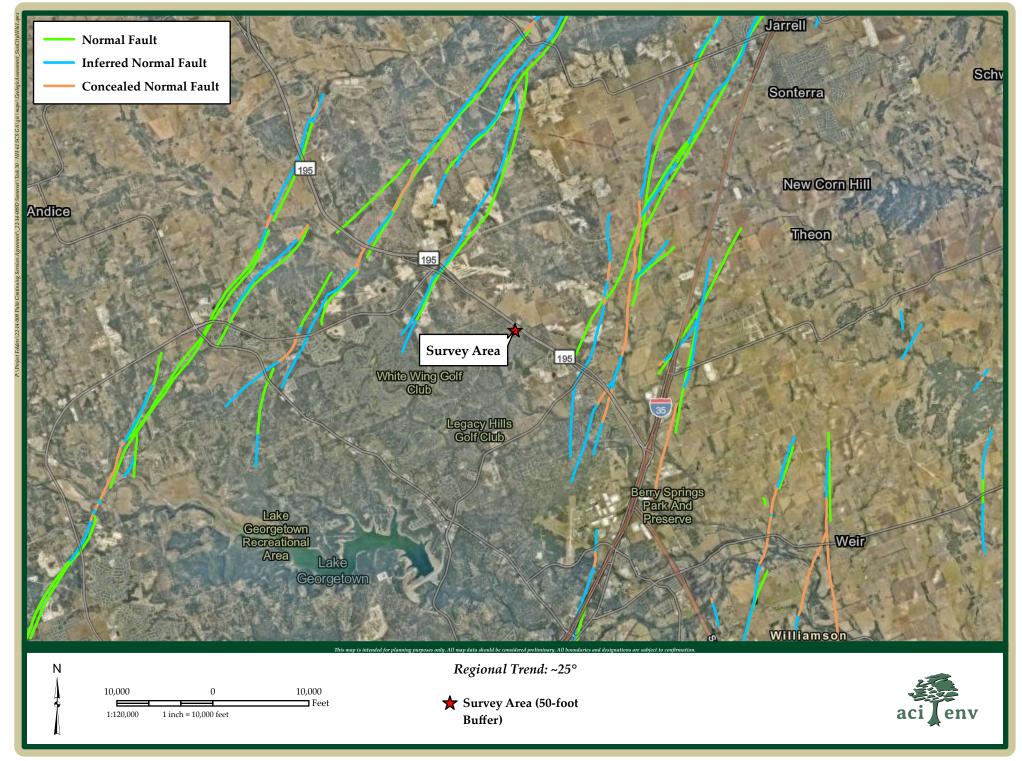


Sun City Neighborhood 61 SCS Geologic Assessment

aci Project No.: 22-14-009D







Sun City Neighborhood 61 SCS Geologic Assessment Figure 4. Regional Trend Map



ATTACHMENT B

Geologic Table Geologic and Manmade Feature Map (Figure 5) Feature Descriptions and Recommendations

aci Project No.: 22-14-009D

September 2025

GEOLOGIC ASSESSMENT TABLE							PROJECT NAME: Sun City Neighborhood 61 SCS Alignment													
LOCATION							FEATURE CHARACTERISTICS										EVALUATION			SETTING
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9 10		10	11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIME	DIMENSIONS (FEET)		TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		, CATCHMENT AREA (ACRES)		TOPOGRAPHY
						Х	Υ	Z		10						<40	<u>>40</u>	<1.6	<u>>1.6</u>	
F-01	30.7366742	-97.6954493	SC	20	Kgt	4	4	2	-	-	-	0.5	C, O, F, V	5	25	Χ		Χ		Hillside
MB-02	30.7361367	-97.6949372	MB	30	Ked	ı	•	•	-	-	-	-	-	5	35	Χ		Χ		Hillside

* DATUM: NAD 1983 State Plane 4203

2A TYPE	TYPE	2B POINTS
С	Cave	30
sc	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
0	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
С	Coarse - cobbles, breakdown, sand, gravel
0	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
Х	Other materials

12 ТОРОGRAPHY 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.

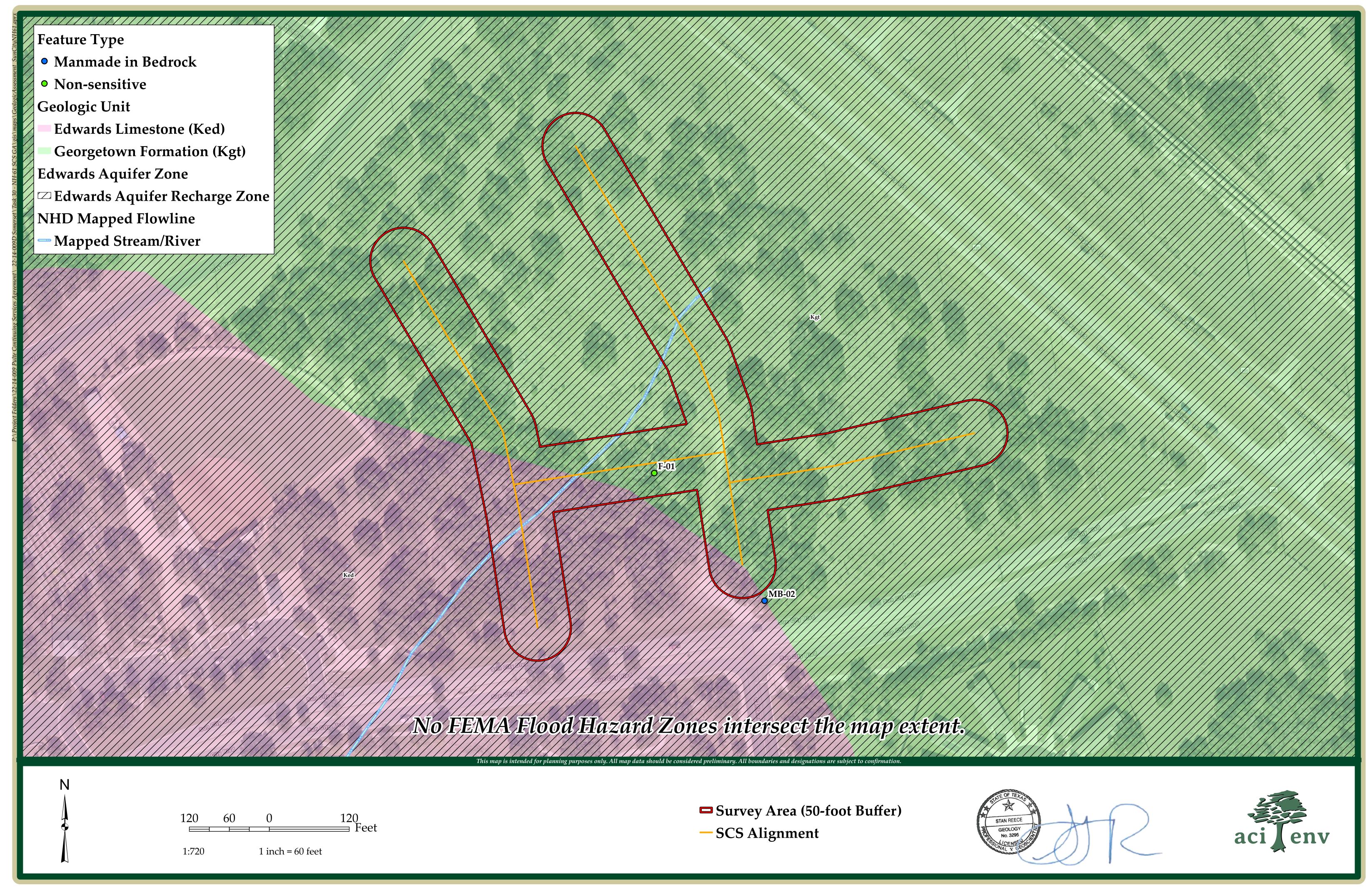
STAN REECE GEOLOGY

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

Date 9/11/2025

Sheet _1_ of _1__

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





F-01

GPS: N. 30.7366742 W. 97.6954493

This feature is a solution cavity within a sink that is approximately 4 feet in diameter and 1 foot deep, with an additional foot of vertical depth and approximately 6 inches of lateral development within the solution cavity. The feature is located in the Georgetown Formation and is positioned on a hillside. Infill material consists of cobbles, leaf litter, sticks, fine soils, and vegetation including Texas live oak (*Quercus fusiformis*). The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has a low probability of rapid infiltration and assigned a value of 5 points. The feature is non-sensitive in terms of recharge potential.

Recommendation: No setbacks or protections are required for this feature.



Photo of F-01



MB-02

GPS: N. 30.7361367 W. 97.6949372

This feature is a manmade feature in bedrock (an irrigation box) with unknown dimensions. The feature is located in Edwards Limestone and is positioned on a hillside. Infill material is unknown. The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has a low probability of rapid infiltration and assigned a value of 5 points. The feature is non-sensitive in terms of recharge potential.

Recommendation: No setbacks or protections are required for this feature.



Photo of MB-02



ATTACHMENT C

Historic Aerial Photographs

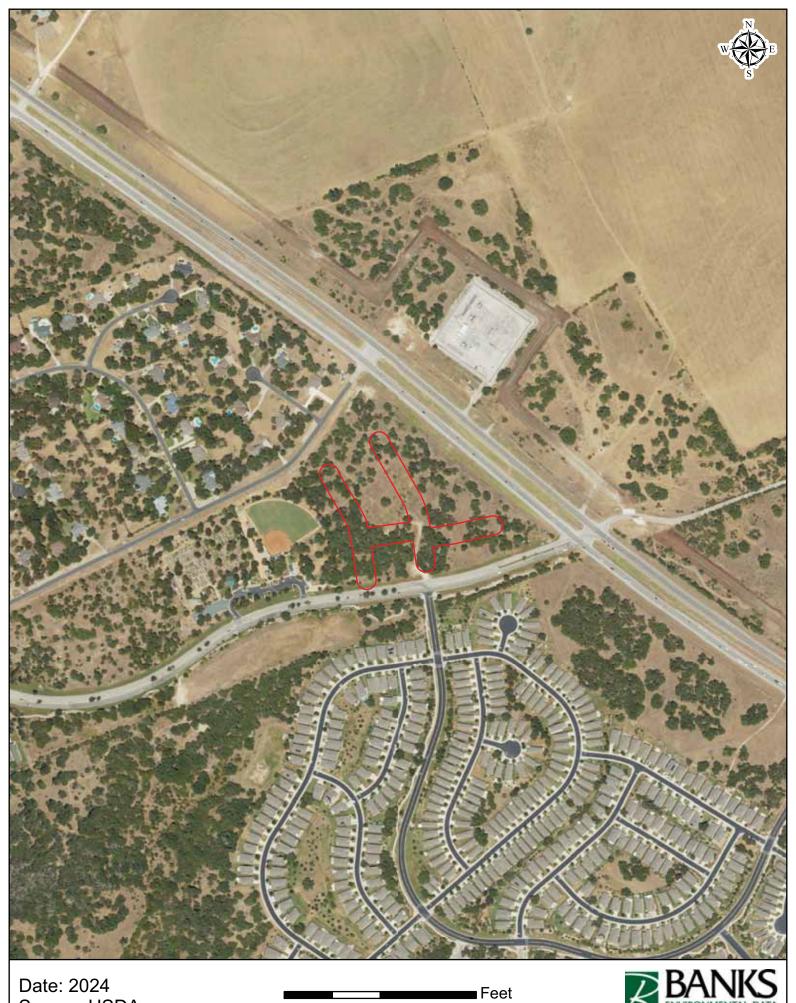
Prepared for:

ACI ENVIRONMENTAL CONSULTING, LLC 1001 Mopac Circle Austin, TX 78746



Historical Sun City Neighborhood 61 SCS TX Aerial Williamson County Photographs PO #: 22-14-009D

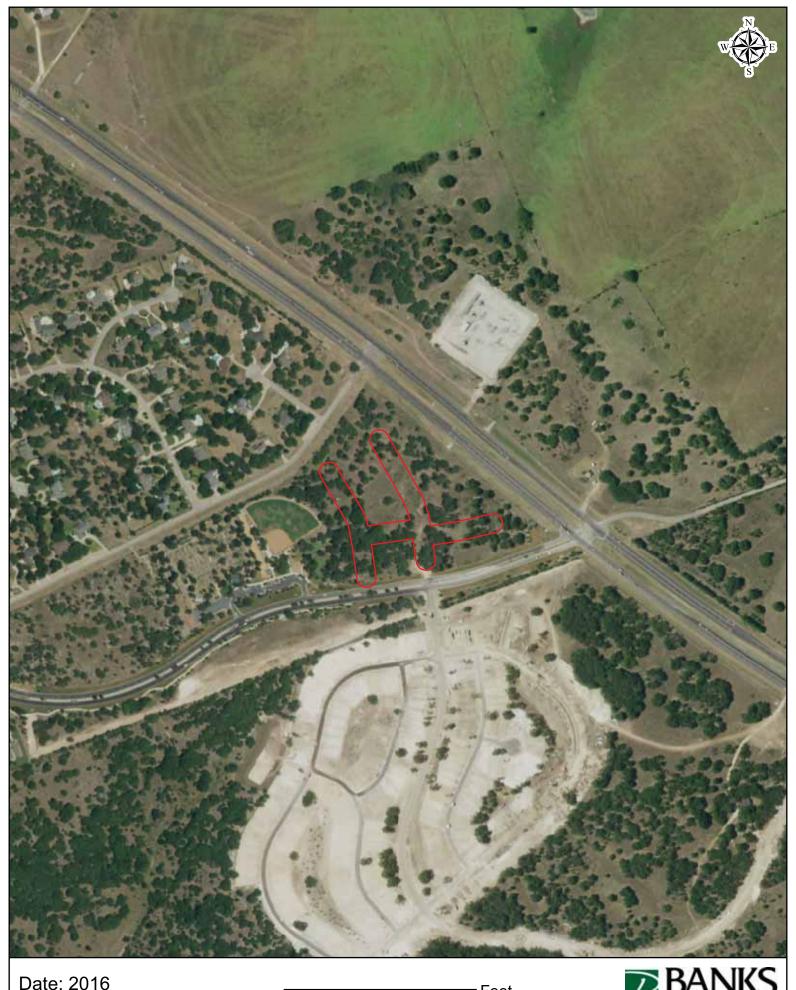
Friday, September 5, 2025



Date: 2024 Source: USDA

Feet 1,000 500 0 250





Date: 2016 Source: USDA

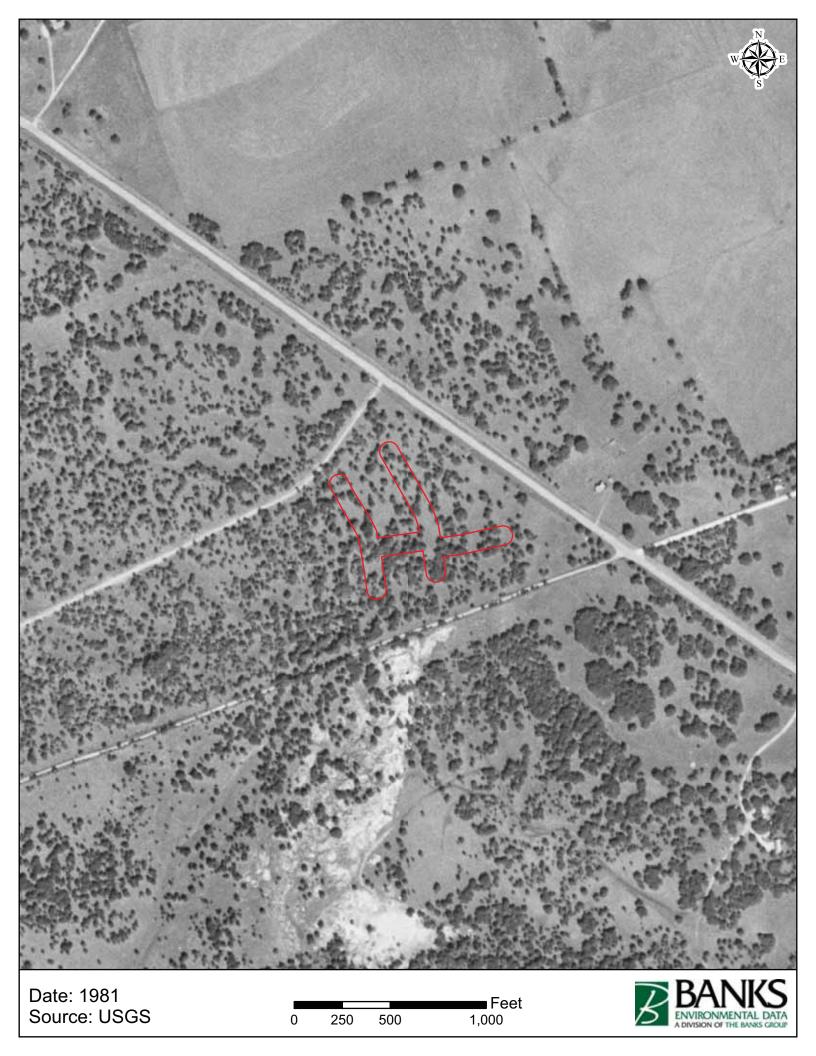
Feet 0 250 500 1,000







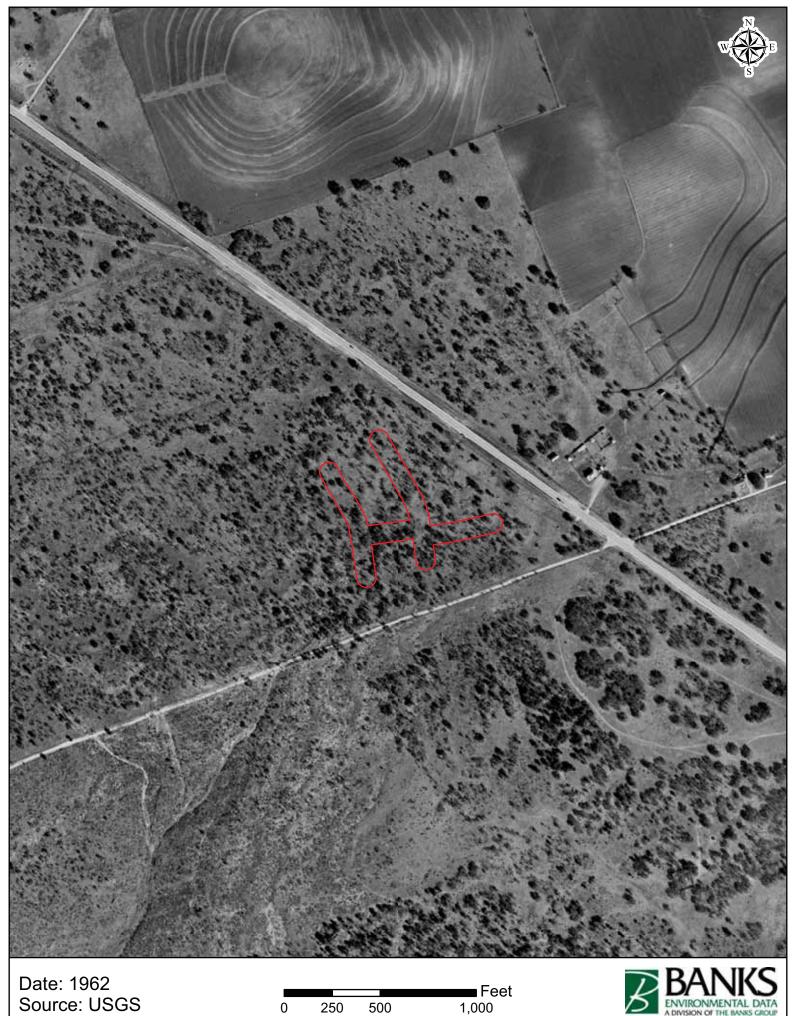


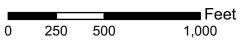




Feet 1,000















AERIAL SOURCE DEFINITIONS

Acronym	Agency	
NASA	National Aeronautics & Space Administration	
AMS	Army Mapping Service	
ASCS	Agricultural Stabilization & Conservation Service	
SCS	Soil Conservation Service	
USBR	United States Bureau of Reclamation	
Fairchild	Fairchild Aerial Surveys	
TXDOT	Texas Department of Transportation	
BLM	Bureau of Land Management	
USAF	United States Air Force	
USCOE	United States Corps of Engineers	
USDA	United States Department of Agriculture	
USGS	United States Geological Survey	
WALLACE	Wallace-Zingery Aerial Surveys	
TNRIS	Texas Natural Resources Information System	



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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: Sun City Neighborhood 61

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: Mr. Stephen Ashlock Entity: Pulte Homes of Texas, L.P.

Mailing Address: 9401 Amberglen Blvd., Building I, Suite 150
City, State: Austin, TX
Zip: 78729
Telephone: (512) 532-3355
Fax: n/a

Email Address: stephen.ashlock@pultegroup.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: Mr. Erik Haberman, P.E.

Texas Licensed Professional Engineer's Number: 152359

Entity: Steger Bizzell

Mailing Address: 1978 S. Austin Ave

City, State: Georgetown, TX Zip: 78626
Telephone: (512) 930-9412 Fax: n/a

Email Address:ehaberman@stegerbizzell.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: 7 Multi-family: Number of residential units: _ Commercial Industrial Off-site system (not associated with any de	
5.	The character and volume of wastewater is shown	below:
	100% Domestic	<u>50,649</u> gallons/day
	<u>0</u> % Industrial	<u>n/a</u> gallons/day
	<u>0</u> % Commingled	<u>n/a</u> gallons/day
	Total gallons/day: <u>50,649</u>	
6.	Existing and anticipated infiltration/inflow is 14,80. The project is all new construction with PVC pipe so	
7.	A Water Pollution Abatement Plan (WPAP) is requi commercial, industrial or residential project locate	
	The WPAP application for this development was 1995. A copy of the approval letter is attached	
	The WPAP application for this development wa has not been approved.	s submitted to the ICEQ on, but
	☐ A WPAP application is required for an associated ☐ There is no associated project requiring a WPA	•

8. Pipe description:

Table 1 - Pipe Description

Pipe Diameter(Inches)	Linear Feet (1)	Pipe Material (2)	Specifications (3)
6" Services	1254	PVC SDR-26	ASTM D3034
8" Gravity	1909	PVC SDR-26	ASTM D3034
8" Gravity	60	PVC DR-18	ASTM D1784

Total Linear Feet: 3223

- (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.

•	reatment Plant. The treatment facility is:				
Existing Propose					
10. All component	s of this sewage collection sy	stem will comply with:			
	y of <u>Georgetown</u> standard sp Specifications are attached.	ecifications.			
11. No force m	ain(s) and/or lift station(s) ar	e associated with this sev	vage collection system.		
	in(s) and/or lift station(s) is a tion/Force Main System App				
Alignment					
	There are no deviations from uniform grade in this sewage collection system without manholes and with open cut construction.				
	13. \square 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 - Maillo	Table 2 - Manholes and Cleanouts Manhole or Clean-				
Line	Shown on Sheet	Station	out?		
See Attached Tal	ole Of				
	Of				
	Of				
	Of				
	Of				

Of Of

Line	Shown on Sheet	Station	Manhole or Clean- out?
	Of		
	Of		
	Of		
L5. Manholes are	e installed at all Points of Curv	rature and Points of	Termination of a sewer

16. 🔀 T	he maximum spacing between manholes on this project for each pipe diameter is no
g	reater than:

Pipe Diameter (inches)	Max. Mannole Spacin
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. \square The Site Plan must have a minimum scale of 1" = 400'.

Site Plan Scale: 1" = <u>60</u>'.

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

\boxtimes	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				
LITTC	of	to		
	of	to		
	of	to		
of to				
 23. 5-year floodplain: After construction is complete, no part of this project will be in or cross a 5-year floodplain, either naturally occurring or man-made. (Do not include streets or concrete-lined channels constructed above sewer lines.) After construction is complete, all sections located within the 5-year floodplain will be encased in concrete or capped with concrete. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.) 				
Table 4 - 5-Year Floodplain Line	Sheet	Station		
	of	to		
24. \(\sum \) Legal boundaries of the site are shown. 25. \(\sum \) The final plans and technical specifications are submitted for the TCFO's review. Fach				

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	t be included on the	Plan and Profile sh	eets.					
sewer lines rated pipe variance fro	or proposed water I sare listed in the tab to be installed show om the required pre om 30 TAC Chapter	ole below. These ling on on the plan and personers are stated piping a	nes must have the profile sheets. An	y request for a				
	pe no water line cros pe no water lines wit	_	sed sewer lines.					
Table 5 - Water	Line Crossings		1					
Line	Station or Closest Point	Crossing or Parallel	Horizontal Separation Distance	Vertical Separation Distance				
WW-A	04+46.03	CROSSING	N/A	4.9'				
WW-A	07+10.28	CROSSING	N/A	3.5'				
WW-B	00+92.55	CROSSING	N/A	2.25'				
 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	Manho	ole S	Station	Sheet				

Line	Manhole	Station	Sheet				
28. Drop manholes:	28. Drop manholes:						
Sewer lines which 24 inches above appropriate pro §217.55(I)(2)(H)	the manhole invert are file sheets. These lines r	with this project. manholes or "manhole s listed in the table below meet the requirements o	and labeled on the				
Table 7 - Drop Manh Line	oles <i>Manhole</i>	Station	Sheet				
WW-A	WWA MH-4	04+19.03	40				
WW-A	WWA MH-3	03+72.74	40				
WW-A	WWA MH-7	09+53.41	40				
WW-C	WWC MH-2	03+63.44	42				
The placement a	ub-outs are to be install	ons): r line stub-outs are show ed during the construction					
30. Lateral stub-outs (Fo	or proposed private serv	rice 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 velo	city (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

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.

less than or equal to 10 feet per second for this system/line.

Table 8 - Flows Greater Than 10 Feet per Second

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

b	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 $0.00000000000000000000000000000000000$
[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]	45 of 51
Manhole, showing inverts comply with 30 TAC §217.55(I)(2) [Required]	44-45 of 51
Alternate method of joining lateral to existing SCS line for potential future connections [Required]	44 of 51
Typical trench cross-sections [Required]	44-45 of 51
Bolted manholes [Required]	45 of 51
Sewer Service lateral standard details [Required]	44-45 of 51
Clean-out at end of line [Required, if used]	44 of 51
Baffles or concrete encasement for shock/erosion protection [Required, if flow velocity of any section of pipe >10 fps]	N/A of N/A
Detail showing Wastewater Line/Water Line Crossing [Required, if crossings are proposed]	45 of 51
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) [Required, if Flexible Pipe is used]	45 of 51

Standard Details	Shown on Sheet
Drop manholes [Required, if a pipe entering a manhole is more than 24 inches above manhole invert]	45 of 51

- 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: 11/15/2025
- 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: Erik Haberman, P.E., F-181

Date: September 22, 2025

Place engineer's seal here:



Signature of Licensed Professional Engineer:

Frih J. Haberon

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)

Table 2 - Manholes and Cleanouts

LINE	SHOWN ON SHEET	STATION	MANHOLE OR CLEANOUT?
WW-A	40	00+00.00	Manhole
WW-A	40	02+14.35	Manhole
WW-A	40	03+72.74	Manhole
WW-A	40	07+37.28	Manhole
WW-A	40	09+53.41	Manhole
WW-B	41	00+00.00	Manhole
WW-C	42	00+00.00	Manhole
WW-C	42	03+63.44	Manhole
WW-C	42	04+55.76	Manhole
WW-D	43	00+00.00	Manhole
WW-D	43	02+94.63	Manhole

ATTACHMENT A

ENGINEERING DESIGN REPORT

FOR

SUN CITY NEIGHBORHOOD 61

Organized Sewage Collection System

Job No. 22226-NH 61

Prepared by:

STEGER BIZZELL F-181 1978 South Austin Ave. Georgetown, Texas 78626

Engineering Design Report For a WASTEWATER COLLECTION SYSTEM Within Sun City Neighborhood 61

PURPOSE

The purpose of this report is to demonstrate that the proposed wastewater collection system complies with the Texas Commission on Environmental Quality's Chapter 217 - Design Criteria for Domestic Wastewater Systems. The project includes the construction of wastewater lines to service Sun City Neighborhood (NH) 61.

The proposed sewage collection system for NH 61 will convey wastewater from the site to the existing 8" line on the Sun City Blvd SCS. The wastewater will ultimately be conveyed to the City of Georgetown Pecan Branch WWTP.

The <u>CITY OF GEORGETOWN</u> will own and maintain the sanitary sewer collection system described in this application. The <u>PECAN BRANCH WWTP</u> wastewater treatment plant (WWTP) will receive and treat flows from the project. The TCEQ Permit No. is <u>WQ 00104890002</u>. The Permittee is the <u>Pulte Homes of Texas</u>, <u>L.P.</u> The plans will also be reviewed by the City of Georgetown's Development Engineer.

PIPE DESIGN 30 TAC §217.53

Flow design basis (30 TAC §217.53(a))

Flow development for the area is based on the following City of Georgetown design criteria:

Unit Flow:

- Sun City = 43 gallons per capita per day (gpcd)
- Typical Residential = 70 gpcd

Dry Weather Flow (DWF):

- Sun City = 2.5 people/LUE*(43 gpcd+30 gpcd) = 183 gpd/LUE
- Sun City NH 61 = (183 gpd/LUE * 72 LUE) = 13,176 gpd

NH 61:

AvgDWF= 13,176 gpd/ 10^6 = 0.013176 (mgd) Peak Flow Factor (PF) = 2.8*AvgDWF^{-0.0732} = 3.844 Peak DWF = PF*DWF = 50,649 gpd I/I flows have to be considered as part of flow development. A generally accepted I/I generation rate in the City of Georgetown is 1,000 gallons/acre/day. The total area contributing to infiltration for NH 61 is 14.80 acres. Therefore, the flow resulting from I/I would be as follows:

NH 61:

14.80 acres*1,000 gallons/acre/day = <u>14800 gpd</u>

Potential peak flow in the system would be as follows:

NH 61:

50,649 gpd + 14,800 gpd = 65,449 gpd or 0.101 cfs

The wastewater lines in NH 61 consist of 8-inch. These lines will be connected to the existing collection system running along Sun City Blvd.

For the portion of the collection system proposed in this report, which encompasses the NH 61 phase of development, the proposed minimum slope for 8-inch diameter pipe is 0.50% and the proposed maximum slope is 2.91%. The required minimum slope for 8-inch diameter pipe is 0.33% and the required maximum slope is 8.40%. The proposed system meets these requirements.

Therefore, the wastewater collection system contains slopes sufficient to maintain a minimum velocity of 2.0 feet per second when flowing full, while staying below the maximum pipe full velocity of 10 fps.

Gravity pipe materials (30 TAC §217.53(b)), Joints for gravity pipe (30 TAC §217.53(c))

PIPE	LINEAR FEET	PIPE MATERIAL	NATIONAL SPECIFICATION FOR PIPE MATERIAL	NATIONAL STANDARD FOR PIPE JOINTS
6" Services	1254	PVC SDR26	ASTM D3034	ASTM D3212
8" Gravity	1909	PVC SDR26	ASTM D3034	ASTM D3212
8" Gravity	60	PVC DR-18	ASTM D1784	ASTM D3139

Separation distances (30 TAC §217.53(d))

The proposed wastewater collection system complies with the TCEQ Separation Distance requirements for horizontal separation. Where the proposed potable water system crosses the proposed collection system, the water system will be above the wastewater collection system. The crossings will meet TCEQ criteria for potable water line crossings. C900 DR-18 PVC pipe with a pressure rating of 150 psi will be used for crossings with vertical separations of less than two-feet and greater than six-inches and are labeled on the wastewater plan and profile sheets.

Building laterals and taps (30 TAC §217.53(e))

There are 6" laterals to proposed homes with this project.

Bores (30 TAC §217.53(f))

Boring will not be required for the installation of this sewage collection system.

Corrosion potential (30 TAC §217.53(g)), Odor control (30 TAC §217.53(h))

PVC SDR26 and DR-18 meeting the requirements of ASTM D3034 and F679 for pipe and ASTM D3212 for pipe joints are proposed for this project. The sewer pipe will handle ordinary domestic sewer.

Active geologic faults (30 TAC §217.53(i))

There are no known active geologic faults within the limits of construction.

Capacity analysis (30 TAC §217.53(j))

The existing downstream collection system consists of 8" pipes. The existing 8" line at the connection point has a minimum grade of 0.33% and a line capacity of 426,569 gpd. There is an agreement in place between the City of Georgetown and the developer, which ensures wastewater capacity within the system for the development of NH 61.

Structural analysis (30 TAC §217.53(k))

Structural calculations are required for this SCS per 30 TAC §217.53(k)(4). See attachment.

Minimum and maximum slopes (30 TAC §217.53(I))

The wastewater collection system contains slopes sufficient to maintain velocities greater than 2.0 feet per second and less than 10.0 feet per second, when flowing full. For 8" diameter pipe, the minimum slope is 0.33%, and the maximum slope is 8.40%. For this system, the proposed minimum slope is 0.50% and the maximum slope is 2.91%.

Alignment (30 TAC §217.53(m))

The proposed wastewater collection system has been designed with uniform grade between manholes. No deviations from straight alignment between manholes are proposed.

Inverted siphons or sag pipes (30 TAC §217.53(n))

There are no inverted siphons or sag pipes proposed with this project.

Bridged sections (30 TAC §217.53(o))

There are no bridged sections proposed with this project.

CRITERIA FOR LAYING PIPE 30 TAC §217.54

Pipe embedment (30 TAC §217.54(a)), Compaction (30 TAC §217.54(b)) Envelope size (30 TAC §217.54(c)), Trench width (30 TAC §217.54(d))

The project will comply with the City of Georgetown's details and specifications for pipe embedment and excavation. The detail is included in the construction plans on Sheets 36 and 37 of NH 61 plans. The bedding compiles with ASTM D-2321 class 1B gravel. The minimum trench width for 8", 12", 15", 18 and 21" pipe is 21", 25", 28", 31" and 35" respectively. The maximum trench width for 8", 12", 15", 18" and 21" pipe is 35", 39", 41", 45 and 48" respectively.

MANHOLES AND RELATED STRUCTURES 30 TAC §217.55

Precast concrete manholes are proposed for this project. A detail for the manhole is included in the construction plans on Sheets 36 and 37 of NH 61. The manholes must meet the requirements of ASTM C-478. Manholes are proposed at the end of the sewer line and at changes in alignment. A detail for the cleanout is included in the construction plans on Sheets 36 and 37 of NH 61. Details for the manhole covers and inverts are included on Sheets 36 and 37 of NH 61.

The manholes have been spaced to comply with Table C.2 of 30 TAC §217.55. The maximum spacing between manholes is 500'.

TRENCHLESS PIPE INSTALLATION 30 TAC §217.56

There are no trenchless pipe installations proposed with this project.

TESTING REQUIREMENTS FOR INSTALLATION OF GRAVITY COLLECTION SYSTEM PIPES 30 TAC §217.57

The testing requirements for Gravity System Pipes are included in the construction plans of NH 61 on Sheet 3.

TESTING REQUIREMENTS FOR MANHOLES 30 TAC §217.58

The following testing requirements are taken from 30 TAC §217.58. The testing requirements are also included in the construction plans of NH 61 on Sheet 3.

All manholes must pass a leakage test. 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.

Hydrostatic Testing

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. 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. A test for concrete manholes may use a 24-hour wetting period before testing to allow saturation of the concrete.

Vacuum Testing

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. 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. 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. 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. There must be a vacuum of 10 inches of mercury inside a manhole to perform a valid test. A test does not begin until after the vacuum pump is off. A manhole passes the test if after 2.0 minutes and with all valves closed, the vacuum is a least 9.0 inches of mercury.

LIFT STATION REQUIREMENTS 30 TAC §217.59

There are no lift station or force mains associated with this project.

DR-18 PIPE

CHOOSE PIPE DIAMTER AND WALL THICKNESS

Dia. = 8 " Wall = 0.503 "

Buckling Analysis

T63) Pressure due to live load

 $L_{\parallel} = 0$

T68) Calculate allowable and predicted buckling pressure.

a)	Calculate	allowable	buckling	pressure:
----	-----------	-----------	----------	-----------

$q_a = 0.4*Sqrt(32*R_W*B'*E_b*(E*I/D^3))$	Equation (1)
$R_W = 1-0.33*(h_W/h)$	Equation (2)
$B' = 1/(1+4*e^{-0.065H})$	Equation (3)
$I = (t^3/12)*(inches^4/Linch)$	Equation (4)

q _a = allowable buckling pressure, pounds per square inch (psi)	=	198.62 psi
h = height of soil surface above top of pipe in inches (in)	=	106.23 "
h _w = height of water surface above top of pipe in inches (in) (groundwater elevation)	=	0 "
R_W = Water buoyancy factor. If h_W = 0, R_W = 1. If 0 < or = hw < or = h (groundwater elevation		
is between the top of the pipe and the ground surface), calculate Rw with Equation 2	=	1
H = Depth of burial in feet (ft) from ground surface to crown of pipe.	=	8.85 '
B' = Empirical coefficient of elastic support	=	0.31
E _b = modulus of soil reaction for the bedding material (psi)	=	3000 psi
E = modulus of elasticity of the pipe material (psi)	=	400000 psi
I = moment of inertia of the nine wall cross section per linear inch of nine inch ⁴ /lineal inch = inch ³		

I = moment of inertia of the pipe wall cross section per linear inch of pipe, inch⁴/lineal inch = inch³. For solid wall pipe, I can be calculated with equation 4. If the pipe used is not solid wall pipe (for example a pipe with a ribbed cross section), the proper moment of inertia formula must be obtained from the manufacturer.

obtained from the manufacturer. = 0.01060529 t = pipe structural wall thickness (in) = 0.503 " D = mean pipe diameter (in) = 8 "

b) Calculate pressure applied to pipe under installed conditions:

$$\begin{aligned} q_p &= Y_w * h_w = R_w * (W_c/D) + L_1 & \text{Equation (5)} \\ W_c &- Y_s * H * (D+t) / 144 & \text{Equation (6)} \end{aligned}$$

q _p = pressure applied to pipe under installed conditions (psi)	=	8.49 psi
Y _w = 0.0361 pounds per cubic inch (pci), specific weight of water	=	0.0361 pcf
Y _s = specific weight of soil in pounds per cubic foot (pcf)	=	130 pcf
W _c = vertical soil load on the pipe per unit length in pounds per linear inch (lb/in)	=	67.95 lb/in
L _I = Live load as determined in T63	=	0 psi

Wall Crushing

T81)

T83)

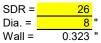
T86)

T71) If no concrete encased flexible pipe is proposed, skip to T73, otherwise:

II = (24*D * A)/(3/ *D)	Equation (7)			
$H = (24*P_c*A)/(Y_s*D_o)$	Equation (7)			
D _o = outside pipe diameter, in.	A missal DVO min a second A 000	=	9.006	in.
P _c = compressive stress or hydrostatic design basis (HDB). For			4000	:
psi. For any other pipe material the HDB must be supplied by the A = surface area of the pipe wall, in. ² /ft	ne pipe manufacturer.	=	4000 6.036	' -
Y _s = specific weight of soil in pounds per cubic foot (pcf)		=	130	
H = Depth of burial in feet (ft) from ground surface to crown of p	ine	_	495	•
24 = conversions and coefficients	ipe.	=	24	11
) Determine Pipe Stiffness				
$P_{s} = EI/0.149*r^{3}$	Equation (10)			
			400000	
 E = modulus of elasticity of the pipe material (psi) I = moment of inertia of the pipe wall cross section per linear inc For solid wall pipe, I can be calculated with equation 4. If the (for example a pipe with a ribbed cross section), the proper mobilined from the manufacturer. 	pipe used is not solid wall pipe	=	400000	psi
mean pipe diameter (in)		=	0.01060529	in.
r =mean radius (in)		=		in.
P_s		=	445	psi
) Calculate P _s /SSF ratio				
$P_s/SSF = P_s/0.61*zeta*E_b > or = 0.15$	Equation (12)			
P _s = Pipe stiffness (psi)		=	445	psi
E_b = modulus of soil reaction for the bedding material (psi) [from	n T761	=	3000	•
zeta = 1.0, or a value calculated with the method in T79		=	1.0	P 0.
SSF = soil stiffness factor (0.061*zeta*Eb)		= '	183	
P_s/SSF		=	2.43	
) Calculate and report predicted deflection.				
$DeltaY/D(\%) = (K*(L_p+L_l)*100)/((0.149*P_s)+(0.061*zeta*E_b))$	Equation (13)			
$L_p = (Y_s * H)/144$	Equation (14)			
Delta Y/D = Predicted % vertical deflection under load DeltaY = Change in vertical pipe diameter under load		=	0.35	%
D = Undeflected mean pipe diameter (in)		=	8	in.
K = Bedding angle constant. Assumed to be 0.110 unless other		=	0.110	
Y_s = Unit weight of soil (pcf). Y_s less than 120 pcf must be justif	ied.	=	130	
H = Depth of burial (ft) from ground surface to crown of pipe.		=	8.8525	ft.
L _p =Prism load (psi). If prism load is calculated using Marston's				
less conservative than the one provided above, the load sho factor DL = 1.5 to account for long-term deflection of the pip		=	7.99	psi
(P_s from T82; zeta from T80; and E_b from T76)				

ASTM D3034 PIPE (NOT ASTM D2241)

CHOOSE PIPE SDR AND DIAMETER



Buckling Analysis

T63) Pressure due to live load

T68) Calculate allowable and predicted buckling pressure.

a) Calculate allowable buckling pressure:

$$\begin{array}{ll} q_a = 0.4* Sqrt(32*R_W*B'*E_b*(E*I/D^3)) & \text{Equation (1)} \\ R_W = 1-0.33*(h_w/h) & \text{Equation (2)} \\ B' = 1/(1+4*e^{-0.065H}) & \text{Equation (3)} \\ I = (t^3/12)*(inches^4/Linch) & \text{Equation (4)} \end{array}$$

q _a = allowable buckling pressure, pounds per square inch (psi)	=	105.45 psi
h = height of soil surface above top of pipe in inches (in)	=	128.22 "
h _w = height of water surface above top of pipe in inches (in) (groundwater elevation)	=	0 "
R_W = Water buoyancy factor. If h_W = 0, R_W = 1. If 0 < or = hw < or = h (groundwater elevation		
is between the top of the pipe and the ground surface), calculate Rw with Equation 2	=	1
H = Depth of burial in feet (ft) from ground surface to crown of pipe.	=	10.69 '
B' = Empirical coefficient of elastic support	=	0.33
E _b = modulus of soil reaction for the bedding material (psi)	=	3000 psi
E = modulus of elasticity of the pipe material (psi)	=	400000 psi
I = moment of inertia of the pipe wall cross section per linear inch of pipe, inch ⁴ /lineal inch = inch ³ .		
Can apply used mine. I have be apply dated with any attent 4. If the mine wood is not apply used mine.		

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

obtained from the manufacturer. = 0.00280819 t = pipe structural wall thickness (in) = 0.323 " D = mean pipe diameter (in) = 0.8 "

b) Calculate pressure applied to pipe under installed conditions:

$q_p = Y_w * h_w = R_w * (W_c/D) + L_l$	Equation (5)
$W_c - Y_s *H*(D+t)/144$	Equation (6)

q _p = pressure applied to pipe under installed conditions (psi)	=	10.04 psi
Y _w = 0.0361 pounds per cubic inch (pci), specific weight of water	=	0.0361 pcf
Y _s = specific weight of soil in pounds per cubic foot (pcf)	=	130 pcf
W _c = vertical soil load on the pipe per unit length in pounds per linear inch (lb/in)	=	80.29 lb/in
L _i = Live load as determined in T63	=	0 psi

Wall Crushing

T81)

T83)

T86)

T71) If no concrete encased flexible pipe is proposed, skip to T73, otherwise:

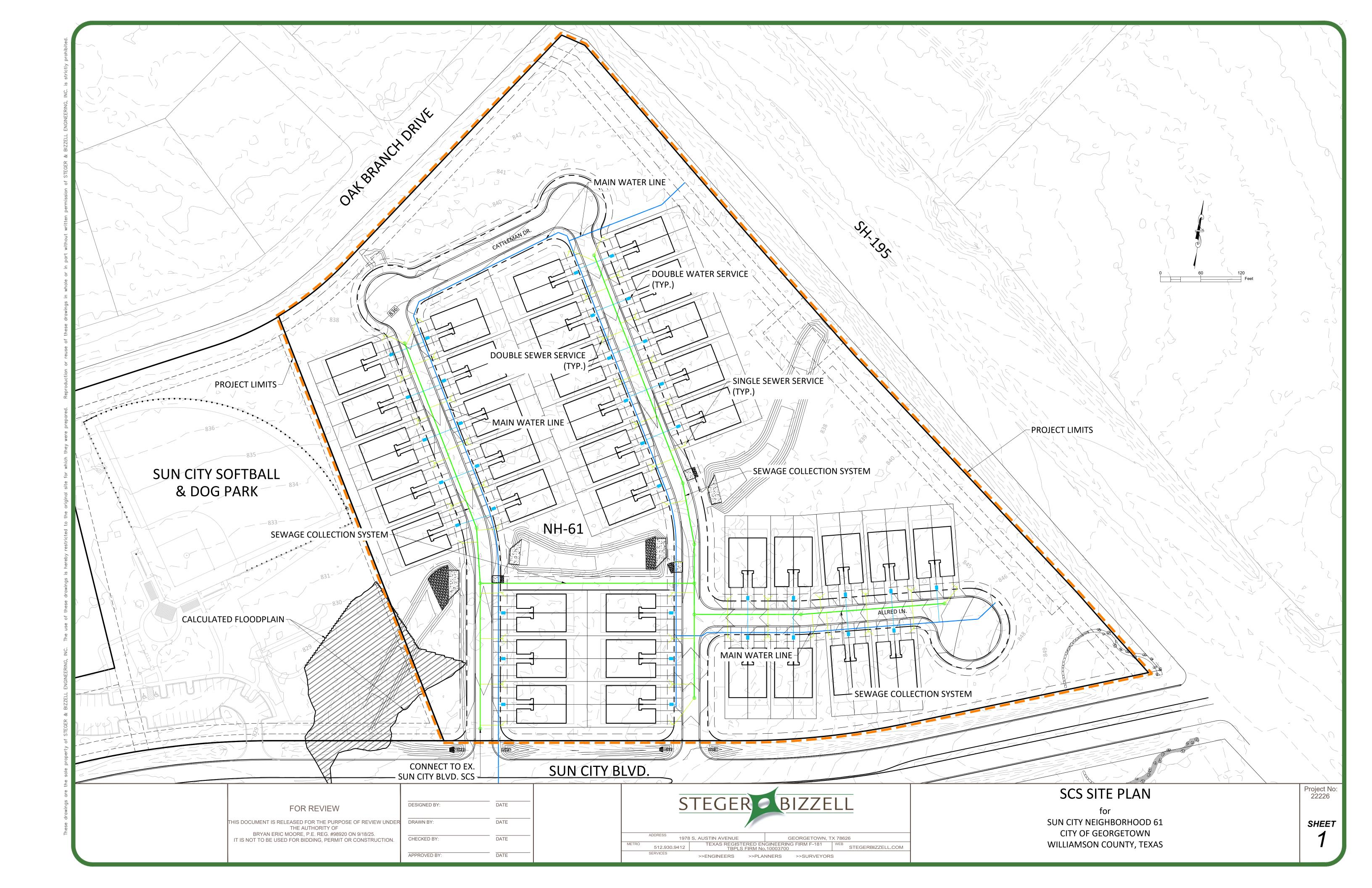
	$H = (24*P_c*A)/(Y_s*D_o)$	Equation (7)			
	$\Pi = (24 \cdot \Gamma_0 \cdot A)/(\Gamma_S \cdot D_0)$	Equation (1)			
	D_o = outside pipe diameter, in. P_c = compressive stress or hydrostatic design basis (HDB). For typic	cal PVC pipe assume 4.000	=	8.625	in.
	psi. For any other pipe material the HDB must be supplied by the pi		=	4000	psi
	A = surface area of the pipe wall, in. ² /ft	F	=	3.876	•
	Y _s = specific weight of soil in pounds per cubic foot (pcf)		=	130	pcf
	H = Depth of burial in feet (ft) from ground surface to crown of pipe.		=	332	ft
	24 = conversions and coefficients		=	24	
) [Determine Pipe Stiffness				
	$P_s = EI/0.149*r^3$	Equation (10)			
	E = modulus of elasticity of the pipe material (psi)		=	400000	nei
	I = moment of inertia of the pipe wall cross section per linear inch of For solid wall pipe, I can be calculated with equation 4. If the pipe (for example a pipe with a ribbed cross section), the proper mome obtained from the manufacturer.	used is not solid wall pipe		400000	ры
	mean pipe diameter (in)		=	0.00280819	in.
	r =mean radius (in)		=		in.
	P_s		=	118	psi
) (Calculate P _s /SSF ratio				
	$P_s/SSF = P_s/0.61*zeta*E_b > or = 0.15$	Equation (12)			
	P _s = Pipe stiffness (psi)		=	118	nsi
	E _b = modulus of soil reaction for the bedding material (psi) [from T76	61	=	3000	•
	zeta = 1.0, or a value calculated with the method in T79	-1	=	1.0	Poi
	SSF = soil stiffness factor (0.061*zeta*Eb)		= -	183	
	P _s /SSF		=	0.64	
) (Calculate and report predicted deflection.				
	$DeltaY/D(\%) = (K*(L_p+L_l)*100)/((0.149*P_s)+(0.061*zeta*E_b))$	Equation (13)			
	$L_p = (Y_s * H)/144$	Equation (14)			
	Delta Y/D = Predicted % vertical deflection under load DeltaY = Change in vertical pipe diameter under load		=	0.53	%
	D = Undeflected mean pipe diameter (in)		=	8	in.
	K = Bedding angle constant. Assumed to be 0.110 unless otherwise	e justified.	=	0.110	
	$\rm Y_s$ = Unit weight of soil (pcf). $\rm Y_s$ less than 120 pcf must be justified.		=	130	
	H = Depth of burial (ft) from ground surface to crown of pipe.		=	10.685	ft.
	L _p =Prism load (psi). If prism load is calculated using Marston's load				
	less conservative than the one provided above, the load should			0.05	
	factor DL = 1.5 to account for long-term deflection of the pipe as	the pedding consolidates.	=	9.65	psı
	(P_s from T82; zeta from T80; and E_b from T76)				

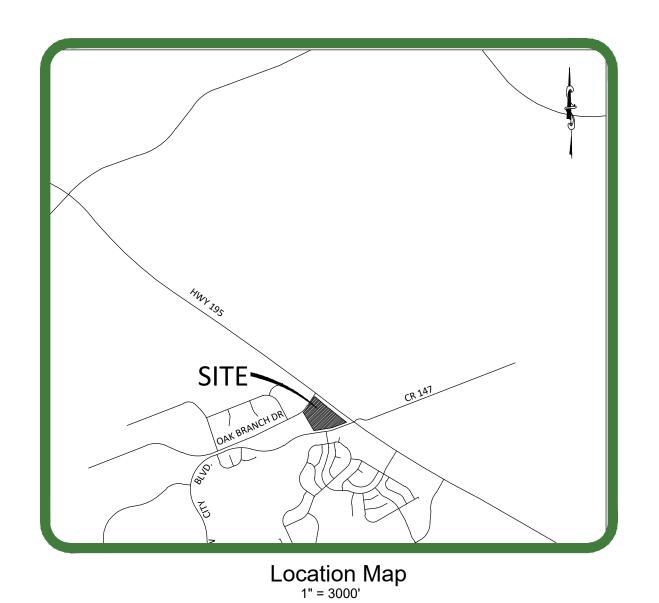
SCS Site Plan

SCS SILE FIAIL	
See Enclosed Neighborhood 61 construction and site plans.	

Final Plan and Profile Sheets

rillal Flatt allu Flotile Sileets		
See the Attached Neighborhood 61 construction plans for sewage collection system plan and profile sheets.		





CONSTRUCTION PLANS FOR SUN CITY NEIGHBORHOOD SIXTY ONE DRAINAGE, PAVING, WASTEWATER, AND WATER SYSTEM IMPROVEMENTS CITY OF GEORGETOWN WILLIAMSON COUNTY, TEXAS 2025-XX-CON

NOTE:

- These construction plans were prepared, sealed, signed, and dated by a Texas Licensed Professional Engineer. Therefore based on the engineer's concurrence of compliance, the construction plans for construction of the proposed project are hereby approved subject to the Standard Construction Specifications and Details Manual and all other applicable City, State and Federal Requirements and Codes.
- 2. This project is subject to all City Standard Specifications and Details in effect at the time of submittal of the project to the City.
- 3. The property subject to this application is subject to the Water Quality Regulations of the City of Georgetown.
- 4. A Geologic Assessment, in accordance with the City of Georgetown Water Quality Regulations, was completed on August 19, 2025. Any springs and streams as identified in the Geologic Assessment are shown herein.
- 5. The project limits of construction is 14.28 acres.
- 6. All electric distribution lines and individual service lines shall be installed underground. If overhead lines existed prior to underground installation, such poles, guys wires, and related structures shall be removed following construction of the underground infrastructure (only applicable for residential property).
- 7. All electric communication and infrastructure shall comply with UDC Section 13.06
- 8. All bearings and coordinates are referenced to the Texas Coordinate System, Central Zone. NAD 83 horizontal control datum and NGVD 29 vertical control datum. All distances and coordinates are surface and may be converted to grid by multiplying by the combined scale factor of 0.999856056. The translation of the Sun City coordinate system to NAD 83 / 93 HARN coordinate system and the NAVD 88 Vertical Datum are as follows: (NAD83) Northing -1.83' = Northing (NAD 83 / 93 HARN)

(NAD83) Easting -1.49' = Easting (NAD 83 / 93 HARN) (NGVD29) Elevation +0.35' = Elevation (NAD 83 / 93 HARN)



TEXAS ONE-CALL 800-344-8377

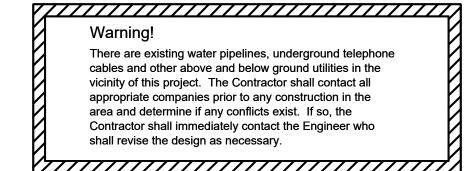
NOTE

CONTRACTOR IS TO FURNISH A SET OF CONSTRUCTION PLANS BACK TO THE ENGINEER AT THE END OF THE PROJECT WITH ALL DEVIATIONS NOTED IN RED INK ON THE PLAN SHEETS. CONTRACTOR SHALL NOT RECEIVE FINAL PAYMENT UNTIL COMPLETE "AS-BUILT" SET IS RETURNED TO ENGINEER.





BENCHMARKS:



Sheet List Table

	Sheet List Table
Sheet Number	Sheet Title
01	COVER
02	GENERAL NOTES (1 OF 2)
03	GENERAL NOTES (2 OF 2)
04	PRELIMINARY PLAT (1 OF 5)
05	PRELIMINARY PLAT (2 OF 5)
06	PRELIMINARY PLAT (3 OF 5)
07	PRELIMINARY PLAT (4 OF 5)
08	PRELIMINARY PLAT (5 OF 5)
09	TREE SURVEY (1 OF 6)
10	TREE SURVEY (2 OF 6)
11	TREE SURVEY (3 OF 6)
12	TREE SURVEY (4 OF 6)
13	TREE SURVEY (5 OF 6)
14	TREE SURVEY (6 OF 6)
15	TREE PRESERVATION PLAN (1 OF 2)
16	TREE PRESERVATION PLAN (2 OF 2)
17	EXISTING DRAINAGE MAP
18	PROPOSED DRAINAGE MAP
19	EROSION & SEDIMENTATION CONTROL PLAN
20	EROSION & SEDIMENTATION CONTROL DETAIL
21	ALLRED LANE PLAN & PROFILE
22	CATTLEMAN DRIVE PLAN & PROFILE (1 OF 2)
23	CATTLEMAN DRIVE PLAN & PROFILE (2 OF 2)
24	CATTLEMAN DRIVE CDS
25	OVERALL STORM SEWER PLAN
26	INLET CALCULATIONS (1 OF 2)
27	INLET CALCULATIONS (2 OF 2)
28	CULVERT & CHANNEL CALULCATIONS
29	SS-A01 & SS-A01A PLAN & PROFILE
30	SS-B01 PLAN & PROFILE
31	CULVERT A PLAN & PROFILE
32	CULVERT B PLAN & PROFILE
33	CULVERT C PLAN & PROFILE
34	CULVERT D PLAN & PROFILE
35	CHANNEL A PLAN & PROFILE
36	PAVING AND DRAINAGE DETAILS (1 OF 3)
37	PAVING AND DRAINAGE DETAILS (2 OF 3)
38	PAVING AND DRAINAGE DETAILS (3 OF 3)
39	OVERALL WASTEWATER PLAN
40	WW-A PROFILE
41	WW-B PROFILE
42	WW-C PROFILE
43	WW-D PROFILE
44	WASTEWATER DETAILS (1 OF 2)
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INTERSECTION DETAILS

OWNER / DEVELOPER

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ENGINEER/APPLICANT:



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2025-8-PP P&Z APPROVED XXXXXXXXXXXXXXXX

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- 2. Prior to beginning construction, the Owner or his authorized representative, shall convene a Pre-Construction Conference between the City of Georgetown, Engineer, Contractor, County Engineer (if applicable), Texas Commission on Environmental Quality Field Office, and any other affected parties. Notify all such parties at least 48 hours prior to the time of the conference and 48 hours prior to beginning construction.
- The Environmental Project Manager, and/or Site Supervisor, and/or Designated Responsible Party, and the General Contractor will follow the Storm Water Pollution Prevention Plan (SWPPP) posted on the site. Temporary erosion and sedimentation controls will be revised, if needed, to comply with City Inspectors' directives, and revised construction schedule relative to the water quality plan requirements and the erosion plan.
- Rough grade the channel at 100% proposed capacity. The channel shall be protected from erosion with the required controls and shall be maintained and de-silted throughout the course of construction until permanent vegetation has been
- Temporary erosion and sedimentation controls will be inspected and maintained in accordance with the Storm Water Pollution Prevention Plan (SWPPP) posted on the
- 6. Begin site clearing/construction activities.
- 7. Complete construction and start revegetation of the site and installation of
- 8. Upon completion of the site construction and revegetation of a project site, a final inspection will be scheduled by the appropriate City Inspector.
- After a final inspection has been conducted by the City Inspector and with approval from the City Inspector, remove the temporary erosion and sedimentation controls and complete any necessary final revegetation resulting from removal of the controls. Conduct any maintenance and rehabilitation of the water quality ponds or controls.

ACCESSIBILITY NOTES

- 1. Project shall be constructed in full compliance with the Texas Accessibility Standards (TAS) 2012.
- 2. Slopes in the direction of pedestrian travel shall not exceed 5% (1:20) or have a cross slope greater than 2% (1:48). This shall include routes that cross-vehicular ways including but not limited pedestrian/ vehicular ways such as street intersections.
- A. Exception: Per TAS 405.8 and 68.102 (1) grades at the new sidewalks parallel to the streets shall be equal to, or less than, the street grade. Should the new sidewalks exceed the street grade, and the new sidewalk grades exceed 5% in the direction of travel, ramps complying with TAS 405 are required at these conditions.
- A. Curb ramps shall not exceed 8.3% (1:12) in the direction of pedestrian travel.
- Curb ramps flares (wings) shall not exceed 1:10. C. Minimum width of a curb ramp is 36".
- D. Top of the curb ramp must be 2% in all directions for an area 36" wide and 48" deep. E. When truncated domes are used, the truncated dome system shall extend the full width of the curb ramp and for a minimum depth of 24" at the bottom of the curb
- F. Returned curb ramps shall only be used where the adjacent surface on one or both sides of the curb ramp do not allow pedestrian travel such as but not limited to stop
- 4. There shall be no changes in level greater than $\frac{1}{4}$ " on any accessible route or $\frac{1}{2}$ " with
- Decomposed granite surfaces, or similar Engineer-approved surfaces shall be compacted tight and maintained by the Owner at all times.

lights, stop signs and permanently mounted waste receptacles.

- Provide directional signage using the international symbol of accessibility when not all routes are accessible. Signage shall be placed at the beginning of the route to avoid a patron from proceeding on a non-accessible route.
- Verify that no plantings or other site elements on circulation paths would be protruding objects based on TAS 307 (protrudes more 4" and is higher than 27" from the surface and less than 80" from the surface).

Contractor shall notify the Engineer before proceeding with any Work, which is in conflict with the Texas Accessibility Standards. Contractor is financially responsible for proceeding with any Work without written direction on any clarification from the Engineer.

TCEQ WATER DISTRIBUTION SYSTEM **GENERAL CONSTRUCTION NOTES**

- 1. This water distribution system must be constructed in accordance with the current Texas Commission on Environmental Quality (TCEQ) Rules and Regulations for Public Water Systems 30 Texas Administrative Code (TAC) Chapter 290 Subchapter D. When conflicts are noted with local standards, the more stringent requirement shall be applied. Construction for public water systems must always, at a minimum, meet TCEQ's "Rules and Regulations for **Public Water Systems**
- 2. An appointed engineer shall notify in writing the local TCEQ's Regional Office when construction will start. Please keep in mind that upon completion of the water works project, the engineer or owner shall notify the commission's Water Supply Division, in writing, as to its completion and attest to the fact that the work has been completed essentially according to the plans and change orders on file with the commission as required in 30 TAC §290.39(h)(3).
- 3. All newly installed pipes and related products must conform to American National Standards Institute (ANSI)/NSF International Standard 61 and must be certified by an organization accredited by ANSI, as required by 30 TAC §290.44(a)(1).
- 4. Plastic pipe for use in public water systems must bear the NSF International Seal of Approval (NSF-pw) and have an ASTM design pressure rating of at least 150 psi or a standard dimension ratio of 26 or less, as required by 30 TAC §290.44(a)(2).
- 5. No pipe which has been used for any purpose other than the conveyance of drinking water shall be accepted or relocated for use in any public drinking water supply, as required by 30 TAC §290.44(a)(3).
- 6. Water transmission and distribution lines shall be installed in accordance with the manufacturer's instructions. However, the top of the water line must be located below the frost line and in no case shall the top of the water line be less than 24 inches below ground surface, as required by 30 TAC §290.44(a)(4).
- 7. Pursuant to 30 TAC §290.44(a)(5), the hydrostatic leakage rate shall not exceed the amount allowed or recommended by the most current AWWA formulas for PVC pipe, cast iron and ductile iron pipe. Include the formulas in the notes on the plans.
 - The hydrostatic leakage rate for polyvinyl chloride (PVC) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-605 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

 $Q = L x D x P^{1/2}$

- Q = the quantity of makeup water in gallons per hour,
- L = the length of the pipe section being tested, in feet,
- D = the nominal diameter of the pipe in inches, and
- P = the average test pressure during the hydrostatic test in pounds per square inch (psi).
- The hydrostatic leakage rate for ductile iron (DI) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-600 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

 $L = S \times D \times P^{1/2}$

- L = the quantity of makeup water in gallons per hour,
- S = the length of the pipe section being tested, in feet,
- D = the nominal diameter of the pipe in inches, and
- P = the average test pressure during the hydrostatic test in pounds per square inch (psi).
- 8. The maximum allowable lead content of pipes, pipe fittings, plumbing fittings, and fixtures to 0.25 percent.
- 9. The system must be designed to maintain a minimum pressure of 35 psi at all points within the distribution network at flow rates of at least 1.5 gallons per minute per connection. When the system is intended to provide firefighting capability, it must also be designed to maintain a minimum pressure of 20 psi under combined fire and drinking water flow conditions as required by 30 TAC §290.44(d).
- 10. The contractor shall install appropriate air release devices in the distribution system at all points where topography or other factors may create air locks in the lines. All vent openings to the atmosphere shall be covered with 16-mesh or finer, corrosion resistant screening material or an acceptable equivalent as required by 30 TAC §290.44(d)(1).
- 11. Pursuant to 30 TAC §290.44(d)(4), accurate water meters shall be provided. Service connections and meter locations should be shown on the plans.
- 12. Pursuant to 30 TAC §290.44(d)(5), sufficient valves and blowoffs to make repairs. The engineering report shall establish criteria for this design.
- 13. Pursuant to 30 TAC §290.44(d)(6), the system shall be designed to afford effective circulation of water with a minimum of dead ends. All dead-end mains shall be provided with acceptable flush valves and discharge piping. All dead-end lines less than two inches in diameter will not require flush valves if they end at a customer service. Where dead ends are necessary as a stage in the growth of the system, they shall be located and arranged to ultimately connect the ends to provide circulation.
- 14. The contractor shall maintain a minimum separation distance in all directions of nine feet between the proposed waterline and wastewater collection facilities including manholes and septic tank drainfields. If this distance cannot be maintained, the contractor must immediately notify the project engineer for

further direction. Separation distances, installation methods, and materials utilized must meet 30 TAC §290.44(e)(1-4) of the current rules.

- 15. Pursuant to 30 TAC §290.44(e)(5), the separation distance from a potable waterline to a wastewater main or lateral manhole or cleanout shall be a minimum of nine feet. Where the nine-foot separation distance cannot be achieved, the potable waterline shall be encased in a joint of at least 150 psi pressure class pipe at least 18 feet long and two nominal sizes larger than the new conveyance. The space around the carrier pipe shall be supported at five-foot intervals with spacers or be filled to the springline with washed sand. The encasement pipe shall be centered on the crossing and both ends sealed with cement grout or manufactured sealant.
- 16. Pursuant to 30 TAC §290.44(e)(6), fire hydrants shall not be installed within nine feet vertically or horizontally of any wastewater line, wastewater lateral, or wastewater service line regardless of construction.
- 17. Pursuant to 30 TAC §290.44(e)(7), suction mains to pumping equipment shall not cross wastewater mains, wastewater laterals, or wastewater service lines. Raw water supply lines shall not be installed within five feet of any tile or concrete wastewater main, wastewater lateral, or wastewater service line.
- 18. Pursuant to 30 TAC §290.44(e)(8), waterlines shall not be installed closer than ten feet to septic tank drainfields
- 19. Pursuant to 30 TAC §290.44(f)(1), the contractor shall not place the pipe in water or where it can be flooded with water or sewage during its storage or
- 20. Pursuant to 30 TAC §290.44(f)(2), when waterlines are laid under any flowing or intermittent stream or semi-permanent body of water the water main shall be installed in a separate watertight pipe encasement. Valves must be provided on each side of the crossing with facilities to allow the underwater portion of the system to be isolated and tested
- 21. The contractor shall disinfect the new water mains in accordance with AWWA Standard C-651 and then flush and sample the lines before being placed into service. Samples shall be collected for microbiological analysis to check the effectiveness of the disinfection procedure which shall be repeated if contamination persists. A minimum of one sample for each 1,000 feet of completed water line will be required or at the next available sampling point beyond 1,000 feet as designated by the design engineer, in accordance with 30 TAC §290.44(f)(3).

CITY OF GEORGETOWN GENERAL NOTES

- 1. These construction plans were prepared, sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore based on the engineer's concurrence of compliance, the construction plans for construction of the proposed project are hereby approved subject to the standard Construction Specifications and Details Manual and all other applicable City, State and Federal Requirements and Codes.
- 2. This project is subject to all City Standard Specifications and Details in effect at the time of submittal of the project to the City.
- 3. The site construction plans shall meet all requirements of the approved site
- 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 the City of Georgetown and TCEQ requirements. 8. Wastewater manholes shall be vacuum tested and coated by the contractor
- according to City of Georgetown and TCEQ requirements. 9. Wastewater mains shall be camera tested by the contractor and submitted
- to the City on DVD format prior to paying the streets. 10. Private water system fire lines shall be tested by the contractor to 200 psi for
- 11. Private water system fire lines shall be ductile iron piping from the water
- main to the building sprinkler system, and 200 psi C900 PVC for all others 12. Public water system mains shall be 150 psi C900 PVC and tested by the contractor at 200 psi for 15 minutes and 150 psi for 2 hours.
- 13. All bends and changes in direction on water mains shall be restrained and thrust blocked.
- 14. Long fire hydrant leads shall be restrained. 15. All water lines are to be bacteria tested by the contractor according to the City standards and specifications.
- 16. Water and Sewer main crossings shall meet all requirements of the TCEQ
- 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 the public improvements shall be submitted to the City by the design engineer prior to acceptance of the project. These drawings shall be a pdf emailed to the City Development engineer.

GENERAL CONSTRUCTION NOTES

- 1. Prior to beginning construction, the Owner or his authorized representative, shall convene a Pre-Construction Conference between the City of Georgetown, Engineer, Contractor, County Engineer (if applicable), Texas Commission on Environmental Quality Field Office, and any other affected parties. Notify all such parties at least 48 hours prior to the time of the conference and 48 hours prior to beginning construction.
- 2. Any existing utilities, pavement, curbs, and/or sidewalks damaged or removed shall be repaired by the Contractor at his expense before acceptance of the project.
- 3. The location of any existing water, wastewater lines or other utilities shall be verified by the City of Georgetown & other utility providers prior to construction.
- 4. Manhole frames, covers, water valve covers, etc., shall be raised to finished pavement grade at the Contractor's expense by a qualified contractor with City inspection. All utility adjustments shall be completed prior to final paving construction.
- Steger Bizzell has endeavored to design these plans compliant with ADA/TDLR and other accessibility requirements. However, the contractor shall not be relieved of any responsibility for constructing these improvements compliant with all applicable accessibility standards. If the contractor notices any discrepancies between these plans and accessibility laws/rules, he is to stop work in the area of conflict and notify Steger Bizzell immediately for a resolution and/or revision to these plans. Steger Bizzell shall not be held responsible for constructing this site compliant with accessibility laws/rules regardless of what is shown in these plans.
- Topography based upon on the LIDAR and ground surveys by Steger Bizzell dated January 26, 2021. The contractor shall notify the design engineer in writing of any discrepancies discovered during construction prior to proceeding.

TEMPORARY EROSION CONTROL NOTES

- 1. The Contractor shall install erosion/sedimentation controls and tree protective fencing prior to any site preparation work (clearing grubbing or excavation).
- 2. The placement of erosion/sedimentation controls shall be in accordance with the EROSION & SEDIMENTATION CONTROL PLAN
- 3. Any significant variation in materials or locations of controls or fences from those shown on the approved plans must be approved by the City Engineer.
- The Contractor is required to inspect all controls and fences at weekly intervals and after significant 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.
- Prior to final acceptance, 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.
- 6. Field revisions to the EROSION & SEDIMENTATION CONTROL PLAN required by the Engineer or field inspector with the Texas Commission may be on Environmental Quality (TCEQ) during the course of construction to correct control inadequacies. Major revisions must be approved by the (TCEQ).
- Refer to Geologic Assessment by SWCA, dated April 22, 2022 for sensitive features within

PERMANENT EROSION CONTROL NOTES

- 1. All disturbed areas shall be restored as noted below:
- a. A minimum of four inches of imported sandy loam topsoil or approved equal shall be placed in all drainage channels (except rock) and on all cleared areas.
- b. Grass areas may be sodded, plugged, sprigged or seeded except that solid sod shall be used in swales or other areas subject to erosion.
- The seeding for permanent erosion control shall be applied over areas disturbed by construction as follows, unless specified elsewhere: i. From September 15 to March 1, seeding shall be with a combination of 1 pound per
- 1,000 square feet of unhulled Bermuda and 7 pounds per 1,000 square feet of Winter Rye with a purity of 95% with 90% germination ii.From March 2 to September 14, seeding shall be with hulled Bermuda at a rate of 3
- pounds per 1,000 square feet with a purity of 95% with 85% germination. c. Fertilizer shall be slow release granular or pelleted type and shall have an analysis of 15-15-15 and shall be applied at the rate of 23 pounds per acre once at the time of planting and again once during the time of establishment
- d. All planted areas shall be provided with a readily available water supply and watered as necessary to ensure continuous healthy growth and development. The planted area shall be irrigated or sprinkled in a manner that will not erode the top soil, but will sufficiently soak the soil to a depth of six inches. The irrigation shall occur at ten-day intervals during the first two months. Rainfall occurrences of 1/2 inch or more shall postpone the watering schedule for one week.
- e. Mulch type used shall be Mulch, applied at a rate of 1,500 pounds per acre. 2. Disturbed areas within areas to become public shall be re-vegetated to the City of Georgetown requirements. See section G7 of the City of Georgetown Specifications.

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

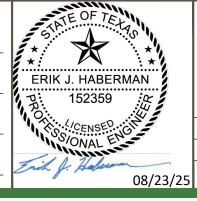
- 1. Written construction notification must be given to the appropriate TCEQ regional office no later than 48 hours prior to commencement of the regulated activity. Information must include the date on which the regulated activity will commence, the name of the approved plan for the regulated activity, and the name of the prime contractor and the name and telephone number of the contact person.
- 2. All contractors conducting regulated activities associated with this project must be provided with complete copies of the approved Water Pollution Abatement Plan 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 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. The regulated activities near the sensitive feature may not proceed until the TCEQ has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially adverse impacts to water quality.
- 4. No temporary aboveground hydrocarbon and hazardous substance storage tank system is installed within 150 feet of a domestic, industrial, irrigation, or public water supply well, or other sensitive feature.
- 5. Prior to commencement of construction, all temporary erosion and sedimentation (E&S) control measures must be properly selected, installed, and maintained in accordance with the manufacturers specifications and good engineering practices. Controls specified in the temporary storm water section of the approved Edwards Aguifer Protection Plan are required during construction. If inspections indicate a control has been used inappropriately. or incorrectly, the applicant must replace or modify the control for site situations. The controls must remain in place until disturbed areas are revegetated and the areas have become permanently stabilized.
- 6. 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).
- 7. Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake must be provided that can indicate when the sediment occupies 50% of the basin volume.
- 8. 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).
- 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. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Where the initiation of stabilization measures by the 14th day after construction activity temporary or permanently cease is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 21 days, temporary stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.
- 11. The following records shall be maintained and made available to the TCEQ upon request: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; and the dates when stabilization measures are initiated.
- 12.The holder of any approved Edward Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:
- A. any physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;
- B. any change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;
- C. any development of land previously identified as undeveloped in the original water pollution abatement plan.

Austin Regional Office 12100 Park 35 Circle Building A, 1st Floor Austin, Texas 78753 Phone (512) 339-2929 Fax (512) 339-3795

WARNING! There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

REVISION

BY DATE CCL, EJH DESIGNED BY: CCL, NV, TG DRAWN BY: DATE CHECKED BY: DATE APPROVED B



STEGER BIZZELL 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626 TEXAS REGISTERED ENGINEERING FIRM F-181
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>>PLANNERS >>SURVEYORS

GENERAL NOTES (1 OF 2)

SUN CITY NEIGHBORHOOD 61 City of Georgetown

Williamson County, Texas

Project Path:

AS NOTED SCALE: P\22000-22999 22226-NH61 P\22000-22999 SUN CITY

Project Number: 22226\39-NH61

eet Number: 02 of 51 sheets

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.

Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the manufacturers specifications. These controls must remain in place until the disturbed areas have been permanently stabilized.

6. If any sensitive features are discovered during the wastewater line trenching activities, all regulated activities near the sensitive feature must be suspended immediately. The applicant must immediately notify the appropriate regional office of the TCEQ of the feature discovered. A geologist's assessment of the location and extent of the feature discovered must be reported to that regional office in writing and the applicant must submit a plan for ensuring the structural integrity of the sewer line or for modifying the proposed collection system alignment around the feature. The regulated activities near the sensitive feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially adverse impacts to water quality while maintaining the structural integrity of the line.

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.

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.

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

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 Sheets 37 & 38.

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.

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: NOT

If pipe flexure is proposed, the following method of preventing deflection of the joint must be used: NOT APPLICABLE.

Specific care must be taken to ensure that the joint is placed in the center of the trench and properly bedded in accordance with 30 TAC §217.54.

12. New sewage collection system lines must be constructed with stub outs for the connection of anticipated extensions. The location of such stub outs must be marked on the ground such that their location can be easily determined at the time of connection of the extensions. Such stub outs must be manufactured wyes or tees that are compatible in size and material with both the sewer line and the extension. At the time of original construction, new stub-outs must be constructed sufficiently to extend beyond the end of the street pavement. All stub-outs must be sealed with a manufactured cap to prevent leakage. Extensions that were not anticipated at the time of original construction or that are to be connected to an existing sewer line not furnished with stub outs must be connected using a manufactured saddle and in accordance with accepted plumbing techniques.

If no stub-out is present an alternate method of joining laterals is shown in the detail on Plan Sheet 37. (For potential future laterals).

The private service lateral stub-outs must be installed as shown on the plan and profile sheets on Plan Sheet 33 - 36 and marked after backfilling as shown in the detail on Plan Sheet <u>38</u>.

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:

15.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:

15.a.1. Low Pressure Air Test. A low pressure air test must follow the procedures described in American Society 15.a.1.A. For Testing And Materials (ASTM) C-828, ASTM C-924, or ASTM F-1417 or other procedure approved by the executive director, except as to testing times as required in Table C.3 in subparagraph (C) of this paragraph or Equation C.3 in subparagraph (B)(ii) of this paragraph.

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

15.a.1.B.1. A pipe must be pressurized to 3.5 pounds per square inch (psi) greater than the pressure exerted by groundwater above the pipe. 15.a.1.B.2.

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:

 $T = 0.085 \times D \times K$ Equation C.3

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

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

15.a.1.D. An owner may stop a test if no pressure loss has occurred during the first 25% of the 15.a.1.E. If any pressure loss or leakage has occurred during the first 25% of a testing period, then the test must continue for the entire test duration as outlined above or until 15.a.1.F. Wastewater collection system pipes with a 27 inch or larger average inside diameter may be air tested at each joint instead of following the procedure outlined in this

15.a.1.G. A testing procedure for pipe with an inside diameter greater than 33 inches must

be approved by the executive director. Infiltration/Exfiltration Test. The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 15.a.2.A. 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

15.a.2.B. An owner shall use an infiltration test in lieu of an exfiltration test when pipes are installed below the groundwater level. The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 15.a.2.C. 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. 15.a.2.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.

15.a.2.E. If the quantity of infiltration or exfiltration exceeds the maximum quantity specified, an owner shall undertake remedial action in order to reduce the infiltration or exfiltration to an amount within the limits specified. An owner shall retest a pipe following a remediation action.

15.b. If a gravity collection pipe is composed of flexible pipe, deflection testing is also required. The following procedures must be followed:

15.b.1. For a collection pipe with inside diameter less than 27 inches, deflection measurement

requires a rigid mandrel. 15.b.1.A. Mandrel Sizing. 15.b.1.A.1. 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. 15.b.1.A.2. If a mandrel sizing diameter is not specified in the appropriate standard, the mandrel must have an OD equal to 95% of the ID of a pipe. In this case, the ID of the pipe, for the purpose of determining the OD of the mandrel, must equal be the average outside diameter minus two minimum wall thicknesses for OD controlled pipe and the average inside diameter for ID controlled pipe.

15.b.1.A.3. All dimensions must meet the appropriate standard. 15.b.1.B. Mandrel Design. A rigid mandrel must be constructed of a metal or a rigid plastic material that 15.b.1.B.1. can withstand 200 psi without being deformed. 15.b.1.B.2. A mandrel must have nine or more odd number of runners or legs. 15.b.1.B.3. A barrel section length must equal at least 75% of the inside diameter of a pipe.

15.b.1.B.4. Each size mandrel must use a separate proving ring. 15.b.1.C. Method Options. 15.b.1.C.1. An adjustable or flexible mandrel is prohibited.

15.b.1.C.2. A test may not use television inspection as a substitute for a deflection test. If requested, the executive director may approve the use of a deflectometer or 15.b.1.C.3. a mandrel with removable legs or runners on a case-by-case basis. 15.b.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. A deflection test method must be accurate to within plus or minus 0.2% deflection. An owner shall not conduct a deflection test until at least 30 days after the final 15.b.4.

15.b.5. Gravity collection system pipe deflection must not exceed five percent (5%).

15.b.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.

16.a. All manholes must pass a leakage test. 16.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. Hydrostatic Testing.

The maximum leakage for hydrostatic testing or any alternative test methods is 16.b.1.A. 0.025 gallons per foot diameter per foot of manhole depth per hour. 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.

A test for concrete manholes may use a 24-hour wetting period before testing to 16.b.1.C. allow saturation of the concrete.

Vacuum Testing 16.b.2.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. 16.b.2.B. No grout must be placed in horizontal joints before testing. 16.b.2.C. Stub-outs, manhole boots, and pipe plugs must be secured to prevent movement

while a vacuum is drawn. 16.b.2.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. 16.b.2.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.

There must be a vacuum of 10 inches of mercury inside a manhole to perform a 16.b.2.F. valid test. 16.b.2.G. A test does not begin until after the vacuum pump is off. 16.b.2.H. A manhole passes the test if after 2.0 minutes and with all valves closed, the

vacuum is at least 9.0 inches of mercury.

17. All private service laterals must be inspected and certified in accordance with 30 TAC §213.5(c)(3)(I). After installation of and, prior to covering and connecting a private service lateral to an existing organized sewage collection system, a Texas Licensed Professional Engineer, Texas Registered Sanitarian, or appropriate city inspector must visually inspect the private service lateral and the connection to the sewage collection system, and certify that it is constructed in conformity with the

applicable provisions of this section. The owner of the collection system must maintain such certifications for five years and forward copies to the appropriate regional office upon request. Connections may only be made to an approved sewage collection system.

Austin Regional Office 12100 Park 35 Circle, Building A Austin, Texas 78753-1808 Phone (512) 339-2929 Fax (512) 339-3795

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

MANHOLE TESTING

All manholes must pass a leakage test. 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

HYDROSTATIC TESTING

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. 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. A test for concrete manholes may use a 24 hour wetting period before testing to allow saturation of the concrete.

VACUUM TESTING

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. 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. 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. 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. There must be a vacuum of 10 inches of mercury inside a manhole to perform a valid test. A test does not begin until after the vacuum pump is off. A manhole passes the test if after 2.0 minutes and with all valves closed, the vacuum is a least 9.0 inches of mercury.

ADDITIONAL WASTEWATER NOTES

- 1. If a conflict exists between the various documents, the documents will take
- precedence in the following order:
- a. Municipal Utility Specifications
- b. Change Orders c. Addenda Issue During Bidding
- d. Construction Plans e. Project Specifications

2. The following pipe diameters, pipe material and national standard specifications are proposed for this project:

PIPE DIAMETER (IN)	LINEAR FEET (FT)	PIPE MATERIAL	NATIONAL STANDARD FOR PIPE MATERIAL	NATIONAL STANDARD FOR PIPE JOINTS
6	1267	PVC SDR-26	ASTM D 3034	ASTM D 3212
8	1909	PVC SDR-26	ASTM D 3034	ASTM D 3212
8	60	PVC DR-18	ASTM D 3034	ASTM D 3212

- 3. Watertight, size on size resilient connectors conforming to ASTM C 923 must be used for connecting pipe to manholes.
- 4. The bedding class for each diameter of flexible pipe and each flexible pipe material is as follows

PIPE DIAMETER (IN)	PIPE MATERIAL	BEDDING CLASS
8	PVC SDR-26	1B
8	PVC DR-18	1B
6	PVC SDR-26	1B

- 5. Brick manhole construction is not allowed. Use of brick for adjusting manhole covers to grade is also prohibited.
- All manholes shall be of precast concrete construction.
- 7. The structural integrity of the collection line due to high soil P.I.'s will require the bedding around the pipe to be 6" minimum below the pipe, 6" minimum on each side of the pipe, and 12" minimum above the pipe.
- 8. If faults, caverns, or subsidence are discovered during construction, construction shall be halted to allow the features to be inspected by the design engineer or a geological or geotechnical engineer. Based on this inspection, revisions approval to the design may be required.
- 9. The trench walls shall be vertical to at least one foot above the pipe.
- 10. The trench backfill shall be free of stones greater than 6 inches in diameter and free of organic or any other unstable material.
- 11. Manholes shown on the plans with sealed and gasketed covers are provided as protection against inflow for those manholes which lie 1) within a 100 year flood plain, 2) lie with a drainageway, 3) lie within a street subject to carrying drainage flows, and 4) additional locations as determined necessary by the Engineer.
- 12. No drop connections are proposed in these plans.
- 13. The minimum allowable tensile strength and cell class for each flexible pipe shall be as follows:

PIPE MATERIAL	TENSILE STRENGTH	CELL CLASS (PVC ONLY)
SDR-26	7,000	12454-B
PS-115	7,000	12454-B

- 14. All gravity lines utilizing flexible pipe must be tested for deflection by pulling a rigid mandrel through the installed pipe. The test must be conducted at least 30 days after placement and compaction of final backfill. No pipe shall exceed a deflection of 5 rigid mandrel shall be used to measure deflection. The test must be performed without mechanical pulling devices. The mandrel's minimum outside diameter is 95 inside diameter. The mandrel must have an odd number of runners, totaling nine or more. The barrel section of the mandrel must have a length at least 75 inside diameter. A TV test cannot substitute for the deflection
- 15. A leakage test is required for all gravity lines. For line that is not horizontally curved, a hydrostatic test and/or a low pressure air test must be performed on all proposed gravity sanitary sewer collection piping. These tests must comply with Section 217.57(a) of the TCEQ's rules. The contractor shall have the option of utilizing either a hydrostatic test or a low pressure air test.
- 16. Manholes must be tested for leakage. Manholes will be tested with a hydrostatic test, or with a vacuum test, Contractor's Option.
- 17. The hydrostatic manhole test shall comply with the test requirements detailed in Section 217.58(b)(1) of the TCEQ's rules.
- 18. Each manhole shall be tested immediately after assembly and prior to backfilling. Manholes which have been backfilled shall either be excavated to expose the entire exterior prior to vacuum testing or the manhole shall be tested for leakage by means of a hydrostatic test.
- 19. All lift holes and exterior joints shall be plugged with an approved non-shrink grout.
- 20. No grout shall be placed in horizontal joints before testing.
- 21. All pipes entering the manhole shall be plugged, taking care to securely brace the plugs from being drawn into the manhole.

22. Stubouts, manhole boots and pipe plugs shall be secured to prevent movement while the vacuum is drawn.

- 23. A minimum 60-inch/lb torque wrench shall be used to tighten the external clamps that secure the test cover to the top of the manhole.
- 24. The test head shall be placed at the inside of the top of the cone section and the seal inflated in accordance with the manufacturer's recommendation.
- 25. A vacuum of 10 inches of mercury shall be drawn and the vacuum pump shut off. With the valves closed, the time shall be measured for the vacuum to drop to 9 inches of mercury. The manhole shall pass if the time is greater than 2 minutes. If the manhole fails the initial test, necessary repairs shall be made with a non-shrink grout while the vacuum is still being drawn. If the manhole fails a second time, repairs should again be made and the manhole shall be tested by means of a hydrostatic test which complies with Section 217.58(b)(1) of the TCEQ's rules. If any manhole fails the hydrostatic test, after failing the vacuum test twice, the contractor should consider replacing that manhole. If the contractor chooses to attempt to repair that manhole, the manhole must be retested by means of the hydrostatic test outlined in Section 217.58(b)(1) of the TCEQ's rules, until it passes.
- 26. Inspection must be provided during critical phases of construction by a qualified inspector under the direction of a P.E. Critical phases of construction are deemed at a minimum to include testing of pipe and manholes for leakage, testing of flexible pipe for installed deflection, and any other as directed by the City. The City and design engineer shall provide inspection as appropriate.
- 27. TCEQ approval letters for plans and specifications review contain the requirement that once the project is completed, a P.E. registered in the state of Texas must certify that the construction was performed substantially in accordance with the approved plans and specifications. If flexible pipe was installed, a P.E. must also certify that all pipe was subjected to and passed the required deflection test. The design engineer, with concurrence of the City, will certify the installation.
- 28. The project plans and specifications must ensure that the pipe installation will adhere to the minimum separation distances allowed by 217.53 (d), TCEQ's rules.
- Separation Distances. The following rules apply to separation distances between potable water and wastewater treatment plants, and waterlines and sanitary sewers.
- (a) Water line/new sewer line separation. When new sanitary sewers are installed, they shall be installed no closer to waterlines than nine feet in all directions. Sewers that parallel waterlines must be installed in separate trenches. Where the nine foot separation distance cannot be achieved, the following guidelines will apply:

(b) SDF

- (1) Where a sanitary sewer parallels a waterline, the sewer shall be constructed of cast iron, ductile iron or PVC meeting ASTM specifications with a pressure rating for both the pipe and joints of 150 psi. The vertical separation shall be a minimum of two feet between outside diameters and the horizontal separation shall be a minimum of four feet between outside diameters. The sewer shall be located below the waterline.
- (2) Where a sanitary sewer crosses a waterline and the sewer is constructed of cast iron, ductile iron or PVC with a minimum pressure rating of 150 psi, an absolute minimum distance of 6 inches between outside diameters shall be maintained. In addition the sewer shall be located below the waterline where possible and one length of the sewer pipe must be centered on the waterline.
- (3) Where a sewer crosses under a waterline and the sewer is con-structed of ABS truss pipe, similar semi-rigid plastic composite pipe, clay pipe or concrete pipe with gasketed joints, a minimum two foot separation distance shall be maintained. The initial backfill shall be cement stabilized sand (two or more bags of cement per cubic yard of sand) for all sections of sewer within nine feet of the waterline. This initial backfill shall be from one quarter diameter below the centerline of the pipe to one pipe diameter (but not less than 12 inches) above the top of the pipe.

(4) Where a sewer crosses over a waterline all portions of the sewer within

- nine feet of the waterline shall be constructed of cast iron, ductile iron, or PVC pipe with a pressure rating of at least 150 psi using appropriate adapters. In lieu of this procedure the new conveyance may be encased in a joint of 150 psi pressure class pipe at least 18 feet long and two nominal sizes larger than the new conveyance. The space around the carrier pipe shall be supported at 5 feet intervals with spacers or be filled to the springline with washed sand. The encasement pipe should be centered on the crossing and both ends sealed with cement grout or manufactured seal.
- connecting sewer can be made watertight and tested for no leakage, they must be installed so as to provide a minimum of nine feet of horizontal clearance from an existing or proposed waterline. Where the nine foot separation distance cannot be achieved, a carrier pipe as des- cribed in subsection (a)(4) of this section may be used where appropriate.

b) Water line/manhole separation. Unless sanitary sewer manholes and the

The separation distance between any unknown water lines which are discovered during the installation phase of the project, and, the gravity sanitary sewer pipe which will be installed, shall be sufficient to comply with the minimum separation distances allowed by 217.53(d) of the TCEQ's rules as stated above.

- 29. AN EROSION AND SEDIMENTATION CONTROL PLAN is included with these plans. These provisions are intended to control erosion and sedimentation due to runoff during construction. These provisions must be installed prior to any other construction activities.
- 30. It is the intent of this project that portable ladders be used to access manholes during construction by the Contractor as well as for maintenance purposes after construction is complete by the City.
- 31. It is the intent of this project that personal gas detectors are required for wear by all personnel whose jobs require entering enclosed spaces (such as manholes and lift stations) capable of accumulations of hydrogen sulfide or other harmful gases. It shall be the responsibility of the Contractor to ensure these detectors are provided to the appropriate personnel during the construction of this project. It shall be the responsibility of the City to ensure these detectors are provided to the appropriate personnel during the maintenance of this project after construction.

WARNING! There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

REVISION

BY DATE CCL, EJH DESIGNED BY: CCL, NV, TG **DRAWN BY** CHECKED BY: APPROVED B

DATE DATE



STEGER BIZZELL 1978 S. AUSTIN AVENUE GEORGETOWN, TX 78626 TEXAS REGISTERED ENGINEERING FIRM F-181
TBPLS FIRM No.10003700

WEB
STEGERBIZZELL.COM 512.930.9412 >>PLANNERS >>SURVEYORS

GENERAL NOTES (2 OF 2)

SUN CITY NEIGHBORHOOD 61 City of Georgetown

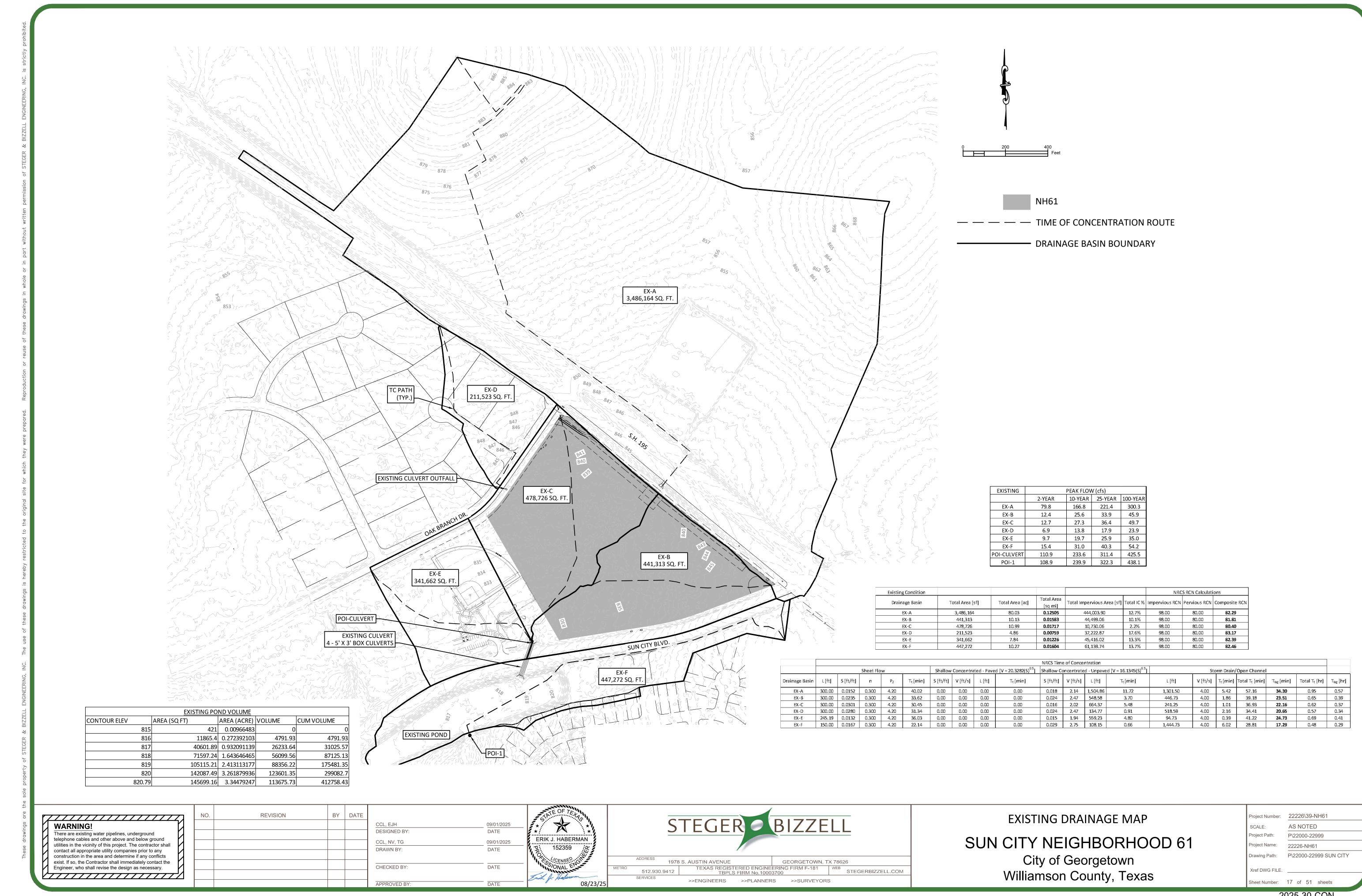
Williamson County, Texas

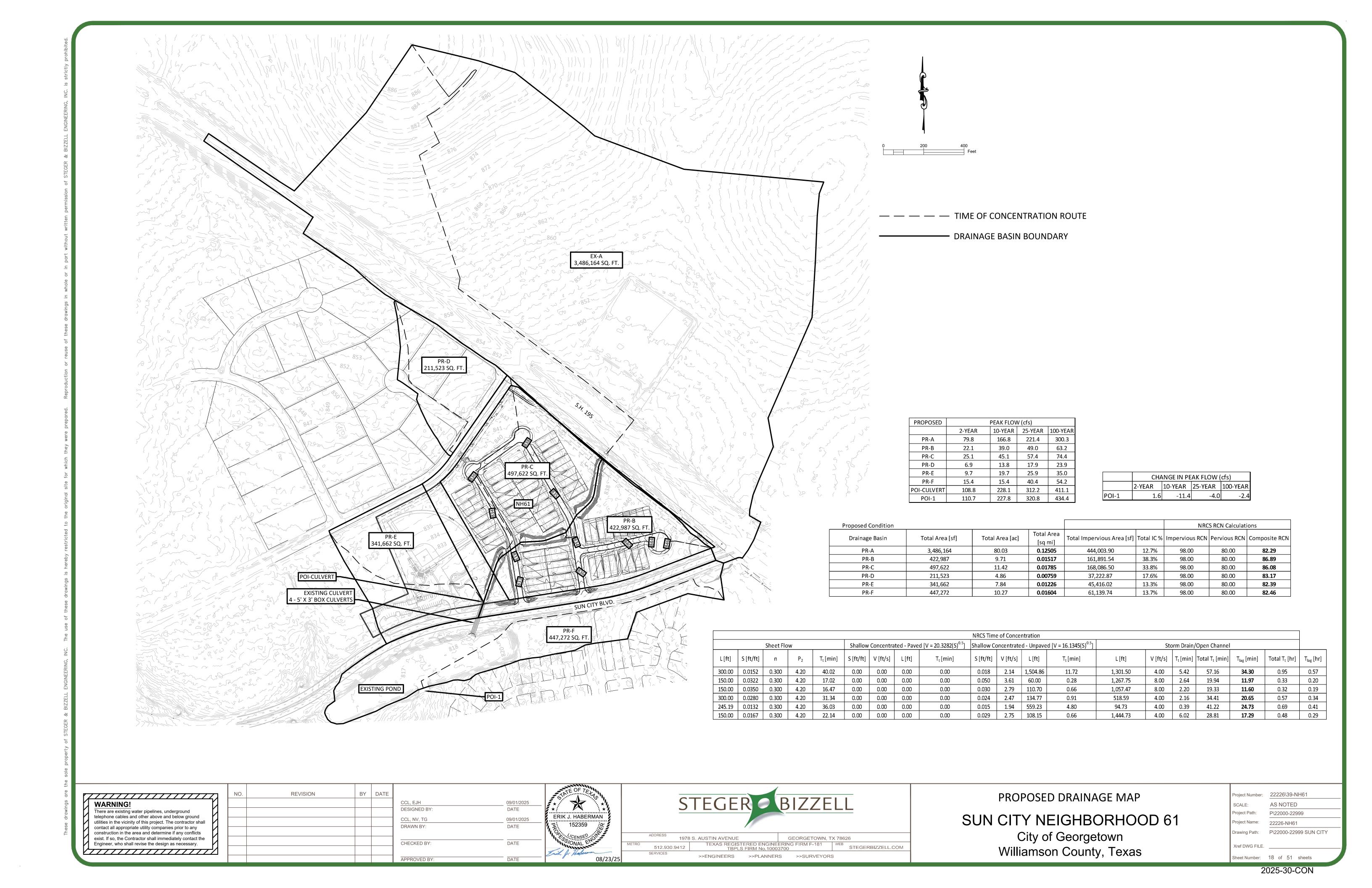
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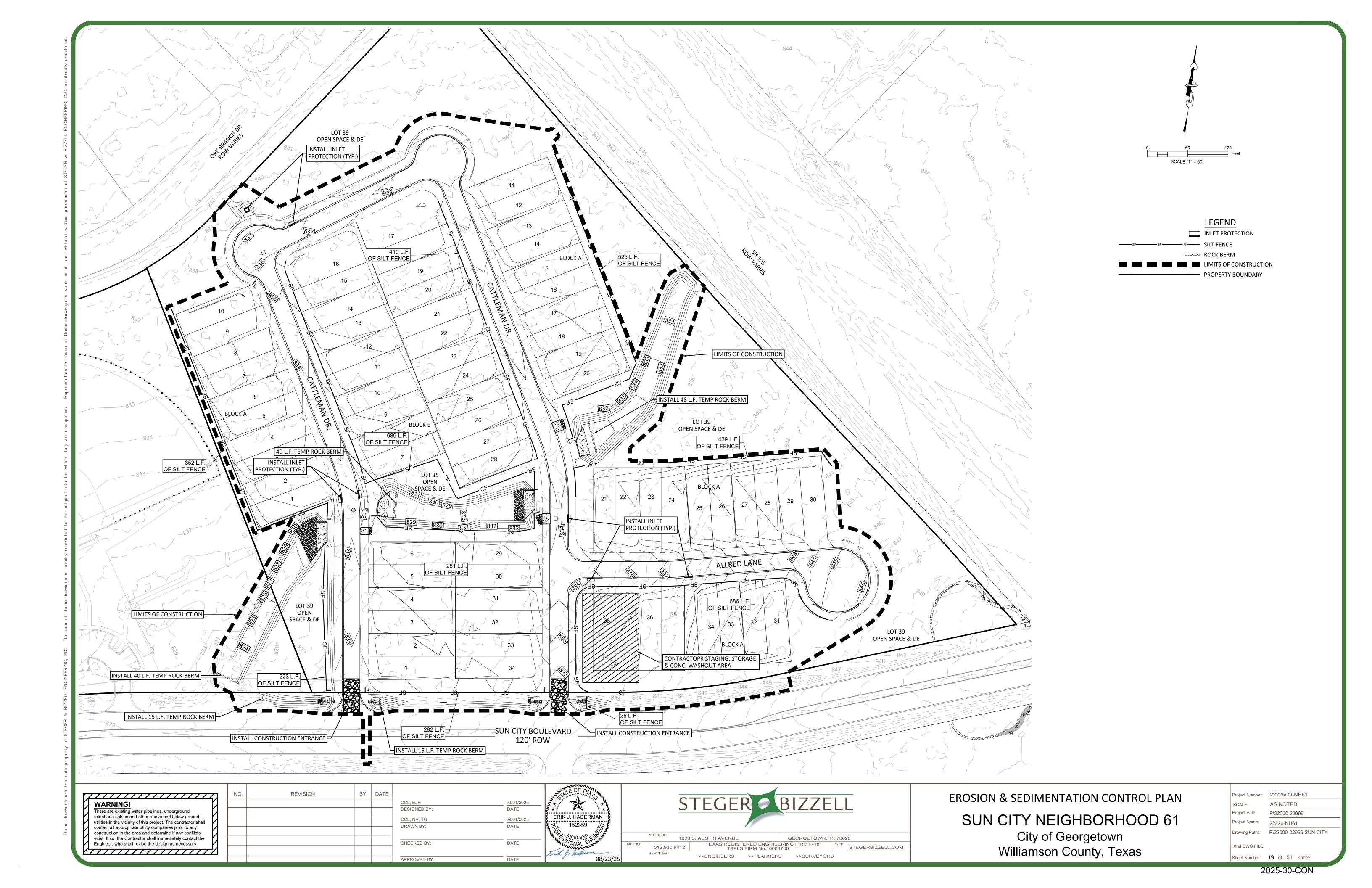
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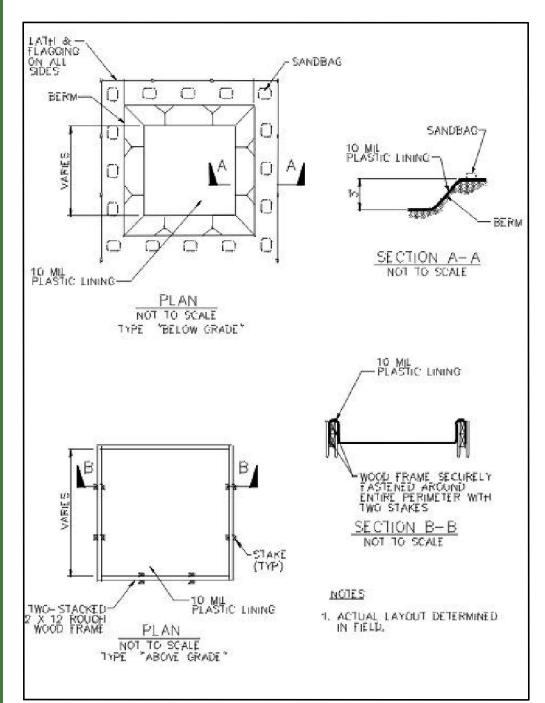
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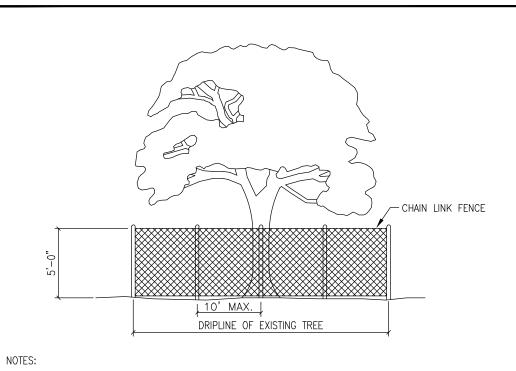








Temporary Concrete Washout Area Detail



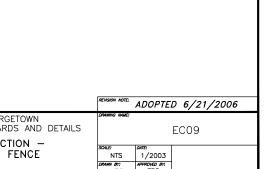
- 1. TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE PREPARATION
- 2. FENCES SHALL COMPLETELY SURROUND THE TREE, OR CLUSTERS OF TREES; WILL BE LOCATED AT THE OUTERMOST LIMIT OF THE TREE BRANCHES (DRIPLINE), AND WILL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT IN ORDER TO PREVENT THE FOLLOWING: A. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC, OR STORAGE OF
- EQUIPMENT OR MATERIALS. B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN SIX INCHES (6") CUT OR FILL, OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE CITY. C. WOUNDS TO EXPOSED ROOTS, TRUNKS OR LIMBS BY MECHANICAL EQUIPMENT.

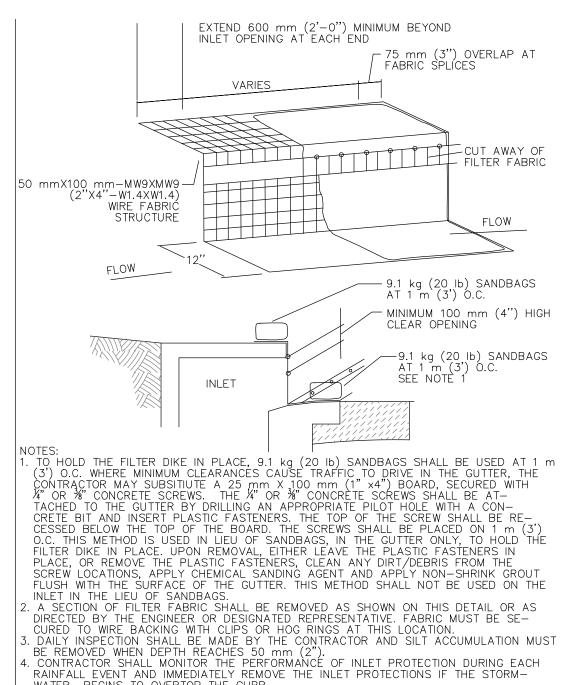
D. OTHER ACTIVITIES DETRIMENTAL TO TREES, SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING

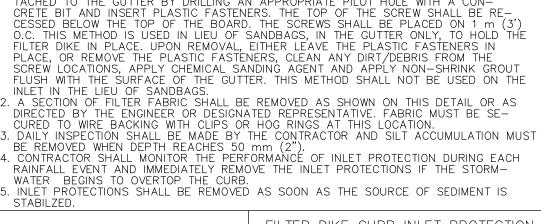
- 3. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIPLINES MAY BE PERMITTED IN THE FOLLOWING CASES: A. WHERE PERMEABLE PAVING IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE
- PERMEABLE PAVING AREA. B. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN SIX FEET (6'-0") TO BUILDING.

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

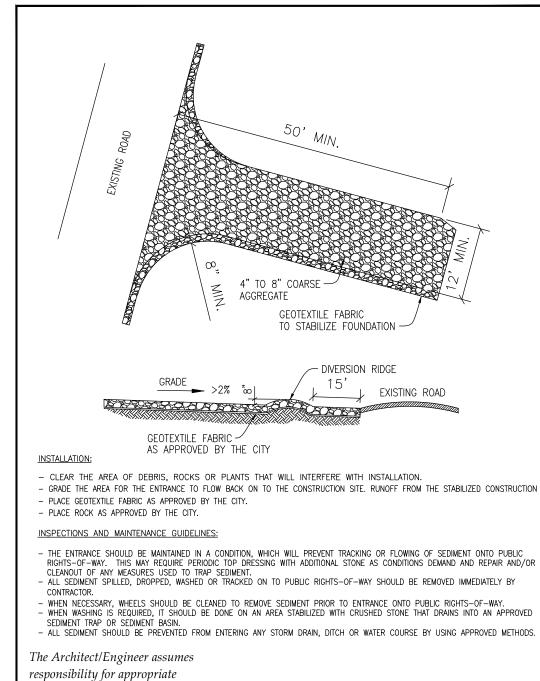
H	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DET
GEORGETOWN TEXAS orgetown Utility Systems	TREE PROTECTION — CHAIN LINK FENCE

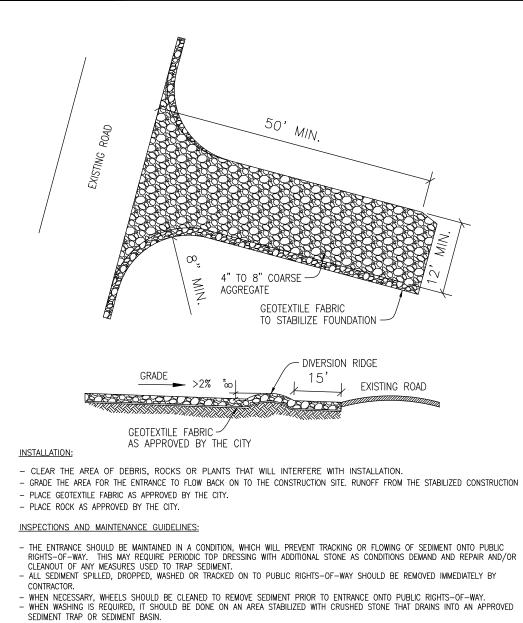


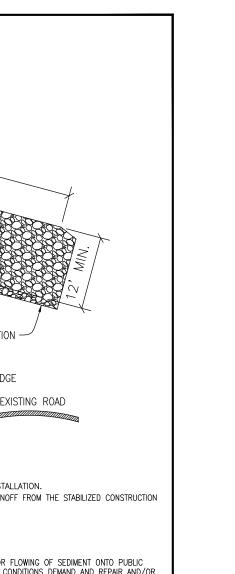




ARTMENT OF WATERSHED PROTECTION AND DEV	ELOPMENT REVIEW	FILTER DIKE CURB INLET	PROTECTION
RECORD COPY SIGNED BY HENRY CASAS	1/2/0/	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE	standard no. 6285–2
	ADOPTED	OF THIS STANDARD.	







15. CONTRACTOR TO PRUNE VEGETATION TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND EQUIPMENT BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.). ALL FINISHED PRUNING TO BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE "NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES").

STANDARDS FOR SHADE TREES").

16. THE CONTRACTOR IS TO INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY RAINFALL EXCEEDING 1/4 INCH TO VERIFY THAT THEY HAVE NOT BEEN SIGNIFICANTLY DISTURBED. ANY ACCUMULATED SEDIMENT AFTER A SIGNIFICANT RAINFALL TO BE REMOVED AND PLACED IN THE OWNER DESIGNATED SPOIL DISPOSAL SITE. THE CONTRACTOR TO CONDUCT PERIODIC INSPECTIONS OF ALL EROSION/SEDIMENTATION CONTROLS AND TO MAKE ANY REPAIRS OR MODIFICATIONS NECESSARY TO ASSURE CONTINUED EFFECTIVE OPERATION OF EACH DEVICE.

17. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT IMMEDIATELY ADJACENT TO A PROTECTED TREE, ERECT THE FENCE APPROXIMATELY TWO TO FOUR FEET (2'-4') BEHIND THE AREA IN QUESTION. 18. NO ABOVE AND/OR BELOW GROUND TEMPORARY FUEL STORAGE FACILITIES TO BE STORED ON THE PROJECT SITE.

19. IF EROSION AND SEDIMENTATION CONTROL SYSTEMS ARE EXISTING FROM PRIOR CONTRACTS, OWNER'S REPRESENTATIVE AND THE CONTRACTOR TO EXAMINE THE EXISTING EROSION AND SEDIMENTATION CONTROL SYSTEMS FOR DAMAGE PRIOR TO CONSTRUCTION. ANY DAMAGE TO PREEXISTING EROSION AND SEDIMENTATION CONTROLS NOTED TO BE REPAIRED AT OWNERS EXPENSE.

20. INTENTIONAL RELEASE OF VEHICLE OR EQUIPMENT FLUIDS ONTO THE GROUND IS NOT ALLOWED. CONTAMINATED SOIL RESULTING FROM ACCIDENTAL SPILL TO BE REMOVED AND DISPOSED OF PROPERLY.

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

THE CONTRACTOR TO INSTALL AND MAINTAIN EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, GRADING, OR EXCAVATION). CONTRACTOR TO REMOVE EROSION/SEDIMENTATION CONTROLS AT THE COMPLETION OF PROJECT AND GRASS RESTORATION.

2. ALL PROJECTS WITHIN THE RECHARGE ZONE OF THE EDWARD'S AQUIFER SHALL SUBMIT A BEST MANAGEMENT PRACTICES AND WATER POLLUTION AND ABATEMENT PLAN TO THE TNRCC FOR APPROVAL PRIOR TO ANY CONSTRUCTION. 3. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS TO BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN AND WATER POLLUTION ABATEMENT PLAN. DEVIATIONS FROM THE APPROVED PLAN MUST BE SUBMITTED TO AND APPROVED BY THE OWNER'S REPRESENTATIVE.

A ALL PLANTING SHALL BE DONE BETWEEN MAY 1 AND SEPTEMBER 15 EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING.

IF PLANTING IS AUTHORIZED TO BE DONE OUTSIDE THE DATES SPECIFIED, THE SEED SHALL BE PLANTED WITH THE ADDITION

OF WINTER FESCUE (KENTUCKY 31) AT A RATE OF 1001b/ACRE. GRASS SHALL BE COMMON BERMUDA GRASS, HULLED,

MINIMUM 82% PURE LIVE SEED. ALL GRASS SEED SHALL BE FREE FROM NOXIOUS WEED, GRADE "A" RECENT CROP,

RECLEANED AND TREATED WITH APPROPRIATE FUNGICIDE AT TIME OF MIXING. SEED SHALL BE FURNISHED IN SEALED,

STANDARD CONTAINERS WITH DEALER'S GUARANTEED ANALYSIS.

6. THE PLANTED AREA TO BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF FOUR (4) INCHES. THE IRRIGATION TO OCCUR AT 10-DAY INTERVALS DURING THE FIRST TWO MONTHS TO INSURE GERMINATION AND ESTABLISHMENT OF THE GRASS. RAINFALL OCCURRENCES OF 1/2 INCH OR GREATER TO POSTPONE THE WATERING SCHEDULE ONE WEEK.

7. RESTORATION TO BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1-1/2 INCHES HIGH WITH 95% COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 25 SQUARE FEET EXIST.

9. THE CONTRACTOR TO HYDROMULCH OR SOD (AS SHOWN ON PLANS) ALL EXPOSED CUTS AND FILLS UPON COMPLETION

10. EROSION AND SEDIMENTATION CONTROLS TO BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILDUP WITHIN TREE DRIPLINE.

12. WHERE A FENCE IS CLOSER THAN FOUR (4) FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF EIGHT (8) FEET (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE FENCING.

14. ANY ROOT EXPOSED BY CONSTRUCTION ACTIVITY TO BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOPSOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN TWO DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.

8. A MINIMUM OF FOUR (4) INCHES OF TOPSOIL TO BE PLACED IN ALL AREAS DISTURBED BY CONSTRUCTION.

11. TO AVOID SOIL COMPACTION, CONTRACTOR SHALL NOT ALLOW VEHICULAR TRAFFIC, PARKING, OR STORAGE OF EQUIPMENT OR MATERIALS IN THE TREE DRIPLINE AREAS.

13. TREES TO BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.

5. ALL DISTURBED AREAS TO BE RESTORED AS NOTED IN THE WATER POLLUTION ABATEMENT PLAN.

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

CONSTRUCTION STANDARDS AND DETAILS EROSION AND SEDIMENTATION AND TREE PROTECTION NOTES

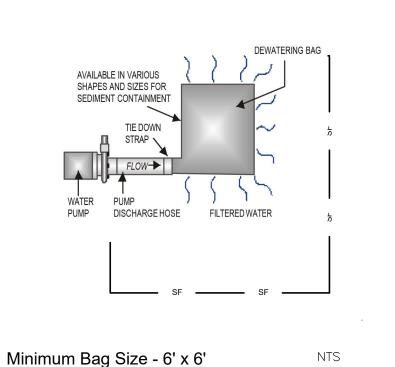
REVISION NOTE: ADOPTED 6/21/2006 EC01A

The Architect/Engineer assumes

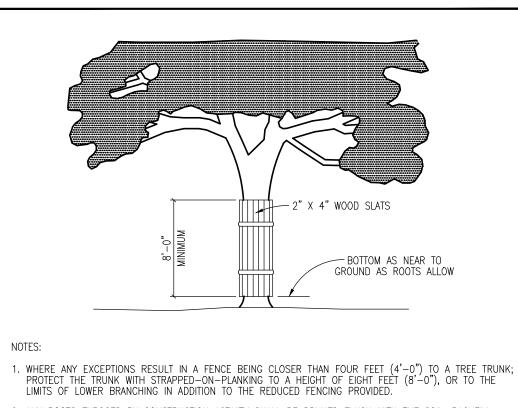
responsibility for appropriate

TEMPORARY POND DEWATERING

- Place dewatering pump at/in pond to be dewatered. 2. The pump inlet shall have a floating intake to pump water from the surface of the pond.
- 3. Pump discharge hose is attached to sediment dewatering bag.
- Sediment dewatering bag is located as shown.
- Secondary containment consisting of silt fencing is installed around the sediment dewatering bag.
- The pump is run until the pond is dewatered.
- Inspect the flow conditions, bag condition, bag capacity and secondary containment during operation of the pump to insure the system is operating effectively.
- Replace the bag when it no longer filters sediment or passes water at a reasonable rate. The bag is disposed of offsite.



Sediment Dewatering Bag



- . ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN TWO (2) DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE, AND MINIMIZES WATER LOSS DUE TO EVAPORATION. . PRIOR EXCAVATION OR GRADE CUTTING WITHIN TREE DRIPLINE. MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT, TO MINIMIZE DAMAGE TO
- H. TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES SHOULD BE WATERED DEEPLY ONCE A WEEK

DURING PERIODS OF HOT, DRY WEATHER. TREE CROWNS SHOULD BE SPRAYED WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.

- 5. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.
- 6. NO LANDSCAPE TOPSOIL DRESSING GREATER THE FOUR INCHES (4") SHALL BE PERMITTED WITHIN THE DRIPLINE OF A TREE. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
- . PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE

The Architect/Engineer assumes responsibility for appropriate

BEFORE CONSTRUCTION BEGINS.

use of this standard.

TREE PROTECTION - WOOD SLATS

REVISION NOTE: ADOPTED 6/21/2006

20 GAUGE WOVEN WIRE SHEATHING 3" TO 5" OPEN GRADED ROCK -WOVEN WIRE SHEATHING-3" TO 5"—— OPEN GRADED ROCK INSTALLATION: LAYOUT THE ROCK BERM FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR. CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION. PLACE WOVEN WIRE FABRIC ON THE GROUND ALONG THE PROPOSED INSTALLATION WITH ENOUGH OVERLAP TO COMPLETELY ENCIRCLE THE FINISHED SIZE OF THE BERM. PLACE THE ROCK ALONG THE CENTER OF THE WIRE TO THE DESIGNATED HEIGHT. WRAP THE STRUCTURE WITH THE PREVIOUSLY PLACED WIRE MESH SECURE ENOUGH SO THAT WHEN WALKED ACROSS THE STRUCTURE RETAINS IT'S SHAPE. RETAINS ITS SHAPE. - SECURE WITH TIE WIRE. - THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROX. 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL. - THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED. INSPECTION AND MAINTENANCE GUIDELINES: - INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL EVENT BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE. - REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC. *The Architect/Engineer assumes* responsibility for appropriate use of this standard. REVISION NOTE: ADOPTED 6/21/2006 CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS EC03 Georgetown ROCK BERM DETAIL

512.930.9412

GUIDELINES FOR DESIGN AND INSTALLATION OF TEMPORARY EROSION AND SEDIMENTATION CONTROLS

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS

STABILIZED CONSTRUCTION ENTRANCE SCALE MATERIAL

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

* FOR ROCK BERM DESIGN WHERE PARAMETERS ARE OTHER THAN STATED, DRAINAGE AREA CALCULATIONS AND ROCK BERM DESIGN MUST BE SUBMITTED FOR REVIEW. ** HIGH SERVICE ROCK BERMS MAY BE REQUIRED IN AREAS OF ENVIRONMENTAL SIGNIFICANCE AS DETERMINED BY THE CITY OF GEORGETOWN.

The Architect/Engineer assumes responsibility for appropriate

use of this standard.

STEGERBIZZELL.COM

use of this standard.

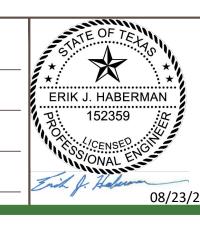
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS TEMPORARY EROSION AND SEDIMENTATION CONTROL GUIDELINES NTS

GEORGETOWN

SLIGHT I		responsibility je	or appropriate
ANGLE	48" MIN. HEAVY WEIGHT T-POST	use of this stand	dard.
12" 24"	24" TALL MIN., 2" X 4" 12 GAUG GALVANIZED WIRE MESH 4.5 OZ. MIN. NON—WOVEN GEOTE) FILTER FABRIC 42" WIDE EXTENSION OF FABRIC INTO TRENC SOIL LEVEL	TILE	E GUIDELINES: ND AFTER ANY RAINFALL P REACHES 6 INCHES. NS CRUSHED OR
	*		
↓	WOVEN WIRE SUPPORT 2" X 4" WIRE MESH	FILL V V V	
INSTALLATION:			
	WING AS CLOSELY AS POSSIBLE TO TH ROCKS, PLANTS (INCLUDING GRASSES JACH SURFACE. EXCAVATE 6" DEEP X LANS.		
 DRIVE THE HEAVY DUTY T-POST ATTACH THE 2" X 4" 12 GAUGE THE TOP OF THE WIRE TO BE 2: TIED AT LEAST 6 TIMES WITH HO 	AT LEAST 12 INCHES INTO THE GROU WELDED WIRE MESH TO THE T-POST 4" ABOVE GROUND LEVEL. THE WELDE IG RINGS.	ID AND AT A SLIGHT ANGLE WITH 11 1/2 GAUGE GALVAN WIRE MESH TO BE OVERLAF	IZED T-POST CLIPS. PPED 6" AND
	D WITH A SKIRT A MINIMUM OF 6" WI FABRIC TO OVERLAP THE TOP OF THE CKFILLING WITH EXCAVATED DIRT AND I		
 GEOTEXTILE SPLICES SHOULD BE FLOW AREAS WILL NOT BE ACCEPT 	A MINIMUM OF 18" WIDE ATTACHED I PTED.	AT LEAST 6 PLACES. SPLIC	ES IN CONCENTRATED
 SILT FENCE SHALL BE REMOVED FLOW OR DRAINAGE. 	WHEN THE SITE IS COMPLETELY STAB	IZED SO AS NOT TO BLOCK	OR IMPEDE STORM
	OITY OF OFOROETOWA	REVISION NOTE: ADOF	PTED 6/21/2006
H_	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AN		EC02
MEJIMA	SILT FENCE DETAIL	SCALE: DATE:	

//////////////////////////WARNING!	
There are existing water pipelines, underground telephone cables and other above and below grou utilities in the vicinity of this project. The contractor contact all appropriate utility companies prior to an construction in the area and determine if any confliction exist. If so, the Contractor shall immediately contact Engineer, who shall revise the design as necessar.	shall y cts t the

NO.	REVISION	BY	DATE	
				CCL, EJH DESIGNED BY:
				CCL, NV, TG
				DRAWN BY:
				CHECKED BY:
				APPROVED BY:





TBPLS FIRM No.10003700

>>ENGINEERS >>PLANNERS

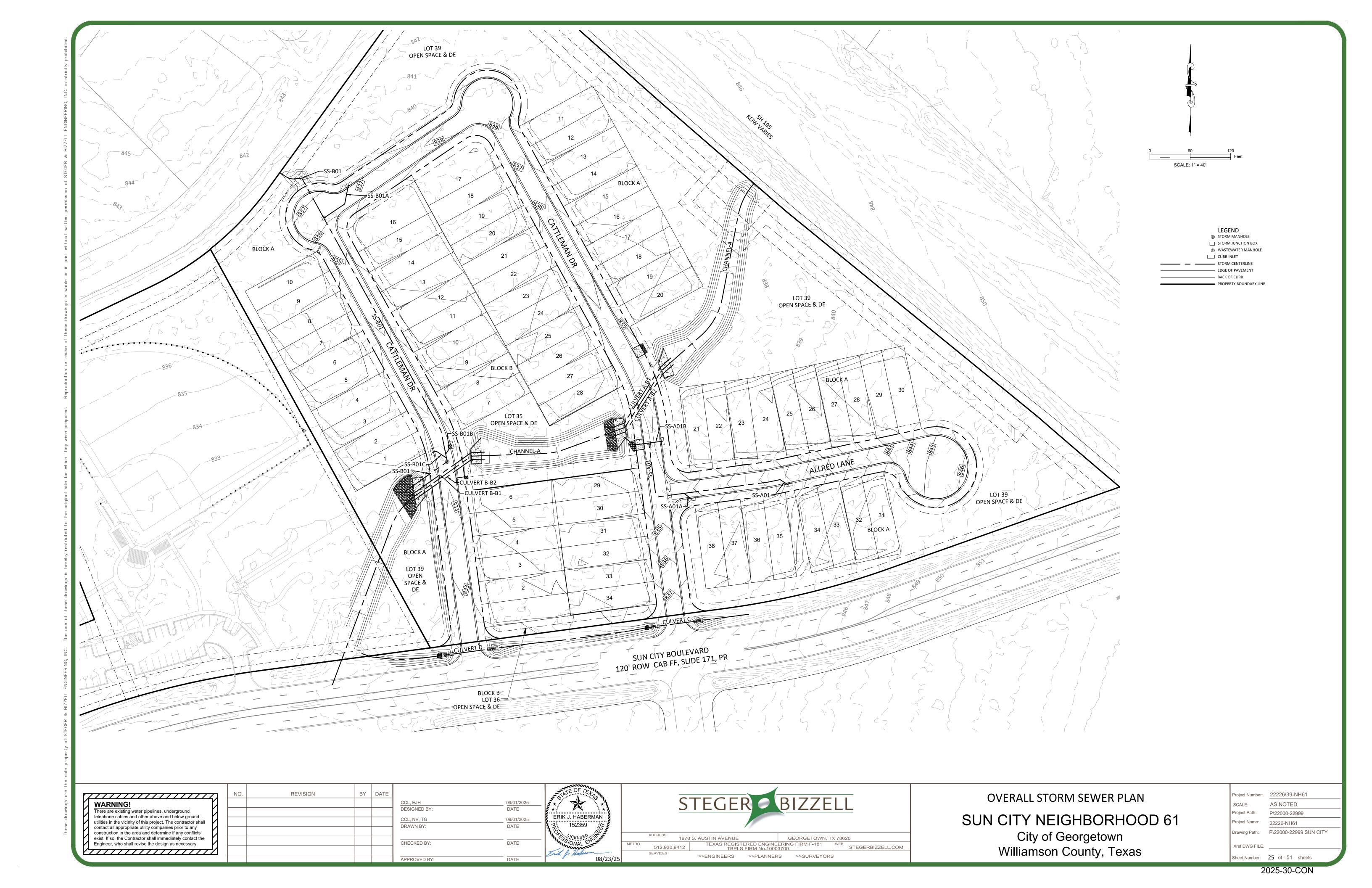
EROSION & SEDIMENTATION CONTROL DETAILS

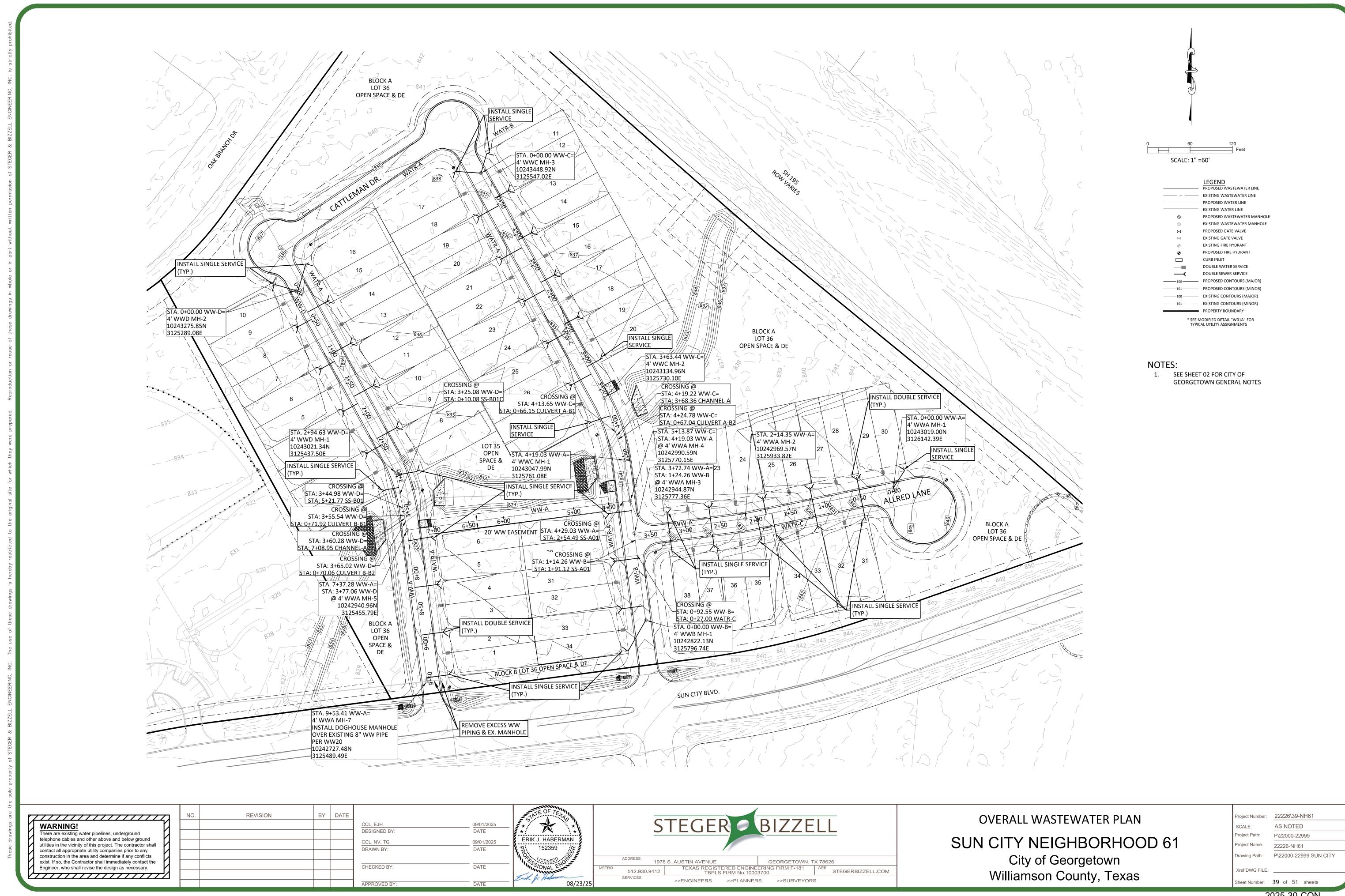
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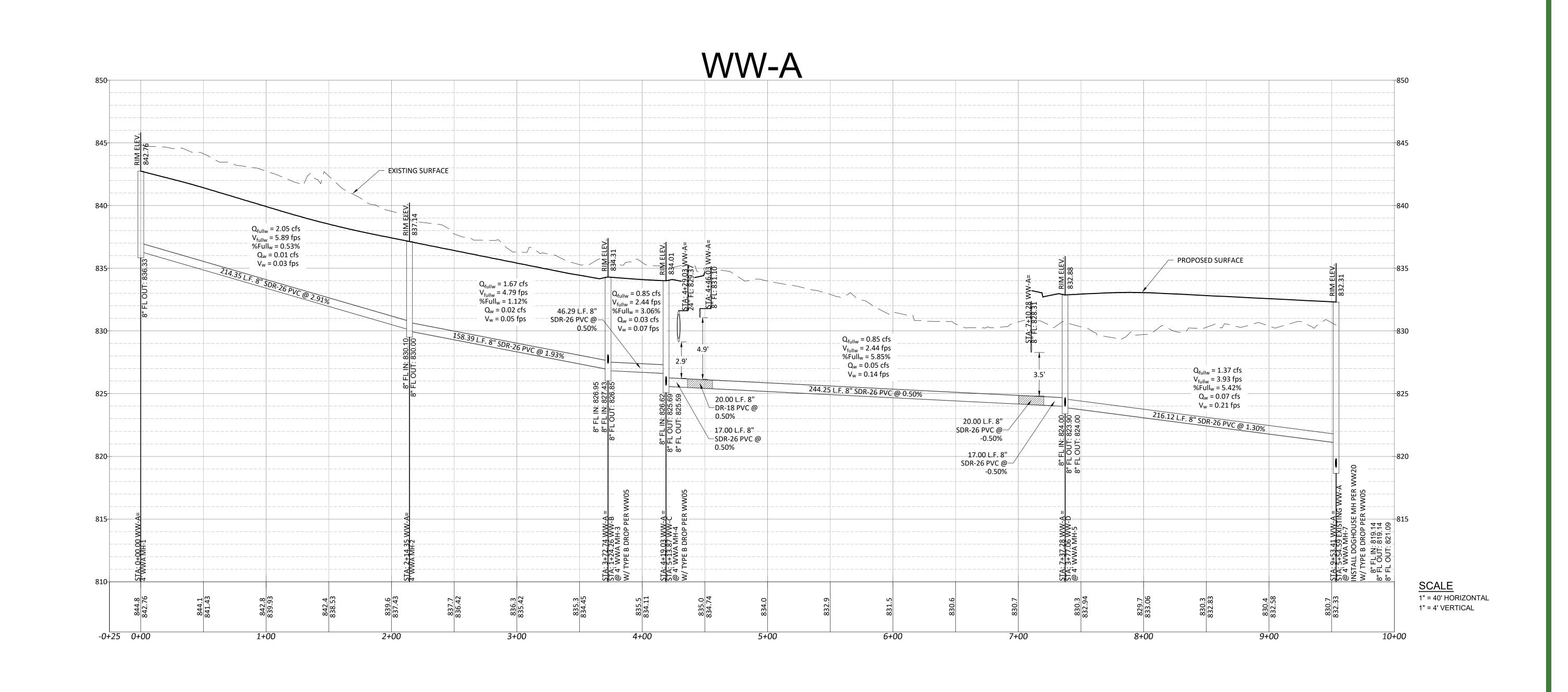
SUN CITY NEIGHBORHOOD 61

City of Georgetown Williamson County, Texas

roject Number: 22226\39-NH61 AS NOTED SCALE: Project Path: P\22000-22999 Project Name: 22226-NH61 P\22000-22999 SUN CITY Xref DWG FILE. sheet Number: 20 of 51 sheets







VARNING		
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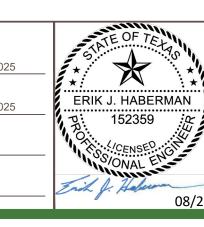
NO. REVISION
BY DATE

CCL, EJH
DESIGNED BY:

CCL, NV, TG
DRAWN BY:

CHECKED BY:

APPROVED BY





WW-A PROFILE

SUN CITY NEIGHBORHOOD 61

City of Georgetown Williamson County, Texas
 Project Number:
 22226\39-NH61

 SCALE:
 AS NOTED

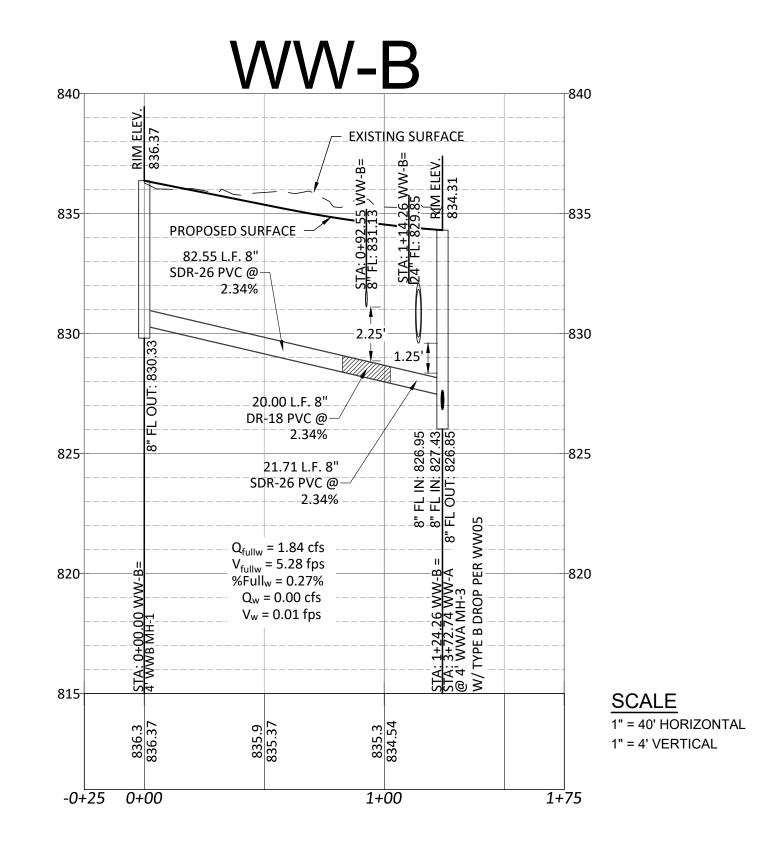
 Project Path:
 P\22000-22999

 Project Name:
 22226-NH61

 Drawing Path:
 P\22000-22999 SUN CITY

 Xref DWG FILE.
 Sheet Number:

 40 of 51 sheets



WARNING!

There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO. REVISION BY DATE

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WW-B PROFILE

SUN CITY NEIGHBORHOOD 61

City of Georgetown Williamson County, Texas
 Project Number:
 22226\39-NH61

 SCALE:
 AS NOTED

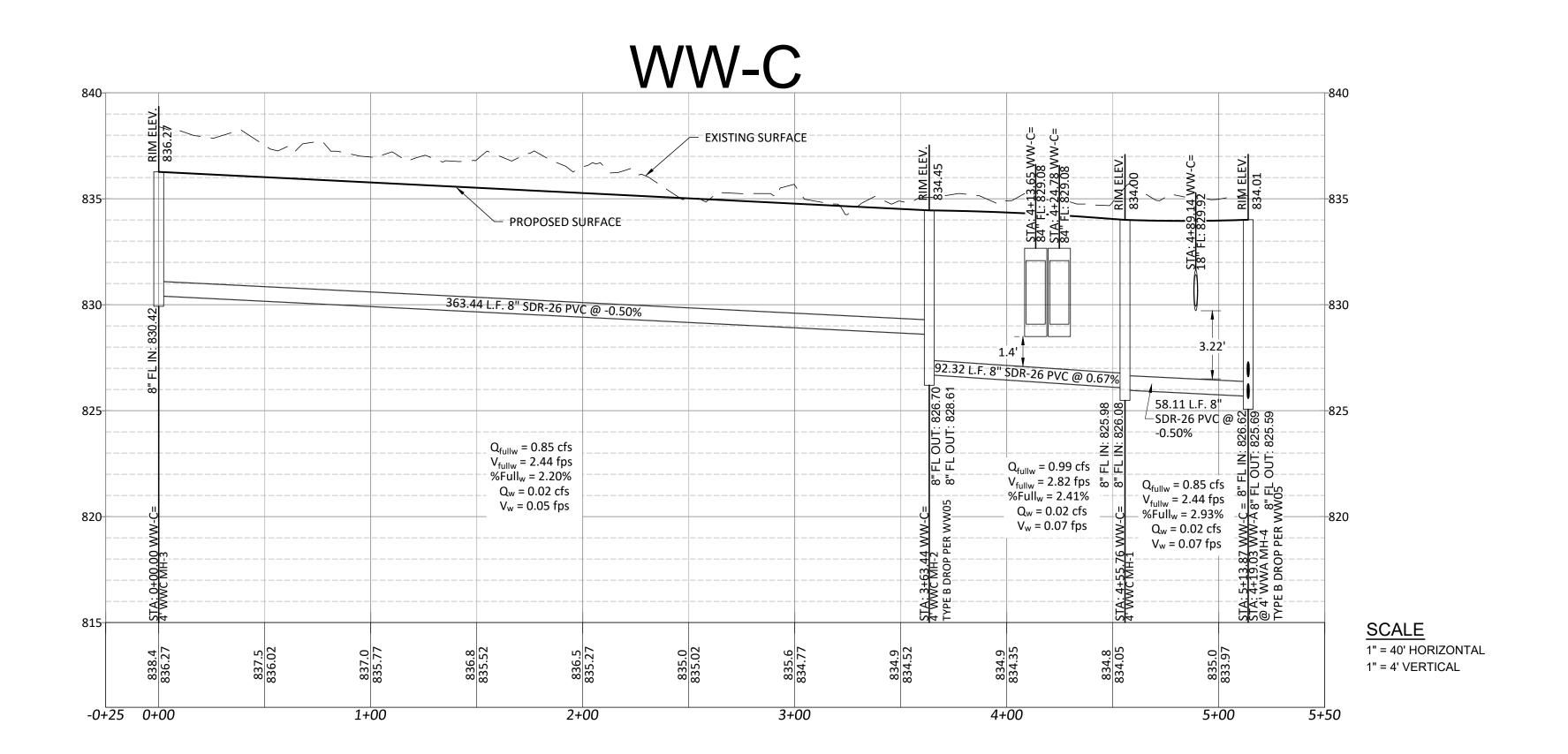
 Project Path:
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 Project Name:
 22226-NH61

 Drawing Path:
 P\22000-22999 SUN CITY

 Xref DWG FILE.

 Sheet Number:
 41 of 51 sheets



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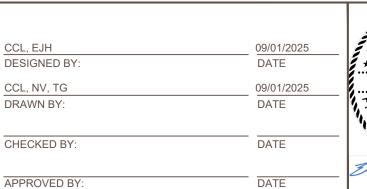
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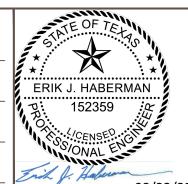
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WW-C PROFILE

SUN CITY NEIGHBORHOOD 61
City of Georgetown
Williamson County, Texas

 Project Number:
 22226\39-NH61

 SCALE:
 AS NOTED

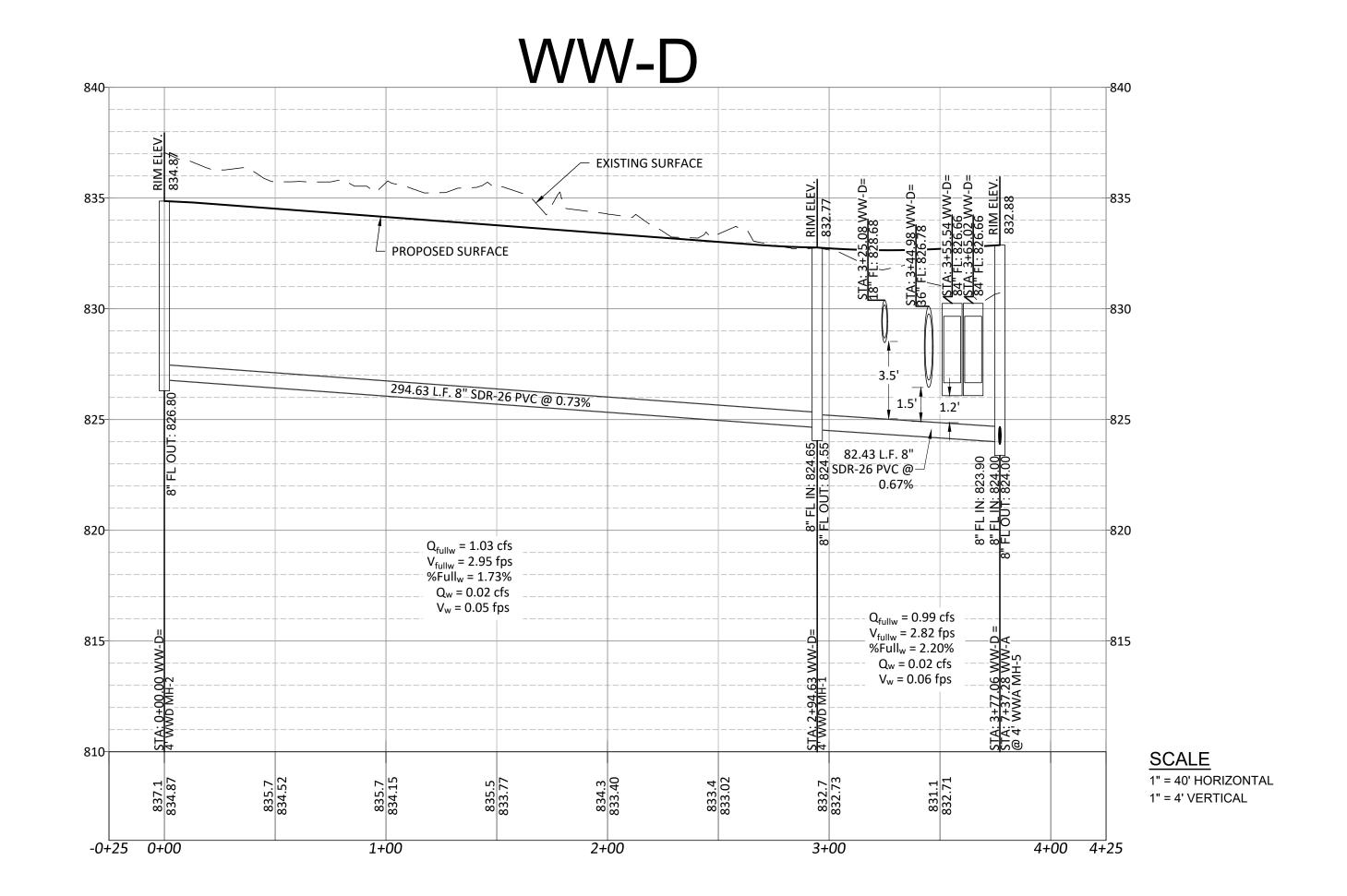
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 Project Name:
 22226-NH61

 Drawing Path:
 P\22000-22999 SUN CITY

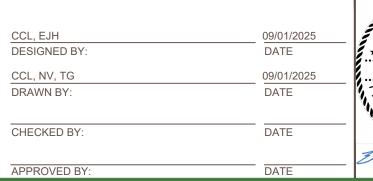
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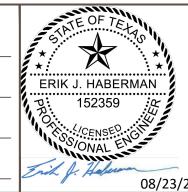
 42 of 51 sheets



1	WARNING!
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WW-D PROFILE

SUN CITY NEIGHBORHOOD 61

City of Georgetown Williamson County, Texas
 Project Number:
 22226\39-NH61

 SCALE:
 AS NOTED

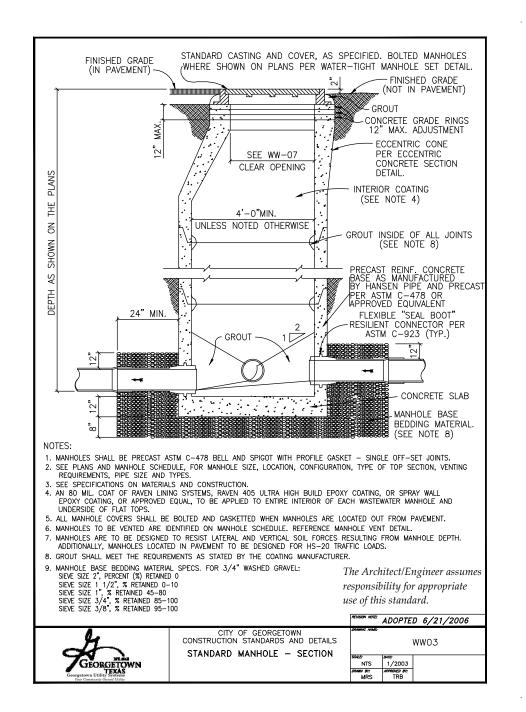
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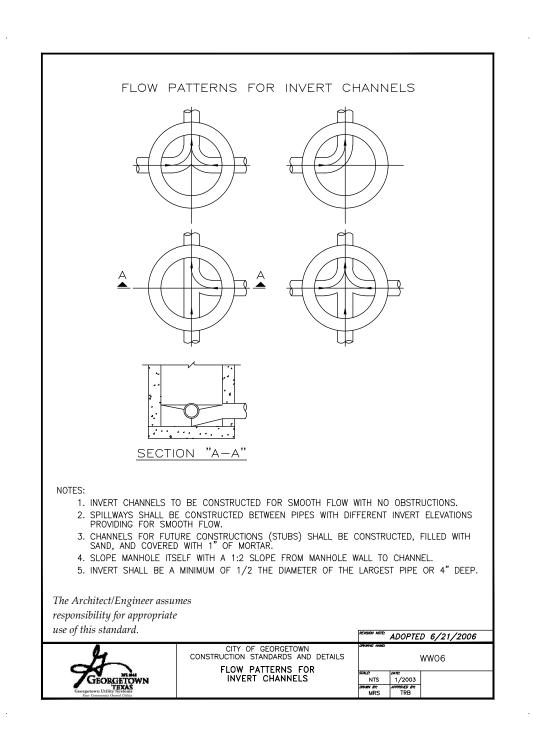
 Project Name:
 22226-NH61

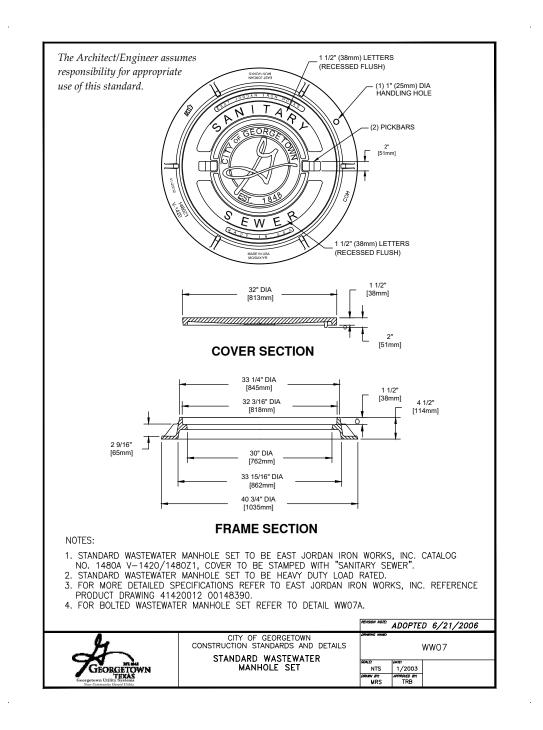
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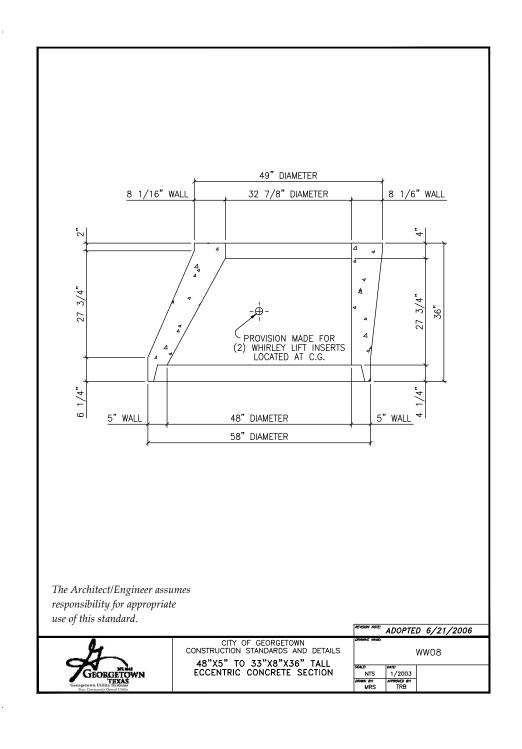
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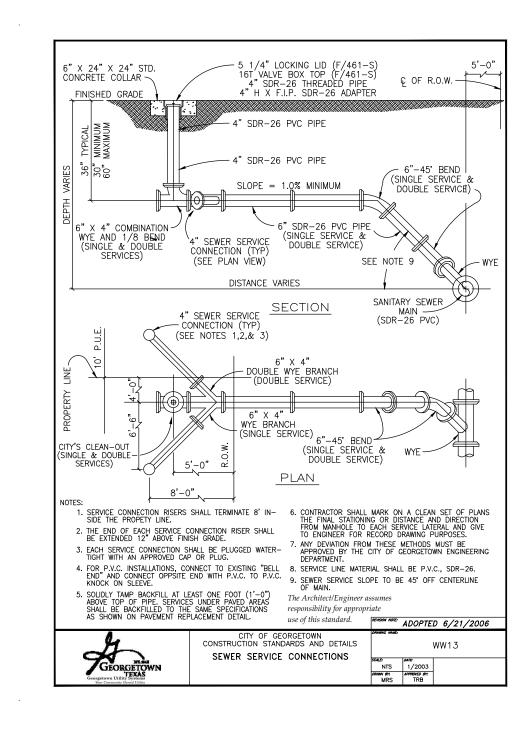
 43 of 51 sheets

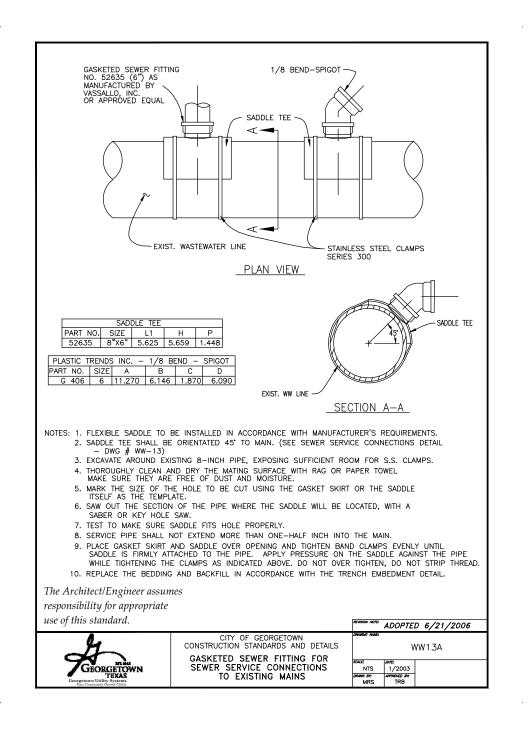


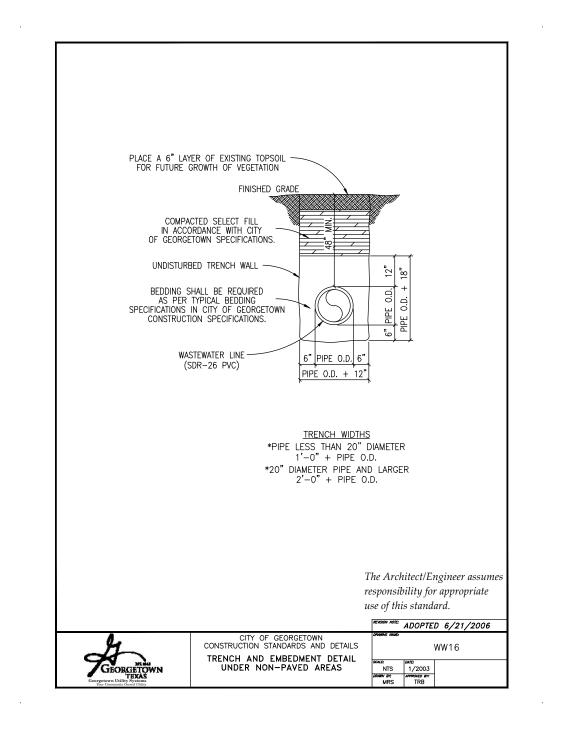


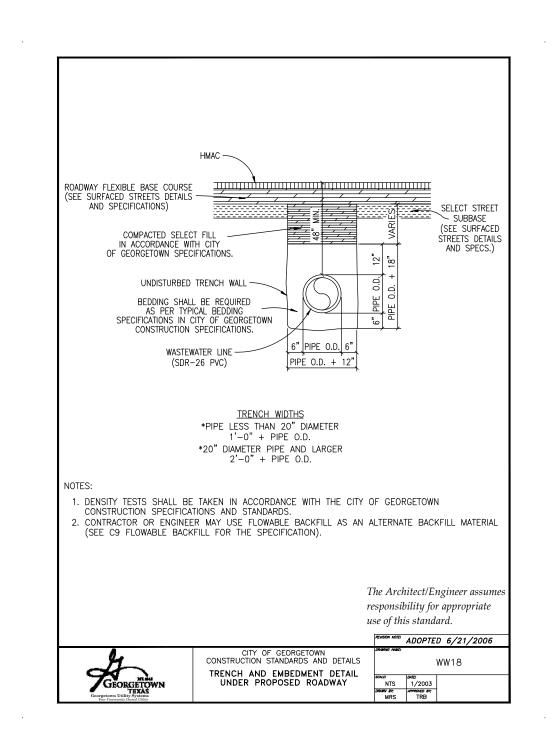


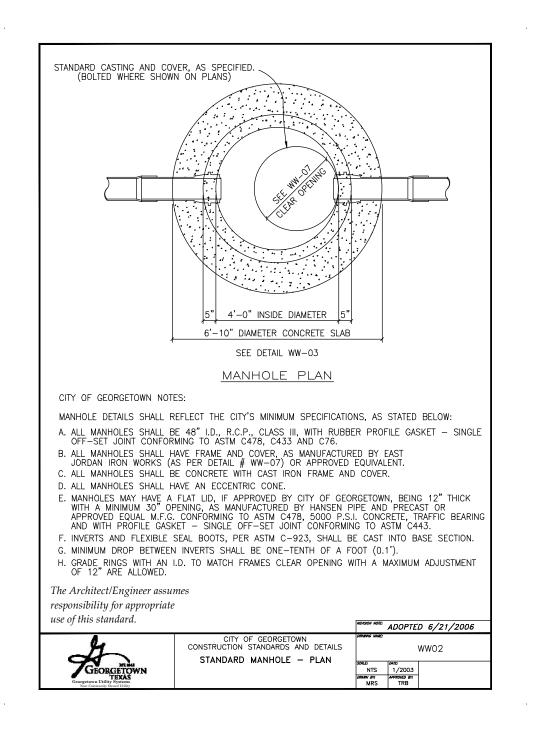


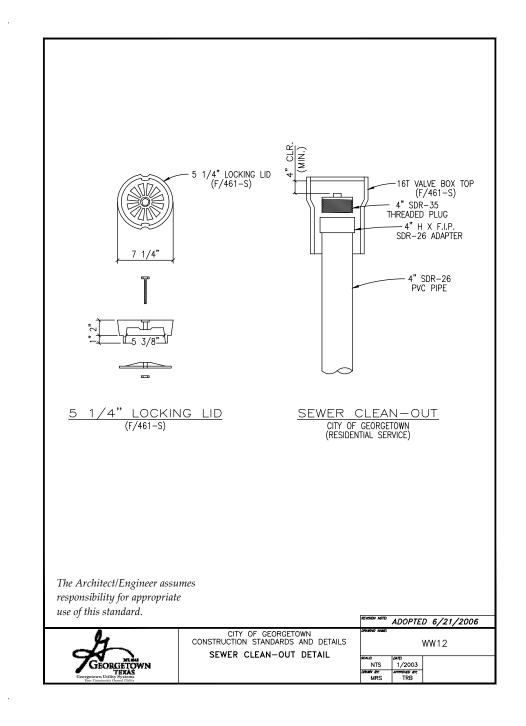






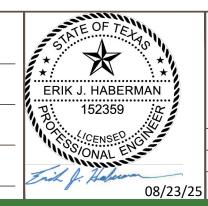






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NO.	REVISION	BY	DATE		
				CCL, EJH	09/01/2025
				DESIGNED BY:	DATE
				CCL, NV, TG	09/01/2025
				DRAWN BY:	DATE
				CHECKED BY:	DATE
				APPROVED BY:	DATE



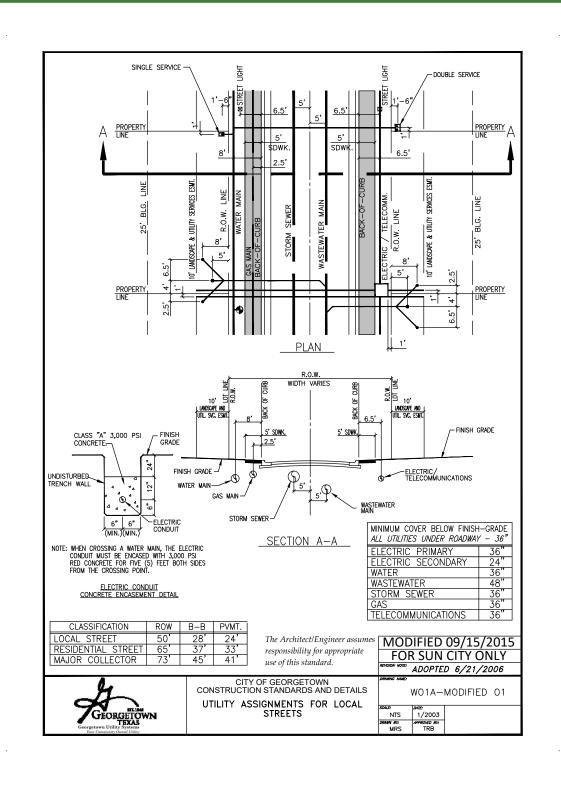


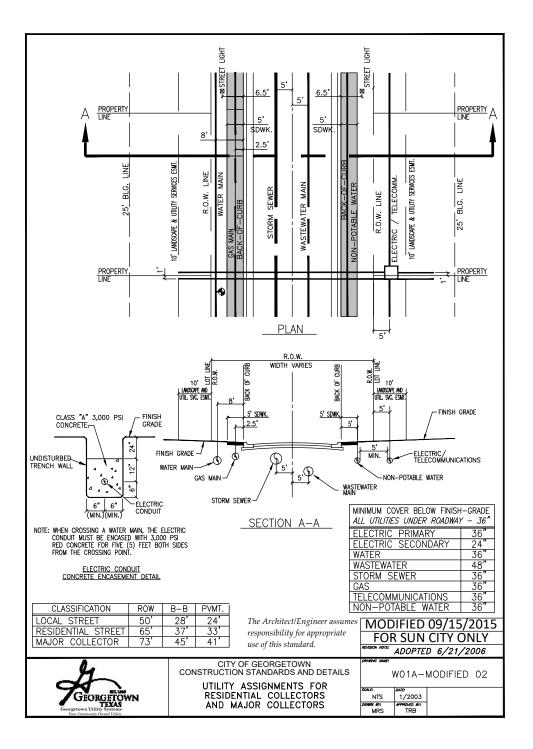
WASTEWATER DETAILS (1 OF 2)

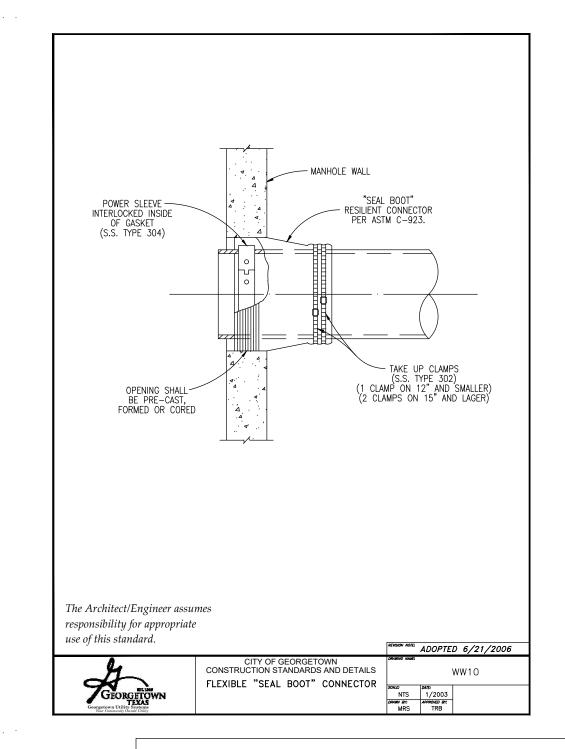
SUN CITY NEIGHBORHOOD 61

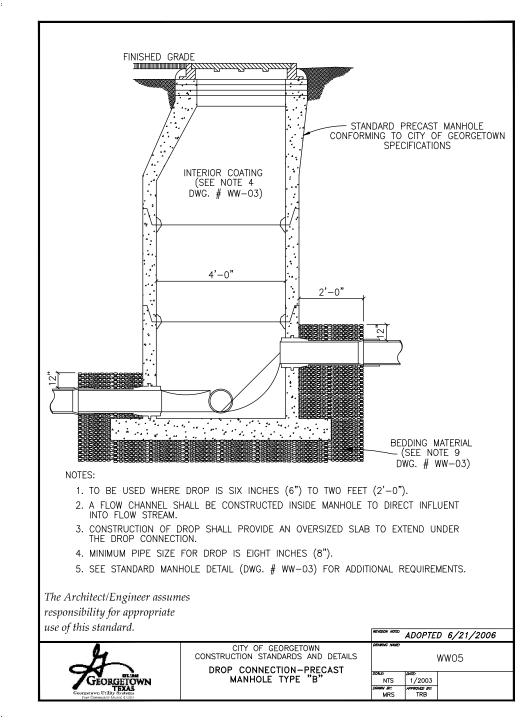
City of Georgetown
Williamson County, Texas

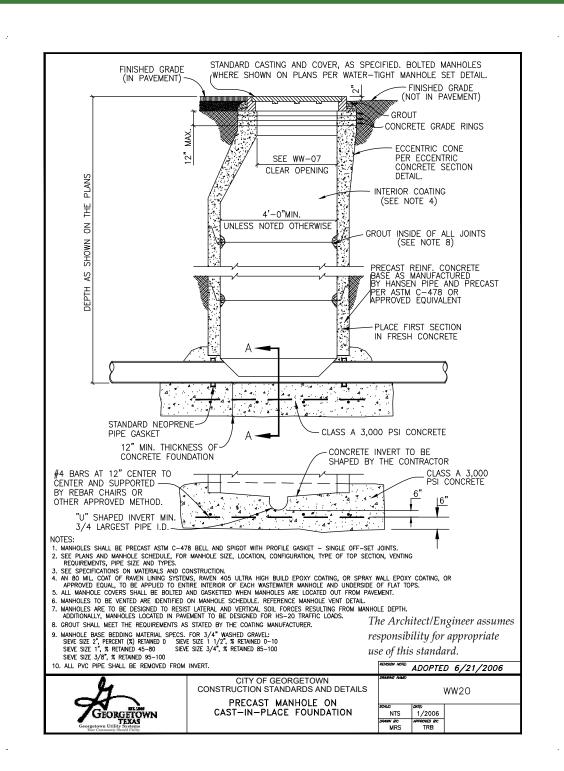
Project Number:	22226\39-NH61
SCALE:	AS NOTED
Project Path:	P\22000-22999
Project Name:	22226-NH61
Drawing Path:	P\22000-22999 SUN CITY
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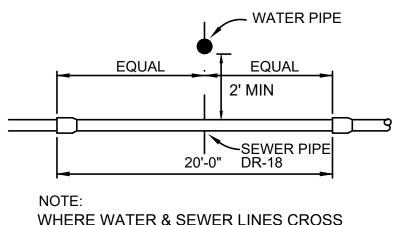






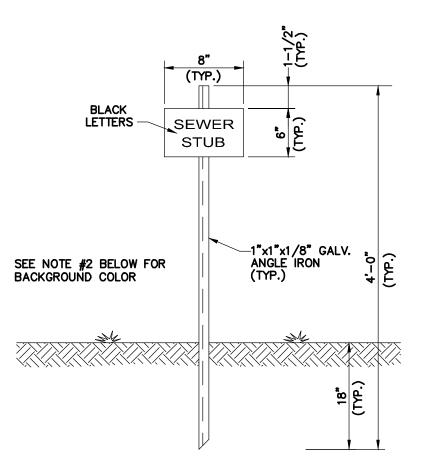






WHERE WATER & SEWER LINES CROSS AND ARE LESS THAN 9' APART, A FULL JOINT OF C900 DR-18 PVC PIPE MUST BE CENTERED ON THE WATERLINE.

WATER-SEWER CROSSING



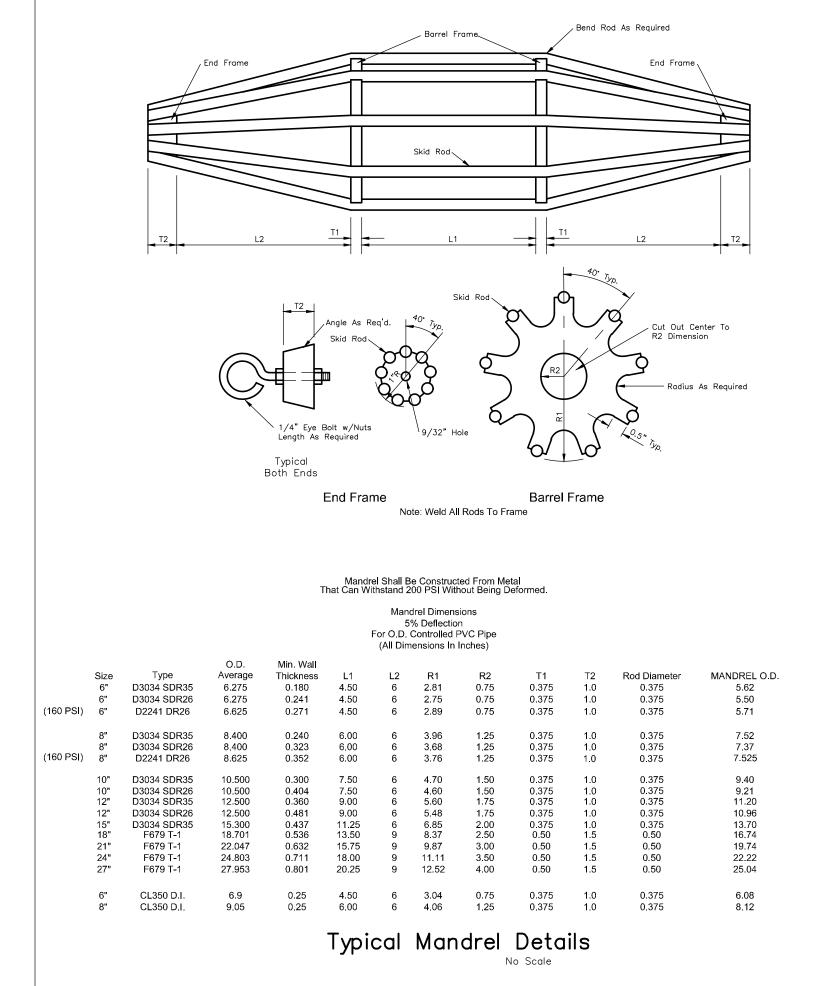
SEWER STUB MARKERS

(INSTALL AT ALL SEWER STUB-OUT ENDS AND SERVICE ENDS)

NOTES:

 SIGNS SHALL BE CONSTRUCTED OF 20 GAUGE STEEL w/BAKED ENAMEL FINISH.
 THE BACKGROUND COLOR FOR THE SIGNS SHALL BE WHITE.
 THERE SHALL BE NO SEPARATE BID ITEM FOR MARKERS.

SERVICE MARKER DETAIL



WARNING!

There are existing water pipelines, underground telephone cables and other above and below ground utilities in the vicinity of this project. The contractor shall contact all appropriate utility companies prior to any construction in the area and determine if any conflicts exist. If so, the Contractor shall immediately contact the Engineer, who shall revise the design as necessary.

NO. REVISION BY DATE

 CCL, EJH
 09/01/2025

 DESIGNED BY:
 DATE

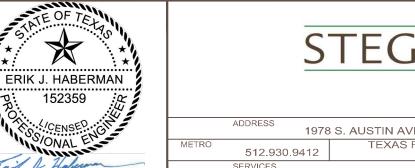
 CCL, NV, TG
 09/01/2025

 DRAWN BY:
 DATE

 CHECKED BY:
 DATE

APPROVED BY:

DATE



ADDRESS

1978 S. AUSTIN AVENUE

GEORGETOWN, TX 78626

TEXAS REGISTERED ENGINEERING FIRM F-181

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GEORGETOWN, TX 78626

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WASTEWATER DETAILS (2 OF 2)

SUN CITY NEIGHBORHOOD 61

City of Georgetown
Williamson County, Texas

 Project Number:
 22226\39-NH61

 SCALE:
 AS NOTED

 Project Path:
 P\22000-22999

 Project Name:
 22226-NH61

 Drawing Path:
 P\22000-22999 SUN CITY

 Xref DWG FILE.

 Sheet Number:
 45 of 51 sheets

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: Mr. Erik Haberman, P.E.

Date: <u>September 22, 2025</u> Signature of Customer/Agent:

Regulated Entity Name: Sun City Neighborhood 61

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.
Se	equence 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

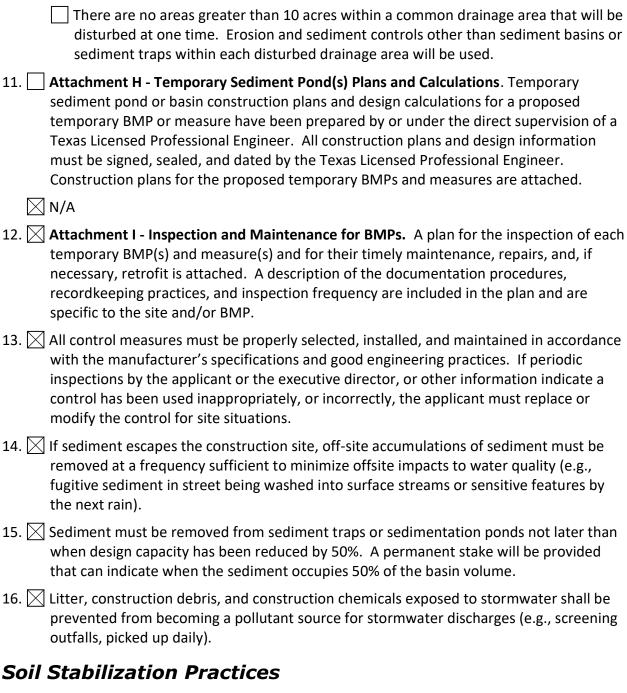
Temporary Best Management Practices (TBMPs)

receive discharges from disturbed areas of the project: Berry Creek

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.



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.

<u>Attachment A – Spill Response Actions</u>

Because fuels and hazardous substances will be provided by an off-site facility, no on-site containment procedures are provided for in this SCS.

The objective of this section is to describe measures to prevent or reduce the discharge of pollutants to drainage systems or watercourses from leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials, and training employees. The following steps will help reduce the stormwater impacts of leaks and spills:

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.
- 2. Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.
- 3. Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
- 4. Establish a continuing education program to indoctrinate new employees.
- 5. Have contractor's superintendent or representative oversee and enforce proper spill prevention and control measures.

General Measures

- 1. To the extent that the work can be accomplished safely, spills of oil, petroleum products, and substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
- 2. Store hazardous materials and wastes in covered containers and protect from vandalism.
- 3. Place a stockpile of spill cleanup materials where it will be readily accessible.
- 4. Train employees in spill prevention and cleanup.
- 5. Designate responsible individuals to oversee and enforce control measures.
- 6. Spills should be covered and protected from stormwater run-on during rainfall to the extent that it doesn't compromise clean-up activities.
- 7. Do not bury or wash spills with water.
- 8. 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.
- 9. 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.
- 10. Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.

- 11. 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.
- 12. 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

- 1. Clean up leaks and spills immediately.
- 2. 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.
- 3. 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

- 1. 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.
- 2. Use absorbent materials on small spills rather than hosing down or burying the spill.
- 3. Absorbent materials should be promptly removed and disposed of properly.
- 4. Follow the practice below for a minor spill:
- 5. Contain the spread of the spill.
- 6. Recover spilled materials.
- 7. Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities.

Spills should be cleaned up immediately:

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

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

1. Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the

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

More information on spill rules and appropriate responses is available on the TCEQ website at: http://www.tceq.texas.gov/response/

Vehicle and Equipment Maintenance

- 1. If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the run-on of stormwater and the runoff of spills.
- 2. Regularly inspect onsite vehicles and equipment for leaks and repair immediately.
- 3. Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.
- 4. Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
- 5. Place drip pans or absorbent materials under paving equipment when not in use.
- 6. Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.
- 7. Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
- 8. Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters.
- 9. Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Vehicle and Equipment Fueling

- 1. If fueling must occur on site, use designated areas, located away from drainage courses, to prevent the run-on of stormwater and the runoff of spills.
- 2. Discourage "topping off" of fuel tanks.
- 3. Always use secondary containment, such as a drain pan, when fueling to catch spills/leaks.

If a spill should occur, the person responsible for the spill should contact the TCEQ at (512) 339-2929 or call 911. Soil contaminated by spills that occur on-site will be removed and disposed at an approved disposal site.

<u>Attachment B – Potential Sources of Contamination</u>

- Hydraulic and diesel
- Portable toilet systems (Sanitary Waste)
- Trash from construction workers
- Paints, Paint Solvents, glues, concrete and other building materials
- Plant fertilizers and Pesticides
- Inadequate maintenance of temporary water pollution abatement measures
- Stock piles or spoils of materials

Attachment C – Sequence of Major Activities

The following sequence of activities is suggested. The sequence of construction will take place in two phases for NH 61. The actual sequence may vary slightly depending on the contractor or weather conditions.

- 1. Construction activities will commence with the installation of the required erosion and sedimentation controls and stabilized construction entrance. (0.055 acres)
- 2. Excavation will take place where the roads, culverts and building pads will be situated. Spoils of this material may be placed at a location on the project site as directed by the owner or hauled off-site. These spoils and any other loose granular material will be enclosed by a silt fence. (7.16 acres)
- 3. The installation of the utilities, BMPs and storm sewer will disturb a portion of the site.

 Proposed utility improvements include the construction of a wastewater collection system, water mains, wastewater mains, BMPs and storm sewer. (0.27 acres)
- 4. Grading on the site will consist of the placement and compaction of base or select fill material under and/or around the roads, culverts and building pads and excavation and fill for the proposed roads, culverts and building pads. (12.19 acres)
- 5. Paving of the site will consist of the roads and driveways and sidewalks being concrete. (1.53 acres)
- 6. After the roads, driveways, and sidewalk are installed, finish grading around the site will be completed. (1.87 acres)
- 7. After the construction of the roads, driveways, building pads, etc. disturbed areas will be hydro-mulched or seeded. (4.47 acres)
- 8. Once vegetation is established on the site, Temporary BMPs will be removed as allowed by the engineer.

Attachment D – Temporary Best Management Practices and Measures

The following sequence of activities is suggested. The actual sequence may vary slightly depending on the contractor or weather conditions.

- Construction activities will commence with the installation of the required silt fence, rock berm, contractor staging and storage area, stabilized construction entrance, and a concrete washout area as erosion and sedimentation control measures.
- 2. Excavation will take place where the roads, culverts and building pads will be situated. Spoils of this material may be placed at a location on the project site as directed by the owner or hauled off-site. These spoils and any other loose granular material will be enclosed by a silt fence. Silt fence, rock berm, contractor staging area, and stabilized construction entrances will be utilized as the control measures.
- 3. Grading on the site will consist of the placement and compaction of base or select fill material under and/or around the roads, culverts and building pads and excavation and fill for the proposed roads, culverts and building pads. Silt fence and rock berm will be utilized as the control measures.
- 4. The installation of the utilities, BMPs and storm sewer will disturb a portion of the site.

 Proposed utility improvements include the construction of a wastewater collection system, water mains, reclaimed water mains, BMPs and storm sewer extensions and connections. Silt fence, rock berm, and inlet protection will be utilized as control measures.
- 5. Subsequent to the construction of the building, parking, etc. disturbed areas will be hydromulched or seeded. Silt fence, rock berm, and inlet protection will be utilized as control measures.
- 6. Once vegetation is established on the site, Temporary BMPs will be removed as allowed by the engineer.

All surface runoff originating up-gradient or on site will be contained within the proposed silt fence. The silt fence will trap most pollutants and prevent them from entering off-site surface streams, sensitive features, or the aquifer.

<u>Attachment E – Request to Temporarily Seal a Feature</u>

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

<u>Attachment F – Structural Practices</u>

Construction will be phased to minimize areas of unstabilized disturbance. Silt fences, rock berm, construction entrances, and inlet protection will be used to limit the runoff discharge of sediments from exposed areas on the site during construction. Drainage off the site is typically in a sheet flow or shallow concentrated flow condition due to the relatively flat topography found on the project site.

Attachment G - Drainage Area Map

Attachment G – Drainage Area Map
See the Attached Neighborhood 61 construction plans for existing and proposed drainage area maps.

Attachment I – Inspection and Maintenance for BMPs

Silt Fence

- 1. Inspect all fences weekly and after any rainfall.
- 2. Remove sediment when buildup reaches 6 inches, or install a second line of fencing parallel to the old fence.
- 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.

Rock Berm

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

Temporary Construction Entrance/Exit

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

Concrete Washout

- 1. Inspection should be made weekly and after each rainfall by the responsible party.
- 2. Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.
- 3. The berm/temporary pit should be reshaped as needed during inspection.
- 4. The berm/temporary pit should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.
- 5. The washout should be left in place until construction has been completed.
- 6. 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 Concrete Washout should be revegetated.
- 7. The concrete from the washout should be removed from the site in an appropriate manner.

Inlet Protection

- 1. Inspection should be made weekly and after each rainfall. Check inlet protection for damage. Repair should be made promptly as needed by the contractor.
- 2. Trash and other debris should be removed after each rainfall.
- 3. Accumulated silt should be removed.
- 4. The removed sediment should be stockpiled or redistributed in areas that are protected from erosion.
- 5. When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation.

The following sample forms should be utilized to document the inspection and maintenance of the proposed temporary BMPs as described above. This form shall be kept on site with the WPAP/SCS until the project is completed.

Temporary BMP Logs – Silt Fence

Date	Date of Last Inspection	Inspection Performed By	Title	Company	Status of BMP(s)	Corrective Action Required (if any)	Date Corrective Action Completed

Temporary BMP Logs – Rock Berm

Date	Date of Last Inspection	Inspection Performed By	Title	Company	Status of BMP(s)	Corrective Action Required (if any)	Date Corrective Action Completed

Temporary BMP Logs – Temporary Construction Entrance

Date	Date of Last Inspection	Inspection Performed By	Title	Company	Status of BMP(s)	Corrective Action Required (if any)	Date Corrective Action Completed

<u>Temporary BMP Logs – Inlet Protection</u>

Date	Date of Last Inspection	Inspection Performed By	Title	Company	Status of BMP(s)	Corrective Action Required (if any)	Date Corrective Action Completed
					-		

Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices

Vehicular traffic should be limited to areas of the project site where construction will take place. The contractor should endeavor to preserve existing vegetation as much as practicable to reduce erosion and lower the cost associated with stabilization. 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.

All disturbed areas shall be stabilized as described below.

Except as provided for below, stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.

- A. Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceases is precluded by snow cover or frozen ground conditions, stabilization measures shall be initiated as soon as practicable.
- B. Where construction activity on a portion of the site has temporarily ceased, and earth-disturbing activities will be resumed with 21 days, temporary stabilization measures do not have to be initiated on that portion of the site.
- C. In areas experiencing drought, where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.

Stabilization measures as described as follows:

All disturbed grass areas should be planted in drought resistant species normally grown as permanent lawns, such as Zoysia, Bermuda and Buffalo. Grass areas may be sodded, plugged, sprigged or seeded except that solid sod shall be used in swales or other areas subject to erosion. All planted areas shall be provided with a readily available water supply and watered as necessary to ensure continuous healthy growth and development. Maintenance shall include the replacement of all dead plant material if that material was used to meet the requirements of this section.



Owner Authorization Form

Edwards Aquifer Protection Program

Instructions

Complete the following form by adding the requested information in the fields below. The form must be notarized for it to be considered complete. Attach it to other programmatic submittals required by 30 Texas Administrative Code (30 TAC), Chapter 213, and provide it to TCEQ's Edwards Aquifer Protection Program (EAPP) as part of your application.

If you have questions on how to fill out this form or about EAPP, please contact us by phone at 512-339-2929 or by e-mail at eapp@tceq.texas.gov.

Landowner Authorization

I, Stephen Ashlock, as Division Vice President of Land Planning and Development of Del Webb Texas, LP, an Arizona limited partnership

am the owner of the property located at:

R492768 & R492766

and am duly authorized in accordance with 30 TAC 213.4(c)(2) and 213.4(d)(1), or 30 TAC 213.23(c)(2) and 213.23(d), relating to the right to submit an application, signatory authority, and proof of authorized signatory.

I do hereby authorize Pulte Homes of Texas, L.P. To conduct Organized Sewage Collection System Plan Application At Sun City Neighborhood 61

Landowner Acknowledgement

I understand that Del Webb Texas, LP, an Arizona limited partnership

Is ultimately responsible for the compliance with the approved or conditionally approved Edwards Aquifer protection plan and any special conditions of the approved plan through all phases of plan implementation even if the responsibility for compliance and the right to possess and control the property referenced in the application has been contractually assumed by another legal entity. I further understand that any failure to comply with any condition of the executive director's approval is a violation and subject to administrative rule or orders and penalties as provided under 30 TAC 213.10, relating to enforcement. Such violations may also be subject to civil penalties.

Landowner Signature
Swort tet
Landowner Signature
October 16,2025
Date
THE STATE § OF TEXAS
County § of Williamson
BEFORE ME, the undersigned authority, on this day personally appeared
Stephen Ashlock, as Vice President of Land Planning and Land Development of Del Webb Texas, LP, an Arizona limited partnership
known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed same for the purpose and consideration therein expressed.
GIVEN under my hand and seal of office on thisday ofday ofday of
Molulput
NOTARY PUBLIC MICHELLE MAPHET
Typed or Printed Name of Notary
MY COMMISSION EXPIRES: 10/14/14
Ontional Attachments
Optional Attachments
Select All that apply:
☐ Lease Agreement
☐ Signed Contract
☐ Deed Restricted Easement

 \ensuremath{oxtime} Other legally binding documents

SECRETARY'S CERTIFICATE

May 19, 2025

The undersigned, being the duly elected and qualified Secretary of Del Webb Southwest Co., an Arizona corporation (the "Corporation"), acting in its capacity as the general partner of Del Webb Texas Limited Partnership, an Arizona limited partnership (the "LP"), does hereby certify that she has access to the records of the Corporation and the LP, and that as of the date hereof:

- 1. Exhibit A to this Certificate is a true, accurate, and current copy of the Del Webb Southwest Co. Signing Power Resolutions, as adopted by the Board of Directors of the Corporation on February 14, 2024; and,
- 2. Exhibit B to this Certificate is a true, accurate, and current copy of the Delegation of Authority, as executed in accordance with Exhibit A, by Scott Bryson in his previous capacity as Vice President of Finance on behalf of Amber Lake; and,
- 3. Exhibit C to this Certificate is a true, accurate, and current copy of the Delegation of Authority, as executed in accordance with Exhibit A, by Scott Bryson in his previous capacity as Vice President of Finance on behalf of Jack Wahlenmaier; and,
- 4. Exhibit D to this Certificate is a true, accurate, and current copy of the Delegation of Authority, as executed in accordance with Exhibit A. by Jake LePage on behalf of Samuel Allen: and.
- 5. The following is a list of certain persons who are officers, managers, or employees of the Corporation in the Central Texas Division of the Central Area, currently holding the positions in the Corporation set forth next to each person's name; and to whom signature authority is granted as defined in Exhibit A; and.
- 6. As authorized persons of the general partner of the LP, these individuals can sign on behalf of the LP.

<u>Name</u>	<u>Title</u>
Charlie Tipton	Central Area President
Peter Hilton	Central Area Vice President of Finance
Cassie Dill	Central Area Controller II
Pablo Rivas	Division President
Jake LePage	Division Vice President of Finance
Ashley Ellis	Division Vice President of Sales
Bryan Beil	Division Vice President of Land Acquisition
Andrew Jacobs	Division Vice President of Construction Operations
Stephen Ashlock	Division Vice President of Land Planning & Development
Ryan Mikulenka	Division Director of Land Planning & Entitlement
Cameron Thomsen	Division General Sales Manager
Scott Yost	Division General Sales Manager
Michael Lindeman	Division General Sales Manager
Raul Romero	Division General Sales Manager
Michael Smith	Division Controller I
Kaitlin White	Division Closing/Homebuyer Coordinator
Michaela Fischer	Division Closing/Homebuyer Coordinator
Amber Lake	Division Financial Analyst, acting as Authorized Representative
	for Closing/Homebuyer Coordinator
Jack Wahlenmaier	Division Assistant Controller, acting as Authorized Representative
	for Closing /Homebuyer Coordinator
Samuel Allen	Division Assistant Controller, acting as Authorized Representative
	for Closing/Homebuyer Coordinator

IN WITNESS WHEREOF, the undersigned has executed this Certificate as of the date first written above.

Ellen Padesky Maturen

Secretary

CERTIFIED COPY OF RESOLUTIONS OF THE BOARD OF MANAGERS OF DEL WEBB SOUTHWEST CO

I, Ellen Padesky Maturen, hereby certify, that I am a duly elected and acting Secretary of Del Webb Southwest Co., a corporation authorized and existing under the laws of the State of Arizona(the "Corporation"); that below is a true copy of the resolutions adopted by unanimous written consent by the Board of Directors of the Corporation on June 21, 2024, in accordance with the provisions of the Corporation Act of the State of Arizona; and that such resolutions have not been rescinded or modified, and do not contravene any provisions of the Articles of Organization or operating agreement of said Company:

WHEREAS, Ryan Mikulenka is Director of Land Planning and Entitlement in the Central Area in the Central Texas Division; and,

WHEREAS, the current Signing Power Resolutions as approved on February 14, 2024 ("Signing Power Resolutions"), do not grant signatory authority under Section I. General Development to the title of Director of Land Planning and Entitlement; and.

WHEREAS, the Central Area would like to grant signatory authority for Section I. General Development to Ryan Mikulenka,

THEREFORE, RESOLVED, effective June 21, 2024, Ryan Mikulenka in his capacity as Director of Land Planning and Entitlement is hereby granted the signatory authority as defined in Section I. General Development as delineated in the current Signing Power Resolutions attached hereto as Exhibit A; and,

FURTHER RESOLVED, that any actions heretofore taken by the aforementioned person in his respective capacity as such are hereby approved, ratified, and confirmed in all respects.

IN WITNESS WHEREOF, I have hereto set my hand this 21st day of June, 2024.

Ellen Padesky Maturen, Secretary

DEL WEBB SOUTHWEST CO.

SIGNING POWER RESOLUTIONS

A. <u>DEFINITIONS</u>.

As used in these resolutions:

"signing power" means the power and authority to execute and deliver an agreement, instrument or other document.

"General Signing Power" means signing power relating to the ordinary course of business of DEL WEBB SOUTHWEST CO. (the "Company") generally, without restriction to a particular Division or project, both in the Company's own capacity and in any instances where it is the managing partner or managing member of a joint venture (the "Partnership").

"<u>Division Specific Signing Power</u>" means signing power relating only to the ordinary course of business of a Division over which the officer, manager, or employee in question has management responsibility, both in the Company's own capacity and as managing partner or managing member of the Partnership.

B. **PURPOSE**.

The purpose of these resolutions is to establish the signing power of certain employees of the Company, both in the Company's own capacity and as managing partner or managing member of the Partnership. Copies of these resolutions may be delivered to title companies and other parties who require evidence of the signing power of an employee. No employee of the Company may subdelegate his or her signing power except as expressly provided in these resolutions by use of the words: "Other title(s) or person(s) designated in writing by . . .".

C. RESOLUTIONS.

RESOLVED, that the following officers, managers, or employees of the Company shall have the General Signing Power or the Division Specific Signing Power, as indicated in the charts below:

Development of Real Property

I. <u>General Development</u>. Applications, tentative and final subdivision plats and maps, development agreements, land development agreements, amenity contractor agreements and all other documents that are relevant or incident to the development of real property in which the Company or the Partnership has any interest, other than documents contemplated in part VI below:

General Signing Power	Division Specific
	Signing Power
Chairman of the Board	Area President
Chief Executive Officer	Area VP Finance
President	Division President
Executive Vice President	Division VP Land
Senior Vice President	Division VP Finance
Vice President	Division VP/ Director Land
	Development/
	Acquisition/Land Planning &
	Development
	Division Director of Land
	Entitlement
	Division Manager of Land
	Planning and Entitlement
	Division VP of Field
	Operations and Sales

<u>House Construction Agreements</u>. Contractor agreements, construction agreements, contracts, purchase orders, pricing schedules, scopes of work and all other documents that are relevant or incident to the construction of residential homes and amenities thereto in which the Company or the Partnership has any interest, <u>other than</u> documents contemplated in the paragraph immediately above this one:

General Signing Power	Division Specific Signing Power
Chairman of the Board	Area President
Chief Executive Officer	Area VP Finance
President	Division President
Executive Vice President	Area VP Construction Operations
Senior Vice President	Division VP/Director Finance
Vice President	Division VP Construction Operations
	Division VP of Field Operations and Sales

Division VP
Procurement/Zone
Director Product/Sr.
Project Manager-
Procurement/Director of
Procurement/Manager of
Procurement/Project
Manager-
Procurement/Project
Manager-Architecture
Procurement/Project
Manager-
Procurement/Project
Manager-Architecture

<u>Construction Documents Agreements</u>. Professional Services agreements – Architecture, Professional Services Agreements – Consultants, contracts, pricing schedules, scopes of work and all other documents that are relevant or incident to the development and jurisdictional approval of construction documents used to build residential homes and amenities thereto in which the Company or the Partnership has any interest, <u>other than</u> documents contemplated in the paragraph immediately above this one:

General Signing Power	Home Office – Area- Zone- Division Specific Signing Power
Chairman of the Board	Area President
Chief Executive Officer	Area VP Finance
President	Division President
Executive Vice President	Division VP/ Director Finance
Senior Vice President	Division VP Construction Operations
	Area Director of Product Development
Vice President	Product Development Project Manager
	Division Product Manager
	National VP of Product Development
	National Director of Design
	National Design Manager
	National Product Manager
	Division Zone Director Product

Storm Water Management

II. Notices of intent, notices of termination, storm water pollution prevention plans, reports, certifications or other documentation that is relevant or incident to storm water

management and erosion control in the development of real property and/or construction of homes in which the Company or the Partnership has any interest.

General Signing Power	Division Specific Signing Power
Chairman of the Board	Area President
Chief Executive Officer	Area VP Finance
President	Division President
Executive Vice President	Division VP/ Director Land
	Development / Acquisition
Senior Vice President	Division VP/ Director Finance
	Division Controller
Vice President	Division VP/ Director Land
	Development/Acquisition/Land
	Planning & Development
	Manager Environmental Compliance
	VP Compliance
	Division VP of Field Operations and
	Sales

Sale and Closing of Residential Homes or Lots

III. Contracts for the sale of residential homes or lots to <u>consumers</u> (not to another business).

General Signing Power	Division Specific Signing Power
Chairman of the Board	Area President
Chief Executive Officer	Area VP Finance
President	Division President
Executive Vice President	Division VP/ Director Finance
Senior Vice President	Division Controller
Vice President	Division VP Sales
	General Sales Manager
	Division VP of Field Operations and Sales
	Division Selling Sales Manager
	Director of Sales
	Closing/Homebuyer Coordinator
	Other title(s) or person(s) designated in writing by either the Division President or Division VP Finance

IV. Deeds of conveyance and all other documents that are relevant or incident to the sale and closing of residential homes or lots to <u>consumers</u> (not to another business), including any mortgage-related documents, such as buydown agreements or other relevant documents.

General Signing Power	Division Specific Signing Power
Chairman of the Board	Area President
Chief Executive Officer	Area VP Finance
General Signing Power	Division Specific Signing Power
President	Division President
Executive Vice President	Division VP Finance
Senior Vice President	Division Controller
Vice President	Division VP Sales
	General Sales Manager
	Division VP of Field Operations and Sales
	Division Selling Sales Manager
	Director of Sales
	Closing/Homebuyer Coordinator
	Other title(s) or person(s) designated in writing by either the Division President or Division VP Finance

Closing of the Purchase and Sale of Real Property

V. Contracts, deeds and all other closing documents for the purchase or sale of real property (other than the sale and closing of residential homes or lots to consumers).

General Signing Power	Division Specific Signing Power
Chairman of the Board	Area President
Chief Executive Officer	Area VP Finance
President	Division President
Executive Vice President	Division VP Land
Senior Vice President and General Counsel	Division VP/ Director Finance

Other title(s) or
person(s) designated in
writing by resolution(s)
of the Board of Directors

Entitlement/Land Planning &
Entitlement/Land Planning &
Entitlement/Land Planning
and Development
Land Development
Division VP of Field Operations and
Sales

Real Property Financing and Land Banking Transactions

- VI. Documents related to any of the following real property financings and land banking transactions:
 - a. <u>Traditional Financing</u>. Loan agreements, security agreements, promissory notes, deeds of trust and all other documents that are relevant or incident to the financing of the purchase and/or development of real property.
 - b. <u>Special Taxing District Financing</u>. Loan agreements, security agreements, promissory notes, deeds of trust and all other documents under which the Company or the Partnership is a party that are relevant or incident to a Special Taxing District Financing (defined below), other than documents contemplated in Guarantees and Environmental Indemnities.
 - "Special Taxing District Financing" means a financing through the issuance of bonds by a community development district, community facilities district, municipal utility district, county or municipal improvement district, tax incremental district or other similar special purpose unit of local government.
 - c. <u>Guarantees and Environmental Indemnities</u>. Guarantees of payment or performance of the obligations of another entity (whether in the form of a payment guaranty, indemnity or other document), maintenance or remargining guarantees and environmental indemnities in connection with development financing.
 - d. <u>Land Banking Transactions</u>. Assignments of contracts to purchase real property, options to purchase real property, development agreements and other documents evidencing arrangements with an intermediary, such as a land banker, to purchase or develop real property.

General Signing Power	Division Specific Signing Power
Chief Financial Officer of	
the publicly traded ultimate parent	
Treasurer of the publicly	
traded ultimate parent	

Licenses

VII. Documents necessary to obtain licenses and department of real estate public reports or similar documents in California and other states (such as, without limitation, Arizona and

Nevada).

General Signing Power	Division Specific Signing Power
Chairman of the Board	Area President
Chief Executive Officer	Area VP Finance
President	Division President
Executive Vice President	Division VP Land
Senior Vice President	Division VP Finance
	Division Controller
Vice President	Division VP Sales
	Division VP Construction
	Operations
	Area VP/Division VP/Director Land
	Acquisition/Development/ Land
	Planning & Development/Land
	Acquisition/Land Entitlement/and
	Planning & Entitlement/Land Planning and
	Development/ Land
	Development/Acquisition
	Division VP of Field
	Operations and Sales

CC&Rs

VIII. Restrictive covenants, conditions, restrictions, easements and other similar rights or restrictions, commonly known as CC&Rs, affecting real property or improvements on real property, and documents relating to CC&Rs, such as the organizational documents for the related homeowners' or property owners' association.

General Signing Power	Division Specific Signing Power
Chairman of the Board	Area President
Chief Executive Officer	Area VP Finance
President	Division President
Executive Vice President	Division VP Land
Senior Vice President	Division VP Finance
	Division Controller
Vice President	Division VP/Director Land
	Acquisition/Land Planning &
	Development/ Land Planning &
	Development/Land Acquisition/Land
	Entitlement/Land Planning &
	Entitlement/Land Planning and
	Development/Land Development
	Division VP of Operations and Sales

RESOLVED FURTHER, that all lawful acts specifically described in the immediately preceding resolution, undertaken prior to the adoption of these resolutions, in the Company's own capacity or as managing partner or managing member of the Partnership, are hereby ratified, confirmed and adopted by the Company.

RESOLVED FURTHER, that any Signing Power Resolutions or Powers of Attorney and Grants of Agency previously issued or adopted by the Company are hereby terminated, revoked and superseded in their entirety by these resolutions.

Effective as of February 14, 2024.

* * * * *

EXHIBIT B

DELEGATION OF AUTHORITY BY AREA VICE PRESIDENT OF DEL WEBB SOUTHWEST CO.

Section C III & IV of the resolution adopted by Del Webb Southwest Co. (the "Company") as of September 10, 2009, and attached hereto as Exhibit A (the "Authorizing Resolutions"), provides that the Area President or the Area Vice President of the Company may designate in writing a person to execute contracts for the sale of residential homes or lots to consumers and deeds of conveyance and all other documents that are relevant or incident to the sale and closing of residential homes or lots to consumers, including any mortgage related documents, such as buydown agreements or other relevant documents.

I, Scott Bryson, in my capacity as the Central Area Vice President of Finance of the Company, hereby designate Amber Lake, Division Financial Analyst of the Central Texas Division, to act in the capacity of a Closing/Homebuyer Coordinator so as to execute any contracts for the sale of residential homes or lots to consumers and any deeds of conveyance and all other documents that are relevant or incident to the sale and closing of residential homes or lots to consumers, including any mortgage related documents, such as buydown agreements or other relevant documents on behalf of the Central Texas Division of the Company. This designation shall be effective as of March 15, 2023 and shall terminate the earlier of (1) when said employee is no longer employed by the Central Texas Division, or (2) when such designation is revoked in writing by the Area President or Area Vice President of the Company.

Date: March 15, 2023

Scott Bryson

Scott Bryson, Central Area Vice President of Finance

EXHIBIT B

EXHIBIT A

(Attach copy of Signing Powers Resolution)

EXHIBIT C

DELEGATION OF AUTHORITY BY AREA VICE PRESIDENT OF DEL WEBB SOUTHWEST CO.

Section C III & IV of the resolution adopted by Del Webb Southwest Co. (the "Company") as of September 10, 2009, and attached hereto as Exhibit A (the "Authorizing Resolutions"), provides that the Area President or the Area Vice President of the Company may designate in writing a person to execute contracts for the sale of residential homes or lots to consumers and deeds of conveyance and all other documents that are relevant or incident to the sale and closing of residential homes or lots to consumers, including any mortgage related documents, such as buydown agreements or other relevant documents.

I, Scott Bryson, in my capacity as the Central Area Vice President of Finance of the Company, hereby designate Jack Wahlenmaier, Division Assistant Controller of the Central Texas Division, to act in the capacity of a Closing/Homebuyer Coordinator so as to execute any contracts for the sale of residential homes or lots or consumers and any deeds of conveyance and all other documents that are relevant or incident to the sale and closing of residential homes or lots to consumers, including any mortgage related documents, such as buydown agreements or other relevant documents on behalf of the Central Texas Division of the Company. This designation shall be effective as of February 22, 2024, and shall terminate the earlier of (1) when said employee is no longer employed by the Central Texas Division, or (2) when such designation is revoked in writing by the Area President or Area Vice President of the Company.

February 22, 2024 Date:

DocuSigned by:

Scott Bryson, Central Area Vice President of Finance

EXHIBIT C

EXHIBIT A

(Attach copy of Signing Powers Resolution)

EXHIBIT D

DELEGATION OF AUTHORITY BY DIVISION VICE PRESIDENT OF DEL WEBB SOUTHWEST CO.

Section C III & IV of the resolution adopted by Del Webb Southwest Co. (the "Company") as of February 14, 2024, and attached hereto as Exhibit A (the "Authorizing Resolutions"), provides that the Division President or the Division Vice President of the Company may designate in writing a person to execute contracts for the sale of residential homes or lots to consumers and deeds of conveyance and all other documents that are relevant or incident to the sale and closing of residential homes or lots to consumers, including any mortgage related documents, such as buydown agreements or other relevant documents.

I, Jake LePage, in my capacity as the Central Texas Division Vice President of Finance of the Company, hereby designates Samuel Allen, Division Assistant Controller of the Central Texas Division, to act in the capacity of a Closing/Homebuyer Coordinator so as to execute any contracts for the sale of residential homes or lots to consumers and any deeds of conveyance and all other documents that are relevant or incident to the sale and closing of residential homes or lots to consumers, including any mortgage related documents, such as buydown agreements or other relevant documents on behalf of the Central Texas Division of the Company. This designation shall be effective as of November 25, 2024, and shall terminate the earlier of (1) when said employee is no longer employed by the Central Texas Division, or (2) when such designation is revoked in writing by the Division President or Division Vice President of the Company.

Date: November 25, 2024

Jake lefage

Jake LePage, Central Texas Division Vice President of Finance

EXHIBIT D

EXHIBIT A

(Attach copy of Signing Powers Resolution)

Agent Authorization Form

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

Mr. Stephen Ashlock		
Print Name		
	Director of Land Davelenment	
	Director of Land Development	
	Title - Owner/President/Other	
of	Pulte Homes of Texas, L.P.	
	Corporation/Partnership/Entity Name	
have authorized	Erik Haberman, P.E.	
	Print Name of Agent/Engineer	
of	Steger & Bizzell Engineering	
OI		
	Print Name of Firm	

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

I also understand that:

- 1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to \$10,000 per day per violation.
- 2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.
- 3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.
- 4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.
- 5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

Applicant's Signature

Sept 19, 2025 Date

22/2026

THE STATE OF TEXAS §

Jennifer J Sparks

My Commission Expires 11/22/2026 Notary ID 128451183

County of Travis §

BEFORE ME, the undersigned authority, on this day personally appeared Mr. Stephen Ashlock 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

90

Typed or Printed Name of Notary

day of

MY COMMISSION EXPIRES:

Application Fee Form

Texas Commission on Environmental Quality Name of Proposed Regulated Entity: Sun City Neighborhood 61 Regulated Entity Location: Georgetown, TX Name of Customer: Pulte Homes of Texas, L.P. Contact Person: Mr. Steven Ashlock Phone: (512) 532-3355 Customer Reference Number (if issued):CN 603410499 Regulated Entity Reference Number (if issued):RN ______ **Austin Regional Office (3373)** Havs Travis | Williamson San Antonio Regional Office (3362) Medina Uvalde Bexar 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 San Antonio Regional Office Mailed to: TCEQ - Cashier Overnight Delivery to: TCEQ - Cashier **Revenues Section** 12100 Park 35 Circle Mail Code 214 Building A, 3rd Floor P.O. Box 13088 Austin, TX 78753 Austin, TX 78711-3088 (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	n/a Acres	\$0
Water Pollution Abatement Plan, Contributing Zone		
Plan: Multiple Single Family Residential and Parks	n/a Acres	\$0
Water Pollution Abatement Plan, Contributing Zone		
Plan: Non-residential	n/a Acres	\$0
Sewage Collection System	3223 L.F.	\$ 1,611.50
Lift Stations without sewer lines	n/a Acres	\$0
Underground or Aboveground Storage Tank Facility	n/a Tanks	\$0
Piping System(s)(only)	n/a Each	\$0
Exception	n/a Each	\$0
Extension of Time	n/a Each	\$0
	,	<u> </u>

Signature: Fil f. Haberon Date: September 22, 2025

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	\$1,500
	5 < 10	\$3,000
	10 < 40	\$4,000
	40 < 100	\$6,500
	100 < 500	\$8,000
	≥ 500	\$10,000
Non-residential (Commercial, industrial, institutional,	< 1	\$3,000
multi-family residential, schools, and other sites	1 < 5	\$4,000
where regulated activities will occur)	5 < 10	\$5,000
	10 < 40	\$6,500
	40 < 100	\$8,000
	≥ 100	\$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

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

SECTION I: General Information

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

Renewal (Core Data Form sho	ould be submi	tted with the ren		Other									
2. Customer F	Reference Numbe	-	Follow this link to search for CN or RN numbers in Central Registry**											
ECTION	N II: Cus	tomer	Inform	ation	<u>1</u>									
1. General Cu	stomer Informati	5. Effective [Date for Cu	ustomer I	nformatio	n Updates (mm	09/22/2025							
☐ New Custor☐Change in Le	ner egal Name (Verifiabl		I Jpdate to Custon xas Secretary of			_	ange in Regulated ic Accounts)	d Entity Own	ership					
	r Name submitted s Comptroller of I	_	-	tomatical	ly based	on what is	current and ac	tive with t	he Texas Seci	retary of State				
6. Customer L	egal Name (If an	individual, pri	int last name firs	t: eg: Doe, J	lohn)		If new Customer, enter previous Customer below:							
Pulte Homes of	Texas, L.P.													
7. TX SOS/CP/	A Filing Number		8. TX State Tax ID (11 digits)				9. Federal T	ax ID	10. DUNS Number (if					
0010034910			17527201275				(9 digits)		applicable)					
11. Type of Customer: Corporation							idual	Partn	Partnership: General Limited					
Government:	City County	Federal 🗌	Local State	Other		Sole	Proprietorship	ther:						
12. Number o	of Employees					I	13. Indeper	ndently Ow	ned and Op	erated?				
O-20	21-100 🛭 101-2	50 🗌 251	-500 🔲 501 a	nd higher			☐ Yes							
14. Customer	Role (Proposed or	Actual) – as	it relates to the F	Regulated E	ntity listed	on this form	. Please check or	ne of the foll	owing					
⊠Owner ☐Occupationa		erator esponsible Pa	_	ner & Opera CP/BSA App			Ot	her:						
15. Mailing	9401 Amberglen I	Blvd., Building	g I, Suite 150											
Address:				1	_					1				
	City Austin			State	TX	ZIP	78729		ZIP + 4					
16. Country Mailing Information (if outside USA)						17. E-Mail Address (if applicable)								

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18. Telephone Number	19. Extension or Code	20. Fax Number (if applicable)
(512) 532-3355	0	(888) 609-4594

SECTION III: Regulated Entity Information

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

New Regulated Entity	Updat	te to F	Regulated Entity	Name	e 🔲 Update t	o Reg	ulated E	ntity	Inform	ation						
The Regulated Entity Nan as Inc, LP, or LLC).	ne subm	itted	l may be upda	ted, i	n order to mee	et TC	EQ Core	e Dat	a Stan	dards (remo	val of a	orga	nization	al endings s	such
22. Regulated Entity Nam	e (Enter	name	of the site whe	re the	regulated action	is ta	king plad	ce.)								
Sun City Neighborhood 61																
23. Street Address of the Regulated Entity:	Sun City Boulevard and State Highway 195															
(No PO Boxes)	City		Georgetown		State TX			ZIP			78633			IP + 4		
24. County	Williamson															
If no Street Address is provided, fields 25-28 are required.																
25. Description to Physical Location:	Northwest of intersection of Sun City Boulevard and State Highway 195.															
26. Nearest City State Nearest ZIP (rest ZIP Cod	le				
Georgetown									78633							
Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).																
27. Latitude (N) In Decimal: 30.73681676.					969 28. Lo			ngiti	gitude (W) In Decimal:				-97.69385571187959			
Degrees	Minutes	s		Seco	conds Degrees			es	Minutes						Seconds	
30		4	4		12.5			g	97				1		37.9	
29. Primary SIC Code		30. 9	Secondary SIC	Code			Primary	-	ICS Co	de		32. Sec	ond	ary NAIC	S Code	
(4 digits)		(4 dig	gits)			(5 0	r 6 digit	5)				(5 or 6 d	digits)		
6552		1521				N/A										
33. What is the Primary B	usiness	of th	is entity? (D	o not	repeat the SIC or	NAIC	S descri	ption.)							
Land Development and Resid	ential Ho	mes														
9401 Amberglen Blvd., Building I, Suite 150 34. Mailing																
Address:																
	City	y	Austin		State TX			ZIP		78729		Z		ZIP + 4		
35. E-Mail Address:	ultegro	tegroup.com					1					1				
36. Telephone Number					37. Extension or Code				38. Fax Number (if applicable)							
(512) 532-3355				N/A	N/A				(888) 609-4594							
CEO-10400 (11/22)															Dogg	2 of 2

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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 ☐ New Source ■ Municipal Solid Waste OSSF Petroleum Storage Tank ☐ PWS Review Air Sludge Storm Water ☐ Title V Air ☐ Tires Used Oil ☐ Voluntary Cleanup ■ Wastewater ■ Wastewater Agriculture ■ Water Rights Other: **SECTION IV: Preparer Information** 40. Name: Steger Bizzell - Erik Haberman, P.E. 41. Title: Professional Engineer 42. Telephone Number 43. Ext./Code 44. Fax Number 45. E-Mail Address (512)930-9412 N/A (N/A) ehaberman@stegerbizzell.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: Job Title: Steger Bizzell **Professional Engineer** Name (In Print): Mr. Erik Haberman, P.E. Phone: (512)930-9412 Signature: Date: 9/22/2025 rich f. Haberon

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