CIVILITUDE
ENGINEERS & PLANNERS

Water Pollution Abatement Plan (WPAP) &

Organized Sewage Collection System (SCS) Plan

for

SOUTHWESTERN UNIVERSITY

560 DEVELOPMENT PHASE 1

Georgetown, TX 78626

CV Project #A799

Prepared By:

CIVILITUDE
503 Kenniston Drive,
Austin, TX-78752
Phone: (512) 761-6161
Fax: (512) 761-6167
www.civilitude.com

Firm Reg. # 12469

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

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

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

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

Technical Review

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

2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be

clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited**.

4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

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

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

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

- If the technical review has begun your application can be denied/withdrawn, your fees will be forfeited, and the plan will have to be resubmitted.
- TCEQ can continue the technical review of the application as it was submitted, and a modification application can be submitted at a later time.

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

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

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

1. Regulated Entity Name: Southwestern University 560 Development Phase 1					**2. Regulated Entity No.:**				
3. Customer Name: Southwestern University					**4. Customer No.:** CN600787329				
5. Project Type: **(Please circle/check one)**	New		Modification		Extension		Exception		
6. Plan Type: **(Please circle/check one)**	WPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		Non-residential			**8. Site (acres):**		68.77	
9. Application Fee:	8,000 (WPAP) $1,548.50 (SCS)		**10. Permanent BMP(s):**			Contech Jellyfish			
11. SCS (Linear Ft.):	3,097		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Williamson		**14. Watershed:**			Smith Branch – San Gabriel River			

Application Distribution

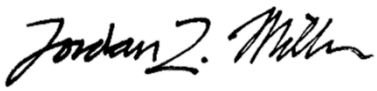
Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected incorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which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

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

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	N/A	N/A	X
Region (1 req.)	N/A	N/A	X
County(ies)	N/A	N/A	X
Groundwater Conservation District(s)	__Edwards Aquifer Authority __Barton Springs/ Edwards Aquifer __Hays Trinity __Plum Creek	__Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	__Austin __Buda __Dripping Springs __Kyle __Mountain City __San Marcos __Wimberley __Woodcreek	__Austin __Bee Cave __Pflugerville __Rollingwood __Round Rock __Sunset Valley __West Lake Hills	__Austin __Cedar Park __Florence X Georgetown __Jerrell __Leander __Liberty Hill __Pflugerville __Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	N/A	N/A	N/A	N/A	N/A
Region (1 req.)	N/A	N/A	N/A	N/A	N/A
County(ies)	N/A	N/A	N/A	N/A	N/A
Groundwater Conservation District(s)	__ Edwards Aquifer Authority __Trinity-Glen Rose	__Edwards Aquifer Authority	__Kinney	__EAA __Medina	__EAA __Uvalde
City(ies) Jurisdiction	__Castle Hills __Fair Oaks Ranch __Helotes __Hill Country Village __Hollywood Park __San Antonio (SAWS) __Shavano Park	__Bulverde __Fair Oaks Ranch __Garden Ridge __New Braunfels __Schertz	NA	__San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. Jordan Miller (Civilitude)
Print Name of Customer/Authorized Agent    10/3/2025
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):		Fee Check:	Payable to TCEQ (Y/N):
Core Data Form Complete (Y/N):			Signed (Y/N):
Core Data Form Incomplete Nos.:			Less than 90 days old (Y/N):

General Information Form

Texas Commission on Environmental Quality

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

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

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

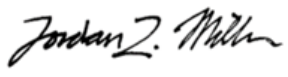
Signature

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

Print Name of Customer/Agent: Jordan Miller, P.E.

Date: 08/12/2025

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Southwestern University 560 Development Phase 1
2. County: Williamson
3. Stream Basin: Smith Branch - San Gabriel River
4. Groundwater Conservation District (If applicable): N/A
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

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

7. Customer (Applicant):

   Contact Person: Richard Madonna
   Entity: Southwestern University
   Mailing Address: 1001 E University Avenue
   City, State: Georgetown, TX Zip: 78626
   Telephone: _____ FAX: _____
   Email Address: _____

8. Agent/Representative (If any):

   Contact Person: Jordan Miller, P.E.
   Entity: Civilitude, LLC
   Mailing Address: 503 Kenniston Dr, Unit #5
   City, State: Austin, TX Zip: 78752
   Telephone: (512) 761-6161 FAX: _____
   Email Address: Jordan@civilitude.com

9. Project Location:

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

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

    Site is located at the intersection of E University Ave and Smith Creek Rd in Georgetown Texas, 78626 near the Southwestern University Campus.

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

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

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

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

☒ Survey staking will be completed by this date: 06/01/2026

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

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

15. Existing project site conditions are noted below:

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

Prohibited Activities

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

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

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

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

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

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

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

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

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

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

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

Administrative Information

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

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

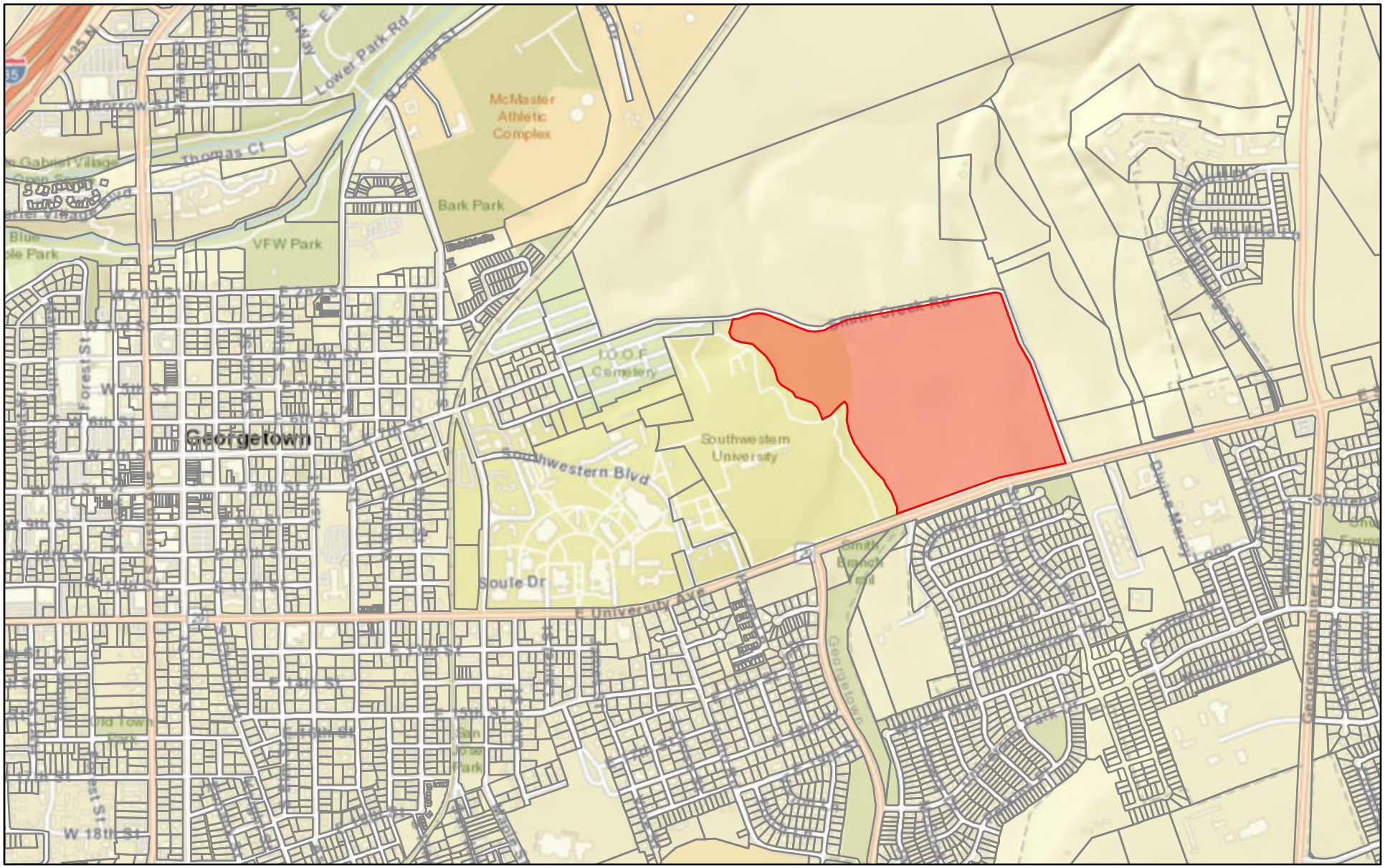
19. ☒ Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:

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

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

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

Attachment A - Road Map



8/12/2025, 6:41:15 PM

Parcels

County Boundary

1:18,056

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

County of Williamson, Esri, HERE, Garmin, INCREMENT P, NGA, USGS

Williamson Central Appraisal District

City of Round Rock GIS/IT Department | County of Williamson, Esri, HERE, Garmin, INCREMENT P, NGA, USGS |

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

GEORGETOWN QUADRANGLE
TEXAS–WILLIAMSON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

Edwards Aquifer Recharge Zone

Edwards Aquifer Contributing Zone

Property Boundary

Edwards Aquifer Transition Zone

LAKE GEORGETOWN
ELEVATION 791

GEORGETOWN

Produced by the United States Geological Survey
Control by USGS and NOS/NOAA
Compiled from aerial photographs taken 1974. Field checked 1975
Map edited 1982
North American Datum of 1927 (NAD 27). Projection and 10000-foot ticks: Texas Coordinate System, central zone (Lambert Conformal Conic)
Blue 1000-meter Universal Transverse Mercator ticks, zone 14
North American Datum of 1983 (NAD 83) is shown by dashed corner ticks. The values of the shift between NAD 27 and NAD 83 for 7.5-minute intersections are obtainable from National Geodetic Survey NADCON software
Red tint indicates areas in which only landmark buildings are shown
Fine red dashed lines indicate selected fence lines
Areas covered by dashed light-blue pattern are subject to controlled inundation

UTM GRID AND 1982 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

QUADRANGLE LOCATION
3097-313

ROAD CLASSIFICATION
Primary highway, hard surface
Secondary highway, hard surface
Light-duty road, hard or improved surface
Unimproved road
Interstate Route · U. S. Route · State Route

GEORGETOWN, TX
30097-H6-TF-024
1982
DMA 6445 II NW-SERIES V882

ISBN 0-607-51004-6
9 780607 510041

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program

Regulatory Zones

30 TAC Chapter 213- Edwards Aquifer
Effective March 1990

This map was produced by the Groundwater Planning and Assessment Team of the Texas Commission on Environmental Quality to detail the boundaries of the regulatory zones of the Edwards Aquifer Protection Program, as described in Texas Administrative Code Title 30, Part 1, §213.3. No other claims are made to the accuracy or completeness of the data or to its suitability for a particular use. For more information about the Edwards Aquifer Protection Program, please contact the TCEQ Regional Offices in San Antonio or Austin. Printed June 2006.

CIVILITUDE
ENGINEERS & PLANNERS

Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

General Information Form [TCEQ 0587]

Attachment C

Project Description

Southwestern University 560 Development Phase I is a Planned Unit Development located within the city limits of Georgetown at 1001 E University Ave. The site is also located in Williamson County and within the boundaries of the Edward's Aquifer Recharge Zone. The 68.6 acre property is currently underdeveloped (has never been developed) and bounded by TX-29, Smith Creek Co Rd 188 (Smith Creek Rd), and Smith Branch Creek. The proposed development will consist of the planning and construction of roadways, parking lots, and all required onsite wet and dry utilities to service this walkable mixed-use district. Also included in the plans are new Contech Jellyfish storm water treatment systems and detention ponds to fully account for pollutant removal and detention of the storm run-off produced by the development. The maximum allowable amount of impervious cover for the entirety of the PUD is 60%.

This property is located within Smith Creek-San Gabriel Watershed Basin Sub-Watershed which is a part of the Granger Lake-San Gabriel River Watershed. A portion of the site is located within a 100-year FEMA designated floodplain, as shown on FEMA Panel No. 48491C0294F, effective date December 20, 2019 .

Horizon™
Environmental Services

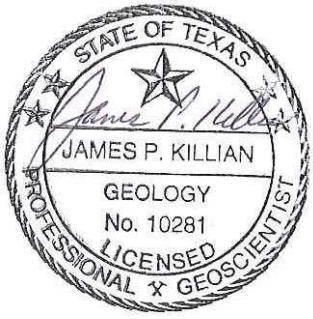
GEOLOGIC ASSESSMENT
SOUTHWESTERN UNIVERSITY – PHASE 1
EAST UNIVERSITY AVENUE
GEORGETOWN, WILLIAMSON COUNTY, TEXAS
HJN 24206 GA

PREPARED FOR:

CIVILITUDE, LLC
AUSTIN, TEXAS

PREPARED BY:

HORIZON ENVIRONMENTAL SERVICES
A BRANCH OF LJA ENVIRONMENTAL SERVICES, LLC
TBPG FIRM REGISTRATION NO. 50679



SEPTEMBER 2024

Horizon
Environmental Services

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Geologic Assessment

Texas Commission on Environmental Quality

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

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

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

Signature

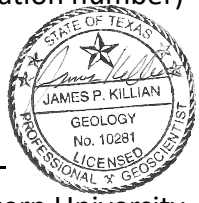
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: James Killian Telephone: 512-328-2430

Date: 18 September 2024 Fax: 512-328-1804

Representing: Horizon Environmental Services and TBPG Form Registration No. 50679 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: Southwestern University - Phase I; East University Avenue, Georgetown, Williamson County, Texas

Project Information

1. Date(s) Geologic Assessment was performed: 20 to 21 August and 9 September 2024
2. Type of Project:
   - ☒ WPAP
   - ☒ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☒ Transition Zone
   - ☐ Contributing Zone within the Transition Zone

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

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

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
Branyon clay, 1 to 3% slopes (BrB)	C	0.3 to 6.3
Eckrant cobbly clay, 1 to 8% slopes (EaD)	D	up to 1.2
Heiden clay, 5 to 8% slopes, eroded (HeiD3)	D	0.5 to 4.0
Houston Black clay, 3 to 5% slopes, moderately eroded (HoC2)	D	1.0 to 4.0
Oakalla silty clay loam, 0 to 2% slopes, frequently flooded (OkA)	B	up to 4.0

** Soil Group Definitions (Abbreviated)*

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

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

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

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

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

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

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

   Applicant's Site Plan Scale: 1" = 400'

Site Geologic Map Scale: 1" = 400'
Site Soils Map Scale (if more than 1 soil type): 1" = 400'

9. Method of collecting positional data:

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

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

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

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

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

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

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

    ☐ There are _____ (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    ☐ The wells are not in use and have been properly abandoned.
    ☐ The wells are not in use and will be properly abandoned.
    ☐ The wells are in use and comply with 16 TAC Chapter 76.
    ☒ There are no wells or test holes of any kind known to exist on the project site.

Administrative Information

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

Table 1 – Soil Units, Infiltration Characteristics and Thickness (Continued)

Soil Name	Group*	Thickness (feet)
Sunev silty clay loam, 1 to 3% slopes (SvB)	B	0 to 5.0
Queeny clay loam, 1 to 5% slopes (QuC)	D	up to 2.0

** Soil Group Definitions (Abbreviated)*

A. Soils having a high infiltration rate when thoroughly wetted.
B. Soils having a moderate infiltration rate when thoroughly wetted.
C. Soils having a slow infiltration rate when thoroughly wetted.
D. Soils having a very slow infiltration rate when thoroughly wetted.

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Environmental Services

ATTACHMENT A

GEOLOGIC ASSESSMENT TABLE

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Southwestern University - Phase I, Georgetown, Williamson Co., Texas

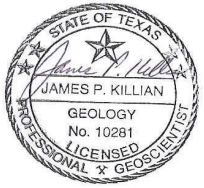
LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
F-1	30.638921	-97.655175	SC	20	Qal	2	2	2	--	--	--	--	C,F,O	12	32	X		X		Hillside
M-1	30.638573	-97.651477	MB	30	Kdr	100	75	5	--	--	--	--	C,F,O	8	38	X		X		Drainage
M-2	30.637163	-97.652745	MB	30	Qta+Qu	2	2	--	--	--	--	--	C,F,O	5	35	X		X		Hillside
M-3	30.640247	-97.65667	MB	30	Qal	2	2	--	--	--	--	--	C,F,O	5	35	X		X		Hillside
M-4	30.639154	-97.656446	MB	30	Qal	2	2	--	--	--	--	--	C,F,O	5	35	X		X		Hillside
M-5	30.638572	-97.656614	MB	30	Qal	2	2	--	--	--	--	--	C,F,O	5	35	X		X		Hillside
M-6	30.637783	-97.656376	MB	30	Qal	2	2	--	--	--	--	--	C,F,O	5	35	X		X		Hillside
M-7	30.637059	-97.655914	MB	30	Qal	2	2	--	--	--	--	--	C,F,O	5	35	X		X		Hillside
M-8	30.636573	-97.655461	MB	30	Qal	2	2	--	--	--	--	--	C,F,O	5	35	X		X		Hillside
S-1	30.640665	-97.657442	O	5	Kgt	--	--	--	--	--	--	--	N	7	12	X		X		Streambed
S-2	30.639789	-97.656984	O	5	Kgt	--	--	--	--	--	--	--	N	7	12	X		X		Streambed
S-3	30.638586	-97.657135	O	5	Kgt	--	--	--	--	--	--	--	N	7	12	X		X		Streambed
S-4	30.637764	-97.656928	O	5	Qal	--	--	--	--		--	--	N	7	12	X		X		Streambed
S-5	30.63665	-97.655861	O	5	Qal	--	--	--	--	--	--	--	N	7	12	X		X		Streambed

* DATUM:_____

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

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

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



I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field.
My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Date: 18 September 2024

Sheet 1 of 1

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

Horizon
Environmental Services

ATTACHMENT B

STRATIGRAPHIC COLUMN

Geologic Unit	Hydrologic Unit	Approx. Thickness at Project Site (ft)	Elevation (ft msl)	Depth (ft)
			744	0
Alluvium (Qal)	Edwards Aquifer	10	734	10
Older Alluvium and Terrace (QTa+Qu)		15	719	25
Del Rio Formation (Kdr)		65	654	90
Georgetown Limestone (Kgt)		80	574	170
Edwards Formation (Ked)		150	424	320

Note: Unit elevation and thickness given with respect to a ground surface elevation of 744 ft in the southeastern portion of the subject site.

Horizon Environmental Services

Date:	08/27/2024
Drawn:	KRW
HJN NO:	24206.001 GA

Attachment B

Stratigraphic Column
Southwestern University
Phase I Development
Georgetown, Williamson County, Texas

STATE OF TEXAS
JAMES P. KILLIAN
GEOLOGY
No. 10291
LICENSED
PROFESSIONAL GEOSCIENTIST

24206--Southwestern_University_Phase_1\Graphics\24206-001GA_05A_Strat.mxd

Horizon
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ATTACHMENT C

DESCRIPTION OF SITE GEOLOGY

Geologic information for the subject site obtained via literature review is provided in Attachment E, Supporting Information.

A geologic assessment of approximately 83 acres located off East University Avenue (Texas State Highway 29) in Georgetown, Williamson County, Texas, was conducted pursuant to Texas rules for regulated activities in the Edwards Aquifer Recharge Zone (EARZ) (30 TAC 213). The subject site consists of vacant, partially wooded agricultural land. The surrounding area is primarily characterized by fragmented rangeland and residential development. Assessment findings were used to develop recommendations for site construction measures intended to be protective of water resources at the subject site and adjacent areas.

Most of the subject site is located within the EARZ, as defined by the Texas Commission on Environmental Quality (TCEQ). The EARZ occurs where surface water enters the subsurface through exposed limestone bedrock containing faults, fractures, sinkholes, and caves. The south-central portion of the site is located within the Edwards Aquifer Transition Zone, as defined by the TCEQ. The Transition Zone occurs where geologic formations crop out in proximity to and south and southeast of the Recharge Zone and where faults, fractures, and other geologic features present a possible avenue for recharge of surface water to the Edwards Aquifer, including portions of the Del Rio Clay, Buda Limestone, Eagle Ford Group, Austin Chalk, Pecan Gap Chalk, and Anacacho Limestone.

The subject site is underlain by alluvium (Qal); older alluvium and terrace deposits, drainageway, and slope-wash alluvium, undivided (QTa+Qu); the Del Rio Formation (Kdr); and Georgetown Limestone (Kgt), with estimated maximum thicknesses of 10, 15, 65, and 80 feet, respectively.

A total of 1 geologic feature (F-1) and 8 man-made features (M-1 to M-8) were identified at the subject site. Further information pertaining to the geologic and man-made features is presented in the following Attachments D, E, and F. Photographs of the subject site and the geologic and man-made features are presented in Attachment G.

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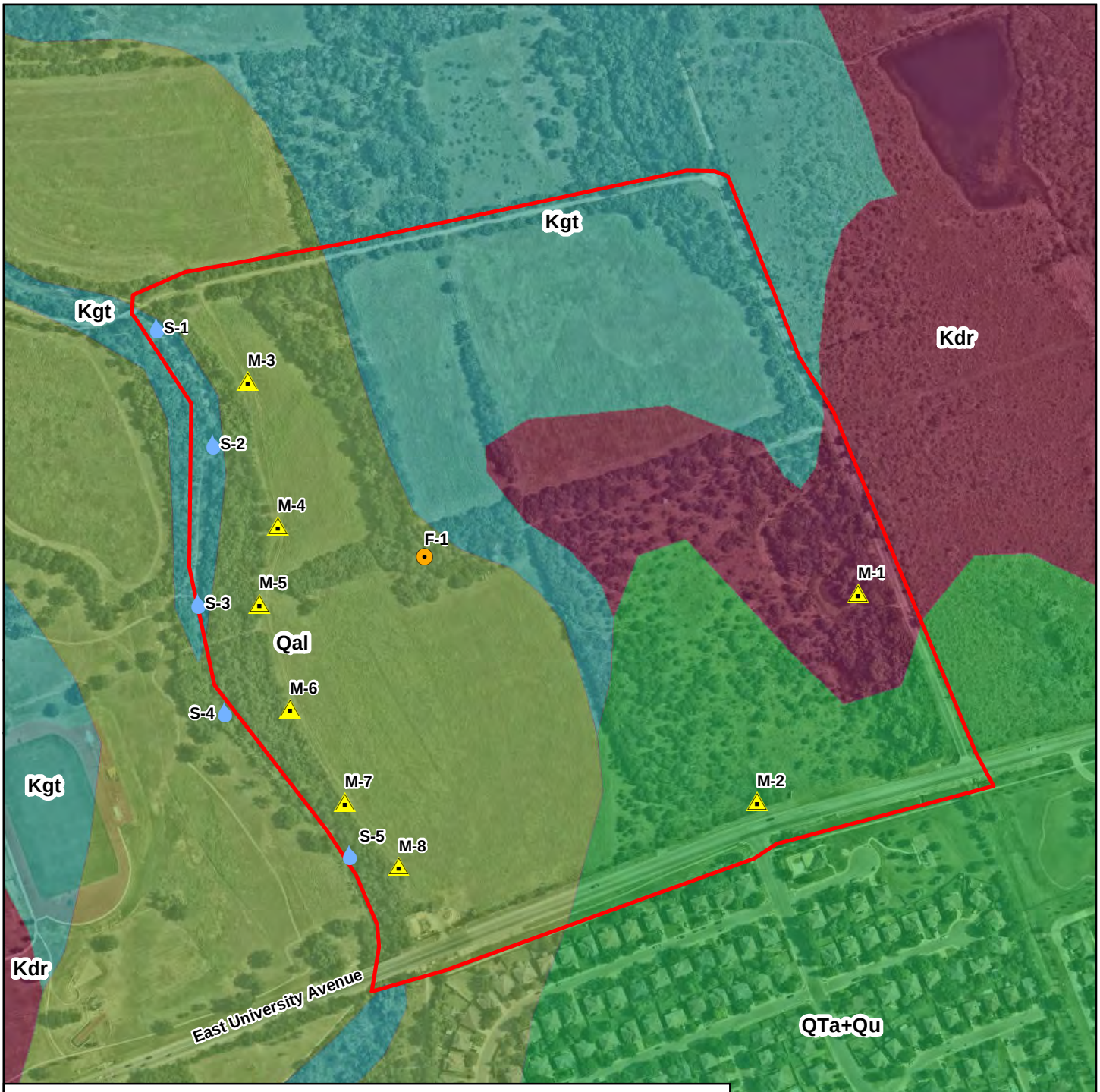
ATTACHMENT D

SITE GEOLOGIC MAP



Legend

- Man-Made Feature
- Non-Sensitive Geologic Feature
- Spring/Seep
- Subject Site
- Alluvium (Qal)
- Older Alluvium and Terrace (QTa+Qu)
- Del Rio Formation (Kdr)
- Georgetown Formation (Kgt)

STATE OF TEXAS
JAMES P. KILLIAN
GEOLOGY
No. 10291
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Date:	08/19/2024
Drawn:	KRW
HJN NO:	24206.001 GA
Source:	Nearmap, 2024; TWSC, 2014

Attachment D

Site Geologic Map
Southwestern University
Phase I Development
Georgetown, Williamson County, Texas

N

0 200 400
Feet

24206--Southwestern_University_Phase_1\Graphics\24206-001GA_06A_SGM

Horizon
Environmental Services

ATTACHMENT E

SUPPORTING INFORMATION

1.0 INTRODUCTION AND METHODOLOGY

This report and any proposed abatement measures are intended to fulfill Texas Commission on Environmental Quality (TCEQ) reporting requirements (TCEQ, 2005). This geologic assessment includes a review of the subject site for potential aquifer recharge and documentation of general geologic characteristics for the subject site. Horizon Environmental Services (Horizon) conducted the necessary field and literature studies according to TCEQ *Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones* (TCEQ, 2004).

Horizon walked transects spaced 50 feet apart, mapped the locations of features using a sub-foot accurate Trimble Geo HX handheld GPS, and posted processed data utilizing GPS Pathfinder Office software, topographic maps, and aerial photographs. Horizon also searched the area around any potential recharge features encountered to look for additional features. When necessary, Horizon removed loose rocks and soil (by hand) to preliminarily assess each feature's subsurface extent while walking transects. However, labor-intensive excavation was not conducted during this assessment. Features that did not meet the TCEQ definition of a potential recharge feature (per TCEQ, 2004), such as surface weathering, karren, or animal burrows, were evaluated in the field and omitted from this report.

The results of this survey do not preclude the possibility of encountering subsurface voids or abandoned test or water wells during the clearing or construction phases of the proposed project. If a subsurface void is encountered during any phase of the project, work should be halted until the TCEQ (or appropriate agency) is contacted and a geologist can investigate the feature.

2.0 ENVIRONMENTAL SETTING

2.1 LOCATION AND GENERAL DESCRIPTION

The subject site consists of approximately 83 acres of undeveloped farmland and woodlands located along the northwest of the intersection of East University Avenue (Texas State Highway 29) and Smith Creek Road in Georgetown, Williamson County, Texas (Appendix F, Figure 1).

2.2 LAND USE

Portions of the subject site are reportedly used for hay production and an ecological educational study area. Surrounding lands are generally used for educational facilities and residences.

2.3 TOPOGRAPHY AND SURFACE WATER

The subject site is situated on gently to moderately sloping terrain within the Smith Branch watershed (Appendix F, Figures 2 and 3). Surface elevations on the subject site vary from a minimum of approximately 680 feet above mean sea level (amsl) within Smith Branch in the northwestern property corner to a maximum of approximately 744 feet amsl near the southeastern

portion of the site (USGS, 1982). Drainage on the site occurs primarily by overland sheet flow in multiple directions depending on proximity to Smith Branch (on the western portion of the site) and/or an unnamed tributary of Smith Branch (along the eastern side of the site).

2.4 EDWARDS AQUIFER ZONE

Most of the subject site is found within the Edwards Aquifer Recharge Zone (TCEQ, 2024) (Attachment F, Figure 2). The southeastern portion of the site is found within the Edwards Aquifer Transition Zone (TCEQ, 2024).

2.5 SURFACE SOILS

Seven soil units are mapped within the subject site (NRCS, 2024) (Appendix F, Figure 4). Generally, the soil series are similar in their physical, chemical, and engineering properties, with the principal exception being rock fragment content and thickness. The soil units are described in further detail below.

Branyon clay (BrB) occurs on smooth, high ancient terraces. Typically, this soil has a dark gray clay upper layer about 50 inches thick. The layer below that, which extends to a depth of about 62 inches, is gray clay. The underlying layer to 80 inches is very pale brown silty clay that has yellow mottles. The soil is calcareous and moderately alkaline throughout. This soil is moderately well-drained. When dry, the soil has cracks 2 to 5 feet deep and permeability is very slow. Runoff is medium. The available water capacity is high.

Eckrant cobbly clay (EaD) is on undulating uplands. Typically, the surface layer is about 13 inches thick. The upper part is dark grayish-brown cobbly clay. The lower part is dark brown cobbly clay. The underlying material is coarsely fractured indurated limestone. This soil is calcareous and moderately alkaline. The surface has about a 50% cover of fragments of limestone that are mostly 4 to 8 inches across. This soil is well-drained. Permeability is moderately slow, and runoff is rapid. The available water capacity is very low. The rooting zone is very shallow to shallow.

Houston Black clay, moderately eroded (HoC2) is a gently sloping soil on uplands. Typically, the upper layer is dark grayish-brown clay about 16 inches thick. The next layer, which extends down to about 42 inches, is olive clay. The underlying layer to 60 inches is mottled, pale olive clay. The soil is calcareous and moderately alkaline throughout. This soil is well-drained. Permeability is very slow. Runoff is rapid. When this soil is dry, deep cracks form; when wet, the soil swells and the cracks close. The available water capacity is high. Fertility is low in many places. Erosion is a severe hazard.

Heiden clay, eroded (HeiD3) is an undulating soil on uplands. The surface layer has been thinned by soil removal; the thinnest areas are near gullies. Generally, one-fourth to one-half of the original surface layer has been removed. Most gullies are crossable with regular farm equipment. The areas of this soil that are used for crops have a striped appearance because of the alternating darker inter-gully areas and the lighter area where the lower soil layers have been exposed by gully erosion. Typically, this soil has a dark grayish-brown clay upper layer about 22

inches thick. The next layer, to about 44 inches, is grayish-brown clay. The underlying layer to 60 inches is pale olive shaly clay. This soil is calcareous and moderately alkaiine throughout. This soil is well-drained. When the soil is dry, deep cracks form; when the soil is wet, it swells and the cracks close. Permeability is very slow. Runoff is rapid. The available water capacity is high. Fertility is low in many places. Erosion is a severe hazard.

Oakalla silty clay loam, 0 to 2% slopes, frequently flooded (OkA) is a nearly level soil found on long, narrow bottomlands that are flooded several times after heavy rain events. Oakalla soil tends to become sandier with depth. This soil is well-drained with moderate permeability. The available water capacity is high. This soil is typically used for pastures and rangeland. The soil is not suitable for urban uses due to the frequent flooding. Roads and bridges are sometimes damaged by brush and trees being swept downstream (Werchan and Coker, 1983).

Queeny clay loam (QuC) is a gently sloping soil along the edge of ancient stream terraces. The areas· are generally long and narrow; however, some areas are irregular in shape. Typically, the surface layer is calcareous, moderately alkaline clay loam about 13 inches thick that is dark grayish brown in the upper part and brown in the lower part. The underlying layer from 13 to 32 inches is bedded gravel, sand, and fine earth. The upper part of the gravel layer is strongly cemented by caliche. This soil is well-drained. Permeability is moderate. The rooting depth is very shallow to shallow. This soil has a very low available water capacity and is droughty.

Sunev silty clay loam, 1 to 3% slopes (SuB) is a gently sloping soil located on stream terraces. The soil is calcareous and moderately alkaline throughout. Sunev silty clay loam has a moderate permeability with a medium surface runoff and is known to be well-drained. The available water capacity of this soil is moderate. This soil is typically used for crops, pastures, or as rangeland. Some limitations associated with this soil include corrosion of underground steel pipes and poor functioning of septic systems, but both limitations can be easily controlled if designed properly (Werchan and Coker, 1983).

2.6 WATER WELLS

A review of TCEQ and Texas Water Development Board (TWDB) records revealed 1 water well (ID No. 5819909) on the subject site and approximately 6 wells within 0.5 miles of the subject site (TCEQ, 2024; TWDB, 2024). According to the TWDB records, the on-site well was drilled in 1986 to approximately 126 feet deep and was completed within the Edwards Aquifer. All the off-site wells are reportedly completed within the Edwards Aquifer at total depths ranging from 100 to 200 feet below surface. Horizon observed no water wells on the subject site. The well indicated on the subject site in the TWDB records (ID No. 5819909) was not found during the site visit.

If the on-site is not intended for future use, it should be capped or properly abandoned according to the Administrative Rules of the Texas Department of Licensing and Regulation (TDLR), 16 Texas Administrative Code (TAC), Chapter 76. TCEQ publication RG-347, “Landowner’s Guide to Plugging Abandoned Water Wells,” provides specific guidance. If a well is intended for use, it must comply with 16 TAC §76.

The results of this assessment do not preclude the existence of additional undocumented/abandoned wells on the site. If a water well or casing is encountered during construction, work should be halted near the feature until the TCEQ is contacted.

2.7 GEOLOGY

Literature Review

The subject site is underlain by alluvium (Qal); older alluvium and terrace deposits, drainageway, and slope-wash alluvium, undivided (QTa+Qu); the Del Rio Formation (Kdr); and Georgetown Limestone (Kgt), with estimated maximum thicknesses of 10, 15, 65, and 80 feet, respectively.

Alluvium (Qal) consists of gravel, sand, silt, and clay along streams and rivers; it is inundated regularly. The gravel is mostly limestone and chert. Along minor drainages, it includes undivided low terrace deposits. It also includes some local bedrock outcrops that are undivided.

Older alluvium (QTa) consists of gravel, sand, clay, well-rounded pebble-to-cobble-sized gravel, and few boulders. It is mostly chert and limestone, with some quartz and igneous and metamorphic rock detritus. Some deposits comprise mostly sand and clay. Deposits typically cap topographically high areas. Its precise age is unknown; deposits are probably of different ages.

Undivided alluvium (Qu) consists of sand, silt, clay, and some gravel. It includes terrace alluvium, local drainageway alluvium, and slope-wash alluvium.

The Del Rio Formation (Kdr) consists of clay that is calcareous, fossiliferous, poorly indurated, plastic, and dark gray to olive brown. It contains *Ilymatogyra ariertiina* (formerly *Exogyra arietina*). It is slope forming or underhanging where slumped below overlying Buda Limestone. The formation weathers light gray to yellowish gray. As it forms highly expansive soil, water tanks for livestock are commonly excavated on outcrops. Thickness is up to 65 feet.

The Georgetown Formation (Kgt) consists of limestone and marl that are nodular and very fossiliferous. Diagnostic marine megafossils include *Waconelt wacoensis* (formerly *Kingena wacoensis*) and *Gryphaea washitaensis*. The formation is located in the uppermost Edwards Aquifer strata. Thickness increases northward from 65 to 110 feet (UT-BEG, 1995).

The site Stratigraphic Column is provided as Attachment B, and the Site Geologic Map is Attachment D.

The subject site is located within the Balcones Fault Zone. Available geologic reports indicate the nearest mapped fault occurs about 2 miles east of the site, trending from southwest to northeast (TWSC, 2014).

Field Assessment

One geologic feature (F-1) and 8 man-made features (M-1 to M-8) were identified at the subject site. Man-made feature M-1 is an existing stock pond and M-2 to M-8 are City of Georgetown sanitary sewer manholes that appeared to be properly constructed and in good working condition. In addition, approximately 5 springs/seeps (S-1 to S-5) were found along portions of Smith Branch, which is located along the western portion of the subject site.

Geologic feature F-1 is a small solution cavity measuring approximately 0.5 feet in diameter by 0.3 feet wide by 1 foot deep. During the initial site investigation, the feature was noted to have very slight air flow conductivity. Horizon staff excavated the feature (4 feet long by 2.5 feet wide by 3.5 feet deep) on 9 September 2024 using hand tools only. After excavation, Horizon probed the floor of the feature with a steel rod; however, no portals and/or voids were discovered in the floor or walls of the feature. This feature has a very low infiltration rate and a surface runoff catchment of less than 0.1 acre.

The Site Geologic Map is provided as Attachment D. The Geologic Assessment Table (Attachment A) describes those features observed on the subject site that meet the TCEQ definition of a potential recharge feature.

3.0 CONCLUSIONS AND RECOMMENDATIONS

No geologic or man-made features were identified at the subject site that would require protection or mitigation pursuant to TCEQ rules for protection of the Edwards Aquifer (30 TAC 213). The site generally appears well-suited to development prospectuses. It should be noted that soil and drainage erosion would increase with ground disturbance. Native grasses and the cobbly content of the soil aid to prevent erosion. Soil and sedimentation fencing should be placed in all appropriate areas prior to any site disturbing activities.

Because most of the subject site is located over the Edwards Aquifer Recharge Zone, it is possible that subsurface voids underlie the site. If any subsurface voids are encountered during site development, work should halt immediately so that a geologist may assess the potential for the void(s) to provide meaningful contribution to the Edwards Aquifer.

4.0 REFERENCES

(CAPCOG) Capital Area Council of Governments. 2-foot contours, CAPCOG Center for Regional Development, Austin, Texas. 2015

(Nearmap) Nearmap US, Inc. Nearmap Vertical™ digital orthographic photograph, <https://go.nearmap.com>. Imagery date 30 April 2023.

(NRCS) US Department of Agriculture, Natural Resources Conservation Service. Web Soil Survey, <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>. Soil map data layer updated 12 September 2019. Accessed 4 August 2023.

(OSM) OpenStreetMap contributors. OpenStreetMap, <http://www.openstreetmap .org>. Available under the Open Database License (www.opendatacommons.org/ licenses/odbl). Accessed 14 August 2023.

(TCEQ) Texas Commission on Environmental Quality. Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones. Revised October 2004.

_____. RG-348, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices. Revised July 2005.

_____. Optional Enhanced Measures for the Protection of Water Quality in the Edwards Aquifer (Revised). Appendix A to RG-348, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices. September 2007.

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(TWDB) Texas Water Development Board. Water Information Integration and Dissemination System. TWDB Groundwater Database, <https://www3.twdb.texas.gov/apps/water datainteractive/groundwaterdataviewer>. Accessed 11 August 2023.

(TWSC) United States Geological Survey, Texas Water Science Center. Geologic Database of Texas, <https://txpub.usgs.gov/txgeology/>. Updated 1 February 2014; Accessed 7 August 2023.

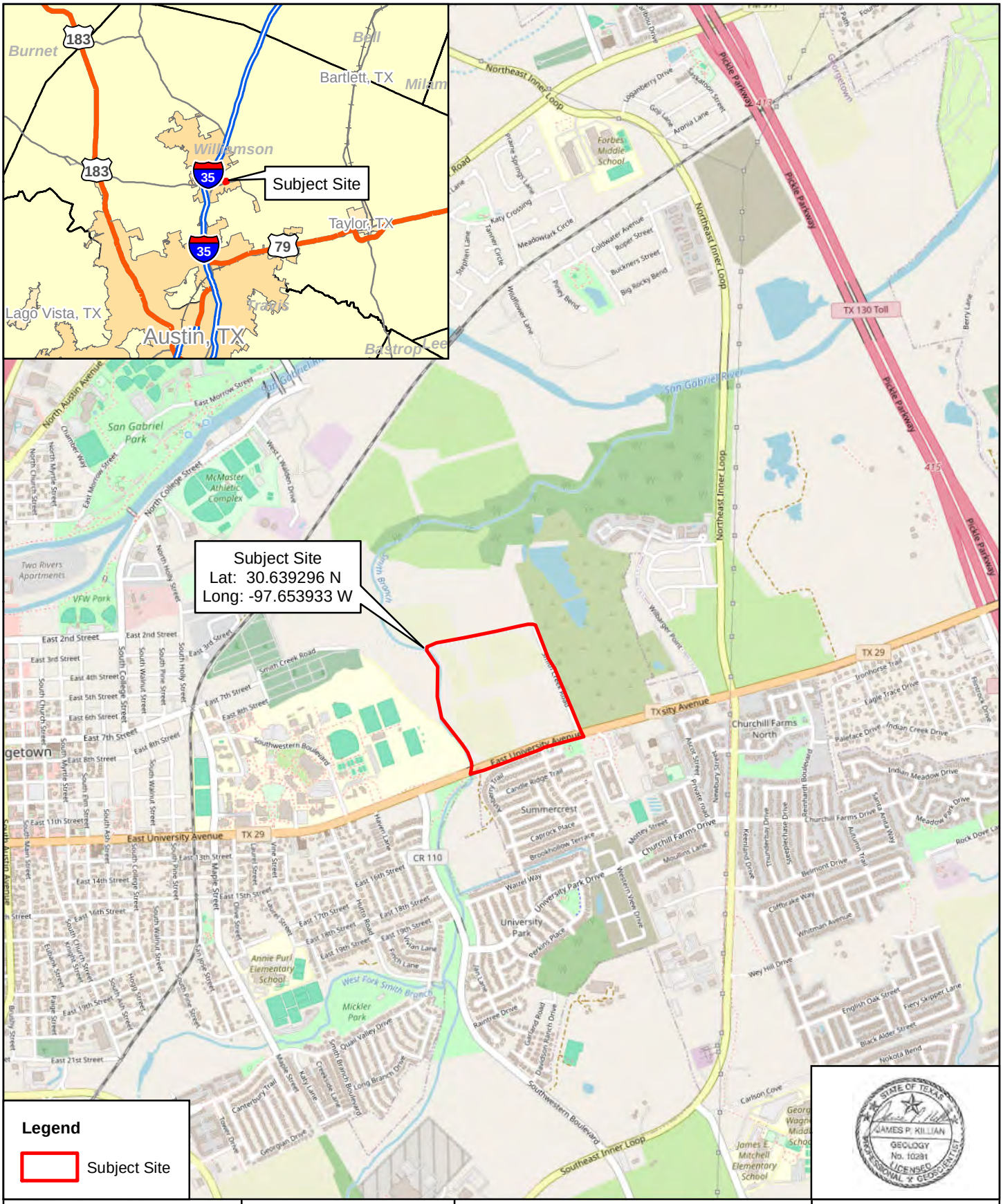
(UT-BEG) University of Texas Bureau of Economic Geology, Geologic Atlas of Texas Austin Sheet, Francis Luther Whitney Memorial Edition. C.V. Proctor, Jr., T.E. Brown, J.H. McGowen, and N.B. Waechter. 1974. Reprinted 1995.

Werchan, L. E., and J. L. Coker. Soil survey of Williamson County, Texas. US Department of Agriculture, Natural Resources Conservation Service (formerly Soil Conservation Service), in cooperation with the Texas Agricultural Experiment Station. 1983.

(USGS) US Geological Survey. 7.5-minute series topographic maps, Georgetown, Texas, quadrangle. 1982.

ATTACHMENT F

ADDITIONAL SITE MAPS



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JAMES P. KILLIAN
GEOLOGY
No. 10281
LICENSED
PROFESSIONAL GEOSCIENTIST

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HJN NO:	24206.001 GA
Source:	OSM, 2024

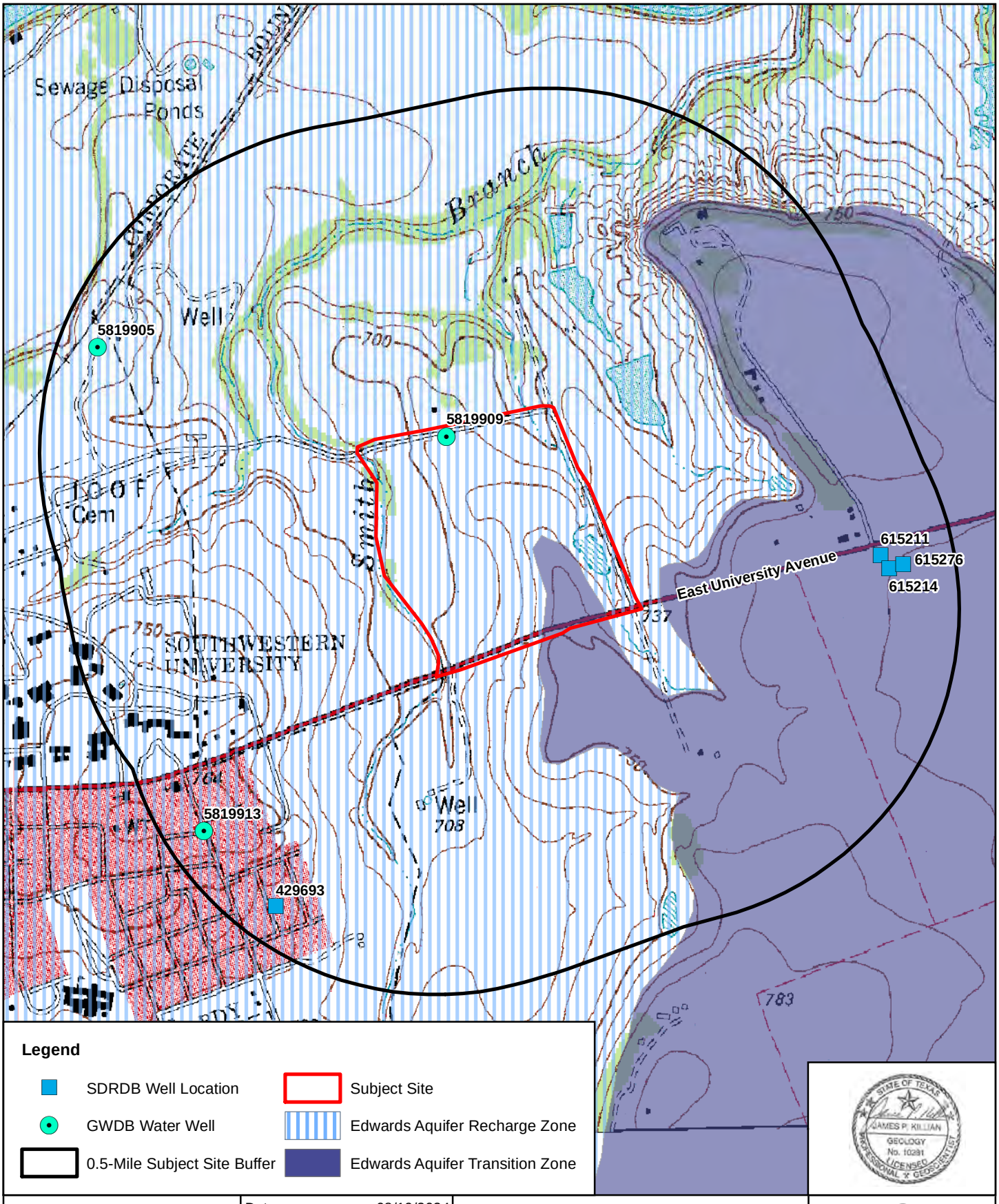
Attachment F, Figure 1

Vicinity Map
Southwestern University
Phase I Development
Georgetown, Williamson County, Texas

N

0 1,000 2,000
Feet

24206--Southwestern_University_Phase_1\Graphics\24206-001GA_01A_Vicinity



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HJN NO:	24206.001 GA
Source:	TCEQ, 2024; TWDB, 2024; USGS, 1982

Attachment F, Figure 2

Topography and Hydrogeology Map
Southwestern University
Phase I Development
Georgetown, Williamson County, Texas

24206--Southwestern_University_Phase_1\Graphics\24206-001GA_02A_TopoHydro

Legend

2-Foot Contour

Subject Site

JAMES P. KILLIAN
GEOLOGY
No. 10281
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HJN NO:	24206.001 GA
Source:	CAPCOG 2015; Nearmap, 2024

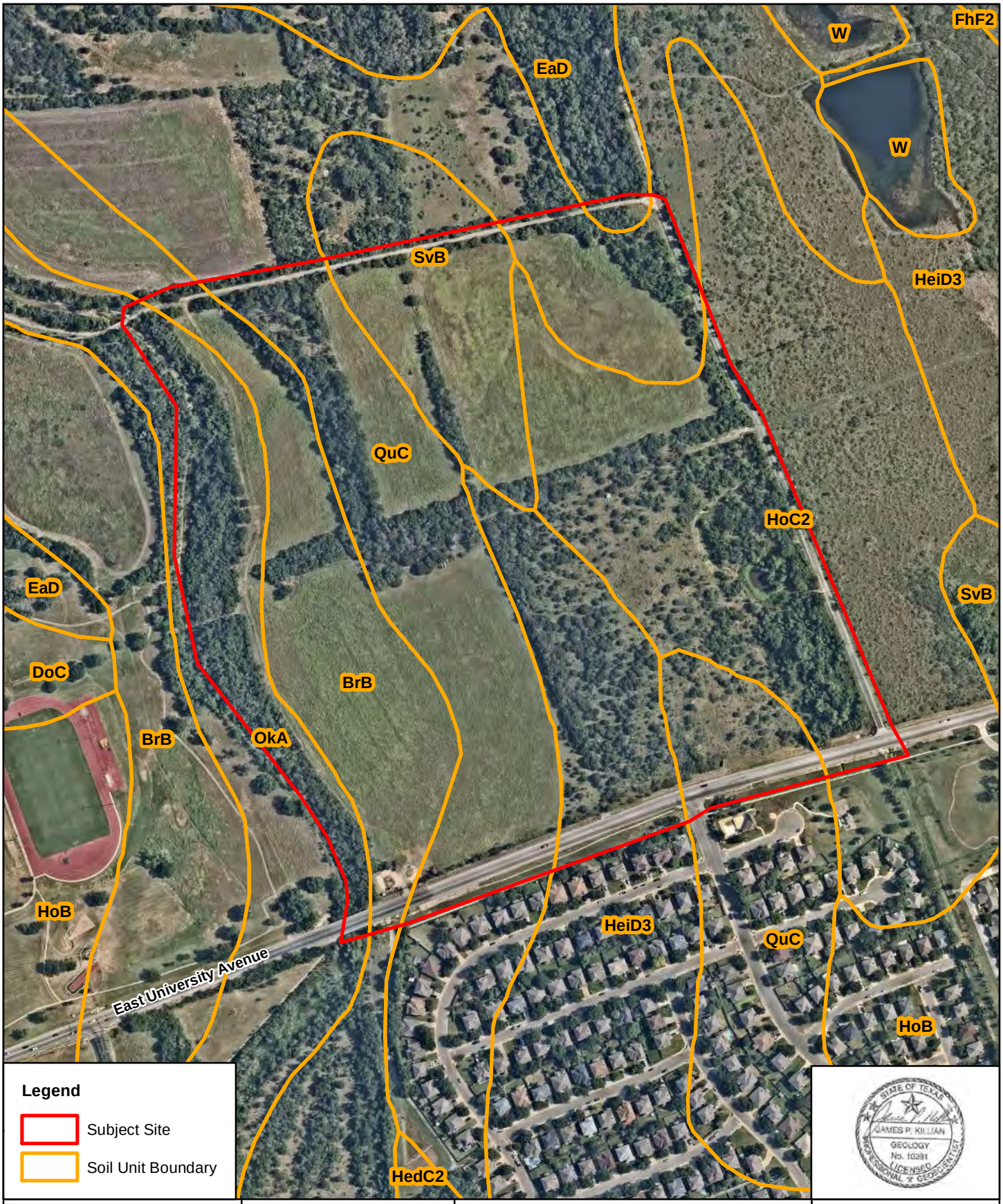
Attachment F, Figure 3

Site Topography Map
Southwestern University
Phase I Development
Georgetown, Williamson County, Texas

N

0 200 400
Feet

24206--Southwestern_University_Phase_1\Graphics\24206-001GA_03A_Topo



Legend

- Subject Site
- Soil Unit Boundary

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Drawn:	KRW
HJN NO:	24206.001 GA
Source:	Nearmap, 2024; NRCS, 2022

Attachment F, Figure 4

Site Soil Map
Southwestern University
Phase I Development
Georgetown, Williamson County, Texas

N

0 200 400
Feet

24206--Southwestern_University_Phase_1\Graphics\24206-001GA_04A_Soil

Horizon
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ATTACHMENT G

SITE PHOTOGRAPHS

Horizon
Environmental Services, Inc.

PHOTO 1
View of geologic feature F-1 (solution cavity), facing down

PHOTO 2
View of F-1 after hand excavation, facing north

PHOTO 3
Man-made feature M-1 (stock pond), facing south

PHOTO 4
Man-made feature M-2 (sanitary sewer manhole)

Horizon
Environmental Services, Inc.

PHOTO 5
Man-made feature M-3 (sanitary sewer manhole)

PHOTO 6
Man-made feature M-4 (sanitary sewer manhole)

PHOTO 7
Man-made feature M-5 (sanitary sewer manhole)

PHOTO 8
Man-made feature M-6 (sanitary sewer manhole)

Horizon
Environmental Services, Inc.

PHOTO 9
Man-made feature M-7 (sanitary sewer manhole)

PHOTO 10
Man-made feature M-8 (sanitary sewer manhole)

PHOTO 11
Geologic feature S-1 (spring/seep pool) along Smith Branch, facing south

PHOTO 12
Geologic feature S-2 (spring/seep pool) along Smith Branch, facing south

Horizon
Environmental Services, Inc.

PHOTO 13
Geologic feature S-3 (spring/seep pool), facing north

PHOTO 14
Geologic feature S-4 (spring/seep pool) facing north

PHOTO 15
Geologic feature S-5 (spring/seep pool), facing north

Water Pollution Abatement Plan Application

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(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.

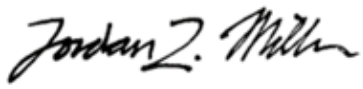
Signature

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 **Water Pollution Abatement Plan Application Form** is hereby submitted for TCEQ review and Executive Director approval. The form was prepared by:

Print Name of Customer/Agent: Jordan Miller, P.E.

Date: 08/13/2025

Signature of Customer/Agent:



Regulated Entity Name: Southwestern University 560 Development Phase 1

Regulated Entity Information

1. The type of project is:

   ☐ Residential: Number of Lots:_____
   ☐ Residential: Number of Living Unit Equivalents:_____
   ☐ Commercial
   ☐ Industrial
   ☒ Other:Non-Residential

2. Total site acreage (size of property):68.6

3. Estimated projected population:_____

4. The amount and type of impervious cover expected after construction are shown below:

Table 1 - Impervious Cover Table

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	36,000	÷ 43,560 =	0.82
Parking	303,175	÷ 43,560 =	6.96
Other paved surfaces	292,050	÷ 43,560 =	6.70
Total Impervious Cover	631,225	÷ 43,560 =	14.49

Total Impervious Cover 14.48 **÷ Total Acreage** 68.6 **X 100 =** 21.1**% Impervious Cover**

5. ☒ **Attachment A - Factors Affecting Surface Water Quality**. A detailed description of all factors that could affect surface water and groundwater quality that addresses ultimate land use is attached.

6. ☒ Only inert materials as defined by 30 TAC §330.2 will be used as fill material.

For Road Projects Only

Complete questions 7 - 12 if this application is exclusively for a road project.

7. Type of project:

   ☐ TXDOT road project.
   ☐ County road or roads built to county specifications.
   ☐ City thoroughfare or roads to be dedicated to a municipality.
   ☐ Street or road providing access to private driveways.

8. Type of pavement or road surface to be used:

   ☐ Concrete
   ☐ Asphaltic concrete pavement
   ☐ Other: _____

9. Length of Right of Way (R.O.W.): _____ feet.

   Width of R.O.W.: _____ feet.
   L x W = _____ Ft^2 ÷ 43,560 Ft^2/Acre = _____ acres.

10. Length of pavement area: _____ feet.

    Width of pavement area: _____ feet.
    L x W = _____ Ft^2 ÷ 43,560 Ft^2/Acre = _____ acres.
    Pavement area _____ acres ÷ R.O.W. area _____ acres x 100 = _____% impervious cover.

11. ☐ A rest stop will be included in this project.

    ☐ A rest stop will not be included in this project.

12. ☐ Maintenance and repair of existing roadways that do not require approval from the TCEQ Executive Director. Modifications to existing roadways such as widening roads/adding shoulders totaling more than one-half (1/2) the width of one (1) existing lane require prior approval from the TCEQ.

Stormwater to be generated by the Proposed Project

13. ☒ **Attachment B - Volume and Character of Stormwater**. A detailed description of the volume (quantity) and character (quality) of the stormwater runoff which is expected to occur from the proposed project is attached. The estimates of stormwater runoff quality and quantity are based on the area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

Wastewater to be generated by the Proposed Project

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

100% Domestic	640,000Gallons/day
_____% Industrial	_____Gallons/day
_____% Commingled	_____Gallons/day

TOTAL gallons/day 640,000

15. Wastewater will be disposed of by:

☐ On-Site Sewage Facility (OSSF/Septic Tank):

- ☐ **Attachment C - Suitability Letter from Authorized Agent**. An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's (authorized agent) written approval is attached. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities.
- ☐ Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.

☒ Sewage Collection System (Sewer Lines):

- ☐ Private service laterals from the wastewater generating facilities will be connected to an existing SCS.
- ☒ Private service laterals from the wastewater generating facilities will be connected to a proposed SCS.

- ☐ The SCS was previously submitted on_____.
- ☐ The SCS was submitted with this application.
- ☒ The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to Executive Director approval.

☒ The sewage collection system will convey the wastewater to the San Gabriel Wastewater (name) Treatment Plant. The treatment facility is:

☒ Existing.
☐ Proposed.

16. ☒ All private service laterals will be inspected as required in 30 TAC §213.5.

Site Plan Requirements

Items 17 – 28 must be included on the Site Plan.

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

Site Plan Scale: 1" = 100'.

18. 100-year floodplain boundaries:

☒ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
☐ No part of the project site is located within the 100-year floodplain.
The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): _____

19. ☒ The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Lots, recreation centers, buildings, roads, open space, etc. are shown on the plan.

☐ The layout of the development is shown with existing contours at appropriate, but not greater than ten-foot intervals. Finished topographic contours will not differ from the existing topographic configuration and are not shown. Lots, recreation centers, buildings, roads, open space, etc. are shown on the site plan.

20. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):

☒ There are 0 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)

☐ The wells are not in use and have been properly abandoned.
☐ The wells are not in use and will be properly abandoned.
☐ The wells are in use and comply with 16 TAC §76.

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

21. Geologic or manmade features which are on the site:

☒ All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.
☐ No sensitive geologic or manmade features were identified in the Geologic Assessment.
☐ **Attachment D - Exception to the Required Geologic Assessment**. A request and justification for an exception to a portion of the Geologic Assessment is attached.

22. ☒ The drainage patterns and approximate slopes anticipated after major grading activities.

23. ☒ Areas of soil disturbance and areas which will not be disturbed.

24. ☒ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.

25. ☒ Locations where soil stabilization practices are expected to occur.

26. ☒ Surface waters (including wetlands).

☐ N/A

27. ☒ Locations where stormwater discharges to surface water or sensitive features are to occur.

☐ There will be no discharges to surface water or sensitive features.

28. ☒ Legal boundaries of the site are shown.

Administrative Information

29. ☒ 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.

30. ☒ Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

CIVILITUDE
ENGINEERS & PLANNERS

Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

Water Pollution Abatement Plan Application Form [TCEQ-0584]
Attachment A

Factors Affecting Water Quality

Urbanization will affect water quality by increasing sediment loading and introducing nutrients, pathogens, oxygen-demanding matter and toxic pollutants to receiving waters.

Factors affecting water quality for the proposed development include the following:

(1) Proposed roads and vehicular traffic,

(2) Human litter and pet waste,

Multiple Contech Jellyfish storm water treatment systems will help mitigate the pollutants from the factors listed above.

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Water Pollution Abatement Plan Application Form [TCEQ-0584]
Attachment B

Volume and Character of Stormwater

A hydrologic and hydraulic analysis was performed for this property to estimate the volume and character of stormwater runoff expected under the proposed conditions. For this WPAP, Phase 1 of this project proposes to construct the public roadways to make future developments possible, parking lots on Lot 2, and the City of Georgetown office building development located on Lot 3. All runoff generated by these additions of impervious cover has been designed to be conveyed via a storm pipe network to the two new detention ponds located in the northern corner of the site.

For water quality treatment, Contech Jellyfish Filters have been selected as the permanent Best Management Practice (BMP) for the development. These filters provide membrane filtration to capture fine sediment, nutrients hydrocarbons, and heavy metals. The units are sized to treat and remove approximately 85% of the increase in total suspended solids (TSS) load associated with development. Each filter is located upstream of its corresponding detention pond to provide treatment prior to discharge into the pond basin.

In summary, the proposed stormwater management system provides detention capacity sufficient to offset increased runoff values and peak flows, while integrating permanent water quality treatment through Jellyfish filters to meet TSS reduction requirements.

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: 560 Development
Date Prepared: 8/11/2025

1. The Required Load Reduction for the total project:

Calculations from RG-348
Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 28.9(A_N \times P)$

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 85% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	10.00	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	8.00	acres
Total post-development impervious cover fraction * =	0.80	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	7398	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	1	

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. =	P-2A	
Total drainage basin/outfall area =	10.00	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	8.00	acres
Post-development impervious fraction within drainage basin/outfall area =	0.80	
$L_{M\ THIS\ BASIN}$ =	7398	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	JF	abbreviation
Removal efficiency =	86	percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7:
$LR = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	10.00	acres
A_I =	8.00	acres
A_P =	2.00	acres
L_R =	7647	lbs.

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ =	7398	lbs.
F =	0.97	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

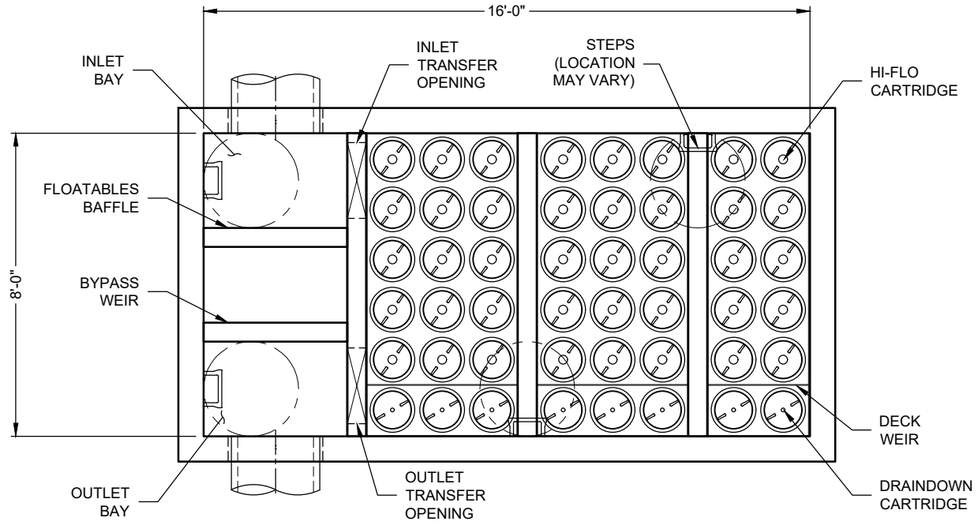
Offsite area draining to BMP =	0.00	acres
Offsite impervious cover draining to BMP =	0.00	acres

Calculations from RG-348
Pages Section 3.2.22

Rainfall Intensity =	2.00	inches per hour
Effective Area =	7.26	acres
Cartridge Length =	54	inches
Peak Treatment Flow Required =	14.64	cubic feet per second

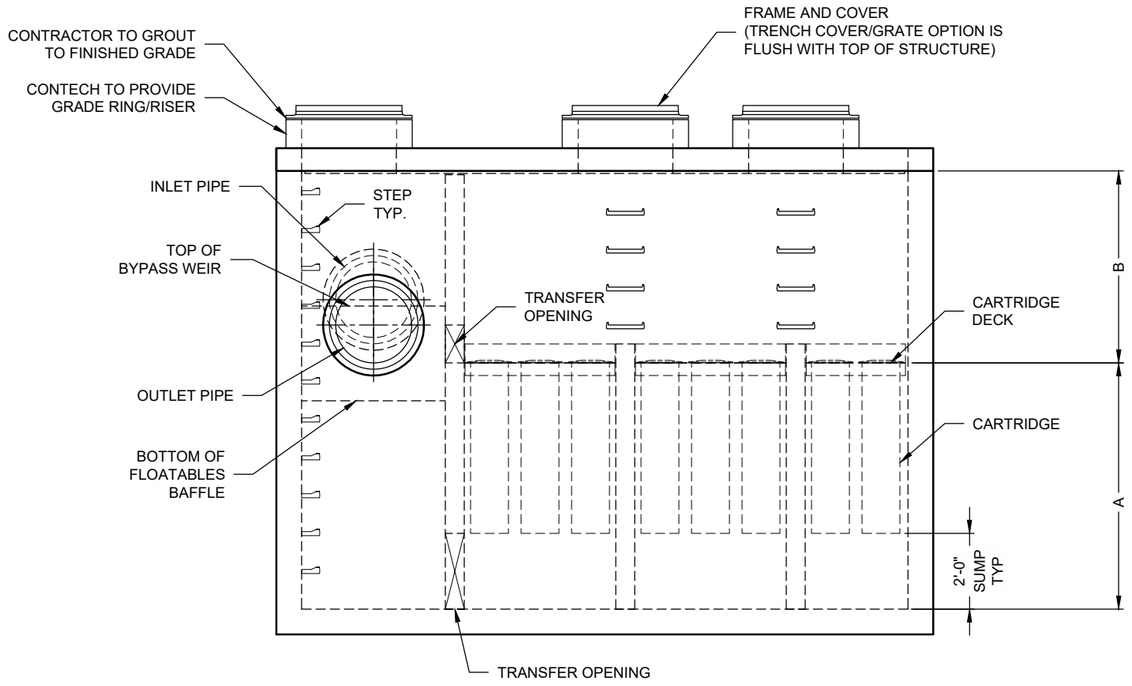
7. Jellyfish
Designed as Required in RG-348
Section 3.2.22

Flow Through Jellyfish Size	Vault	
Jellyfish Size for Flow-Based Configuration =	2ea JFPD0816-38-8	
Jellyfish Treatment Flow Rate =	14.97	cfs



PLAN VIEW

(TOP SLAB NOT SHOWN FOR CLARITY)



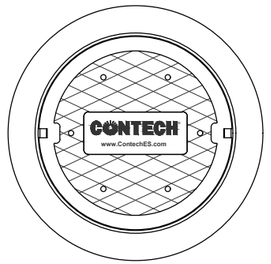
ELEVATION VIEW

JELLYFISH DESIGN NOTES

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD

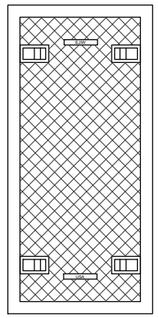
CARTRIDGE SELECTION

CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	5'-4"	4'-3"	3'-3"
FLOW RATE HI-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	7.84	5.88	3.92	2.16
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00



FRAME AND COVER

(DIAMETER VARIES)
N.T.S.



24" TRENCH COVER

(LENGTH VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	*
WATER QUALITY FLOW RATE (cfs)	*
PEAK FLOW RATE (cfs)	*
RETURN PERIOD OF PEAK FLOW (yrs)	*
# OF CARTRIDGES REQUIRED (HF / DD)	*
CARTRIDGE LENGTH	*

PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	*	*	*	*	*
INLET #2	*	*	*	*	*
OUTLET	*	*	*	*	*

SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

RIM ELEVATION	*

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES:

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 10', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
D. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

Jellyfish Filter

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

JELLYFISH JFPD0816 STANDARD DETAIL PEAK DIVERSION CONFIGURATION

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: 560 Development
Date Prepared: 8/11/2025

1. The Required Load Reduction for the total project:

Calculations from RG-348
Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 28.9(A_N \times P)$

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 85% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	8.00	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	6.40	acres
Total post-development impervious cover fraction * =	0.80	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	5919	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	1	

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. =	P-2B	
Total drainage basin/outfall area =	8.00	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	6.40	acres
Post-development impervious fraction within drainage basin/outfall area =	0.80	
$L_{M\ THIS\ BASIN}$ =	5919	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	JF	abbreviation
Removal efficiency =	86	percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7:
$LR = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	8.00	acres
A_I =	6.40	acres
A_P =	1.60	acres
L_R =	6118	lbs.

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ =	5919	lbs.
F =	0.97	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

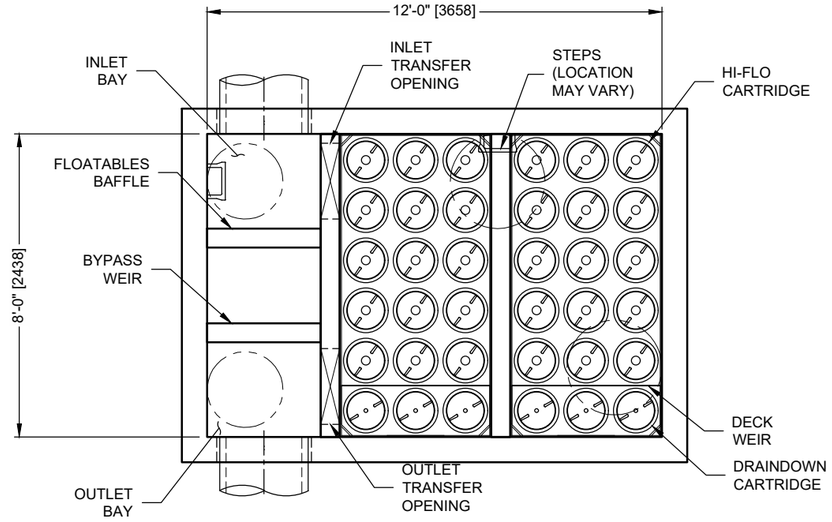
Offsite area draining to BMP =	0.00	acres
Offsite impervious cover draining to BMP =	0.00	acres

Calculations from RG-348
Pages Section 3.2.22

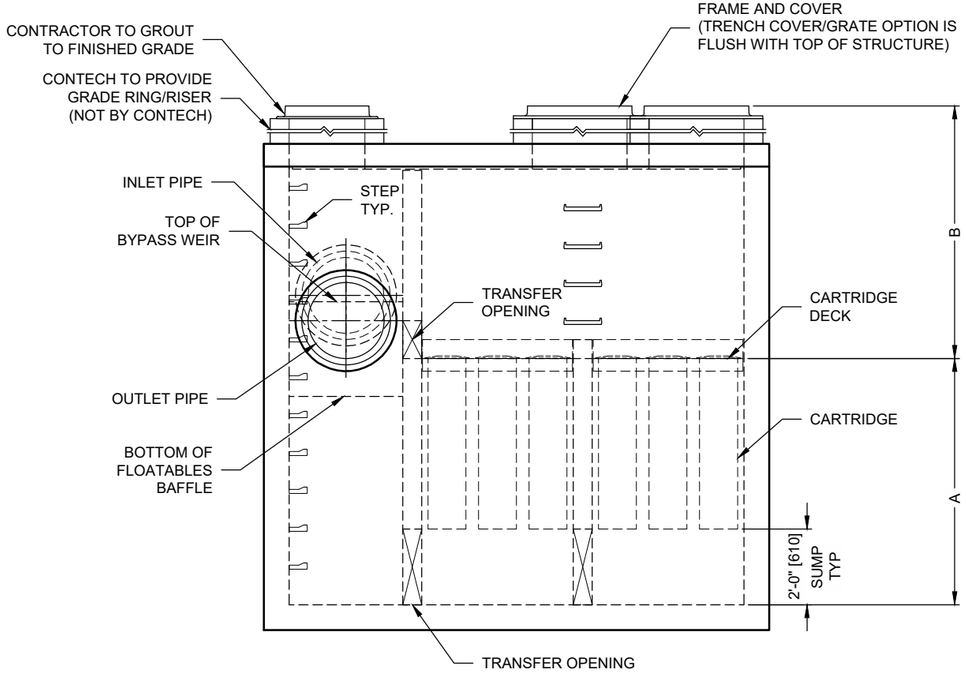
Rainfall Intensity =	2.00	inches per hour
Effective Area =	5.81	acres
Cartridge Length =	54	inches
Peak Treatment Flow Required =	11.71	cubic feet per second

7. Jellyfish
Designed as Required in RG-348
Section 3.2.22

Flow Through Jellyfish Size	Vault	
Jellyfish Size for Flow-Based Configuration =	2ea JFPD0812-30-6	
Jellyfish Treatment Flow Rate =	11.76	cfs



PLAN VIEW
TOP SLAB NOT SHOWN

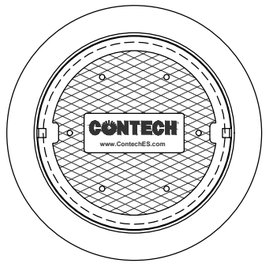


ELEVATION VIEW

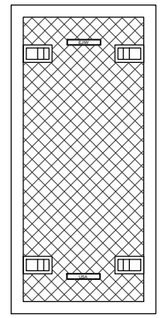
JELLYFISH DESIGN NOTES

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SIZE, TYPE AND QUANTITY. THE STANDARD PEAK DIVERSION VAULT STYLE WITH PRECAST TOP SLAB IS SHOWN. THE 8' x 12' [2438 x 3658] JELLYFISH PEAK TREATMENT CAPACITY IS 5.88 CFS [166.50 L/s]. MAXIMUM BYPASS CAPACITY IS DETERMINED BY CONTECH ENGINEERED SOLUTIONS. IF THE SITE CONDITIONS EXCEED THE TOTAL BYPASS CAPACITY OF THE SYSTEM, AN UPSTREAM DIVERSION STRUCTURE IS REQUIRED.

CARTRIDGE SIZE	54	40	27	15
FLOW RATE HIGH-FLO / DRAINDOWN (cfs [L/s])	0.178/0.089 [5.10/2.55]	0.133/0.065 [3.68/1.84]	0.089/0.045 [2.55/1.28]	0.049/0.025 [1.42/0.71]
MAXIMUM CARTRIDGE QUANTITY, HI-FLO / DRAINDOWN	30/6			
MAXIMUM TREATMENT	5.88 [166.50]	4.41 [124.88]	2.94 [83.25]	1.62 [45.87]
OUTLET INVERT TO STRUCTURE INVERT (A) (ft. [mm])	6.50 [1981]	5.33 [1625]	4.25 [1295]	3.25 [991]
FINISHED GRADE TO OUTLET INVERT (SHALLOW) (B)	DETERMINED BY CONTECH			
FINISHED GRADE TO OUTLET INVERT (STANDARD) (B) (ft. [mm])	5.67 [1727]	4.58 [1396]		



FRAME AND COVER
STANDARD TOP
SLAB CONFIGURATION
(DIAMETER VARIES)
NOT TO SCALE



24" TRENCH COVER
SHALLOW TOP
SLAB CONFIGURATION
(LENGTH VARIES)
NOT TO SCALE

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	
WATER QUALITY FLOW RATE (cfs [L/s])	
PEAK FLOW RATE (cfs [L/s])	
RETURN PERIOD OF PEAK FLOW (yrs)	
NUMBER OF CARTRIDGES REQUIRED (HF / DD)	
CARTRIDGE SIZE (54, 40, 27, 15)	
RIM ELEVATION	

PIPE DATA:	INVERT	MAT'L	DIA	SLOPE %	HGL
INLET PIPE 1					
INLET PIPE 2					
OUTLET PIPE					

SEE GENERAL NOTES 7-8 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

NOTES / SPECIAL REQUIREMENTS:

GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. ALTERNATE UNITS ARE IN MILLIMETERS [mm] UNLESS NOTED OTHERWISE.
4. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
5. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 10' [3048], AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
6. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.
7. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
8. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
9. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
D. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

Jellyfish Filter

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

JELLYFISH JFPD0812
PEAK DIVERSION CONFIGURATION
STANDARD DETAIL

CIVILITUDE
ENGINEERS & PLANNERS

Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

Water Pollution Abatement Plan Application Form [TCEQ-0584]
Attachment C

Suitability Letter from Authorized Agent

There is no proposed on-site sewage facility (OSSF) proposed with this project.

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: Southwestern University 560 Development Phase 1

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: Richard Madonna
   Entity: Southwestern University
   Mailing Address: 1001 E University Avenue
   City, State: Georgetwon, TX Zip: 78626
   Telephone: _____ Fax: _____
   Email Address: _____
   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: Jordan Miller
   Texas Licensed Professional Engineer's Number: 124884
   Entity: Civilitude, LLC
   Mailing Address: 503 Kenniston Dr, Unit 5
   City, State:Austin, TX Zip: 78752
   Telephone:(512) 761-6161 Fax:_____
   Email Address:Jordan@civilitude.com

Project Information

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

   ☐ Residential: Number of single-family lots: _____
   ☒ Multi-family: Number of residential units: 752
   ☒ Commercial
   ☐ Industrial
   ☐ Off-site system (not associated with any development)
   ☐ Other: _____

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

100% Domestic	640,000 gallons/day
0% Industrial	_____ gallons/day
0% Commingled	_____ gallons/day

   Total gallons/day: 640,000

6. Existing and anticipated infiltration/inflow is 41,000 gallons/day. This will be addressed by: The Sanitary Sewer Collection System has been designed to accommodate inflow & infiltration from the site.

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

   ☐ The WPAP application for this development was approved by letter dated _____. A copy of the approval letter is attached.
   ☒ The WPAP application for this development was submitted to the TCEQ on 09/17/2025, but has not been approved.
   ☐ A WPAP application is required for an associated project, but it has not been submitted.
   ☐ There is no associated project requiring a WPAP application.

8. Pipe description:

Table 1 - Pipe Description

Pipe Diameter(Inches)	*Linear Feet (1)*	*Pipe Material (2)*	*Specifications (3)*
12	3,097	SDR-26 PVC	ASTM D3034

Total Linear Feet: 3,097

(1) Linear feet - Include stub-outs and double service connections. Do not include private service laterals.
(2) Pipe Material - If PVC, state SDR value.

(3) Specifications - ASTM / ANSI / AWWA specification and class numbers should be included.

9. The sewage collection system will convey the wastewater to the San Gabriel Wastewater (name) Treatment Plant. The treatment facility is:

☒ Existing
☐ Proposed

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

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

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

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

Alignment

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

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

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

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

Manholes and Cleanouts

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

Table 2 - Manholes and Cleanouts

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
A	44 Of 67	1+00.00	MH
A	44 Of 67	3+19.51	MH
A	44 Of 67	4+26.31	MH
A	44 Of 67	5+88.02	MH
A	44 Of 67	9+44.92	MH
B	45 Of 67	1+44.88	MH

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
B	45 Of 67	5+61.09	MH
B	46 Of 67	7+46.35	MH
B	46 Of 67	9+34.22	MH
See MH Locations PDF for a complete List of MH/CO Locations	Of		

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

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

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

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

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

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

Site Plan Requirements

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

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

Site Plan Scale: 1" = 100'.

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

20. Lateral stub-outs:

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

21. Location of existing and proposed water lines:

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

22. 100-year floodplain:

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

Table 3 - 100-Year Floodplain

Line	*Sheet*	*Station*
C	47 of 67	1+00.00 to 4+14.17
	of	to
	of	to
	of	to

23. 5-year floodplain:

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

Table 4 - 5-Year Floodplain

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

24. ☒ Legal boundaries of the site are shown.

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

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

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

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

Table 5 - Water Line Crossings

Line	*Station or Closest Point*	*Crossing or Parallel*	*Horizontal Separation Distance*	*Vertical Separation Distance*
B	1+32.06	Crossing		14.05'
C	7+20.18	Crossing		18.59'
C	11+20.27	Crossing		21.35'

27. Vented Manholes:

☐ **No part** of this sewer line is within the 100-year floodplain and vented manholes are not required by 30 TAC Chapter 217.
☒ **A portion** of this sewer line is within the 100-year floodplain and vented manholes will be provided at less than 1500 foot intervals. These water-tight manholes are listed in the table below and labeled on the appropriate profile sheets.
☐ **A portion** of this sewer line is within the 100-year floodplain and an alternative means of venting shall be provided at less than 1500 feet intervals. A description of the alternative means is described on the following page.
☐ **A portion** of this sewer line is within the 100-year floodplain; however, there is no interval longer than 1500 feet located within. No vented manholes will be used.

Table 6 - Vented Manholes

Line	*Manhole*	*Station*	*Sheet*
C	1	1+00.00	47 OF 67
C	2	2+66.28	

Line	*Manhole*	*Station*	*Sheet*

28. Drop manholes:

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

Table 7 - Drop Manholes

Line	*Manhole*	*Station*	*Sheet*
C	1	1+00.00	47

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

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

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

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

31. Minimum flow velocity (From Appendix A)

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

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

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

Table 8 - Flows Greater Than 10 Feet per Second

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

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

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

Administrative Information

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

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

Table 9 - Standard Details

Standard Details	*Shown on Sheet*
Lateral stub-out marking **[Required]**	65 of 67
Manhole, showing inverts comply with 30 TAC §217.55(l)(2) **[Required]**	65 of 67
Alternate method of joining lateral to existing SCS line for potential future connections **[Required]**	of
Typical trench cross-sections **[Required]**	65 of 67
Bolted manholes **[Required]**	65 of 67
Sewer Service lateral standard details **[Required]**	65 of 67
Clean-out at end of line **[Required, if used]**	65 of 67
Baffles or concrete encasement for shock/erosion protection **[Required, if flow velocity of any section of pipe >10 fps]**	of
Detail showing Wastewater Line/Water Line Crossing **[Required, if crossings are proposed]**	64 of 67
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) **[Required, if Flexible Pipe is used]**	65 of 67

Standard Details	*Shown on Sheet*
Drop manholes **[Required, if a pipe entering a manhole is more than 24 inches above manhole invert]**	65 of 67

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

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

    ☐ Survey staking was completed on this date: _____

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

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

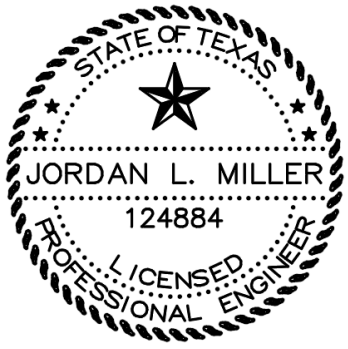
Signature

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

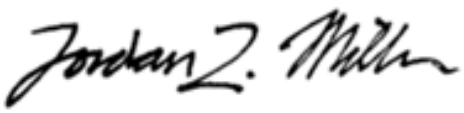
Print Name of Licensed Professional Engineer: Jordan Miller

Date: 10/6/2025

Place engineer's seal here:



Signature of Licensed Professional Engineer:



Appendix A-Flow Velocity Table

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

Table 10 - Slope Velocity

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

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

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

Figure 1 - Manning's Formula

Where:

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

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Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
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The following SCS 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. The contents of this report are based off of 30 TAC Chapter 217, Subchapter A 217.10, section E.

1. SERVICE AREA MAP

Please reference the Overall Utility Plans and Profile Sheets in the included plan set.

2. TOPOGRAPHIC FEATURES OF THE SERVICE AREA

Please reference the Overall Utility Plans and Profile Sheets in the included plan set.

3. DESIGN FLOW DETERMINATION

a) Type of development to be served: Residential (Multifamily)
b) Peak factor used for design: 4.00

4. MINIMUM AND MAXIMUM GRADES

All sewer pipes are designed with slopes that will provide a velocity of at least 2 fps flowing full, as calculated using Manning's Equation with a Roughness Coefficient (n) of 0.011. Sewer pipes are also designed with slopes that will provide a velocity less than 10 fps.

Pipe Diameter	Pipe Type	Minimum Slope	Maximum Slope
12"	SDR-26	1.00%	1.00%

5. MINIMUM AND MAXIMUM VELOCITIES AND FLOWS

All sewer pipes are designed with slopes that will provide a velocity of at least 2 fps flowing full, as calculated using Manning's Equation with a Roughness Coefficient (n) of 0.011. Sewer pipes are also designed with slopes that will provide a velocity less than 10 fps.

Pipe Diameter	Pipe Type	Minimum Velocity/Wet Flow	Maximum Velocity/Wet Flow
12"	SDR-26	2.15 fps @ 1.00% / 60.2 GPM	4.15 fps @ 1.00% / 471.7 GPM

Pipe Diameter	Pipe Type	Slope	Maximum Capacity
12"	SDR-26	1.00 %	1,893 GPM

6. EFFECT ON EXISTING SYSTEM'S CAPACITY

Per discussions with the City of Georgetown, the existing system has capacity to handle the sewer flow generated from the subject site.

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7. INFLOW AND INFILTRATION

The anticipated inflow and infiltration flows are calculated below.

- VOLUME OF WASTEWATER PRODUCED:
  LUE's = 745.90
  745.90 LUE'S * 245 GPD/LUE = 182,746 GPD (126.91 GPM)
- ANTICIPATED INFLOW AND INFILTRATION:
  Area = 54.61 Acres
  Infiltration = 750 GPD/Acre
  54.61 Acres * 750 GPD/Acre = 40,958 GPD (28.44 GPM)
- PEAK DRY WEATHER FLOW:
  Per Austin Water Utility Living Unit Equivalent (LUE) Guidance Document:
  Peak Flow Factor $= \frac{18+\sqrt{(0.0206*F)}}{4+\sqrt{(0.0206*F)}}$ = 3.49, where F = 126.91 GPM
  Peak Dry Weather Flow = 3.49*182,746 GPD = 637,783 GPD (443.22 GPM)
- PEAK WET WEATHER FLOW:
  Peak Dry Weather Flow + Inflow and Infiltration = 678,741 GPD (471.66 GPM)
- TOTAL REQUIRED CAPACITY FOR PIPE DESIGN = 678,741 GPD (471.66 GPM)

The following testing measures shall take place upon completion to minimize the inflow and infiltration rates:

a) Leakage Test:

A LOW PRESSURE AIR TEST will be performed on all the lines according to 30 TAC Chapter 217, Subchapter C, Rule 217.57, Section (a) (1).

b) Manholes:

Manholes will be tested with a vacuum test.

Each manhole will 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 will be tested for leakage by means of a hydrostatic test.

Stub outs, manhole boots, and pipe lugs shall be secured to prevent movement while the vacuum is drawn.

A minimum of 60-inch/lb torque wrench will be used to tighten the external clamps that secure the test cover to the top of the manhole.

The test head will be placed at the inside of the top of the cone section and the seal inflated in accordance with the manufacturer's recommendation.

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A vacuum of 10 inches of mercury will be drawn and the vacuum pump must be shut off. With the valves closed, the time will be measured for the vacuum to drop to 9 inches of mercury. The manhole will pass if the time is greater than 2 minutes. If the manhole fails a second time, repairs will again be made and the manhole will be tested by means of a hydrostatic test which complies with Rule 217.58(b) (1) of Title 30 of the TAC, Chapter 217, Subchapter C. If any manhole fails the hydrostatic test, after failing the vacuum test twice, the contractor shall 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 Rule 217.58(b) (1) of Title 30 of the TAC, Chapter 217, Subchapter C, until it passes.

c) Deflection Test:

All flexible pipe gravity lines will be tested for deflection by pulling a rigid mandrel through the installed pipe. The test will be conducted at least 30 days after placement and compaction of final backfill. No pipe will exceed a deflection of 5 %. A rigid mandrel will be used to measure deflection. The test will be performed without mechanical pulling devices. The mandrel's minimum outside diameter will be 95% of the pipes inside diameter. The mandrel will have an odd number of runners, totaling nine or more. The barrel section of the mandrel must have a length at least 75% of the pipe inside diameter.

8. EXISTING AND PROPOSED TRUNK AND INTERCEPTOR WASTEWATER COLLECTION

Per discussions with the City of Georgetown, the existing system has capacity to handle the sewer flow generated from the subject site.

9. RECEIVING TREATMENT FACILITY CAPACITY

Per discussions with the City of Georgetown, the existing system has capacity to handle the sewer flow generated from the subject site.

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10. ENGINEERING ANALYSIS OF STRUCTURAL DESIGN

General Structural Components
Materials Used and ASTM Standards Adhered to: 30 TAC 217.53(b) (1)

LINE	FROM	TO	PIPE DIAMETER	LINEAR FEET	PIPE MATERIAL	NATIONAL SPECIFICATION PIPE MATERIAL	NATIONAL SPECIFICATION PIPE JOINTS
A	1+00	3+19.5	12"	219.5	SDR-26	ASTM D-2241	ASTM D-3139
A	3+19.5	4+26.3	12"	106.81	SDR-26	ASTM D-2241	ASTM D-3139
A	4+26.3	5+88.0	12"	161.71	SDR-26	ASTM D-2241	ASTM D-3139
A	5+88.0	9+44.9	12"	356.90	SDR-26	ASTM D-2241	ASTM D-3139
B	1+00	1+44.9	12"	44.88	SDR-26	ASTM D-2241	ASTM D-3139
B	1+44.9	5+61.1	12"	416.21	SDR-26	ASTM D-2241	ASTM D-3139
B	5+61.1	7+46.4	12"	185.3	SDR-26	ASTM D-2241	ASTM D-3139
B	7+46.4	9+34.2	12"	187.9	SDR-26	ASTM D-2241	ASTM D-3139
C	1+00	2+66.3	12"	166.3	SDR-26	ASTM D-2241	ASTM D-3139
C	2+66.3	7+27.6	12"	461.4	SDR-26	ASTM D-2241	ASTM D-3139
C	7+27.6	11+39.3	12"	411.64	SDR-26	ASTM D-2241	ASTM D-3139
C	11+39.3	11+79.3	12"	40.05	SDR-26	ASTM D-2241	ASTM D-3139
C	11+79.3	11+94.9	12"	15.56	SDR-26	ASTM D-2241	ASTM D-3139
C	11+94.9	15+17.5	12"	225	SDR-26	ASTM D-2241	ASTM D-3139

Watertight, size on size resilient connectors conforming to ASTM C-923 will be specified for connecting pipe to manholes.

Bedding for placement of flexible pipe must comply with ASTM D2321-11 Class IA, IB, II, or III for materials and densification. A minimum of 6 inches of bedding is required for all pipes.

Pipe Diameter: 12” Pipe Material: PVC Bedding Class: IA
Manholes shall be pre-cast reinforced concrete, ASTM C-478.

11. CORROSION PREVENTION

There are NO components within the proposed collection system that will be susceptible to deterioration through the corrosive effects of an anaerobic sewage environment.

12. MANHOLES – GENERAL

Manholes are provided at all changes in size, grade, or alignment of the wastewater pipe. Manholes or cleanouts are provided at the end of all lines.

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Pipe Diameter	Max. Proposed Spacing	Max. Spacing Allowed by TCEQ
12”	461.4 LF	500 LF

13. MANHOLES – VENTILATION

Vented Manholes are required. A Portion of the site is within the 100-year flood plain. The proposed manholes shall be watertight and are proposed to be vented.

14. MANHOLES – MINIMIZING TURBULENCE

The number of drop manholes within this system has been kept to a minimum. There is only one sewer lines that enter the manholes higher than 42 inches above the manhole invert. This is the manhole that will replace the existing one at the tie in point into the existing 30” wastewater line.

15. MANHOLE CONNECTION

The connection to the replacement manhole in the existing wastewater line shall use watertight size on size resilient connectors that allow differential settlement and conform to ASTM C-923 (30TAC 217.55(n)).

16. INVERTED SIPHONS

This project does not include any sag pipes.

17. TRENCHLESS TECHNOLOGY

This project does not propose any trenchless installation of pipe

18. VERTICAL CURVATURE

This project has been designed without vertically curved gravity collection piping between manholes.

19. HORIZONTAL CURVATURE

The sewer lines have been designed to be laid in straight alignment with uniform grade between manholes.

20. RIGID PIPE DESIGN

NOT APPLICABLE

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21. FLEXIBLE PIPE DESIGN

The following computations are for a 12-inch diameter PVC SDR-26 pipe. A summary of results table may be found at the end of this section.

The 12" PVC pipe will be used for the gravity sewer system and will range in depth from 3 to 8.5 ft. There is no concrete encasement being proposed for the pipe.

Pipe Diameter	Average Depth of Cover	Pipe Wall Thickness [t]	Mean Pipe Diameter [D] (O.D. – t)	Modulus of Elasticity [E]	Pipe Stiffness
12"	15.0'	0.481"	12.019"	400,000 psi	115 psi

Live Load Analysis:
The live load on the pipe (W_L) for calculations purposes is zero, as the proposed sewer pipe will not be subjected to live loads during or after construction that affect pipe design. Additionally, "…the influence of pipe loads on the performance of PVC pipe is only significant in shallow depths, usually 4 ft…" (page 191 *Uni-Bell Handbook, 3rd Edition, Second Printing, 1993*).

Buckling Analysis:

A. Allowable Buckling Pressure

1) Calculate Moment of Inertia, I, where *t* = pipe wall thickness (in.)

I = (t^3/12) in units of inches^4/linear inch *(Equation 4 TCEQ-10243, page 21)*
I = $0.481^3/12$ = **0.00927372 in^4/in**

2) Calculate B', an empirical coefficient of elastic support. The max cover height of 28 feet (H) is the worst case and will be used in the buckling calculation.

The equation used below is from *Equation 3 TCEQ-10243 ,page 21.*

$$B' = \frac{1}{1 + 4 * e^{-0.065(H)}} = \frac{1}{1 + 4 * e^{-0.065(28)}}$$

B' = **0.607**

3) Calculate R_w, the water buoyancy factor. The worst case occurs when groundwater height above the pipe equals the height of cover. This is the case that is calculated.

h_w = height of water surface above top of pipe in inches (in)
h = height of soil surface above top of pipe in inches (in)
R_w= water buoyancy factor

R_w = 1-0.33*(h_w/h); 0 ≤ h_w ≤ h *(Equation 2 TCEQ-10243, page 20)*
R_w = 1-0.33*(0) = **1.0**

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4) Calculate q_a, allowable buckling pressure. *(Equation 1 TCEQ-10243, page 20)*

$$q_a = (DF) * \sqrt{\frac{32 R_w B' E' EI}{D_{avg}^3}}$$

where:
q_a = allowable buckling pressure (psi)
E' = Modulus of soil reaction for the bedding material (psi)
E' = 3000 psi (Class 1A bedding w/ slight compaction, +/-85%)*(Table 7.3, Uni-Bell handbook, 3rd Edition, Second Printing, 1993)*
DF = Design factor, 0.40
E=Modulus of Elasticity of pipe material = 400,000psi
D = $D_{average}$= mean pipe diameter (O.D. – $t_{min)}$ = 12.019 in.

$$q_a = (0.40) * \sqrt{\frac{32 * 1.0 * 0.607 * 3000 * 400{,}000 * 0.00927372}{12.019^3}}$$

q_a = 141.11 psi

B. Calculate pressure applied to pipe under installed conditions.

1) Calculate W_c, vertical soil load on pipe per unit length (lb/in). (Equation 6 *TCEQ-10243, page 21)*

$$W_c = \gamma_s * H * \frac{D_{avg} + t}{144}$$

where:

γ_s = specific weight of soil = 125 pcf
H = Depth of burial = 28 feet
D_{avg}= mean pipe diameter (O.D. – $t_{min)}$= 12.019 in.
t = pipe structural wall thickness = 0.481 in

$$W_c = 125 * 28 * \frac{12.019 + 0.481}{144} = 304\ lb/in$$

2) Calculate q_p, pressure applied to pipe under installed conditions. (*Equation 5 TCEQ-10243, page 21)*.

$$q_p = \gamma_w * h_w + R_w * \frac{W_c}{D_{avg}} + W_L$$

where:

γ_w = 0.0361 lb/in^3 = specific weight of water in pounds per cubic inch
h_w = 0.0 in. - height of groundwater surface above top of pipe (inches)
h= 336.0 in. - height of ground surface above top of pipe (inches)

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R_w= water buoyancy factor, calculated as R_w= 1- .33 (h_w/h); 0 ≤ h_w ≤ h
W_c= 163 lb/in - vertical soil load on pipe per unit length (lb/in)
W_L= 0 - Live load on pipe
D_{avg}= mean pipe diameter (O.D. – $t_{min)}$= 12.019 in.

$$q_p = 0.0361 * 0.0 + 1.00 * \frac{304}{12.019} + 0 = 26.33\ psi$$

3) If $q_a > q_p$, specified pipe is acceptable for the proposed installation. (*TCEQ-10243)*

q_a = 141 psi
q_p = 26.33 psi

141 psi >26.33psi
Therefore, buckling requirements are met
Pipe Diameter = 12” Pipe Material = PVC SDR-26

Wall Crushing:

The following computations are for 12-inch diameter PVC SDR-26 pipe. The following formula is used to calculate the maximum depth that the pipe can be buried before wall crushing (or failure by ring compression) will occur.

1) Calculate Wall Thrust (lb/in) and Vertical Soil Pressure (psi)

$$T = P_y * \frac{D_o}{2}$$ *(Eq. 7.21, Uni-Bell Handbook, 3rd Edition, Second Printing, 1993)*

$$\sigma_c = \frac{T}{A}$$ *(Eq. 7.22, Uni-Bell Handbook, 3rd Edition, Second Printing, 1993)*

where:
T = wall thrust (lb/in)
P_y = Vertical Soil Pressure (psi)
D_o = Outside Wall Diameter =12.5 in
s_c= Compressive Stress = 4,000 psi *(Ch VII, page 227 Uni-Bell Handbook, 3rd Edition, Second Printing, 1993)*
A = area of pipe wall (in^2/in) = 0.481 in^2/in *(Plastic Pipe Design Manual)*

$$P_y = \sigma_c * \frac{2A}{D_o} = 4{,}000\ psi * \frac{2 * 0.481}{12.5}$$

P_y = 307.84 ft

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2) Calculate Maximum Allowable Depth, H (ft)

$$P_y = w * H$$ *(Ch VII, pg. 227 Uni-Bell Handbook, 3rd Edition, Second Printing, 1993)*

where:

P_y=Vertical Soil Pressure, psi
W=soil unit weight = 120 pcf *(Ch VII, Uni-Bell Handbook, 3rd Edition, Second Printing, 1993)*

$$H = \frac{P_y}{w} = \frac{307.84\ psi}{120\ pcf} * 144\ \frac{in^2}{ft^2}$$

H= 369.541 ft

Design does not exceed allowable depth for PVC pipe

Installation Temperature Effects:

The PVC pipe will be installed using recommended installation practices. Following recommended installation practices will ensure adequate installation for normal installation temperatures.

Tensile Strength:

Pipe Material: PVC, Tensile Strength = 7,000 psi, Cell Class (PVC only) 12454

Strain:

$$\varepsilon = \varepsilon_f + \varepsilon_h$$ *(Eq. 7.27, Uni-Bell Handbook, 3rd Edition, Second Printing, 1993)*

$$\varepsilon_f = \frac{1}{DR} * \left(\frac{3 * \frac{\Delta Y}{D}}{1 - 2 * \frac{\Delta Y}{D}} \right)$$ *(Eq. 7.26, Uni-Bell Handbook, 3rd Edition, Second Printing, 1993)*

$$\varepsilon_h = \frac{PD}{2tE}$$ *(Eq. 7.24, Uni-Bell Handbook, 3rd Edition, Second Printing, 1993)*

where:
ε = Maximum combined strain in pipe wall, in/in
ε_f = Max. Strain on pipe wall due to ring deflection (in/in)
ε_h = Max. Strain on pipe wall due to hoop stress (in/in)
P = pressure on pipe (psi) = 28 ft*120pcf/144 in^2/ft^2=23.33 psi
E = Modulus of elasticity of pipe material = 400,000 psi
t = pipe wall thickness = 0.481 in
D=mean pipe diameter= 12.019 in.
DY=vertical decrease in diameter
DY/D=0.0127, Max
DR=dimension ratio = 26

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$$\varepsilon_f = \frac{1}{26} * \left(\frac{3 * 0.0127}{1 - 2 * 0.0127}\right) = 0.0014982 \frac{in}{in}$$

$$\varepsilon_h = \frac{23.33 * 12.019}{2 * 0.481 * 400{,}000} = 0.000728699 \frac{in}{in}$$

$$\varepsilon = 0.0014982 + 0.000728699 = 0.0022269 \frac{in}{in}$$

Deflection Analysis:

E_b = E2= Modulus of soil reaction of bedding =3000 psi (Class 1A bedding w/ slight compaction, +/-85%) *(Table 7.3, Uni-Bell handbook, 3rd Edition, Second Printing, 1993)*
E_n = E3= Modulus of soil reaction for the in-situ soil = 3,000 psi *(Table 7.3 Ch. VI, Uni-Bell handbook, 3rd Edition, Second Printing, 1993)*
Zeta = correction factor
b= trench width (ft)
d_a= pipe diameter (ft)

The ratio of bedding modulus to soil modulus:

E_b/E_n = E2/E3=3000/3,000 = 1

$$Zeta = \frac{1.44}{f + (1.44 - f)\frac{E2}{E3}}$$ *(Eq. 7.37, Uni-Bell handbook, 3rd Edition, Second Printing, 1993)*

Where:

$$f = \frac{\frac{b}{d_a} - 1}{1.154 + 0.444 * \left(\frac{b}{d_a} - 1\right)}$$ *(Eq. 7.37, Uni-Bell handbook, 3rd Edition, Second Printing, 1993)*

$$f = \frac{\frac{4.67'}{1'} - 1}{1.154 + 0.444 * \left(\frac{4.67'}{1'} - 1\right)} = 1.32$$

$$Zeta = \frac{1.44}{1.32 + (1.44 - 1.32) * 1} = 1.0$$

Pipe Diameter = 12” Trench Width = 4.67’ Zeta = 1.0

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Pipe stiffness (P_s) in psi.

The pipe stiffness for PVC is determined by the parallel plate test.
(*Table 7.1, Uni-Bell handbook, 3rd Edition, Second Printing, 1993)*

Outside Pipe Diameter	Pipe Material	Modulus of Elasticity, E	P_s
12.5"	PVC SDR-26	400,000 psi	115 psi

Deflection Calculation:

Ch. VI and VII Uni-Bell handbook, 3rd Edition, Second Printing, 1993)

$$\frac{\Delta Y}{D} = \frac{D_L * K * P * 100}{\left(\frac{2E}{3(DR-1)^3}\right) + 0.061 * Zeta * E'}$$

(Eq. 7.37, Uni-Bell handbook, 3rd Edition, Second Printing, 1993)

Where:

ΔY/D=Vertical Deflection, %
D_L=Deflection Lag Factor = 1.0 *(Equation 7.12, Uni-Bell handbook, 3rd Edition, Second Printing, 1993)*
K = Bedding Constant = 0.1 *(Table 7.2, Ch. VII, Uni-Bell handbook, 3rd Edition, Second Printing, 1993)*
E= Modulus of Elasticity of pipe (psi) *(Ch. VII, Uni-Bell handbook, 3rd Edition, Second Printing, 1993)*
DR=outside diameter to thickness ratio= 26
E'- Modulus of Soil Reaction = 3,000 psi *(Table 7.3 Ch. VI, Uni-Bell handbook, 3rd Edition, Second Printing, 1993)*
P=Prism Load Pressure=23.33 psi (28 ft) *(Table 6.3 of Ch. VI, Uni-Bell handbook, 3rd Edition, Second Printing, 1993)*
w= unit weight of soil = 120 pcf
H=Depth or bury, 27.9 ft max
Zeta=correction factor

15 Feet of Cover:

$$\frac{\Delta Y}{D} = \frac{1.0 * 0.10 * 23.33 * 100}{\left(\frac{2 * 400{,}000}{3(26-1)^3}\right) + 0.061 * 1.0 * 3{,}000} = 1.27\% \; for \; 28 \; feet \; of \; cover$$

All pipes proposed for this project have a maximum deflection of less than 5.00%

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Summary of Flexible Pipe Results

Pipe Size	12”
Outside Pipe Diameter	12.5”
Type of Material	PVC SDR-26
Pipe Stiffness (P_s)	115 psi
Zeta Factor	1.0
Modulus of Pipe Bedding Material (E_b)	3,000 psi
Strain (ε)	0.0022269 in/in
Max Deflection	1.27%

22. SPECIAL PROVISIONS FOR FUTURE EXPANSION

There are no anticipated future extensions.

23. OPERATING CHARACTERISTICS OF LIFT STATION

Not Applicable. There is not a proposed lift station associated with this development.

24. SAFETY CONSIDERATIONS

Occupational Safety, Public Health, and Environmental Protection:

The project plans and specifications will ensure that the pipe installation will adhere to the minimum separation distances allowed by rule 217.13 of the TAC Title 30. Additionally, the project plans or specifications will include an exact reproduction of the separation distance wording detailed by rule 217.13 of the TAC Title 30, which ensures that 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, will be sufficient to comply with the minimum separation distances allowed by the reference stated above.

Provisions to control erosion or sedimentation due to runoff during construction of the project are:

Silt Fence – SEE ATTACHED section with Pollution Prevention Plan.

This site does not contain any water wells, springs, surface water sources of potable water or potable water storage facilities.

Occupational Safety:

All manhole base sections will be at least 48 inches in diameter.

All manhole covers will be at least 30 inches nominal diameter.

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Portable ladders will be used for access to manholes for maintenance purposes.

The GENERAL CONTRACTOR will be responsible for ensuring that personal gas detectors will be provided to the appropriate personnel that are entering enclosed spaces.

Testing, Inspection, and Certification

Criteria for laying Pipe: Pipe embedment, compaction, and envelope size shall comply with TAC Title 30 §217.54 and AWU requirements.

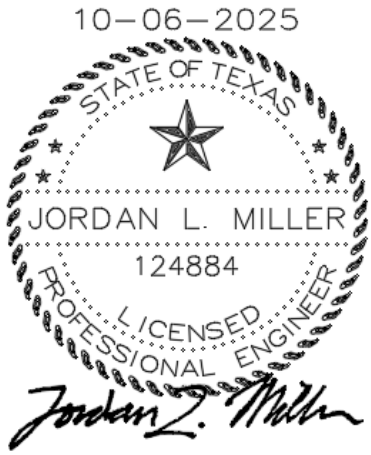
Manholes and Related Structures: All manhole covers will be at least 30 inches nominal diameter. Manhole connections shall comply with by rule 217.55(n) of the TAC Title 30.

Testing Requirements for Installation of Gravity Collection System Pipes: Infiltration and exfiltration test or low air pressure test shall conform to TAC Title 30 §217.57 note 16(a)(1) and 16(a)(2).

Testing Requirements for Manholes: All manholes shall be subjected to a leakage test and shall conform to TAC Title 30 §217.58.

The professional engineer signing and sealing this document is responsible for the completion of this Engineering Design Report and will certify that all the information provided in this document and in the accompanying set of plans and specifications show full compliance with the requirements of Chapter 217 of the TAC Title 30 (TCEQ's rules).

Signature, Seal, and Date of the Texas Professional engineer who is certifying this document.



MANHOLES AND CLEANOUTS

LINE	SHOWN ON SHEET	STATION	MANHOLE OR CLEANOUT?
A	44 OF 67	1+00.00	MANHOLE
A	44 OF 67	3+19.51	MANHOLE
A	44 OF 67	4+26.31	MANHOLE
A	44 OF 67	5+88.02	MANHOLE
A	44 OF 67	9+44.92	MANHOLE
B	45 OF 67	1+44.92	MANHOLE
B	45 OF 67	5+61.09	MANHOLE
B	46 OF 67	7+46.35	MANHOLE
B	46 OF 67	9+34.22	MANHOLE
C	47 OF 67	1+00.00	MANHOLE
C	47 OF 67	2+66.28	MANHOLE
C	47 OF 67	7+27.63	MANHOLE
C	48 OF 67	11+79.32	MANHOLE
C	48 OF 67	11+94.88	MANHOLE
C	48 OF 67	15+17.47	MANHOLE

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.

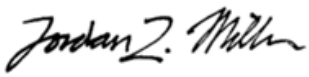
Signature

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: Jordan Miller, P.E.

Date: 08/14/2025

Signature of Customer/Agent:



Regulated Entity Name: Southwestern University 560 Development Phase 1

Project Information

Potential Sources of Contamination

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

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

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

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

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

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

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

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

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

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

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

Sequence of Construction

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

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

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

6. ☒ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: Smith Branch Creek

Temporary Best Management Practices (TBMPs)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☒ N/A

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

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

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

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

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

Soil Stabilization Practices

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

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

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

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

Administrative Information

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

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

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

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503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

Temporary Stormwater Section (TCEQ-0602)
Attachment A

Spill Response Actions

Spills will be reported to the City of Georgetown (via 911 in emergencies). Hydrocarbons or hazardous substances spilled during construction will be cleaned up immediately upon detection. Waterways will be broomed and vacuumed as required. Contaminated soil will be excavated and removed to a TCEQ approved disposal site. The TCEQ will be notified immediately upon detection.

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

1. 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.

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503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
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General Measures

1. To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.

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 runoff 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.

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Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

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. 1-120

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.

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503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

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:

   https://www.tceq.texas.gov/response/spills

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Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

Temporary Stormwater Section (TCEQ-0602)
Attachment B

Potential Sources of Contamination

Potential sources of contamination at the site include:

1. Construction vehicles tracking mud onto the roadway.
2. Fueling of construction vehicles.
3. Short-term storage and use of fertilizers for use in establishing vegetation.
4. Possible littering around the construction site.

All activities will be conducted in a manner to minimize the potential for impact to the environment.

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ENGINEERS & PLANNERS

Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

Temporary Stormwater Section (TCEQ-0602)
Attachment C

Sequence of Major Activities

Sequence of major activities:

1. Install temporary erosion controls and tree protection fencing. (perimeter of 68.77-acre limits of construction)
2. Clearing and grubbing. (68.77-acres)
3. Rough grade site and construct ponds. (68.77-acres)
4. Construct utilities. (3.25-acres)
5. Construct and pave roadway. (11.98-acres)
6. Complete final grading. (68.77-acres)
7. Construct Buildings. (6.28-acres)
8. Complete permanent erosion control and restoration of site vegetation. (46.65-acres)
9. Remove temporary erosion controls. (perimeter of 68.77-acre limits of construction)

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ENGINEERS & PLANNERS

Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

Temporary Stormwater Section (TCEQ-0602)
Attachment D

Temporary Best Management Practices and Measures

Temporary Erosion and Sediment Control Best Management Practices (BMPs) shall be designed and placed in accordance with the City of Georgetown and TCEQ requirements. The temporary BMPs shall be installed prior to any site preparation work (clearing, grubbing, or excavation).

Silt Fence

Silt fence shall be installed immediately down gradient of areas of soil disturbance. See City of Georgetown Standard Detail on the Construction Plans for details on construction and installation.

Tree Protection

If applicable, tree protection shall be installed around trees to prevent tree damage and potential damage or disturbance of the tree's root zone. See the City of Georgetown Standard Detail on the Construction Plans for details on construction of and installation.

Dust Control

Dust control can prevent blowing and movement of dust from exposed soil surfaces, reduce on-site and off-site damage, and improve traffic safety. Dust control will be implemented at the site during all phases of construction.

Dust control during construction shall be done with mulch, irrigation, or an alternative method described in the City of Georgetown Environmental Protection section of the Georgetown Unified Development Code.

Disturbed Area Minimization

An effective way to minimize potential impact from storm water runoff from construction sites is to minimize the area of soil disturbance. The site will be developed in such a manner as to limit the necessary construction to as small an area as practical, thereby reducing the amount of run-off generated by a storm event.

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Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

Stabilized Construction Entrance

Anti-tracking pads consisting of stone will be installed at the entrance as identified on the site plan to prevent the off-site transport of sediment by construction vehicles. Crushed stone will be placed over a layer of geotextile filter fabric to reduce the mitigation of sediment from the underlying soil. The stabilization entrance will be installed prior to construction beginning on the site. The stone will remain in place until the sub grade of pavement is installed at the site.

Rock Berm

Rock berms will be utilized throughout the site to protect trees and other environmentally sensitive areas from erosion. Temporary erosion and sedimentation controls are to be installed prior to any site grading activities. The contractor is required to inspect the controls and fences at weekly intervals and after significant rainfall events to ensure that they are functioning properly.

Inlet Protection

Inlet filter inserts will be installed as the storm sewer system is constructed onsite. The catch basin filter inserts will be inspected weekly and immediately after storm events. If the basin insert becomes clogged with sediment, the insert will be removed and cleaned or replaced per the manufacturer's recommendations.

Concrete Washout

A designated temporary, above-grade concrete washout area will be constructed. The temporary concrete washout area will be constructed with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations. Concrete mixer trucks and chutes will be washed during or before an anticipated storm event in the designated area and any concrete waste will be properly disposed of off-site.

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ENGINEERS & PLANNERS

Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

Temporary Stormwater Section (TCEQ-0602)
Attachment E

Request to Temporarily Seal a Feature

We are not requesting to seal any sensitive features on site.

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Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

Temporary Stormwater Section (TCEQ-0602)
Attachment F

Structural Practices

The site will be graded to allow storm water runoff to flow to the proposed storm inlets in the new roadways. The captured storm runoff will then go through the proposed storm drains and eventually reach the proposed Contech Jellyfish Stormwater Treatment Filters where sediment and pollutants will be filtered out. The treated runoff will then be held in the on-site detention ponds and finally released into the nearby creek.

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Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

Temporary Stormwater Section (TCEQ-0602)
Attachment G

Drainage Area Map

A drainage area map has been included in the construction documents that accompany this WPAP submittal.

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ENGINEERS & PLANNERS

Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

Temporary Stormwater Section (TCEQ-0602)
Attachment H

Temporary Sediment Pond(s) Plans and Calculations

There are no temporary sediment ponds associated with this development; however, the permanent detention ponds will function as the temporary sediment traps for this project until the Contech Jellyfish Storm Water Treatment Filters are installed.

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Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

Temporary Stormwater Section (TCEQ-0602)
Attachment I

Inspection and Maintenance for BMP's

The following is a schedule for inspection and maintenance for Temporary BMPs:

Silt Fence:	Inspect daily and after every rain event any repairs must be done within 24 hours of failure.
Temporary Inlet Protection:	Inspect weekly and after every rain event any repairs must be done within 24 hours of failure.
Tree Protection:	Inspect weekly.
Stabilized Construction Entrance:	Inspect weekly and after every rain event any repairs must be done within 24 hours of failure.
Concrete Washout Area:	Inspect weekly, after every rain event, and at the end of any day when concrete has been poured. Any overflowing of the washout facilities onto the ground must be cleaned up and removed within 24 hours of discovery. Break up hardened solids prior to removal and either reuse material on-site (as in the case for roadbeds) or haul away for recycling. Inspect structure for signs of weakening or damage after removal of materials and make any necessary repairs including re-lining with plastic that is free of holes or tears.
Rock Berms:	Inspect weekly and after every rain event to make repairs and clean out as necessary. Sediment accumulated upstream of rock berm shall be removed when the sediment depth upstream of filter is within 5 inches of the crest. If rock berms are removed any disturbed area shall be stabilized in a manner approved by the City.
Dewatering:	Install, operate, and maintain pressurized filtration systems by following manufacturer recommendations. Sediment must be frequently removed from devices and properly disposed of to

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503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
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	maintain effectiveness.
Temporary Sedimentation Basin:	Inspection should be made weekly and after each rainfall. Check the embankment, spillways, and outlet for erosion damage, and inspect the embankment for piping and settlement. Repair should be made promptly as needed by the contractor. Trash and other debris should be removed after each rainfall to prevent clogging of the outlet structure. Accumulated silt should be removed and the basin should be regraded to its original dimensions at such point that the capacity of the impoundment has been reduced to 75% of its original storage capacity. The removed sediment should be stockpiled or redistributed in areas that are protected from erosion.

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Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

Temporary Stormwater Section (TCEQ-0602)
Attachment J

Schedule of Interim and Permanent Soil Stabilization Practices

The following is a schedule of interim and permanent soil stabilization practices:

Prior to site disturbance:	Install all temporary vegetation features.
During construction:	Maintain all temporary vegetation features and install soil stabilization matting on slopes greater than 3:1 as described in the Edwards Aquifer Technical Guidance Manual Section 1.3. Inspect all temporary features on a weekly basis and after all rain events.
After completion of construction:	Install all permanent vegetation and geotextile features.
After completion of permanent Erosion and sedimentation:	Remove all temporary vegetation and soil stabilization matting features.
If construction is temporarily stopped unexpectedly:	If disturbed area is not to be worked on for more than 14 days, disturbed area needs to be stabilized by re-vegetation, mulch, tarp, or re-vegetation matting. If construction is permanently stopped, install all permanent vegetation and geotextile features and remove all temporary vegetation and soil stabilization matting features.

Permanent 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)(C), (D)(Ii), (E), and (5), 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.

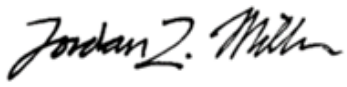
Signature

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 **Permanent Stormwater Section** is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

Print Name of Customer/Agent: Jordan Miller, P.E.

Date: 08/19/2025

Signature of Customer/Agent



Regulated Entity Name: Southwestern University 560 Development Phase 1

Permanent Best Management Practices (BMPs)

Permanent best management practices and measures that will be used during and after construction is completed.

1. ☒ Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.

   ☐ N/A

2. ☒ These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.

   ☒ The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

☐ A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is: _____

☐ N/A

3. ☒ Owners must insure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.

   ☐ N/A

4. Where a site is used for low density single-family residential development and has 20 % or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

   ☐ The site will be used for low density single-family residential development and has 20% or less impervious cover.
   ☐ The site will be used for low density single-family residential development but has more than 20% impervious cover.
   ☒ The site will not be used for low density single-family residential development.

5. The executive director may waive the requirement for other permanent BMPs for multi-family residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

   ☐ **Attachment A - 20% or Less Impervious Cover Waiver**. The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.
   ☒ The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.
   ☐ The site will not be used for multi-family residential developments, schools, or small business sites.

6. ☒ **Attachment B - BMPs for Upgradient Stormwater**.

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

☐ No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.

☐ Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.

7. ☒ **Attachment C - BMPs for On-site Stormwater**.

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

☐ Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.

8. ☐ **Attachment D - BMPs for Surface Streams**. A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is attached. Each feature identified in the Geologic Assessment as sensitive has been addressed.

☒ N/A

9. ☒ The applicant understands that to the extent practicable, BMPs and measures must maintain flow to naturally occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.

☒ The permanent sealing of or diversion of flow from a naturally-occurring sensitive feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed.

☐ **Attachment E - Request to Seal Features**. A request to seal a naturally-occurring sensitive feature, that includes, for each feature, a justification as to why no reasonable and practicable alternative exists, is attached.

10. ☒ **Attachment F - Construction Plans**. All construction plans and design calculations for the proposed permanent BMP(s) and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. The plans are attached and, if applicable include:

☒ Design calculations (TSS removal calculations)
☒ TCEQ construction notes
☒ All geologic features
☒ All proposed structural BMP(s) plans and specifications

☐ N/A

11. ☒ **Attachment G - Inspection, Maintenance, Repair and Retrofit Plan**. A plan for the inspection, maintenance, repairs, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan includes all of the following:

    ☒ Prepared and certified by the engineer designing the permanent BMPs and measures
    ☒ Signed by the owner or responsible party
    ☒ Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit
    ☒ A discussion of record keeping procedures

    ☐ N/A

12. ☐ **Attachment H - Pilot-Scale Field Testing Plan**. Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.

    ☒ N/A

13. ☒ **Attachment I -Measures for Minimizing Surface Stream Contamination**. A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that results in water quality degradation.

    ☐ N/A

Responsibility for Maintenance of Permanent BMP(s)

Responsibility for maintenance of best management practices and measures after construction is complete.

14. ☒ The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.

    ☐ N/A

15. ☒ A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

    ☐ N/A

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ENGINEERS & PLANNERS

Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

Permanent Stormwater Section (TCEQ-0600)
Attachment A

20% or Less Impervious Cover Waiver

This waiver is not applicable for this site.

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ENGINEERS & PLANNERS

Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

Permanent Stormwater Section (TCEQ-0600)
Attachment B

BMP for Upgradient Water

Storm water runoff from upgradient areas is treated separately on each individual site. Any off-site storm water draining to this site that is located within the drainage areas shown on the proposed drainage area map included in the plan set will be accounted for by the BMPs detailed in Attachment C.

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ENGINEERS & PLANNERS

Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

Permanent Stormwater Section (TCEQ-0600)
Attachment C

Permanent BMP's for On-Site Stormwater

Implementation of Contech Jellyfish Filters have been selected as the permanent Best Management Practice (BMP) for on-site stormwater quality treatment for this development. The Jellyfish Filters are designed to provide water quality for the proposed site and to reduce the increase in total suspended solids (TSS) load associated with the overall site development. These Jellyfish structures have been designed in conjunction with on-site detention ponds. The ponds have been designed per the City of Georgetown's Drainage Criteria Manual and the Texas Commission on Environmental Qualities Technical Guidance Manual. The TSS removal calculations show that the Contech Jellyfish Stormwater Treatment Filters are sufficiently sized to treat a total of 14.40-acres of on-site impervious cover (80%). Additionally, the two on-site detention ponds have been designed to detain a total of 16.87 acres; resulting in a decrease in the amount of stormwater being discharged to their respective points of analysis. The calculations demonstrate that the Contech Jellyfish Filters will sufficiently remove 86% of the increased TSS load.

CIVILITUDE
ENGINEERS & PLANNERS

Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

Permanent Stormwater Section (TCEQ-0600)
Attachment D

Permanent BMP's for Surface Streams

There are no surface streams on the regulated site.

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ENGINEERS & PLANNERS

Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

Permanent Stormwater Section (TCEQ-0600)
Attachment E

Request to Temporarily Seal Features

There are no sensitive environmental features on the regulated entity that are proposed to be sealed.

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ENGINEERS & PLANNERS

Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

Permanent Stormwater Section (TCEQ-0600)
Attachment F

Construction Plans

Construction plans for this project have been prepared and submitted along with this WPAP Application.

CIVILITUDE
ENGINEERS & PLANNERS

Texas P.E. Firm Registration 12469
503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

Permanent Stormwater Section [TCEQ-0600]

Attachment G

Inspection, Maintenance, Repair and Retrofit Plan

CONTECH JELLYFISH FILTERS

The primary purpose of the Jellyfish® Filter is to capture and remove pollutants from stormwater runoff. As with any filtration system, these pollutants must be removed to maintain the filter's maximum treatment performance. Regular inspection and maintenance are required to insure proper functioning of the system.

Maintenance frequencies and requirements are site specific and vary depending on pollutant loading. Additional maintenance activities may be required in the event of non-storm event runoff, such as base-flow or seasonal flow, an upstream chemical spill or due to excessive sediment loading from site erosion or extreme runoff events. It is a good practice to inspect the system after major storm events.

Inspection activities are typically conducted from surface observations and include:

- Observe if standing water is present
- Observe if there is any physical damage to the deck or cartridge lids
- Observe the amount of debris in the Maintenance Access Wall (MAW)

Maintenance activities typically include:

- Removal of oil, floatable trash and debris
- Removal of collected sediments
- Rinsing and re-installing the filter cartridges
- Replace filter cartridge tentacles, as needed

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ENGINEERS & PLANNERS

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503 Kenniston Dr, Unit 5 Austin, TX 78752
Phone 512.761.6161 | Fax 512.761.6167
info@civilitude.com | civilitude.com

Inspection:

Inspection Timing

Inspection of the Jellyfish Filter is key in determining the maintenance requirements for, and to develop a history of the site's pollutant loading characteristics. In general, inspections should be performed at the times indicated below; or per the approved project stormwater quality documents (if applicable), whichever is more frequent.

1. Post-construction inspection is required prior to putting the Jellyfish Filter into service. All construction debris or construction-related sediment within the device must be removed, and any damage to system components repaired, before installing the filter cartridges.
2. A minimum of two inspections during the first year of operation to assess the sediment and floatable pollutant accumulation, and to ensure proper functioning of the system.
3. Inspection frequency in subsequent years is based on the inspection and maintenance plan developed in the first year of operation. Minimum frequency should be once per year.
4. Inspection is recommended after each major storm event.
5. Inspection is required immediately after an upstream oil, fuel or other chemical spill.

Inspection Procedure

The following procedure is recommended when performing inspections:

1. Provide traffic control measures as necessary.
2. Inspect the MAW for floatable pollutants such as trash, debris, and oil sheen.
3. Measure oil and sediment depth in several locations, by lowering a sediment probe through the MAW opening until contact is made with the floor of the structure. Record sediment depth, and presences of any oil layers.
4. Inspect cartridge lids. Missing or damaged cartridge lids to be replaced.
5. Inspect the MAW, cartridge deck, and backwash pool weir, for cracks or broken components. If damaged, repair is required.

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Dry Weather Inspections

- Inspect the cartridge deck for standing water, and/or sediment on the deck.
- No standing water under normal operating conditions.
- Standing water inside the backwash pool, but not outside the backwash pool indicates that the filter cartridges need to be rinsed.
- Standing water outside the backwash pool may indicate a backwater condition caused by high water elevation in the receiving water body, or possibly a blockage in downstream infrastructure.
- Any appreciable sediment (≥1/16") accumulated on the deck surface should be removed.

Wet Weather Inspections

- Observe the rate and movement of water in the unit. Note the depth of water above deck elevation within the MAW.
- Less than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges (i.e. cartridges located outside the backwash pool).
- Greater than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges and each of the hi-flo cartridges (i.e. cartridges located inside the backwash pool), and water should be overflowing the backwash pool weir.
- 18 inches or greater and relatively little flow is exiting the cartridge lids and outlet pipe, this condition indicates that the filter cartridges are occluded with sediment and need to be rinsed.

Maintenance:

Maintenance Requirements

Required maintenance for the Jellyfish Filter is based upon results of the most recent inspection, historical maintenance records, or the site specific water quality management plan; whichever is more frequent. In general, maintenance requires some combination of the following:

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1. Sediment removal for depths reaching 12 inches or greater, or within 3 years of the most recent sediment cleaning, whichever occurs sooner.
2. Floatable trash, debris, and oil removal.
3. Deck cleaned and free from sediment.
4. Filter cartridges rinsed and re-installed as required by the most recent inspection results, or within 12 months of the most recent filter rinsing, whichever occurs sooner.
5. Replace tentacles if rinsing does not restore adequate hydraulic capacity, remove accumulated sediment, or if damaged or missing. It is recommended that tentacles should remain in service no longer than 5 years before replacement.
6. Damaged or missing cartridge deck components must be repaired or replaced as indicated by results of the most recent inspection.
7. The unit must be cleaned out and filter cartridges inspected immediately after an upstream oil, fuel, or chemical spill. Filter cartridge tentacles should be replaced if damaged or compromised by the spill.

Maintenance Procedure

The following procedures are recommended when maintaining the Jellyfish Filter:

1. Provide traffic control measures as necessary.
2. Open all covers and hatches. Use ventilation equipment as required, according to confined space entry procedures.
3. Caution: Dropping objects onto the cartridge deck may cause damage.
4. Perform Inspection Procedure prior to maintenance activity.
5. To access the cartridge deck for filter cartridge service, descend the ladder and step directly onto the deck. Caution: Do not step onto the maintenance access wall (MAW) or backwash pool weir, as damage may result. Note that the cartridge deck may be slippery.

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6. Maximum weight of maintenance crew and equipment on the cartridge deck not to exceed 450 lbs.

Filter Cartridge Removal

1. Remove a cartridge lid.
2. Remove cartridges from the deck using the lifting loops in the cartridge head plate. Rope or a lifting device (available from Contech) should be used. Caution: Should a snag occur, do not force the cartridge upward as damage to the tentacles may result. Wet cartridges typically weigh between 100 and 125 lbs.
3. Replace and secure the cartridge lid on the exposed empty receptacle as a safety precaution. Contech does not recommend exposing more than one empty cartridge receptacle at a time.

Filter Cartridge Rinsing

1. Remove all 11 tentacles from the cartridge head plate. Take care not to damage or break the plastic threaded nut or connector.
2. Position tentacles in a container (or over the MAW), with the threaded connector (open end) facing down, so rinse water is flushed through the membrane and captured in the container.
3. Using the Jellyfish rinse tool (available from Contech) or a low-pressure garden hose sprayer, direct water spray onto the tentacle membrane, sweeping from top to bottom along the length of the tentacle. Rinse until all sediment is removed from the membrane. Caution: Do not use a high pressure sprayer or focused stream of water on the membrane. Excessive water pressure may damage the membrane.
4. Collected rinse water is typically removed by vacuum hose.
5. Reattach tentacles to cartridge head plate. Reuse O-rings and nuts, ensuring proper placement on each tentacle.

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Cleaning Procedure

1. Perform vacuum cleaning of the Jellyfish Filter only after filter cartridges have been removed from the system. Access the lower chamber for vacuum cleaning only through the maintenance access wall (MAW) opening, being careful not to damage the flexible plastic separator skirt that is attached to the underside of the deck. The separator skirt surrounds the filter cartridge zone, and could be torn if contacted by the wand. Do not lower the vacuum wand through a cartridge receptacle, as damage to the receptacle will result.
2. Vacuum floatable trash, debris, and oil, from the MAW opening. Alternatively, floatable solids may be removed by a net or skimmer.
3. Pressure wash cartridge deck and receptacles to remove all sediment and debris. Sediment should be rinsed into the sump area. Take care not to flush rinse water into the outlet pipe.
4. Remove water from the sump area. Vacuum or pump equipment should only be introduced through the MAW.
5. Remove the sediment from the bottom of the unit through the MAW opening.
6. For larger diameter Jellyfish Filter manholes (≥8-ft) and vaults without an MAW opening, complete sediment removal may be facilitated by removing a cartridge lid from an empty receptacle and inserting a jetting wand (not a vacuum wand) through the receptacle. Use the sprayer to rinse loosened sediment toward the vacuum hose in the MAW opening, being careful not to damage the receptacle.
7. After the unit is clean, re-fill the lower chamber with water if required by the local jurisdiction, and re-install filter cartridges.
8. Dispose of sediment, floatable trash and debris, oil, spent tentacles, and water according to local regulatory requirements.

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Chemical Spills

Caution: If a chemical spill has been captured, do not attempt maintenance. Immediately contact the local hazard response agency and contact Contech.

Related Maintenance Activities

Jellyfish units are often just one of many structures in a more comprehensive stormwater drainage and treatment system.

In order for maintenance of the Jellyfish filter to be successful, it is imperative that all other components be properly maintained. The maintenance and repair of upstream facilities should be carried out prior to Jellyfish maintenance activities.

In addition to considering upstream facilities, it is also important to correct any problems identified in the drainage area. Drainage area concerns may include: erosion problems, heavy oil loading, and discharges of inappropriate materials.

Material Disposal

The accumulated sediment found in stormwater treatment and conveyance systems must be handled and disposed of in accordance with regulatory protocols. It is possible for sediments to contain measurable concentrations of heavy metals and organic chemicals (such as pesticides and petroleum products). Areas with the greatest potential for high pollutant loading include industrial areas and heavily traveled roads. Sediments and water must be disposed of in accordance with all applicable waste disposal regulations. When scheduling maintenance, consideration must be made for the disposal of solid and liquid wastes. This typically requires coordination with a local landfill for solid waste disposal. For liquid waste disposal a number of options are available including a municipal vacuum truck decant facility, local waste water treatment plant or on-site treatment and discharge.

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Repair:

Filter Cartridge Replacement

1. Cartridges should be installed after the deck has been cleaned. It is important that the receptacle surfaces be free from grit and debris.

2. If rinsing is ineffective in removing sediment from the tentacles, or if tentacles are damaged, provisions must be made to replace the spent or damaged tentacles with new tentacles. Contact Contech to order replacement tentacles.

3. Lower filter cartridge to the cartridge deck. Remove cartridge lid from deck and carefully lower the filter cartridge into the receptacle until head plate gasket is seated squarely in receptacle. Caution: Should a snag occur when lowering the cartridge into the receptacle, do not force the cartridge downward; damage may occur.

4. Replace the cartridge lid and check ft before completing rotation to a firm hand-tight attachment.

If necessary, Retrofit:

Not necessary.

Record Keeping Procedures:

Project superintendent shall have a log for entering site inspections. Results of inspections, including damage and any recommended remedial action, shall be noted along with inspection personnel data and date of completion of any action.

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10-06-2025

STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

Engineer who designed the permanent BMPs and measures: Jordan Miller PE #124884

An amended copy of this document will be provided to TCEQ within thirty (30) days of any changes in the following information:

Owner or responsible party: Laura Skandera Trombley

Address: 1001 E. University Ave., Georgetown, TX 78626

Telephone: 512.863.1454

Signature of Responsible Party: _____

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Permanent Stormwater Section (TCEQ-0600)
Attachment H

Pilot Scale Field Testing Plan

The TCEQ Technical Guidance Manual (TGM) was used to design the ponds for the regulated entity, therefore a Pilot Scale Field Testing Plan has not been provided.

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Permanent Stormwater Section (TCEQ-0600)
Attachment I

Measures for Minimizing Surface Stream Contamination

Drainage facilities have been designed to capture storm water runoff from proposed developments and direct the flows to one of two on-site storm water detention ponds. These ponds have been design to reduce peak flow rates discharging downstream. Reduced peak flow rates will result in lower velocities for storm water entering surface streams, thereby reducing the potential for erosion. These ponds will receive and detain treated storm water from the Contech Jellyfish Storm Water Treatment Filters directly upstream.

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

I Laura Skandera Trombley,
Print Name

President,
Title - Owner/President/Other

of Southwestern University,
Corporation/Partnership/Entity Name

have authorized Civilitude, LLC, C/O Gerardo Martinez
Print Name of Agent/Engineer

of Civilitude, LLC
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:

Laura Trombley
Applicant's Signature

9-16-2025
Date

THE STATE OF Texas §

County of Williamson §

BEFORE ME, the undersigned authority, on this day personally appeared Laura Trombley 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 16th day of Sept., 2025.

Latoya E. Jenkins
NOTARY PUBLIC

Latoya E. Jenkins
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 11-26-2026

LATOYA E. JENKINS
Notary Public, State of Texas
Comm. Expires 11-26-2026
Notary ID 131805929

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Southwestern University 560 Development Phase 1
Regulated Entity Location: 1001 E University Ave, Georgetown, TX 78626
Name of Customer: Richard Madonna
Contact Person: Jordan Miller, P.E. Phone: (512) 761-6161
Customer Reference Number (if issued):CN 600787329
Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☐ Hays ☐ Travis ☒ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

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

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

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

Site Location (Check All That Apply):

☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

Type of Plan	***Size***	***Fee Due***
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	68.77 Acres	$ 8,000
Sewage Collection System	3,097 L.F.	$ 1,548.50
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: Jordan Z. Miller Date: 08/20/2025

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN 600787329		**RN**

SECTION II: Customer Information

4. General Customer Information	**5. Effective Date for Customer Information Updates** (mm/dd/yyyy)	10/1/2025

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

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

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

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
0033266101	17412337960		

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

12. Number of Employees	**13. Independently Owned and Operated?**
☐ 0-20 ☐ 21-100 ☐ 101-250 ☒ 251-500 ☐ 501 and higher	☒ **Yes** ☐ **No**

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

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

15. Mailing Address:	1001 E University Avenue						
	City	Georgetown	**State**	TX	**ZIP**	78626	**ZIP + 4**

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

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

SECTION III: Regulated Entity Information

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

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

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

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

Southwestern University 560 Development Phase 1

23. Street Address of the Regulated Entity: ***(No PO Boxes)***								
	1001 E University Avenue							
	City	Georgetown	**State**	TX	**ZIP**	78626	**ZIP + 4**	
24. County	Williamson							

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

25. Description to Physical Location:	Williamson County parcel ID: R393536				
26. Nearest City			**State**	**Nearest ZIP Code**	
Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).					
27. Latitude (N) In Decimal:			**28. Longitude (W) In Decimal:**		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)	31. Primary NAICS Code (5 or 6 digits)	32. Secondary NAICS Code (5 or 6 digits)
8221			

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

Subdivision Infrastructure

34. Mailing Address:	**1001 E University Avenue**							
	City	**Geogetown**	**State**	**TX**	**ZIP**	**78626**	**ZIP + 4**	
35. E-Mail Address:								

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

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

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

SECTION IV: Preparer Information

40. Name:	Ali Al-Zoubi, E.I.T	**41. Title:**	Graduate Engineer

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(737 **)** 351-2013		**( )** -	ali@civilitude.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:	Civilitude LLC	**Job Title:**	Lead Engineer
Name *(In Print):*	Jordan Miller	**Phone:**	**(** 512 **)** 761- **6161**
Signature:	Jordan Z. Miller	**Date:**	10/03/2025

SUBDIVISION INFRASTRUCTURE CONSTRUCTION PLANS FOR SOUTHWESTERN UNIVERSITY 560 DEVELOPMENT PHASE 1A

1001 E UNIVERSITY AVENUE, GEORGETOWN, TX 78726

SUBMITTAL DATE: 09/19/2025

PROJECT INFORMATION

LEGAL DESCRIPTION

AW0021 ADDISON, WM. SUR., ACRES 82.6

PRELIMINARY PLAT

PROJECT # 2025-7-PP

SITE INFORMATION TABLE

TOTAL SITE AREA = 68.6 Ac
TOTAL # BLOCKS = 1
TOTAL # LOTS = 11
TOTAL # PHASES = 1

WATERSHED AND EDWARDS AQUIFER STATUS

1. THIS PROJECT IS LOCATED IN THE GRANGER LAKE-SAN GABRIEL RIVER WATERSHED AND LIES WITHIN THE EDWARDS AQUIFER RECHARGE ZONE.
2. THE PROPERTY SUBJECT TO THIS APPLICATION IS SUBJECT TO THE WATER QUALITY REGULATIONS OF THE CITY OF GEORGETOWN.
3. A GEOLOGIC ASSESSMENT, IN ACCORDANCE WITH THE CITY OF GEORGETOWN WATER QUALITY REGULATIONS, WAS COMPLETED ON (09/18/2024). ANY SPRINGS AND STREAMS AS IDENTIFIED IN THE GEOLOGIC ASSESSMENT ARE SHOWN HEREIN.

ZONING

2025-1-PUD - SOUTHWESTERN UNIVERSITY PLANNED UNIT DEVELOPMENT (PUD) AMENDMENT 2

FLOOD STATEMENT

A PORTION OF THIS SITE LIES WITHIN THE STUDIED FLOODPLAIN AS SHOWN ON THE FEMA FLOOD INSURANCE RATE MAP FOR WILLIAMSON COUNTY, TEXAS, MAP NUMBER 48491C0294F, EFFECTIVE DATE DECEMBER 20, 2019

SURVEY CONTROL:

CONTROL FOR THIS SURVEY IS BASED ON A MAG NAIL WITH "4WARD CONTROL" WASHER SET, GRID COORDINATES (STATE PLANE TEXAS CENTRAL - 4203) AND ELEVATIONS *NAVD88) SHOWN HEREON WERE COMPUTED FROM NGS O.P.U.S. SOLUTION DERIVED FROM 4WARD STATIC DATA COLLECTED DECEMBER 6, 2024.

NOTES:

1. THESE PLANS WERE PREPARED, SEALED, SIGNED, AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE, BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE PLANS FOR CONSTRUCTION OF THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.
2. THIS PROJECT IS SUBJECT TO ALL CITY STANDARD SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE CITY.
3. ALL ELECTRIC DISTRIBUTION LINES AND INDIVIDUAL SERVICE LINES SHALL BE INSTALLED UNDERGROUND. IF OVERHEAD LINES EXISTED PRIOR TO UNDERGROUND INSTALLATION, SUCH POLES, GUY WIRES, AND RELATED STRUCTURES SHALL BE REMOVED FOLLOWING CONSTRUCTION OF THE UNDERGROUND INFRASTRUCTURE (ONLY APPLICABLE FOR RESIDENTIAL PROPERTY).
4. WHERE NO EXISTING OVERHEAD INFRASTRUCTURE EXISTS, UNDERGROUND ELECTRIC UTILITY LINES SHALL BE LOCATED ALONG THE STREET AND WITHIN THE SITE. WHERE EXISTING OVERHEAD INFRASTRUCTURE IS TO BE RELOCATED, IT SHALL BE RE-INSTALLED UNDERGROUND AND THE EXISTING FACILITIES SHALL BE REMOVED AT THE DISCRETION OF THE DEVELOPMENT ENGINEER (ONLY APPLICABLE FOR NON-RESIDENTIAL AND MULTI-FAMILY DEVELOPMENT).
5. ALL ELECTRIC AND COMMUNICATION INFRASTRUCTURE SHALL COMPLY WITH UDC SECTION 13.06.
6. THE CONSTRUCTION PORTION OF THESE 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.
7. THIS PROJECT IS SUBJECT TO ALL CITY STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE CITY.
8. WHERE NO EXISTING OVERHEAD INFRASTRUCTURE EXISTS, UNDERGROUND ELECTRIC UTILITY LINES SHALL BE LOCATED ALONG THE STREET AND WITHIN THE SITE. WHERE EXISTING OVERHEAD INFRASTRUCTURE IS TO BE RELOCATED, IT SHALL BE RE-INSTALLED UNDERGROUND AND THE EXISTING FACILITIES SHALL BE REMOVED AT THE DISCRETION OF THE DEVELOPMENT ENGINEER.
9. ALL ELECTRIC AND COMMUNICATION INFRASTRUCTURE SHALL COMPLY WITH UDC SECTION 13.06.
10. FIRE FLOW REQUIREMENTS OF ___PER MINUTE (INCLUDE AMOUNT) ARE BEING MET BY THIS PLAN (PLEASE PROVIDE THE FIRE FLOW THAT THIS DEVELOPMENT IS PROVIDING FOR THIS SITE).

DESIGN TEAM

DEVELOPER

CARL PAULSON
BANBURY DEVELOPMENT
4550 MUELLER BLVD.,
AUSTIN, TX 78723
(512) 703-9221

CIVIL ENGINEER

JORDAN MILLER, PE
CIVILITUDE LLC
503 KENNISTON DR
AUSTIN, TX 78752
(512) 761-6161

LANDSCAPE ARCHITECT

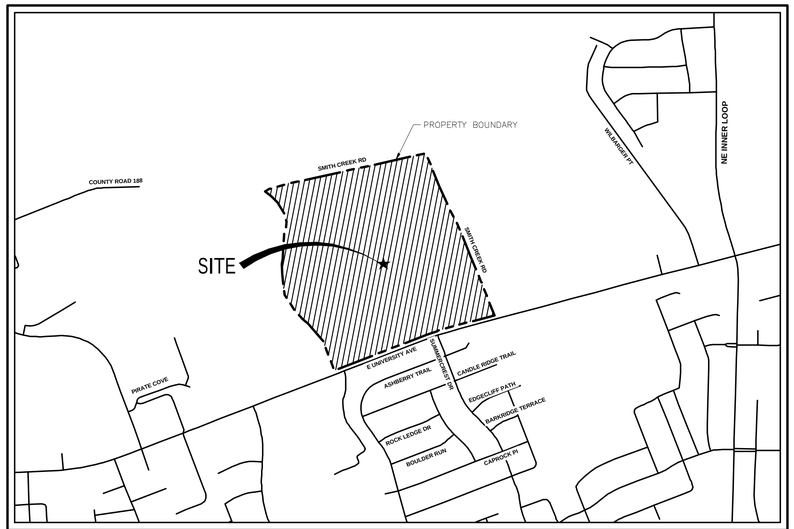
DREW CARMAN
RVI PLANING + LANDSCAPE ARCHITECTURE
1611 WEST 5TH ST, SUITE 175
AUSTIN, TX 78703
(512) 480-0032

PLANNER

JIM ADAMS
MCCANN ADAMS STUDIO
4000 PINCKENY ST, UNIT B
AUSTIN, TX 78723
(512) 732-0001

OWNER

SOUTHWESTERN UNIVERSITY
1001 E UNIVERSITY AVENUE
GEORGETOWN TX 78626



CITY OF GEORGETOWN REVISIONS/CORRECTIONS

NUMBER	DESCRIPTION	REVISE (R) DELETE (D) ADD (A) SHEET No'S	TOTAL SHEETS IN PLAN SET	NET CHANGE IMPERV. COVER (SF)	TOTAL SITE IMPERV. COVER (SF/%)	CITY OF GEORGETOWN APPROVAL DATE	DATE IMAGED

SUBMITTED BY

STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

09/19/2025
JORDAN MILLER, PE #124884 — DATE

CIVILITUDE
ENGINEERS & PLANNERS

FIRM REG# F-12469 — 503 KENNISTON DR #4 — AUSTIN, TX 78752
PHONE 512 761 6161 — FAX 512 761 6167 — INFO@CIVILITUDE.COM

SHEET INDEX

UTILITY PROVIDERS

DOMESTIC WATER - CITY OF GEORGETOWN

CITY OF GEORGETOWN UTILITY SYSTEMS
300-1 INDUSTRIAL AVE.,
GEORGETOWN, TX 78626
512-930-3640
HTTPS://GEORGETOWNTEXAS.GOV/UTILITIES/

WASTEWATER - CITY OF GEORGETOWN

CITY OF GEORGETOWN UTILITY SYSTEMS
300-1 INDUSTRIAL AVE.,
GEORGETOWN, TX 78626
512-930-3640
HTTPS://GEORGETOWNTEXAS.GOV/UTILITIES/

ELECTRIC - CITY OF GEORGETOWN

CITY OF GEORGETOWN UTILITY SYSTEMS
300-1 INDUSTRIAL AVE.,
GEORGETOWN, TX 78626
512-930-3640
HTTPS://GEORGETOWNTEXAS.GOV/UTILITIES/

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

COVER SHEET

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 — AUSTIN, TX 78752 — FIRM REG # F12469
PHONE 512 761 6161 — FAX 512 761 6167 — INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO.
001
OF 069

PROJECT NUMBER: 2025-___-CON

Plot Date: September 19, 2025 @ 12:14 PM

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GENERAL NOTES:

1. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER, AND SUCCESSORS TO THE CURRENT PROPERTY OWNER, TO ENSURE THE SUBJECT PROPERTY AND ANY IMPROVEMENTS ARE MAINTAINED IN CONFORMANCE WITH THIS SITE DEVELOPMENT PLAN.
2. THIS DEVELOPMENT SHALL COMPLY WITH ALL STANDARDS OF THE UNIFIED DEVELOPMENT CODE (UDC), THE CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND SPECIFICATIONS MANUAL, THE DEVELOPMENT MANUAL AND ALL OTHER APPLICABLE CITY STANDARDS.
3. THIS SITE DEVELOPMENT PLAN SHALL MEET THE UDC STORMWATER REQUIREMENTS.
4. ALL SIGNAGE REQUIRES A SEPARATE APPLICATION AND APPROVAL FROM THE INSPECTION SERVICES DEPARTMENT. NO SIGNAGE IS APPROVED WITH THE SITE DEVELOPMENT PLAN.
5. SIDEWALKS SHALL BE PROVIDED IN ACCORDANCE WITH THE UDC.
6. DRIVEWAYS WILL REQUIRE APPROVAL BY THE DEVELOPMENT ENGINEER OF THE CITY OF GEORGETOWN.
7. OUTDOOR LIGHTING SHALL COMPLY WITH SECTION 7.04 OF THE UDC.
8. SCREENING OF MECHANICAL EQUIPMENT, DUMPSTERS AND PARKING SHALL COMPLY WITH CHAPTER 8 OF THE UDC. THE SCREENING IS SHOWN ON THE LANDSCAPE AND ARCHITECTURAL PLANS, AS APPLICABLE.
9. THE COMPANION LANDSCAPE PLAN HAS BEEN DESIGNED AND PLANT MATERIALS SHALL BE INSTALLED TO MEET ALL REQUIREMENTS OF THE UDC.
10. ALL MAINTENANCE OF REQUIRED LANDSCAPE SHALL COMPLY WITH THE MAINTENANCE STANDARDS OF CHAPTER 8 OF THE UDC.
11. A SEPARATE IRRIGATION PLAN SHALL BE REQUIRED AT THE TIME OF BUILDING PERMIT APPLICATION. PROJECTS PROPOSING PUBLIC PARKLAND SHALL INCLUDE IRRIGATION PLANS AS PART OF THIS PLAN AS REQUIRED BY THE PARKLAND DEVELOPMENT GUIDELINES.
12. ANY HERITAGE TREE NOTED ON THIS SITE DEVELOPMENT PLAN IS SUBJECT, IN PERPETUITY, TO THE MAINTENANCE, CARE, PRUNING AND REMOVAL REQUIREMENTS OF THE UNIFIED DEVELOPMENT CODE.

ADDITIONAL SITE DEVELOPMENT PLAN NOTES, SUBJECT TO APPLICABILITY:

1. THIS DEVELOPMENT HAS RECEIVED THE FOLLOWING APPROVALS FROM THE HISTORIC ARCHITECTURAL REVIEW COMMISSION FOR___. (IF APPLICABLE, LIST APPROVALS AND DATES)
2. A (VARIANCE OR SPECIAL EXCEPTION) WAS APPROVED BY THE ZONING BOARD OF ADJUSTMENT ON (DATE) TO ALLOW (DESCRIBE ALLOWANCE) (IF APPLICABLE)
3. A SUBDIVISION VARIANCE WAS APPROVED BY THE PLANNING AND ZONING COMMISSION ON (DATE) TO ALLOW (DESCRIBE ALLOWANCE) (IF APPLICABLE)
4. AN ADMINISTRATIVE EXCEPTION FOR (AN ALTERNATIVE BUILDING PLAN, PARKING PLAN, LANDSCAPE PLAN, COURTHOUSE VIEW OVERLAY DISTRICT, ETC.) WAS APPROVED BY THE PLANNING DIRECTOR ON (DATE) TO ALLOW (DESCRIBE ALLOWANCE) (IF APPLICABLE)
5. ALTERNATIVE IMPERVIOUS COVER STANDARDS HAVE BEEN APPROVED IN ACCORDANCE WITH SECTION 11.02 OF THE UDC FOR _____. (IF APPLICABLE)
6. TRAFFIC IMPACT ANALYSIS (TIA) REQUIREMENTS HAVE BEEN MET. (IF APPLICABLE)
7. SCREENING AND LOCATION OF OUTDOOR STORAGE SHALL COMPLY WITH SECTION 5.09 OF THE UDC. (IF APPLICABLE)
8. THE PROPERTY SUBJECT TO THIS APPLICATION IS SUBJECT TO THE WATER QUALITY REGULATIONS OF THE CITY OF GEORGETOWN. (FOR PROPERTIES LOCATED OVER THE EDWARDS AQUIFER RECHARGE ZONE)
9. A GEOLOGIC ASSESSMENT, IN ACCORDANCE WITH THE CITY OF GEORGETOWN WATER QUALITY REGULATIONS, WAS COMPLETED
10. ON (DATE), ANY SPRINGS AND STREAMS AS IDENTIFIED IN THE GEOLOGIC ASSESSMENT ARE SHOWN HEREIN.

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

GENERAL NOTES

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO.
002
OF 069

PROJECT NUMBER: 2025-___-CON

Plot Date: September 19, 2025 @ 12:15 PM

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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 ABOVE GROUND 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 AQUIFER 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 ORIGINAL WATER POLLUTION ABATEMENT PLAN.

Austin Regional Office
2800 S. IH35, Suite 100
Austin, Texas 78704-5712
Phone (512)339-2929
Fax (512)339-3795

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
ORGANIZED SEWAGE COLLECTION SYSTEM (SCS)
GENERAL CONSTRUCTION NOTES

1. THIS ORGANIZED SEWAGE COLLECTION SYSTEM MUST BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) EDWARDS AQUIFER RULES 30 TEXAS ADMINISTRATIVE CODE (TAC) §213.5(C), THE DESIGN CRITERIA FOR SEWERAGE SYSTEMS 30 TAC §317.1, 30 TAC §317.2, 30 TAC §317.3, AND 30 TAC §317.13, AND THE CITY OF ROUND ROCK STANDARD SPECIFICATIONS.

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROPOSED REGULATED PROJECT MUST BE PROVIDED WITH COPIES OF THE SEWAGE COLLECTION SYSTEM PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS MUST BE REQUIRED TO KEEP ON-SITE COPIES OF THE PLAN AND THE APPROVAL LETTER.

3. PRIOR TO COMMENCING ANY REGULATED ACTIVITY, THE APPLICANT OR HIS AGENT MUST NOTIFY THE AUSTIN REGIONAL OFFICE, IN WRITING, OF THE DATE ON WHICH THE REGULATED ACTIVITY WILL BEGIN.

4. ANY MODIFICATION TO THE ACTIVITIES DESCRIBED IN THE REFERENCED SCS APPLICATION FOLLOWING THE DATE OF APPROVAL MAY REQUIRE THE SUBMITTAL OF AN SCS APPLICATION TO MODIFY THIS APPROVAL, INCLUDING THE PAYMENT OF APPROPRIATE FEES AND ALL INFORMATION NECESSARY FOR ITS REVIEW AND APPROVAL.

5. THE TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE INSTALLED PRIOR TO INITIATING ANY OTHER CONSTRUCTION ACTIVITY AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONSTRUCTION PLANS. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE REMOVED WHEN THE CONSTRUCTION AREA IS STABILIZED.

6. THE SEWER LINE TRENCH DETAILS SHOWING THE CROSS SECTION WITH THE DIMENSIONS, PIPE PLACEMENT, AND BACKFILL INSTRUCTIONS ARE INCLUDED ON PLAN SHEET 9 OF 10 OF THESE PLANS. ALL SEWER PIPES JOINTS MUST MEET THE REQUIREMENTS IN 30 TAC §317.2(a)(3) AND 217.65.

GRAVITY LINES MUST HAVE A SDR 35 OR LESS. PRESSURIZED SEWER SYSTEMS MUST HAVE PIPE WITH A MINIMUM WORKING PRESSURE RATING OF 150 PSI.

THE ASTM, ANSI, OR AWWA SPECIFICATION NUMBERS FOR THE PIPE(S) AND JOINTS ARE ASTM D3034 & ASTM 1477.

THE PIPE MATERIAL, THE PRESSURE CLASSES, AND THE SDR AND/OR DR DESIGNATIONS ARE PVC SDR 26.

7. IF ANY SENSITIVE FEATURES ARE DISCOVERED DURING THE WASTEWATER LINE TRENCHING ACTIVITIES, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE OWNER MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY IN WRITING WITHIN TWO WORKING DAYS OF THE FEATURE DISCOVERED. 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.

8. 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 SIX (6) INCHES.

9. 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.

10. ALL MANHOLES CONSTRUCTED OR REHABILITATED ON THIS PROJECT MUST HAVE WATERTIGHT SIZE ON SIZE RESILIENT CONNECTORS ALLOWING FOR DIFFERENTIAL SETTLEMENT. IF MANHOLES ARE CONSTRUCTED WITHIN THE 100-YEAR FLOODPLAIN, THE COVER MUST HAVE A GASKET AND BE BOLTED TO THE RING. WHERE GASKETED MANHOLE COVERS ARE REQUIRED FOR MORE THAN THREE MANHOLES IN SEQUENCE OR FOR MORE THAN 1500 FEET, ALTERNATE MEANS OF VENTING WILL BE PROVIDED. BRICKS ARE NOT AN ACCEPTABLE CONSTRUCTION MATERIAL FOR ANY PORTION OF THE MANHOLE. THE DIAMETER OF THE MANHOLES MUST BE A MINIMUM OF FOUR FEET AND THE MANHOLE COVERS MUST HAVE A MINIMUM NOMINAL DIAMETER OF TWO FEET. THESE DIMENSIONS AND OTHER DETAILS SHOWING COMPLIANCE WITH THE COMMISSION'S RULES CONCERNING MANHOLES AND SEWER LINE/MANHOLE INVERTS DESCRIBED IN 30 TAC 317.2(C)(5)(E) ARE INCLUDED ON PLAN SHEET OF . IT IS SUGGESTED THAT ENTRANCE INTO MANHOLES IN EXCESS OF FOUR FEET DEEP BE ACCOMPLISHED BY MEANS OF A PORTABLE LADDER. WHERE STEPS ARE USED, THEY SHALL BE MADE OF A NON-CORROSIVE MATERIAL AND BE IN ACCORDANCE WITH APPLICABLE OSHA SPECIFICATIONS.

11. 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 §317.13 (DESIGN OF SEWERAGE SYSTEMS) OR 30 TAC §290.44(E) (WATER HYGIENE).

12. WHERE SEWERS LINES DEVIATE FROM STRAIGHT ALIGNMENT AND UNIFORM GRADE ALL CURVATURE OF SEWER PIPE MUST BE ACHIEVED BY THE FOLLOWING PROCEDURE WHICH IS RECOMMENDED BY THE PIPE MANUFACTURER: N/A.

IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE USED: N/A

SPECIFIC CARE MUST BE TAKEN TO ENSURE THAT THE JOINT IS PLACED IN THE CENTER OF THE TRENCH AND PROPERLY BEDDED IN ACCORDANCE WITH 30 TAC §317.2(a)(5)

13. 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 N/A OF N/A. (FOR POTENTIAL FUTURE LATERALS).

THE PRIVATE SERVICE LATERAL STUB-OUTS MUST BE INSTALLED AS SHOWN ON THE PLAN AND PROFILE SHEETS ON PLAN SHEETS 10-15 OF 37 AND MARKED AFTER BACKFILLING AS SHOWN IN THE DETAIL ON PLAN SHEET N/A OF N/A.

14. TRENCHING, BEDDING AND BACKFILL MUST CONFORM WITH 30 TAC §317.2(a)(1). 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.

15. 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).

16. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH 30 TAC §317.2(A)(4). THE ENGINEER MUST RETAIN COPIES OF ALL TEST RESULTS WHICH MUST BE MADE AVAILABLE TO THE EXECUTIVE DIRECTOR UPON REQUEST. THE ENGINEER MUST CERTIFY IN WRITING THAT ALL WASTEWATER LINES HAVE PASSED ALL REQUIRED TESTING TO THE APPROPRIATE REGIONAL OFFICE WITHIN 30 DAYS OF TEST COMPLETION AND PRIOR TO USE OF THE NEW COLLECTION SYSTEM. TESTING METHOD WILL BE:

A. INFILTRATION OR EXFILTRATION TESTS. THE TOTAL EXFILTRATION AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO FEET ABOVE THE CROWN OF THE PIPE AT THE UPSTREAM MANHOLE. WHEN PIPES ARE INSTALLED BELOW THE GROUNDWATER LEVEL AN INFILTRATION TEST MUST BE USED IN LIEU OF THE EXFILTRATION TEST. THE TOTAL INFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO FEET ABOVE THE CROWN OF THE PIPE AT THE UPSTREAM MANHOLE, OR AT LEAST TWO FEET ABOVE EXISTING GROUNDWATER LEVEL, WHICHEVER IS GREATER. FOR CONSTRUCTION WITHIN THE 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. IF THE QUANTITY OF INFILTRATION OR EXFILTRATION EXCEEDS THE MAXIMUM QUANTITY SPECIFIED, REMEDIAL ACTION MUST BE UNDERTAKEN IN ORDER TO REDUCE THE INFILTRATION OR EXFILTRATION TO AN AMOUNT WITHIN THE LIMITS SPECIFIED.

B. LOW PRESSURE AIR TEST. THE PROCEDURE FOR THE LOW PRESSURE AIR TEST MUST CONFORM TO THE PROCEDURES DESCRIBED IN ASTM C-828, ASTM C-924, ASTM F-1417 OR OTHER APPROPRIATE PROCEDURES, EXCEPT FOR TESTING TIMES. THE TEST TIMES MUST BE AS OUTLINED IN THIS SECTION. FOR SECTIONS OF PIPE LESS THAN 36-INCH AVERAGE INSIDE DIAMETER, THE FOLLOWING PROCEDURE MUST APPLY UNLESS THE PIPE IS TO BE JOINT TESTED. THE PIPE MUST BE PRESSURIZED TO 3.5 PSI GREATER THAN THE PRESSURE EXERTED BY GROUNDWATER ABOVE THE PIPE. ONCE THE PRESSURE IS STABILIZED, THE MINIMUM TIME ALLOWABLE FOR THE PRESSURE TO DROP FROM 3.5 POUNDS PER SQUARE INCH GAUGE TO 2.5 POUNDS PER SQUARE INCH GAUGE MUST BE COMPUTED FROM THE FOLLOWING EQUATION:

T=(0.85)(D)(K)/Q

WHERE:

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

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

Pipe Diameter *(inches)*	Minimum Time *(seconds)*	Maximum Length for Minimum Time *(feet)*	Time for Longer Length *(seconds/foot)*
6	340	398	0.856
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

THE TEST MAY BE STOPPED IF NO PRESSURE LOSS HAS OCCURRED DURING THE FIRST 25% OF THE CALCULATED TESTING TIME. IF ANY PRESSURE LOSS OR LEAKAGE HAS OCCURRED DURING THE FIRST 25% OF THE TESTING PERIOD, THEN THE TEST MUST CONTINUE FOR THE ENTIRE TEST DURATION AS OUTLINED ABOVE OR UNTIL FAILURE. LINES WITH A 27-INCH AVERAGE INSIDE DIAMETER AND LARGER MAY BE AIR TESTED AT EACH JOINT. PIPE GREATER THAN 36 INCH DIAMETER MUST BE TESTED FOR LEAKAGE AT EACH JOINT. IF THE JOINT TEST IS USED, A VISUAL INSPECTION OF THE JOINT MUST BE PERFORMED IMMEDIATELY AFTER TESTING. THE PIPE IS TO BE PRESSURIZED TO 3.5 PSI GREATER THAN THE PRESSURE EXERTED BY GROUNDWATER ABOVE THE PIPE. ONCE THE PRESSURE HAS STABILIZED, THE MINIMUM TIME ALLOWABLE FOR THE PRESSURE TO DROP FROM 3.5 POUNDS PER SQUARE INCH GAUGE TO 2.5 POUNDS PER SQUARE INCH GAUGE MUST BE 10 SECONDS.

C. DEFLECTION TESTING. DEFLECTION TESTS MUST BE PERFORMED ON ALL FLEXIBLE PIPES. FOR PIPELINES WITH INSIDE DIAMETERS LESS THAN 27 INCHES, A RIGID MANDREL MUST BE USED TO MEASURE DEFLECTION. FOR PIPELINES WITH AN INSIDE DIAMETER OF 27 INCHES AND GREATER, A METHOD APPROVED BY THE EXECUTIVE DIRECTOR MUST BE USED TO TEST FOR VERTICAL DEFLECTIONS. OTHER METHODS MUST PROVIDE A PRECISION OF ± TWO TENTHS OF ONE PERCENT (0.2 %) DEFLECTION. THE TEST MUST BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. NO PIPE WILL EXCEED A DEFLECTION OF FIVE PERCENT. IF A PIPE SHOULD FAIL TO PASS THE DEFLECTION TEST, THE PROBLEM MUST BE CORRECTED AND A SECOND TEST TCEQ-0596 (REV. 10/01/04) PAGE 5 OF 5 MUST BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AN ADDITIONAL 30 DAYS. THE TESTS MUST BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES. THE DESIGN ENGINEER SHOULD RECOGNIZE THAT THIS IS A MAXIMUM DEFLECTION CRITERION FOR ALL PIPES AND A DEFLECTION TEST LESS THAN FIVE PERCENT MAY BE MORE APPROPRIATE FOR SPECIFIC TYPES AND SIZES OF PIPE. UPON COMPLETION OF CONSTRUCTION, THE DESIGN ENGINEER OR OTHER TEXAS LICENSED PROFESSIONAL ENGINEER APPOINTED BY THE OWNER MUST CERTIFY, TO THE EXECUTIVE DIRECTOR, THAT THE ENTIRE INSTALLATION HAS PASSED THE DEFLECTION TEST. THIS CERTIFICATION MAY BE MADE IN CONJUNCTION WITH THE NOTICE OF COMPLETION REQUIRED IN §317.1(E)(1) OF THIS TITLE (RELATING TO GENERAL PROVISIONS). THIS CERTIFICATION MUST BE PROVIDED FOR THE COMMISSION TO CONSIDER THE REQUIREMENTS OF THE APPROVAL TO HAVE BEEN MET.
(I) THE RIGID MANDREL SHALL HAVE AN OUTSIDE DIAMETER (O.D.) EQUAL TO 95% OF THE INSIDE DIAMETER (I.D.) OF THE PIPE. THE INSIDE DIAMETER OF THE PIPE, FOR THE PURPOSE OF DETERMINING THE OUTSIDE DIAMETER OF THE MANDREL, SHALL BE THE AVERAGE OUTSIDE DIAMETER MINUS TWO MINIMUM WALL THICKNESSES FOR O.D. CONTROLLED PIPE AND THE AVERAGE INSIDE DIAMETER FOR I.D. CONTROLLED PIPE, ALL DIMENSIONS SHALL BE PER APPROPRIATE STANDARD. STATISTICAL OR OTHER "TOLERANCE PACKAGES" SHALL NOT BE CONSIDERED IN MANDREL SIZING.

(II) THE RIGID MANDREL SHALL BE CONSTRUCTED OF A METAL OR A RIGID PLASTIC MATERIAL THAT CAN WITHSTAND 200 PSI WITHOUT BEING DEFORMED. THE MANDREL SHALL HAVE NINE OR MORE "RUNNERS" OR "LEGS" AS LONG AS THE TOTAL NUMBER OF LEGS IS AN ODD NUMBER. THE BARREL SECTION OF THE MANDREL SHALL HAVE A LENGTH OF AT LEAST 75% OF THE INSIDE DIAMETER OF THE PIPE. A PROVING RING SHALL BE PROVIDED AND USED FOR EACH SIZE MANDREL IN USE.

(III) ADJUSTABLE OR FLEXIBLE MANDRELS ARE PROHIBITED. A TELEVISION INSPECTION IS NOT A SUBSTITUTE FOR THE DEFLECTION TEST. A DEFLECTOMETER MAY BE APPROVED FOR USE ON A CASE BY CASE BASIS. MANDRELS WITH REMOVABLE LEGS OR RUNNERS MAY BE ACCEPTED ON A CASE BY CASE BASIS.

17. ALL MANHOLES MUST BE TESTED TO MEET OR EXCEED THE REQUIREMENTS OF 30 TAC §317.2(C)(5)(H).

18. 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.

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY–560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

TCEQ NOTES

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

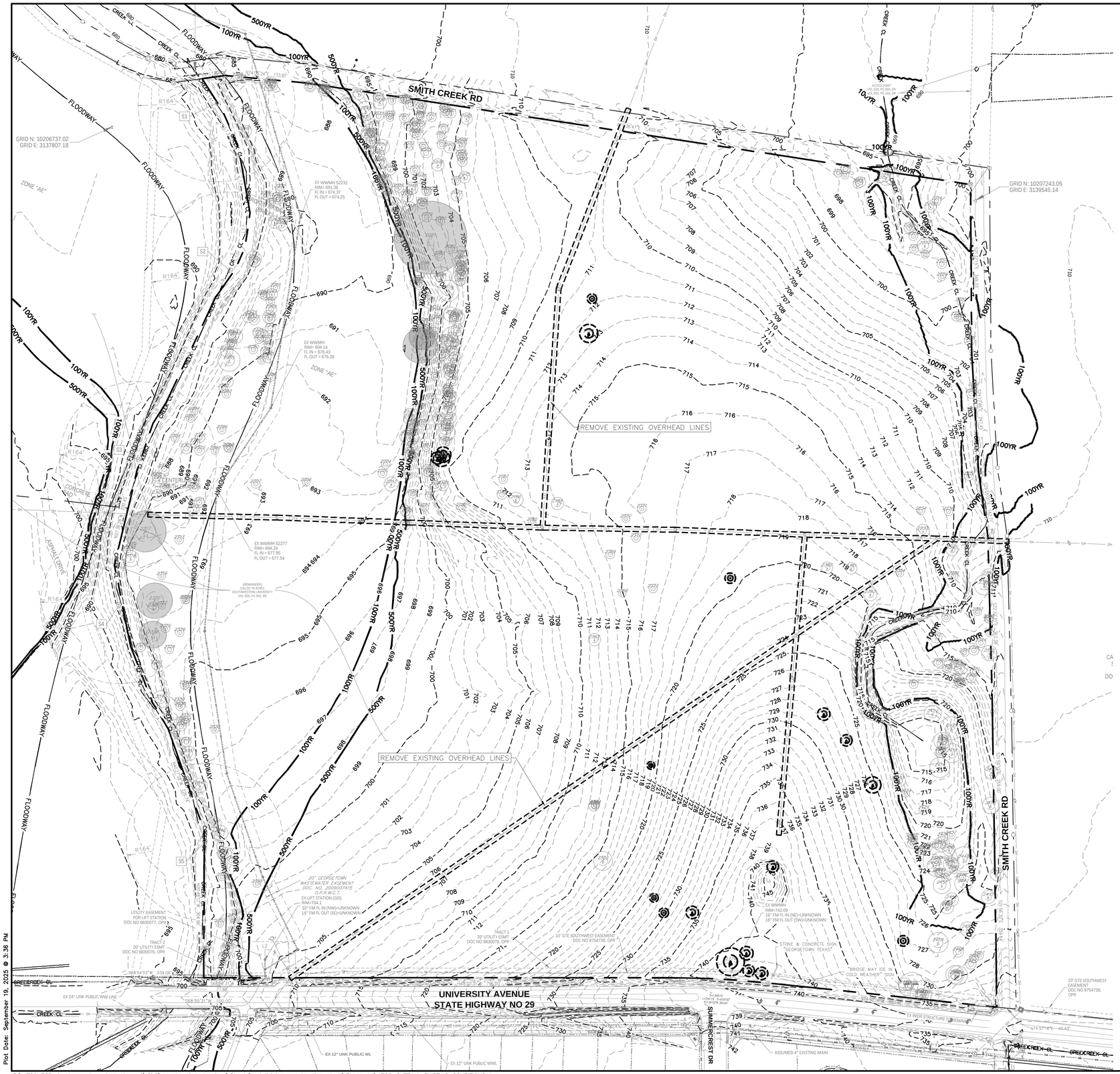
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 003 OF 069

Plot Date: September 19, 2025 @ 12:15 PM

P:\a799 560 development – dma stage 1\Civil\construction drawings\Sheets\subdivision construction plans\Phase 1A\A799_TCEQ NOTES.dwg

PROJECT NUMBER: 2025-___-CON



LINE TABLE		
LINE #	DIRECTION	LENGTH
L1	N21°04'29"W	75.00'
L2	S68°55'31"W	100.00'
L3	N51°30'23"W	65.84'
L4	N42°32'02"W	124.49'
L5	N32°15'06"W	173.82'
L6	N02°35'22"W	105.98'
L7	N11°16'53"E	51.97'
L8	N13°38'23"E	73.47'
L9	N03°04'37"E	51.24'
L10	N13°19'40"W	72.10'
L11	N31°00'39"W	135.95'
L12	N44°16'00"W	85.61'
L13	N53°22'14"W	79.82'
L14	N61°06'26"E	47.21'
L15	N79°51'53"E	54.83'
L16	S81°06'26"W	60.69'
L17	S79°58'41"W	67.96'
L18	N61°05'15"E	105.87'
L19	S21°04'29"E	75.00'

NOTES:

1. EXISTING CONDITIONS SURVEY PREPARED BY STEGER BIZZELL - ISSUED 10-14-2024.
2. WHERE TREE PROTECTION FENCING CANNOT BE INSTALLED AROUND THE FULL CRZ, PLACE FENCING AT THE 1/2 CRZ AND ADD 8" OF HARDWOOD MULCH FROM THE 1/2 CRZ TO THE FULL CRZ.
3. THE SIZE AND LOCATION OF UTILITY STRUCTURES, (IF SHOWN), MAY BE EXAGGERATED FOR GRAPHICAL CLARITY. THE SURVEY SHOWS FIELD MEASURED SIZES AND DEPTHS AS OBSERVED FROM GROUND LEVEL OPENINGS.
4. THIS PLAN WAS PREPARED WITHOUT THE BENEFIT OF A DESIGN SURVEY. UTILITIES SHOWN WERE LOCATED USING CITY MAPS. LOCATIONS OF EXISTING UTILITIES, SOME OF WHICH MAY NOT BE SHOWN, COULD IMPACT CONSTRUCTION MEANS AND METHODS.
5. GAS MAIN SIZE TO BE VERIFIED WITH ATMOS ENEGERGY

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- 512 EXISTING CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- EXISTING BUILDING
- SD STORM DRAIN LINE
- W WATER LINE
- WW WASTEWATER LINE
- OH OVERHEAD ELECTRIC
- GAS GAS LINE
- FM FORCEMAIN LINE
- FP FLOODPLAIN
- 100YR FEMA FLOODPLAIN-100-YR
- 500YR FEMA FLOODPLAIN-500-YR
- ATLAS 14 ATLAS 14 FLOODPLAIN-100-YR
- CREEK CL CREEK CENTERLINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WW WASTEWATER MANHOLE
- CO WASTEWATER CLEANOUT
- BFP BACKFLOW PREVENTER
- D STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- STORM DRAIN AREA INLET
- T TRANSFORMER
- AC AIR CONDITIONER UNIT
- GM GAS METER
- EM ELECTRIC MANHOLE
- E ELECTRIC BOX
- UTILITY POLE
- GUY WIRE
- SIGN
- SURVEY ROD/NAIL
- BENCHMARK
- TAG# TREE W/ TAG
- TAG# TREE - REMOVE
- TAG# H HERITAGE TREE W/TAG
- TAG# P PROTECTED TREE W/TAG
- SX SPRING BUFFER
- DEMOLITION AREA

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

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY–560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

OVERALL EXISTING CONDITIONS & DEMOLITION PLAN

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 004 OF 069

PROJECT NUMBER: 2025-____-CON

Plot Date: September 19, 2025 @ 3:36 PM

P:\a799 560 development – dma stage 1\Civil\construction drawings\Sheets\subdivision construction plans\Phase 1A\A799_OVERALL EXISTING CONDITIONS.dwg

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- BENCHMARK
- SURVEY ROD/NAIL
- TAG# — TREE W/ TAG
- TAG# — TREE - REMOVE
- TP — TREE PROTECTION FENCE
- MS — MULCH SOCK
- LOC — LIMIT OF CONSTRUCTION
- SILT FENCE
- FD — FILTER DIKE
- FP — FLOODPLAIN
- 100YR — FEMA FLOODPLAIN-100-YR
- FEMA FLOODPLAIN-500-YR
- ATLAS 14 — ATLAS 14 FLOODPLAIN-100-YR
- CREEK CL — CREEK CENTERLINE
- ROCK BERM
- POND SKIMMER
- SCE — STABILIZED CONSTRUCTION ENTRANCE
- PUBLIC OPEN SPACE

NOTES:

1. LIMITS OF CONSTRUCTION: ±40 ACRES
2. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP OR REVEGETATION MATTING.
3. ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN COMPLIANCE WITH THE CITY OF AUSTIN RULES AND REGULATIONS
4. CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURES DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING AS PER ECM 1.4.5(A), OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
5. THE CONTRACTOR WILL CLEAN UP SPOILS THAT MIGRATE ONTO THE ROADS A MINIMUM OF ONCE DAILY.
6. WHERE TREE PROTECTION FENCING CANNOT BE INSTALLED AROUND THE FULL CRZ, PLACE FENCING AT THE 1/2 CRZ AND ADD 8" OF HARDWOOD MULCH FROM THE 1/2 CRZ TO THE FULL CRZ.
7. SEE EXISTING CONDITIONS SHEET FOR TREE SURVEY.
8. CONTRACTOR MUST PICK UP AND DISPOSE OF ALL SEDIMENT CONTROLS, INCLUDING SILT FENCE, ONCE PERMANENT EROSION CONTROLS MEASURES ARE ESTABLISHED.

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

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

OVERALL EROSION CONTROL & TREE PRESERVATION PLAN

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 005 OF 069

PROJECT NUMBER: 2025-____-CON

Plot Date: September 19, 2025 @ 3:37 PM

P:\a799 560 development - dma stage 1\Civil\construction drawings\Sheets\subdivision construction plans\Phase 1A\A799_OVERALL EROSION-SEDIMENTATION CONTROL.dwg

TREE LIST	
TAG #	Description
2001	10in CEDAR ELM
2002	9in CEDAR ELM
2003	9in CEDAR ELM
2004	9in CEDAR ELM
2005	12in (P) CEDAR ELM
2006	9in CEDAR ELM
2007	12in (P) CEDAR ELM
2008	10in CEDAR ELM
2009	10in CEDAR ELM
2010	10in CEDAR ELM
2011	12in (P) CEDAR ELM
2012	9in (M) CEDAR ELM
2013	8in CEDAR ELM
2014	10in CEDAR ELM
2015	10in (M) CEDAR ELM
2016	8in CEDAR ELM
2017	8in (M) CEDAR ELM
2018	11in (M) CEDAR ELM
2019	8in CEDAR ELM
2020	11in (M) CEDAR ELM
2021	11in (M) CEDAR ELM
2022	8in CEDAR ELM
2023	10in (M) CEDAR ELM
2024	9in (M) CEDAR ELM
2025	10in (M) CEDAR ELM
2026	8in CEDAR ELM
2027	10in (M) CEDAR ELM
2028	9in CEDAR ELM
2029	9in CEDAR ELM
2030	11in (M) CEDAR ELM
2031	9in CEDAR ELM
2032	11in CEDAR ELM
2033	9in CEDAR ELM
2034	8in CEDAR ELM
2035	8in CEDAR ELM
2036	8in CEDAR ELM
2037	10in CEDAR ELM
2038	14in (M)(P) CEDAR ELM
2039	10in CEDAR ELM
2040	12in (P) CEDAR ELM
2041	14in (P) MESQUITE
2042	20in (P) CEDAR ELM
2043	14in (P) CEDAR ELM
2044	10in CEDAR ELM
2045	9in CEDAR ELM
2046	12in (P) CEDAR ELM
2047	13in (P) CEDAR ELM
2048	19in (M)(P) CEDAR ELM
2049	17in (M)(P) CEDAR ELM
2050	16in (M)(P) CEDAR ELM
2051	12in (M)(P) CEDAR ELM
2052	13in (M)(P) CEDAR ELM
2053	10in (M) CEDAR ELM
2054	12in (M)(P) CEDAR ELM
2055	9in (M) CEDAR ELM
2056	13in (M)(P) CEDAR ELM
2057	8in CEDAR ELM
2058	12in (P) CEDAR ELM
2059	9in CEDAR ELM
2060	9in CEDAR ELM

TREE LIST	
TAG #	Description
2061	12in (P) CEDAR ELM
2062	21in (M)(P) CEDAR ELM
2063	9in CEDAR ELM
2064	9in CEDAR ELM
2065	19in (P) CEDAR ELM
2066	15in (P) CEDAR ELM
2067	11in CEDAR ELM
2068	13in (M)(P) CEDAR ELM
2069	11in (M) CEDAR ELM
2070	8in (M) CEDAR ELM
2071	9in CEDAR ELM
2072	8in CEDAR ELM
2073	12in (P) CEDAR ELM
2074	9in CEDAR ELM
2075	12in (P) CEDAR ELM
2076	13in (P) CEDAR ELM
2077	10in (M) CEDAR ELM
2078	12in (M)(P) CEDAR ELM
2079	10in CEDAR ELM
2080	9in CEDAR ELM
2081	76in (M)(H) CEDAR ELM
2082	9in CEDAR ELM
2083	10in CEDAR ELM
2084	17in (M)(P) CEDAR ELM
2085	12in (P) CEDAR ELM
2086	9in CEDAR ELM
2087	10in CEDAR ELM
2088	12in (P) CEDAR ELM
2089	10in CEDAR ELM
2090	13in (M)(P) CEDAR ELM
2091	9in CEDAR ELM
2092	16in (M)(P) CEDAR ELM
2093	8in CEDAR ELM
2094	22in (M)(P) CEDAR ELM
2095	8in CEDAR ELM
2096	8in CEDAR ELM
2097	8in CEDAR ELM
2098	8in CEDAR ELM
2099	10in CEDAR ELM
2100	9in (M) CEDAR ELM
2101	11in CEDAR ELM
2102	12in (P) CEDAR ELM
2103	13in (P) CEDAR ELM
2104	13in (P) LIVE OAK
2105	9in (M) CEDAR ELM
2106	10in CEDAR ELM
2107	10in CEDAR ELM
2108	13in (P) CEDAR ELM
2109	27in (H) CEDAR ELM DISTRESSED
2110	10in CEDAR ELM
2111	10in (M) CEDAR ELM
2112	13in (M)(P) CEDAR ELM
2113	9in CEDAR ELM
2114	10in (M) CEDAR ELM
2115	15in (M)(P) CEDAR ELM
2116	13in (P) CEDAR ELM
2117	16in (P) CEDAR ELM
2118	22in (P) CEDAR ELM DISTRESSED
2119	21in (P) CEDAR ELM
2120	10in CEDAR ELM

TREE LIST	
TAG #	Description
2121	12in (P) CEDAR ELM
2122	12in (P) CEDAR ELM
2123	12in (P) CEDAR ELM
2124	11in CEDAR ELM
2125	11in CEDAR ELM
2126	11in (M) CEDAR ELM
2127	9in CEDAR ELM
2128	9in CEDAR ELM
2129	14in (M)(P) CEDAR ELM
2130	15in (M)(P) CEDAR ELM
2131	36in (M)(H) CEDAR ELM
2132	11in (M) CEDAR ELM
2133	14in (P) CEDAR ELM
2134	9in CEDAR ELM
2135	11in (M) CEDAR ELM
2136	15in (P) CEDAR ELM
2137	8in CEDAR ELM
2138	11in CEDAR ELM
2139	10in (M) CEDAR ELM
2140	10in (M) CEDAR ELM
2141	10in CEDAR ELM
2142	10in CEDAR ELM
2143	9in CEDAR ELM
2144	13in (P) CEDAR ELM
2145	13in (P) CEDAR ELM
2146	9in (M) CEDAR ELM
2147	8in CEDAR ELM
2148	11in CEDAR ELM
2149	18in (M)(P) CEDAR ELM
2150	13in (P) CEDAR ELM
2151	12in (M)(P) CEDAR ELM
2152	13in (P) CEDAR ELM
2153	15in (P) CEDAR ELM
2154	9in (M) CEDAR ELM
2155	8in CEDAR ELM
2156	18in (M)(P) CEDAR ELM
2157	11in (M) CEDAR ELM
2158	8in CEDAR ELM
~~2159~~	~~16in (M)(P) CEDAR ELM~~
~~2160~~	~~17in (P) CEDAR ELM~~
~~2161~~	~~9in CEDAR ELM~~
2162	8in (M) CEDAR ELM
2163	8in MESQUITE
2164	10in CEDAR ELM
2165	11in (M) CEDAR ELM
2166	13in (P) CEDAR ELM
2167	11in (M) CEDAR ELM
2168	13in (M)(P) CEDAR ELM
2169	18in (M)(P) CEDAR ELM
2170	8in CEDAR ELM
2171	8in CEDAR ELM
2172	8in CEDAR ELM
2173	9in CEDAR ELM
2174	8in CEDAR ELM
2175	12in CEDAR ELM
2176	12in (M)(P) CEDAR ELM
2177	12in (M)(P) CEDAR ELM
2178	8in CEDAR ELM
2179	10in CEDAR ELM
2180	11in (M) CEDAR ELM

TREE LIST	
TAG #	Description
2181	8in CEDAR ELM
~~2182~~	~~10in GUM BUMELIA~~
~~2183~~	~~19in (P) CEDAR ELM~~
2184	13in (P) CEDAR ELM
2185	8in CEDAR ELM
2186	15in (M)(P) MESQUITE
2187	9in CEDAR ELM
2188	10in LIVE OAK
2189	9in CEDAR ELM
2190	11in (M) CEDAR ELM
2191	11in LIVE OAK
2192	9in CEDAR ELM
2193	8in CEDAR ELM
2194	11in CEDAR ELM
2195	11in CEDAR ELM
2196	11in (M) CEDAR ELM
2197	9in CEDAR ELM
2198	9in LIVE OAK
2199	9in CEDAR ELM
2200	12in (M)(P) CEDAR ELM
~~2201~~	~~13in (M)(P) CEDAR ELM~~
2202	8in CEDAR ELM
2203	15in (P) LIVE OAK
2204	9in (M) CEDAR ELM
2205	9in CEDAR ELM
2206	8in CEDAR ELM
2207	9in CEDAR ELM
2208	10in GUM BUMELIA
2209	8in CEDAR ELM
2210	8in CEDAR ELM
2211	11in CEDAR ELM
2212	10in CEDAR ELM
2213	16in (M)(P) GUM BUMELIA
2214	9in (M) CEDAR ELM
2215	12in (M)(P) GUM BUMELIA
2216	10in CEDAR ELM
2217	8in CEDAR ELM
2218	11in (M) CEDAR ELM
2219	9in CEDAR ELM
2220	16in (P) CEDAR ELM
2221	9in CEDAR ELM
2222	8in CEDAR ELM
2223	10in CEDAR ELM
2224	8in CEDAR ELM
2225	8in AMERICAN ELM
2226	10in AMERICAN ELM
2227	8in AMERICAN ELM
2228	11in AMERICAN ELM
2229	8in (M) AMERICAN ELM
2230	10in (M) AMERICAN ELM
2231	9in (M) LIVE OAK
2232	9in LIVE OAK
2233	14in (M)(P) CEDAR ELM
2234	8in LIVE OAK
2235	9in LIVE OAK
2236	9in CEDAR ELM
2237	12in (P) CEDAR ELM
2238	10in CEDAR ELM
2239	10in CEDAR ELM
2240	9in CEDAR ELM

TREE LIST	
TAG #	Description
2241	11in CEDAR ELM
2242	10in CEDAR ELM
2243	8in CEDAR ELM
2244	13in (P) CEDAR ELM
2245	14in (M) (P) CEDAR ELM
2246	12in (P) CEDAR ELM
2247	8in CEDAR ELM
2248	9in (M) CEDAR ELM
2249	10in (M) CEDAR ELM
2250	9in CEDAR ELM
2251	12in (M)(P) CEDAR ELM
2252	9in CEDAR ELM
2253	10in GUM BUMELIA
2254	10in (M) GUM BUMELIA
2255	8in GUM BUMELIA
2256	9in (M) GUM BUMELIA
2257	12in (P) CEDAR ELM
2258	8in CEDAR ELM
2259	12in (P) CEDAR ELM
2260	13in (P) GUM BUMELIA
2261	12in (P) CEDAR ELM
2262	9in CEDAR ELM
2263	9in CEDAR ELM
2264	9in (M) CEDAR ELM
2265	9in CEDAR ELM
2266	12in (P) CEDAR ELM
2267	16in (P) CEDAR ELM
2268	11in CEDAR ELM
2269	14in (M)(P) CEDAR ELM
2270	10in CEDAR ELM
2271	11in CEDAR ELM
2272	11in CEDAR ELM
2273	11in (M) CEDAR ELM
2274	12in (M)(P) CEDAR ELM
2275	11in CEDAR ELM
2276	9in CEDAR ELM
2277	12in (P) CEDAR ELM
2278	9in CEDAR ELM
2279	8in CEDAR ELM
2280	9in CEDAR ELM
2281	10in CEDAR ELM
2282	13in (P) CEDAR ELM
2283	8in CEDAR ELM
2284	9in CEDAR ELM
2285	23in (M)(P) CEDAR ELM
2286	13in (P) CEDAR ELM
2287	8in CEDAR ELM
2288	10in (M) CEDAR ELM
2289	15in (M)(P) CEDAR ELM
2290	8in (M) CEDAR ELM
2291	12in (P) CEDAR ELM
2292	9in (M) CEDAR ELM
2293	9in CEDAR ELM
2294	8in GUM BUMELIA
2295	8in CEDAR ELM
2296	9in GUM BUMELIA
2297	9in CEDAR ELM
2298	9in CEDAR ELM
2299	8in CEDAR ELM
2300	10in CEDAR ELM

TREE LIST	
TAG #	Description
2301	10in CEDAR ELM
2302	10in CEDAR ELM
2303	11in CEDAR ELM
2304	8in CEDAR ELM
2305	11in CEDAR ELM
2306	9in CEDAR ELM
2307	15in (P) CEDAR ELM
2308	9in (M) CEDAR ELM
2309	12in (P) CEDAR ELM
2310	10in CEDAR ELM
2311	11in GUM BUMELIA
2312	12in (P) GUM BUMELIA
2313	9in GUM BUMELIA
2314	52in (H) LIVE OAK
2315	8in CEDAR ELM
2316	10in GUM BUMELIA
2317	43in (H) LIVE OAK
2318	17in (P) CEDAR ELM
2319	8in CEDAR ELM
2320	37in (M) (H) LIVE OAK
2321	12in (P) LIVE OAK
2322	8in GUM BUMELIA
2323	9in CEDAR ELM
2324	8in CEDAR ELM
2325	9in CEDAR ELM
2326	28in (H) LIVE OAK DISTRESSED
2327	9in TEXAS ASH
2328	9in CEDAR ELM DISTRESSED
2329	9in (M) CEDAR ELM DISTRESSED
2330	8in (M) CEDAR ELM
2331	15in (P) CEDAR ELM
2332	10in CEDAR ELM
2333	8in TEXAS ASH
2334	10in CEDAR ELM
2335	8in CEDAR ELM
2336	8in CEDAR ELM
2337	10in CEDAR ELM
2338	9in CEDAR ELM
2339	9in (M) CEDAR ELM
2340	18in (M)(P) TEXAS ASH
2341	9in CEDAR ELM
2342	9in (M) CEDAR ELM
2343	10in (M) CEDAR ELM
2344	15in (P) CEDAR ELM
2345	15in (P) CEDAR ELM
2346	16in (M)(P) CEDAR ELM
2347	11in CEDAR ELM
2348	9in CEDAR ELM
2349	9in CEDAR ELM
2350	8in CEDAR ELM
2351	8in CEDAR ELM
2352	8in CEDAR ELM DISTRESSED
2353	11in CEDAR ELM
2354	13in (P) CEDAR ELM
2355	11in CEDAR ELM
2356	8in TEXAS ASH
2357	10in (M) CEDAR ELM
2358	8in (M) CEDAR ELM
~~2359~~	~~9in (M) MESQUITE~~
~~2360~~	~~10in (M) MESQUITE~~

TREE LIST	
TAG #	Description
~~2361~~	~~13in (M)(P) MESQUITE~~
2362	20in (M)(P) CEDAR ELM
2363	9in (M) GUM BUMELIA
2364	8in (M) GUM BUMELIA
2365	11in (M) GUM BUMELIA
~~2366~~	~~8in CEDAR ELM~~
2367	13in (M)(P) CEDAR ELM
2368	8in (M) CEDAR ELM
2369	9in (M) CEDAR ELM
2370	8in (M) CEDAR ELM
2371	9in (M) MESQUITE
2372	9in (M) CEDAR ELM
2373	9in (M) CEDAR ELM
~~2374~~	~~29in (M)(P) MESQUITE~~
~~2375~~	~~12in (M)(P) MESQUITE~~
~~2376~~	~~13in (M)(P) MESQUITE~~
~~2377~~	~~14in (M)(P) MESQUITE~~
~~2378~~	~~12in (M)(P) GUM BUMELIA~~
~~2379~~	~~11in CEDAR ELM~~
2380	12in (M)(P) CEDAR ELM
2381	16in (M)(P) CEDAR ELM
~~2382~~	~~13in (M)(P) CEDAR ELM~~
2383	21in (M)(P) CEDAR ELM
2384	8in CEDAR ELM
2385	16in (P) CEDAR ELM
2386	9in (M) CEDAR ELM
2387	12in (M)(P) CEDAR ELM
2388	9in (M) CEDAR ELM
2389	14in (M)(P) AMERICAN ELM
2390	9in LIVE OAK
2391	8in LIVE OAK
2392	8in CEDAR ELM
2393	8in AMERICAN ELM
2394	10in AMERICAN ELM
2395	16in (P) AMERICAN ELM
2396	10in CEDAR ELM
2397	8in CEDAR ELM
2398	11in CEDAR ELM
2399	14in (M)(P) CEDAR ELM
2400	10in CEDAR ELM
2401	9in CEDAR ELM
2402	9in (M) CEDAR ELM
2403	8in (M) CEDAR ELM
2404	8in (M) CEDAR ELM
2405	8in (M) CEDAR ELM
2406	9in CEDAR ELM
2407	13in (M)(P) CEDAR ELM
2408	9in CEDAR ELM
2409	9in (M) CEDAR ELM
2410	26in (H) CEDAR ELM
2411	9in (M) CEDAR ELM
2412	12in (P) CEDAR ELM
2413	14in (P) CEDAR ELM
2414	21in (M)(P) WILLOW
2415	11in (M) WILLOW
2416	9in (M) WILLOW
2417	20in (M)(P) WILLOW
2418	12in (P) WILLOW
2419	18in (M)(P) WILLOW
2420	10in WILLOW

TREE LIST	
TAG #	Description
2421	24in (M)(P) WILLOW
2422	18in (M)(P) WILLOW
2423	14in (M)(P) TEXAS ASH
2424	8in CEDAR ELM
~~2425~~	~~17in (M)(P) CEDAR ELM~~
~~2426~~	~~12in (M)(P) GUM BUMELIA~~
2427	10in WILLOW
2428	8in TEXAS ASH
2429	8in TEXAS ASH
2430	10in (M) TEXAS ASH
2431	9in TEXAS ASH
2432	10in TEXAS ASH
2433	9in (M) TEXAS ASH
2434	8in TEXAS ASH
2435	16in (M)(P) TEXAS ASH
2436	10in (M) TEXAS ASH
2437	8in TEXAS ASH
2438	13in (M)(P) TEXAS ASH
2439	8in TEXAS ASH
2440	16in (M)(P) TEXAS ASH
2441	36in (P) COTTON WOOD
2442	10in TEXAS ASH
2443	13in (P) TEXAS ASH
2444	8in TEXAS ASH
2445	8in TEXAS ASH
2446	9in (M) TEXAS ASH
2447	18in (M)(P) TEXAS ASH
2448	26in (P) WILLOW DISTRESSED
2449	10in (M) TEXAS ASH
2450	8in TEXAS ASH
2451	18in (M)(P) TEXAS ASH
2452	14in (M)(P) TEXAS ASH
2453	8in TEXAS ASH
2454	14in (M)(P) TEXAS ASH
~~2455~~	~~11in (M) CEDAR ELM~~
2456	14in (M)(P) GUM BUMELIA
2457	9in (M) GUM BUMELIA
2458	27in (M)(P) GUM BUMELIA
2459	30in (M)(P) WILLOW
2460	13in (P) WILLOW
2461	12in (M)(P) WILLOW
2462	19in (P) WILLOW
2463	12in (P) WILLOW
2464	20in (P) WILLOW
2465	11in MULBERRY
2466	9in TEXAS ASH
2467	9in TEXAS ASH
2468	11in (M) TEXAS ASH
2469	21in (P) WILLOW
2470	15in (M)(P) WILLOW
2471	14in (P) WILLOW DISTRESSED
2472	14in (M)(P) TEXAS ASH
2473	17in (P) CEDAR ELM

LEGEND

(M)	MULTI-TRUNK TREE
(P)	PROTECTED TREE
(H)	HERITAGE TREE

NOTES:
1. TREE SURVEY PREPARED BY STEGER - BIZZELL ENGINEERING INC. ON 09/04/2024

2. ANY TREE LISTED AS TO BE REMOVED ARE TO BE REMOVED WITH INFRASTRUCTURE CONSTRUCTION PLAN SUBMITTAL.

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

TREE LIST

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED
PROFESSIONAL ENGINEER

SHEET NO.
006
OF 069

Plot Date: September 19, 2025 @ 3:38 PM

P:\a799 560 development - dma stage 1\Civil\construction drawings\Sheets\subdivision construction plans\Phase 1A\A799_TREE PRESERVATION PLAN AND LIST.dwg

PROJECT NUMBER: 2025-___-CON

LEGEND

BOUNDARY / RIGHT OF WAY
EASEMENT / SETBACK
CURB / EDGE OF PAVEMENT
ACCESSIBLE ROUTE (ADA)
FIRE LANE STRIPING
RETAINING / SCREENING WALL
BUILDING PAD AREA
PAVEMENT / ASPHALT
PAVEMENT / CONCRETE
SD — STORM DRAIN LINE
W — WATER LINE
WW — WASTEWATER LINE
FM — FORCEMAIN LINE
FP — FLOODPLAIN
100YR — FEMA FLOODPLAIN-100-YR
500YR — FEMA FLOODPLAIN-500-YR
ATLAS 14 — ATLAS 14 FLOODPLAIN-100-YR
CREEK CL — CREEK CENTERLINE
WATER METER
WATER VALVE
FIRE HYDRANT
WW — WASTEWATER MANHOLE
CO — WASTEWATER CLEANOUT
BFP — BACKFLOW PREVENTER
D — STORM DRAIN MANHOLE
STORM DRAIN CURB INLET
STORM DRAIN AREA INLET
T — TRANSFORMER
AC — AIR CONDITIONER UNIT
UTILITY POLE
GUY WIRE
D — DUMPSTER
SIGN
BICYCLE RACK
PARKING BUMPER
ACCESSIBLE PARKING (ADA)
CROSSWALK
SX — SPRING BUFFER

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

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

OVERALL ROADWAY & PAVEMENT PLAN

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4
PHONE 512 761 6161
AUSTIN, TX 78752
FAX 512 761 6167
FIRM REG # F12469
INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

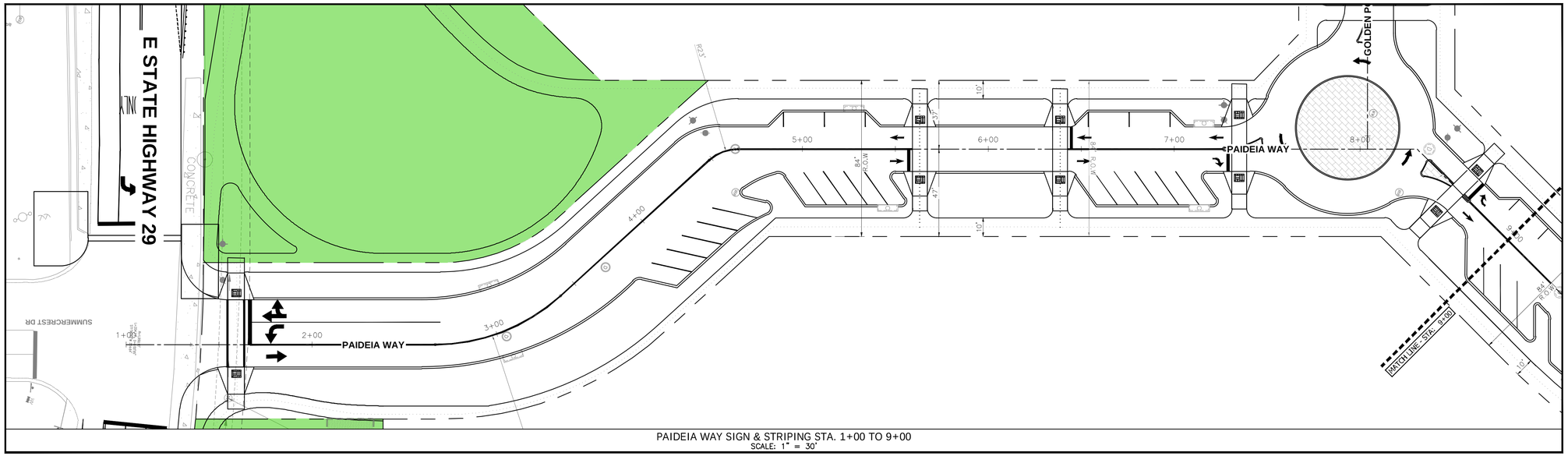
9-19-2025
JORDAN L. MILLER
124884
Jordan L. Miller

SHEET NO.
007
OF 069

Plot Date: September 19, 2025 @ 12:18 PM

P:\a799 560 development - dma stage 1\Civil\construction drawings\Sheets\subdivision construction plans\Phase 1A\A799_OVERALL ROADWAY AND PHASING PLAN.dwg

PROJECT NUMBER: 2025-___-CON

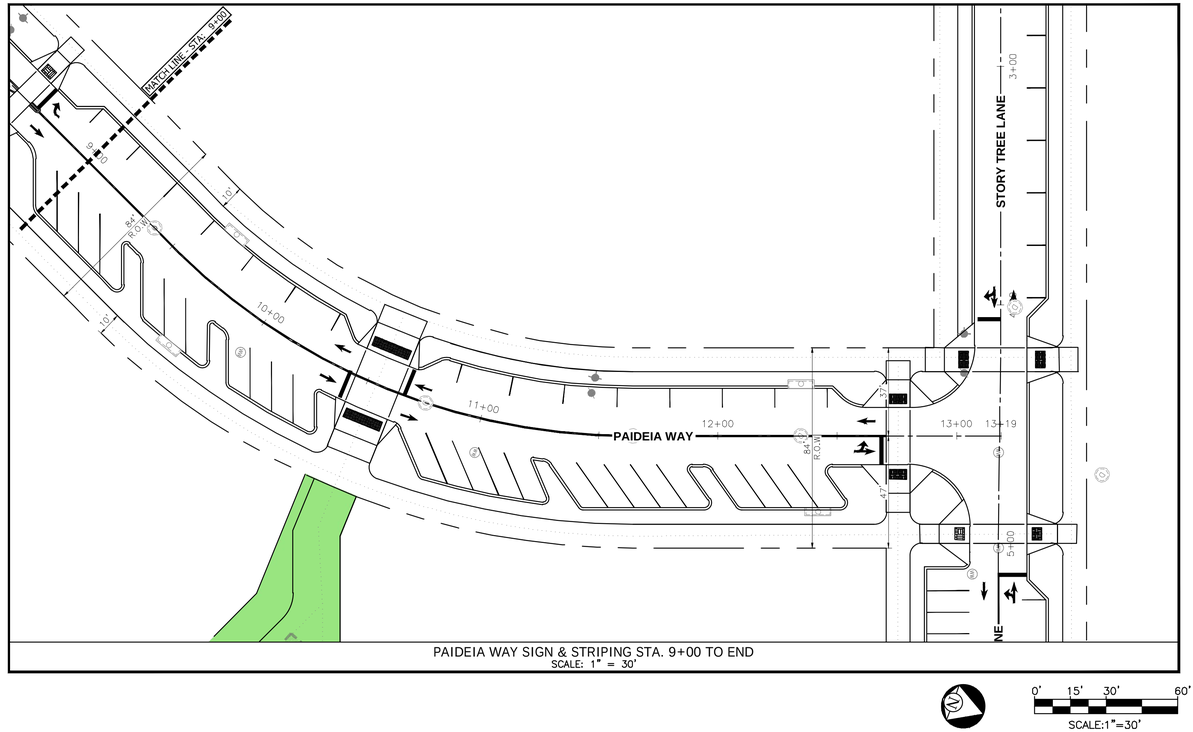


PAIDEIA WAY SIGN & STRIPING STA. 1+00 TO 9+00
SCALE: 1" = 30'

0' 15' 30' 60'
SCALE:1"=30'

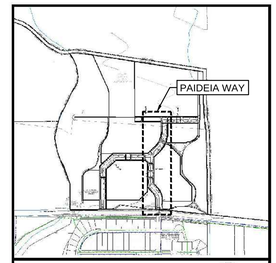
LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- RETAINING / SCREENING WALL
- PROPOSED BUILDING PAD AREA
- 512 EXISTING CONTOUR LINE
- 512 PROPOSED CONTOUR LINE
- SD STORM DRAIN LINE
- OH OVERHEAD ELECTRIC
- BARRICADE
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- STORM DRAIN GRATE INLET
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WW WASTEWATER MANHOLE
- CO WASTEWATER CLEANOUT
- T TRANSFORMER
- UTILITY POLE
- GUY WIRE
- TAG# TREE W/ TAG
- TAG# TREE - REMOVE



PAIDEIA WAY SIGN & STRIPING STA. 9+00 TO END
SCALE: 1" = 30'

0' 15' 30' 60'
SCALE:1"=30'



SCALE: NTS KEY MAP

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

PAIDEIA WAY SIGN & STRIPING PLAN

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

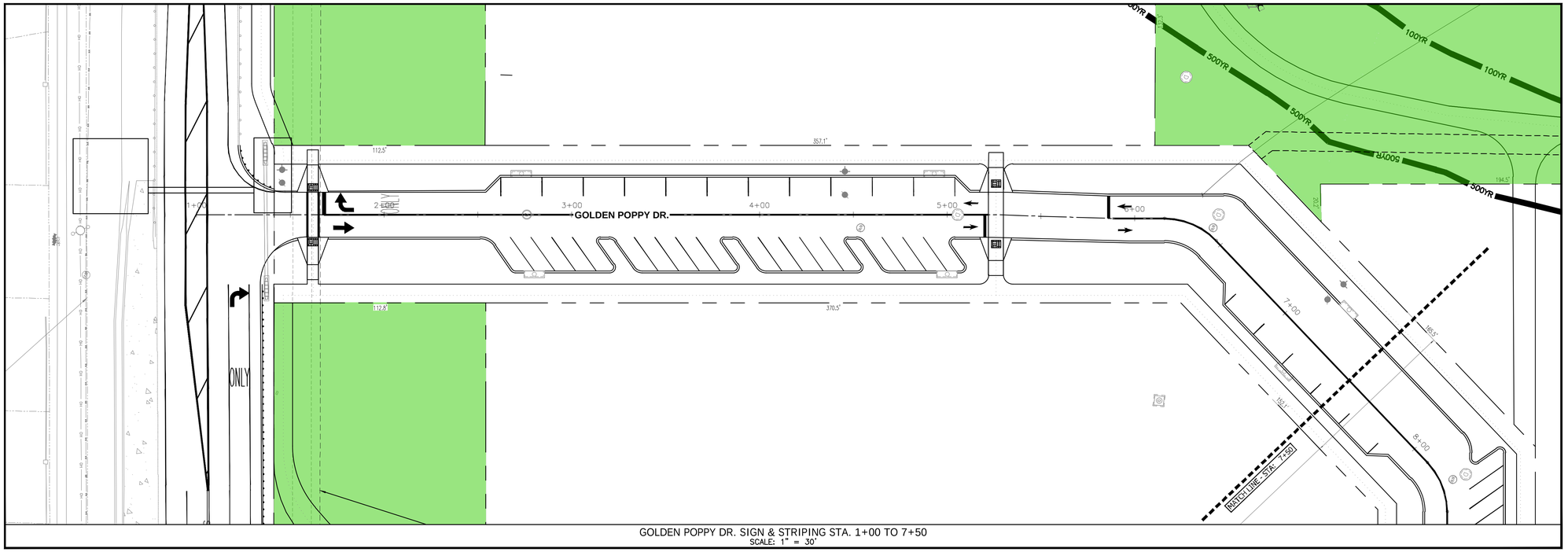
JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

SHEET NO. 008 OF 069

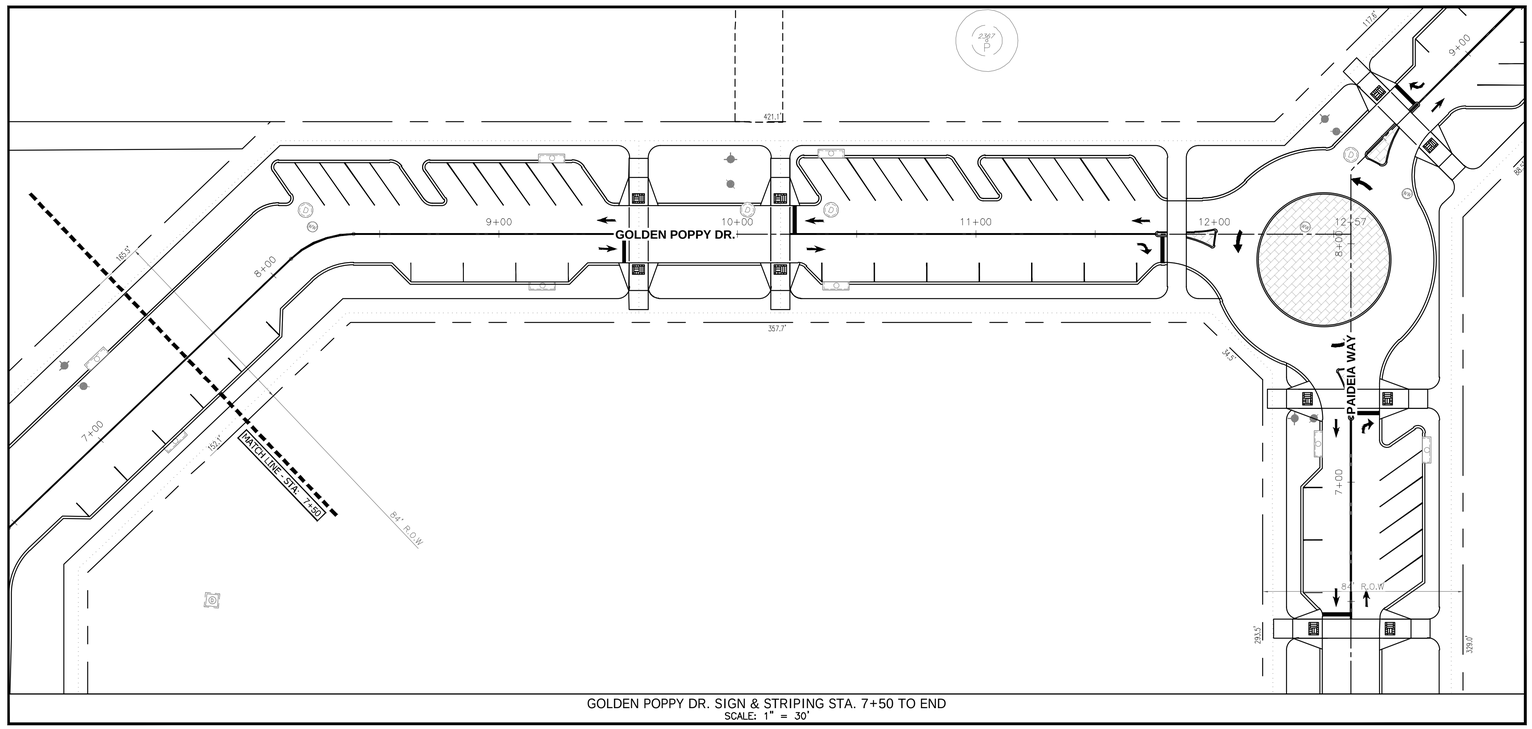
PROJECT NUMBER: 2025-____-CON

Plot Date: September 19, 2025 @ 12:20 PM

P:\a799 560 development – dma stage 1\Civil\construction drawings\Sheets\subdivision construction plans\Phase 1A\A799_STREET A SIGN AND STRIPING.dwg



GOLDEN POPPY DR. SIGN & STRIPING STA. 1+00 TO 7+50
SCALE: 1" = 30'

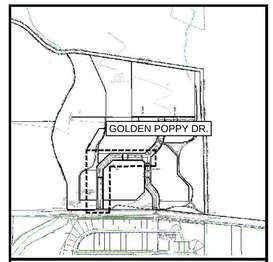


GOLDEN POPPY DR. SIGN & STRIPING STA. 7+50 TO END
SCALE: 1" = 30'

0' 15' 30' 60'
SCALE:1"=30'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- RETAINING / SCREENING WALL
- PROPOSED BUILDING PAD AREA
- 512 EXISTING CONTOUR LINE
- 512 PROPOSED CONTOUR LINE
- SD STORM DRAIN LINE
- OH OVERHEAD ELECTRIC
- D STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- STORM DRAIN GRATE INLET
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WW WASTEWATER MANHOLE
- CO WASTEWATER CLEANOUT
- T TRANSFORMER
- UTILITY POLE
- GUY WIRE
- TAG# TREE W/ TAG
- TAG# TREE - REMOVE



SCALE: NTS KEY MAP

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

GOLDEN POPPY RD SIGN & STRIPING PLAN

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025

JOB NO: A799
DGN BY: WS
DWN BY: MD, TML
RVW BY: MVR

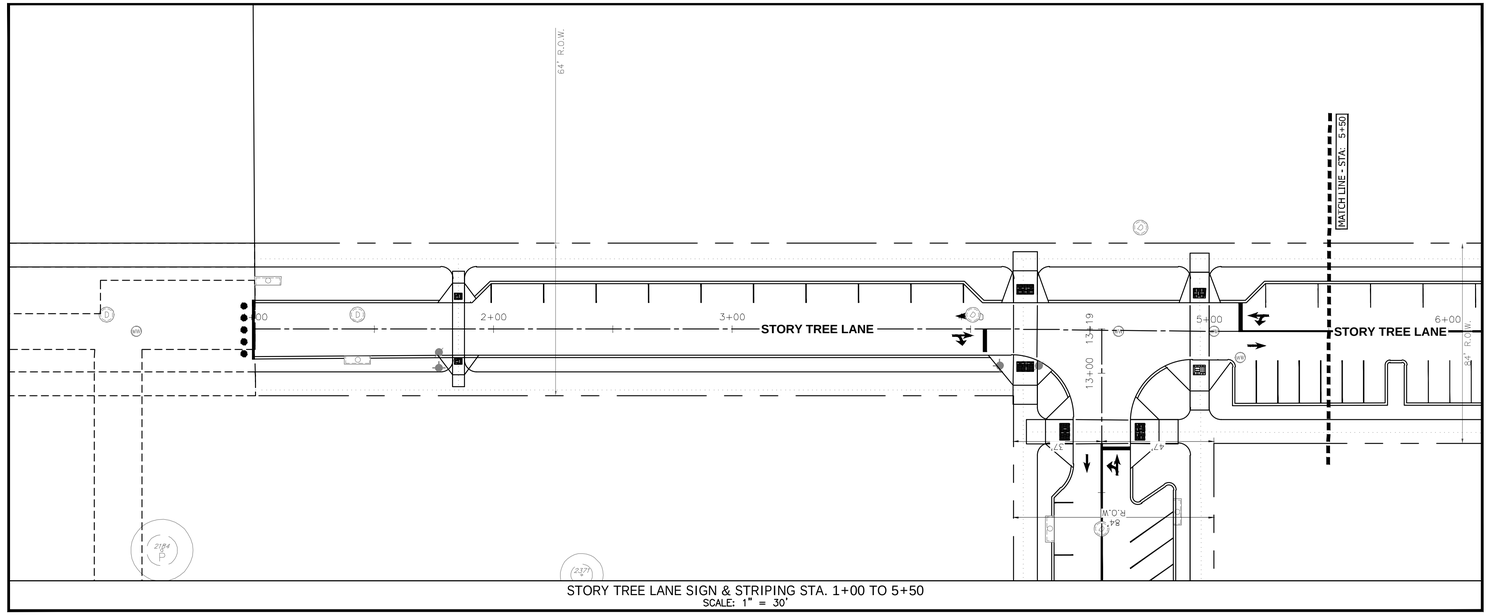
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 009 OF 069

PROJECT NUMBER: 2025-____-CON

Plot Date: September 19, 2025 @ 12:21 PM

P:\a799 560 development - dma stage 1\Civil\construction drawings\Sheets\subdivision construction plans\Phase 1A\A799_STREET B SIGN AND STRIPING.dwg

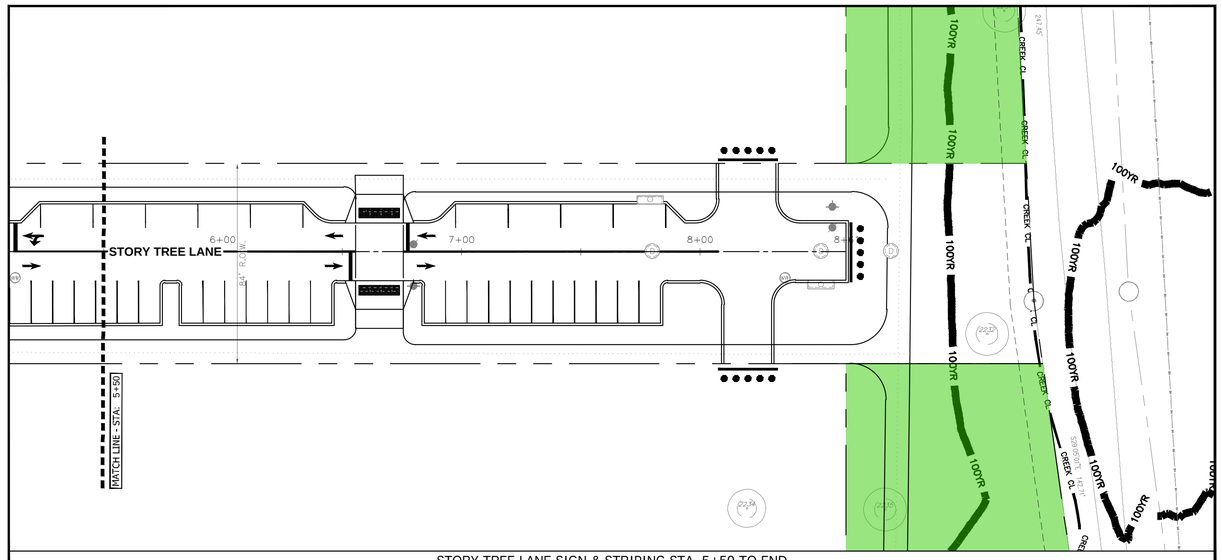


STORY TREE LANE SIGN & STRIPING STA. 1+00 TO 5+50
SCALE: 1" = 30'

0' 15' 30' 60'
SCALE:1"=30'

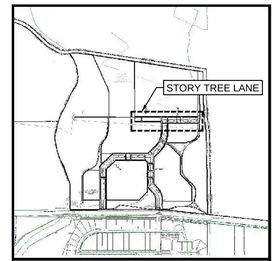
LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- RETAINING / SCREENING WALL
- PROPOSED BUILDING PAD AREA
- 512 EXISTING CONTOUR LINE
- 512 PROPOSED CONTOUR LINE
- SD STORM DRAIN LINE
- OH OVERHEAD ELECTRIC
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- STORM DRAIN GRATE INLET
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WW WASTEWATER MANHOLE
- CO WASTEWATER CLEANOUT
- T TRANSFORMER
- UTILITY POLE
- GUY WIRE
- TAG# TREE W/ TAG
- TAG# TREE - REMOVE



STORY TREE LANE SIGN & STRIPING STA. 5+50 TO END
SCALE: 1" = 30'

0' 15' 30' 60'
SCALE:1"=30'



SCALE: NTS KEY MAP

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

STORY TREE LANE SIGN & STRIPING PLAN

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

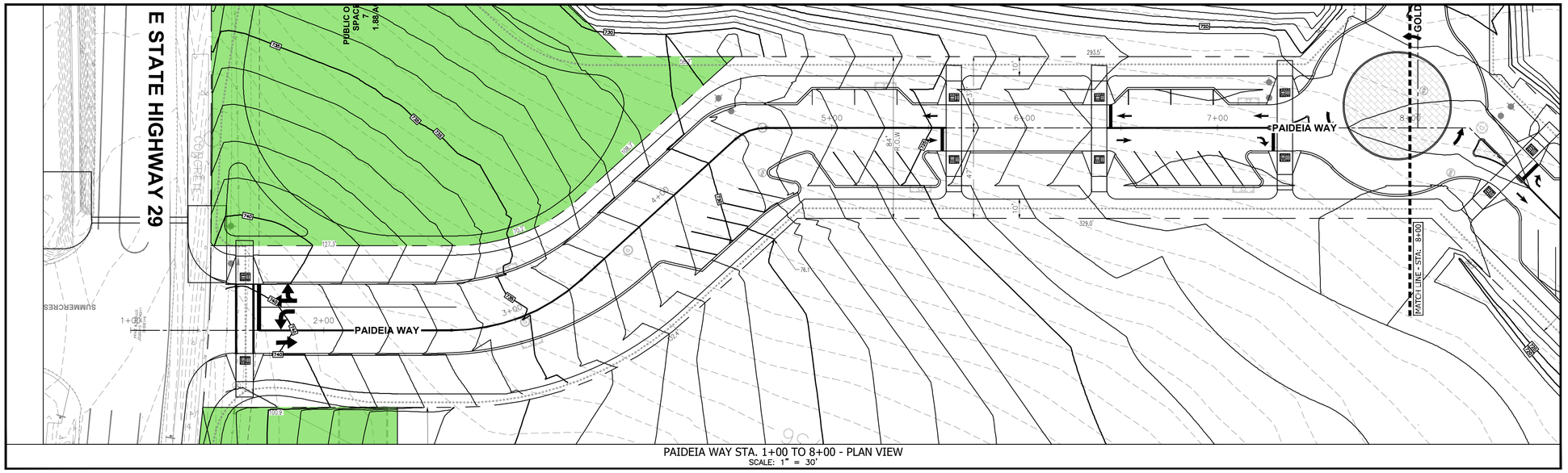
JOB NO: A799
DGN BY: WS
DWN BY: MD, TML
RVW BY: MVR

SHEET NO. 010 OF 069

PROJECT NUMBER: 2025-____-CON

Plot Date: September 19, 2025 @ 12:22 PM

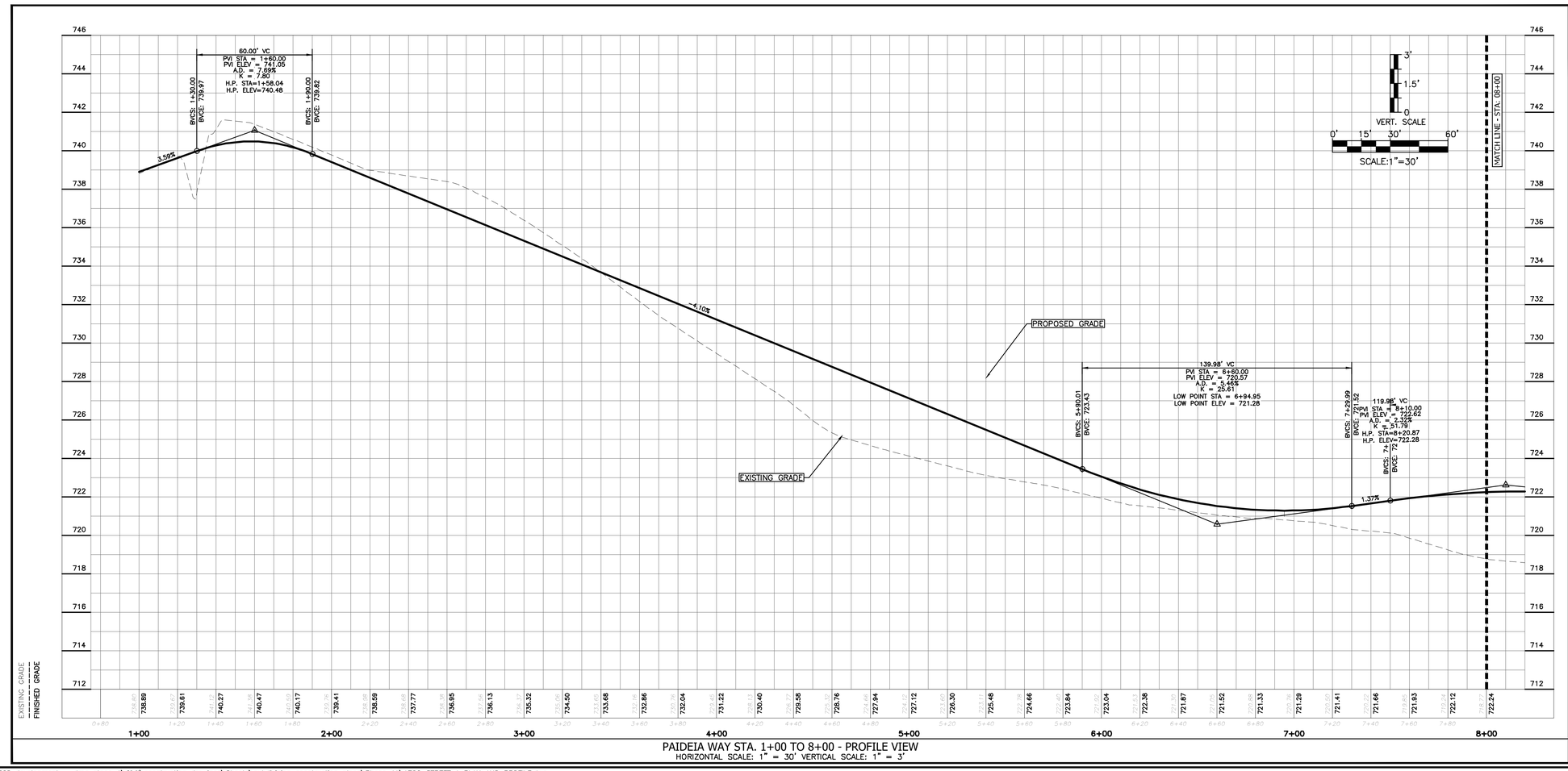
P:\a799 560 development - dma stage 1\Civil\construction drawings\Sheets\subdivision construction plans\Phase 1A\A799_STREET C SIGN AND STRIPING.dwg



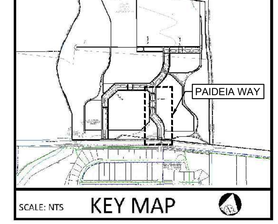
PAIDEIA WAY STA. 1+00 TO 8+00 - PLAN VIEW
SCALE: 1" = 30'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- RETAINING / SCREENING WALL
- PROPOSED BUILDING PAD AREA
- 512 — EXISTING CONTOUR LINE
- 512 — PROPOSED CONTOUR LINE
- SD — STORM DRAIN LINE
- OH — OVERHEAD ELECTRIC
- BARRICADE
- D — STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- STORM DRAIN GRATE INLET
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WW — WASTEWATER MANHOLE
- CO — WASTEWATER CLEANOUT
- T — TRANSFORMER
- UTILITY POLE
- GUY WIRE
- TAG# — TREE W/ TAG
- TAG# — TREE - REMOVE



PAIDEIA WAY STA. 1+00 TO 8+00 - PROFILE VIEW
HORIZONTAL SCALE: 1" = 30' VERTICAL SCALE: 1" = 3'



SCALE: NTS KEY MAP

0' 15' 30' 60'
SCALE:1"=30'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY–560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

PAIDEIA WAY PLAN & PROFILE STA. 1+00 TO 8+00

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD, TML
RVW BY: MVR

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 011 OF 069

PROJECT NUMBER: 2025-___-CON

Plot Date: September 19, 2025 @ 12:26 PM

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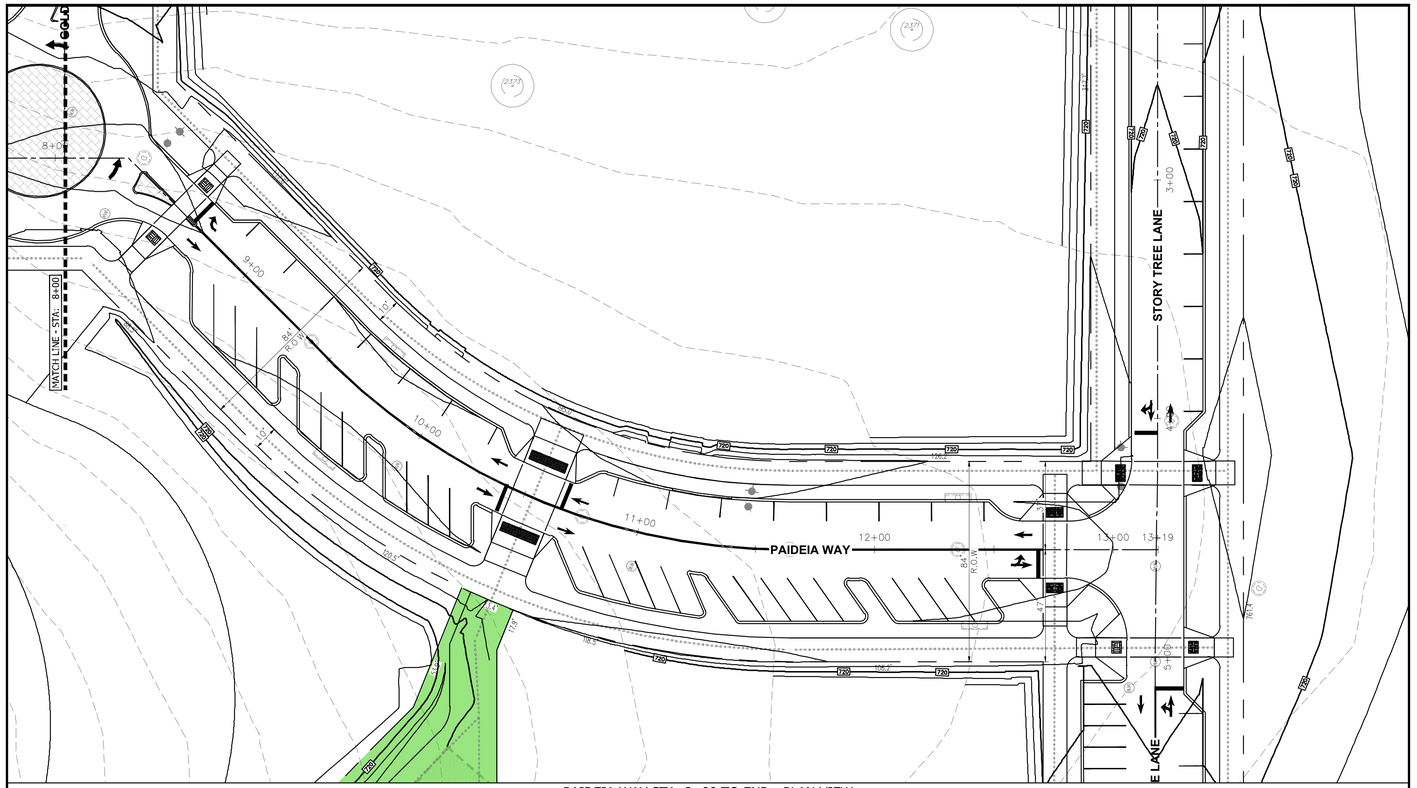

PAIDEIA WAY STA. 8+00 TO END - PLAN VIEW
SCALE: 1" = 30'

PAIDEIA WAY STA. 8+00 TO END - PLAN VIEW
HORIZONTAL SCALE: 1" = 30' VERTICAL SCALE: 1" = 3'

LEGEND

—	BOUNDARY / RIGHT OF WAY
- - -	EASEMENT / SETBACK
—	CURB / EDGE OF PAVEMENT
▬	RETAINING / SCREENING WALL
▭	PROPOSED BUILDING PAD AREA
512	EXISTING CONTOUR LINE
512	PROPOSED CONTOUR LINE
SD	STORM DRAIN LINE
OH	OVERHEAD ELECTRIC
D	STORM DRAIN MANHOLE
	STORM DRAIN CURB INLET
▦	STORM DRAIN GRATE INLET
◪	WATER METER
●	WATER VALVE
	FIRE HYDRANT
WW	WASTEWATER MANHOLE
CO ●	WASTEWATER CLEANOUT
T	TRANSFORMER
	UTILITY POLE
	GUY WIRE
TAG#	TREE W/ TAG
TAG#	TREE - REMOVE

SCALE: NTS KEY MAP

3'
1.5'
0
VERT. SCALE
0' 15' 30' 60'
SCALE:1"=30'

0' 15' 30' 60'
SCALE:1"=30'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

PAIDEIA WAY PLAN & PROFILE
STA. 8+00 TO END

CIVILITUDE
ENGINEERS & PLANNERS

503 KENNISTON DR #4
PHONE 512 761 6161

AUSTIN, TX 78752
FAX 512 761 6167

FIRM REG # F12469
INFO@CIVILITUDE.COM

9-19-2025
JORDAN L. MILLER
124884
Jordan L. Miller

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

SHEET NO.
012
OF 069

Plot Date: September 19, 2025 @ 12:26 PM

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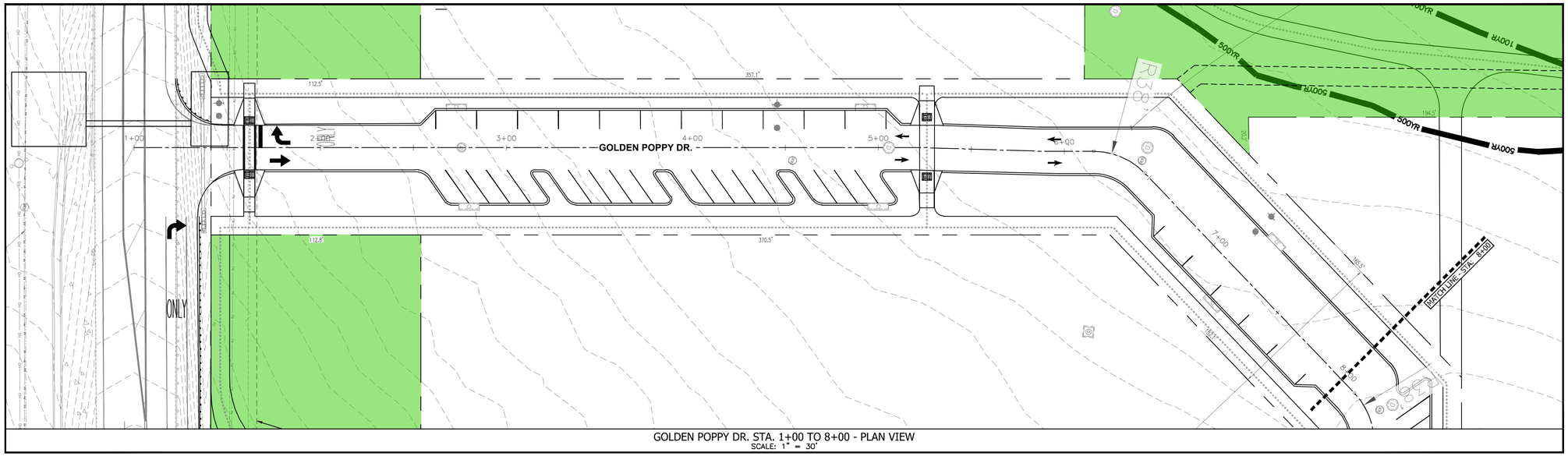
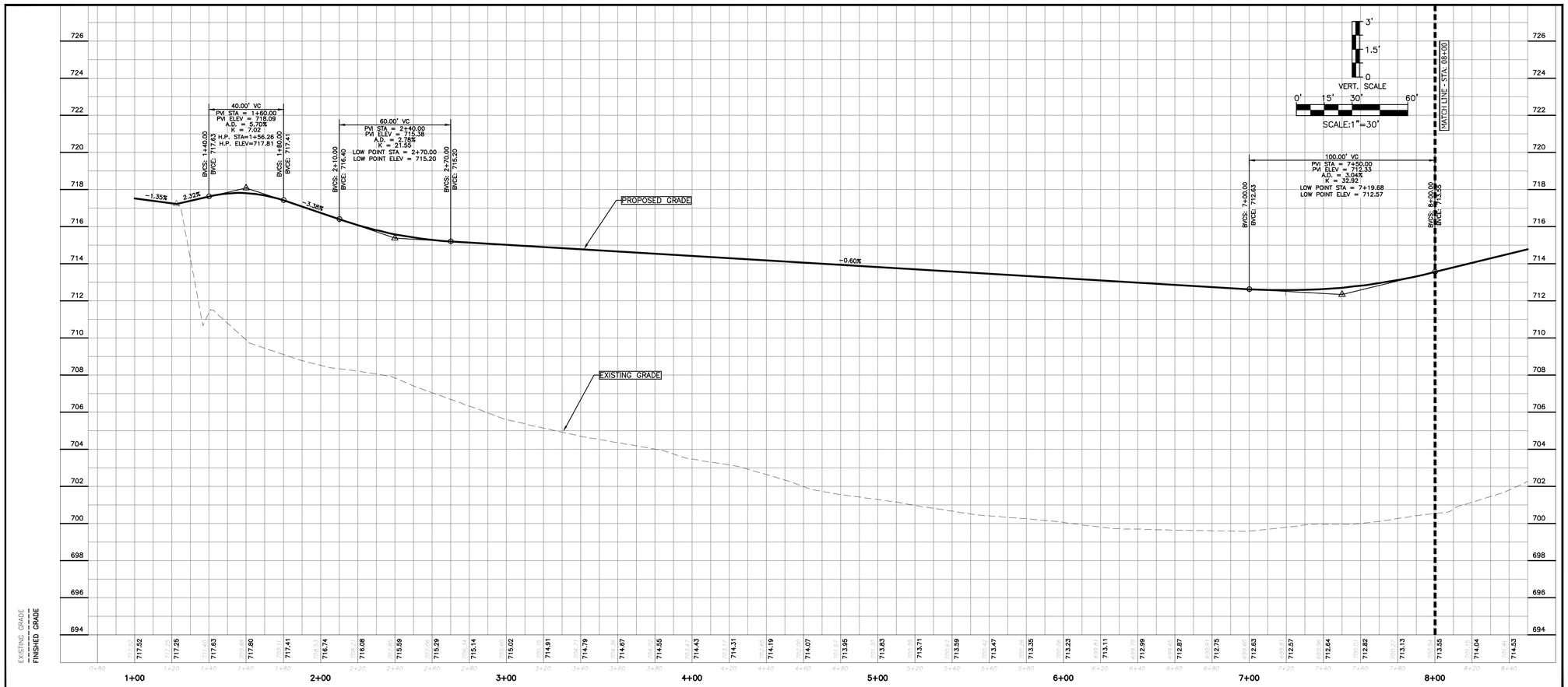
PROJECT NUMBER: 2025-___-CON



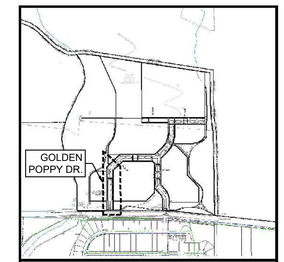
GOLDEN POPPY DR. STA. 1+00 TO 8+00 - PLAN VIEW
SCALE: 1" = 30'



GOLDEN POPPY DR. STA. 1+00 TO 8+00 - PROFILE VIEW
HORIZONTAL SCALE: 1" = 30' VERTICAL SCALE: 1" = 3'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- RETAINING / SCREENING WALL
- PROPOSED BUILDING PAD AREA
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- STORM DRAIN LINE
- OVERHEAD ELECTRIC
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- STORM DRAIN GRATE INLET
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- TRANSFORMER
- UTILITY POLE
- GUY WIRE
- TREE W/ TAG
- TREE - REMOVE



SCALE: NTS KEY MAP

0' 15' 30' 60'
SCALE:1"=30'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

GOLDEN POPPY RD PLAN & PROFILE STA. 1+00 TO 8+00

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD, TML
RVW BY: MVR

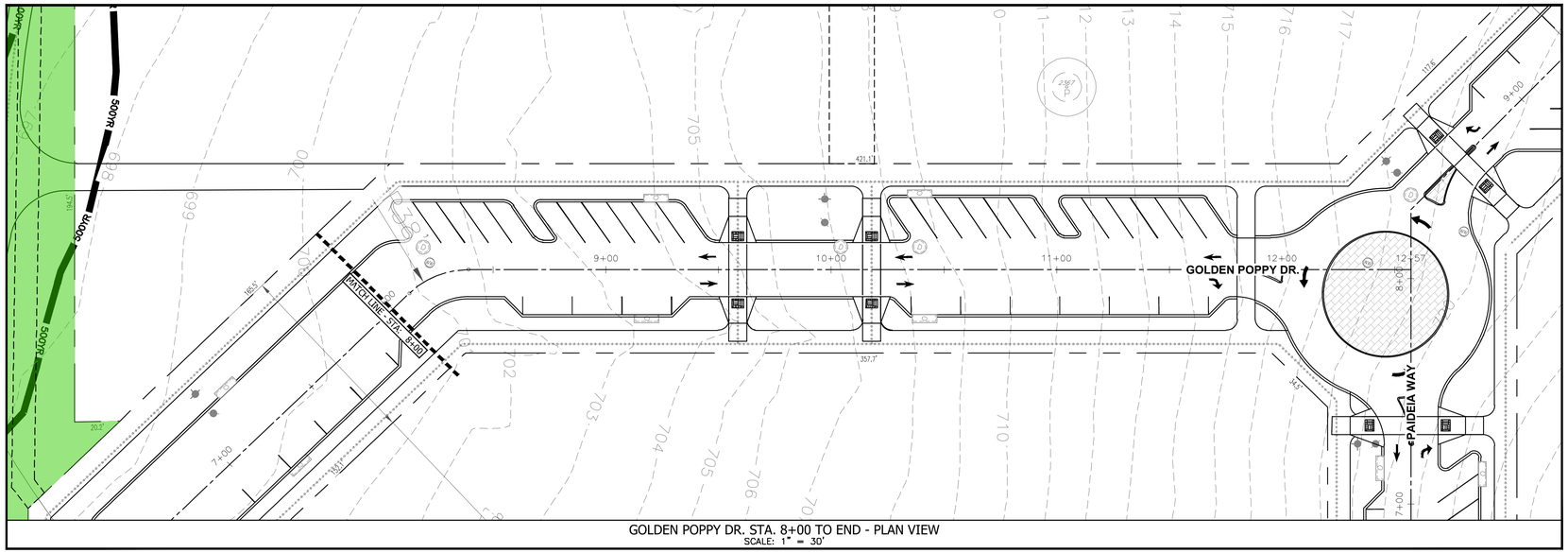
9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 013 OF 069

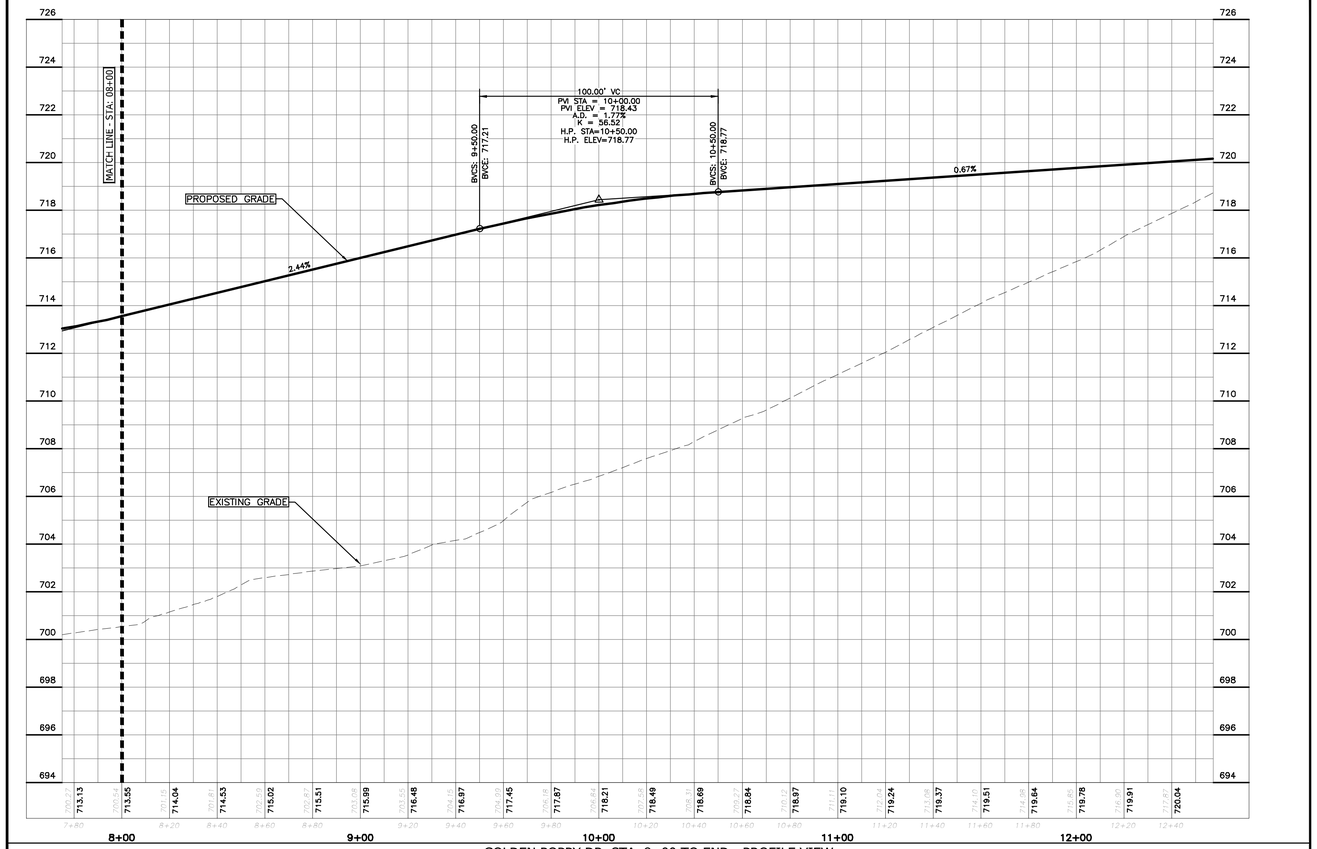
Plot Date: September 19, 2025 @ 12:27 PM

P:\a799 560 development – dma stage 1\Civil\construction drawings\Sheets\subdivision construction plans\Phase 1A\A799_STREET B PLAN AND PROFILE.dwg

PROJECT NUMBER: 2025-___-CON



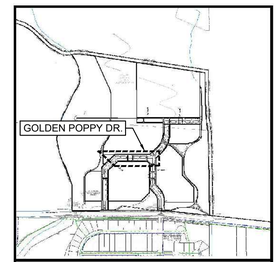
GOLDEN POPPY DR. STA. 8+00 TO END - PLAN VIEW
SCALE: 1" = 30'



GOLDEN POPPY DR. STA. 8+00 TO END - PROFILE VIEW
HORIZONTAL SCALE: 1" = 30' VERTICAL SCALE: 1" = 3'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- RETAINING / SCREENING WALL
- PROPOSED BUILDING PAD AREA
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- STORM DRAIN LINE
- OVERHEAD ELECTRIC
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- STORM DRAIN GRATE INLET
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- TRANSFORMER
- UTILITY POLE
- GUY WIRE
- TREE W/ TAG
- TREE - REMOVE



SCALE: NTS KEY MAP

3'
1.5'
0
VERT. SCALE
0' 15' 30' 60'
SCALE:1"=30'

0' 15' 30' 60'
SCALE:1"=30'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

GOLDEN POPPY RD PLAN & PROFILE STA. 8+00 TO END

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 014 OF 069

Plot Date: September 19, 2025 @ 12:28 PM

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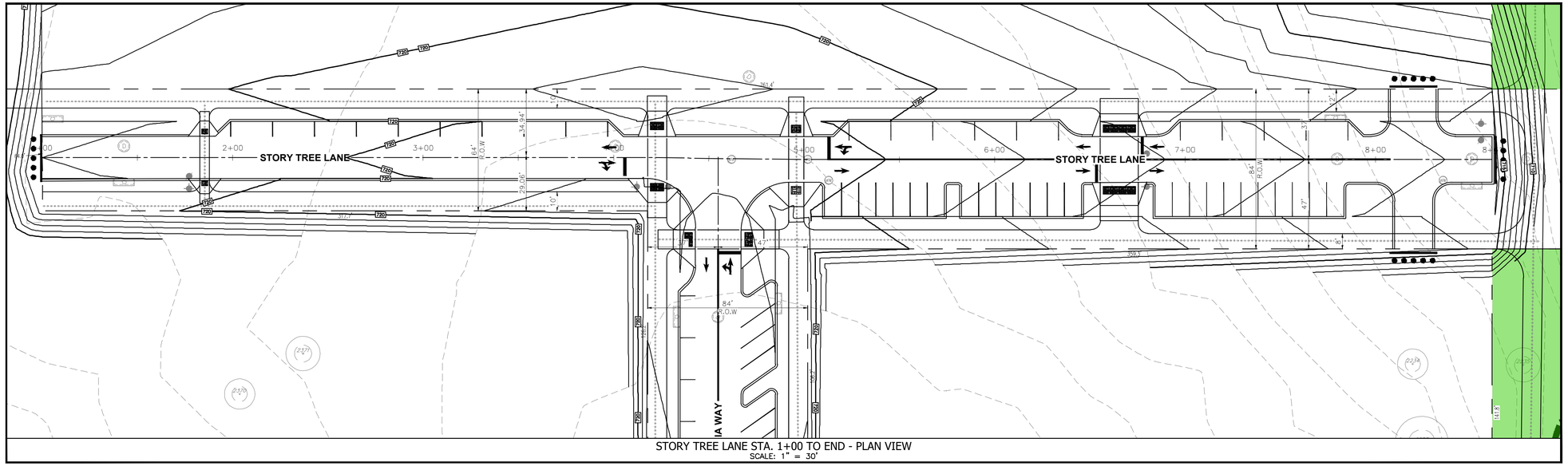
PROJECT NUMBER: 2025-____-CON



LEGEND

▬ ▬ ▬	BOUNDARY / RIGHT OF WAY
– – – –	EASEMENT / SETBACK
═	CURB / EDGE OF PAVEMENT
▬ ▭ ▬	RETAINING / SCREENING WALL
▭	PROPOSED BUILDING PAD AREA
— —512— —	EXISTING CONTOUR LINE
—512—	PROPOSED CONTOUR LINE
— SD — SD —	STORM DRAIN LINE
— OH —	OVERHEAD ELECTRIC
Ⓓ	STORM DRAIN MANHOLE
▭	STORM DRAIN CURB INLET
▦	STORM DRAIN GRATE INLET
◪	WATER METER
●	WATER VALVE
●	FIRE HYDRANT
WW	WASTEWATER MANHOLE
CO ●	WASTEWATER CLEANOUT
T	TRANSFORMER
○	UTILITY POLE
←	GUY WIRE
○ TAG#	TREE W/ TAG
◌ TAG#	TREE - REMOVE

STORY TREE LANE STA. 1+00 TO END - PLAN VIEW
SCALE: 1" = 30'

KEY MAP

STORY TREE LANE STA. 1+00 TO END - PROFILE VIEW
HORIZONTAL SCALE: 1" = 30' VERTICAL SCALE: 1" = 3'

3'
1.5'
0
VERT. SCALE

0' 15' 30' 60'
SCALE:1"=30'

0' 15' 30' 60'
SCALE:1"=30'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

STORY TREE LANE PLAN & PROFILE
STA. 1+00 TO END

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4
PHONE 512 761 6161
AUSTIN, TX 78752
FAX 512 761 6167
FIRM REG # F12469
INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

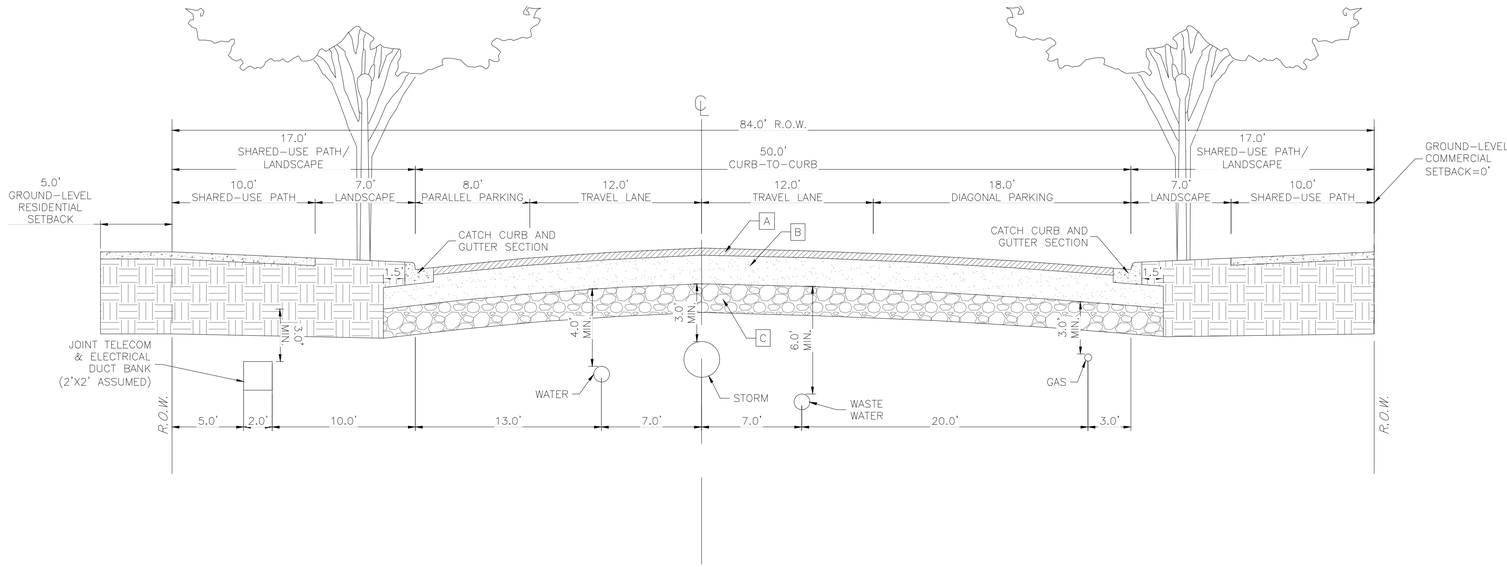
9-19-2025
JORDAN L. MILLER
124884
Jordan L. Miller

SHEET NO.
015
OF 069

PROJECT NUMBER: 2025-___-CON

Plot Date: September 19, 2025 @ 12:29 PM

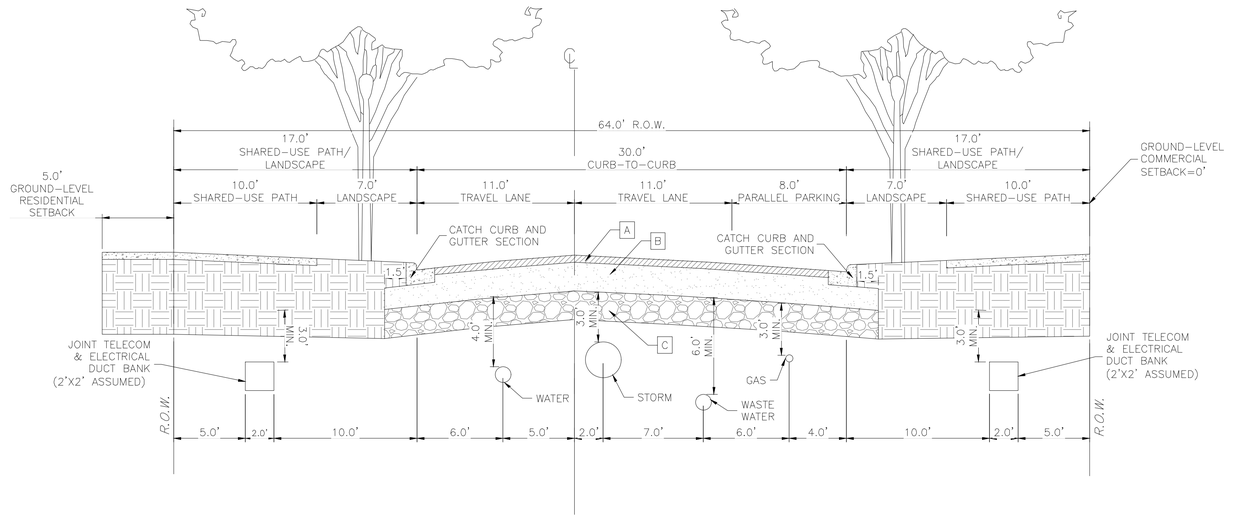
P:\a799 560 development - dma stage 1\Civil\construction drawings\Sheets\subdivision construction plans\Phase 1A\A799_STREET C PLAN AND PROFILE.dwg



	Layer Description	Option I	Option II
A	HMAC Surface Course, Type "D"	3.5 in	3.5 in
B	Flexible Base	10.0 in	12.0 in.
C	Low PI Material (PI less than 25)	12.0 in	--
	Geogrid (TX-5)	--	yes
	Combined Total	**21.5 in**	**15.5 in**

84' ROW STREET CROSS-SECTIONS

SCALE: 1"=5'



64' ROW STREET CROSS-SECTIONS

SCALE: 1"=5'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

TYPICAL STREET SECTIONS

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ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED
PROFESSIONAL ENGINEER

SHEET NO. 016 OF 069

PROJECT NUMBER: 2025-____-CON

Plot Date: September 19, 2025 @ 12:29 PM

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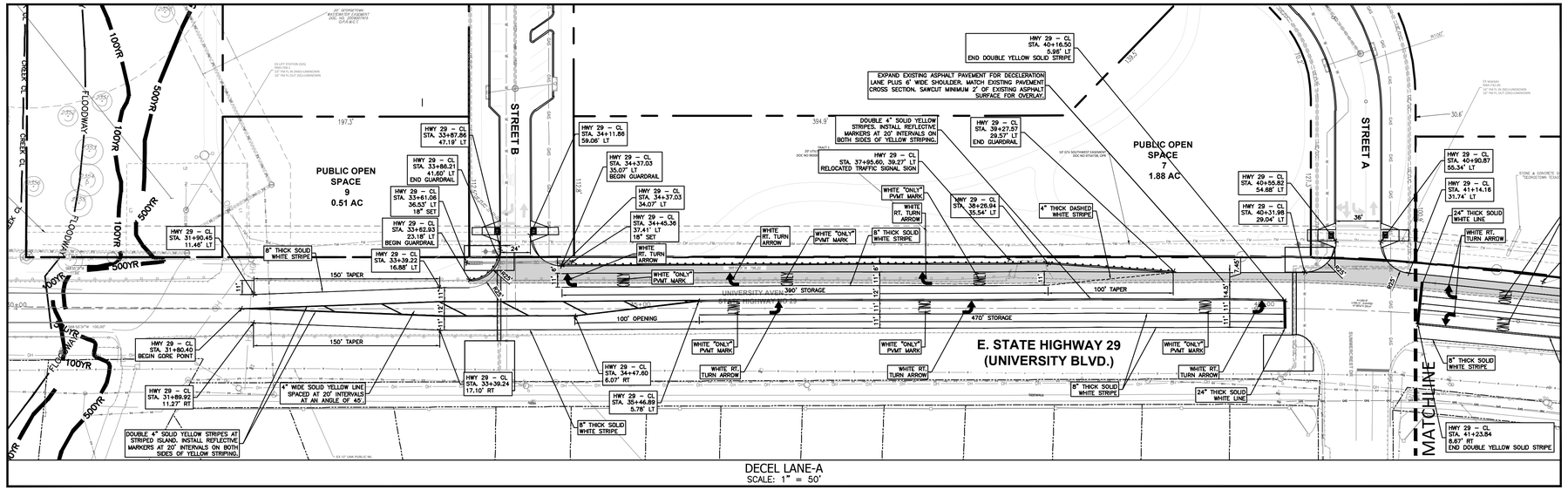
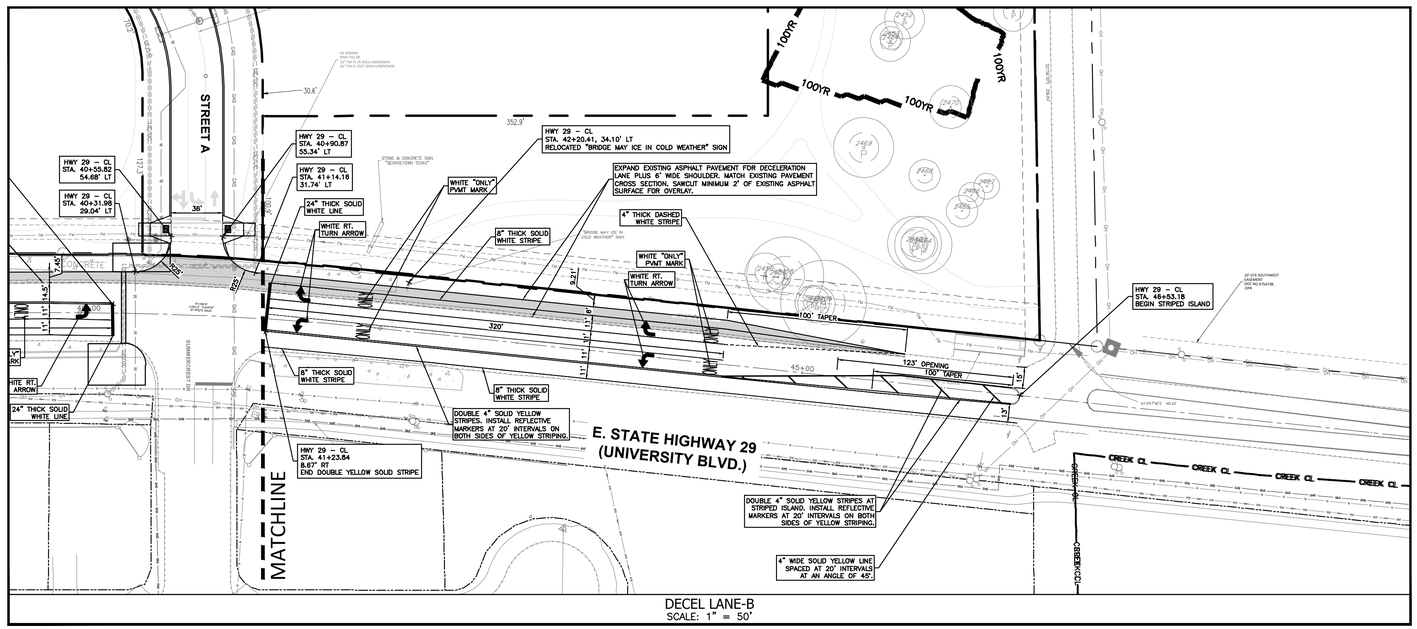
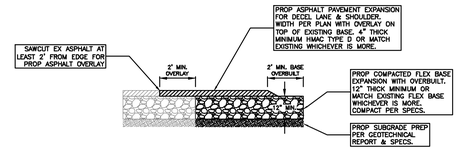


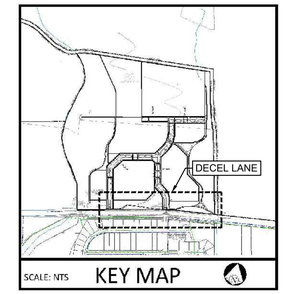
DECEL LANE-A
SCALE: 1" = 50'



DECEL LANE-B
SCALE: 1" = 50'



DECEL LANE PAVEMENT EXPANSION DETAIL



SCALE: NTS **KEY MAP**

0' 25' 50' 100'
SCALE:1"=50'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- RETAINING / SCREENING WALL
- PROPOSED ASPHALT WIDENING
- SD — STORM DRAIN LINE
- OH — OVERHEAD ELECTRIC
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- STORM DRAIN GRATE INLET
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WW — WASTEWATER MANHOLE
- CO — WASTEWATER CLEANOUT
- TRANSFORMER
- UTILITY POLE
- GUY WIRE
- TAG# — TREE W/ TAG
- TAG# — TREE - REMOVE

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY–560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

DECEL LANE PLAN

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

JOB NO: A799
DGN BY: WS
DWN BY: MD, TML
RVW BY: MVR

SHEET NO. 017 OF 069

PROJECT NUMBER: 2025-____-CON

Plot Date: September 19, 2025 @ 12:30 PM

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LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- 512 EXISTING CONTOUR LINE
- 512 PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- PROPOSED BUILDING PAD AREA
- STORM DRAIN LINE
- W WATER LINE
- WW WASTEWATER LINE
- OH OVERHEAD ELECTRIC
- GAS GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WW WASTEWATER MANHOLE
- CO WASTEWATER CLEANOUT
- BFP BACKFLOW PREVENTER
- D STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- STORM DRAIN AREA INLET
- T TRANSFORMER
- AC AIR CONDITIONER UNIT
- GAS GAS METER
- EM ELECTRIC MANHOLE
- E ELECTRIC BOX
- UTILITY POLE
- GUY WIRE

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

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

OVERALL GRADING PLAN

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025

JOB NO: A799
DGN BY: WS
DWN BY: MD, TML
RVW BY: MVR

STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 018 OF 069

Plot Date: September 19, 2025 @ 12:31 PM

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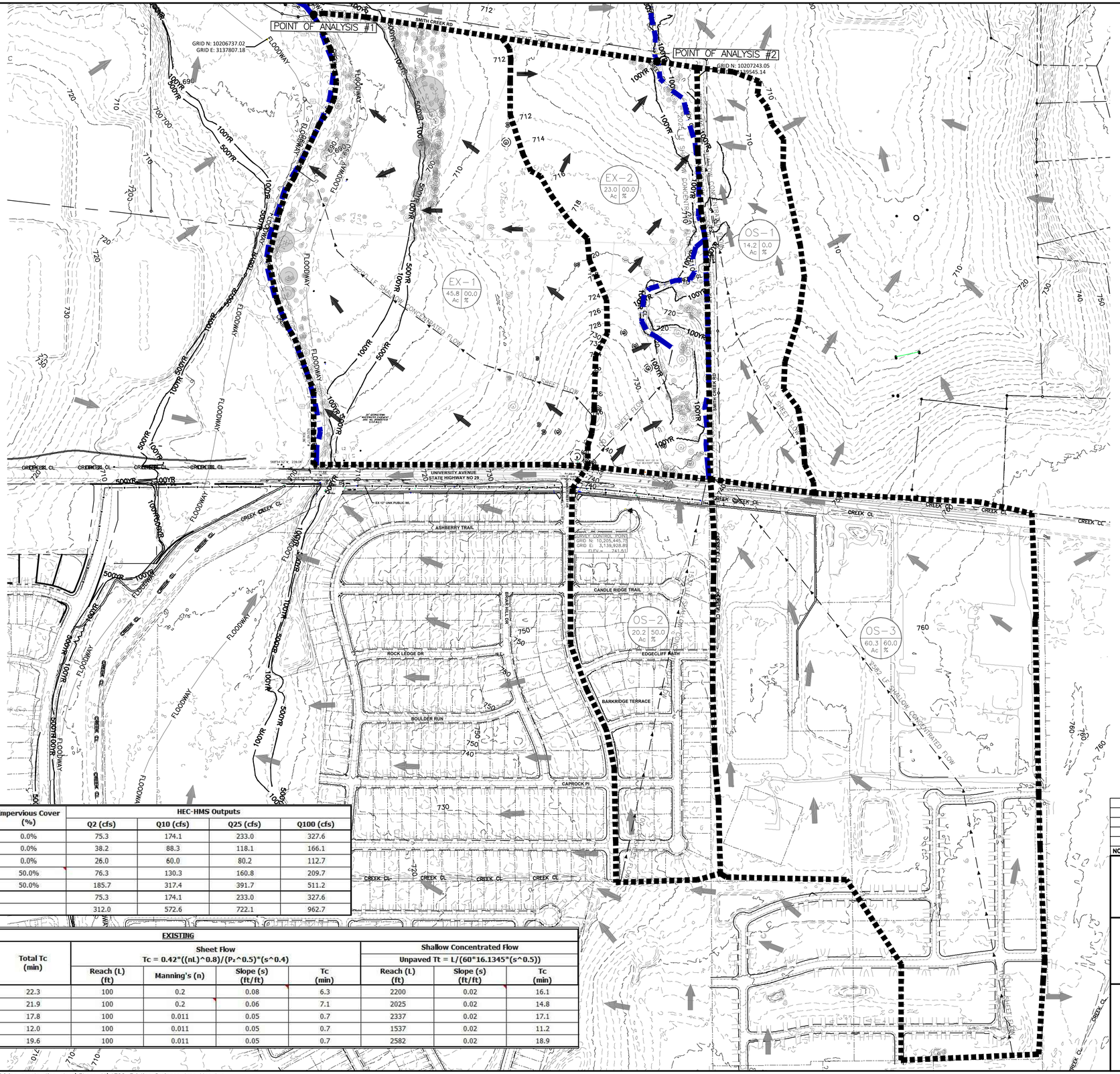
PROJECT NUMBER: 2025-____-CON



Sub Basin	Downstream	Area (ac)	Impervious Cover (%)	HEC-HMS Outputs			
				Q2 (cfs)	Q10 (cfs)	Q25 (cfs)	Q100 (cfs)
EX-1	EX-POA-1	45.8	0.0%	75.3	174.1	233.0	327.6
EX-2	EX-POA-2	23.0	0.0%	38.2	88.3	118.1	166.1
OS-1	EX-POA-2	14.2	0.0%	26.0	60.0	80.2	112.7
OS-2	EX-POA-2	20.2	50.0%	76.3	130.3	160.8	209.7
OS-3	EX-POA-3	60.3	50.0%	185.7	317.4	391.7	511.2
Point of Analysis 1				75.3	174.1	233.0	327.6
Point of Analysis 2				312.0	572.6	722.1	962.7

EXISTING

Sub Basin	Total Reach (ft)	Curve Number	Total Tc (min)	Sheet Flow Tc = 0.42*((nL)^0.8)/(P₂^0.5)*(s^0.4)				Shallow Concentrated Flow Unpaved Tt = L/(60*16.1345*(s^0.5))		
				Reach (L) (ft)	Manning's (n)	Slope (s) (ft/ft)	Tc (min)	Reach (L) (ft)	Slope (s) (ft/ft)	Tc (min)
EX-1	2300	80	22.3	100	0.2	0.08	6.3	2200	0.02	16.1
EX-2	2125	80	21.9	100	0.2	0.06	7.1	2025	0.02	14.8
OS-1	2437	80	17.8	100	0.011	0.05	0.7	2337	0.02	17.1
OS-2	1637	94	12.0	100	0.011	0.05	0.7	1537	0.02	11.2
OS-3	2682	94	19.6	100	0.011	0.05	0.7	2582	0.02	18.9

0' 100' 200' 400'
SCALE:1"=200'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

EXISTING DRAINAGE AREA MAP

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 019 OF 069

Plot Date: September 19, 2025 @ 12:31 PM

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PROJECT NUMBER: 2025-____-CON

Sub Basin	Downstream	Area (ac)	Impervious Cover (%)	HEC-HMS Outputs			
				Q2 (cfs)	Q10 (cfs)	Q25 (cfs)	Q100 (cfs)
P-A1	PR-POA-2	4.9	75.31%	22.5	38.0	46.8	60.8
P-A2	PR-POA-2	5.0	80.00%	24.3	41.0	50.4	65.5
P-B1	PR-POA-2	1.8	80.00%	9.5	16.0	19.7	25.6
P-B2	PR-POA-2	6.3	80.00%	31.2	52.4	64.6	83.9
P-C1	PR-POA-2	4.9	0.00%	8.8	20.3	27.1	38.0
P-C2	PR-POA-2	7.9	0.00%	12.2	28.2	37.8	53.2
P-D1	PR-POA-1	1.9	19.51%	4.3	9.1	11.9	16.4
P-D2	PR-POA-1	5.1	0.00%	9.7	22.4	30.0	42.1
P-D3	PR-POA-1	1.6	0.00%	3.1	7.1	9.4	13.2
P-D4	PR-POA-1	12.0	0.00%	21.0	48.5	65.0	91.3
P-D5	PR-POA-1	17.3	0.00%	30.7	70.9	94.8	133.1
OS-1	PR-POA-2	14.2	0.00%	26.0	60.0	80.2	112.7
OS-2	PR-POA-2	20.2	50.00%	76.3	130.3	160.8	209.7
OS-3	PR-POA-2	60.3	50.00%	185.7	317.4	391.7	511.2
Point of Analysis 1				68.3	156.8	209.5	294.4
Point of Analysis 2				309.1	560.6	706.6	944.2
WEST POND				8.3	18.4	25.8	39.4
EAST POND				6.7	11.0	13.8	18.9
Δ Flow at POA 1 (CFS)				**-7.0**	**-17.3**	**-23.5**	**-33.2**
Δ Flow at POA 2 (CFS)				**-2.9**	**-12.0**	**-15.5**	**-18.5**

PROPOSED

Sub Basin	Total Reach (ft)	Curve Number	Total Tc (min)	Sheet Flow Tc = 0.42*((nL)^0.8)/(P₂^0.5)*(s^0.4)				Shallow Concentrated Flow Unpaved Tt = L/(60*16.1345*(s^0.5))			Channel Flow/Pipe		
				Reach (L) (ft)	Manning's (n)	Slope (s) (ft/ft)	Tc (min)	Reach (L) (ft)	Slope (s) (ft/ft)	Tc (min)	Length (ft)	Avg. Velocity (ft/s)	Tc (min)
P-A1	1411	94	6.9	100	0.011	0.01	1.4	0	0.02	0.0	1,311	4.0	5.5
P-A2	693	94	5.3	100	0.011	0.015	1.2	279	0.01	2.8	314	4.0	1.3
P-B1	220	94	2.8	100	0.011	0.010	1.4	120	0.01	1.4	0	4.0	0.0
P-B2	610	94	5.1	100	0.011	0.010	1.4	200	0.01	2.4	310	4.0	1.3
P-C1	500	80	18.4	100	0.2	0.010	14.2	300	0.01	3.8	100	4.0	0.4
P-C2	2000	80	25.2	100	0.2	0.020	10.8	1900	0.02	14.5	0	4.0	0.0
P-D1	192	80	14.8	100	0.2	0.010	14.2	92	0.02	0.6	0	4.0	0.0
P-D2	498	80	16.4	100	0.2	0.010	14.2	129	0.02	1.1	269	4.0	1.1
P-D3	357	80	16.1	100	0.2	0.010	14.2	257	0.02	1.9	0	4.0	0.0
P-D4	630	80	19.7	100	0.2	0.010	14.2	530	0.01	5.5	0	4.0	0.0
P-D5	943	80	19.0	100	0.2	0.010	14.2	407	0.02	3.0	436	4.0	1.8
OS-1	2437	80	17.8	100	0.011	0.05	0.7	2337	0.02	17.1	0	4.0	0.0
OS-2	1637	94	12.0	100	0.011	0.05	0.7	1537	0.02	11.2	0	4.0	0.0
OS-3	2682	94	19.6	100	0.011	0.05	0.7	2582	0.02	18.9	0	4.0	0.0

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

PROPOSED DRAINAGE AREA MAP

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 020 OF 069

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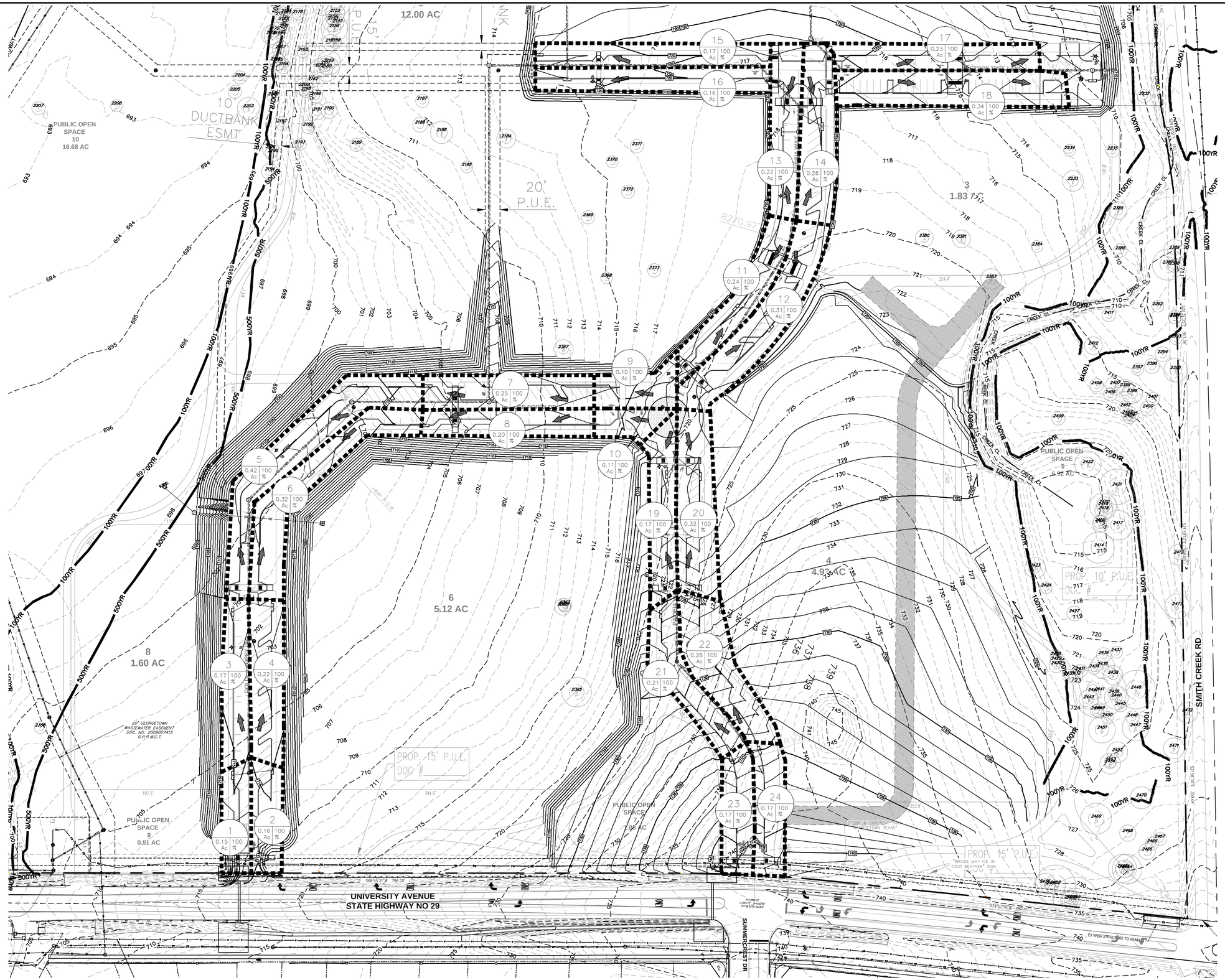
P:\a799 560 development – dma stage 1\Civil\construction drawings\Sheets\subdivision construction plans\Phase 1A\A799_PRELIM PROP DRAINAGE MAP 2.dwg

PROJECT NUMBER: 2025-____-CON



LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- RETAINING / SCREENING WALL
- 512 EXISTING CONTOUR LINE
- 512 PROPOSED CONTOUR LINE
- SD STORM DRAIN LINE
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- STORM DRAIN GRATE INLET
- DRAINAGE SWALE FLOW LINE
- DRAINAGE AREA
- A 0.00 00.0 % Ac — DRAINAGE AREA NAME AREA/IC %
- FLOW DIRECTION

DA NAME	AREA (sf)	AREA (Ac)	Q – 100yr (cfs)
1	6,529.0	0.150	1.73
2	6,776.7	0.156	1.79
3	7,582.5	0.174	2.01
4	9,467.3	0.217	2.50
5	17,880.0	0.410	4.73
6	13,892.1	0.319	3.68
7	10,685.0	0.245	0.94
8	8,352.9	0.192	0.73
9	5,687.0	0.131	1.50
10	3,650.8	0.084	0.97
11	9,593.1	0.220	2.54
12	14,307.8	0.328	3.79
13	9,629.3	0.221	2.55
14	11,465.7	0.263	3.03
15	10,508.0	0.241	2.78
16	10,168.6	0.233	2.69
17	9,987.4	0.229	2.64
18	14,936.5	0.343	3.95
19	8,909.5	0.205	2.36
20	12,869.4	0.295	3.40
21	9,342.7	0.214	2.47
22	12,157.1	0.279	3.22
23	7,237.1	0.166	1.91
24	7,555.0	0.173	2.00

0' 30' 60' 120'
SCALE:1"=60'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY–560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

INLET DRAINAGE AREA MAP

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR
JORDAN L. MILLER 124884 LICENSED PROFESSIONAL ENGINEER

SHEET NO. 021 OF 069

PROJECT NUMBER: 2025-____-CON

Plot Date: September 19, 2025 @ 12:25 PM

P:\a799 560 development – dma stage 1\Civil\construction drawings\Sheets\subdivision construction plans\Phase 1A\A799_INLET DRAINAGE AREA MAP.dwg

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- 512 EXISTING CONTOUR LINE
- 512 PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- SD STORM DRAIN LINE
- W WATER LINE
- WW WASTEWATER LINE
- OH OVERHEAD ELECTRIC
- GAS GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WW WASTEWATER MANHOLE
- CO WASTEWATER CLEANOUT
- BFP BACKFLOW PREVENTER
- D STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

OVERALL STORM PLAN

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

JOB NO: A799
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DWN BY: MD,TML
RVW BY: MVR

SHEET NO. 022 OF 069

Plot Date: September 19, 2025 @ 12:26 PM

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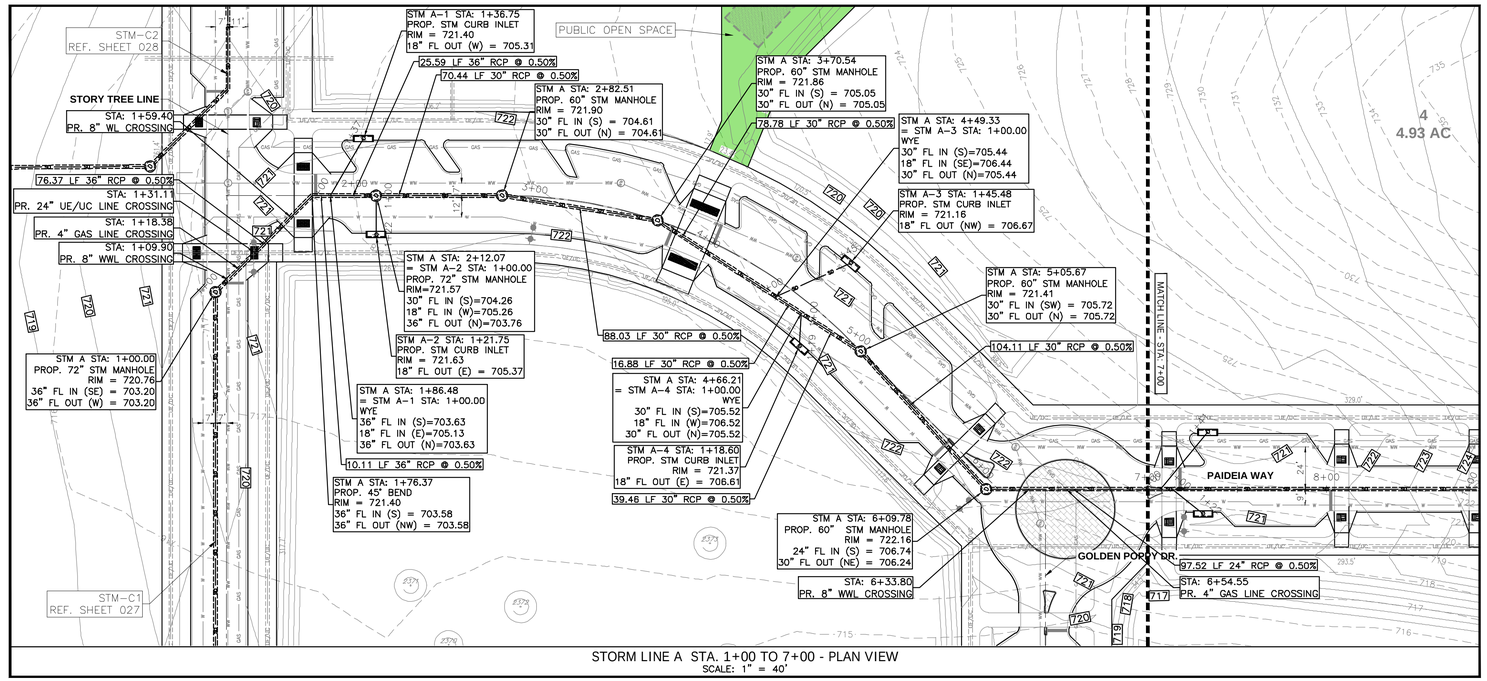
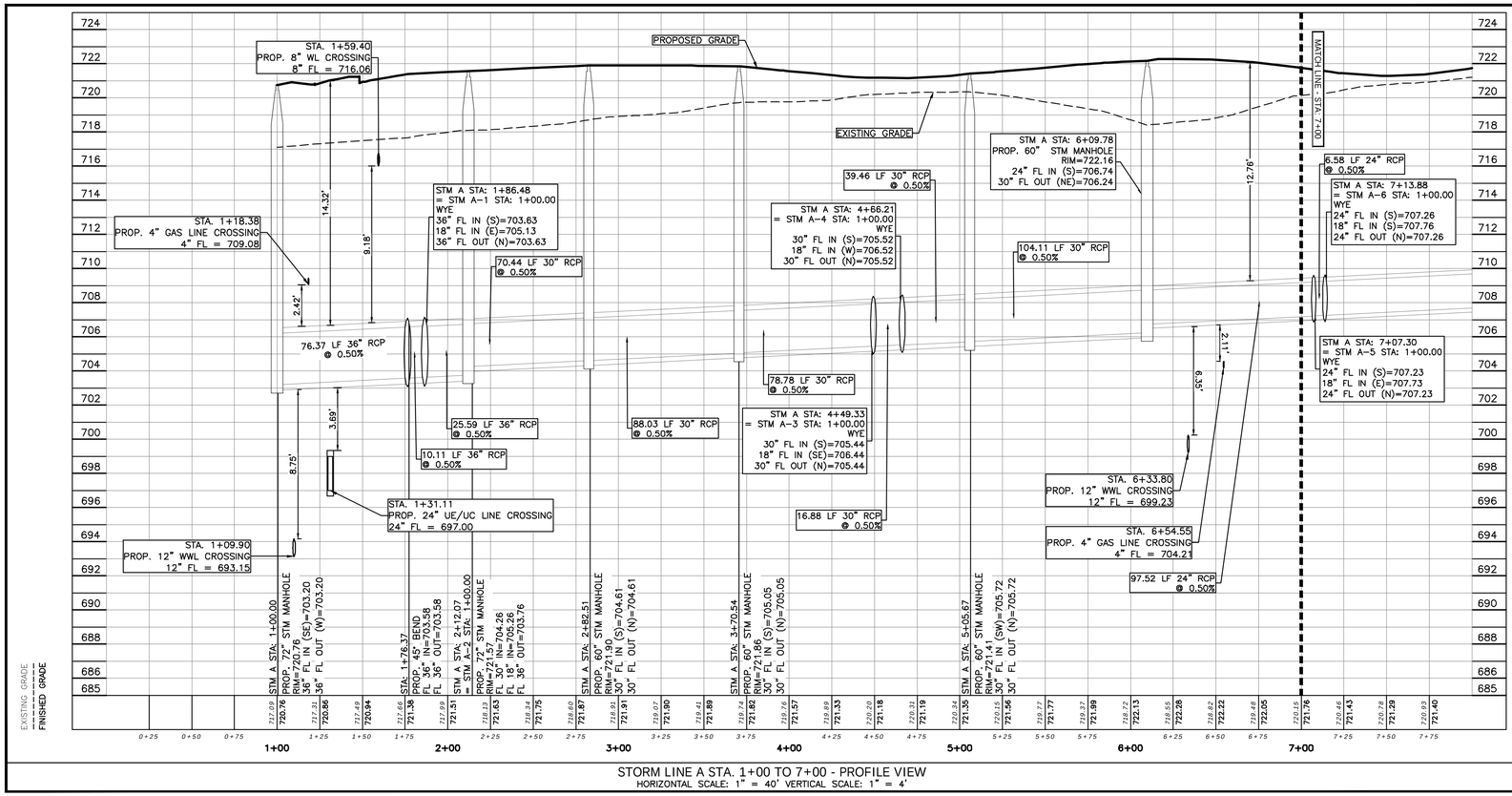
PROJECT NUMBER: 2025-____-CON



STORM LINE A STA. 1+00 TO 7+00 - PLAN VIEW
SCALE: 1" = 40'



STORM LINE A STA. 1+00 TO 7+00 - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- 512 EXISTING CONTOUR LINE
- 512 PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- 30" STORM DRAIN LINE
- W WATER LINE
- WW WASTEWATER LINE
- OH OVERHEAD ELECTRIC
- GAS GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WW WASTEWATER MANHOLE
- CO WASTEWATER CLEANOUT
- BFP BACKFLOW PREVENTER
- D STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE @ ℄

SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

STORM LINE A PLAN & PROFILE STA. 1+00 TO 7+00

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ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

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STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 023 OF 069

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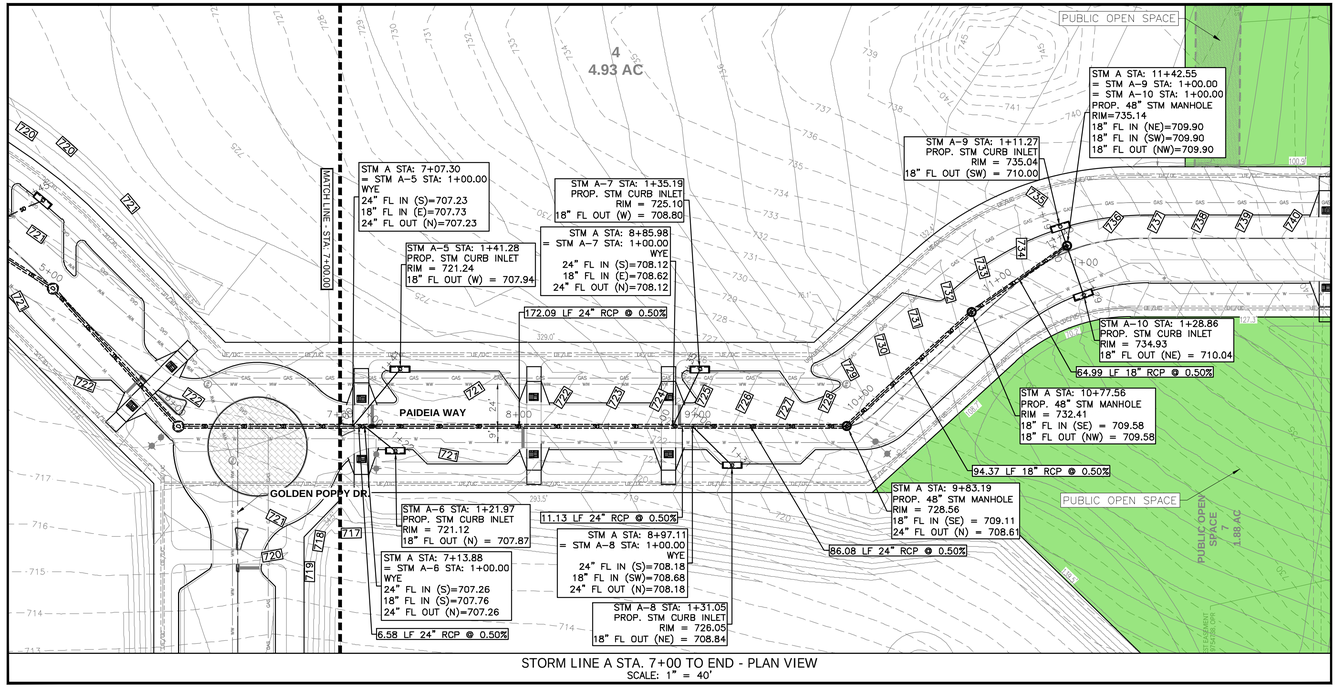
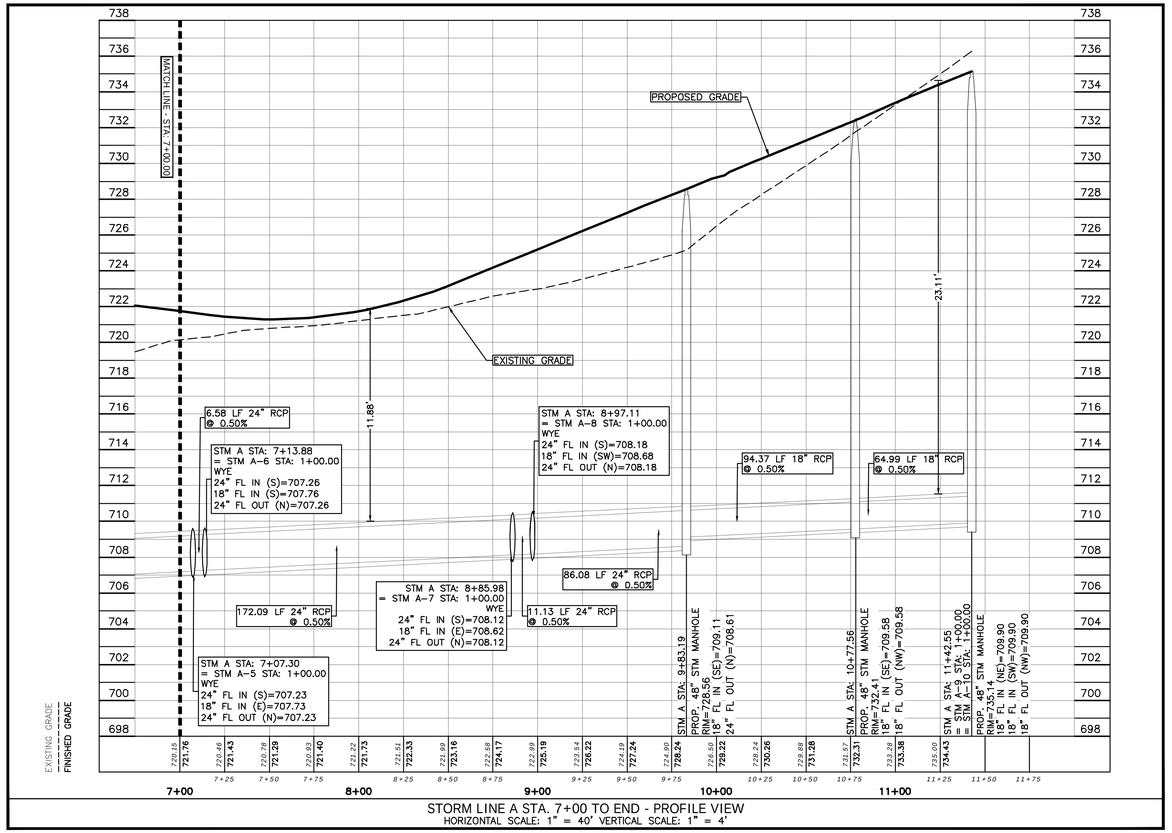
PROJECT NUMBER: 2025-____-CON



STORM LINE A STA. 7+00 TO END - PLAN VIEW
SCALE: 1" = 40'



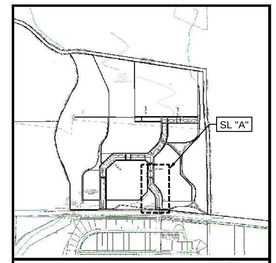
STORM LINE A STA. 7+00 TO END - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- OVERHEAD ELECTRIC
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE @ ℄



SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

STORM LINE A PLAN & PROFILE STA. 7+00 TO END

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ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025

JOB NO: A799
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DWN BY: MD,TML
RVW BY: MVR

STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 024 OF 069

PROJECT NUMBER: 2025-____-CON

Plot Date: September 19, 2025 @ 3:42 PM

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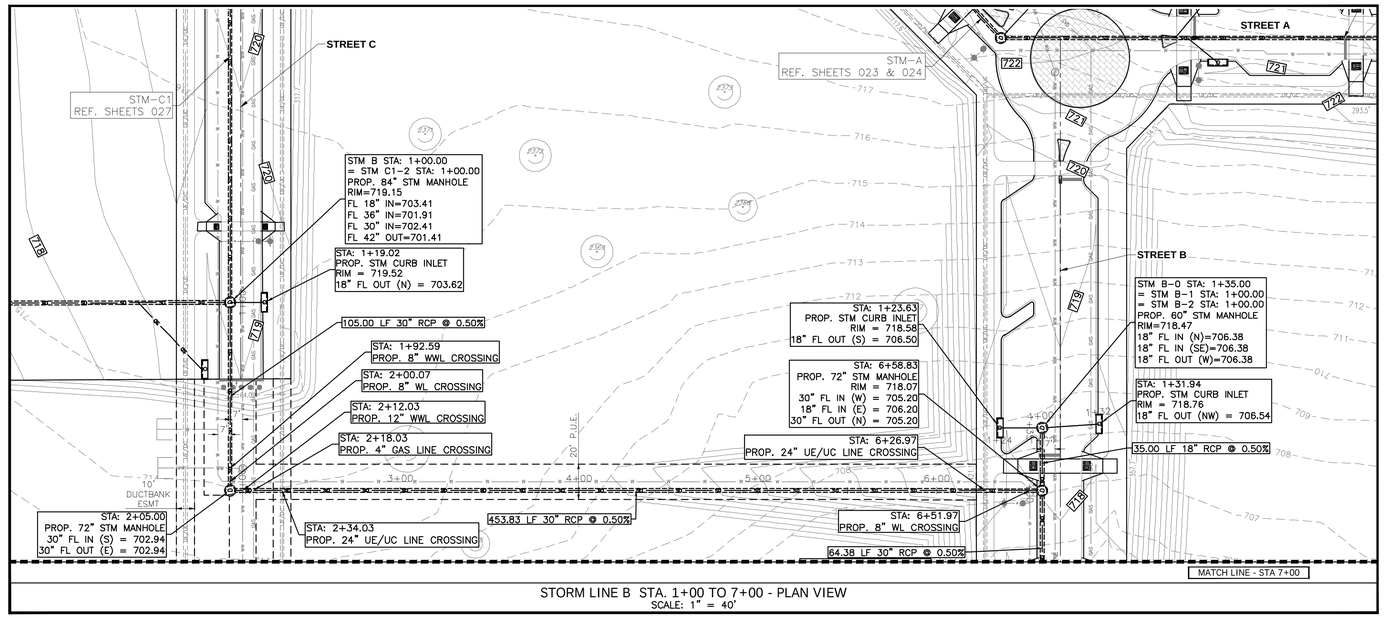
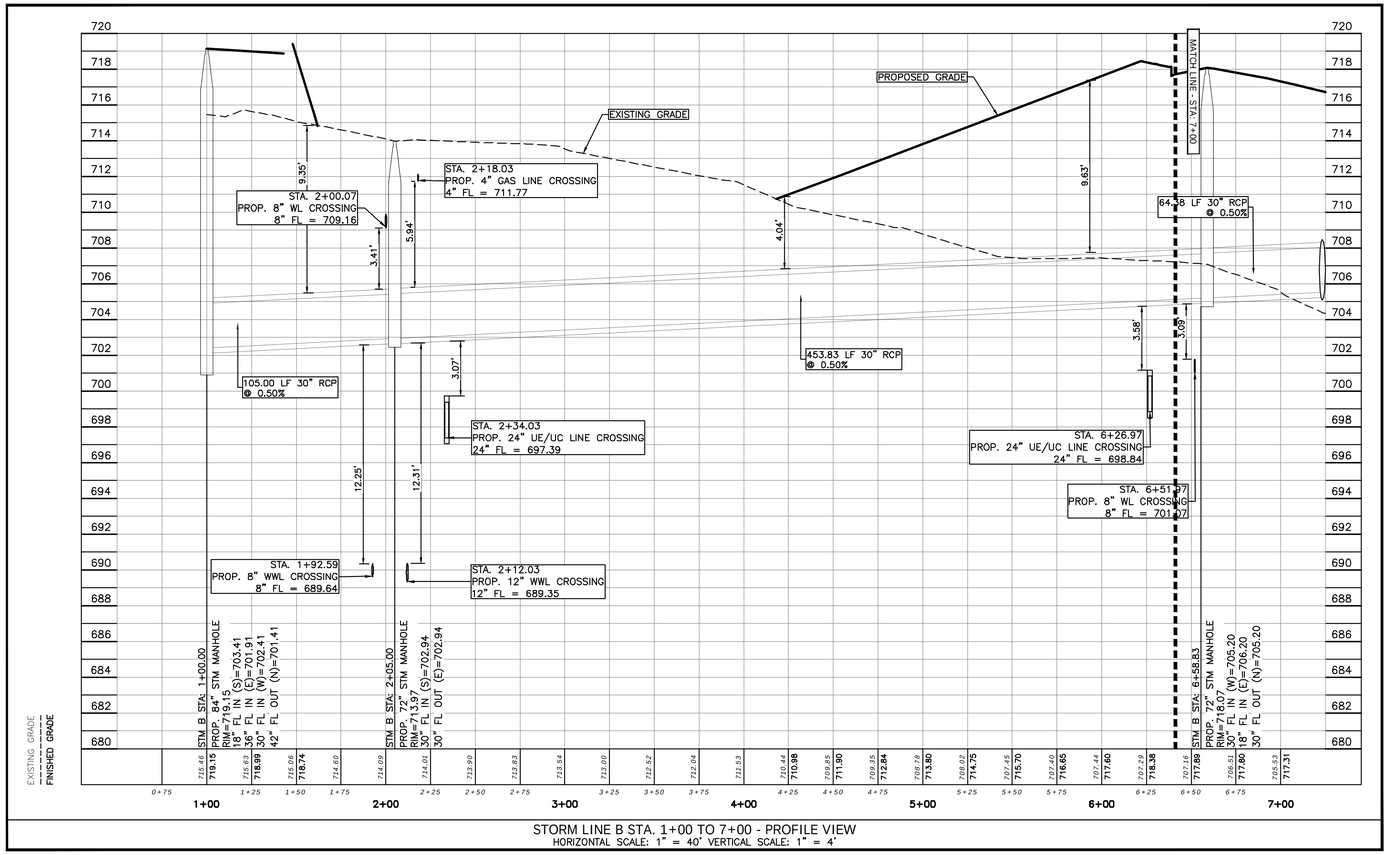


STORM LINE B STA. 1+00 TO 7+00 - PLAN VIEW
SCALE: 1" = 40'



STORM LINE B STA. 1+00 TO 7+00 - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- 512 EXISTING CONTOUR LINE
- 512 PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- SD STORM DRAIN LINE
- W WATER LINE
- WW WASTEWATER LINE
- OH OVERHEAD ELECTRIC
- GAS GAS LINE
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- WATER VALVE
- FIRE HYDRANT
- WW WASTEWATER MANHOLE
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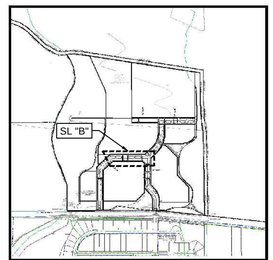
- BFP BACKFLOW PREVENTER
- D STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE @ ℄



SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

STORM LINE B PLAN & PROFILE STA. 1+00 TO 5+50

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 025 OF 069

Plot Date: September 19, 2025 @ 3:44 PM

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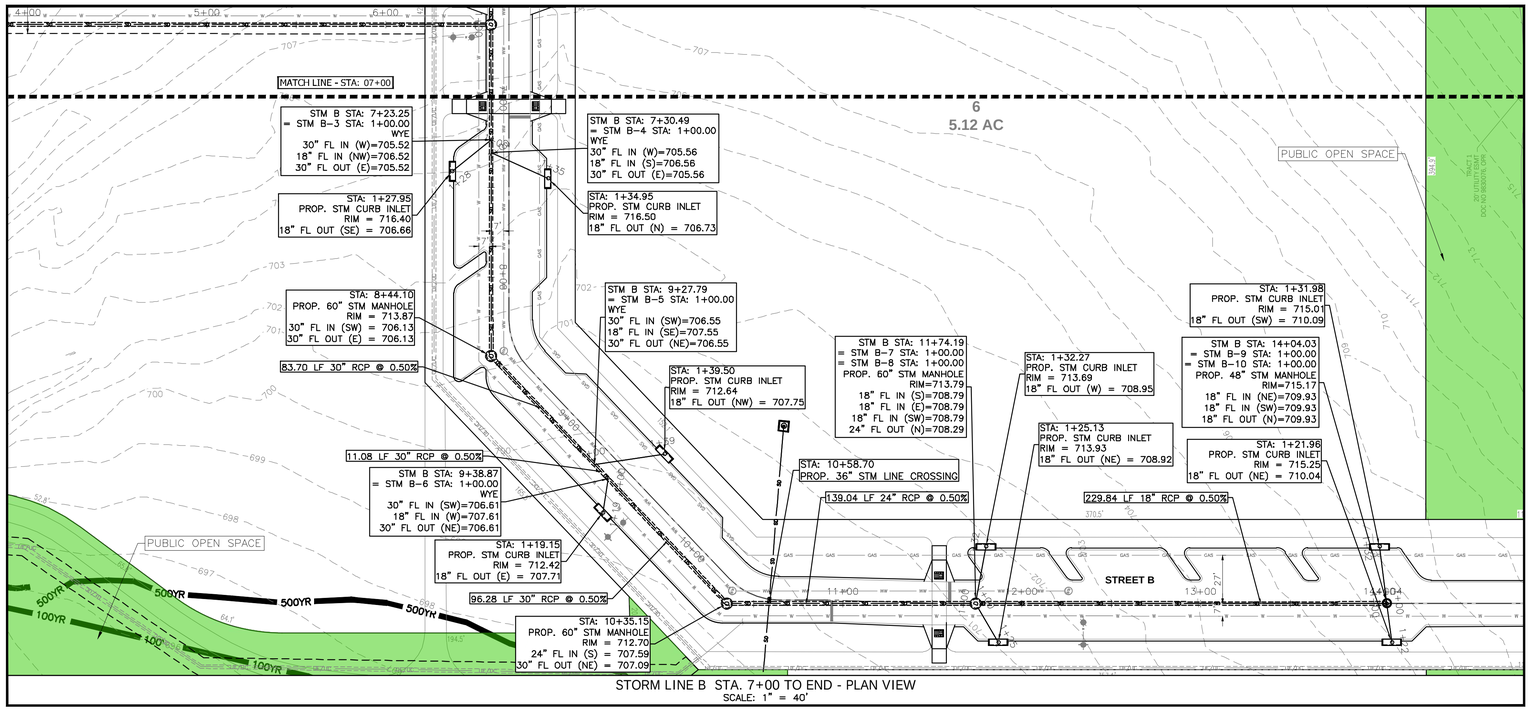
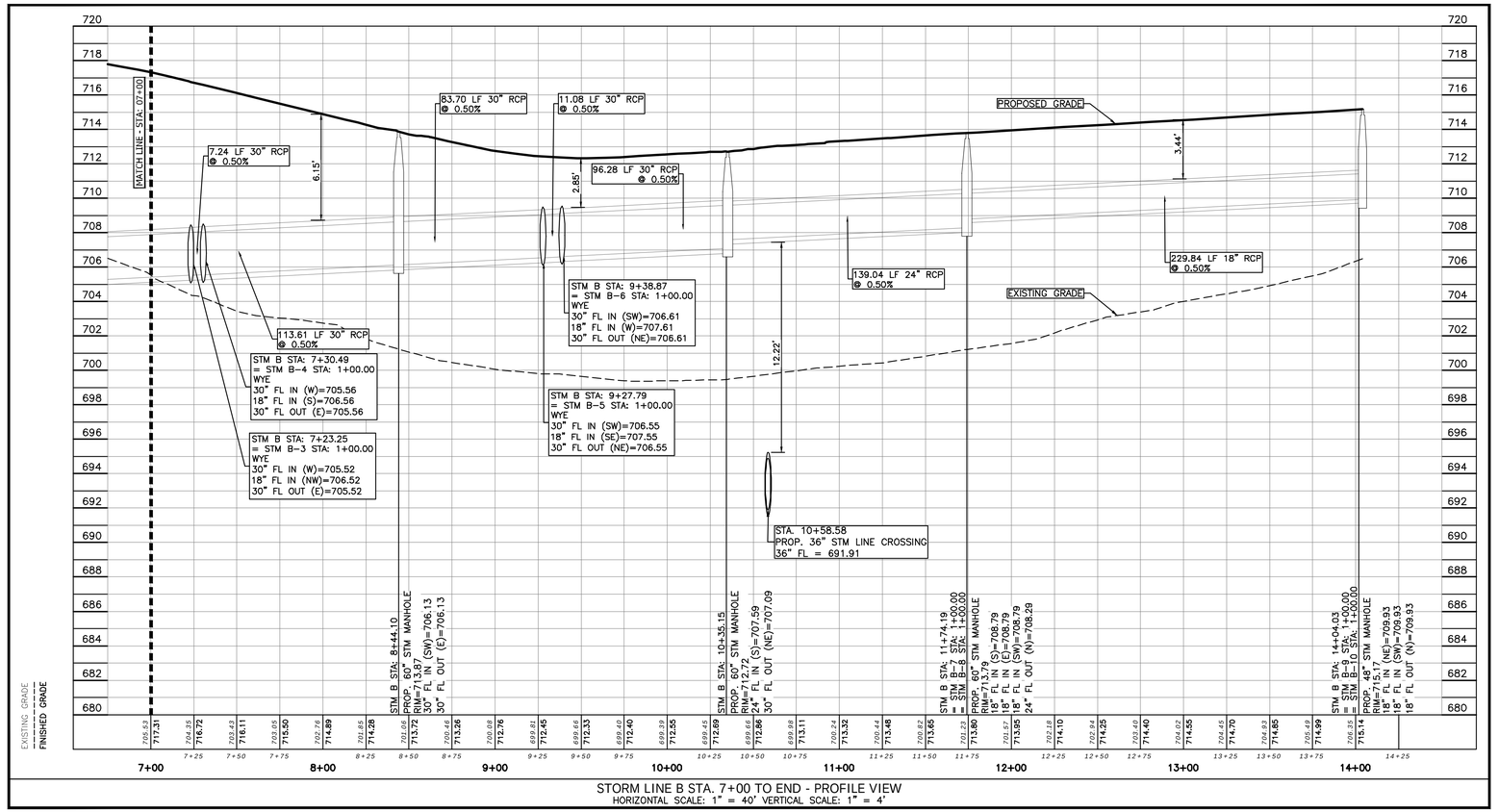
PROJECT NUMBER: 2025-____-CON



STORM LINE B STA. 7+00 TO END - PLAN VIEW
SCALE: 1" = 40'



STORM LINE B STA. 7+00 TO END - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- 512 EXISTING CONTOUR LINE
- 512 PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- 30" STORM DRAIN LINE
- W WATER LINE
- WW WASTEWATER LINE
- OH OVERHEAD ELECTRIC
- GAS GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WW WASTEWATER MANHOLE
- CO WASTEWATER CLEANOUT
- BFP BACKFLOW PREVENTER
- D STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE @ ℄

SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY–560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

STORM LINE B PLAN & PROFILE STA. 5+50 TO END

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ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 026 OF 069

PROJECT NUMBER: 2025-___-CON

Plot Date: September 19, 2025 @ 3:44 PM

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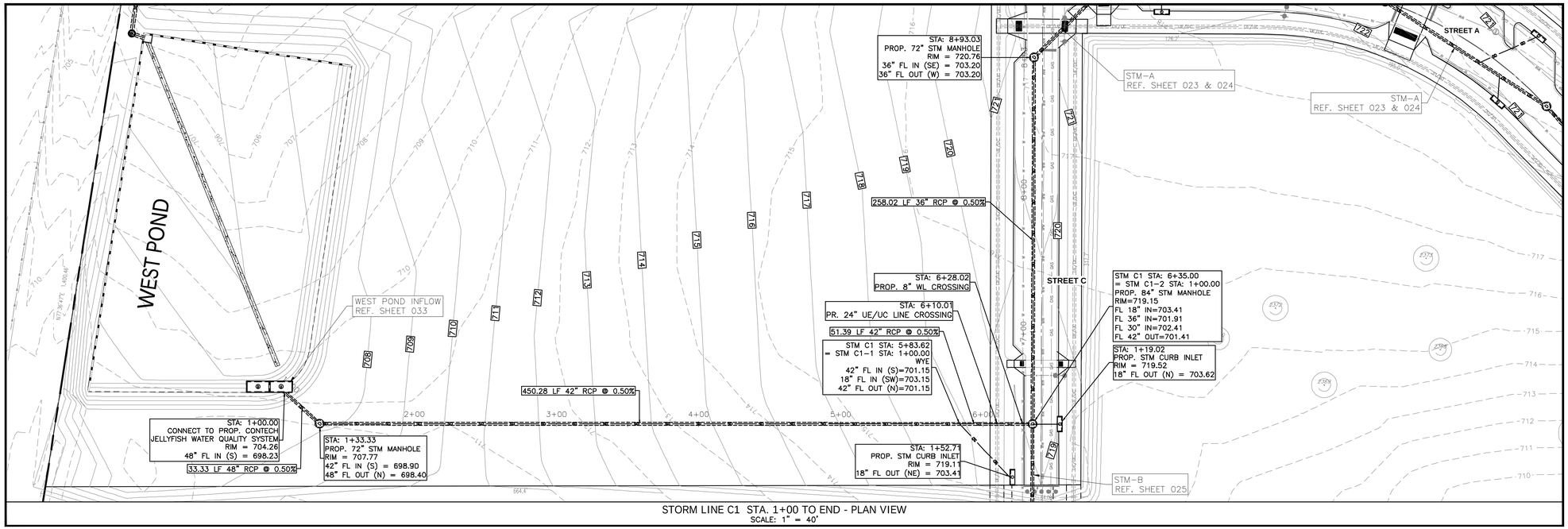
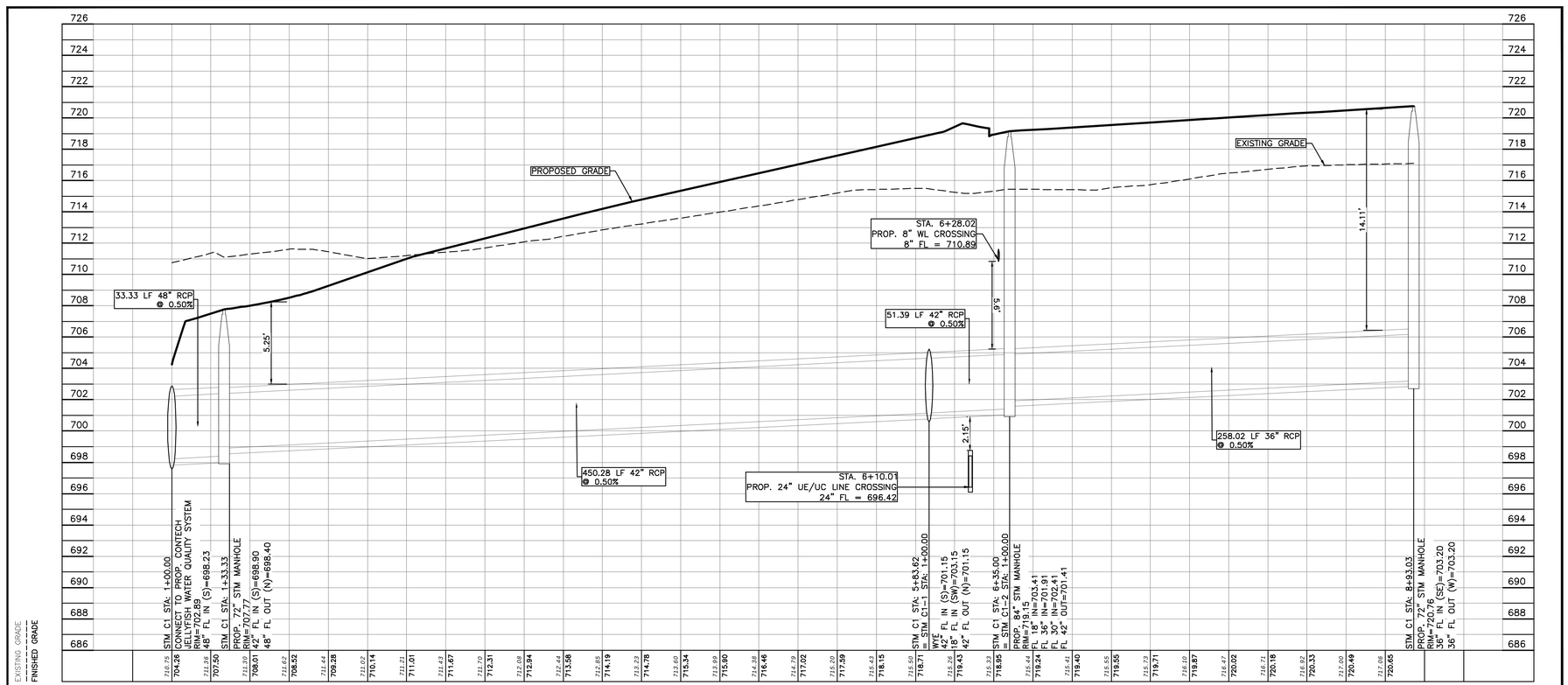


STORM LINE C1 STA. 1+00 TO END - PLAN VIEW
SCALE: 1" = 40'



STORM LINE C1 STA. 1+00 TO END - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- OVERHEAD ELECTRIC
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
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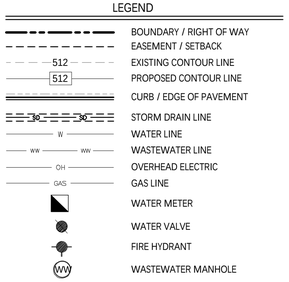
- BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE @ ℄



SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

STORM LINE C1 PLAN & PROFILE STA. 1+00 TO END

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
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RVW BY: MVR

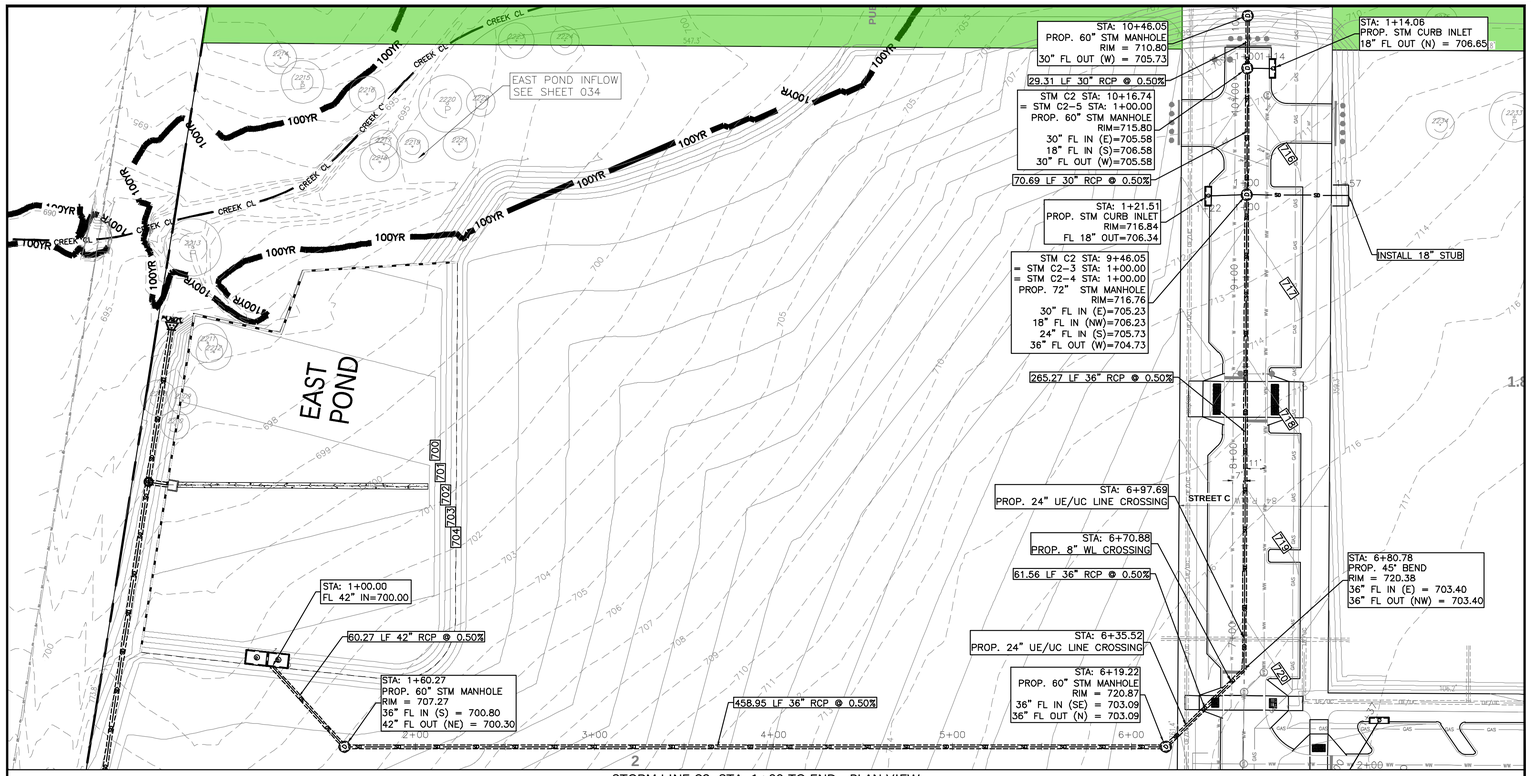
9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 027 OF 069

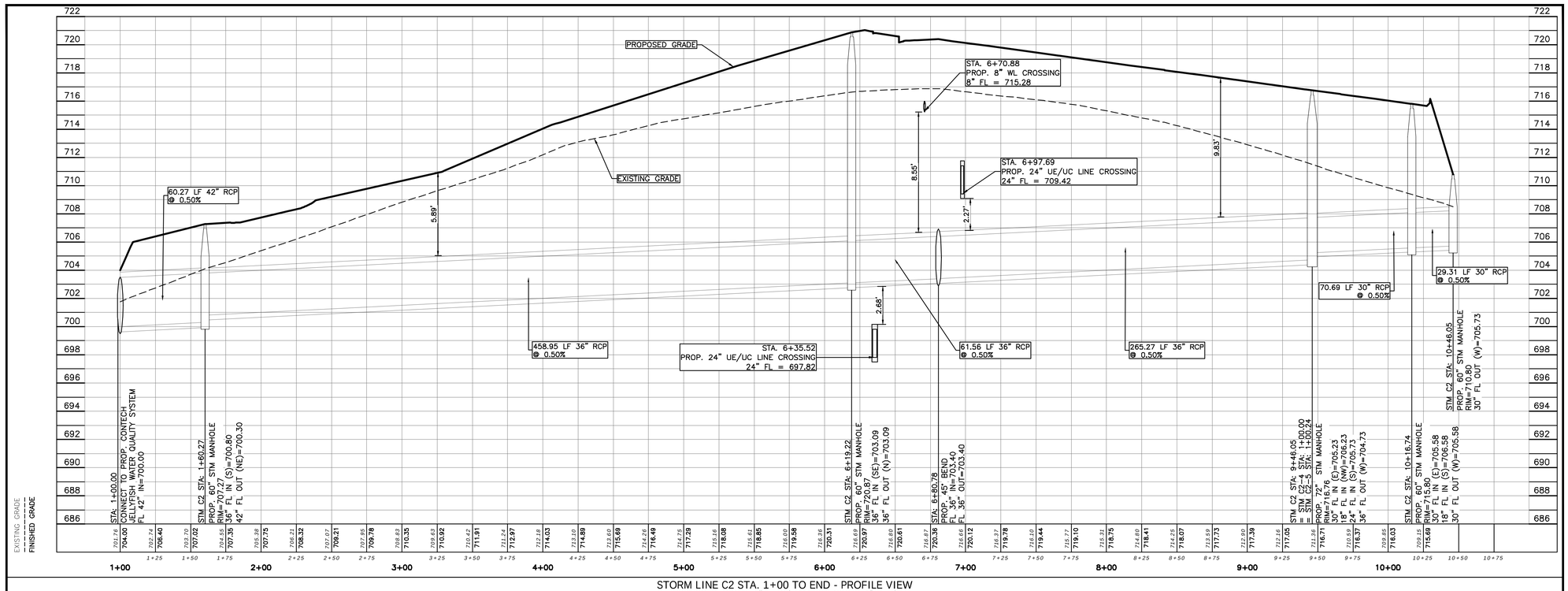
PROJECT NUMBER: 2025-___-CON

Plot Date: September 19, 2025 @ 3:46 PM

P:\a799 560 development - dma stage 1\Civil\construction drawings\Sheets\subdivision construction plans\Phase 1A\A799_STORM LINE C1 PLAN AND PROFILE.dwg



STORM LINE C2 STA. 1+00 TO END - PLAN VIEW
SCALE: 1" = 40'



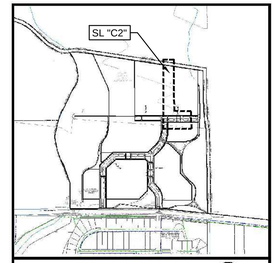
STORM LINE C2 STA. 1+00 TO END - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- OVERHEAD ELECTRIC
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE



SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY–560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

STORM LINE C2 PLAN & PROFILE STA. 1+00 TO END

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD, TML
RVW BY: MVR

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 028 OF 069

Plot Date: September 19, 2025 @ 3:48 PM

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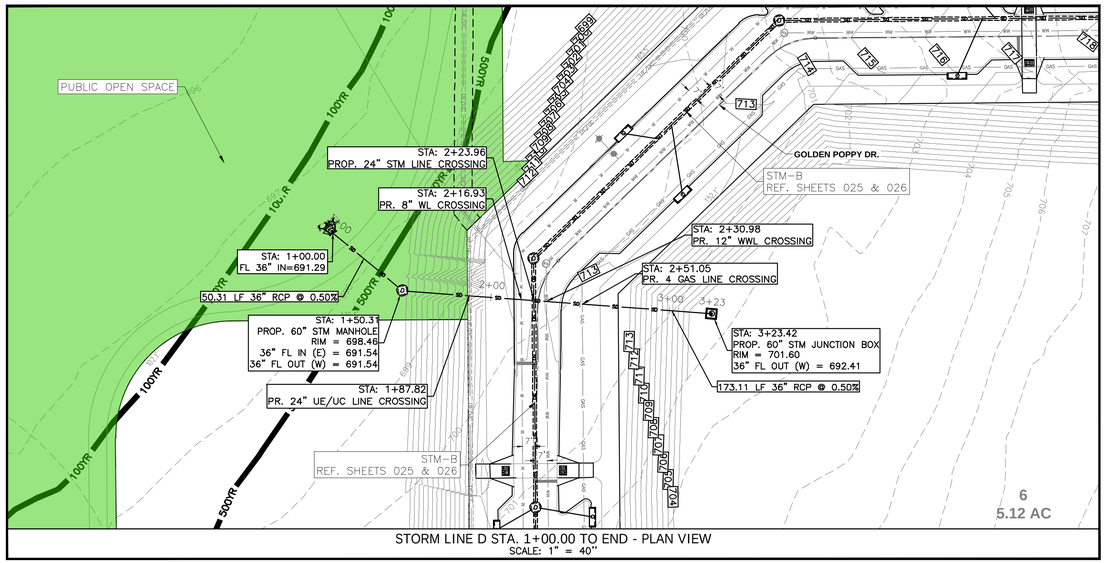
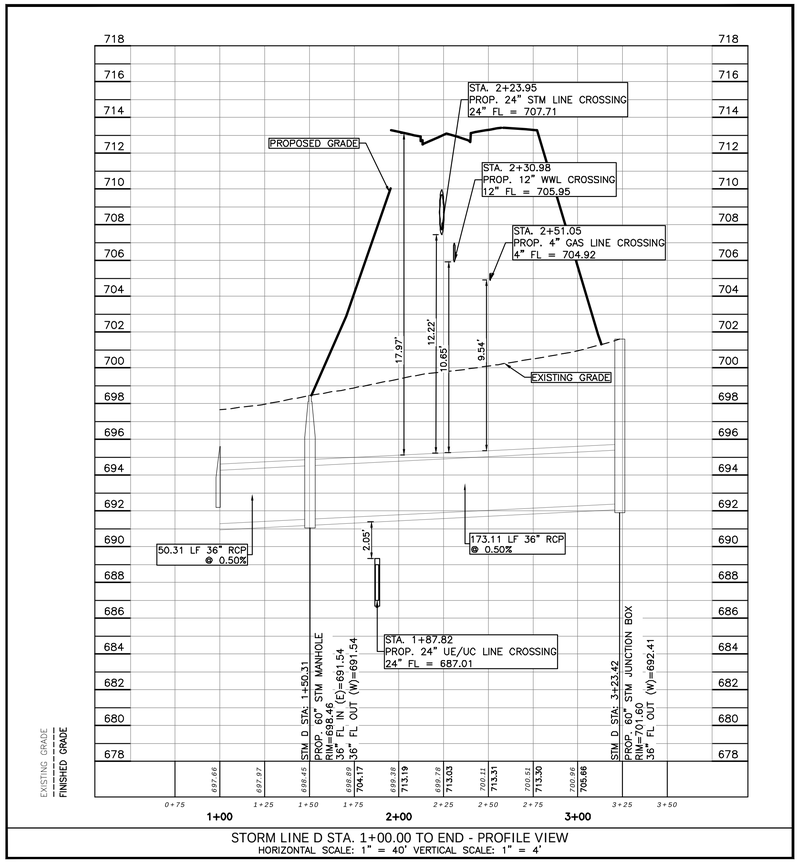
PROJECT NUMBER: 2025-____-CON



STORM LINE D STA. 1+00.00 TO END - PLAN VIEW
SCALE: 1" = 40'



STORM LINE D STA. 1+00.00 TO END - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- UE/UC LINE
- OVERHEAD ELECTRIC
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE

SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

STORM LINE D PLAN & PROFILE STA. 1+00 TO END

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 029 OF 069

PROJECT NUMBER: 2025-____-CON

Plot Date: September 19, 2025 @ 3:50 PM

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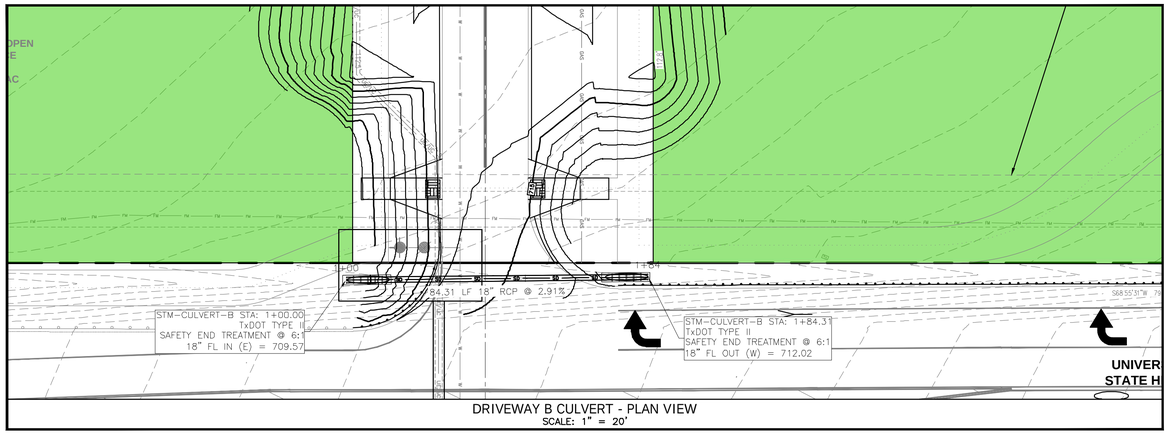
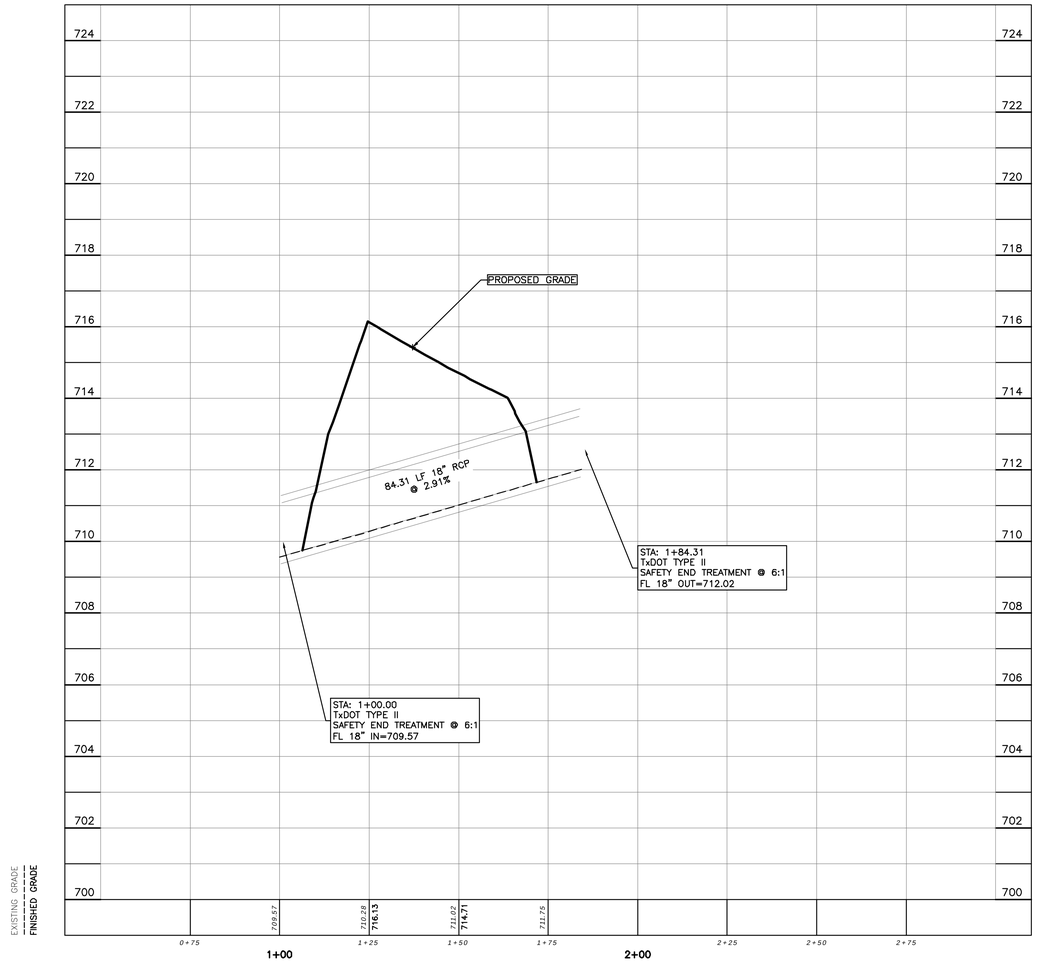


DRIVEWAY B CULVERT - PLAN VIEW
SCALE: 1" = 20'



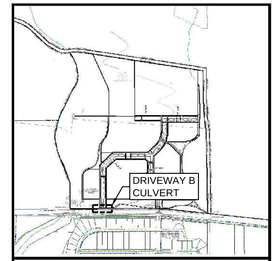
DRIVEWAY B CULVERT - PROFILE VIEW
HORIZONTAL SCALE: 1" = 20' VERTICAL SCALE: 1" = 2'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- 512 EXISTING CONTOUR LINE
- 512 PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- SD STORM DRAIN LINE
- W WATER LINE
- WW WASTEWATER LINE
- OH OVERHEAD ELECTRIC
- GAS GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WW WASTEWATER MANHOLE
- CO WASTEWATER CLEANOUT
- BFP BACKFLOW PREVENTER
- D STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE @ ℄



SCALE: NTS KEY MAP

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

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

DRIVEWAY B CULVERT PLAN & PROFILE

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

SHEET NO. 030 OF 069

PROJECT NUMBER: 2025-___-CON

Plot Date: September 19, 2025 @ 12:38 PM

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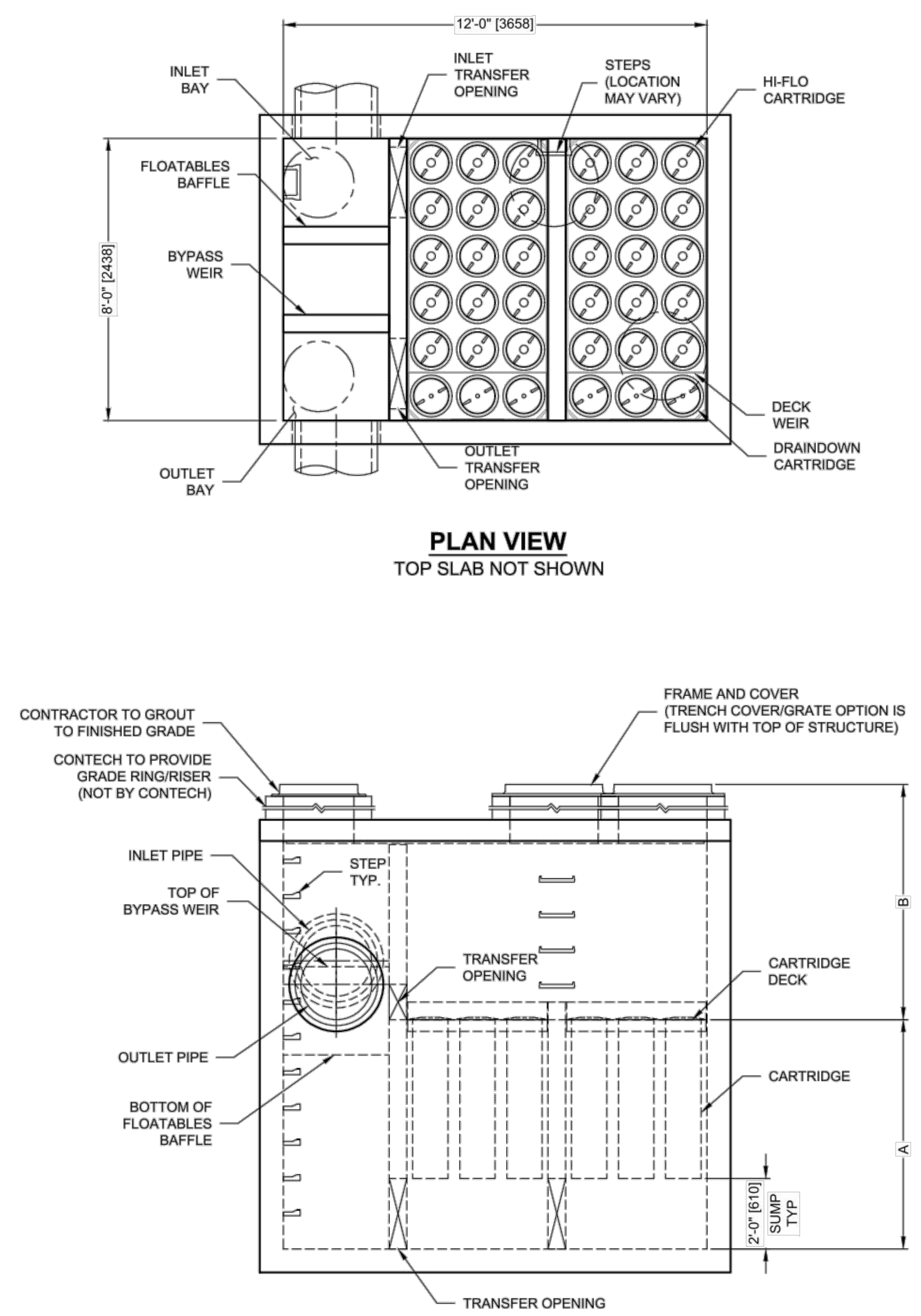


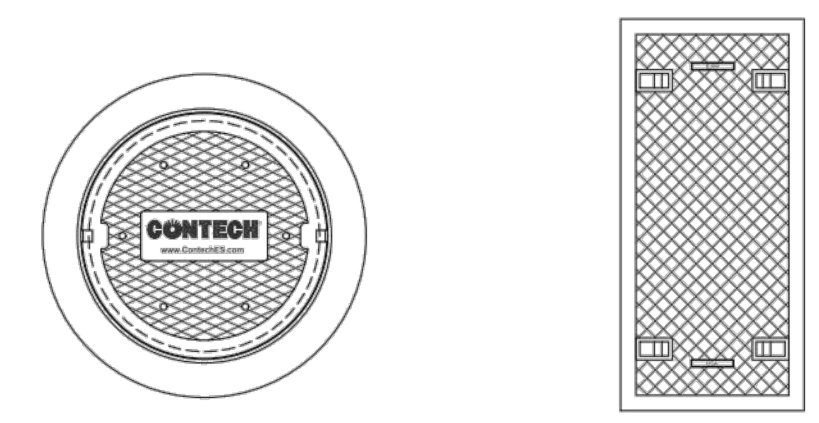
PLAN VIEW
TOP SLAB NOT SHOWN

ELEVATION VIEW

JELLYFISH DESIGN NOTES

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SIZE, TYPE AND QUANTITY. THE STANDARD PEAK DIVERSION VAULT STYLE WITH PRECAST TOP SLAB IS SHOWN. THE 8' x 12' [2438 x 3658] JELLYFISH PEAK TREATMENT CAPACITY IS 5.88 CFS [166.50 L/s]. MAXIMUM BYPASS CAPACITY IS DETERMINED BY CONTECH ENGINEERED SOLUTIONS. IF THE SITE CONDITIONS EXCEED THE TOTAL BYPASS CAPACITY OF THE SYSTEM, AN UPSTREAM DIVERSION STRUCTURE IS REQUIRED.

CARTRIDGE SIZE	54	40	27	15
FLOW RATE HIGH-FLO / DRAINDOWN (cfs [L/s])	0.178/0.089 [5.10/2.55]	0.133/0.065 [3.68/1.84]	0.089/0.045 [2.55/1.28]	0.049/0.025 [1.42/0.71]
MAXIMUM CARTRIDGE QUANTITY, HI-FLO / DRAINDOWN	30/6			
MAXIMUM TREATMENT	5.88 [166.50]	4.41 [124.88]	2.94 [83.25]	1.62 [45.87]
OUTLET INVERT TO STRUCTURE INVERT (A) (ft. [mm])	6.50 [1981]	5.33 [1625]	4.25 [1295]	3.25 [991]
FINISHED GRADE TO OUTLET INVERT (SHALLOW) (B)	DETERMINED BY CONTECH			
FINISHED GRADE TO OUTLET INVERT (STANDARD) (B) (ft. [mm])	5.67 [1727]	4.58 [1396]		



FRAME AND COVER
STANDARD TOP
SLAB CONFIGURATION
(DIAMETER VARIES)
NOT TO SCALE

24" TRENCH COVER
SHALLOW TOP
SLAB CONFIGURATION
(LENGTH VARIES)
NOT TO SCALE

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	
WATER QUALITY FLOW RATE (cfs [L/s])	
PEAK FLOW RATE (cfs [L/s])	
RETURN PERIOD OF PEAK FLOW (yrs)	
NUMBER OF CARTRIDGES REQUIRED (HF / DD)	
CARTRIDGE SIZE (54, 40, 27, 15)	
RIM ELEVATION	

PIPE DATA:	INVERT	MAT'L	DIA	SLOPE %	HGL
INLET PIPE 1					
INLET PIPE 2					
OUTLET PIPE					

SEE GENERAL NOTES 7-8 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

NOTES / SPECIAL REQUIREMENTS:

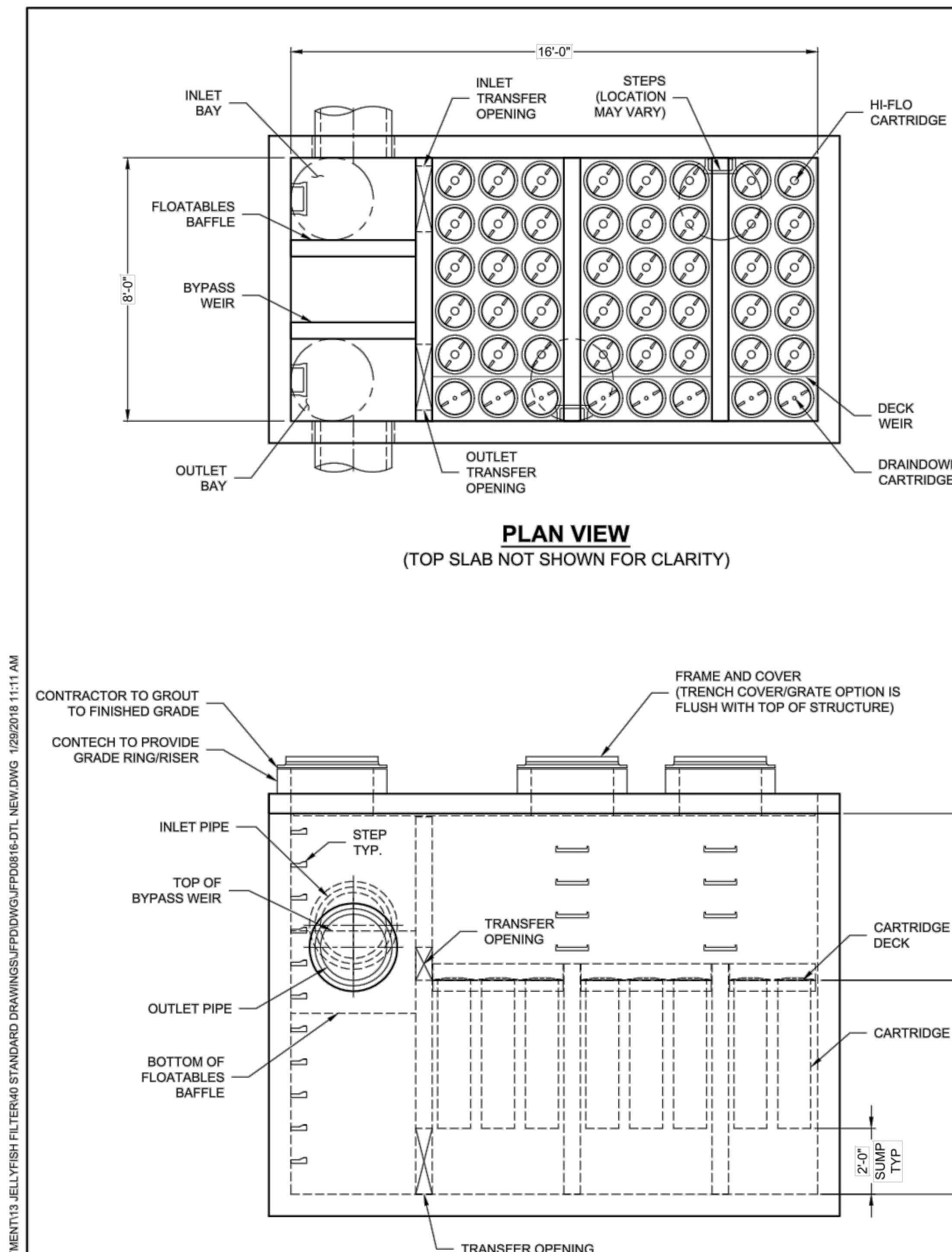
GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. ALTERNATE UNITS ARE IN MILLIMETERS [mm] UNLESS NOTED OTHERWISE.
4. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
5. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 10' [3048], AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
6. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.
7. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
8. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
9. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
D. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

Jellyfish® Filter
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,287,726; 8,221,618; US 8,123,935; OTHER INTERNATIONAL PATENTS PENDING

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

JELLYFISH JFPD0812
PEAK DIVERSION CONFIGURATION
STANDARD DETAIL



PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)

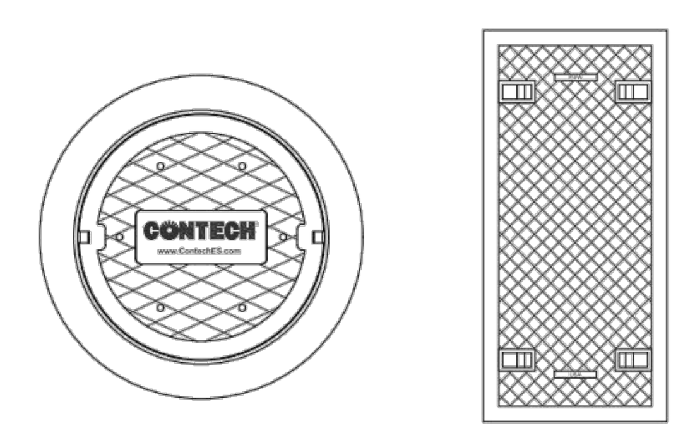
ELEVATION VIEW

JELLYFISH DESIGN NOTES

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD

CARTRIDGE SELECTION

CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	5'-4"	4'-3"	3'-3"
FLOW RATE HI-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	7.84	5.88	3.92	2.16
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

24" TRENCH COVER
(LENGTH VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	*
WATER QUALITY FLOW RATE (cfs)	*
PEAK FLOW RATE (cfs)	*
RETURN PERIOD OF PEAK FLOW (yrs)	*
# OF CARTRIDGES REQUIRED (HF / DD)	*
CARTRIDGE LENGTH	*

PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	*	*	*	*	*
INLET #2	*	*	*	*	*
OUTLET	*	*	*	*	*

SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

RIM ELEVATION	*

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 10', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
D. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

Jellyfish® Filter
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,287,726; 8,221,618; US 8,123,935; OTHER INTERNATIONAL PATENTS PENDING

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www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

JELLYFISH JFPD0816
STANDARD DETAIL
PEAK DIVERSION CONFIGURATION

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

JELLYFISH WATER QUALITY DETAILS

CIVILITUDE ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 031 OF 069

Plot Date: September 19, 2025 @ 12:40 PM

P:\a799 560 development – dma stage 1\Civil\construction drawings\Sheets\subdivision construction plans\Phase 1A\A799_WATER QUALITY NOTES AND DETAILS.dwg

PROJECT NUMBER: 2025-___-CON

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: 560 Development
Date Prepared: 8/11/2025

1. The Required Load Reduction for the total project:

Calculations from RG-348 Page 3-29 Equation 3.3: $L_M = 28.9(A_N \times P)$
Pages 3-27 to 3-30

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 85% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	10.00	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	8.00	acres
Total post-development impervious cover fraction * =	0.80	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	7398	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	1	

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. =	P-2A	
Total drainage basin/outfall area =	10.00	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	8.00	acres
Post-development impervious fraction within drainage basin/outfall area =	0.80	
$L_{M\ THIS\ BASIN}$ =	7398	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	JF	abbreviation
Removal efficiency =	86	percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7:
LR = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	10.00	acres
A_I =	8.00	acres
A_P =	2.00	acres
L_R =	7647	lbs.

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ =	7398	lbs.
F =	0.97	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

Offsite area draining to BMP =	0.00	acres
Offsite impervious cover draining to BMP =	0.00	acres
Rainfall Intensity =	2.00	inches per hour
Effective Area =	7.26	acres
Cartridge Length =	54	inches
Peak Treatment Flow Required =	14.64	cubic feet per second

Calculations from RG-348
Pages Section 3.2.22

7. Jellyfish
Designed as Required in RG-348
Section 3.2.22

Flow Through Jellyfish Size	Vault
Jellyfish Size for Flow-Based Configuration =	2ea JFPD0816-38-8
Jellyfish Treatment Flow Rate =	14.97 cfs

Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: 560 Development
Date Prepared: 8/11/2025

1. The Required Load Reduction for the total project:

Calculations from RG-348 Page 3-29 Equation 3.3: $L_M = 28.9(A_N \times P)$
Pages 3-27 to 3-30

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 85% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	8.00	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	6.40	acres
Total post-development impervious cover fraction * =	0.80	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	5919	lbs.
Number of drainage basins / outfalls areas leaving the plan area =	1	

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. =	P-2B	
Total drainage basin/outfall area =	8.00	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	6.40	acres
Post-development impervious fraction within drainage basin/outfall area =	0.80	
$L_{M\ THIS\ BASIN}$ =	5919	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	JF	abbreviation
Removal efficiency =	86	percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7:
LR = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	8.00	acres
A_I =	6.40	acres
A_P =	1.60	acres
L_R =	6118	lbs.

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ =	5919	lbs.
F =	0.97	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

Offsite area draining to BMP =	0.00	acres
Offsite impervious cover draining to BMP =	0.00	acres
Rainfall Intensity =	2.00	inches per hour
Effective Area =	5.81	acres
Cartridge Length =	54	inches
Peak Treatment Flow Required =	11.71	cubic feet per second

Calculations from RG-348
Pages Section 3.2.22

7. Jellyfish
Designed as Required in RG-348
Section 3.2.22

Flow Through Jellyfish Size	Vault
Jellyfish Size for Flow-Based Configuration =	2ea JFPD0812-30-6
Jellyfish Treatment Flow Rate =	11.76 cfs

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY–560 DEVELOPMENT
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TCEQ WATER QUALITY CALCULATIONS

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR
STATE OF TEXAS JORDAN L. MILLER 124884 LICENSED PROFESSIONAL ENGINEER

SHEET NO. 032 OF 069

PROJECT NUMBER: 2025-____-CON

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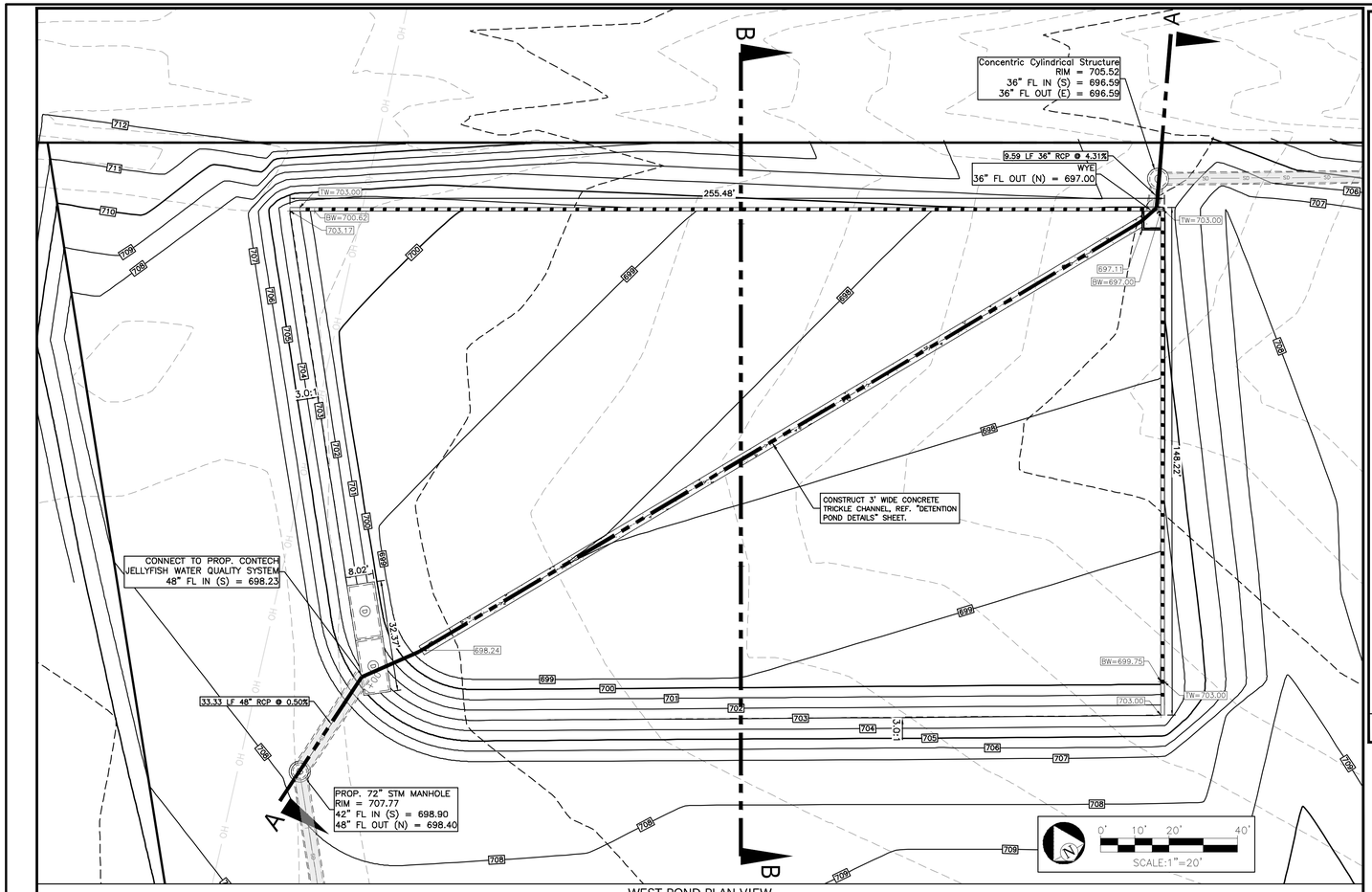
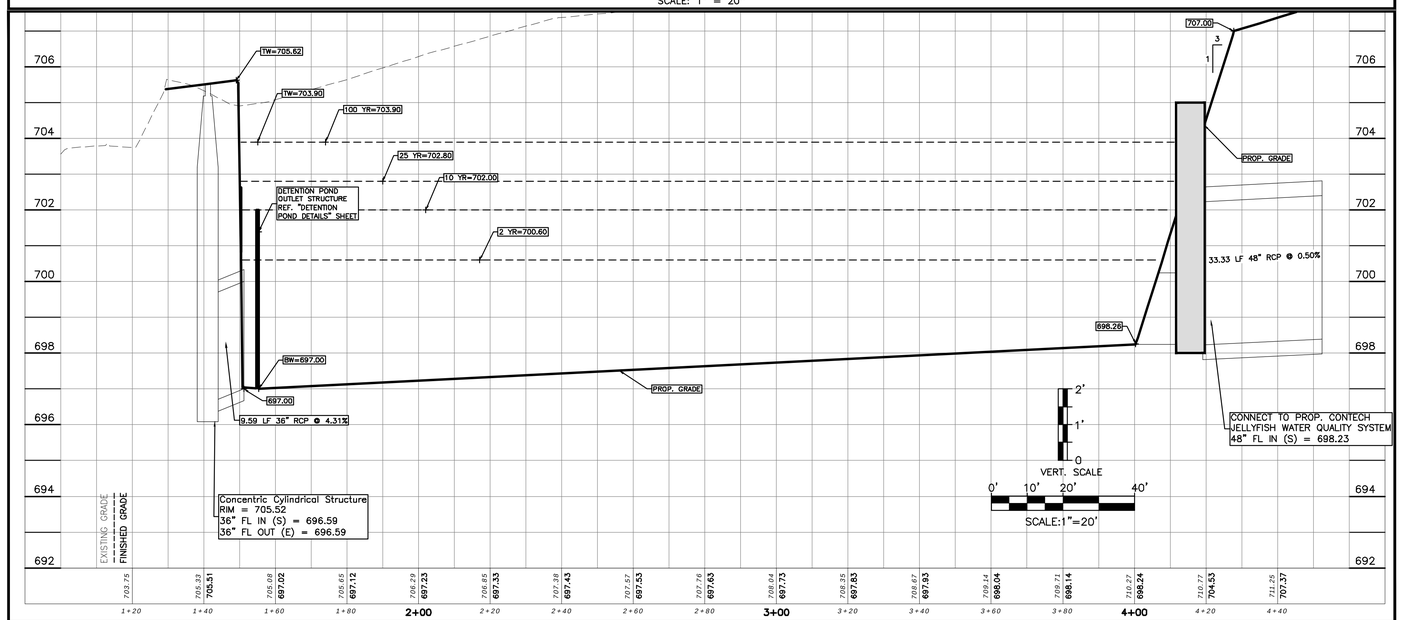
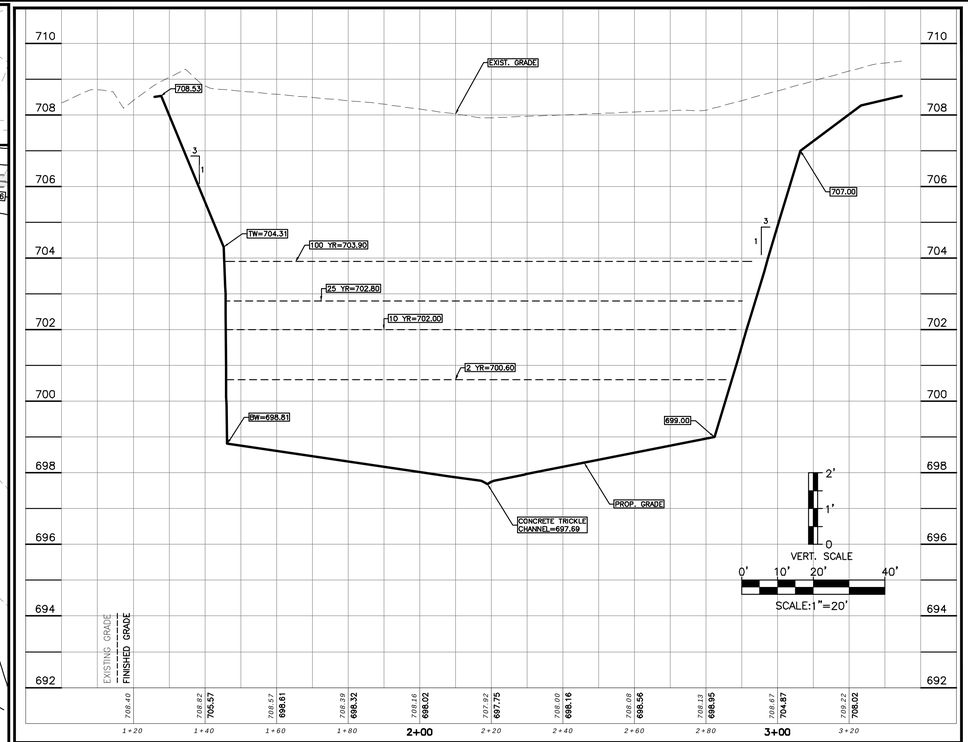


WEST POND PLAN VIEW
SCALE: 1" = 20"



WEST POND SECTION A-A
HORIZONTAL SCALE: 1" = 20' VERTICAL SCALE: 1" = 2'



WEST POND SECTION B-B
HORIZONTAL SCALE: 1" = 20' VERTICAL SCALE: 1" = 2'

WEST POND VOLUME CALCULATIONS					
Elevation	Area		Total Volume		100-Year Outflow
(ft)	(sf)	(ac)	(cf)	(ac-ft)	(cfs)
697	1	0.000019	-	0.00	
698	7,372	0.169238	3,686.4	0.08	1.60
699	24,405	0.560262	19,574.9	0.45	4.40
700	31,885	0.731979	47,719.9	1.10	8.50
701	33,730	0.774334	80,527.4	1.85	18.40
702	34,868	0.800459	114,826.4	2.64	31.00
703	36,014	0.810000	150,267.4	3.45	47.80
704	36,015	0.826768	186,281.9	4.28	64.30

West Pond Elevations		
Storm Event	Peak Elev. (ft)	Peak Discharge (cfs)
100-year	703.9	64.3
25-year	702.8	43.6
10-year	702	31.6
2-year	700.6	13.9

West Pond Outlet Controls		
	Elevation	Length (ft)
Spillway 1	0	0.5
Spillway 2	2.8	1.50

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- RETAINING / SCREENING WALL
- 512 EXISTING CONTOUR LINE
- 512 PROPOSED CONTOUR LINE
- SD SD STORM DRAIN LINE
- D STORM DRAIN MANHOLE
- STORM DRAIN GRATE INLET

PROFILE LEGEND

- FINISHED GRADE
- EXISTING GRADE

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

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WEST POND PLAN & SECTIONS

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ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
JOB NO: A799
DGN BY: WS
DWN BY: MD, TML
RVW BY: MVR
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED
PROFESSIONAL ENGINEER

SHEET NO. 033 OF 069

PROJECT NUMBER: 2025-____-CON

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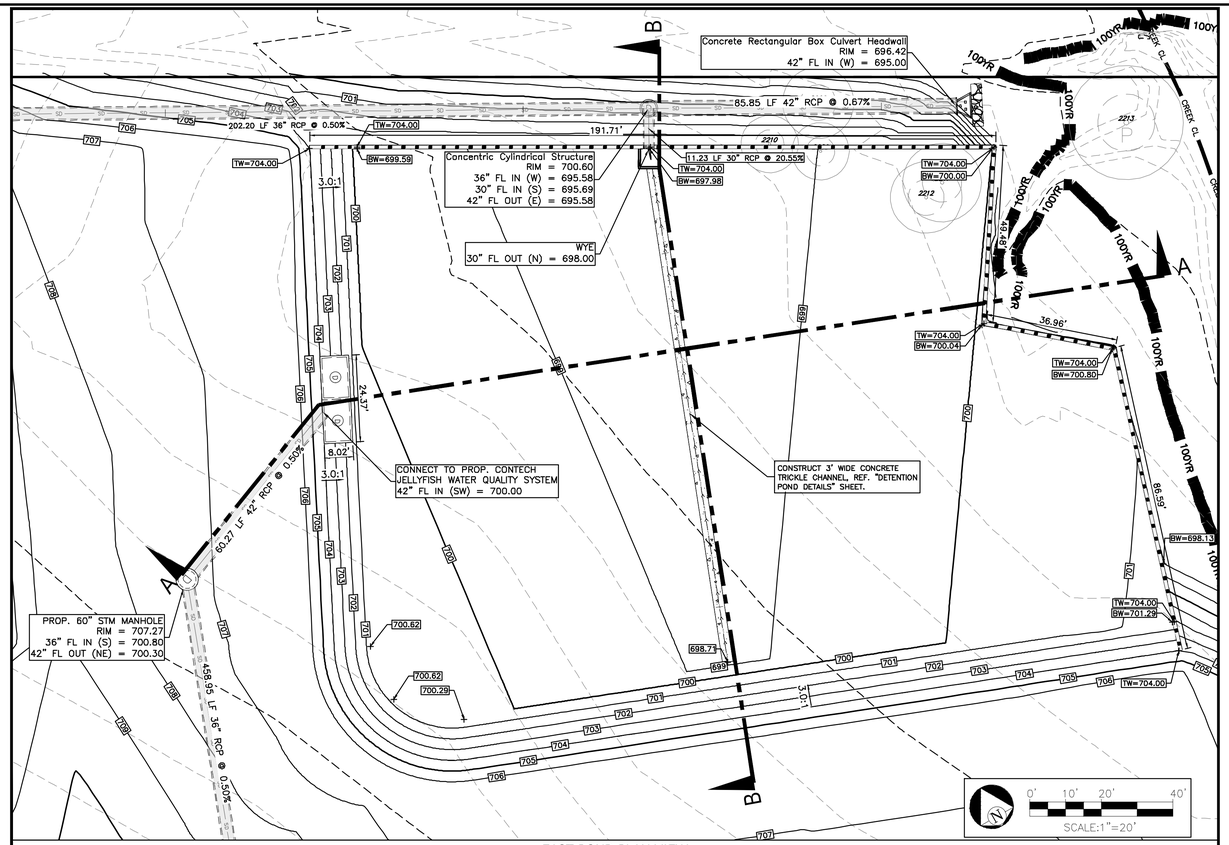
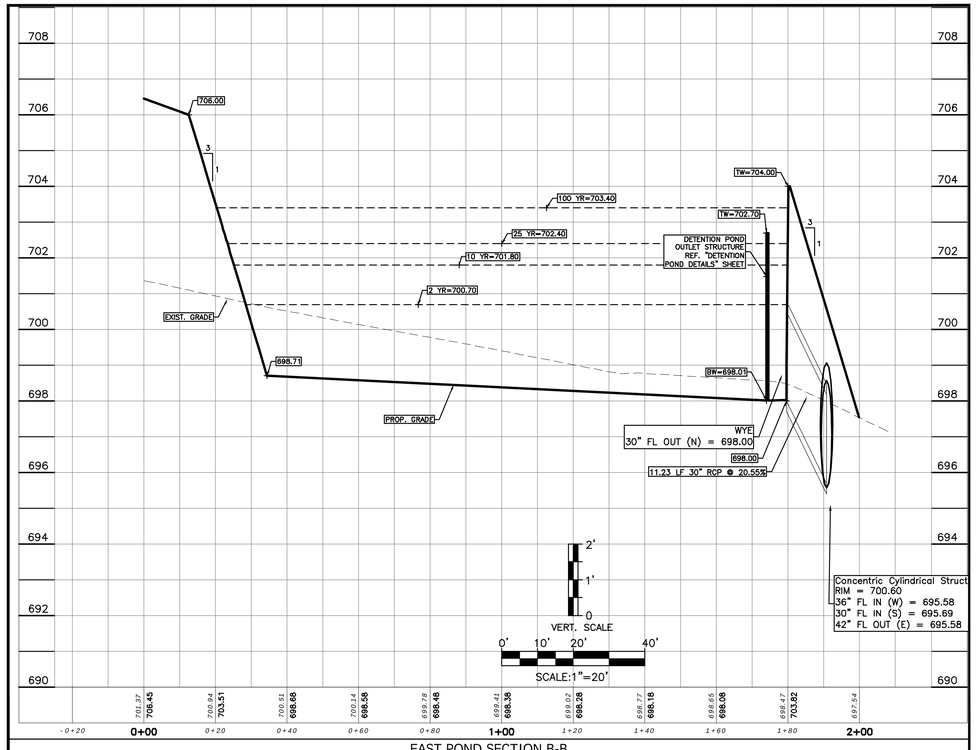
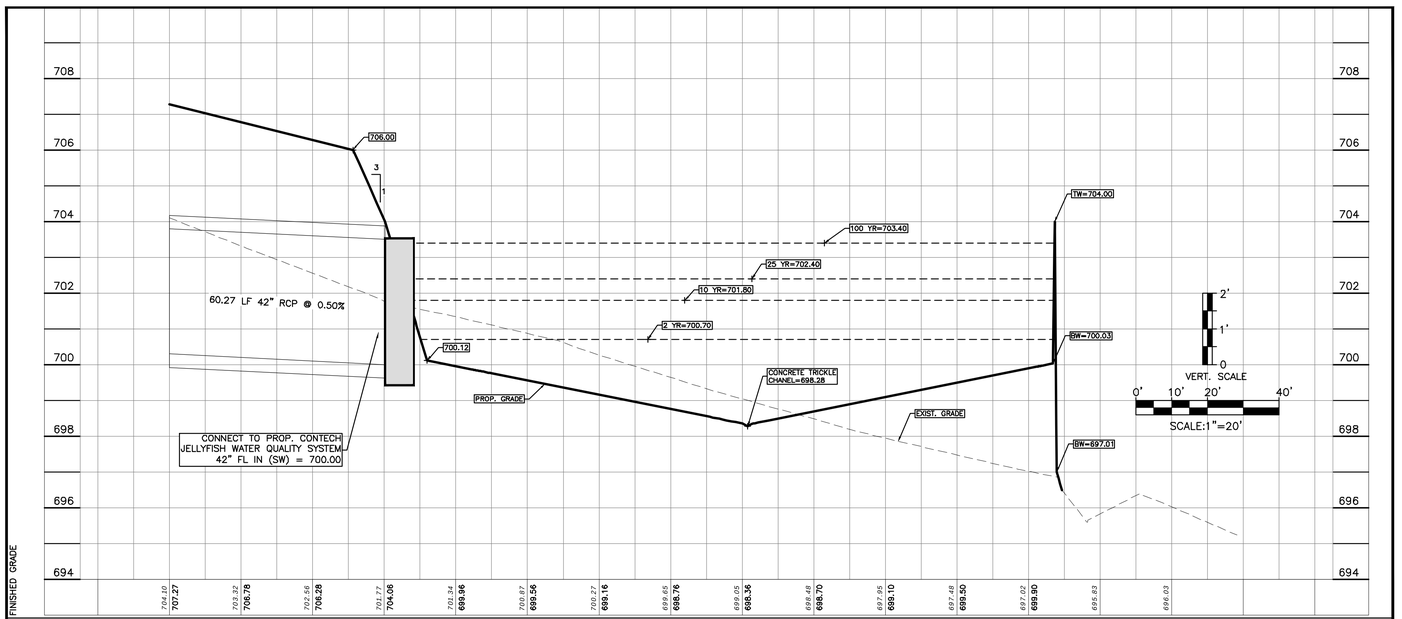


EAST POND PLAN VIEW
SCALE: 1" = 20'



EAST POND SECTION B-B
HORIZONTAL SCALE: 1" = 20' VERTICAL SCALE: 1" = 2'



EAST POND SECTION A-A
HORIZONTAL SCALE: 1" = 20' VERTICAL SCALE: 1" = 2'

EAST POND VOLUME CALCULATIONS					
Elevation	Area		Total Volume		100-Year Outflow
(ft)	(sf)	(ac)	(cf)	(ac-ft)	(cfs)
698	1	0.000016	-	0.00	-
699	8,781	0.201584	4,390.9	0.10	1.60
700	23,242	0.533563	20,402.4	0.47	4.40
701	30,077	0.690473	47,061.9	1.08	8.00
702	31,583	0.725046	77,891.9	1.79	12.20
703	32,789	0.752732	110,077.9	2.53	16.90
704	34,011	0.780785	143,477.9	3.29	-

East Pond Elevations		
Storm Event	Peak Elev. (ft)	Peak Discharge (cfs)
100-year	703.4	18.9
25-year	702.4	13.8
10-year	701.8	11.0
2-year	700.7	6.7

East Pond Outlet Controls		
	Elevation	Length (ft)
Spillway 1	0	0.5

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- RETAINING / SCREENING WALL
- 512 EXISTING CONTOUR LINE
- 512 PROPOSED CONTOUR LINE
- SD SD STORM DRAIN LINE
- D STORM DRAIN MANHOLE
- STORM DRAIN GRATE INLET

PROFILE LEGEND

- FINISHED GRADE
- EXISTING GRADE

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

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1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

EAST POND PLAN & SECTIONS

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED
PROFESSIONAL ENGINEER

JOB NO: A799
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SHEET NO. 034 OF 069

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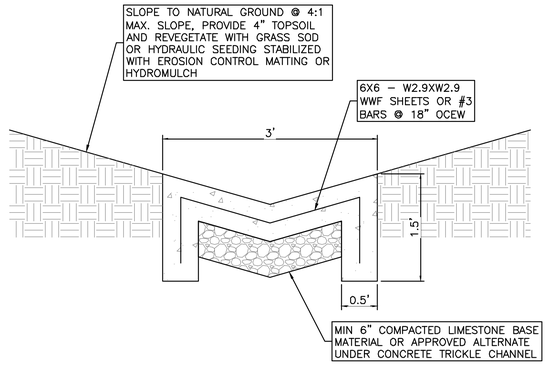
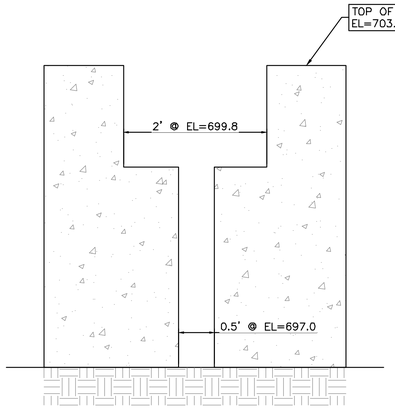
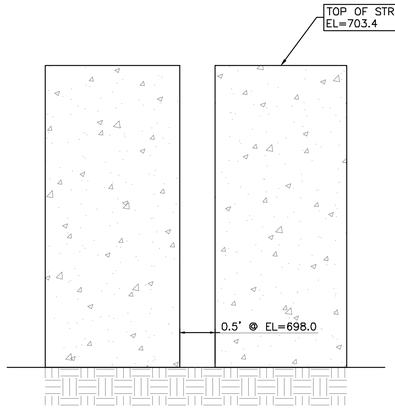


TYPICAL CONCRETE TRICKLE CHANNEL DETAIL



WEST POND - OUTLET STRUCTURE DETAIL VIEW



EAST POND - OUTLET STRUCTURE DETAIL VIEW

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

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DETENTION POND DETAILS

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ENGINEERS & PLANNERS
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PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
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RVW BY: MVR

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STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 035 OF 069

PROJECT NUMBER: 2025–____–CON

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LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- 512 EXISTING CONTOUR LINE
- 512 PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- PROPOSED BUILDING PAD AREA
- SD STORM DRAIN LINE
- W WATER LINE
- WW WASTEWATER LINE
- OH OVERHEAD ELECTRIC
- GAS GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WW WASTEWATER MANHOLE
- CO WASTEWATER CLEANOUT
- BFP BACKFLOW PREVENTER
- D STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- STORM DRAIN AREA INLET
- T TRANSFORMER
- AC AIR CONDITIONER UNIT
- G GAS METER
- EM ELECTRIC MANHOLE
- E ELECTRIC BOX
- UTILITY POLE
- GUY WIRE

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

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
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OVERALL UTILITY PLAN

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

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STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 036 OF 069

PROJECT NUMBER: 2025-____-CON

Plot Date: September 19, 2025 @ 12:45 PM

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LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- 512 EXISTING CONTOUR LINE
- 512 PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- 30" STORM DRAIN LINE
- W WATER LINE
- WW WASTEWATER LINE
- OH OVERHEAD ELECTRIC
- GAS GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WW WASTEWATER MANHOLE
- CO WASTEWATER CLEANOUT
- BFP BACKFLOW PREVENTER
- D STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

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

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

OVERALL WATER LINE DISTRIBUTION PLAN

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ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

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SHEET NO. 037 OF 069

PROJECT NUMBER: 2025-____-CON

Plot Date: September 19, 2025 @ 12:46 PM

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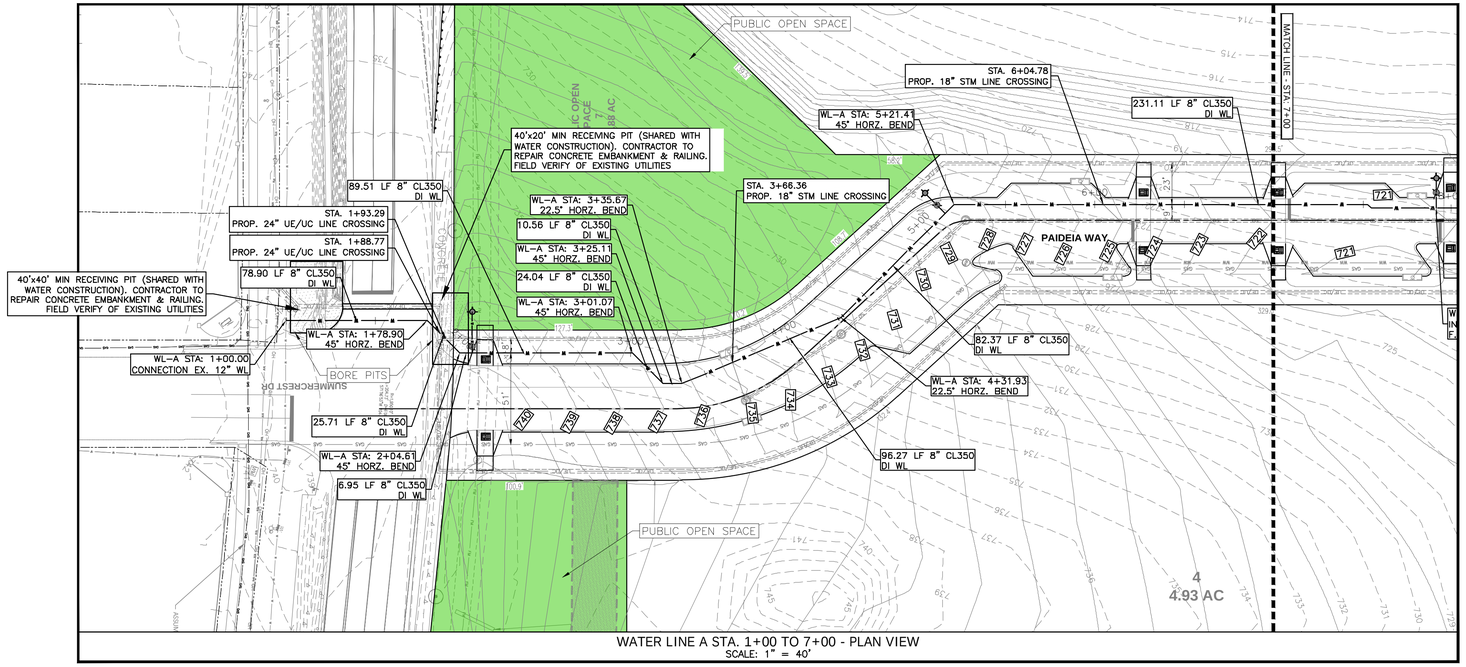
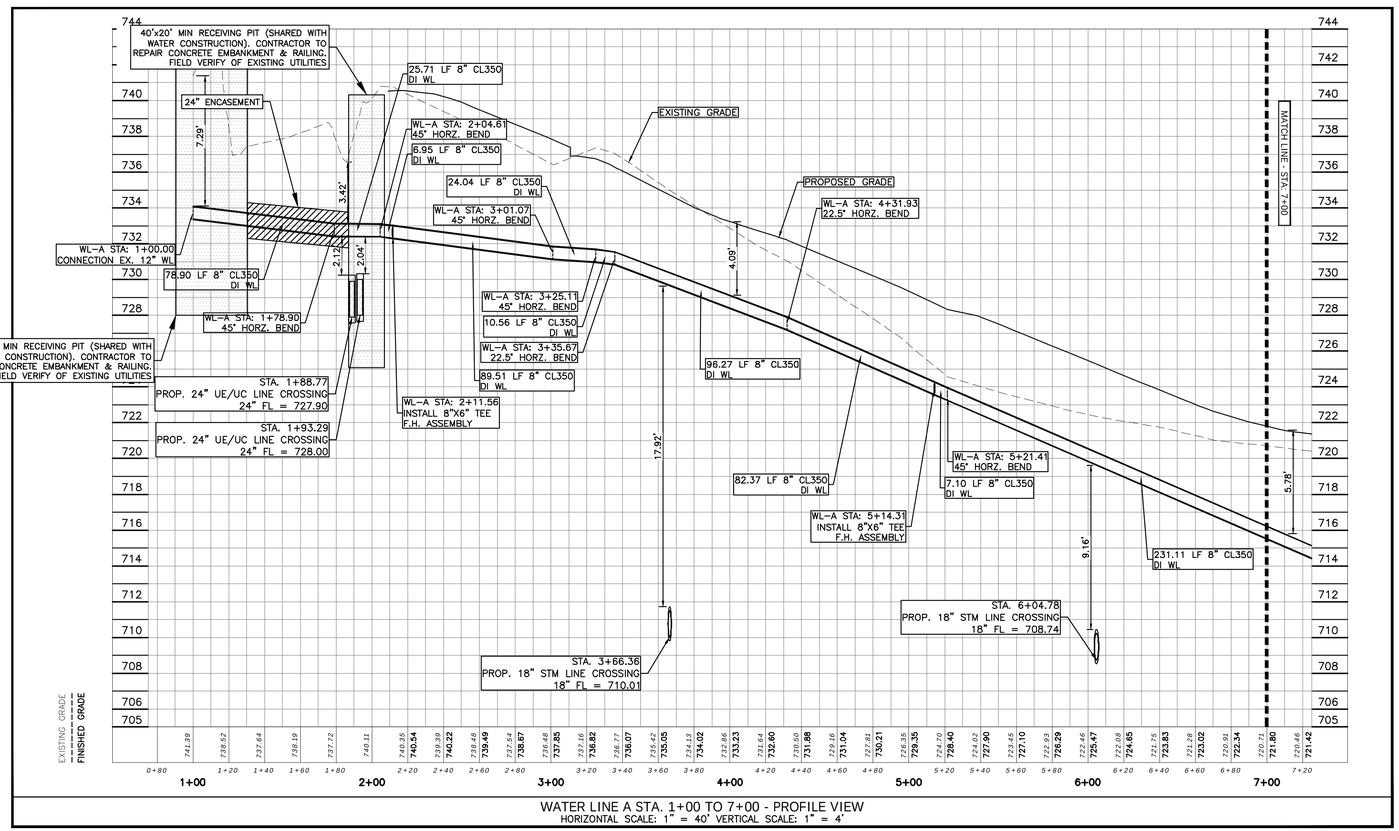


WATER LINE A STA. 1+00 TO 7+00 - PLAN VIEW
SCALE: 1" = 40'



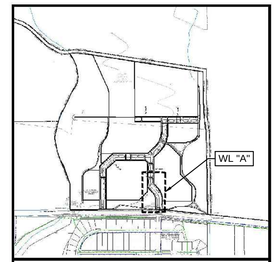
WATER LINE A STA. 1+00 TO 7+00 - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- UE/UC LINE
- OVERHEAD ELECTRIC
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE



SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

WATER LINE A PLAN & PROFILE STA. 1+00 TO 7+00

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

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JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS

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SHEET NO. 038 OF 069

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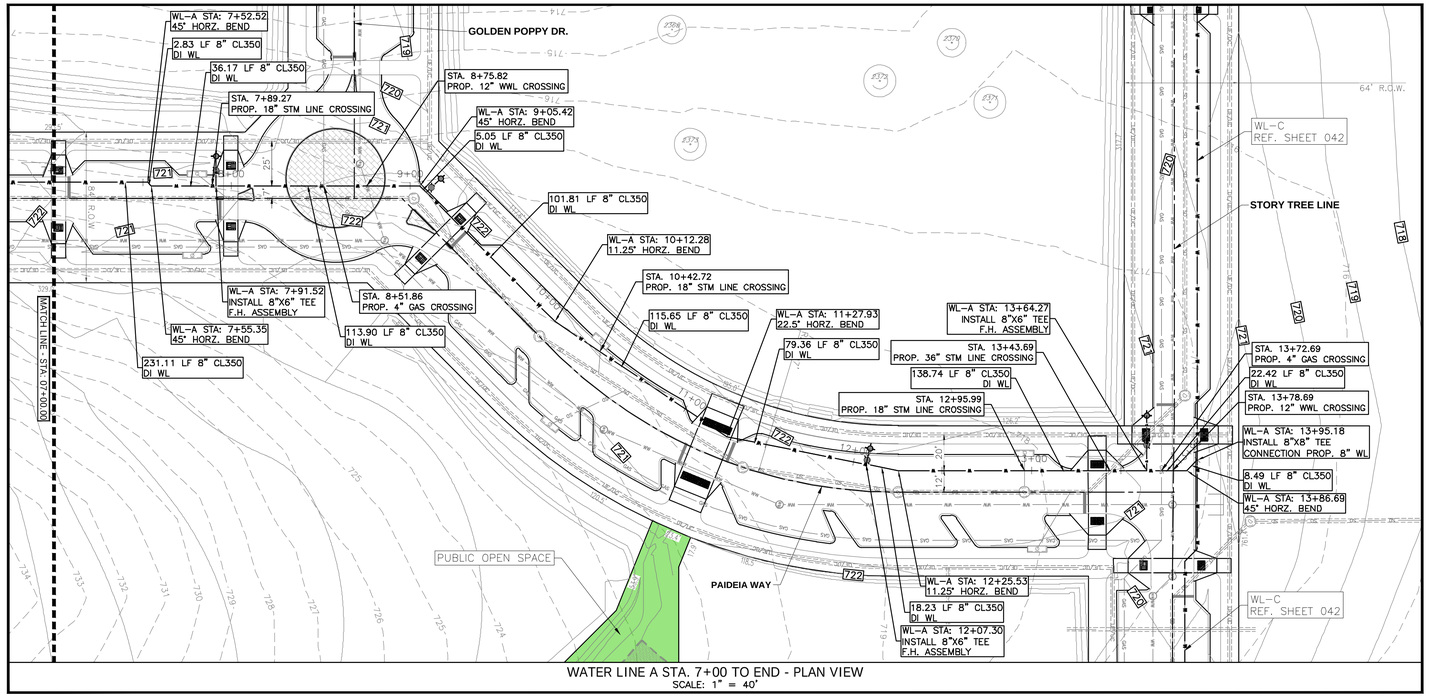
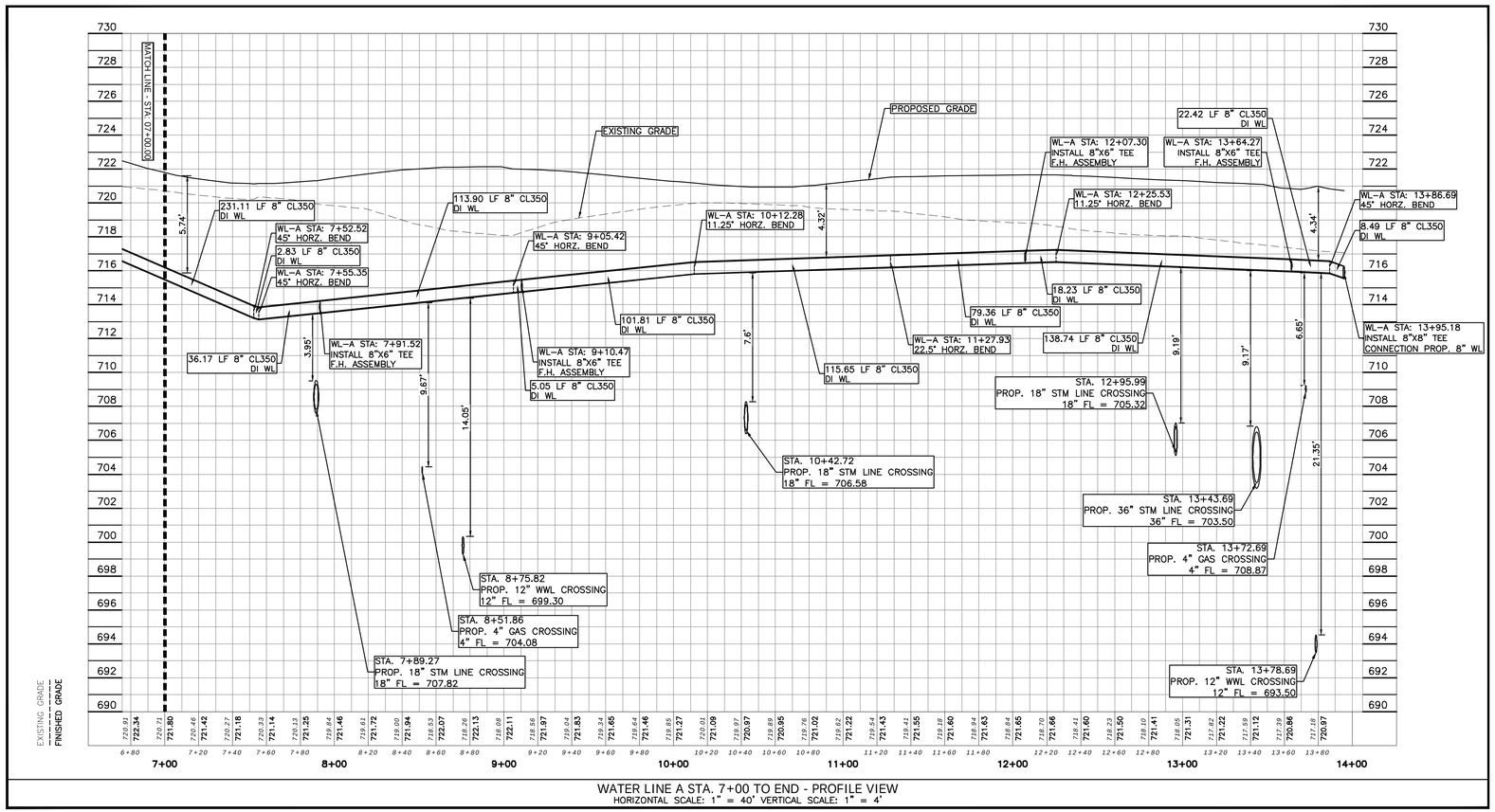
PROJECT NUMBER: 2025-____-CON



WATER LINE A STA. 7+00 TO END - PLAN VIEW
SCALE: 1" = 40'



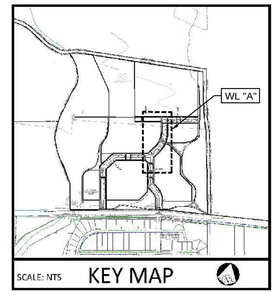
WATER LINE A STA. 7+00 TO END - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- UE/UC LINE
- OVERHEAD ELECTRIC
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE @ ℄



SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

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WATER LINE A PLAN & PROFILE STA. 7+00 TO END

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

JOB NO: A799
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SHEET NO. 039 OF 069

PROJECT NUMBER: 2025-___-CON

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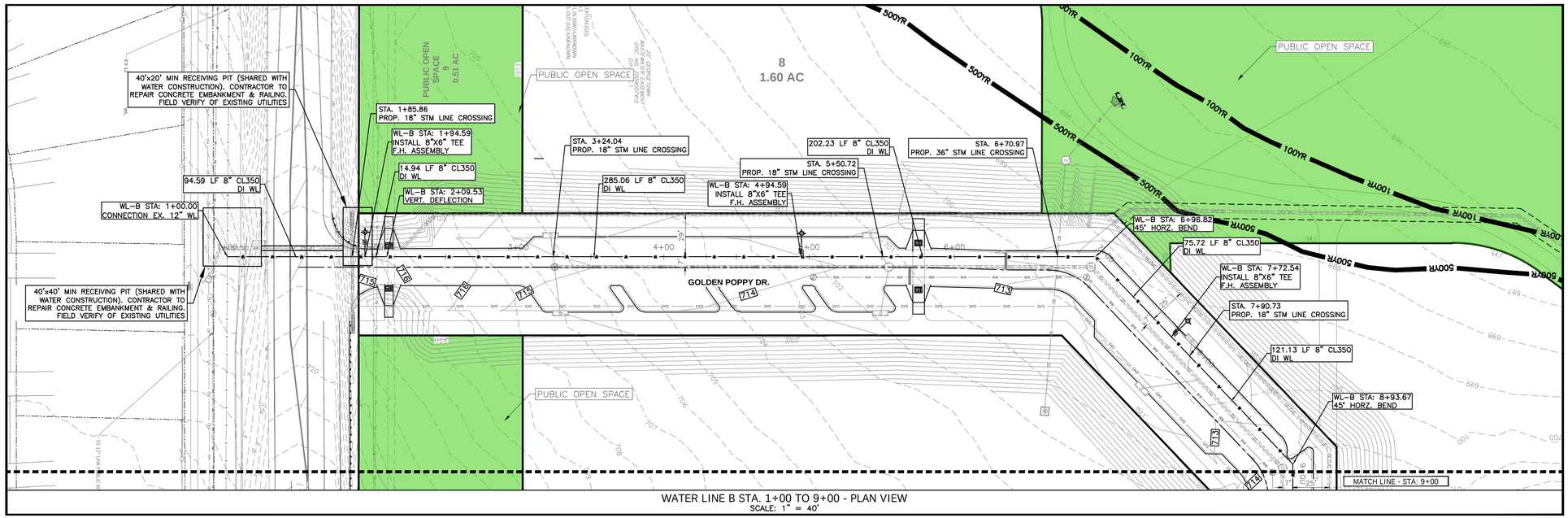


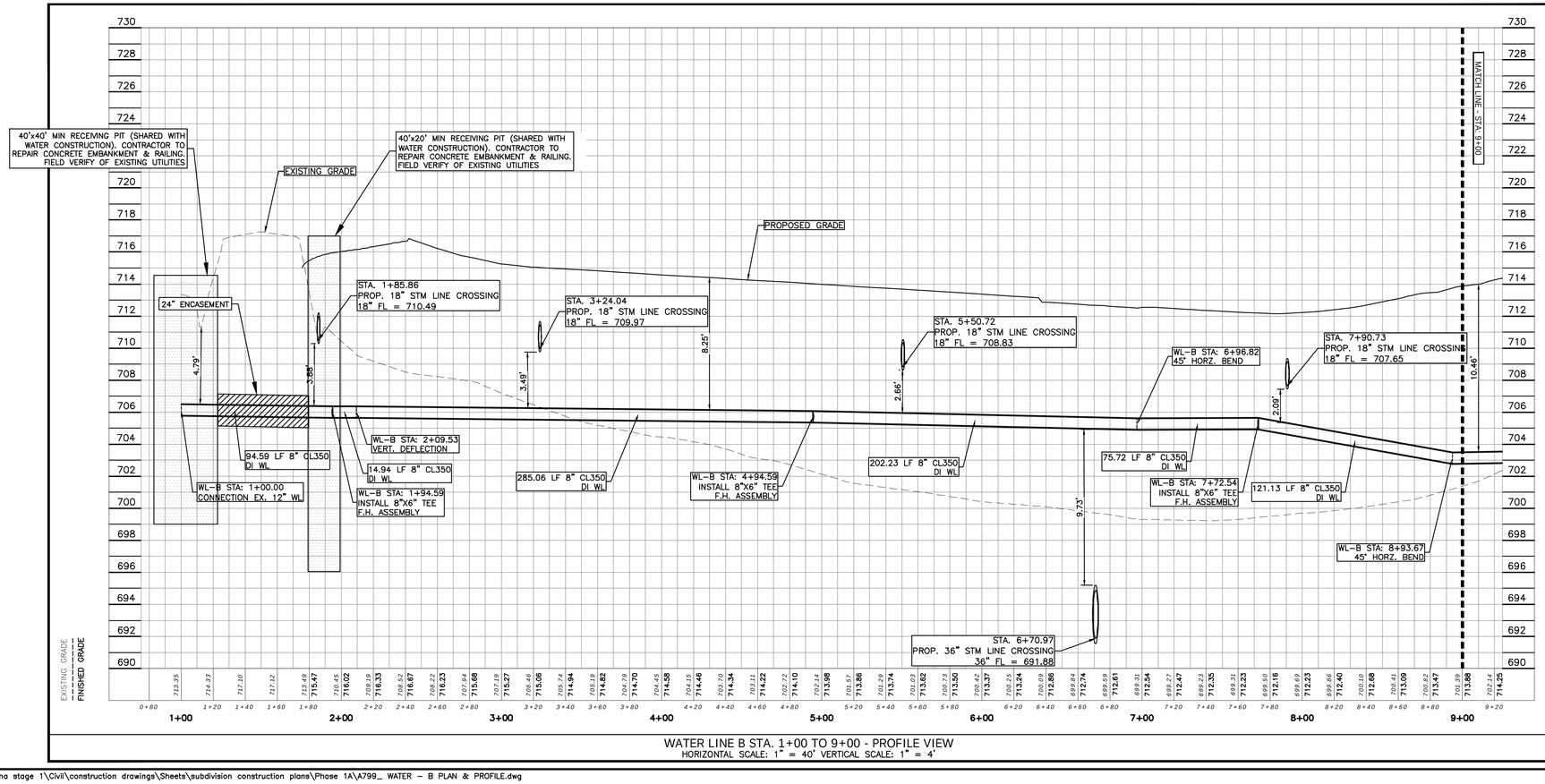
WATER LINE B STA. 1+00 TO 9+00 - PLAN VIEW
SCALE: 1" = 40'

LEGEND

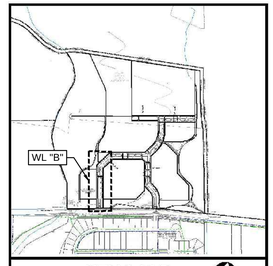
- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- 512 EXISTING CONTOUR LINE
- 512 PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- W WATER LINE
- WW WASTEWATER LINE
- UE/UC UE/UC LINE
- OH OVERHEAD ELECTRIC
- GAS GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WW WASTEWATER MANHOLE
- CO WASTEWATER CLEANOUT
- BFP BACKFLOW PREVENTER
- D STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE @ ℄



WATER LINE B STA. 1+00 TO 9+00 - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'



SCALE: NTS KEY MAP

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SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

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1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

WATER LINE B PLAN & PROFILE STA. 1+00 TO 9+00

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
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RVW BY: MVR

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STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

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PROJECT NUMBER: 2025-___-CON

Plot Date: September 19, 2025 @ 3:54 PM

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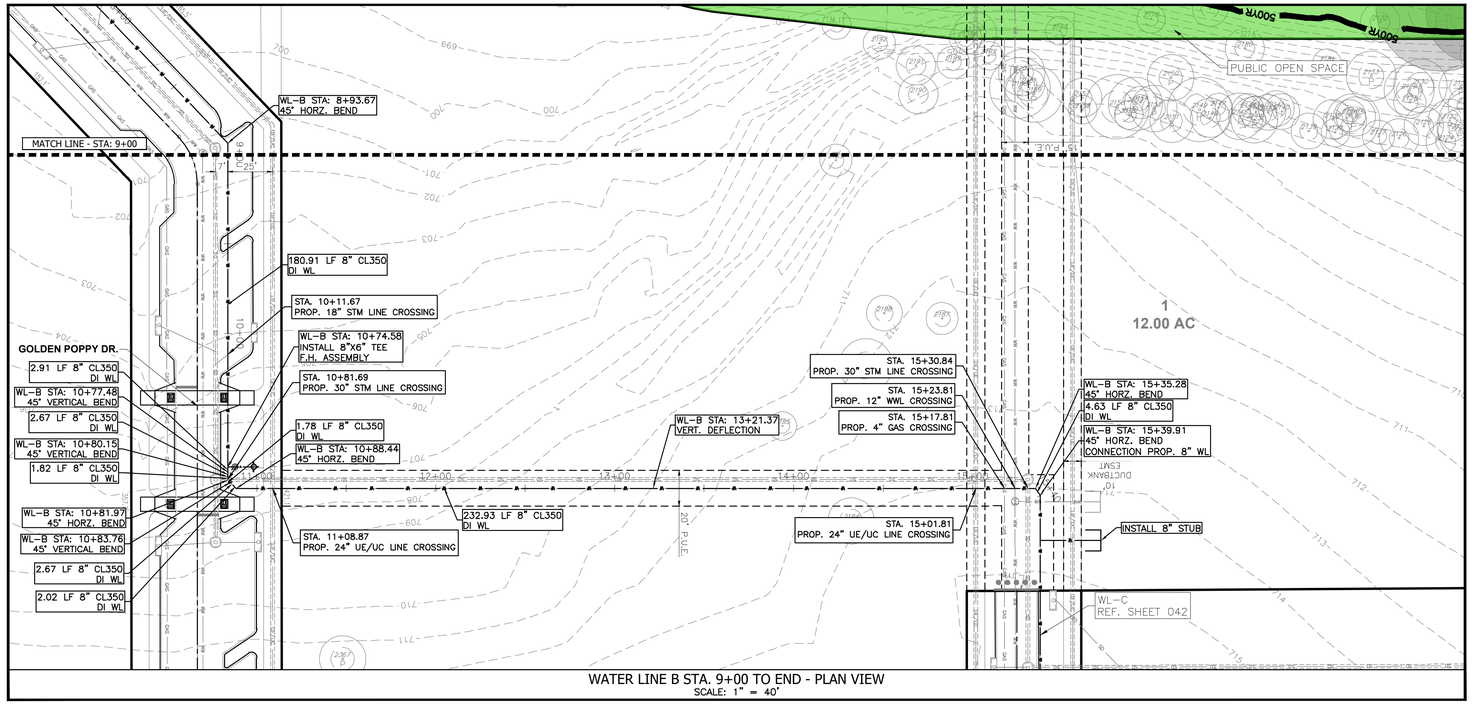
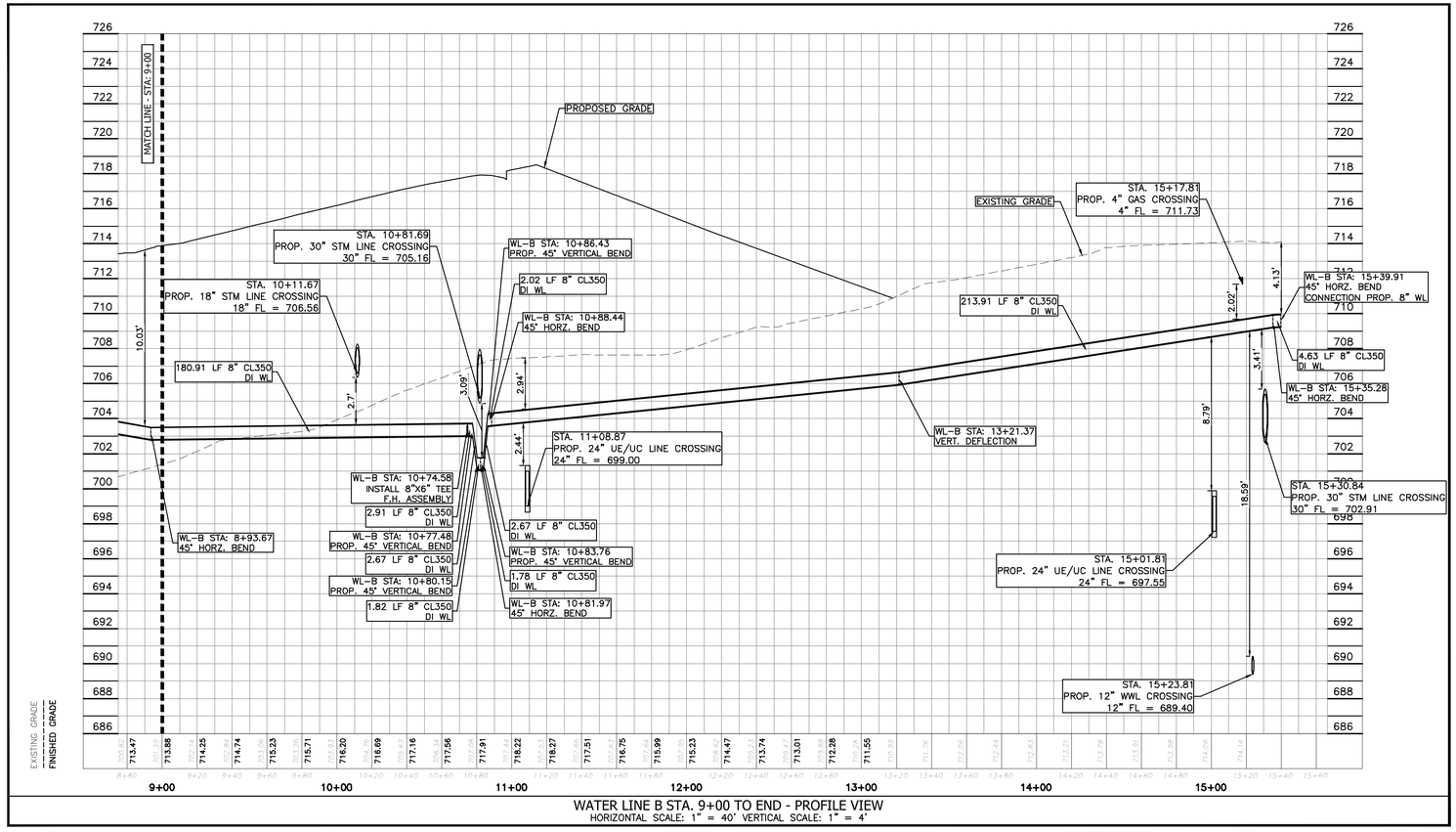


WATER LINE B STA. 9+00 TO END - PLAN VIEW
SCALE: 1" = 40'



WATER LINE B STA. 9+00 TO END - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- UE/UC LINE
- OVERHEAD ELECTRIC
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE @ ℄

SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

WATER LINE B PLAN & PROFILE STA. 9+00 TO END

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

SHEET NO. 041 OF 069

PROJECT NUMBER: 2025-____-CON

Plot Date: September 19, 2025 @ 12:45 PM

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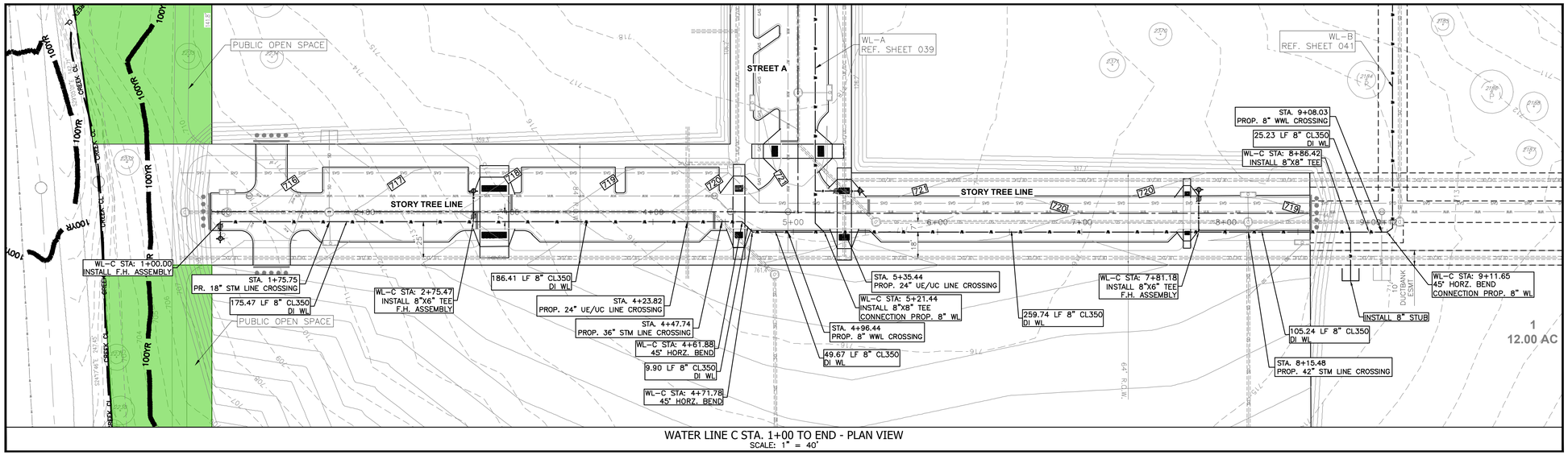
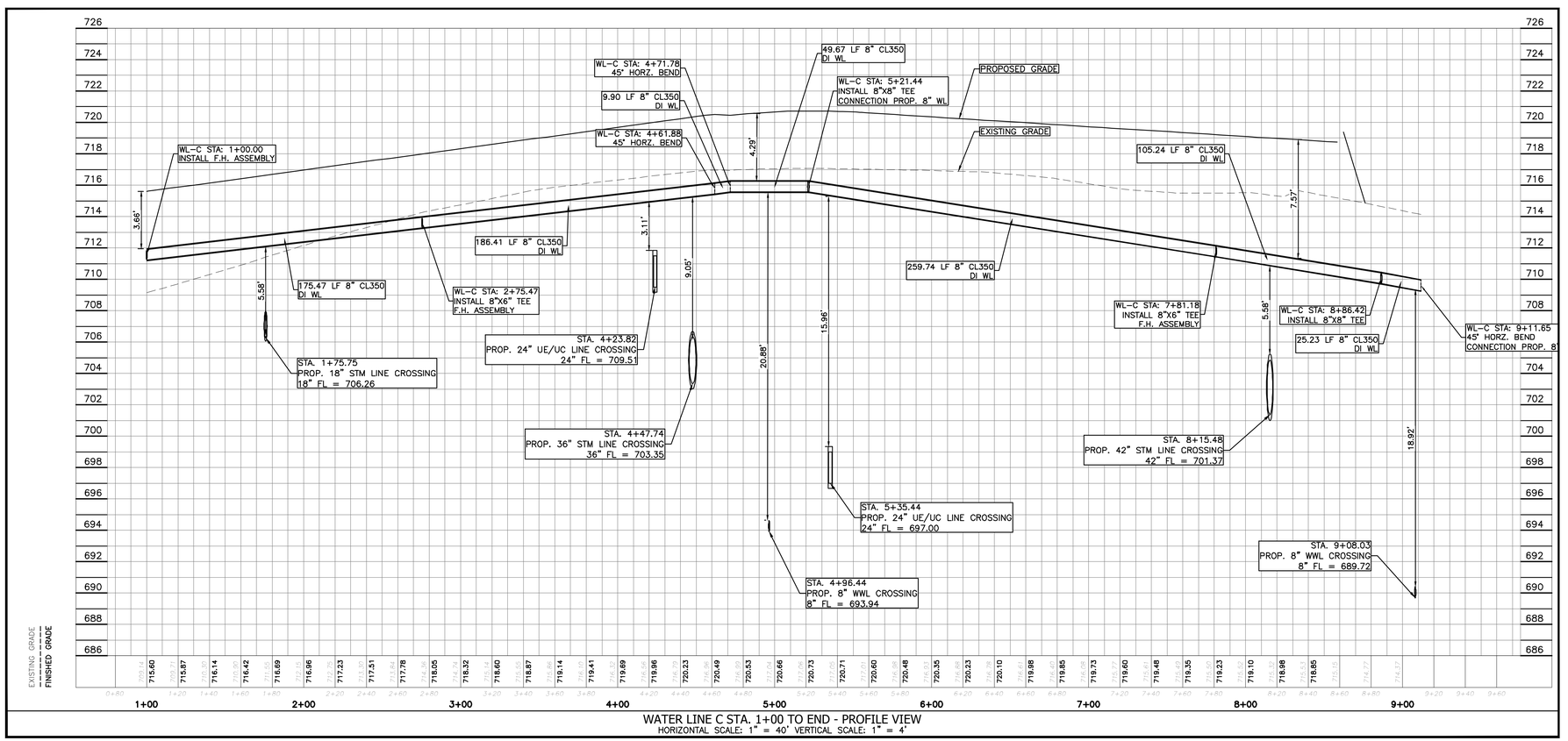


WATER LINE C STA. 1+00 TO END - PLAN VIEW
SCALE: 1" = 40'



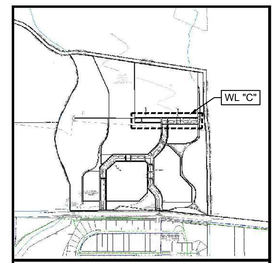
WATER LINE C STA. 1+00 TO END - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- 512 EXISTING CONTOUR LINE
- 512 PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- W WATER LINE
- WW WASTEWATER LINE
- OH OVERHEAD ELECTRIC
- GAS GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WW WASTEWATER MANHOLE
- CO WASTEWATER CLEANOUT
- BFP BACKFLOW PREVENTER
- D STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE @ ℄



SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

WATER LINE C PLAN & PROFILE STA. 1+00 TO END

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 042 OF 069

PROJECT NUMBER: 2025-___-CON

Plot Date: September 19, 2025 @ 12:48 PM

P:\A799 560 Development – DMA Stage 1\Civil\Construction Drawings\Sheets\Subdivision Construction Plans\Phase 1A\A799_ WATER – C PLAN & PROFILE.dwg

LEGEND

▬ ▬ ▬	BOUNDARY / RIGHT OF WAY
– – – –	EASEMENT / SETBACK
– – 512 – –	EXISTING CONTOUR LINE
—512—	PROPOSED CONTOUR LINE
═	CURB / EDGE OF PAVEMENT
SD SD	STORM DRAIN LINE
W	WATER LINE
WW WW	WASTEWATER LINE
OH	OVERHEAD ELECTRIC
GAS	GAS LINE
◩	WATER METER
●	WATER VALVE
●	FIRE HYDRANT
WW	WASTEWATER MANHOLE
CO ●	WASTEWATER CLEANOUT
BFP	BACKFLOW PREVENTER
D	STORM DRAIN MANHOLE
▭	STORM DRAIN CURB INLET
○	UTILITY POLE
←	GUY WIRE
🟩	PUBLIC OPEN SPACE

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

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY–560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

OVERALL WASTEWATER PLAN

CIVILITUDE
ENGINEERS & PLANNERS

503 KENNISTON DR #4
PHONE 512 761 6161
AUSTIN, TX 78752
FAX 512 761 6167
FIRM REG # F12469
INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

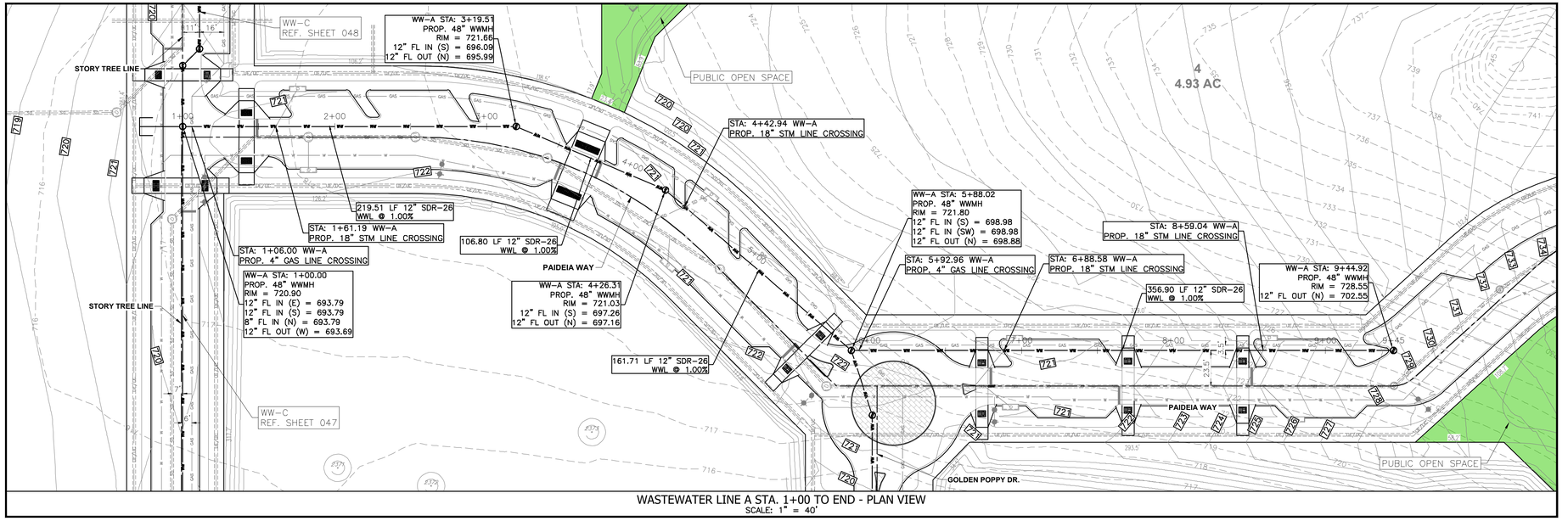
9–19–2025
JORDAN L. MILLER
124884
Jordan L. Miller

SHEET NO.
043
OF 069

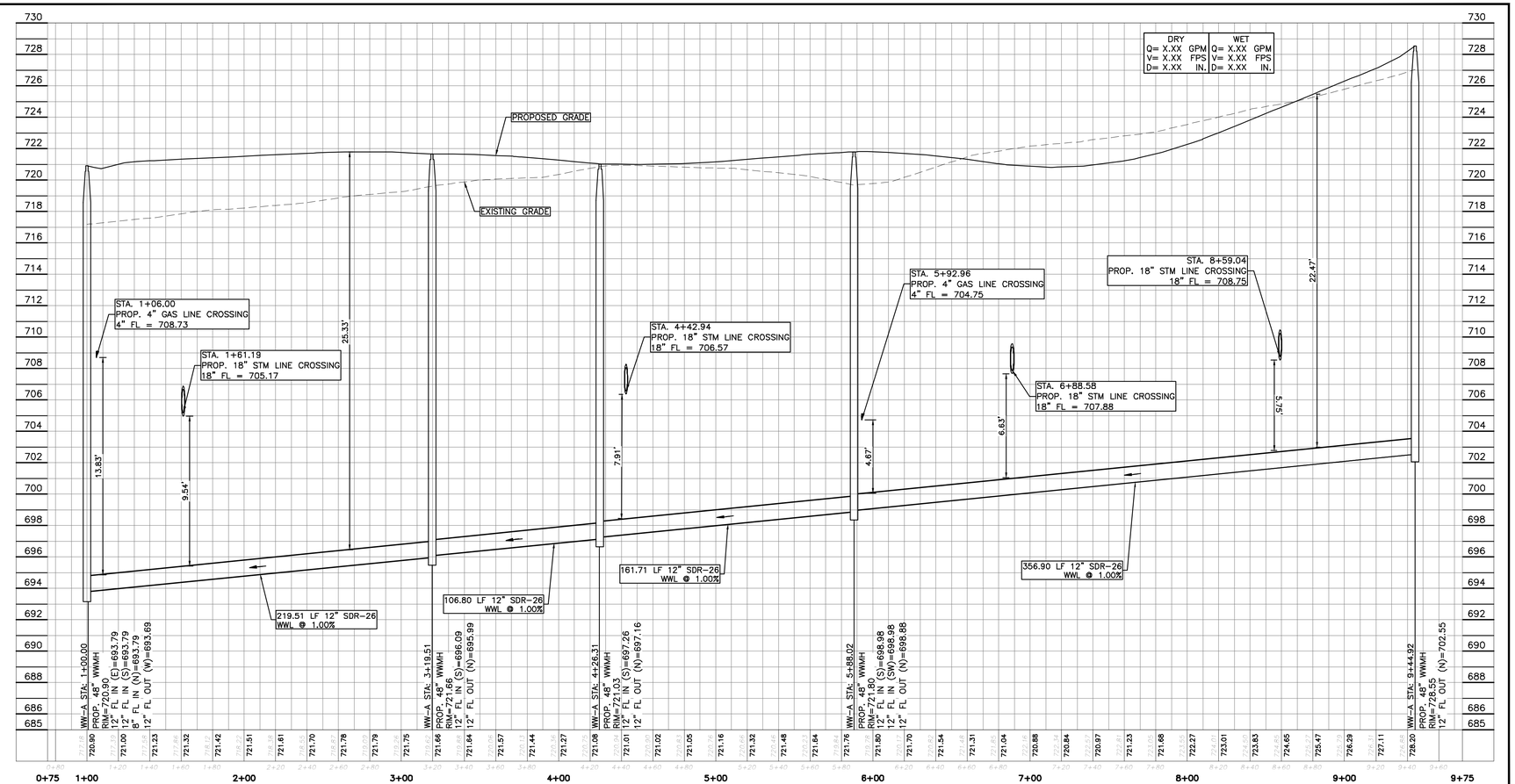
Plot Date: September 19, 2025 @ 12:48 PM

P:\A799 560 Development – DMA Stage 1\Civil\Construction Drawings\Sheets\Subdivision Construction Plans\Phase 1A\A799_OVERALL WASTEWATER PLAN.dwg

PROJECT NUMBER: 2025–___–CON



WASTEWATER LINE A STA. 1+00 TO END - PLAN VIEW
SCALE: 1" = 40'



WASTEWATER LINE A STA. 1+00 TO END - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- UE/UC LINE
- OVERHEAD ELECTRIC
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE @ ℄

SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

WASTEWATER LINE A PLAN & PROFILE STA. 1+00 TO END

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

JOB NO: A799
DGN BY: WS
DWN BY: MD, TML
RVW BY: MVR

SHEET NO. 044 OF 069

PROJECT NUMBER: 2025-____-CON

Plot Date: September 19, 2025 @ 12:47 PM

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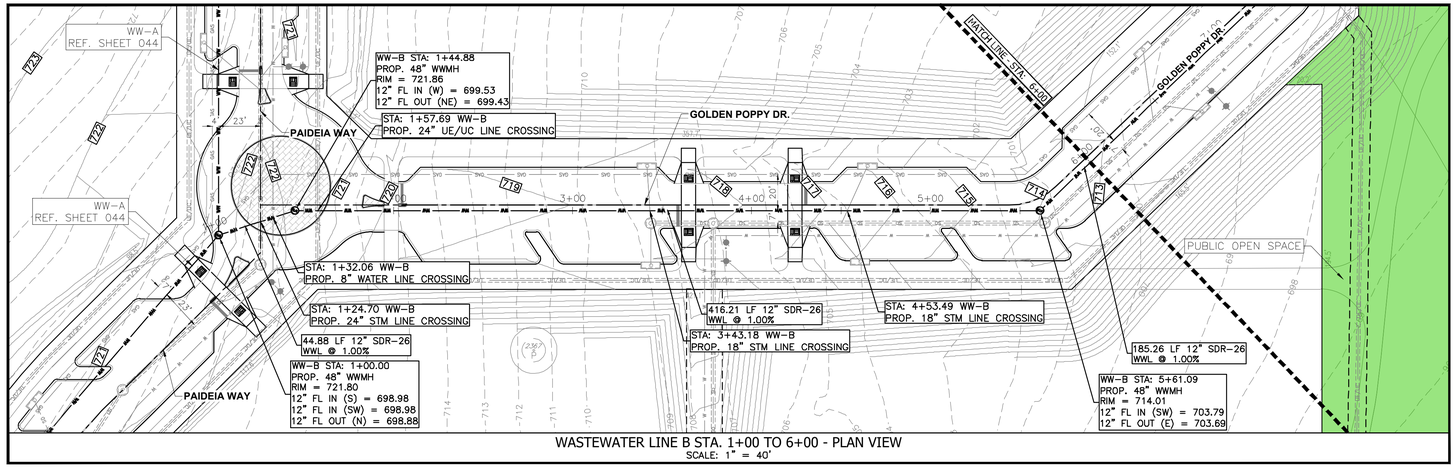
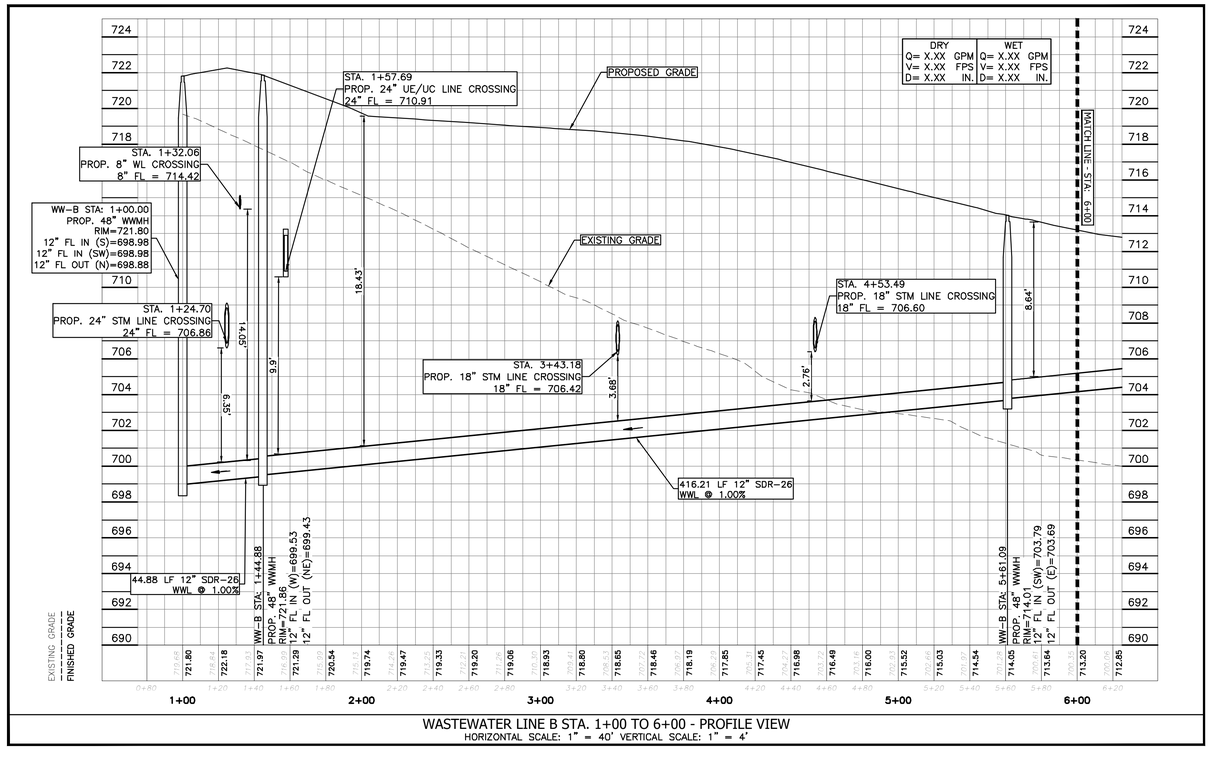


WASTEWATER LINE B STA. 1+00 TO 6+00 - PLAN VIEW
SCALE: 1" = 40'



WASTEWATER LINE B STA. 1+00 TO 6+00 - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- UE/UC LINE
- OVERHEAD ELECTRIC
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- BFP — BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE @ ℄

SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

WASTEWATER LINE B PLAN & PROFILE STA. 1+00 TO 6+00

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ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 045 OF 069

PROJECT NUMBER: 2025-___-CON

Plot Date: September 19, 2025 @ 12:49 PM

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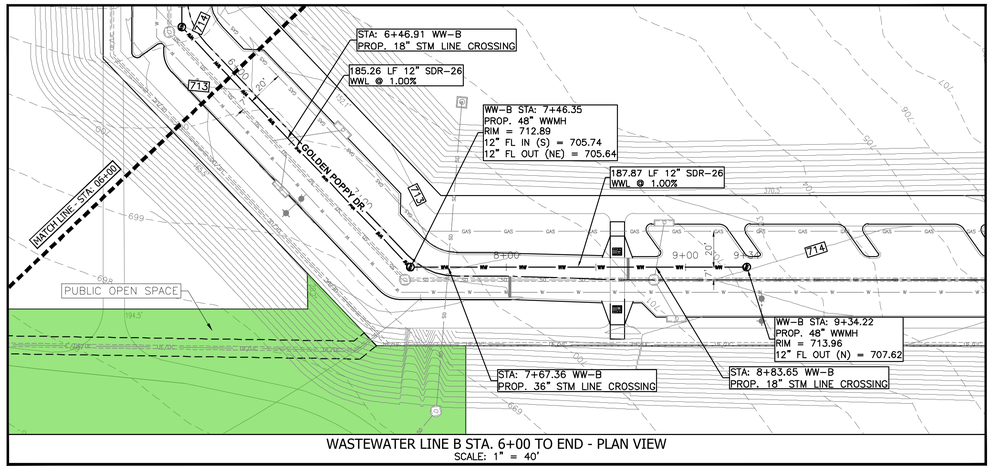
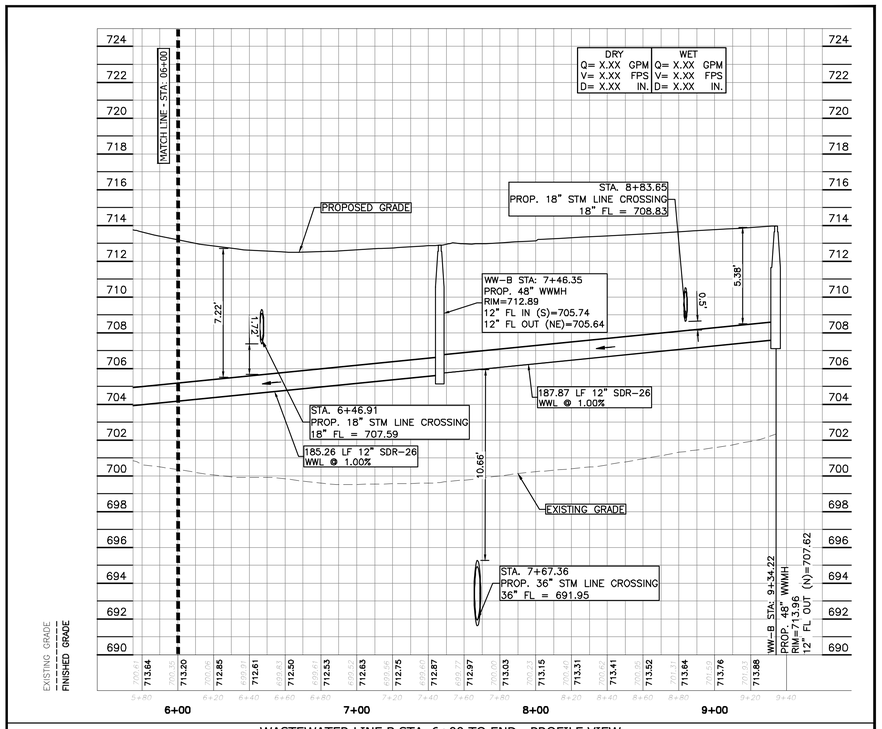


WASTEWATER LINE B STA. 6+00 TO END - PLAN VIEW
SCALE: 1" = 40'



WASTEWATER LINE B STA. 6+00 TO END - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- UE/UC LINE
- OVERHEAD ELECTRIC
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE

SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

WASTEWATER LINE B PLAN & PROFILE STA. 6+00 TO END

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 046 OF 069

PROJECT NUMBER: 2025-____-CON

Plot Date: September 19, 2025 @ 12:49 PM

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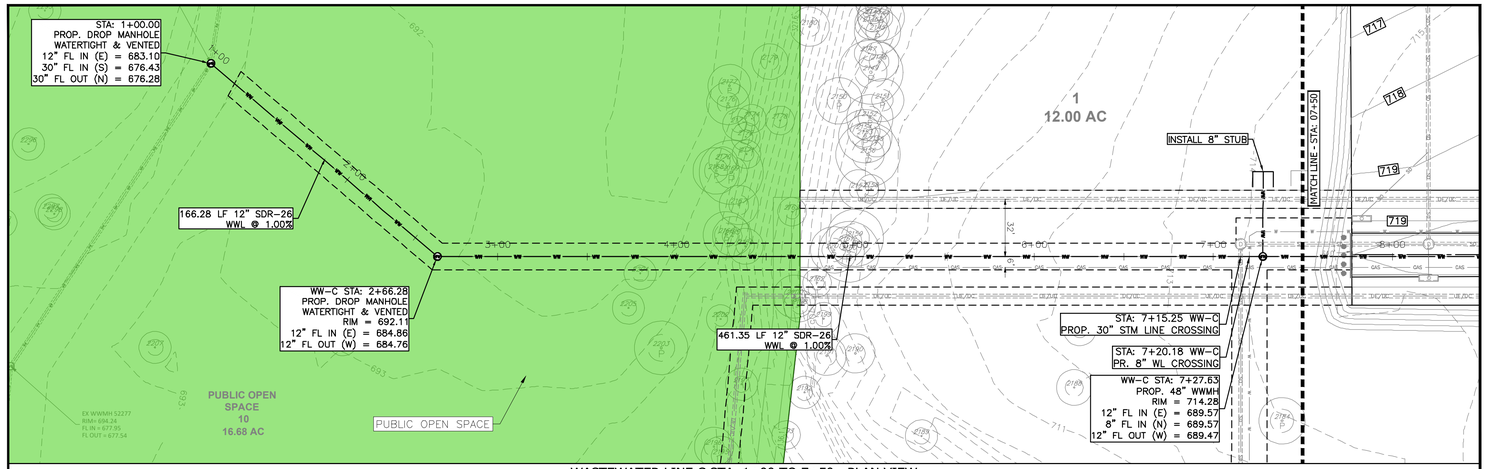
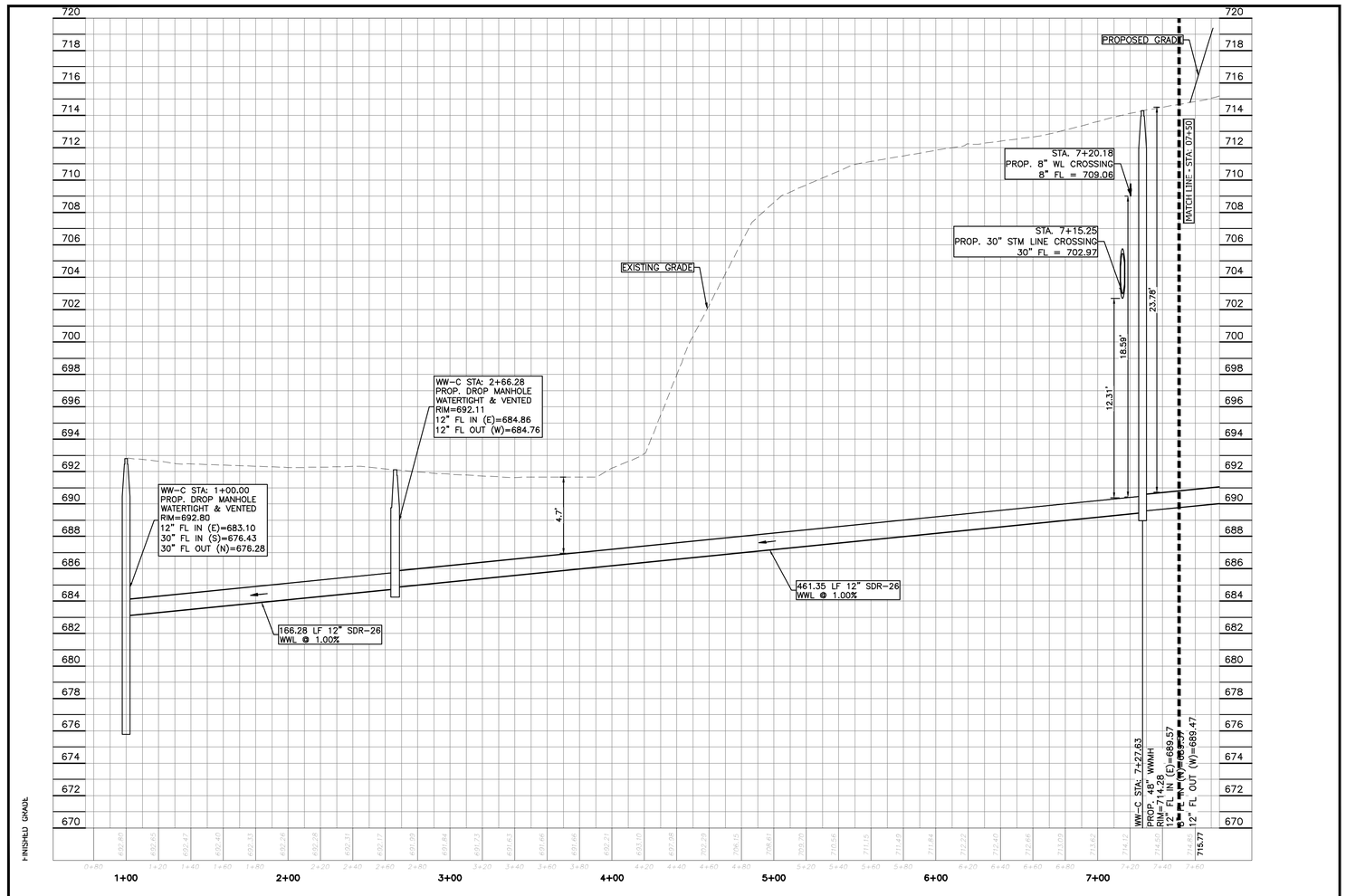


WASTEWATER LINE C STA. 1+00 TO 7+50 - PLAN VIEW
SCALE: 1" = 40'



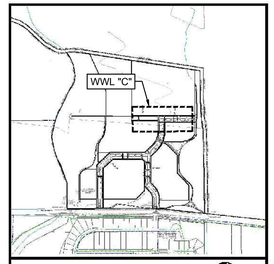
WASTEWATER LINE C STA. 1+00 TO 7+50 - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- UE/UC LINE
- OVERHEAD ELECTRIC
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE @ ℄



SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

WASTEWATER LINE C PLAN & PROFILE STA. 1+00 TO 7+50

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

JOB NO: A799
DGN BY: WS
DWN BY: MD, TML
RVW BY: MVR

SHEET NO. 047 OF 069

PROJECT NUMBER: 2025-___-CON

Plot Date: September 19, 2025 @ 12:46 PM

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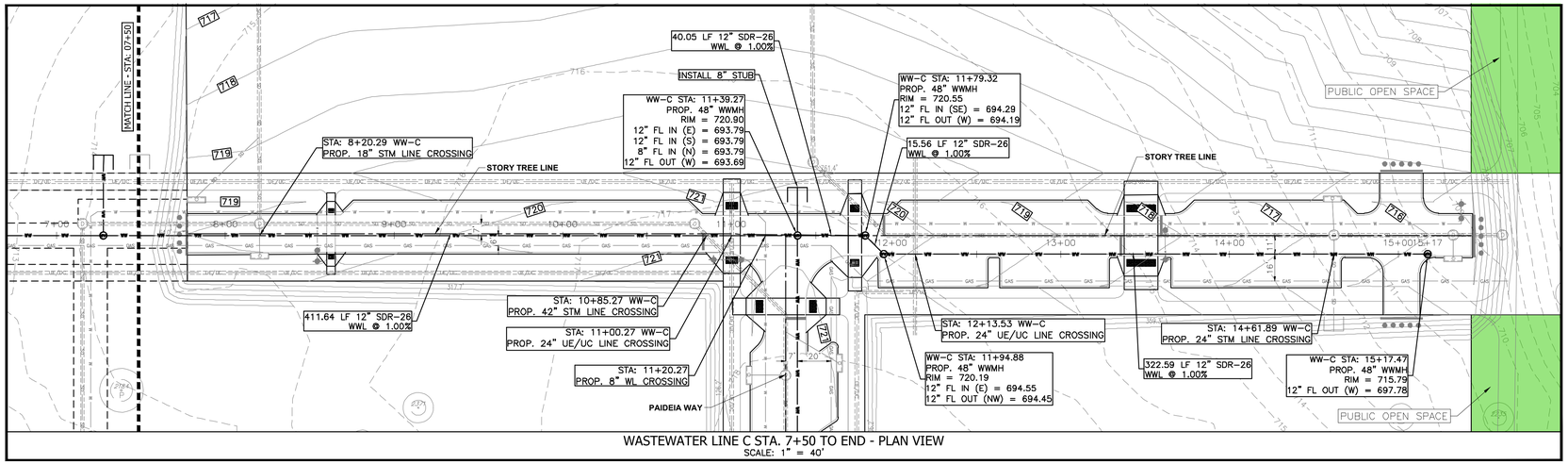
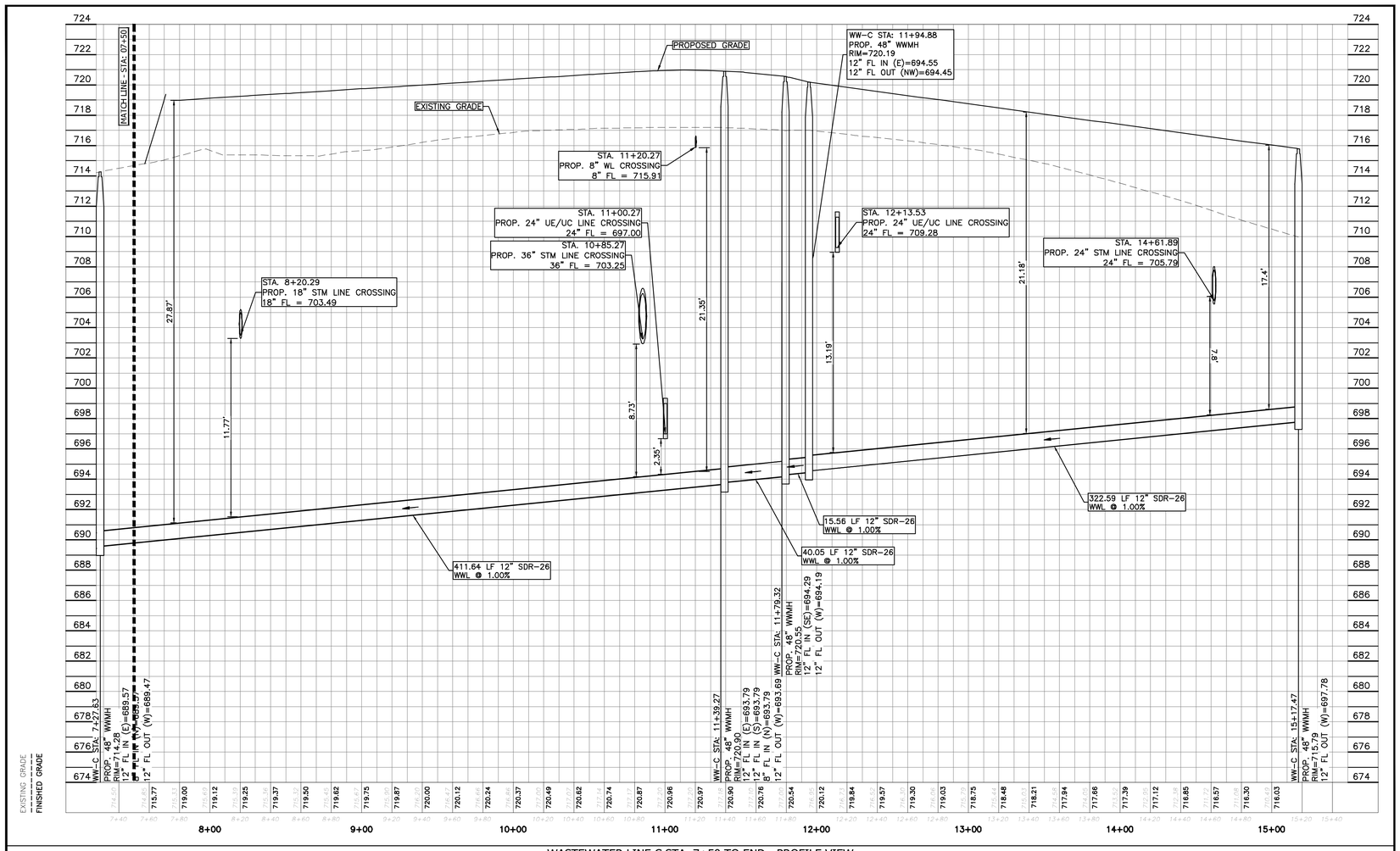


WASTEWATER LINE C STA. 7+50 TO END - PLAN VIEW
SCALE: 1" = 40'



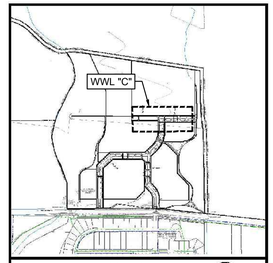
WASTEWATER LINE C STA. 7+50 TO END - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- UE/UC LINE
- OVERHEAD ELECTRIC
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- BFP — BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE @ ℄



SCALE: NTS — KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

WASTEWATER LINE C PLAN & PROFILE STA. 7+50 TO END

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
JOB NO: A799
DGN BY: WS
DWN BY: MD, TML
RVW BY: MVR

STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 048 OF 069

Plot Date: September 19, 2025 @ 12:50 PM

P:\A799 560 Development – DMA Stage 1\Civil\Construction Drawings\Sheets\Subdivision Construction Plans\Phase 1A\A799_WASTEWATER – C PLAN & PROFILE.dwg

PROJECT NUMBER: 2025-____-CON

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- PROPOSED BUILDING PAD AREA
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- EXISTING OVERHEAD ELECTRIC
- UE/UC DUCTBANK
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- STORM DRAIN AREA INLET
- TRANSFORMER
- AIR CONDITIONER UNIT
- GAS METER
- ELECTRIC MANHOLE
- ELECTRIC BOX
- UTILITY POLE
- GUY WIRE

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

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

OVERALL U.G. ELECTRIC & TELECOM PLAN

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

SHEET NO. 049 OF 069

PROJECT NUMBER: 2025-____-CON

Plot Date: September 19, 2025 @ 12:47 PM

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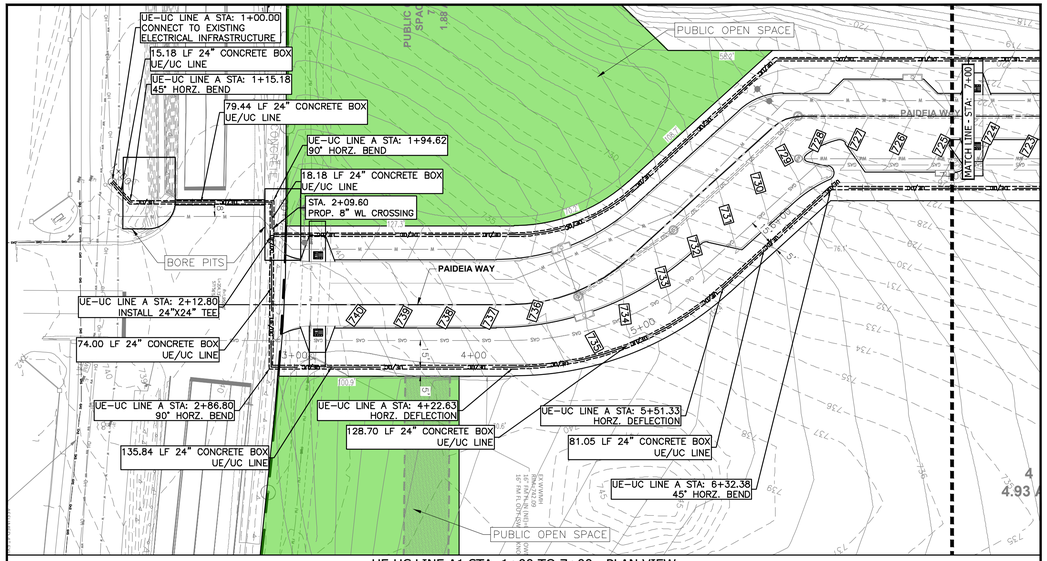
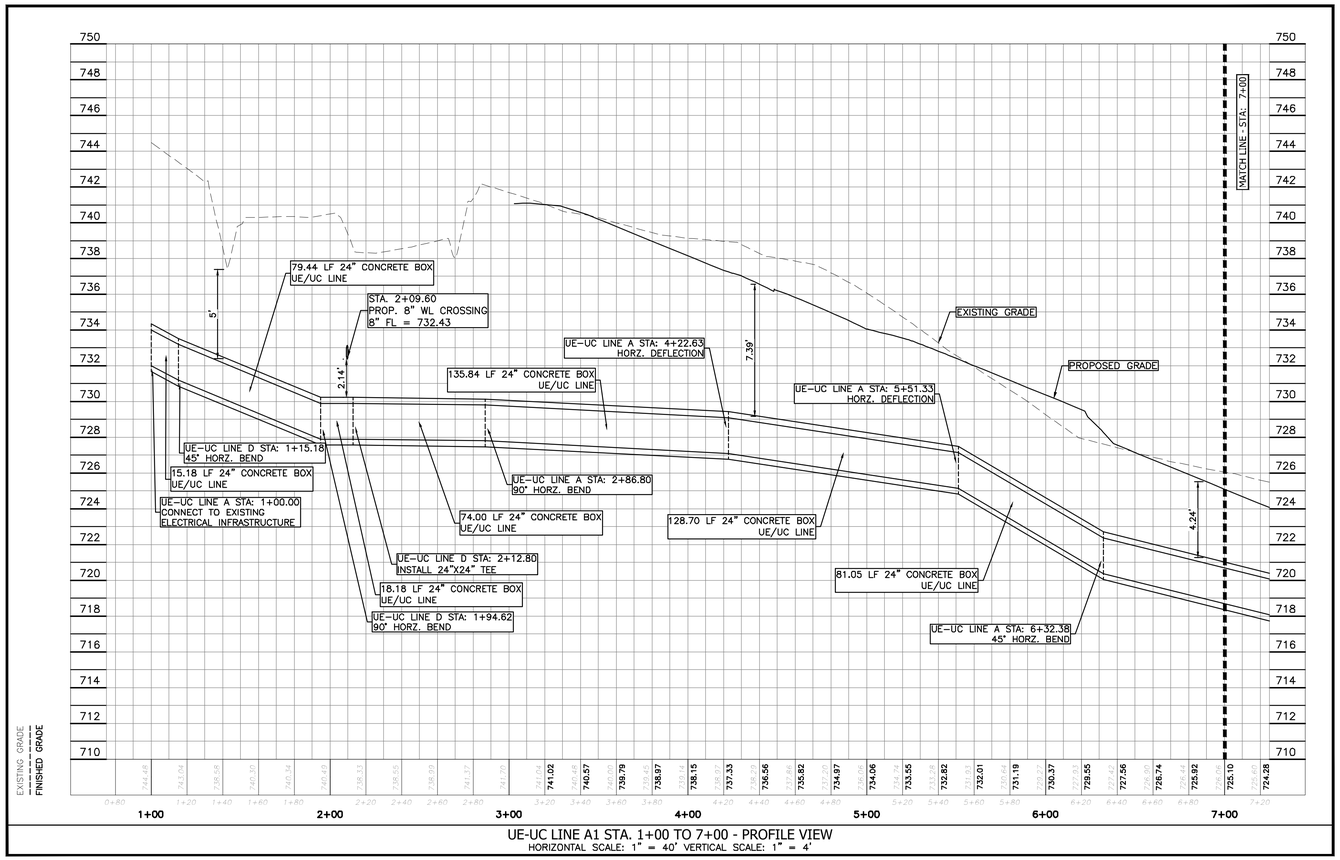


UE-UC LINE A1 STA. 1+00 TO 7+00 - PLAN VIEW
SCALE: 1" = 40'



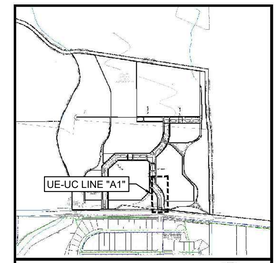
UE-UC LINE A1 STA. 1+00 TO 7+00 - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- UE/UC LINE
- OVERHEAD ELECTRIC
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE



SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

UE-UC LINE A1 PLAN & PROFILE STA. 1+00 TO 7+00

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

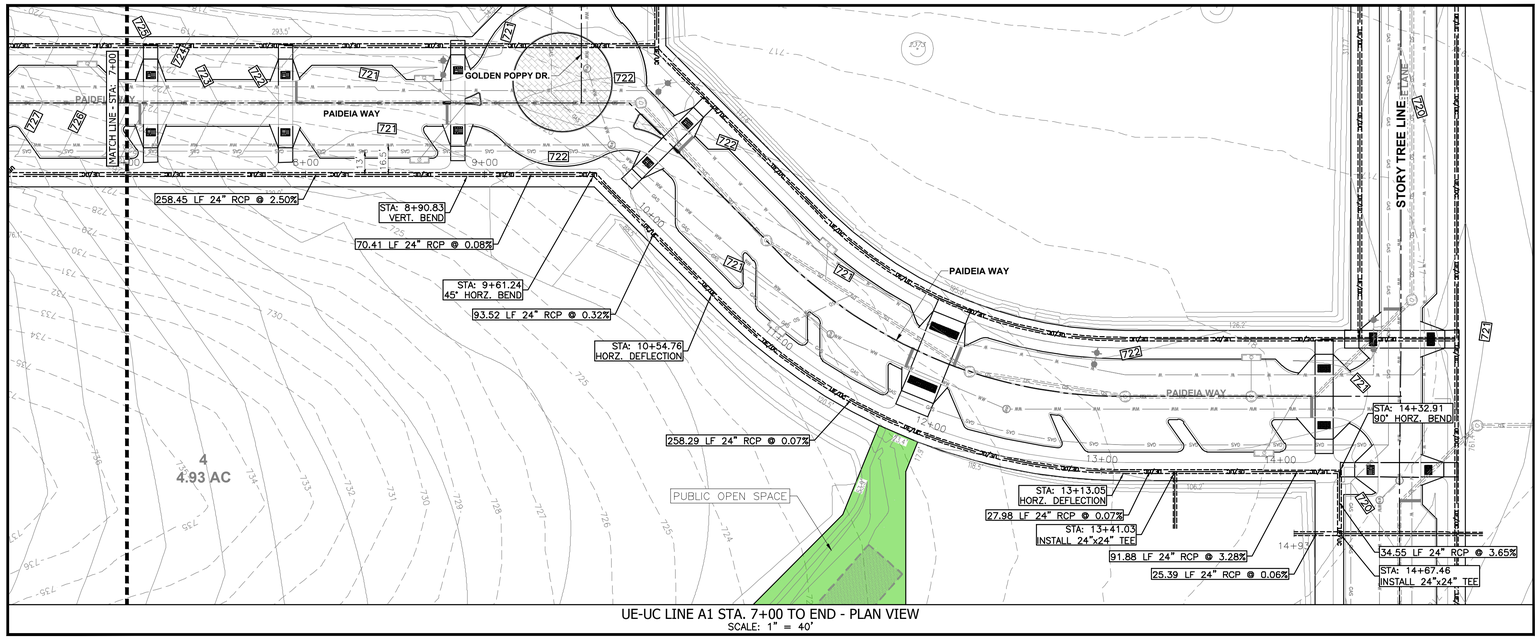
JOB NO: A799
DGN BY: WS
DWN BY: MD, TML
RVW BY: MVR

SHEET NO. 050 OF 065

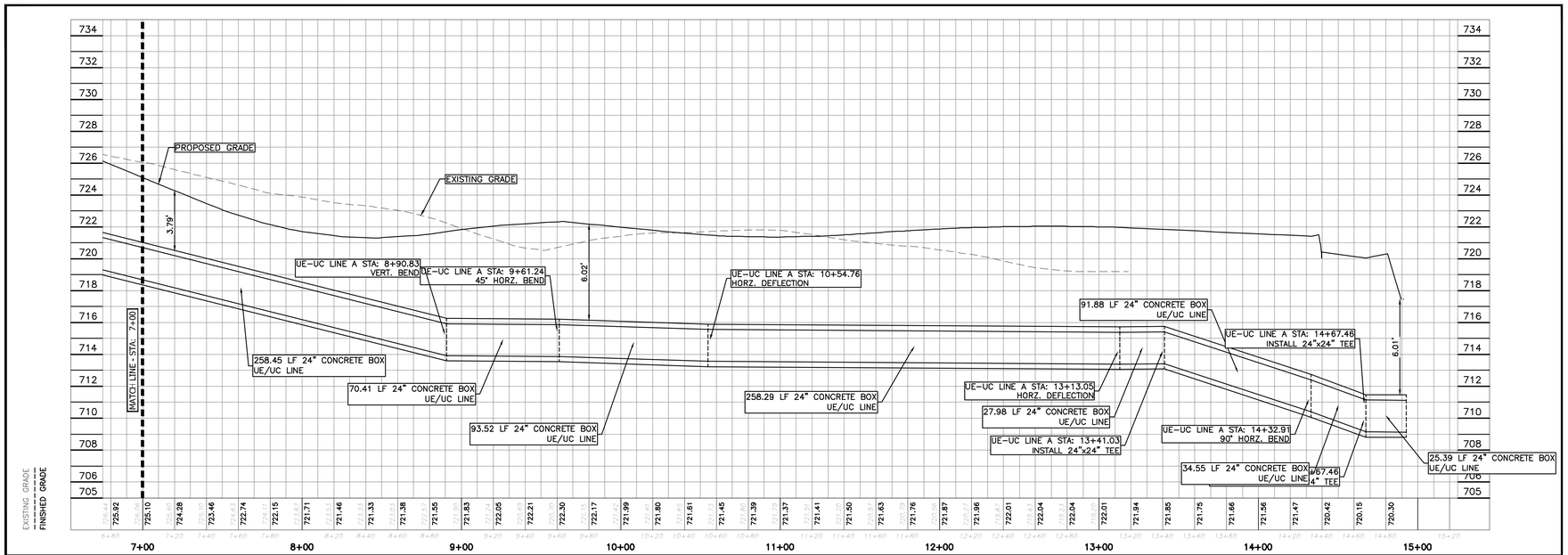
PROJECT NUMBER: 2025-___-CON

Plot Date: September 19, 2025 @ 12:49 PM

P:\A799 560 Development - DMA Stage 1\Civil\Construction Drawings\Sheets\Subdivision Construction Plans\Phase 1A\A799_DRY-UE-UC - A - 1 - PLAN & PROFILE.dwg



UE-UC LINE A1 STA. 7+00 TO END - PLAN VIEW
SCALE: 1" = 40'



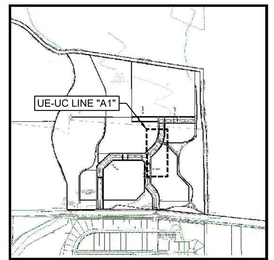
UE-UC LINE A1 STA. 7+00 TO END - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- UE/UC LINE
- OVERHEAD ELECTRIC
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE



SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

UE-UC LINE A1 PLAN & PROFILE STA. 7+00 TO END

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ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

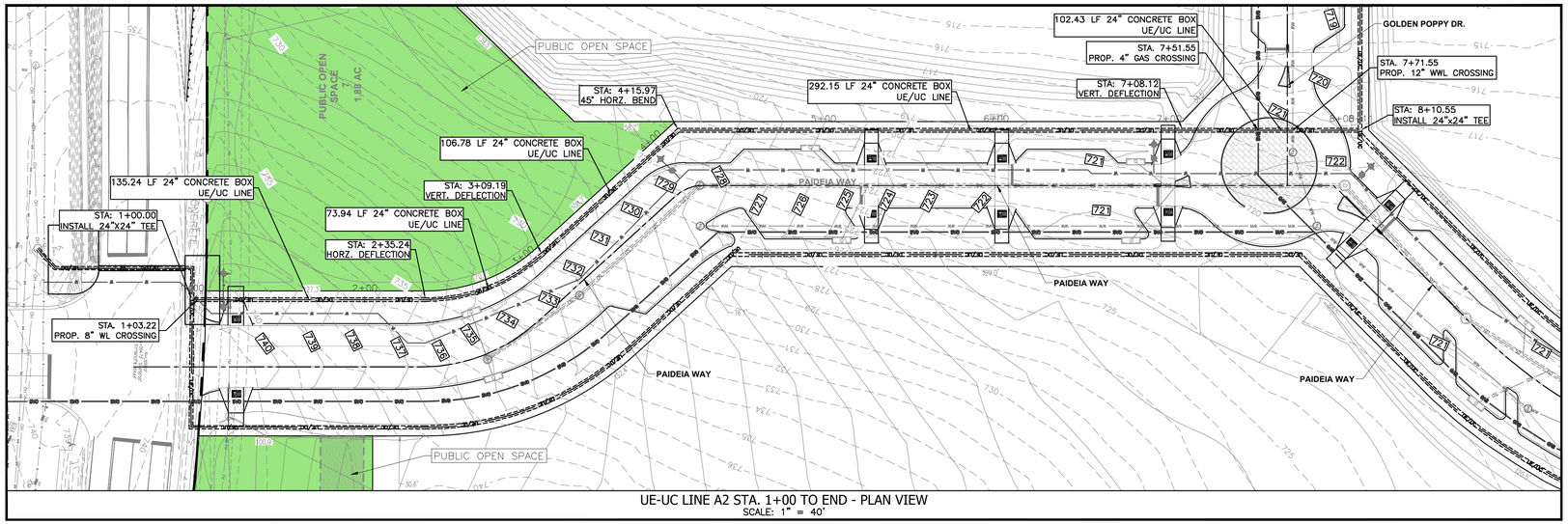
JOB NO: A799
DGN BY: WS
DWN BY: MD, TML
RVW BY: MVR

SHEET NO. 051 OF 069

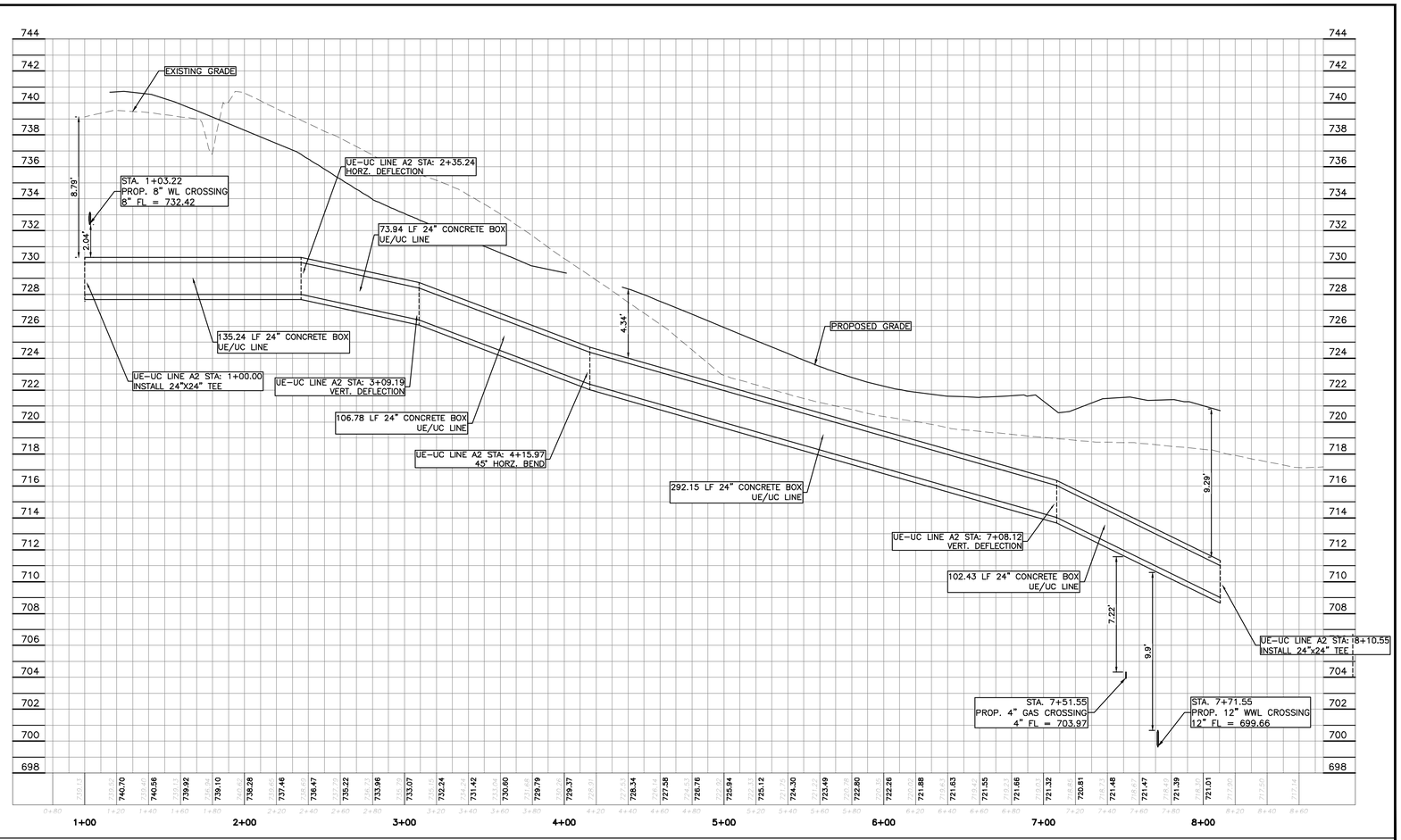
PROJECT NUMBER: 2025-____-CON

Plot Date: September 19, 2025 @ 12:46 PM

P:\A799 560 Development – DMA Stage 1\Civil\Construction Drawings\Sheets\Subdivision Construction Plans\Phase 1A\A799_DRY-UE-UC – A – 2 – PLAN & PROFILE.dwg



UE-UC LINE A2 STA. 1+00 TO END - PLAN VIEW
SCALE: 1" = 40'



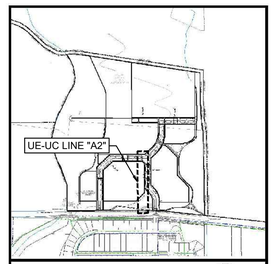
UE-UC LINE A2 STA. 1+00 TO END - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- UE/UC LINE
- OVERHEAD ELECTRIC
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE



SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

UE-UC LINE A2 PLAN & PROFILE STA. 1+00 TO END

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

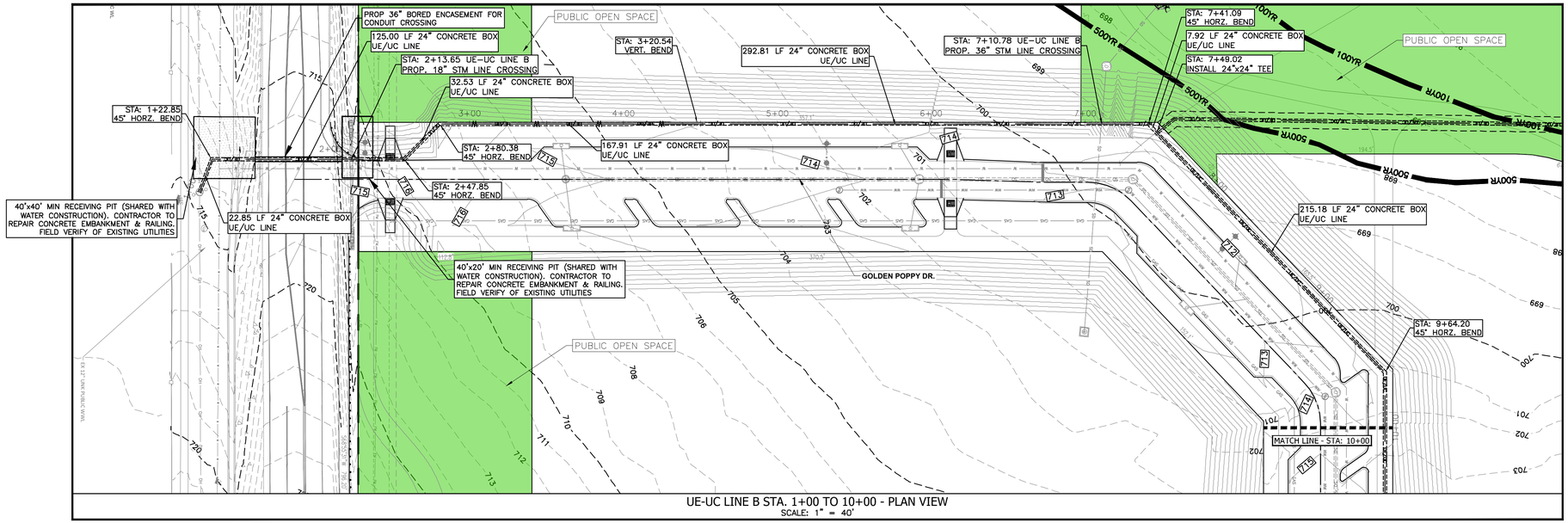
9-19-2025
JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR
JORDAN L. MILLER 124884 LICENSED PROFESSIONAL ENGINEER

SHEET NO. 052 OF 069

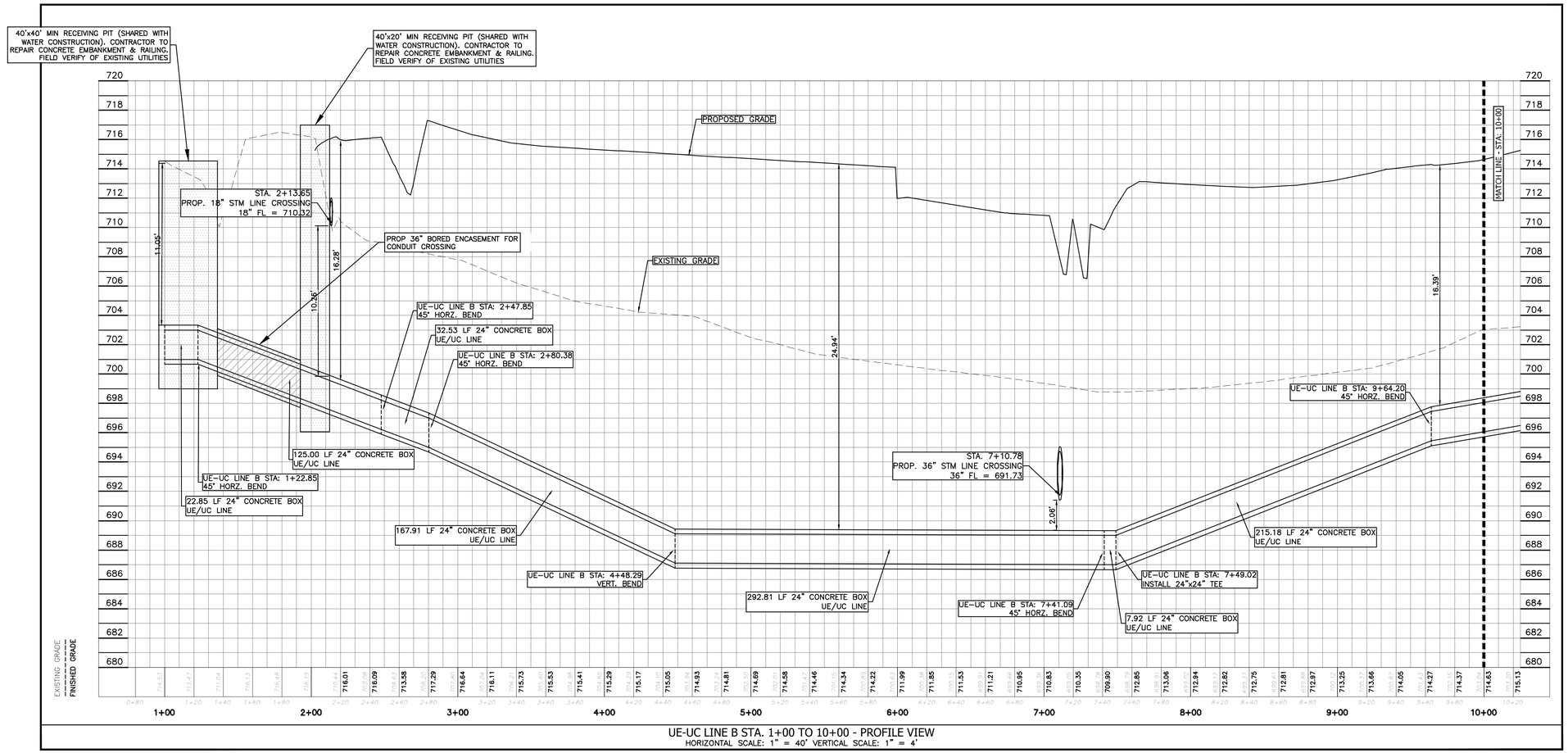
Plot Date: September 19, 2025 @ 12:50 PM

P:\A799 560 Development – DMA Stage 1\Civil\Construction Drawings\Sheets\Subdivision Construction Plans\Phase 1A\A799_DRY-UE-UC – A – 3 – PLAN & PROFILE.dwg

PROJECT NUMBER: 2025-____-CON



UE-UC LINE B STA. 1+00 TO 10+00 - PLAN VIEW
SCALE: 1" = 40'



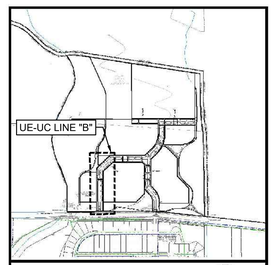
UE-UC LINE B STA. 1+00 TO 10+00 - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- UE/UC LINE
- OVERHEAD ELECTRIC
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE



SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

UE-UC LINE B PLAN & PROFILE STA. 1+00 TO 10+00

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

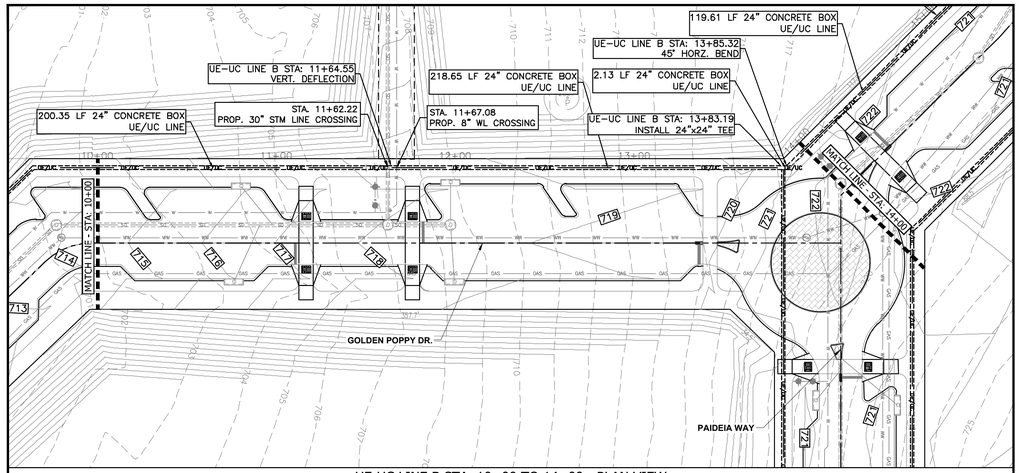
9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 053 OF 069

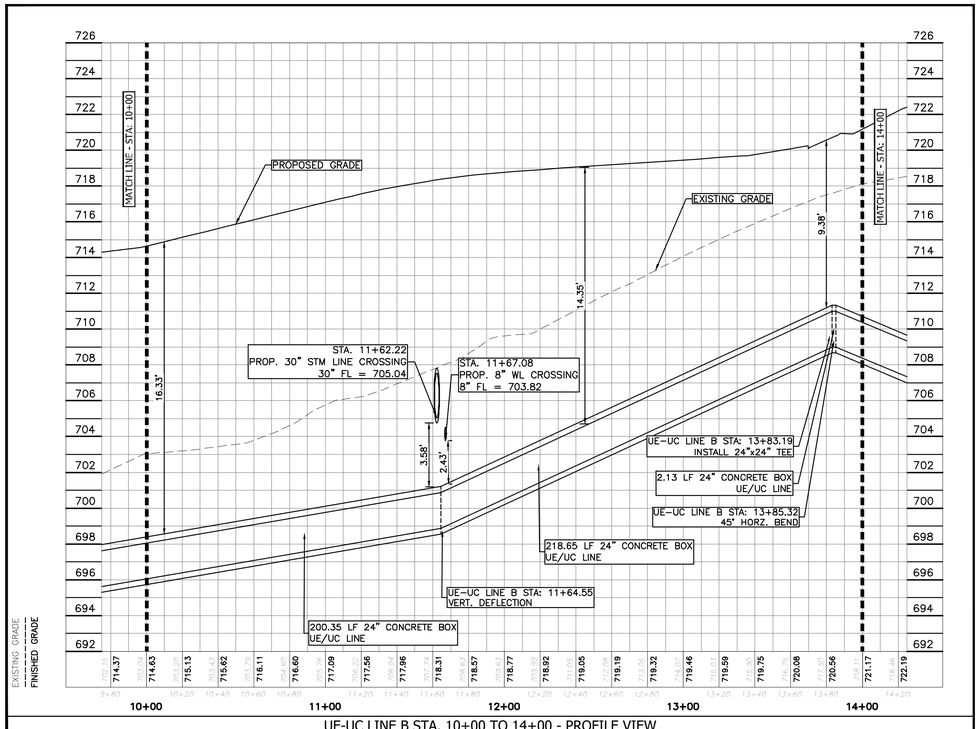
Plot Date: September 19, 2025 @ 12:48 PM

P:\A799 560 Development – DMA Stage 1\Civil\Construction Drawings\Sheets\Subdivision Construction Plans\Phase 1A\A799_DRY-UE-UC – B – 1 – PLAN & PROFILE.dwg

PROJECT NUMBER: 2025-____-CON



UE-UC LINE B STA. 10+00 TO 14+00 - PLAN VIEW
SCALE: 1" = 40'



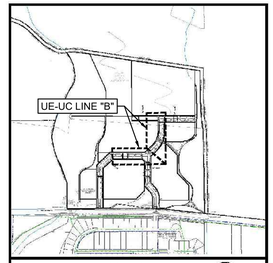
UE-UC LINE B STA. 10+00 TO 14+00 - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- UE/UC LINE
- OVERHEAD ELECTRIC
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE



SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

UE-UC LINE B PLAN & PROFILE STA. 10+00 TO 14+00

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

JOB NO: A799
DGN BY: WS
DWN BY: MD, TML
RVW BY: MVR

SHEET NO. 054 OF 069

PROJECT NUMBER: 2025-____-CON

Plot Date: September 19, 2025 @ 12:48 PM

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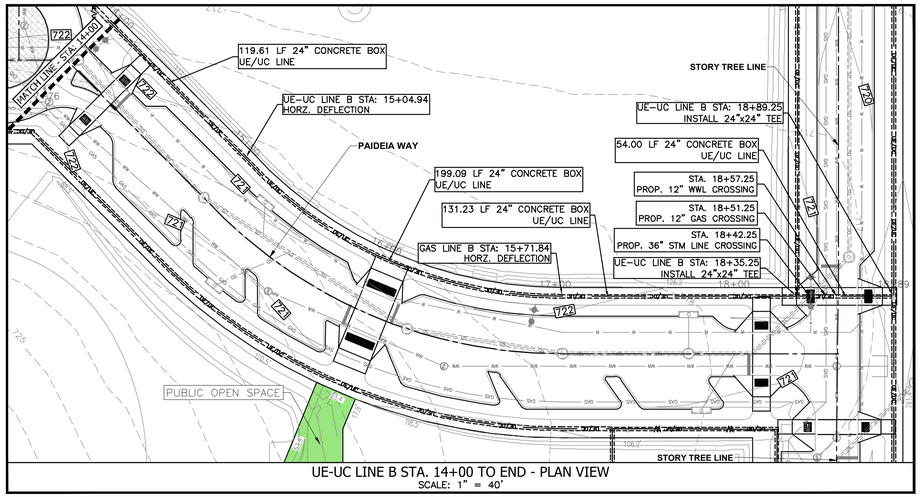
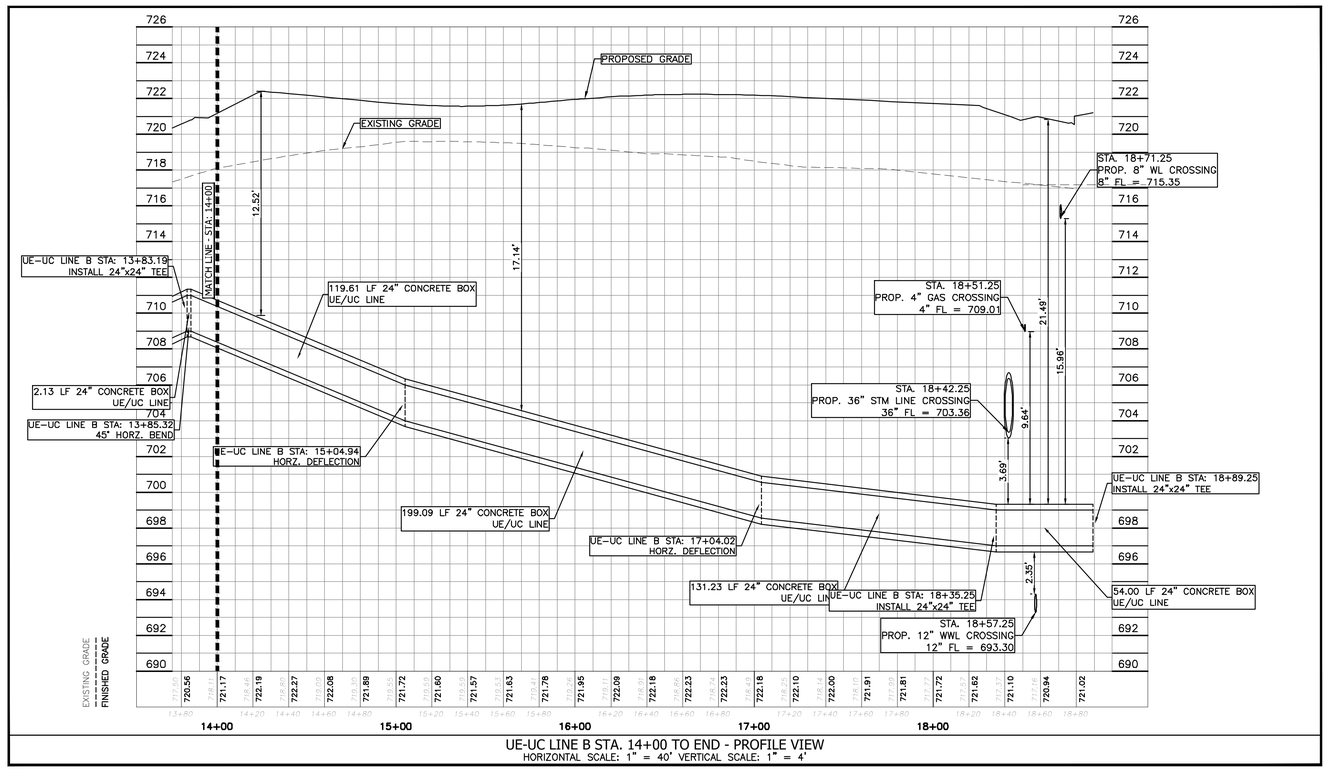


UE-UC LINE B STA. 14+00 TO END - PLAN VIEW
SCALE: 1" = 40'



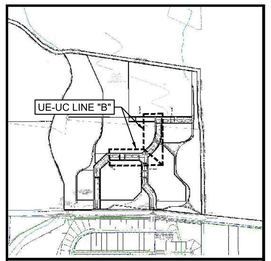
UE-UC LINE B STA. 14+00 TO END - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- UE/UC LINE
- OVERHEAD ELECTRIC
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- BFP — BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE



SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

UE-UC LINE B PLAN & PROFILE STA. 14+00 TO END

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

SHEET NO. 055 OF 069

PROJECT NUMBER: 2025-___-CON

Plot Date: September 19, 2025 @ 12:47 PM

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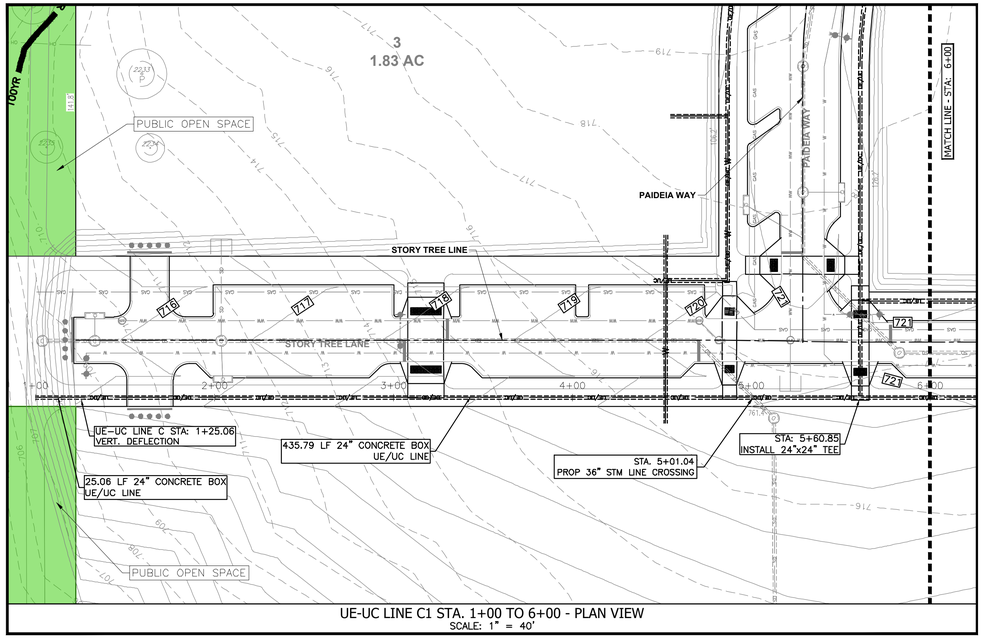
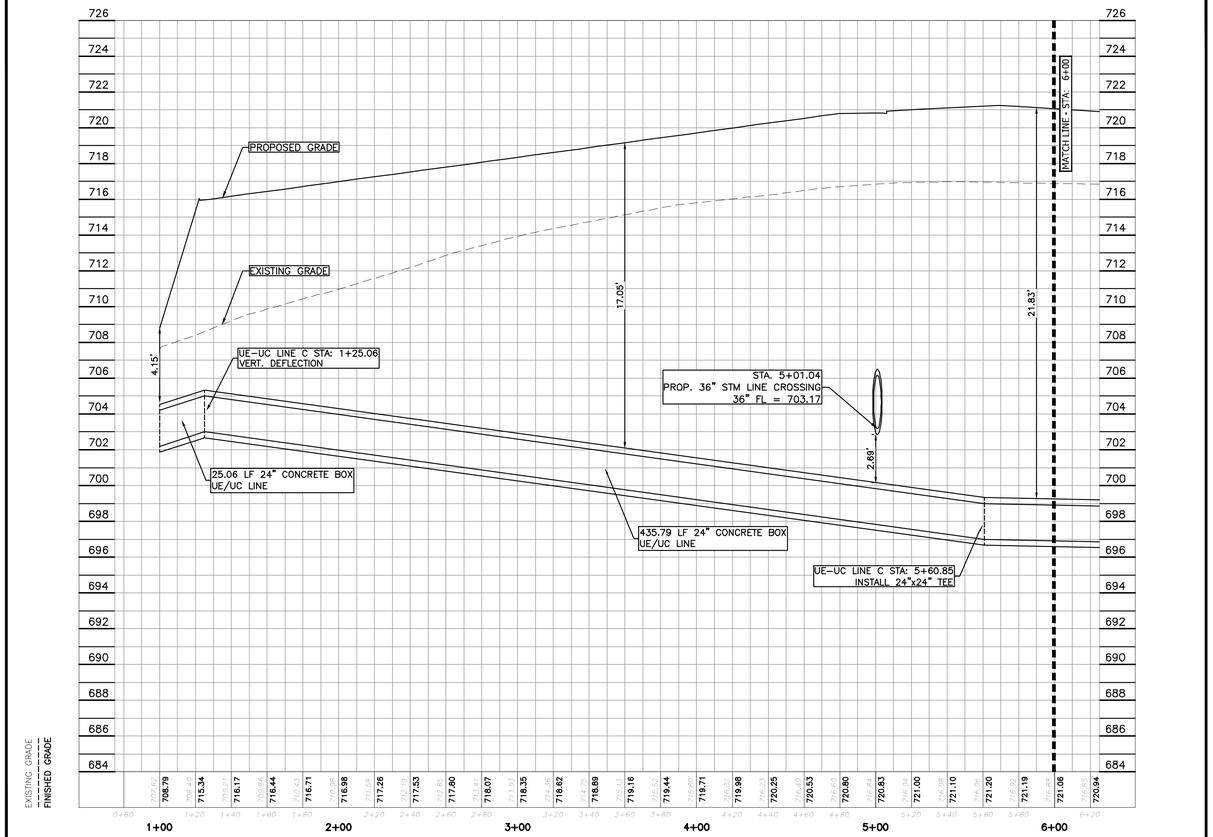


UE-UC LINE C1 STA. 1+00 TO 6+00 - PLAN VIEW
SCALE: 1" = 40'



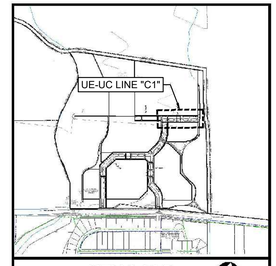
UE-UC LINE C1 STA. 1+00 TO 6+00 - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- UE/UC LINE
- OVERHEAD ELECTRIC
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE



SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

UE-UC LINE C1 PLAN & PROFILE STA. 1+00 TO 6+00

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

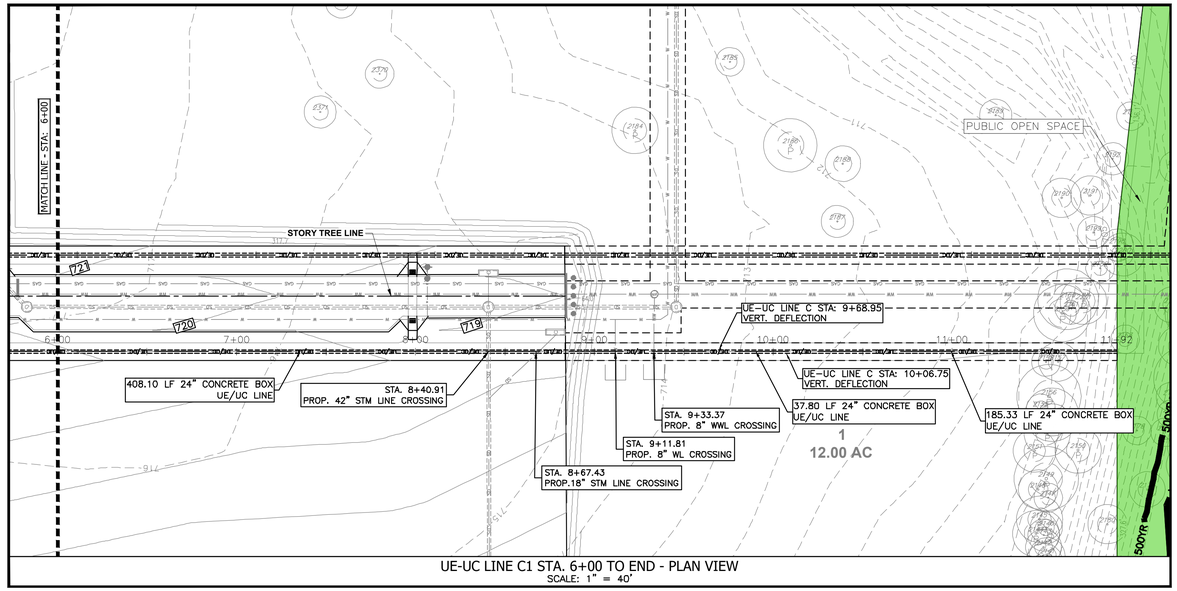
JOB NO: A799
DGN BY: WS
DWN BY: MD, TML
RVW BY: MVR

SHEET NO. 056 OF 069

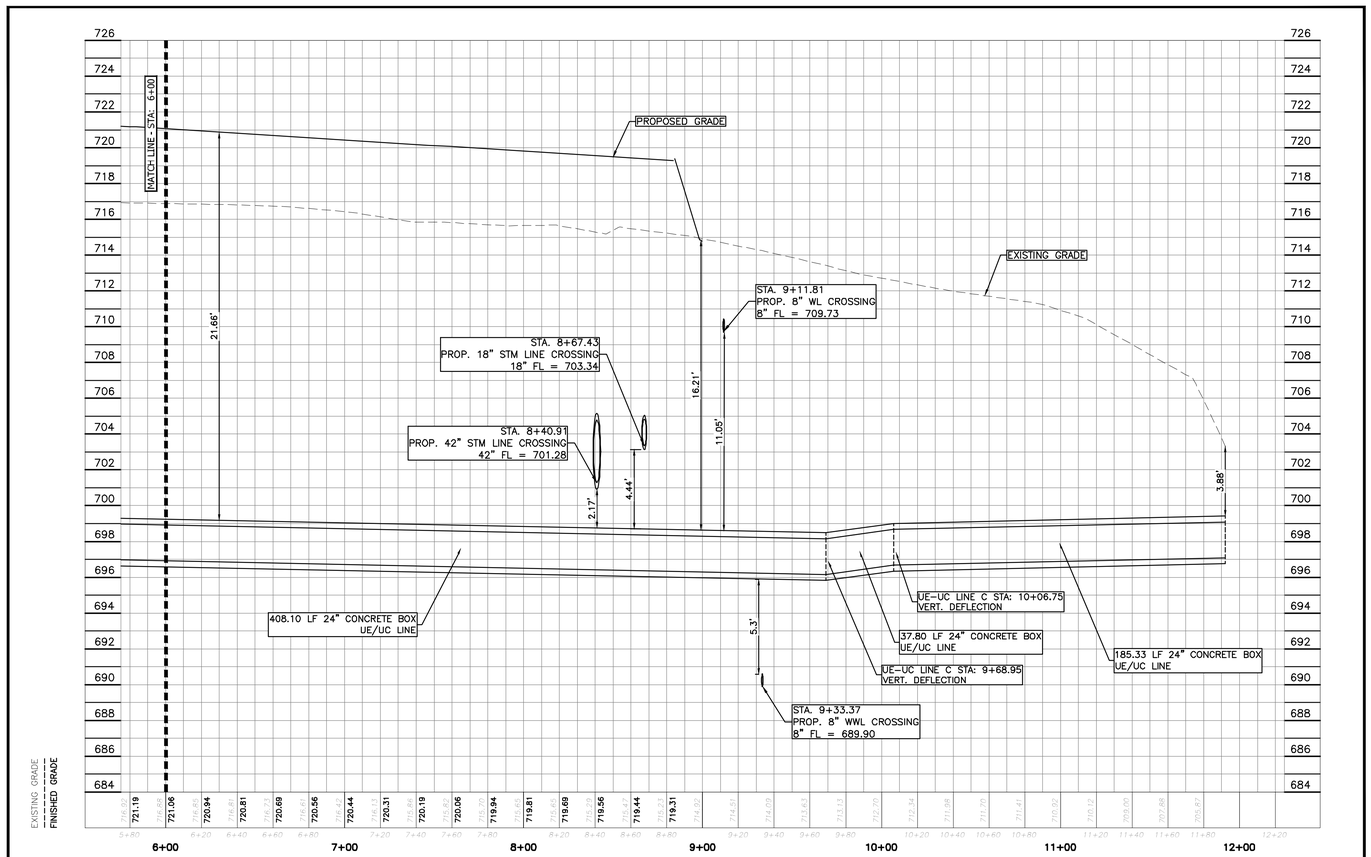
PROJECT NUMBER: 2025-___-CON

Plot Date: September 19, 2025 @ 12:46 PM

P:\A799 560 Development - DMA Stage 1\Civil\Construction Drawings\Sheets\Subdivision Construction Plans\Phase 1A\A799_DRY-UE-UC - C - 1 - PLAN & PROFILE.dwg



UE-UC LINE C1 STA. 6+00 TO END - PLAN VIEW
SCALE: 1" = 40'



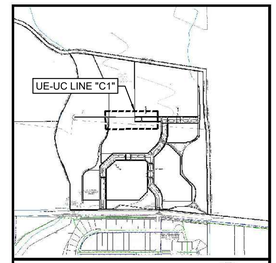
UE-UC LINE C1 STA. 6+00 TO END - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- UE/UC LINE
- OVERHEAD ELECTRIC
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE



SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

UE-UC LINE C1 PLAN & PROFILE STA. 6+00 TO END

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

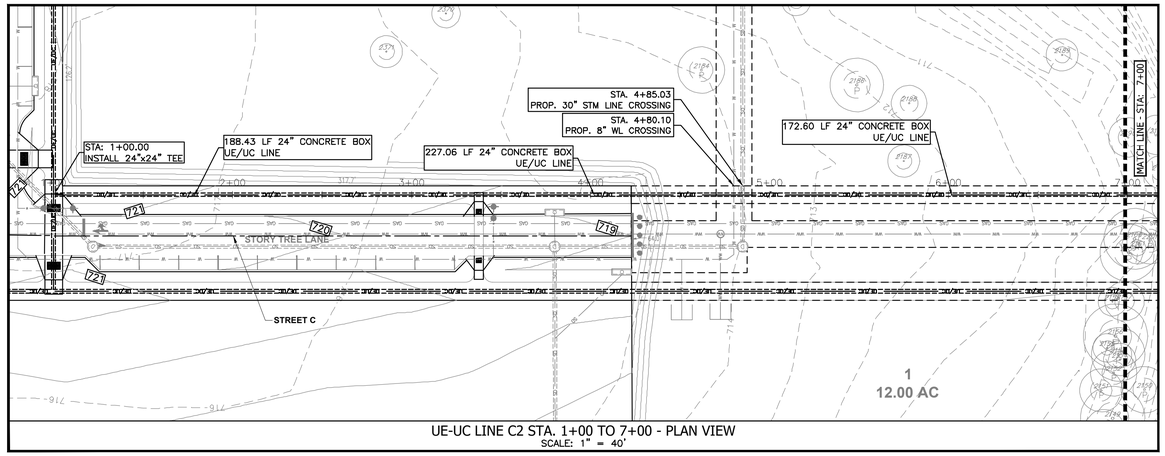
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 057 OF 069

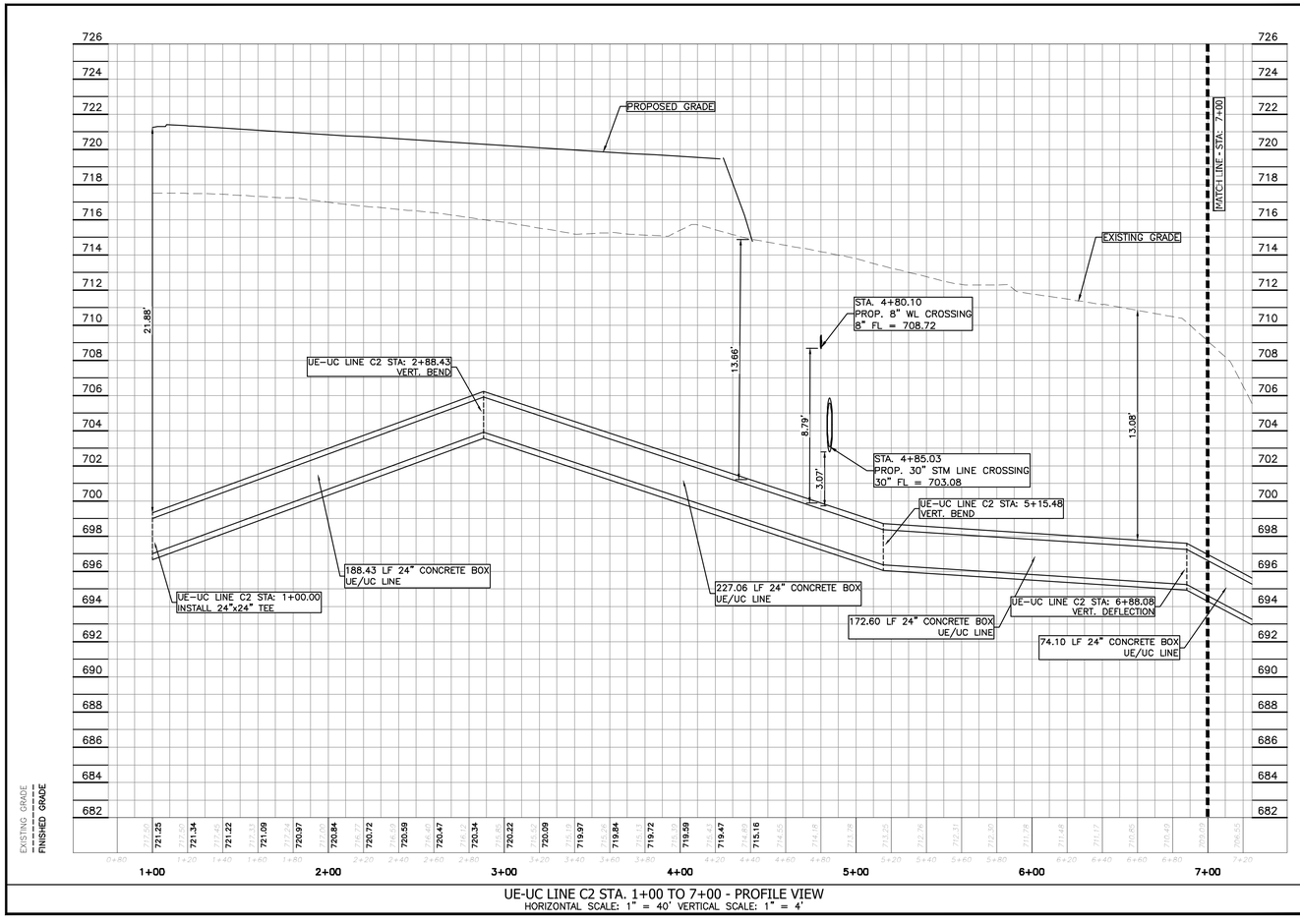
PROJECT NUMBER: 2025-___-CON

Plot Date: September 19, 2025 @ 12:46 PM

P:\A799 560 Development – DMA Stage 1\Civil\Construction Drawings\Sheets\Subdivision Construction Plans\Phase 1A\A799_DRY-UE-UC – C – 2 – PLAN & PROFILE.dwg



UE-UC LINE C2 STA. 1+00 TO 7+00 - PLAN VIEW
SCALE: 1" = 40'



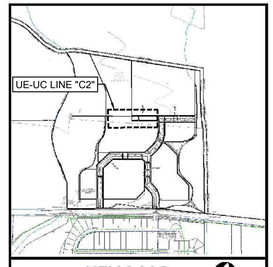
UE-UC LINE C2 STA. 1+00 TO 7+00 - PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- 512 EXISTING CONTOUR LINE
- 512 PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- SD STORM DRAIN LINE
- W WATER LINE
- WW WASTEWATER LINE
- UE/UC UE/UC LINE
- OH OVERHEAD ELECTRIC
- GAS GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WW WASTEWATER MANHOLE
- CO WASTEWATER CLEANOUT
- BFP BACKFLOW PREVENTER
- D STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE



SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

UE-UC LINE C2 PLAN & PROFILE STA. 1+00 TO 7+00

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 058 OF 069

PROJECT NUMBER: 2025-___-CON

Plot Date: September 19, 2025 @ 12:47 PM

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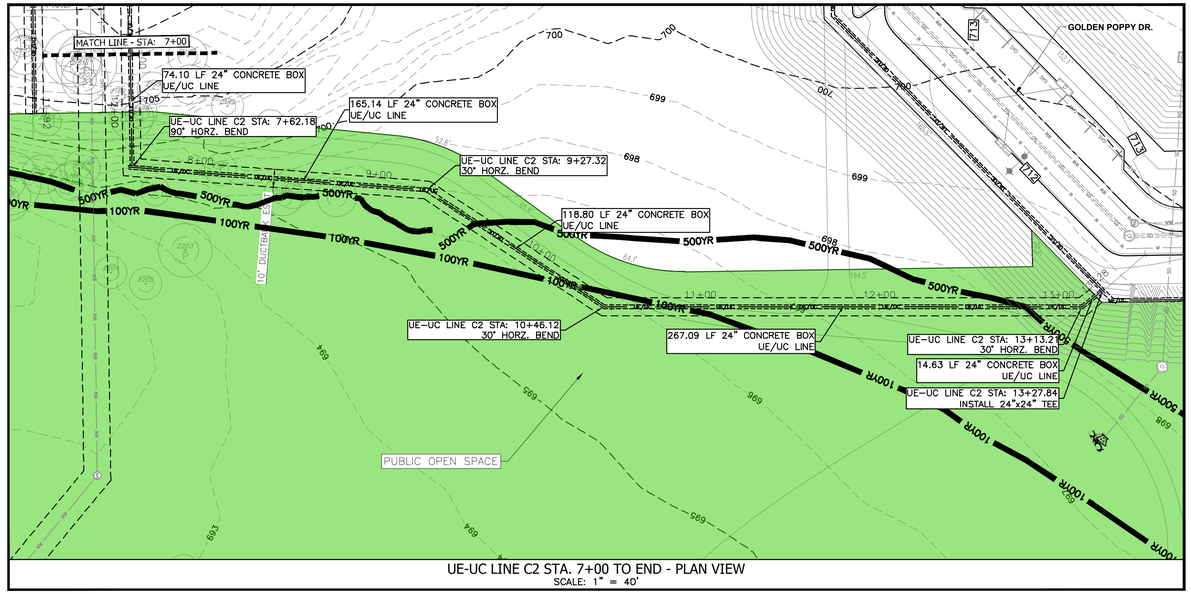
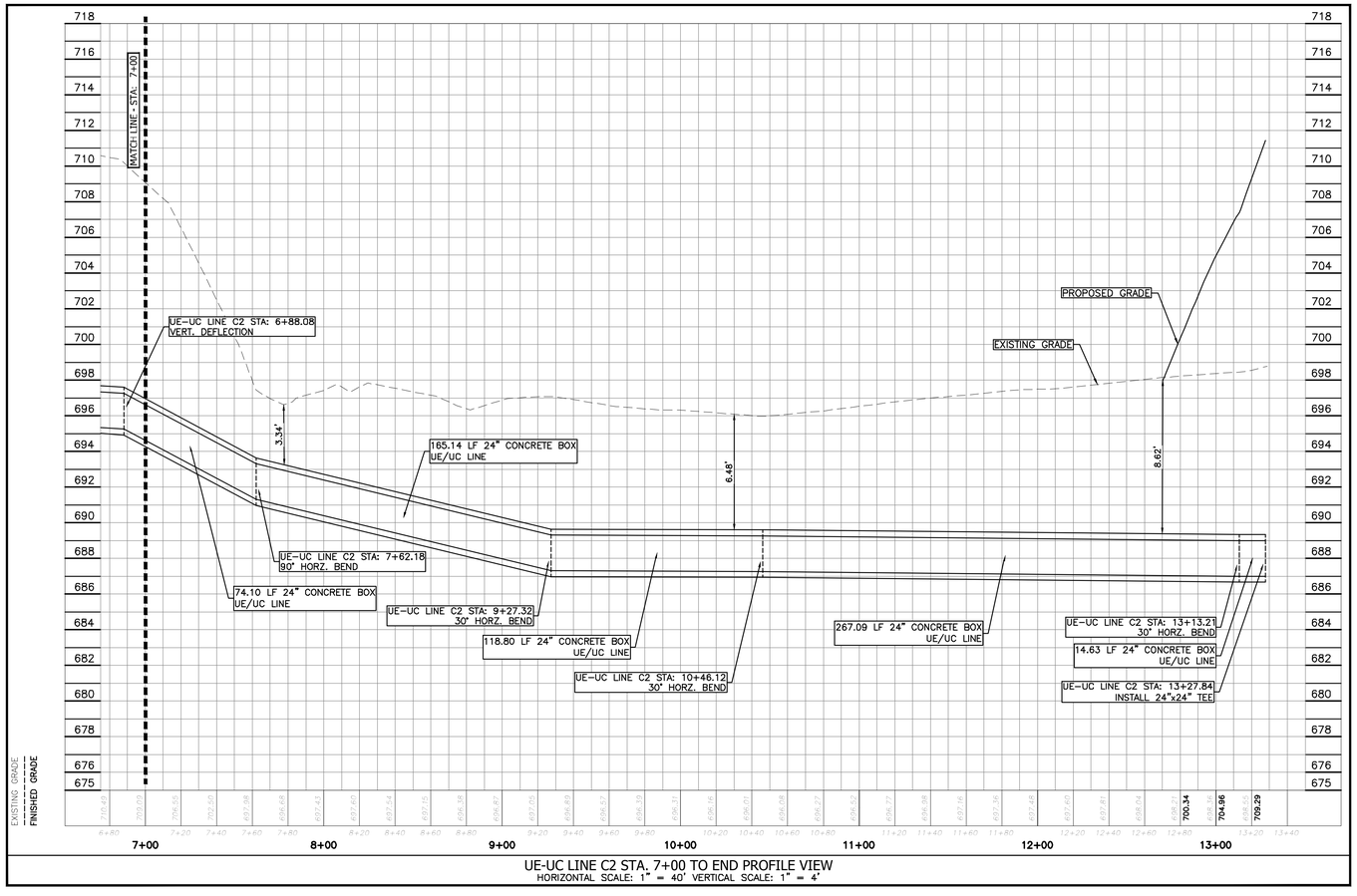


UE-UC LINE C2 STA. 7+00 TO END - PLAN VIEW
SCALE: 1" = 40'



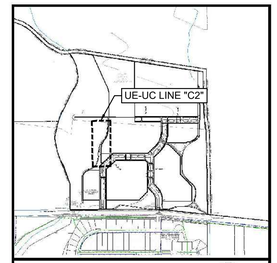
UE-UC LINE C2 STA. 7+00 TO END PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- WATER LINE
- WASTEWATER LINE
- UE/UC LINE
- OVERHEAD ELECTRIC
- GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WASTEWATER MANHOLE
- WASTEWATER CLEANOUT
- BACKFLOW PREVENTER
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE



SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

UE-UC LINE C2 PLAN & PROFILE STA. 7+00 TO END

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 059 OF 069

PROJECT NUMBER: 2025-____-CON

Plot Date: September 19, 2025 @ 12:49 PM

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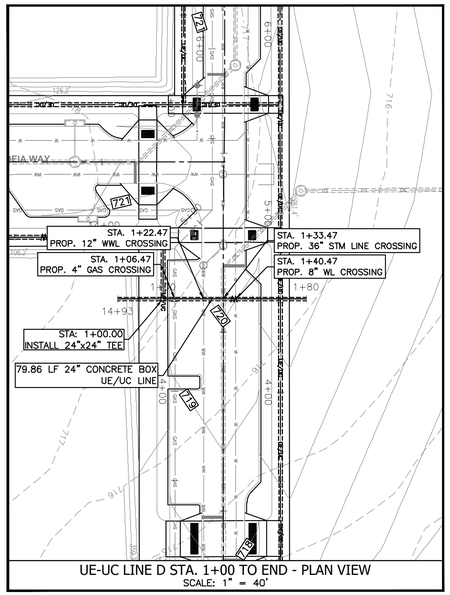
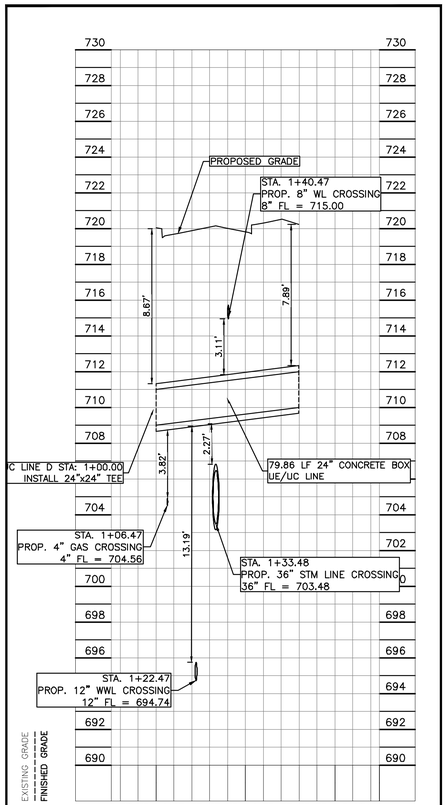


UE-UC LINE D STA. 1+00 TO END - PLAN VIEW
SCALE: 1" = 40'



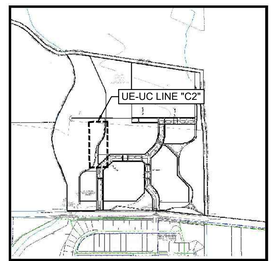
UE-UC LINE D STA. 1+00 TO END PROFILE VIEW
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- 512 EXISTING CONTOUR LINE
- 512 PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- STORM DRAIN LINE
- W WATER LINE
- WW WASTEWATER LINE
- UE/UC UE/UC LINE
- OH OVERHEAD ELECTRIC
- GAS GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WW WASTEWATER MANHOLE
- CO WASTEWATER CLEANOUT
- BFP BACKFLOW PREVENTER
- D STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- UTILITY POLE
- GUY WIRE
- PUBLIC OPEN SPACE

PROFILE LEGEND

- PROP. GRADE
- EXISTING GRADE



SCALE: NTS KEY MAP

0' 20' 40' 80'
SCALE:1"=40'

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

UE-UC LINE D PLAN & PROFILE STA. 1+00 TO END

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 060 OF 069

PROJECT NUMBER: 2025-____-CON

Plot Date: September 19, 2025 @ 12:47 PM

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LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- 512 EXISTING CONTOUR LINE
- 512 PROPOSED CONTOUR LINE
- CURB / EDGE OF PAVEMENT
- PROPOSED BUILDING PAD AREA
- SD STORM DRAIN LINE
- W WATER LINE
- WW WASTEWATER LINE
- OH OVERHEAD ELECTRIC
- GAS GAS LINE
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- WW WASTEWATER MANHOLE
- CO WASTEWATER CLEANOUT
- BFP BACKFLOW PREVENTER
- D STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- STORM DRAIN AREA INLET
- T TRANSFORMER
- AC AIR CONDITIONER UNIT
- GAS GAS METER
- EM ELECTRIC MANHOLE
- E ELECTRIC BOX
- UTILITY POLE
- GUY WIRE

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

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

OVERALL GAS DISTRIBUTION PLAN

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD, TML
RVW BY: MVR

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 061 OF 069

Plot Date: September 19, 2025 @ 12:47 PM

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PROJECT NUMBER: 2025-____-CON

GUIDELINES FOR DESIGN AND INSTALLATION OF TEMPORARY EROSION AND SEDIMENTATION CONTROLS

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

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

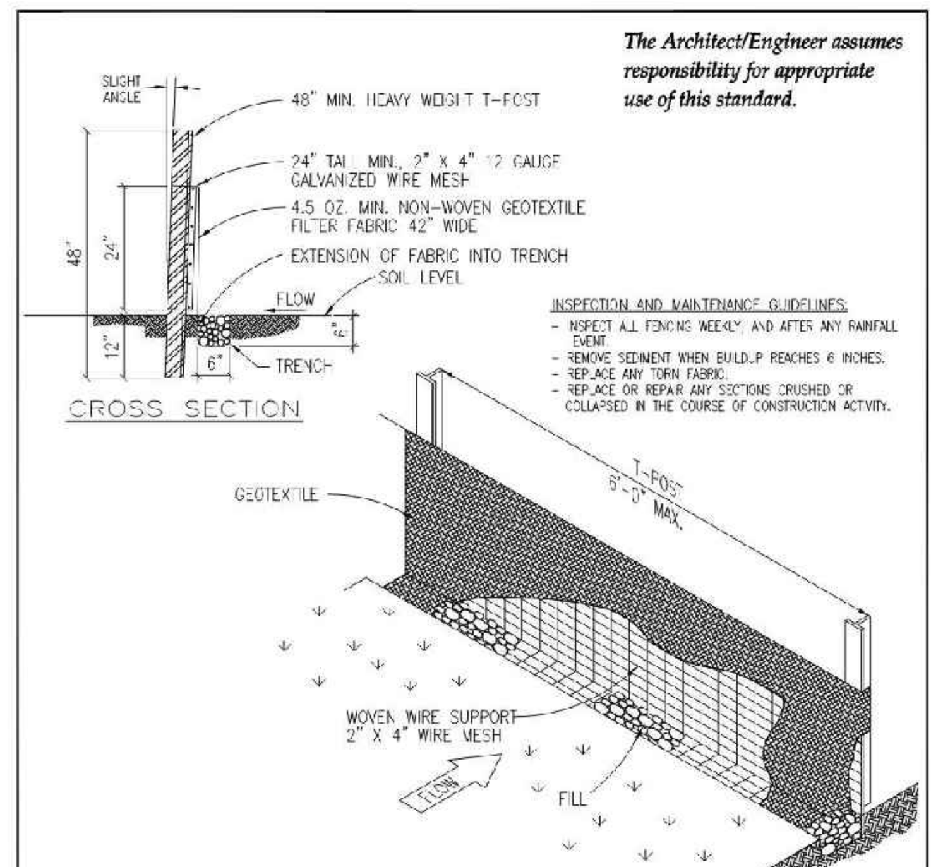
** HIGH SERVICE ROCK BERMS MAY BE REQUIRED IN AREAS OF ENVIRONMENTAL SIGNIFICANCE AS DETERMINED BY THE CITY OF GEORGETOWN.

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

ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — TEMPORARY EROSION AND SEDIMENTATION CONTROL GUIDELINES — EC01

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

ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — EROSION AND SEDIMENTATION AND TREE PROTECTION NOTES — EC01A



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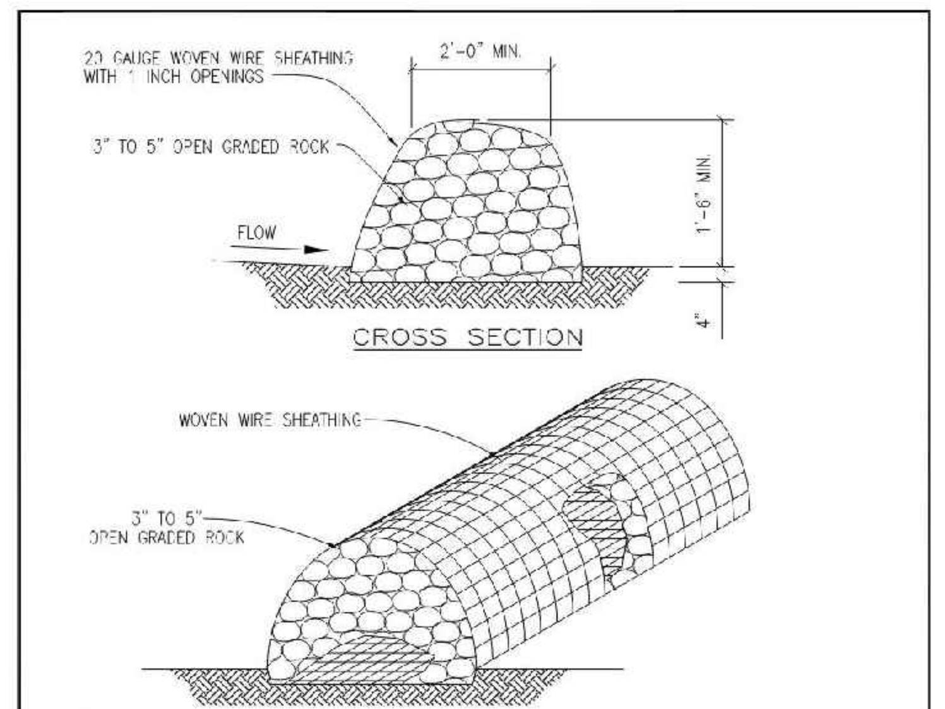
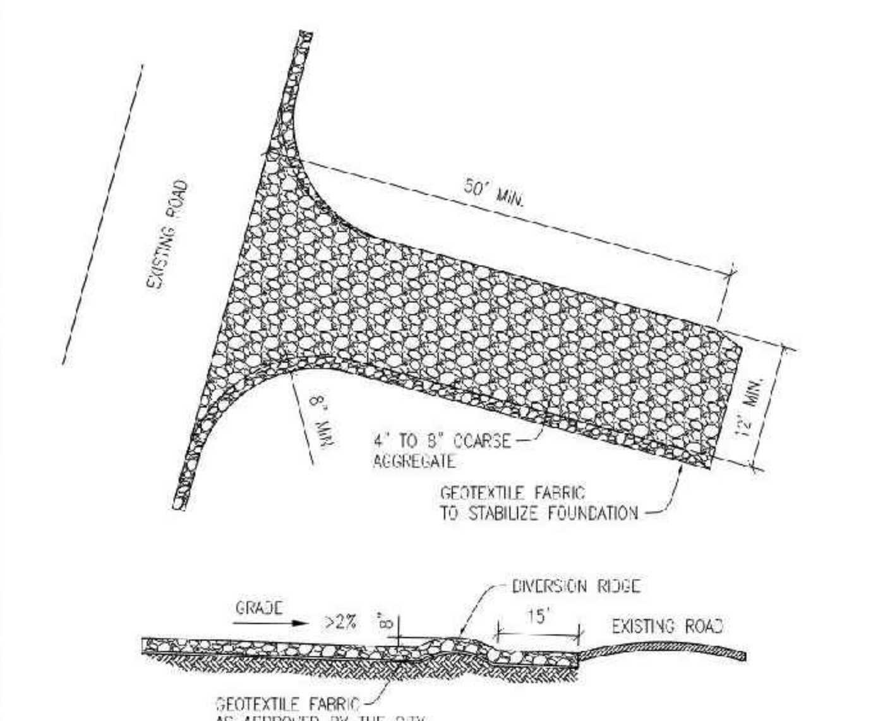
ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — SILT FENCE DETAIL — EC02



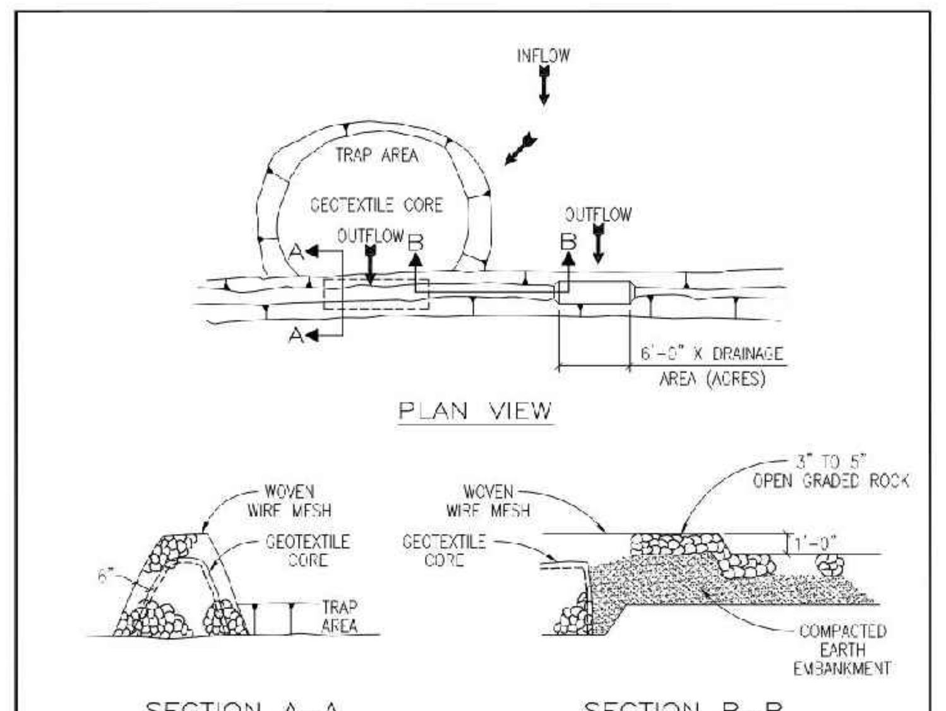
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — ROCK BERM DETAIL — EC03



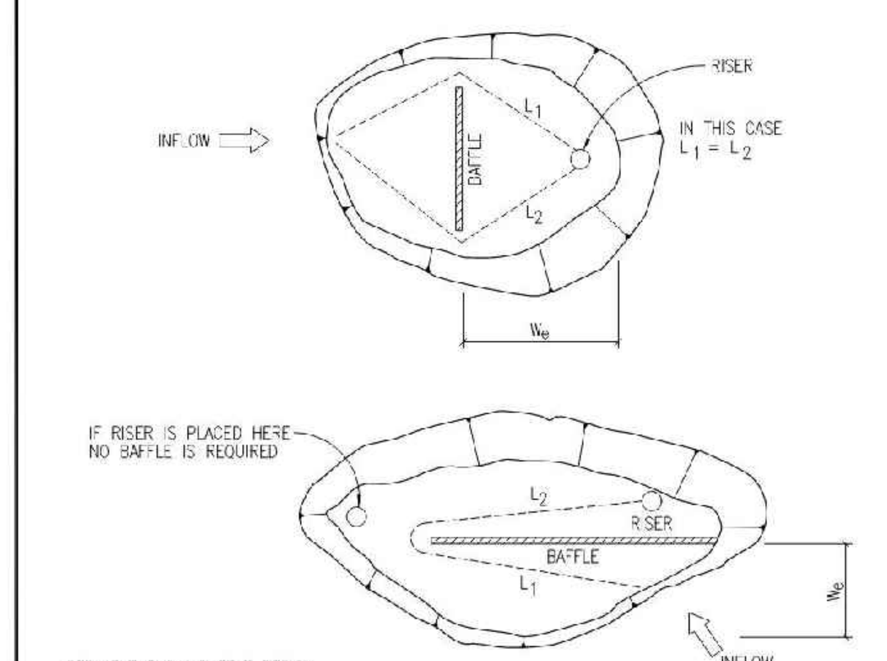
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — STABILIZED CONSTRUCTION ENTRANCE — EC06



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

ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — SEDIMENT TRAP DETAIL — EC07



SEDIMENT BASIN BAFFLE DESIGN

$W_e = A / (L_1 + L_2)$

W_e = EFFECTIVE WIDTH OF BASIN

A = SURFACE AREA OF BASIN WHEN FILLED TO RISER CREST

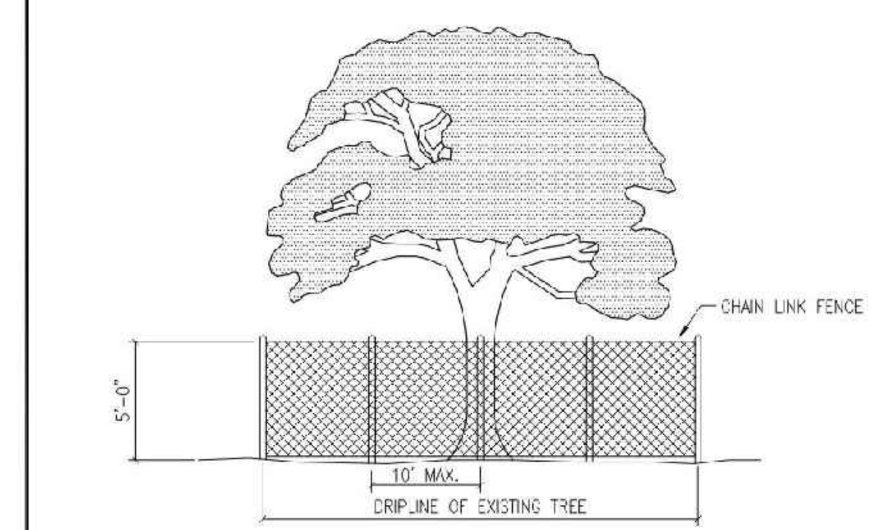
L_1, L_2 = SHORTEST TRAVEL DISTANCE AROUND THE BAFFLE FROM INLET TO OUTLET

INSPECTION AND MAINTENANCE GUIDELINES:

- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. REPAIR SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
- TRASH AND OTHER DEBRIS SHOULD BE REMOVED AFTER EACH RAINFALL TO PREVENT CLOGGING OF THE OUTLET STRUCTURE.
- ACCUMULATED SILT SHOULD BE REMOVED AND THE BASIN SHOULD BE RE-GRADED TO ITS ORIGINAL DIMENSIONS AT SUCH POINT THAT THE CAPACITY OF THE IMPOUNDMENT HAS BEEN REDUCED TO 1/2 OF ITS ORIGINAL STORAGE CAPACITY.
- THE REMOVED SEDIMENT SHOULD BE STOCKPILED OR REDISTRIBUTED IN AREAS THAT ARE PROTECTED FROM EROSION.

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

ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — SEDIMENT BASIN BAFFLE DESIGN — EC08



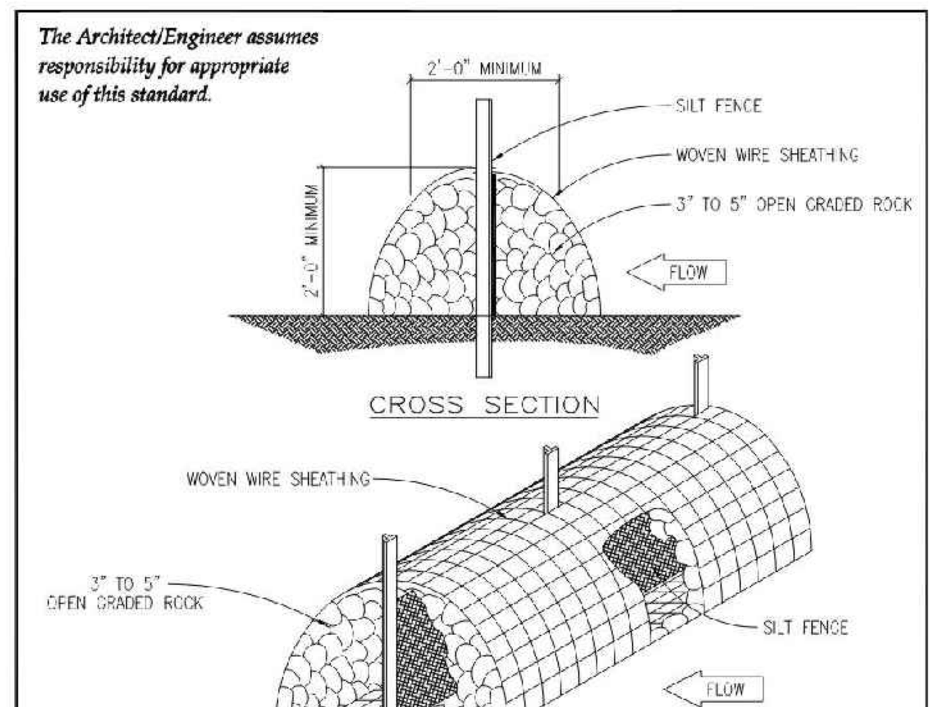
NOTES:

1. TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING).
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 AND FIRE.
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.

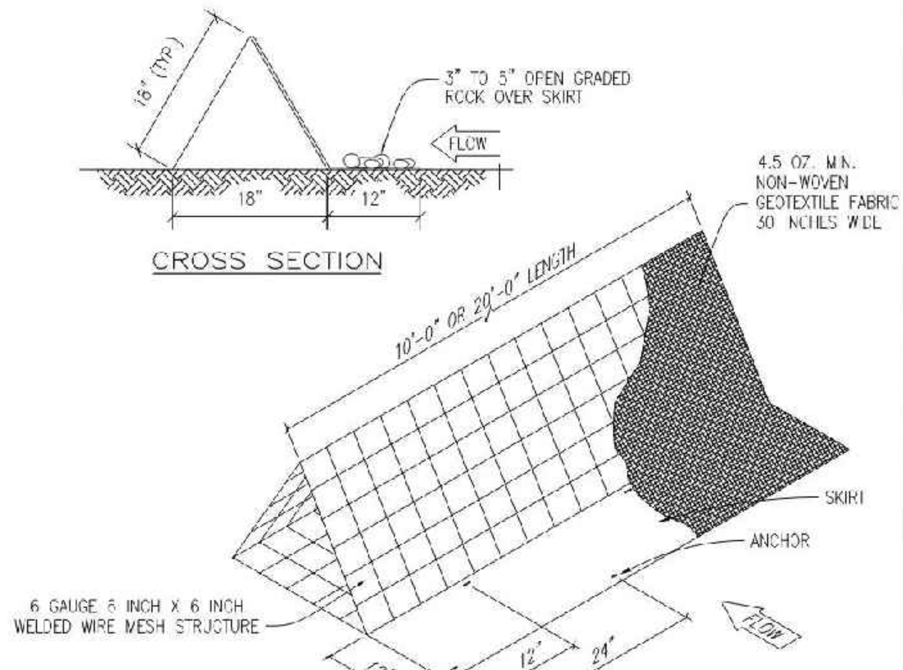
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — TREE PROTECTION – CHAIN LINK FENCE — EC09

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

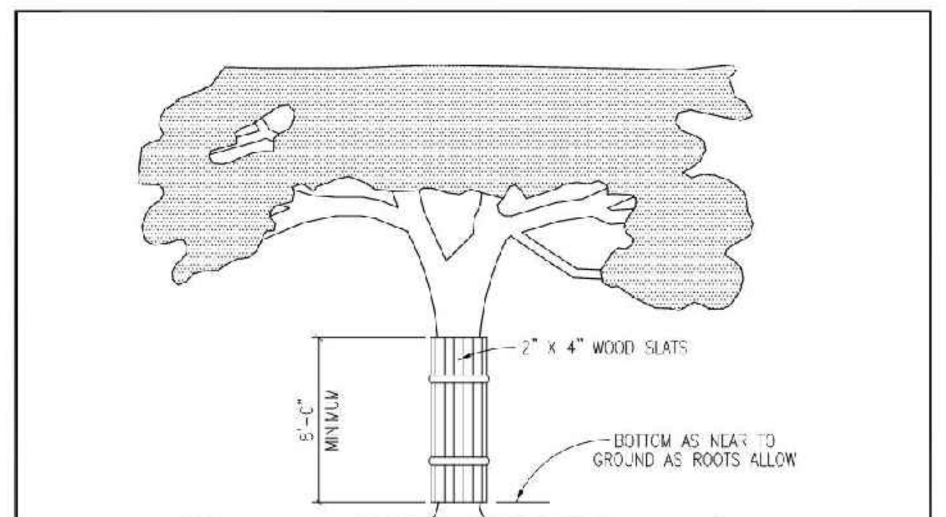


ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — HIGH SERVICE ROCK BERM DETAIL — EC04



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

ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — TRIANGULAR FILTER DIKE — EC05



NOTES:

1. WHERE ANY EXCEPTIONS RESULT IN A FENCE BEING CLOSER THAN FOUR FEET (4'–0") TO A TREE TRUNK; PROTECT THE TRUNK WITH STRAPPED-ON-PLANKING TO A HEIGHT OF EIGHT FEET (8'–0"), OR TO THE LIMITS OF LOWER BRANCHING IN ADDITION TO THE REDUCED FENCING PROVIDED.
2. 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.
3. 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 REMAINING ROOTS.
4. 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.
7. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS.

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

ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — TREE PROTECTION – WOOD SLATS — EC10

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY–560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

EROSION–SEDIMENTATION CONTROL DETAILS

CIVILITUDE ENGINEERS & PLANNERS
503 KENNISTON DR #4, AUSTIN, TX 78752
PHONE 512 761 6161 FAX 512 761 6167
FIRM REG # F12469 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

9-19-2025
STATE OF TEXAS — JORDAN L. MILLER — 124884 — LICENSED PROFESSIONAL ENGINEER

SHEET NO. 062 OF 069

Plot Date: September 19, 2025 @ 12:50 PM

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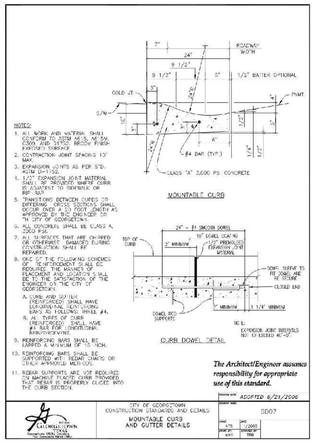
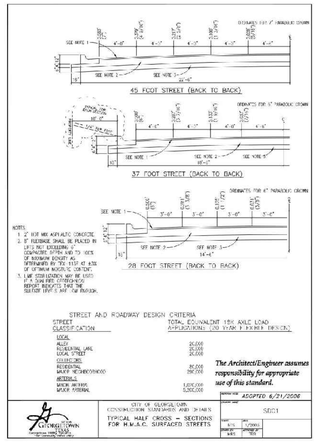
PROJECT NUMBER: 2025-___-CON



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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
MOUNTABLE CURB AND GUTTER DETAILS
SD07 — ADOPTED 6/21/2006

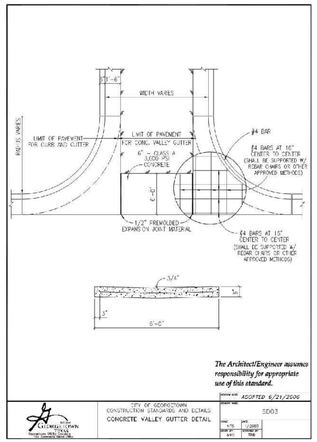


STREET AND ROADWAY DESIGN CRITERIA

STREET CLASSIFICATION	TOTAL EQUIVALENT 18K AXLE LOAD APPLICATIONS (20 YEAR DESIGN)
LOCAL	
ALLEY	25,000
RESIDENTIAL LANE	25,000
LOCAL STREET	25,000
COLLECTORS	
COMMERCIAL	84,000
MAJOR RESIDENTIAL	168,000
ARTERIALS	
MINOR ARTERIAL	1,620,000
MAJOR ARTERIAL	5,300,000

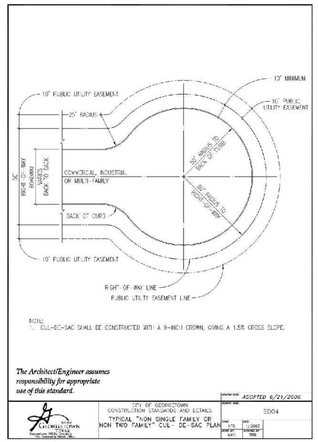
The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TYPICAL HALF CROSS-SECTIONS FOR M.S.A.C. SURFACED STREETS
SD01 — ADOPTED 6/21/2006



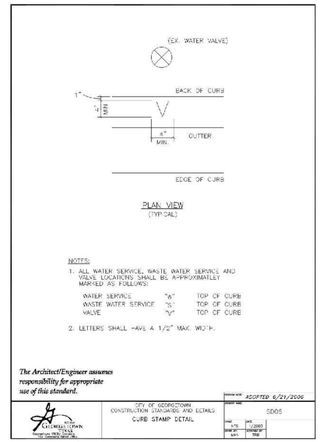
The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
CONCRETE VALLEY GUTTER DETAIL
SD03 — ADOPTED 6/21/2006



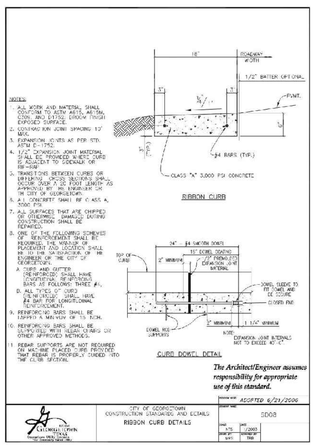
The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TYPICAL T-TON SINGLE FAMILY OR NON TWO FAMILY CUL-DE-SAC PLAN
SD04 — ADOPTED 6/21/2006



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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
CURB STAMP DETAIL
SD05 — ADOPTED 6/21/2006



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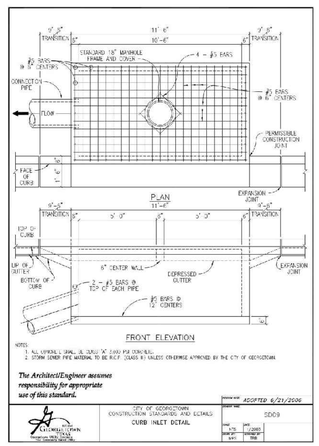
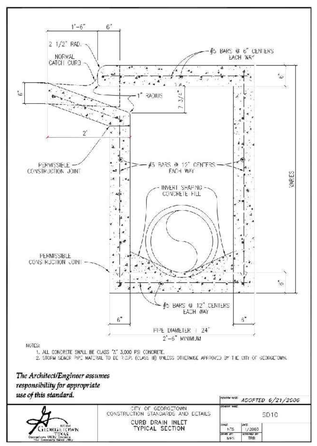
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
RIBBON CURB DETAILS
SD08 — ADOPTED 6/21/2006



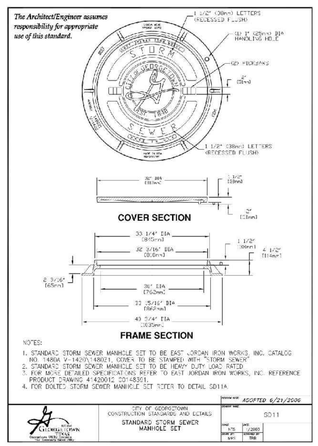
The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
CURB INLET DETAIL
SD09 — ADOPTED 6/21/2006



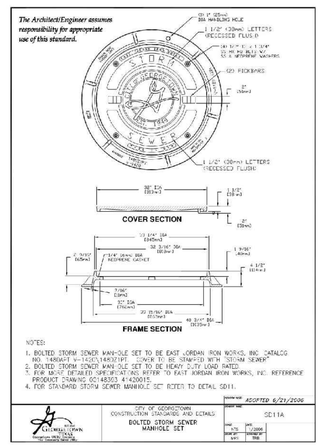
The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
CURB DRAIN INLET TYPICAL SECTION
SD10 — ADOPTED 6/21/2006



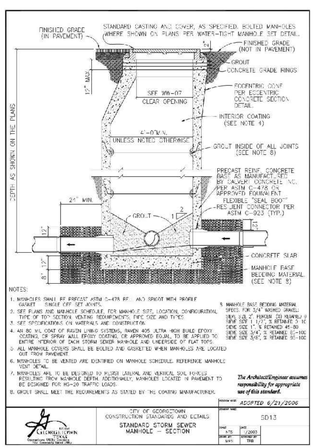
The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STANDARD STORM SEWER MANHOLE SECT
SD11 — ADOPTED 6/21/2006



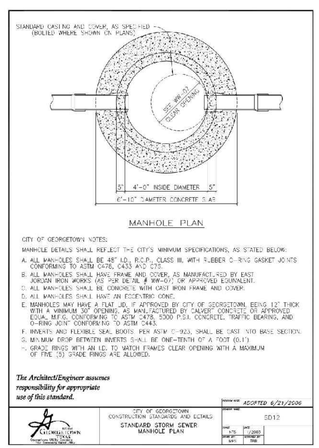
The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
BOLTED STORM SEWER MANHOLE SECT
SD11A — ADOPTED 6/21/2006



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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STANDARD STORM SEWER MANHOLE SECTION
SD13 — ADOPTED 6/21/2006

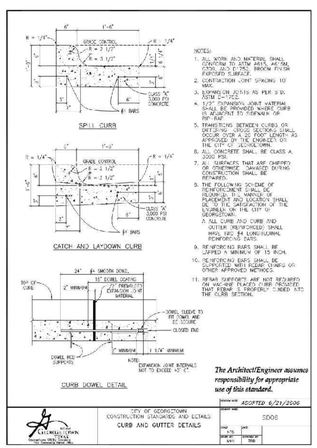


CITY OF GEORGETOWN NOTES:
MANHOLE DETAILS SHALL REFLECT THE CITY'S MINIMUM SPECIFICATIONS, AS STATED BELOW:

A. ALL MANHOLES SHALL BE ART 4.D, R.C.P., CLASS III, WITH RUBBER O-RING GASKET JOINTS CONFORMING TO ASTM C478, C443, AND C361.
B. ALL MANHOLES SHALL HAVE FRAME AND COVER, AS MANUFACTURED BY EAST JORDAN IRON WORKS (AS PER DETAIL # SDM-001) OR APPROVED EQUIVALENT.
C. ALL MANHOLES SHALL BE CONCENTRIC WITH CAST IRON FRAME AND COVER.
D. ALL MANHOLES SHALL HAVE AN ECCENTRIC CONE.
E. MANHOLES MAY HAVE A FLAT SLAB, IF APPROVED BY CITY OF GEORGETOWN, BEING 12" THICK WITH A MINIMUM 30" OPENING, AS MANUFACTURED BY CALVERT CONCRETE OR APPROVED EQUAL, MEETING, CONFORMING TO ASTM C478, 5000 PSI CONCRETE, TRAFFIC BEARING, AND O-RING JOINT CONFORMING TO ASTM C443.
F. INVERTS AND FILLETED SEAL BOOTS PER ASTM C-923, SHALL BE CAST INTO BASE SECTION.
G. MINIMUM DROP BETWEEN INVERTS SHALL BE ONE-TENTH OF A FOOT (0.1')
H. GRADE RINGS WITH A 24" I.D. TO MATCH FRAMES CLEAR OPENING WITH A MAXIMUM OF FIVE (5) GRADE RINGS ARE ALLOWED.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STANDARD STORM SEWER MANHOLE PLAN
SD12 — ADOPTED 6/21/2006



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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
CURB AND GUTTER DETAILS
SD06 — ADOPTED 6/21/2006

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

PAVING & DRAINAGE DETAILS-1

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

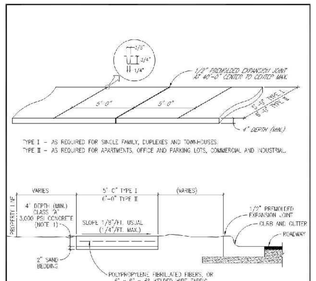
JOB NO: A799
DGN BY: WS
DWN BY: MD, TML
RVW BY: MVR

SHEET NO. 063 OF 069

Plot Date: September 19, 2025 @ 12:50 PM

P:\A799 560 Development – DMA Stage 1\Civil\Construction Drawings\Sheets\Subdivision Construction Plans\Phase 1A\A799_PAVING AND DRAINAGE DETAILS.dwg

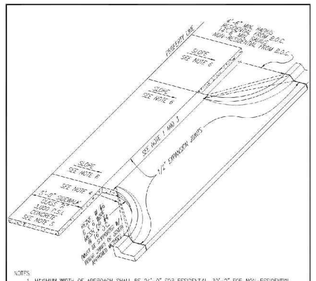
PROJECT NUMBER: 2025-___-CON



NOTES:
1. 725 ROLLER STAMPED SIDEWALK MATCH "S" SPECIFICATIONS
2. STANDARD LOCATION OF SIDEWALK IS OFF BACK OF CURB. SPECIAL DESIGNS MAY BE APPROVED BY THE CITY ENGINEER PRIOR TO FINAL DESIGN.
3. SIDEWALK SHALL CONFORM TO CURRENT AMERICANS WITH DISABILITIES ACT STANDARDS.
4. 1" DESIGNED AS SIDEWALKS SHALL BE ISOMETRIC AND APPROVED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION BY THE DESIGNATED RECORD.
5. ANY VARIANCE IN TEXTURE, GRADE OR ALIGNMENT MUST BE APPROVED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION.

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

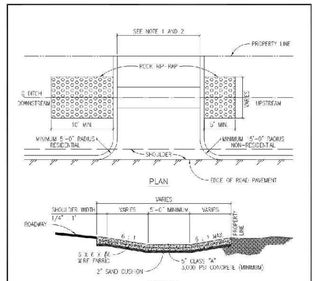
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SIDEWALK SECTION AND JOINT DETAIL
SD14
ADOPTED 6/21/2006



NOTES:
1. MINIMUM WIDTH OF APPROACH SHALL BE 24'-0" FOR RESIDENTIAL, 33'-0" FOR NON-RESIDENTIAL UNDIVIDED AND 45'-3" FOR NON-RESIDENTIAL DIVIDED.
2. DRIVEWAY FLARES TO BE ACCORDING FROM CITY INSPECTION OFFICE.
3. MINIMUM WIDTH OF APPROACH SHALL BE 10'-0" FOR RESIDENTIAL AND 15'-0" FOR NON-RESIDENTIAL.
4. LINEAR TRADEOFF AT CORNERS PERMITTED FOR "SINGLE FAMILY" OR "TWO FAMILY RESIDENTIAL DRIVEWAY APPROACH.
5. SIDEWALK LOCATION TO BE APPROVED BY CITY ENGINEER PRIOR TO FINAL DESIGN.
6. SLOPE 1/8" PER FOOT USUAL, NOT TO EXCEED 1/4" PER FOOT.
7. DRIVEWAY APPROACH THICKNESS TO BE A MIN. OF 6".

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

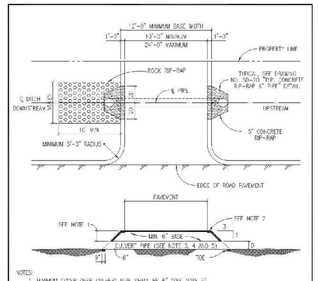
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
CONCRETE DRIVEWAY APPROACH TYPICAL
SD15
ADOPTED 6/21/2006



NOTES:
1. MINIMUM WIDTH OF APPROACH SHALL BE 12'-0" FOR RESIDENTIAL AND 15'-0" FOR NON-RESIDENTIAL.
2. MAXIMUM WIDTH OF APPROACH SHALL BE 24'-0" FOR RESIDENTIAL, 33'-0" FOR NON-RESIDENTIAL UNDIVIDED AND 45'-3" FOR NON-RESIDENTIAL DIVIDED.
3. ROCK RIP RAP SHALL EXTEND AT MINIMUM FROM THE DOWN STREAM SIDE AND 5' MINIMUM FROM THE UPSTREAM SIDE USING THE MATERIAL STONE SIZE DIA. OF 8" AT A DEPTH OF 16" (MINIMUM).
4. MINIMUM CHANNEL SIDE SLOPE SHALL BE 4:1.
5. SUPPORT REINFORCING MAT MUST BE PROVIDED AS SUPPORT FOR APPROACH SLAB AND SHALL BE SUPPORTED WITH REBAR CHAIRS OR OTHER APPROVED METHODS.

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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
CONCRETE DIP DRIVEWAY APPROACH
SD16
ADOPTED 6/21/2006

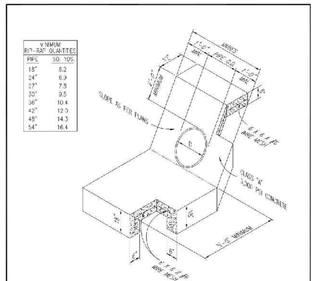


NOTES:
1. MINIMUM COVER OVER CULVERT PIPE SHALL BE 6" (SEE NOTE 2).
2. 5" CONCRETE RIP-RAP SHALL BE INSTALLED.
3. CULVERT PIPE TO BE MINIMUM OF 12" DIAMETER.
4. CULVERT PIPE MATERIAL TO BE RCP, (CLASS III), UNLESS PRIOR APPROVAL IS GRANTED BY THE CITY OF GEORGETOWN ENGINEER.
5. MINIMUM COVER OVER CULVERT PIPE SHALL PROVIDE H20 LOADING.
6. BACKFILL AROUND CULVERT PIPE SHALL BE SELECT MATERIAL TO BE PLACED AND COMPACTED TO 95% TEX-114E.
7. RIP RAP SHALL EXTEND 10' FROM THE DOWN STREAM SIDE USING THE NOMINAL STONE SIZE DIA. OF 8" TO A DEPTH OF 16" MINIMUM.
8. MINIMUM CHANNEL SIDE SLOPE SHALL BE 4:1.

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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
RURAL RESIDENTIAL DRIVEWAY APPROACH WITH CULVERT PIPE
SD17
ADOPTED 6/21/2006

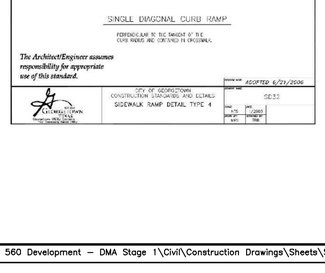
MINIMUM REINFORCEMENT QUANTITIES	
PIPE	NO. 105
18"	6.2
24"	6.9
27"	7.5
30"	9.5
36"	10.4
42"	12.3
48"	14.3
54"	16.4



NOTES:
1. WHEN HEADWALLS AND WINGWALLS ARE REQUIRED, THEY SHALL CONFORM TO TXDOT DEPARTMENT OF TRANSPORTATION STANDARDS, OR AS DIRECTED BY THE CITY.
2. ENERGY DISSIPATERS SHALL BE REQUIRED IF PIPE VELOCITY IS GREATER THAN 5.0 F.P.S. OR AS DIRECTED BY THE CITY OF GEORGETOWN.
3. SUPPORT REINFORCING MAT MUST BE PROVIDED AS SUPPORT FOR APPROACH SLAB AND SHALL BE SUPPORTED BY REBAR CHAIRS OR OTHER APPROVED METHODS.

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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TYPICAL CONCRETE RIP-RAP AT PIPE
SD19
ADOPTED 6/21/2006

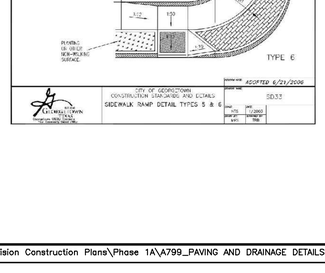


NOTES:
1. ALL SLAB "A" CONCRETE, 3,000 PSI IN 28 DAYS, SPALLS NO LB.
2. REINFORCING STEEL - 20% DUCT, GRADE 40, UNLESS NOTED.
3. CAP REINFORCING TO BE 2" FROM EXPOSED SURFACES, UNLESS NOTED.
4. CHAMFER EXPOSED EDGES OF CONCRETE 3/4", UNLESS NOTED.
5. PLACE REINFORCING WITH THE CENTER OF THE OUTSIDE BARS 6 INCHES FROM THE OUTSIDE OF THE CONCRETE.

TABLE OF DIMENSIONS FOR VARIOUS DESIGNATION OF R.C.

D (PIPE DIAMETER IN INCHES)	NUMBER OF BARS IN CAP (QUANTITY)	NUMBER OF BARS IN BODY (QUANTITY)	A (INCHES)	B (INCHES)	H (INCHES)
12	3	3	4	4	3 1/2
18	4	4	4 1/2	5 1/2	10 1/2
24	5	5	5	14 3/4	16 1/2
30	5	6	7 1/2	12 1/2	14 3/4
36	5	6	8	16 1/4	18 5/16
42	5	6	16 3/4	18	19 1/4
48	5	6	12	23 3/4	20 1/4
54	5	6	13 1/2	27 1/2	21 3/4
60	5	6	15	31 1/4	23 5/8

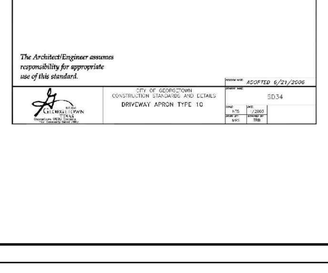
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
ENERGY DISSIPATER DETAIL
SD20
ADOPTED 6/21/2006



NOTES:
1. COMMERCIAL SIDEWALKS MAY BE 6" RESIDENTIAL SIDEWALKS MINIMUM - 5"
2. ALL SLOPES ARE MAXIMUM ALLOWABLE. FLATTER SLOPES THAT WILL STILL DRAIN PROPERLY ARE ENCOURAGED.
3. ALL CONCRETE SURFACES SHALL RECEIVE A LIGHT BROOM FINISH UNLESS NOTED OTHERWISE IN THE PLANS.
4. FOR PURPOSES OF WARNING, THE CURB RAMPS SHALL HAVE A LIGHT REFLECTIVE VALUE AND TEXTURE THAT SIGNIFICANTLY CONTRASTS WITH THAT OF ADJOINING PEDESTRIAN SURFACES.
5. TEXTURES MAY CONSIST OF PAVERS WITH TRUNCATED DOMED SURFACES OF GROOVES. TEXTURES ARE REQUIRED TO BE DETECTABLE UNDERFOOT. SURFACES THAT WOULD ALLOW WATER TO ACCUMULATE ARE PROHIBITED.
6. COLOR CONTRAST, FOR EXAMPLE, CAN BE ACCOMPLISHED BY USING COLORED CONCRETE PAVERS THAT HAVE TRUNCATED DOMES OF BY COLORED STAMPED CONCRETE WITH GROOVES, EITHER OF WHICH WOULD PROVIDE A CONTRAST WITH TYPICALLY LIGHT COLORED CONCRETE.
7. ADDITIONAL INFORMATION ON CURB RAMP LOCATION, DESIGN, VISIBILITY AND TEXTURE MAY BE FOUND IN THE CURRENT EDITION OF THE TEXAS ACCESSIBILITY STANDARDS (TAS) PREPARED AND ADMINISTERED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION (TDLR).
8. RAISED MEDIANS, SIDEWALK OPPOSING DIRECTIONS OF TRAFFIC AND PROVIDE A REFUGE AREA FOR PEDESTRIANS IF THEY ARE UNABLE TO CROSS THE ENTIRE ROADWAY IN THE ALLOTTED SIGNAL PHASE. TO SERVE AS A REFUGE AREA, THE MEDIAN SHOULD BE A MINIMUM OF 4 FEET WIDE. MEDIANS SHOULD BE DESIGNED TO PROVIDE ACCESSIBLE PASSAGE OVER OR THROUGH THEM.
9. ALL SIDEWALK PLANS AND DETAILS SHALL BE SUBMITTED AND APPROVED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION (TDLR).
10. ANY PART OF THE ACCESSIBLE ROUTE WITH A RUNNING SLOPE GREATER THAN 1:20 (5%) SHALL BE CONSIDERED A RAMP. IF A RAMP HAS A RISE GREATER THAN 6 INCHES OR A HORIZONTAL PROJECTION GREATER THAN 72 INCHES, THEN IT SHALL HAVE HANDRAILS ON BOTH SIDES. THE ONLY EXCEPTION IS AT CURB RAMPS. HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. CURB RAMPS SHALL BE PROVIDED WHERE EVER AN ACCESSIBLE ROUTE CROSSES CURBS/CURBLESS & CURB. CURB RAMPS ARE GENERALLY INTERFERED AS ONLY THE PORTION THAT DIRECTLY INTO THE ROADWAY.
11. TRAFFIC SIGNAL OR ILLUMINATION POLES, GROUND BOXES, CONTROLLER BOXES, SIGNS, DRAINAGE FACILITIES AND OTHER ITEMS SHALL BE PLACED SO NOT TO OBSTRUCT THE ACCESSIBLE ROUTE.
12. ALL SIDEWALKS WILL BE CONFINED BUT EXISTING SIDEWALKS, DRIVEWAYS, EXISTING INLET BOXES, RETAINING WALLS, ETC.
13. ALL SIDEWALK CROSS SLOPES SHALL NOT EXCEED 1:50, UNLESS A VARIANCE IS PROVIDED BY TDLR.

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

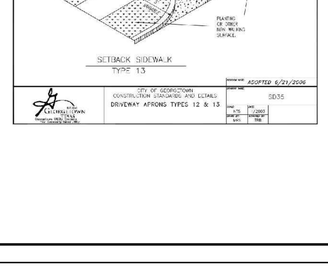
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
PEDESTRIAN RAMPS GENERAL NOTES
SD28
ADOPTED 6/21/2006



MORE CURB RAMPS WITH DETAILED CLUES
PLEASE OF USE PLANES ARE PERMITTED
WHERE PEDESTRIANS WOULD NOT NORMALLY
WALK ACROSS THE RAMP

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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TYPICAL INTERSECTION LAYOUT
SD29
ADOPTED 6/21/2006



SINGLE DIAGONAL CURB RAMP

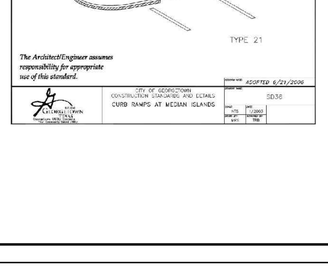
FOR CIVILSTONE PROJECTS SUCH AS REDEVELOPMENT, DEAL, CAN BE CERTAIN SITUATIONS, PLACEMENT OF TWO RAMPS WITHIN THE RADIUS OF THE CURB RAMP SHOULD BE DESIGNED, PERPENDICULAR, PARALLEL OR COMBINATION. AND SHOULD BE LOCATED AS SHOWN ON THE PLANS.

FOR CIVILSTONE PROJECTS SUCH AS REDEVELOPMENT, DEAL, CAN BE CERTAIN SITUATIONS, PLACEMENT OF TWO RAMPS SHOULD BE DESIGNED, PERPENDICULAR, PARALLEL OR COMBINATION. AND SHOULD BE LOCATED AS SHOWN ON THE PLANS.

THE NUMBER OF CURB RAMPS REQUIRED AT EACH CORNER SHALL BE PERMITTED.

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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
CURB RAMP PLACEMENTS AT INTERSECTIONS
SD30
ADOPTED 6/21/2006



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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SIDEWALK RAMP DETAILS TYPE 1-3
SD31
ADOPTED 6/21/2006

PERPENDICULAR TO THE TANGENT OF THE CURB RADIUS AND CONTAINED IN CROSSWALK

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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SIDEWALK RAMP DETAIL TYPE 4
SD32
ADOPTED 6/21/2006

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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SIDEWALK RAMP DETAIL TYPES 5 & 6
SD33
ADOPTED 6/21/2006

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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
DRIVEWAY APRON TYPE 10
SD34
ADOPTED 6/21/2006

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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
DRIVEWAY APRONS TYPES 12 & 13
SD35
ADOPTED 6/21/2006

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

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
CURB RAMPS AT MEDIAN ISLANDS
SD36
ADOPTED 6/21/2006

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

PAVING & DRAINAGE DETAILS-2

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

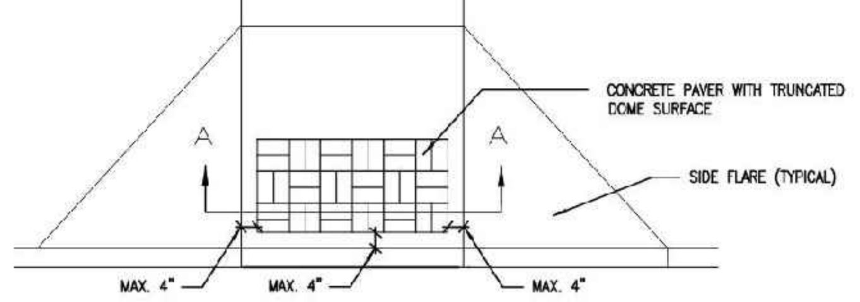
9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 064 OF 069

Plot Date: September 19, 2025 @ 12:50 PM

P:\A799 560 Development - DMA Stage 1\Civil\Construction Drawings\Sheets\Subdivision Construction Plans\Phase 1A\A799_PAVING AND DRAINAGE DETAILS.dwg

PROJECT NUMBER: 2025-___-CON



TRUNCATED DOME PATTERN CURB RAMP

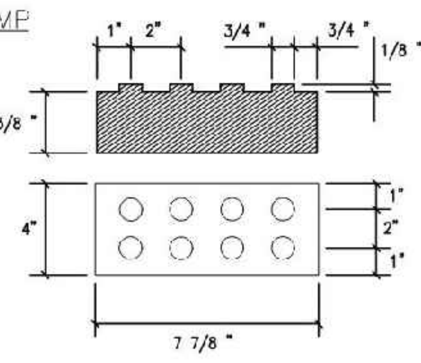
GENERAL NOTES

CONCRETE PAVER UNITS SHALL MEET ALL REQUIREMENTS OF ASTM C-936, C-33, AND SHALL BE LAID IN A TWO BY TWO UNIT BASKET WEAVE PATTERN, UNLESS SHOWN OTHERWISE IN THE PLANS.

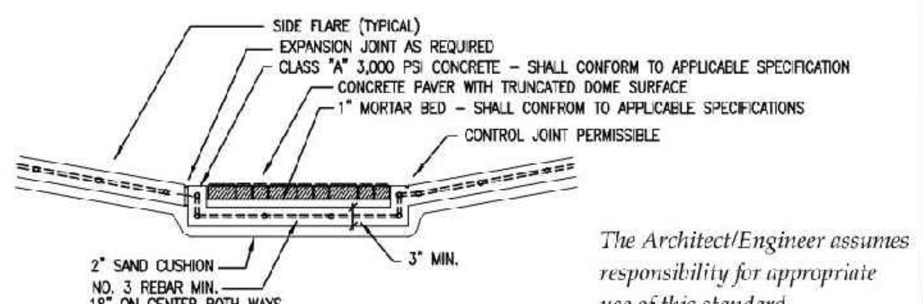
CONCRETE PAVER UNIT SHALL HAVE A TRUNCATED DOME TOP SURFACE FOR DETECTABLE WARNING TO PEDESTRIANS.

CONCRETE PAVER UNIT COLOR FOR THE RAMP SHALL BE A CONTRASTING COLOR TO THE ADJACENT SURFACES. THE COLOR OF THE CONCRETE PAVER UNITS SHALL BE SHOWN ELSEWHERE IN THE PLANS. (ADJACENT SURFACES INCLUDE SIDE FLARES).

CONCRETE PAVER UNITS SHALL BE SAW CUT ONLY AND ANY CUT UNIT SHALL BE NOT LESS THAN 25 PERCENT OF A FULL UNIT.



CONCRETE PAVER WITH TRUNCATED DOME SURFACE



SECTION A–A

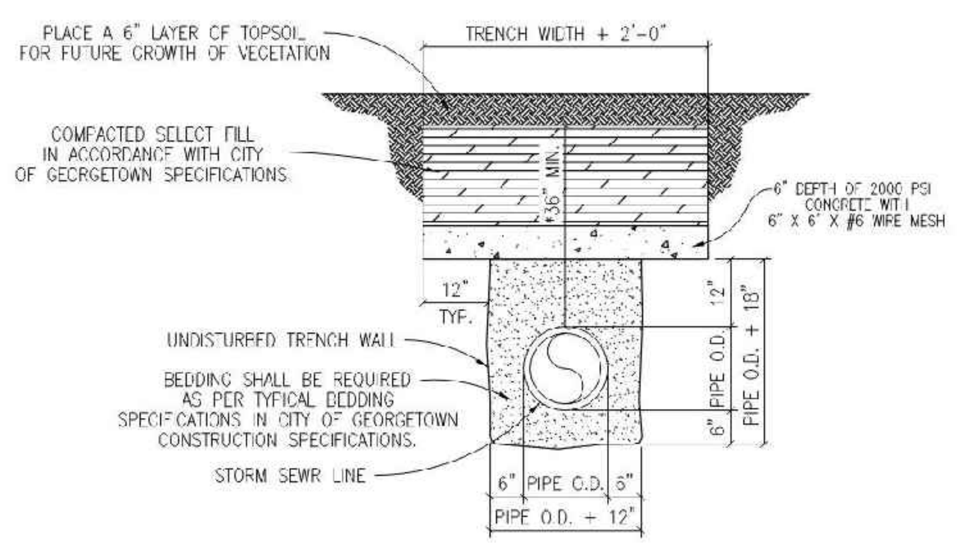
The Architect/Engineer assumes responsibility for appropriate use of this standard.

REVISED 3/14/2014 WBD
ADOPTED 6/21/2006 TRB

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
CURB RAMP TEXTURES TYPE A

SD37

NTS 1/2003



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

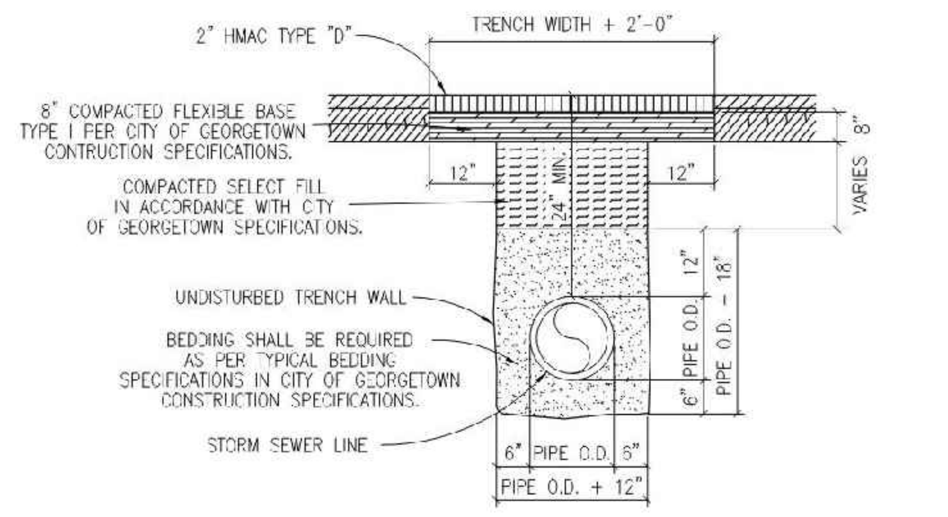
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
CONCRETE TRENCH CAP DETAIL FOR STORM SEWER

SD39

NTS 1/2003
MRS TRE



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

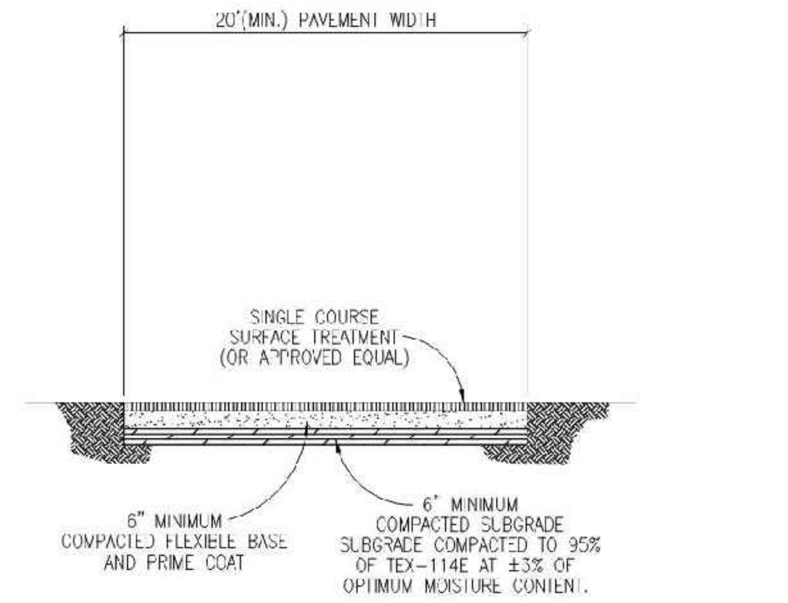
NOTES:
1. REPLACED BASE MATERIAL OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE.
2. BASE MATERIAL SHALL BE IN LIFTS NOT TO EXCEED 6" AND EACH LIFT THOROUGHLY ROLLED OR TAMPED TO SPECIFIED MAXIMUM DENSITY.
3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
4. SURFACE MATERIAL WILL BE CONSISTENT WITH THE EXISTING SURFACE.
5. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
6. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TRENCH, EMBEDMENT AND PAVEMENT REPLACEMENT DETAIL UNDER EXISTING ROADWAY FOR STORM SEWER

SD40



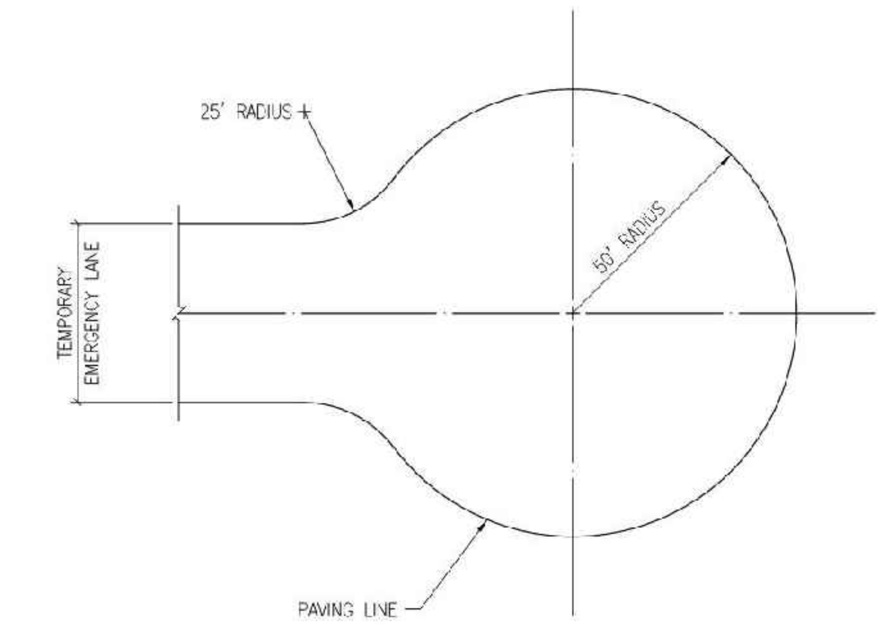
NOTES:
1. EVERY BUILDING CONSTRUCTED SHALL BE ACCESSIBLE TO EMERGENCY APPARATUS BY WAY OF TEMPORARY ALL WEATHER DRIVING SURFACES.
2. A TEMPORARY ALL WEATHER DRIVING SURFACE SHALL EXTEND TO WITHIN 150' OF ALL EXTERIOR PORTIONS OF BUILDINGS.
3. TEMPORARY ALL WEATHER DRIVING SURFACES SHALL BE CONSTRUCTED AS SHOWN ON CONSTRUCTION PLANS AND IN ACCORDANCE WITH ITEM 316 SURFACE TREATMENTS OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES.
4. TEMPORARY ALL WEATHER DRIVING SURFACES SHALL BE CAPABLE OF SUPPORTING A DESIGN WHEEL LOAD OF 16,000 LB. (H–20 LOADING) IN ORDER TO SUPPORT A GROSS VEHICLE WEIGHT OF 80,000 LB. IF SUBGRADE CONDITIONS CHANGE OR ARE VERY UNSTABLE, AN ADDITIONAL GEOTECHNICAL AND/OR ENGINEERING DESIGN MAY REQUIRE A GREATER CROSS SECTION.
5. CONTRACTOR OR DEVELOPER SHALL MAINTAIN TEMPORARY ALL WEATHER DRIVING SURFACE THROUGHOUT CONSTRUCTION.
6. APPLICABLE SIGNAGE SHALL BE INSTALLED BY THE CONTRACTOR TO DISALLOW PARKING (NO PARKING – FIRE LANE).
7. TEMPORARY ALL WEATHER DRIVING SURFACES SHALL BE INSTALLED PRIOR TO THE ERECTION OF ANY STRUCTURAL FRAMING ABOVE THE FOUNDATION SLAB. CONTACT FIRE SERVICES FOR THE COORDINATION OF TEMPORARY ALL WEATHER DRIVING SURFACES FOR CONSTRUCTION.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TEMPORARY ALL WEATHER DRIVING SURFACE

SD43

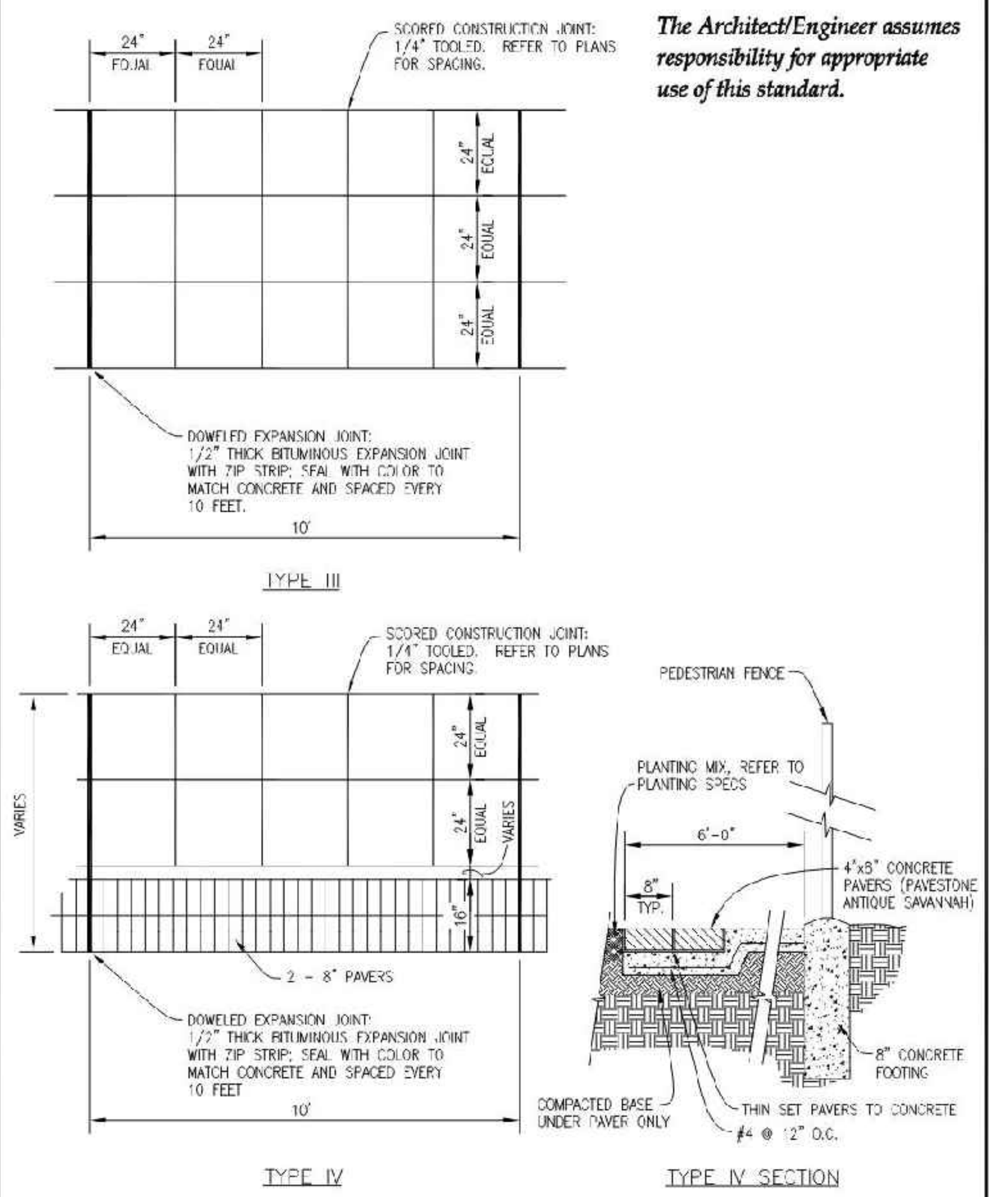


The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TEMPORARY ALL DRIVING SURFACE TURN AROUND

SD44



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

TYPE III

TYPE IV

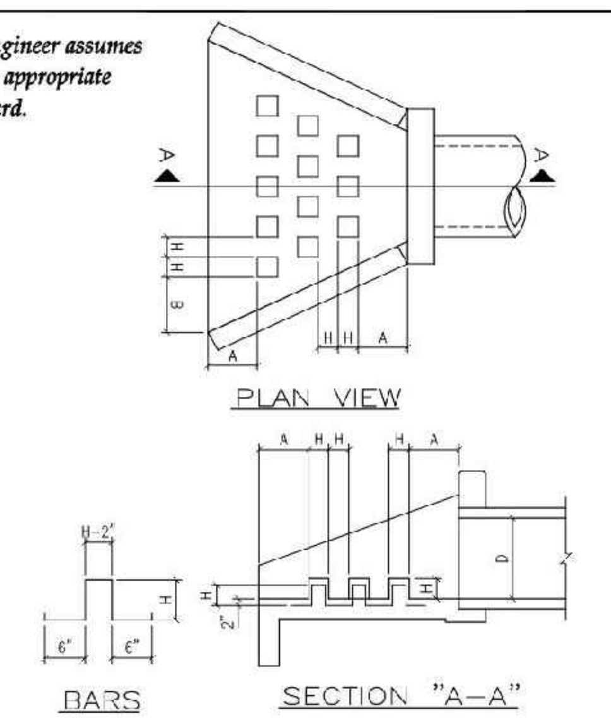
TYPE IV SECTION

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
DOWNTOWN OVERLAY DISTRICT TYPE III AND IV SIDEWALK DETAILS

SD45

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



PLAN VIEW

BARS

SECTION "A–A"

NOTES:
1. USE CLASS "A" CONCRETE, 3,000 PSI AT 28 DAYS, UNLESS NOTED.
2. REINFORCING STEEL – ASTM A615, GRADE 40, UNLESS NOTED.
3. LAP REINFORCING 30 BAR DIAMETERS MIN. AT SPLICES, UNLESS NOTED.
4. CHAMFER EXPOSED EDGES OF CONCRETE 3/4", UNLESS NOTED.
5. PLACE REINFORCING WITH THE CENTER OF THE OUTSIDE BARS 2 INCHES FROM THE SURFACE OF THE CONCRETE.

TABLE OF DIMENSIONS FOR ENERGY DISSIPATOR DETAIL

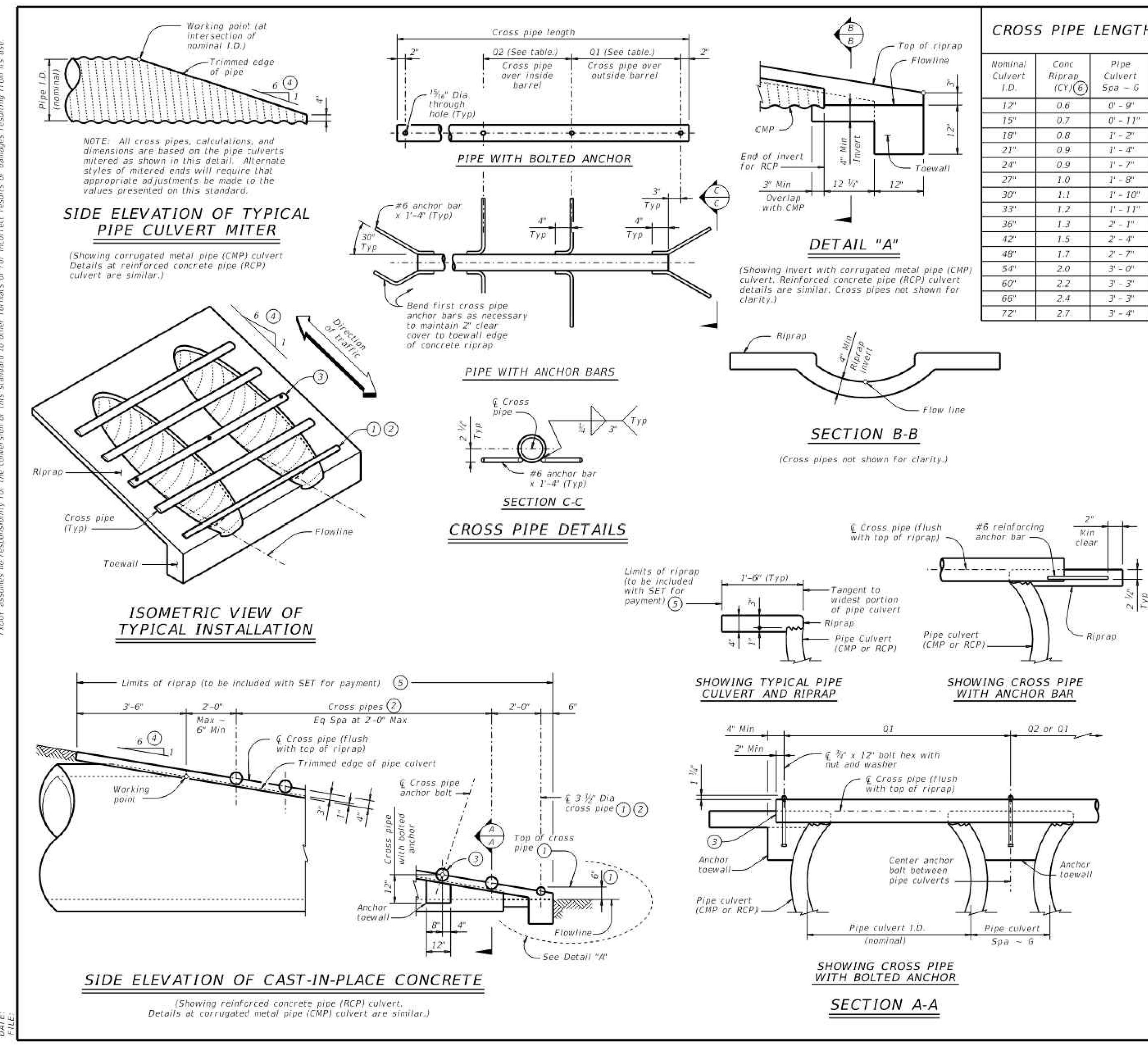
D PIPE DIAMETER (INCHES)	NUMBER OF ROWS OF DISSIPATORS	NUMBER OF DISSIPATORS IN FRONT ROW	H (INCHES)	A (INCHES)	B (INCHES)
12	1	3	4	4	9.1875
18	2	4	4 1/2	9 1/2	15.5625
24	2	5	6	14 3/4	16 1/2
30	3	6	7 1/2	12 1/2	14 3/8
36	3	6	9	16 1/4	18 5/16
42	3	6	10 1/2	20	22 1/4
48	3	6	12	23 3/4	26 1/4
54	3	6	13 1/2	27 1/2	27 3/4
60	3	6	15	31 1/4	31 5/8

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
ENERGY DISSIPATER DETAIL

SD20

NTS 1/2003
MRS TRE



SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER

PIPE WITH BOLTED ANCHOR

PIPE WITH ANCHOR BARS

SECTION C-C

CROSS PIPE DETAILS

DETAIL "A"

SECTION B-B

ISOMETRIC VIEW OF TYPICAL INSTALLATION

SHOWING TYPICAL PIPE CULVERT AND RIPRAP

SHOWING CROSS PIPE WITH ANCHOR BAR

SIDE ELEVATION OF CAST-IN-PLACE CONCRETE

SHOWING CROSS PIPE WITH BOLTED ANCHOR

SECTION A-A

CROSS PIPE LENGTHS, REQUIRED PIPE SIZES, AND RIPRAP QUANTITIES (2)

Nominal Culvert I.D.	Conc Riprap (CY) (6)	Pipe Culvert Spa ~ G	Single Barrel ~ Q1	Multi-Barrel ~ Q1	Q2	Conditions for Use of Cross Pipes	Cross Pipe Sizes
12"	0.6	0' - 9"	N/A	2' - 1"	1' - 9"	3 or more pipe culverts	3" Std (3.500" O.D.)
15"	0.7	0' - 11"	N/A	2' - 5"	2' - 2"		
18"	0.8	1' - 2"	N/A	2' - 10"	2' - 8"		
21"	0.9	1' - 4"	N/A	3' - 2"	3' - 1"		
24"	0.9	1' - 7"	N/A	3' - 6"	3' - 7"		
27"	1.0	1' - 8"	N/A	3' - 10"	3' - 11"	3 or more pipe culverts	3 ½" Std (4.000" O.D.)
30"	1.1	1' - 10"	N/A	4' - 2"	4' - 4"	2 or more pipe culverts	
33"	1.2	1' - 11"	4' - 2"	4' - 5"	4' - 8"	All pipe culverts	
36"	1.3	2' - 1"	4' - 5"	4' - 9"	5' - 1"	All pipe culverts	4" Std (4.500" O.D.)
42"	1.5	2' - 4"	4' - 11"	5' - 5"	5' - 10"		
48"	1.7	2' - 7"	5' - 5"	6' - 0"	6' - 7"	All pipe culverts	5" Std (5.563" O.D.)
54"	2.0	3' - 0"	5' - 11"	6' - 9"	7' - 6"		
60"	2.2	3' - 3"	6' - 5"	7' - 4"	8' - 3"		
66"	2.4	3' - 3"	6' - 11"	7' - 10"	8' - 9"		
72"	2.7	3' - 4"	7' - 5"	8' - 5"	9' - 4"		

(1) The proper installation of the first cross pipe is critical for vehicle safety. Place the top of the first cross pipe no more than 6" above the flow line.

(2) Provide cross pipes, except the first bottom pipe, of the size shown in the table. Provide a 3 1#2" standard pipe (4" O.D.) for the first bottom pipe.

(3) Install the third cross pipe from the bottom of the culvert using a bolted connection. Ensure that riprap concrete does not flow into the cross pipe so as to permit disassembly of the bolted connection to allow cleanout access. At the Contractor's option, install all other cross pipes using the bolted connection details.

(4) Match cross slope as shown elsewhere in the plans. Cross slope of 6:1 or flatter is required for vehicle safety.

(5) Riprap placed beyond the limits shown will be paid for as concrete riprap in accordance with Item 432, "Riprap."

(6) Quantities shown are for one end of one reinforced concrete pipe (RCP) culvert. For multiple pipe culverts or for corrugated metal pipe (CMP) culverts, quantities will need to be adjusted. Riprap quantities are for contractor's information only.

MATERIAL NOTES:
Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.
Provide cross pipes that meet the requirements of ASTM A53 (Type E or S, Gr B), ASTM A500 (Gr B), or API 5LX52.
Provide ASTM A307 bolts and nuts.
Galvanize all steel components, except concrete reinforcing, after fabrication. Repair galvanizing damaged during transport or construction in accordance with the specifications.

GENERAL NOTES:
Cross pipes are designed for a traversing load of 10,000 pounds at yield as recommended by Research Report 280-2F, "Safety Treatment of Roadside Parallel-Drainage Structures", Texas Transportation Institute, March 1981.
Safety end treatments (SET) shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the cross pipes.
Construct concrete riprap and all necessary inverts in accordance with the requirements of Item 432, "Riprap."
Payment for riprap and toewall is included in the Price Bid for each Safety End Treatment.

Texas Department of Transportation — Bridge Division Standard

SAFETY END TREATMENT
FOR 12" DIA TO 72" DIA PIPE CULVERTS
TYPE II ~ PARALLEL DRAINAGE

SETP-PD

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY–560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

PAVING & DRAINAGE DETAILS–3

CIVILITUDE ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

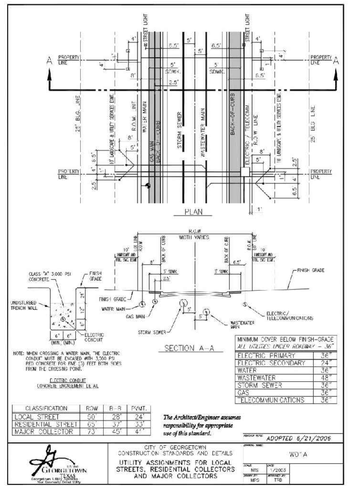
9–19–2025
STATE OF TEXAS — JORDAN L. MILLER — 124884 — LICENSED PROFESSIONAL ENGINEER

SHEET NO. 065 OF 069

PROJECT NUMBER: 2025–___–CON

Plot Date: September 19, 2025 @ 12:48 PM

P:\A799 560 Development – DMA Stage 1\Civil\Construction Drawings\Sheets\Subdivision Construction Plans\Phase 1A\A799_PAVING AND DRAINAGE DETAILS.dwg



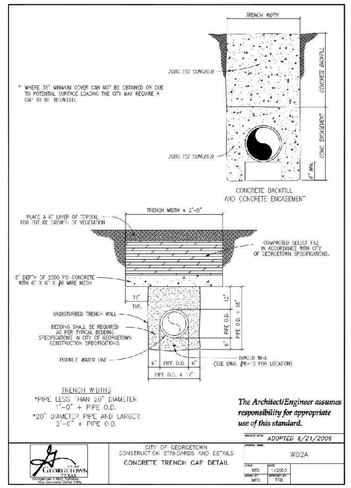
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

UTILITY ASSIGNMENTS FOR LOCAL STREETS, RESIDENTIAL STREETS AND MAJOR COLLECTORS

W01A



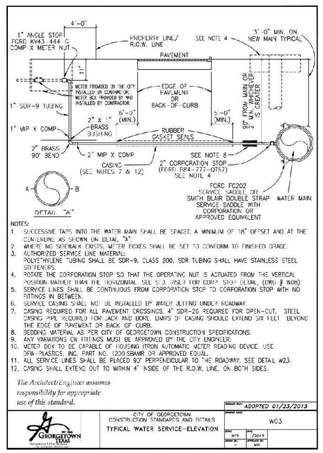
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

CONCRETE TRENCH CAP DETAIL

W02A



NOTES:
1. SUCCESSFUL TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" OFFSET AND AT THE CLOCKING AS SHOWN ON DETAIL "A".
2. WHERE NO SIDEWALK EXISTS, METER BOXES SHALL BE SET TO CONFORM TO FINISHED GRADE.
3. AUTHORIZED SERVICE LINE MATERIAL: POLYETHYLENE TUBING SHALL BE SDR-9, CLASS 200, SDR TUBING SHALL HAVE STAINLESS STEEL STIFFENERS.
4. ROTATE THE CORPORATION STOP SO THAT THE OPERATING NUT IS ACTUATED FROM THE VERTICAL POSITION WHERE THE HORIZONTAL SIZE 3/4" (ONLY FOR CORP. STOP USING, DOWN @ NOON).
5. SERVICE LINES SHALL BE CONTINUOUS FROM CORPORATION STOP TO CORPORATION STOP WITH NO FITTINGS IN BETWEEN.
6. SLURRY CASING SHALL NOT BE INSTALLED BY AUGER BORING UNDER ROADWAY.
7. CASING REQUIRED FOR ALL PAVEMENT CROSSINGS. 4" SDR-26 REQUIRED FOR SPIN-OUT. STEEL CASING PIPE, (ROUGHLY) FOR JACK AND BORE, LINERS 2" CASING SHOULD EXTEND SIX FEET BEYOND THE EDGE OF PAVEMENT OR BACK OF CURB.
8. BEDDING MATERIAL AS PER CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
9. ANY VARIATIONS ON FITTINGS MUST BE APPROVED BY THE CITY ENGINEER.
10. METER BOX TO BE CAPABLE OF HOUSING ITRON AUTOMATIC METER READING DEVICE, USE DFA-PLASTICS, INC. PART NO. 1200-SBAMR OR APPROVED EQUAL.
11. ALL SERVICE LINES SHALL BE PLACED 90° PERPENDICULAR TO THE ROADWAY, SEE DETAIL #23.
12. CASING SHALL EXTEND OUT TO WITHIN 4" INSIDE OF THE R.O.W. LINE, ON BOTH SIDES.

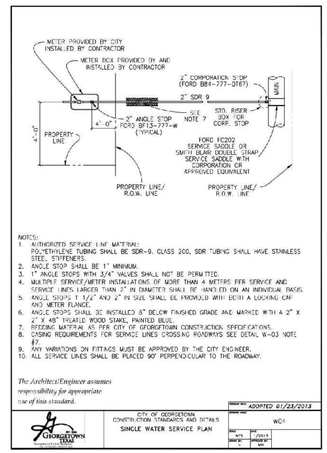
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 01/23/2013

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

TYPICAL WATER SERVICE-ELEVATION

W03



NOTES:
1. AUTHORIZED SERVICE LINE MATERIAL: POLYETHYLENE TUBING SHALL BE SDR-9, CLASS 200, SDR TUBING SHALL HAVE STAINLESS STEEL STIFFENERS.
2. ANGLE STOP SHALL BE 1" MINIMUM.
3. 1" ANGLE STOPS WITH 3/4" VALVES SHALL NOT BE PERMITTED.
4. MULTIPLY SERVICE/METER INSTALLATIONS OF MORE THAN 4 METERS PER SERVICE AND SERVICE LINES LARGER THAN 2" IN DIAMETER SHALL BE HANDLED ON AN INDIVIDUAL BASIS.
5. ANGLE STOPS 1 1/2" AND 2" IN SIZE SHALL BE PREBOLLED WITH BOTH A LOCKING CAP AND METER FLANGE.
6. ANGLE STOPS SHALL BE INSTALLED 8" BELOW FINISHED GRADE AND MARKED WITH A 2" X 2" X 48" TREATED WOOD STAKE, PAINTED BLUE.
7. FITTING MATERIAL AS PER CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
8. BEDDING MATERIAL AS PER CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
9. CASING REQUIREMENTS FOR SERVICE LINES CROSSING ROADWAYS SEE DETAIL W-03 NOTE #7.
10. ANY VARIATIONS ON FITTINGS MUST BE APPROVED BY THE CITY ENGINEER.
11. ALL SERVICE LINES SHALL BE PLACED 90° PERPENDICULAR TO THE ROADWAY.

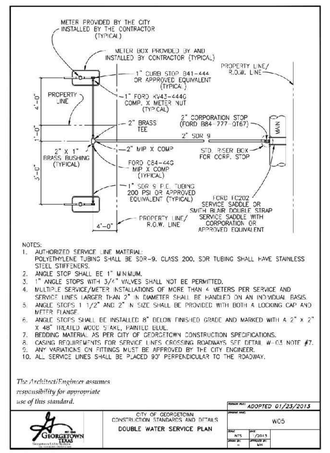
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 01/23/2013

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

SINGLE WATER SERVICE PLAN

W04



NOTES:
1. AUTHORIZED SERVICE LINE MATERIAL: POLYETHYLENE TUBING SHALL BE SDR-9, CLASS 200, SDR TUBING SHALL HAVE STAINLESS STEEL STIFFENERS.
2. ANGLE STOP SHALL BE 1" MINIMUM.
3. 1" ANGLE STOPS WITH 3/4" VALVES SHALL NOT BE PERMITTED.
4. MULTIPLE SERVICE/METER INSTALLATIONS OF MORE THAN 4 METERS PER SERVICE AND SERVICE LINES LARGER THAN 2" IN DIAMETER SHALL BE HANDLED ON AN INDIVIDUAL BASIS.
5. ANGLE STOPS 1 1/2" AND 2" IN SIZE SHALL BE PROVIDED WITH BOTH A LOCKING CAP AND METER FLANGE.
6. ANGLE STOPS SHALL BE INSTALLED 8" BELOW FINISHED GRADE AND MARKED WITH A 2" X 2" X 48" TREATED WOOD STAKE, PAINTED BLUE.
7. FITTING MATERIAL AS PER CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
8. BEDDING MATERIAL AS PER CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
9. CASING REQUIREMENTS FOR SERVICE LINES CROSSING ROADWAYS SEE DETAIL W-03 NOTE #7.
10. ANY VARIATIONS ON FITTINGS MUST BE APPROVED BY THE CITY ENGINEER.
11. ALL SERVICE LINES SHALL BE PLACED 90° PERPENDICULAR TO THE ROADWAY.

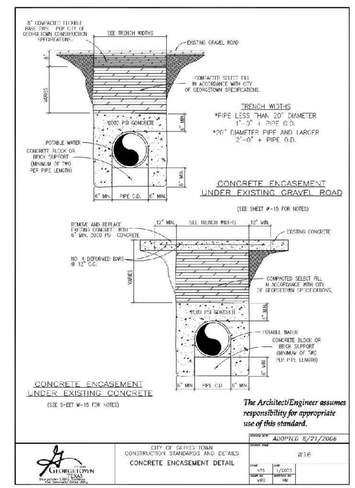
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 01/23/2013

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

DOUBLE WATER SERVICE PLAN

W05



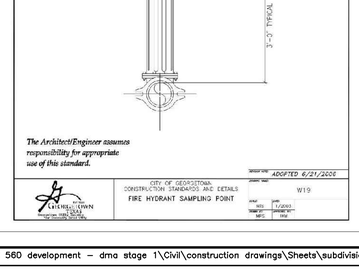
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

CONCRETE ENCASEMENT DETAIL

W11E



NOTES:
1. VALVE BOX SHALL BE 5 1/4" CAST IRON ADJUSTABLE HAVING AN ADJUSTABLE RANGE OF + OR - 6 INCHES FROM INSTALLED FINISH GRADE.
2. ACCEPTABLE GATE VALVES ARE:
   A. AMERICAN FLOW CONTROL - SERIES 2500
   B. M.KELLER - 2360 SERIES
   C. CLOW

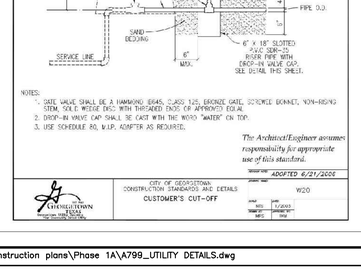
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

TYPICAL VALVE SETTING

W07



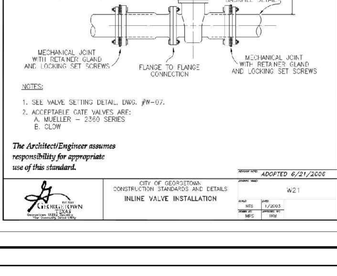
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

STANDARD RISER BOX FOR CORPORATION STOP

W08



NOTES:
1. FIRE HYDRANTS SHALL BE INSTALLED ON SAME SIDE OF ROAD AS WATER MAIN.
2. TEE OR CROSS SHALL BE INSTALLED PRIOR AND TIED.
3. ALL FIRE HYDRANTS EXCEPTED SHALL BE FACTORY PRIMED AND PAINTED SILVER COLOR A RED GLOSS (TRIM).
4. VETS MAY FIRE OF BLOCKS TO REST IN UNDISTURBED SOIL
5. THE FOLLOWING ARE ACCEPTABLE MFG.
   A. KENNEDY (K-81)
   B. MUELLER (SUPER CENTURION 250)
   C. CLOW (MEDALLION)
6. DOUBLE BLUE REFLECTOR "RAISED DOT" BRAND, MANUFACTURED BY PAVEMENT MARKERS INC. TO BE INSTALLED PERPENDICULAR TO HYDRANT.
7. ALL METALLIC PIPES AND FITTINGS SHALL BE WRAPPED WITH 8 MIL. POLYETHYLENE FILM.

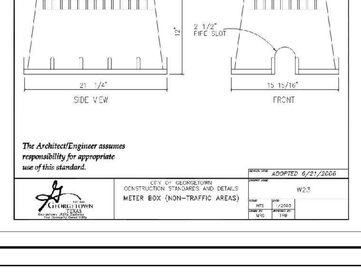
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

TYPICAL FIRE HYDRANT INSTALLATION

W10



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

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

STANDARD AIR RELEASE VALVE FOR WATER MAIN

W12

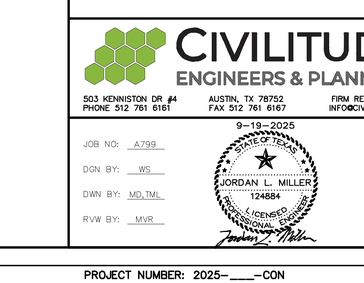
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

STANDARD AIR RELEASE VALVE FOR WATER MAIN

W13



NOTES:
1. REPLACED BASE MATERIAL OVER DEPTH SHALL BE THROE TYE THICKNESS OF TYE ORIGINAL BASE.
2. BASE MATERIAL SHALL BE IN LIFTS NOT TO EXCEED 6" AND EACH LIFT THOROUGHLY MOULED OR TAMPED TO SPECIFIED MAXIMUM DENSITY.
3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
4. SURFACE MATERIAL WILL BE CONSISTENT WITH THE EXISTING SURFACE.
5. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
6. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE CG FLOWABLE BACKFILL FOR THE SPECIFICATION).

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

TRENCH AND ENBEDMENT AND PAVEMENT REPLACEMENT DETAIL UNDER EXISTING ROADWAY

W17

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

FIRE HYDRANT SAMPLING POINT

W19

NOTES:
1. GATE VALVE SHALL BE A HANDWING BRASS, CLASS 125, BRONZE GATE, SCREWED BONNET, NON-RISING STEM, SOLID WEDGE DISC WITH THREADED ENDS OR APPROVED EQUAL
2. DROP-IN VALVE CAP SHALL BE CAST WITH THE WORD "WATER" ON TOP.
3. USE SCHEDULE 80, M.I.P. ADAPTER AS REQUIRED.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

CUSTOMER'S CUT-OFF

W20

NOTES:
1. SEE VALVE SETTING DETAIL, DWG. #W-07.
2. ACCEPTABLE GATE VALVES ARE:
   A. MUELLER - 2360 SERIES
   B. CLOW

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

INLINE VALVE INSTALLATION

W21

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

METER BOX (NON-TRAFFIC AREAS)

W22

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

UTILITY DETAILS-1

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

9-19-2025

JOB NO: A799
DGN BY: WS
DWN BY: MD, TML
RVW BY: MVR

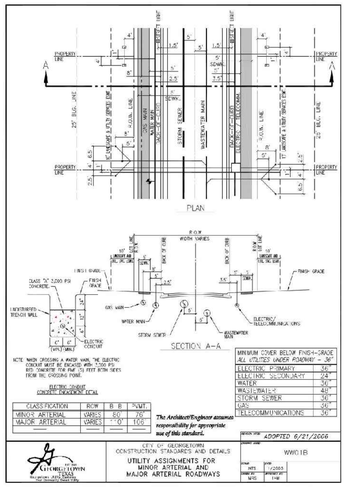
JORDAN L. MILLER 124884 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

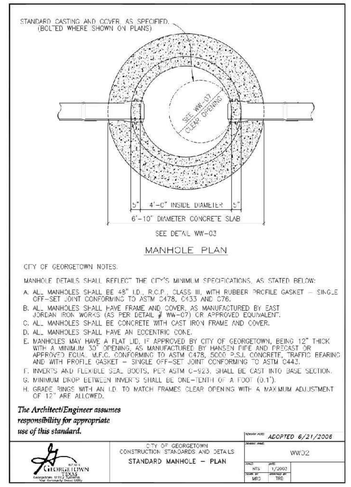
SHEET NO. 066 OF 069

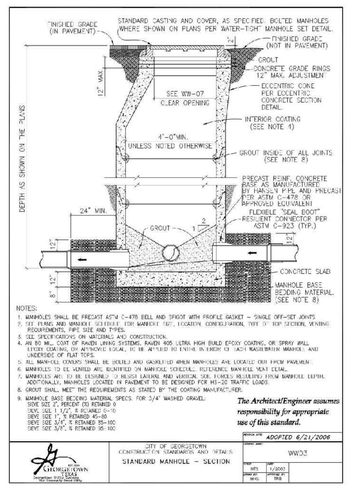
Plot Date: September 19, 2025 @ 1:43 PM

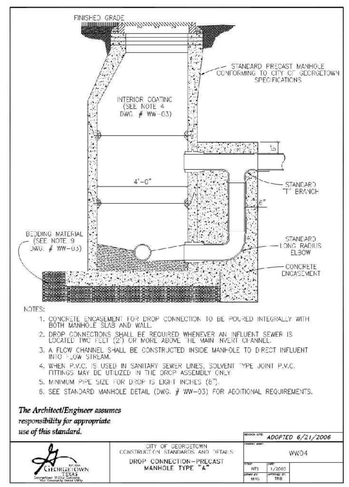
P:\a799 560 development - dma stage 1\Civil\construction drawings\Sheets\subdivision construction plans\Phase 1A\A799_UTILITY DETAILS.dwg

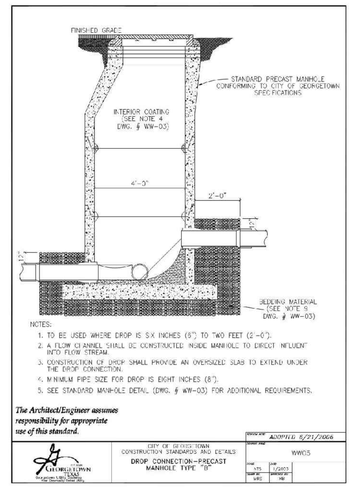
PROJECT NUMBER: 2025-____-CON

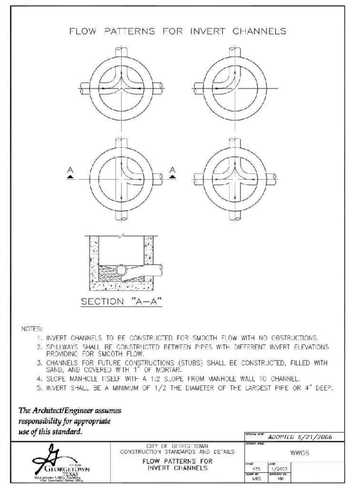


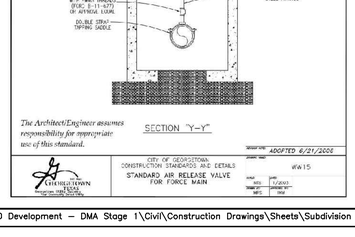


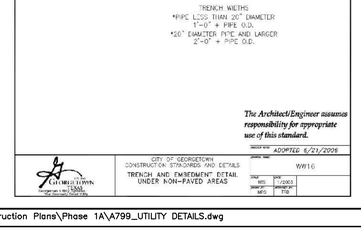


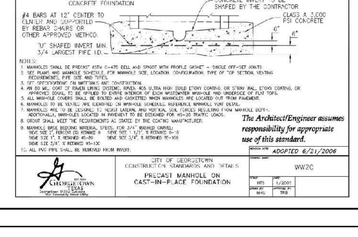


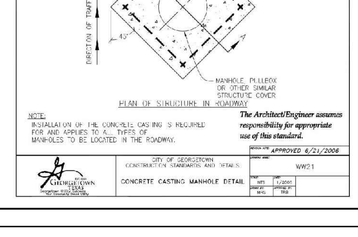


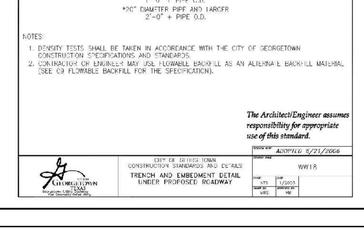


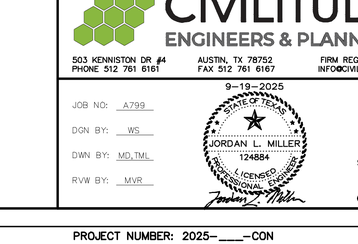


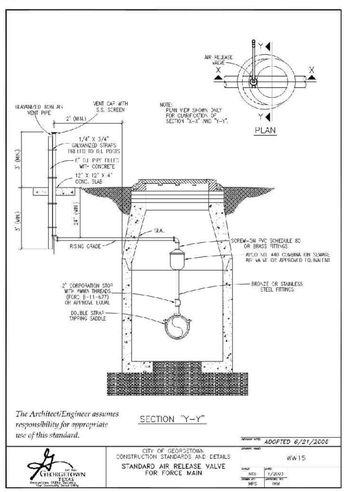


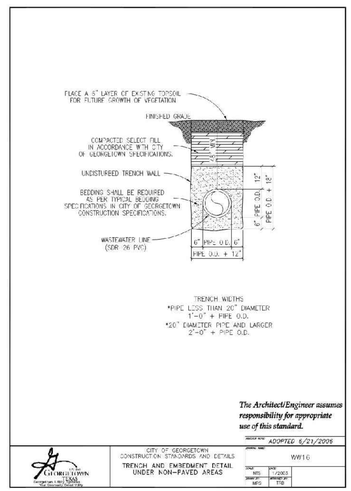


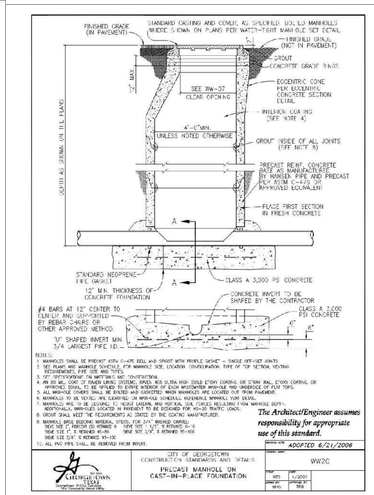


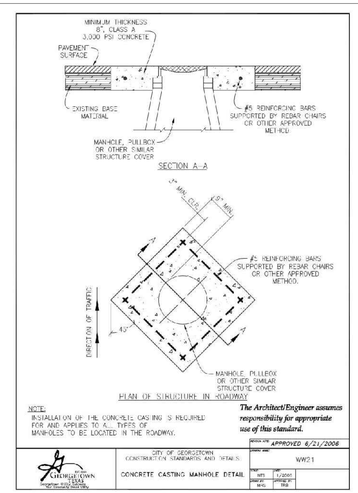


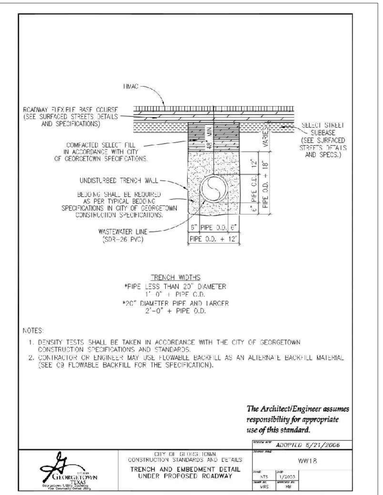












NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY–560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

UTILITY DETAILS–2

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4
PHONE 512 761 6161
AUSTIN, TX 78752
FAX 512 761 6167
FIRM REG # F12469
INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

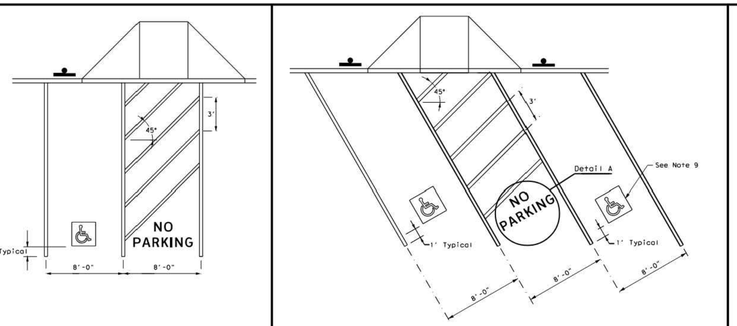
9–19–2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 067 OF 069

PROJECT NUMBER: 2025–____–CON

Plot Date: September 19, 2025 @ 12:50 PM

P:\A799 560 Development – DMA Stage 1\Civil\Construction Drawings\Sheets\Subdivision Construction Plans\Phase 1A\A799_UTILITY DETAILS.dwg



PERPENDICULAR OR ANGLED ACCESSIBLE PARKING SPACE DIMENSIONS

ACCESSIBLE PARKING SIGNS

Detail A

GENERAL NOTES:

1. All paved accessible parking space limit lines shall be 4" solid white lines.
2. Paved accessible parking spaces must include a white International Symbol of Accessibility applied conspicuously on the surface in a color that contrasts the pavement. A blue background with white border may supplement the symbol for additional contrast.
3. The words "NO PARKING" must be applied on any access aisle adjacent to the parking space. The words must be white, applied:
   a) in all capital letters.
   b) centered within each access aisle adjacent to the parking space.
4. RESERVED PARKING (R7-8T) sign including the International Symbol of Accessibility.
   a) shall be REQUIRED for each accessible parking space.
   b) shall NOT be placed between two accessible parking spaces.
   c) shall NOT be placed in a location that restricts movement of wheelchairs within the adjacent sidewalk.
   d) shall have a mounting height of 7 feet to the bottom of the sign.
5. A sign identifying the consequences of parking illegally in a paved accessible parking space. Must:
   a) at a minimum state "VIOLATORS SUBJECT TO FINE AND TOWING" (Plaque) (R7-8aPT).
   b) be mounted on a pole, post, wall or freestanding board.
   c) be no more than eight inches (8") below sign R7-8T a sign required by the Texas Accessibility Standards, 502.6.
   d) be installed so that the bottom edge of the sign is no lower than 48 inches and no higher than 80 inches above the ground level.
6. Signs identifying van parking spaces shall contain the designation "VAN ACCESSIBLE" (R7-8P) Signs shall be 60 inches minimum above the ground level measured to the bottom of the sign.
7. Perpendicular or angled parking spaces shall be 8 feet wide minimum with an access aisle 8 feet minimum wide (van accessible). Two parking spaces are permitted to share a common access aisle.
8. Access aisles shall be at street level, extend the full length of the parking space they serve, follow ADA surface requirements, and marked to discourage parking in the access aisle. Curb ramps shall connect the access aisle to the adjacent pedestrian access route. Curb ramps shall not be located within the access aisle.
9. International Symbol of Accessibility Parking Space Marking and sign details can be found in the Standard Highway Sign Designs for Texas (SHSD) at the following website. http://www.txdot.gov/

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080
7.5 to 15	0.100
Greater than 15	0.125

DEPARTMENTAL MATERIAL SPECIFICATIONS	
ALUMINUM SIGN BLANKS	DMS-7110
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240
SIGN FACE MATERIALS	DMS-8300

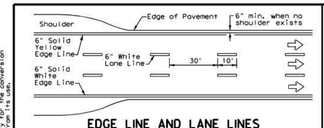
Texas Department of Transportation — Traffic Safety Division Standard

PAVEMENT MARKINGS AND SIGNING FOR ACCESSIBLE PARKING

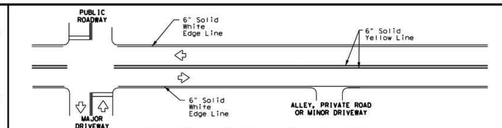
PM(AP)-21

FILE:	pm(ap)-21	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT	July 2021	CONT	SECT	JOB	HIGHWAY
REVISIONS		DIST	COUNTY		SHEET NO.

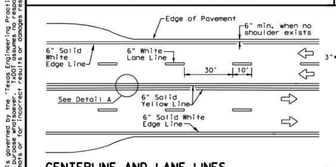
22F



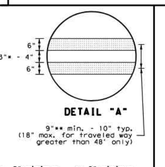
EDGE LINE AND LANE LINES
ONE-WAY ROADWAY
WITH OR WITHOUT SHOULDERS



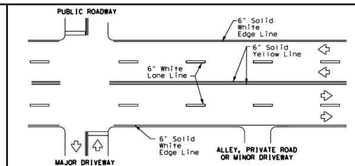
TYPICAL TWO-LANE, TWO-WAY PAVEMENT
MARKINGS THROUGH INTERSECTIONS



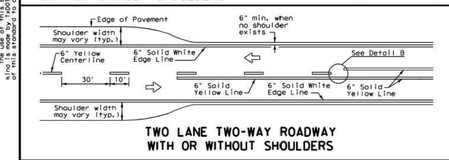
CENTERLINE AND LANE LINES
FOUR LANE TWO-WAY ROADWAY
WITH OR WITHOUT SHOULDERS



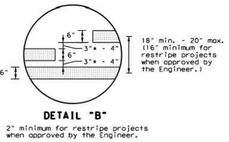
* 2" minimum for restripe projects when approved by the Engineer.
** 8" minimum for restripe projects when approved by the Engineer.



TYPICAL MULTI-LANE, TWO-WAY PAVEMENT
MARKINGS THROUGH INTERSECTIONS

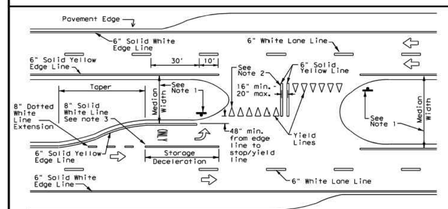


TWO LANE TWO-WAY ROADWAY
WITH OR WITHOUT SHOULDERS



DETAIL "B"

* 2" minimum for restripe projects when approved by the Engineer.



FOUR LANE DIVIDED ROADWAY CROSSOVERS

NOTES

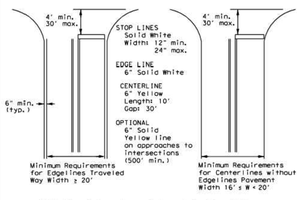
1. Where divided highways are separated by median widths at the median opening itself of 30 feet or more, median openings shall be signed as two separate intersections. Each median opening has two width measurements, with one measurement for each approach. The narrow median width will be the controlling width to determine if signs are required. Yield signs are the typical intersection control. Stop signs and stop bars are optional as determined by the Engineer.
2. Install median striping (double yellow centerlines and stop lines/yield lines) when a 50' or greater median centerline can be placed. Stop lines shall only be used with stop signs. Yield lines shall only be used with yield signs.
3. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer.

GENERAL NOTES

1. Edge line striping shall be as shown in the plans or as directed by the Engineer. The edge line should not be placed less than 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edge lines are not required in curb and gutter sections of roadways.
2. The traveled way includes only that portion of the roadway used for vehicular travel. It does not include the parking lanes, sidewalks, berms and shoulders. The traveled ways shall be measured from the center of edge line to the center of edge line of a two lane roadway.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

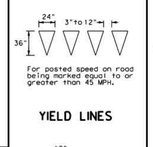
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



NOTE: Traveled way is exclusive of shoulder widths. Refer to General Note 2 for additional details.

GUIDE FOR PLACEMENT OF STOP LINES, EDGE LINE & CENTERLINE

Based on Traveled Way and Pavement Widths for Undivided Roadways



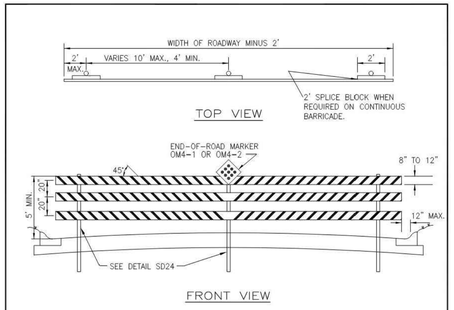
Texas Department of Transportation — Traffic Safety Division Standard

TYPICAL STANDARD PAVEMENT MARKINGS

PM(1)-22

FILE:	pm1-22.dgn	DN:	CK:	DW:	CK:
©TxDOT	December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS		DIST	COUNTY		SHEET NO.
11-78	8-00 6-20				
8-95	3-03 12-22				
5-00	2-12				

22A



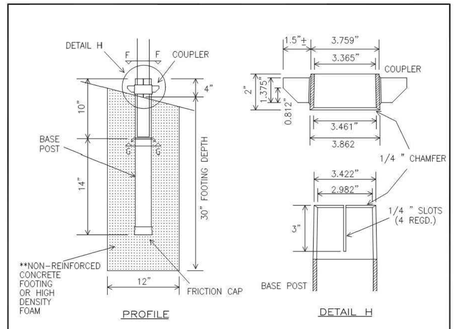
GENERAL NOTES FOR THIN WALL TUBE TYPE SIGN SUPPORT:

1. THE BASE SOCKET IS FORMED FROM 2 7/8 " O.D. X 12 GAUGE GALVANIZED PIPE.
2. THE WEDGE IS FORMED FROM 11 GAUGE STEEL GALVANIZED PER ASTM A525.
3. THE SIGN POST IS 2.375" O.D. X 0.095" THIN WALL STEEL TUBING.
4. STEEL SUPPORTS SHALL BE MADE FROM NEW MATERIAL AND SHALL BE CORROSION RESISTANT. STEEL SUPPORTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATIONS A123 OR A525 (G-90 OR BETTER).
5. SUPPORTS SHALL BE STRAIGHT WITHIN 1/4 " PER 5 FEET OF LENGTH AND SHALL HAVE A SMOOTH, UNIFORM FINISH FREE FROM DEFECTS AFFECTING STRENGTH OR APPEARANCE. ANY BOLT HOLES AND SHEARED ENDS SHALL BE FREE FROM BURRS. BASES OF MULTISECTION SUPPORTS SHALL NOT EXTEND MORE THAN 5 INCHES ABOVE GROUND WHEN INSTALLED.
6. BOLTS, NUTS, SCREWS, WASHERS AND OTHER MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE TO ASTM DESIGNATION: A153 CLASS C OR D, OR B695 CLASS 50.
7. BARRICADE SUPPORTS SYSTEMS USED ON THIS SHEET MAY BE SUITABLE FOR ONLY CERTAIN SOIL TYPES. THE CONTRACTOR IS RESPONSIBLE FOR SELECTING THE APPROPRIATE SUPPORT SYSTEM FOR SOIL CONDITIONS ON EACH PROJECT.
8. ALL BARRICADES TO BE IN CONFORMANCE WITH THE CURRENT EDITION OF THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
9. RAIL-HIGH DENSITY POLYETHYLENE OR HOLLOW PROFILE PLASTIC LUMBER AND SHEETING SHALL BE RETROREFLECTIVE, INCLUDING SPLICE BLOCKS.

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

DESIGN NOTE: ADOPTED 6/21/2006	
DRAWING NAME:	SD21
STATE: TEXAS	DATE: 1/2003
DRAWN BY: MRS	APPROVED BY: TRB

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
PERMANENT END-OF-ROAD BARRICADE

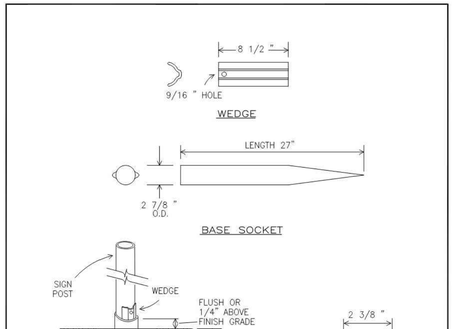


* PLASTING INSERT MUST BE USED WITH 1/16 " THIN WALL TUBING.
** FOOTING SHALL BE REMOVED AND BACKFILLED WHEN BARRICADE IS REMOVED.

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

DESIGN NOTE: ADOPTED 6/21/2006	
DRAWING NAME:	SD23
STATE: TEXAS	DATE: 1/2003
DRAWN BY: MRS	APPROVED BY: TRB

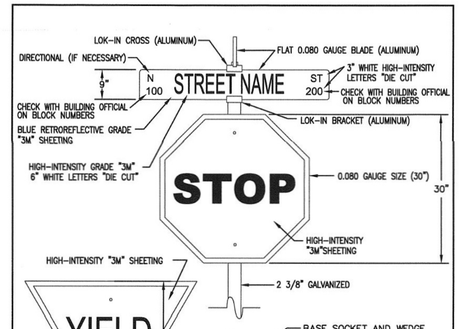
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
UNIVERSAL ANCHOR SYSTEM



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

DESIGN NOTE: ADOPTED 6/21/2006	
DRAWING NAME:	SD24
STATE: TEXAS	DATE: 1/2003
DRAWN BY: MRS	APPROVED BY: TRB

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
POZ-LOC (BREAKAWAY FOUNDATION)



NOTES:
1. 7-FOOT MIN. HEIGHT FROM GROUND TO BOTTOM OF SIGN.
2. ALL SIGNS TO BE IN CONFORMANCE WITH THE CURRENT EDITION OF THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
3. ALL SIGNAGE SHEETINGS SHALL BE HIGH-INTENSITY "3M" SHEETING.

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

DESIGN NOTE: REVISED 1/14/2014 WBD	
DRAWING NAME:	ADOPTED 6/21/2006 TRB
STATE: TEXAS	DATE: 1/2003
DRAWN BY: MRS/AP	APPROVED BY: TRB

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
STANDARD STREET SIGN DETAIL

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

SIGN & STRIPING DETAILS-1

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

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9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

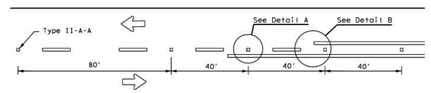
SHEET NO. 068 OF 069

Plot Date: September 19, 2025 @ 12:50 PM

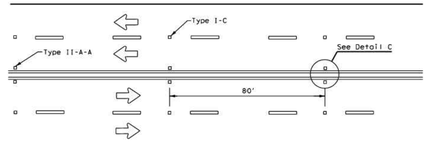
P:\A799 560 Development – DMA Stage 1\Civil\Construction Drawings\Sheets\Subdivision Construction Plans\Phase 1A\A799_SIGN AND STRIPING DETAILS.dwg

PROJECT NUMBER: 2025-___-CON

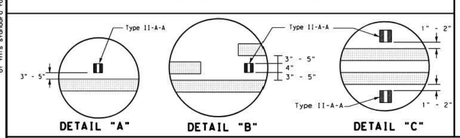
REFLECTIVE RAISED PAVEMENT MARKERS FOR VEHICLE POSITIONING GUIDANCE

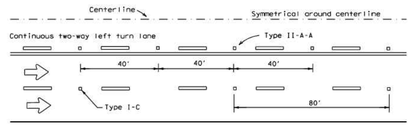


CENTERLINE FOR ALL TWO LANE TWO-WAY ROADWAYS

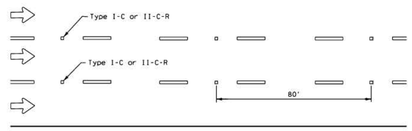


CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY ROADWAYS





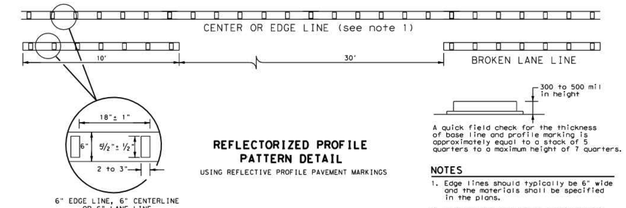
CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE



LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY FACILITIES)

Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.

See Note 3.



REFLECTORIZED PROFILE PATTERN DETAIL

USING REFLECTIVE PROFILE PAVEMENT MARKINGS

A quick field check for the thickness of base line and profile marking is approximately equal to a stack of 5 quarters to a maximum height of 7 quarters.

NOTES

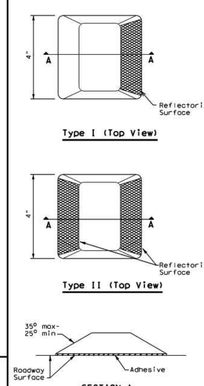
1. Edge lines should typically be 6" wide and the materials shall be specified in the plans.
2. Profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.

GENERAL NOTES

1. All raised pavement markers placed along broken lines shall be placed in line with and midway between the stripes.
2. On concrete pavements the raised pavement markers should be placed to one side of the longitudinal joints.
3. Use raised pavement marker Type I-C with undivided roadways, flush medians and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



RAISED PAVEMENT MARKERS

Texas Department of Transportation — Traffic Safety Division Standard

POSITION GUIDANCE USING RAISED MARKERS RELECTORIZED PROFILE MARKINGS PM(2)-22

FILE:	pm2-22.dgn	DN:	CK:	DW:	CK:
©TxDOT	December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS					
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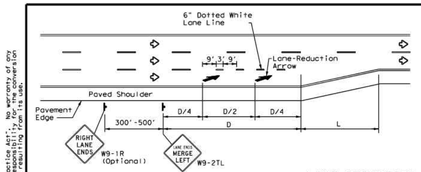
4-92	2-10 12-22				
5-00	2-12	DIST	COUNTY		SHEET NO.

218

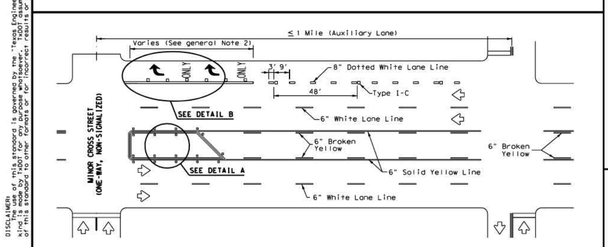


LANE REDUCTION

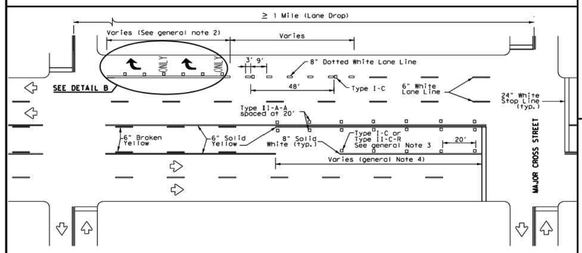
NOTES

1. Lane reduction pavement markings are used where the number of through lanes is reduced because of narrowing of the roadway or because of a section of on-street parking in what would otherwise be a through lane. For Texas Super 2 Passing Lanes, see TSC(PL) standard sheets.
2. On divided highways, an additional RIGHT LANE ENDS (W9-1R) sign may be installed in the median aligned with the W9-1R sign on the right side of the highway.
3. Lane reduction arrows are required for speeds of 45 mph or greater. An optional third lane reduction arrow may be added based on engineering judgement. If used, the optional third lane reduction arrow should be centered between the first and last lane reduction arrows.
4. For lane reductions on Freeways and Expressways, signing shall conform to the TxDOT Freeway Signing Handbook.

ADVANCED WARNING SIGN DISTANCE (D)		
Posted Speed	D (ft)	L (ft)
30 MPH	460	$L=\frac{WS^2}{60}$
35 MPH	565	
40 MPH	670	
45 MPH	775	
50 MPH	885	
55 MPH	990	
60 MPH	1,100	L=WS
65 MPH	1,200	
70 MPH	1,250	
75 MPH	1,350	



TYPICAL TWLTL AT ONE-WAY STREET AND RIGHT TURN AUXILIARY LANE



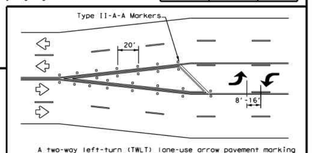
TYPICAL TWLTL AT TWO-WAY CROSS STREET AND RIGHT TURN LANE DROP

GENERAL NOTES

1. Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turn lanes. Lane use word and arrow markings should be used in auxiliary lanes of substantial length. Lane use arrow markings or word and arrow markings may be used in other lanes and turn bays for emphasis. Details for words and arrows are as shown in the Standard Highway Sign Designs for Texas.
2. When lane-use words and arrow markings are used, two sets of arrows should be used if the length of the bay is greater than 180 feet. When a single lane use arrow or word and arrow marking is used for a short turn lane, it should be located at or near the upstream end of the full-width turn lane.
3. Use raised pavement marker Type I-C with undivided highways, flush medians and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.
4. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer. See Chapter 3 of the Roadway Design Manual for additional information on turning lanes or storage lengths.

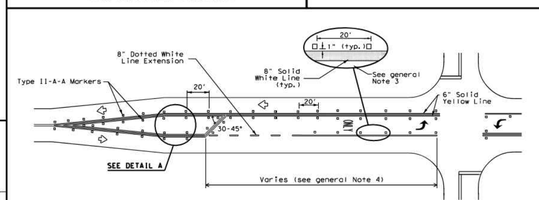
MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.

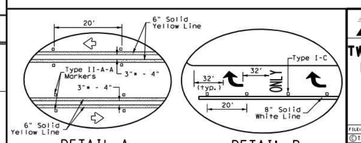


A two-way left-turn (TWLTL) lane-use arrow pavement marking should be used at or just downstream from the beginning of a two-way left-turn lane within a corridor. Repeating the marking after each intersection or depicted turn bay is not required unless stated elsewhere in the plans.

TYPICAL TRANSITION FOR TWLTL AND DIVIDED HIGHWAY



TYPICAL TWO-LANE ROADWAY INTERSECTION WITH LEFT TURN BAYS



* 2" minimum allowed for restripe projects when approved by the Engineer.

Texas Department of Transportation — Traffic Safety Division Standard

TWO-WAY LEFT TURN LANES, RURAL LEFT TURN BAYS, AND LANE REDUCTION PAVEMENT MARKINGS PM(3)-22

FILE:	pm3-22.dgn	DN:	CK:	DW:	CK:
©TxDOT	December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS					
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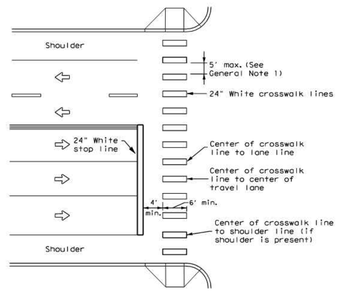
5-00	2-10 12-22				
8-00	2-12	DIST	COUNTY		SHEET NO.

225



HIGH-VISIBILITY LONGITUDINAL CROSSWALK AT CONTROLLED APPROACH

GENERAL NOTES

1. Longitudinal crosswalk lines should not be placed in the wheel path of vehicles. Center the crosswalk lines on travel lanes, lane lines, and shoulder lines (if present).
2. A minimum 6' clear distance shall be provided to the curb face. If the last crosswalk line falls into this distance it must be omitted.
3. For divided roadways, adjustments in spacing of the crosswalk lines should be made in the median so that the crosswalk lines are maintained in their proper location across the travel portion of the roadway.
4. At skewed crosswalks, the crosswalk lines are to remain parallel to the lane lines.
5. Each crosswalk shall be a minimum of 6' wide.
6. The High-Visibility Longitudinal Crosswalk is the preferred crosswalk pattern on State Highways. Other crosswalk patterns as shown in the "Texas Manual on Uniform Traffic Control Devices" may be used. All crosswalk designs and dimension shall comply with the "Texas Manual on Uniform Traffic Control Devices."
7. Final placement of Stop Bar and Crosswalk shall be approved by the Engineer in the field.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
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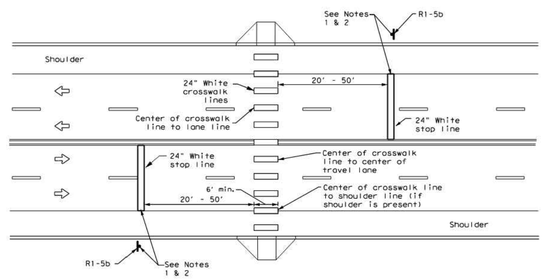
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



UNSIGNALIZED MIDBLOCK HIGH-VISIBILITY LONGITUDINAL CROSSWALK

NOTES:

1. Use stop bars with Stop Here For Pedestrians (R1-5b) signs at unsignalized midblock cross walks.
2. Use stop bars with STOP HERE ON RED (R10-6 or R10-6a) signs at mid block crosswalks controlled by traffic signals or pedestrian hybrid beacons.

Texas Department of Transportation — Traffic Safety Division Standard

CROSSWALK PAVEMENT MARKINGS

PM(4)-22A

FILE:	pm4-22a.dgn	DN:	CK:	DW:	CK:
©TxDOT	December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS					
6-20					
6-22					
12-22		DIST	COUNTY		SHEET NO.

226

NO.	DATE	REVISION/CORRECTION/ADDENDUM	SHEET

SOUTHWESTERN UNIVERSITY-560 DEVELOPMENT
1001 E UNIVERSITY AVE, GEORGETOWN, TX 78626

SIGN & STRIPING DETAILS-2

CIVILITUDE
ENGINEERS & PLANNERS
503 KENNISTON DR #4 AUSTIN, TX 78752 FIRM REG # F12469
PHONE 512 761 6161 FAX 512 761 6167 INFO@CIVILITUDE.COM

JOB NO: A799
DGN BY: WS
DWN BY: MD,TML
RVW BY: MVR

9-19-2025
STATE OF TEXAS
JORDAN L. MILLER
124884
LICENSED PROFESSIONAL ENGINEER

SHEET NO. 069 OF 069

PROJECT NUMBER: 2025-___-CON

Plot Date: September 19, 2025 @ 12:50 PM

P:\A799 560 Development – DMA Stage 1\Civil\Construction Drawings\Sheets\Subdivision Construction Plans\Phase 1A\A799_SIGN AND STRIPING DETAILS.dwg