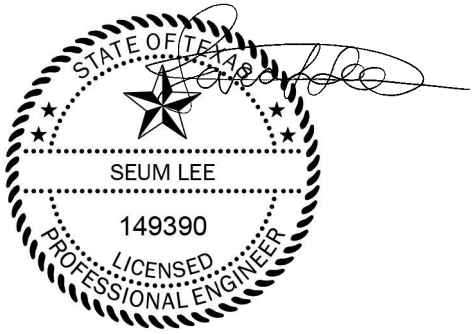
ORGANIZED SEWAGE COLLECTION SYSTEM PLAN

SUN CITY RETAIL BUILDINGS DEVELOPMENT
INTERSECTION OF SH 195 AND SUN CITY BOULEVARD
GEORGETOWN, TEXAS

Prepared For:

MALABAR HILL SUN CITY LLC

5400 Pointe W Circle Suite 200
Richmond, TX
(832) 858-5016



Prepared By:

KIMLEY-HORN AND ASSOCIATES, INC.

5301 Southwest Parkway, Building 2, Suite 100
Austin, Texas 78735
(512) 646-2237
Firm No. 928

KHA Project No. 069418900

April 2025

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Kimley»Horn

SECTION 1: EDWARDS AQUIFER APPLICATION COVER PAGE

kimley-horn.com | 5301 Southwest Parkway, Building 2, Suite 100, Austin, TX 78735 | 512 646 2237

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

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

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.
6. If the geologic assessment was completed before October 1, 2004 and the site contains "possibly sensitive" features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

Technical Review

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

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

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: Sun City Retail Buildings Development						**2. Regulated Entity No.:** N/A			
3. Customer Name: Malabar Hill Sun City LLC						**4. Customer No.:** N/A			
5. Project Type: **(Please circle/check one)**	**New**		Modification			Extension		Exception	
6. Plan Type: **(Please circle/check one)**	WPAP	CZP	**SCS**	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		**Non-residential**			**8. Site (acres):**		9.355	
9. Application Fee:	$1,516.50		**10. Permanent BMP(s):**			Extended Detention Basin			
11. SCS (Linear Ft.):	3,033		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Williamson		**14. Watershed:**			Brazos River – San Gabriel – Berry Creek			

Application Distribution

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

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

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

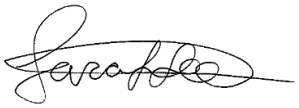
Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	___	___	___
Region (1 req.)	___	___	___
County(ies)	___	___	___
Groundwater Conservation District(s)	___Edwards Aquifer Authority ___Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	___Barton Springs/ Edwards Aquifer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

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

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review.

Sarah Lee, P.E.

Print Name of Customer/Authorized Agent



4/7/28

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):	

SECTION 2:
GENERAL INFORMATION

General Information Form

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Sarah Lee, P.E.

Date: April 2025

Signature of Customer/Agent:

_____

Project Information

1. Regulated Entity Name: Sun City Retail Buildings Development
2. County: Williamson
3. Stream Basin: Brazos River – San Gabriel – Berry Creek
4. Groundwater Conservation District (If applicable): Edwards Aquifer Recharge Zone
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

   ☐ WPAP ☒ SCS

- [ ] Modification
- [ ] AST
- [ ] UST
- [ ] Exception Request

7. Customer (Applicant):

   Contact Person: Chris Merchant
   Entity: Malabar Hill Sun City LLC
   Mailing Address: 5400 Pointe W Circle Suite 200
   City, State: Richmond, TX Zip: 77469
   Telephone: (832) 858-5016 Fax: N/A
   Email Address: Chris@MHcapital.org

8. Agent/Representative (If any):

   Contact Person: Sarah Lee, P.E.
   Entity: Kimley-Horn
   Mailing Address: 5301 Southwest Parkway, Building 2, Suite 100
   City, State: Austin, Texas Zip: 78735
   Telephone: 512-661-2925 Fax: N/A
   Email Address: sarah.lee@kimley-horn.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 Georgetown.
   ☐ 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.

    Located at the Southwest corner of the Sun City Boulevard and SH-195 intersection. This project site is within the Georgetown City Limits.

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

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

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

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

☒ Survey staking will be completed by this date: _____

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

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

15. Existing project site conditions are noted below:

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

Prohibited Activities

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

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

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

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

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

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

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

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

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

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

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

Administrative Information

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

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

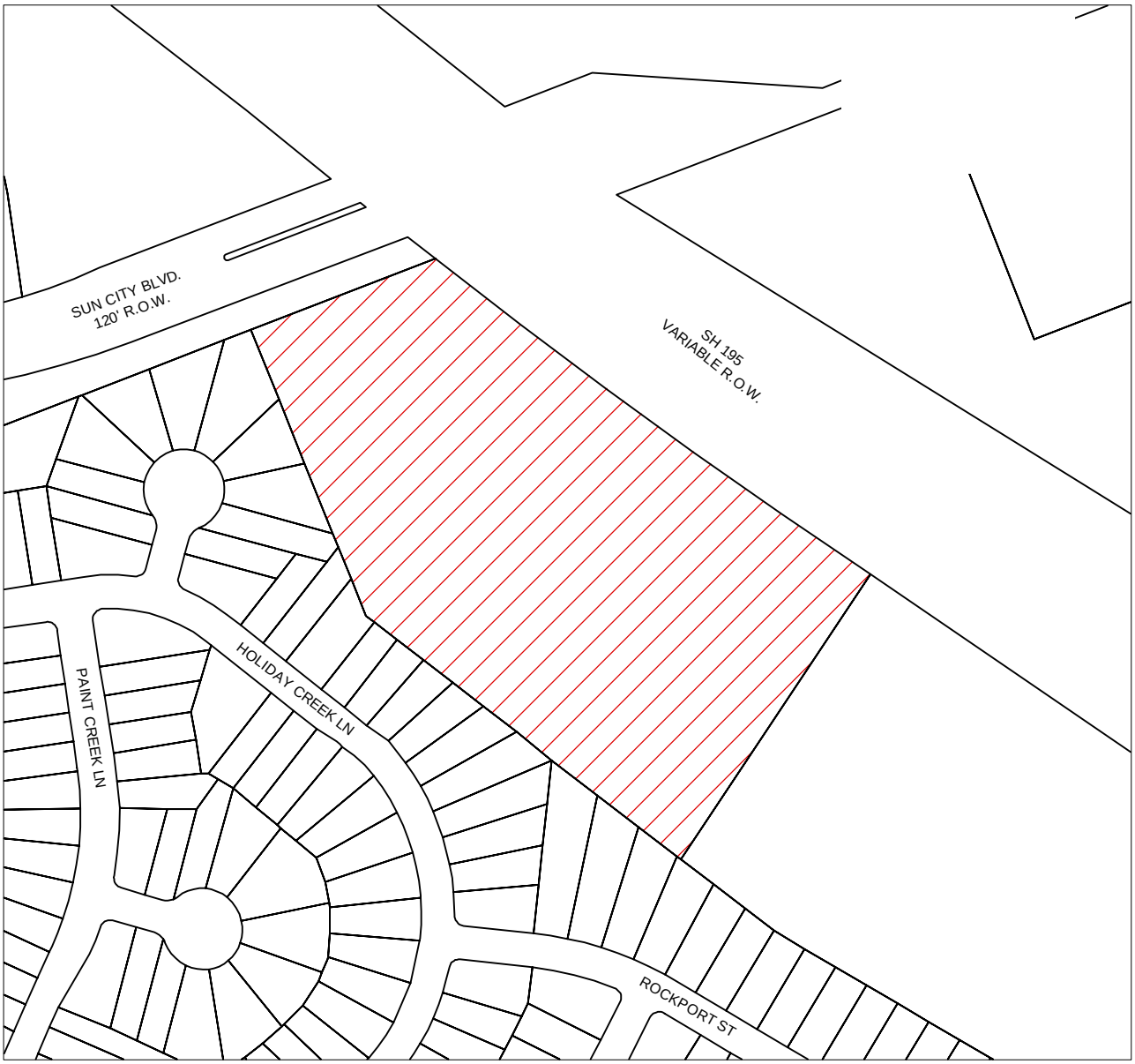
19. ☒ Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:

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

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

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

Attachment A
Road Map



ROAD MAP

SCALE: 1" = 250'

GRAPHIC SCALE IN FEET
0 125 250 500

NORTH

SUN CITY RETAIL

SOUTHEAST CORNER OF
INTERSECTION BETWEEN SH 195 AND
SUN CITY BLVD
GEORGETOWN, TEXAS 78633

Kimley»Horn

5301 SOUTHWEST PARKWAY BUILDING 2, SUITE 100
AUSTIN, TEXAS 78735
PHONE: 512-646-2237
TEXAS REGISTERED ENGINEERING FIRM F-928

PLOTTED BY BENNETT, AUSTIN 1/8/2025 4:31 PM
DWG NAME K:\SAU_CIVIL\069418900 - SUN CITY RETAIL\CAD\EXHIBITS\ROAD MAP.DWG
LAST SAVED 1/8/2025 4:17 PM

Attachment B
USGS/Edwards Recharge Zone Map

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

USGS science for a changing world

The National Map US Topo

GEORGETOWN QUADRANGLE
TEXAS-WILLIAMSON CO.
7.5-MINUTE SERIES

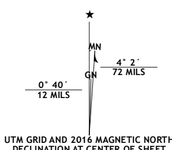
Produced by the United States Geological Survey

North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid: Universal Transverse Mercator, Zone 14R
10 000-foot ticks: Texas Coordinate System of 1983 (central zone)

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, July 2014
Roads..... U.S. Census Bureau, 2014 - 2015
Names.....GNIS, 2015
Hydrography.....National Hydrography Dataset, 2014
Contours.....National Elevation Dataset, 2004
Boundaries.....Multiple sources; see metadata file 1972 - 2015

Wetlands.....FWS National Wetlands Inventory 1977 - 2014



UTM GRID AND 2016 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID PV / PU 34 00
Grid Zone Designation 14R

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.19

QUADRANGLE LOCATION

ROAD CLASSIFICATION

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

1	2	3
4		5
6	7	8

1 Florence
2 Cobbs Cavern
3 Jarrell
4 Leander NE
5 Weir
6 Leander
7 Round Rock
8 Hutto

ADJOINING QUADRANGLES

GEORGETOWN, TX
2016

NSN. 7643016396286
NGA REF NO. USGSX24K170846

Attachment C
Project Description

Project Description

Introduction

The Sun City Retail Buildings Development project is proposed on a 9.355-acre tract of land in the City of Georgetown at the south corner of the intersection of Sun City Blvd and SH 195.

The development includes building construction, sidewalks, landscaping, stormwater management infrastructure, water utilities, and wastewater utilities. The existing parcel, which is currently undeveloped, is to be subdivided into 3 commercial lots and one detention lot that will gain access through a joint use access easement from Highway 195 and Sun City Blvd. The client is proposing three commercial buildings for retail and restaurants on Lot 1 of the Sun City Retail Subdivision.

The site is not located in the Federal Emergency Management Agency's (FEMA) 100 year floodplain, according to Flood Insurance Rate Map 48491C0280E. The site is located within the Edwards Aquifer Recharge Zone according to the TCEQ Edwards Aquifer Map.

Current Tract Conditions

Site History

There is no previous SCS history for the site.

The site is located in the City of Georgetown within Williamson County and is situated in the Burrell Eaves Survey, Abstract No. 216 in Williamson County, Texas.

There are existing easements alongside SH 195:

- Electric Utility Easement Document No. 2012075327
- Water Line Easement Document No. 2012075326

There are existing easements alongside Sun City Blvd:

- Access Easement Doc No. 2015021908
- Overhead Relocation Easement 2016048269

Legal Description

The legal description of the parcel is as follows:

- AW0216-EAVES, B. SUR., 9.355 AC

Land Use

The lots consist of 9.355 acres of undeveloped land. No proposed areas are to be demolished, and proposed site clearing is shown on the attached plans. The proposed sewage system consists of a public sewer and private sewer line. The public line will connect to an existing sewer manhole west of the site on Cattleman Drive and run along the northern boundary of the site. The line will bore under two existing heritage trees. The proposed private sewer line will connect at a manhole on the public line at station 15+16.99. The private sewer line will serve the three buildings proposed on site.

Existing Conditions

Under existing conditions, the 9.355 acre subject sits on a high point and consists of five existing drainage areas and three offsite drainage areas. There is no impervious cover (0%) on the existing site. Each drainage area has its own distinct point of analysis (POA) for outfall. The site's primary drainage pattern directs water northeast towards an existing drainage ditch along SH 195.

This 9.355-acre parcel features diverse topography, with slopes generally varying between 0.1% and 13%.

Proposed Conditions

The project proposes three buildings, drives, landscaping, sidewalks, utility infrastructure, and a batch detention basin pond. The project does not require any existing infrastructure to be demolished but will require the removal of trees within the project area.

The development proposes 3.08 acres (32.92%) of impervious cover. The development will have inlets laid throughout the site and will convey storm runoff through means of pipes into the batch detention basin pond located on the east side of the property. The water quality batch detention basin will be designed for an ultimate site condition of 63% impervious cover and will ensure the required 80 percent removal of the increased load in TSS is met. Once the required volume of water is treated, flows will discharge through an outlet structure that will connect to a culvert (permitted through 2024-5-CON) that will eventually discharge into the existing ditch along SH 195. The outfall structure is designed to release flows at a rate where proposed flows will be less than existing flows at the point of analysis.

Wastewater

A 20-foot-wide public utility easement will be established on the adjacent eastern property (Lot 2, 11.62 acres, Document Nos. 2010071926 & 2021011984), owned by John D. Gorley, MMSG Limited Partnership, and LDJ Properties, LTD, to connect the site to the existing 12-inch wastewater stub on Cattleman Drive. The wastewater line has been designed to meet both current and future demands, with hydraulic calculations confirming compliance with the City's Utility Criteria Manual (UCM). Peak Wet Weather Flows will remain below 85% of full pipe capacity, and Peak Dry Weather Flows will stay under 65%, ensuring system reliability. To protect heritage trees adjacent to the easement, horizontal directional boring (HDD) will be used for installation. This method prevents excavation within critical root zones, preserving tree health and minimizing environmental disruption.

The public wastewater infrastructure is being designed through construction plans 2024-5-CON while private onsite utilities will be designed through site plans 2025-25-SDP. Both systems will be built concurrently to ensure seamless integration, with wastewater lines installed simultaneously across public and private networks. All construction activities will adhere to Georgetown's Unified Development Code and Texas Commission on Environmental Quality (TCEQ) regulations to show compliance with wastewater design standards.

SECTION 3:
GEOLOGIC ASSESSMENT

Geologic Assessment

Texas Commission on Environmental Quality

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

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

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

Signature

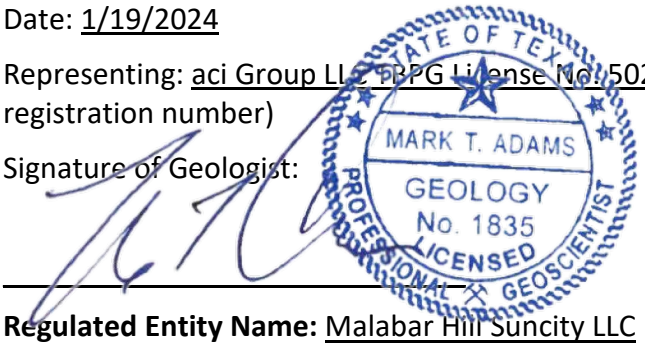
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: Mark T. Adams Telephone: (512) 347-9000

Date: 1/19/2024 Fax: (512) 306-0974

Representing: aci Group LLC, PPPG License No. 50260 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: Malabar Hill Suncity LLC

Project Information

1. Date(s) Geologic Assessment was performed: 1/4/2024
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)
EaD	D	0.92

** 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" = 40'
   Site Geologic Map Scale: 1" = 40'
   Site Soils Map Scale (if more than 1 soil type): 1" = 200'

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.

Attachment A
Geologic Assessment Table

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Malabar Hill Suncity LLC

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	
F01	30.734855	-97.692422	CD	5	Kgt	5	3	1.5	-	0	-	-	O,F,V	13	18	X	-	X	-	Hillside
MB01	30.736042	-97.692135	MB	30	Kgt	-	-	-	-	0	-	-	-	10	40	-	X	X	-	Hillside
MB02	30.736024	-97.693324	MB	30	Kgt	-	-	-	-	0	-	-	-	10	40	-	X	X	-	Hillside

* DATUM: NAD 1983 State Plane 4203

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

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

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

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

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

Date 1/19/2024

Sheet __1___ of __1____

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

Attachment B
Stratigraphic Column

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

Geologic Stratigraphy

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

- Georgetown Formation (Kgt)

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

Site-Specific Stratigraphic Column

Formation	Members	Thickness (Collins, 1997)
Georgetown Formation	N/A	65-110 feet

Geologic Structure

The geologic strata associated with the Edwards Aquifer include the Georgetown Limestone Formation of the Washita Group, the Edwards Limestone Group which is interfingered with the Comanche Peak Formation, followed by the Walnut formation, and finally the Glen Rose Formation of the Trinity Group. These Groups dip gently to the southeast and are a characterized by the Balcones Fault Escarpment, a zone of en echelon normal faults downthrown to the southeast. Locally, the dominant structural trend of faults within the area is 15°, as evidenced by the mapped fault patterns (**Attachment A, Figure 4**). Thus, all features that have a trend ranging from 0° to 30° are considered "on trend" and were awarded the additional 10 points in the Geologic Assessment Table.

Attachment C
Site Geology

January 2024

Geologic Assessment for the Malabar Hill Suncity LLC tract located in Williamson County, Texas

1.0 INTRODUCTION

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

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

2.0 PROJECT INFORMATION

The Malabar Hill Suncity LLC tract, hereafter referred to as the subject area, subject property, or site, is located south of the intersection of State Highway (SH) 195 and Sun City Boulevard in the City of Georgetown, Williamson County, Texas (**Attachment A, Figure 1**). Pedestrian investigations of the 9.36-acre tract were performed on January 4, 2024, by Marcos Cardenas, Andrew Marlow, G.I.T., and Waldon McGlothin, under the supervision of Mark Adams, P.G. with **aci consulting**.

This report is intended to satisfy the requirements for a Geologic Assessment, which shall be included as a component of a Water Pollution Abatement Plan (WPAP) and Sewage Collection System Plan (SCS). The site is approximately 9.36 acres in total. The proposed site use is for retail pad sites. The scope of the report consists of a site reconnaissance, field survey, and review of existing data and reports. Features identified during the field survey were ranked utilizing the Texas Commission on Environmental Quality (TCEQ)

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

3.0 INVESTIGATION METHODS

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

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

4.0 SOILS AND GEOLOGY

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

Soils

According to the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey (2024), one soil unit occurs within the subject area (**Attachment A, Figure 2**):

- EaD – Eckrant cobbly clay, 1 to 8 percent slopes

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

Karstic Characteristics

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

According to Edwards aquifer zone map produced by the TCEQ (2005), the entire subject area is within the northern segment of the Edwards Aquifer Recharge Zone. Thus, all karst features identified as sensitive within the project limits have the potential to be point recharge features into the Edwards aquifer.

Review of Historic Aerials

Aerial photographs were reviewed for the site and it was determined that ranching and agricultural activities occurred on the site since the first aerial image dated 1941 (**Attachment C**). The subject property remains relatively unchanged throughout the aerials. Disturbances in the soil on the subject property can be seen in connection with unpaved roads in and around the subject property in the 1962 and 1995 aerials. Additional disturbances can be seen in the northwest corner of the subject property, likely in connection with construction of Sun City Boulevard, in the 2004 aerial and for the construction of Sun City to the southwest in the 2016 aerial.

5.0 GEORGETOWN WATER QUALITY ORDINANCE

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

aci environmental consulting verified that the entire site is contained within the Edwards Aquifer Recharge Zone (EARZ), based on the mapped boundaries. There were no springs or mapped salamander sites or known surface or subsurface CHUs within the subject area. Additionally, there are no mapped flowlines or waterbodies within the site, according to the National Hydrography Dataset (NHD), nor are there any mapped wetlands within the site according to the National Wetland Inventory (NWI). The nearest CHU for the Georgetown Salamander occurs approximately 2.45 miles southwest of the project area, along Berry Creek.

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

6.0 SUMMARY OF FINDINGS

This report documents the findings of a geologic assessment conducted by **aci consulting** personnel on January 4, 2024. Three features (two manmade features in bedrock and one non-karst closed depression) were noted on the site. Comprehensive descriptions and recommendations for each feature can be found in **Attachment B**. Based on assessment of each feature, it was determined that there are zero sensitive karst features on the subject property. The naturally occurring feature was determined to be non-sensitive. Two features were man-made features in bedrock.

7.0 REFERENCES

Collins, E.W., 1997. *Geologic Map of the Georgetown Quadrangle, Texas.* Bureau of Economic Geology. Austin, Texas.

(SCS) Soil Conservation Survey. 1983. Soil Survey of Williamson County, Texas. United States Department of Agriculture. Texas Agriculture Experiment Station.

(TCEQ) Texas Commission on Environmental Quality. 2004. Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones. October 1, 2004. Austin, Texas.

(TCEQ) Texas Commission on Environmental Quality. 2005. "Edwards Aquifer Protection Program, Chapter 213 Rules - Recharge Zone, Transition Zone, Contributing Zone, and Contributing Zone within the Transition Zone." Map. Digital data. September 1, 2005. Austin, Texas.

(TWDB) Texas Water Development Board. 2024. Water Data Interactive Groundwater Data Viewer. Accessed on January 10, 2024. Available at: http://www2.twdb.texas.gov/apps/waterdatainteractive/groundwaterdataviewer

(USDA NRCS) U.S. Department of Agriculture Natural Resources Conservation Service. 2024. WebSoilSurvey.com. Soil Survey Area: Williamson County, Texas. Date accessed: January 10, 2024.

Attachment D
Site Geologic Map(s)

This map is intended for planning purposes only. All map data should be considered preliminary. All boundaries and designations are subject to confirmation.

N

200 100 0 200 Feet

1:2,400

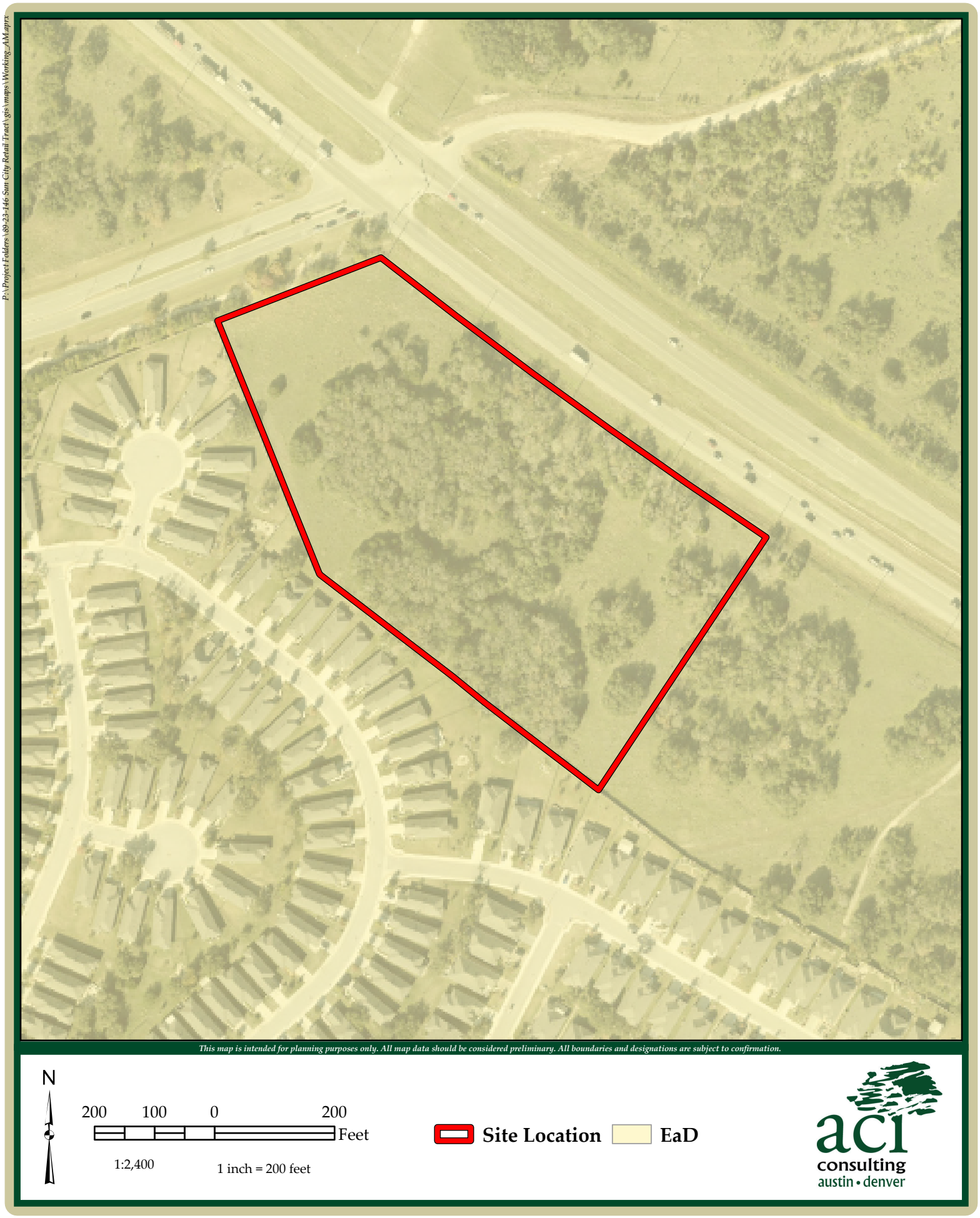
1 inch = 200 feet

Site Location

aci consulting
austin • denver

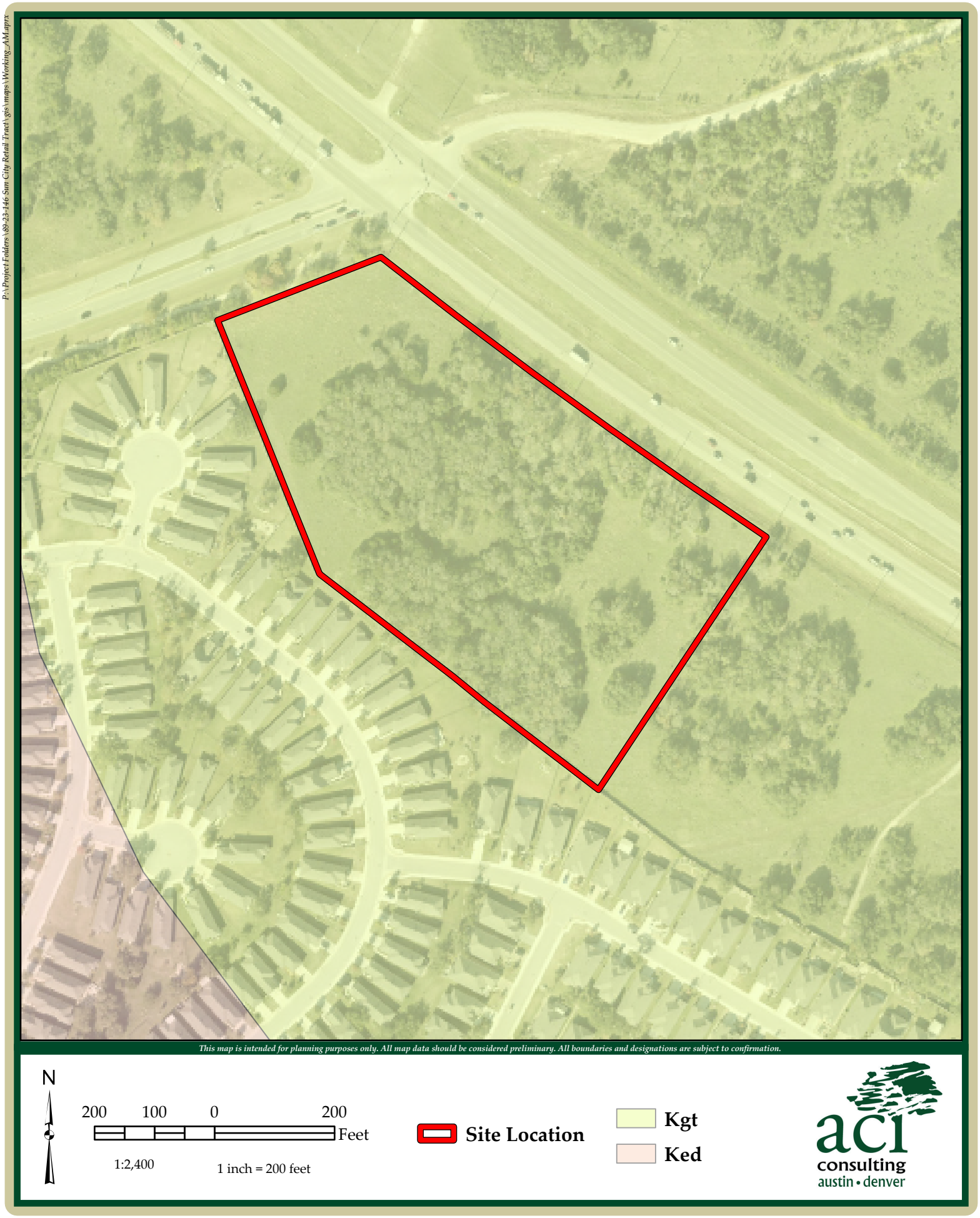
Malabar Hill Suncity LLC Geologic Assessment **aci Project No.: 89-23-146**

Figure 1: Site Location **January 2024**



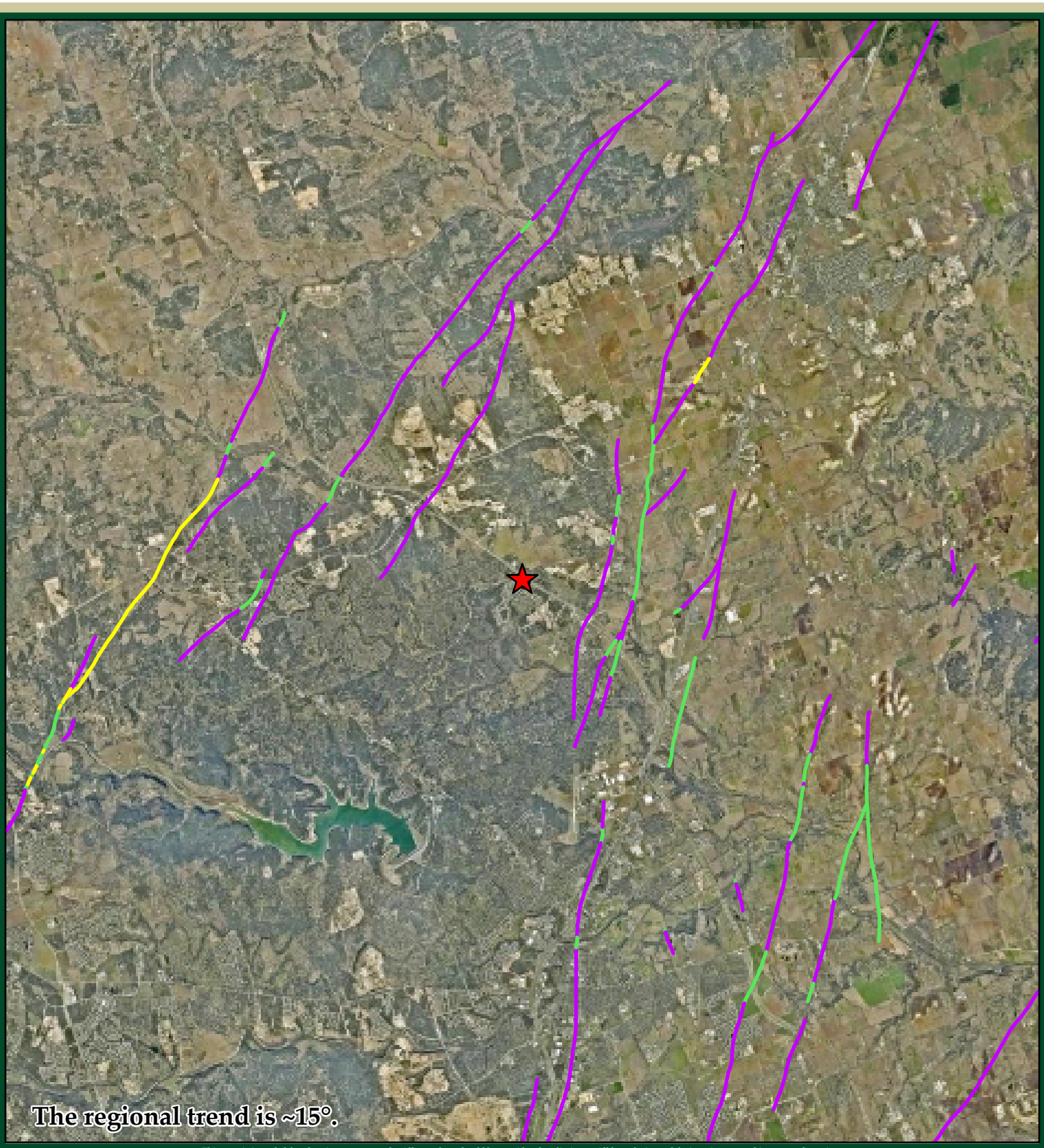
Malabar Hill Suncity LLC Geologic Assessment **aci Project No.: 89-23-146**

Figure 2: Site Soils **January 2024**



Malabar Hill Suncity LLC Geologic Assessment **aci Project No.: 89-23-146**

Figure 3: Site Geology **January 2024**



N

12,000 6,000 0 12,000 Feet

1:144,000

1 inch = 12,000 feet

Site Location

Fault Type

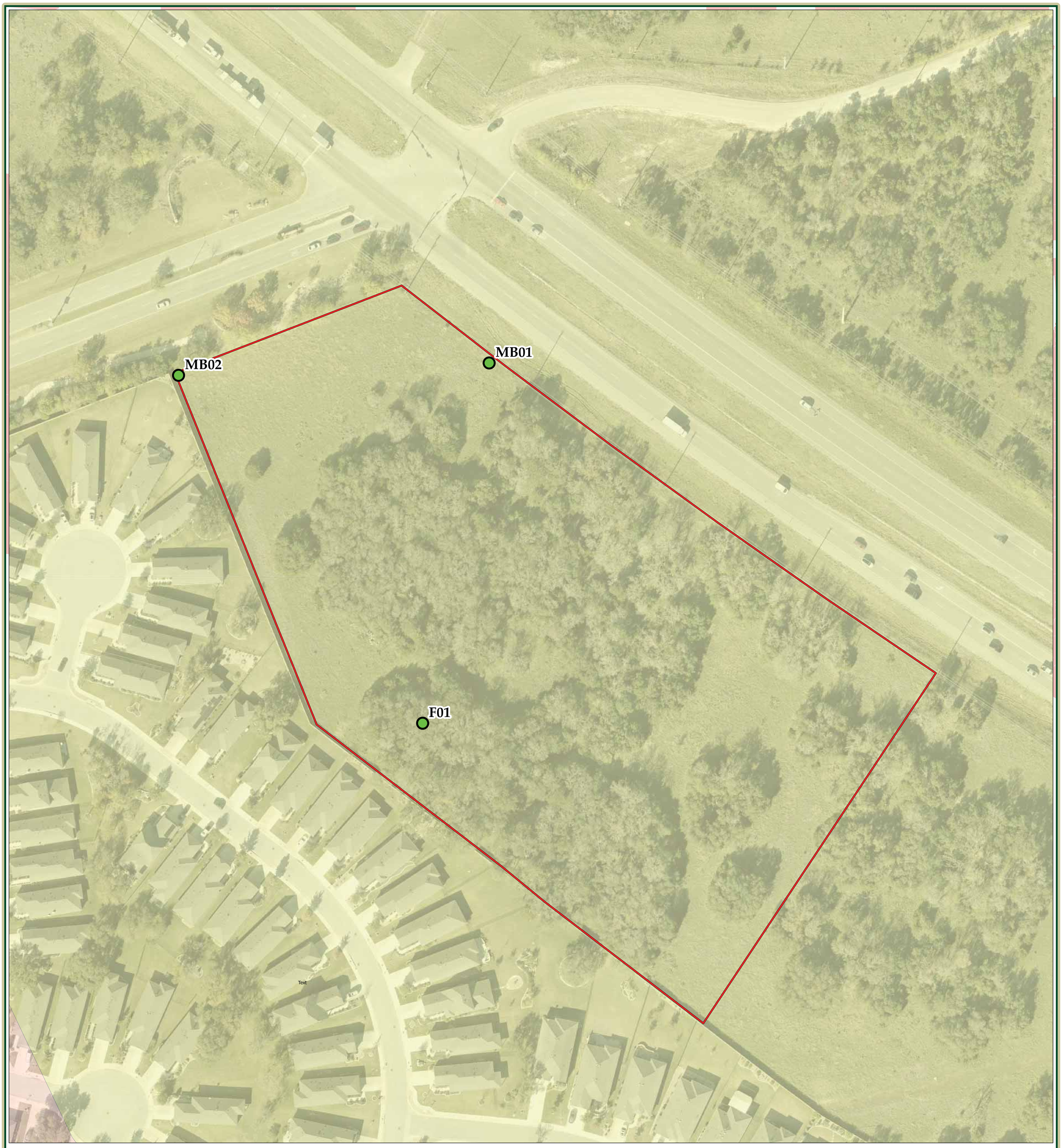
- Normal
- Inferred Normal
- Concealed Normal

aci consulting
austin • denver

Malabar Hill Suncity LLC Geologic Assessment | **aci Project No.: 89-23-146**

Figure 4: Regional Trend | **January 2024**

P:\Project Folders\89-23-146 Sun City Retail Tract\gis\maps\Working_AM.aprx



N

40 20 0 40 80 120 Feet

1:480 1 inch = 40 feet

Site Location
Features
Kgt
Ked

The Georgetown Formation and the Edwards Aquifer Recharge Zone are mapped over the entirety of the subject area.
No springs, drainages, streams, or 100-year floodplain were mapped within the subject area.

STATE OF TEXAS
MARK T. ADAMS
GEOLOGY
No 1835
LICENSED
PROFESSIONAL GEOSCIENTIST

aci consulting
austin • denver

Malabar Hill Suncity LLC Geologic Assessment — **aci Project No.: 89-23-146**

Figure 5: Geologic and Manmade Features — **January 2024**

F01

GPS: N. 30.734855 W. -97.692422

This feature is a non-karst closed depression approximately 5 feet in length, 3 feet in width, and 1.5 feet deep. The feature is located in the Georgetown Formation and is positioned on a hillside. Infill material is vegetation, organic material, and compact plugged soils. The feature has no trend, and a drainage area of less than 1.6 acres. Nearby vegetation includes Texas live oak, Ashe juniper, hedge parsley, catchweed bedstraw, and clover. In using Figure 1 in Instructions to Geologists, it was determined that since this feature is a soil-floored non-karst feature it has low probability of rapid infiltration and was assigned an infiltration rate of 13.

Recommendation: There are no recommendations for this feature.

Photo of F01

MB01

GPS: N. 30.736042 W. -97.692135

This feature is a manmade feature in bedrock (water utilities) with unknown dimensions extending below the surface for an unknown depth. The feature is located in the Georgetown formation and is positioned on a hillside. Infill material is unknown. The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has an infiltration rate of 10 points due to its status as a manmade feature in bedrock, in order to bring it to the attention of the project engineer.

Recommendation: This feature needs to be brought to the attention of the engineer.

Photo of MB01

MB02

GPS: N. 30.736024 W. -97.693324

This feature is a manmade feature in bedrock (electric utilities) with unknown dimensions extending below the surface for an unknown depth. The feature is located in the Georgetown formation and is positioned on a hillside. Infill material is unknown. The feature has no trend, and a drainage area of less than 1.6 acres. In using Figure 1 in Instructions to Geologists, it was determined that this feature has an infiltration rate of 10 points due to its status as a manmade feature in bedrock, in order to bring it to the attention of the project engineer.

Recommendation: This feature needs to be brought to the attention of the engineer.

Photo of MB02

Prepared for:

ACI CONSULTING
1001 Mopac Circle
Austin, TX 78746

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Historical Aerial Photographs

Sun City Retail Tract

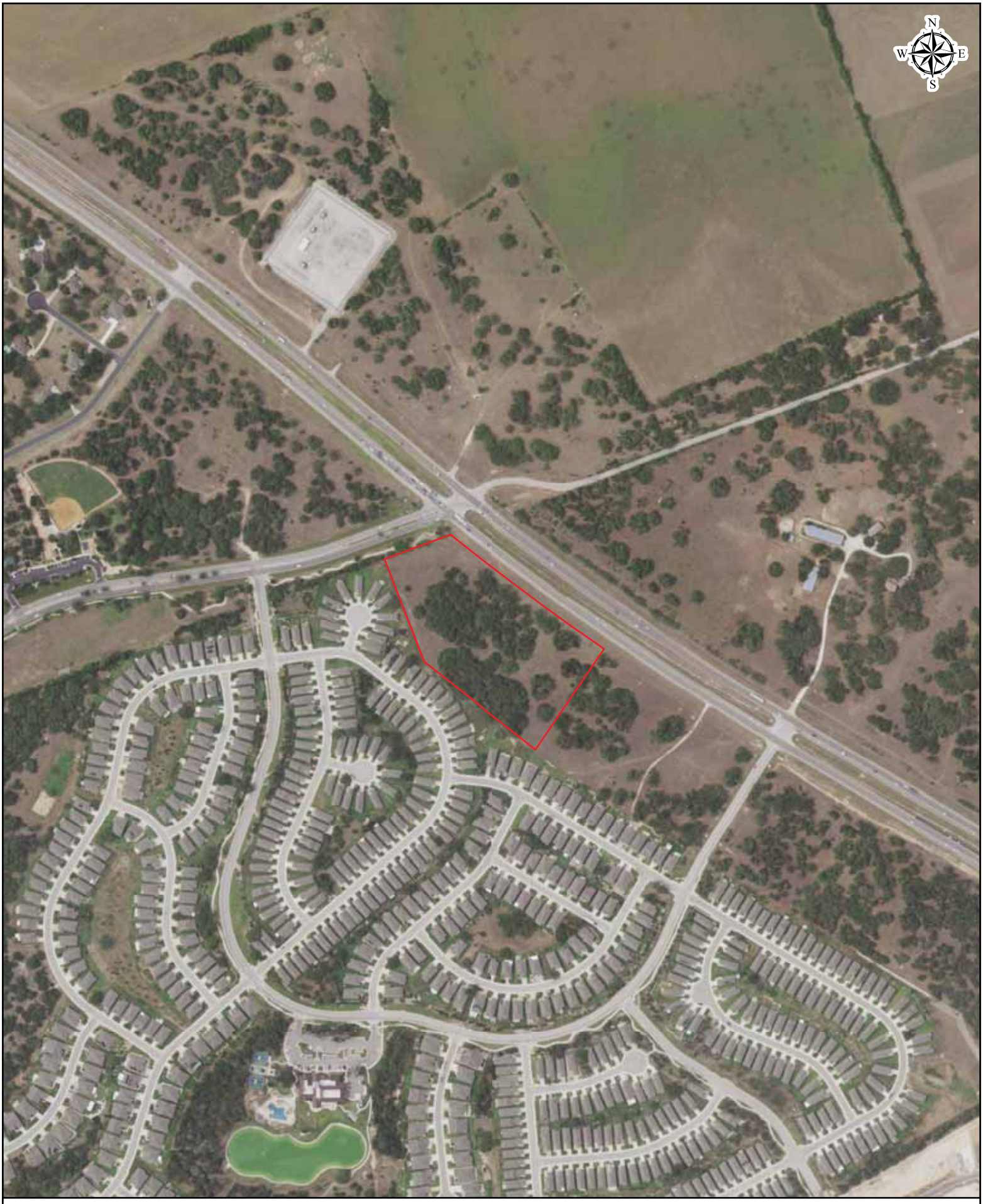
TX

Williamson County

PO #: 89-23-146

ES-143258

Thursday, December 21, 2023



Date: 2022
Source: USDA

0 250 500 1,000 Feet

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 2016
Source: USDA

0 250 500 1,000 Feet

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 2010
Source: USDA

0 250 500 1,000 Feet

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 2004
Source: USDA

0 250 500 1,000 Feet

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1995
Source: USGS

Feet
0 250 500 1,000

BANKS
ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1981
Source: USGS

0 250 500 1,000 Feet

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1974
Source: USGS

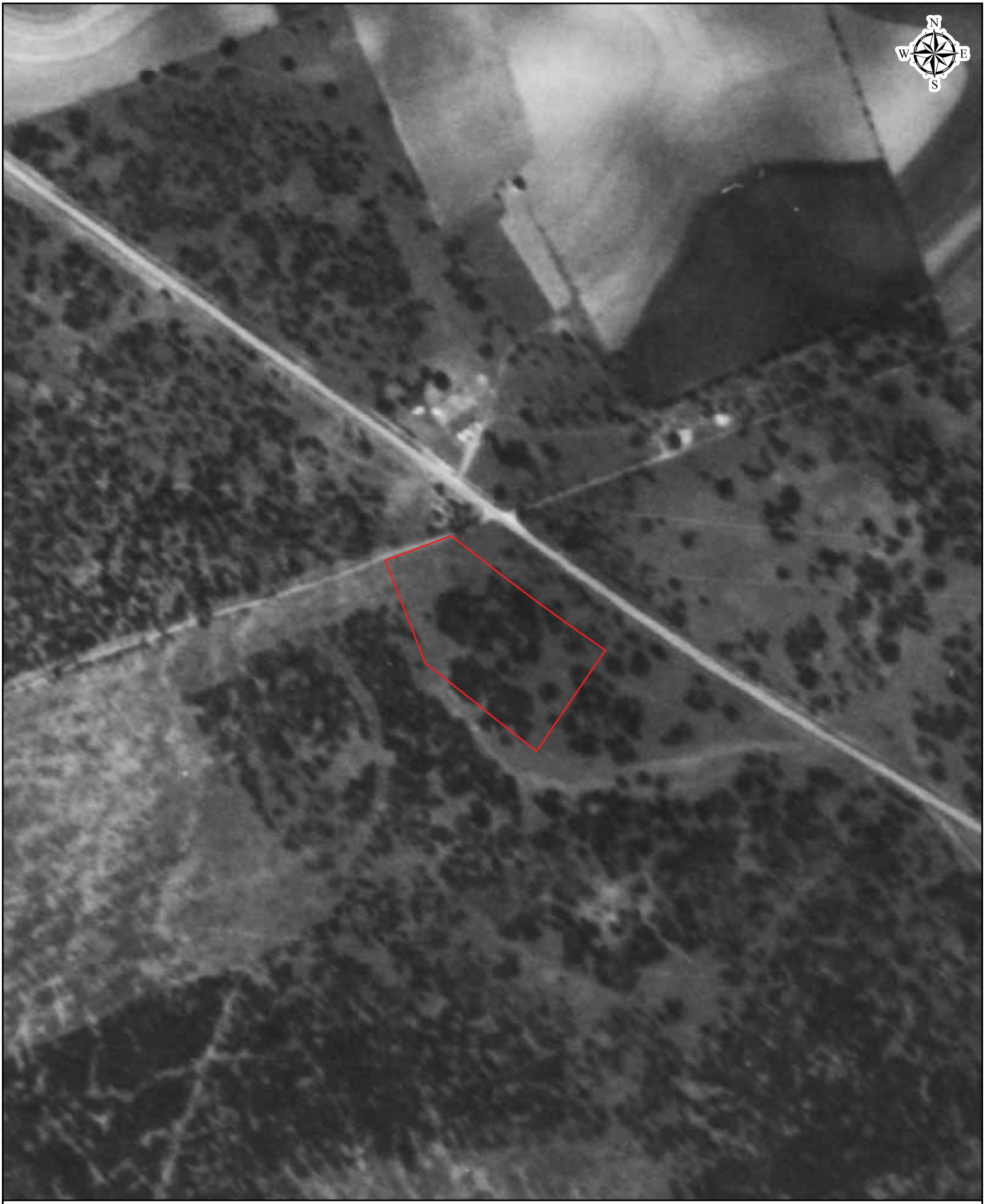
0 250 500 1,000 Feet

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1962
Source: USGS

0 250 500 1,000 Feet

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP



Date: 1953
Source: AMS

0 250 500 1,000 Feet

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

Date: 1941
Source: ASCS

0 250 500 1,000 Feet

BANKS ENVIRONMENTAL DATA
A DIVISION OF THE BANKS GROUP

AERIAL SOURCE DEFINITIONS

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

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Kimley»Horn

SECTION 4: ORGANIZED SEWAGE COLLECTION SYSTEM PLAN

kimley-horn.com | 5301 Southwest Parkway, Building 2, Suite 100, Austin, TX 78735 | 512 646 2237

Organized Sewage Collection System Application

Texas Commission on Environmental Quality

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

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

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

Regulated Entity Name: Sun City Retail Buildings Development

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: Chris Merchant

   Entity: Malabar Hill Sun City LLC
   Mailing Address: 5400 Pointe W Circle Suite 200
   City, State: Richmond, TX Zip: 77469
   Telephone: (832) 858-5016 Fax: N/A
   Email Address: Chris@MHcapital.org

   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: Sarah Lee, P.E. (Seum Lee)
   Texas Licensed Professional Engineer's Number: 149390
   Entity: Kimley-Horn and Associates, Inc.
   Mailing Address: 5301 Southwest Parkway, Building 2, Suite 100, Austin,
   City, State: Austin, TX Zip: 78735
   Telephone: 512-661-2925 Fax:
   N/A Email Address: Sarah.lee@kimley-horn.com

Project Information

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

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

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

   100% Domestic — 43,476 gallons/day
   _____% Industrial — _____gallons/day
   _____% Commingled — _____gallons/day
   Total gallons/day: 43,476

6. Existing and anticipated infiltration/inflow is 0 gallons/day. This will be addressed by: N/A.

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

   ☐ The WPAP application for this development was approved byletter dated_____. A copy of the approval letter is attached.
   ☒ The WPAP application for this development was submitted to the TCEQ on February 19, 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)*
8	2800	PVC SDR 26	ASTM D3034
6	233	PVC SDR 26	ASTM D3034

Total Linear Feet: 3033

(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 Brushy Creek 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?*
WW-1	16 OF 24	1+36.18	MANHOLE
WW-1	16 OF 24	4+57.88	MANHOLE
WW-1	16 OF 24	7+50.15	MANHOLE
WW-1	17 OF 24	9+36.42	MANHOLE
WW-1	17 OF 24	12+26.97	MANHOLE
WW-1	17 OF 24	15+16.99	MANHOLE
WW-1	18 OF 24	19+25.83	MANHOLE

WW-1	18 OF 24	21+80.54	MANHOLE
WW-2	19 OF 24	5+68.40	MANHOLE
WW MAIN	30 Of 75	2+21.82	MANHOLE
WW MAIN	31 Of 75	3+07.45	MANHOLE
WW MAIN	31 Of 75	3+50.97	MANHOLE

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

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

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

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

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

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

Site Plan Requirements

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

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

Site Plan Scale: 1" = 40'.

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

20. Lateral stub-outs:

☒ The location of all lateral stub-outs are shown and labeled.

☐ No lateral stub-outs will be installed during the construction of this sewer collection system.

21. Location of existing and proposed water lines:

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

22. 100-year floodplain:

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

Table 3 - 100-Year Floodplain

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

23. 5-year floodplain:

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

Table 4 - 5-Year Floodplain

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

24. ☒ Legal boundaries of the site are shown.

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

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

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

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

Table 5 - Water Line Crossings

Line	*Station or Closest Point*	*Crossing or Parallel*	*Horizontal Separation Distance*	*Vertical Separation Distance*
FIRE WATER LINE	3+74.00 – 7+82.05	PARALLEL	18.50′	3.20′
DOMESTIC WATER LINE	3+81.26 – 7+88.54	PARALLEL	15.00′	4.20′
SD-B STORM LINE	BUILDING C WW STA 1+94.00	CROSSING	-	3.40′
DOMESTIC WATER LINE	BUILDING C WW STA 2+00.00	CROSSING	-	4.00′
FIRE WATER LINE	BUILDING C WW STA 2+03.00	CROSSING	-	2.30′
BUILDING C ROOF DRAIN	BUILDING C WW 2+22.59	CROSSING	-	5.80′

☒ **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*

27. 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*

28. 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.

29. 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.

30. 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.

31. 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*

32. 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

33. ☒ 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.

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

Table 9 - Standard Details

Standard Details	*Shown on Sheet*
Lateral stub-out marking **[Required]**	N/A
Manhole, showing inverts comply with 30 TAC §217.55(l)(2) **[Required]**	40 of 75
Alternate method of joining lateral to existing SCS line for potential future connections **[Required]**	N/A
Typical trench cross-sections **[Required]**	40 of 75
Bolted manholes **[Required]**	40 of 75
Sewer Service lateral standard details **[Required]**	40 of 75
Clean-out at end of line **[Required, if used]**	40 of 75
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]**	of
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) **[Required, if Flexible Pipe is used]**	of
Drop manholes [Required, if a pipe entering a manhole is more than 24 inches above manhole invert]	of

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

36. ☒ 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: _____

37. ☒ 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.

38. ☒ 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

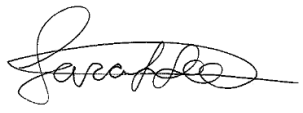
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Organized Sewage Collection System Application** is hereby submitted for TCEQ review and executive director 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: Seum Lee, P.E.

Date:

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.*

Figure 1 - Manning's Formula

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

Where:

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

ORGANIZED SEWAGE COLLECTION SYSTEM PLAN

SUNCITY RETAIL BUILDINGS DEVELOPMENT
CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

PREPARED BY:
KIMLEY-HORN AND ASSOCIATES, INC.
5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
AUSTIN, TEXAS 78735
(512) 661-2925

FIRM NO. 928

KHA PROJECT NO. 069418900

APRIL 2025

SCS ENGINEERING DESIGN REPORT

This Engineering Design Report has been prepared to comply with the Texas Commission on Environmental Quality Design Criteria for Domestic Wastewater Systems, 30 TAC Chapter 217, including 217.10 of Subchapter A, §§217.51 – 217.70 of Subchapter C, and Subchapter D as applicable.

Project Description

Introduction

The Sun City Retail Buildings Development project is proposed on a 9.355-acre tract of land in the City of Georgetown at the south corner of the intersection of Sun City Blvd and SH 195.

The development includes building construction, sidewalks, landscaping, stormwater management infrastructure, water utilities, and wastewater utilities. The existing parcel, which is currently undeveloped, is to be subdivided into 3 commercial lots and one detention lot that will gain access through a joint use access easement from Highway 195 and Sun City Blvd. The client is proposing three commercial buildings for retail and restaurants on Lot 1 of the Sun City Retail Subdivision.

The site is not located in the Federal Emergency Management Agency's (FEMA) 100 year floodplain, according to Flood Insurance Rate Map 48491C0280E. The site is located within the Edwards Aquifer Recharge Zone according to the TCEQ Edwards Aquifer Map.

The site will connect to the existing 18-inch waterline along SH-195 to meet retail/restaurant demands, with an existing hydrant at Sun City Boulevard/SH-195 and two additional hydrants spaced 300 feet apart for fire protection. A fire flow test confirmed compliance, and a booster pump will address low pressure to ensure service standards.

For wastewater, a 20-foot easement will link the site to the 12-inch stub on Cattleman Drive. The line is sized for current and future needs, with hydraulic calculations (per City UCM) ensuring Peak Wet Weather Flows <85% and Peak Dry Weather Flows <65% capacity. Horizontal directional boring (HDD) will protect heritage trees by avoiding root zones.

Electric service will be provided via Georgetown's grid, with coordination underway for reliable capacity. All electrical work will comply with codes, including underground installations where required.

Pipe Design

Flow Design Basis

Service for the 9.355 acre commercial site will be served by this wastewater system. The City of Georgetown Utility Criteria Manual (UCM) was used to determine the parameters for the design of the wastewater line system.

Gravity Pipe and Joint Materials

The proposed pipe to be used for the 6" and 8" wastewater line will be ASTM D3034 SDR-

26 PVC pipe). The joints for this pipe shall meet the requirements of ASTM D3212. The pipe joints shall have an integral bell and rubber gasket seal with the locked-in type gasket.

Separation Distances for Water and Wastewater

At all waterline crossings, a two-foot vertical separation is maintained. A 9-foot minimum horizontal separation is maintained between all proposed wastewater infrastructure and proposed water lines.

Service Connections

Service connections have been included for each proposed structure on-site.

Boring and Tunneling of Crossings

No trenchless methods (boring or tunneling) are proposed for utility crossings in this project. However, horizontal directional boring (HDD) will be utilized to protect critical root zones of offsite trees and heritage trees.

Corrosion Potential

PVC pipe will be utilized for or all proposed wastewater lines. No deterioration of the proposed pipe or its associated components is anticipated in this application.

Odor Control

All flows contributing to the proposed wastewater lines are from commercial developments generating domestic sewage.

Active Geologic Faults

Per the Geologic Assessment, no active geologic faults were located within the area of the project.

Capacity Analysis

The capacity of each proposed wastewater segment is calculated below based on Manning's Equation. The calculation for each segment is based on the minimum proposed slope.

$$Q = \frac{1.49}{n} * A * R^{0.67} * S^{0.5}$$

Where:

Qfull = flow rate of fluid in pipe at full flow (ft^3/s) (cfs)

Q90%= flow rate of fluid in pipe at 90% full flow (ft^3/s) (cfs)

A = area of pipe (ft^2) = $\frac{\pi * d^2}{4}$

d = internal pipe diameter (ft) = Do – 2t

Do = outside diameter (in)

t = pipe wall thickness (in)

n = Manning's Roughness coefficient = 0.013

Rfull = hydraulic radius of pipe (full flow) = A/P = D/4 (ft)

R90%= hydraulic radius of pipe (90% full flow) = 0.9*A/P = 0.9*D/4 (ft)

P = wetted perimeter of pipe = π *D (ft)

S = slope of energy line

WW LINE	Start Sta.	End Sta.	Slope	Diameter (in)	Manning's n	Full Capacity of Pipe							Proposed PDWF								Proposed PWWF								80% Full						
						A (sf)	P (ft)	R (ft)	K	Full Capacity (cfs)	Full Capacity (gpm)	Full Velocity (fps)	PDWF (cfs)	PDWF (gpm)	Actual Velocity (fps)	Q/Qfull	V/Vfull	d/D (%)	Flow Depth (in)	Vpartial (fps)	PWWF (cfs)	PWWF (gpm)	Actual Velocity (fps)	Q/Qfull	V/Vfull	d/D (%)	Flow Depth (in)	Vpartial (fps)	FRICTION Slope (sf)	80% of Q	Q/Qfull	V/Vfull	d/D (%)	Flow Depth (ft)	Vpartial (fps)
WW-1	21+80.54	15+16.99	0.50%	8	0.013	0.349	2.094	0.167	12.08	**0.85**	**384.5**	2.448	0.00	0.0	0.00	0.00	0.00	0.0%	0.00	0.00	0.000	0.0	0.00	0.00	0.00	0.0%	0.00	0.00	0.00%	0.68	0.8	1.11	67%	0.45	2.71
WW MAIN	5+93.74	4+31.16	2.00%	6	0.013	0.196	1.571	0.125	5.61	**0.79**	**357.1**	4.041	0.02	9.2	0.10	0.03	0.43	11.0%	0.66	1.72	0.021	9.2	0.10	0.03	0.43	11.0%	0.66	1.72	0.00%	0.63	0.8	1.11	67%	0.34	4.48
WW MAIN	4+31.16	3+50.97	2.00%	6	0.013	0.196	1.571	0.125	5.61	**0.79**	**357.1**	4.041	0.05	21.4	0.24	0.06	0.54	16.0%	0.96	2.17	0.048	21.4	0.24	0.06	0.54	16.0%	0.96	2.17	0.01%	0.63	0.8	1.11	67%	0.34	4.48
BUILDING C WW	2+26.67	1+00	2.00%	6	0.013	0.196	1.571	0.125	5.61	**0.79**	**357.1**	4.041	0.02	9.2	0.10	0.03	0.43	11.0%	0.66	1.72	0.021	9.2	0.10	0.03	0.43	11.0%	0.66	1.72	0.00%	0.63	0.8	1.11	67%	0.34	4.48
WW MAIN	3+50.97	1+00	2.00%	8	0.013	0.349	2.094	0.167	12.08	**1.71**	**769.0**	4.896	0.07	30.6	0.20	0.04	0.47	13.0%	1.04	2.32	0.068	30.6	0.20	0.04	0.47	13.0%	1.04	2.32	0.00%	1.37	0.8	1.11	67%	0.45	5.43
WW-1	15+16.99	9+36.42	0.50%	8	0.013	0.349	2.094	0.167	12.08	**0.85**	**384.5**	2.448	0.07	30.6	0.20	0.08	0.60	19.0%	1.52	1.46	0.068	30.6	0.20	0.08	0.60	19.0%	1.52	1.46	0.00%	0.68	0.8	1.11	67%	0.45	2.71
WW-2	5+68.40	1+00	0.50%	8	0.013	0.349	2.094	0.167	12.08	**0.85**	**384.5**	2.448	0.01	6.4	0.04	0.02	0.35	8.0%	0.64	0.85	0.029	12.8	0.08	0.03	0.45	12.0%	0.96	1.10	0.00%	0.68	0.8	1.11	67%	0.45	2.71
WW-1	9+36.42	1+00	0.50%	8	0.013	0.349	2.094	0.167	12.08	**0.85**	**384.5**	2.448	0.07	30.6	0.20	0.08	0.60	19.0%	1.52	1.46	0.068	30.6	0.20	0.08	0.60	19.0%	1.52	1.46	0.00%	0.68	0.8	1.11	67%	0.45	2.71

Property	LUEs	gpd/LUE	ADF (gpd)	ADF (gpm)	PF	PDWF (gpm)	I/I (gpm)	PWWF (gpm)
WW-1 (21+80.54 TO 15+16.99)	0	175	0	0.00	4	0.00	0.00	0.00
WW MAIN (5+93.74 TO 4+31.16)	19	175	3325	2.31	4	9.24	0.00	9.24
WW MAIN (4+31.16 TO 3+50.97)	44	175	7700	5.35	4	21.39	0.00	21.39
BUILDING C WW (2+26.67 TO 1+00)	19	175	3325	2.31	4	9.24	0.00	9.24
WW MAIN 3+50.97 TO 1+00	63	175	11025	7.66	4	30.63	0.00	30.63
WW-1 (15+16.99 TO 9+36.42)	63	175	11025	7.66	4	30.63	0.00	30.63
WW-2 (5+68.40 TO 1+00)	0	175	6563	4.56	4	6.38	0.00	12.81
WW-1 (9+36.42 TO 1+00)	63	175	11025	7.66	4	30.63	0.00	30.63

The proposed wastewater line installed at the slope specified provides capacity in excess of the calculated peak wet weather design flows at full flow and 90% full flow conditions.

Structural Analysis

Flexible pipe is proposed on this project. Structural calculations are provided for the flexible pipe to be installed. The proposed collection system piping is designed to have a minimum structural life of 50 years. As previously mentioned, all proposed PVC pipe shall be cell class 12454 with a tensile strength of 7,000 psi.

Live Load Calculations – no significant live loads are anticipated on any segment of this project.

Buckling Pressure - the following equations utilized for the calculation of buckling pressure are taken from the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001).

Buckling Pressure - the following equations utilized for the calculation of buckling pressure are taken from the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001).

$$Pcr = \frac{2 * E}{(1 - v^2) * (DR - 1)^3} \qquad \textit{(Equation 7.14)}$$

$$Pb = 1.15 * \sqrt{Pcr * E'} \qquad \textit{(Equation 7.18)}$$

$$H = (Pb * 144)/w \qquad \textit{(Equation 6.7)}$$

Where:

Pcr =	critical buckling pressure (psi)
E =	modulus of elasticity (psi) = 400,000 psi for PVC
v =	Poisson's Ratio = 0.38 for PVC
DR =	dimension ratio
Pb =	buckling pressure in soil (psi)
E' =	modulus of soil reaction (psi) = 2,000 psi for crushed rock compacted to greater than 95% relative density
H =	maximum allowable cover height of soil (ft)
w =	weight of soil (lbs/ft^3) = 120 lbs/ft^3

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$$Pcr = \frac{2*400{,}000}{(1-0.38^2)*(26-1)^3}$$

Pcr = 59.84 psi

$$Pb = 1.15* \sqrt{59.84* 2{,}000}$$

Pb = 397.84 psi

H = (397.84*144) / 120

H = 477.41 ft height of soil to cause pipe buckling

Prism Load Calculations - the following equations utilized for the calculation of prism loads are taken from the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001).

P = H*w *(Equation 6.7)*

Where:

P = prism load pressure due to soil weight (lbs/ft^2)

H = depth of pipe (ft)

w = soil density (lbs/ft^3) = 120 lbs/ft^3

8" ASTM D3034 SDR-26

P = 20 * 120

P = 2,400 lbs/ft^2 or 16.67 psi

Long Term Deflection Calculations - the following equations utilized for the calculation of long term deflection are taken from the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001).

$$\Delta Y/D = \frac{DL*K*P+K*W_1}{[2E/(3(DR-1)^3)]+0.061*E'}*100 \qquad \textit{(Equation 7.10)}$$

Where:

ΔY/D = long term deflection (%)

DL = Deflection Lag Factor = 1.0 for prism load calculation

K = bedding constant = 0.096 for 90°

P = prism load pressure due to soil weight (lbs/ft^2)

W_1 = live load (psi) = 0 psi

E = modulus of elasticity (psi) = 400,000 psi for PVC

DR = dimension ratio

E' = modulus of soil reaction (psi) = 2,000 psi for crushed rock bedding compacted to greater than 95% relative density

Note: Leonhardt's Zeta factor is assumed to equal 1, and thus is not required in the calculation. This is a conservative assumption that results in a more conservatively calculated value for long term deflection.

8" ASTM D3034 SDR-26

$$\Delta Y/D = \frac{1.0*0.096*16.67 + 0.096*0}{[2(400{,}000)/(3(26-1)^3)] + 0.061*2{,}000} * 100$$

ΔY/D = 1.15%

Wall Crushing Calculations - the following equations utilized for the calculation of wall crushing are taken from the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001).

$$Py = \frac{\Theta c * 2 * A}{D} \qquad \textit{(Equation 7.20)}$$

$$H = Py / w \qquad \textit{(Equation 6.7)}$$

Where:

Py =	pressure due to soil weight (psi)
Θc =	compressive stress (psi) = 4,000 psi for PVC pipe
A=	surface area of the pipe wall (in^2/in)
D =	mean pipe diameter (in) = Do – t
t =	pipe wall thickness (in)
H =	maximum allowable height of cover (ft)
w =	soil density (lbs/ft^3) = 120 lbs/ft^3

8" ASTM D3034 SDR-26

Do = 8.4– 0.323 = 8.077 in, A =3.88 in^2/ft (0.323 in * 12 in/ft)

$$Py = \frac{4{,}000*2*(3.88/12)}{8.077}$$

Py = 320.25 psi

H = (320.25*144) / 120

H = 384.30 ft height of soil to cause wall crushing

Strain Calculations - the following equations utilized for the calculation of strain are taken from the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001).

$$\varepsilon h = \frac{P*D}{2*t*E} \qquad \textit{(Equation 7.22)}$$

$$\varepsilon f = \frac{t}{D} * \frac{[3*\Delta Y/D]}{[1-2*\Delta Y/D]} \qquad \textit{(Equation 7.24)}$$

$$\varepsilon = \varepsilon h + \varepsilon f \qquad \textit{(Equation 7.25)}$$

Where:

εh =	maximum strain in the pipe wall due to hoop stress (in/in)
P =	prism load pressure due to soil weight (psi)
D =	mean pipe diameter (in) = Do – t
t =	pipe wall thickness (in)
E =	modulus of elasticity (psi) = 400,000 psi for PVC
εf =	maximum strain in the pipe due to ring deflection or flexure (in/in)
ΔY/D = long term deflection	
ε =	maximum combined strain in pipe wall (in/in)

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$$\varepsilon h = \frac{16.67 * 8.077}{2 * 0.323 * 400{,}000}$$

$\varepsilon h = 0.00052$ in/in

$$\varepsilon f = \frac{0.323}{8.077} * \frac{[3 * 0.0115]}{[1 - 2 * 0.0115]}$$

$\varepsilon f = 0.0014$ in/in

$\varepsilon = 0.00035 + 0.0014$

$\varepsilon = 0.00175$ in/in

Per the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001), deflection test samples have experienced a pipe wall strain of up to 0.025 in/in and have not "showed any failures or cracks". The calculated strains for this project are significantly below this level, so no failure due to strain is anticipated.

Pipe Stiffness Calculation - the following equations utilized for the calculation of pipe stiffness are taken from the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001)

$$Ps = 4.47 * \frac{E}{(DR-1)^3} \qquad \textit{(Equation 7.3)}$$

Where:

Ps =	pipe stiffness (psi)
DR =	Dimensional Ration = Do / t
Do =	Outside diameter (in)
t =	pipe wall thickness (in)
E =	modulus of elasticity (psi) = 400,000 psi for PVC

8" ASTM D3034 SDR-26

DR = 26

$$Ps = 4.47 * \frac{400{,}000}{(26-1)^3}$$

Ps = 115 psi

Criteria for Laying Pipe

Pipe Embedment

Bedding and initial backfill material selection and installation will be carried out in accordance with applicable governing procedures contained within *Section G4 of Georgetown Utility Systems Construction Specifications and Standards*, *TCEQ Chapter 217.54(a)*, and in accordance with the City of Georgetown Details on sheets 41 of 49.

Compaction

Trench compaction will be carried out in accordance with the *Section G4* of *Georgetown Utility Systems Construction Specifications and Standards*, *and TCEQ Chapter 217.54(b)*. Proper placement of the backfill and compaction per City of Georgetown requirements will not negatively impact the structural

integrity of the pipe.

Manholes and Related Structures

Manhole and Appurtenance Placement

Manholes are located at all points of change in alignment or grade and at the intersection of all pipes for this project.

Manhole Stub Outs

No manholes are being placed at the end of a line that may be extended in the future, so no stub outs are included on this project.

Cleanouts

No dead-end lines are included in this project, so no cleanouts are proposed.

Manhole Material

Precast manholes are acceptable for the contractor to utilize and are included in the City of Georgetown Detail WW-07 and WW-07A on sheet 30. The use of bricks is not acceptable for the manhole or for cover adjustments.

Manhole Spacing

Manhole spacing meets the requirements of Table C.2 in *TCEQ Chapter 217.55*.

Manholes within Waterways

No manholes will be located within flow paths of waterways or in areas where water ponding is probable.

Manhole Covers, Inlets, and Bases

Per the City of Georgetown Details WW-07 and WW-07A sheet 39, the manhole covers shall have a 302-inch diameter clear opening. Manhole covers shall be constructed of cast iron and have no openings for water to infiltrate. No proposed manholes are located within the 100-year flood plain. Manholes shall be watertight, with watertight rings and covers.

As shown in the project details, the bottom of the manhole shall have a U-shaped channel to provide smooth continuation between the inlet and outlet pipes. For the proposed pipe, the manhole channel depth shall be equal to at least half the largest pipe diameter. Manholes with different pipe sizes shall have the tops of the pipes at the same elevation and flow channels in the invert sloped evenly from pipe to pipe.

Manhole Steps

No steps shall be allowed in any proposed manholes.

Manhole Connections

Manhole-pipe connections shall be watertight per City of Georgetown Code of ordinance See detail WW-07 on Sheet 39.

Manhole Venting

The proposed manholes are spaced at less than 1,500-foot intervals and none are located within the 100-year flood plain. However, due to Georgetown Utility Criteria Manual

requirements for public lines, vented manholes are proposed on this project.

Testing Requirements for Gravity Pipes

Infiltration/Exfiltration and Low Pressure Air Test

All testing will be in compliance with Texas Administrative Code title 30 Part 1 Chapter 217 Subchapter C 217.57 and 217.58.

Infiltration and exfiltration or low-pressure air testing in accordance with ASTM C828, C924 or F1417 are required for all proposed gravity wastewater pipe as specified in the project notes, Sheet 7. The requirements specified are in accordance with *TCEQ Chapter 217.57*.

Deflection Testing

For the proposed 6 and 8-inch wastewater line, deflection shall be measured with a rigid mandrel. The requirements specified are in accordance with *TCEQ Chapter 217.57*.

Owner Inspection

The Owner shall have an inspector on-site during construction of the project. A professional engineer registered in the state of Texas (Robert Pavur, P.E.) shall be present to witness the testing of the wastewater lines.

Testing Requirements for Manholes

Manhole testing in accordance with *TCEQ Chapter 217.58* is specified in the project notes. Manholes will be tested after assembly and backfilling for leakage by either a hydrostatic test and/or a vacuum test.

For the vacuum test, all lift holes and exterior joints shall be plugged with an approved non-shrink grout and no grout shall be placed in horizontal joints before testing. All pipes entering the manhole shall be plugged, taking care to securely brace the plugs from being drawn into the manhole. Stub outs, manhole boots, and pipe plugs shall be secured to prevent movement while the vacuum is drawn. A minimum 60-inch/lb torque wrench shall be used to tighten the external clamps that secure the test cover to the top of the manhole. The test head shall be placed at the inside of the top of the cone section and the seal inflated in accordance with the manufacturer's recommendation. A vacuum of 10 inches of mercury shall be drawn and the vacuum pump shut off. With the valves closed, the time shall be measured for the vacuum to drop to 9 inches of mercury. The manhole shall pass if the time is greater than 2 minutes. If the manhole fails the initial test, necessary repairs shall be made with a non-shrink grout while the vacuum is still being drawn. If the manhole fails a second time, repairs should again be made and the manhole shall be tested by means of a hydrostatic test. If any manhole fails the hydrostatic test, after failing the vacuum test twice, the contractor should consider replacing that manhole. If the contractor chooses to attempt to repair that manhole, the manhole must be retested by means of the hydrostatic test until it passes.

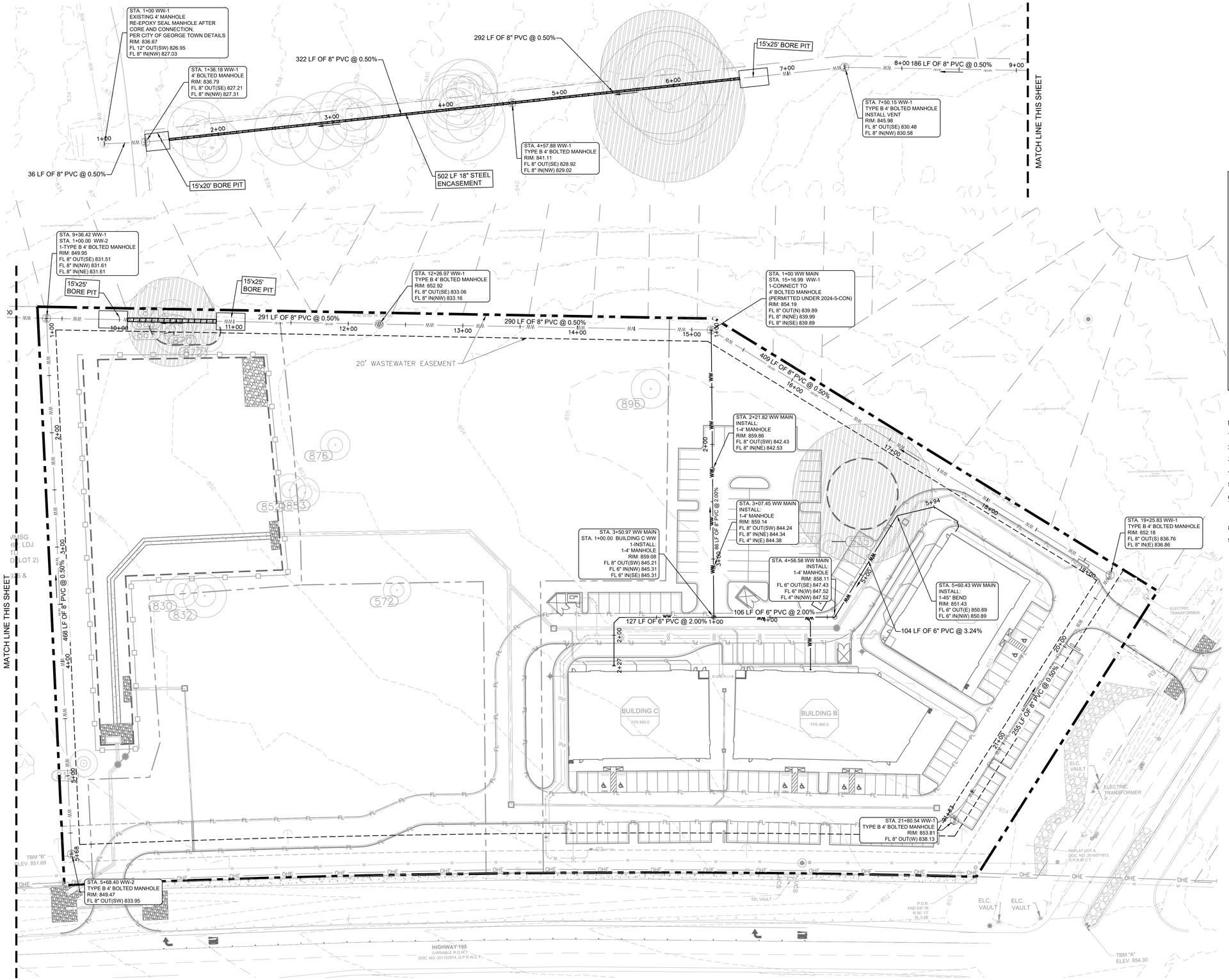
Inspection will be provided during critical phases of construction by a qualified inspector under the direction of a P.E. Robert Pavur, P.E.). Critical phases of construction are deemed at a minimum to include testing of pipe and manholes for leakage and testing of flexible pipe for installed deflection.

TCEQ approval letters for plans and specifications review contain the requirement that once the project is completed, a P.E. registered in the state of Texas (Robert Pavur, P.E.) much

certify that the construction was performed substantially in accordance with the approved plans and specifications.

Notification and Inspection

TCEQ Chapter 213.5(f) requires that the applicant must provide written notification to the Austin regional office at least 48 hours prior to commencing construction on the regulated activity. If any sensitive feature is discovered during construction then the work shall be suspended immediately and the Austin regional office shall be notified to then determine the appropriate course of action. All other notification and inspection requirements identified in *TCEQ Chapter 213.5(c)* shall be met.



LEGEND

- PROPERTY LINE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER CLEANOUT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED STORM DRAIN LINE
- PROPOSED STORM DRAIN INLET
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING WASTEWATER MANHOLE

NOTES:

1. CONTRACTOR TO FIELD VERIFY LOCATION AND THE ELEVATION OF ALL EXISTING UTILITIES.
2. WATER AND WASTEWATER SERVICE TO BE PROVIDED BY THE CITY OF GEORGETOWN.
3. CONTRACTOR TO COORDINATE WITH MEP PLANS FOR ALL UTILITY STUB OUTS.
4. ALL MANHOLES LOCATED IN PAVEMENT ARE TO BE RAISED TO FINISHED GRADE.
5. ALL MANHOLE FLOWLINE DROPS ARE 0.1', UNLESS OTHERWISE NOTED.
6. WASTEWATER LINES TO BE SDR-26 PVC (GREEN).
7. EXISTING WASTEWATER CONNECTION NOTE: CONTRACTOR TO FIELD VERIFY EXISTING FLOWLINE ELEVATION, AND ANY EXISTING CROSSINGS, PRIOR TO START OF CONSTRUCTION, AND REPORT ANY DISCREPANCIES TO OWNER AND ENGINEER.
8. ALL WATER AND WASTEWATER LINE CROSSINGS TO BE INSTALLED PER TCEQ REQUIREMENTS.
9. ALL PUBLIC WASTEWATER LINES ARE LABELED AS SUCH. ALL OTHER WASTEWATER LINES ARE PRIVATE.

BENCHMARKS

TBM "A":
A BOX CUT ON THE BACK OF A CURB AT THE NOSE OF MEDIAN +/- 25 FEET SOUTHWEST FROM THE CENTERLINE OF HIGHWAY 195, AND AT THE INTERSECTION OF HIGHWAY 195 AND SUN CITY BLVD.
ELEVATION = 854.30'

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ELEVATION = 851.69'

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No.	REVISIONS	DATE	BY

Kimley»Horn
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AUSTIN, TX 78735
PHONE: 512-646-2237 FAX: 512-418-1791
WWW.KIMLEY-HORN.COM
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TBPE Firm No. 928

Licensed Professional Engineer
STATE OF TEXAS
SEUM LEE
149390
LICENSED PROFESSIONAL ENGINEER
4/9/2025

KHA PROJECT	069430045
DATE	JULY 2023
SCALE:	AS SHOWN
DESIGNED BY:	BAB
DRAWN BY:	CRS
CHECKED BY:	BAB

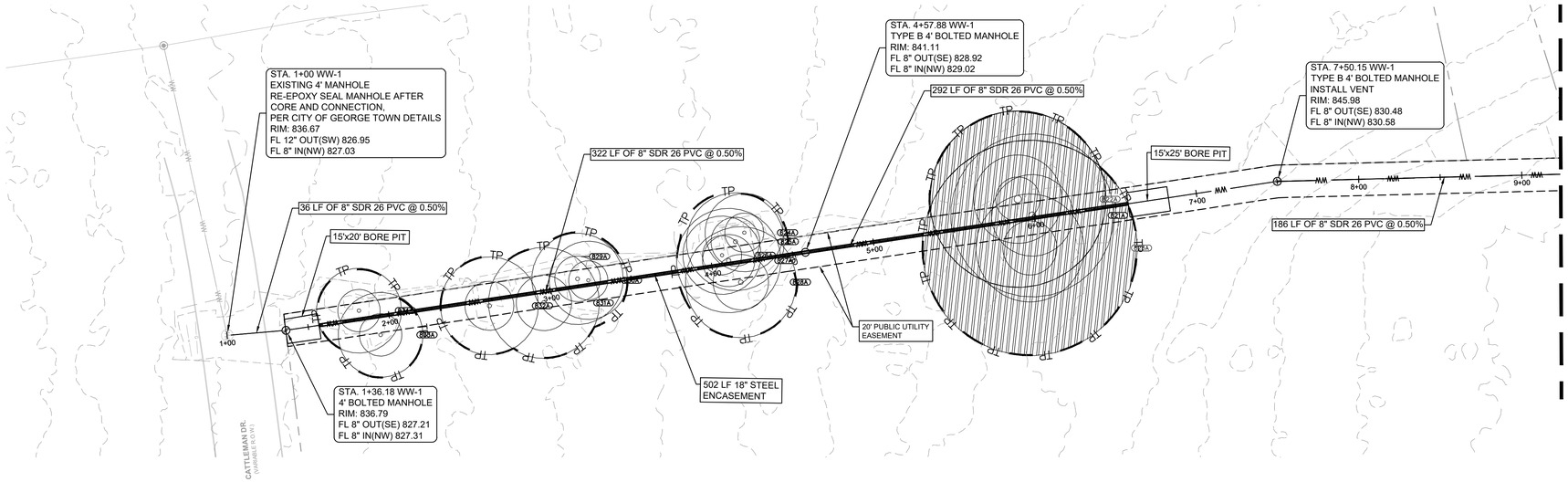
TCEQ SITE PLAN

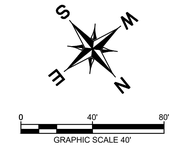
SUN CITY RETAIL BUILDINGS DEVELOPMENT

CIVIL SITE DEVELOPMENT PERMIT
CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER
32 OF 75

2025-25-SDP





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- INTERNAL LOT LINE
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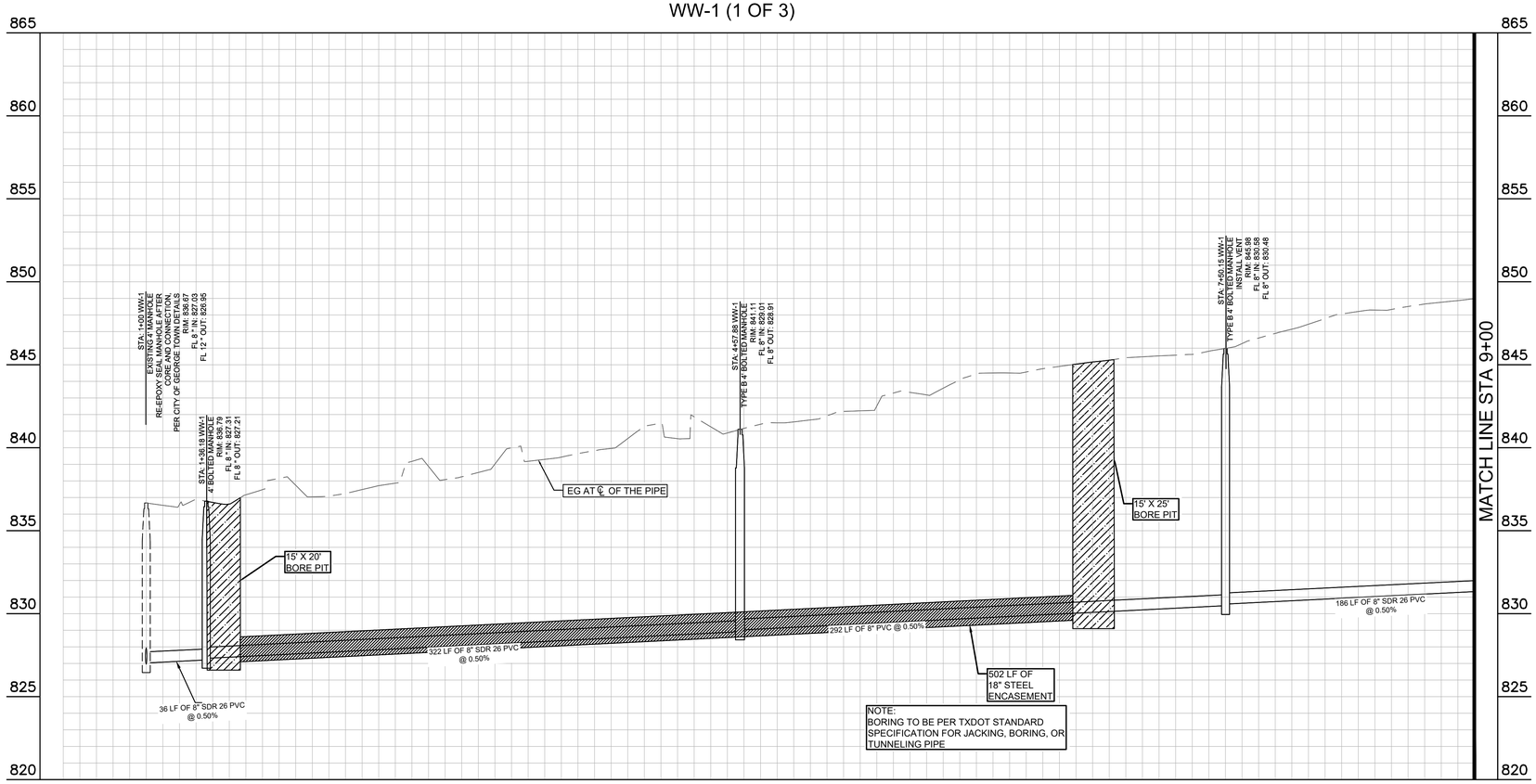
- PROPOSED WASTEWATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER CLEANOUT
- EXISTING TREES TO REMAIN
- EXISTING HERITAGE TREE TO REMAIN

NOTE:
BORE PIT SIZE AND LOCATIONS ARE RECOMMENDATIONS AND THE CONTRACTOR MUST SUBMIT A TUNNELING PLAN FOR APPROVAL

WW-1 (1 OF 3)



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No.	REVISIONS	DATE	BY

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TX REGISTERED ENGINEERING FIRM F-928

TBPE Firm No. 928

STATE OF TEXAS
SEUM LEE
149390
LICENSED
PROFESSIONAL ENGINEER
4/29/2025

KHA PROJECT: 069418900	
DATE:	FEBRUARY 2024
SCALE:	AS SHOWN
DESIGNED BY:	SL
DRAWN BY:	KEA
CHECKED BY:	SL

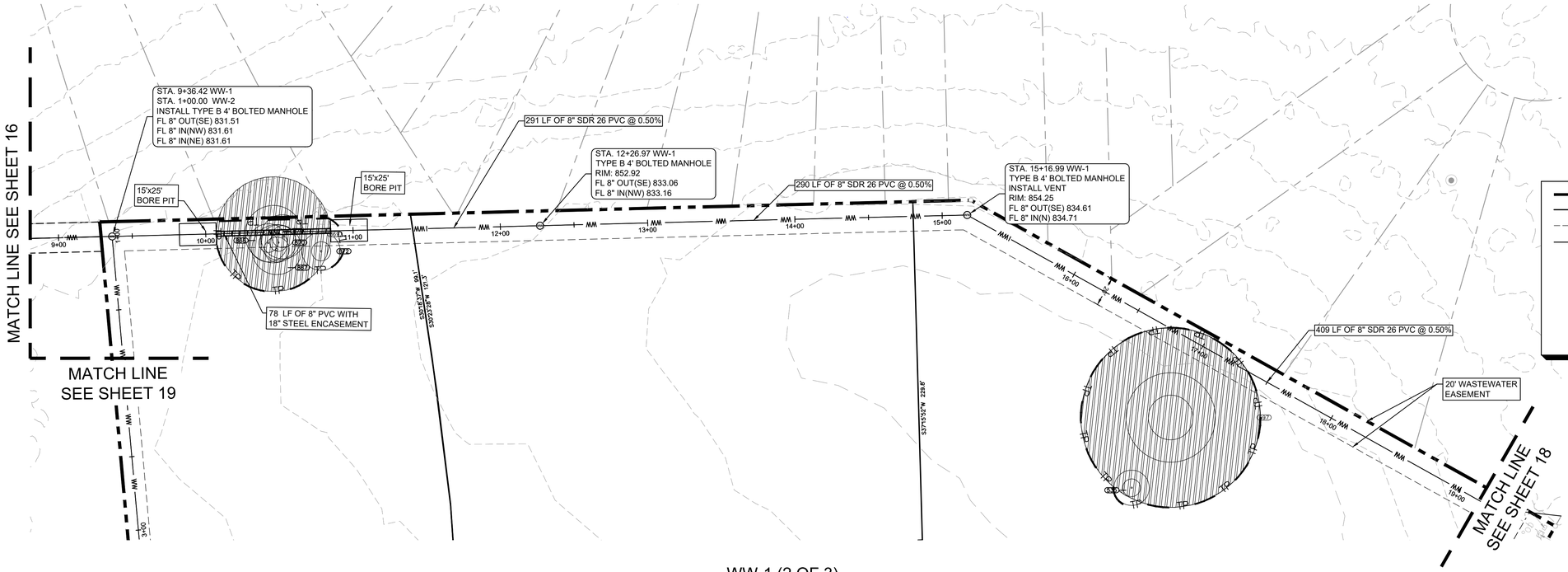
WASTEWATER PLAN AND PROFILE (SHEET 1 OF 4)

SUN CITY RETAIL CONSTRUCTION PLANS

CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER
16 OF 24

2024-5-CON



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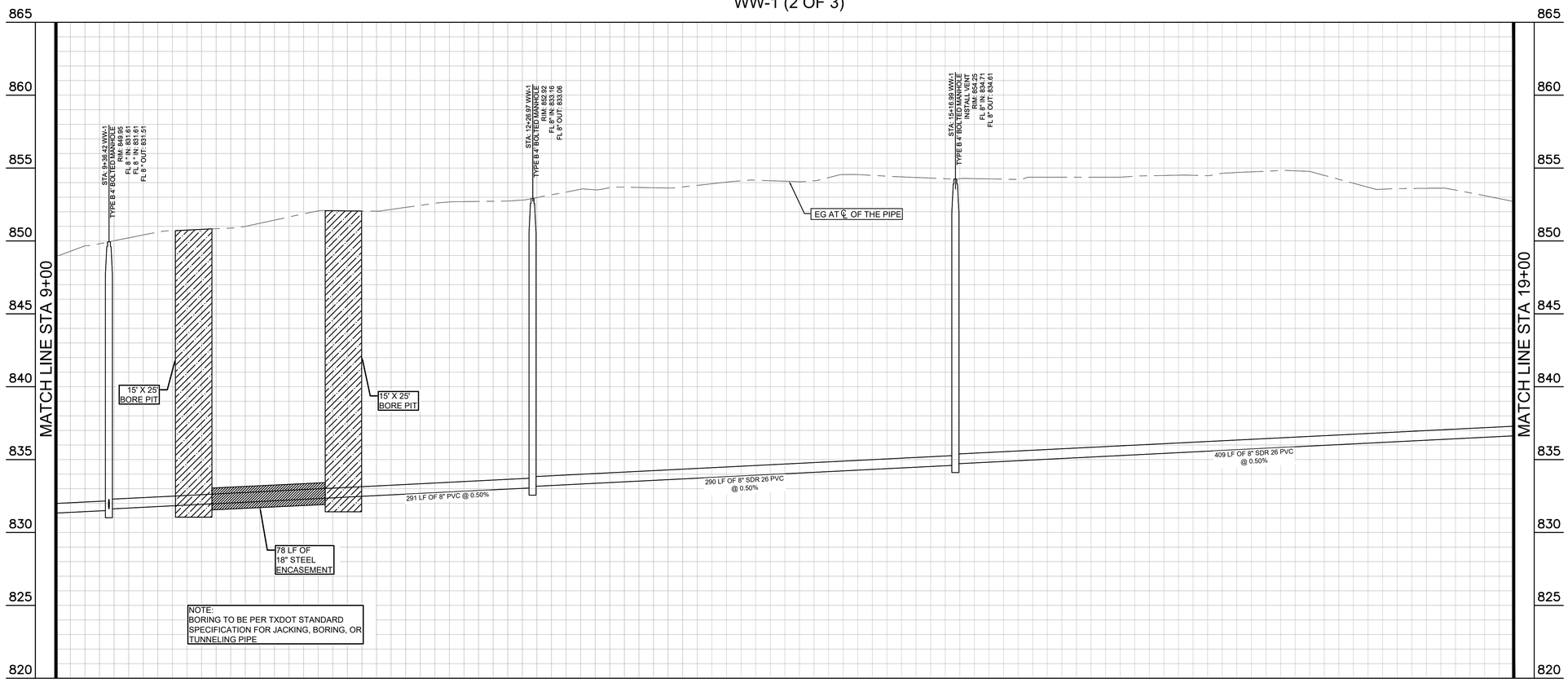
WW-1 (2 OF 3)



NOTE:
BORING TO BE PER TXDOT STANDARD SPECIFICATION FOR JACKING, BORING, OR TUNNELING PIPE

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KHA PROJECT	069418900
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CHECKED BY:	SL

WASTEWATER PLAN AND PROFILE (SHEET 2 OF 4)

SUN CITY RETAIL CONSTRUCTION PLANS

CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER
17 OF 24

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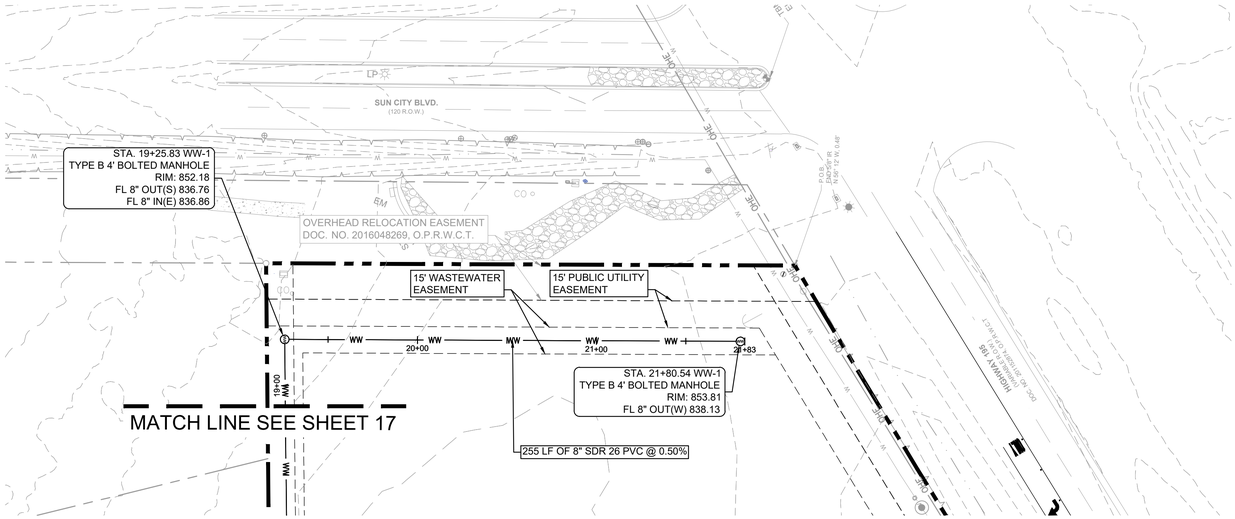

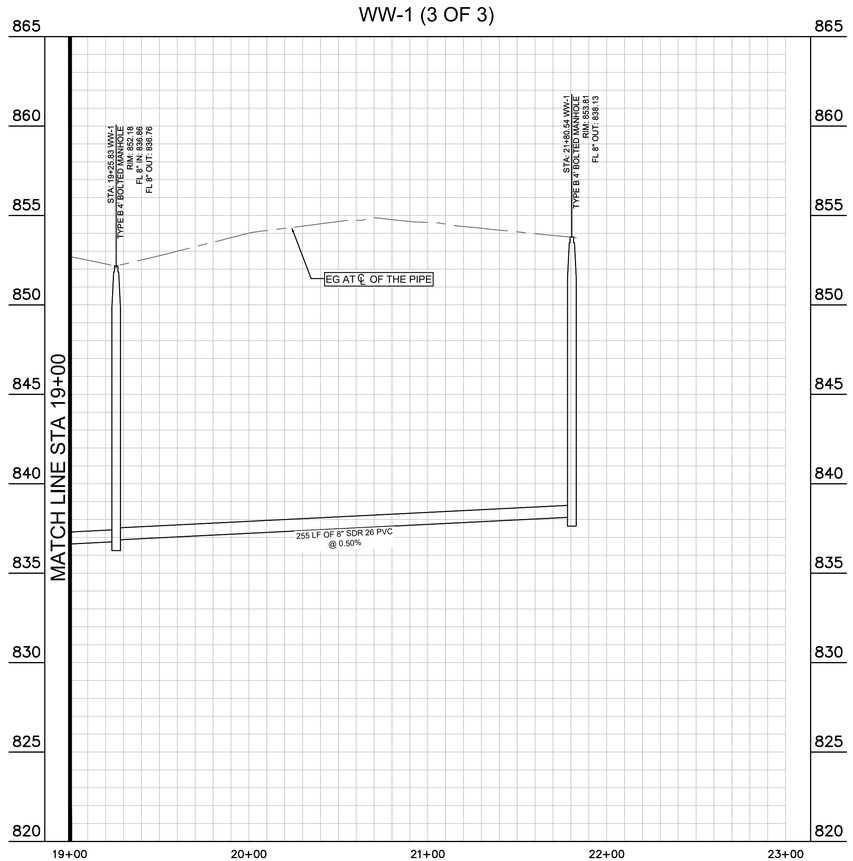

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TBPE REGISTRATION NO. F-928 KIMLEY-HORN AND ASSOCIATES, INC.

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WASTEWATER PLAN AND PROFILE (SHEET 3 OF 4)

SUN CITY RETAIL CONSTRUCTION PLANS

CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER
18 OF 24

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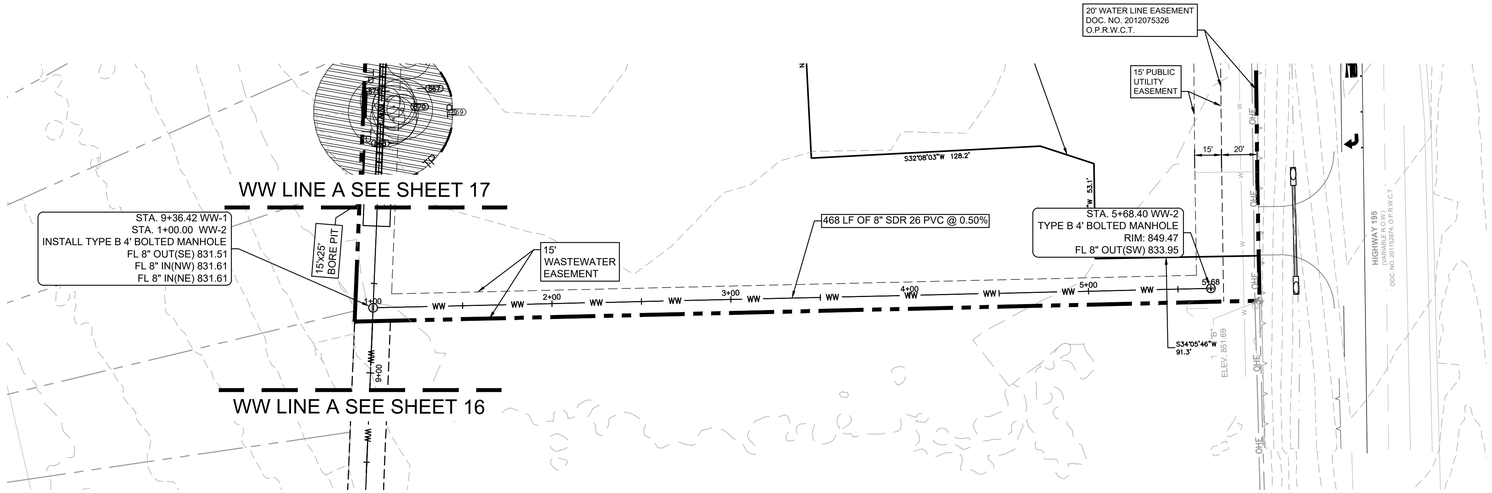

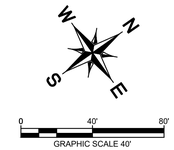

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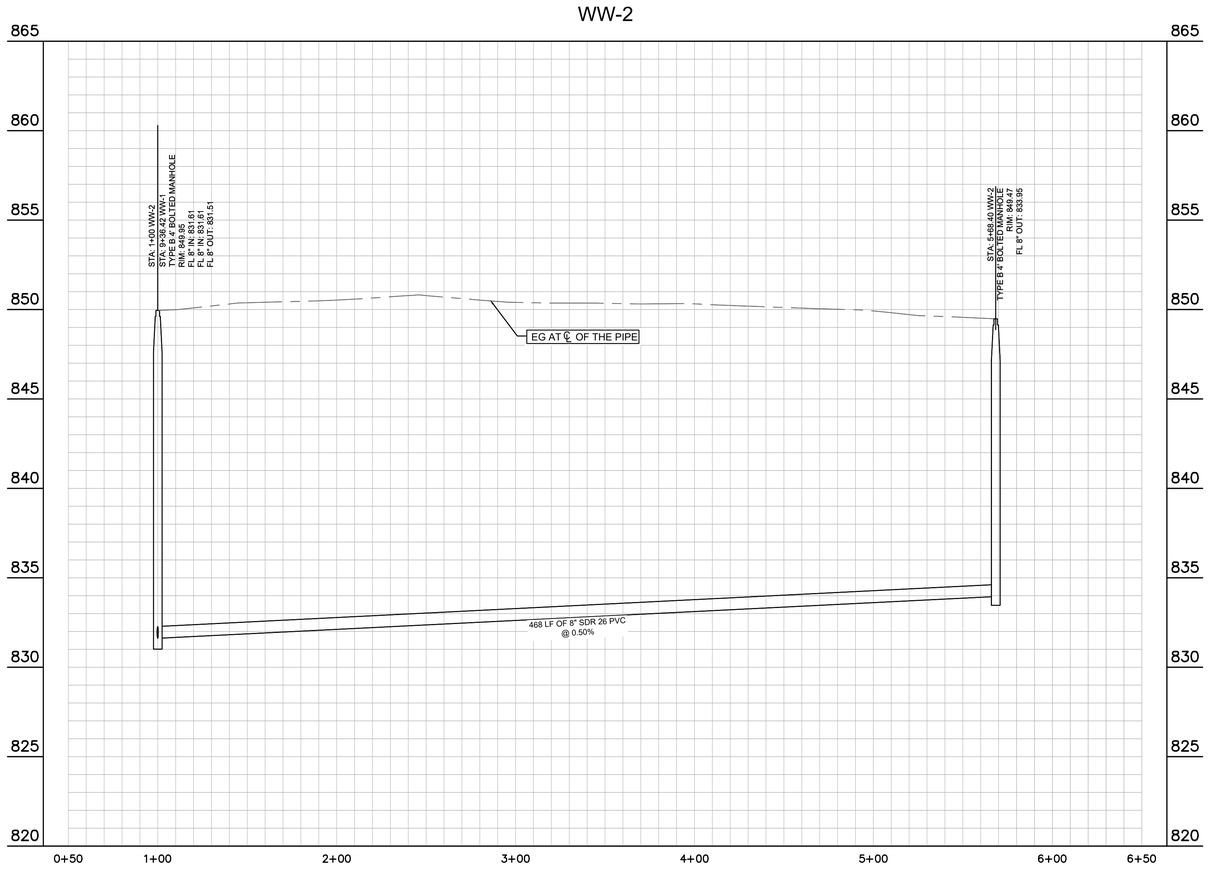

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4/29/2025

KHA PROJECT	069418900
DATE	FEBRUARY 2024
SCALE:	AS SHOWN
DESIGNED BY:	SL
DRAWN BY:	KEA
CHECKED BY:	SL

WASTEWATER PLAN AND PROFILE (SHEET 4 OF 4)

SUN CITY RETAIL CONSTRUCTION PLANS

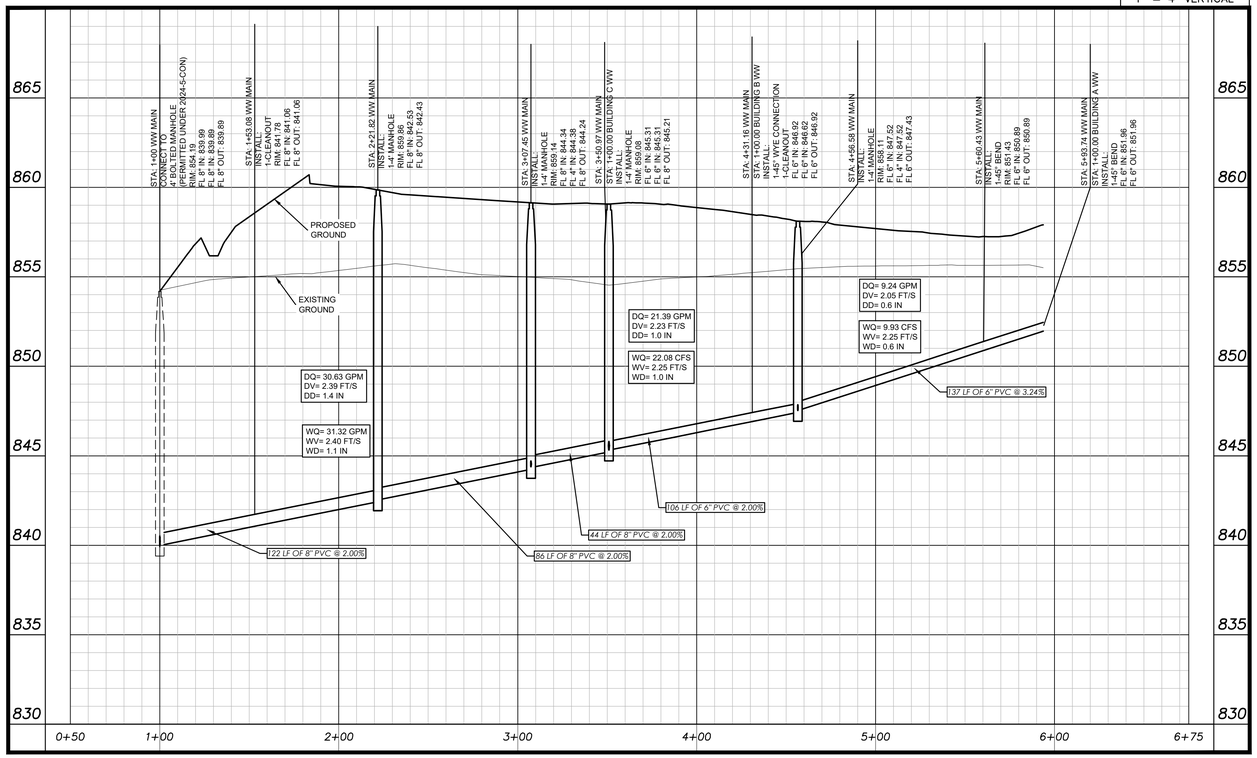
CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER
19 OF 24

2024-5-CON

WW MAIN

PROFILE SCALE
1" = 40' HORIZONTAL
1" = 4' VERTICAL



PROFILE SCALE
1" = 40' HORIZONTAL
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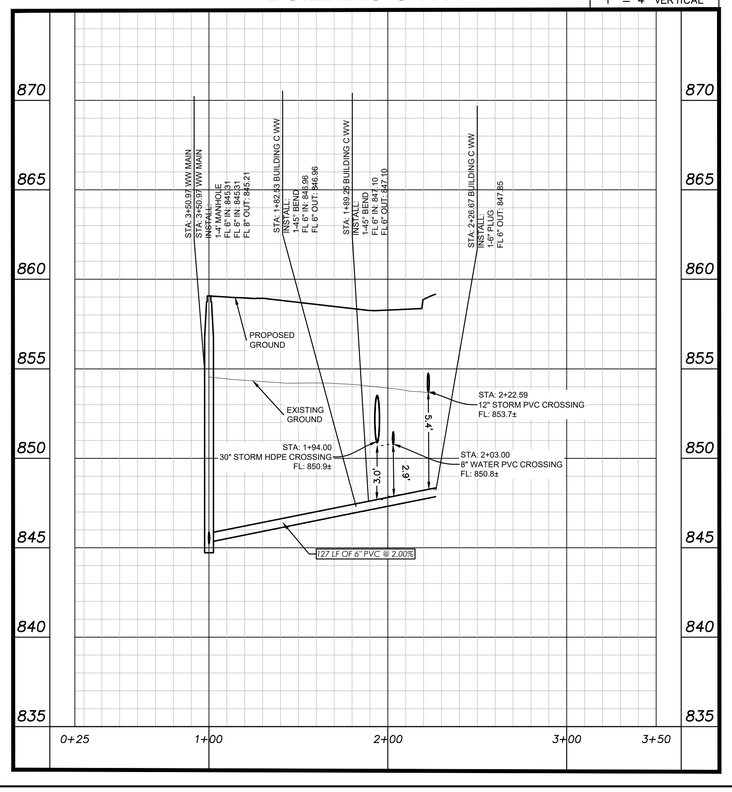
BUILDING C WW



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TBPE Firm No. 928

STATE OF TEXAS
SEUM LEE
149390
LICENSED PROFESSIONAL ENGINEER
5/1/2025

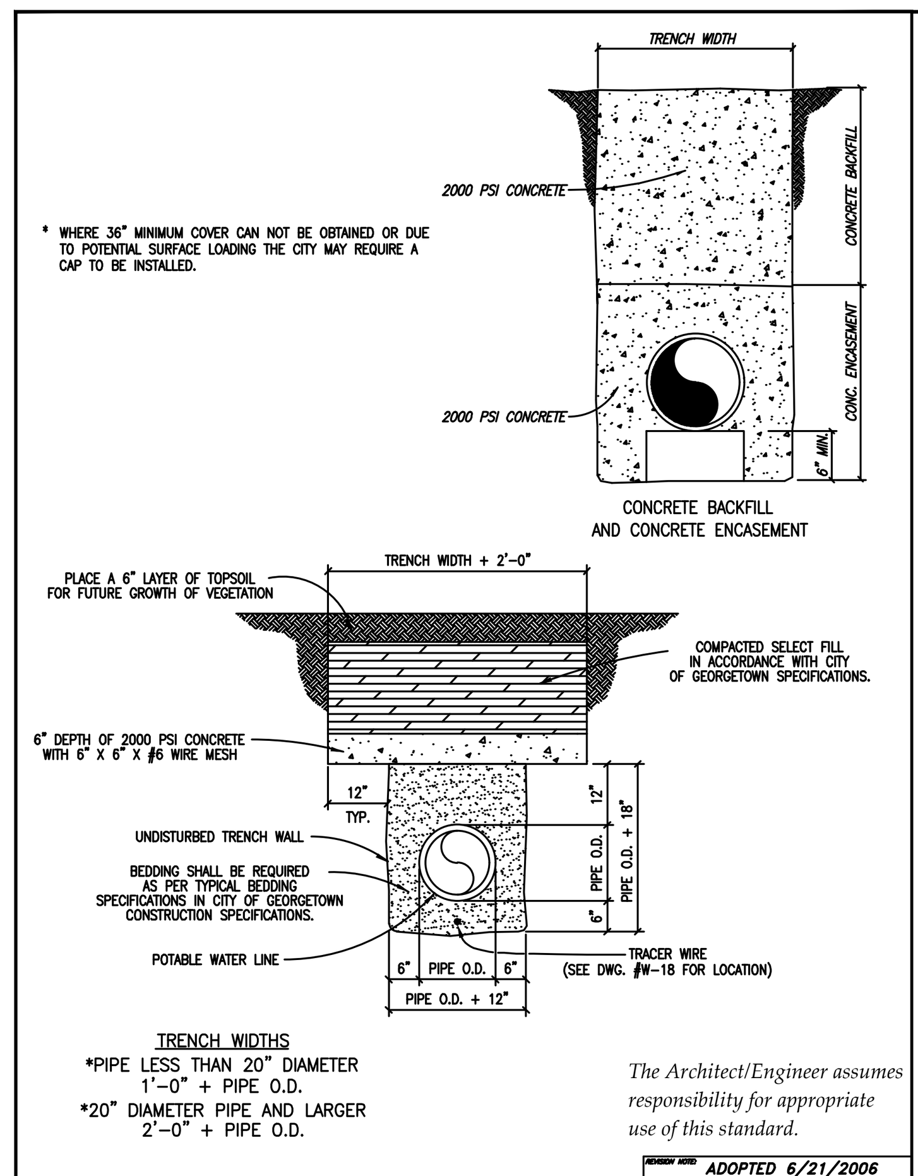
KHA PROJECT	080430045
DATE:	JULY 2023
SCALE:	AS SHOWN
DESIGNED BY:	BAB
DRAWN BY:	CRS
CHECKED BY:	BAB

WASTEWATER PROFILE

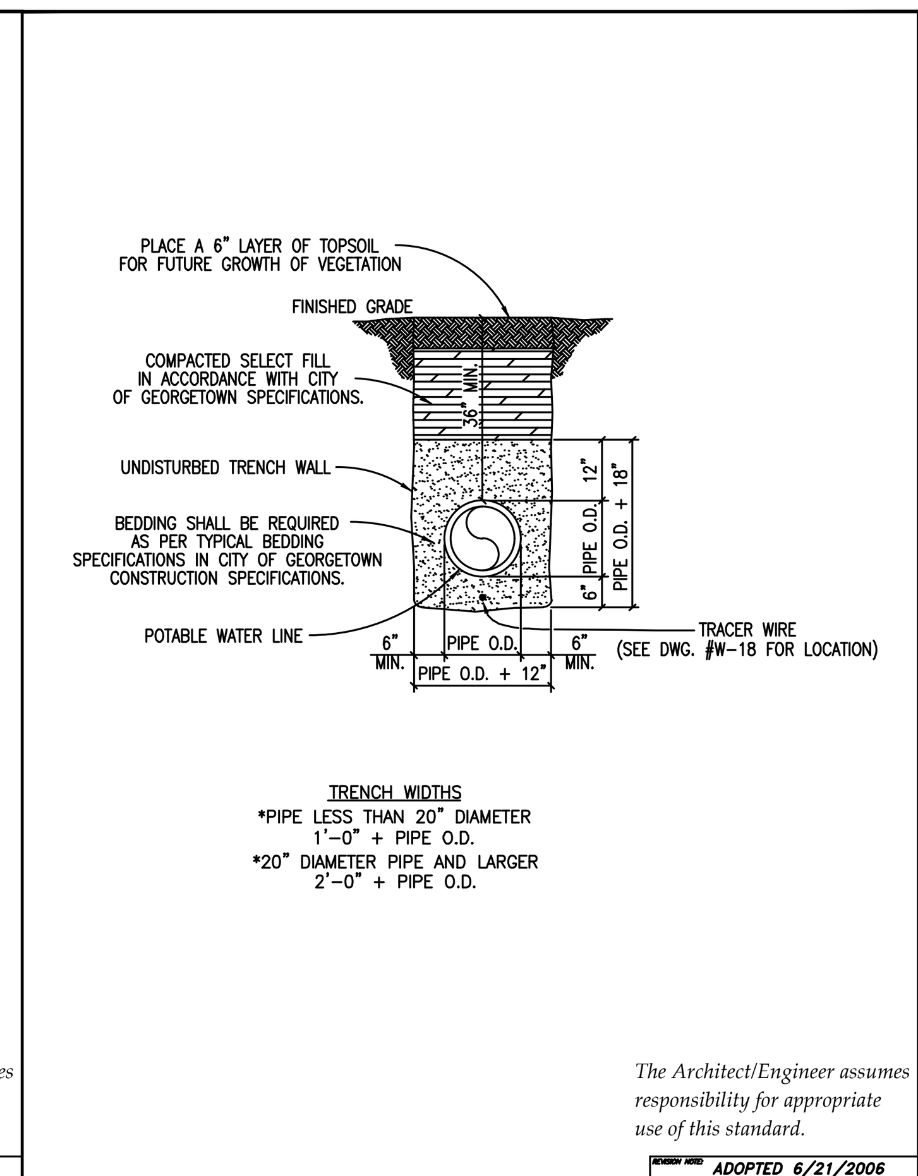
SUN CITY RETAIL BUILDINGS DEVELOPMENT
CIVIL SITE DEVELOPMENT PERMIT
CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER
33 OF 75

2025-25-SDP



CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — CONCRETE TRENCH CAP DETAIL — ADOPTED 6/21/2006 — W02A



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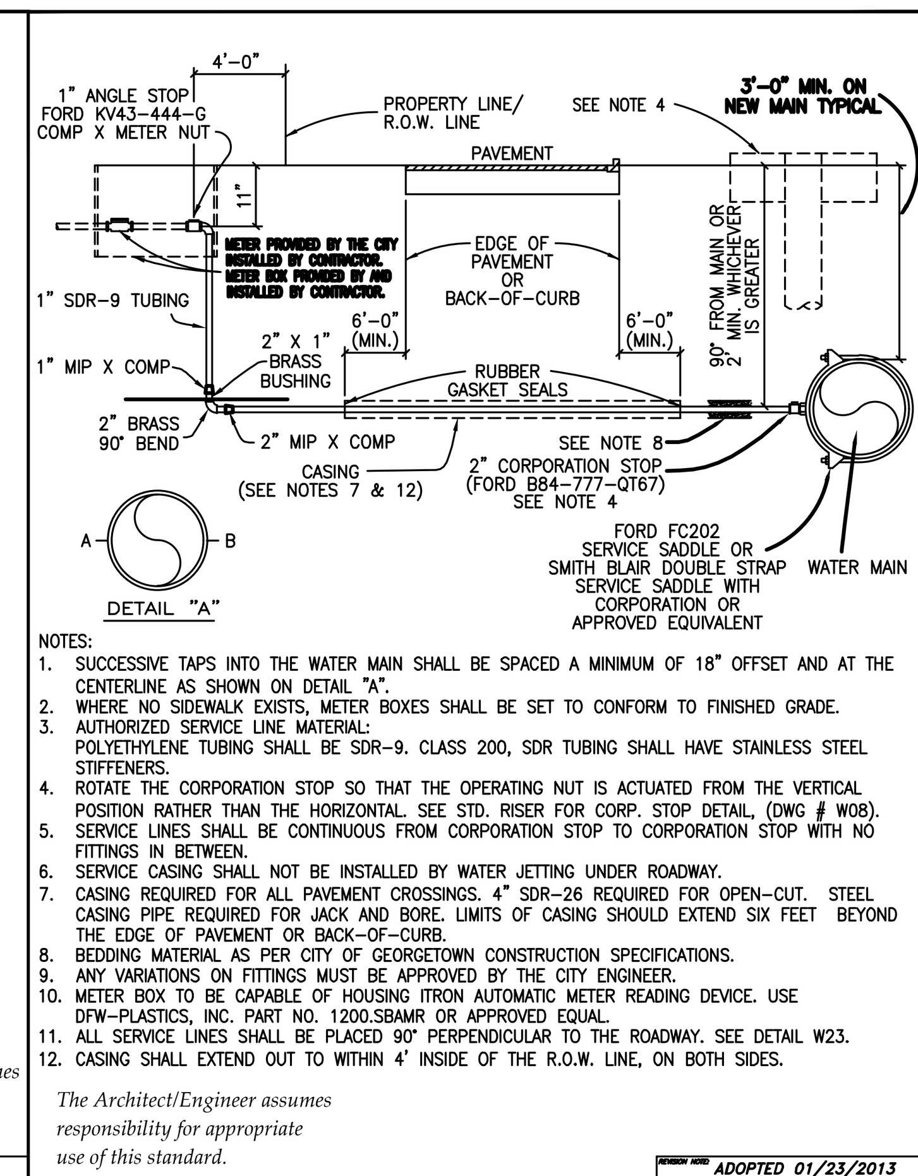
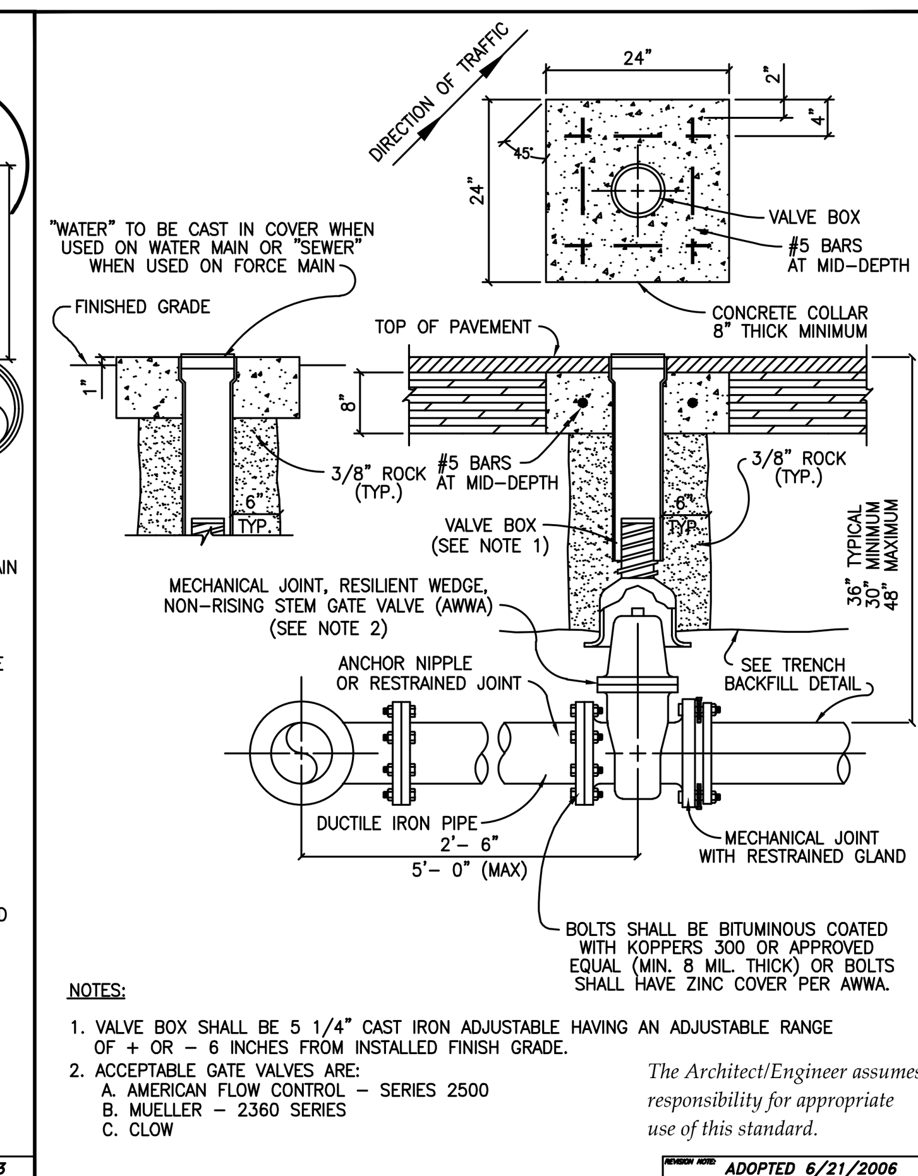
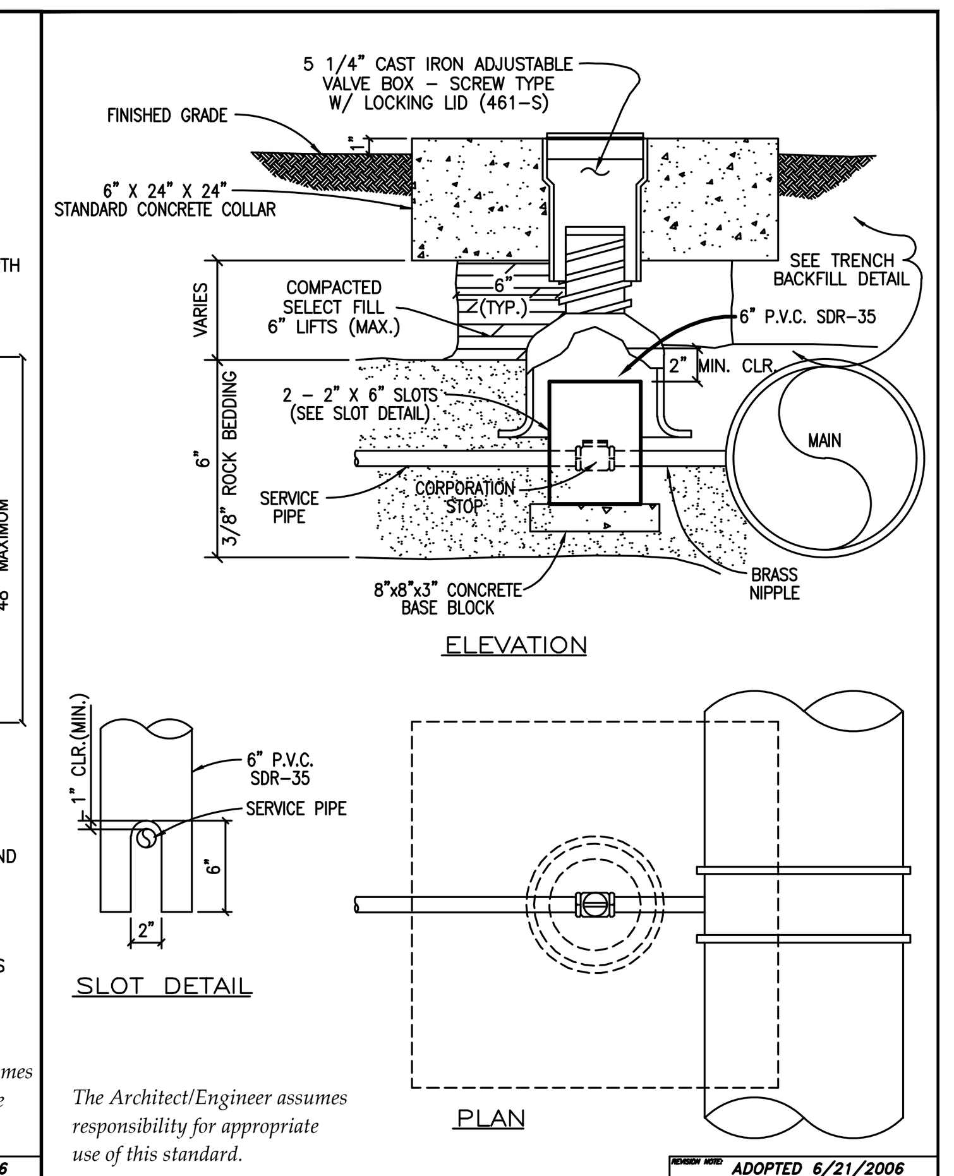


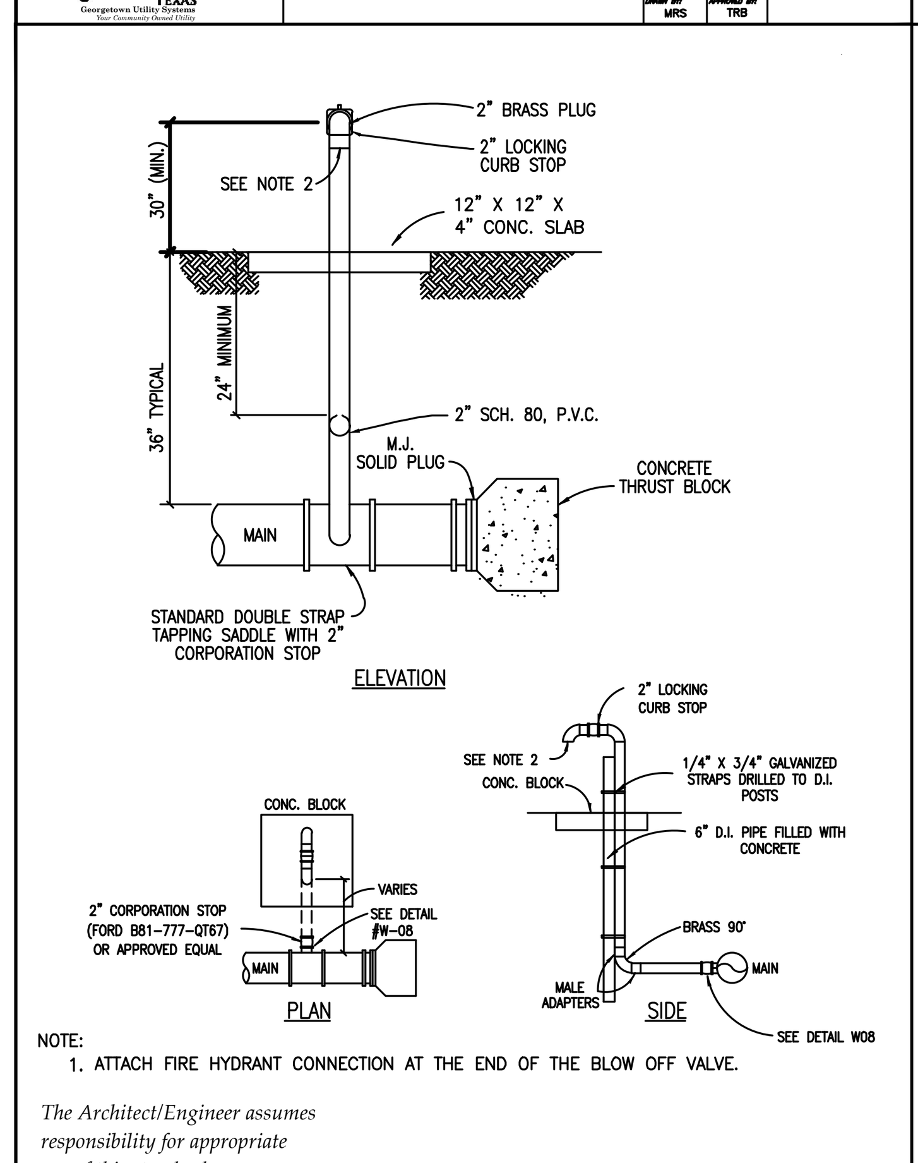
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — TYPICAL WATER SERVICE-ELEVATION — ADOPTED 01/23/2013 — W03



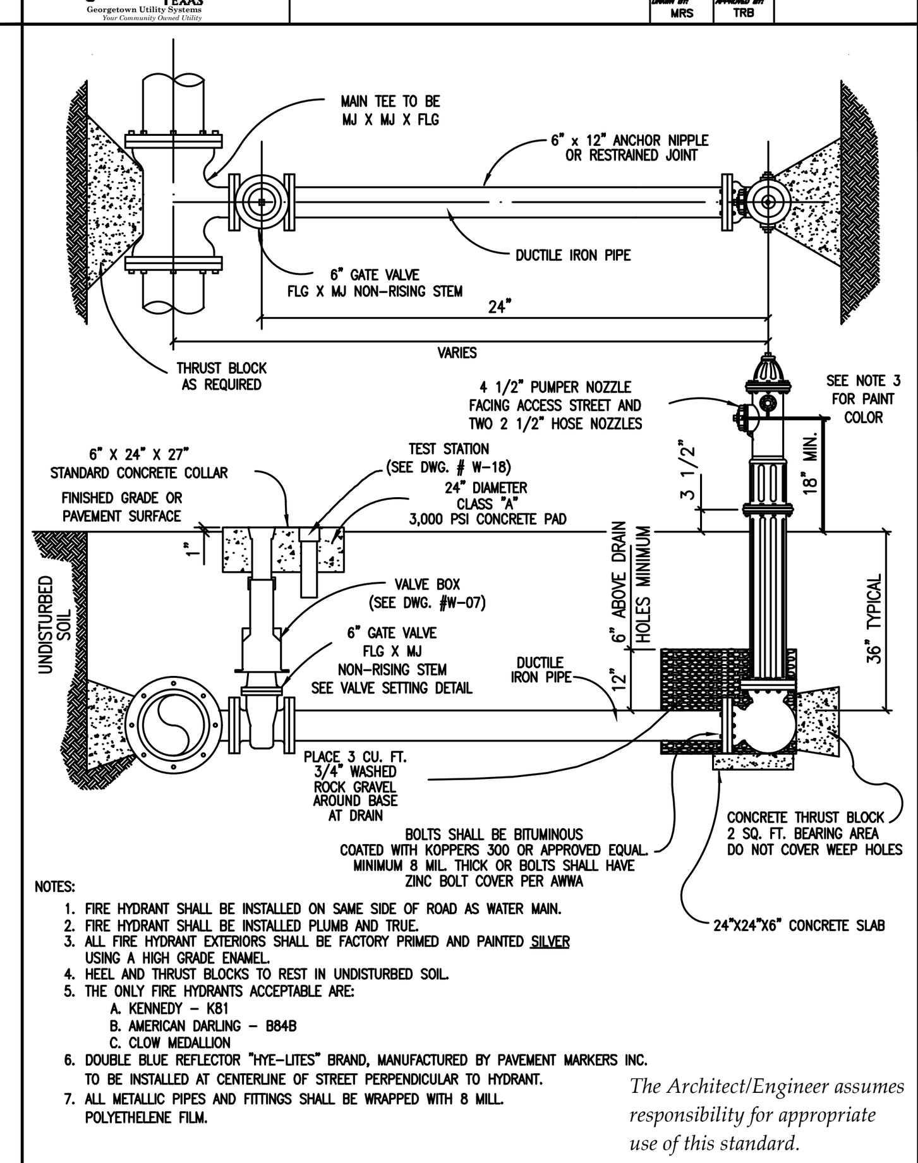
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — TYPICAL VALVE SETTING — ADOPTED 6/21/2006 — W07



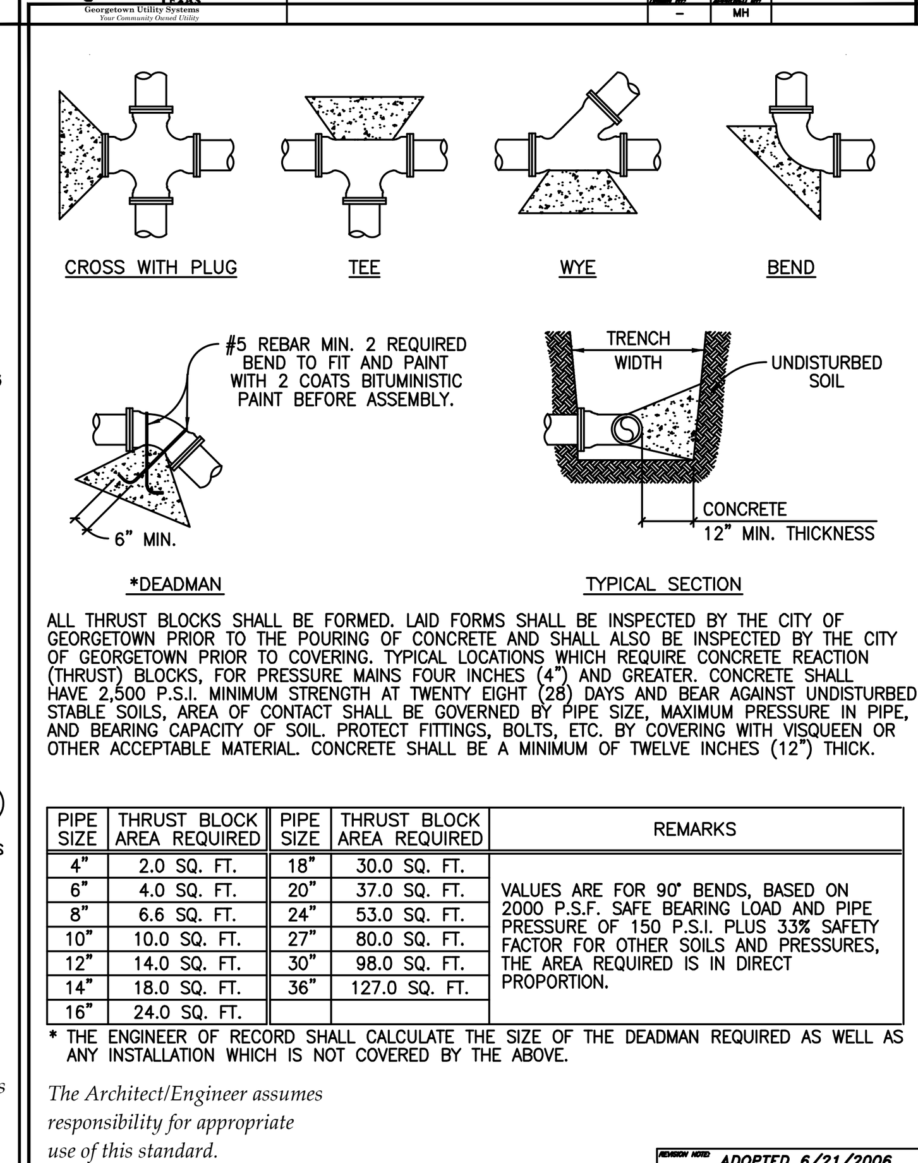
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — STANDARD RISER BOX FOR CORPORATION STOP — ADOPTED 6/21/2006 — W08



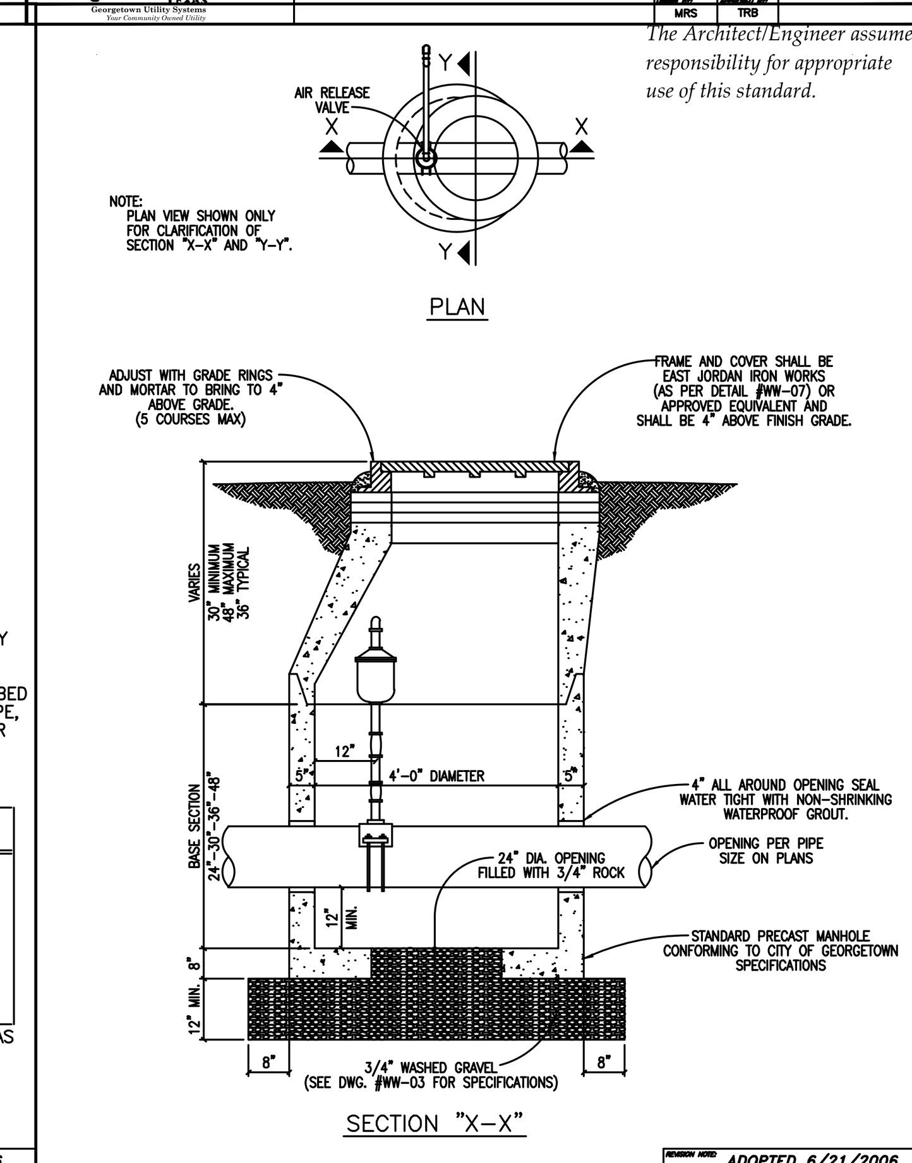
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — STANDARD BLOW-OFF — ADOPTED 6/21/2006 — W09



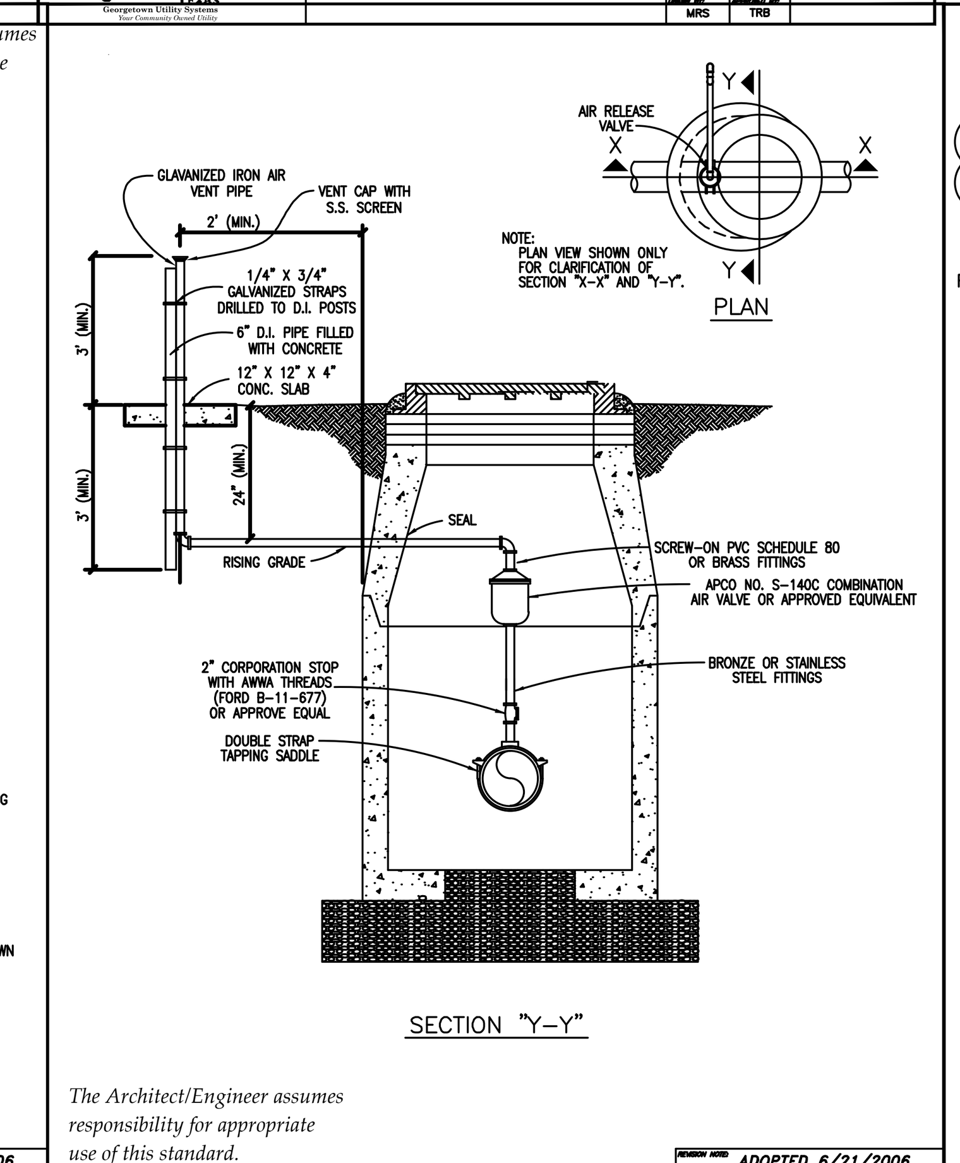
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — TYPICAL FIRE HYDRANT INSTALLATION — ADOPTED 6/21/2006 — W10



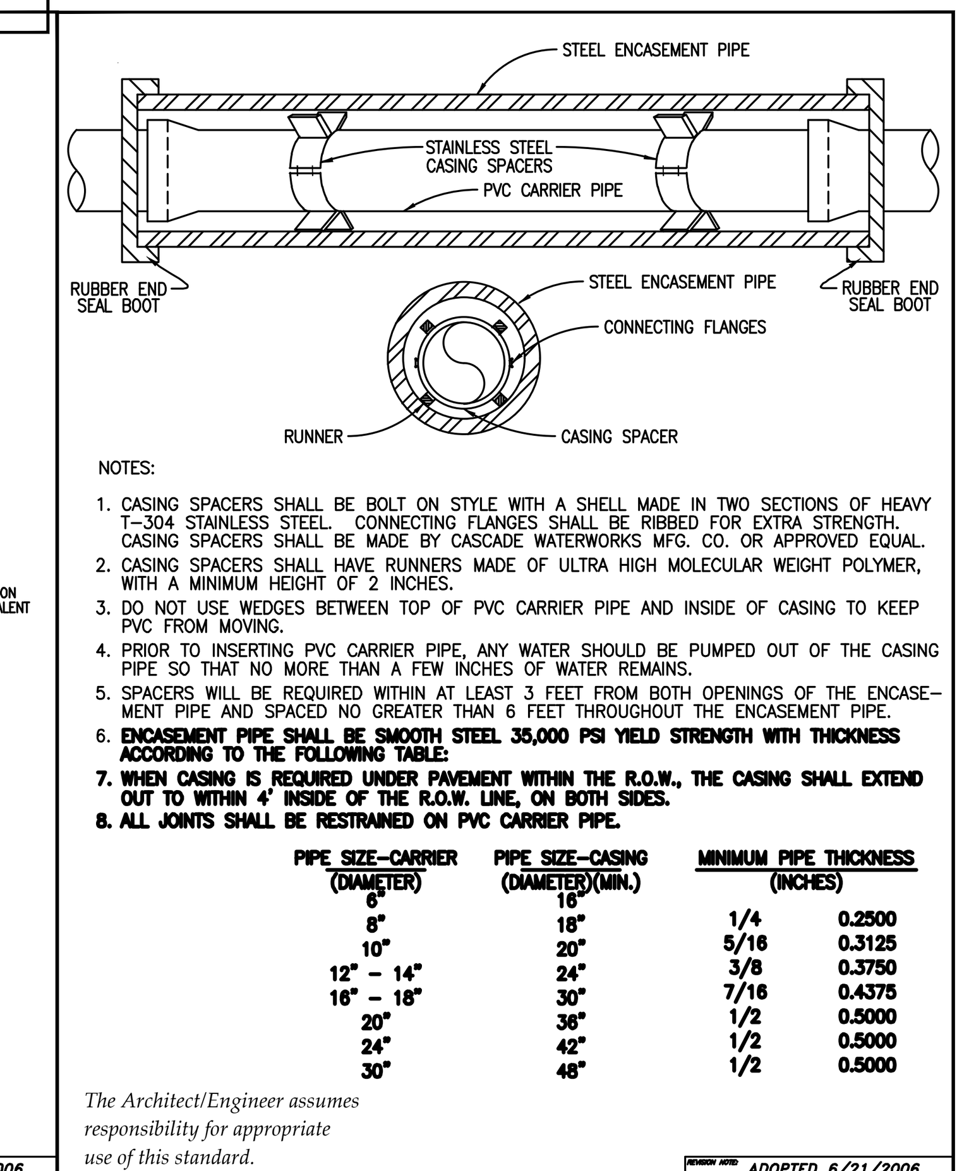
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — TYPICAL THRUST BLOCKS FOR WATER AND FORCE MAIN — ADOPTED 6/21/2006 — W11



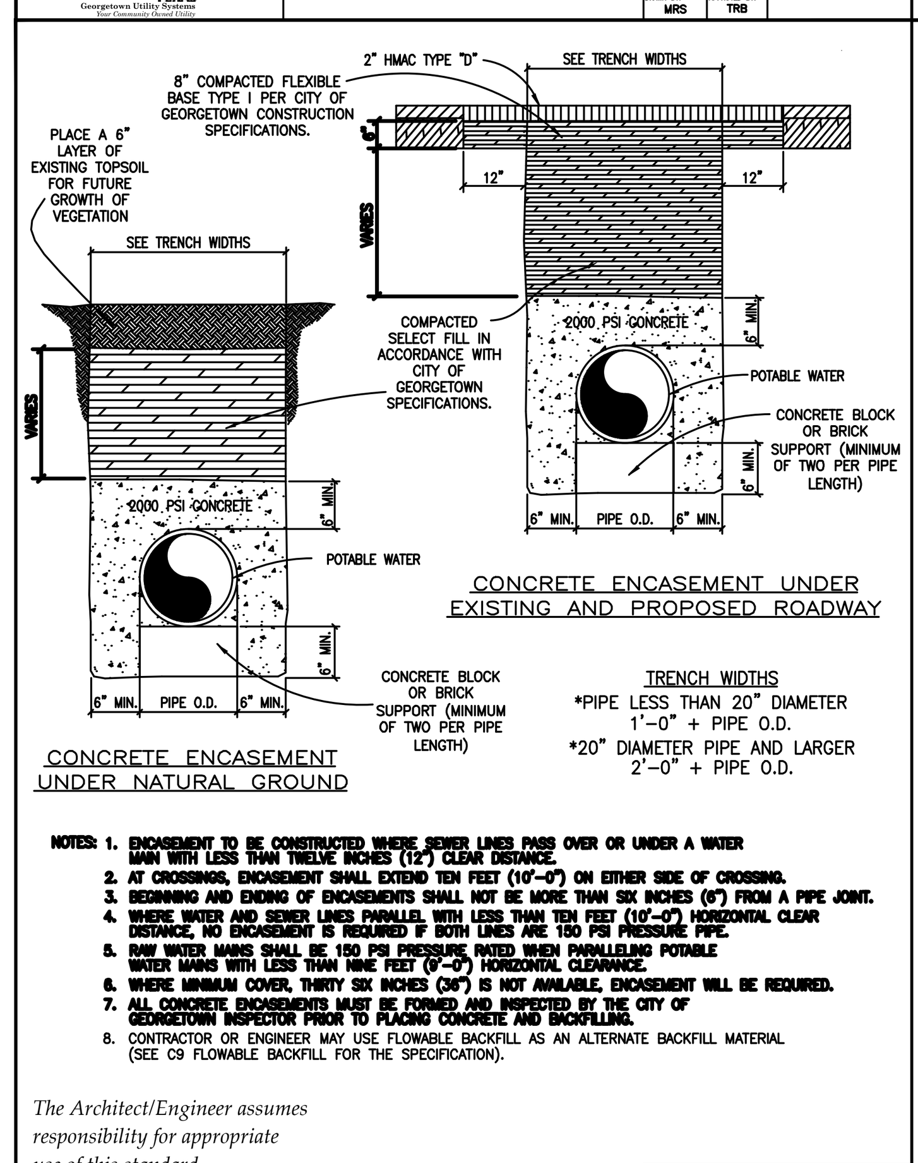
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — STANDARD AIR RELEASE VALVE FOR WATER MAIN — ADOPTED 6/21/2006 — W12



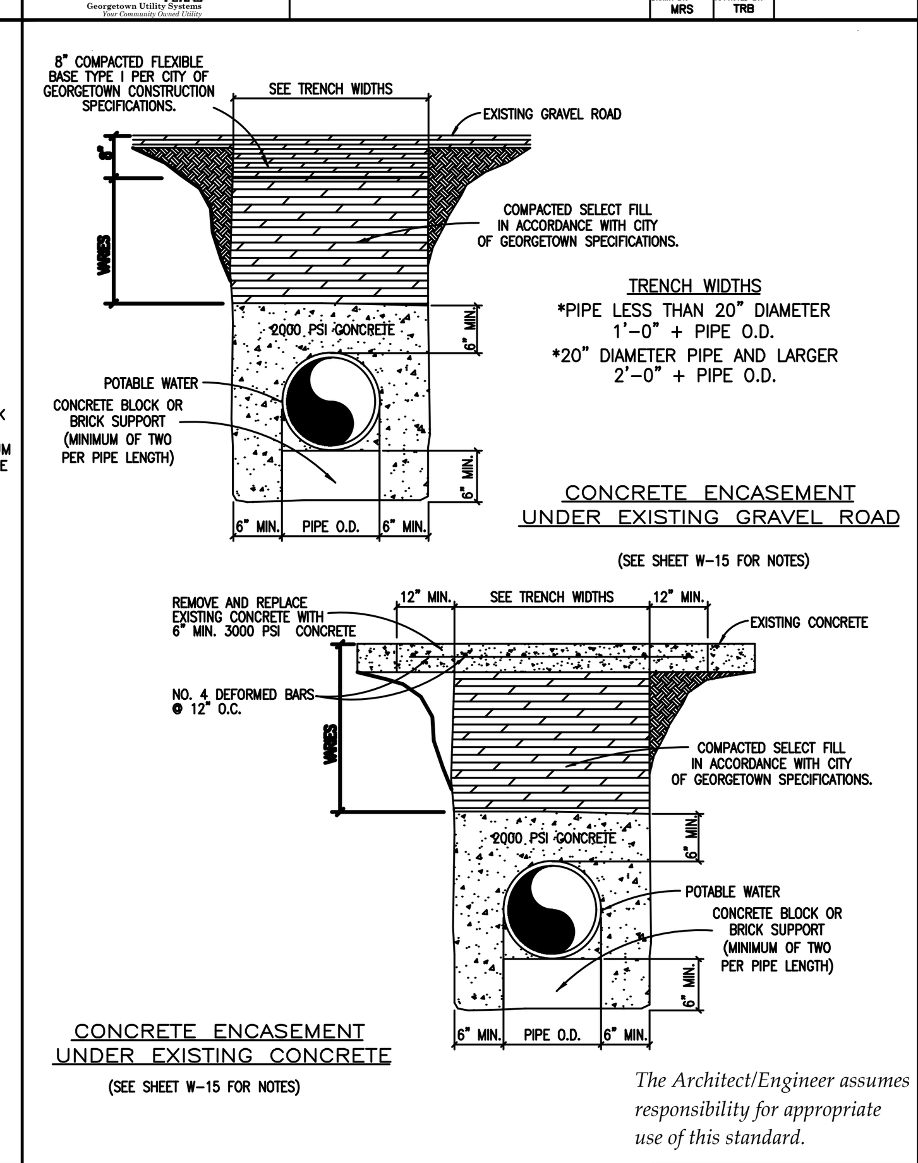
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — STANDARD AIR RELEASE VALVE FOR WATER MAIN — ADOPTED 6/21/2006 — W13



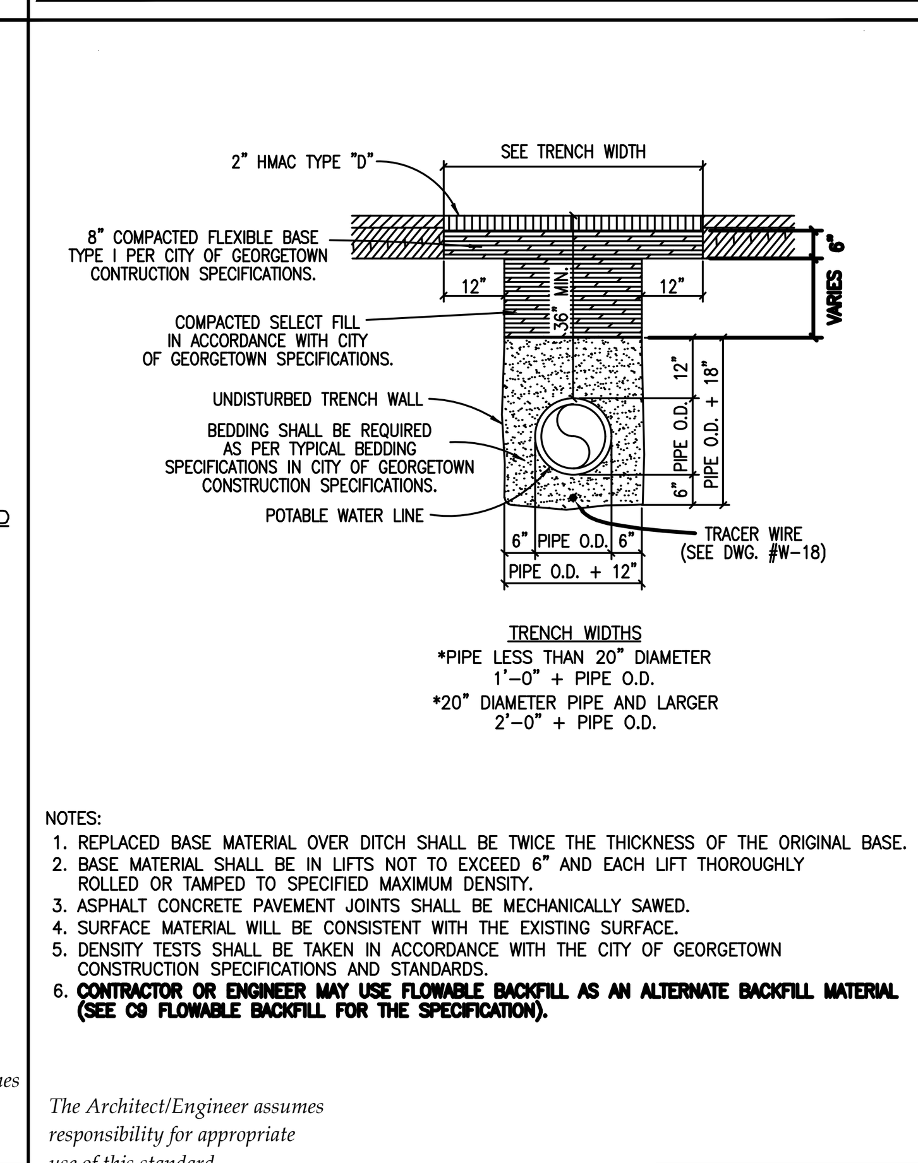
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — INSTALLATION OF P.V.C. PIPE THROUGH CASING — ADOPTED 6/21/2006 — W14



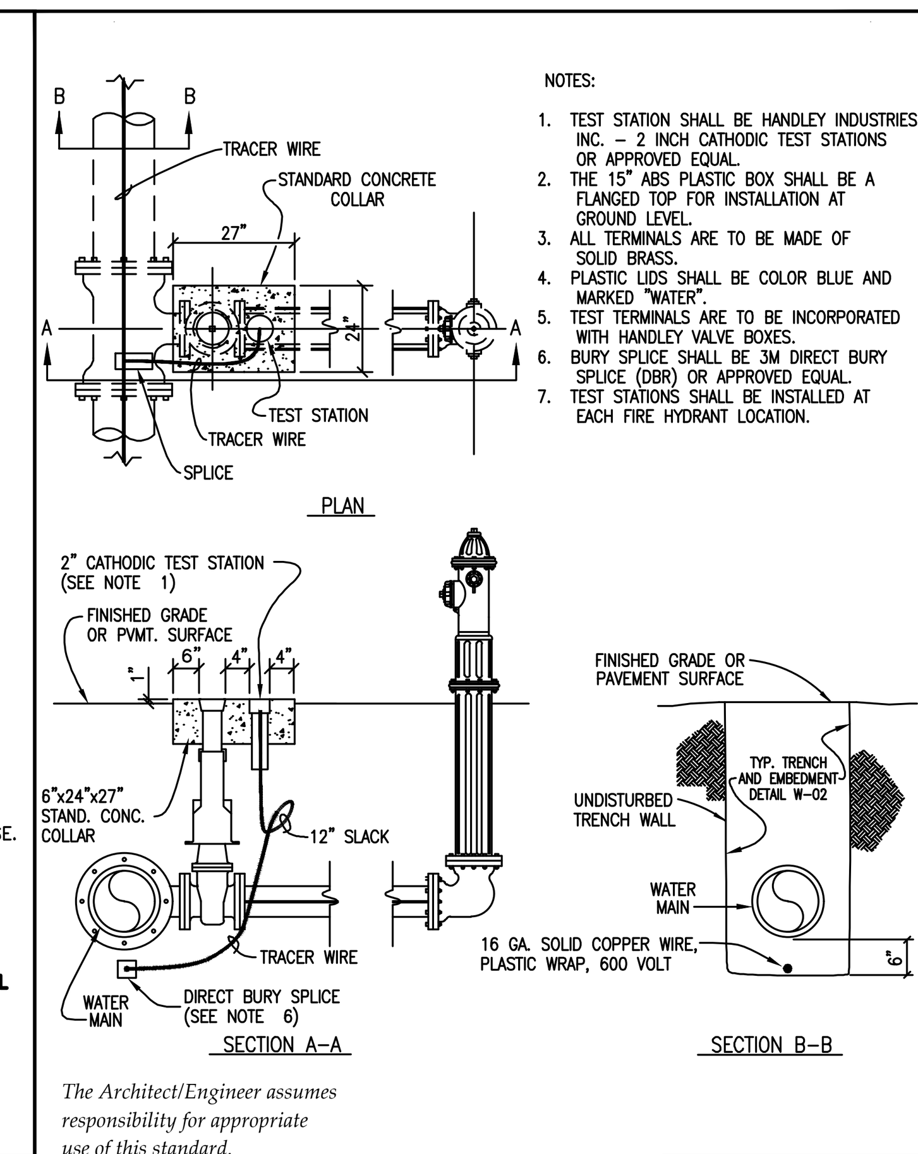
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — CONCRETE ENCASEMENT DETAIL — ADOPTED 6/21/2006 — W15



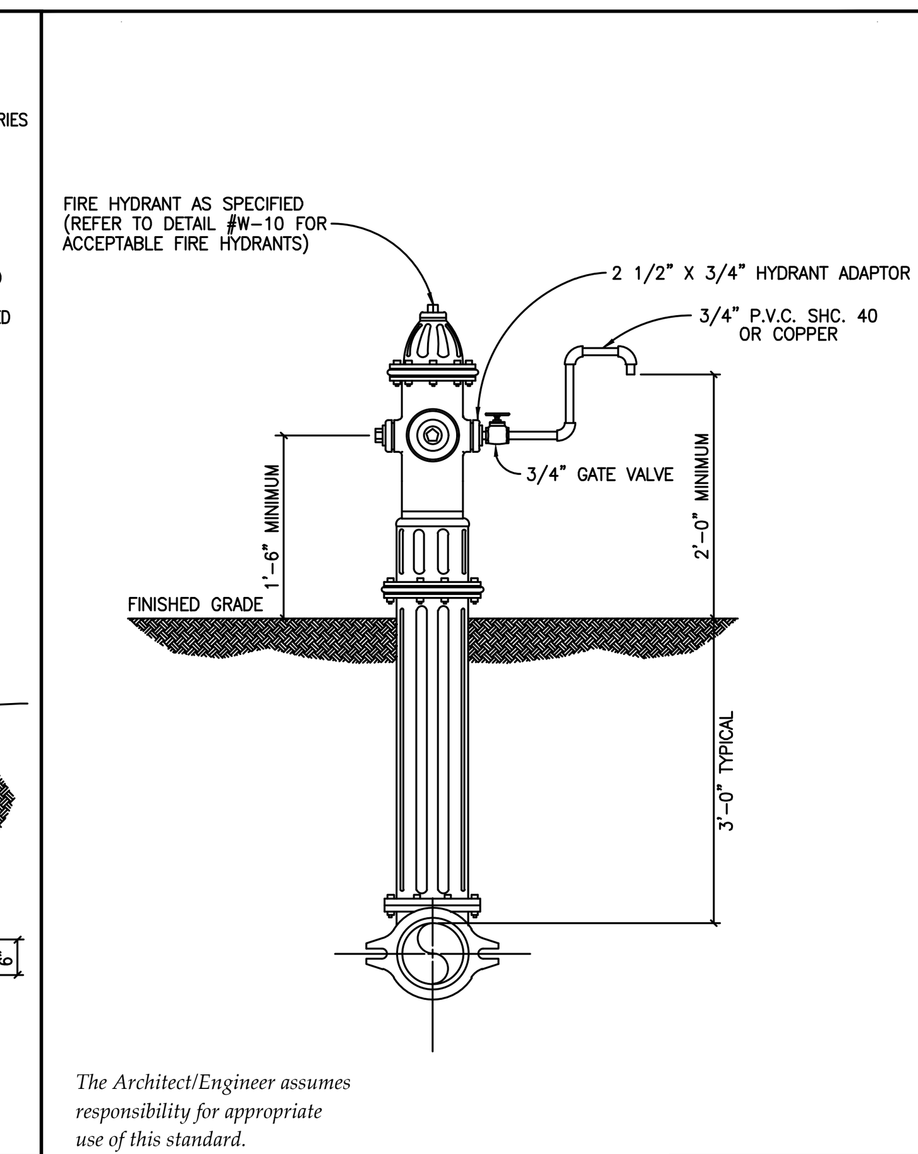
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — CONCRETE ENCASEMENT DETAIL — ADOPTED 6/21/2006 — W16



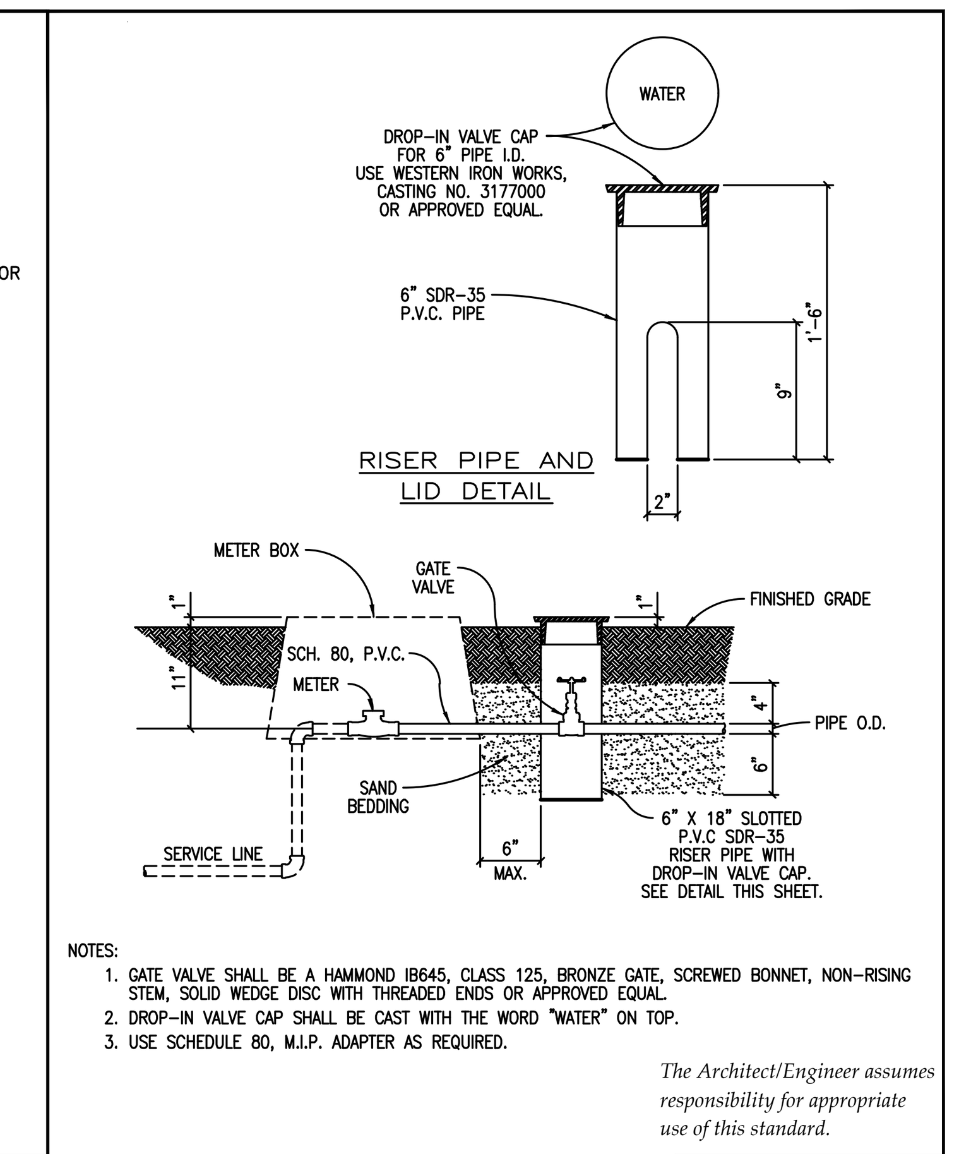
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — TRENCH AND EMBEDMENT AND PAVEMENT REPLACEMENT DETAIL UNDER EXISTING ROADWAY — ADOPTED 6/21/2006 — W17



CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — TRACER WIRE INSTALLATION AND TEST STATION LOCATION — ADOPTED 6/21/2006 — W18



CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — FIRE HYDRANT SAMPLING POINT — ADOPTED 6/21/2006 — W19



CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — CUSTOMER'S CUT-OFF — ADOPTED 6/21/2006 — W20

811 Know what's below. Call before you dig.

FOR REVIEW. THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF SEUM LEE 149390 ON 4/30/2025. IT IS NOT TO BE USED FOR BIDDING, PERMIT OR CONSTRUCTION.

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

No.	REVISIONS	DATE	BY

Kimley»Horn
5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100 AUSTIN, TX 78735
PHONE: 512-646-2237 FAX: 512-418-1791
WWW.KIMLEY-HORN.COM
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STATE OF TEXAS — SEUM LEE — 149390 — LICENSED PROFESSIONAL ENGINEER — 4/17/2025

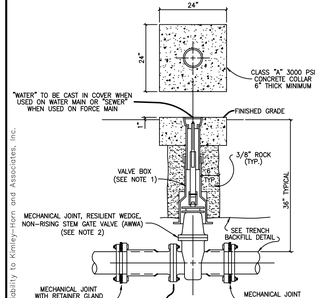
KHA PROJECT	DATE	SCALE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:
069418900	JULY 2023	AS SHOWN	BAB	CRS	BAB

UTILITY DETAILS (SHEET 1 OF 3)

SUN CITY RETAIL BUILDINGS DEVELOPMENT
CIVIL SITE DEVELOPMENT PERMIT
CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER
39 OF 75

2025-25-SDP

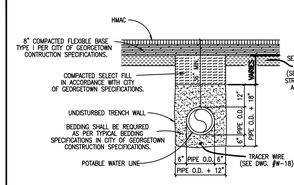


NOTES:

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.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — **INLINE VALVE INSTALLATION** — W21 — ADOPTED 6/21/2006



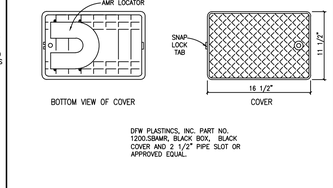
TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'–0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'–0" + PIPE O.D.

NOTES:

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

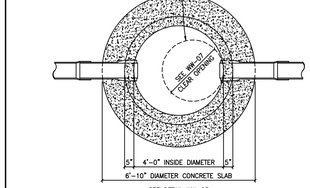
The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — **TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY** — W22 — ADOPTED 6/21/2006



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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — **METER BOX (NON–TRAFFIC AREAS)** — W23 — ADOPTED 6/21/2006



SEE DETAIL WW–03

MANHOLE PLAN

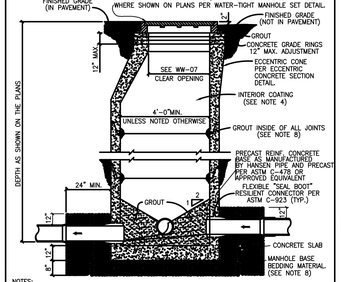
CITY OF GEORGETOWN NOTES:

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

A. ALL MANHOLES SHALL BE 48" I.D., R.C.P., CLASS III, WITH RUBBER PROFILE GASKET – SINGLE OFF–SET JOINT CONFORMING TO ASTM C478, C433 AND C76.
B. ALL MANHOLES SHALL HAVE FRAME AND COVER, AS MANUFACTURED BY EAST JORDAN IRON WORKS (AS PER DETAIL # WW–07) OR APPROVED EQUIVALENT.
C. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON FRAME AND COVER.
D. ALL MANHOLES SHALL HAVE AN ECCENTRIC CONE.
E. MANHOLES MAY HAVE A FLAT LID, IF APPROVED BY CITY OF GEORGETOWN, BEING 12" THICK WITH A MINIMUM 30" OPENING, AS MANUFACTURED BY HANSEN PIPE AND PRECAST OR APPROVED EQUAL M.F.G. CONFORMING TO ASTM C478, 5000 P.S.I. CONCRETE, TRAFFIC BEARING AND WITH PROFILE GASKET – SINGLE OFF–SET JOINT CONFORMING TO ASTM C443.
F. INVERTS AND FLEXIBLE SEAL BOOTS, PER ASTM C–923, SHALL BE CAST INTO BASE SECTION.
G. MINIMUM DROP BETWEEN INVERTS SHALL BE ONE–TENTH OF A FOOT (0.1').
H. GRADE RINGS WITH AN I.D. TO MATCH FRAMES CLEAR OPENING WITH A MAXIMUM ADJUSTMENT OF 12" ARE ALLOWED.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — **STANDARD MANHOLE – PLAN** — WW02 — ADOPTED 6/21/2006

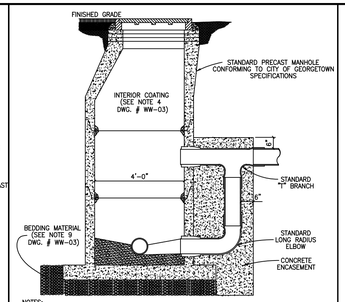


NOTES:

1. MANHOLES SHALL BE PRECAST ASTM C–478 BELL AND SPIGOT WITH PROFILE GASKET – SINGLE OFF–SET JOINTS.
2. SEE PLANS AND MANHOLE SCHEDULE, FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZE AND TYPES.
3. SEE SPECIFICATIONS ON MATERIALS AND CONSTRUCTION.
4. AN 80 MIL. COAT OF RAVEN LINING SYSTEMS, RAVEN 405 ULTRA HIGH BUILD EPOXY COATING, OR SPRAY WALL EPOXY COATING, OR APPROVED EQUAL, TO BE APPLIED TO THE ENTIRE INTERIOR OF EACH WASTEWATER MANHOLE AND UNDERSIDE OF FLAT TOPS.
5. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETED WHEN MANHOLES ARE LOCATED OUT FROM PAVEMENT.
6. MANHOLES TO BE VENTED ARE IDENTIFIED ON MANHOLE SCHEDULE, REFERENCE MANHOLE VENT DETAIL.
7. MANHOLES ARE TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR HS–20 TRAFFIC LOADS.
8. GROUT SHALL MEET THE REQUIREMENTS AS STATED BY THE COATING MANUFACTURER.
9. MANHOLE BASE BEDDING MATERIAL SPECS. FOR 3/4" WASHED GRAVEL:
   SIEVE SIZE 2", PERCENT (%) RETAINED: 0
   SIEVE SIZE 1 1/2", % RETAINED: 0–10
   SIEVE SIZE 3/4", % RETAINED: 45–75
   SIEVE SIZE 3/8", % RETAINED: 85–100
   SIEVE SIZE 3/8", % RETAINED: 95–100

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — **STANDARD MANHOLE – SECTION** — WW03 — ADOPTED 6/21/2006

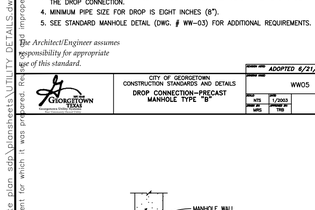


NOTES:

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

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — **DROP CONNECTION–PRECAST MANHOLE TYPE "A"** — WW04 — ADOPTED 6/21/2006

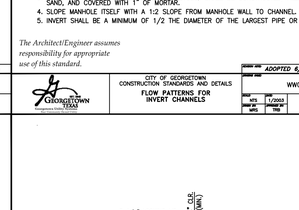


NOTES:

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

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — **DROP CONNECTION–PRECAST MANHOLE TYPE "B"** — WW05 — ADOPTED 6/21/2006



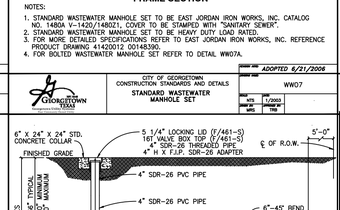
SECTION "A–A"

NOTES:

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

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — **FLOW PATTERNS FOR INVERT CHANNELS** — WW06 — ADOPTED 6/21/2006

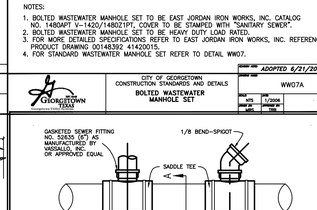


NOTES:

1. STANDARD WASTEWATER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480A V–1420/1480Z1, COVER TO BE STAMPED WITH "SANITARY SEWER".
2. STANDARD WASTEWATER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING 41420012 001483390.
4. FOR BOLTED WASTEWATER MANHOLE SET REFER TO DETAIL WW07A.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — **STANDARD WASTEWATER MANHOLE SET** — WW07 — ADOPTED 6/21/2006

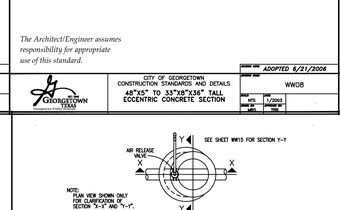


NOTES:

1. BOLTED WASTEWATER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480APT V–1420/1480Z1PT, COVER TO BE STAMPED WITH "SANITARY SEWER".
2. BOLTED WASTEWATER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING 001483392 41420015.
4. FOR STANDARD WASTEWATER MANHOLE SET REFER TO DETAIL WW07.

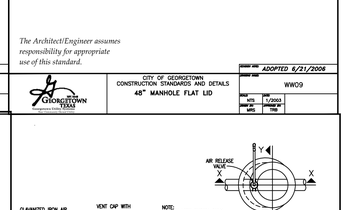
The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — **BOLTED WASTEWATER MANHOLE SET** — WW07A — ADOPTED 6/21/2006



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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — **48"x25" TO 33"x38"x36" TALL ECCENTRIC CONCRETE SECTION** — WW08 — ADOPTED 6/21/2006

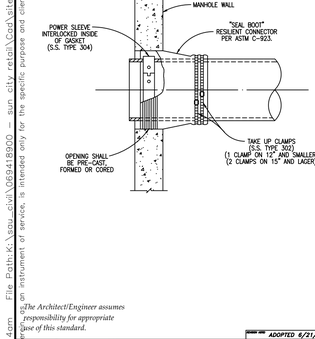


NOTES:

1. AVAILABLE WITH CAST IRON RING AND COVER CAST IN PLACE.
2. **PERMITTED ONLY WITH WRITTEN APPROVAL FROM GEORGETOWN UTILITY SYSTEMS, CITY OF GEORGETOWN**

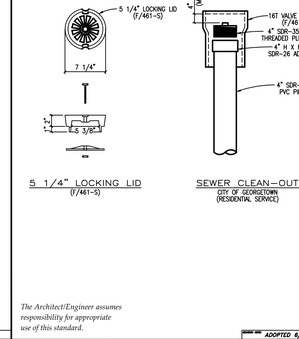
The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — **48" MANHOLE FLAT LID** — WW09 — ADOPTED 6/21/2006



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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — **FLEXIBLE "SEAL BOOT" CONNECTOR** — WW10 — ADOPTED 6/21/2006

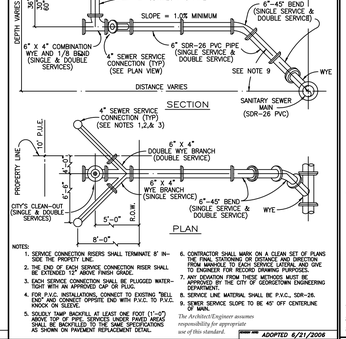


5 1/4" LOCKING LID (F/461–S)

SEWER CLEAN–OUT
CITY OF GEORGETOWN (RESIDENTIAL SERVICE)

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — **SEWER CLEAN–OUT DETAIL** — WW12 — ADOPTED 6/21/2006

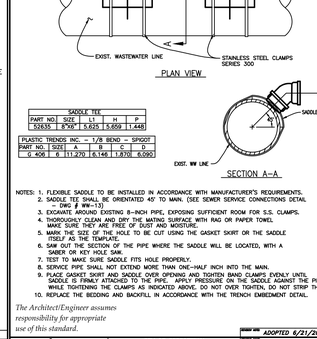


NOTES:

1. SERVICE CONNECTION RISERS SHALL TERMINATE 5' IN–SIDE THE PROPETY LINE.
2. THE END OF EACH SERVICE CONNECTION RISER SHALL BE EXTENDED 12" ABOVE FINISH GRADE.
3. EACH SERVICE CONNECTION SHALL BE PLUGGED WATER–TIGHT WITH A PINCHED CAP OR PLUG.
4. FOR P.V.C. INSTALLATIONS, CONNECT TO EXISTING "BELL END", AND CONNECT OPPOSITE END WITH P.V.C. TO P.V.C. KNOCK ON SLEEVE.
5. SOLIDLY TAMP BACKFILL AT LEAST ONE FOOT (1'–0") ABOVE TOP OF PIPE. SERVICES UNDER PAVED AREAS SHALL BE BACKFILLED AS PER SAME SPECIFICATIONS AS SHOWN ON PAVEMENT REPLACEMENT DETAIL.
6. CONTRACTOR SHALL MARK ON A CLEAN SET OF PLANS THE FINAL SWEEPING OF DISTANCE AND DIRECTION FROM MANHOLE TO EACH SERVICE LATERAL AND GIVE TO ENGINEER FOR RECORD DRAWING PURPOSES.
7. ANY DEVIATION FROM THESE METHODS MUST BE APPROVED BY THE CITY OF GEORGETOWN ENGINEERING DEPARTMENT.
8. SERVICE LINE MATERIAL SHALL BE P.V.C., SDR–26.
9. SEWER SERVICE SLOPE TO BE 45° OFF CENTERLINE OF MAIN.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — **SEWER SERVICE CONNECTIONS** — WW13 — ADOPTED 6/21/2006



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

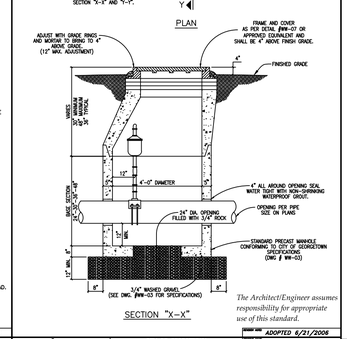
PLASTIC TRENDS INC. – 1/8 BEND – SPIGOT						
PART NO.	SIZE	A	B	C	D	
G 406	6	11.270	6.146	1.870	6.090	

NOTES:

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

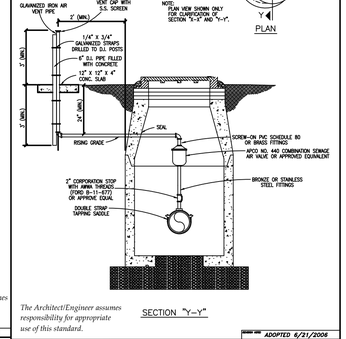
The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — **GASKETED SEWER FITTING FOR SEWER SERVICE CONNECTIONS TO EXISTING MAINS** — WW13A — ADOPTED 6/21/2006



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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — **STANDARD AIR RELEASE VALVE FOR FORCE MAIN** — WW14 — ADOPTED 6/21/2006



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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — **STANDARD AIR RELEASE VALVE FOR FORCE MAIN** — WW15 — ADOPTED 6/21/2006

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TBPE Firm No. 928

No.	REVISIONS	DATE	BY

Recorded

STATE OF TEXAS — SEUM LEE — 149390 — LICENSED PROFESSIONAL ENGINEER

4/17/2025

KHA PROJECT 069418900
DATE JULY 2023
SCALE: AS SHOWN
DESIGNED BY: BAB
DRAWN BY: CRS
CHECKED BY: BAB

UTILITY DETAILS (SHEET 2 OF 3)

SUN CITY RETAIL BUILDINGS DEVELOPMENT

CIVIL SITE DEVELOPMENT PERMIT
CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER
40 OF 75

811 Know what's below. Call before you dig.

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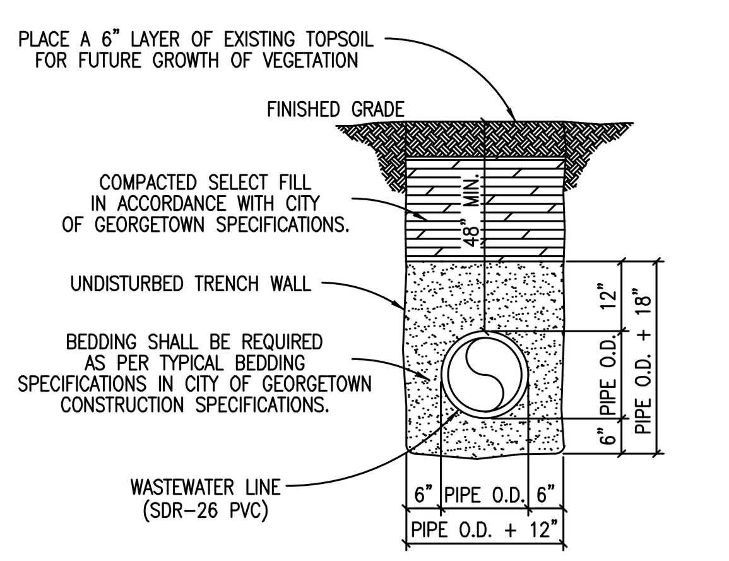
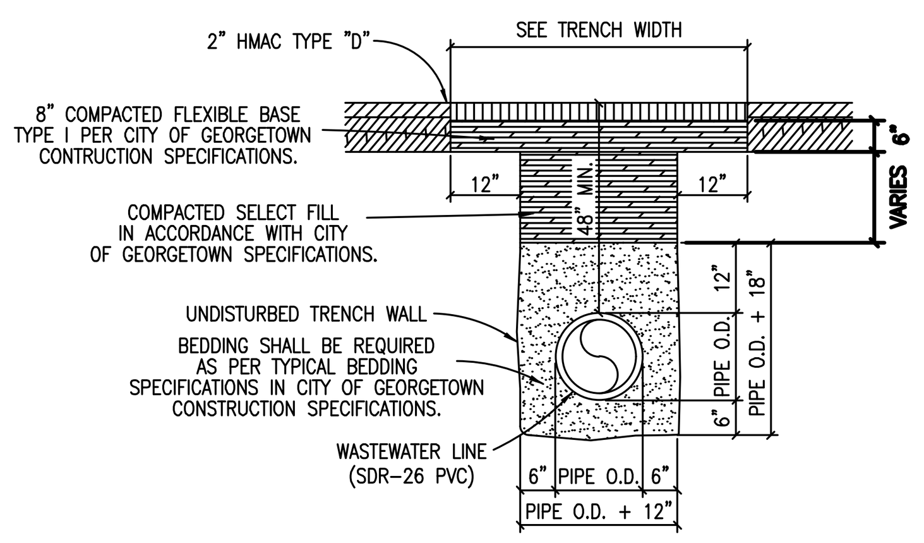
2025-25-SDP



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.

GEORGETOWN TEXAS | CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS | TRENCH AND EMBEDMENT DETAIL UNDER NON-PAVED AREAS | ADOPTED 6/21/2006 | WW16 | NTS | 1/2003 | MRS | TRB

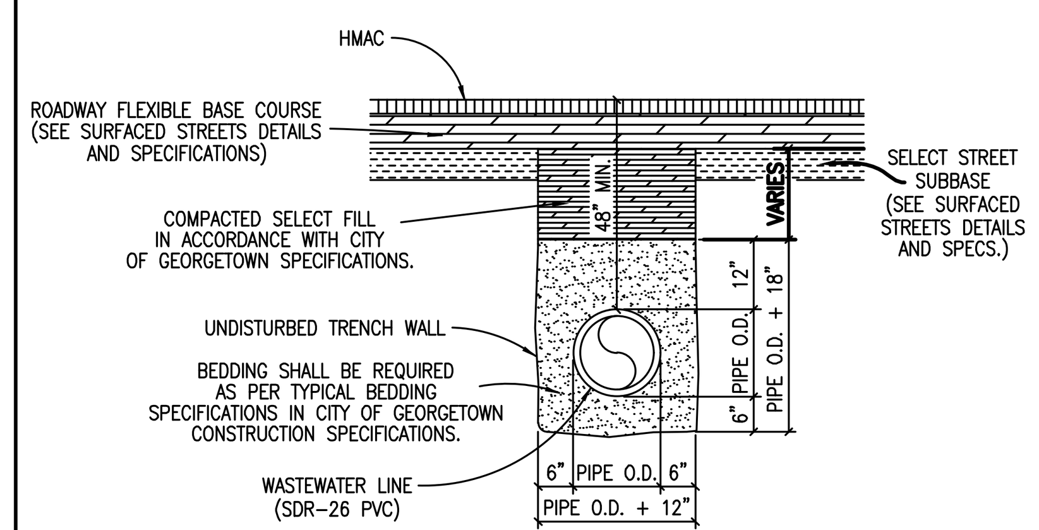


TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER 1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER 2'-0" + PIPE O.D.

NOTES:
1. REPLACED BASE MATERIAL OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE.
2. BASE MATERIAL SHALL BE PLACED IN MULTIPLE LIFTS NOT TO EXCEED 6". EACH LAYER SHALL BE 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.

GEORGETOWN TEXAS | CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS | TRENCH AND EMBEDMENT AND PAVEMENT REPLACEMENT DETAIL UNDER EXISTING ROADWAY | ADOPTED 6/21/2006 | WW17 | NTS | 1/2003 | MRS | TRB

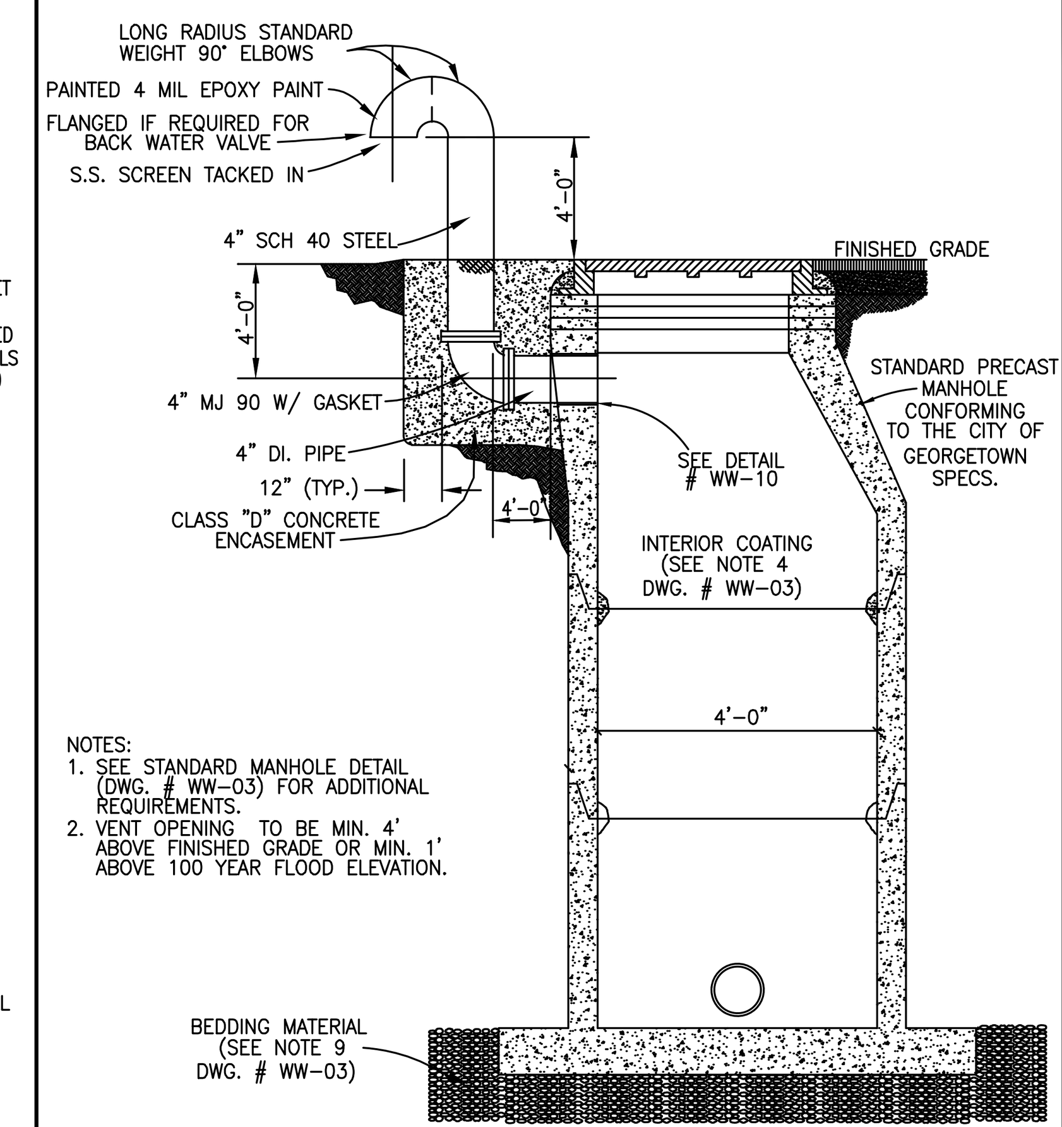


TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER 1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER 2'-0" + PIPE O.D.

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

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

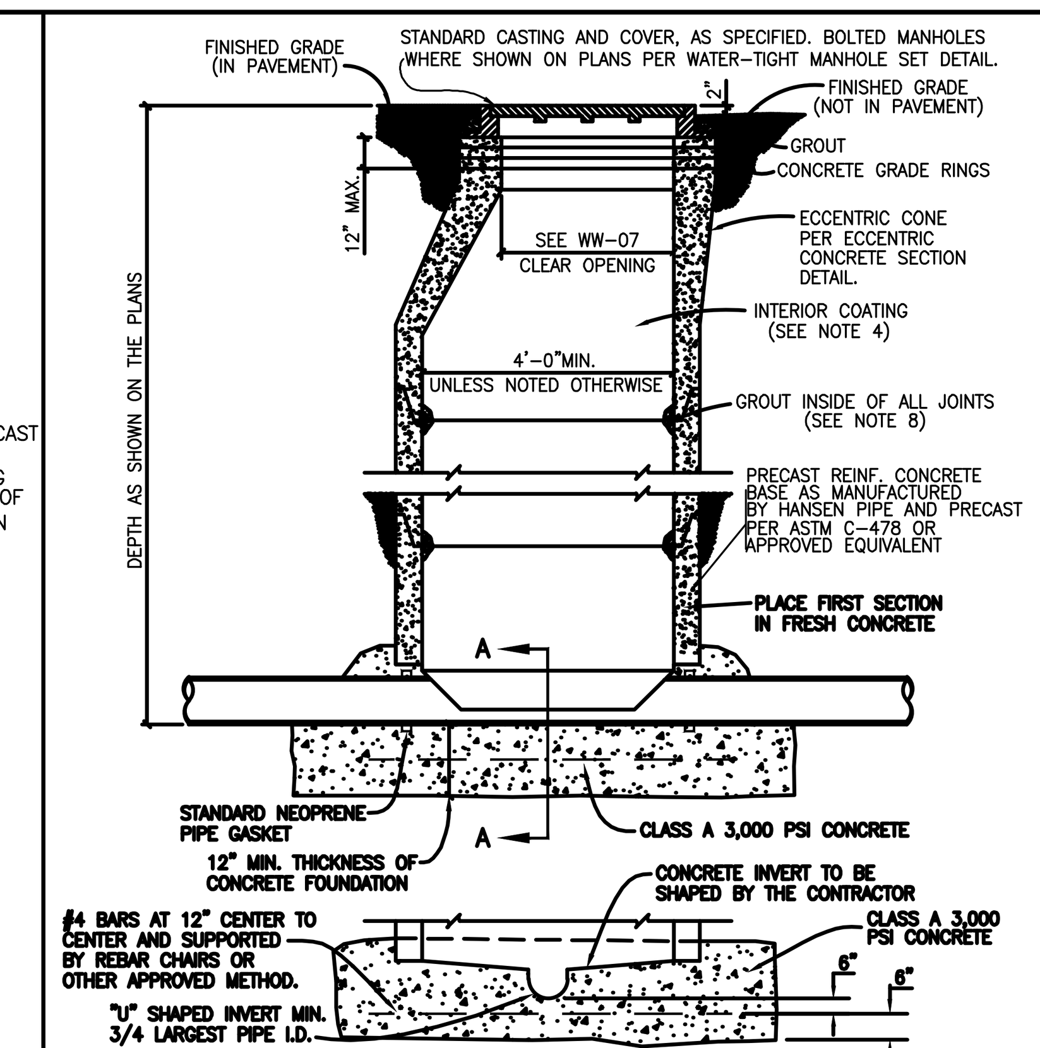
GEORGETOWN TEXAS | CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS | TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY | ADOPTED 6/21/2006 | WW18 | NTS | 1/2003 | MRS | TRB



NOTES:
1. SEE STANDARD MANHOLE DETAIL (DWG. # WW-03) FOR ADDITIONAL REQUIREMENTS.
2. VENT OPENING TO BE MIN. 4' ABOVE FINISHED GRADE OR MIN. 1' ABOVE 100 YEAR FLOOD ELEVATION.

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

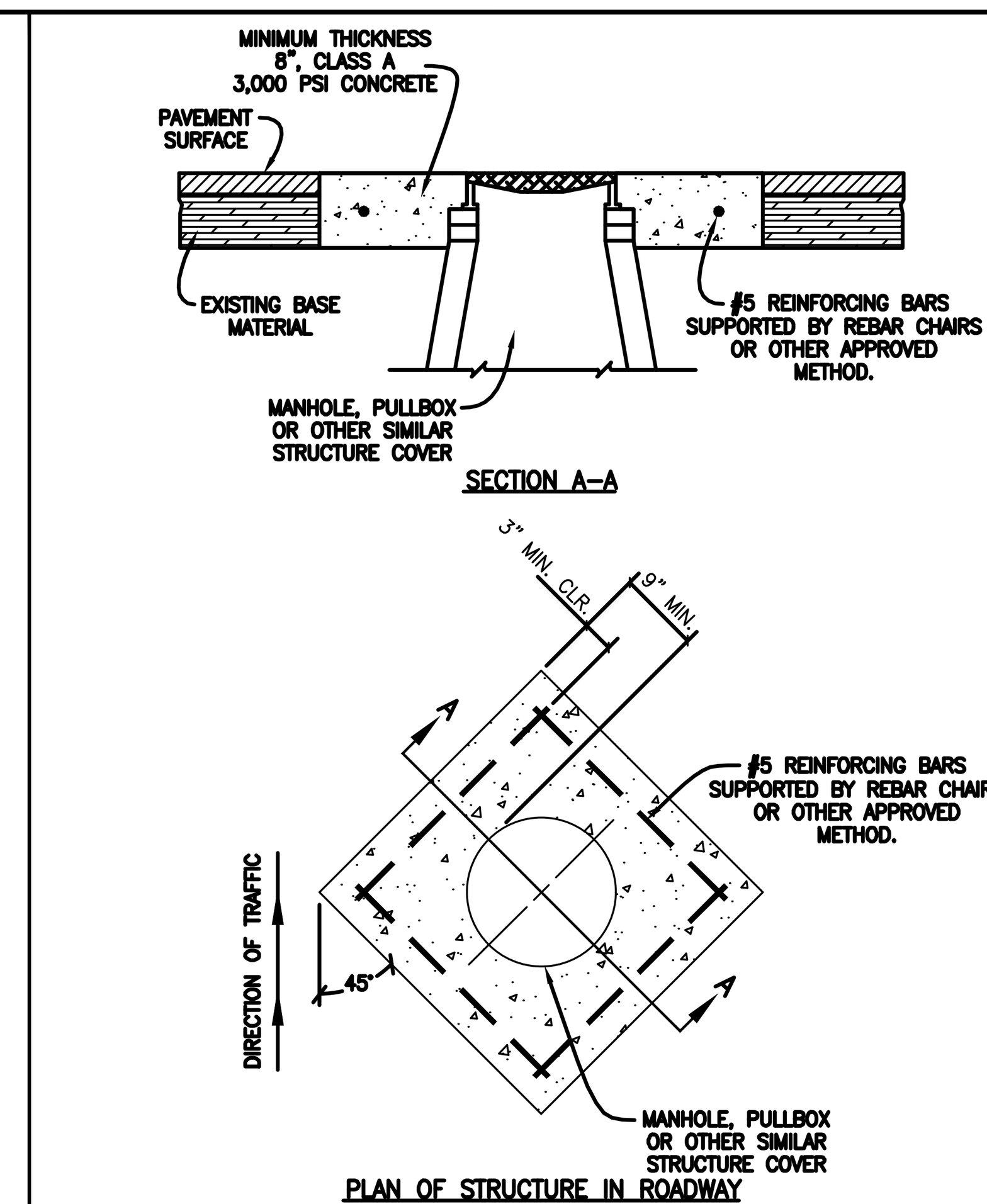
GEORGETOWN TEXAS | CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS | TYPICAL MANHOLE WITH VENT | ADOPTED 6/21/2006 | WW19 | NTS | 11/2003 | MRS | TRB



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

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

GEORGETOWN TEXAS | CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS | PRECAST MANHOLE ON CAST-IN-PLACE FOUNDATION | ADOPTED 6/21/2006 | WW20 | NTS | 1/2006 | MRS | TRB



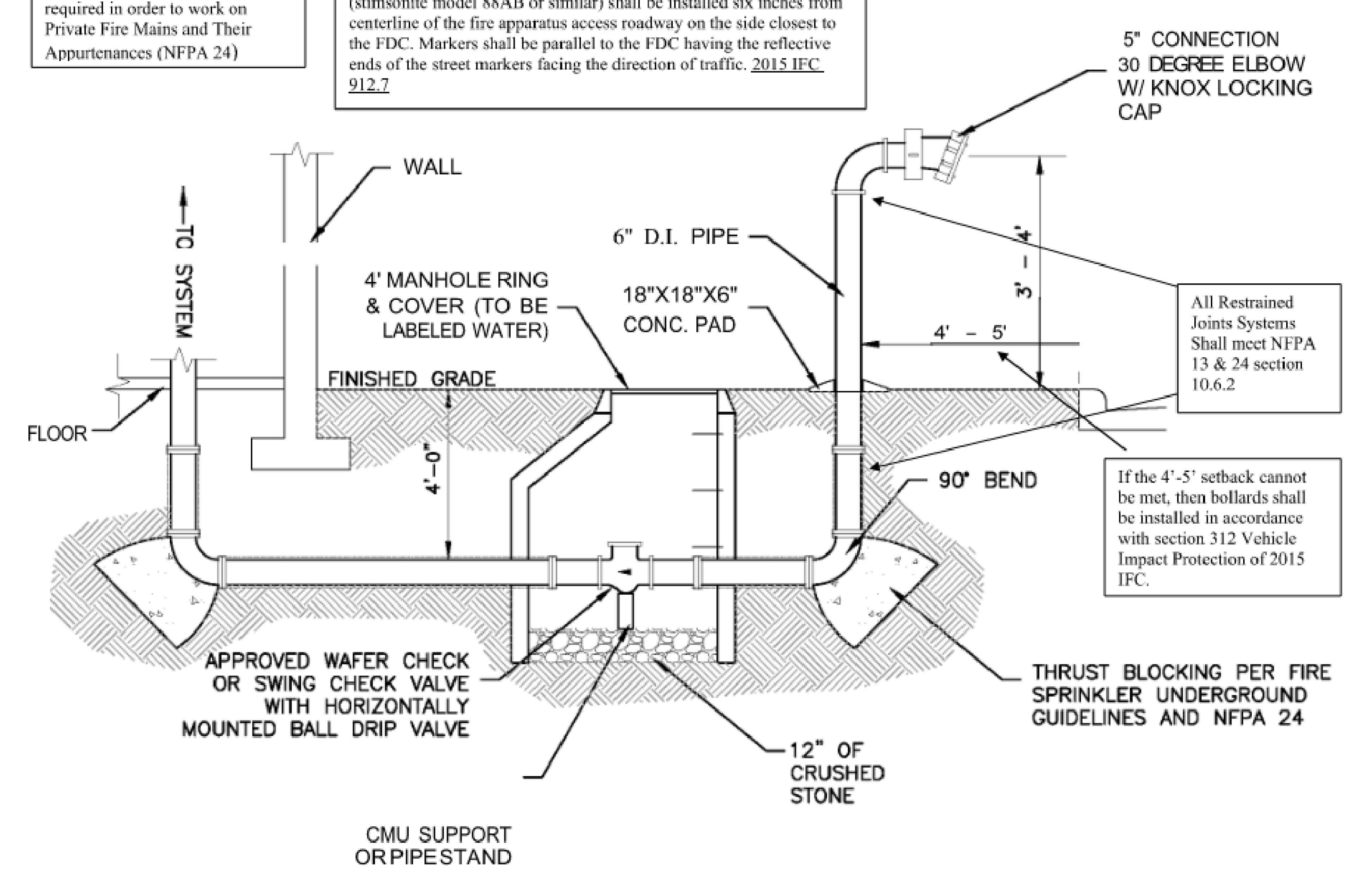
NOTE:
INSTALLATION OF THE CONCRETE CASTING IS REQUIRED FOR AND APPLIES TO ALL TYPES OF MANHOLES TO BE LOCATED IN THE ROADWAY.

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

GEORGETOWN TEXAS | CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS | CONCRETE CASTING MANHOLE DETAIL | APPROVED 6/21/2006 | WW21 | NTS | 1/2006 | MRS | TRB

Per State Fire Marshall's Office an RME-G or U License is required in order to work on Private Fire Mains and Their Appurtenances (NFPA 24)

All Fire Department Connections (FDCs) shall be marked as approved by the Fire Code Official. Two red street lane reflectors (stimsonite model 88AB or similar) shall be installed six inches from centerline of the fire apparatus access roadway on the side closest to the FDC. Markers shall be parallel to the FDC having the reflective ends of the street markers facing the direction of traffic. 2015 IFC 912.7



All Restrained Joints Systems Shall meet NFPA 13 & 24 section 10.6.2

If the 4'-5' setback cannot be met, then bollards shall be installed in accordance with section 312 Vehicle Impact Protection of 2015 IFC.

FIRE DEPARTMENT CONNECTION
NOT TO SCALE

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No.	REVISIONS	DATE	BY

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TBPE Firm No. 928

STATE OF TEXAS — SEUM LEE — 149390 — LICENSED PROFESSIONAL ENGINEER — 4/17/2025

KHA PROJECT	DATE	SCALE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:
069418900	JULY 2023	AS SHOWN	BAB	CRS	BAB

UTILITY DETAILS (SHEET 3 OF 3)

SUN CITY RETAIL BUILDINGS DEVELOPMENT
CIVIL SITE DEVELOPMENT PERMIT
CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER
41 OF 75

SECTION 5: TEMPORARY STORMWATER SECTION

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: Sarah Lee, P.E.

Date: April 2025

Signature of Customer/Agent:

Regulated Entity Name: Sun City Retail Buildings Development

Project Information

Potential Sources of Contamination

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

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

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

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

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

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

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

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

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

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

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

Sequence of Construction

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

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

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

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

Temporary Best Management Practices (TBMPs)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

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

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

    ☒ N/A

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

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

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

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

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

Soil Stabilization Practices

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

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

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

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

Administrative Information

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

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

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

Attachment A
Spill Response Actions

Spill Response Actions

If there is an accidental spill on site, the contractor shall respond with appropriate action. The contractor will be required to contact the owner and in turn the owner will contact the TCEQ in the event of a spill on site. In addition to the following guidance, reference the latest version of TCEQ's Technical Guidance Manual (TGM) RG-348 Section 1.4.16.

Cleanup

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

Minor Spills

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

Semi-Significant Spills

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:

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

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

- Notify the TCEQ by telephone as soon as possible and within 24 hours at (512)339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.

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

Attachment B
Potential Sources of Contamination

Potential Sources of Contamination

Potential Source: Oil, grease, fuel, and hydraulic fluid contamination from construction equipment and vehicle dripping.

Preventative Measures: Vehicle maintenance will be performed within the construction staging area or a local maintenance shop.

Potential Source: Miscellaneous trash and litter from construction workers and material wrappings.

Preventative Measures: Trash containers will be placed throughout the site to encourage proper disposal of trash.

Potential Source: Silt leaving the site.

Preventative Measures: Contractor will install all temporary best management practices prior to start of construction including the stabilized construction entrance to prevent tracking onto adjoining streets.

Potential Source: Construction Debris.

Preventative Measures: Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.

Potential Source: Soil and Mud from Construction Vehicle tires as they leave the site.

Preventative Measures: A stabilized construction exit shall be utilized as vehicles leave the site. Any soil, mud, etc. carried from the project onto public roads shall be cleaned up within 24 hours.

Potential Source: Sediment from soil, sand, gravel and excavated materials stock piled on site.

Preventative Measures: Silt fence shall be installed on the down gradient side of the stock piled materials. Reinforced rock berms shall be installed at all downstream discharge locations.

Potential Source: Portable toilet spill.

Preventative Measures: Toilets on the site will be emptied on a regular basis by the contracted toilet company.

Attachment C
Sequence of Major Activities

Sequence of Major Activities

The installation of erosion and sedimentation controls shall occur prior to any excavation of materials or major disturbances on the site. The sequence of major construction activities will be as follows. Approximate acreage to be disturbed is listed in parentheses next to each activity.

Intended Schedule or Sequence of Major Activities:

1. Construct Access on Sun City and SH 195 (0.06 Acres)
2. Installation of Temporary BMPs (up to 10.57 Acres)
3. Initiate Grubbing and Topsoil Stripping of Site (9.36 Acres)
4. Rough Subgrade Preparation (earthwork, grading, street and drainage excavation and embankment) (9.36 Acres)
5. Wet Utility Construction (up to 1.16 Acres)
6. Topsoil, Irrigation and Landscaping (up to 9.36 Acres)
7. Site cleanup and Removal of Temporary BMPs (10.57 Acres)

Maximum total construction time is not expected to exceed 24 months.

Attachment D

Temporary Best Management Practices and Measures

Temporary Best Management Practices and Measures

A. There is no storm water that originates up gradient from the site that will flow across the site.

B. Temporary BMPs will be installed prior to soil disturbing construction activity. Silt fencing will be placed along the down-gradient sides of the property to prevent silt from escaping the construction area. Two temporary construction entrance will be placed on site to reduce vehicle "tracking" onto adjoining streets. A concrete washout pit will be used to collect all excess concrete during construction.

BMPs for this project will protect surface water or groundwater from turbid water, phosphorus, sediment, oil, and other contaminants, which may mobilize in storm water flows by slowing the flow of runoff to allow sediment and suspended solids to settle out of the runoff.

Practices may also be implemented on site for interim and permanent stabilization. Stabilization practices may include but are not limited to: establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of existing trees and vegetation, and other similar measures.

C. There are no sensitive features or surface streams within the boundaries of the project. The temporary onsite BMPs will be used to treat stormwater runoff before it leaves the project and prevent pollutants from entering into surface streams or any sensitive features down-gradient of the site.

D. There were no sensitive features identified during the geologic assessment. However, the BMPs for this project are designed to allow water to pass through after sedimentation has occurred. Existing flow patterns will be maintained to any naturally-occurring sensitive features that are discovered during construction.

Attachment F
Structural Practices

Structural Practices

Structural BMPs will be used to limit runoff discharge of pollutants from exposed areas of the site. BMPs will be installed prior to soil disturbing construction activity. Silt fencing will be placed along the down-gradient sides of the property to prevent silt from escaping the construction area. A temporary construction entrance will be placed at the site entry/exit point to reduce tracking onto adjoining streets. A construction staging area will be used onsite to perform all vehicle maintenance and for equipment and material storage. A concrete truck washout pit will be placed on site to provide containment and easier cleanup of waste from concrete operations. The location of all structural temporary BMP's are shown on the erosion control plan sheet and details and specifications are provided on the erosion control details sheet which can be found at the end of this report under Section 8.

Description of Temporary BMPs

Temporary Construction Entrance/Exit

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

Excessive amounts of mud can also present a safety hazard to roadway users. To minimize the amount of sediment loss to nearby roads, access to the construction site should be limited to as few points as possible and vegetation around the perimeter should be protected were access is not necessary. A rock stabilized construction entrance should be used at all designated access points.

Silt Fence

The purpose of a silt fence is to intercept and detain water-borne sediment from unprotected areas of a limited extent. Silt fence is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Silt fence should not be used where there is a concentration of water in a channel or drainage way. If concentrated flow occurs after installation, corrective action must be taken such as placing a rock berm in the areas of concentrated flow.

Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.

Concrete Washout Area

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

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

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

Below grade concrete washout facilities are typical. These consist of a lined excavation sufficiently large to hold expected volume of washout material. Above grade facilities are used if excavation is not practical. Temporary concrete washout facility (type above grade) should be constructed as shown on the details at the end of this section, with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations. Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.

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

Rock Rip-Rap

The purpose of rock berm is to serve as a check dam in areas of concentrated flow, to intercept sediment-laden runoff, detain the sediment, and release the water in sheet flow. Rock rip-rap should be used when the contributing drainage areas is less than 5 acres. Rock rip rap are used in areas where the volume of runoff is too great for a silt fence to contain. They are less effective for sediment removal than silt fences, particularly for fine particles, but are able to withstand higher flows than silt fence.

Temporary Vegetation

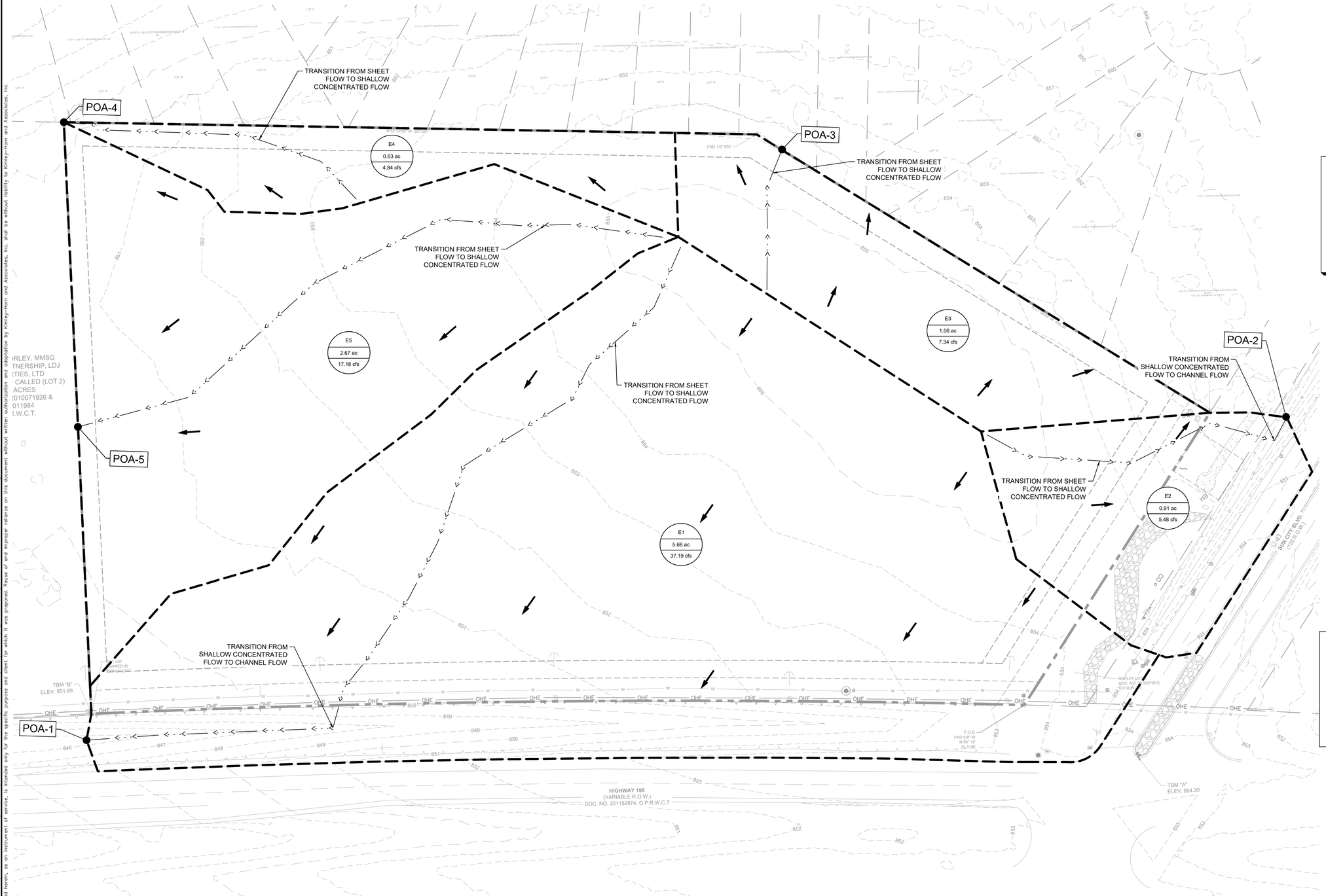
The purpose of temporary vegetation is to stabilize disturbed areas that will be idle for 14 days or more but less than 12 months. It involves planting rapid-growing annual grasses, small grains, or legumes to provide initial ground cover. This practice is particularly useful during construction activities, on slopes, washouts, topsoil stockpiles, and temporary excavation areas. Temporary vegetation helps reduce sediment runoff, prevents mud and dust production, and protects earthen structures such as dikes and sediment basins. It's especially valuable when final grading is incomplete or when it's not the appropriate season for establishing permanent vegetation. While temporary vegetation offers quick soil protection, it's often used in conjunction with mulch or other temporary covers to ensure immediate erosion control until the vegetation becomes established

Hydraulic Mulch

Hydraulic mulch is a versatile erosion control method that involves spraying a slurry mixture onto exposed soil surfaces. This slurry typically consists of water, fiber mulch, seed, fertilizer, and a tackifier or soil binder. When applied, it forms a protective layer that adheres to the soil, providing immediate erosion control by shielding the surface from wind and water erosion. The mulch helps retain moisture, promotes seed germination, and aids in establishing vegetation. It's particularly useful for stabilizing steep slopes, large areas, or locations that are difficult to access with traditional seeding methods.

Attachment G
Drainage Area Map

Drainage Area Maps



LEGEND

- AREA DESIGNATOR / AREA IN ACRES / Q100 FLOW IN CFS
- PROPERTY LINE
- EXISTING DRAINAGE AREA
- EXISTING FLOW DIRECTION
- EXISTING TIME OF CONCENTRATION
- EXISTING CONTOUR
- EXISTING TOP OF DITCH

EXISTING CONDITIONS FLOW DIAGRAM

E1 → POA-1; E2 → POA-2; E3 → POA-3; E4 → POA-4; E5 → POA-5

BENCHMARKS

TBM "A":
A BOX CUT ON THE BACK OF A CURB AT THE NOSE OF MEDIAN +/- 25 FEET SOUTHWEST FROM THE CENTERLINE OF HIGHWAY 195, AND AT THE INTERSECTION OF HIGHWAY 195 AND SUN CITY BLVD.
ELEVATION = 854.30'

TBM "B":
A RAILROAD SPIKE IN A POWER POLE +/- 70 FEET SOUTHWEST FROM THE CENTERLINE OF HIGHWAY 195, +/- 890 FEET SOUTHEAST FROM THE INTERSECTION OF HIGHWAY 195 AND SUN CITY BOULEVARD.
ELEVATION = 851.69'

EXISTING TIME OF CONCENTRATION CALCULATIONS

DRAINAGE AREA	SHEET FLOW P-2yr24hr 4.2 IN				SHEET FLOW (PAVEMENT) P-2yr24hr 4.2 IN				SHALLOW CONCENTRATED FLOW Grass Surface				Paved Surface				CHANNEL FLOW				TOTAL Tc* (min)
	n	L (ft)	S (ft/ft)	Tt(min)	n	L (ft)	S (ft/ft)	Tt(min)	L (ft)	V (fps)	S (ft/ft)	Tt(min)	L (ft)	V (fps)	S (ft/ft)	Tt(min)	L (ft)	V (fps)	S (ft/ft)	Tt(min)	
E1	0.150	100	0.014	**9.98**	0	0.00	0.000	**0.00**	425	1.77	0.012	**4.01**	0	0.0	0.0	**0.00**	210	3.0	0.010	**1.17**	**15.15**
E2	0.150	100	0.015	**9.73**	0	0.00	0.000	**0.00**	160	2.53	0.025	**1.06**	0	0.0	0.0	**0.00**	23	3.0	0.026	**0.13**	**10.91**
E3	0.150	100	0.010	**11.28**	0	0.00	0.000	**0.00**	22	2.64	0.027	**0.14**	0	0.0	0.0	**0.00**	0	0.0	0.000	**0.00**	**11.42**
E4	0.150	100	0.085	**4.79**	0	0.00	0.000	**0.00**	170	1.75	0.012	**1.62**	0	0.0	0.0	**0.00**	0	0.0	0.000	**0.00**	**6.41**
E5	0.150	100	0.010	**11.28**	0	0.00	0.000	**0.00**	455	1.61	0.010	**4.70**	0	0.0	0.0	**0.00**	0	0.0	0.000	**0.00**	**15.98**

*6 min is the minimum TC

WEIGHTED CURVE NUMBER CALCULATIONS

Area ID	Area SF	Area Acre	Soil Group %	Impervious SF	Impervious AC	Pervious SF	Pervious AC	CN
E1	247,525	5.68	100% D	0	0.00	247,525	5.68	80.00
E2	39,850	0.91	100% D	5,543	0.13	34,307	0.79	82.50
E3	46,296	1.06	100% D	0	0.00	46,296	1.06	80.00
E4	27,320	0.63	100% D	0	0.00	27,320	0.63	80.00
E5	116,148	2.67	100% D	0	0.00	116,148	2.67	80.00
Total	477,139	10.95		5,543	0.13	471,596	10.83	

Soil Type	Description	CN	TYPE
D	Pasture - Good Condition	80	Pervious
D	Impervious Areas	98	Impervious

*The Curve Number (Cn) has been determined from Table 2-2a of Technical Release 55. The cover type, hydrologic condition, and soil group determined for the proposed conditions are brush, good condition and Type D soil group with a Cn of 80.

Existing Storm Drainage Summary (SCS Methodology)

Area ID	Flow Rate (CFS) 2	10	25	100
E1	10.2	21.11	27.26	37.19
E2	2.09	3.99	5.29	6.68
E3	2.11	4.16	5.59	7.34
E4	1.46	2.84	3.49	4.84
E5	4.63	9.70	12.64	17.18
Point of Analysis (PoA) Summary				
POA-1	10.2	21.11	27.26	37.19
POA-2	2.09	3.99	5.29	6.68
POA-3	2.11	4.16	5.59	7.34
POA-4	1.46	2.84	3.49	4.84
POA-5	4.63	9.70	12.64	17.18

Note: Results are from PondPack V8c modeling

Know what's **below.** **Call** before you dig.

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

FOR REVIEW. THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF SEUM LEE 149390 ON 4/29/2025. IT IS NOT TO BE USED FOR BIDDING, PERMIT OR CONSTRUCTION.

No.	REVISIONS	DATE	BY

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TBPE Firm No. 928

STATE OF TEXAS
SEUM LEE
149390
LICENSED PROFESSIONAL ENGINEER
4/28/2025

KHA PROJECT	069430045
DATE	JULY 2023
SCALE:	AS SHOWN
DESIGNED BY:	BAB
DRAWN BY:	CRS
CHECKED BY:	BAB

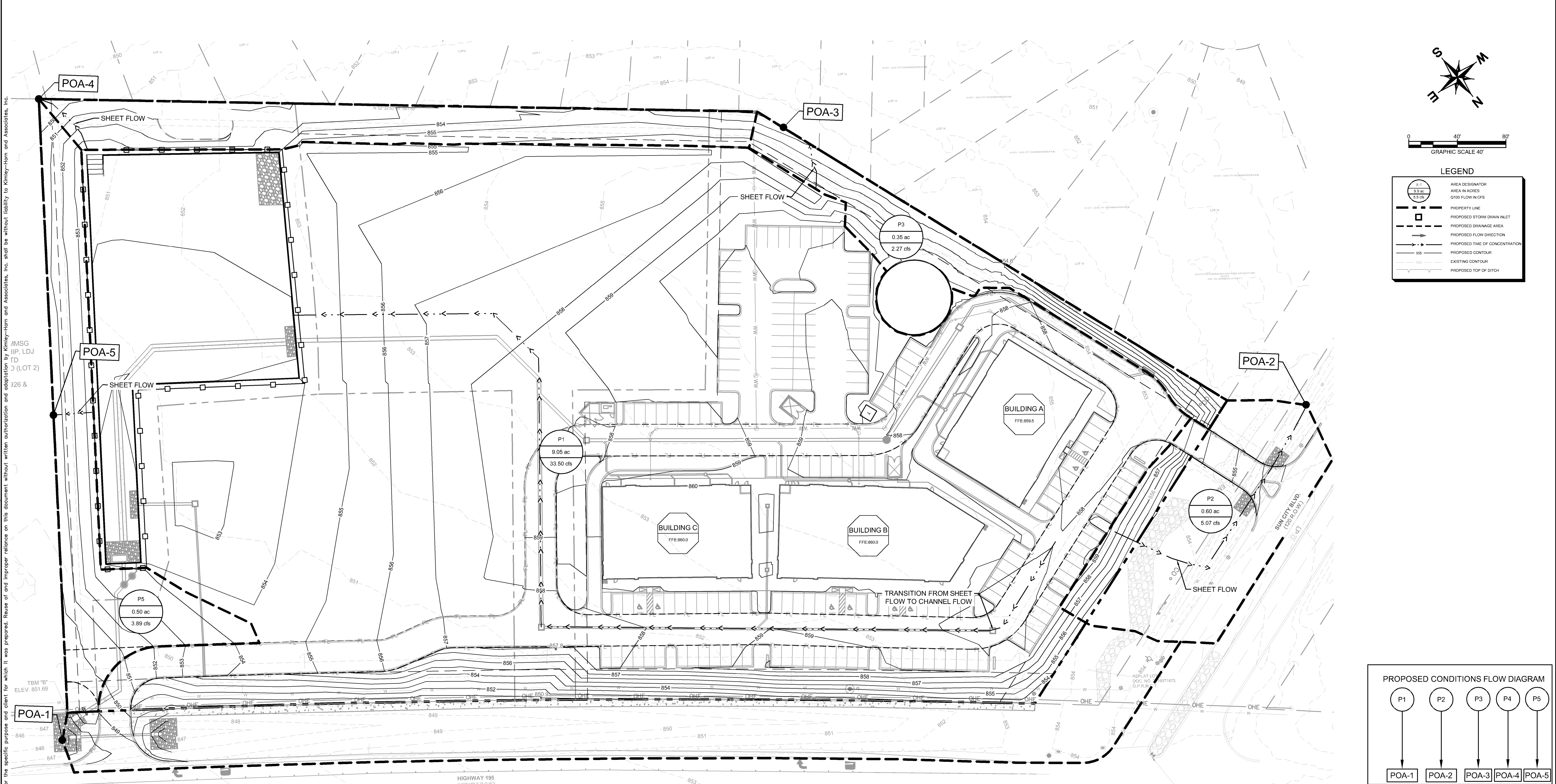
EXISTING DRAINAGE AREA MAP

SUN CITY RETAIL BUILDINGS DEVELOPMENT

CIVIL SITE DEVELOPMENT PERMIT
CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER
17 OF 75

2025-25-SDP



BENCHMARKS

TBM "A":
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ELEVATION = 851.69'

POND IS DESIGNED FOR ULTIMATE DEVELOPMENT

PROPOSED TIME OF CONCENTRATION CALCULATIONS

DRAINAGE AREA	SHEET FLOW				SHEET FLOW (PAVEMENT)				SHALLOW CONCENTRATED FLOW								CHANNEL FLOW				TOTAL Tc**
	P-2yr24hr		4.2	IN	P-2yr24hr		4.2	IN	Grass Surface				Paved Surface								(min)
	n	L (ft)	S (ft/ft)	Tt(min)	n	L (ft)	S (ft/ft)	Tt(min)	L (ft)	V (fps)	S (ft/ft)	Tt(min)	L (ft)	V (fps)	S (ft/ft)	Tt(min)	L (ft)	V (fps)	S (ft/ft)	Tt(min)	
P1	0.150	90	0.052	**5.37**	0	0.00	0.000	**0.00**	0	0.00	0.000	**0.00**	0	0.0	0.00	**0.00**	810	6.0	0.080	**2.25**	**7.62**
P2	0.150	81	0.100	**3.80**	0	0.00	0.000	**0.00**	0	0.00	0.000	**0.00**	0	0.0	0.00	**0.00**	157	6.0	0.020	**0.44**	**4.23**
P3	0.150	60	0.100	**2.99**	0	0.00	0.000	**0.00**	0	0.00	0.000	**0.00**	0	0.0	0.00	**0.00**	0	0.0	0.000	**0.00**	**2.99**
P4	0.150	60	0.080	**3.26**	0	0.00	0.000	**0.00**	0	0.00	0.000	**0.00**	0	0.0	0.00	**0.00**	0	0.0	0.000	**0.00**	**3.26**
P5	0.150	32	0.017	**3.67**	0	0.00	0.000	**0.00**	0	0.00	0.000	**0.00**	0	0.0	0.00	**0.00**	0	0.0	0.000	**0.00**	**3.67**

*6 min is the minimum TC

WEIGHTED CURVE NUMBER CALCULATIONS

Area ID	Area SF	Area Acre	Soil Group %	Impervious		Pervious		CN
				SF	AC	SF	AC	
P1	394,417	9.05	100% D	138,683	3.18	255,734	5.87	86.33
P2	25,952	0.60	100% D	8,012	0.18	17,940	0.41	85.56
P3	15,226	0.35	100% D	0	0.00	15,226	0.35	80.00
P4	19,189	0.44	100% D	0	0.00	19,189	0.44	80.00
P5	21,954	0.50	100% D	0	0.00	21,954	0.50	80.00
Total	476,738	10.94		146,695	3.37	330,043	7.58	

Soil Type	Description	CN	TYPE
D	Pasture - Good Condition	80	Pervious
D	Impervious Areas	98	Impervious

*The Curve Number (Cn) has been determined from Table 2-2a of Technical Release 55. The cover type, hydrologic condition, and soil group determined for the proposed conditions are brush, good condition and

Proposed Storm Drainage Summary (SCS Methodology)

Area ID	Flow Rate (CFS)			
	2	10	25	100
P1	9.25	16.14	22.74	33.50
P2	1.88	3.20	4.08	5.07
P3	0.69	1.34	1.7	2.27
P4	1.03	2.00	2.55	3.4
P5	1.18	2.29	2.91	3.89
Point of Analysis (PoA) Summary				
POA-1	9.25	16.14	22.74	33.50
POA-2	1.88	3.20	4.08	5.07
POA-3	0.69	1.34	1.7	2.27
POA-4	1.03	2.00	2.55	3.4
POA-5	1.18	2.29	2.91	3.89

Note: Results are from PondPack V8c modeling

811
Know what's below.
Call before you dig.

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No. | REVISIONS | DATE | BY

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TBPE Firm No. 928

STATE OF TEXAS
SEUM LEE
149390
LICENSED PROFESSIONAL ENGINEER
4/18/2025

KHA PROJECT 069430045
DATE JULY 2023
SCALE: AS SHOWN
DESIGNED BY: BAB
DRAWN BY: CRS
CHECKED BY: BAB

PROPOSED DRAINAGE AREA MAP

SUN CITY RETAIL BUILDINGS DEVELOPMENT
CIVIL SITE DEVELOPMENT PERMIT
CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER
18 OF 75

Attachment I
Inspection and Maintenance for BMPs

Inspection and Maintenance for BMPs

Personnel Responsible for Inspections

The agent that performs the inspections should be knowledgeable of this general permit, familiar with the construction site, and knowledgeable of the SWPPP for the site. The contractor is to provide an inspector with a CPESC, CESSWI, or CISEC certification. Documentation of the inspector's qualifications is to be included in the attached Inspector Qualifications Log.

Inspection Schedule

The primary operator is required to choose one of the two inspections listed below.

☐ **Option 1:** Once every seven calendar days. If this alternative schedule is developed, then the inspection must occur regardless of whether or not there has been a rainfall event since the previous inspection.

☐ **Option 2:** Once every 14 calendar days and within 24 hours of the end of a storm event of two inches or greater.

The inspections may occur on either schedule provided that documentation reflects the current schedule and that any changes to the schedule are conducted in accordance with the following provisions: the schedule may be changed a maximum of one time each month, the schedule change must be implemented at the beginning of a calendar month, and the reason for the schedule change must be documented (e.g., end of "dry" season and beginning of "wet" season).

If option 2 is the chosen frequency of inspections a rain gauge must be properly maintained on site or the storm event information from a weather station that is representative of the site location. For any day of rainfall during normal business hours that measures 0.25 inches or greater, proper documentation of the total rainfall measured for that day must be recorded.
Personnel provided by the permittee must inspect:

- disturbed areas of the construction site that have not been finally stabilized;
- areas used for storage of materials that are exposed to precipitation;
- structural controls (for evidence of, or the potential for, pollutants entering the drainage system);
- sediment and erosion control measures identified in the SWP3 (to ensure they are operating correctly); and
- locations where vehicles enter or exit the site (for evidence of off-site sediment tracking).

Reductions in Inspection Frequency

Where sites have been finally or temporarily stabilized or where runoff is unlikely due to winter conditions (e.g. site is covered with snow, ice, or frozen ground exists), inspections must be conducted at least once every month. In arid, semi-arid, or drought-stricken areas, inspections must be conducted at least once every month and within 24 hours after the end of a storm event of 0.5 inches or greater. A record of the total rainfall measured, as well as the approximate beginning and ending dates of winter or drought conditions resulting in monthly frequency of inspections in the attached Rain Gauge Log.

In the event of flooding or other uncontrollable situations which prohibit access to the inspection sites, inspections must be conducted as soon as access is practicable.

Inspection Report Forms

Use the Inspection Report Forms given as a checklist to ensure that all required areas of the construction site are addressed. There is space to document the inspector's name as well as when the inspections regularly take place. The tables will document that the required area was inspected. (If there were any areas of concern, briefly describe them in this space with a more detailed description in the narrative section. Use the last table to document any discharges found during the inspections).

Describe how effective the installed BMPs are performing. Describe any BMP failures that were noted during the investigation and describe any maintenance required due to the failure. If new BMPs are needed as the construction site changes, the inspector can use the space at the bottom of the section to list BMPs to be implemented before the next inspection.

Describe the inspector's qualifications, how the inspection was conducted, and describe any areas of non-compliance in detail. If an inspection report does not identify any incidents of non-compliance, then it must contain a certifying signature stating that the facility or site is in compliance. The report must be signed by a person and in a manner required by 30 TAC 305.128. There is space at the end of the form to allow for this certifying signature.

Whenever an inspection shows that BMP modifications are needed to better control pollutants in runoff, the changes must be completed within seven calendar days following the inspection. If existing BMPs are modified or if additional BMPs are needed, you must describe your implementation schedule, and wherever possible, make the required BMP changes before the next storm event.

The Inspection Report Form functions as the required report and must be signed in accordance with TCEQ rules at 30 TAC 305.128.

Corrective Action

Personnel Responsible for Corrective Actions

Both Primary and Secondary Operators are responsible for maintaining all necessary Corrective Actions. If an individual is specifically identified as the responsible party for modifying the contact information for that individual should be documented in the attached Inspector Qualifications Log.

Corrective Action Forms

The Temporary BMPs must be modified based on the results of inspections, as necessary, to better control pollutants in runoff. Revisions must be completed within seven (7) calendar days following the inspection. If existing BMPs are modified or if additional BMPs are necessary, an implementation schedule must be described in the attached forms and wherever possible those changes implemented before the next storm event. If implementation before the next anticipated storm event is impracticable, these changes must be implemented as soon as practicable. Actions taken as a result of inspections must be properly documented by completing the corrective action forms given.

Maintenance

Below are some maintenance practices to be used to maintain erosion and sediment controls:

- All measures will be maintained in good working order. The operator should correct any damage or deficiencies as soon as practicable after the inspection, but in no case later than seven (7) calendar days after the inspection.
- 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). See Attachment A: Spill Response Actions.
- BMP Maintenance (as applicable)
- Sediment must be removed from sediment traps and sedimentation ponds no later than the time that design capacity has been reduced by 50%. For perimeter controls such as silt fences, berms, etc., the trapped sediment must be removed before it reaches 50% of the above-ground height.
- Silt fence will be inspected for depth of sediment, tears, to see of the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
- Drainage swale will be inspected and repaired as necessary.
- Inlet control will be inspected and repaired as necessary.
- Check dam will be inspected and repaired as necessary.

- Diversion dike will be inspected and any breaches promptly repaired.
- Temporary and permanent seeding and planting will be inspected for bare spots, washouts, and healthy growth.
- If sediment escapes the site, accumulations must be removed at a frequency that minimizes off-site impacts, and prior to the next rain event, if feasible. If the permittee does not own or operate the off-site conveyance, then the permittee must to work with the owner or operator of the property to remove the sediment.
- Locations where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking.

To maintain the above practices, the following will be performed:

- Maintenance and repairs will be conducted before the next anticipated storm event or as necessary to maintain the continued effectiveness of storm water controls. Following an inspection, deficiencies should be corrected no later than seven (7) calendar days after the inspection.

BMP-Specific Inspection and Maintenance Schedules

Temporary Vegetation

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

Hydraulic Mulch

- Mulched areas should be inspected weekly and after each rain event to locate and repair any damage.
- Areas damaged by storms or normal construction activities should be regraded and hydraulic mulch reapplied as soon as practical.

Sod

- Sod should be inspected weekly and after each rain event to locate and repair any damage.
- Damage from storms or normal construction activities such as tire ruts or disturbance of swale stabilization should be repaired as soon as practical.

Construction Entrance/Exit

- The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.
- All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.
- When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.

- When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
- All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

Silt Fence

- Inspect all fencing weekly, and after any rainfall.
- Remove sediment when buildup reaches 6 inches.
- Replace any torn fabric or install a second line of fencing parallel to the torn section.
- Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.
- When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

Vegetative Buffers

- Inspection and careful maintenance are important to ensure healthy vegetation. The need for routine maintenance such as mowing, fertilizing, irrigating, and weed and pest control will depend on the species of plants and trees, soil types, location and climatic conditions. County agricultural extension agencies are a good source of this type of information.

Rock Rip Rap

- Inspect rock rip rap regularly for structural integrity and effectiveness in controlling erosion and sedimentation. Any signs of erosion or displacement must be address immediately to maintain their function. Vegetation around rock berms I healthy, as it can aid in stabilization and prevent further erosion.

Inspector Qualifications Log*

Inspector Name: _____
Qualifications (Check as appropriate and provide description):
□ Training Course _____
□ Supervised Experience _____
□ Other _____

Inspector Name: _____
Qualifications (Check as appropriate and provide description):
□ Training Course _____
□ Supervised Experience _____
□ Other _____

Inspector Name: _____
Qualifications (Check as appropriate and provide description):
□ Training Course _____
□ Supervised Experience _____
□ Other _____

Inspector Name: _____
Qualifications (Check as appropriate and provide description):
□ Training Course _____
□ Supervised Experience _____
□ Other _____

Inspector Name: _____
Qualifications (Check as appropriate and provide description):
□ Training Course _____
□ Supervised Experience _____
□ Other _____

Inspector Name: _____
Qualifications (Check as appropriate and provide description):
□ Training Course _____
□ Supervised Experience _____
□ Other _____

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Amendment Log

No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]

Kimley»Horn

Construction Activity Sequence Log

Name of Operator	Projected dates Month/year	Activity Disturbing Soil clearing, excavation, etc.	Location on-site where activity will be conducted	Acreage being disturbed

*Construction activity sequences for linear projects may be conducted on a rolling basis. As a result, construction activities may be at different stages at different locations in the project area. The Contractor is required to complete and update the schedule and adjust as necessary.

Kimley»Horn

Stormwater Control Installation and Removal Log

Stormwater Control	Location On-Site	Installation Date	Removal Date

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Stabilization Activities Log

Date Activity Initiated	Description of Activity	Description of Stabilization Measure and Location	Date Activity Ceased (Indicate Temporary or Permanent)	Date When Stabilization Measures Initiated

Stabilization and erosion control practices may include, but are not limited to: establishing temporary or permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, and protecting existing trees and vegetation. List practices used where they are located, when they will be implemented, and whether they are temporary (interim) or permanent.

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Inspection Frequency Log

Date	Frequency Schedule and Reason for Change

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Rain Gauge Log

Date	Location of Rain Gauge	Gauge Reading

General Information					
Name of Project		**Tracking No.**		**Inspection Date**	
Inspector Name, Title & Contact Information					
Present Phase of Construction					
Inspection Location (if multiple inspections are required, specify location where this inspection is being conducted)					

Inspection Frequency

Standard Frequency: ☐ Weekly ☐ Every 14 days and within 24 hours of a 0.25" rain

Increased Frequency: ☐ Every 7 days and within 24 hours of a 0.25" rain

Reduced Frequency:

- ☐ Once per month (for stabilized areas)
- ☐ Once per month and within 24 hours of a 0.25" rain (for arid, semi-arid, or drought-stricken areas during seasonally dry periods or during drought)
- ☐ Once per month (for frozen conditions where earth-disturbing activities are being conducted)

Was this inspection triggered by a 0.25" storm event? ☐ Yes ☐ No

If yes, how did you determined whether a 0.25" storm event has occurred?

☐ Rain gauge on site ☐ Weather station representative of site. Specify weather station source:

Total rainfall amount that triggered the inspection (in inches)**:**

Unsafe Conditions for Inspection

Did you determine that any portion of your site was unsafe for inspection? ☐ Yes ☐ No

If "yes", complete the following:

- Describe the conditions that prevented you from conducting the inspection in this location:

- Location(s) where conditions were found:

Condition and Effectiveness of Erosion and Sediment (E&S) Controls				
Type/Location of E&S Control	**Repairs or Other Maintenance Needed?**	**Corrective Action Required?**	**Date on Which Maintenance or Corrective Action First Identified?**	**Notes**
1.	☐Yes ☐No	☐Yes ☐No		
2.	☐Yes ☐No	☐Yes ☐No		
3.	☐Yes ☐No	☐Yes ☐No		
4.	☐Yes ☐No	☐Yes ☐No		
5.	☐Yes ☐No	☐Yes ☐No		
6.	☐Yes ☐No	☐Yes ☐No		
7.	☐Yes ☐No	☐Yes ☐No		
8.	☐Yes ☐No	☐Yes ☐No		
9.	☐Yes ☐No	☐Yes ☐No		
10.	☐Yes ☐No	☐Yes ☐No		

Condition and Effectiveness of Pollution Prevention (P2) Practices				
Type/Location of P2 Practices	**Repairs or Other Maintenance Needed?**	**Corrective Action Required?**	**Identification Date**	**Notes**
1.	☐Yes ☐No	☐Yes ☐No		
2.	☐Yes ☐No	☐Yes ☐No		
3.	☐Yes ☐No	☐Yes ☐No		
4.	☐Yes ☐No	☐Yes ☐No		
5.	☐Yes ☐No	☐Yes ☐No		
6.	☐Yes ☐No	☐Yes ☐No		
7.	☐Yes ☐No	☐Yes ☐No		
8.	☐Yes ☐No	☐Yes ☐No		
9.	☐Yes ☐No	☐Yes ☐No		
10.	☐Yes ☐No	☐Yes ☐No		

Stabilization of Exposed Soil			
Stabilization Area	**Stabilization Method**	**Have You Initiated Stabilization?**	**Notes**
1.		☐ YES ☐ NO If yes, provide date:	
2.		☐ YES ☐ NO If yes, provide date:	
3.		☐ YES ☐ NO If yes, provide date:	
4.		☐ YES ☐ NO If yes, provide date:	
5.		☐ YES ☐ NO If yes, provide date:	

Description of Discharges	
Was a stormwater discharge or other discharge occurring from any part of your site at the time of the inspection? ☐ Yes ☐ No **If "yes", provide the following information for each point of discharge:**	
Discharge Location	**Observations**
1.	Describe the discharge: At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and/or sediment accumulation that can be attributed to your discharge? ☐ Yes ☐ No If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue:
2.	Describe the discharge: At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and/or sediment accumulation that can be attributed to your discharge? ☐ Yes ☐ No If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue:
3.	Describe the discharge: At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and/or sediment accumulation that can be attributed to your discharge? ☐ Yes ☐ No If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue:

Contractor or Subcontractor Certification and Signature
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." **Signature of Contractor or Subcontractor:** _____ **Date:** **Printed Name and Affiliation:** _____
Certification and Signature by Permittee
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." **Signature of Permittee or "Duly Authorized Representative":** _____ **Date:** **Printed Name and Affiliation:** _____

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Section A – Initial Report (Complete this section within 24 hours of discovering the condition that triggered corrective action)					
Name of Project		Tracking No.		Today's Date	
Date Problem First Discovered			Time Problem First Discovered		
Name and Contact Information of Individual Completing this Form					

What site conditions triggered the requirement to conduct corrective action:
☐ A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements in Part 2 and/or 3
☐ The stormwater controls that have been installed and maintained are not effective enough for the discharge to meet applicable water quality standards
☐ A prohibited discharge has occurred or is occurring

Provide a description of the problem:

Deadline for completing corrective action (*Enter date that is either: (1) no more than 7 calendar days after the date you discovered the problem, or (2) if it is infeasible to complete work within the first 7 days, enter the date that is as soon as practicable following the 7th day)*:

If your estimated date of completion falls after the 7-day deadline, explain (1) why you believe it is infeasible to complete work within 7 days, and (2) why the date you have established for making the new or modified stormwater control operational is the soonest practicable timeframe:

Section B – Corrective Action Progress
(Complete this section no later than 7 calendar days after discovering the condition that triggered corrective action)

Section B.1 – Why the Problem Occurred

Cause(s) of Problem (Add an additional sheet if necessary)	How This Was Determined and the Date You Determined the Cause
1.	1.
2.	2.
3.	3.

Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem

List of Stormwater Control Modification(s) Needed to Correct Problem (Add an additional sheet if necessary)	Completion Date	SWPPP Update Necessary?	Notes
1.		☐Yes ☐No Date:	
2.		☐Yes ☐No Date:	
3.		☐Yes ☐No Date:	

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Section A – Initial Report (Complete this section within 24 hours of discovering the condition that triggered corrective action)					
Name of Project		Tracking No.		Today's Date	
Date Problem First Discovered			Time Problem First Discovered		
Name and Contact Information of Individual Completing this Form					

What site conditions triggered the requirement to conduct corrective action:

☐ A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements in Part 2 and/or 3

☐ The stormwater controls that have been installed and maintained are not effective enough for the discharge to meet applicable water quality standards

☐ A prohibited discharge has occurred or is occurring

Provide a description of the problem:

Deadline for completing corrective action (*Enter date that is either: (1) no more than 7 calendar days after the date you discovered the problem, or (2) if it is infeasible to complete work within the first 7 days, enter the date that is as soon as practicable following the 7th day)*:

If your estimated date of completion falls after the 7-day deadline, explain (1) why you believe it is infeasible to complete work within 7 days, and (2) why the date you have established for making the new or modified stormwater control operational is the soonest practicable timeframe:

Section B – Corrective Action Progress (Complete this section no later than 7 calendar days after discovering the condition that triggered corrective action)	
Section B.1 – Why the Problem Occurred	
Cause(s) of Problem (Add an additional sheet if necessary)	How This Was Determined and the Date You Determined the Cause
1.	1.
2.	2.
3.	3.

Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem			
List of Stormwater Control Modification(s) Needed to Correct Problem (Add an additional sheet if necessary)	Completion Date	SWPPP Update Necessary?	Notes
1.		☐Yes ☐No Date:	
2.		☐Yes ☐No Date:	
3.		☐Yes ☐No Date:	

Contractor or Subcontractor Certification and Signature
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." **Signature of Contractor or Subcontractor:** _____ **Date:** **Printed Name and Affiliation:** _____
Certification and Signature by Permittee
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." **Signature of Permittee or "Duly Authorized Representative":** _____ **Date:** **Printed Name and Affiliation:** _____

Attachment J

Schedule of Interim and Permanent Soil Stabilization Practices

Schedule of Interim and Permanent Soil Stabilization

Construction practices shall disturb the minimal amount of existing ground cover as required for land clearing, grading, and construction activity for the shortest amount of time possible to minimize the potential of erosion and sedimentation from the site. Existing vegetation shall be maintained and left in place until it is necessary to disturb for construction activity.
Records of the following shall be maintained:

a) The dates when major grading activities occur;
b) The dates when construction activities temporarily or permanently cease on a portion of the site; and
c) The dates when stabilization measures are initiated.

Stabilization measures must be initiated as soon as practical in portions of the site where construction activities have temporarily or permanently ceased, and except as provided in the following, must be initiated no more that fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased:

Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions, stabilization measures must be initiated as soon as practical.

Where construction activity on a portion of the site is temporarily ceased and earth disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures do not have to be initiated on that portion of the site.

In arid areas (areas with an average rainfall of 0-10 inches), semiarid areas (areas with an average annual rainfall of 10 to 20 inches), and areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonably arid conditions, stabilization measures must be initiated as soon as practical.

SECTION 6: ADDITIONAL FORMS

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

I PARVEZ MERCHANT,
Print Name

MANAGER,
Title - Owner/President/Other

of MALABAR HILL SUN CITY LLC,
Corporation/Partnership/Entity Name

have authorized Sarah Lee, P.E.
Print Name of Agent/Engineer

of Kimley-Horn and Associates, Inc.
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Applicant's Signature

2/18/25
Date

THE STATE OF Texas §

County of Harris §

BEFORE ME, the undersigned authority, on this day personally appeared Parvez Merchant 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 18th day of February, 2025

Lisa Lara
NOTARY PUBLIC

LISA LARA
Notary Public, State of Texas
My Commission Expires
August 18, 2025
NOTARY ID 13125038-6

Lisa Lara
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 8-18-25

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Sun City Retail Buildings Development
Regulated Entity Location: Intersection of SH 195 and Sun City Boulevard
Name of Customer: Malabar Hill Sun City LLC
Contact Person: Chris Merchant Phone: (832) 858-5016
Customer Reference Number (if issued): N/A
Regulated Entity Reference Number (if issued):N/A

Austin Regional Office (3373)

☐ Hays ☐ Travis ☒ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

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

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

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

Site Location (Check All That Apply):

☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

Type of Plan	***Size***	***Fee Due***
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	
Sewage Collection System	3,033 L.F.	$ 1,516.5
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: _____ Date: April 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

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Check Payable to the "Texas Commission on Environmental Quality"

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Core Data Form

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

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

SECTION II: Customer Information

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

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

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

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

Malabar Hill Suncity, LLC

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
0805101018	32090329080	93-1984854	

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

12. Number of Employees

☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?

☐ **Yes** ☒ **No**

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

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

15. Mailing Address:

5400 Pointe West Cir Suite 200

City	Richmond	**State**	TX	**ZIP**	77469	**ZIP + 4**	

16. Country Mailing Information *(if outside USA)*

17. E-Mail Address *(if applicable)*

Chris@MHcapital.org

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

(832) 858-5016		( ) -

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.)*

Sun City Retail Buildings Development

23. Street Address of the Regulated Entity: ***(No PO Boxes)***								
	City		**State**		**ZIP**		**ZIP + 4**	
24. County								

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

25. Description to Physical Location:	Intersection of Sun City Blvd and SH 195				
26. Nearest City			**State**	**Nearest ZIP Code**	
Georgetown			TX	78633	
Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).					
27. Latitude (N) In Decimal:	30.735359		**28. Longitude (W) In Decimal:**	-97.691805	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	44	7.29	97	41	30.50

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)
6531		531390	

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

Real Estate Developer

34. Mailing Address:	**5400 Pointe West Cir Suite 200**							
	City	**Richmond**	**State**	**TX**	**ZIP**	**77469**	**ZIP + 4**	
35. E-Mail Address:	**Chris@MHcapital.org**							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(832) 858-5016		( ) -

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:

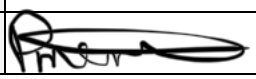
SECTION IV: Preparer Information

40. Name:	Sarah Lee	**41. Title:**	Project Engineer

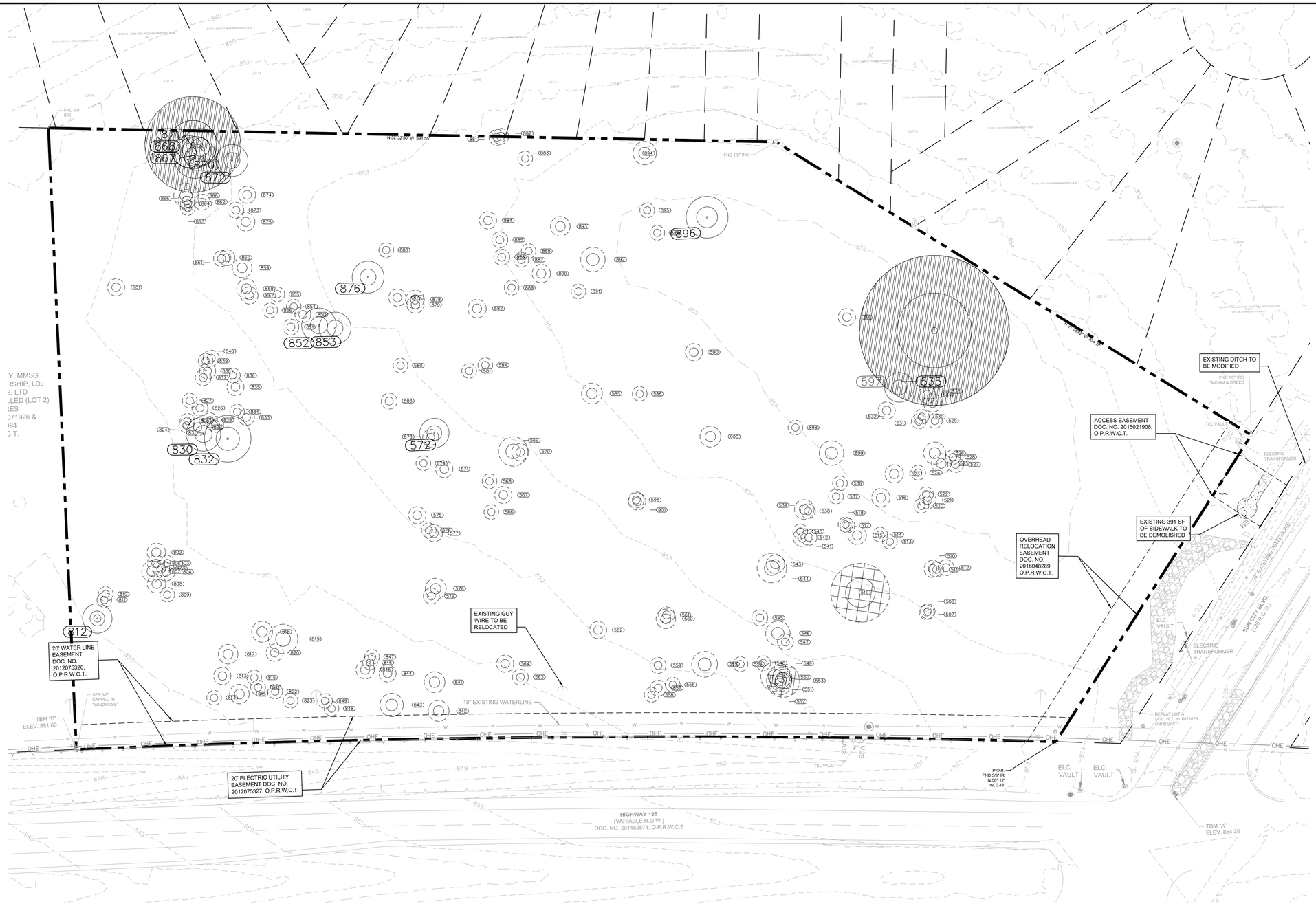
42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512 **)** 661-2925		**( )** -	sarah.lee@Kimley-Horn.com

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:	Malabar Hill SunCity LLC	**Job Title:**	Manager	
Name *(In Print):*	Parvez Merchant		**Phone:**	**(** 832 **)** 858- **5016**
Signature:			**Date:**	4/9/2025

SECTION 7: EXHIBITS



LEGEND

- PROPERTY LINE
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINE
- EXISTING STORM SEWER LINE
- EXISTING DITCH LINE
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING SIGN
- EXISTING GUY WIRE ANCHOR
- EXISTING METER POLE
- PROTECTED TREE TO REMAIN
- PROTECTED TREE TO BE REMOVED
- HERITAGE TREE TO REMAIN
- HERITAGE TREE TO BE REMOVED

NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING UTILITIES, IRRIGATION LINES, PAVEMENT, ETC. TO REMAIN RESULTING FROM DEMOLITION AND REPAIR AT HIS OWN EXPENSE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION AND DISPOSAL.
3. PERIMETER EROSION CONTROL DEVICES SHALL BE IN PLACE PRIOR TO DEMOLITION. REFERENCE EROSION CONTROL PLAN AND DETAILS FOR TYPE AND LOCATION.
4. SURVEY PREFORMED BY WINDROSE LAND SURVEYING & PLATTING, APRIL, 2024.
5. SUR WATER LINE POTHOLES PROVIDED BY RIOS.

BENCHMARKS

TBM "A":
A BOX CUT ON THE BACK OF A CURB AT THE NOSE OF MEDIAN +/- 25 FEET SOUTHWEST FROM THE CENTERLINE OF HIGHWAY 195, AND AT THE INTERSECTION OF HIGHWAY 195 AND SUN CITY BLVD.
ELEVATION = 854.30'

TBM "B":
A RAILROAD SPIKE IN A POWER POLE +/- 70 FEET SOUTHWEST FROM THE CENTERLINE OF HIGHWAY 195, +/- 890 FEET SOUTHEAST FROM THE INTERSECTION OF HIGHWAY 195 AND SUN CITY BOULEVARD.
ELEVATION = 851.69'

811 Know what's **below.** **Call** before you dig.

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

FOR REVIEW. THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF SEUM LEE 149390 ON 4/29/2025. IT IS NOT TO BE USED FOR BIDDING, PERMIT OR CONSTRUCTION.

No.	REVISIONS	DATE	BY

Kimley»Horn
5301 SOUTHWEST PARKWAY, BUILDING 2, SUITE 100
AUSTIN, TX 78735
PHONE: 512-646-2237 FAX: 512-418-1791
WWW.KIMLEY-HORN.COM

TBPE Firm No. 928

STATE OF TEXAS
SEUM LEE
149390
LICENSED PROFESSIONAL ENGINEER
4/25/2025

KHA PROJECT	069430045
DATE	JULY 2023
SCALE:	AS SHOWN
DESIGNED BY:	BAB
DRAWN BY:	CRS
CHECKED BY:	BAB

EXISTING CONDITIONS

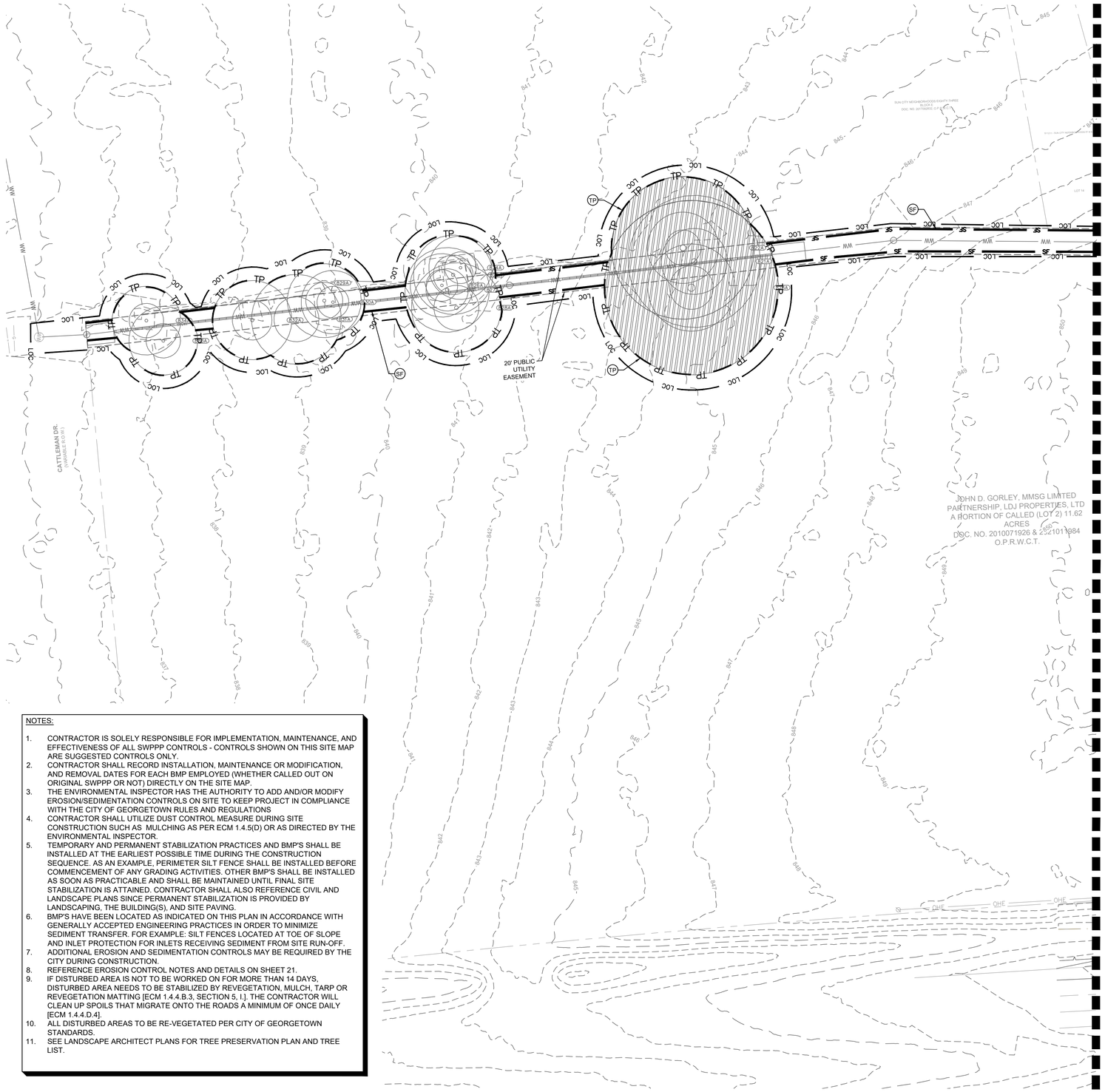
SUN CITY RETAIL BUILDINGS DEVELOPMENT

CIVIL SITE DEVELOPMENT PERMIT

CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER
6 OF 75

2025-25-SDP



NOTES:

1. CONTRACTOR IS SOLELY RESPONSIBLE FOR IMPLEMENTATION, MAINTENANCE, AND EFFECTIVENESS OF ALL SWPPP CONTROLS - CONTROLS SHOWN ON THIS SITE MAP ARE SUGGESTED CONTROLS ONLY.
2. CONTRACTOR SHALL RECORD INSTALLATION, MAINTENANCE OR MODIFICATION, AND REMOVAL DATES FOR EACH BMP EMPLOYED (WHETHER CALLED OUT ON ORIGINAL SWPPP OR NOT) DIRECTLY ON THE SITE MAP.
3. THE ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN COMPLIANCE WITH THE CITY OF GEORGETOWN RULES AND REGULATIONS
4. CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURE DURING SITE CONSTRUCTION SUCH AS MULCHING AS PER ECM 1.4.5(D) OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
5. TEMPORARY AND PERMANENT STABILIZATION PRACTICES AND BMP'S SHALL BE INSTALLED AT THE EARLIEST POSSIBLE TIME DURING THE CONSTRUCTION SEQUENCE. AS AN EXAMPLE, PERIMETER SILT FENCE SHALL BE INSTALLED BEFORE COMMENCEMENT OF ANY GRADING ACTIVITIES. OTHER BMP'S SHALL BE INSTALLED AS SOON AS PRACTICABLE AND SHALL BE MAINTAINED UNTIL FINAL SITE STABILIZATION IS ATTAINED. CONTRACTOR SHALL ALSO REFERENCE CIVIL AND LANDSCAPE PLANS SINCE PERMANENT STABILIZATION IS PROVIDED BY LANDSCAPING, THE BUILDING(S), AND SITE PAVING.
6. BMP'S HAVE BEEN LOCATED AS INDICATED ON THIS PLAN IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES IN ORDER TO MINIMIZE SEDIMENT TRANSFER. FOR EXAMPLE: SILT FENCES LOCATED AT TOE OF SLOPE AND INLET PROTECTION FOR INLETS RECEIVING SEDIMENT FROM SITE RUN-OFF.
7. ADDITIONAL EROSION AND SEDIMENTATION CONTROLS MAY BE REQUIRED BY THE CITY DURING CONSTRUCTION.
8. REFERENCE EROSION CONTROL NOTES AND DETAILS ON SHEET 21.
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10. ALL DISTURBED AREAS TO BE RE-VEGETATED PER CITY OF GEORGETOWN STANDARDS.
11. SEE LANDSCAPE ARCHITECT PLANS FOR TREE PRESERVATION PLAN AND TREE LIST.

0 40' 80'
GRAPHIC SCALE 40'

LEGEND

- PROPERTY BOUNDARY
- EASEMENT LINE
- SF — SILT FENCE
- TP — TREE PROTECTION
- IP — PROPOSED INLET PROTECTION
- CE — CONSTRUCTION ENTRANCE
- RB — ROCK BERM
- 450 — EXISTING CONTOURS
- 450 — PROPOSED CONTOURS
- LOC — LIMITS OF CONSTRUCTION AREA
- TREE TO REMAIN
- HERITAGE TREE TO REMAIN

BENCHMARKS

TBM "A":
A BOX CUT ON THE BACK OF A CURB AT THE NOSE OF MEDIAN +/- 25 FEET SOUTHWEST FROM THE CENTERLINE OF HIGHWAY 195, AND AT THE INTERSECTION OF HIGHWAY 195 AND SUN CITY BLVD.
ELEVATION = 854.30'

TBM "B":
A RAILROAD SPIKE IN A POWER POLE +/- 70 FEET SOUTHWEST FROM THE CENTERLINE OF HIGHWAY 195, +/- 890 FEET SOUTHEAST FROM THE INTERSECTION OF HIGHWAY 195 AND SUN CITY BOULEVARD.
ELEVATION = 851.69'

811
Know what's **below.**
Call before you dig.

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

FOR REVIEW. THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF SEUM LEE, 149390 ON APRIL 28, 2025 . IT IS NOT TO BE USED FOR BIDDING, PERMIT, OR CONSTRUCTION.

No.	REVISIONS	DATE	BY

Kimley»Horn
5301 SOUTHWEST PARKWAY, BUILDING 3, SUITE 100
AUSTIN, TX 78735
PHONE: 512-646-2237 FAX: 512-418-1791
WWW.KIMLEY-HORN.COM
TX REGISTERED ENGINEERING FIRM F-928

TBPE Firm No. 928

STATE OF TEXAS
SEUM LEE
149390
LICENSED PROFESSIONAL ENGINEER
4/29/2025

KHA PROJECT: 069418900	
DATE:	FEBRUARY 2024
SCALE:	AS SHOWN
DESIGNED BY:	SL
DRAWN BY:	KEA
CHECKED BY:	SL

EROSION CONTROL PLAN (SHEET 1 OF 2)

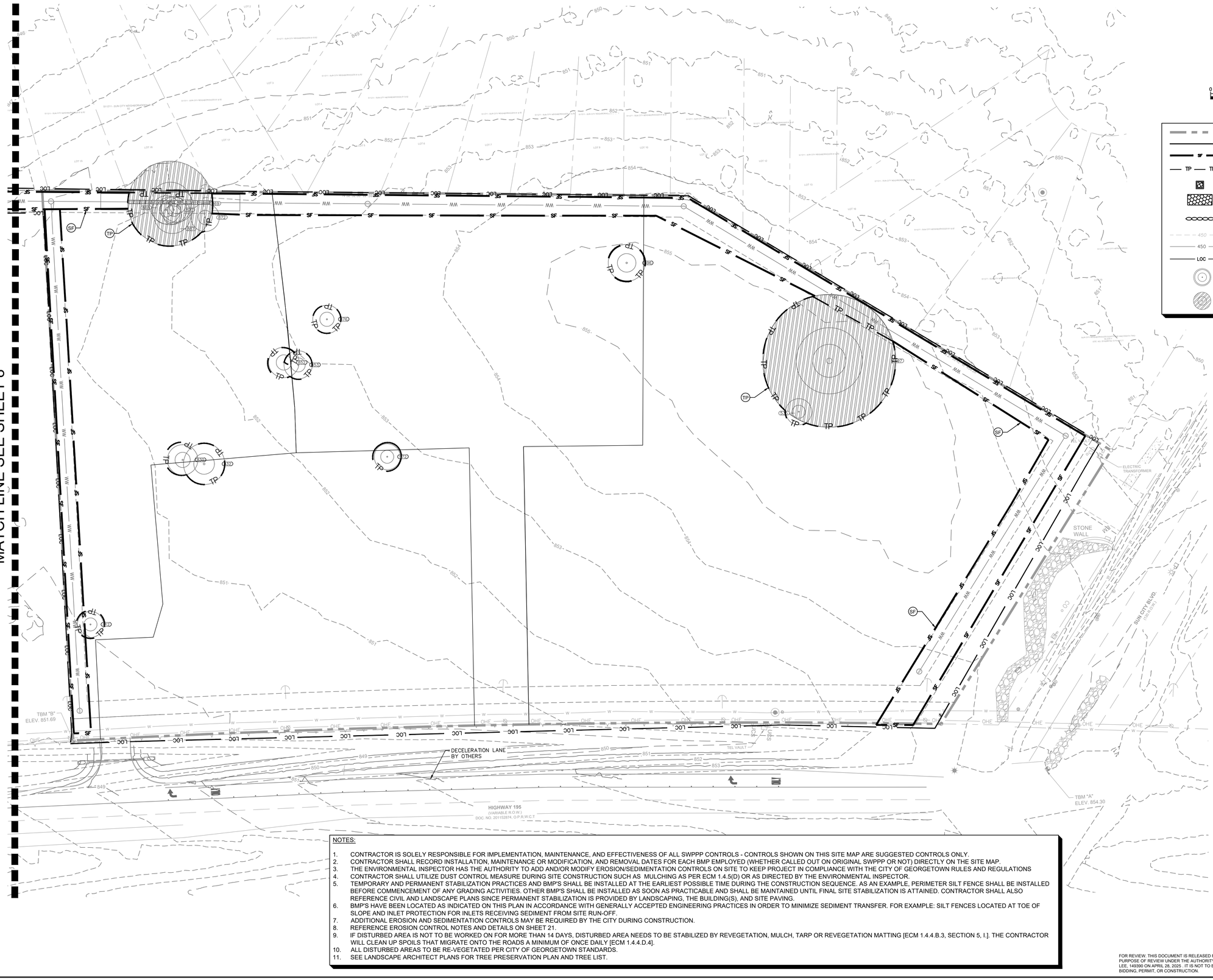
SUN CITY RETAIL CONSTRUCTION PLANS

CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER
8 OF 24

2024-5-CON

MATCH LINE SEE SHEET 8



0 40' 80'
GRAPHIC SCALE 40'

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- INTERNAL LOT LINE
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- TP — TREE PROTECTION
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PHONE: 512-646-2237 FAX: 512-418-1791
WWW.KIMLEY-HORN.COM
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TBPE Firm No. 928

STATE OF TEXAS
SEUM LEE
149390
LICENSED
PROFESSIONAL ENGINEER
4/29/2025

KHA PROJECT
069418900
DATE
FEBRUARY 2024
SCALE: AS SHOWN
DESIGNED BY: SL
DRAWN BY: KEA
CHECKED BY: SL

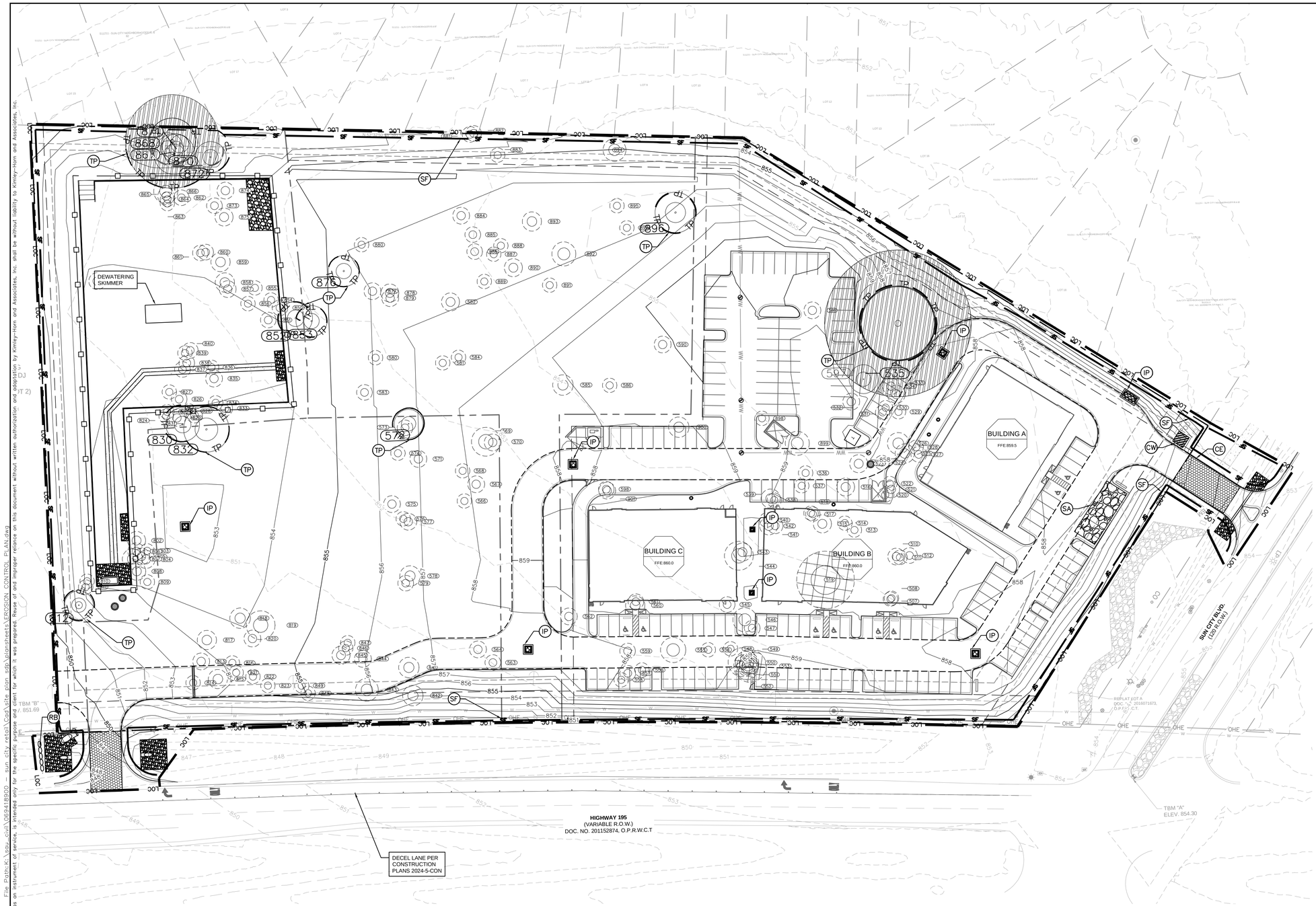
EROSION CONTROL PLAN (SHEET 2 OF 2)

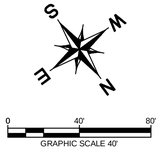
SUN CITY RETAIL CONSTRUCTION PLANS

CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER
9 OF 24

2024-5-CON





LEGEND

- PROPERTY LINE
- INTERNAL LOT LINE
- 632 — PROPOSED CONTOUR
- 632 — EXISTING CONTOUR
- SF — SILT FENCE
- TP — TREE PROTECTION
- LOC — LIMITS OF CONSTRUCTION
- RB — ROCK BERM
- CW — CONCRETE WASHOUT PIT
- CE — STABALIZED CONSTRUCTION ENTRANCE/EXIT
- IP — INLET PROTECTION
- SA — STAGING AND SPOILS AREA
- ROCK RIP-RAP
- PROTECTED TREE TO REMAIN
- PROTECTED TO BE REMOVED
- HERITAGE TREE TO REMAIN
- HERITAGE TREE TO BE REMOVED

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PHONE: 512-646-2237 FAX: 512-418-1791
WWW.KIMLEY-HORN.COM
TX REGISTRATION NO. F-928 KIMLEY-HORN AND ASSOCIATES, INC.

STATE OF TEXAS
SEUM LEE
149390
LICENSED PROFESSIONAL ENGINEER
4/24/2025

KHA PROJECT	069418900
DATE	JULY 2023
SCALE:	AS SHOWN
DESIGNED BY:	BAB
DRAWN BY:	CRS
CHECKED BY:	BAB

EROSION CONTROL PLAN

SUN CITY RETAIL BUILDINGS DEVELOPMENT

CIVIL SITE DEVELOPMENT PERMIT
CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER
7 OF 75

2025-25-SDP

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%

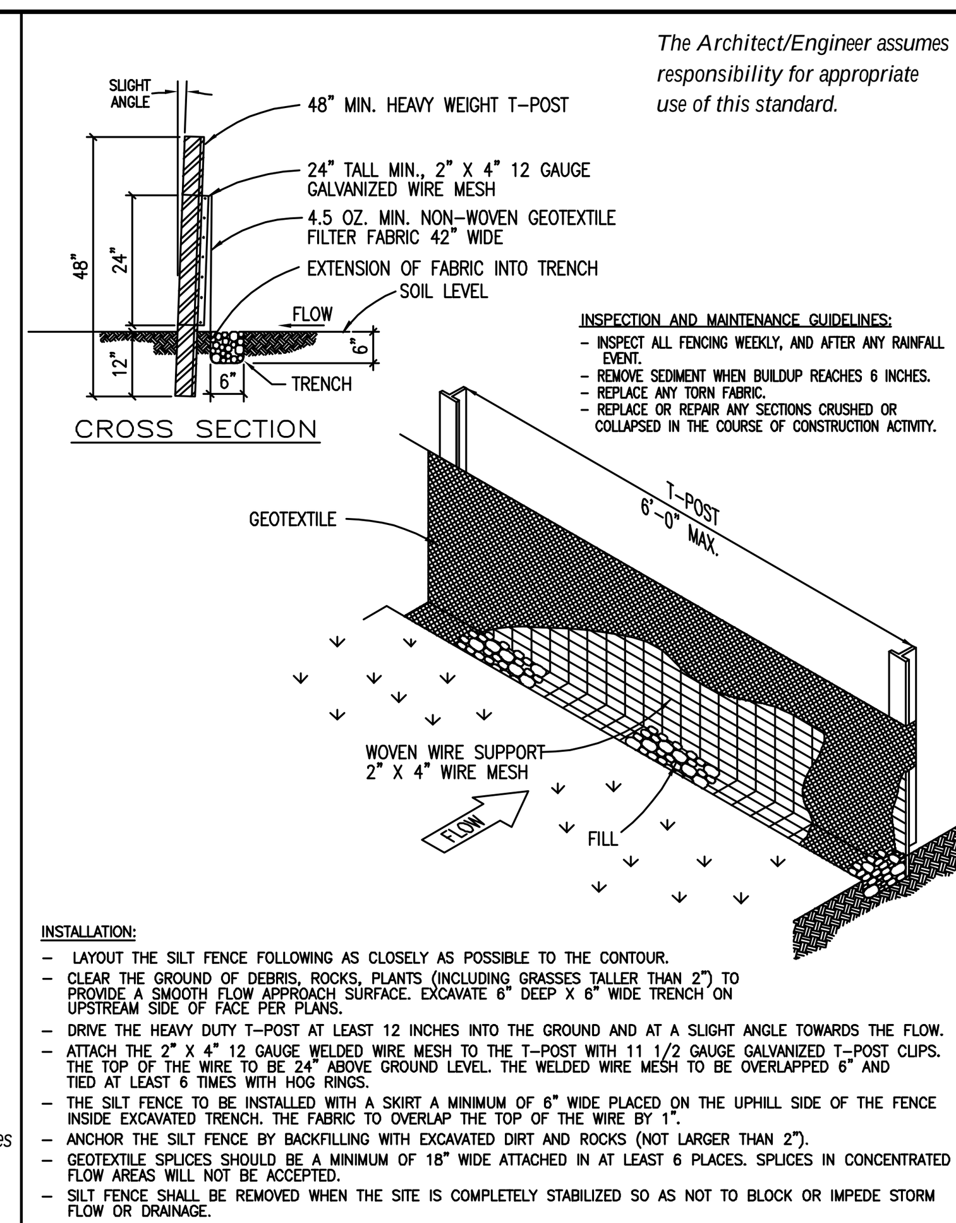
* FOR ROCK BERM DESIGN WHERE PARAMETERS ARE OTHER THAN STATED, DRAINAGE AREA CALCULATIONS AND ROCK BERM DESIGN MUST BE SUBMITTED FOR REVIEW.

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

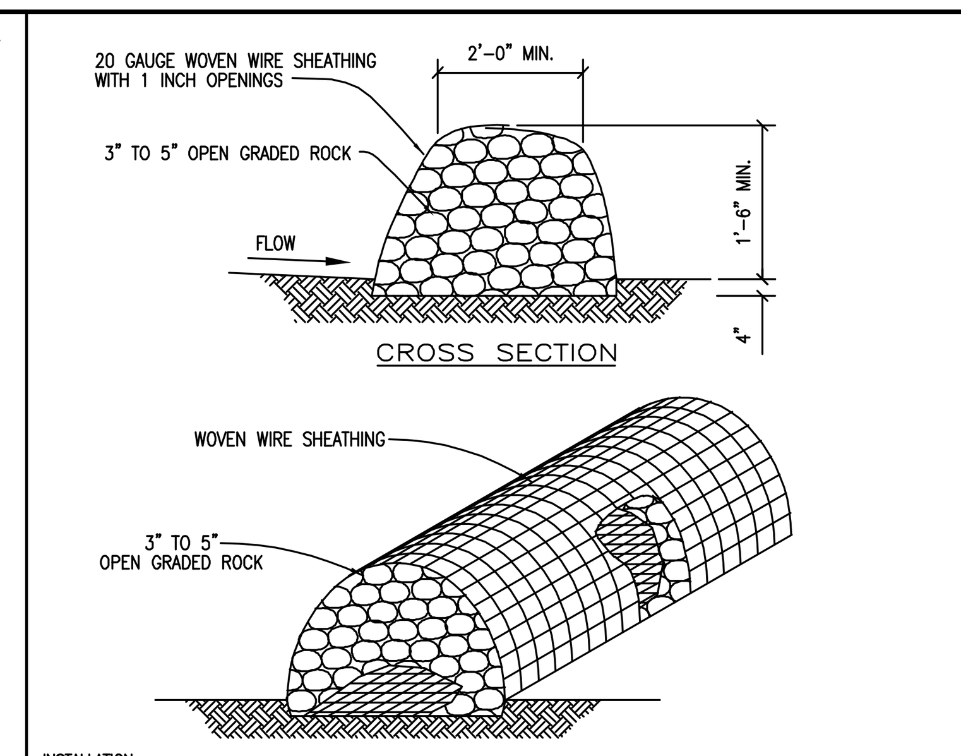
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — TEMPORARY EROSION AND SEDIMENTATION CONTROL GUIDELINES — EC01

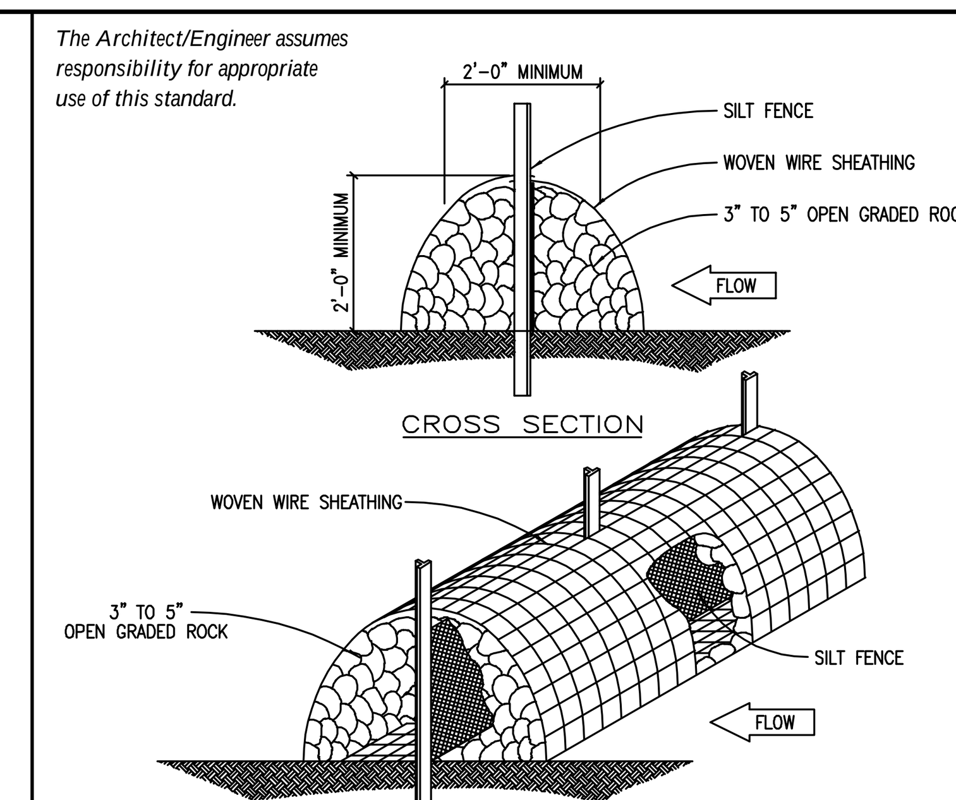
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — EROSION AND SEDIMENTATION AND TREE PROTECTION NOTES — EC01A



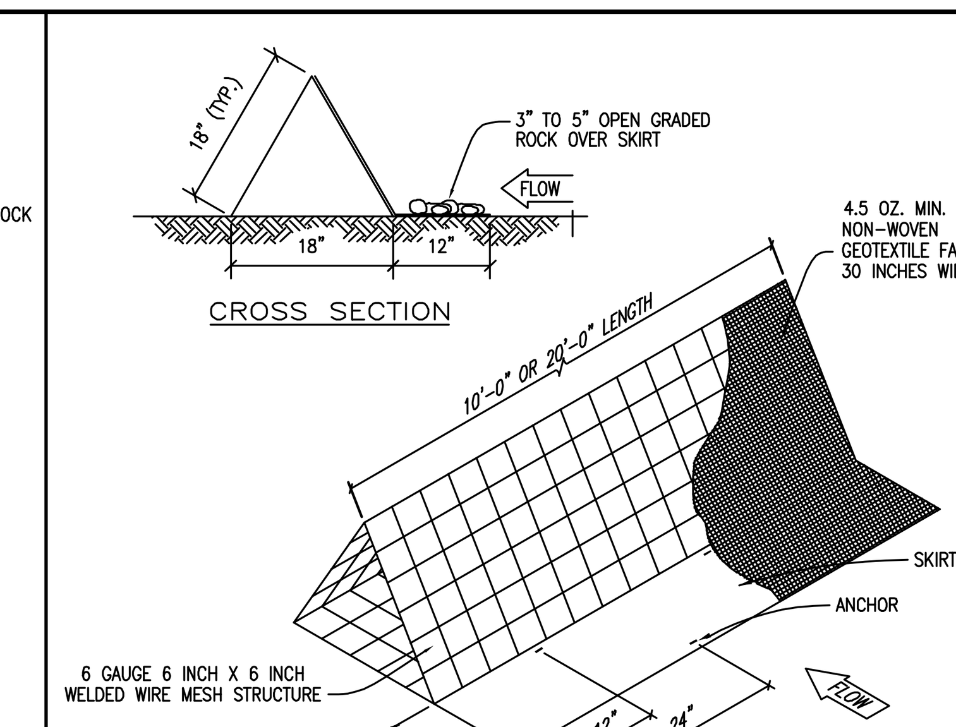
SILT FENCE DETAIL — EC02



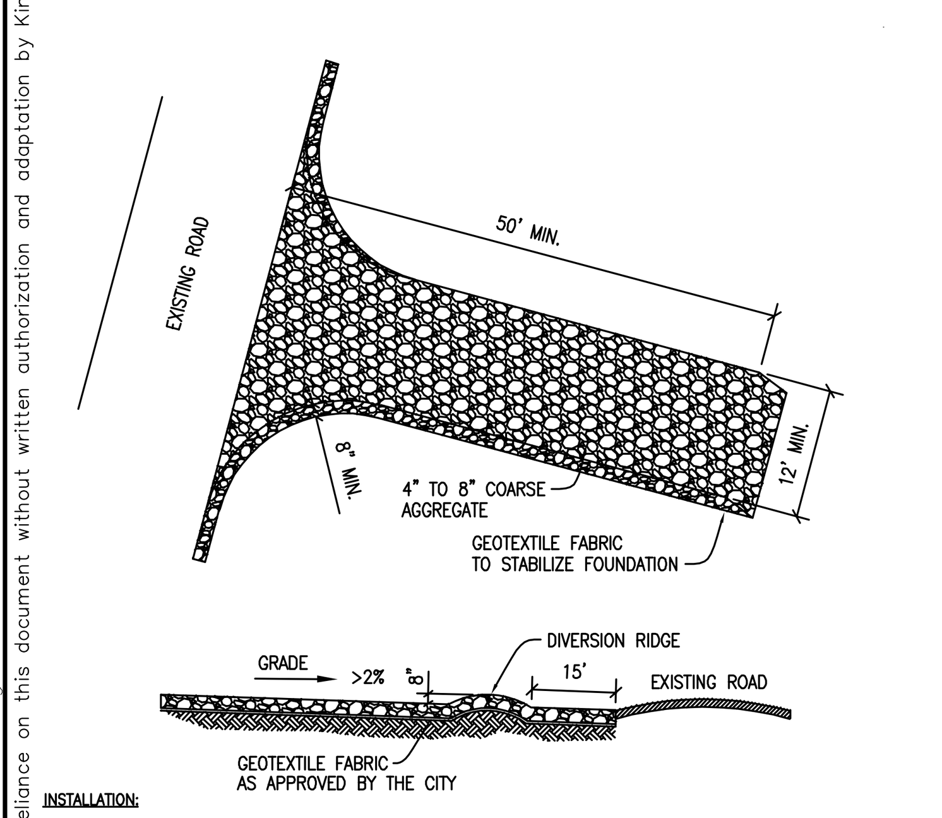
ROCK BERM DETAIL — EC03



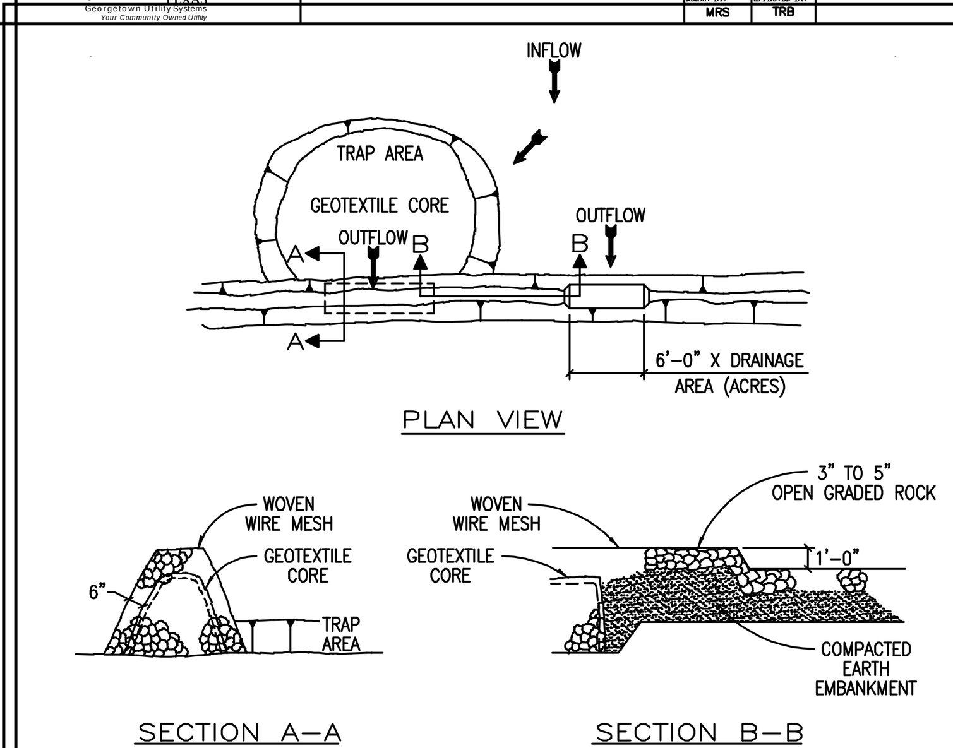
HIGH SERVICE ROCK BERM DETAIL — EC04



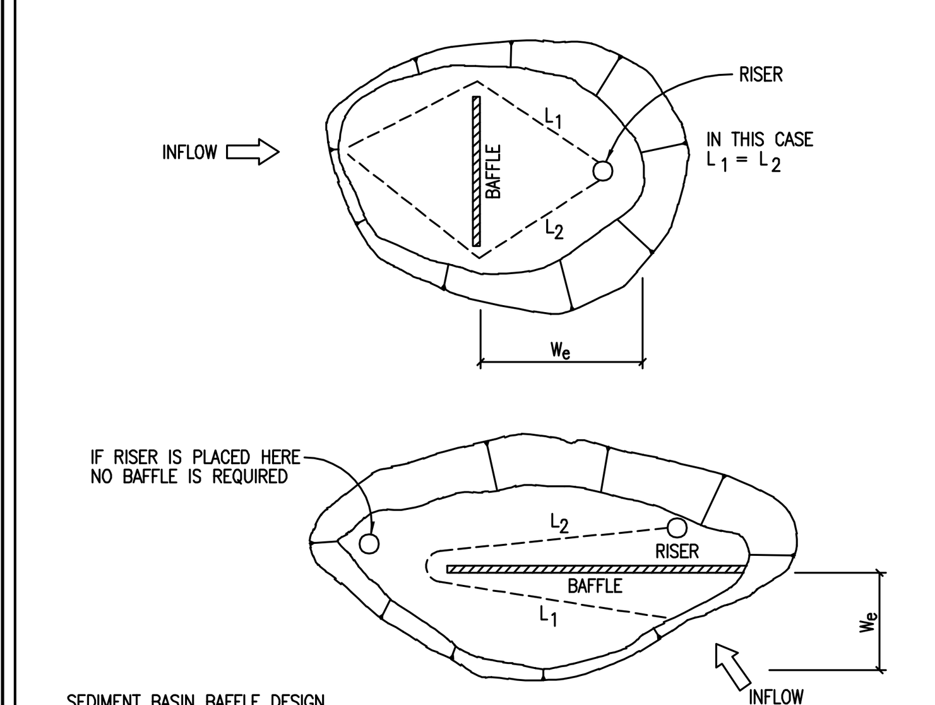
TRIANGULAR FILTER DIKE — EC05



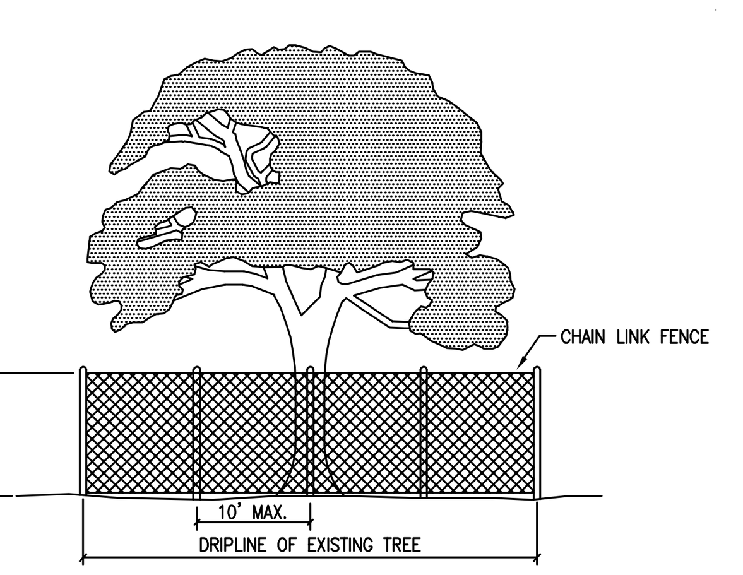
STABILIZED CONSTRUCTION ENTRANCE — EC06



SEDIMENT TRAP DETAIL — EC07



SEDIMENT BASIN BAFFLE DESIGN — EC08

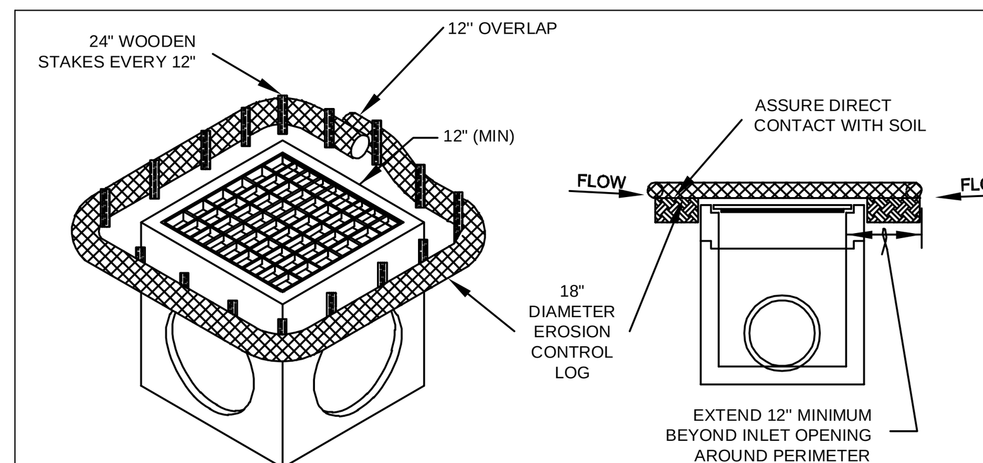


NOTES:

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.

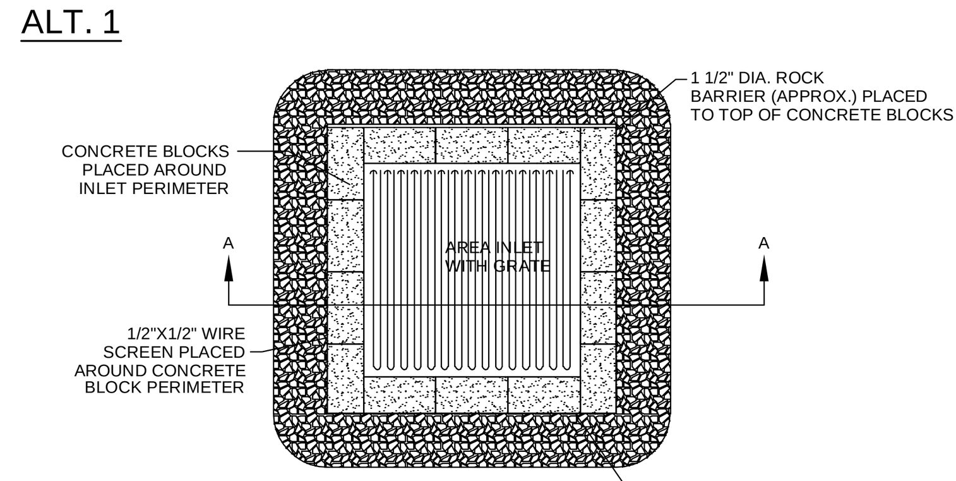
ADOPTED 6/21/2006 — CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS — TREE PROTECTION – CHAIN LINK FENCE — EC09



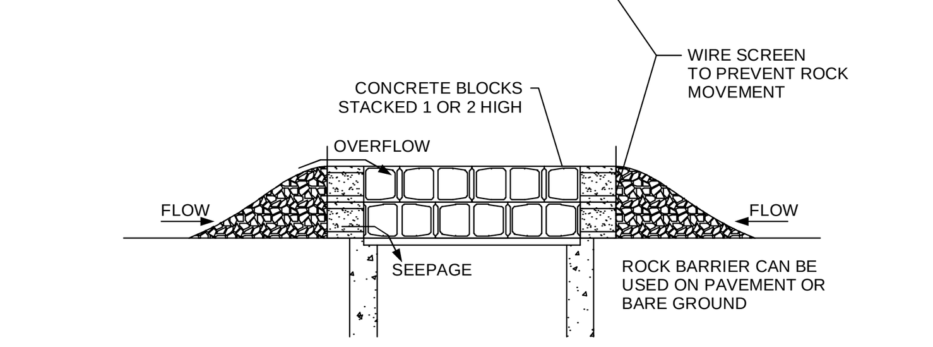
NOTES:

1. EROSION CONTROL LOG CONTAINMENT MESH SHALL BE 100% BIODEGRADABLE, PHOTODEGRADABLE OR RECYCLABLE; AND FILL MATERIAL SHALL CONSIST OF MULCH, ASPEN EXCELSIOR FIBERS, CHIPPED SITE VEGETATION, COCONUT FIBERS, 100% RECYCLABLE FIBERS, OR ANY OTHER ACCEPTABLE MATERIAL EXCLUDING STRAW AND HAY.
2. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 6".
3. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY CLEAN THE INLET PROTECTION IF EXCESSIVE PONDING OCCURS.
4. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

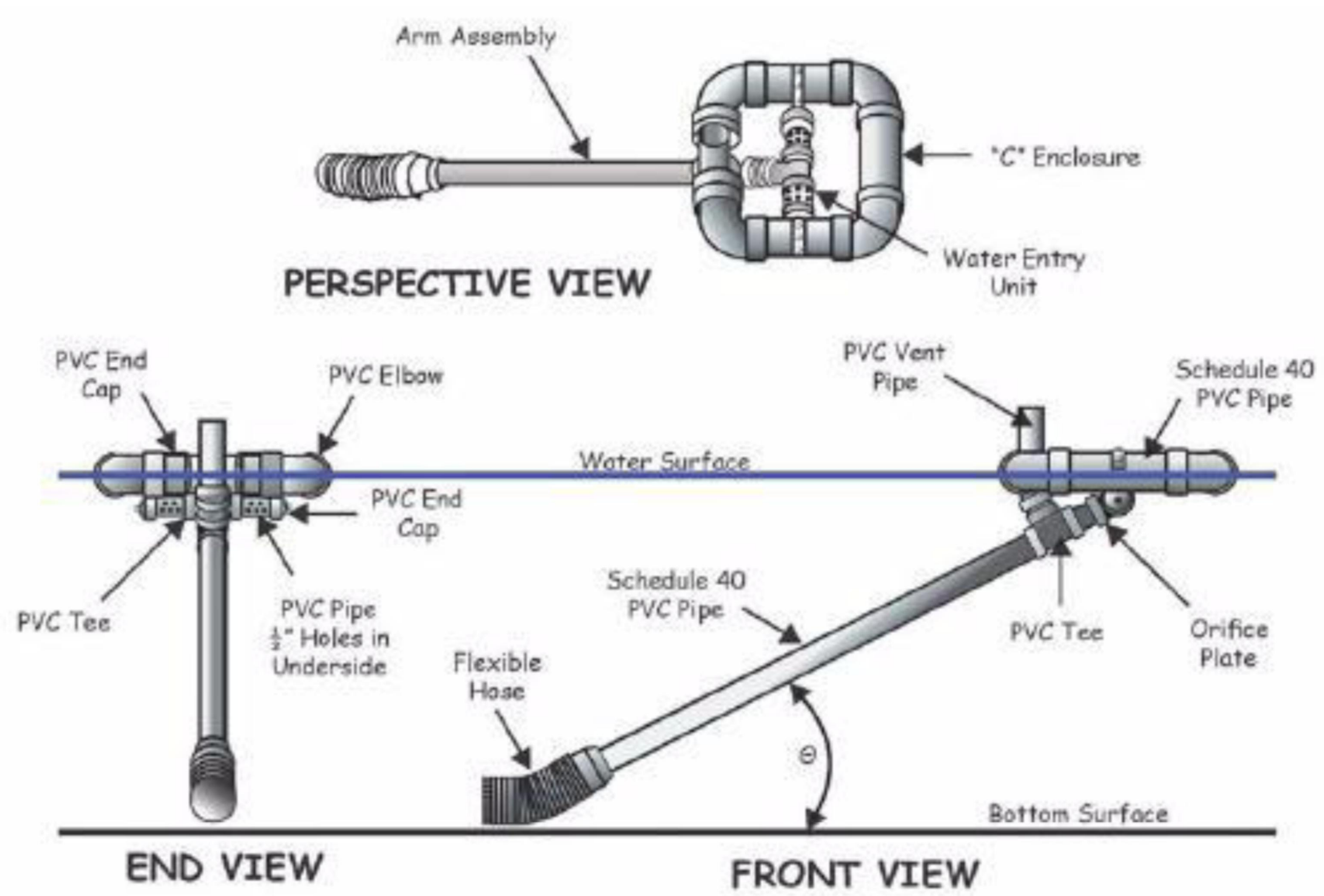
ALT. 1



ALT. 2 — GRATED STORM DRAIN INLET PROTECTION (N.T.S.)



CURB INLET PROTECTION (N.T.S.)



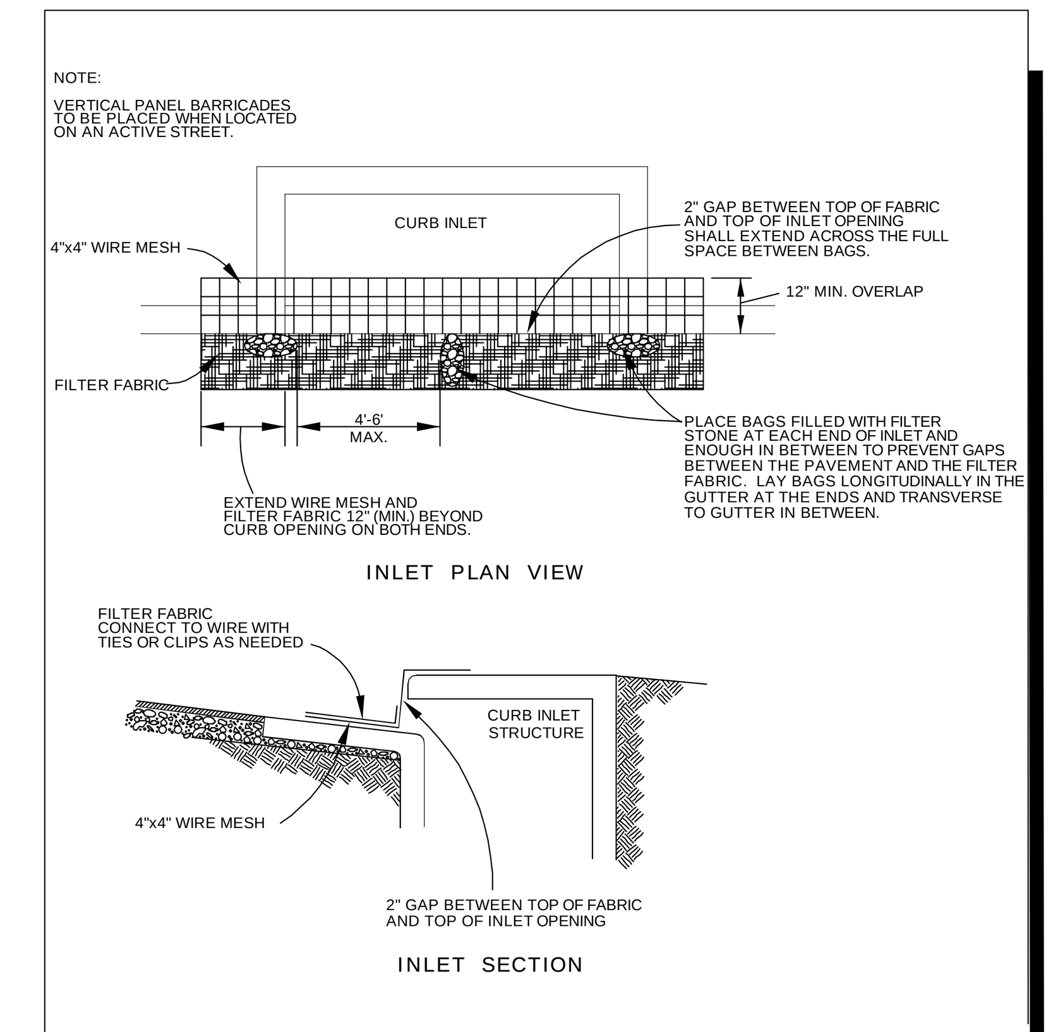


Figure 6.64a Schematic of a skimmer, from Pennsylvania Erosion and Sediment Pollution Control Manual, March, 2000.

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TBPE Firm No. 928

STATE OF TEXAS — SEUM LEE — 149390 — LICENSED PROFESSIONAL ENGINEER — 1/10/2025

KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
069418900	JULY 2023	AS SHOWN	BAB	CRS	BAB

EROSION CONTROL DETAILS

SUN CITY RETAIL BUILDINGS DEVELOPMENT
CIVIL SITE DEVELOPMENT PERMIT
CITY OF GEORGETOWN
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER
42 OF 75