

# **ORGANIZED SEWAGE COLLECTION SYSTEM**

**VALOR LEANDER  
168 KAUFFMAN LOOP  
LEANDER, WILLIAMSON COUNTY, TEXAS**

*Prepared For:*

**VALOR TEXAS EDUCATION FOUNDATION**

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Austin, TX 78745  
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*Prepared By:*

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Firm No. 928  
KHA Project No. 067783129

December 1st, 2023



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# **SECTION 1: EDWARDS AQUIFER APPLICATION COVER PAGE**

# Texas Commission on Environmental Quality

## Edwards Aquifer Application Cover Page

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### Our Review of Your Application

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

### Administrative Review

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

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

2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.
3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.
4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

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

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

### Technical Review

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.
2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited**.
4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

### Mid-Review Modifications

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

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

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

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

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

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

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

<b>1. Regulated Entity Name:</b> Valor Leander					<b>2. Regulated Entity No.:</b> N/A				
<b>3. Customer Name:</b> Valor Texas Education Foundation					<b>4. Customer No.:</b> 606089696				
<b>5. Project Type:</b> (Please circle/check one)	<u>New</u>		Modification			Extension		Exception	
<b>6. Plan Type:</b> (Please circle/check one)	WPAP	CZP	<u>SCS</u>	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
<b>7. Land Use:</b> (Please circle/check one)	Residential		<u>Non-residential</u>			<b>8. Site (acres):</b>		13.80	
<b>9. Application Fee:</b>	\$2,294		<b>10. Permanent BMP(s):</b>				Vegetative Filter Strips, Batch Detention Pond		
<b>11. SCS (Linear Ft.):</b>	3,433		<b>12. AST/UST (No. Tanks):</b>				N/A		
<b>13. County:</b>	Williamson		<b>14. Watershed:</b>				North and South Fork San Gabriel River		

# Application Distribution

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

[http://www.tceq.texas.gov/assets/public/compliance/field\\_ops/eapp/EAPP%20GWCD%20map.pdf](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.)	—	—	<u>X</u>
Region (1 req.)	—	—	<u>X</u>
County(ies)	—	—	—
Groundwater Conservation District(s)	<u>—</u> Edwards Aquifer Authority <u>—</u> Barton Springs/ Edwards Aquifer <u>—</u> Hays Trinity <u>—</u> Plum Creek	<u>—</u> Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	<u>—</u> Austin <u>—</u> Buda <u>—</u> Dripping Springs <u>—</u> Kyle <u>—</u> Mountain City <u>—</u> San Marcos <u>—</u> Wimberley <u>—</u> Woodcreek	<u>—</u> Austin <u>—</u> Bee Cave <u>—</u> Pflugerville <u>—</u> Rollingwood <u>—</u> Round Rock <u>—</u> Sunset Valley <u>—</u> West Lake Hills	<u>—</u> Austin <u>—</u> Cedar Park <u>—</u> Florence <u>—</u> Georgetown <u>—</u> Jerrell <u>X</u> Leander <u>—</u> Liberty Hill <u>—</u> Pflugerville <u>—</u> Round Rock

San Antonio Region					
County:	Bexar	Comal	Kinney	Medina	Uvalde
Original (1 req.)	—	—	—	—	—
Region (1 req.)	—	—	—	—	—
County(ies)	—	—	—	—	—
Groundwater Conservation District(s)	<u>—</u> Edwards Aquifer Authority <u>—</u> Trinity-Glen Rose	<u>—</u> Edwards Aquifer Authority	<u>—</u> Kinney	<u>—</u> EAA <u>—</u> Medina	<u>—</u> EAA <u>—</u> Uvalde
City(ies) Jurisdiction	<u>—</u> Castle Hills <u>—</u> Fair Oaks Ranch <u>—</u> Helotes <u>—</u> Hill Country Village <u>—</u> Hollywood Park <u>—</u> San Antonio (SAWS) <u>—</u> Shavano Park	<u>—</u> Bulverde <u>—</u> Fair Oaks Ranch <u>—</u> Garden Ridge <u>—</u> New Braunfels <u>—</u> Schertz	NA	<u>—</u> 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.

Allison Kennaugh, P.E.

Print Name of Customer/Authorized Agent

*Allison Kennaugh*

12/01/2023

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: Allison Kennaugh, P.E.

Date: December 1st, 2023

Signature of Customer/Agent:

Allison Kennaugh

## Project Information

1. Regulated Entity Name: Valor Leander
2. County: Williamson
3. Stream Basin: North and South Fork San Gabriel River
4. Groundwater Conservation District (If applicable): N/A
5. Edwards Aquifer Zone:  
☒ Recharge Zone  
☐ Transition Zone
6. Plan Type:  

<input type="checkbox"/> WPAP	<input type="checkbox"/> AST
<input checked="" type="checkbox"/> SCS	<input type="checkbox"/> UST
<input type="checkbox"/> Modification	<input type="checkbox"/> Exception Request



7. Customer (Applicant):

Contact Person: Jesse Bates

Entity: Valor Texas Education Foundation

Mailing Address: 220 Foremost Drive

City, State: Austin, TX

Zip: 78745

Telephone: 214-514-3356

Fax: N/A

Email Address: jbates@valoreducation.org

8. Agent/Representative (If any):

Contact Person: Allison Kennaugh, P.E.

Entity: Kimley-Horn

Mailing Address: 10814 Jollyville Road; Bldg. IV, Suite 200

City, State: Austin, Texas

Zip: 78759

Telephone: 512-782-0614

Fax: N/A

Email Address: allison.kennaugh@kimley-horn.com

9. Project Location:

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

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

168 Kauffman Loop – Located along the North boundary of Co Rd 267 and the west boundary of Kauffman Loop

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: 12/1/2023

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



SCALE: N.T.S.

DIRECTIONS FROM TCEQ HEADQUARTERS TO PROJECT SITE

1. HEAD SOUTH ON PARK 35 CIRCLE, TURNING RIGHT ONTO S IH-35 FRONTAGE ROAD
2. TAKE US-183 HWY N TO 183A FRONTAGE ROAD
3. TAKE CRYSTAL FALLS PKWY EXIT
4. TURN RIGHT ONTO E CRYSTAL FALLS PKWY
5. TURN LEFT ONTO RONALD REAGAN BLVD
6. TURN LEFT ONTO KAUFFMAN LOOP
7. CONTINUE ON KAUFFMAN LOOP FOR APPROXIMATELY 0.42 MILES.
8. SITE IS LOCATED ON THE LEFT

SHEET

EX A

Scale: 1"=1000'

Designed by: AMF

Drawn by: AMF

Checked by: AK

Date: NOVEMBER, 2023

Project No. 069252742

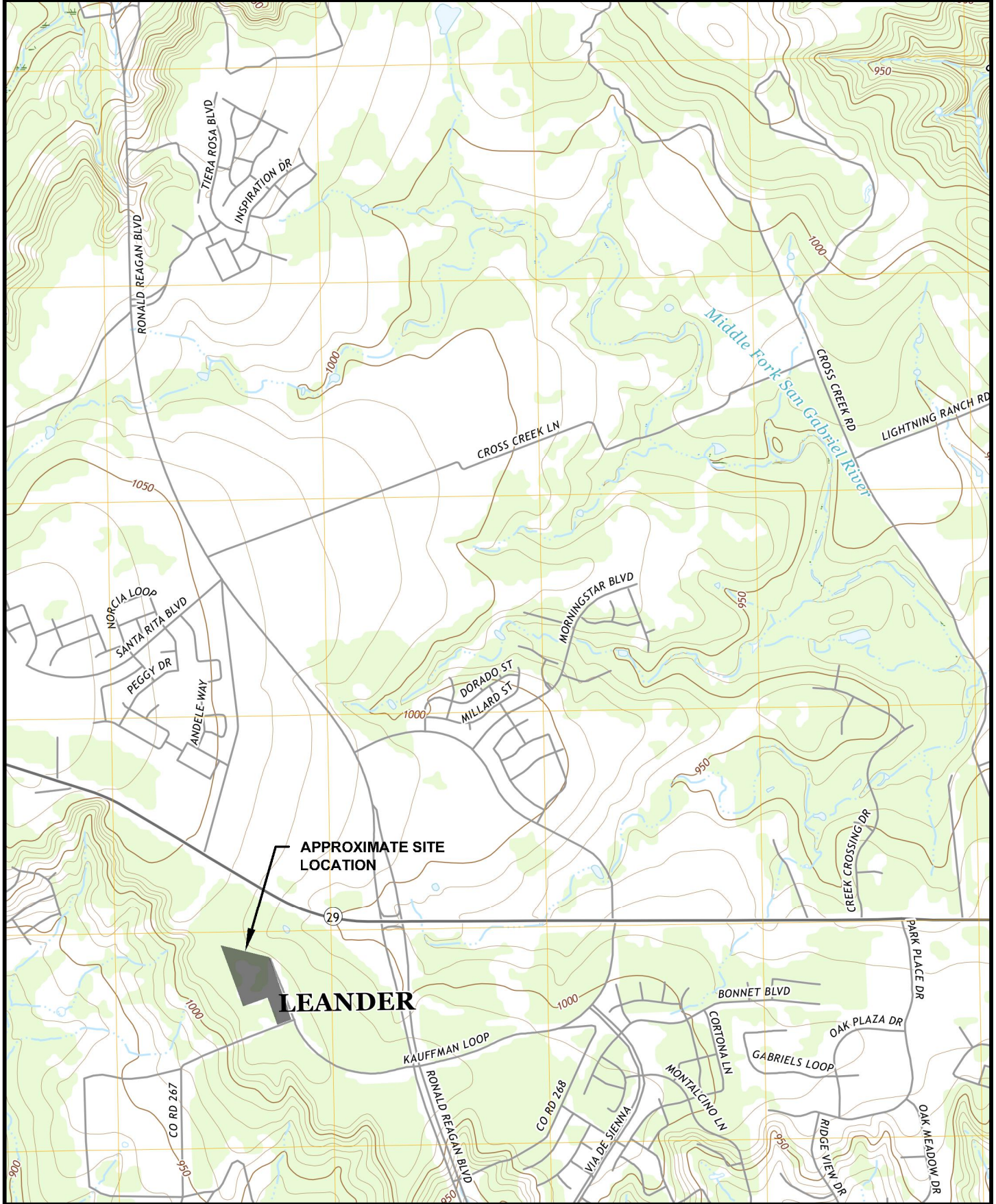
VALOR LEANDER  
LEANDER, TEXAS

**Kimley»Horn**

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TBP Firm No. 928

## **ATTACHMENT B - USGS/Edwards Recharge Zone Map**





## **ATTACHMENT C – Project Description**

### **Introduction**

The subject site is a largely undeveloped 13.80 acre lot located on 168 Kauffman Loop and within the Full Purpose city limits of the City of Leander. The subject property will be comprised of a charter school and all necessary infrastructure for the school.

The site is not located in the Federal Emergency Management Agency's 100-year floodplain according to FIRM 48491C0275E. The site is located within the Edwards Aquifer Recharge Zone according to TCEQ Edwards Aquifer Map.

### **Current Tract Conditions**

#### **Legal Description**

The legal description is described as 13.80 acres of land out of the William H. Monroe Survey, Abstract No. 453, Williamson County, Texas, as described in Doc. #2015015610 of the deed records of Williamson County, Texas. The deed can be found by document No. 2023051200 of the Official Public Records of Williamson County, Texas.

#### **Land Use**

The lot is zoned for Single-Family Rural (SFR) but will be zoned as Activity Center for this development. The site resides within the Full Purpose city limits of the City of Leander in Williamson County, Texas.

### **Existing Drainage Conditions**

Under existing conditions, the site has one ridge to the southwest, sending flow to one point at the western property boundary and one point on the eastern property boundary.

### **Proposed Development**

The proposed Valor Leander project includes the construction of a charter school and infrastructure for the school. Public Water and wastewater lines will be designed according to City of Leander specifications and connect to City of Leander utility services. Access to the site will be via Kauffman Loop, which intersects Ronald Reagan Blvd. The project proposes 6.74 acres of total impervious cover. There will be 5.91 acres of impervious cover from on site, draining to a proposed batch detention pond. There will be an additional 0.83 acres of impervious cover from Kauffman Loop draining to proposed VFS. Please note that the proposed improvements within Kauffman loop are only adding 0.12 acres of impervious cover. There is already an existing 0.71 acres of impervious cover within the drainage area that will be draining to the proposed VFS. the addition of a turn lane in Kauffman Loop. Water will be treated according to TCEQ requirements through one on site Batch Detention Pond and offsite vegetative filter strips. The flow will be discharged to the Northeast of the site. Proposed flow conditions will not exceed existing conditions.



## **Drainage and Water Quality Analysis**

### **Floodplain Information**

According to the FEMA Flood Insurance Rate Map Panel No. 48491C0275E for Williamson County, effective September 28, 2008, no portion of the development lies within the 100-yr floodplain (Zone A).

### **On-Site Drainage**

The proposed site will convey runoff through an underground storm pipe system into one on site Batch detention pond. A portion of offsite and onsite flow will overland flow over vegetative filter strips. The detention pond will release the runoff at or below existing condition flow rates onto rock riprap which will then be conveyed northeast. Drainage area maps and calculations are included in the construction set included in the Exhibits Section.

### **Off-Site Drainage**

Under existing conditions, drainage from Kauffman Loop drains into an existing ditch along the west side of Kauffman Loop. The off-site drainage from this area, along with the proposed additional pavement will overland flow over proposed Vegetative Filter Strips.

In proposed conditions, once runoff is released from the detention pond it will travel northeast of the project site.

### **Detention and Water Quality**

Water Quality Best Management Practices (BMP) for Valor Leander will address the water quality requirements for the ultimate area disturbed within this proposed development. Pond A-1 will be treated by a batch detention. VFS-1 will be treated by permanent vegetative filter strips. There is a small area in the southwest corner of the property that will have no impervious cover proposed and therefore no treatment will be provided for this area. These drainage areas are to meet all water quality requirements per TCEQ requirements. See Permanent Stormwater Section – Attachment C for a breakdown on TSS calculations.

The detention pond requirements used for the purpose of this report are assumed to be based on the requirements outlined by the City of Austin Drainage Criteria Manual. To reduce the flow to pre-developed conditions, a detention pond will be constructed as a part of this development to reduce flows to existing conditions.

### **Erosion and Sedimentation Controls**

Temporary erosion and sedimentation controls during construction are proposed on the Erosion Control Plan and include: silt fences, inlet protection, construction staging area, concrete washout, rock berm, and a stabilized construction entrance designed to City of Austin criteria. The land disturbed during construction, including the staging and stockpile areas, will drain into the proposed on-site storm sewer system where it will be conveyed to the proposed detention and water quality pond located on-site. The detention pond will discharge onto proposed rock rip rap into an proposed drainage culvert that cuts along the north of Kauffman Loop.

### **Sewage Collection System**

The sewage collection system that is within the Edward's Aquifer Recharge Zone will consist of approximately 3,296 LF of 8" SDR 26 ASTM D3034 PVC, and 137 LF of 4" SDR 26 ASTM D3034 PVC for the wastewater service. All wastewater for Valor Leander shall be gravity line that ties to a 15" wastewater line located in Kauffman Loop, south of the project site.

# 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: Henry E. Stultz III, P.G.

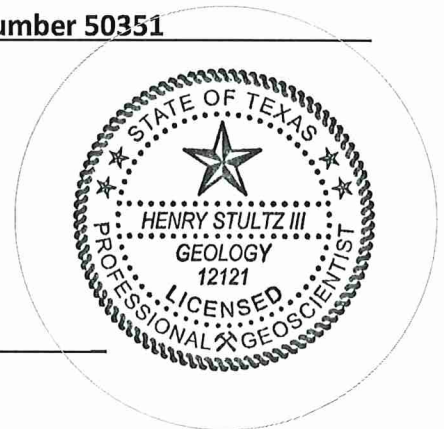
Telephone: 210-375-9000

Date: April 4, 2023

Fax: 210-375-9090

Representing: Pape-Dawson Engineers, Inc., TBPB registration number 50351

Signature of Geologist:



Regulated Entity Name: VALOR SCHOOLS

## Project Information

1. Date(s) Geologic Assessment was performed: February 17, 2023

2. Type of Project:

☒ WPAP

☐ AST

☐ SCS

☐ 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)
Fairlie clay, 1 to 2 percent slopes (FaB)	D	1-4
Georgetown stony clay loam, 1 to 3 percent slopes (GsB)	D	1-3

\* 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" = 50'  
 Site Geologic Map Scale: 1" = 50'  
 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**



**ATTACHMENT B**  
**Stratigraphic Column**



**VALOR SCHOOLS**  
**Geologic Assessment (TCEQ-0585)**

**Attachment B – Stratigraphic Column**

Period	Epoch	Group	Formation	Member	Maximum Thickness	Lithology	Hydrologic Unit
Cretaceous	Early Cretaceous	Fredericksburg	Edwards	1	80–90	Gray to tan, hard, dense, thick-to thin-bedded, fine-grained limestone with soft dolomitic limestone zone near middle	Edwards Aquifer
				2		Gray to tan, soft, nodular-weathering marly limestone	
				3		Light gray to tan, fine-to-medium-grained, hard, thin-to thick-bedded limestone; chert nodules in lower third	
				4		Gray-brown, thin-to medium-bedded, porous dolomite, dolomitic limestone, and limestone; chert common; solution collapse zone at top	
			Comanche Peak		60-64	White, irregularly bedded nodular limestone interbedded with marl to gray fine-grained, nodular limestone, marly limestone, and marl. Large gastropods and pelecypods occur in abundance throughout the limestone.	
			Walnut	Keys Valley	70-120	Gray to tan, soft marl and nodular limestone with abundant fossils	
		Whitestone		Gray to tan, hard, fine-to medium-grained, thin-to thick-bedded fossiliferous limestone			
		Cedar Park		Gray to tan, thin-to thick-bedded, fine-to medium-grained, hard limestone			
		Bee Cave		Gray to tan, soft, nodular-weathering, fine-grained limestone, marly limestone, and marl with abundant fossil shells			
		Bull Creek		Gray to tan, hard, fine-to medium-grained, thin to thick-bedded limestone; shell fragments common			
		Trinity	Glen Rose	Upper Glen Rose	450	Alternating resistant and nonresistant beds of blue shale, nodular marl, and impure, fossiliferous limestone; gray to yellowish gray; stair-step topography; contains two distinct evaporite zones; distinct <i>Corbula</i> sp. bed marks the contact with the underlying lower member of the Glen Rose Limestone; <i>Orbitulina texana</i>	Upper Trinity

# **ATTACHMENT C**

## **Site Geology**

# VALOR SCHOOLS

## Geologic Assessment

### Attachment C – Site Geology

#### SUMMARY

The Valor Schools site is located north of the intersection of FM 267 and Kauffman Loop in Williamson County, Texas.

Based on the results of the field survey conducted in accordance with *Instructions for Geologists for Geologic Assessments in the Edwards Aquifer Recharge/Transition Zones (TCEQ-0585 Instructions)*, no naturally occurring sensitive features were identified on site. No springs or streams were identified on site. The overall potential for fluid migration to the Edwards Aquifer for the site is low.

#### SITE GEOLOGY

As observed through field evidence, the geologic formation which outcrops at the surface within the subject site is the Edwards Formation, undivided (Ked). The Ked north of the Colorado river is characterized as having highly variable properties, but is generally thick bedded, fine grained, light gray to off white, thick bedded intervals of limestone and dolostone. Other textural properties include nodular chert, marly horizons, and burrowed intervals, and is generally resistant to erosion. Dissolution and re-calcification are common and may result in highly cavernous zones throughout the formation.

The predominant trend of faults in the vicinity of the site is approximately N32°E, based on faults identified during the previous mapping of the area.

#### FEATURE DESCRIPTIONS:

A description of the features observed onsite is provided below:

##### Feature S-1

Feature S-1 is a man-made feature consisting of a septic tank. Due to the non-karst nature of the feature, the probability for rapid infiltration is low.

# VALOR SCHOOLS

## Geologic Assessment

### REFERENCES

Collins, E.W., 1998, Leander NE Quadrangle, University of Texas at Austin, Bureau of Economic Geology, Series unknown, 1:24,000.

Nationwide Environmental Title Research, LLC. Historical Aerials, HistoricAerials.com. <https://www.historicaerials.com/viewer>, May 10, 2021.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. <http://websoilsurvey.sc.egov.usda.gov/>, May 10, 2021.

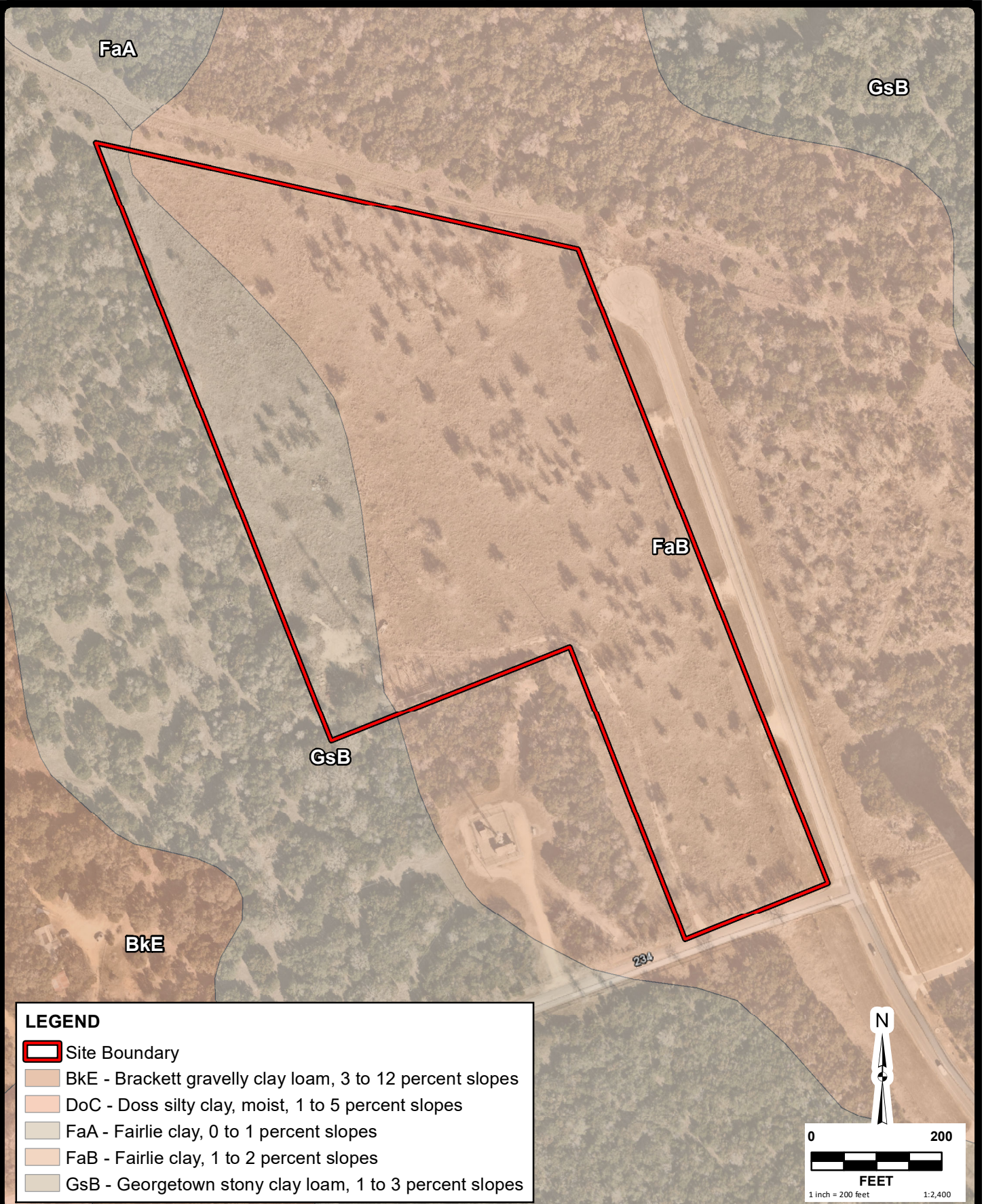
Stein, W.G., and Ozuna, G.B., 1995, Geologic framework and hydrogeologic characteristics of the Edwards Aquifer recharge zone, Bexar County, Texas: U.S. Geological Survey Water-Resources Investigations Report 95-4030, 8 p.

Texas Water Development Board, Wells in TWDB Groundwater Database Viewer, <https://www3.twdb.texas.gov/apps/waterdatainteractive/groundwaterdataviewer>, May 10, 2021.

U.S. Geological Survey, National Water Information System: Mapper, <https://maps.waterdata.usgs.gov/mapper/index.html>, May 10, 2021. April 4, 2023.

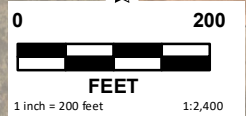
**ATTACHMENT D**  
**Site Geologic Map(s)**





### LEGEND

- Site Boundary
- BkE - Brackett gravelly clay loam, 3 to 12 percent slopes
- DoC - Doss silty clay, moist, 1 to 5 percent slopes
- FaA - Fairlie clay, 0 to 1 percent slopes
- FaB - Fairlie clay, 1 to 2 percent slopes
- GsB - Georgetown stony clay loam, 1 to 3 percent slopes



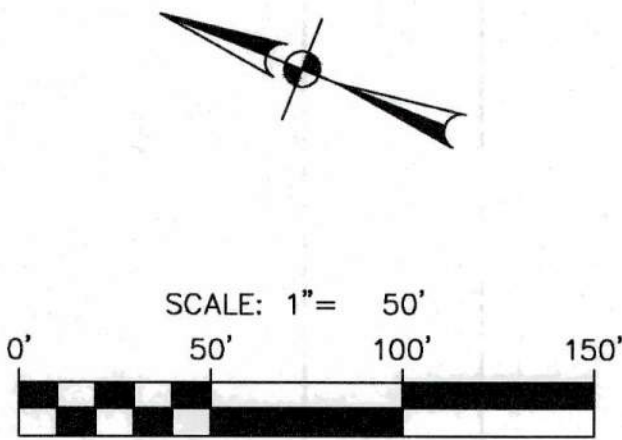
JOB NO.	51402-00
DATE	Mar 2023
DRAWN	HS
CHECKED	HDJ
SHEET	ATTACHMENT D

## VALOR SCHOOLS SITE SOILS MAP WILLIAMSON COUNTY, TEXAS

**PAPE-DAWSON  
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
 2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000  
 TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800  
 TBPG FIRM REGISTRATION #50351





NOTE: THE GEOSCIENTIST SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR PURPOSES OF GEOLOGIC INFORMATION. ALL OTHER INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SIGNED AND SEALED CIVIL ENGINEERING DRAWINGS.

NOTE: THE RECHARGE ZONE BOUNDARY IS NOT WITHIN THE AREA SHOWN ON THIS SHEET. THE SITE IS LOCATED ENTIRELY WITHIN THE RECHARGE ZONE.

**PROJECT LIMITS**

100 YEAR FLOODPLAIN

STREAM

**SYMBOLS AND LINES**

S-1 POTENTIAL RECHARGE FEATURE

CONTACT, LOCATED APPROXIMATELY

CONTACT, INFERRED

FAULT, LOCATED APPROXIMATELY (D, DOWN THROWN SIDE U, UPTHROWN SIDE)

FAULT, EXTRAPOLATED

FAULT, INFERRED

STRIKE AND DIP OF BEDDING

STRIKE AND DIP OF JOINTS

STRIKE OF VERTICAL JOINTS

CAVE

SOLUTION CAVITY

SINKHOLE

**GEOLOGIC FORMATIONS**

Kef	EAGLE FORD	Ked	EDWARDS
Kbu	BUDA	Kcp	COMANCHE PEAK
Kdr	DEL RIO	Kw	WALNUT
Kgt	GEORGETOWN	Kgr	GLEN ROSE

SOLUTION ENLARGED FRACTURE

SWALLOW HOLE

NON-KARST CLOSED DEPRESSION

ZONE

OTHER NATURAL BEDROCK FEATURES

SPRING/SEEP

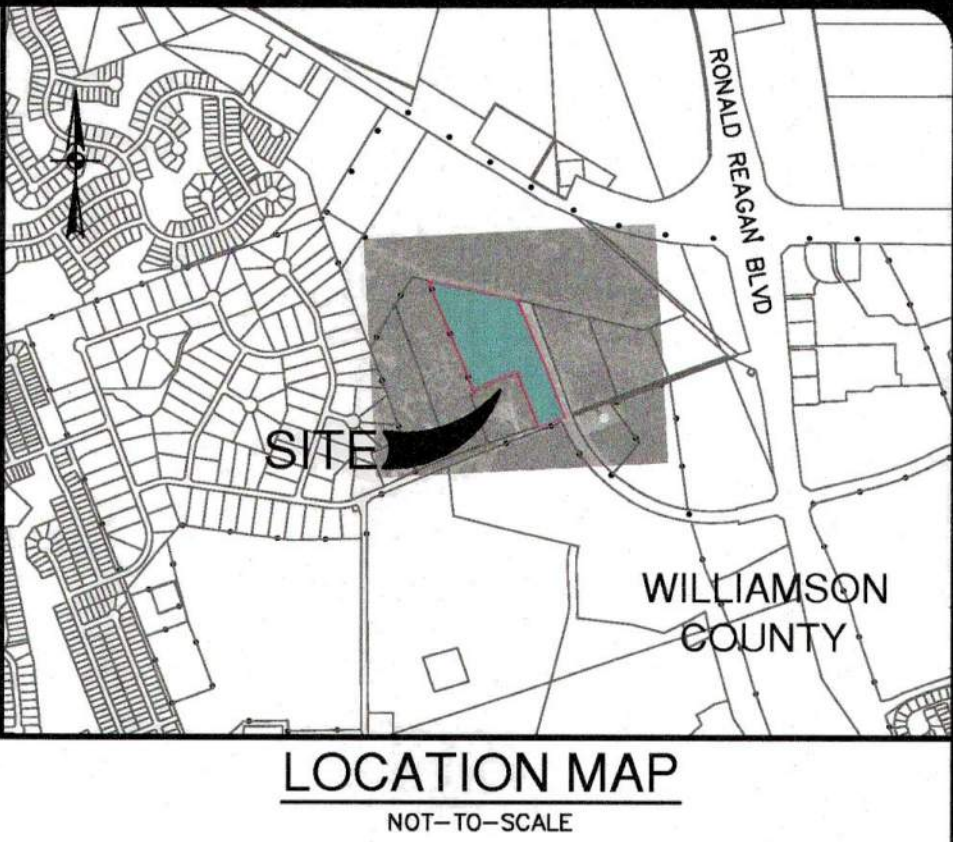
WETLAND

MAN-MADE FEATURE IN BEDROCK

WATER WELL

SS SANITARY SEWER LINE

SS STORM DRAIN LINE



**PAPE-DAWSON ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS  
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.575.9000  
TBPCE FIRM REGISTRATION #470 | TBPCE FIRM REGISTRATION #03551

**VALOR SCHOOLS**  
LEANDER, TEXAS

SITE GEOLOGIC MAP  
WATER POLLUTION ABATEMENT PLAN

JOB NO. 51402-00  
DATE FEBRUARY 2023  
DESIGNER HS  
CHECKED HDJ DRAWN HS

ATTACHMENT D



# **SECTION 4: ORGANIZED SEWAGE COLLECTION SYSTEM**



# 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:** Valor Leander

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: Jesse Bates

Entity: Valor Texas Education Foundation

Mailing Address: 220 Foremost Drive

City, State: Austin, TX

Zip: 78745

Telephone: 214-514-3356

Fax: N/A

Email Address: jbates@valoreducation.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: Allison Kennaugh, P.E.

Texas Licensed Professional Engineer's Number: 114356

Entity: Kimley-Horn

Mailing Address: 10814 Jollyville Road; Bldg. IV, Suite 200

City, State: Austin, Texas

Zip: 78759

Telephone: (512) 782-0614

Fax: N/A

Email Address: allison.kennaugh@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: Charter School

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

\_\_\_\_\_ % Domestic \_\_\_\_\_ gallons/day  
\_\_\_\_\_ % Industrial \_\_\_\_\_ gallons/day  
100% Commingled 26,730 gallons/day  
Total gallons/day: 26,730

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 of any associated commercial, industrial or residential project located on the Recharge Zone.

- ☐ The WPAP application for this development was approved by letter dated \_\_\_\_\_. A copy of the approval letter is attached.  
☒ The WPAP application for this development was submitted to the TCEQ on December 1st 2023, 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**

<b><i>Pipe Diameter(Inches)</i></b>	<b><i>Linear Feet (1)</i></b>	<b><i>Pipe Material (2)</i></b>	<b><i>Specifications (3)</i></b>
8	2189	PVC SDR-26	ASTM D-3034
4	137	PVC SDR-26	ASTM D-3034

**Total Linear Feet:** 3,433

- (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 Wastewater (name) Treatment Plant. The treatment facility is:

- ☒ Existing  
☐ Proposed

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

- ☒ The City of Leander 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**

<i>Line</i>	<i>Shown on Sheet</i>	<i>Station</i>	<i>Manhole or Clean-out?</i>
A - PICP	19 of 27	1+00.00	Manhole
A - PICP	19 of 27	3+70.43	Manhole
A - PICP	19 of 27	6+16.94	Manhole
A - PICP	19 of 27	9+20.62	Manhole
A - PICP	20 of 27	13+00.13	Manhole
A - PICP	20 of 27	17+79.36	Manhole
A - PICP	20 of 27	20+27.67	Manhole
A - PICP	21 of 27	22+35.48	Manhole
A - PICP	21 of 27	22+85.48	Manhole
A – Site Plan	28 of 35	4+59.53	Manhole

<i>Line</i>	<i>Shown on Sheet</i>	<i>Station</i>	<i>Manhole or Clean-out?</i>
A – Site Plan	28 of 35	6+24.75	Cleanout
A – Site Plan	28 of 35	8+41.92	Manhole
A – Site Plan	28 of 35	9+07.39	Cleanout
A – Site Plan	28 of 35	9+46.47	Cleanout
A – Site Plan	28 of 35	9+85.55	Cleanout
A – Site Plan	28 of 35	12+07.38	Cleanout

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:

<b>Pipe Diameter (inches)</b>	<b>Max. Manhole Spacing (feet)</b>
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" = 60'.
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**

<i>Line</i>	<i>Sheet</i>	<i>Station</i>
n/a	n/a	n/a

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**

<i>Line</i>	<i>Sheet</i>	<i>Station</i>
n/a	n/a	n/a

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**

<i>Line</i>	<i>Station or Closest Point</i>	<i>Crossing or Parallel</i>	<i>Horizontal Separation Distance</i>	<i>Vertical Separation Distance</i>
A - PICP	7+76.55	CROSSING	N/A	Unknown
A - PICP	21+49.86	CROSSING	N/A	Unknown
A - PICP	21+76.35	CROSSING	N/A	Unknown
A – Site Plan	8+57.42	CROSSING	N/A	2'
A – Site Plan	8+60.42	CROSSING	N/A	2'

### 27. Vented Manholes:

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

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

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

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

**Table 6 - Vented Manholes**

<i>Line</i>	<i>Manhole</i>	<i>Station</i>	<i>Sheet</i>
n/a	n/a	n/a	n/a

### 28. Drop manholes:

☐ There are no drop manholes associated with this project.

☒ Sewer lines which enter new or existing manholes or "manhole structures" higher than 24 inches above the manhole invert are listed in the table below and labeled on the appropriate profile sheets. These lines meet the requirements of 30 TAC §217.55(I)(2)(H).

**Table 7 - Drop Manholes**

<i>Line</i>	<i>Manhole</i>	<i>Station</i>	<i>Sheet</i>
n/a	n/a	n/a	n/a

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

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

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

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

31. Minimum flow velocity (From Appendix A)

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

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

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

**Table 8 - Flows Greater Than 10 Feet per Second**

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

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

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

## ***Administrative Information***

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

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

**Table 9 - Standard Details**

<b><i>Standard Details</i></b>	<b><i>Shown on Sheet</i></b>
Lateral stub-out marking <b>[Required]</b>	n/a
Manhole, showing inverts comply with 30 TAC §217.55(l)(2) <b>[Required]</b>	27 of 27
Alternate method of joining lateral to existing SCS line for potential future connections <b>[Required]</b>	n/a
Typical trench cross-sections <b>[Required]</b>	27 of 27
Bolted manholes <b>[Required]</b>	n/a
Sewer Service lateral standard details <b>[Required]</b>	n/a
Clean-out at end of line <b>[Required, if used]</b>	n/a
Baffles or concrete encasement for shock/erosion protection <b>[Required, if flow velocity of any section of pipe &gt;10 fps]</b>	n/a
Detail showing Wastewater Line/Water Line Crossing <b>[Required, if crossings are proposed]</b>	27 of 27
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) <b>[Required, if Flexible Pipe is used]</b>	n/a
Drop manholes <b>[Required, if a pipe entering a manhole is more than 24 inches above manhole invert]</b>	n/a

36. ☒ All organized sewage collection system general construction notes (TCEQ-0596) are included on the construction plans for this sewage collection system.
37. ☒ All proposed sewer lines will be sufficiently surveyed/staked to allow an assessment prior to TCEQ executive director approval. If the alignments of the proposed sewer lines are not walkable on that date, the application will be deemed incomplete and returned.
- ☒ Survey staking was completed on this date: 12/01/2023
38. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.
39. ☒ Any modification of this SCS application will require TCEQ approval, prior to construction, and may require submission of a revised application, with appropriate fees.

## ***Signature***

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



review and executive director approval. The system was designed in accordance with the requirements of 30 TAC §213.5(c) and 30 TAC §217 and prepared by:

Print Name of Licensed Professional Engineer: Allison Kennaugh, P.E.

Date: December 1st 2023

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**

<b><i>Pipe Diameter(Inches)</i></b>	<b><i>% Slope required for minimum flow velocity of 2.0 fps</i></b>	<b><i>% Slope which produces flow velocity of 10.0 fps</i></b>
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

<b>Pipe Diameter(Inches)</b>	<b>% Slope required for minimum flow velocity of 2.0 fps</b>	<b>% Slope which produces flow velocity of 10.0 fps</b>
>39	*	*

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

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

Where:

$v$  = velocity (ft/sec)

$n$  = Manning's roughness coefficient  
(0.013)

$R_h$  = hydraulic radius (ft)

$S$  = slope (ft/ft)

**Figure 1 - Manning's Formula**

## **ATTACHMENT A - Engineer's 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. Please note that throughout this application, the more stringent of AWU or TCEQ regulations shall apply.

### **Project Description**

#### ***Introduction***

Valor Leander is an undeveloped 13.79 acre property located northwest of the intersection of Kauffman Loop and Co Rd 267 and within the city limits of the Leander, Texas. The proposed Valor Leander project includes the construction of a charter school with associated paving, water, wastewater, and drainage improvements to support the project. This project proposes 6.74 acres (44%) of impervious cover.

This project is located within the North and South Fork San Gabriel River Watershed. The site is not located in the Federal Emergency Management Agency's 100-year floodplain according to FIRM 48491C0275E. The site is located within the Edwards Aquifer Recharge Zone according to the Edwards Aquifer GIS databases. There are no critical water quality zones and/or critical environmental features located on-site. The site consists of 13.79 acres of undeveloped land.

On-site infrastructure is comprised of water, electric, wastewater, and storm sewer lines. The wastewater service outlined in this report will consist of four (4) lines that will convey wastewater to a manhole proposed for an offsite tie in within Kauffman Loop built with this development. The offsite line will gravity flow and be deposited at the Brushy Creek Regional Wastewater Treatment Plant to be treated. A Development Agreement between Valor Texas Education Foundation and the City of Leander recognizes the proposed flow from the Valor Leander development and that the city will accept to treat it through the Brushy Creek Regional Wastewater Treatment Plant. All proposed wastewater lines will be installed within the Edwards Aquifer Recharge Zone (EARZ).

### **Pipe Design**

#### ***Flow Design Basis***

Service for the build-out of the 13.79 ac charter school site, located at Kauffman Loop and Co Rd 267 will be served by this wastewater system. The City of Austin Utility Criteria Manual (UCM) was used to determine the parameters for the design of the wastewater line system. See Appendix B for the map illustrating the property to be served by this wastewater line system and Appendix C for the calculations (as approved by the City of Austin).

#### ***Gravity Pipe and Joint Materials***

The proposed pipe to be used for the 4" 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***

A 26-foot minimum horizontal separation is maintained between all proposed wastewater infrastructure and proposed water lines.. See Table 5 – Water Crossings for all water line crossings. It is not feasible to

provide nine-feet of vertical separation at waterline crossings due to depth limitations. In most cases, the crossing water line would need to be above the finished grade, or approximately twenty-feet below grade in order to meet the nine-foot separation requirement.

## ***Service Connections***

Service connections have been included for the charter school site.

## ***Boring and Tunneling of Crossings***

Two bore locations are proposed as part of the PICP.

## ***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 the charter school development, generating sewage. There are no significant generators of sulfide or other odorous compounds (such as lift stations) upstream of the proposed wastewater lines. Therefore, no odor control measures are proposed for this project.

## ***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:

Q<sub>full</sub> = flow rate of fluid in pipe at full flow (ft<sup>3</sup>/s) (cfs)

Q<sub>90%</sub> = flow rate of fluid in pipe at 90% full flow (ft<sup>3</sup>/s) (cfs)

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

d = internal pipe diameter (ft) = D<sub>o</sub> – 2t

D<sub>o</sub> = outside diameter (in)

t = pipe wall thickness (in)

n = Manning's Roughness coefficient = 0.013

R<sub>full</sub> = hydraulic radius of pipe (full flow) = A/P = D/4 (ft)

R<sub>90%</sub> = hydraulic radius of pipe (90% full flow) = 0.9\*A/P = 0.9\*D/4 (ft)

P = wetted perimeter of pipe =  $\pi$  \* D (ft)

S = slope of energy line

Pipes	Length ft	Slope %	Slope ft/ft	Diameter		Pipe Material	Manning's	P ft	A sf	Rfull ft	R90% ft	Qfull cfs	Q90% cfs	Vfull fps	V90% fps
				in	ft										
A-1 (PICP)	270	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
A-2 (PICP)	247	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
A-3 (PICP)	304	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
A-4 (PICP)	280	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
A-5 (PICP)	309	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
A-6 (PICP)	170	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
A-7 (PICP)	248	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
A-8 (PICP)	208	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
A-9 (PICP)	50	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
A-1 (Site Plan)	360	0.55	0.006	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.89	0.80	2.56	2.30
A-2 (Site Plan)	382	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
A-3 (Site Plan)	277	0.97	0.010	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.19	1.07	3.40	3.06
A-4 (Site Plan)	138	1.00	0.010	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.20	1.08	3.45	3.11
B-1 (Site Plan)	101	1.00	0.010	4.00	0.33	PVC	0.013	1.05	0.09	0.08	0.08	0.19	0.17	2.17	1.95
C-1 (Site Plan)	6	2.00	0.020	4.00	0.33	PVC	0.013	1.05	0.09	0.08	0.08	0.27	0.24	3.07	2.76

Pipe	Minimum Velocity	Maximum Velocity
Type	<i>fps</i>	<i>fps</i>
8" PVC	2.44	3.45
4" PVC	2.17	3.07

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).

$$P_{cr} = \frac{2 * E}{(1 - \nu^2) * (DR - 1)^3} \quad (\text{Equation 7.14})$$

$$P_b = 1.15 * \sqrt{P_{cr} * E} \quad (\text{Equation 7.18})$$

$$H = (P_b * 144) / w \quad (\text{Equation 6.7})$$

Where:

- P<sub>cr</sub> = critical buckling pressure (psi)
- E = modulus of elasticity (psi) = 400,000 psi for PVC
- ν = Poisson's Ratio = 0.38 for PVC
- DR = dimension ratio
- P<sub>b</sub> = 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<sup>3</sup>) = 120 lbs/ft<sup>3</sup>

## **8" ASTM D3034 SDR-26**

$$P_{cr} = \frac{2 \times 400,000}{(1 - 0.38^2) \times (26 - 1)^3}$$

$$P_{cr} = 59.84 \text{ psi}$$

$$P_b = 1.15 \times \sqrt{59.84 \times 2,000}$$

$$P_b = 397.84 \text{ psi}$$

$$H = (397.84 \times 144) / 120$$

**H = 477.41 ft height of soil to cause pipe buckling**

## **8" ASTM D3034 SDR-26**

$$P = 20 \times 120$$

**P = 2,400 lbs/ft<sup>2</sup> or 16.67 psi**

## **8" ASTM D3034 SDR-26**

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

$$\Delta Y/D = 1.15\%$$

*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).

$$P_y = \frac{\Theta_c \times 2 \times A}{D} \quad (\text{Equation 7.20})$$

$$H = P_y / w \quad (\text{Equation 6.7})$$

Where:

$P_y$  = pressure due to soil weight (psi)  
 $\Theta_c$  = compressive stress (psi) = 4,000 psi for PVC pipe  
 $A$  = surface area of the pipe wall (in<sup>2</sup>/in)  
 $D$  = mean pipe diameter (in) =  $D_o - t$   
 $t$  = pipe wall thickness (in)  
 $H$  = maximum allowable height of cover (ft)  
 $w$  = soil density (lbs/ft<sup>3</sup>) = 120 lbs/ft<sup>3</sup>

## **8" ASTM D3034 SDR-26**

$D_o = 8.4 - 0.323 = 8.077$  in,  $A = 3.88$  in<sup>2</sup>/ft (0.323 in \* 12 in/ft)

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

$P_y = 320.25$  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).

$$\epsilon_h = \frac{P * D}{2 * t * E} \quad (\text{Equation 7.22})$$

$$\epsilon_f = \frac{t}{D} * \frac{[3 * \Delta Y / D]}{[1 - 2 * \Delta Y / D]} \quad (\text{Equation 7.24})$$

$$\epsilon = \epsilon_h + \epsilon_f \quad (\text{Equation 7.25})$$

Where:

$\epsilon_h$  = 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) =  $D_o - t$   
 $t$  = pipe wall thickness (in)  
 $E$  = modulus of elasticity (psi) = 400,000 psi for PVC  
 $\epsilon_f$  = maximum strain in the pipe due to ring deflection or flexure (in/in)  
 $\Delta Y / D$  = long term deflection  
 $\epsilon$  = maximum combined strain in pipe wall (in/in)

## **8" ASTM D3034 SDR-26**

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

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

$$\epsilon_f = 0.0014 \text{ in/in}$$

$$\epsilon = 0.00035 + 0.0014$$

$$\epsilon = \mathbf{0.00175 \text{ in/in}}$$

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).

$$P_s = 4.47 * \frac{E}{(DR-1)^3} \quad (\text{Equation 7.3})$$

Where:

$P_s$  = pipe stiffness (psi)

$DR$  = Dimensional Ratio =  $D_o / t$

$D_o$  = Outside diameter (in)

$t$  = pipe wall thickness (in)

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

## **8" ASTM D3034 SDR-26**

$$DR = 26$$

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

$$P_s = \mathbf{115 \text{ psi}}$$

## **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 the *City of Austin Standard Specifications for Pipes and Appurtenances, TCEQ Chapter 217.54(a)*, and in accordance with the City of Leander Detail 104-1 on sheet 27 of 27. Bedding material shall be in accordance with City of Austin Standard Specification Item 510, Section 510.3(14). Compacted backfill, from a point one (1) foot above the pipe to the finished surface, will be comprised of suitable material removed during excavation, as described in Item 510, Section 510.2(6). Brush, debris, and junk shall not be utilized as a backfilling material.



## ***Compaction***

Trench compaction will be carried out in accordance with the *City of Austin Standard Specifications for Pipes and Appurtenances* and *TCEQ Chapter 217.54(b)*. Proper placement of the backfill and compaction per City of Austin requirements will not negatively impact the structural integrity of the pipe.

## ***Envelope Size***

Envelope size will be in accordance with *City of Austin Standard Specifications for Pipes and Appurtenances* and *TCEQ Chapter 217.54(c)*. Per the City of Leander Detail 104-1 on sheet 27 of 27, a minimum of 6-inch and maximum of 12-inch space shall be allowed between the outside diameter of the pipe and the trench wall and floor. In addition, a minimum of 6-inch and maximum of 12-inch space shall be allowed between the outside diameter of the pipe bell and the trench wall. The embedment and initial backfill must be installed to a minimum depth of 12 inches above the crown of the pipe.

## ***Trench Width***

Trench width will be in accordance with the City of Leander Detail 104-1 on sheet 27 of 27 and *TCEQ Chapter 217.54(d)*. Per the City of Leander Detail 104-1 on sheet 27 of 27, a minimum of 6-inch and maximum of 12-inch space shall be allowed between the outside diameter of the pipe and the trench wall and floor. In addition, a minimum of 6-inch and maximum of 12-inch space shall be allowed between the outside diameter of the pipe bell and the trench wall. These limits shall be maintained to protect the structural integrity of the pipe and will be sufficient for the placement of materials and use of compaction equipment in the pipe zone.

## **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***

There are cleanouts proposed as part of the Site Plan. The cleanouts are proposed according to the City of Leander standards.

### ***Manhole Material***

Monolithic or precast manholes are acceptable for the contractor to utilize and are included in the City of Austin Detail 506S-10 on sheet 27 of 27. 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 COA detail 506S-10 sheet 27 of 27, the manhole covers shall have a 30-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. All manholes shall be watertight, with watertight rings and covers, as shown per the City of Leander detail 107-3 on sheet 27 of 27.

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. A bench will be provided above each manhole channel to slope at a minimum of 0.5 inches per foot.

## ***Manhole Steps***

No steps shall be allowed in any proposed manholes.

## ***Manhole Connections***

Manhole-pipe connections shall be watertight per City of Austin pipe to manhole connector SPL WW-146D. See detail 506S-10 on sheet 27 of 27.

## ***Manhole Venting***

The proposed manholes are spaced at less than 1,500 foot intervals and none are located within the 100-year flood plain. Therefore, no vented manholes are proposed on this project.

## **Trenchless Pipe Installation**

There will be two sections of boring for wastewater pipe installation under existing roadway. The remaining pipe will be installed via trenching. See sheet 16 of 27 for location of bore.

## **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. See TCEQ note on Sheet 4 of 27.

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 4 of 27. The requirements specified are in accordance with *TCEQ Chapter 217.57*.

### ***Deflection Testing***

For the proposed 8-inch and 4-inch wastewater line, deflection shall be measured with a rigid mandrel per the project detail on sheet 4 of 27. The requirements specified are in accordance with *TCEQ Chapter 217.57*.

### ***Owner Inspection***

The Owner shall have an inspector onsite during construction of the project. A professional engineer registered in the state of Texas (Allison Kennaugh, 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, sheet 4 of 27. 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. Stubouts, 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. (Allison Kennaugh, 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 (Allison Kennaugh, P.E.) must certify that the construction was performed substantially in accordance with the approved plans and specifications.

## Notification and Inspection

*TCEQ Chapter 213* 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.

# **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: Allison Kennaugh, P.E.

Date: December 1st, 2023

Signature of Customer/Agent:



Regulated Entity Name: Valor Leander

## 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: N/A

### ***Temporary Best Management Practices (TBMPs)***

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

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

- ☒ A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.
  - ☒ A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.
  - ☒ A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.
8. ☒ The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.
- ☐ **Attachment E - Request to Temporarily Seal a Feature.** A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.
- ☒ There will be no temporary sealing of naturally-occurring sensitive features on the site.
9. ☒ **Attachment F - Structural Practices.** A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.
10. ☒ **Attachment G - Drainage Area Map.** A drainage area map supporting the following requirements is attached:
- ☒ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.
  - ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.
  - ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.
  - ☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.
  - ☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.

11. ☒ **Attachment H - Temporary Sediment Pond(s) Plans and Calculations.** Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.
- ☒ N/A
12. ☒ **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.
13. ☒ All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.
14. ☒ If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
15. ☒ Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.
16. ☒ Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

## ***Soil Stabilization Practices***

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

17. ☒ **Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices.** A schedule of the interim and permanent soil stabilization practices for the site is attached.
18. ☒ Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
19. ☒ Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.



## ***Administrative Information***

- 20. ☒ All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.
- 21. ☒ If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.
- 22. ☒ Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

## ATTACHMENT A - Spill Response Actions

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 2.4.16.

### 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 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

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 (0.05 Acres)
2. Installation of Temporary BMPs (13.80 Acres)
3. Initiate Grubbing and Topsoil Stripping of Site (13.80 Acres)
4. Rough Subgrade Preparation (earthwork, grading, street and drainage excavation and embankment) (13.80 Acres)
5. Wet and Dry Utility Construction (6 Acres)
6. Final Subgrade Preparation (3 Acres)
7. Installation of Base Materials (3 Acres)
8. Concrete (foundations, curbs, flatwork) (5.5 Acres)
9. Building Construction (5 Acres)
10. Paving Activities (2.5 Acres)
11. Topsoil, Irrigation and Landscaping (13.80 Acres)
12. Site cleanup and Removal of Temporary BMPs (13.80 Acres)

Maximum total construction time is not expected to exceed 36 months.

## **ATTACHMENT D - Temporary Best Management Practices and Measures**

- A.** No storm water originates up gradient that impacts 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. A 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 E - Request To Temporarily Seal a Feature**

Naturally-occurring features will not be sealed on the site.

## **ATTACHMENT F - 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 where access is not necessary. A rock stabilized construction entrance should be used at all designated access points.

#### **Inspection and Maintenance Guidelines:**

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

#### **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.



## Inspection and Maintenance Guidelines:

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

## 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 Berm

The purpose of a 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. The rock berm should be used when the contributing drainage area is less than 5 acres. Rock berms 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 a silt fence. As such, rock berms are often used in areas of channel flows (ditches, gullies, etc.). Rock berms are most effective at reducing bed load in channels and should not be substituted for other erosion and sediment control measures further up the watershed.

### Inspection and Maintenance Guidelines:

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

## Inlet Protection

Storm sewers that are made operational prior to stabilization of the associated drainage areas can convey large amounts of sediment to natural drainage ways. In case of extreme sediment loading, the storm sewer itself may clog and lose a major portion of its capacity. To avoid these problems, it is necessary to prevent sediment from entering the system at the inlets. The following guidelines for inlet protection are based primarily on recommendations by the Virginia Dept. of Conservation and Recreation (1992) and the North Central Texas Council of Governments (NCTCOG, 1993b).

In developments for which drainage is to be conveyed by underground storm sewers (i.e., streets with curbs and gutters), all inlets that may receive storm runoff from disturbed areas should be protected. Temporary inlet protection is a series of different measures that provide protection against silt transport or accumulation in storm sewer systems. This clogging can greatly reduce or completely stop the flow in the pipes. The different measures are used for different site conditions and inlet types.

Care should be taken when choosing a specific type of inlet protection. Field experience has shown that inlet protection that causes excessive ponding in an area of high construction activity may become so inconvenient that it is removed or bypassed, thus transmitting sediment-laden flows unchecked. In such situations, a structure with an adequate overflow mechanism should be utilized.

It should also be noted that inlet protection devices are designed to be installed on construction sites and not on streets and roads open to the public. When used on public streets these devices will cause ponding of runoff, which can cause minor flooding and can present a traffic hazard. An example of appropriate siting would be a new subdivision where the storm drain system is installed before the area is stabilized and the streets open to the general public. When construction occurs adjacent to active streets, the sediment should be controlled on site and not on public thoroughfares. Occasionally, roadwork or utility installation will occur on public roads. In these cases, inlet protection is an appropriate temporary BMP.

The following inlet protection devices are for drainage areas of one acre or less. Runoff from larger disturbed areas should be routed to a temporary sediment trap or basin.

Filter barrier protection using silt fence is appropriate when the drainage area is less than one acre and the basin slope is less than five percent. This type of protection is not applicable in paved areas.

Block and gravel protection is used when flows exceed 0.5 cubic feet per second and it is necessary to allow for overtopping to prevent flooding. This form of protection is also useful for curb type inlets as it works well in paved areas.

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

Excavated impoundment protection around a drop inlet may be used for protection against sediment entering a storm drain inlet. With this method, it is necessary to install weep holes to allow the impoundment to drain completely. If this measure is implemented, the impoundment should be sized such that the volume of excavation is 3,600 cubic feet per acre (equivalent to 1 inch of runoff) of disturbed area entering the inlet.

#### Inspection and Maintenance Guidelines:

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

## **ATTACHMENT G - Drainage Area Map**

An existing and proposed drainage area map are provided at the end of this report in Section 8.

## **ATTACHMENT H - Temporary Sediment Pond(s) Plans and Calculations**

A sedimentation basin is required, where feasible, for a common drainage location that serves an area with ten (10) or more acres disturbed at one time.

A sedimentation basin may be temporary or permanent and must provide sufficient storage to contain a calculated volume of runoff from a 2-year, 24-hour storm from each disturbed acre drained. When calculating the volume of runoff from a 2-year, 24-hour storm event, it is not required to include the flows from offsite areas and flow from onsite areas that are either undisturbed or have already undergone permanent stabilization, if these flows are diverted around both the disturbed areas of the site and the sediment basin.

Where rainfall data is not available or a calculation cannot be performed, the sedimentation basin must provide at least 3,600 cubic feet of storage per acre drained until final stabilization of the site.

If a sedimentation basin is not feasible, then the permittee shall provide equivalent control measures until final stabilization of the site. In determining whether installing a sediment basin is feasible, the permittee may consider factors such as site soils, slope, available area, public safety, precipitation patterns, site geometry, site vegetation, infiltration capacity, geotechnical factors, depth to groundwater, and other similar considerations. The permittee shall document the reason that the sediment basins are not feasible, and shall utilize equivalent control measures, which may include a series of smaller sediment basins.

### **Sites With Drainage Areas Less than Ten Acres**

Sediment traps and sediment basins may be used to control solids in storm water runoff for drainage locations serving less than ten (10) acres.

Alternatively, a sediment basin that provides storage for a calculated volume of runoff from a 2-year, 24-hour storm from each disturbed acre drained may be utilized. Where rainfall data is not available or a calculation cannot be performed, a temporary or permanent sediment basin providing 3,600 cubic feet of storage per acre drained may be provided.

### **Proposed Sedimentation Basin Calculations**

For Valor Leander, the proposed onsite batch detention pond will serve as a storage for on-site and off-site drainage. The basins will be designed to contain the 3,600 cubic feet per acre of disturbed area draining to the pond.

#### **Temporary Sedimentation:**

A batch detention pond will serve as storage for drainage for Valor Leander (as shown on sheets 22 of the construction drawings) during the construction phase. The total drainage area includes 10.75 acres and generates a volume of 38,700 ft<sup>3</sup>. The proposed detention pond will contain a volume of 176,24 ft<sup>3</sup>, thus the constructed detention ponds will be adequality sized required for sedimentation purposes.

# ATTACHMENT I - 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.

## **ATTACHMENT J - 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. For this project the following stabilization practices will be implemented:

1. Hydraulic Mulch and Seeding: Disturbed areas subject to erosion shall be stabilized with hydraulic mulch and/or seeded and watered to provide interim stabilization. For areas that are not to be sodded as per the project landscaping plan, a minimum of 85% vegetative cover will be established to provide permanent stabilization.
2. Sodding and Wood Mulch: As per the project landscaping plan, Sodding and wood mulch will be applied to landscaped areas to provide permanent stabilization prior to project completion.

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 than 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 14<sup>th</sup> 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 14<sup>th</sup> day after construction activity has temporarily or permanently ceased is precluded by seasonably arid conditions, stabilization measures must be initiated as soon as practical.

### **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.
- 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 if 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.
- Straw bale dike 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 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.

**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 \_\_\_\_\_

*\* 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.*

## Amendment Log

[illegible]

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.

## Stormwater Control Installation and Removal Log

[illegible]

## Stabilization Activities Log

[illegible]

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.

## Inspection Frequency Log

[illegible]

## ***Rain Gauge Log***

[illegible]



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)				
<b>Inspection Frequency</b> <b>Standard Frequency:</b> <input type="checkbox"/> Weekly <input type="checkbox"/> Every 14 days and within 24 hours of a 0.25" rain <b>Increased Frequency:</b> <input type="checkbox"/> Every 7 days and within 24 hours of a 0.25" rain <b>Reduced Frequency:</b> - <input type="checkbox"/> Once per month (for stabilized areas) - <input type="checkbox"/> 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) - <input type="checkbox"/> Once per month (for frozen conditions where earth-disturbing activities are being conducted)				
<b>Was this inspection triggered by a 0.25" storm event?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>If yes, how did you determined whether a 0.25" storm event has occurred?</b> <input type="checkbox"/> Rain gauge on site <input type="checkbox"/> Weather station representative of site. Specify weather station source:  <b>Total rainfall amount that triggered the inspection (in inches):</b>				
<b>Unsafe Conditions for Inspection</b> <b>Did you determine that any portion of your site was unsafe for inspection?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>If "yes", complete the following:</b> -    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.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
2.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
3.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
4.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
5.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
6.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
7.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
8.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
9.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
10.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> 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.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
2.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
3.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
4.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
5.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
6.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
7.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
8.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
9.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
10.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		

Stabilization of Exposed Soil			
Stabilization Area	Stabilization Method	Have You Initiated Stabilization?	Notes
1.		<input type="checkbox"/> YES <input type="checkbox"/> NO If yes, provide date:	
2.		<input type="checkbox"/> YES <input type="checkbox"/> NO If yes, provide date:	
3.		<input type="checkbox"/> YES <input type="checkbox"/> NO If yes, provide date:	
4.		<input type="checkbox"/> YES <input type="checkbox"/> NO If yes, provide date:	
5.		<input type="checkbox"/> YES <input type="checkbox"/> NO If yes, provide date:	
Description of Discharges			
<b>Was a stormwater discharge or other discharge occurring from any part of your site at the time of the inspection?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>If “yes”, provide the following information for each point of discharge:</b>			
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? <input type="checkbox"/> Yes <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> 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:** \_\_\_\_\_

Section A – Initial Report				
(Complete this section <u>within 24 hours</u> 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				
<p>What site conditions triggered the requirement to conduct corrective action:</p> <p><input type="checkbox"/> A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements in Part 2 and/or 3</p> <p><input type="checkbox"/> The stormwater controls that have been installed and maintained are not effective enough for the discharge to meet applicable water quality standards</p> <p><input type="checkbox"/> A prohibited discharge has occurred or is occurring</p> <p>Provide a description of the problem:</p> <p>Deadline for completing corrective action (<i>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</i>):</p> <p>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:</p>				
Section B – Corrective Action Progress				
(Complete this section <u>no later than 7 calendar days</u> 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.		<input type="checkbox"/> Yes <input type="checkbox"/> No Date:		
2.		<input type="checkbox"/> Yes <input type="checkbox"/> No Date:		
3.		<input type="checkbox"/> Yes <input type="checkbox"/> No Date:		

Section A – Initial Report				
(Complete this section <u>within 24 hours</u> 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				
<p>What site conditions triggered the requirement to conduct corrective action:</p> <p><input type="checkbox"/> A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements in Part 2 and/or 3</p> <p><input type="checkbox"/> The stormwater controls that have been installed and maintained are not effective enough for the discharge to meet applicable water quality standards</p> <p><input type="checkbox"/> A prohibited discharge has occurred or is occurring</p> <p>Provide a description of the problem:</p> <p>Deadline for completing corrective action (<i>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</i>):</p> <p>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:</p>				
Section B – Corrective Action Progress				
(Complete this section <u>no later than 7 calendar days</u> 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.		<input type="checkbox"/> Yes <input type="checkbox"/> No Date:		
2.		<input type="checkbox"/> Yes <input type="checkbox"/> No Date:		
3.		<input type="checkbox"/> Yes <input type="checkbox"/> 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:** \_\_\_\_\_



# 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 Jesse Bates,  
Print Name

Chief Operating Officer,  
Title - Owner/President/Other

of Valor Texas Education Foundation,  
Corporation/Partnership/Entity Name

have authorized Allison Kennaugh, P.E.  
Print Name of Agent/Engineer

of Kimley-Horn and Associates  
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.

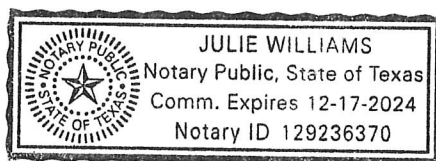
SIGNATURE PAGE:

Jesse Bates  
Applicant's Signature

11/10/2023  
Date

THE STATE OF TEXAS §

County of Williamson §



BEFORE ME, the undersigned authority, on this day personally appeared Jesse Bates 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 10<sup>th</sup> day of November.

Julie Williams  
NOTARY PUBLIC

Julie Williams  
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 12-17-24

# Application Fee Form

## Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Valor Leander

Regulated Entity Location: 168 Kauffman Loop

Name of Customer: Valor Texas Education Foundation

Contact Person: Jesse Bates

Phone: 214-514-3356

Customer Reference Number (if issued): 604305250

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

☐ San Antonio Regional Office

☐ Mailed to: TCEQ - Cashier

☐ Overnight Delivery to: TCEQ - Cashier

Revenues Section

Mail Code 214

P.O. Box 13088

Austin, TX 78711-3088

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

<i>Type of Plan</i>	<i>Size</i>	<i>Fee Due</i>
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	3,433 LF	\$1,716.50
Lift Stations without sewer lines	Acres	\$
Underground or Aboveground Storage Tank Facility	Tanks	\$
Piping System(s)(only)	Each	\$
Exception	Each	\$
Extension of Time	Each	\$

Signature: Allison Kennough

Date: December 1st, 2023

## ***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**

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

#### **Organized Sewage Collection Systems and Modifications**

<i>Project</i>	<i>Cost per Linear Foot</i>	<i>Minimum Fee- Maximum Fee</i>
Sewage Collection Systems	\$0.50	\$650 - \$6,500

#### **Underground and Aboveground Storage Tank System Facility Plans and Modifications**

<i>Project</i>	<i>Cost per Tank or Piping System</i>	<i>Minimum Fee- Maximum Fee</i>
Underground and Aboveground Storage Tank Facility	\$650	\$650 - \$6,500

#### **Exception Requests**

<i>Project</i>	<i>Fee</i>
Exception Request	\$500

#### **Extension of Time Requests**

<i>Project</i>	<i>Fee</i>
Extension of Time Request	\$150



***Check Payable to the "Texas Commission on Environmental Quality"***



***Core Data Form***



# 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

<b>1. Reason for Submission</b> (If other is checked please describe in space provided.)		
<input checked="" type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)		<input type="checkbox"/> Other
<b>2. Customer Reference Number</b> (if issued)	<a href="#">Follow this link to search for CN or RN numbers in Central Registry**</a>	<b>3. Regulated Entity Reference Number</b> (if issued)
CN 606089696		RN

## SECTION II: Customer Information

<b>4. General Customer Information</b>		<b>5. Effective Date for Customer Information Updates</b> (mm/dd/yyyy)		12/1/2023	
<input type="checkbox"/> New Customer <input type="checkbox"/> Update to Customer Information <input type="checkbox"/> Change in Regulated Entity Ownership					
<input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)					
<i>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).</i>					
<b>6. Customer Legal Name</b> (If an individual, print last name first: eg: Doe, John)				<i>If new Customer, enter previous Customer below:</i>	
Valor Texas Education Foundation					
<b>7. TX SOS/CPA Filing Number</b>		<b>8. TX State Tax ID</b> (11 digits)		<b>9. Federal Tax ID</b>	<b>10. DUNS Number</b> (if applicable)
0802370262		32059302235		(9 digits) 81-1145945	
<b>11. Type of Customer:</b>		<input type="checkbox"/> Corporation		<input type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> Local <input type="checkbox"/> State <input type="checkbox"/> Other		<input type="checkbox"/> Sole Proprietorship		<input checked="" type="checkbox"/> Other: Foundation	
<b>12. Number of Employees</b>				<b>13. Independently Owned and Operated?</b>	
<input checked="" type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>14. Customer Role</b> (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following					
<input checked="" type="checkbox"/> Owner <input type="checkbox"/> Operator <input type="checkbox"/> Owner & Operator <input type="checkbox"/> Other:					
<input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> VCP/BSA Applicant					
<b>15. Mailing Address:</b>		220 Foremost Drive			
City		Austin		State	TX
ZIP		78745		ZIP + 4	
<b>16. Country Mailing Information</b> (if outside USA)				<b>17. E-Mail Address</b> (if applicable)	
<b>18. Telephone Number</b>		<b>19. Extension or Code</b>		<b>20. Fax Number</b> (if applicable)	



## SECTION III: Regulated Entity Information

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

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

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

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

Valor Texas

### 23. Street Address of the Regulated Entity:

(No PO Boxes)

168 Kauffman Loop

City

Austin

State

TX

ZIP

78628

ZIP + 4

### 24. County

Williamson

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

### 25. Description to

#### Physical Location:

Northwest of the intersection of Kauffman Loop and Co Rd 267

### 26. Nearest City

#### State

#### Nearest ZIP Code

Leander

TX

78628

*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:

30.635572

### 28. Longitude (W) In Decimal:

-97.834460

Degrees

Minutes

Seconds

Degrees

Minutes

Seconds

30

38

8.06

-97

50

16.85

### 29. Primary SIC Code

### 30. Secondary SIC Code

### 31. Primary NAICS Code

### 32. Secondary NAICS Code

(4 digits)

(4 digits)

(5 or 6 digits)

(5 or 6 digits)

1542

611110

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

Charter School

### 34. Mailing

220 Foremost Drive

#### Address:

City

Austin

State

TX

ZIP

78745

ZIP + 4

### 35. E-Mail Address:

jbates@valoreducation.org

### 36. Telephone Number

### 37. Extension or Code

### 38. Fax Number (if applicable)

( 214 ) 514-3356

( ) -

**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.

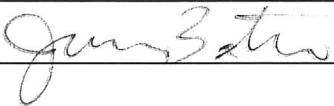
<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input checked="" type="checkbox"/> Edwards Aquifer	<input type="checkbox"/> Emissions Inventory Air	<input type="checkbox"/> Industrial Hazardous Waste
<input type="checkbox"/> Municipal Solid Waste	<input type="checkbox"/> New Source Review Air	<input type="checkbox"/> OSSF	<input type="checkbox"/> Petroleum Storage Tank	<input type="checkbox"/> PWS
<input type="checkbox"/> Sludge	<input type="checkbox"/> Storm Water	<input type="checkbox"/> Title V Air	<input type="checkbox"/> Tires	<input type="checkbox"/> Used Oil
<input type="checkbox"/> Voluntary Cleanup	<input type="checkbox"/> Wastewater	<input type="checkbox"/> Wastewater Agriculture	<input type="checkbox"/> Water Rights	<input type="checkbox"/> Other:

## SECTION IV: Preparer Information

<b>40. Name:</b>	Allison Kennaugh, P.E.			<b>41. Title:</b>	Project Manager
<b>42. Telephone Number</b>	<b>43. Ext./Code</b>	<b>44. Fax Number</b>	<b>45. E-Mail Address</b>		
( 512 ) 782-0614		( ) -	allison.kennaugh@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.

<b>Company:</b>	Valor Texas Education Foundation		<b>Job Title:</b>	Chief Operating Officer	
<b>Name (In Print):</b>	Jesse Bates			<b>Phone:</b>	( 214 ) 514- 3356
<b>Signature:</b>				<b>Date:</b>	11/10/2023

# SECTION 7: EXHIBITS



Plotted By:Ronald, Zach Date:November 21, 2023 02:43:22pm File Path:K:\AUS\_Civil\069252742-Valor Leander\Gold\PCIP\PlanSheets\C-Cover Sheet.dwg  
This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

ROBIN M. GRIFFIN, AICP, EXECUTIVE DIRECTOR OF DEVELOPMENT SERVICES	DATE
EMILY TRUEMAN, P.E.	DATE
GINA ELLISON, P.E., PUBLIC WORKS DIRECTOR	DATE
MARK TUMMONS, CPRP, DIRECTOR OF PARKS AND RECREATION	DATE
CHIEF JOSHUA DAVIS, FIRE MARSHAL	DATE

THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY, REGULATORY COMPLIANCE AND ADEQUACY OF THESE PLANS AND/OR SPECIFICATIONS WHETHER OR NOT THE PLANS AND/OR SPECIFICATIONS WERE REVIEWED BY THE CITY ENGINEER(S).

PLAN SUBMITTAL/REVIEW LOG:

1ST SUBMITTAL TO CITY 11/21/2023

LEGAL DESCRIPTION

13.79 ACRES OF LAND OUT OF THE WILLIAM H. MONROE SURVEY, ABSTRACT 453, WILLIAMSON COUNTY, TEXAS AS DESCRIBED IN DOC. #2015015610 OF THE DEED RECORDS OF WILLIAMSON COUNTY, TEXAS.

LAND USE SUMMARY:  
ZONING: SINGLE-FAMILY RURAL (SFR-1-B) - 13.79 AC.

FUTURE LAND USE CATEGORY:  
ACTIVITY CENTER - 13.79 AC

LOT #	PERMITTED USES	AREA
LOT 1	SFR-1-B	13.51 AC

ROW TAKE	0.28 AC
TOTAL AREA	13.79 AC

BUILDING IMPERVIOUS	N/A AC
TOTAL IMPERVIOUS	N/A AC

WATERSHED:  
THIS SITE IS LOCATED PARTIALLY IN THE NORTH FORK SAN GABRIEL RIVER WATERSHED AND PARTIALLY IN THE SOUTH FORK SAN GABRIEL RIVER WATERSHED.  
THIS SITE IS LOCATED IN THE EDWARDS AQUIFER RECHARGE ZONE.

FLOODPLAIN INFORMATION:  
NO PORTION OF THIS TRACT IS LOCATED WITHIN A FLOOD HAZARD AREA AS SHOWN ON THE FLOOD INSURANCE RATE MAP PANEL #48491C0275E FOR WILLIAMSON CO., EFFECTIVE SEPTEMBER 26, 2008.

GENERAL PLAN NOTES:

- ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.
- WATER AND WASTEWATER SERVICE WILL BE PROVIDED BY THE CITY OF LEANDER, CONDITIONED UPON ALL FEES AND CHARGES ARE PAID.
- THERE ARE NO KNOWN CRITICAL ENVIRONMENTAL FEATURES ON THIS SITE.
- NO STRUCTURES CAN BE BUILT WITHIN WATER & WASTEWATER EASEMENTS.
- RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.
- AS PART OF THIS SITE PLAN, THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED TO BE ON SITE AT ALL TIMES.
- IN ACCORDANCE WITH NOTE #10 ON THE COVER OF THE PRELIM PLAN (CP-23-0021), SIDEWALKS SHALL BE INSTALLED ON THE SIBDIVISION SIDE OF CR 267 AND KAUFFMAN LOOP. THOSE SIDEWALKS NOT ABUTTING A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL LOT (INCLUDING SIDEWALKS ALONG STREET FRONTAGES OF LOTS PROPOSED FOR SCHOOLS, CHURCHES, PARK LOTS, DETENTION LOTS, LANDSCAPE LOTS, OR SIMILAR LOTS), SIDEWALKS ON ARTERIAL STREETS TO WHICH ACCESS IS PROHIBITED, SIDEWALKS ON DOUBLE FRONTAGE LOTS ON THE SIDE TO WHICH ACCESS IS PROHIBITED, AND ALL SIDEWALKS ON SAFE SCHOOL ROUTES SHALL BE INSTALLED WHEN THE ADJOINING STREET IS CONSTRUCTED.
- EXISTING AND PROPOSED DRAINAGE AREAS PER SP-##-####. ALL RUNOFF FROM PROPOSED PAVEMENT IMPROVEMENT IN THIS PICP IS BEING OVERDETAINED WITH THE PROPOSED POND TO BE CONSTRUCTED WITH ONSITE AND OFFSIDE IMPROVEMENTS WITH SP-##-#### AND PICP-##-#### AND SHALL BE BID AND CONSTRUCTED CONCURRENTLY.

DESIGNERS:

PROJECT AGENT:  
ALLISON KENNAUGH, P.E.  
10814 JOLLYVILLE RD, AVALON IV, SUITE 200  
AUSTIN, TX 78759  
ALLISON.KENNAUGH@KIMLEY-HORN.COM  
(512) 782-0614

SURVEYOR  
PAPE-DAWSON ENGINEERS  
10801 N MOPAC EXPY.  
BLDG 3, SUITE 200  
AUSTIN, TX 78759  
(512) 454-8711

ENGINEER:

**Kimley»Horn**

10814 JOLLYVILLE ROAD, AVALON IV, SUITE 300  
AUSTIN, TEXAS 78759  
CERTIFICATE OF REGISTRATION #928

Tel. No. (512) 418-1771  
Fax No. (512) 418-1791

OWNER/DEVELOPER:

OWNER:  
VALOR TEXAS EDUCATION FOUNDATION  
JESSE BATES  
220 FOREMOST DR  
AUSTIN, TX 78745  
(214) 514-3356

DEVELOPER:  
PMSI  
JASON ORIOL  
1822 W BREAKER LANE, #81734  
AUSTIN, TX 78708  
JORIOL@PMSITX.COM

# VALOR LEANDER

## PUBLIC IMPROVEMENT

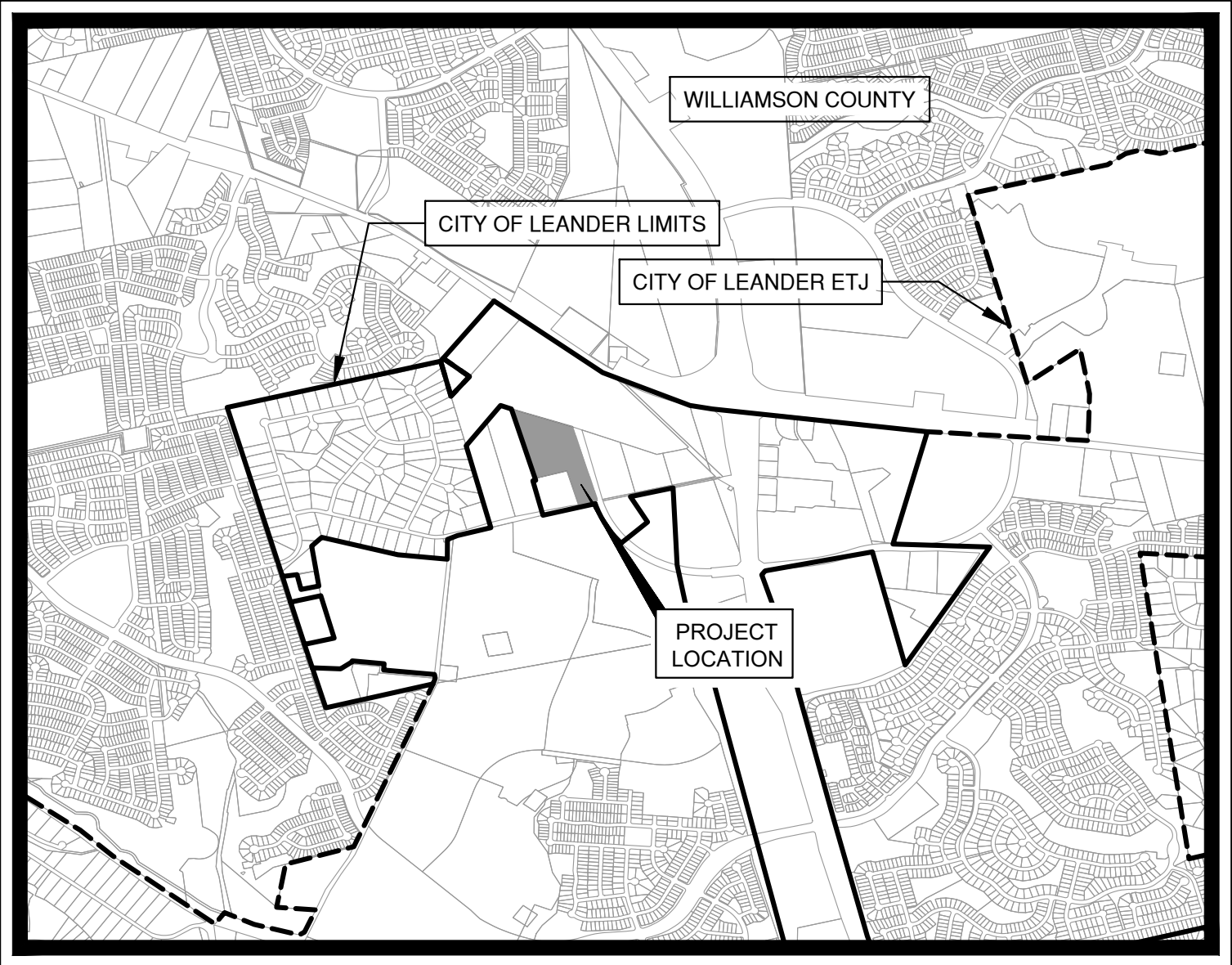
## CONSTRUCTION PLANS

## PROJECT #23-PICP-####

## 168 KAUFFMAN LOOP

## CITY OF LEANDER

## WILLIAMSON COUNTY, TX



VICINITY MAP  
SCALE: 1" = 2,000'

# NOVEMBER 2023

SHEET INDEX

Sheet Number	Sheet Title
1	COVER SHEET
2	CITY OF LEANDER GENERAL NOTES
3	KH GENERAL NOTES
4	TCEQ GENERAL NOTES
5	FINAL PLAT (SHEET 1 OF 2)
6	FINAL PLAT (SHEET 2 OF 2)
7	APPROVED PRELIMINARY PLAT
8	EXISTING CONDITIONS AND DEMOLITION PLAN
9	EROSION CONTROL PLAN
10	REVEGETATION PLAN
11	EROSION CONTROL AND REVEGETATION DETAILS
12	GRADING PLAN
13	EXISTING DRAINAGE AREA MAP
14	PROPOSED DRAINAGE AREA MAP
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16	OVERALL UTILITY PLAN
17	WATER PLAN & PROFILE - WL-A STA 1+00 - 10+50
18	WATER PLAN & PROFILE - WL-A STA 10+50 - END
19	WASTEWATER PLAN & PROFILE - WWL-A STA 1+00 - 10+50
20	WASTEWATER PLAN & PROFILE - WWL-A STA 10+50 - 21+00
21	WASTEWATER PLAN & PROFILE - WWL-A STA 21+00 - END
22	OVERALL WATER QUALITY PLAN
23	TCEQ CALCS
24	PAVING DETAILS (SHEET 1 OF 2)
25	PAVING DETAILS (SHEET 2 OF 2)
26	WATER DETAILS
27	WASTEWATER DETAILS



BENCHMARKS

BENCHMARKS ARE BASED ON NAD83  
COORDINATES ARE STATE PLANE CENTRAL ZONE WITH  
A COMBINED SCALE FACTOR OF 0.9998800143982722

BM #10: SIX COTTON SPINDLE  
GRID NORTH: 10,203,075.39  
GRID EAST: 3,082,766.80  
1035.47

BM #11: SET MAGNETIC NAIL (TRAVIS)  
GRID NORTH: 10,203,996.98  
GRID EAST: 3,082,429.05  
1031.92'

REVISIONS/CORRECTIONS		
REVISION #	DESCRIPTION	CITY OF LEANDER APPROVAL

Kimley»Horn

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.  
10814 JOLLYVILLE ROAD, CAMPUS IV, SUITE 200, AUSTIN, TX 78759  
PHONE: 512-418-1771 FAX: 512-418-1791  
WWW.KIMLEY-HORN.COM  
TEXAS REGISTERED ENGINEERING FIRM E-928

Allison Kennaugh

11/21/2023

KHA PROJECT	DATE	SCALE	DESIGNED BY	NAM	DRAWN BY	AMF	CHECKED BY	ACK
069252742	NOVEMBER 2023	AS SHOWN						

COVER SHEET

VALOR LEANDER  
PICP  
CITY OF LEANDER  
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER

1 of 27

REVISIONS

DATE

BY

VALOR LEANDER - PICP

CIVIL CONSTRUCTION PLANS











A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:

- THE NAME OF THE APPROVED PROJECT;
- THE ACTIVITY START DATE; AND
- THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE WATER POLLUTION ABATEMENT PLAN (WPAP) AND THE TCEQ LETTER IDENTIFYING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.

3. IF ANY SENSITIVE FEATURES (CAVES, SOLUTION CAVITY, SINK HOLE, ETC.) IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES MAY NOT BE RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE APPROPRIATE PROTECTIVE MEASURES IN ORDER TO PROTECT ANY SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.

4. NO TEMPORARY OR PERMANENT HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE.

5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

6. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC.

7. SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS OR SEDIMENTATION BASINS NOT LATER THAN WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.

8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.

9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FIL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.

10. IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION MEASURES MUST BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.

11. THE FOLLOWING RECORDS SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST:

- THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR;
- THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND
- THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.

12. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:

- A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO POND, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;
- B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;
- C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

TCEQ REGION 11 OFFICE  
12100 PARK 35 CIRCLE,  
BUILDING A, RM 179  
AUSTIN, TEXAS 78753-3795  
PHONE: (512) 339-2929  
FAX: (512) 339-3795

TCEQ - SEWAGE COLLECTION SYSTEM PLAN NOTES

1. THIS ORGANIZED SEWAGE COLLECTION SYSTEM (SCS) MUST BE CONSTRUCTED IN ACCORDANCE WITH 30 TEXAS ADMINISTRATIVE CODE (TAC) §213.5(C), THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) EDWARDS AQUIFER RULES AND ANY LOCAL GOVERNMENT STANDARD SPECIFICATIONS.

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

3. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE PRESIDING TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:

- THE NAME OF THE APPROVED PROJECT;
- THE ACTIVITY START DATE; AND
- THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.

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

5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

6. IF ANY SENSITIVE FEATURES ARE DISCOVERED DURING THE WASTEWATER LINE TRENCHING ACTIVITIES, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPLICANT MUST IMMEDIATELY NOTIFY THE APPROPRIATE REGIONAL OFFICE OF THE TCEQ OF THE FEATURE DISCOVERED. A GEOLOGIST'S ASSESSMENT OF THE LOCATION AND EXTENT OF THE FEATURE DISCOVERED MUST BE REPORTED TO THAT REGIONAL OFFICE IN WRITING AND THE APPLICANT MUST SUBMIT A PLAN FOR ENSURING THE STRUCTURAL INTEGRITY OF THE SEWER LINE OR FOR MODIFYING THE PROPOSED COLLECTION SYSTEM ALIGNMENT AROUND THE FEATURE. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE EXECUTIVE DIRECTOR HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY WHILE MAINTAINING THE STRUCTURAL INTEGRITY OF THE LINE.

7. SEWER LINES LOCATED WITHIN OR CROSSING THE 5-YEAR FLOODPLAIN OF A DRAINAGE WAY WILL BE PROTECTED FROM INUNDATION AND STREAM VELOCITIES WHICH COULD CAUSE EROSION AND SCOURING OF BACKFILL. THE TRENCH MUST BE CAPPED WITH CONCRETE TO PREVENT SCOURING OF BACKFILL, OR THE SEWER LINES MUST BE ENCASED IN CONCRETE. ALL CONCRETE SHALL HAVE A MINIMUM THICKNESS OF 6 INCHES.

8. BLASTING PROCEDURES FOR PROTECTION OF EXISTING SEWER LINES AND OTHER UTILITIES WILL BE IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION CRITERIA. SAND IS NOT ALLOWED AS BEDDING OR BACKFILL IN TRENCHES THAT HAVE BEEN BLASTED. IF ANY EXISTING SEWER LINES ARE DAMAGED, THE LINES MUST BE REPAIRED AND RETESTED.

9. ALL MANHOLES CONSTRUCTED OR REHABILITATED ON THIS PROJECT MUST HAVE WATERTIGHT SIZE ON SIZE RESILIENT CONNECTORS ALLOWING FOR DIFFERENTIAL SETTLEMENT. IF MANHOLES ARE CONSTRUCTED WITHIN THE 100-YEAR FLOODPLAIN, THE COVER MUST HAVE A GASKET AND BE BOLTED TO THE RING. WHERE GASKETED MANHOLE COVERS ARE REQUIRED FOR MORE THAN THREE MANHOLES IN SEQUENCE OR FOR MORE THAN 1500 FEET, ALTERNATE MEANS OF VENTING WILL BE PROVIDED. BRICKS ARE NOT AN ACCEPTABLE CONSTRUCTION MATERIAL FOR ANY PORTION OF THE MANHOLE.

THE DIAMETER OF THE MANHOLES MUST BE A MINIMUM OF FOUR FEET AND THE MANHOLE FOR ENTRY MUST HAVE A MINIMUM CLEAR OPENING DIAMETER OF 30 INCHES. THESE DIMENSIONS AND OTHER DETAILS SHOWING COMPLIANCE WITH THE COMMISSION'S RULES CONCERNING MANHOLES AND SEWER LINE/MANHOLE INVERTS DESCRIBED IN 30 TAC §217.55 ARE INCLUDED ON PLAN SHEET 109 OF 112.

IT IS SUGGESTED THAT ENTRANCE INTO MANHOLES IN EXCESS OF FOUR FEET DEEP BE ACCOMPLISHED BY MEANS OF A PORTABLE LADDER. THE INCLUSION OF STEPS IN A MANHOLE IS PROHIBITED.

10. WHERE WATER LINES AND NEW SEWER LINE ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO MANHOLES) THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(D) (PIPE DESIGN) AND 30 TAC §290.44(E) (WATER DISTRIBUTION).

11. WHERE SEWERS LINES DEViate FROM STRAIGHT ALIGNMENT AND UNIFORM GRADE ALL CURVATURE OF SEWER PIPE MUST BE ACHIEVED BY THE FOLLOWING PROCEDURE WHICH IS RECOMMENDED BY THE PIPE MANUFACTURER: None

IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE USED: NO FLEXURE PROPOSED

SPECIFIC CARE MUST BE TAKEN TO ENSURE THAT THE JOINT IS PLACED IN THE CENTER OF THE TRENCH AND PROPERLY BEDDED IN ACCORDANCE WITH 30 TAC §217.54.

MATERIAL WITH BOTH THE SEWER LINE AND THE EXTENSION. AT THE TIME OF ORIGINAL CONSTRUCTION, NEW STUB-OUTS MUST BE CONSTRUCTED SUFFICIENTLY TO EXTEND BEYOND THE END OF THE STREET PAVEMENT. ALL STUB-OUTS MUST BE SEALED WITH A MANUFACTURED CAP TO PREVENT LEAKAGE. EXTENSIONS THAT WERE NOT ANTICIPATED AT THE TIME OF ORIGINAL CONSTRUCTION OR THAT ARE TO BE CONNECTED TO AN EXISTING SEWER LINE NOT FURNISHED WITH STUB OUTS MUST BE CONNECTED USING A MANUFACTURED SADDLE AND IN ACCORDANCE WITH ACCEPTED PLUMBING TECHNIQUES.

IF NO STUB-OUT IS PRESENT AN ALTERNATE METHOD OF JOINING LATERALS IS SHOWN IN THE DETAIL, ON PLAN SHEET N/A OF N/A, (FOR POTENTIAL FUTURE LATERALS).

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

13. TRENCHING, BEDDING AND BACKFILL MUST CONFORM WITH 30 TAC §217.54. THE BEDDING AND BACKFILL FOR FLEXIBLE PIPE MUST COMPLY WITH THE STANDARDS OF ASTM D-2321, CLASSES IA, IB, II OR III. RIGID PIPE BEDDING MUST COMPLY WITH THE REQUIREMENTS OF ASTM C 12 (ANSI A 106.2) CLASSES A, B OR C.

14. SEWER LINES MUST BE TESTED FROM MANHOLE TO MANHOLE. WHEN A NEW SEWER LINE IS CONNECTED TO AN EXISTING STUB OR CLEAN-OUT, IT MUST BE TESTED FROM EXISTING MANHOLE TO NEW MANHOLE. IF A STUB OR CLEAN-OUT IS USED AT THE END OF THE PROPOSED SEWER LINE, NO PRIVATE SERVICE ATTACHMENTS MAY BE CONNECTED BETWEEN THE LAST MANHOLE AND THE CLEAN-OUT UNLESS IT CAN BE CERTIFIED AS CONFORMING WITH THE PROVISIONS OF 30 TAC §213.5(C)(3)(E).

15. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH 30 TAC §217.57. THE ENGINEER MUST RETAIN COPIES OF ALL TEST RESULTS WHEN MUST BE MADE AVAILABLE TO THE EXECUTIVE DIRECTOR UPON REQUEST. THE ENGINEER MUST CERTIFY IN WRITING THAT ALL WASTEWATER LINES HAVE PASSED ALL REQUIRED TESTING TO THE APPROPRIATE REGIONAL OFFICE WITHIN 30 DAYS OF TEST COMPLETION AND PRIOR TO USE OF THE NEW COLLECTION SYSTEM. TESTING METHOD WILL BE:

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

(1) LOW PRESSURE AIR TEST.

(A) A LOW PRESSURE AIR TEST MUST FOLLOW THE PROCEDURES DESCRIBED IN AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C-928, ASTM C-928 F-1417 OR OTHER PROCEDURE APPROVED BY THE EXECUTIVE DIRECTOR, EXCEPT AS TO TESTING TIMES AS REQUIRED IN TABLE C.3 IN SUBPARAGRAPH (C) OF THIS PARAGRAPH OR EQUATION C.3 IN SUBPARAGRAPH (B)(II) OF THIS PARAGRAPH.

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

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

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

**EQUATION C.3**

$$T = (0.085 * D * K) / Q$$

WHERE:

T = TIME FOR PRESSURE TO DROP 1.0 POUND PER SQUARE INCH GAUGE IN SECONDS

K = 0.000419 X D X L1, BUT NOT LESS THAN 1.0

D = AVERAGE INSIDE PIPE DIAMETER IN INCHES

L1 = LENGTH OF LINE OF SAME SIZE BEING TESTED, IN FEET

L2 = LENGTH OF LINE OF SAME SIZE BEING TESTED, IN FEET

Q = RATE OF LOSS, 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE

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

PIPE DIAMETER (IN)	MINIMUM TEST DURATION (HOURS)	MINIMUM TEST DURATION (HOURS)	MINIMUM TEST DURATION (HOURS)
12	1	1	1
14	1	1	1
16	1	1	1
18	1	1	1
20	1	1	1
22	1	1	1
24	1	1	1
26	1	1	1
28	1	1	1
30	1	1	1
32	1	1	1
34	1	1	1
36	1	1	1
38	1	1	1
40	1	1	1
42	1	1	1
44	1	1	1
46	1	1	1
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84	1	1	1
86	1	1	1
88	1	1	1
90	1	1	1
92	1	1	1
94	1	1	1
96	1	1	1
98	1	1	1
100	1	1	1

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

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

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

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

(2) INFILTRATION/EXFILTRATION TEST.

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

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

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

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

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

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

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

(A) MANDREL SIZING.

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

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

(III) ALL DIMENSIONS MUST MEET THE APPROPRIATE STANDARD.

(B) MANDREL DESIGN.

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


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

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

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

(C) METHOD

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

<p><b>VALOR LEANDER</b></p> <p><b>PICP</b></p> <p>CITY OF LEANDER</p> <p>WILLIAMSON COUNTY, TEXAS</p>	<p><b>TCEQ GENERAL NOTES</b></p>	<p>KHA PROJECT 069252742</p> <p>DATE NOVEMBER 2023</p> <p>SCALE AS SHOWN DESIGNED BY: NAM</p> <p>DRAWN BY: AMF</p> <p>CHECKED BY: ACK</p>	<p><i>Allison Kennaugh</i></p>  <p>11/21/2023</p>	<p><b>Kimley»»Horn</b></p> <p>© 2023 KIMLEY-HORN AND ASSOCIATES, INC. 10814 JOLLYVILLE ROAD, CAMPUS IV, SUITE 200, AUSTIN, TX 78759 PHONE: 512-418-1771 FAX: 512-418-1791 WWW.KIMLEY-HORN.COM</p> <p>TEXAS REGISTERED ENGINEERING FIRM F-4928</p>	<p>No.</p> <p>REVISIONS</p> <p>DATE</p>
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LEFT BLANK.



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

## BENCHMARKS

BENCHMARKS ARE BASED ON NAD83  
COORDINATES ARE STATE PLANE CENTRAL ZONE WITH  
A COMBINED SCALE FACTOR OF 0.9998800143982722

BM #10: SIX COTTON SPINDLE  
GRID NORTH: 10,203,075.39  
GRID EAST: 3,082,766.80  
1035.47

BM #11: SET MAGNETIC NAIL (TRAVIS)  
GRID NORTH: 10,203,986.98  
GRID EAST: 3,082,429.05  
1031.92'

VALOR LEANDER  
PICP  
CITY OF LEANDER  
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER  
6 OF 27

FINAL PLAT  
(SHEET 2 OF 2)

KHA PROJECT 069252742	DATE NOVEMBER 2023	SCALE: AS SHOWN	DESIGNED BY: NAM	DRAWN BY: AMF	CHECKED BY: ACK
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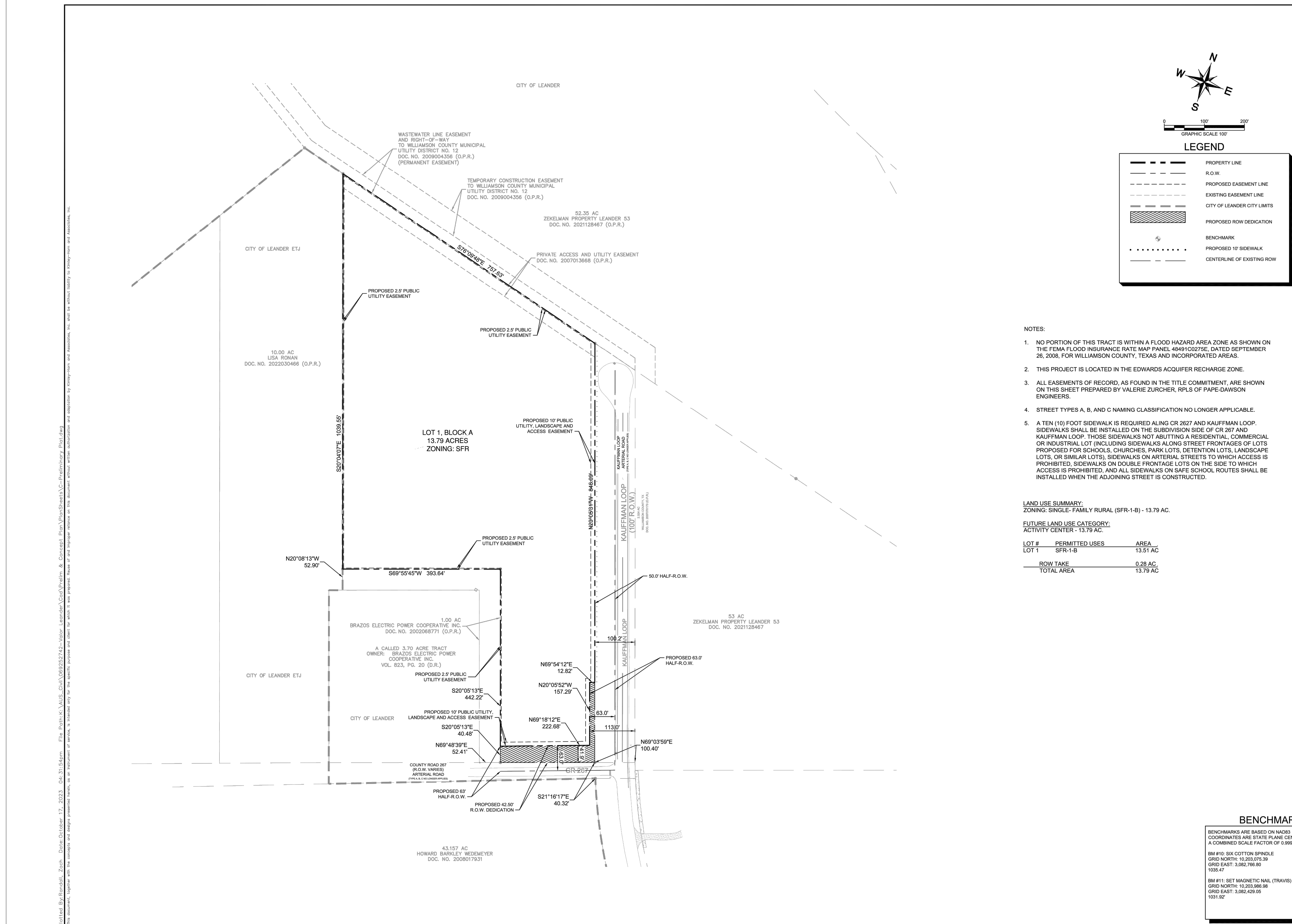
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REVISIONS

No.

DATE \_\_\_\_\_

BY



**\*\*PLEASE NOTE: NOT TO SCALE.**

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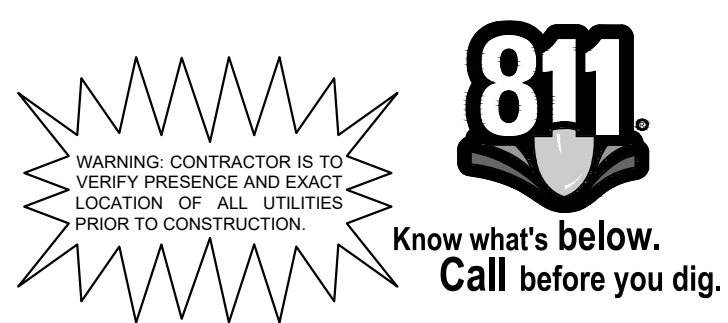
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TEXAS REGISTERED ENGINEERING FIRM F-923

KHA PROJECT 069252742
DATE OCTOBER 2023
SCALE: AS SHOWN
DESIGNED BY: ZJR
DRAWN BY: ZJR
CHECKED BY: ACK

# PRELIMINARY PLAT

VALOR SCHOOLS  
CITY OF LEANDER  
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER  
4  
OF 10  
CP-23-0021



## BENCHMARKS

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1031.92'

[illegible]

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069252742	DATE
	NOVEMBER 2023
SCALE:	AS SHOWN
DESIGNED BY:	NAME
DRAWN BY:	AMF
CHECKED BY:	ACK

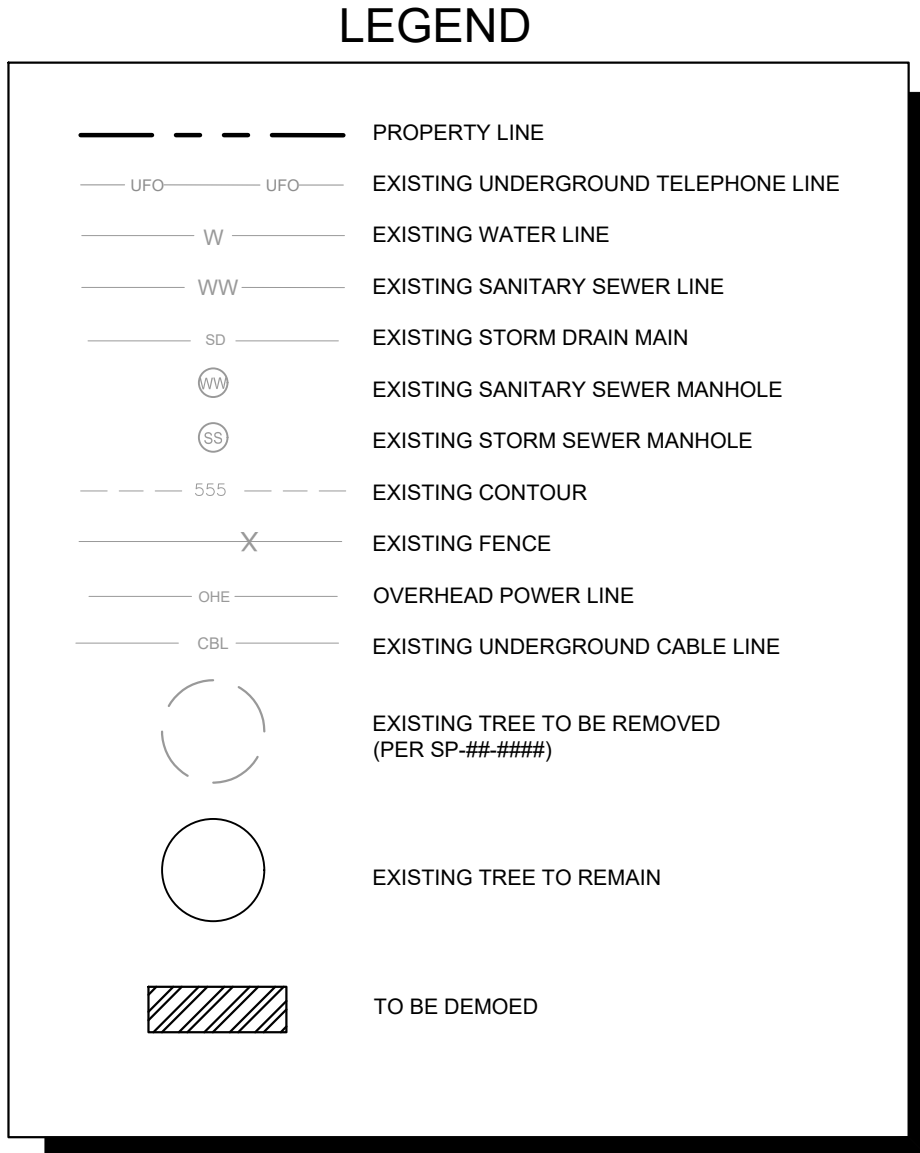
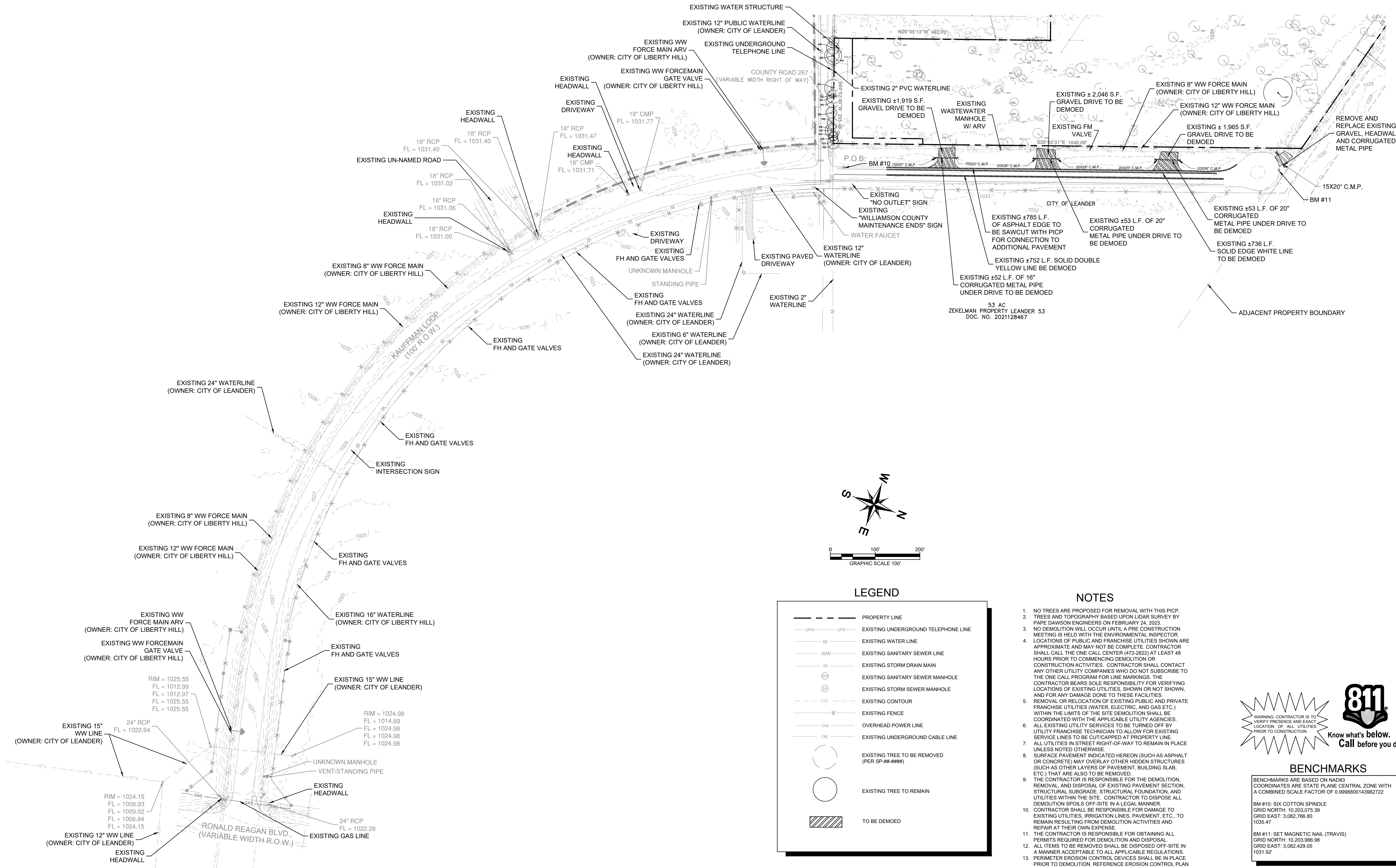
APPROVED PRELIMINARY  
PLAT

**VALOR LEANDER  
PICP**  
CITY OF LEANDER  
WILLIAMSON COUNTY, TEXAS


SHEET NUMBER  
7 OF 27



Plotted By:Ronald, Zach Date:November 21, 2023 02:44:22pm File Path:K:\AUS\_Civil\069252742-Valor Leander\Coa\PCIP\PlanSheets\0-Existing Conditions and Demolition Plan.dwg  
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- NOTES**
- NO TREES ARE PROPOSED FOR REMOVAL WITH THIS PICP.
  - TREES AND TOPOGRAPHY BASED UPON LIDAR SURVEY BY PAPE DAWSON ENGINEERS ON FEBRUARY 24, 2023.
  - NO DEMOLITION WILL OCCUR UNTIL A PRE CONSTRUCTION MEETING IS HELD WITH THE ENVIRONMENTAL INSPECTOR.
  - LOCATIONS OF PUBLIC AND FRANCHISE UTILITIES SHOWN ARE APPROXIMATE AND MAY NOT BE COMPLETE. CONTRACTOR SHALL CALL THE ONE CALL CENTER (472-2822) AT LEAST 48 HOURS PRIOR TO COMMENCING DEMOLITION OR CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL CONTACT ANY OTHER UTILITY COMPANIES WHO DO NOT SUBSCRIBE TO THE ONE CALL PROGRAM FOR LINE MARKINGS. THE CONTRACTOR BEARS SOLE RESPONSIBILITY FOR VERIFYING LOCATIONS OF EXISTING UTILITIES, SHOWN OR NOT SHOWN, AND FOR ANY DAMAGE DONE TO THESE FACILITIES.
  - REMOVAL OR RELOCATION OF EXISTING PUBLIC AND PRIVATE FRANCHISE UTILITIES (WATER, ELECTRIC, AND GAS ETC.) WITHIN THE LIMITS OF THE SITE DEMOLITION SHALL BE COORDINATED WITH THE APPLICABLE UTILITY AGENCIES.
  - ALL EXISTING UTILITY SERVICES TO BE TURNED OFF BY UTILITY FRANCHISE TECHNICIAN TO ALLOW FOR EXISTING SERVICE LINES TO BE CUT/OUPPED AT PROPERTY LINE.
  - ALL UTILITIES IN STREET RIGHT-OF-WAY TO REMAIN IN PLACE UNLESS NOTED OTHERWISE.
  - SURFACE PAVEMENT INDICATED HEREON (SUCH AS ASPHALT OR CONCRETE) MAY OVERLAY OTHER HIDDEN STRUCTURES (SUCH AS OTHER LAYERS OF PAVEMENT, BUILDING SLAB, ETC.) THAT ARE ALSO TO BE REMOVED.
  - THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL, AND DISPOSAL OF EXISTING PAVEMENT SECTION, STRUCTURAL SUBGRADE, STRUCTURAL FOUNDATION, AND UTILITIES WITHIN THE SITE. CONTRACTOR TO DISPOSE ALL DEMOLITION SPOILS OFF-SITE IN A LEGAL MANNER.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING UTILITIES, IRRIGATION LINES, PAVEMENT, ETC., TO REMAIN RESULTING FROM DEMOLITION ACTIVITIES AND REPAIR AT THEIR OWN EXPENSE.
  - THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION AND DISPOSAL.
  - ALL ITEMS TO BE REMOVED SHALL BE DISPOSED OFF-SITE IN A MANNER ACCEPTABLE TO ALL APPLICABLE REGULATIONS.
  - PERIMETER EROSION CONTROL DEVICES SHALL BE IN PLACE PRIOR TO DEMOLITION. REFERENCE EROSION CONTROL PLAN AND DETAILS FOR TYPE AND LOCATION.
  - A PRECONSTRUCTION MEETING WITH THE ENVIRONMENTAL INSPECTOR IS REQUIRED PRIOR TO ANY SITE DISTURBANCE.



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


**BENCHMARKS**

BENCHMARKS ARE BASED ON NAD83  
COORDINATES ARE STATE PLANE CENTRAL ZONE WITH  
A COMBINED SCALE FACTOR OF 0.9998800143982722


BM #10: SIX COTTON SPINDLE  
GRID NORTH: 10,203.075.39  
GRID EAST: 3,082,766.80  
1035.47

BM #11: SET MAGNETIC NAIL (TRAVIS)  
GRID NORTH: 10,203.996.98  
GRID EAST: 3,082,429.05  
1031.92'

BY	
DATE	
REVISIONS	
No.	



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11/21/2023

KHA PROJECT	069252742	DATE	NOVEMBER 2023	SCALE	AS SHOWN	DESIGNED BY	NAM	DRAWN BY	AMF	CHECKED BY	ACK
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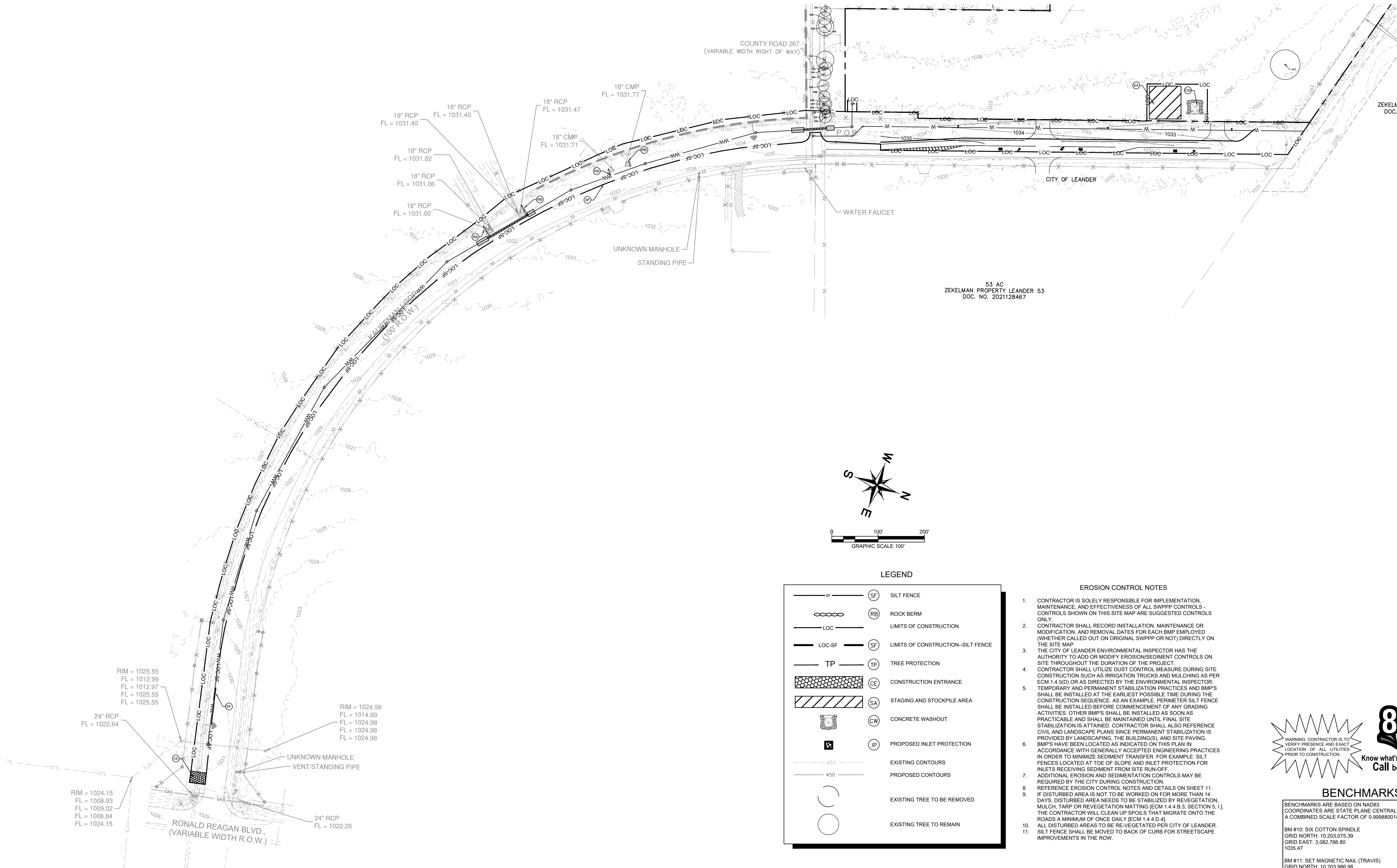
**EXISTING CONDITIONS  
AND DEMOLITION PLAN**

**VALOR LEANDER  
PICP**  
CITY OF LEANDER  
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER  
**8 OF 27**



Plotted By:Ronald, Zach Date:November 21, 2023 02:44:44pm File Path:K:\AUS\_Civil\069252742-Valor Leander\Loc\PICP\PlanSheets\C-Erosion Control Plan.dwg  
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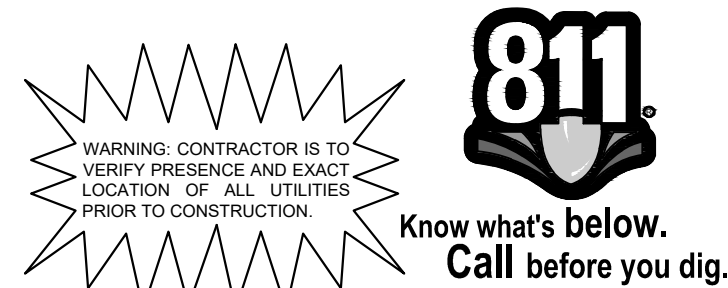
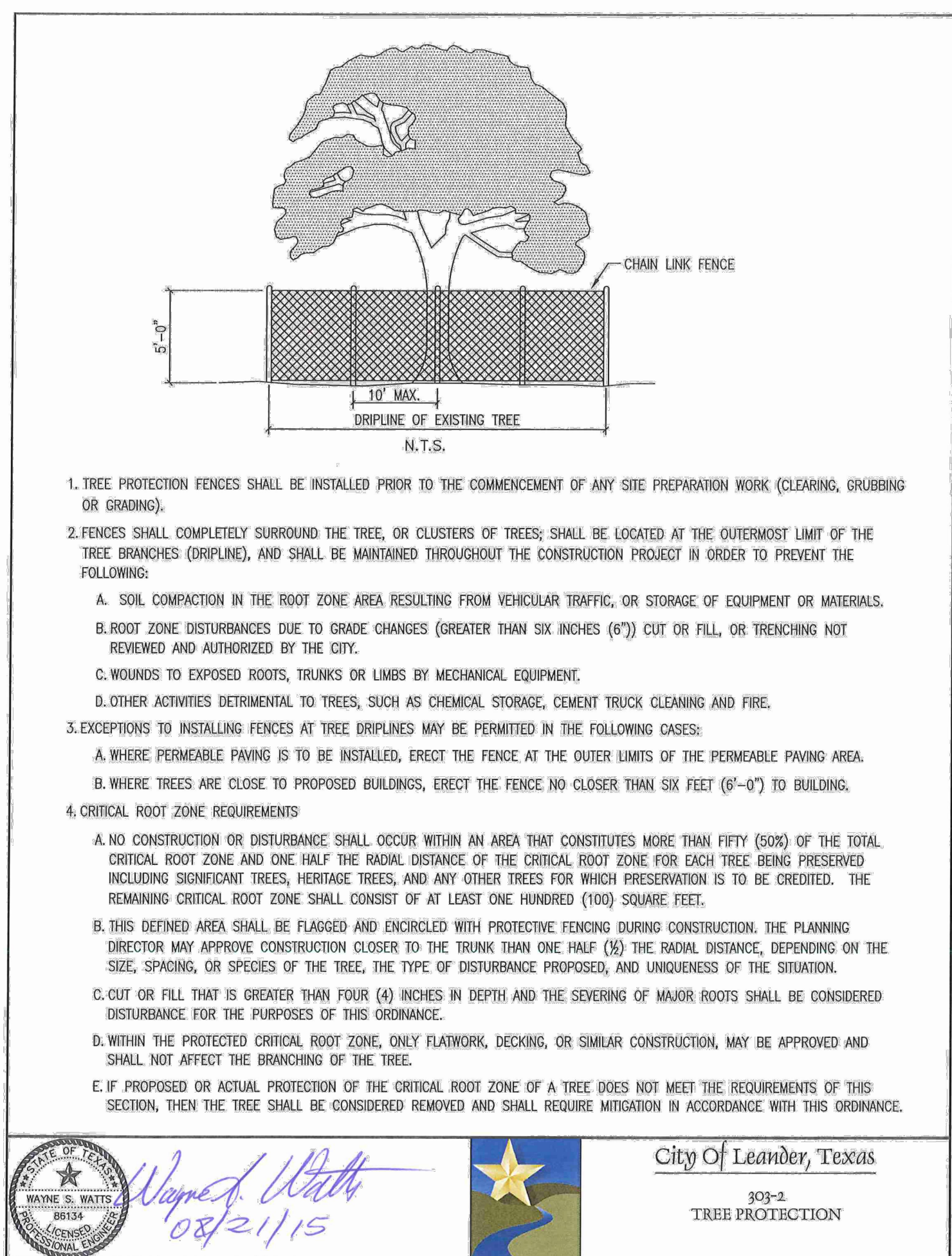
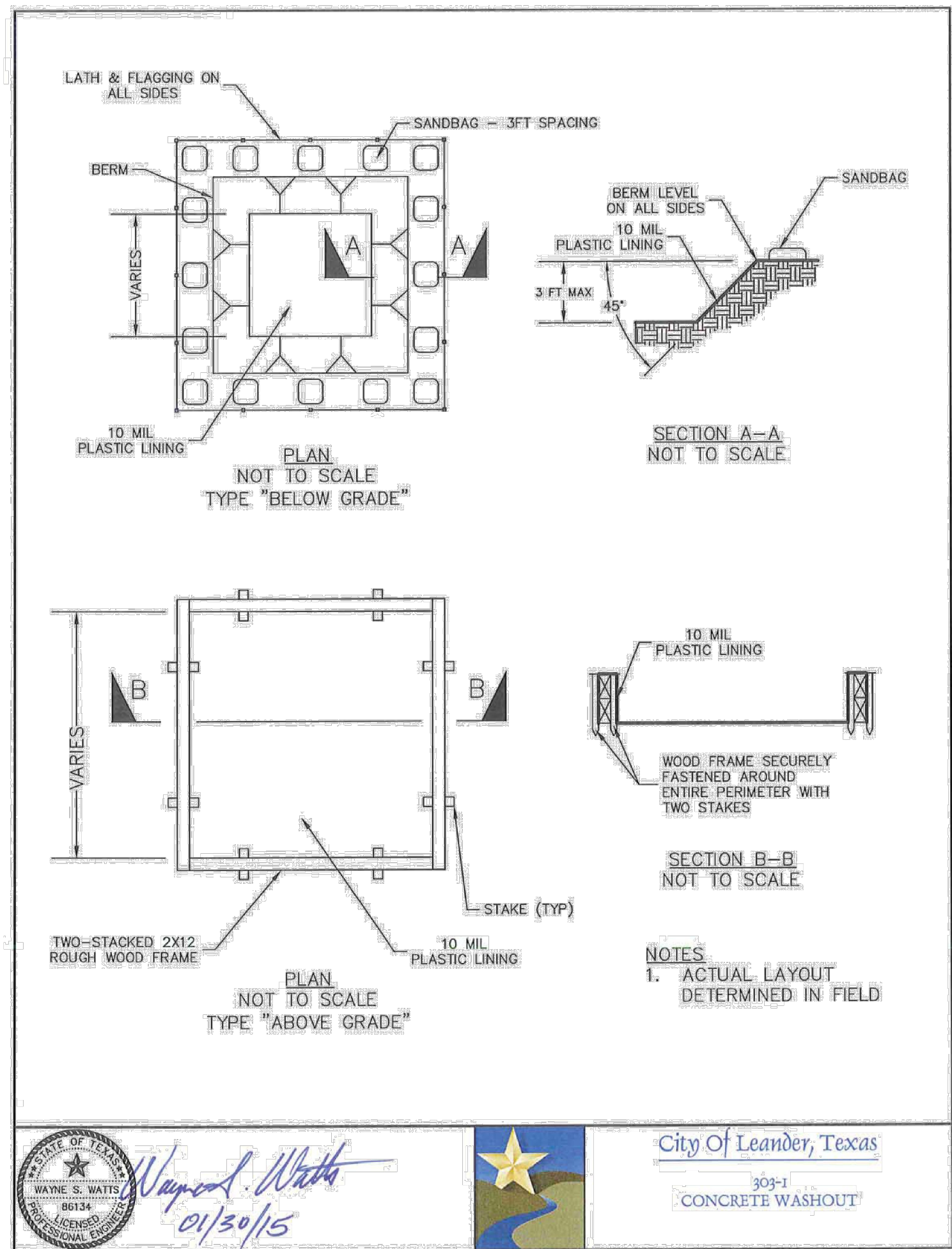
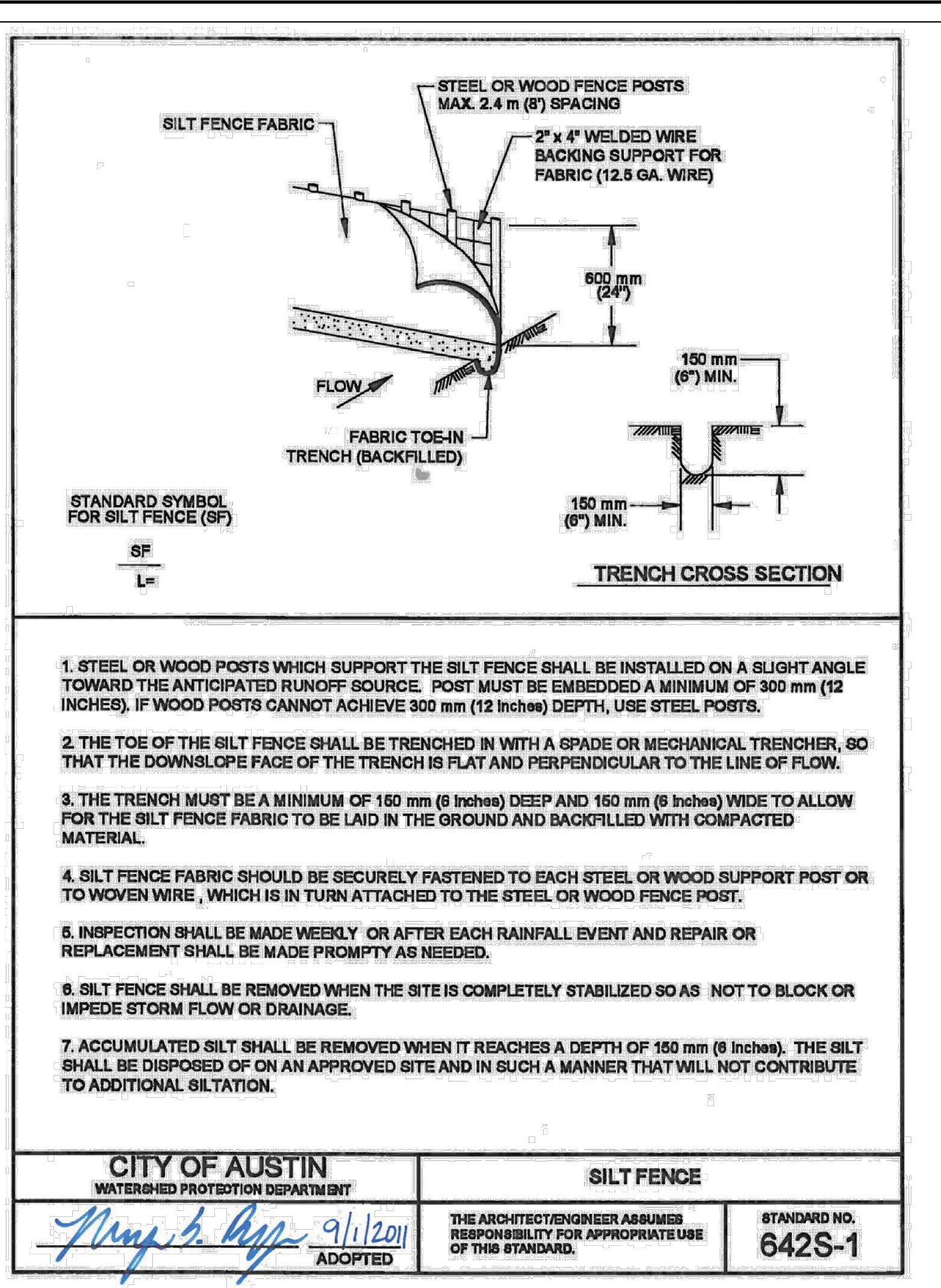
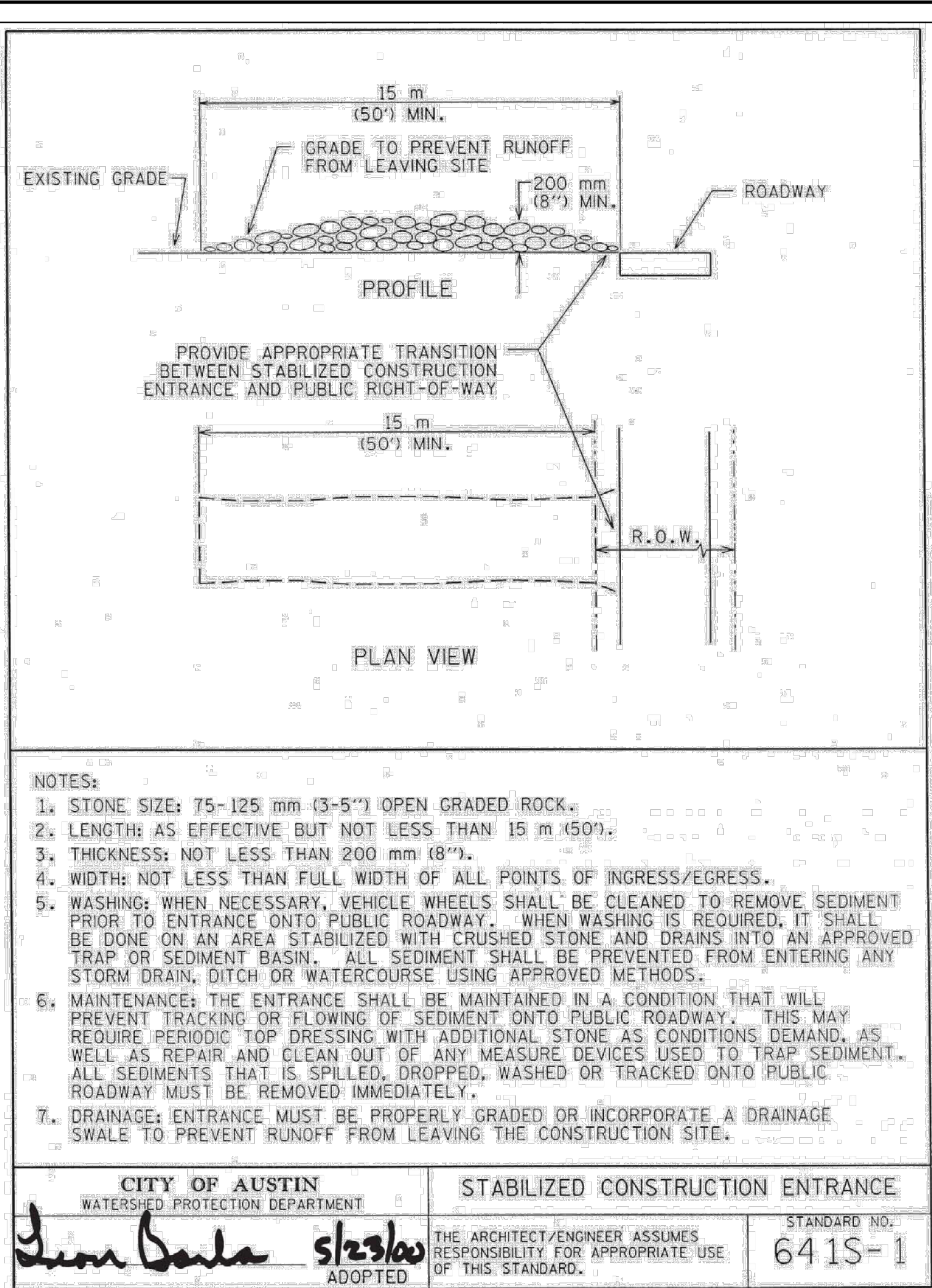
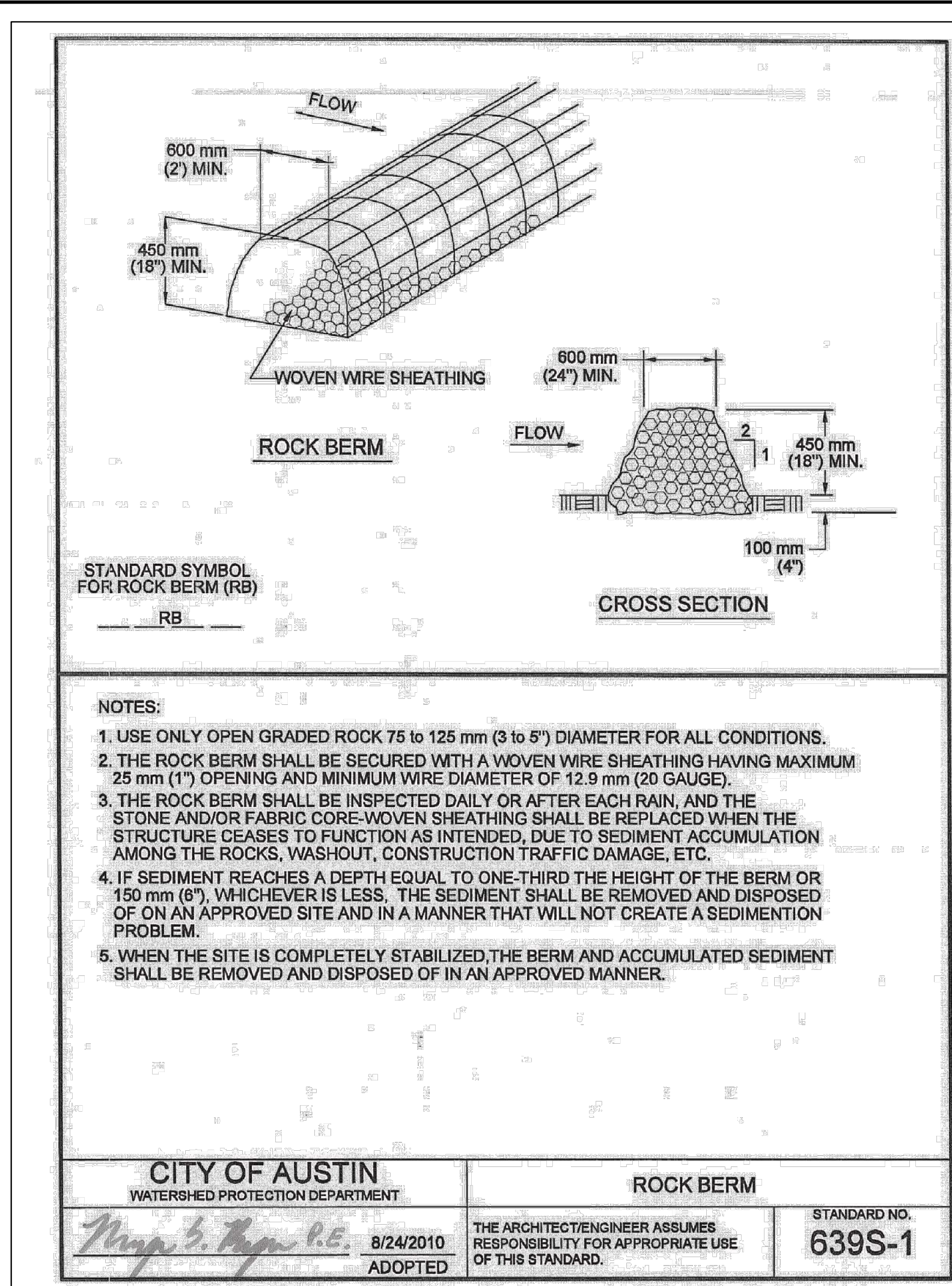
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SHEET NUMBER 9 OF 27		REVISIONS		DATE		BY					







Plotted By: Flynn, Alyssa Date: November 21, 2023 02:43:52pm File Path: K:\AUS\_Civil\089525742-Valor Leander\Coat\Plan\PlanSheets\G-Erosion Control Details.dwg  
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**BENCHMARKS**

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GRID EAST: 3,082,766.80  
1035.47

BM #11: SET MAGNETIC NAIL (TRAVIS)  
GRID NORTH: 10,203,996.98  
GRID EAST: 3,082,429.05  
1031.92


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11/21/2023			
KHA PROJECT 089525742	DATE NOVEMBER 2023	SCALE AS SHOWN	NAM DESIGNED BY DRAWN BY: ANF CHECKED BY: ACK
<b>EROSION CONTROL AND REVEGETATION DETAILS</b>			
<b>VALOR LEANDER PICP</b> CITY OF LEANDER WILLIAMSON COUNTY, TEXAS			
SHEET NUMBER <b>11 OF 27</b>			





- NOTES:

1. REFER TO GEOTECHNICAL REPORT BY TERRACON CONSULTANTS INC. GEOTECH PROJECT NUMBER 96235099. DATED: 08/14/2023
2. ALL PROPOSED ELEVATIONS ARE TOP OF PAVEMENT OR NATURAL GROUND UNLESS OTHERWISE NOTED.
3. ALL TOP OF WALL ELEVATIONS ARE TO TOP OF GRADE AT WALL.
4. ALL BOTTOM OF WALL ELEVATIONS ARE TO BOTTOM OF GRADE AT WALL.
5. CONTRACTOR TO VERIFY A.D.A. COMPLIANCE FOR GRADES IN ALL SIDEWALK ACCESSIBLE ROUTES, INCLUDING DRIVEWAY CROSSINGS, SHALL CONFORM TO ALL APPLICABLE A.D.A. STANDARDS, NOT EXCEED 5.0% ALONG TRAVEL PATH WITH NOT MORE THAN 2.0% CROSS SLOPE AND NOT EXCEED 2.0% IN ANY DIRECTION IN ACCESSIBLE PARKING AREAS.
6. MAINTAIN EXISTING GRADE IN TREE WELLS. CONTRACTOR TO ENSURE POSITIVE DRAINAGE TO AREA INLETS.
7. CONTRACTOR TO VERIFY EXISTING ELEVATIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
8. DO NOT CUT OR GRADE WITHIN 20 FEET OF THE TRANSMISSION STRUCTURES. GRADES AROUND ELECTRIC TRANSMISSION STRUCTURES MUST BE COORDINATED WITH UTILITY PROVIDER.
9. WARNING SIGNS MUST BE PLACED UNDER THE OVERHEAD ELECTRIC TRANSMISSION FACILITIES AS NOTIFICATION OF THESE ELECTRICAL FACILITIES.
10. CONTRACTOR SHALL NOT DISTURB SOIL WITHIN 3 FEET OF EXISTING OVERHEAD ELECTRICAL POLES.
11. CONTRACTOR SHALL NOT DISTURB WITHIN 3' OF OVERHEAD ELECTRICAL POLES.



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

**811**  
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## BENCHMARKS

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TEXAS REGISTERED ENGINEERING FIRM F-928



11/21/2023

KHA PROJECT 069252742	DATE NOVEMBER 2023	SCALE: AS SHOWN	DESIGNED BY: NAM	DRAWN BY: AMF	CHECKED BY: ACK
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# GRADING PLAN

VALOR LEANDER  
PICP  
CITY OF LEANDER  
WILLIAMSON COUNTY, TEXAS

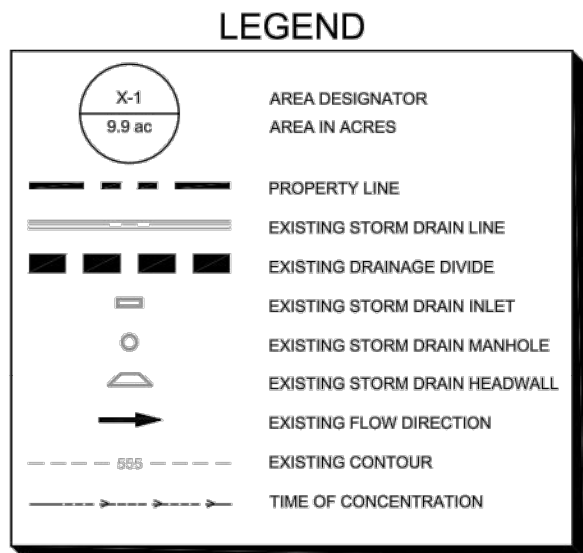
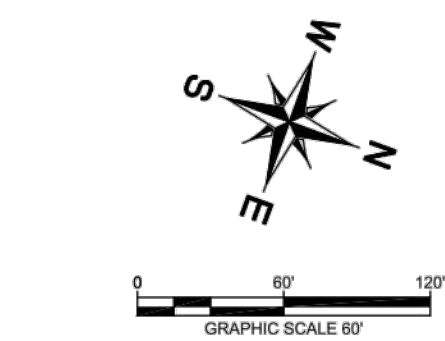
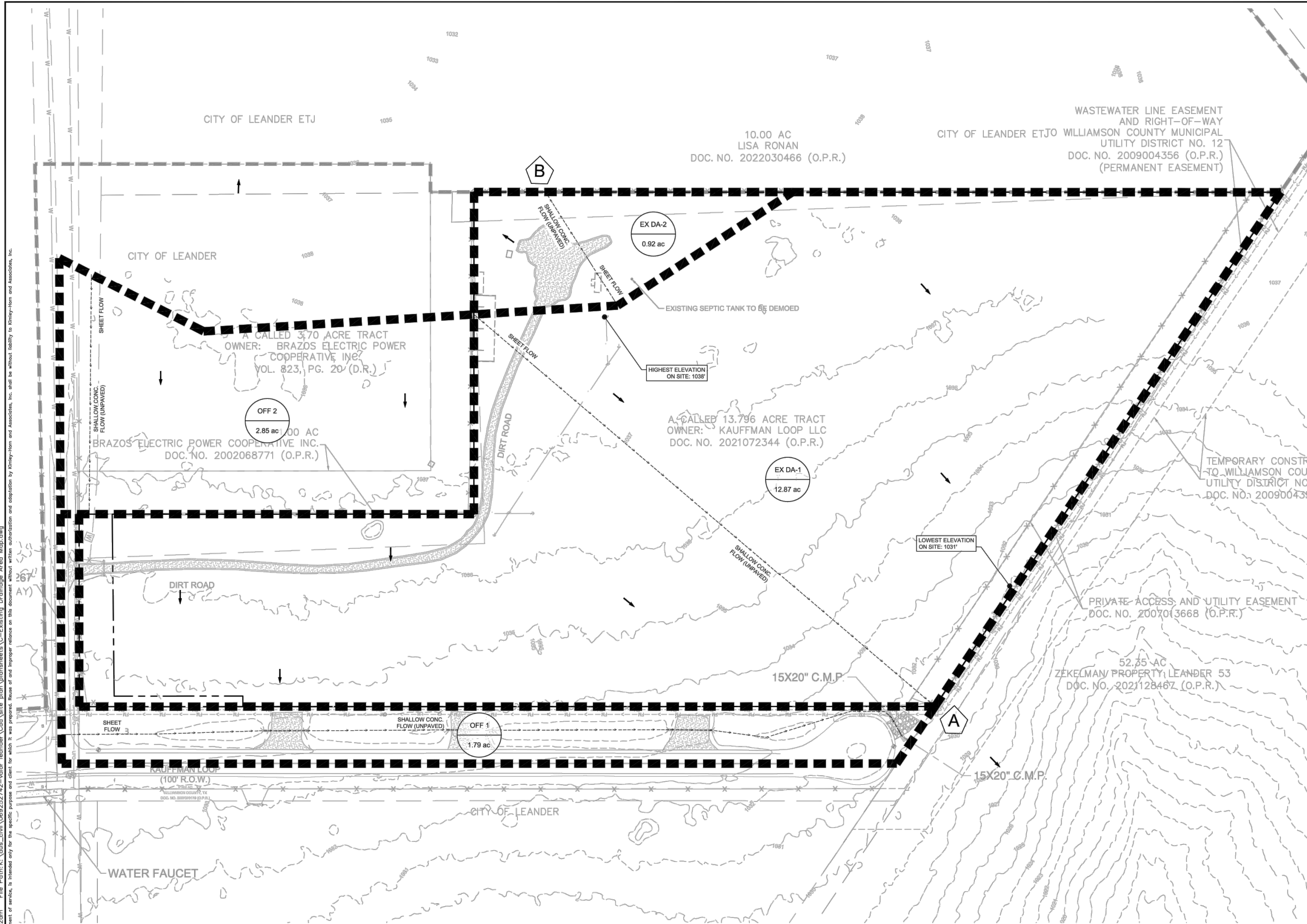
SHEET NUMBER  
12 OF 27

Plotted By: Flynn, Alyssa Date: November 21, 2023 02:44:34pm File Path: K:\AUS\_Civil\069252742-Valor Leander\Cad\Plot\PlanSheets\C-Grading\_Plan.dwg

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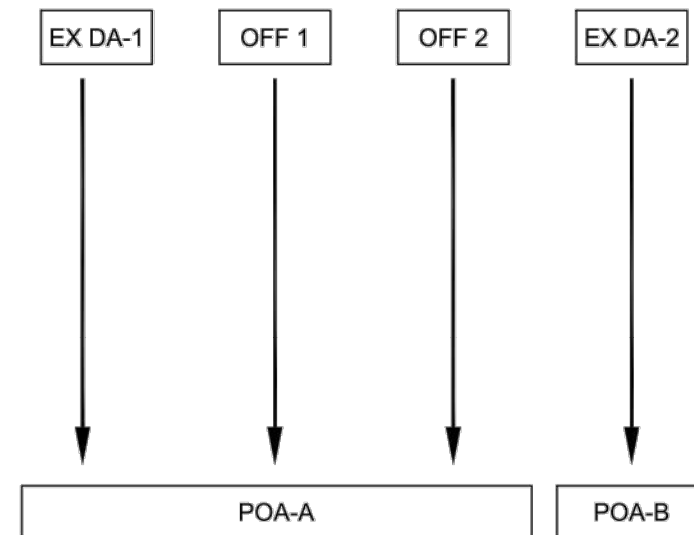
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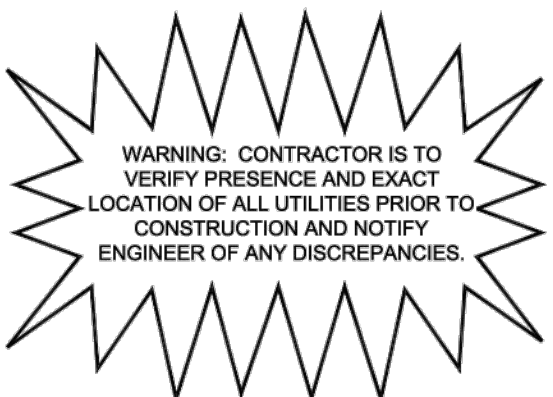
NOTE:  
1. CITY OF LEANDER ATLAS 14 DATA WAS USED TO CALCULATE THE EXISTING RAINFALL RUNOFF.

**EXISTING CONDITIONS**



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GRID NORTH: 10,203,996.98  
GRID EAST: 3,082,429.05  
1031.92



**Valor Leander**  
DETENTION RESULTS - SCS METHOD

Point of Analysis	Total Drainage Area (Acres)	Total Impervious Cover Area (acres)	Impervious Area (%)	Storm Event	Existing Runoff (cfs)
A	17.63	0.92	5.24%	2	37.38
				10	71.39
				25	95.08
				100	135.46
B	0.92	0.12	13.39%	2	2.61
				10	4.80
				25	6.31
				100	8.87

Note: All detention runoff calculations were analyzed using the Soil Conservation Services Method (unless otherwise specified) as documented in the Technical Release 55. Pond Pack V9b was used to calculate the runoff and design the pond volume and outlet structure.

**Valor Leander**  
Existing Drainage Calculations - SCS Method

DRAINAGE AREA	AREA (sq)	AREA IMPERVIOUS COVER (%)	IMPERVIOUS COVER %	PERVIOUS CURVE NO. C <sup>n</sup>	WEIGHTED CURVE NO. C <sup>w</sup>	SHEET FLOW				SHALLOW CONCENTRATED FLOW				CHANNEL FLOW				TOTAL T <sup>c</sup> (min)	Q <sup>2</sup> (cfs)	Q <sup>10</sup> (cfs)	Q <sup>25</sup> (cfs)	Q <sup>100</sup> (cfs)				
						P-2y/24h 3.94 in				Grass Surface		Paved Surface		Pipe Flow												
						N	L (ft)	S (ft/ft)	T (min)	L (ft)	V (fps)	S (ft/ft)	T (min)	L (ft)	V (fps)	S (ft/ft)	T (min)									
EX DA-1	565.962	12.99	0.17	1.28	80.00	80.23	0.150	50	0.003	11.65	690	1.65	0.010	6.99	-	-	-	0.00	-	-	-	18.64	27.3	52.7	70.44	100.71
EX DA-2	40.273	0.92	0.12	13.39	80.00	82.41	0.150	50	0.003	10.83	115	1.49	0.009	1.29	-	-	-	0.00	-	-	-	12.12	2.61	4.80	6.31	9.97
OFF 1	78.038	1.79	0.71	39.47	80.00	87.11	0.150	50	0.005	8.82	1090	0.89	0.003	13.86	-	-	-	0.00	-	-	-	27.59	4.01	6.92	9.89	12.24
OFF 2	124.160	2.85	0.05	1.78	80.00	80.32	0.150	50	0.003	11.65	242	1.11	0.005	3.65	-	-	-	0.00	-	-	-	15.30	6.66	12.65	16.81	23.9

Existing Condition:  
1 The Curve Number (Cn) has been determined based on Table 2.2a of Technical Release 55. The cover type, hydrologic condition, and soil group determined for the proposed conditions are open space, good condition (grass cover >75%), and Type II soil group.  
2 Q values based on USDA TR-55 Manual  
3 The minimum Tc is 5 minutes per the CDM model.

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KHA PROJECT	0895252742	DATE	OCTOBER 2023	SCALE	AS SHOWN	DESIGNED BY	NAM	DRAWN BY	ZJR	CHECKED BY	ACK
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**EXISTING DRAINAGE AREA MAP**

**VALOR LEANDER**  
CITY OF LEANDER  
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER  
11 OF 35

SD-XX-XXXX

NOTE: EXISTING DRAINAGE AREAS PER SP####. ALL RUNOFF FROM PROPOSED PAVEMENT IMPROVEMENT IN THIS PICP IS BEING OVERDETAINED WITH THE PROPOSED POND TO BE CONSTRUCTED WITH ONSITE AND OFFSITE IMPROVEMENTS WITH SP#### AND PICP #### AND SHALL BE BID AND CONSTRUCTED CONCURRENTLY.



**BENCHMARKS**  
BENCHMARKS ARE BASED ON NAD83 COORDINATES ARE STATE PLANE CENTRAL ZONE WITH A COMBINED SCALE FACTOR OF 0.9998800143982722  
BM #10: SIX COTTON SPINDLE  
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GRID EAST: 3,082,766.80  
1035.47  
BM #11: SET MAGNETIC NAIL (TRAVIS)  
GRID NORTH: 10,203,996.98  
GRID EAST: 3,082,429.05  
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KHA PROJECT	0895252742	DATE	NOVEMBER 2023	SCALE	AS SHOWN	DESIGNED BY	NAM	DRAWN BY	AMF	CHECKED BY	ACK
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**EXISTING DRAINAGE AREA MAP**

**VALOR LEANDER PICP**  
CITY OF LEANDER  
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER  
13 OF 27

**\*\*FOR REFERENCE ONLY. PLEASE NOTE: NTS.**







Plotted By: Flynn, Alyssa Date: November 21, 2023 02:45:50pm File Path: K:\AUS\_Civil\089252742-Valor Leander\Coord\PlanSheets\G-Utility Plan.dwg  
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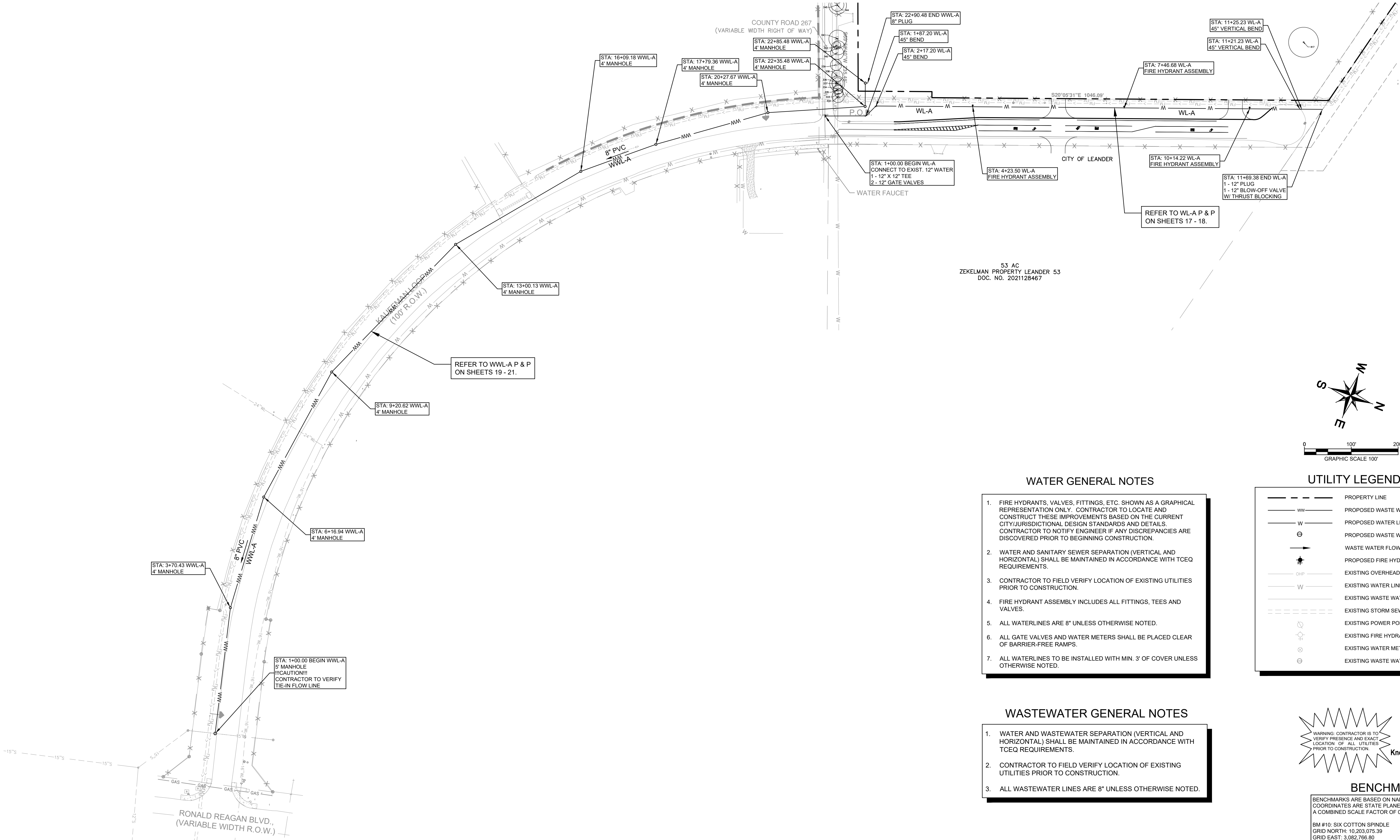
Valor Leander

DESIGN CRITERIA  
Development Size: 13.79 acres

Proposed Development Intended Use (Commercial)	Units	Quantity	L.U.E. Conversion (Units per L.U.E.)
High/Middle School (Includes Gym and Cafeteria)	Students	725	13
Elementary School (Includes Gym and Cafeteria)	Students	800	15

Population:				*Per CoLUH Manual	
	LUE's	People per LUE*	Total Pop.		
High/Middle School (Includes Gym and Cafeteria)	55.77	3.50	195.19		
Elementary School (Includes Gym and Cafeteria)	53.33	3.50	186.67		
Total	109.10		381.86		

VALOR LEANDER OFFSITE SANITARY SEWER CALCULATIONS									
LINE A	Area LUE	LUE Total	Population	F (gpm)	DRY		WET		Slope (%)
					Q (gpm)	V (fps)	Q (gpm)	V (fps)	
A1	0	109.1	381.85	18.56	74.83	2.20	82.65	2.26	0.50
A2	0	109.1	381.85	18.56	74.83	2.20	82.65	2.26	0.50
A3	0	109.1	381.85	18.56	74.83	2.20	82.65	2.26	0.50
A4	0	109.1	381.85	18.56	74.83	2.20	82.65	2.26	0.50
A5	0	109.1	381.85	18.56	74.83	2.20	82.65	2.26	0.50
A6	0	109.1	381.85	18.56	74.83	2.20	82.65	2.26	0.50
A7	0	109.1	381.85	18.56	74.83	2.20	82.65	2.26	0.50
A8	0	109.1	381.85	18.56	74.83	2.20	82.65	2.26	0.50
A9	109.1	109.1	381.85	18.56	74.83	2.20	82.65	2.26	0.50



WATER GENERAL NOTES

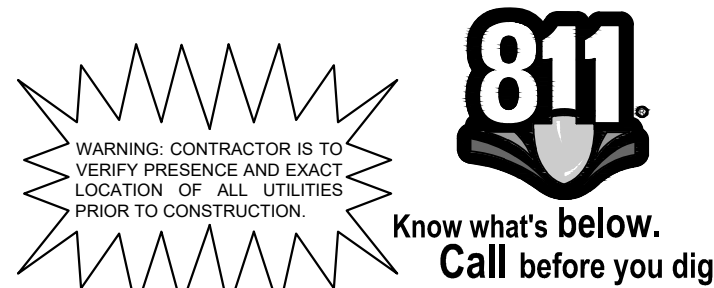
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- WATER AND SANITARY SEWER SEPARATION (VERTICAL AND HORIZONTAL) SHALL BE MAINTAINED IN ACCORDANCE WITH TCEQ REQUIREMENTS.
- CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- FIRE HYDRANT ASSEMBLY INCLUDES ALL FITTINGS, TEES AND VALVES.
- ALL WATERLINES ARE 8" UNLESS OTHERWISE NOTED.
- ALL GATE VALVES AND WATER METERS SHALL BE PLACED CLEAR OF BARRIER-FREE RAMPS.
- ALL WATERLINES TO BE INSTALLED WITH MIN. 3' OF COVER UNLESS OTHERWISE NOTED.

WASTEWATER GENERAL NOTES

- WATER AND WASTEWATER SEPARATION (VERTICAL AND HORIZONTAL) SHALL BE MAINTAINED IN ACCORDANCE WITH TCEQ REQUIREMENTS.
- CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- ALL WASTEWATER LINES ARE 8" UNLESS OTHERWISE NOTED.

UTILITY LEGEND

---	PROPERTY LINE
---WW---	PROPOSED WASTE WATER LINE
---W---	PROPOSED WATER LINE
⊙	PROPOSED WASTE WATER MANHOLE
→	WASTE WATER FLOW DIRECTION
+	PROPOSED FIRE HYDRANT
---OHP---	EXISTING OVERHEAD POWER LINE
---W---	EXISTING WATER LINE
---	EXISTING WASTE WATER LINE
---	EXISTING STORM SEWER LINE
⊙	EXISTING POWER POLE
⊙	EXISTING FIRE HYDRANT
⊙	EXISTING WATER METER
⊙	EXISTING WASTE WATER MANHOLE



BENCHMARKS

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GRID EAST: 3,082,429.05  
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TEXAS REGISTERED ENGINEERING FIRM E-928

ALLISON KENNAUGH

STATE OF TEXAS  
ALLISON KENNAUGH  
14355  
LICENSED PROFESSIONAL ENGINEER

11/21/2023

KHA PROJECT  
089252742

DATE  
NOVEMBER 2023

SCALE  
AS SHOWN

DESIGNED BY  
NAM

DRAWN BY  
AMF

CHECKED BY  
ACK

OVERALL UTILITY PLAN

VALOR LEANDER  
PICP  
CITY OF LEANDER  
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER  
16 OF 27

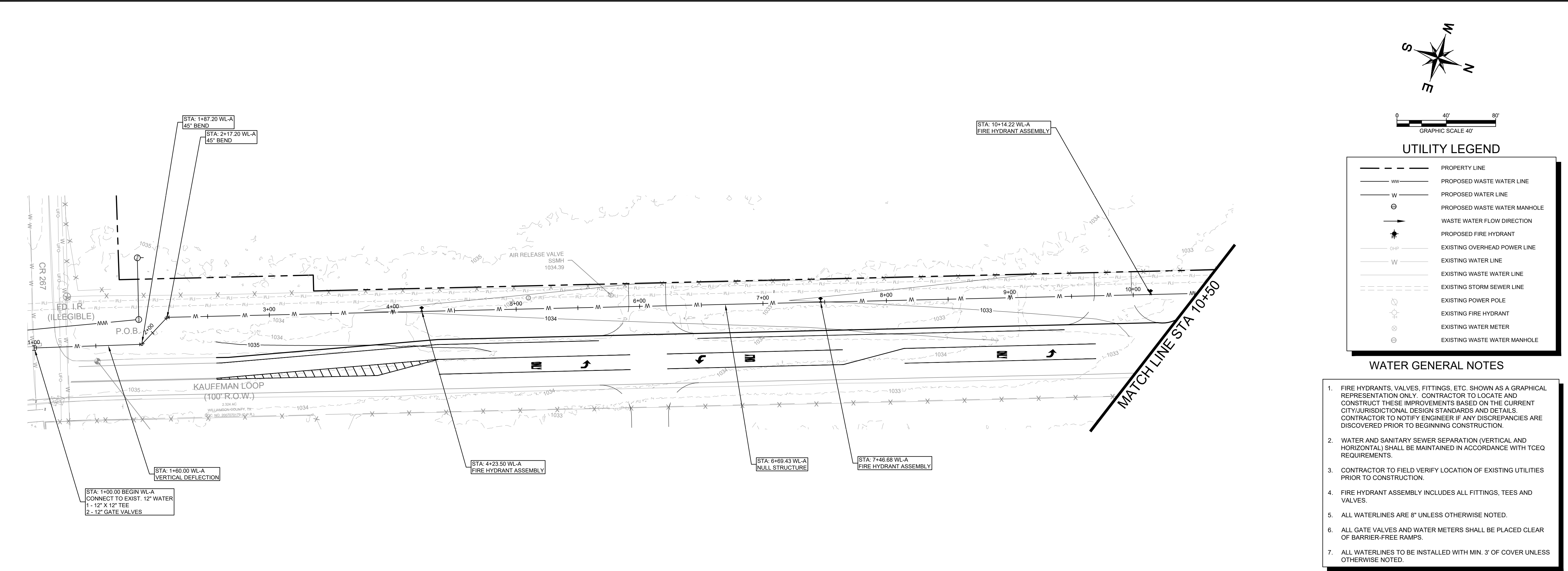
REVISIONS

DATE

BY



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WL-A



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DATE NOVEMBER 2023		SCALE AS SHOWN		DESIGNED BY NAM	DRAWN BY AMF	CHECKED BY ACK
WATER PLAN & PROFILE - WL-A STA 1+00 - 10+50						
VALOR LEANDER PICK CITY OF LEANDER WILLIAMSON COUNTY, TEXAS						
SHEET NUMBER 17 of 27						

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**BENCHMARKS**

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7. ALL WATERLINES TO BE INSTALLED WITH MIN. 3' OF COVER UNLESS OTHERWISE NOTED.



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VALOR LEANDER  
PICP  
CITY OF LEANDER  
WILLIAMSON COUNTY, TEXAS

WATER PLAN & PROFILE  
- WL-A STA 10+50 - END

SHEET NUMBER  
18 OF 27

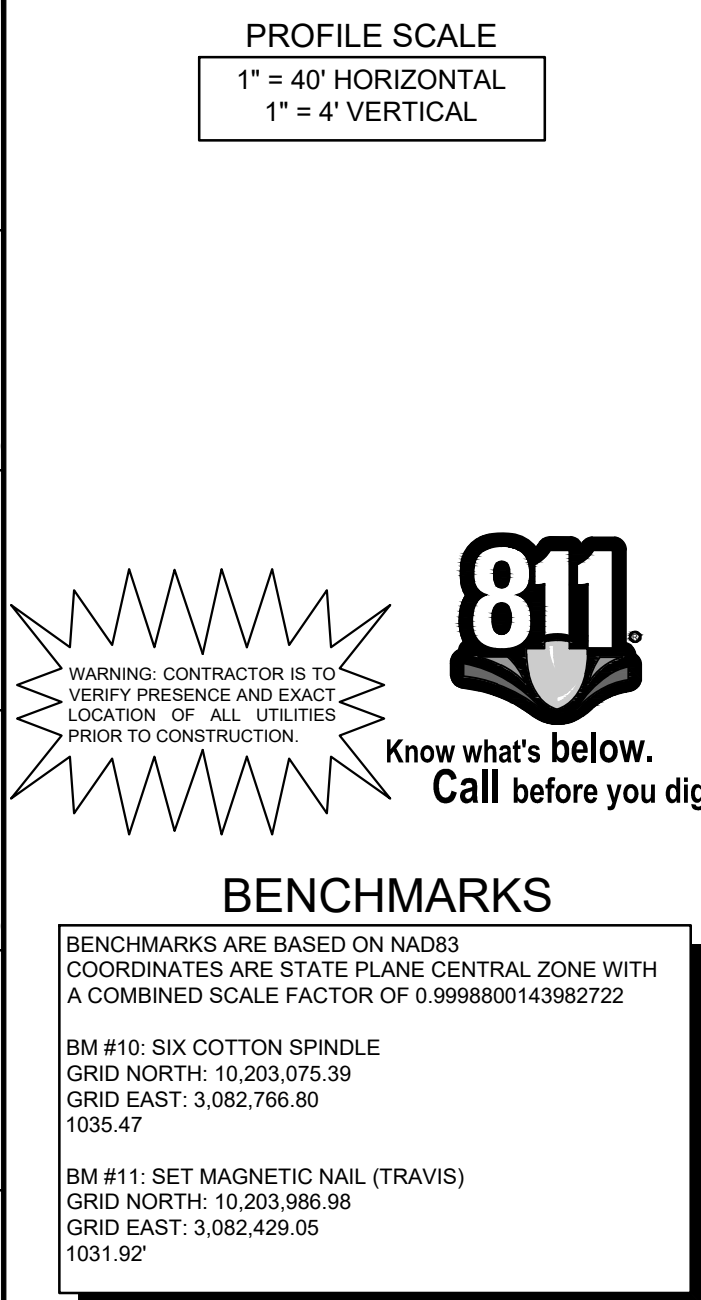
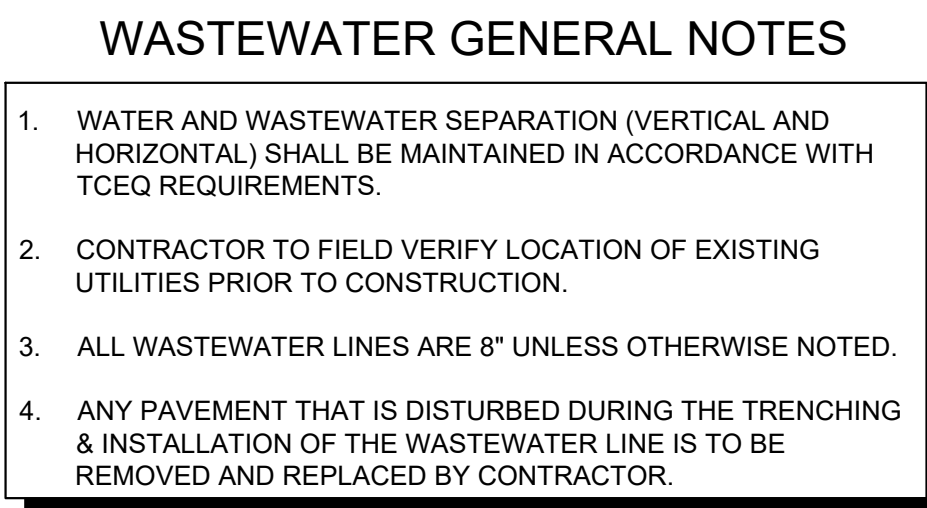
KHA PROJECT 069252742	DATE NOVEMBER 2023	SCALE: AS SHOWN	DESIGNED BY: NAM	DRAWN BY: AMF	CHECKED BY: AOK			© 2023 KIMLEY-HORN AND ASSOCIATES, INC. 10814 JOLLYVILLE ROAD, CAMPUS IV, SUITE 200, AUSTIN, TX 78759 PHONE: 512-418-1771 FAX: 512-418-1791 <a href="http://WWW.KIMLEY-HORN.COM">WWW.KIMLEY-HORN.COM</a> TEXAS REGISTERED ENGINEERING FIRM F-928	No.	REVISIONS	DATE	BY

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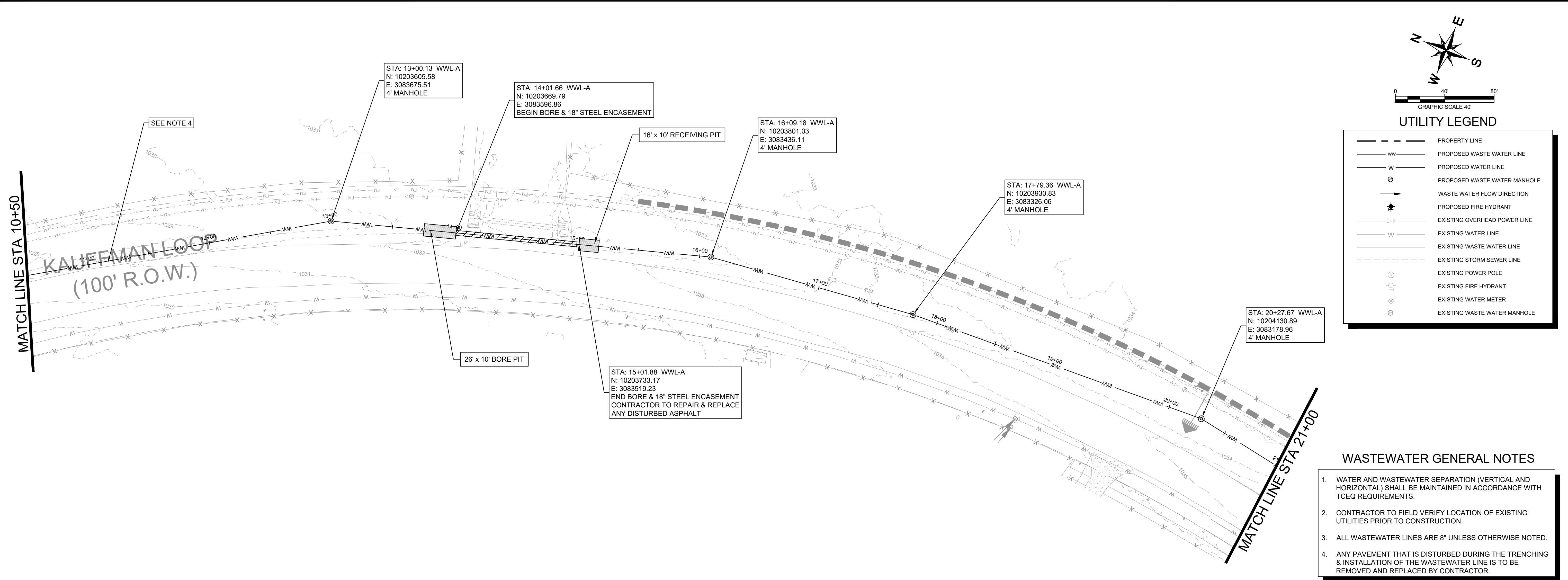
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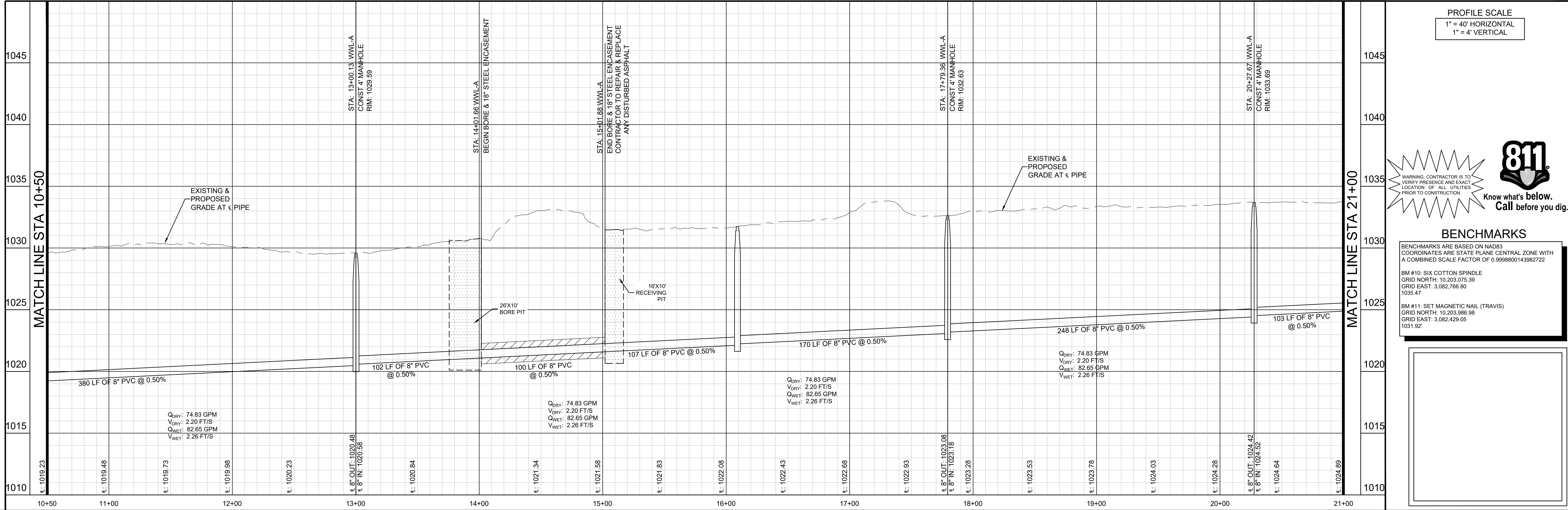




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WWL-A



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WASTEWATER PLAN & PROFILE - WWL-A STA 10+50 - 21+00		WASTEWATER PLAN & PROFILE - WWL-A STA 10+50 - 21+00				
VALOR LEANDER CITY OF LEANDER WILLIAMSON COUNTY, TEXAS		VALOR LEANDER CITY OF LEANDER WILLIAMSON COUNTY, TEXAS				
SHEET NUMBER 20 OF 27		SHEET NUMBER 20 OF 27				

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TEXAS REGISTERED ENGINEERING FIRM E-928

*Allison Kennaugh*

STATE OF TEXAS  
ALLISON KENNAUGH  
11/23/2023  
LICENSED PROFESSIONAL ENGINEER

**811**

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**BENCHMARKS**

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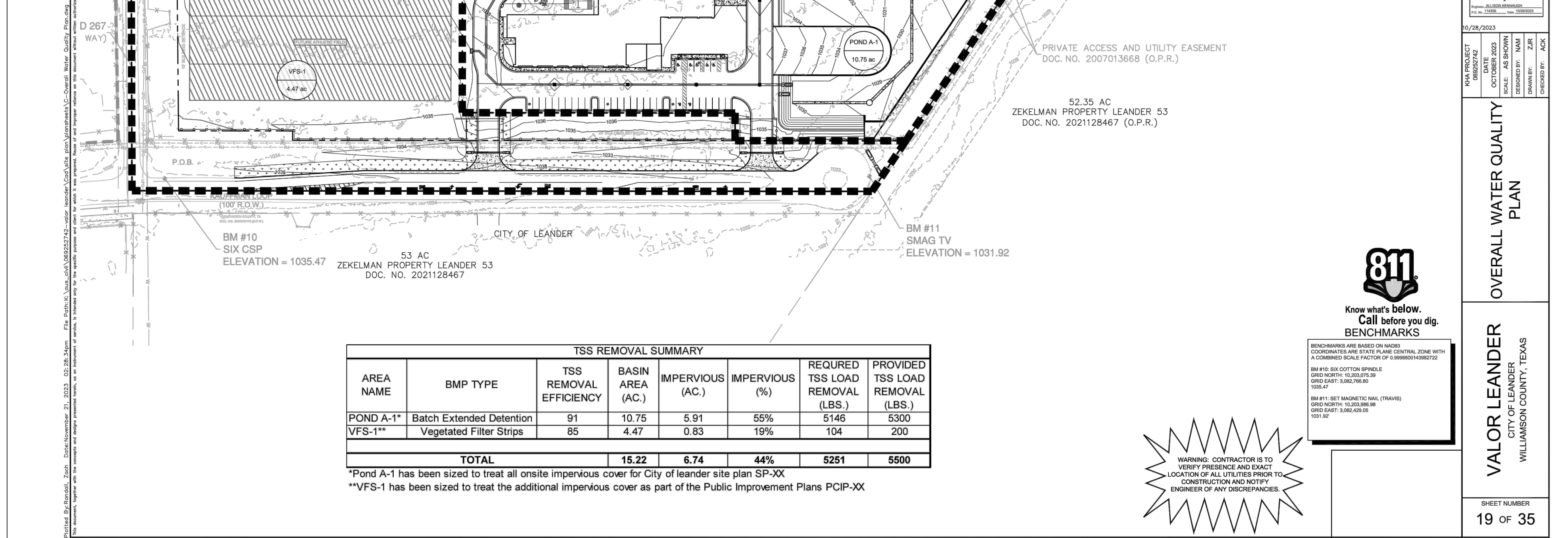
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BM #11: SET MAGNETIC NAIL (TRAVIS)  
GRID NORTH: 10,203,996.98  
GRID EAST: 3,082,429.05  
1031.92











en sized to treat all onsite impervious cover for City of leander site plan SP-XX  
sized to treat the additional impervious cover as part of the Public Improvement Plans PCIP-XX

SHEET NUMBER <b>22 OF 27</b>		<b>VALOR LEANDER</b> <b>PICP</b> CITY OF LEANDER WILLIAMSON COUNTY, TEXAS		<b>OVERALL WATER QUALITY</b> <b>PLAN</b>		KHA PROJECT 069252742 DATE NOVEMBER 2023 SCALE: AS SHOWN DESIGNED BY: NAM DRAWN BY: AMF CHECKED BY: ACK	11/21/2023  <i>Allison Kennaugh</i>	 <b>Kimley-Horn</b> © 2023 KIMLEY-HORN AND ASSOCIATES, INC. 10814 JOLLYVILLE ROAD, CAMPUS IV, SUITE 200, AUSTIN, TX 78759 PHONE: 512-418-1771 FAX: 512-418-1791 WWW.KIMLEY-HORN.COM TEXAS REGISTERED ENGINEERING FIRM #328	No. _____ REVISIONS _____ DATE _____ BY _____
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**Texas Commission on Environmental Quality**

**TSS Removal Calculations 04-20-2009**

**Project Name: Valor Leander**  
**Date Prepared: 11/21/2023**

**Additional Information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.**  
 Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.  
**Characters shown in red are data entry fields.**  
**Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.**

**1. The Required Load Reduction for the total project** Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3:  $L_{d\ TOTAL\ PROJECT} = 27.2(A_{0.1} \times P)$

where:

$L_{d\ TOTAL\ PROJECT}$  = Required TSS removal resulting from the proposed development = 80% of increased load  
 $A_{0.1}$  = Net increase in impervious area for the project  
 $P$  = Average annual precipitation, inches

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

County = **Williamson** POND A-1 + VFS-1

Total project area included in plan =	13.80	acres	
Predevelopment impervious area within the limits of the plan =	0.00	acres	
Total post-development impervious area within the limits of the plan =	6.04	acres	(C of Pond A-1 + VFS-1 (PROPOSED IC)
Total post-development impervious cover fraction =	0.44		
	32	inches	

$L_{d\ TOTAL\ PROJECT} =$  **5267** lbs.

\* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = **1**

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

Drainage Basin/Outfall Area No. = **POND A-1**

Total drainage basin/outfall area =	10.75	acres	
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres	
Post-development impervious area within drainage basin/outfall area =	5.91	acres	
Post-development impervious fraction within drainage basin/outfall area =	0.55		
$L_{d\ THIS\ BASIN} =$	5146	lbs.	

**3. Indicate the proposed BMP Code for this basin.**

Proposed BMP = **Batch Extended Detention**  
 Removal efficiency = **91** percent

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

RG-348 Page 3-33 Equation 3.7:  $L_R = (BMP\ efficiency) \times P \times (A_0 \times 34.6 + A_p \times 0.54)$

where:

$A_0$  = Total On-Site drainage area in the BMP catchment area  
 $A_p$  = Impervious area proposed in the BMP catchment area  
 $A_{pr}$  = Pervious area remaining in the BMP catchment area  
 $L_R$  = TSS Load removed from this catchment area by the proposed BMP

$A_0 =$	10.75	acres	Excludes 1.88 AC of soil field area draining off-site
$A_p =$	5.91	acres	
$A_{pr} =$	4.84	acres	
$L_R =$	6033	lbs	

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

Desired  $L_{d\ THIS\ BASIN} =$  **5300** lbs.

$F =$  **0.88**

**6. Calculate Capture Volume required by the BMP Types for this drainage basin / outfall area.** Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth = **1.50** inches  
 Post Development Runoff Coefficient = **0.39** cubic feet  
 On-site Water Quality Volume = **22637** cubic feet

Calculations from RG-348 Pages 3-36 to 3-37

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet

Storage for Sediment = **4527** cubic feet

Total Capture Volume (required water quality volume(s)  $\times$  1.20) = **27165** cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.  
 The values for BMP Types not selected in cell C45 will show NA.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Valor Leander

Date Prepared: 11/21/2023

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1. The Required Load Reduction for the total project

Calculations from RG-348

Pages 3-27 to 3-30

Page 3-27 Equation 3.3:  $L_{A1} = 27.2(A_{A1} \times P)$

where:

$L_{A1}$  TOTAL PROJECT = Required TSS removal resulting from the proposed development = 80% of increased load

$A_{A1}$  = Net increase in impervious area for the project

P = Average annual precipitation, inches

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

County =	Williamson	
Total project area included in plan =	13.80	acres
Predevelopment impervious area within the limits of the plan =	0.00	acres
Total post-development impervious area within the limits of the plan =	6.04	acres
Total post-development impervious cover fraction =	0.44	
P =	32	inches

POND A-1 + VFS-1

IC of Pond A-1 + VFS-1 (PROPOSED IC)

\* The values entered in these fields should be for the total project area.

$L_{A1}$  TOTAL PROJECT = 6257 lbs.

Number of drainage basins / outfalls areas leaving the plan area = 1

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

Drainage Basin/Outfall Area No. = VFS-1

Total drainage basin/outfall area =	4.47	acres
Predevelopment impervious area within drainage basin/outfall area =	0.71	acres
Post-development impervious area within drainage basin/outfall area =	0.83	acres
Post-development impervious fraction within drainage basin/outfall area =	0.19	
$L_{A1}$ THIS BASIN =	104	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips

Removal efficiency = 85 percent

4. Calculate Maximum TSS Load Removed ( $L_{A2}$ ) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7:  $L_{A2} = (\text{BMP efficiency}) \times P \times (A_C \times 34.6 + A_{A2} \times 0.54)$

where:

$A_C$  = Total On-Site drainage area in the BMP catchment area

$A_A$  = Impervious area proposed in the BMP catchment area

$A_{A2}$  = Pervious area remaining in the BMP catchment area


$L_{A2}$  = TSS Load removed from this catchment area by the proposed BMP

$A_C$ =	4.47	acres
$A_A$ =	0.83	acres
$A_{A2}$ =	3.64	acres
$L_{A2}$ =	835	lbs.


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

Desired  $L_{A2}$  THIS BASIN = 200 lbs.

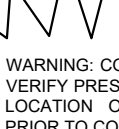
F = 0.24




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

VALOR LEANDER CITY OF LEANDER WILLIAMSON COUNTY, TEXAS	TCEQ CALCS	KHA PROJECT 09923742  DATE OCTOBER 2020  SCALE: AS SHOWN DESIGNED BY: NMI DRAWN BY: ZJR  CHECKED BY: ACK	 <p>© 2023 KIMLEY-HORN AND ASSOCIATES, INC. 10814 JOLLA WATERS DRIVE, SUITE 200, AUSTIN, TX 78759 PH: 512.424.4477 FAX: 512.424.4471 WWW.KIMLEY-HORN.COM</p> <p>TEXAS REGISTERED ENGINEERING FIRM F-528</p>	No. _____ REVISIONS _____ DATE _____ BY _____
			SHEET NUMBER <b>20 OF 35</b> SD-XX-XXXX	

**NOTE: WATER QUALITY AREAS PER SP-###. ALL RUNOFF FROM PROPOSED PAVEMENT IMPROVEMENT IN THIS PICP IS BEING OVERDETAINED WITH THE PROPOSED POND TO BE CONSTRUCTED WITH ONSITE AND OFFSITE IMPROVEMENTS WITH SP###-### AND PICP ###-#### AND SHALL BE BID AND CONSTRUCTED CONCURRENTLY.**



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



Know what's below.  
Call before you dig.

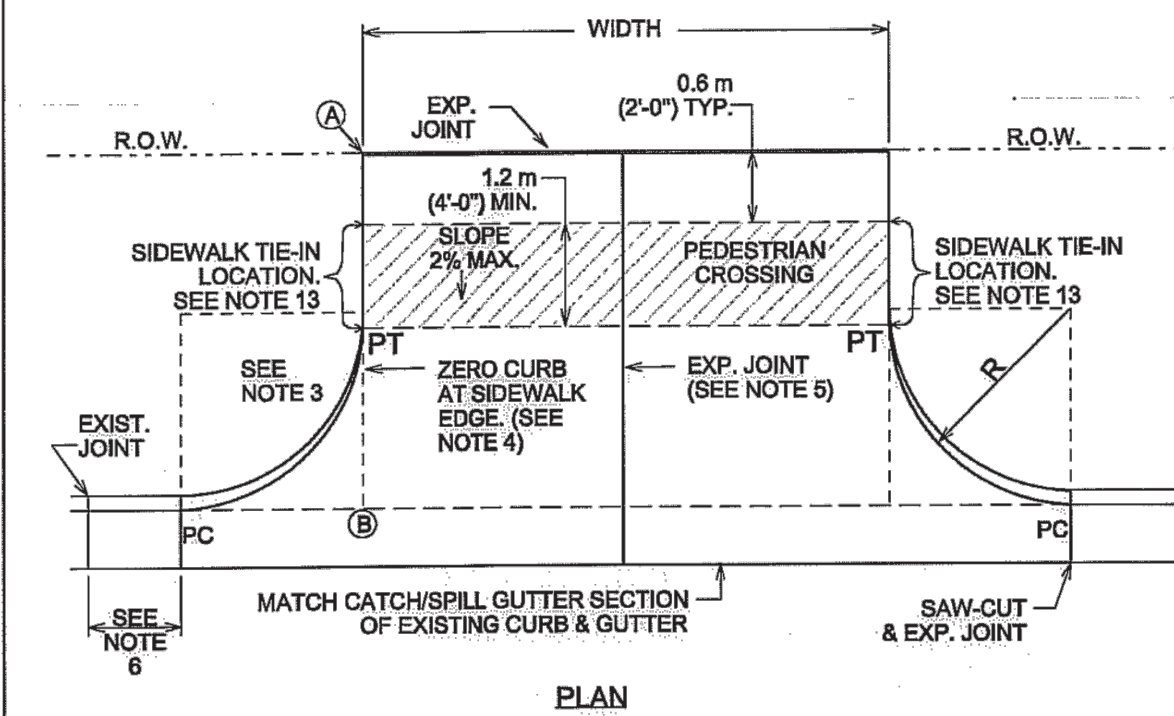
## BENCHMARKS

BENCHMARKS ARE BASED ON NAD83 COORDINATES ARE STATE PLANE CENTRAL ZONE WITH A COMBINED SCALE FACTOR OF 0.99988800143982722
BM #10: SIX COTTON SPINDLE GRID NORTH: 10,203,075.39 GRID EAST: 3,082,766.80 1035.47
BM #11: SET MAGNETIC NAIL (TRAVIS) GRID NORTH: 10,203,986.98 GRID EAST: 3,082,429.05 1031.92

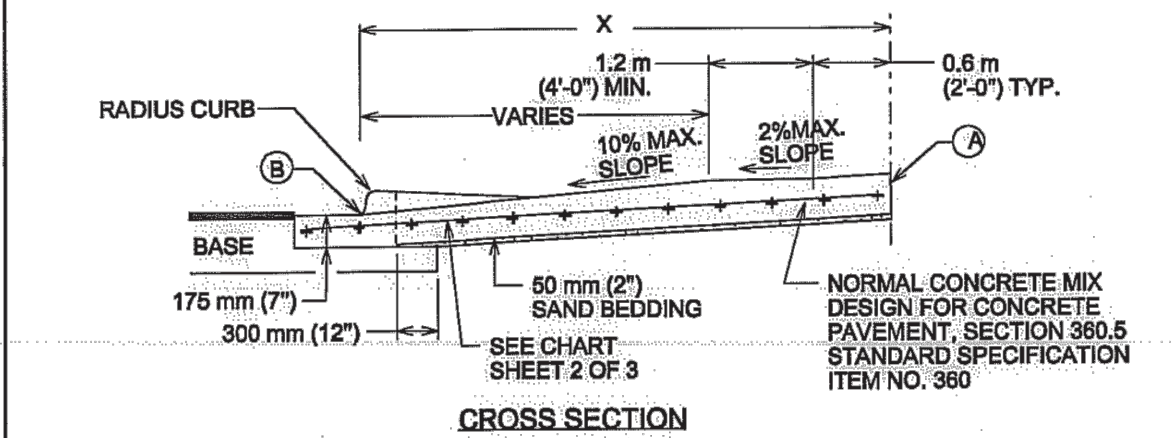
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Plotted By: Flynn, Alyssa Date: November 21, 2023 02:47:45pm File Path: K:\AUS-Civil\089525742-Valor Leander\Coast\PlanSheets\G-Paving Details.dwg  
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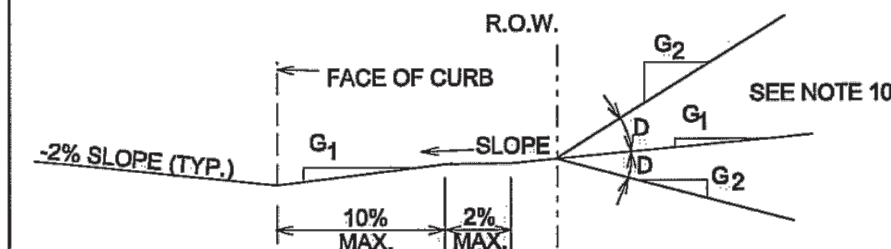


NOTE: ALL DRIVEWAYS SHALL BE SLOPED TOWARDS THE STREET FROM THE R.O.W. LINE. ELEVATION OF POINT A ABOVE POINT B IS, TYPICALLY A MINIMUM OF 150 mm (6") PLUS 20 mm/m (1" RISE/FOOT) OVER DISTANCE "X" IN METERS (FEET).



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPE II DRIVEWAY	STANDARD NO.
<i>[Signature]</i> 2/24/16 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	433S-2 1 OF 2

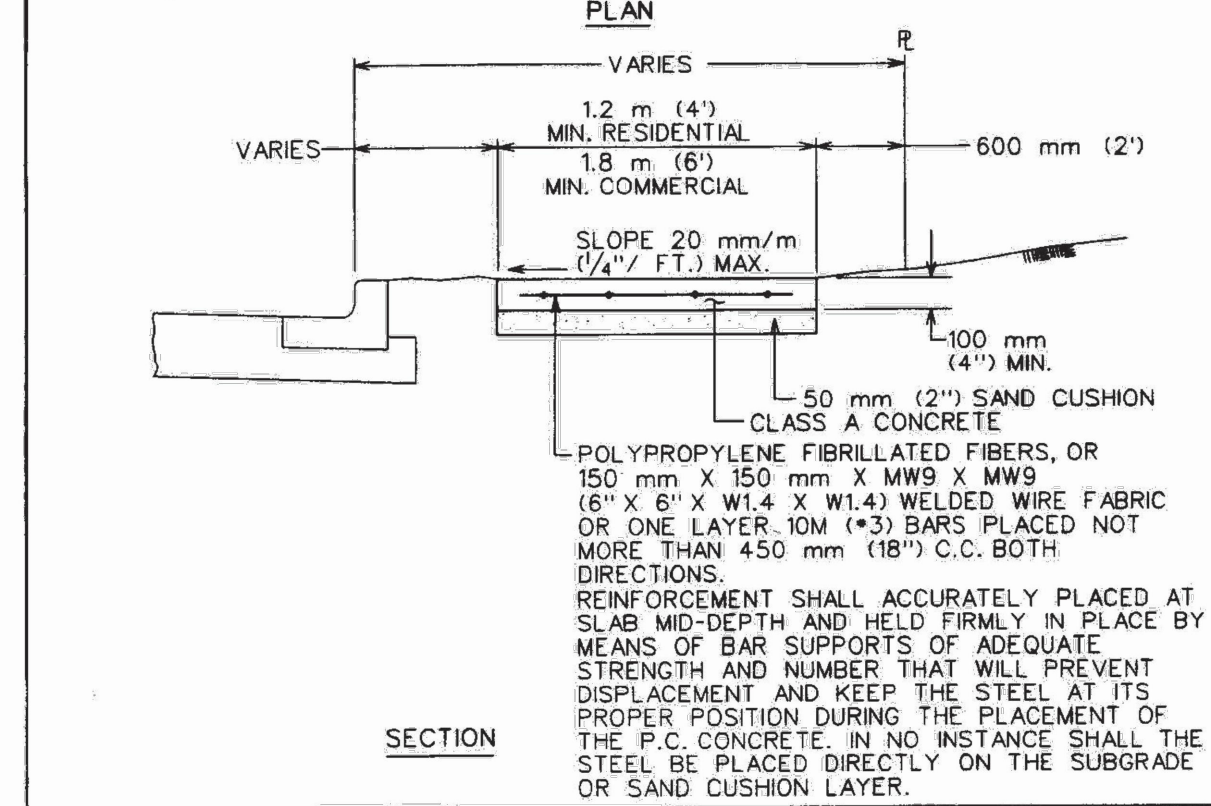
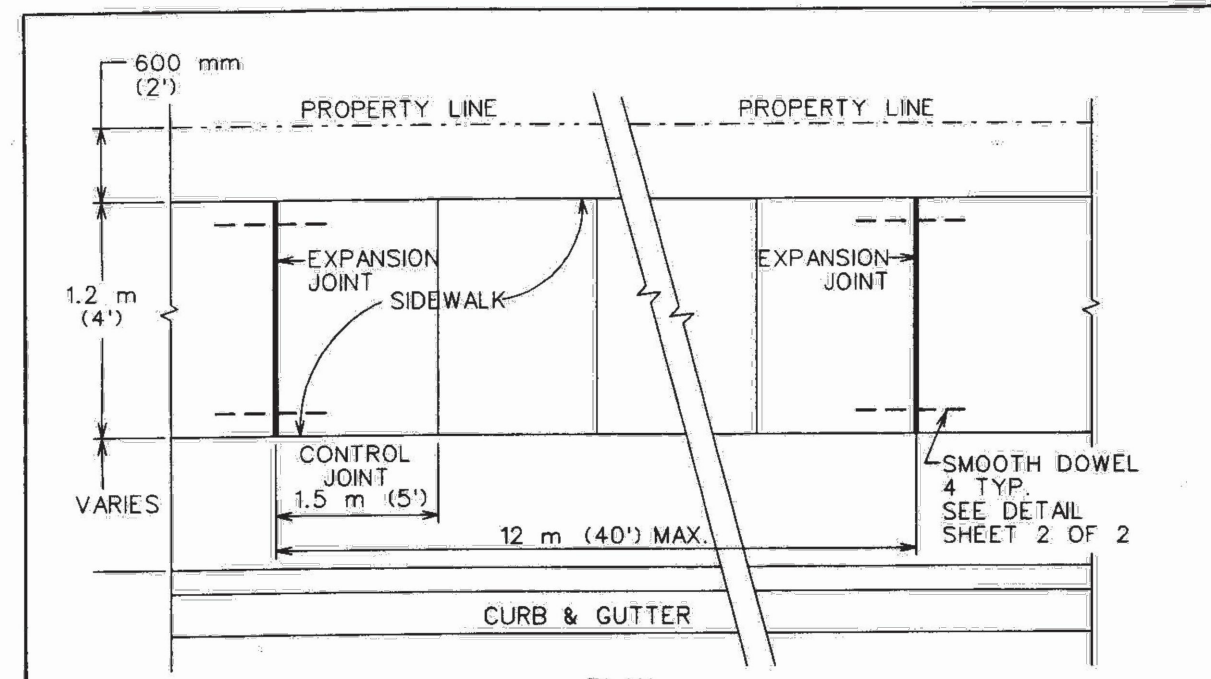
USE	THICKNESS	REINFORCEMENT
DRIVEWAYS FOR PASSENGER VEHICLE PARKING LOTS	150 mm (6") MIN.	125 mm (5") MIN. CONCRETE WITH ONE LAYER OF 13M (#4) BARS PLACED ON CHAIRS AT MIDDEPTH OF SLAB AT NO MORE THAN 450 mm (18") O.C. BOTH DIRECTIONS
ALL OTHERS	175 mm (7") MIN.	125 mm (5") MIN. CONCRETE WITH ONE LAYER OF 13M (#4) BARS PLACED ON CHAIRS AT MIDDEPTH OF SLAB AT NO MORE THAN 450 mm (18") O.C. BOTH DIRECTIONS



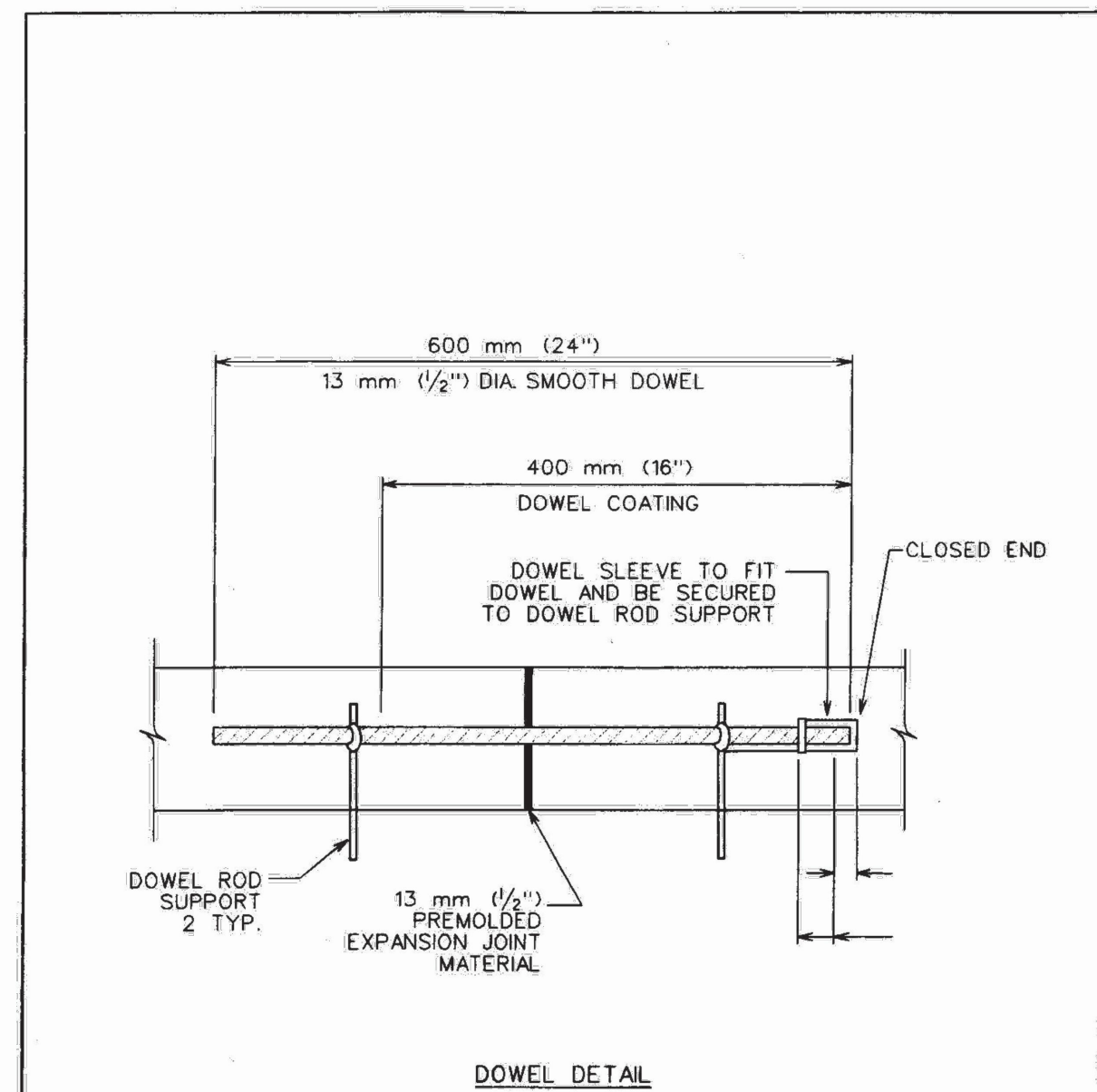
#### ALLOWABLE GRADES

- NOTES:
- ALL TYPE II DRIVEWAYS SHALL HAVE RADIUS ENDS.
  - DRIVEWAY WIDTHS AND RADIUS DIMENSIONS, ONE/TWO WAY TRAVEL REQUIREMENTS, AND GEOMETRIC LAYOUT ARE SUBJECT TO SITE SPECIFIC CONDITIONS AND REQUIREMENTS. SEE TRANSPORTATION CRITERIA MANUAL, SECTION 5 DRIVEWAYS.
  - THE DRIVEWAY EDGE SHALL BE SMOOTHLY TRANSITIONED INTO THE SIDEWALK TIE-IN LOCATION BEGINNING AT THE RADIUS PC LINE.
  - "ZERO" CURB AT PT OR SIDEWALK EDGE, WHICHEVER IS ENCOUNTERED FIRST.
  - PLACE AN EXPANSION JOINT DOWN THE CENTER OF DRIVEWAY ALL DRIVEWAYS.
  - IF DIMENSION IS LESS THAN 1.5 METERS (5 FEET), REMOVE CURB AND GUTTER TO EXISTING JOINT AND POUR MONOLITHICALLY WITH DRIVEWAY.
  - IF THE BASE IS OVER EXCAVATED WHERE THE CURB AND GUTTER WERE REMOVED, BACKFILL WITH CONCRETE MONOLITHICALLY WITH THE DRIVEWAY.
  - TYPE II DRIVEWAYS ARE TO BE LOCATED NO CLOSER TO THE CORNER OF INTERSECTING RIGHT OF WAY THAN 60% OF PARCEL FRONTAGE AT 30 METERS (100 FEET); WHICHEVER IS LESS.
  - DRIVEWAY SHALL NOT BE CONSTRUCTED WITHIN THE CURB RETURN OF A STREET INTERSECTION.
  - WHILE THE PROPERTY OWNER REMAINS RESPONSIBLE FOR GRADE BREAKS WITHIN PRIVATE PROPERTY, THE FIRE DEPARTMENT SHALL BE CONSULTED WHERE THE DRIVEWAY IS ESSENTIAL TO EMERGENCY VEHICLE ACCESS AND "G2" IS GREATER THAN 10%.
  - USE 12 MM (1/2") ASPHALT BOARD OR OTHER APPROVED MATERIAL FOR CURB AND GUTTER EXPANSION JOINTS. SIDEWALK, AT THE R.O.W. LINE AND AT MIDWIDTH, SEE NOTE 6.
  - SEE TRANSPORTATION CRITERIA MANUAL, SECTION 5 FOR OTHER DRIVEWAY REQUIREMENTS.
  - THE SIDEWALK, REGARDLESS OF ITS LOCATION WITH RESPECT TO THE CURB OR PROPERTY LINE, SHALL BE CONNECTED TO THE DRIVEWAY AT THESE LOCATIONS.
  - WATER METER BOXES AND WASTEWATER CLEAN OUTS ARE PROHIBITED FROM BEING LOCATED IN DRIVEWAY AREAS.

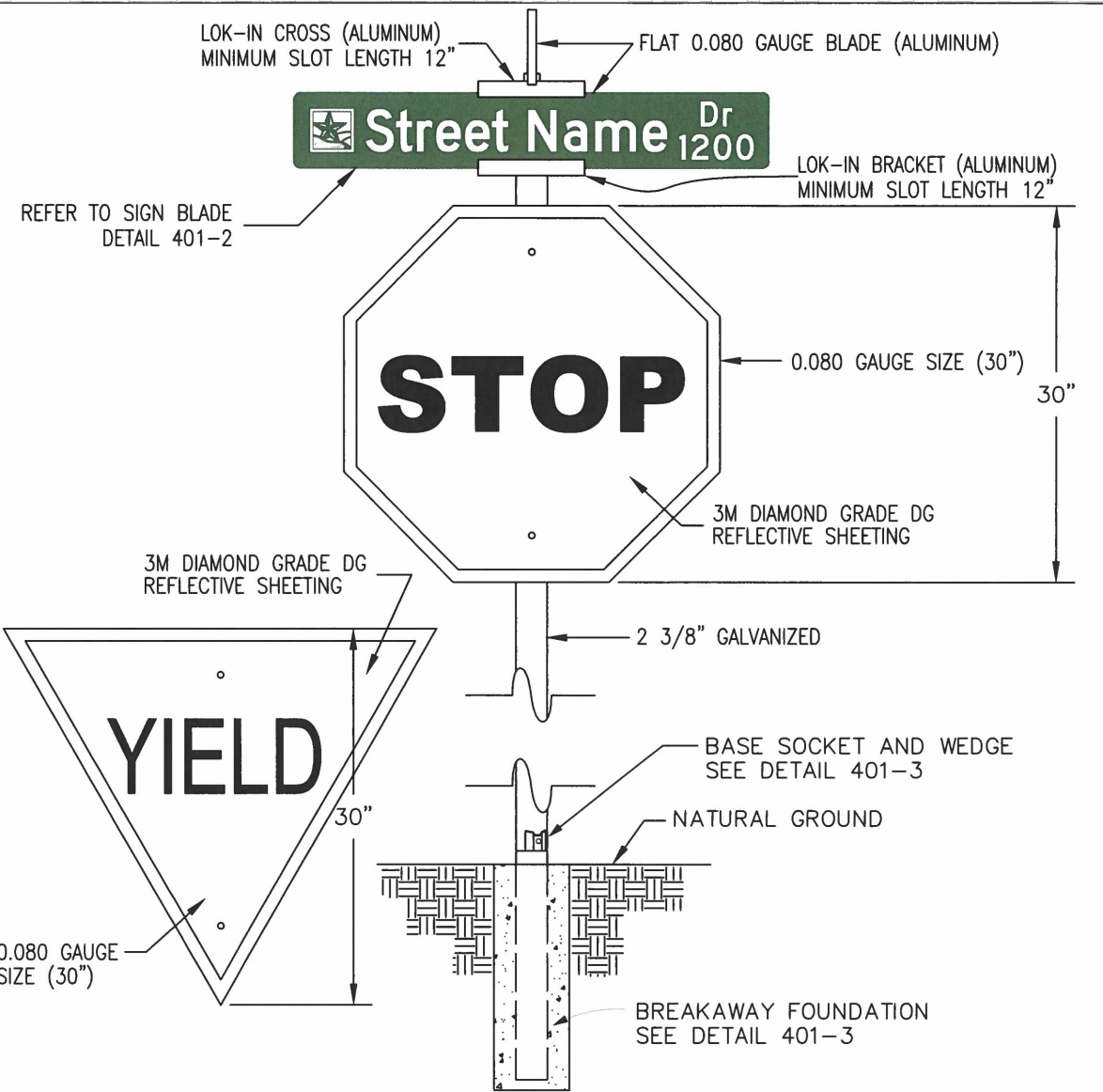
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPE II DRIVEWAY	STANDARD NO.
<i>[Signature]</i> 2/24/16 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	433S-2 2 OF 2



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	SIDEWALK	STANDARD NO.
<i>[Signature]</i> 3/26/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	432S-1 1 OF 3

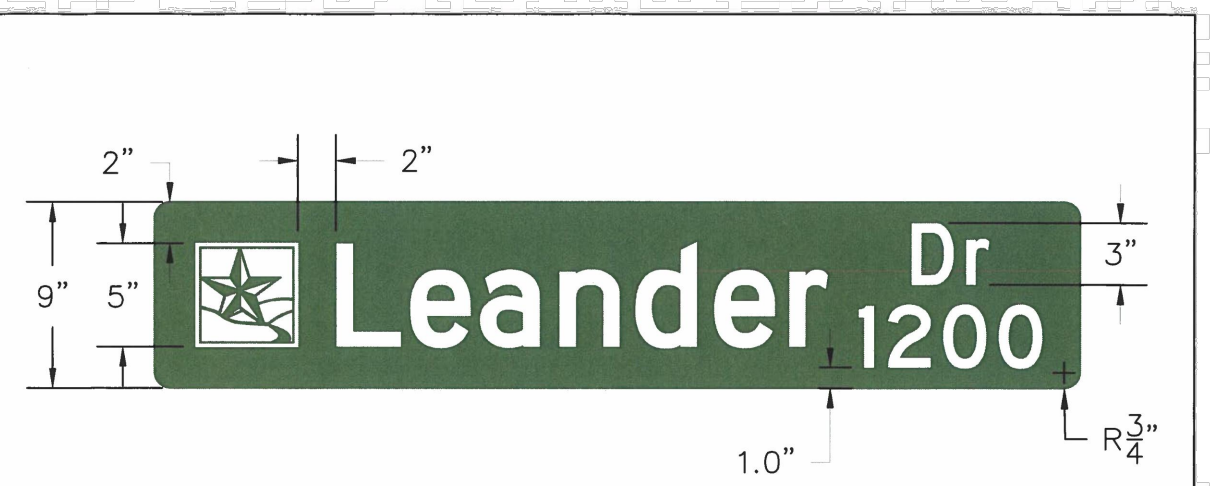
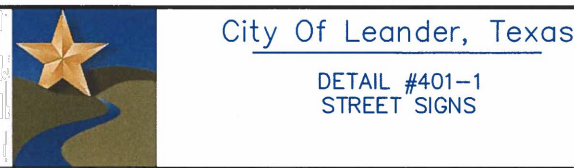
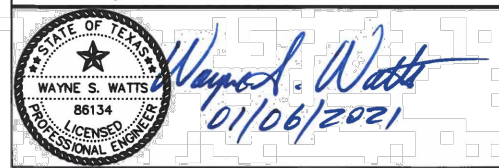


CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	SIDEWALK	STANDARD NO.
<i>[Signature]</i> 3/26/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	432S-1 2 OF 3



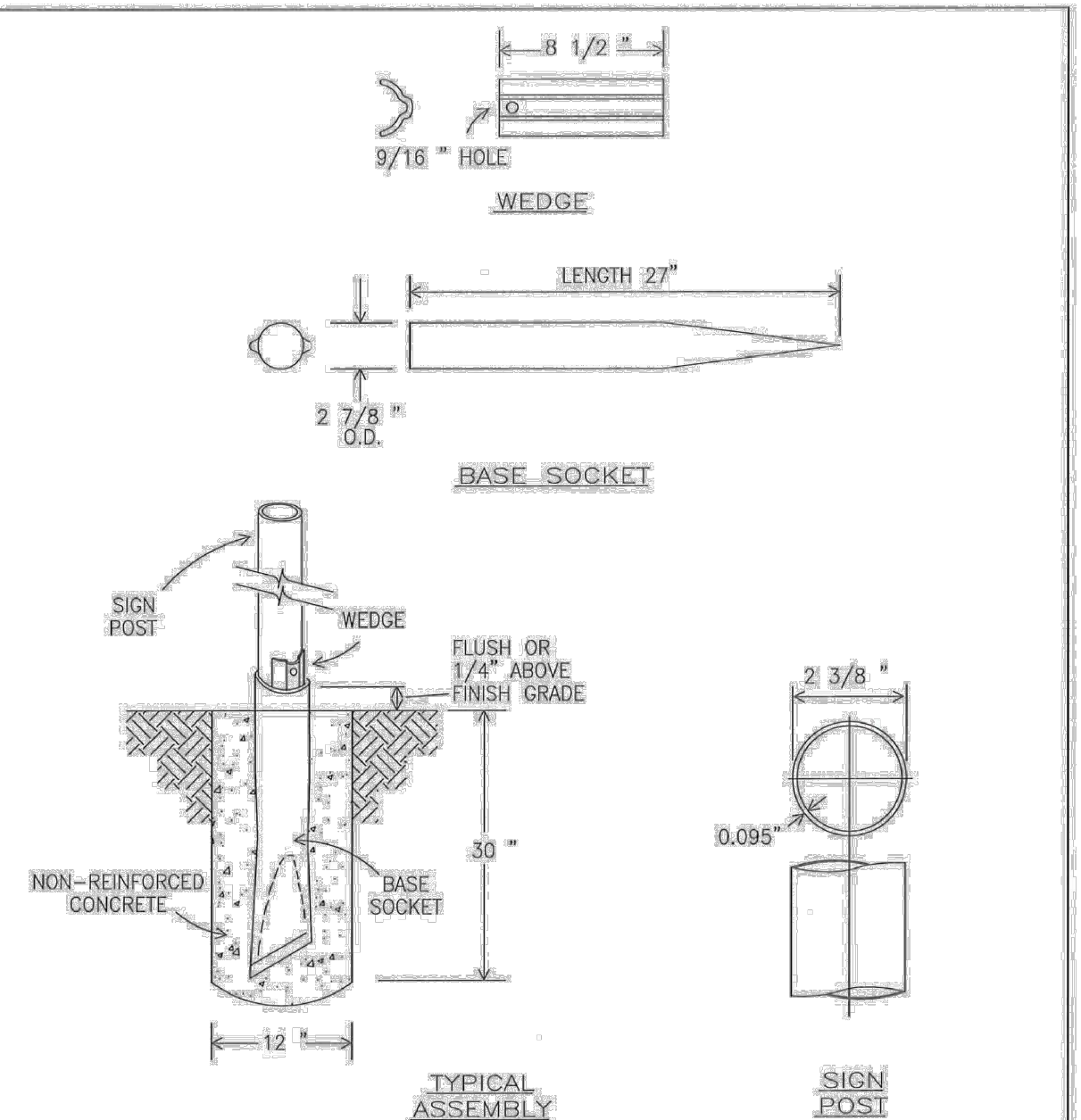
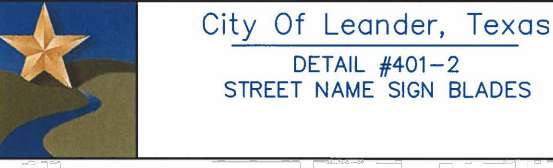
- NOTES:
- 7-FOOT MIN. HEIGHT FROM GROUND TO BOTTOM OF SIGN.
  - ALL SIGNS TO BE IN CONFORMANCE WITH THE CURRENT EDITION OF THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
  - ALL SIGNAGE SHEETINGS SHALL BE 3M DIAMOND GRADE DG REFLECTIVE SHEETING.

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

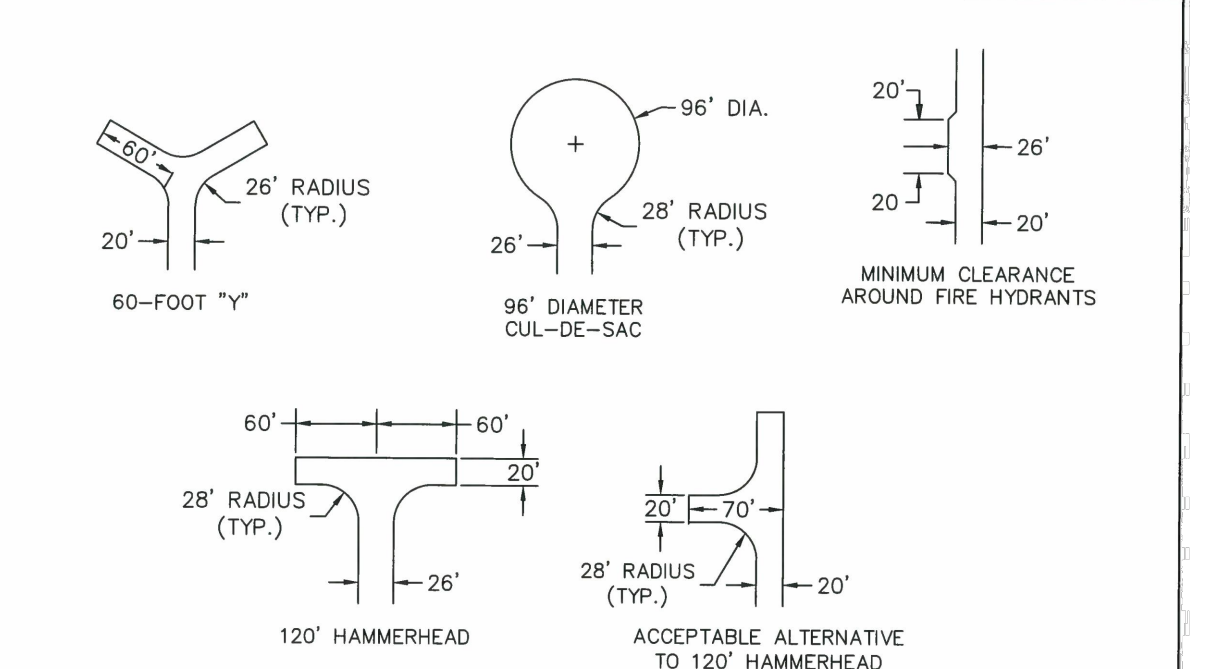
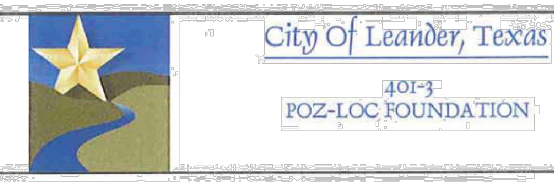


#### STREET NAME SIGNS:

- HEIGHT SHALL BE EITHER:
  - 9 INCHES WITH 5-INCH UPPER CASE AND 3.75-INCH LOWER CASE LETTERING ON STREETS WITH SPEED LIMITS 40 MPH OR LESS OR ON STREETS WITH ANY SPEED LIMIT THAT HAVE NO MORE THAN TWO LANES;
  - 12 INCHES WITH 8-INCH UPPER CASE AND 6-INCH LOWER CASE LETTERING ON STREETS WITH SPEED LIMITS GREATER THAN 40 MPH AND MORE THAN TWO LANES.
- 0.080 INCH THICK ALUMINUM BLANK. LENGTH DEPENDENT ON STREET NAME WITH A MINIMUM OF 24 INCHES. COVERED ON BOTH SIDES WITH 3M HIGH INTENSITY GRADE, WHITE, PRISMATIC REFLECTIVE SHEETING (3M NUMBER 3930). STREET NAME WILL BE CUT OUT OF GREEN, 3M ELECTRO CUT FILM (3M NUMBER 1177).
- SIGN BLADES SHALL BE A MINIMUM OF TWENTY-FOUR INCHES (24") IN LENGTH AND A MAXIMUM OF FIFTY-FOUR INCHES (54") IN LENGTH.
- STREET DESIGNATION (DR, ST, TRL, RD, ETC.) IN UPPER RIGHT-HAND CORNER, BEGINNING BLOCK NUMBER UNDERNEATH.
- CITY LOGO WILL BE PLACED ON THE LEFT-HAND SIDE OF THE SIGN AS SHOWN IN THE ABOVE ILLUSTRATION. LOGO SHALL BE CUT OUT OF GREEN ELECTRO CUT FILM AND SHALL BE OF THE SAME HEIGHT AS THE UPPER-CASE LETTERING.
- ALL FONTS SHALL BE TRAFFIC CAD SERIES D OR FHWA SERIES D. SERIES C OR B LETTERING MAY BE USED TO WHERE USE OF SERIES D LETTERING WILL RESULT IN SIGN BLADE LENGTHS GREATER THAN FIFTY-FOUR INCHES (54").
- NO WATER-BASED ADHESIVES ARE PERMISSIBLE FOR USE IN ANY PART OF SIGN.



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

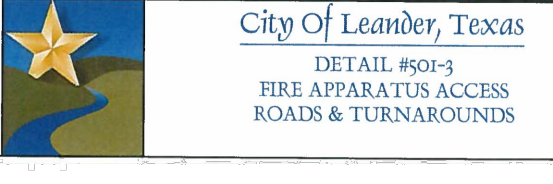


- FIRE APPARATUS ACCESS ROADS:
- ALL FIRE APPARATUS ACCESS ROADS AND TEMPORARY TURNAROUNDS SHALL COMPLY WITH THE CURRENT INTERNATIONAL FIRE CODE, AS ADOPTED BY THE CITY OF LEANDER, AND CITY OF LEANDER CODE OF ORDINANCES.
  - ALL FACILITIES, BUILDINGS OR PORTIONS OF BUILDINGS SHALL BE ACCESSIBLE TO FIRE DEPARTMENT APPARATUS BY WAY OF AN APPROVED FIRE APPARATUS ACCESS ROAD CONSTRUCTED WITH AN ASPHALT OR CONCRETE DRIVING SURFACE CAPABLE OF SUPPORTING THE IMPOSED LOAD OF A FIRE APPARATUS WEIGHING AT LEAST 75,000 POUNDS.
  - FIRE APPARATUS ACCESS ROADS SHALL NOT EXCEED TEN PERCENT (10%) IN GRADE WITHOUT THE APPROVAL OF THE FIRE MARSHAL.
  - DEAD-END FIRE APPARATUS ACCESS ROADS IN EXCESS OF ONE HUNDRED AND FIFTY FEET (150') IN LENGTH SHALL BE PROVIDED WITH WIDTH AND TURNAROUND PROVISIONS IN ACCORDANCE WITH THE TABLE BELOW.

LENGTH (FEET)	WIDTH (FEET)	TURNAROUNDS REQUIRED
0-150	20	NONE REQUIRED
151-500	20	120-FOOT HAMMERHEAD, 60-FOOT "Y" OR 96-FOOT DIAMETER CUL-DE-SAC
501-750	26	120-FOOT HAMMERHEAD, 60-FOOT "Y" OR 96-FOOT DIAMETER CUL-DE-SAC
OVER 750		SPECIAL APPROVAL REQUIRED

- GATES SECURING FIRE APPARATUS ACCESS ROADS SHALL BE NOT LESS THAN TWENTY FEET (20') IN WIDTH WHERE A SINGLE GATE IS PROVIDED. WHERE A FIRE APPARATUS ROAD CONSISTS OF A DIVIDED ROADWAY, THE GATE WIDTH SHALL BE NOT LESS THAN TWELVE FEET (12').
- ALL GATE LOCKS SHALL COMPLY WITH CITY OF LEANDER CODE OF ORDINANCES SECTION 506.1.1.
- GATES SECURING FIRE APPARATUS ACCESS ROADS SHALL BE OF THE SWINGING OR SLIDING TYPE.
- FIRE APPARATUS ACCESS ROADS SHALL BE TWENTY-SIX FEET (26') IN WIDTH FOR TWENTY-FOOT (20') IN BOTH DIRECTIONS FROM FIRE HYDRANTS, AT MINIMUM, TO PROVIDE MINIMUM CLEARANCE FOR EMERGENCY OPERATIONS.

\*THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. DRAWING NOT TO SCALE.



#### BENCHMARKS

BENCHMARKS ARE BASED ON NAD83 COORDINATES ARE STATE PLANE CENTRAL ZONE WITH A COMBINED SCALE FACTOR OF 0.9998800143982722

BM #10: SIX COTTON SPINDLE  
GRID NORTH: 10,203,075.39  
GRID EAST: 3,082,766.80  
1035.47

BM #11: SET MAGNETIC NAIL (TRAVIS)  
GRID NORTH: 10,203,996.98  
GRID EAST: 3,082,429.05  
1031.92

Kimley»Horn

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10814 JOLLYVILLE ROAD, CAMPUS IV, SUITE 200, AUSTIN, TX 78759  
PHONE: 512-418-1771 FAX: 512-418-1791  
WWW.KIMLEY-HORN.COM  
TEXAS REGISTERED ENGINEERING FIRM E-928

ALLISON KENNAUGH  
STATE OF TEXAS  
LICENSED PROFESSIONAL ENGINEER  
11/21/2023

KHA PROJECT  
089525742

DATE  
NOVEMBER 2023

SCALE  
AS SHOWN

DESIGNED BY  
NAM

DRAWN BY  
AMF

CHECKED BY

ACK

VALOR LEANDER  
PICP  
CITY OF LEANDER  
WILLIAMSON COUNTY, TEXAS

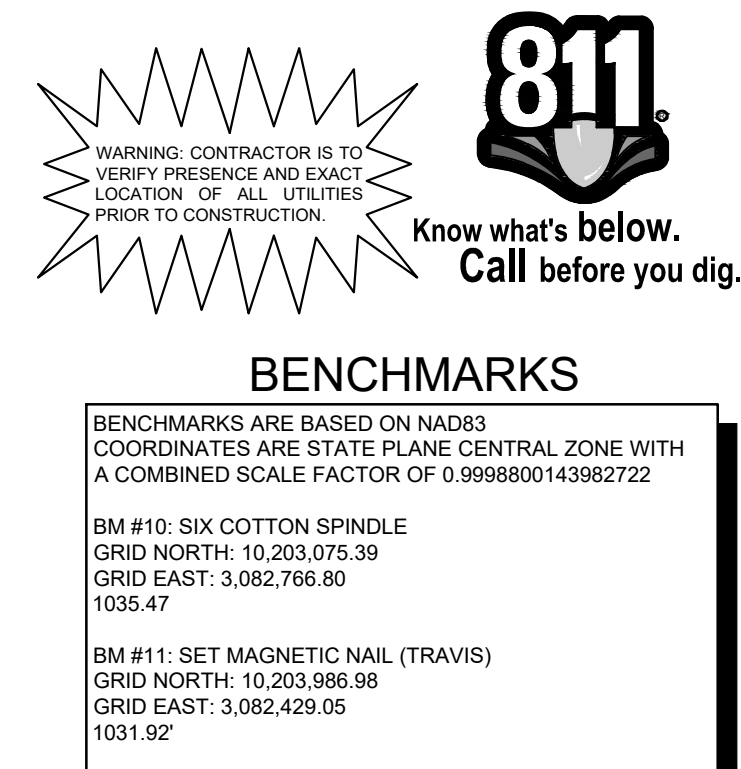
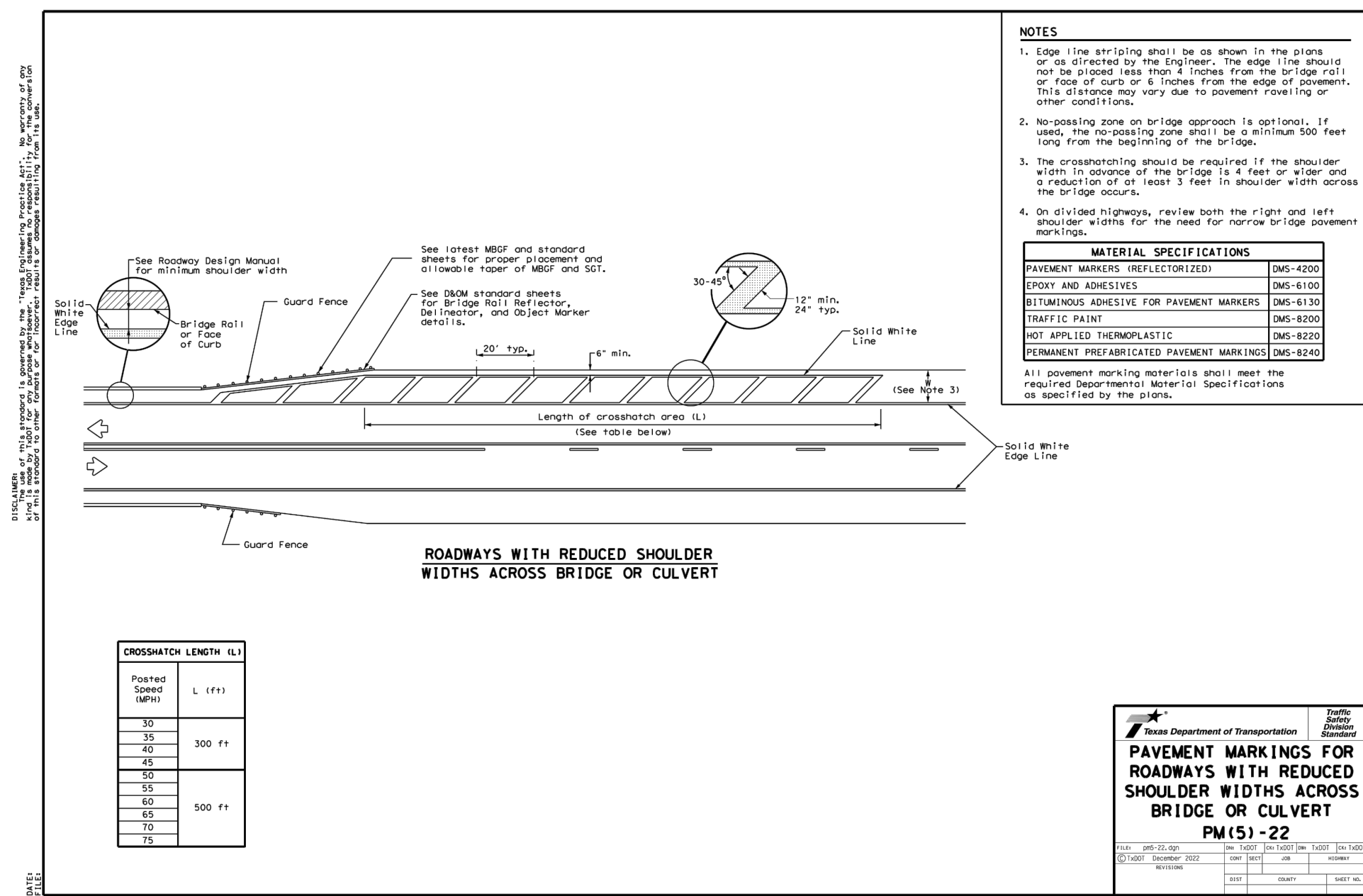
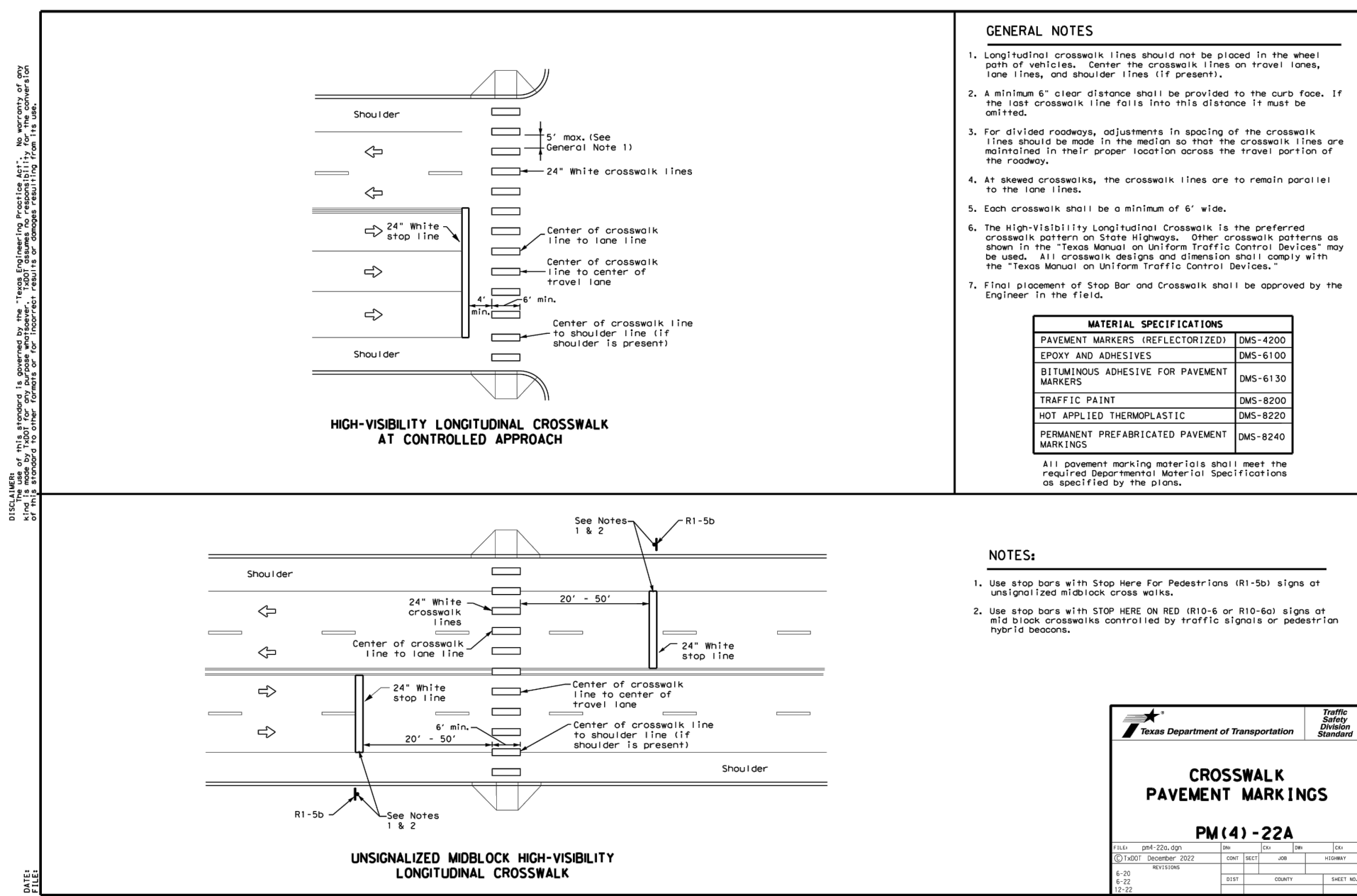
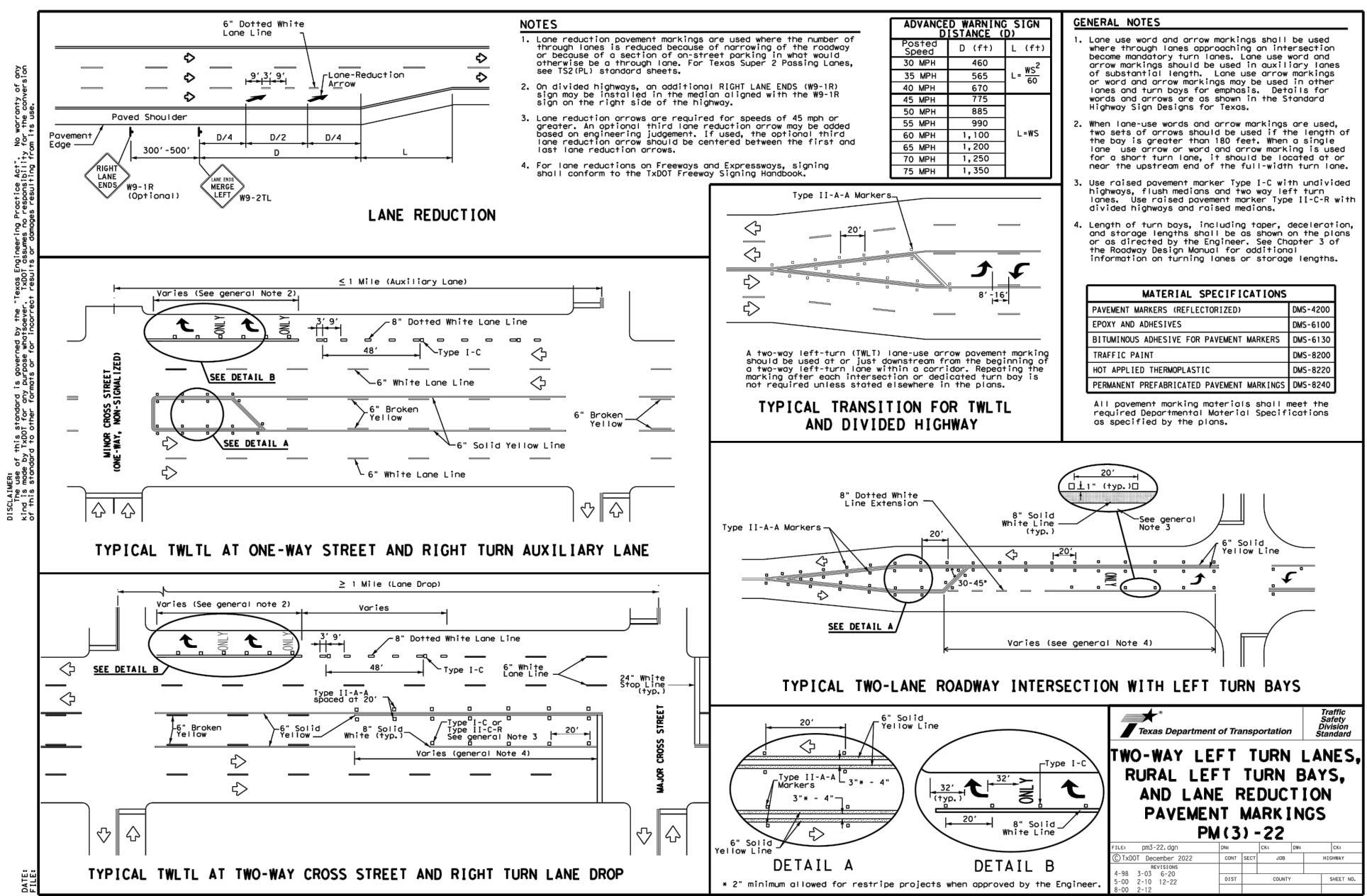
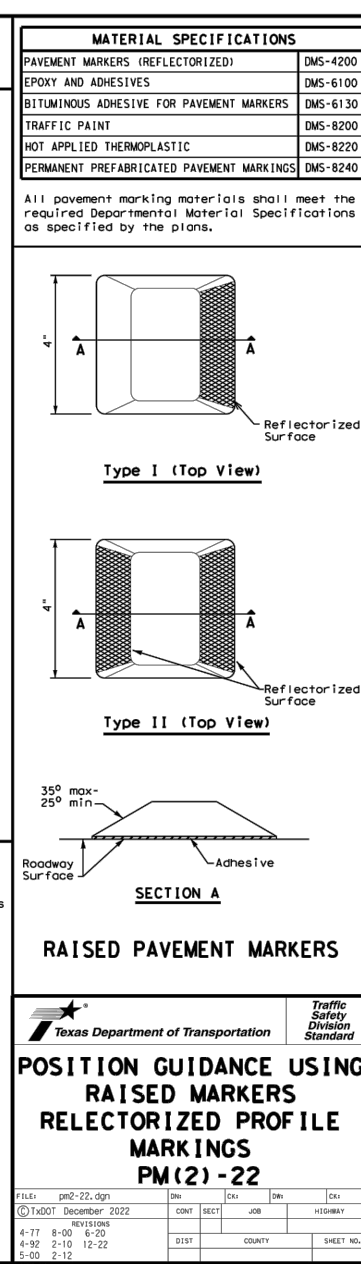
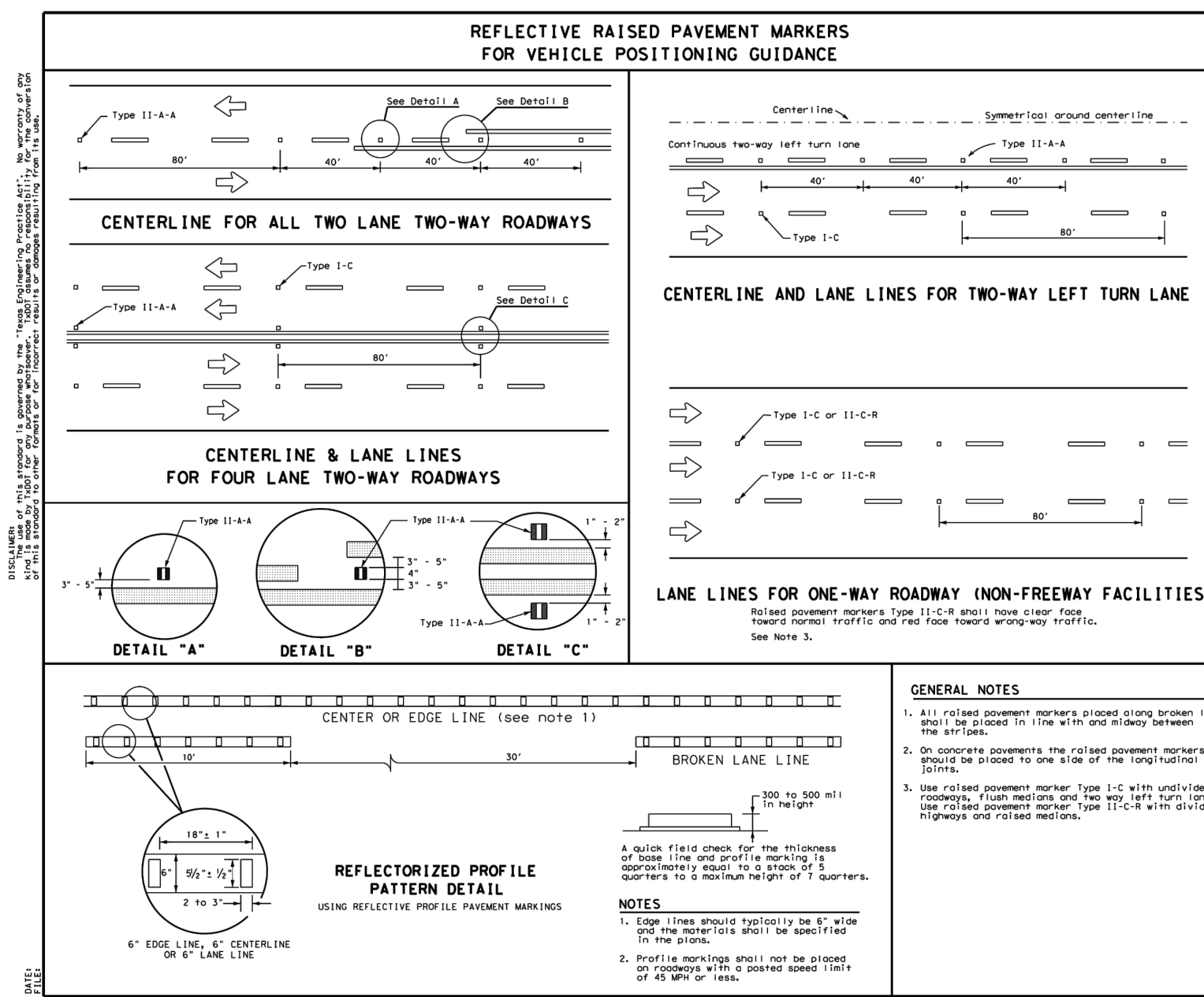
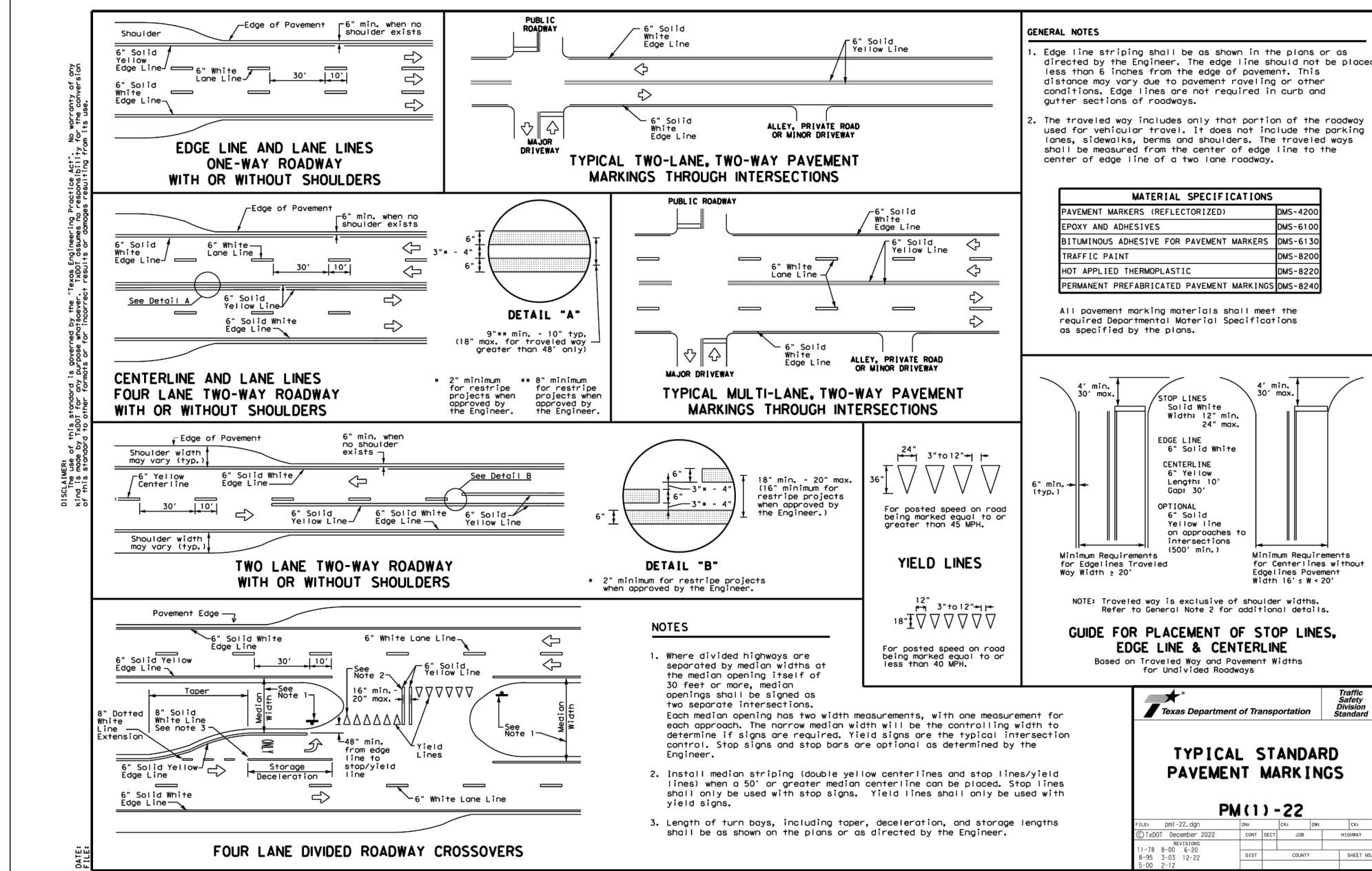
SHEET NUMBER  
24 OF 27

PAVING DETAILS  
(SHEET 1 OF 2)

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

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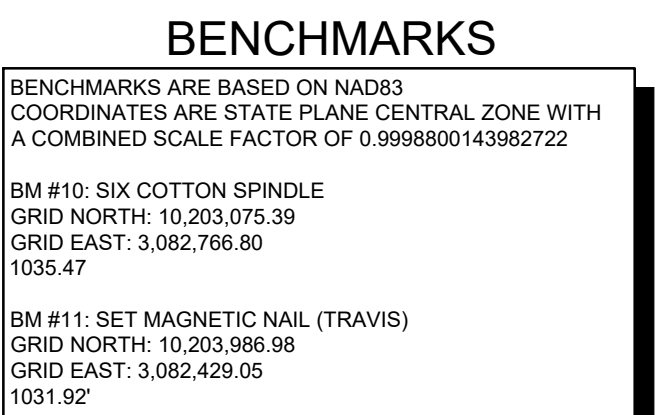
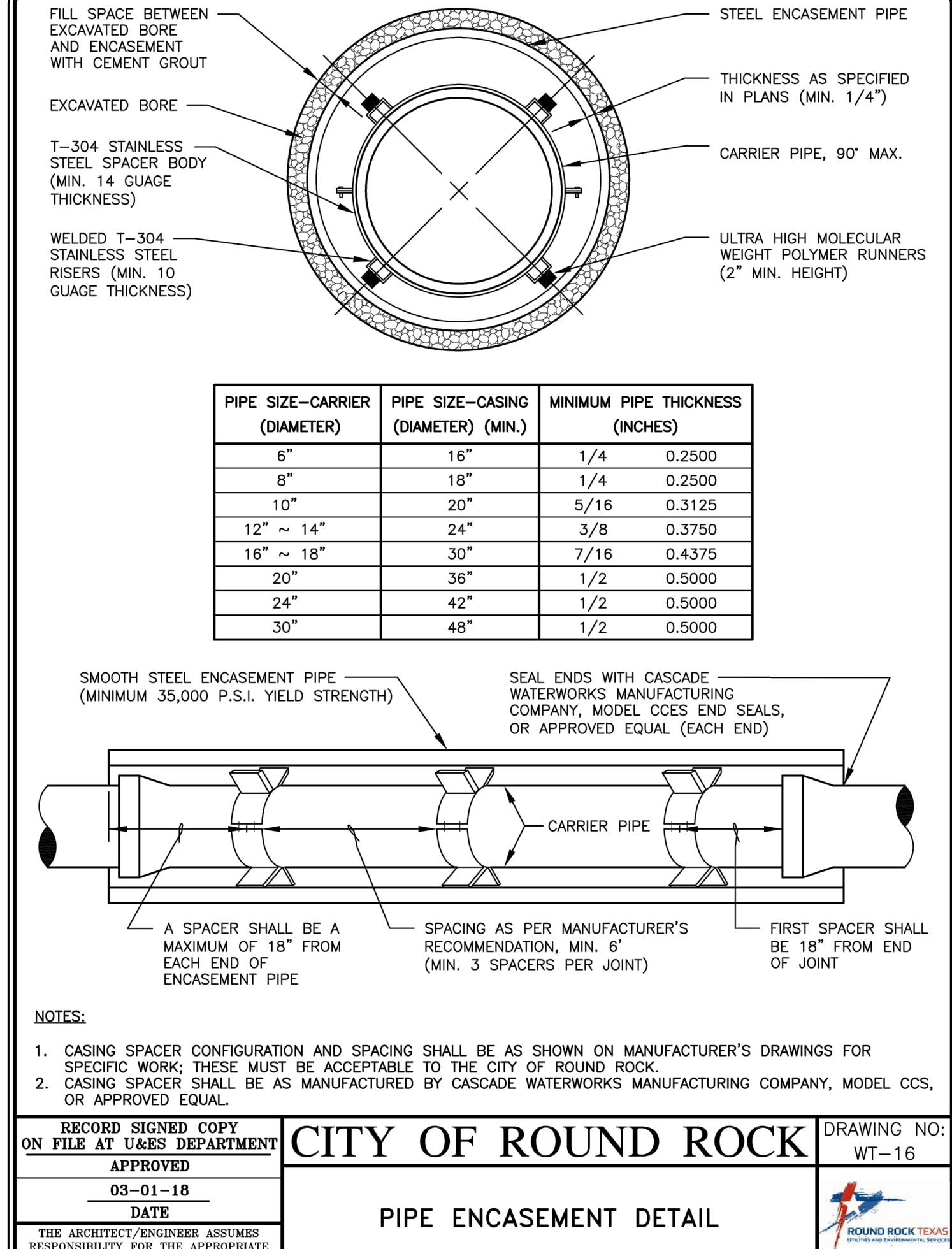
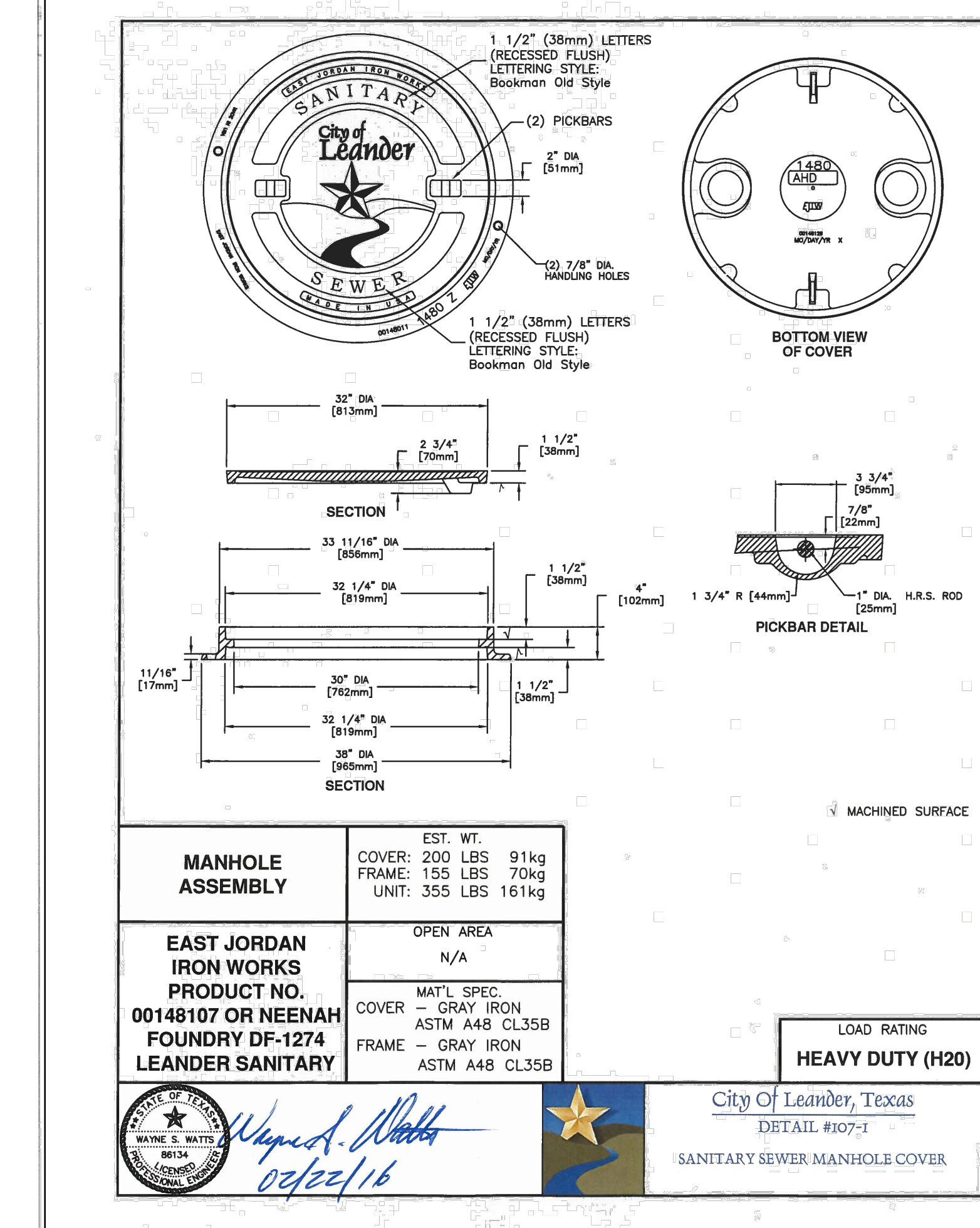
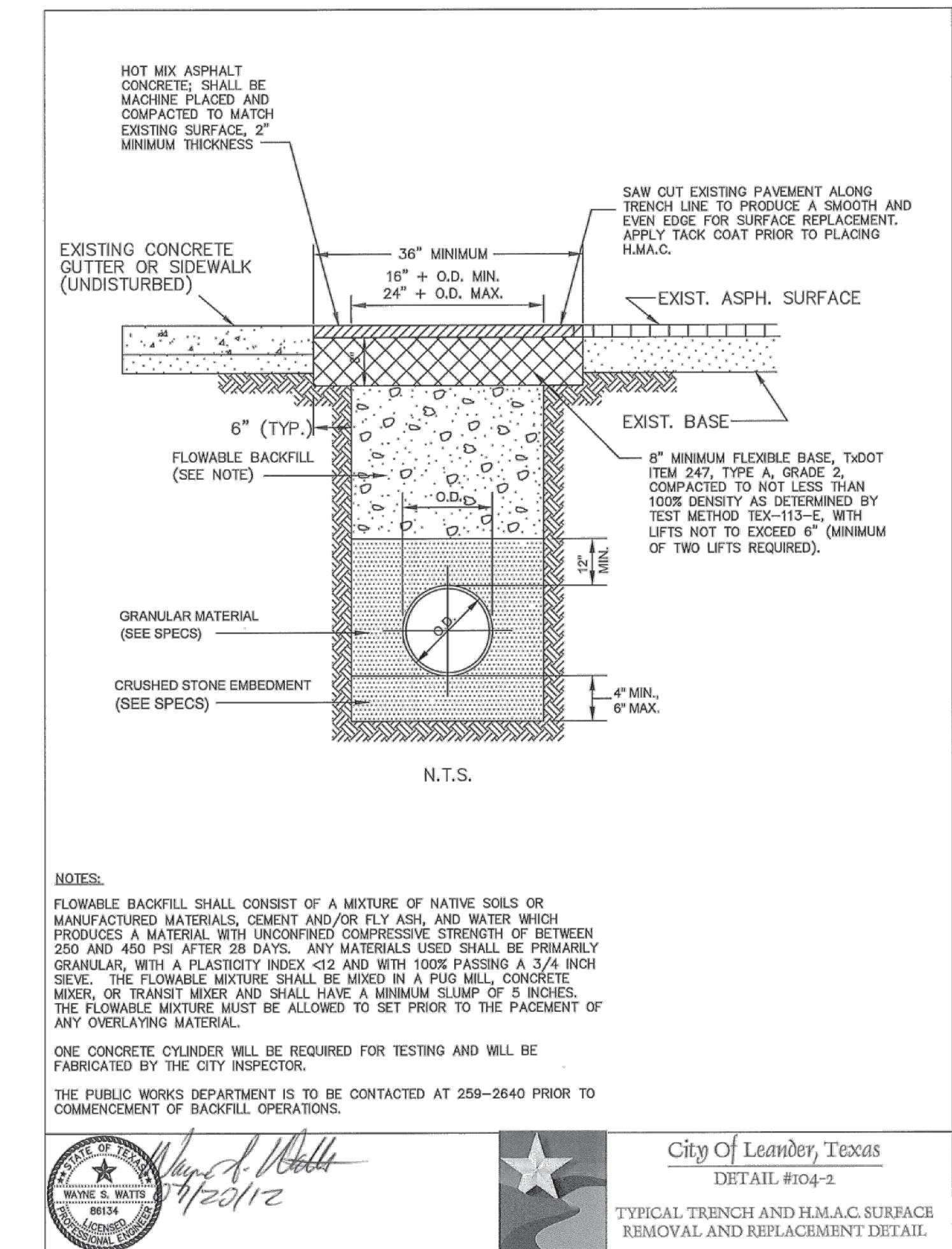
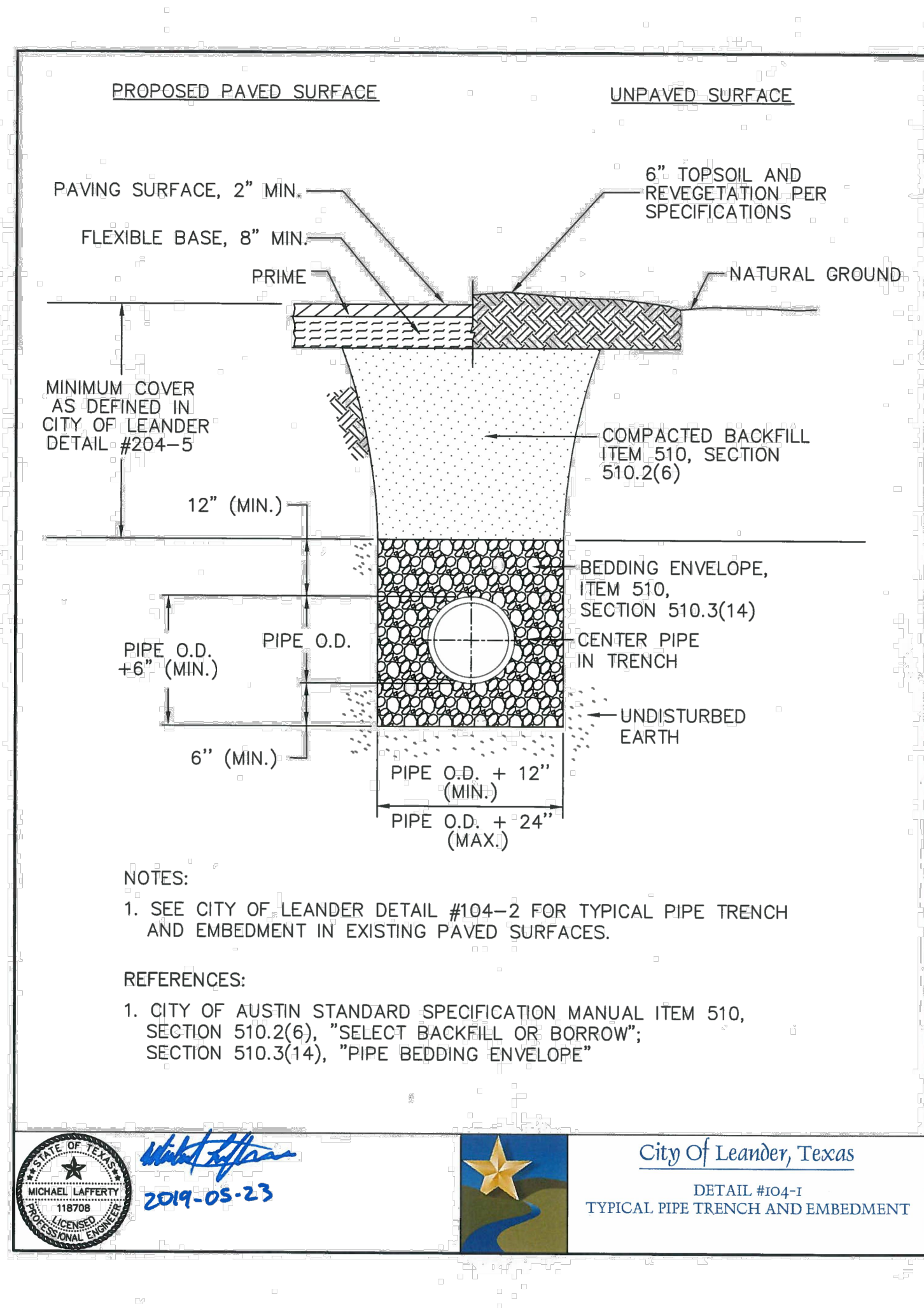
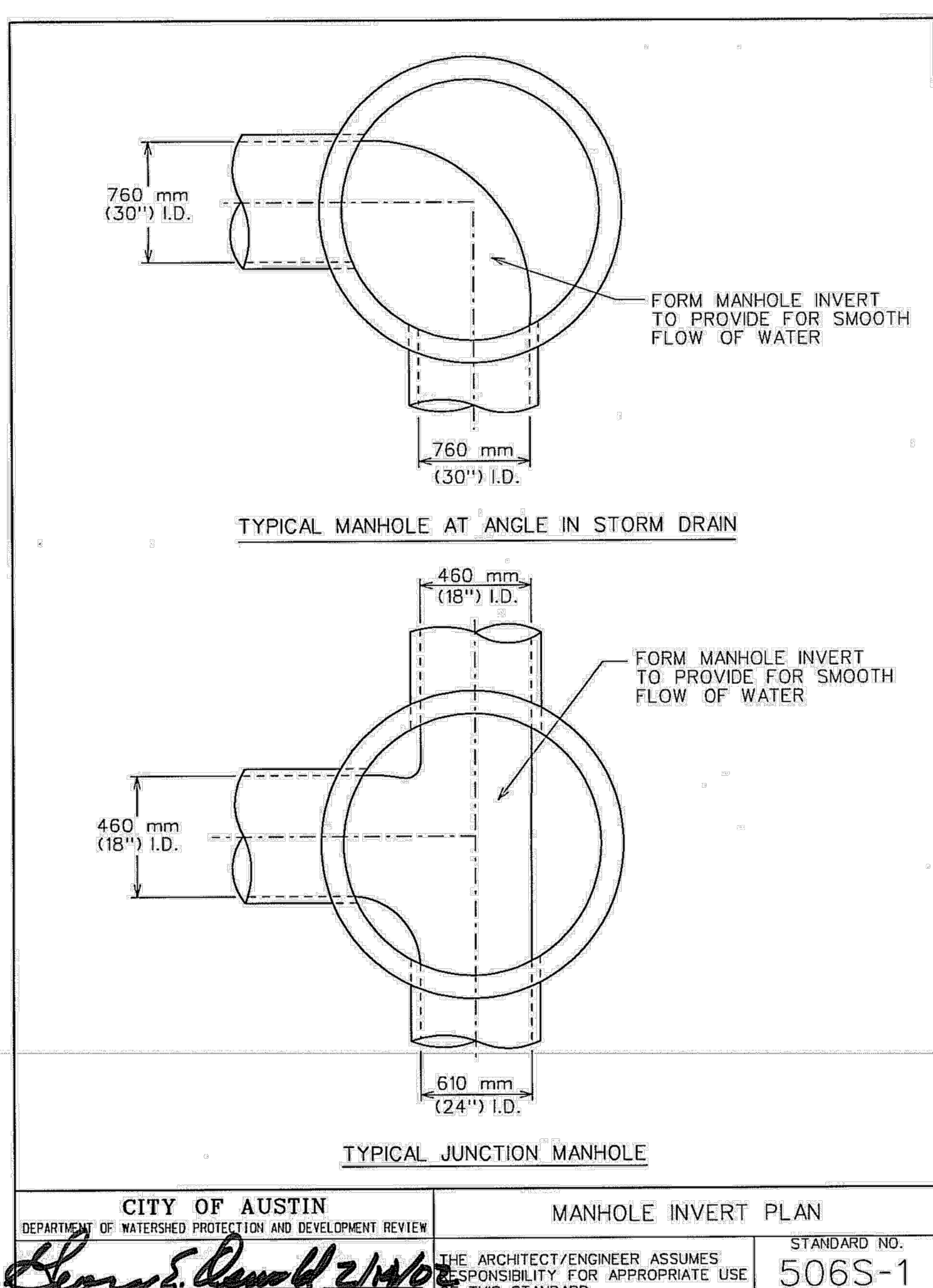
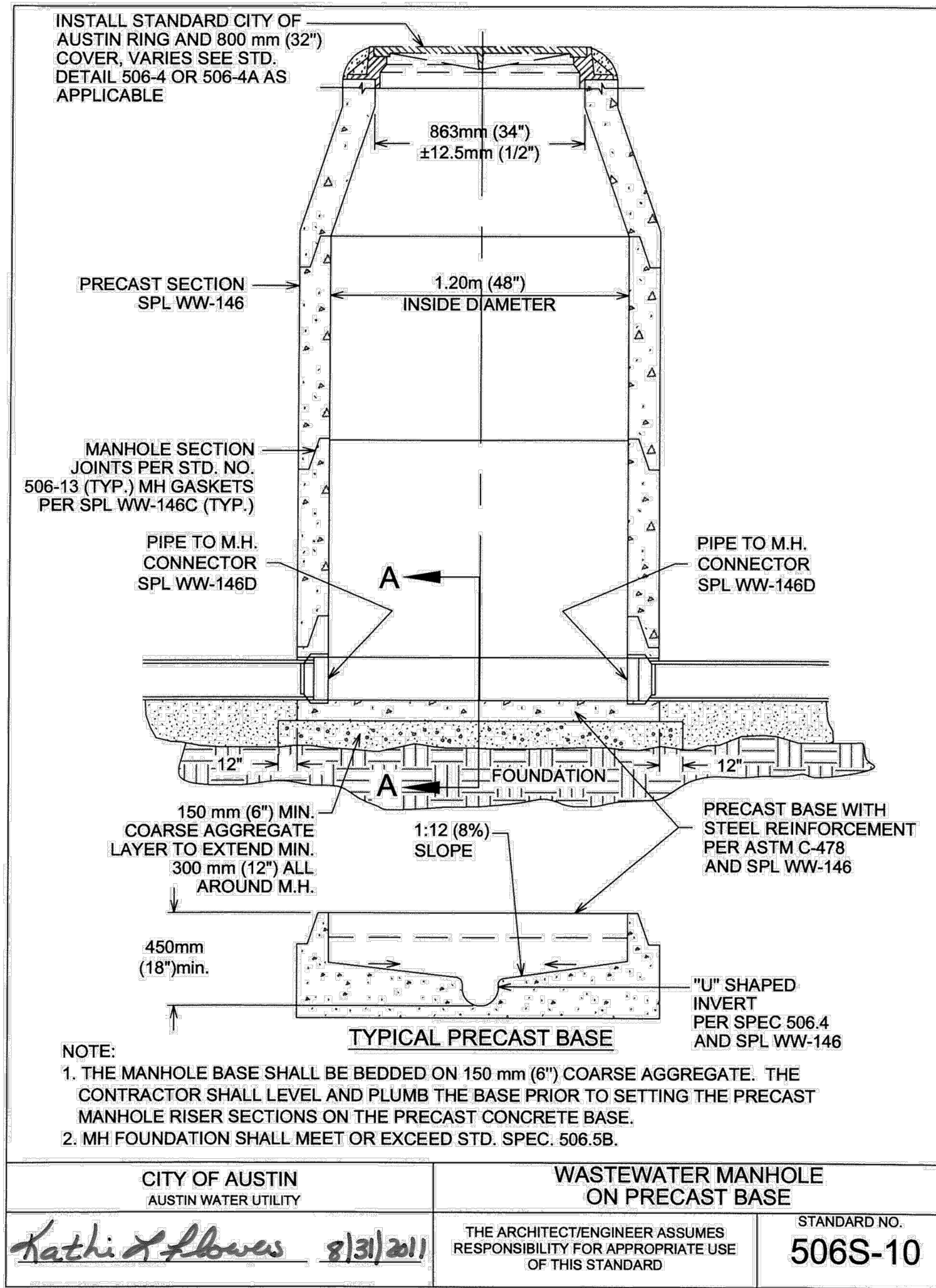








Plotted By: Flynn, Alyssa Date: November 21, 2023 02:48:30pm File Path: K:\AUS\_Civil\089252742-Valor Leander\Coat\PlanSheets\G--Wastewater Details.dwg  
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WWW.KIMLEY-HORN.COM  
TEXAS REGISTERED ENGINEERING FIRM E-928

ALLISON KENNAUGH  
STATE OF TEXAS  
LICENSED PROFESSIONAL ENGINEER  
14355  
11/21/2023

KHA PROJECT 089252742  
DATE NOVEMBER 2023  
SCALE: AS SHOWN  
DESIGNED BY: NAM  
DRAWN BY: ANF  
CHECKED BY: ACK

WASTEWATER DETAILS

VALOR LEANDER  
PICP  
CITY OF LEANDER  
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER  
27 of 27



CIVIL SITE DEVELOPMENT PLANS  
FOR  
**VALOR LEANDER**  
168 KAUFFMAN LOOP,  
LEANDER, WILLIAMSON COUNTY, TEXAS  
PROJECT #

- NOTES:
1. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY, REGULATORY COMPLIANCE, AND ADEQUACY OF THESE PLANS AND/OR SPECIFICATIONS WHETHER OR NOT THE PLANS AND/OR SPECIFICATIONS WERE REVIEWED BY THE CITY ENGINEER(S).
  2. NO PORTION OF THIS TRACT IS WITHIN THE DESIGNATED FLOOD HAZARD AREA AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) #48491C0455F CITY OF LEANDER, TEXAS DATED DECEMBER 20TH, 2019.
  3. CONTRACTOR TO NOTIFY DIGTESS PRIOR TO COMMENCING CONSTRUCTION AT 1-800-DIGTESS.
  4. THIS SITE IS LOCATED WITHIN THE EDWARDS AQUIFER CONTRIBUTING ZONE.
  5. THE CITY OF LEANDER STANDARD CONSTRUCTION NOTES SHALL APPLY AND TAKE PRECEDENCE. FOR INSTANCES WHERE THEY CONFLICT WITH KIMLEY-HORN NOTES OR APPLICABLE TCEQ REQUIREMENTS, THEN THE MORE RESTRICTIVE SHALL APPLY.

ASSOCIATED PROJECT NUMBERS:

CP-23-0021  
PICP-23-0107

LEGAL DESCRIPTION

13.796 ACRES OF LAND OUT OF THE WILLIAM H. MONROE SURVEY, ABSTRACT 451, WILLIAMSON COUNTY, TEXAS AS DESCRIBED IN DOC. #2021072344 OF THE DEED RECORDS OF WILLIAMSON COUNTY, TEXAS.

LAND USE SUMMARY:  
ZONING: SINGLE- FAMILY RURAL (SFR-1-B) - 13.80 AC.

FUTURE LAND USE CATEGORY:  
ACTIVITY CENTER - 13.79 AC.

LOT #	PERMITTED USES	AREA
LOT 1	SFR-1-B	13.52 AC

ROW TAKE	0.28 AC
TOTAL AREA	13.80 AC

PAVED IMPERVIOUS	3.33 AC
BUILDING IMPERVIOUS	2.61 AC
TOTAL IMPERVIOUS	5.94 AC

OWNER:  
VALOR TEXAS EDUCATION FOUNDATION  
JESSE BATES  
220 FOREMOST DR.  
AUSTIN, TX 78745  
(214) 514-3356

DEVELOPER:  
PMSI  
JASON ORIOI  
1822 W. BRAKER LANE, #81734  
AUSTIN, TX 78708  
JORIOL@PMSITX.COM

DESIGNERS:

PROJECT AGENT:  
KIMLEY-HORN AND ASSOCIATES INC.  
ALLISON KENNAUGH, P.E.  
10814 JOLLYVILLE RD, AVALON IV SUITE 200  
AUSTIN, TX 78759  
ALLISON.KENNAUGH@KIMLEY-HORN.COM  
(512)782-0614

ENGINEER:  
KIMLEY-HORN AND ASSOCIATES INC.  
ALLISON KENNAUGH, P.E.  
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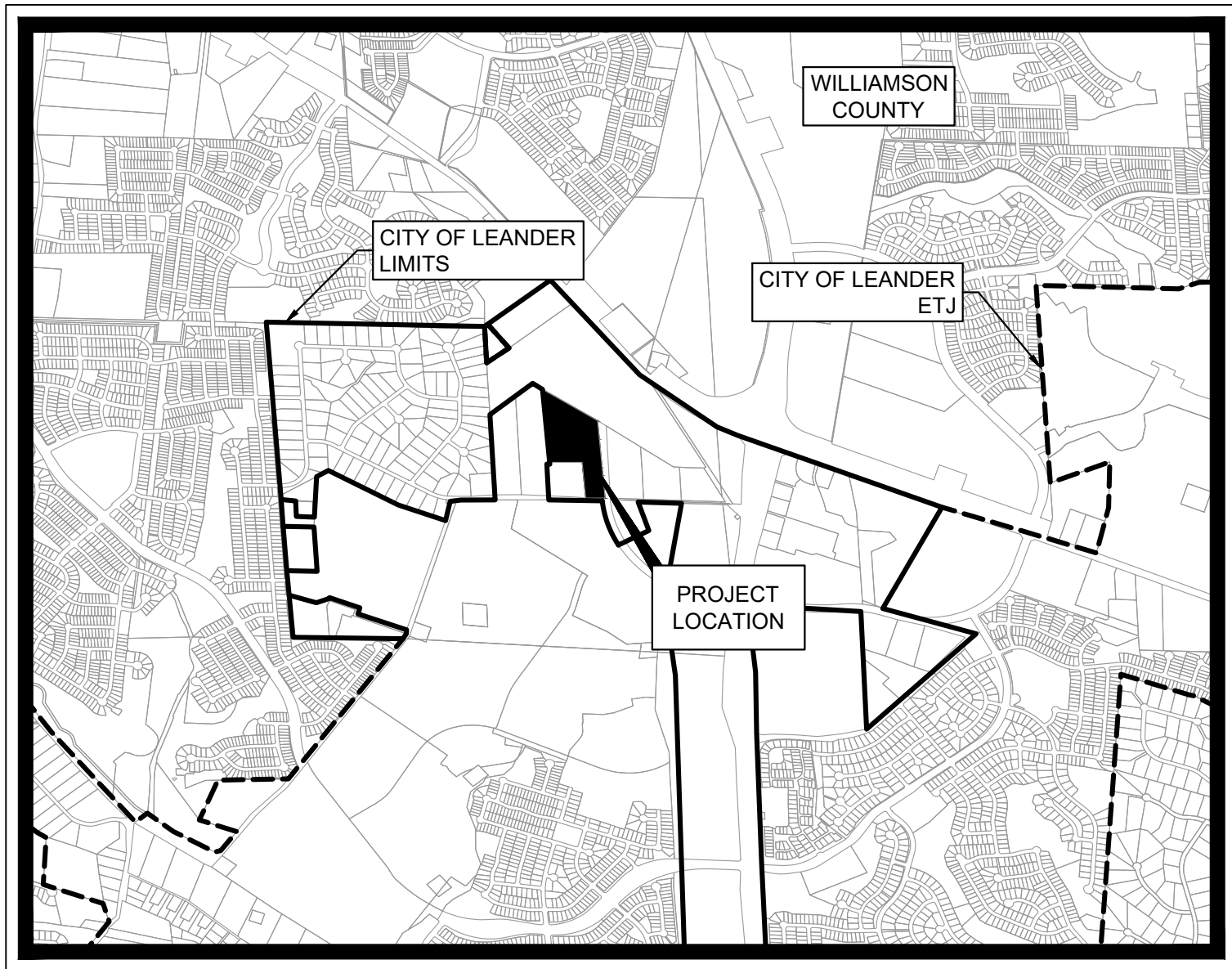
SURVEYOR  
PAPE-DAWSON ENGINEERS  
10801 N MOPAC EXPY.  
BLDG 3, SUITE 200  
AUSTIN, TX 78759  
(512) 454-8711

PREPARED BY:

**Kimley»Horn**

10814 JOLLYVILLE ROAD, AVALON IV, SUITE 300  
AUSTIN, TEXAS 78759  
CERTIFICATE OF REGISTRATION #928

Tel. No. (512) 418-1771  
Fax No. (512) 418-1791



VICINITY MAP

SCALE: 1" = 2,000'

DECEMBER 2023

APPROVED BY:

ROBIN M. GRIFFIN, AICP, PLANNING DIRECTOR	DATE
EMILY TRUMAN, P.E., CFM, CITY ENGINEER	DATE
MARK TUMMONS, CPRP, DIRECTOR OF PARKS AND RECREATION	DATE
CHIEF JOSHUA DAVIS, FIRE MARSHAL	DATE

REVISION #	DESCRIPTION	APPROVAL

SHEET INDEX

Sheet Number	Sheet Title
1	COVER SHEET
2	CITY OF LEANDER GENERAL NOTES
3	KH GENERAL NOTES
4	TCEQ NOTES
5	FINAL PLAT (SHEET 1 OF 2)
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37	LANDSCAPE PLAN (SHEET 1 OF 3)
38	LANDSCAPE PLAN (SHEET 2 OF 3)
39	LANDSCAPE PLAN (SHEET 3 OF 3)

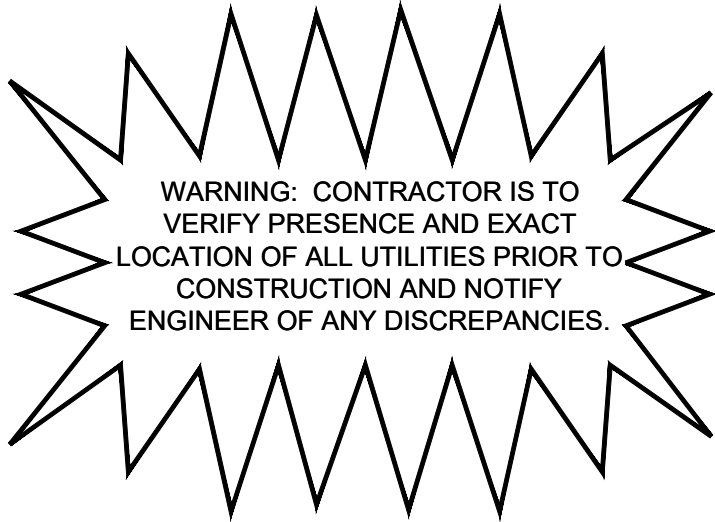


Know what's below.  
Call before you dig.  
BENCHMARKS

BENCHMARKS ARE BASED ON NAD83  
COORDINATES ARE STATE PLANE CENTRAL ZONE WITH  
A COMBINED SCALE FACTOR OF 0.9998800143982722

BM #10: SIX COTTON SPINDLE  
GRID NORTH: 10,203,075.39  
GRID EAST: 3,082,766.80  
1035.47

BM #11: SET MAGNETIC NAIL (TRAVIS)  
GRID NORTH: 10,203,986.98  
GRID EAST: 3,082,429.05  
1031.92



**Kimley»Horn**

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10814 JOLLYVILLE ROAD, CAMPUS IV, SUITE 200, AUSTIN, TX 78759  
PHONE: 512-418-1771 FAX: 512-418-1791  
WWW.KIMLEY-HORN.COM  
TEXAS REGISTERED ENGINEERING FIRM E-928



12/1/2023

KHA PROJECT	DATE	SCALE	AS SHOWN	NAM	ZLR	ACK
08952742	DECEMBER 2023	AS SHOWN	AS SHOWN	NAM	ZLR	ACK

COVER SHEET

VALOR LEANDER  
CITY OF LEANDER  
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER  
1 OF 39















**VALOR LEANDER**  
FINAL PLAT  
CITY OF LEANDER, WILLIAMSON COUNTY, TEXAS

OWNER: VALOR TEXAS EDUCATION FOUNDATION  
VALOR TEXAS EDUCATION FOUNDATION  
D/B/A VALOR PUBLIC SCHOOLS  
220 FOREMOST DRIVE  
AUSTIN, TEXAS 78745  
(512) 646-4170

**SURVEYOR:**  
4WARD LAND SURVEYING  
4201 FREIDRICH LN, SUITE 200  
AUSTIN, TX 78744  
(512) 537-2384

ENGINEER: KIMLEY-HORN  
10814 JOLLYVILLE ROAD  
AVALLON IV, SUITE 200  
AUSTIN, TX 78759  
(512) 646-2237

SUBMITTAL DATE: NOVEMBER 28, 2023

**SHEET INDEX:**  
1. COVER SHEET  
2. FINAL PLAT  
3. PLAT NOTES

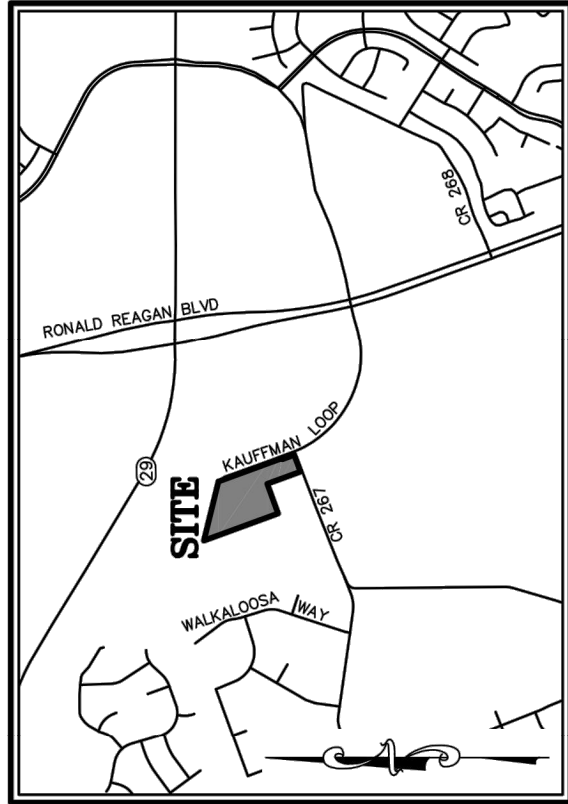
LOT TABLE:

NUMBER OF BLOCKS: 1

NUMBER OF SCHOOL LOTS: 1

TOTAL NUMBER OF LOTS:

TOTAL ACREAGE: 13.7964



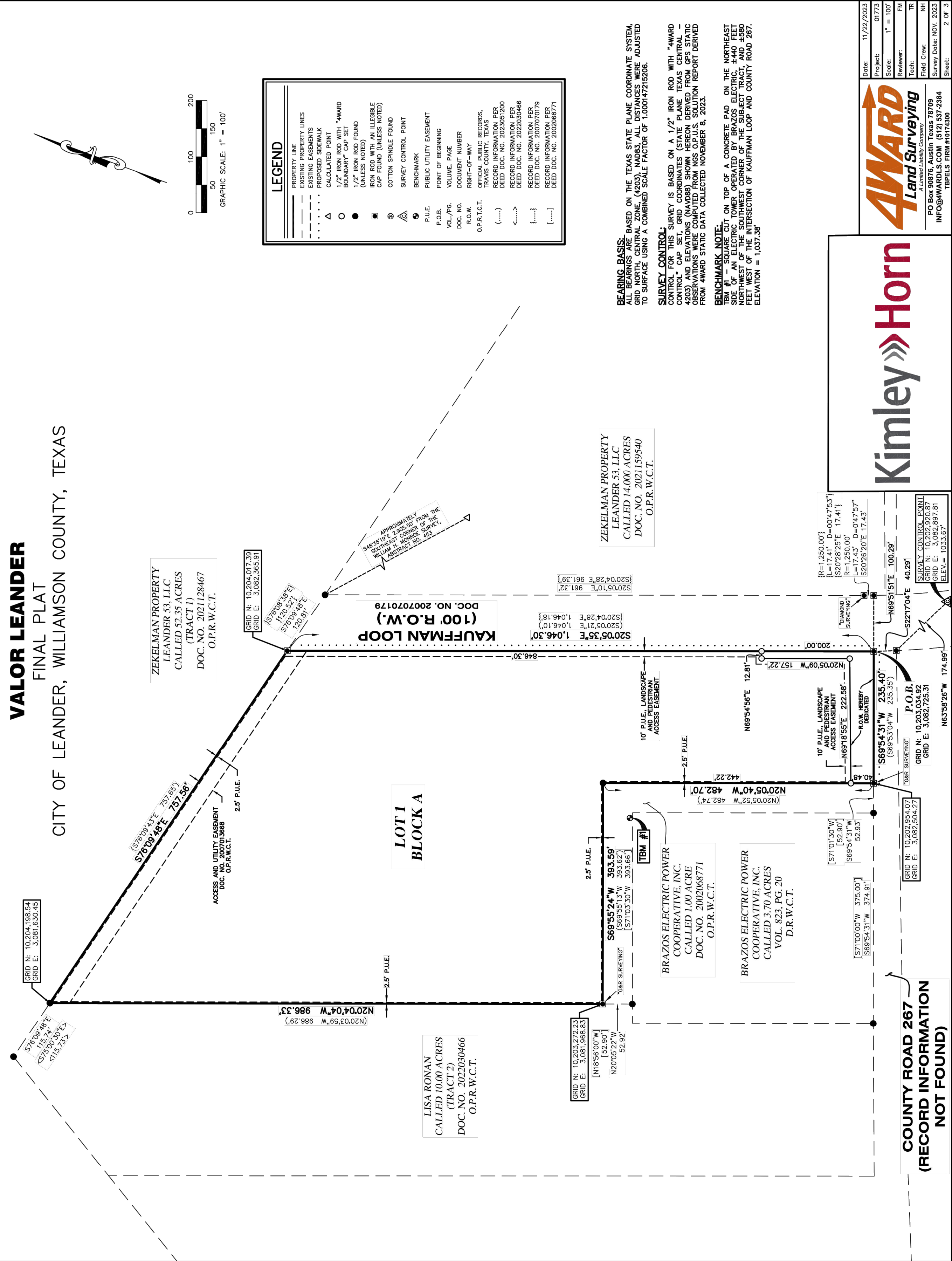
**VICINITY MAP**  
SCALE: 1" = 2000'

LOT SUMMARY TABLE			
LOT	PROPOSED INITIAL USE	LOT AREA (ACRES)	LOT AREA (SQ. FT.)
LOT 1, BLOCK A	SCHOOL	13,924.8 ACRES	989,139 SQ. FT.
E.O.W. DEDICATION	RIGHT-OF-WAY	0.223 ACRES	15,368 SQ. FT.
TOTAL		13,796.4 ACRES	603,970 SQ. FT.



Date:	11/22/2023
Project:	01773
Scale:	N/A
Reviewer:	PM
Tech:	TR
Field Crew:	NH
Survey Date:	NOV. 2023
Sheet:	1 of 3
P:\01773\Nov2023\1773.dwg	
TBPCLS FIRM #10174300	

**VALOR LEANDER**  
FINAL PLAT  
CITY OF LEANDER, WILLIAMSON COUNTY, TEXAS



Date:	11/27/2023
Project:	01773
Scale:	1" = 100'
Reviewer:	PM
Technician:	TR
Field Crew:	NH
Survey Date:	NOV. 2023
Sheet:	2 OF 3

P:\01773\01773.dwg  
 PO BOX 90876, AUSTIN TEXAS 78709  
 INFO@4WARDL.S.COM (512) 537-2384  
 TBPELS #10174300



VALOR LEANDER  
FINAL PLAT  
CITY OF LEANDER, WILLIAMSON COUNTY, TEXAS

STATE OF TEXAS {  
COUNTY OF WILLIAMSON }

THAT VALOR TEXAS EDUCATION F/D/A VALOR PUBLIC SCHOOLS, AS THE OWNER OF THAT CERTAIN 13,786 ACRE TRACT CONVERTED TO SAID OWNER IN DOCUMENT NO. 2020081200 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, AND BEING ALL OF A CALLED VALOR PUBLIC SCHOOLS, WILLIAMSON COUNTY, TEXAS, (G.P.R.M.C.), SAID 13,786 ACRE TRACT BEING MORE PARTICULARLY DESCRIBED BY METES AND AS FOLLOWS:

"VALOR LEANDER"

VALOR TEXAS EDUCATION FOUNDATION  
d/b/a VALOR PUBLIC SCHOOLS  
BY: NAME: RAMSEY MARSHON  
TITLE: CHIEF FINANCIAL OFFICER

STATE OF TEXAS {  
COUNTY OF WILLIAMSON }

BEFORE ME, THE UNDERSIGNED AUTHORITY, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE OF TEXAS, ON THIS DAY OF \_\_\_\_\_, 2023, PERSONALLY APPEARED RAMSEY MARSHON, CHIEF FINANCIAL OFFICER OF VALOR TEXAS EDUCATION FOUNDATION, D/B/A VALOR PUBLIC SCHOOLS, WHOSE NAME AND ADDRESS ARE PERSONALLY KNOWN TO ME (AND PROVED TO ME ON THE BASIS OF SATISFACTORY EVIDENCE) TO BE THE PERSONAL SIGNER OF THE FOREGOING INSTRUMENT, AND THAT ALL EXISTING TITLE INSURANCE COMPANY TITLE COMMITMENT OF NO. 28650A (EFFECTIVE 10/30/2022), WHICH TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS \_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_.

NOTARY PUBLIC - STATE OF TEXAS \_\_\_\_\_  
PRINTED NAME: \_\_\_\_\_  
MY COMMISSION EXPIRES ON: \_\_\_\_\_

ENGINEER'S CERTIFICATION:

THE STATE OF TEXAS {  
COUNTY OF WILLIAMSON }

THAT I, ALLISON KENNAUGH, AM AUTHORIZED UNDER THE LAWS OF THE STATE OF TEXAS TO PRACTICE THE PROFESSION OF ENGINEERING, AND DO HEREBY STATE THAT THIS PLAT CONFORMS WITH THE APPLICABLE ORDINANCES OF THE CITY OF LEANDER, TEXAS.

ALLISON KENNAUGH P.E.  
REGISTERED PROFESSIONAL ENGINEER  
NO. 114336, STATE OF TEXAS \_\_\_\_\_ DATE \_\_\_\_\_

SURVEYOR'S CERTIFICATION:

THE STATE OF TEXAS {  
COUNTY OF WILLIAMSON }

THAT I, NANCY E. RISTER, CLERK OF COUNTY COURT OF SAID COUNTY, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT WAS FILED FOR RECORD IN MY OFFICE ON THE DAY OF \_\_\_\_\_, 20\_\_\_\_, A.D., AT \_\_\_\_\_ O'CLOCK \_\_\_\_M. AND DULY RECORDED THIS THE DAY OF \_\_\_\_\_, 20\_\_\_\_, A.D., AT \_\_\_\_\_ O'CLOCK \_\_\_\_M. IN THE PLAT RECORDS OF SAID COUNTY IN INSTRUMENT NO. \_\_\_\_\_.

FERNANDO PEREZ, R.F.L.S.  
TEXAS REGISTRATION NO. 7044 \_\_\_\_\_ DATE \_\_\_\_\_

- NOTES:
1. THIS SUBDIVISION IS WHOLLY CONTAINED WITHIN THE CURRENT CORPORATE LIMITS OF THE CITY OF LEANDER, TEXAS.
  2. NO LOT IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTED TO THE CITY OF LEANDER WATER MAIN AND SEWER SYSTEMS.
  3. NO BUILDINGS, FENCES, LANDSCAPING OR OTHER STRUCTURES ARE PERMITTED WITHIN DRAINAGE EASEMENTS SHOWN EXCEPT AS APPROVED BY THE CITY OF LEANDER PUBLIC WORKS DEPARTMENT.
  4. PROPERTY OWNER SHALL PROVIDE ACCESS TO DRAINAGE EASEMENTS AS MAY BE NECESSARY AND SHALL NOT PROHIBIT ACCESS BY CITY OF LEANDER.
  5. BUILDING SETBACKS NOT SHOWN HEREIN SHALL COMPLY WITH THE MOST CURRENT ZONING ORDINANCE OF THE CITY OF LEANDER, TEXAS.
  6. A BUILDING PERMIT IS REQUIRED FROM THE CITY OF LEANDER PRIOR TO CONSTRUCTION OF ANY BUILDING OR SITE IMPROVEMENTS ON ANY LOT IN THIS SUBDIVISION. NO BUILDINGS, FENCES, LANDSCAPING, OR OTHER STRUCTURES ARE PERMITTED WITHIN DRAINAGE EASEMENTS SHOWN EXCEPT AS APPROVED BY THE CITY OF LEANDER PUBLIC WORKS DEPARTMENT.
  7. ALL EASEMENTS ON PRIVATE PROPERTY SHALL BE MAINTAINED BY THE PROPERTY OWNER OR HIS OR HER ASSIGNS.
  8. SIDEWALKS SHALL BE INSTALLED ON THE SUBDIVISION SIDE OF HERO WAY, MAIN STREET AND EAST STREET, AND ALONG STREET FRONTS OF LOTS PROPOSED FOR SCHOOLS, CHURCHES, PARK LOTS, DETENTION LOTS, AND OTHER PUBLIC USES. SIDEWALKS ON DOUBLE FRONTAGE LOTS ON THE SIDE TO WHICH ACCESS IS PROHIBITED, AND ALL SIDEWALKS ON SAFE SCHOOL ROUTES SHALL BE INSTALLED WHEN THE ADDINGING STREET IS CONSTRUCTED.
  9. THIS PLAT CONFORMS TO THE PRELIMINARY PLAT APPROVED BY THE PLANNING AND ZONING COMMISSION ON \_\_\_\_\_, 2023.
  10. RESERVATION OF PUBLIC PLAT DOES NOT CONSTITUTE THE APPROVAL OF VARIANCES OR WAIVERS TO ORDINANCE REQUIREMENTS.
  11. ALL DRIVE LANKES, FIRE LANES, AND DRIVEWAYS WITHIN THIS SUBDIVISION SHALL PROVIDE FOR RECIRCULAR ACCESS FOR INGRESS AND EGRESS TO ALL OTHER LOTS WITHIN THE SUBDIVISION AND TO ADJACENT PROPERTIES.
  12. ALL UTILITY LINES MUST BE LOCATED UNDERGROUND.
  13. IN ADDITION TO THE EASEMENTS SHOWN HEREIN, A TEN (10') FOOT WIDE PUBLIC UTILITY EASEMENT IS REQUIRED FOR INGRESS AND EGRESS TO ALL OTHER LOTS WITHIN THE SUBDIVISION AND TO ADJACENT PROPERTIES.
  14. A TRAFFIC IMPACT ANALYSIS IS NOT REQUIRED FOR THIS DEVELOPMENT AS THE SMART CODE IS BEING UTILIZED.
  15. A PERPETUAL PUBLIC SAFETY AND PUBLIC SERVICE EASEMENT IS HEREBY DEDICATED FOR THE PURPOSE OF PROVIDING PUBLIC SAFETY SERVICES, POLICE, FIRE AND MEDICAL SERVICES, UTILITY METER READING, CODE ENFORCEMENT, AND ENFORCING THE CITY ORDINANCES, AND DURING THE CITY AND ITS AUTHORIZED OFFICERS AND EMPLOYEES SHALL HAVE ACCESS TO ALL LOTS WITHIN THE SUBDIVISION FOR THE PURPOSES OF PROVIDING PUBLIC SAFETY SERVICES, POLICE, FIRE AND MEDICAL SERVICES, AND ENFORCING THE PENAL CODE AND CITY ORDINANCES. THE HOA SHALL MAINTAIN AT ALL TIMES AND REPAIR THE CURRENT STATE CODE ON A LOT FOR ALL DRUG RESIDUAL ACCESS TO AND FROM THE SUBDIVISION.
  16. NO PORTION OF THIS TRACT IS WITHIN A FLOOD HAZARD AREA AS SHOWN ON THE FLOOD INSURANCE RATER MAP. THE SUBDIVISION OWNER SHALL BE RESPONSIBLE FOR OBTAINING A FLOOD INSURANCE RATE MAP. THE STATEMENT DOES NOT IMPLY THAT THE PROPERTY AND/OR THE STRUCTURES THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE. THIS FLOOD STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF THE SURVEYOR.

WITNESSES TO THE DAY OF LEANDER, TEXAS AND AUTHORIZED TO BE FILED FOR RECORD BY THE COUNTY CLERK OF WILLIAMSON COUNTY.

RON WAY, CHAIRMAN  
PLANNING AND ZONING COMMISSION  
CITY OF LEANDER, TEXAS \_\_\_\_\_

ELLEN COUGAL, SECRETARY  
PLANNING AND ZONING COMMISSION  
CITY OF LEANDER, TEXAS \_\_\_\_\_

STATE OF TEXAS {  
COUNTY OF WILLIAMSON }

NANCY E. RISTER, CLERK OF COUNTY COURT OF SAID COUNTY, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT IN WRITING, WITH ITS CERTIFICATE OF AUTHENTICATION, WAS FILED FOR RECORD IN MY OFFICE ON THE DAY OF \_\_\_\_\_, 20\_\_\_\_, A.D., AT \_\_\_\_\_ O'CLOCK \_\_\_\_M. AND DULY RECORDED THIS THE DAY OF \_\_\_\_\_, 20\_\_\_\_, A.D., AT \_\_\_\_\_ O'CLOCK \_\_\_\_M. IN THE PLAT RECORDS OF SAID COUNTY IN INSTRUMENT NO. \_\_\_\_\_.

TO CERTIFY WHICH, WITNESS MY HAND AND SEAL AT THE COUNTY COURT OF SAID COUNTY, AT MY OFFICE IN GERARDOWN, TEXAS, THE DATE LAST SHOWN ABOVE WRITTEN.

NANCY RISTER, CLERK COUNTY COURT OF WILLIAMSON COUNTY, TEXAS \_\_\_\_\_

BY: \_\_\_\_\_ DEPUTY

Kimley»Horn

4WARD  
Land Surveying  
A Land Survey Company

PO Box 90876, Austin Texas 78769  
info@4wardland.com    512-450-0044  
TIRELESS FIRM #0174200

Date: 11/22/2023  
Project: 07173  
Drawn By: TDR  
Reviewed: TDR  
Title: RP  
Field Crew: N/A  
Survey Date: NOV. 2023  
Sheet: 3 OF 3  
P:\07173\0695252742.dwg

LEGAL DESCRIPTION  
BEING A DESCRIPTION OF THE 13,786 ACRES (60,970 SQUARE FEET) OUT OF THE WILLIAM H. MONROE TRACT, BEING A TRACT CONVERTED TO VALOR TEXAS EDUCATION FOUNDATION D/B/A VALOR PUBLIC SCHOOLS IN WILLIAMSON COUNTY, TEXAS (G.P.R.M.C.), SAID 13,786 ACRE TRACT BEING MORE PARTICULARLY DESCRIBED BY METES AND AS FOLLOWS:

BEGINNING AT AN IRON ROD WITH AN ALLEGIBLE CAP FOUND AT THE INTERSECTION OF THE WEST RIGHT-OF-WAY LINE OF KAUFMAN LOOP (100' RIGHT-OF-WAY), AND BEING THE WEST RIGHT-OF-WAY LINE OF VALOR TEXAS TRACT, FOR THE SOUTHEAST CORNER AND POINT OF BEGINNING HEREOF;

THENCE, WITH THE NORTH RIGHT-OF-WAY LINE OF SAID COUNTY ROAD 267 AND THE SOUTH LINE OF SAID VALOR TEXAS TRACT, S89°54'31"W, A DISTANCE OF 235.40 FEET TO AN IRON ROD WITH AN ALLEGIBLE CAP FOUND AT THE INTERSECTION OF THE WEST RIGHT-OF-WAY LINE OF KAUFMAN LOOP (100' RIGHT-OF-WAY) AND BEING THE COMMON SOUTHWEST CORNER OF SAID VALOR TEXAS TRACT AND A CALLED 1.00 ACRE TRACT CONVERTED TO BRAZOS ELECTRIC POWER COOPERATIVE, INC. IN DOCUMENT NO. 2020080771 (G.P.R.M.C.), SAID 1.00 ACRE TRACT BEING MORE PARTICULARLY DESCRIBED BY METES AND AS FOLLOWS:

A CALLED 3.70 ACRE TRACT CONVERTED TO BRAZOS ELECTRIC POWER COOPERATIVE, INC. IN DOCUMENT NO. 2020080771 (G.P.R.M.C.), SAID 3.70 ACRE TRACT BEING MORE PARTICULARLY DESCRIBED BY METES AND AS FOLLOWS:

1) N00°19'40"W, A DISTANCE OF 482.70 FEET TO A 1/2-INCH IRON ROD FOUND FOR AN S89°52'24"W, A DISTANCE OF 393.58 FEET TO AN IRON ROD WITH G&S SURVEYING CAP FOUND AT THE INTERSECTION OF THE WEST RIGHT-OF-WAY LINE OF KAUFMAN LOOP (100' RIGHT-OF-WAY) AND BEING IN THE EAST LINE OF SAID LISA ROMAN TRACT FROM WHICH A 1/2-INCH IRON ROD FOUND AT THE INTERSECTION OF THE WEST RIGHT-OF-WAY LINE OF KAUFMAN LOOP (100' RIGHT-OF-WAY) AND BEING IN THE NORTH LINE OF SAID BRAZOS ELECTRIC - 3.70 ACRE TRACT BEARS S00°52'22"E, A DISTANCE OF 92.92 FEET;

THENCE, WITH THE COMMON LINE OF SAID VALOR TEXAS TRACT AND SAID LISA ROMAN TRACT, NORTHWEST CORNER HEREOF, SAID POINT BEING THE COMMON NORTH CORNER OF SAID VALOR TEXAS TRACT AND SAID LISA ROMAN TRACT, S00°52'22"E, A DISTANCE OF 92.92 FEET TO AN IRON ROD WITH AN ALLEGIBLE CAP FOUND FOR THE COMMON SOUTHWEST CORNER OF SAID VALOR TEXAS TRACT AND SAID LISA ROMAN TRACT, S00°52'22"E, A DISTANCE OF 92.92 FEET;

THENCE, WITH THE COMMON LINE OF SAID VALOR TEXAS TRACT AND SAID ZIEGLERMAN TRACT, S79°49'46"E, A DISTANCE OF 797.96 FEET TO AN IRON ROD WITH AN ALLEGIBLE CAP FOUND FOR THE COMMON SOUTHWEST CORNER OF SAID VALOR TEXAS TRACT AND SAID ZIEGLERMAN TRACT, S79°49'46"E, A DISTANCE OF 797.96 FEET;

THENCE, WITH THE COMMON LINE OF SAID VALOR TEXAS TRACT AND SAID ZIEGLERMAN TRACT, S79°49'46"E, A DISTANCE OF 797.96 FEET TO AN IRON ROD WITH AN ALLEGIBLE CAP FOUND FOR THE COMMON SOUTHWEST CORNER OF SAID VALOR TEXAS TRACT AND SAID ZIEGLERMAN TRACT, S79°49'46"E, A DISTANCE OF 797.96 FEET;

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VALOR LEANDER  
CITY OF LEANDER  
WILLIAMSON COUNTY, TEXAS

FINAL PLAT  
(SHEET 2 OF 2)

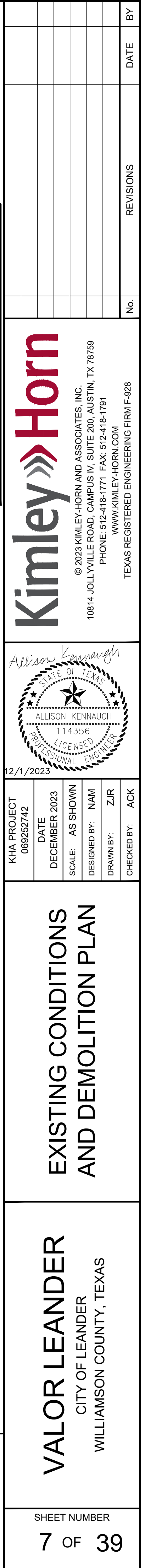
KHA PROJECT  
0695252742  
DATE  
DECEMBER 2023  
SCALE: AS SHOWN  
DESIGNED BY: NAM  
DRAWN BY: ZJR  
CHECKED BY: ACK

12/1/2023  
ALLISON KENNAUGH  
114336  
LICENSED  
SURVEYING  
STATE OF TEXAS

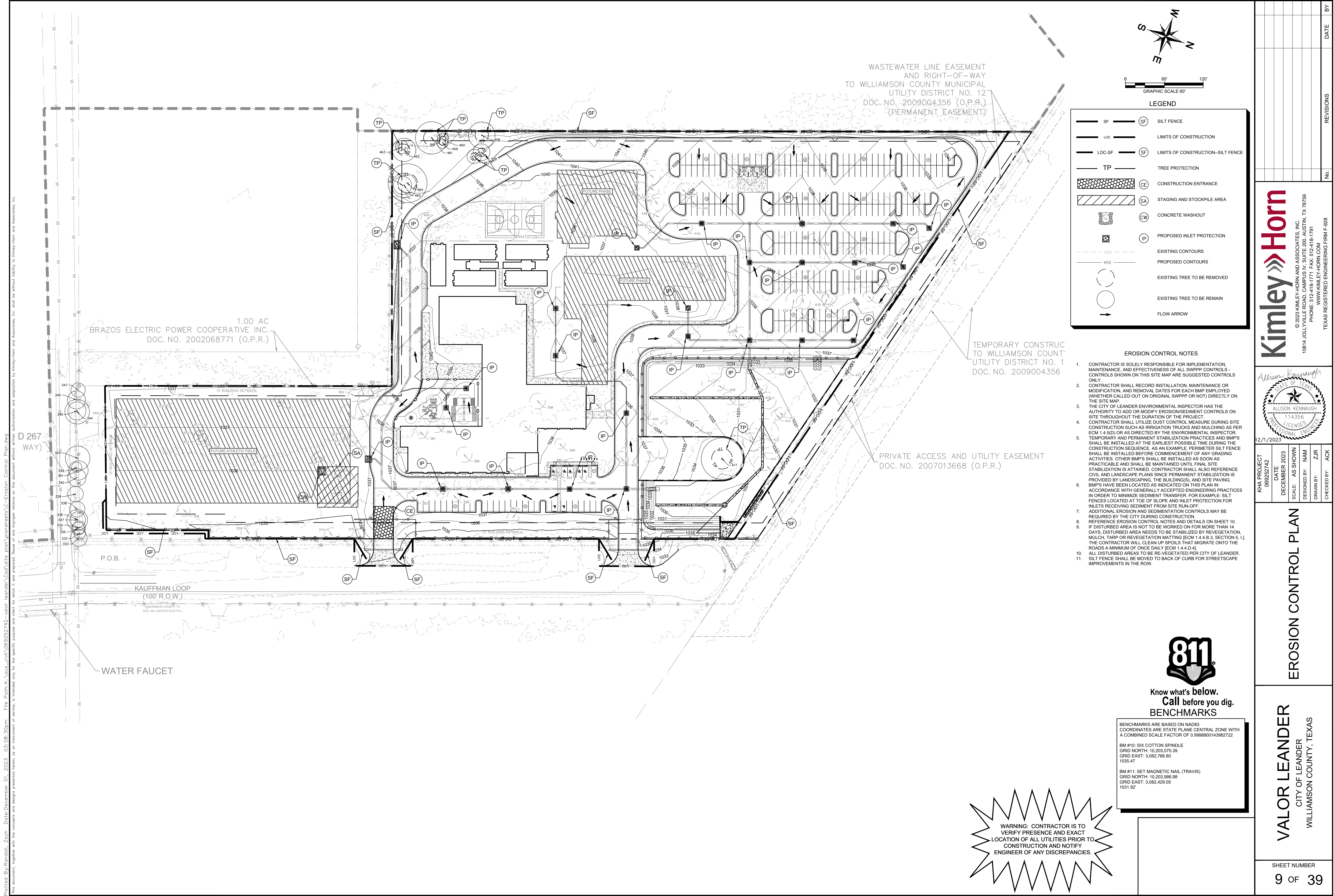
Kimley»Horn  
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10814 JOLLYVILLE ROAD, CAMPUS IV, SUITE 200, AUSTIN, TX 78759  
PHONE: 512-418-1771 FAX: 512-418-1791  
WWW.KIMLEY-HORN.COM  
TEXAS REGISTERED ENGINEERING FIRM E-928

No. \_\_\_\_\_ REVISIONS \_\_\_\_\_ DATE \_\_\_\_\_ BY \_\_\_\_\_



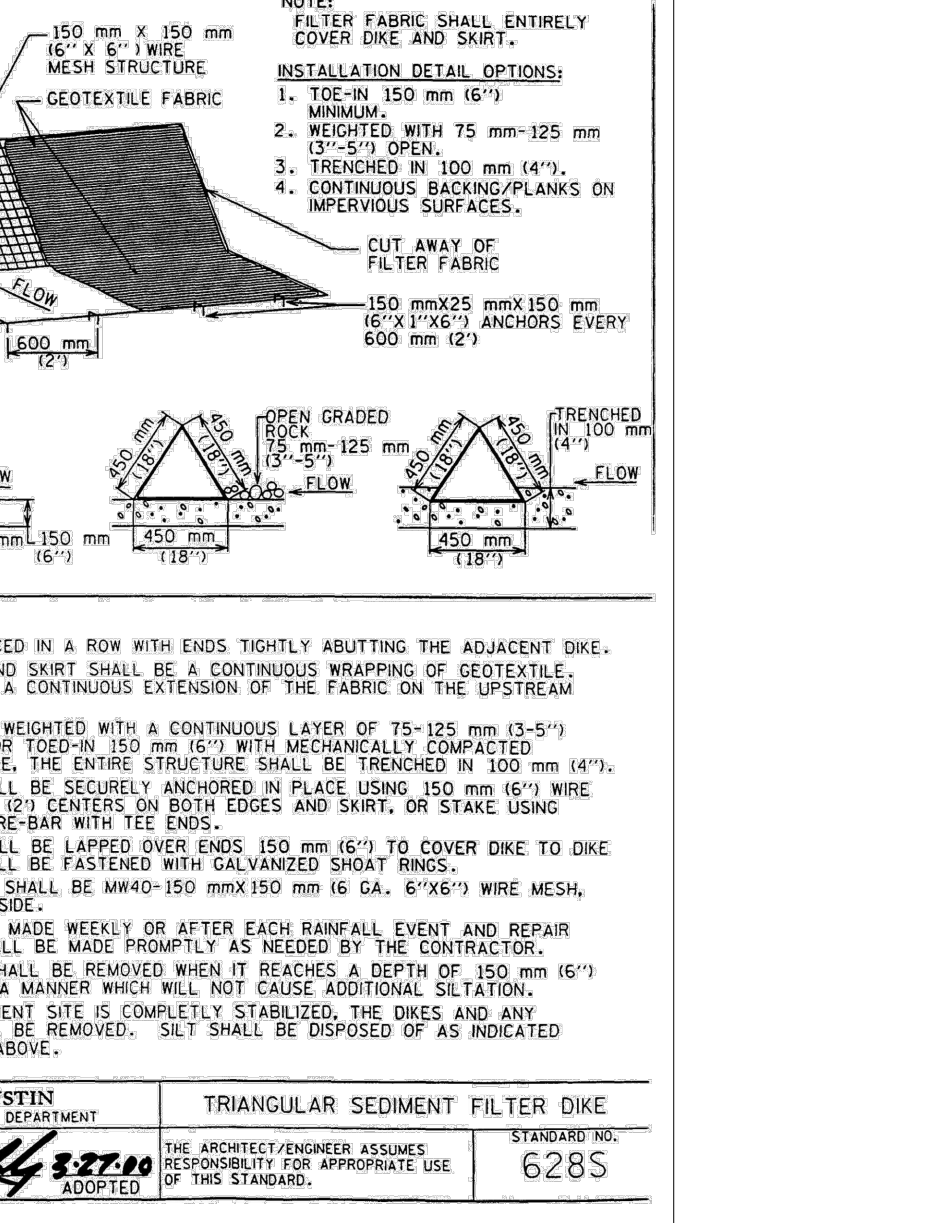
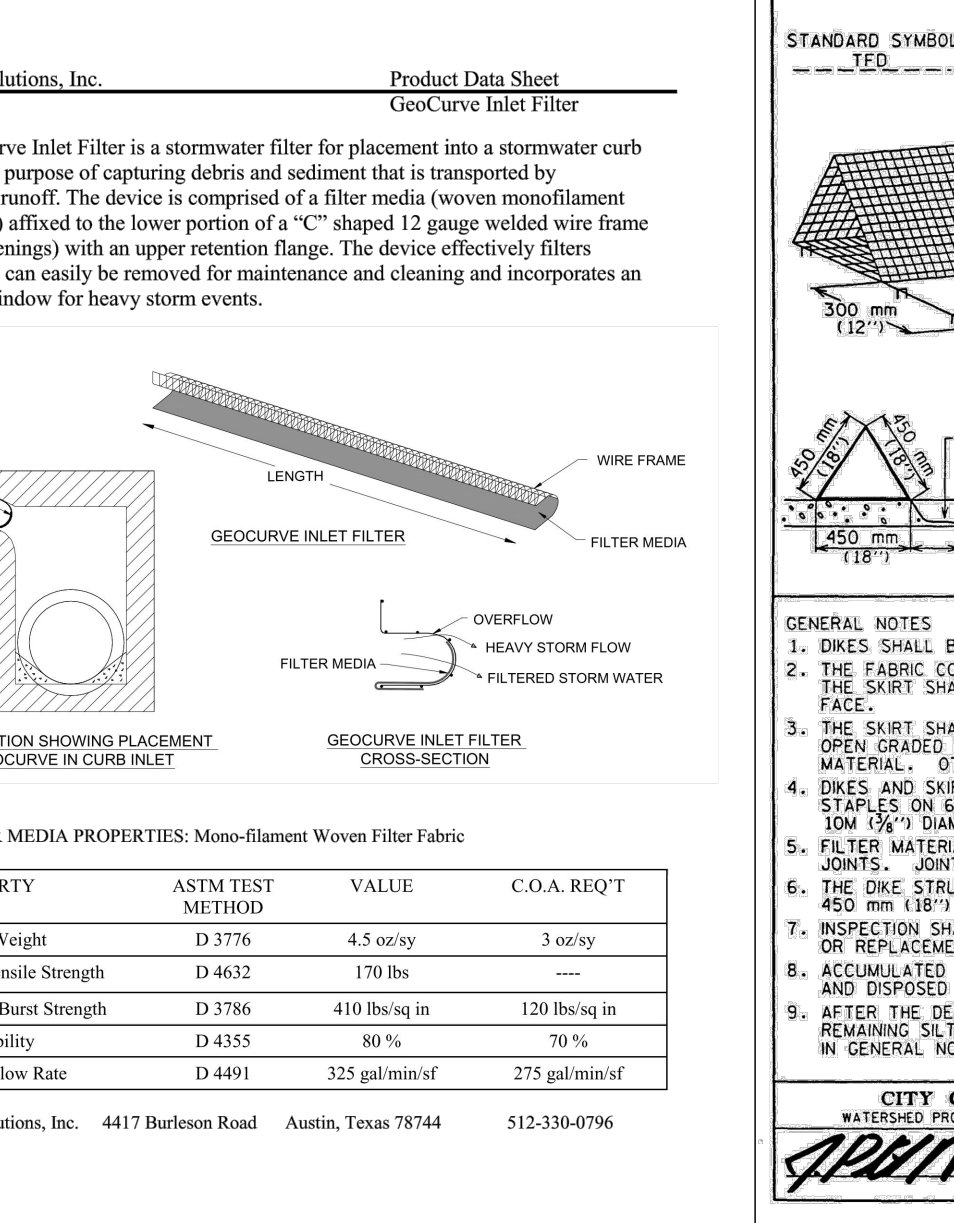
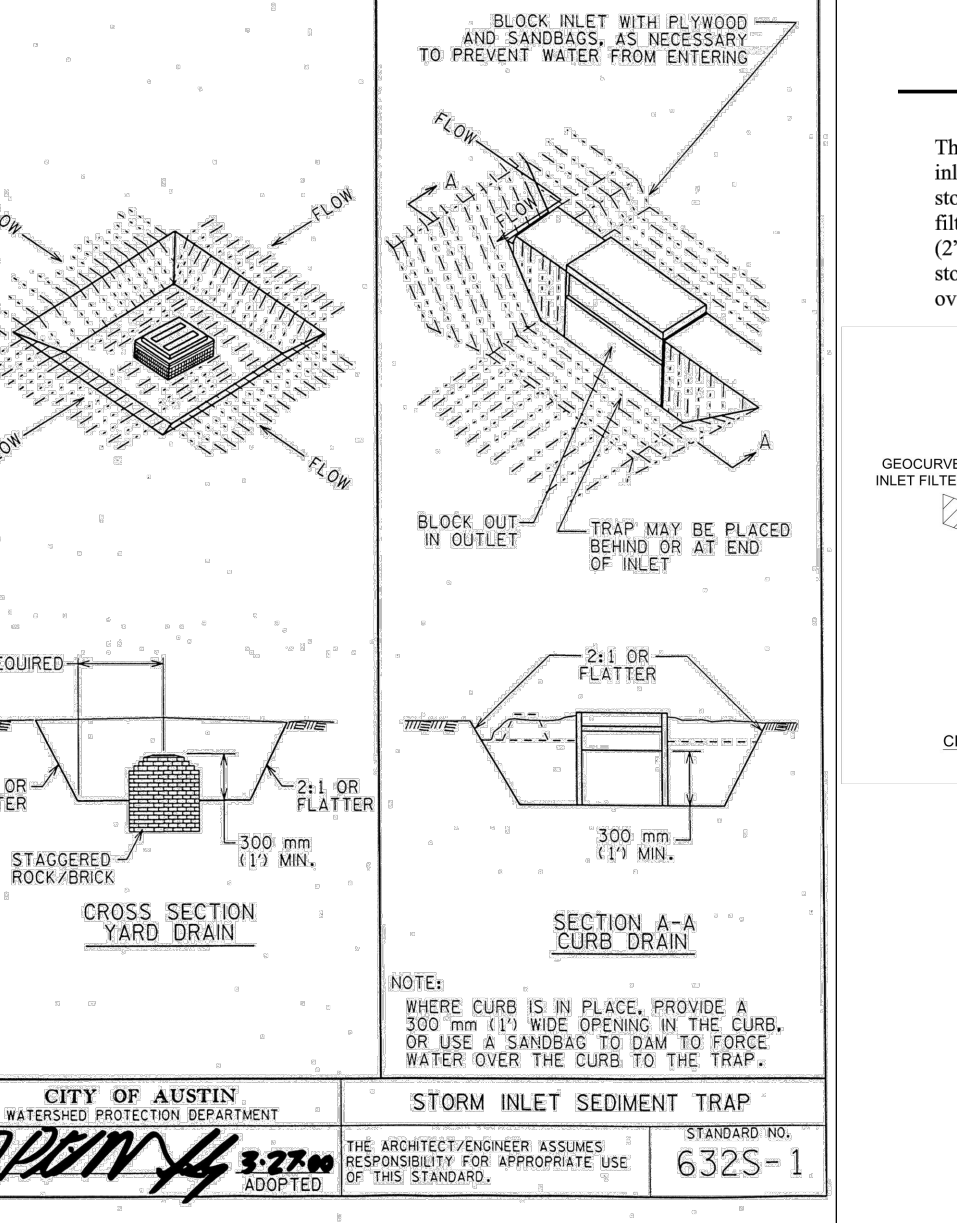
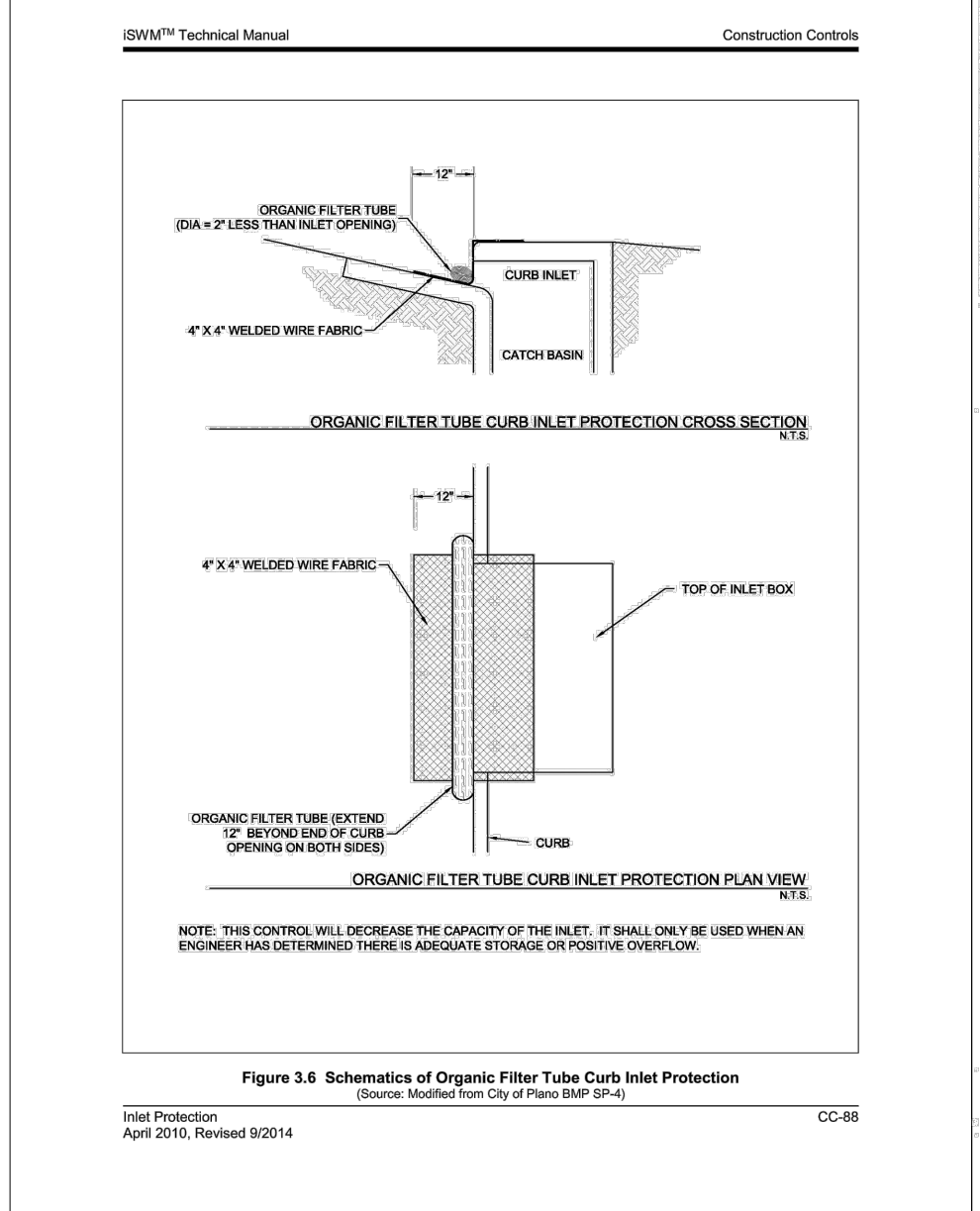
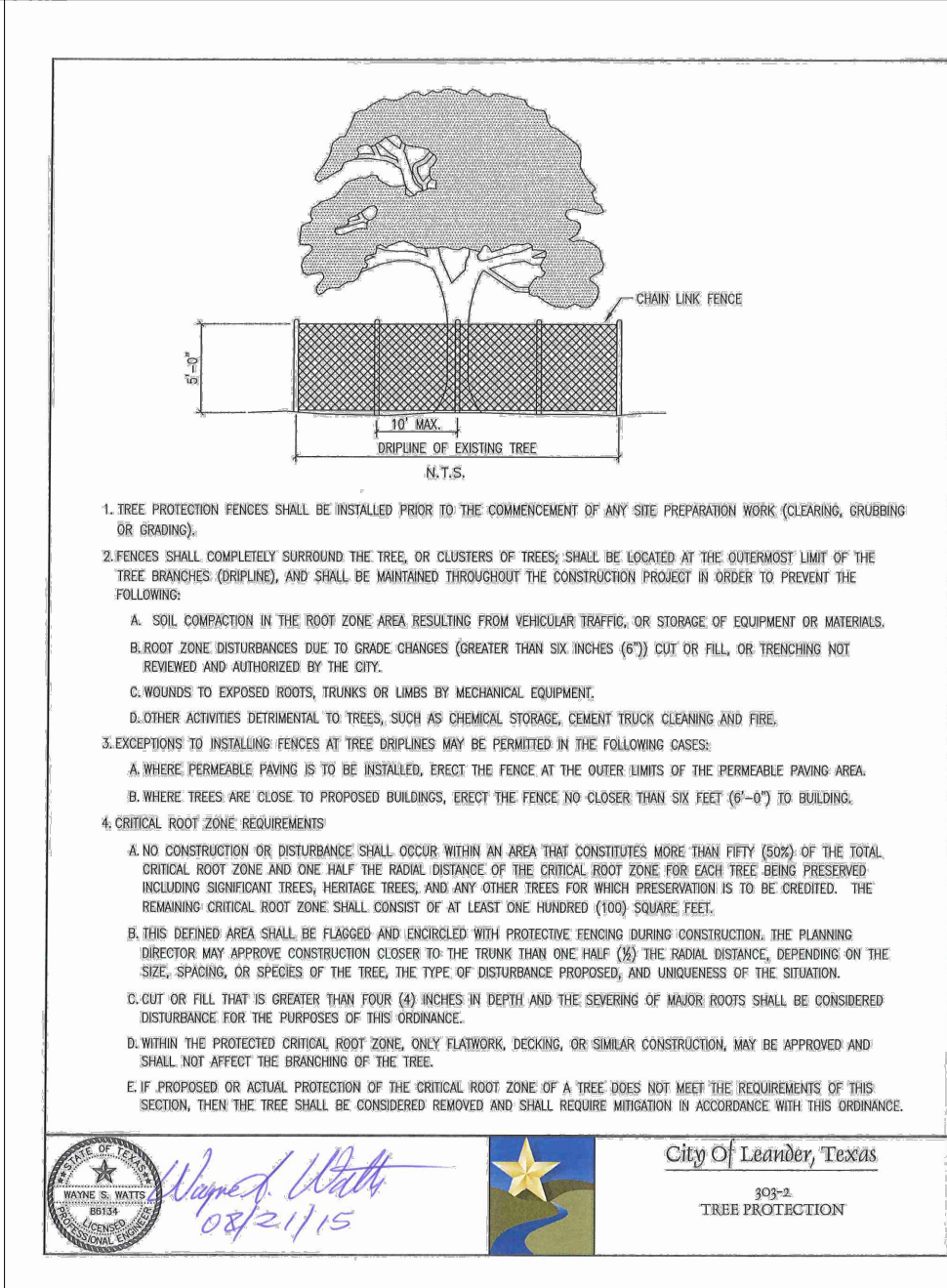
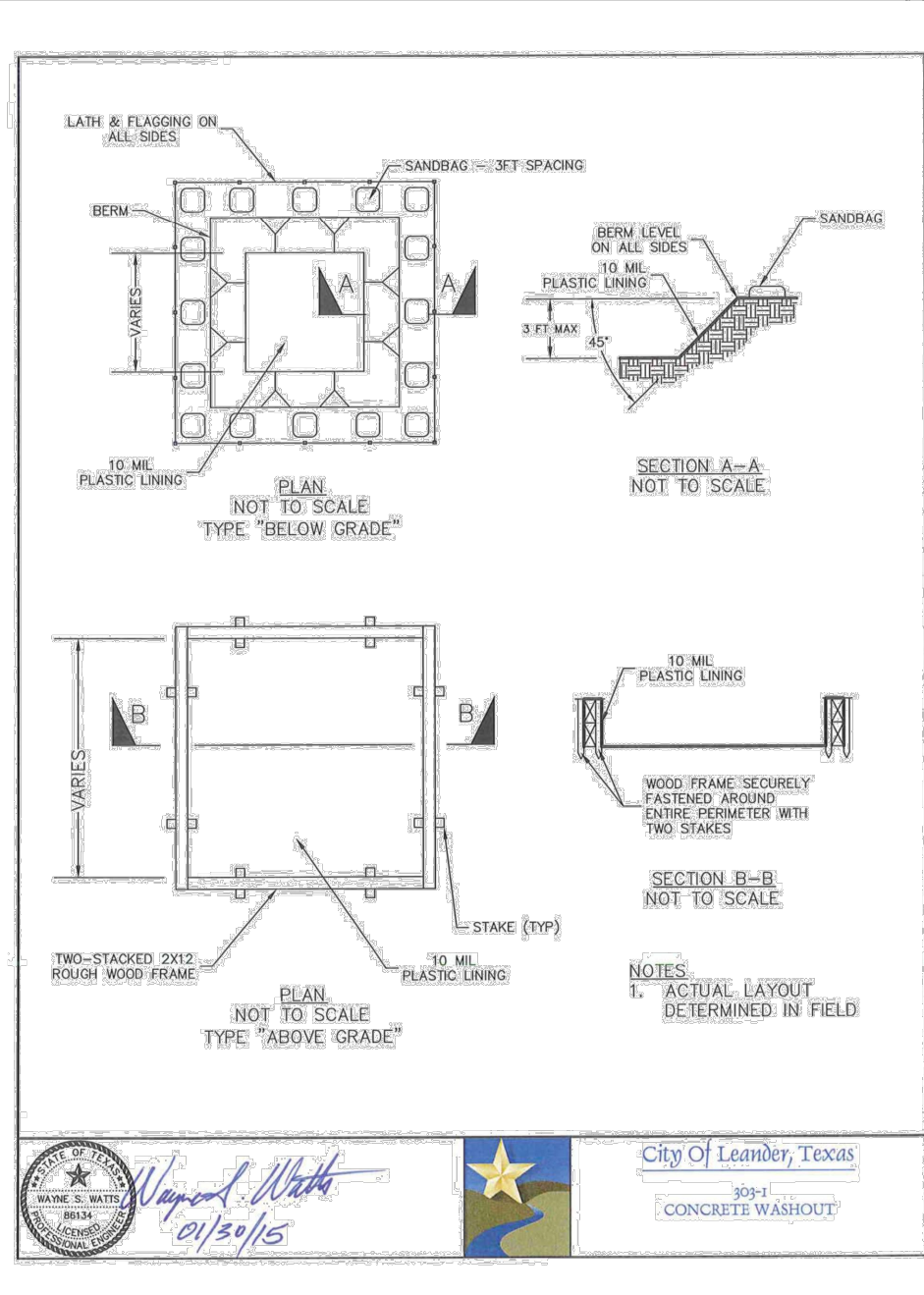
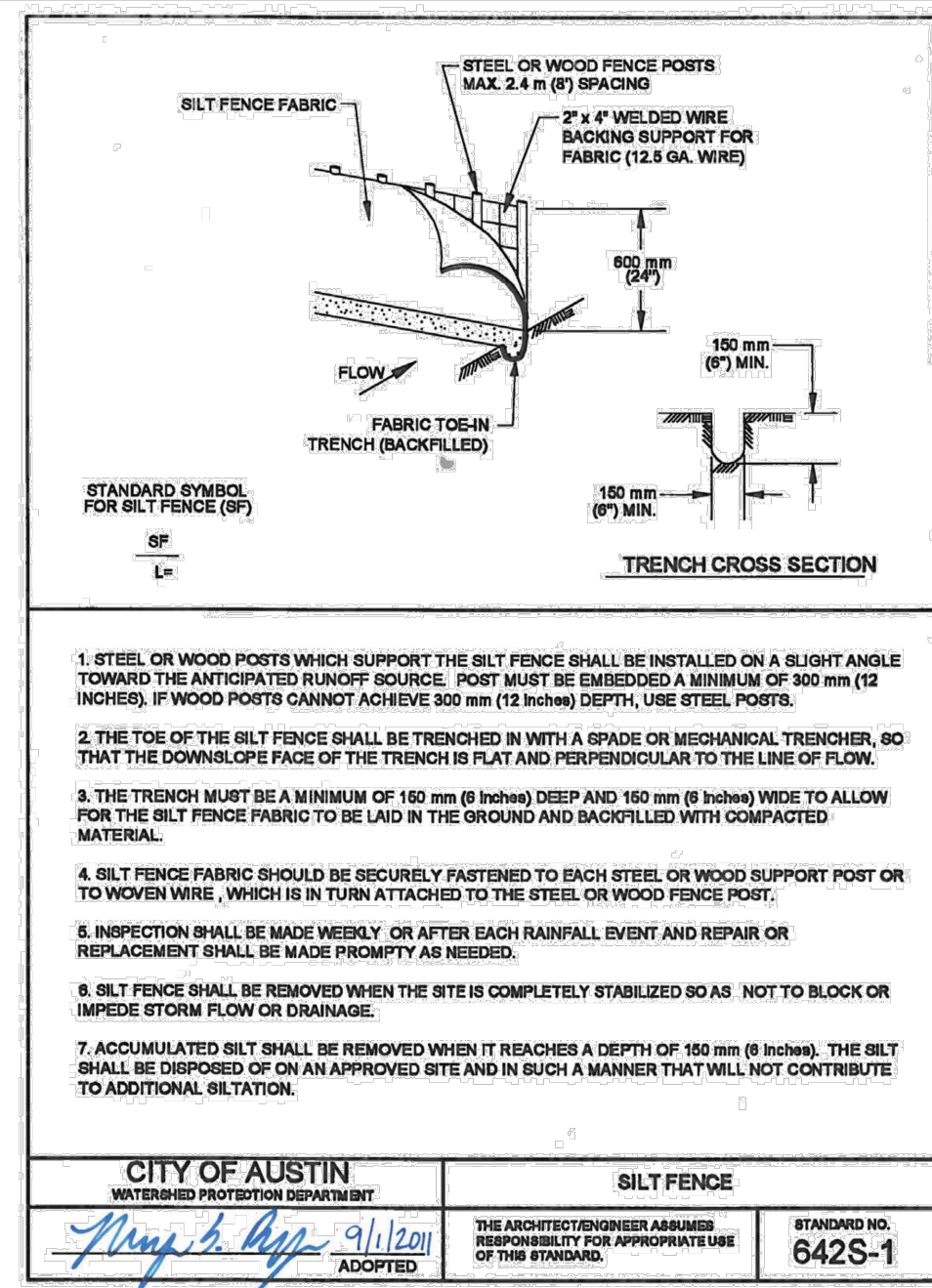
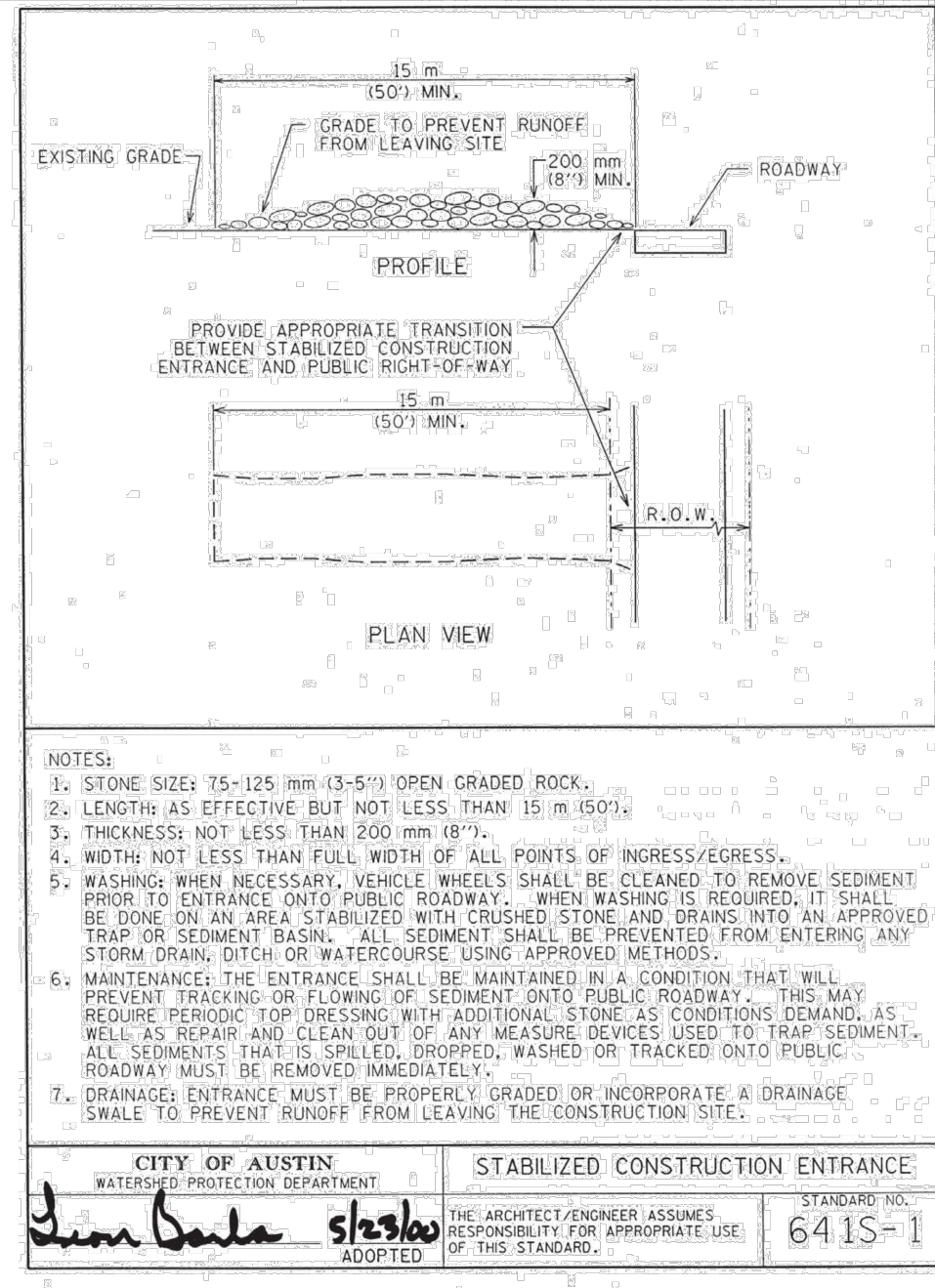
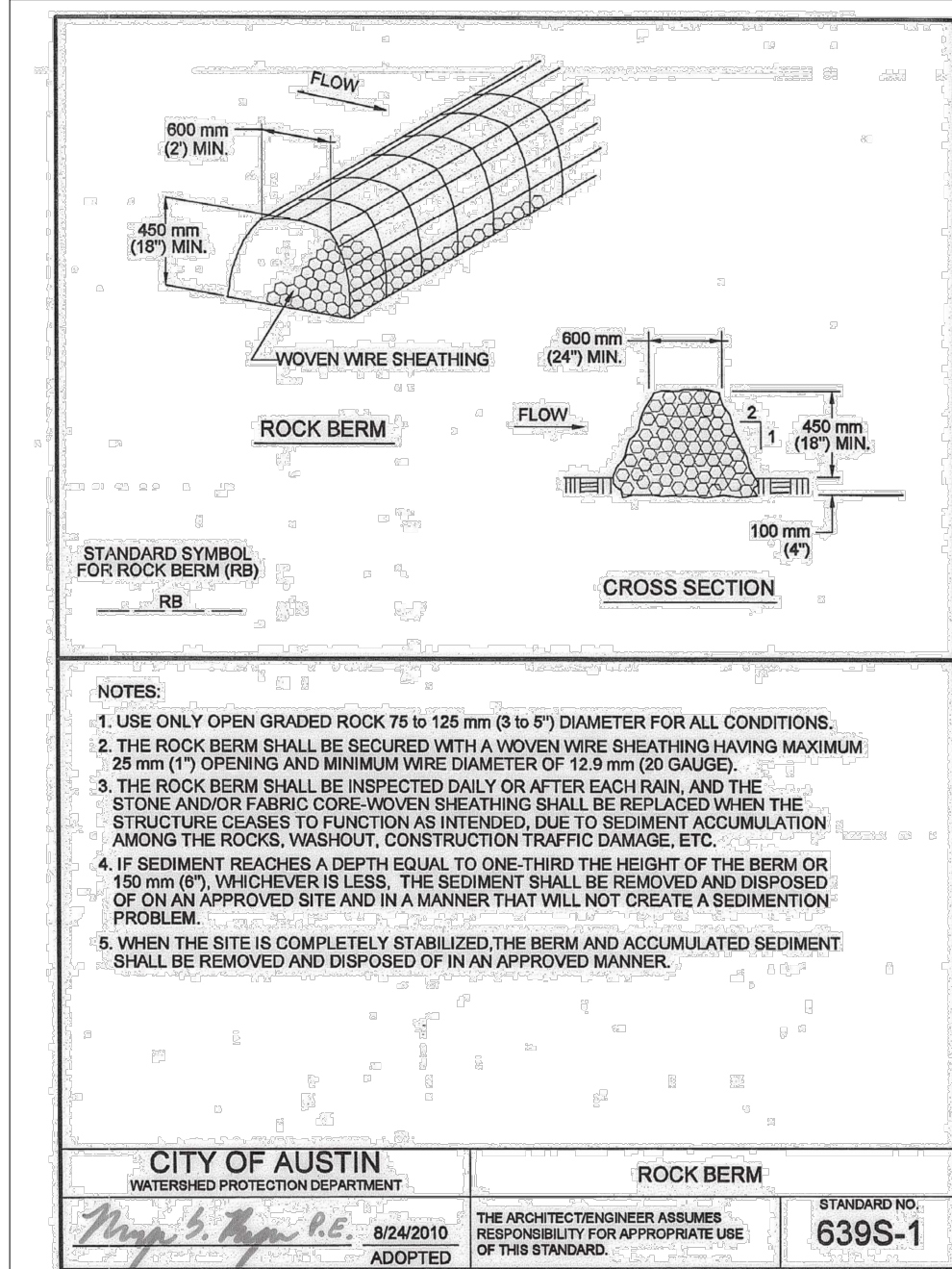








Plotted By:Ronald, Zach Date:December 01, 2023 03:08:42pm File Path:K:\aas\_civil\08952742-valor-leander\Cad\Site plan\plan sheets\G-Erosion Control Details.dwg  
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WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

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

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PHONE: 512-418-1771 FAX: 512-418-1791  
WWW.KIMLEY-HORN.COM  
TEXAS REGISTERED ENGINEERING FIRM E-928

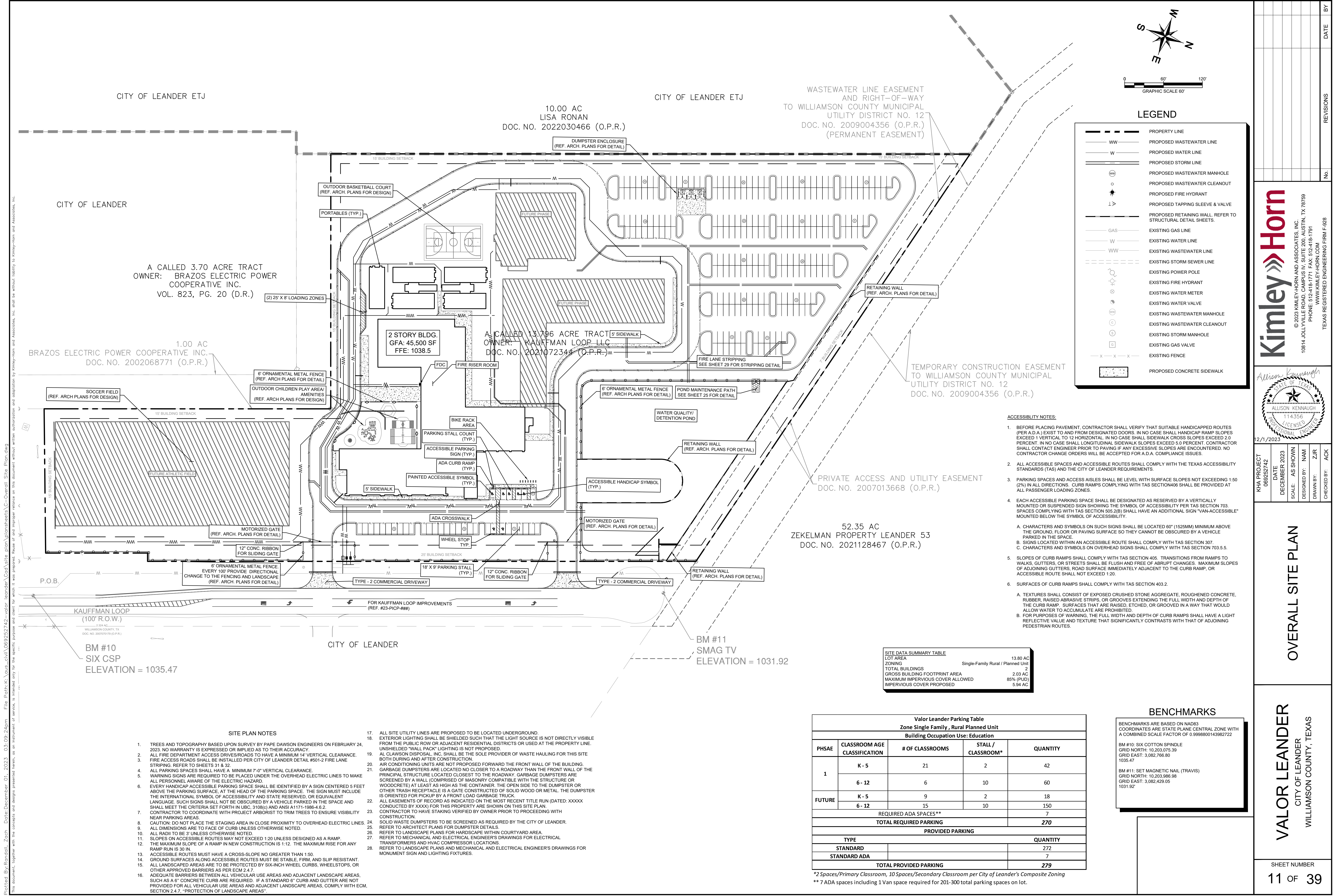
**EROSION CONTROL DETAILS**

**VALOR LEANDER**  
CITY OF LEANDER  
WILLIAMSON COUNTY, TEXAS


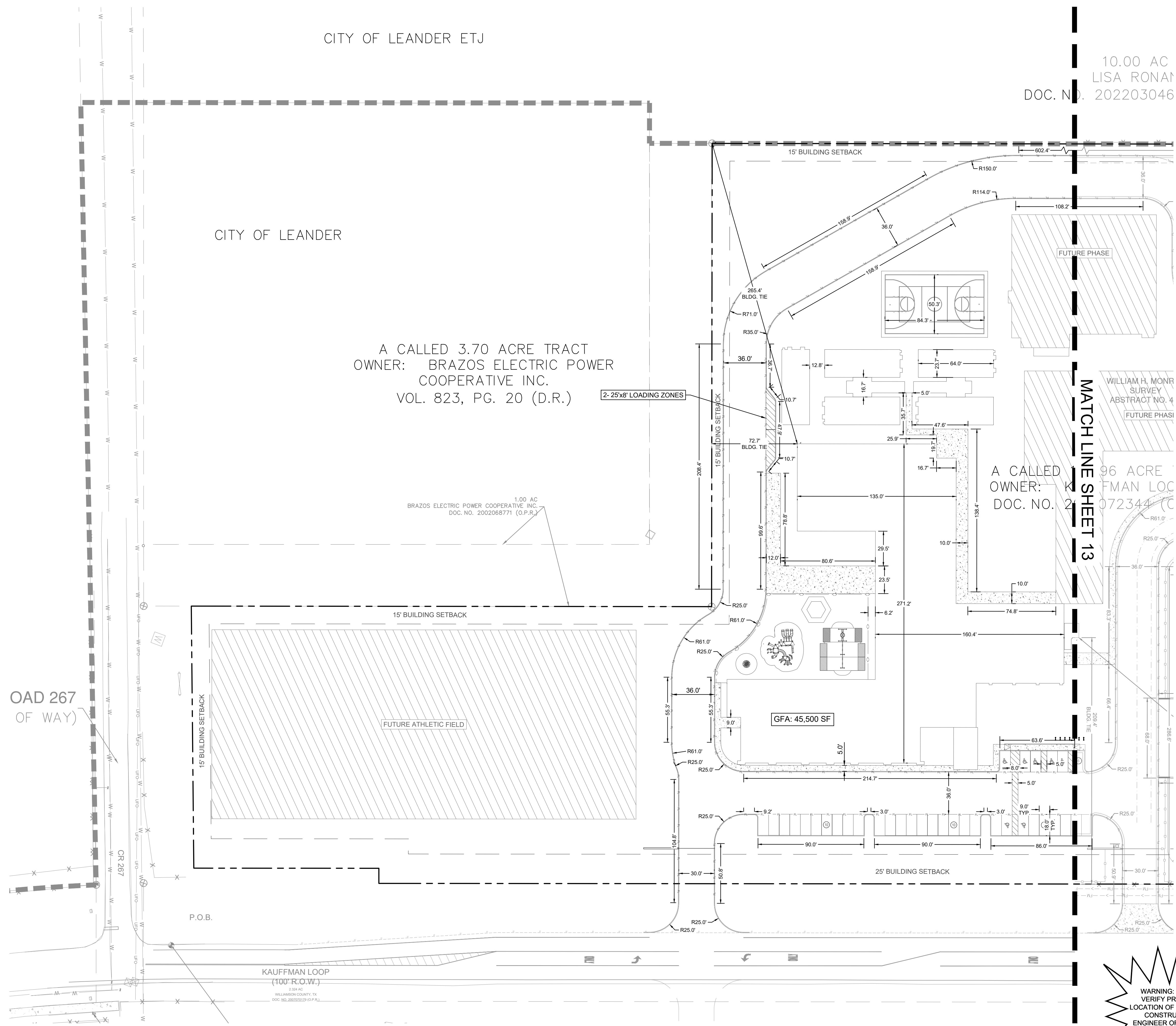
SHEET NUMBER  
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SD-XX-XXXX







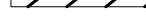








WARNING: CONTRACTOR IS TO  
VERIFY PRESENCE AND EXACT  
LOCATION OF ALL UTILITIES PRIOR TO  
CONSTRUCTION AND NOTIFY  
ENGINEER OF ANY DISCREPANCIES.

	PROPERTY LINE
	PROPOSED EASEMENT
	ROW DEDICATION
	FIRE LANE
	PROPOSED WALL < 4'
	PROPOSED ADA LOADING ZONE
	CONCRETE SIDEWALK

1. ALL FIRE DEPARTMENT ACCESS DRIVES/ROADS TO HAVE A MINIMUM 14' VERTICAL CLEARANCE.
2. ESTABLISH FIRE ZONES AS SHOWN ON SIGN BY PAINTING CURB RED. STENCIL THE WORDS "FIRE ZONE/TOW-AWAY ZONE" IN WHITE LETTERS AT LEAST 3 INCHES HIGH AT 35-FOOT INTERVALS ALONG THE CURB. ALSO, SIGNS SHALL BE POSTED AT BOTH ENDS OF A FIRE ZONE. ALTERNATE MARKING OF THE FIRE LANES MAY BE APPROVED BY THE FIRE CHIEF, PROVIDED THE FIRE LANES ARE CLEARLY IDENTIFIED AT BOTH ENDS AND AT INTERVALS NOT TO EXCEED 35 FEET. SEC. 901.4.2
3. ALL PARKING SPACES SHALL HAVE MINIMUM 7'-0" VERTICAL CLEARANCE.
4. EVERY HANDICAP ACCESSIBLE PARKING SPACE SHALL BE IDENTIFIED BY A SIGN CENTERED 5 FEET ABOVE THE PARKING SURFACE, AT THE HEAD OF THE PARKING SPACE. THE SIGN MUST INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AND STATE RESERVED OR EQUIVALENT LANGUAGE. SUCH SIGNS SHALL NOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE AND SHALL MEET THE CRITERIA SET FORTH IN UBC, 3108(c) AND ANSI A1171-1986-4.2.
5. CONTRACTOR TO HAVE STAKING VERIFIED BY OWNER PRIOR TO PROCEEDING WITH CONSTRUCTION.
6. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
7. ALL RADI TO BE 3' UNLESS OTHERWISE NOTED.
8. SEE OVERALL SITE PLAN ON SHEET 11 FOR ADDITIONAL NOTES. SCREENING FOR SOLID WASTE COLLECTION AND LOADING AREAS SHALL BE THE SAME AS, OR OF EQUAL QUALITY TO, PRINCIPAL BUILDING MATERIALS.
10. ALL FORWARD PARKING STALLS TO BE 9.0' WIDE BY 18.0' DEEP TO FACE OF CURB.
11. REFER TO SITE ELECTRICAL AND PLUMBING PLANS (BY OTHERS) PRIOR TO PLACING PAVEMENT.
12. REFER TO IRRIGATION PLAN (BY OTHERS) PRIOR TO PLACING PAVEMENT.

## BENCHMARKS

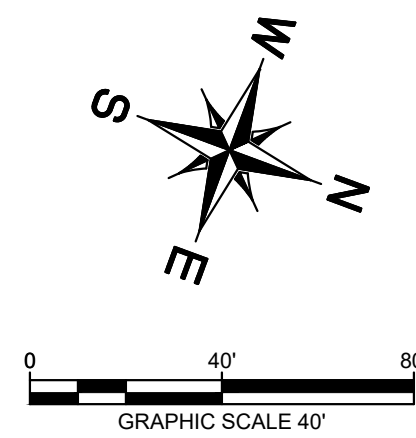
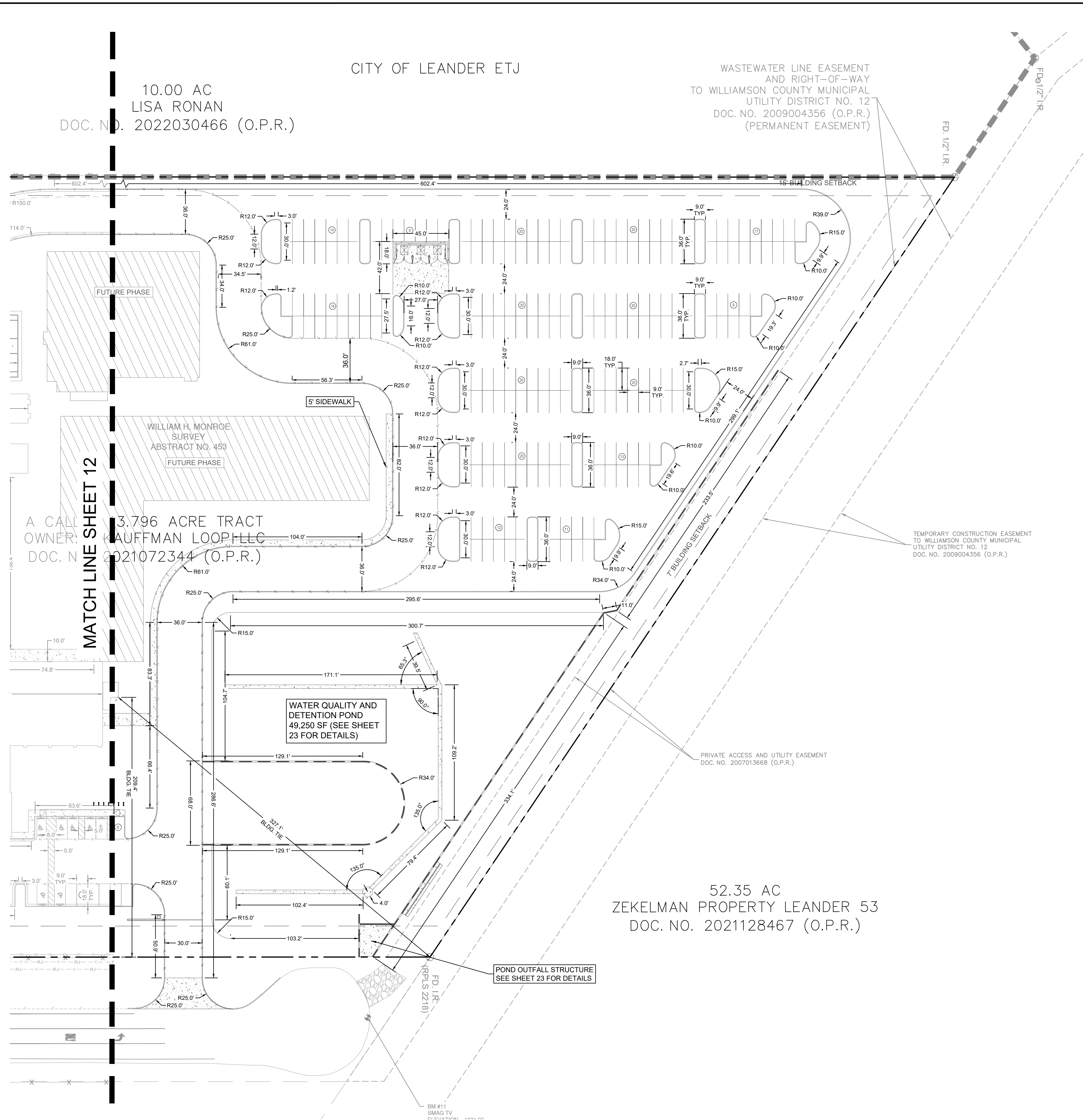
BENCHMARKS ARE BASED ON NAD83  
COORDINATES ARE STATE PLANE CENTRAL ZONE W  
A COMBINED SCALE FACTOR OF 0.9998800143982722

BM #10: SIX COTTON SPINDLE  
GRID NORTH: 10,203,075.39  
GRID EAST: 3,082,766.80  
1035.47






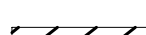

BM #11: SET MAGNETIC NAIL (TRAVIS)  
GRID NORTH: 10,203,986.98  
GRID EAST: 3,082,429.05  
1031.92'



Plotted By:Randall, Zach Date:December 01, 2023 03:09:58pm File Path:K:\ous\_civil\069252742--valor\_leader\Cod\site\_plan\plansheets\C-Dimension Control Planding



### LEGEND

	PROPERTY LINE
	PROPOSED EASEMENT
	ROW DEDICATION
	FIRE LANE
	PROPOSED WALL < 4'
	PROPOSED AD/LOADING ZONE
	CONCRETE SIDEWALK

NOTES:

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5. CONTRACTOR TO HAVE STAKING VERIFIED BY OWNER PRIOR TO PROCEEDING WITH CONSTRUCTION.
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7. ALL RADI TO BE 3' UNLESS OTHERWISE NOTED.
8. SEE OVERALL SITE PLAN ON SHEET 11 FOR ADDITIONAL NOTES.
9. SCREENING FOR SOLID WASTE COLLECTION AND LOADING AREAS SHALL BE THE SAME AS, OR OF EQUAL QUALITY TO, PRINCIPAL BUILDING MATERIALS.
10. ALL STANDARD PARKING STALLS TO BE 9'-0" WIDE BY 18'-0" DEEP TO FACE OF CURB.
11. REFER TO SITE ELECTRICAL AND PLUMBING PLANS (BY OTHERS) PRIOR TO PLACING PAVEMENT.
12. REFER TO IRRIGATION PLAN (BY OTHERS) PRIOR TO PLACING PAVEMENT.

## BENCHMARKS

BENCHMARKS ARE BASED ON NAD83  
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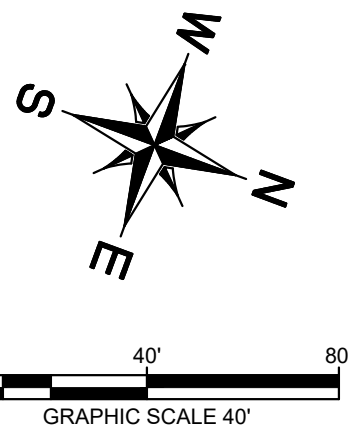
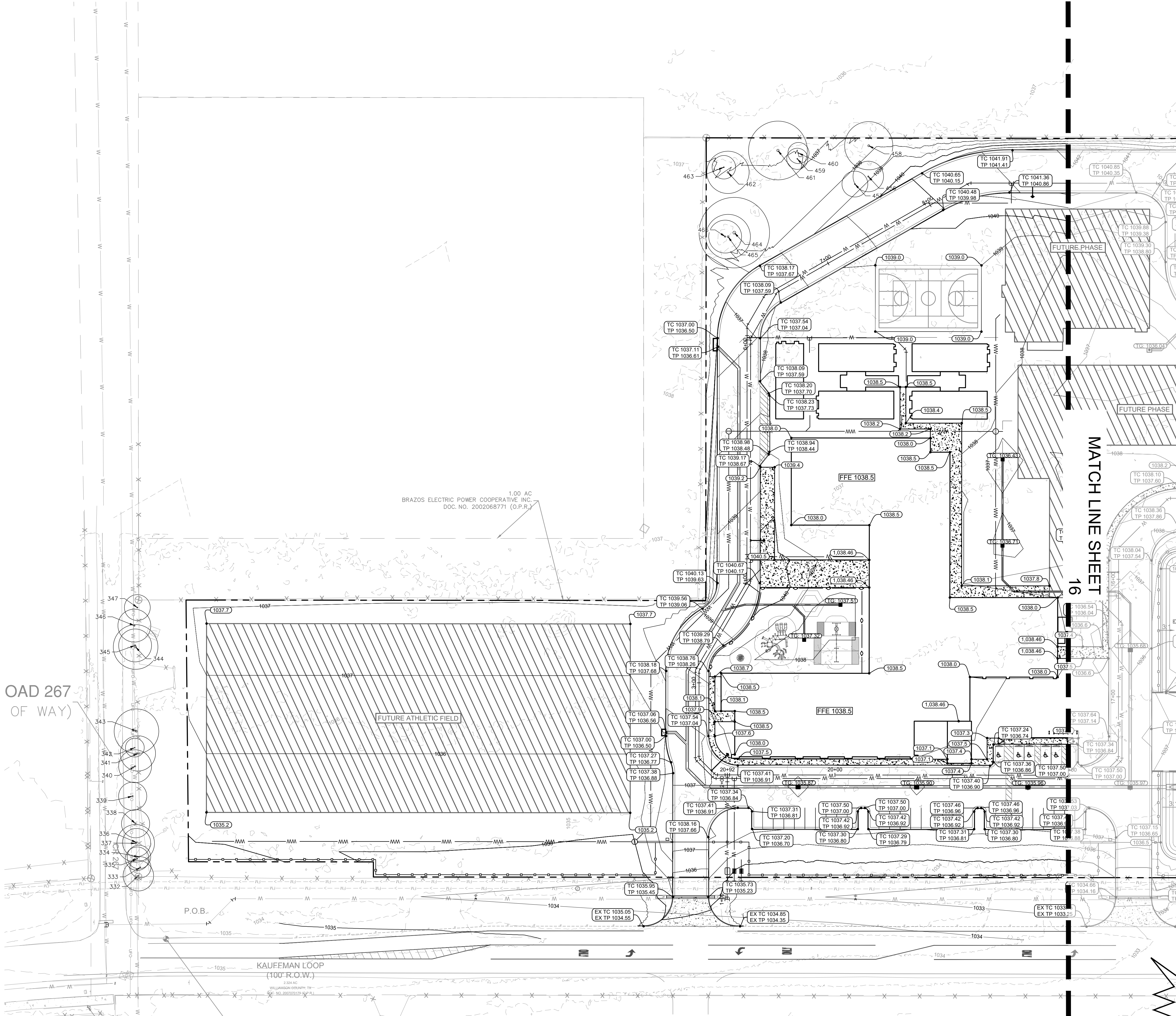
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Plotted By: Ronald, Zach Date: December 01, 2023 03:10:52pm File Path: K:\Users\civil\06952742-valor leander\cadd\site plan\plansheets\c-Grading Plan.dwg  
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#### LEGEND

---	PROPERTY LINE
FFE XXX.X •	PROPOSED FINISHED FLOOR ELEVATION
TP XXX.X •	PROPOSED TOP OF PAVEMENT ELEVATION
TC XXX.X •	PROPOSED TOP OF CURB ELEVATION
EX XXX.X •	EXISTING TOP OF PAVEMENT ELEVATION
TG XXX.X •	PROPOSED TOP OF GRATE
TW XXX.X •	PROPOSED GRADE AT TOP OF WALL
BW XXX.X •	PROPOSED GRADE AT BOTTOM OF WALL
EW XXX.X •	PROPOSED GRADE AT END OF WALL
- - - - -	PROPOSED SWALE
- - - - -	HIGH POINT
→	FLOW DIRECTION
—	PROPOSED RETAINING WALL
— 555 —	PROPOSED CONTOUR
- - - 555 - - -	EXISTING CONTOUR
○	EXISTING TREE TO REMAIN

#### NOTES:

- REFER TO GEOTECHNICAL REPORT BY TERRACON CONSULTANTS INC. GEOTECH PROJECT NUMBER 96235099 DATED: 08/14/2023.
- ALL PROPOSED ELEVATIONS ARE TOP OF PAVEMENT OR NATURAL GROUND UNLESS OTHERWISE NOTED.
- ALL TOP OF WALL ELEVATIONS ARE TO TOP OF GRADE AT WALL.
- ALL BOTTOM OF WALL ELEVATIONS ARE TO BOTTOM OF GRADE AT WALL.
- CONTRACTOR TO VERIFY A.D.A. COMPLIANCE FOR GRADES IN ALL SIDEWALK ACCESSIBLE ROUTES, INCLUDING DRIVEWAY CROSSINGS, SHALL CONFORM TO ALL APPLICABLE A.D.A. STANDARDS: NOT EXCEED 5.0% ALONG TRAVEL PATH WITH NOT MORE THAN 2.0% CROSS SLOPE AND NOT EXCEED 2.0% IN ANY DIRECTION IN ACCESSIBLE PARKING AREAS.
- MAINTAIN EXISTING GRADE IN TREE WELLS. CONTRACTOR TO ENSURE POSITIVE DRAINAGE TO AREA INLETS.
- CONTRACTOR TO VERIFY EXISTING ELEVATIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
- EXISTING TOPOGRAPHY IS BASED ON LIDAR SURVEY PROVIDED BY PAPE-DAWSON ENGINEERS. PROPOSED GRADING IS DESIGNED TO TIE BACK TO EXISTING GRADE AT PROPERTY LINES. CONTRACTOR SHALL FIELD VERIFY EXISTING GRADES AT THE PROPERTY LINES AND NOTIFY ENGINEER OF ANY DISCREPANCIES.



BENCHMARKS ARE BASED ON NAD83 COORDINATES ARE STATE PLANE CENTRAL ZONE WITH A COMBINED SCALE FACTOR OF 0.9998800143982722

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

**Kimley»Horn**  
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10814 JOLLYVILLE ROAD, CAMPUS IV, SUITE 200, AUSTIN, TX 78759  
PHONE: 512-418-1771 FAX: 512-418-1791  
WWW.KIMLEY-HORN.COM  
TEXAS REGISTERED ENGINEERING FIRM F-928



KHA PROJECT	DATE	SCALE	AS SHOWN	NAM	ZJR	ACK
06952742	DECEMBER 2023	DESIGNED BY	1/4" = 1'-0"	DRAWN BY		

GRADING PLAN  
(SHEET 1 OF 2)

VALOR LEANDER  
CITY OF LEANDER  
WILLIAMSON COUNTY, TEXAS

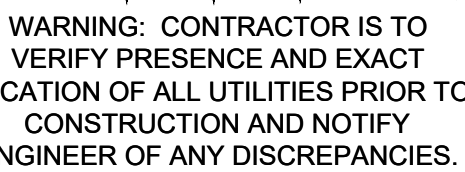
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SD-XX-XXXX

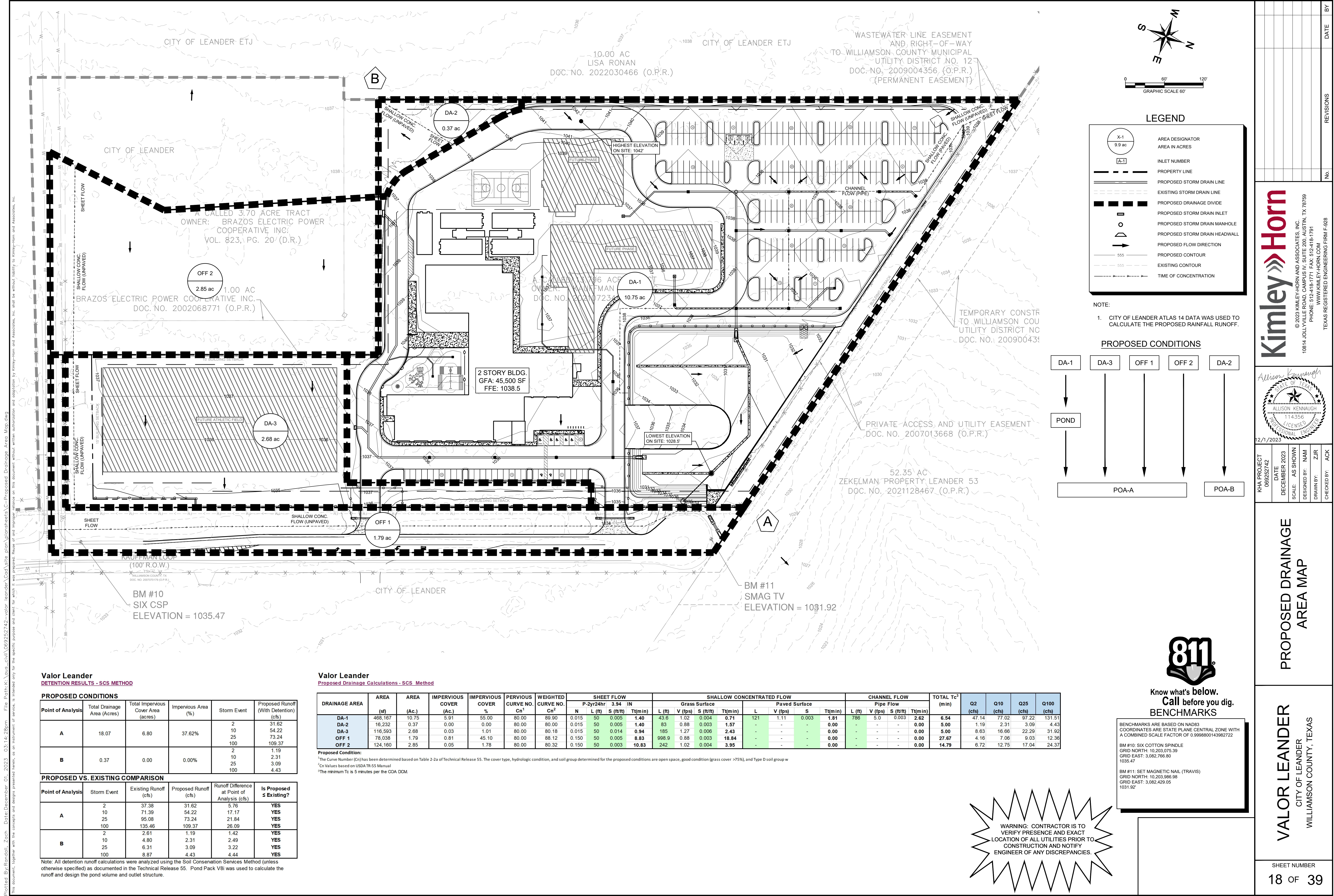












BY

DATE

REVISIONS

No.

Kimley»Horn

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PHONE: 512-418-1771 FAX: 512-418-1791  
WWW.KIMLEY-HORN.COM  
TEXAS REGISTERED ENGINEERING FIRM E-928

Alison Kennaugh

STATE OF TEXAS  
ALLISON KENNAUGH  
11445  
LICENSED  
CIVIL ENGINEERING

12/1/2023

KHA PROJECT  
089525742

DATE  
DECEMBER 2023

SCALE  
AS SHOWN

DESIGNED BY  
NAM

DRAWN BY  
ZJR

CHECKED BY  
ACK

PROPOSED DRAINAGE  
AREA MAP

VALOR LEANDER  
CITY OF LEANDER  
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER  
18 OF 39

SD-XX-XXXX







Plotted By:Ronald, Zach Date:December 01, 2023 03:15:08pm File Path:K:\Xaus\_civil\06952742-valor leander\Coord\Site plan\ValonSheet\G-Drainage Area Map.dwg  
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Valor Leander

Peak Flow Calculation - Rational Method

DRAINAGE AREA	Area (Sq. Feet)	Area (Acres)	Impervious Cover (SQ. Feet)	Impervious Cover (Acres)	% I.C.	RUNOFF COEFFICIENT ( C )				Tc (min)	RAINFALL INTENSITY (I)				PEAK FLOW (Q)			
						C	C	C	C		I	I	I	I	Q	Q	Q	Q
						2-Year	10-Year	25-Year	100-Year		2-Year	10-Year	25-Year	100-Year	2-Year	10-Year	25-Year	100-Year
A1	7405.20	0.17	7405.00	0.17	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.76	1.27	1.65	2.42
A2	28314.00	0.65	28314.00	0.65	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	2.91	4.84	6.32	9.26
A3	22215.60	0.51	22216.00	0.51	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	2.29	3.80	4.96	7.27
A4	2613.60	0.06	2614.00	0.06	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.27	0.45	0.58	0.86
A5	4791.60	0.11	4792.00	0.11	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.49	0.82	1.07	1.57
B1	29620.80	0.68	29621.00	0.68	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	3.05	5.06	6.61	9.69
C1	1306.80	0.03	1307.00	0.03	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.13	0.22	0.29	0.43
C2	5662.80	0.13	5663.00	0.13	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.58	0.97	1.26	1.85
C3	6534.00	0.15	6534.00	0.15	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.67	1.12	1.46	2.14
D1	3484.80	0.08	3485.00	0.08	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.36	0.60	0.78	1.14
D2	3484.80	0.08	3485.00	0.08	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.36	0.60	0.78	1.14
D3	11325.60	0.26	11325.00	0.26	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	1.17	1.94	2.53	3.70
E1	4791.60	0.11	4792.00	0.11	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.49	0.82	1.07	1.57
F1	23522.40	0.54	23522.00	0.54	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	2.42	4.02	5.25	7.69
F2	7840.80	0.18	7841.00	0.18	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.81	1.34	1.75	2.56
F3	6534.00	0.15	6534.00	0.15	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.67	1.12	1.46	2.14
F4	5227.20	0.12	5227.00	0.12	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.54	0.89	1.17	1.71
F5	6098.40	0.14	6098.00	0.14	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.63	1.04	1.36	1.99
F6	3920.40	0.09	3920.00	0.09	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.40	0.67	0.87	1.28
G1	6534.00	0.15	6534.00	0.15	100%	0.73	0.81	0.86	0.95	5.00	6.14	9.19	11.30	15.00	0.67	1.12	1.46	2.14
LAND-1	5662.80	0.13	5663.96	0.09	70%	0.59	0.66	0.70	0.79	5.00	6.14	9.19	11.30	15.00	0.47	0.78	1.03	1.54
LAND-2	7405.20	0.17	5183.64	0.12	70%	0.59	0.66	0.70	0.79	5.00	6.14	9.19	11.30	15.00	0.61	1.03	1.35	2.01
LAND-3	8712.00	0.20	6098.40	0.14	70%	0.59	0.66	0.70	0.79	5.00	6.14	9.19	11.30	15.00	0.72	1.21	1.59	2.36
LAND-4	9583.20	0.22	6708.24	0.15	70%	0.59	0.66	0.70	0.79	5.00	6.14	9.19	11.30	15.00	0.79	1.33	1.75	2.60
FUT-1	34848.00	0.80	24393.60	0.56	70%	0.59	0.66	0.70	0.79	5.00	6.14	9.19	11.30	15.00	2.88	4.83	6.37	9.46
FUT-2	22215.60	0.51	15550.92	0.36	70%	0.59	0.66	0.70	0.79	5.00	6.14	9.19	11.30	15.00	1.84	3.08	4.06	6.03
POND	83199.60	1.91	0.00	0.00	0%	0.25	0.30	0.34	0.41	5.00	6.14	9.19	11.30	15.00	2.93	5.27	7.34	11.75
FIELD	124581.60	2.86	2050.00	0.05	2%	0.26	0.31	0.35	0.42	5.00	6.14	9.19	11.30	15.00	4.53	8.11	11.27	17.97
OS-1	14374.80	0.33	0.00	0.00	0%	0.25	0.30	0.34	0.41	5.00	6.14	9.19	11.30	15.00	0.51	0.91	1.27	2.03
OS-2	16552.80	0.38	0.00	0.00	0%	0.25	0.30	0.34	0.41	5.00	6.14	9.19	11.30	15.00	0.58	1.05	1.46	2.34
BLDG-1	52272.00	1.20	36590.40	0.84	70%	0.59	0.66	0.70	0.79	5.00	6.14	9.19	11.30	15.00	4.32	7.25	9.55	14.18
BLDG-2	29185.20	0.67	20429.64	0.47	70%	0.59	0.66	0.70	0.79	5.00	6.14	9.19	11.30	15.00	2.41	4.05	5.33	7.92

Notes: Runoff Coefficient ( C ) and Rainfall Intensity (I) per City of Austin Drainage Criteria Manual; Runoff Coefficient C = Cperv\*(Aperv/Atotal)+Cimprv\*(Aimprv/Atotal); Rainfall Intensity I = a/(Tc+b)^c; Peak Flow Q = CIA

	Hydrologic Runoff Coefficients: Austin, TX			
	2 yr	10 yr	25 yr	100 yr
<i>Impervious C (Asphalt)</i>	0.73	0.81	0.86	0.95
<i>Pervious C (Fair Condition, Grass 0-2%)</i>	0.25	0.3	0.34	0.41

	IDF Coefficients: Leander, TX			
	2 yr	10 yr	25 yr	100 yr
<i>a</i>	58	77	89	106
<i>b</i>	11.27	10.53	10.16	9.46
<i>c</i>	0.805	0.775	0.759	0.732

Grate Inlet Calculation Table							
Equations: Weir (Unsubmerged) Q = 3.0h1.5L				Clogging Factor = 10% (Grate Inlets in Sump)			
Inlet # or Area #	Q100 (cfs)	Required Q to Pass (w/ 10 % clogging factor)	INLET (ft.)	Available Weir Length (ft.)	Required Min. 'h' (ft.)	Provided 'h' (ft.)	Provided Capacity (cfs)
A1	2.42	2.69	3.0 X 3.0	12.00'	0.18'	0.50'	11.5 cfs
A2	9.26	10.29	4.0 X 4.0	16.00'	0.36'	0.50'	15.3 cfs
A3	7.27	8.07	3.0 X 3.0	12.00'	0.37'	0.50'	11.5 cfs
A4	0.86	0.95	3.0 X 3.0	12.00'	0.09'	0.50'	11.5 cfs
A5	1.57	1.74	3.0 X 3.0	12.00'	0.13'	0.50'	11.5 cfs
B1	9.69	10.77	4.0 X 4.0	16.00'	0.37'	0.50'	15.3 cfs
C1	0.43	0.48	3.0 X 3.0	12.00'	0.06'	0.50'	11.5 cfs
C2	1.85	2.06	3.0 X 3.0	12.00'	0.15'	0.50'	11.5 cfs
C3	2.14	2.37	3.0 X 3.0	12.00'	0.16'	0.50'	11.5 cfs
D1	1.14	1.27	3.0 X 3.0	12.00'	0.11'	0.50'	11.5 cfs
D2	1.14	1.27	2.0 X 2.0	8.00'	0.14'	0.50'	7.6 cfs
D3	3.70	4.12	3.0 X 3.0	12.00'	0.24'	0.50'	11.5 cfs
E1	1.57	1.74	3.0 X 3.0	12.00'	0.13'	0.50'	11.5 cfs
F3	2.14	2.37	3.0 X 3.0	12.00'	0.16'	0.50'	11.5 cfs
F4	1.71	1.90	3.0 X 3.0	12.00'	0.14'	0.50'	11.5 cfs
F5	1.99	2.22	3.0 X 3.0	12.00'	0.16'	0.50'	11.5 cfs
F6	1.28	1.42	3.0 X 3.0	12.00'	0.12'	0.50'	11.5 cfs
G1	2.14	2.37	3.0 X 3.0	12.00'	0.16'	0.50'	11.5 cfs
LAND-1	1.54	1.71	2.0 X 2.0	8.00'	0.17'	0.50'	7.6 cfs
LAND-2	2.01	2.23	2.0 X 2.0	8.00'	0.21'	0.50'	7.6 cfs
LAND-3	2.36	2.63	2.0 X 2.0	8.00'	0.23'	0.50'	7.6 cfs
LAND-4	2.60	2.89	2.0 X 2.0	8.00'	0.24'	0.50'	7.6 cfs
FUT-1	9.46	10.51	4.0 X 4.0	16.00'	0.38'	0.50'	15.3 cfs
FUT-2	6.03	6.70	3.0 X 3.0	12.00'	0.33'	0.50'	11.5 cfs

'h' measured from weir elevation: If required min. 'h' greater than 0.42 ft (5 in.) check using orifice equation below

Equations: Orifice (Submerged) Q = 4.82Ah0.5				Clogging Factor = 50% (Grate Inlets in Sump)			
Inlet # or Area #	Q100 (cfs)	Required Q to Pass (w/ 50 % clogging factor)	INLET (ft.)	Available Area (sq. ft.)	Required Min. 'h' (ft.)	Provided 'h' (ft.)	Provided Capacity (cfs)
A1	2.42	4.84	3.0 X 3.0	9.00	0.04'	0.50'	15.3 cfs
A2	9.26	18.52	4.0 X 4.0	16.00	0.12'	0.50'	27.3 cfs
A3	7.27	14.53	3.0 X 3.0	9.00	0.19'	0.50'	15.3 cfs
A4	0.86	1.71	3.0 X 3.0	9.00	0.01'	0.50'	15.3 cfs
A5	1.57	3.13	3.0 X 3.0	9.00	0.02'	0.50'	15.3 cfs
B1	9.69	19.38	4.0 X 4.0	16.00	0.13'	0.50'	27.3 cfs
C1	0.43	0.86	3.0 X 3.0	9.00	0.00'	0.50'	15.3 cfs
C2	1.85	3.70	3.0 X 3.0	9.00	0.02'	0.50'	15.3 cfs
C3	2.14	4.27	3.0 X 3.0	9.00	0.03'	0.50'	15.3 cfs
D1	1.14	2.28	3.0 X 3.0	9.00	0.01'	0.50'	15.3 cfs
D2	1.14	2.28	2.0 X 2.0	4.00	0.04'	0.50'	6.8 cfs
D3	3.70	7.41	3.0 X 3.0	9.00	0.07'	0.50'	15.3 cfs
E1	1.57	3.13	3.0 X 3.0	9.00	0.02'	0.50'	15.3 cfs
F3	2.14	4.27	3.0 X 3.0	9.00	0.03'	0.50'	15.3 cfs
F4	1.71	3.42	3.0 X 3.0	9.00	0.02'	0.50'	15.3 cfs
F5	1.99	3.99	3.0 X 3.0	9.00	0.03'	0.50'	15.3 cfs
F6	1.28	2.56	3.0 X 3.0	9.00	0.01'	0.50'	15.3 cfs
G1	2.14	4.27	3.0 X 3.0	9.00	0.03'	0.50'	15.3 cfs
LAND-1	1.54	3.07	2.0 X 2.0	4.00	0.06'	0.50'	6.8 cfs
LAND-2	2.01	4.02	2.0 X 2.0	4.00	0.10'	0.50'	6.8 cfs
LAND-3	2.36	4.73	2.0 X 2.0	4.00	0.12'	0.50'	6.8 cfs
LAND-4	2.60	5.20	2.0 X 2.0	4.00	0.14'	0.50'	6.8 cfs
FUT-1	9.46	18.91	4.0 X 4.0	16.00	0.12'	0.50'	27.3 cfs
FUT-2	6.03	12.06	3.0 X 3.0	9.00	0.15'	0.50'	15.3 cfs

Valor Leander  
INLET FLOW CALCULATION TABLE (25-Yr Flows)

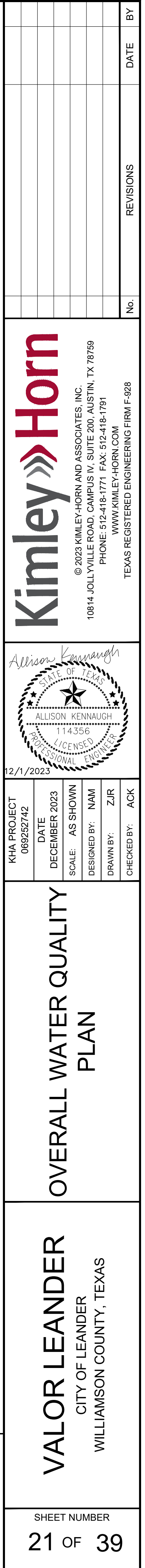
Straight Crown

Inlet No.	Inlet Type	Drainage Area No.	Street Width (FOC - FOC)	Crown Slope (%)	Q (cfs)	Q Pass (cfs)	Q Total (Qa) (cfs)	Slope (%)	a (in.)	yo (ft.)	Ponded Width (ft)	R.F. (%)	Qa/La	La (ft)	Length (ft)	L/La	a/yo	Q/Qa	Q (cfs)	Q Pass (cfs)
F1	Sump	F1	36'	1.50	5.25	0.0	5.2	1.50%	7.2	0.223	14.89									
F2	Sump	F2	36'	1.50	1.75	0.0	1.7	1.50%	7.2	0.148	9.86									

Sump Inlets

Inlet No.	Inlet Type	Drainage Area No.	Street
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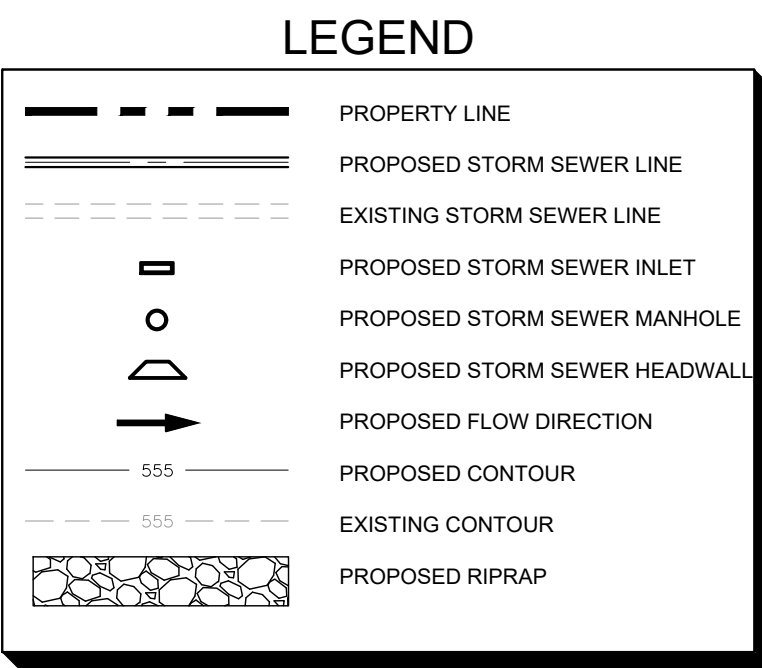
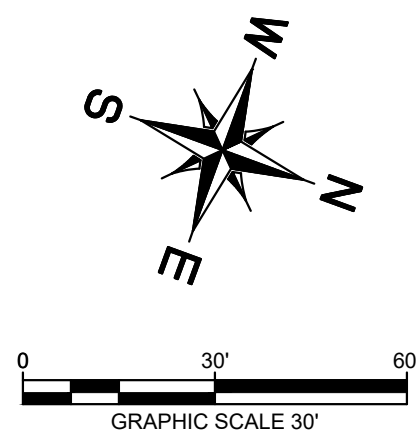
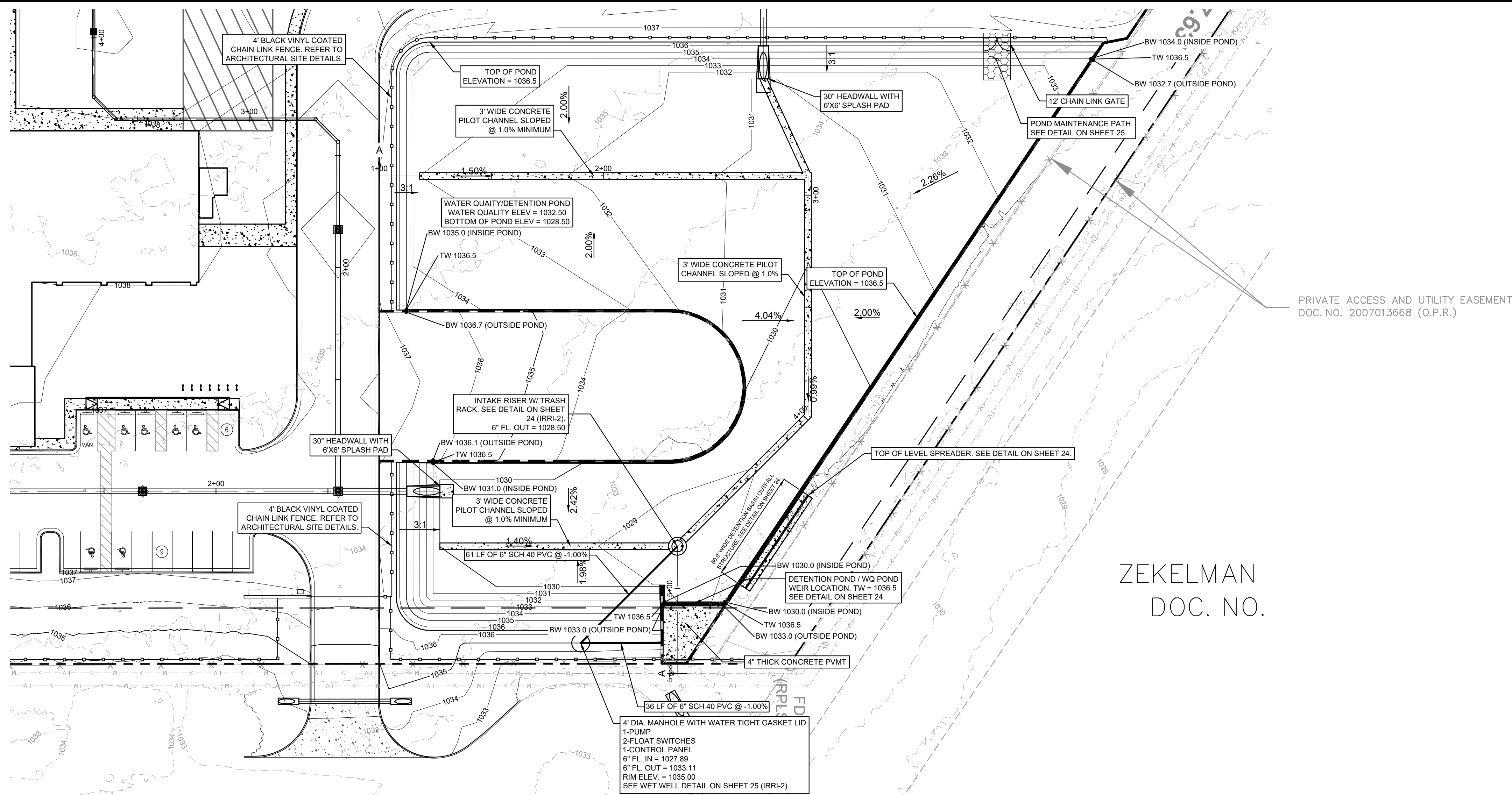








Plotted By:Ronald, Zach Date:December 01, 2023 03:17:44pm File Path:K:\AUS-civil\069252742-valor leander\plan\plan sheets\G-Water Quality and Detention Pond Plan.dwg  
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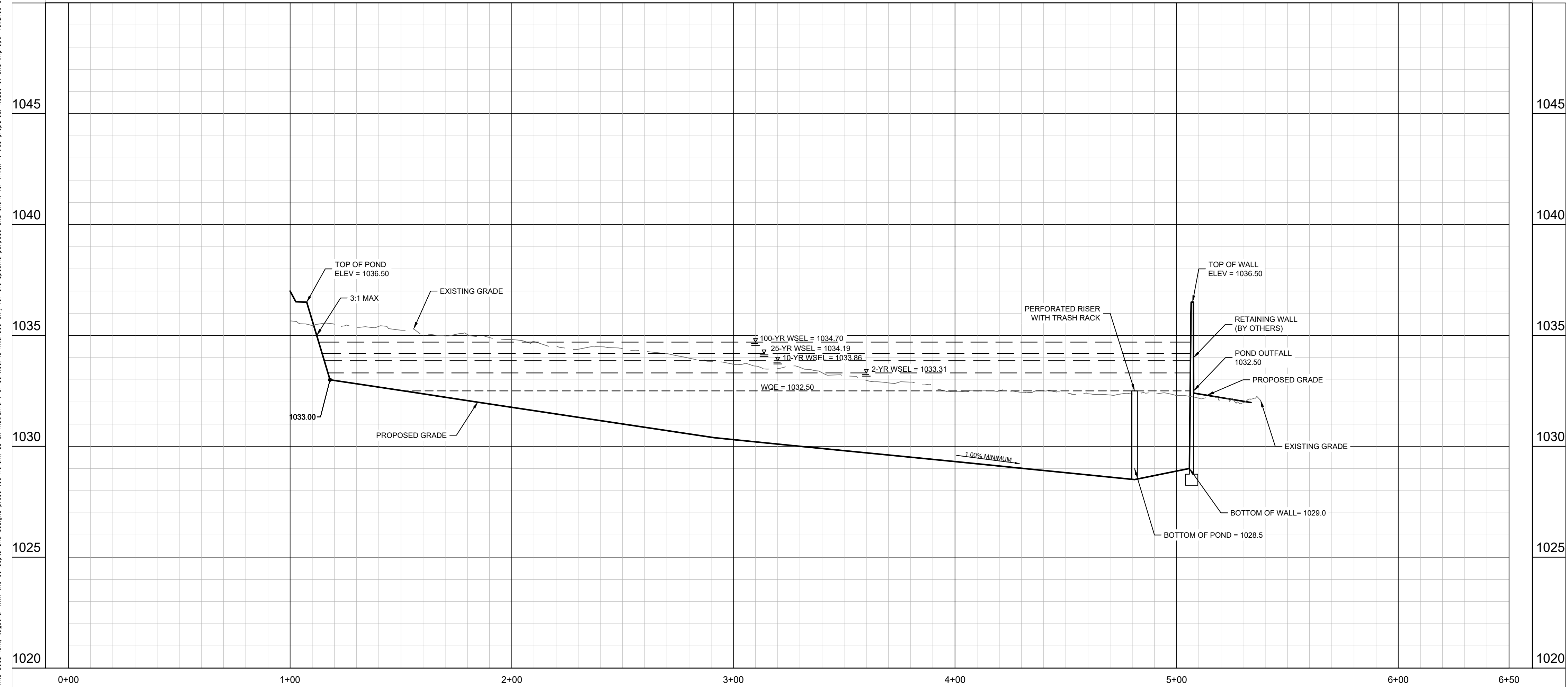


- NOTES:
- REFER TO SHEET 24 & 25 FOR POND DETAILS.
  - REFER TO LANDSCAPE PLANS FOR POND PLANTING SCHEDULE.
  - POND OUTLET STRUCTURE TO BE FENCED OFF FROM PUBLIC ACCESS.
  - ALL RIPRAP SHALL BE MORTARED.
  - REFER TO SHEET 24 FOR OUTLET STRUCTURE DETAILS.
  - ALL POND BOTTOMS, SIDE SLOPES, AND EARTHEN EMBANKMENTS SHALL BE COMPACTED TO NINETY-FIVE (95) PERCENT MAXIMUM DENSITY, IN ACCORDANCE WITH CITY OF AUSTIN STANDARD SPECIFICATIONS.

ZEKELMAN  
DOC. NO.

POND A-1

PROFILE SCALE  
1" = 30' HORIZONTAL  
1" = 3' VERTICAL



BENCHMARKS ARE BASED ON NAD83 COORDINATES ARE STATE PLANE CENTRAL ZONE WITH A COMBINED SCALE FACTOR OF 0.9998800143982722

BM #10: SIX COTTON SPINDLE  
GRID NORTH: 10,203,075.39  
GRID EAST: 3,082,766.80  
1035.47

BM #11: SET MAGNETIC NAIL (TRAVIS)  
GRID NORTH: 10,203,986.98  
GRID EAST: 3,082,429.05  
1031.92

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

KHA PROJECT 069252742		DATE DECEMBER 2023		SCALE AS SHOWN		DESIGNED BY NAM		DRAWN BY ZJR		CHECKED BY ACK	
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<b>WATER QUALITY &amp; DETENTION POND PLAN</b>											
<b>VALOR LEANDER</b> CITY OF LEANDER WILLIAMSON COUNTY, TEXAS											
SHEET NUMBER <b>23 OF 39</b>											



Plotted By:Ronald, Zach Date:December 01, 2023 03:18:01pm File Path:K:\Users\civil\069252742--valor leander\Cad\Site plan\plan sheets\C-Detention Pond Details.dwg  
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DETENTION POND EMERGENCY WEIR  
POND OVERFLOW WEIR DESIGN

Provided Overflow Elevation = 1035.50  
Top of Pond Elevation = 1036.50

Using the weir flow equation:  
 $Q = C * L * H^{3/2}$

Q = 100 year developed flow pond inflow (cfs) 131.5  
C = Weir coefficient 3.00  
L = Width of weir (feet) 50.0  
H = Depth of flow (feet) 0.92

Max. WSE<sub>100</sub> OVER SPILLWAY (ft) = 1036.42  
V<sub>100</sub> OVER SPILLWAY (ft/s) = 2.87

Detention Pond Analysis									
STAGE STORAGE TABLE					ROUTING TABLE				
Elevation	Area (SF)	Storage Volume (CF)	Cummulative Storage (CF)		Scenario	Computed Peak Outflow (cfs)	Max Water Surface Elevation (ft)	Maximum Storage (ac-ft)	Maximum Storage (cf)
1032.50	33,965.27	0	0		2 YR	17.15	1033.31	0.695	30,294
1033.00	38,180.72	18,036	18,036		10 YR	28.58	1033.86	1.222	53,242
1034.00	44,234.30	41,208	59,244		25 YR	39.44	1034.19	1.555	67,748
1035.00	46,380.89	45,308	104,552		100 YR	60.51	1034.70	2.081	90,642
1036.00	48,260.99	47,321	151,873		Pond Pack V8i was used to calculate the computed peak outflow from the detention pond.				
1036.50	49,246.23	24,377	176,249						

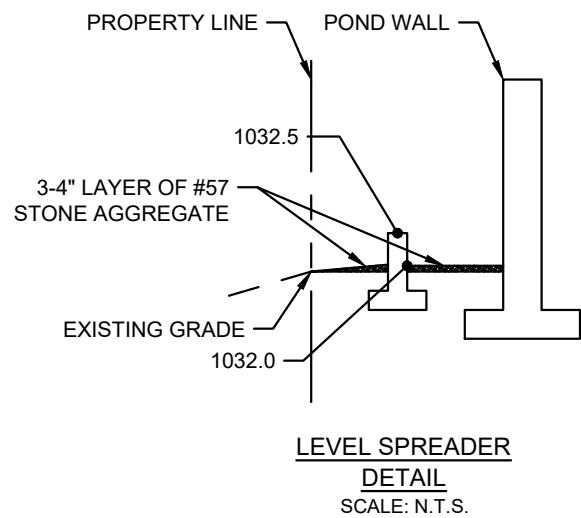
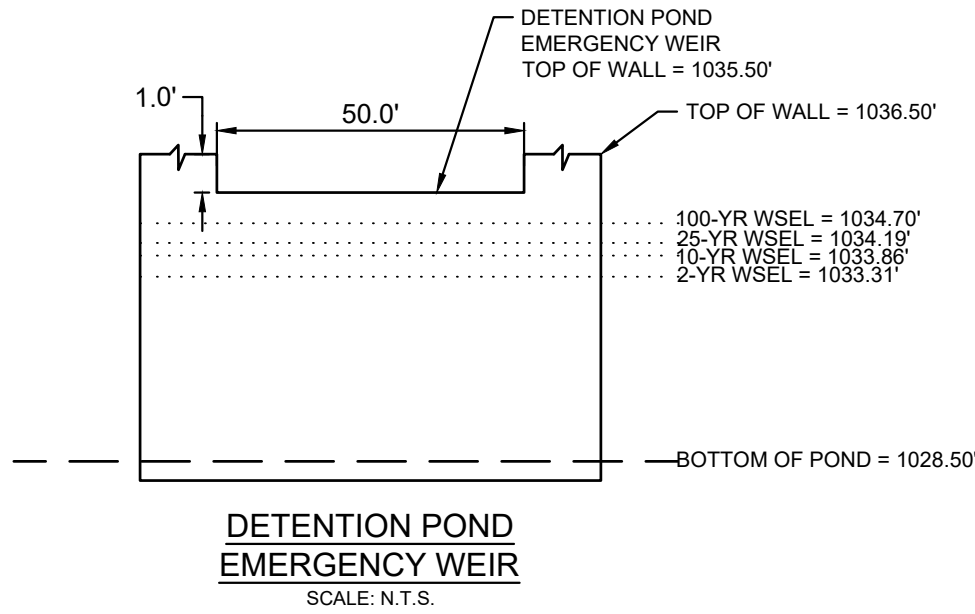
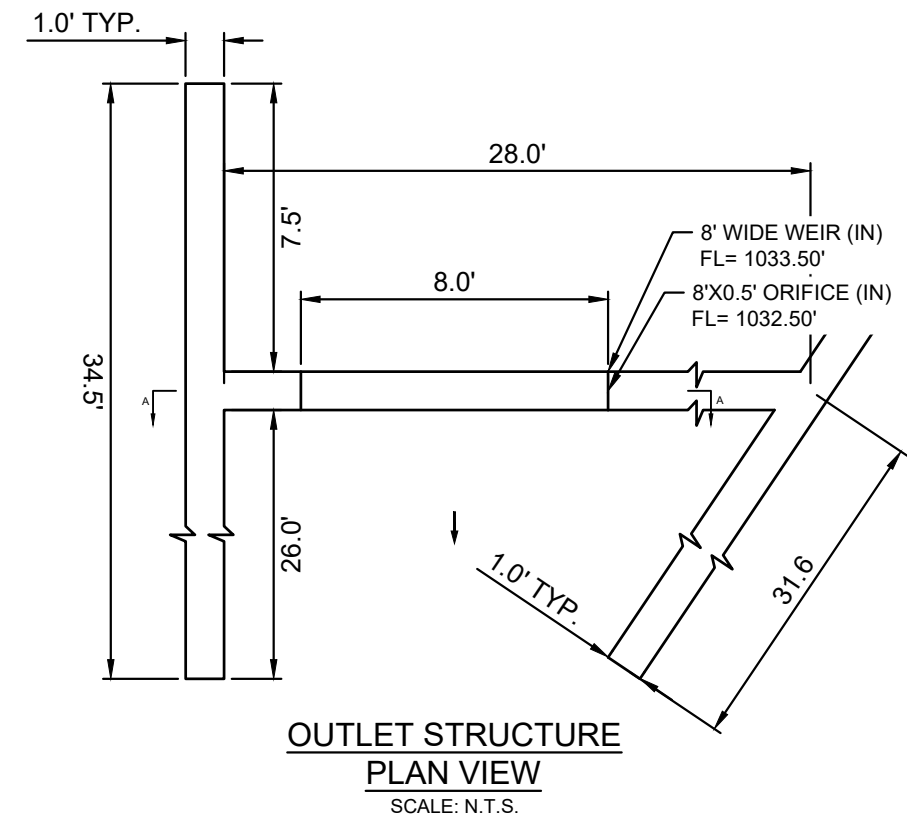
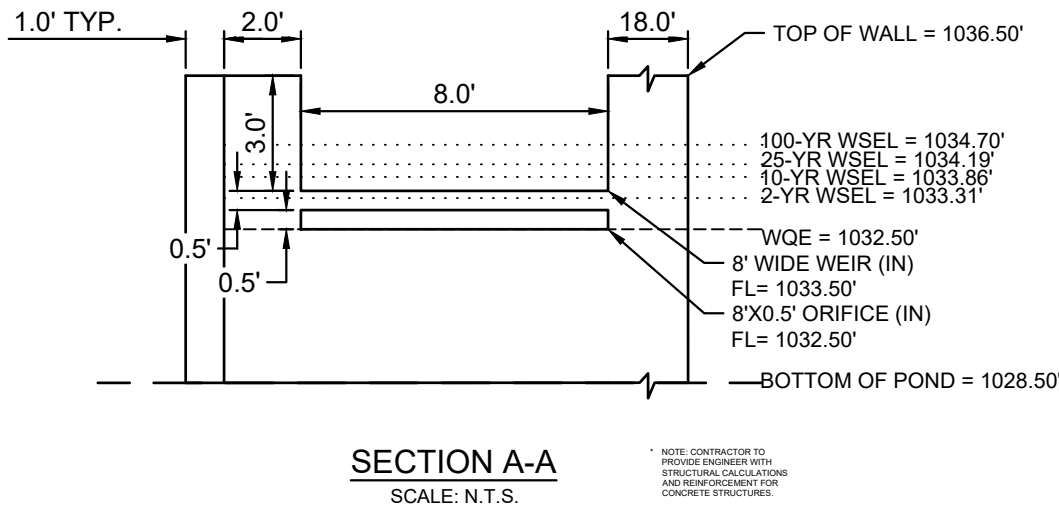
Top of water quality pond elevation and bottom of detention pond elevation is 1032.50 ft.

Water Quality Pond Storage Table

Stage (ft msl)	Pond Depth (ft)	Cumulative Pond Depth (ft)	Area (sf)	Volume (cf)	Cumulative Volume (cf)
(Elevation)	(ft)	(ft)	(sf)	(cf)	(cf)
1032.50	0.00	0.00	33,965.27	0	0
1033.00	0.50	0.50	38,180.72	18,036	18,036
1034.00	1.00	1.50	44,234.30	41,208	59,244
1035.00	1.00	2.50	46,380.89	45,308	104,552
1036.00	1.00	3.50	48,260.99	47,321	151,873
1036.50	0.50	4.00	49,246.23	24,377	176,249

Water Quality Pond Storage Table

Stage (ft msl)	Pond Depth (ft)	Cumulative Pond Depth (ft)	Area (sf)	Volume (cf)	Cumulative Volume (cf)
(Elevation)	(ft)	(ft)	(sf)	(cf)	(cf)
1028.50	0.00	0.00	0.00	0	0
1029.00	0.50	0.50	2,190.27	548	548
1030.00	1.00	1.50	11,078.79	6,635	7,182
1031.00	1.00	2.50	19,821.07	15,450	22,632
1032.00	1.00	3.50	29,546.98	24,684	47,316
1032.50	0.50	4.00	33,965.27	15,878	63,194



NOTE:  
CONTRACTOR TO PROVIDE SHOP DRAWING SHOWING  
ELEVATIONS OF ALL PROPOSED SMARTBATCH VALVE PIPING  
PRIOR TO FABRICATION.

BENCHMARKS

BENCHMARKS ARE BASED ON NAD83  
COORDINATES ARE STATE PLANE CENTRAL ZONE WITH  
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TEXAS REGISTERED ENGINEERING FIRM E-928

Allison Kennaugh

STATE OF TEXAS  
ALLISON KENNAUGH  
114556  
LICENSED PROFESSIONAL ENGINEER

12/1/2023

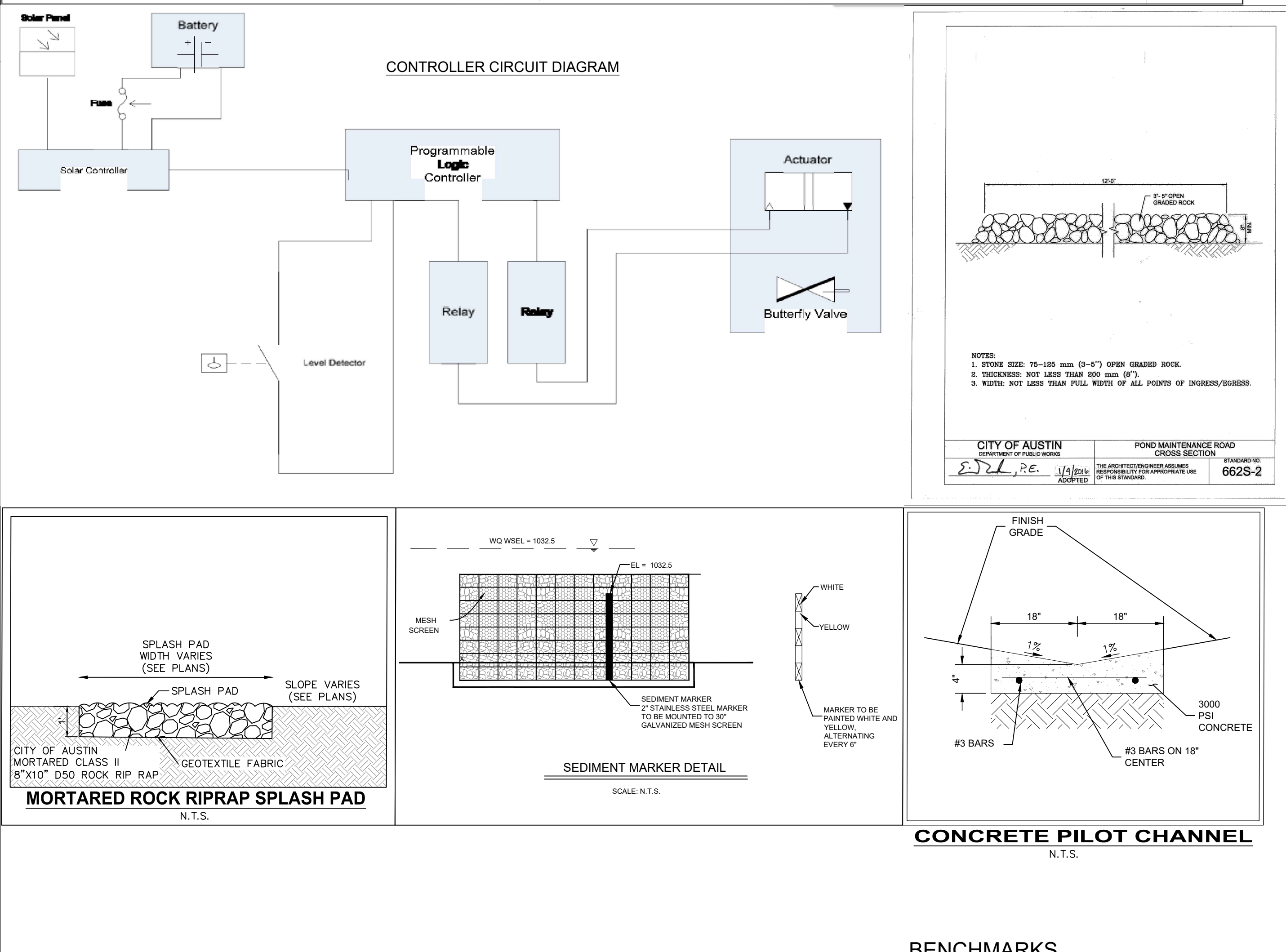
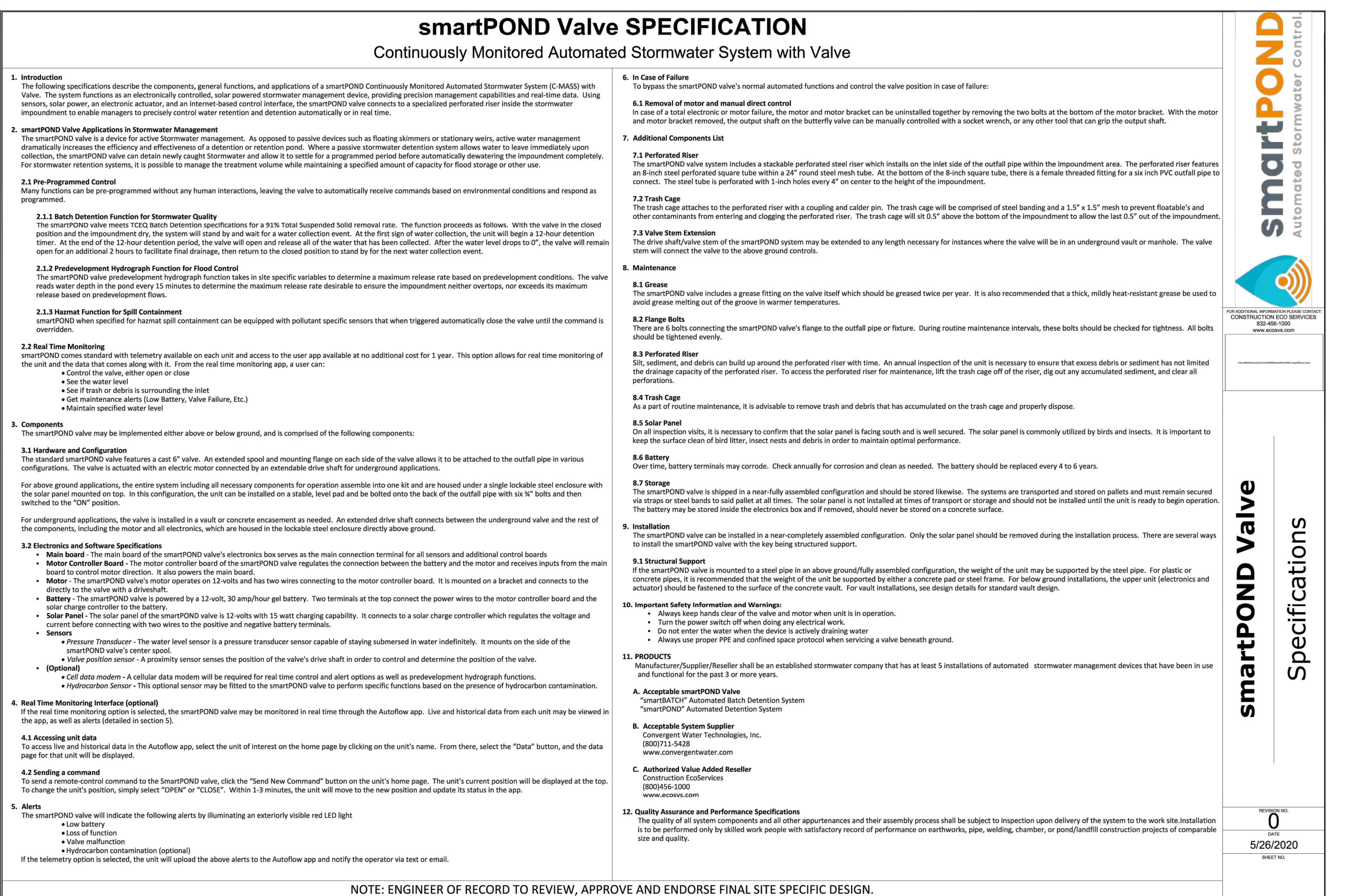
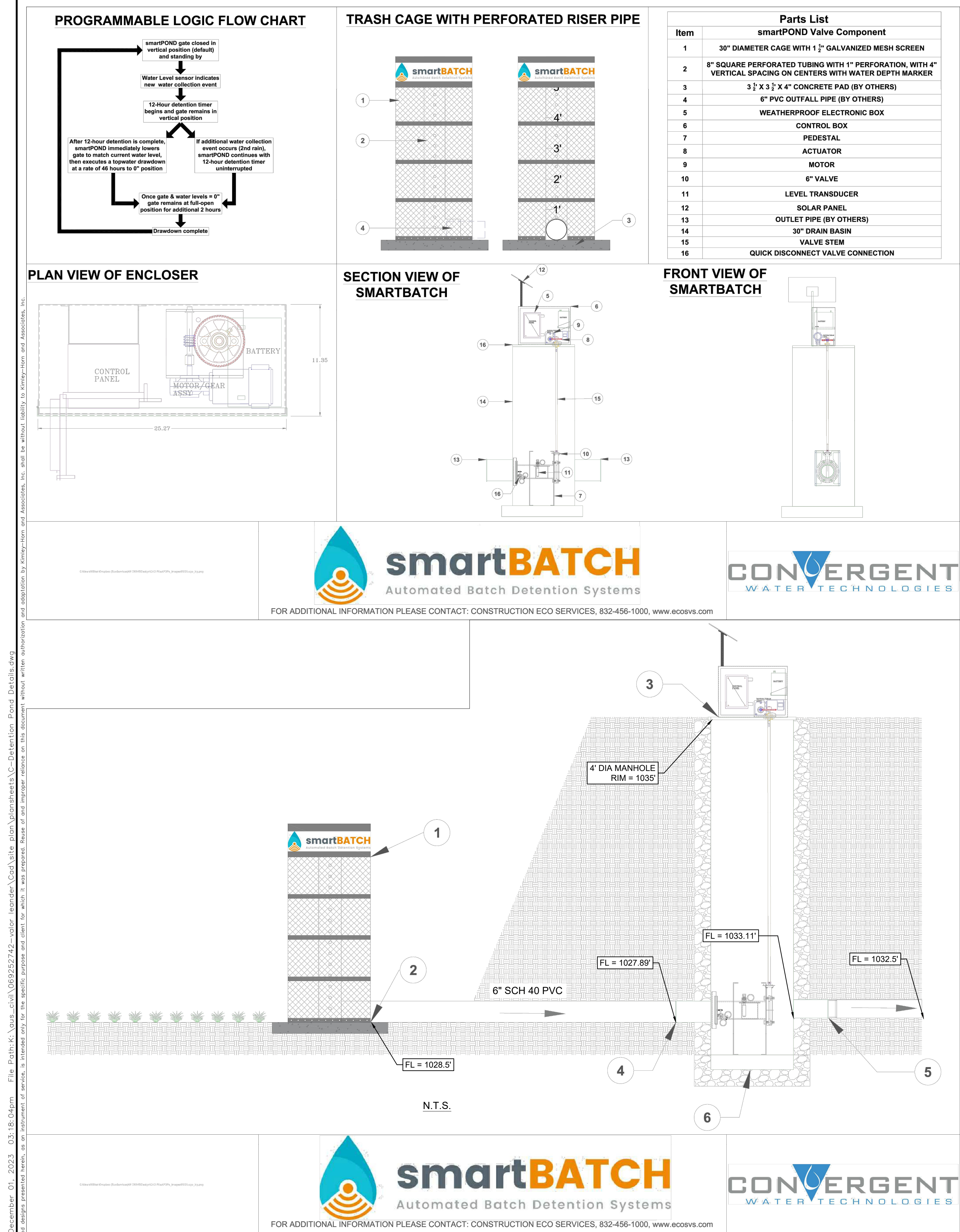
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069252742	DECEMBER 2023	AS SHOWN				
			DRAWN BY:			
			CHECKED BY:			

POND DETAILS  
(SHEET 1 OF 2)

VALOR LEANDER  
CITY OF LEANDER  
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER  
24 OF 39





SD-XX-XXXX

25 OF 39

VALOR LEANDER

CITY OF LEANDER

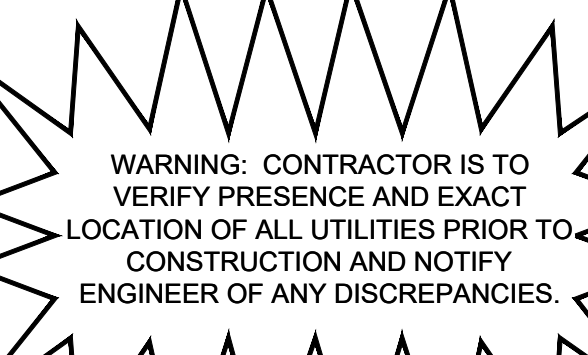
WILLIAMSON COUNTY, TEXAS

SHEET NUMBER

25 OF 39

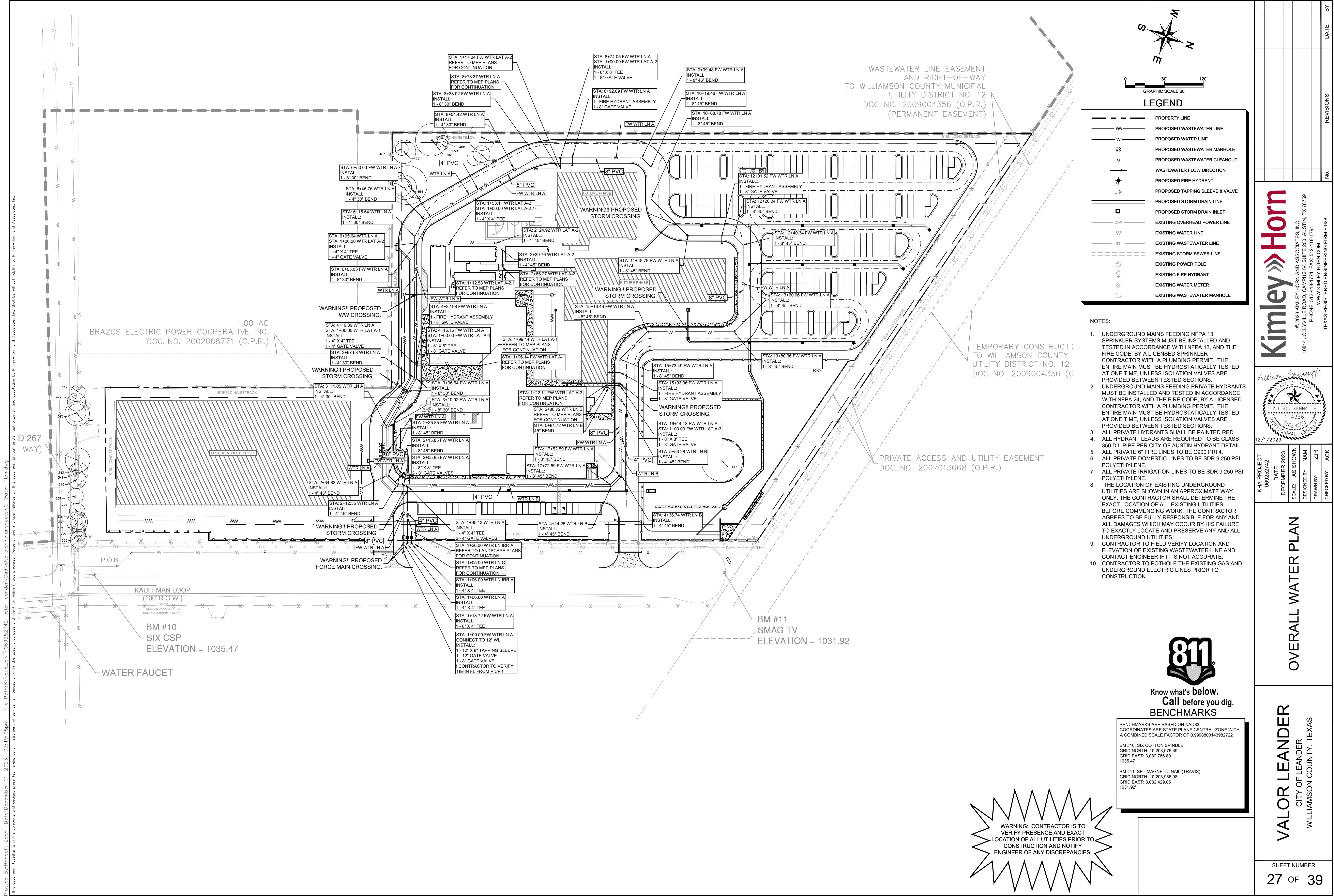
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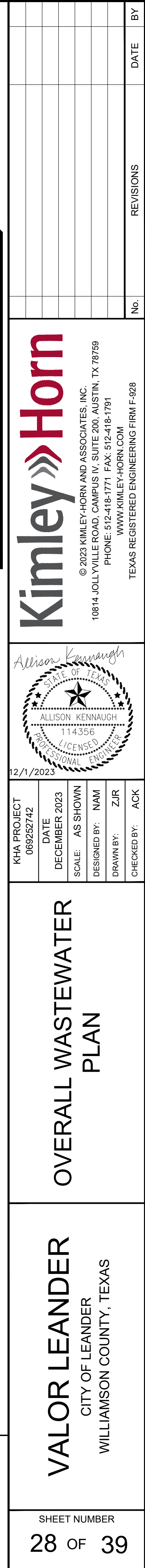


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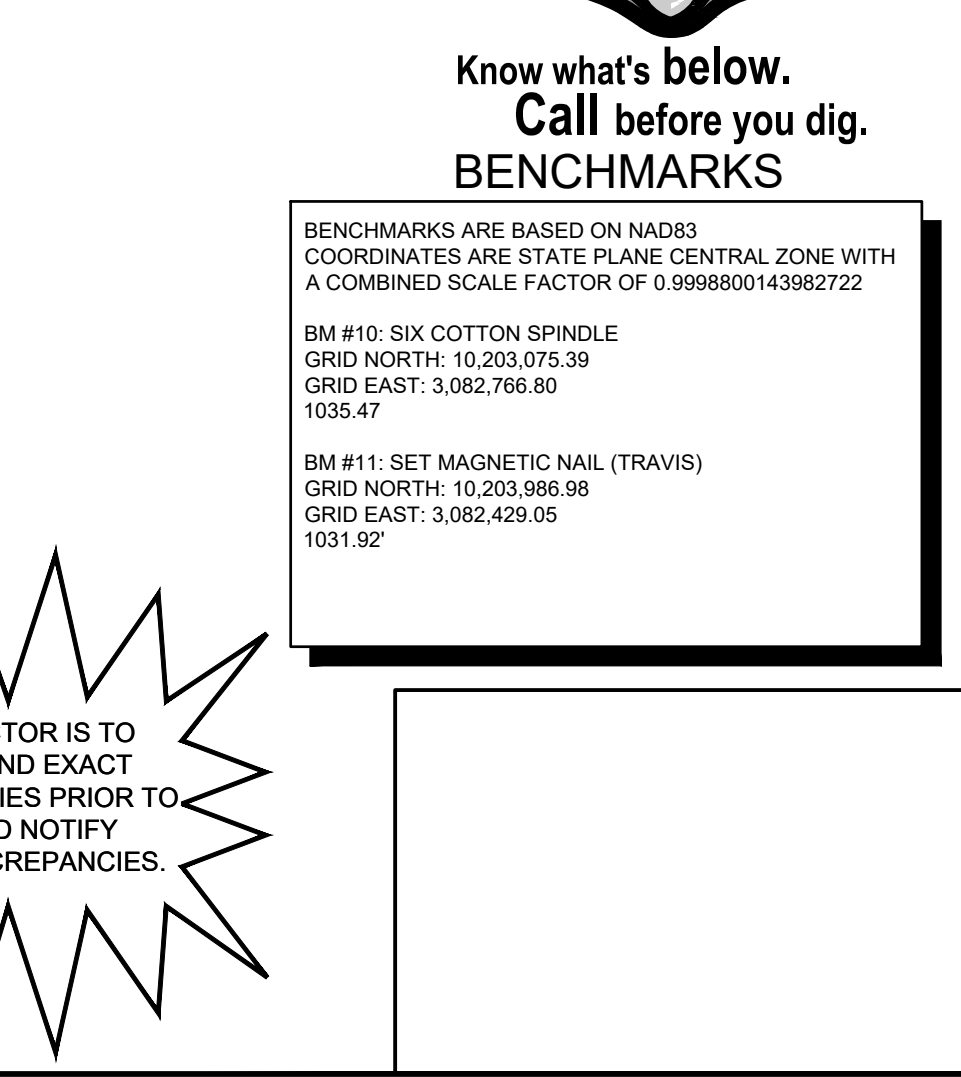
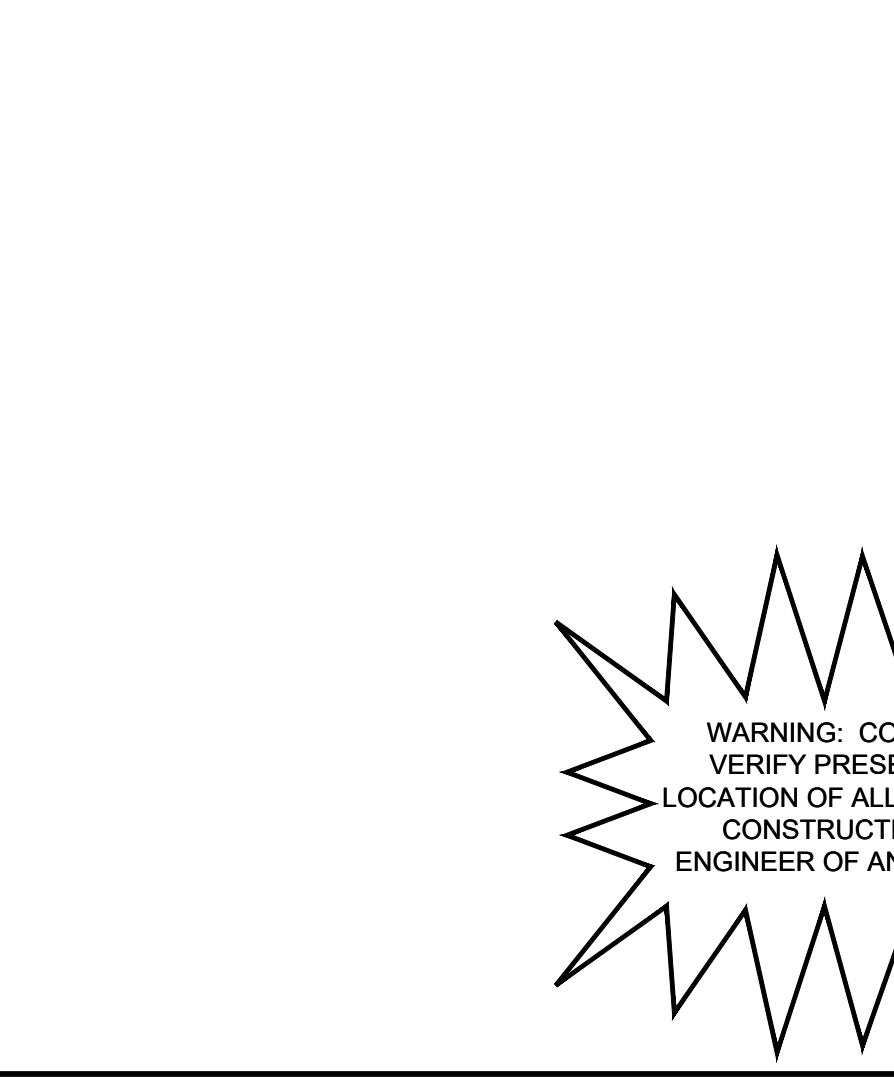
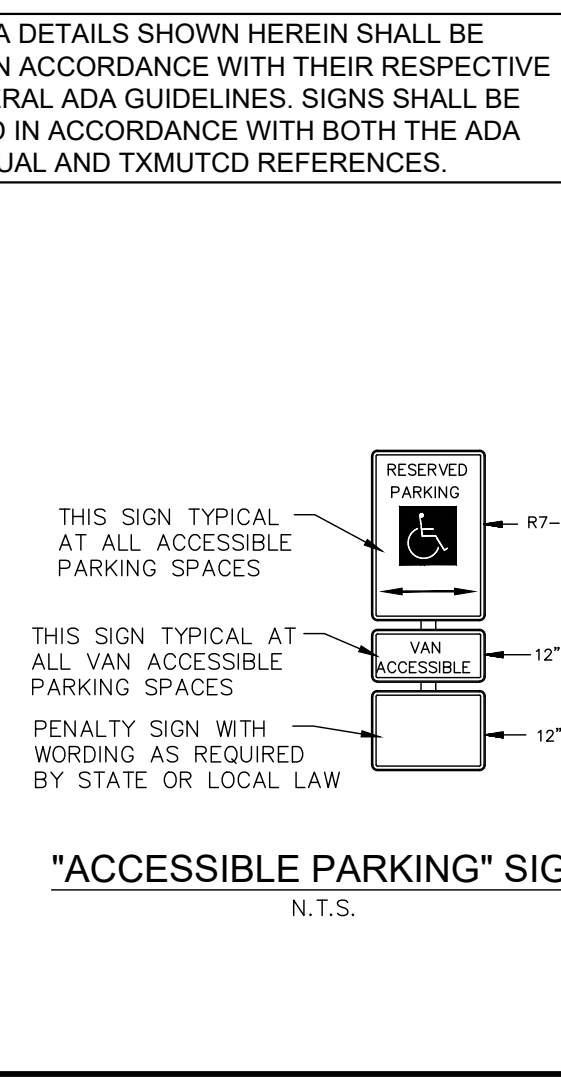
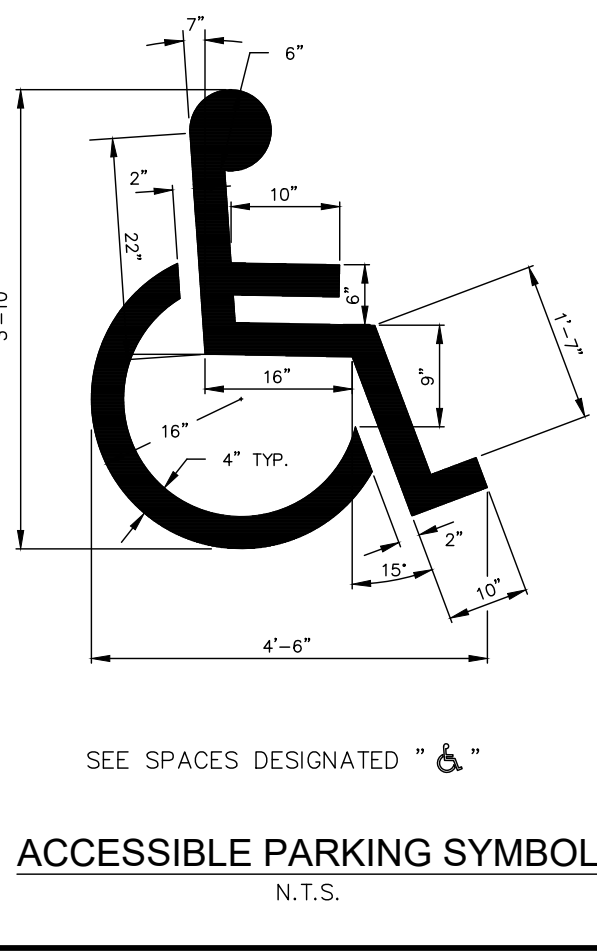
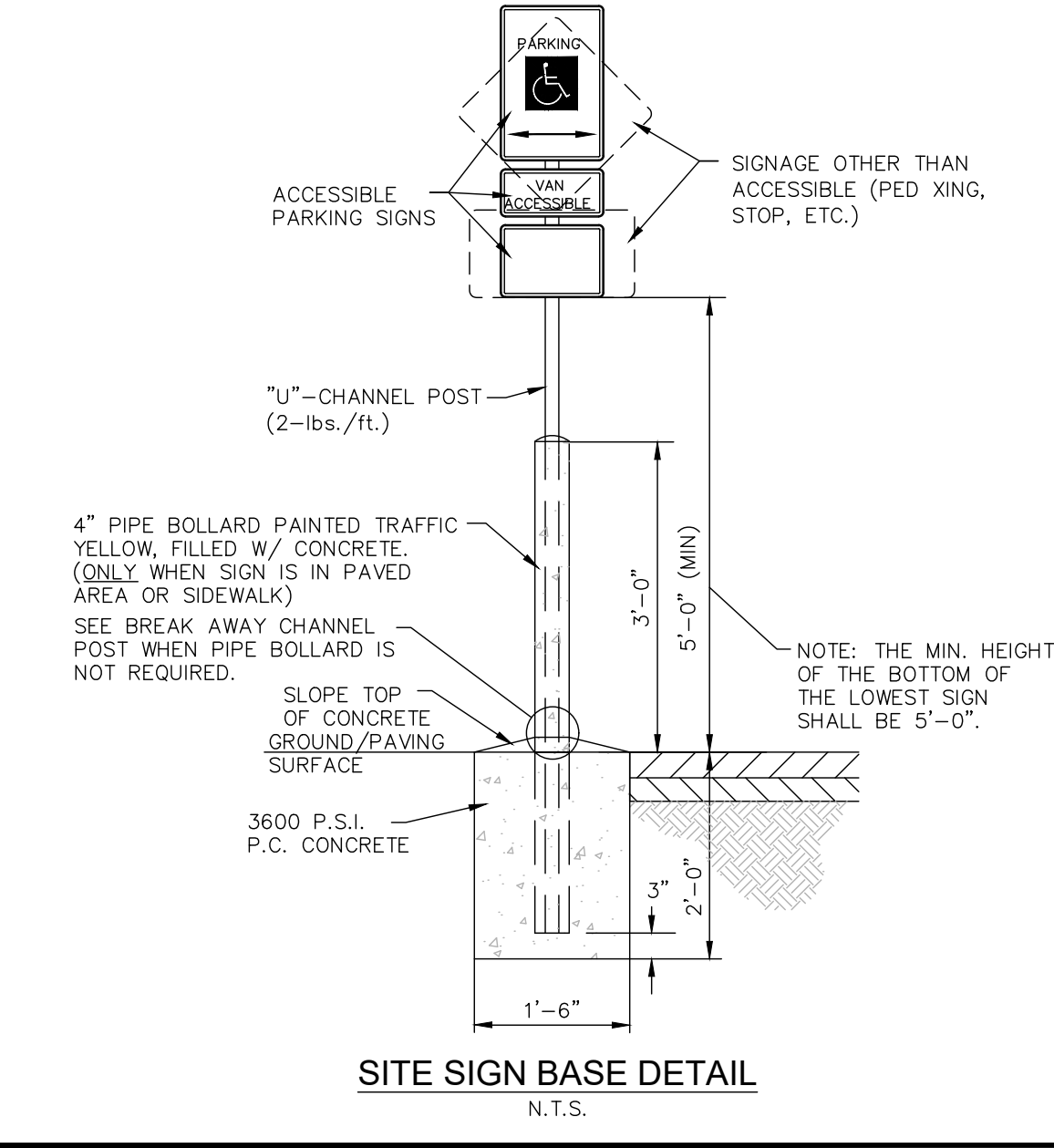
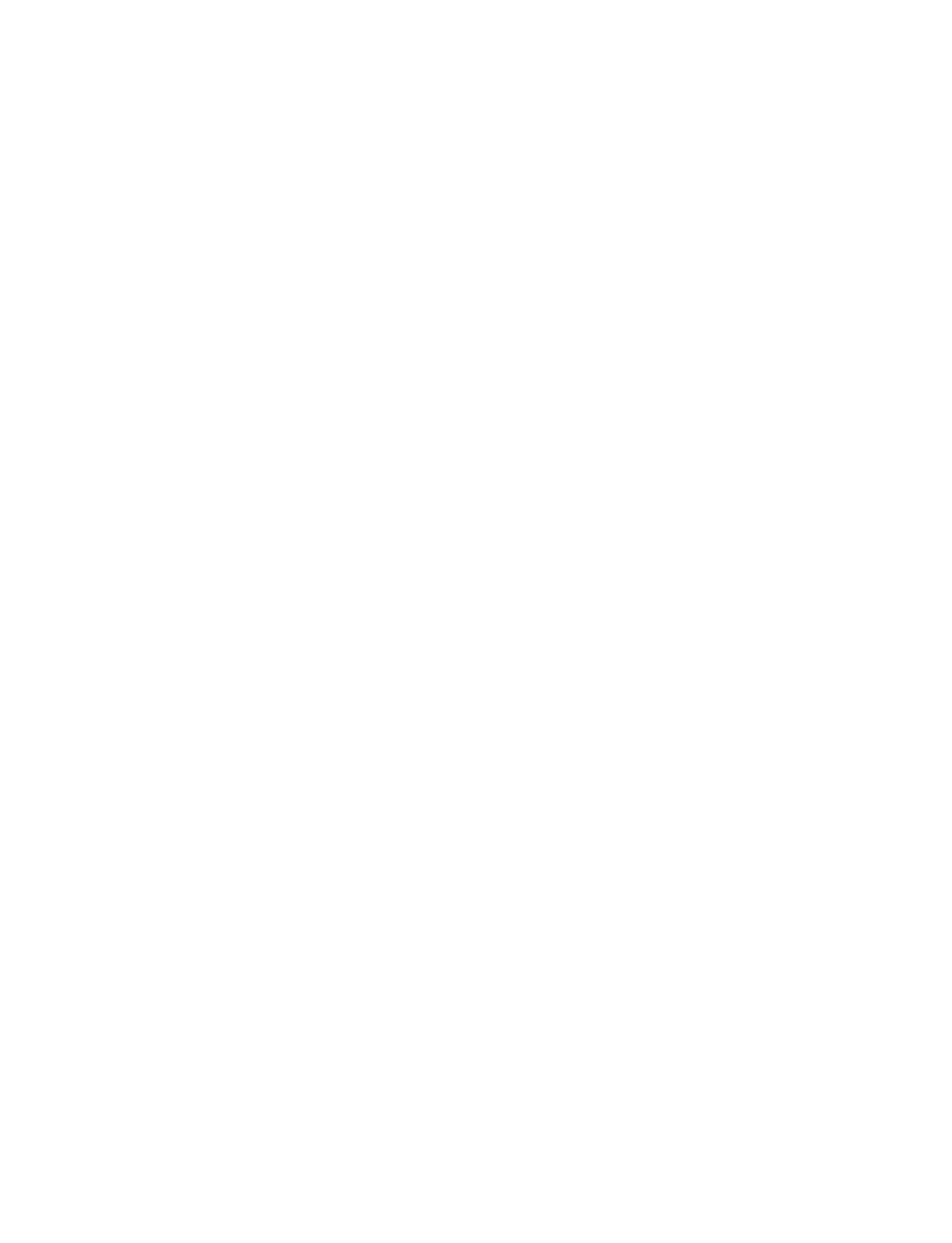
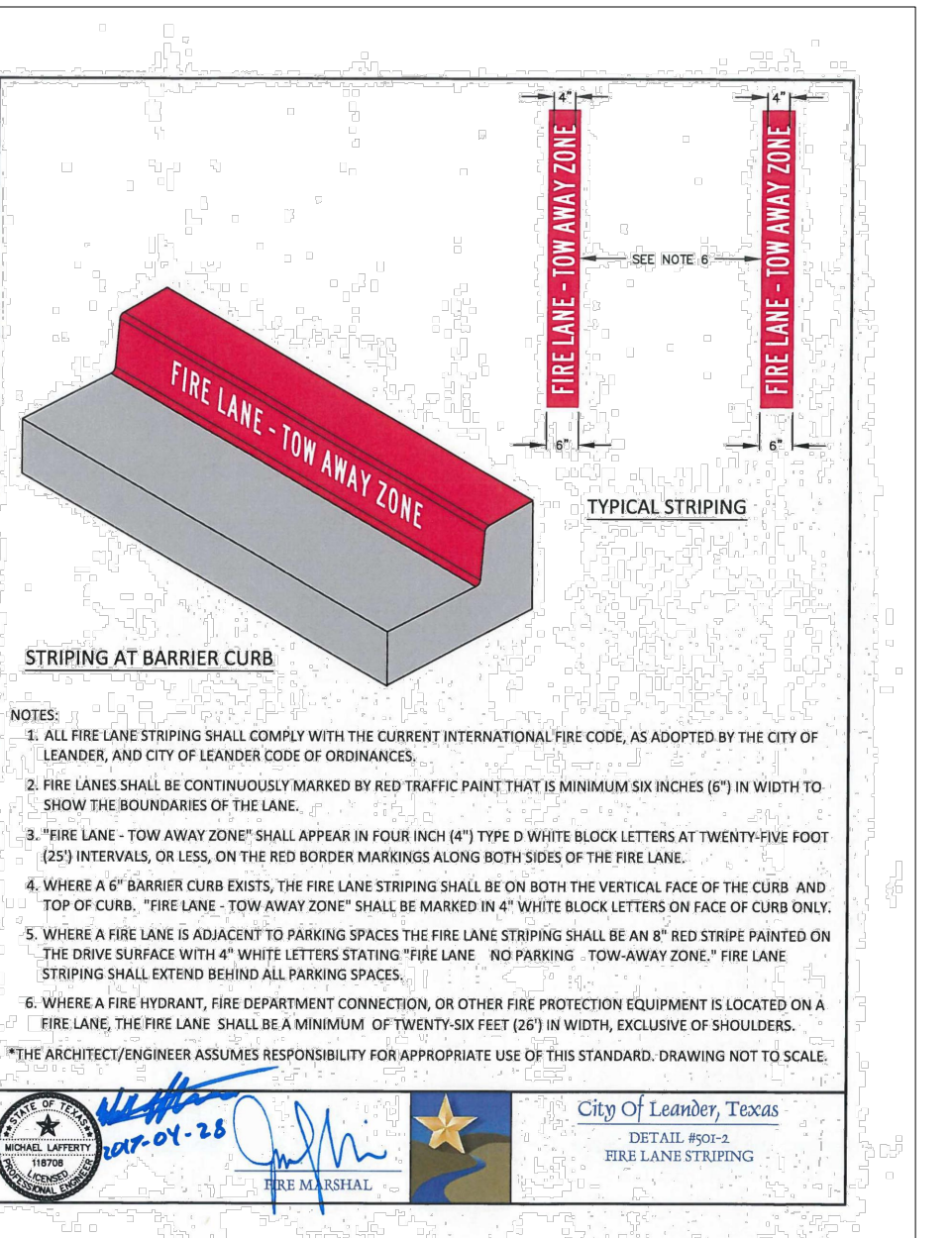
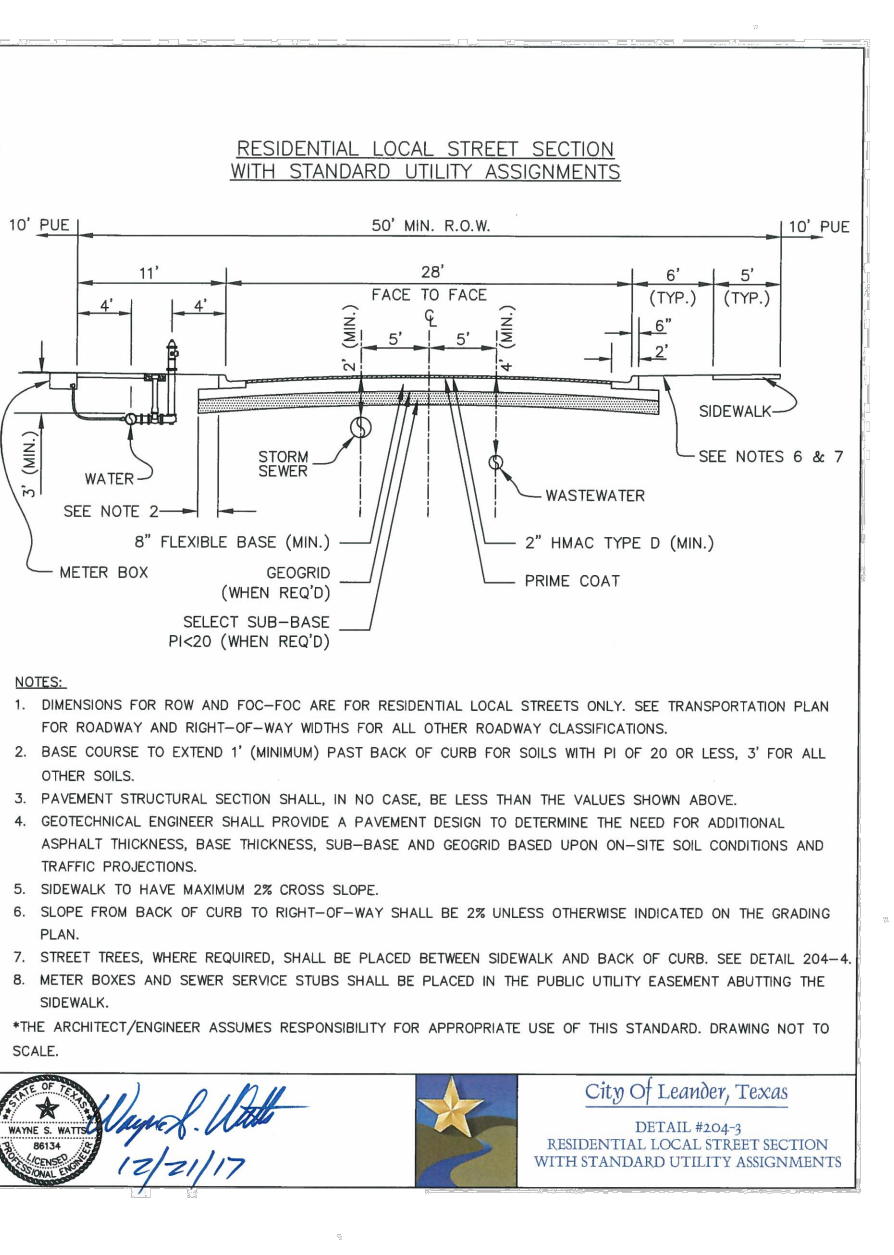
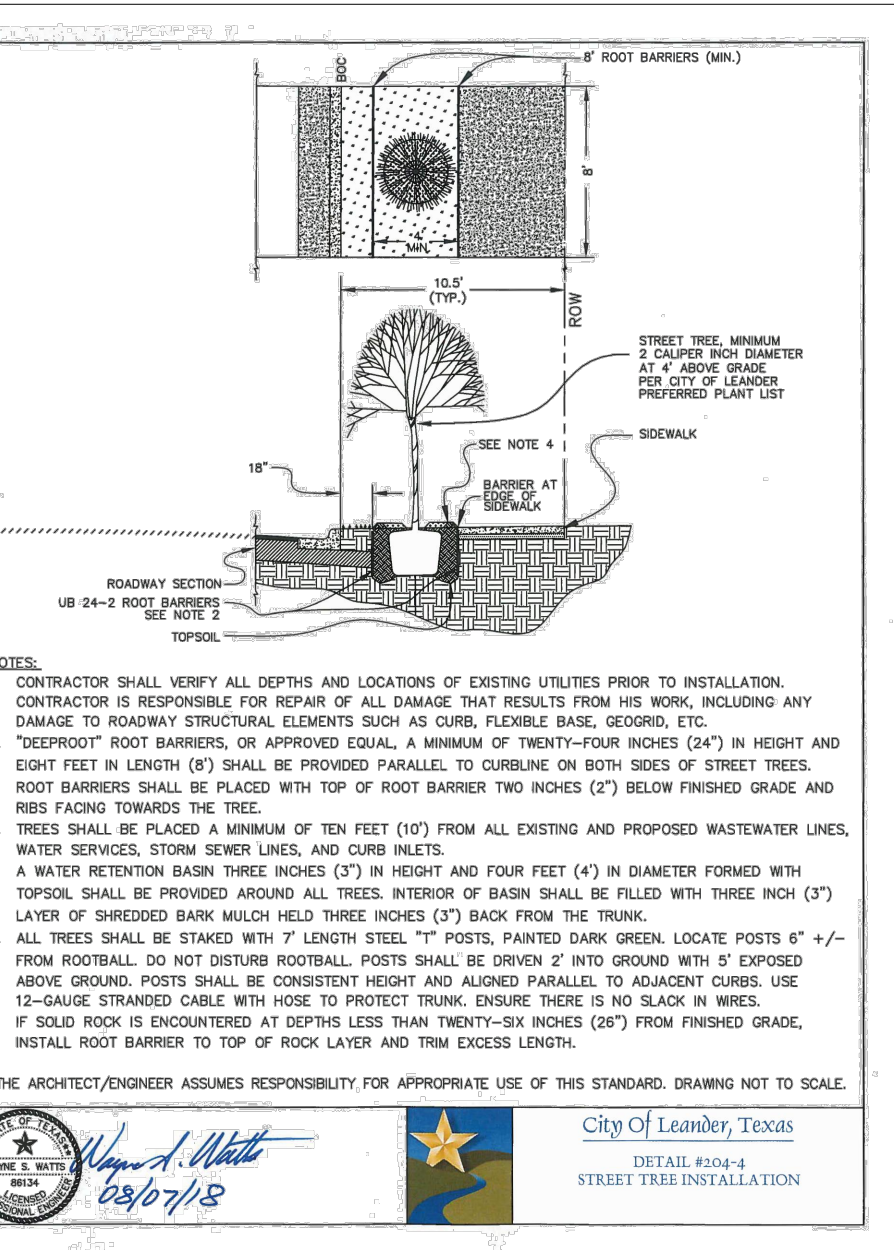
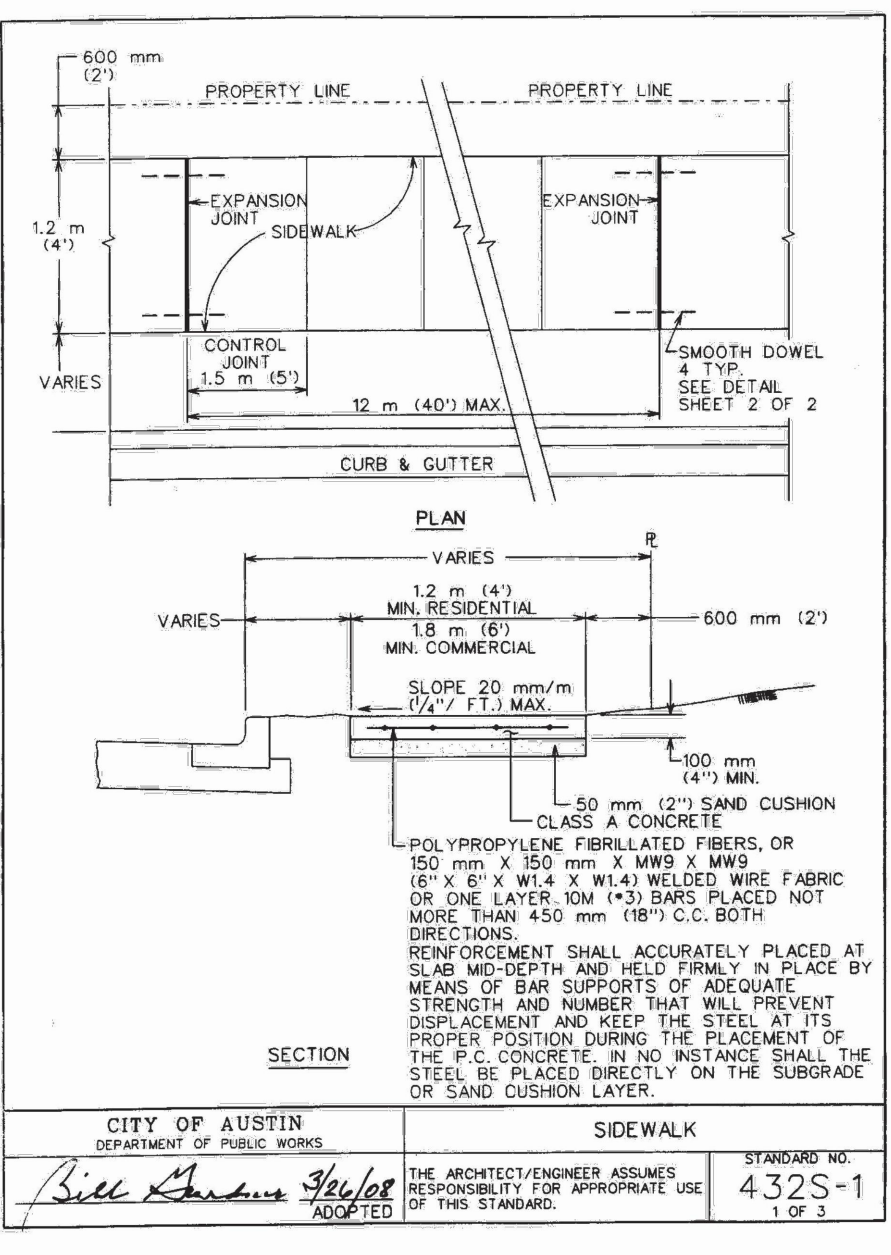
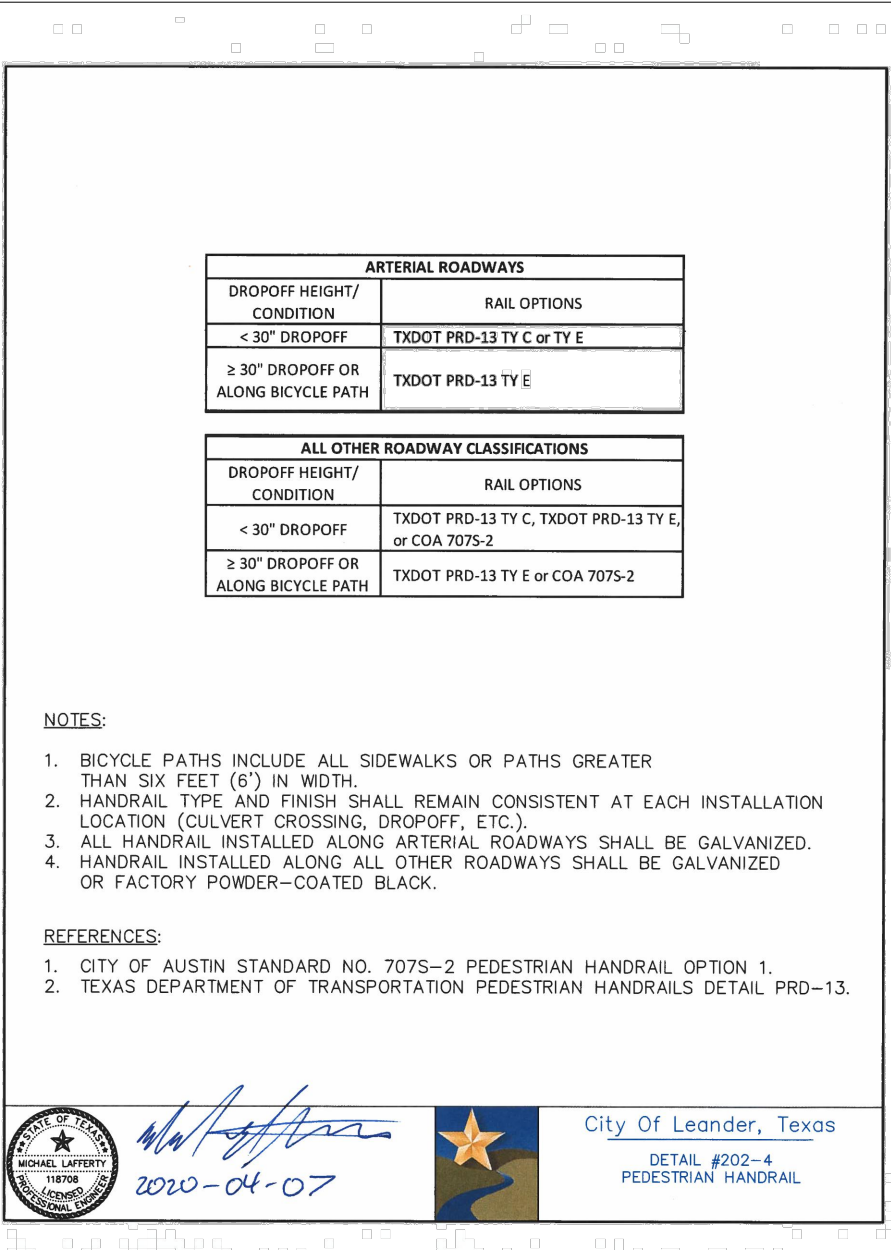
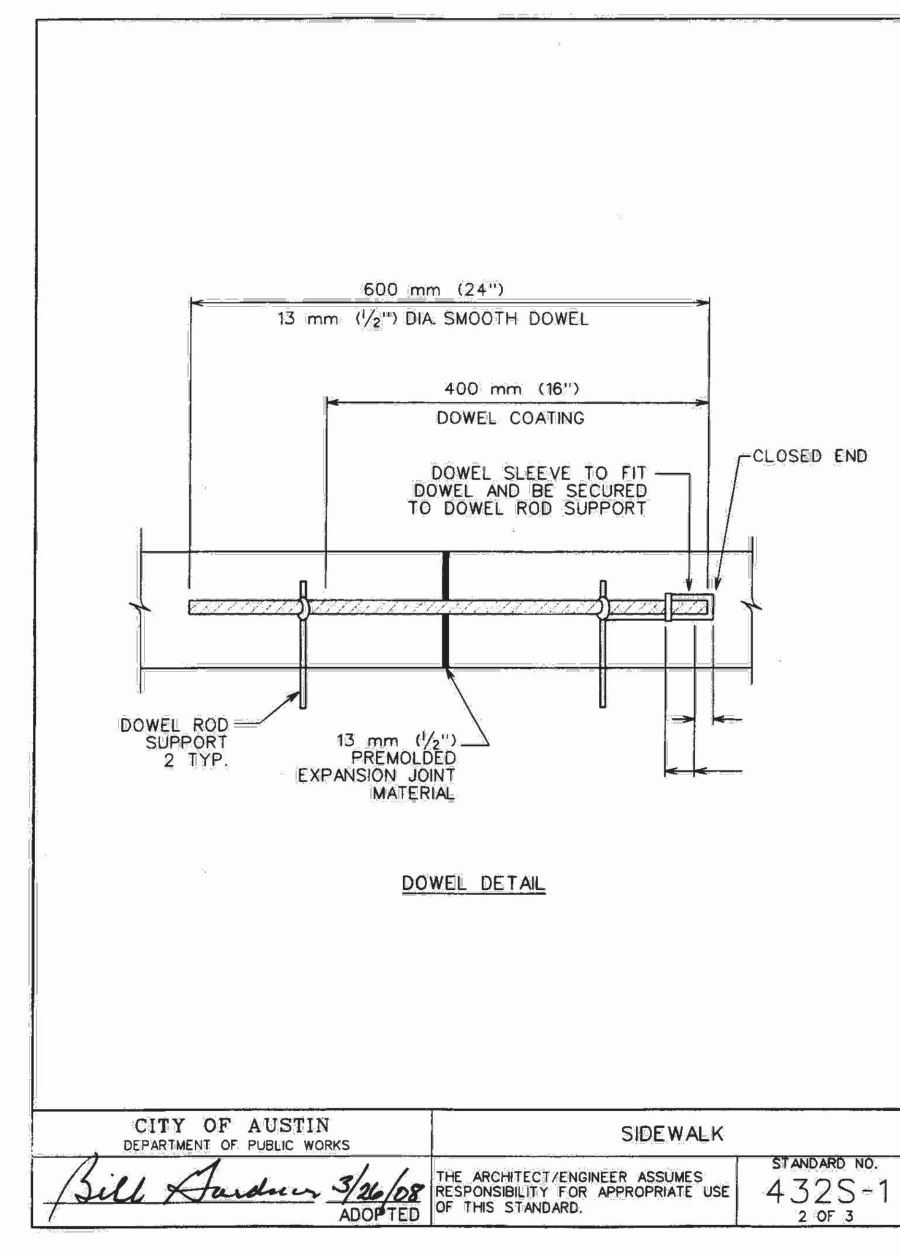
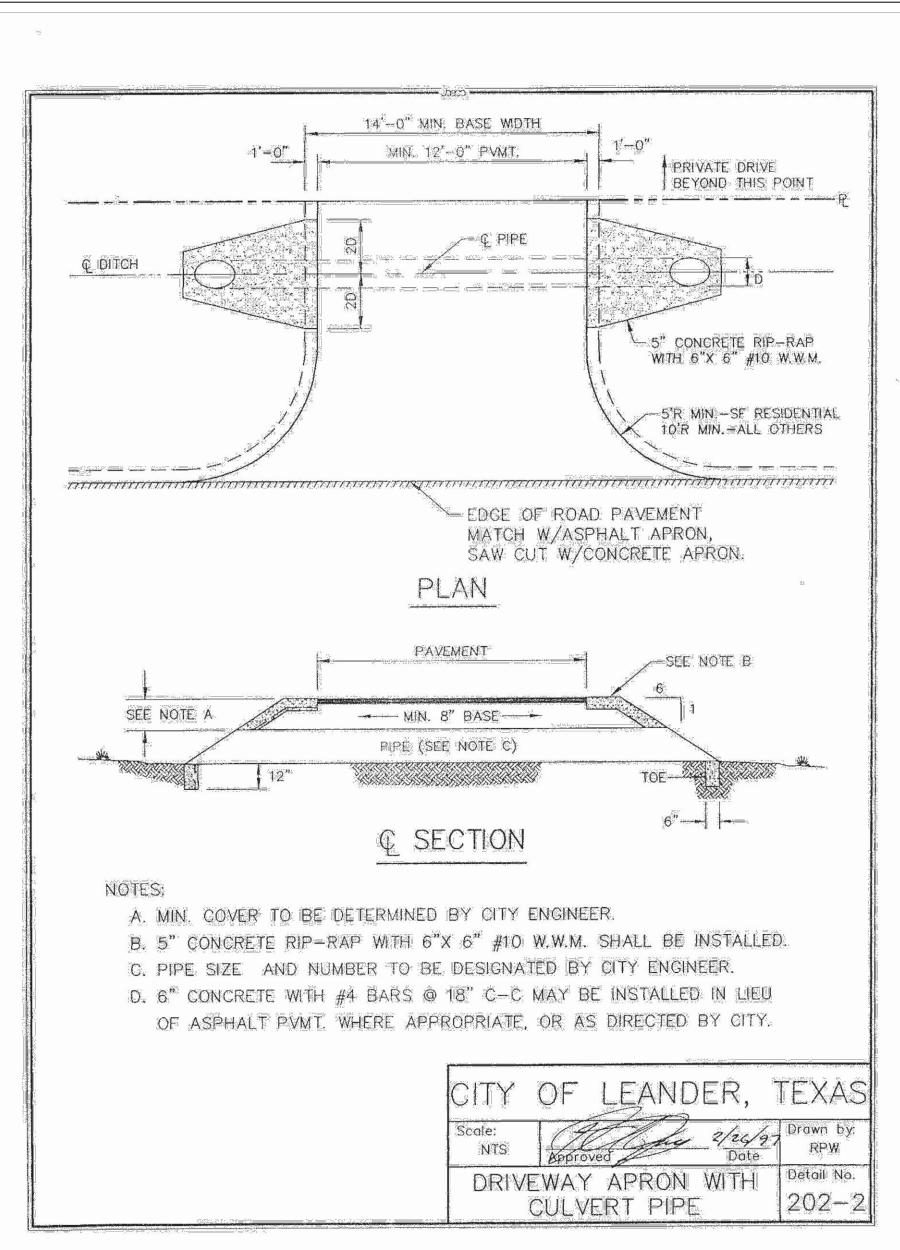
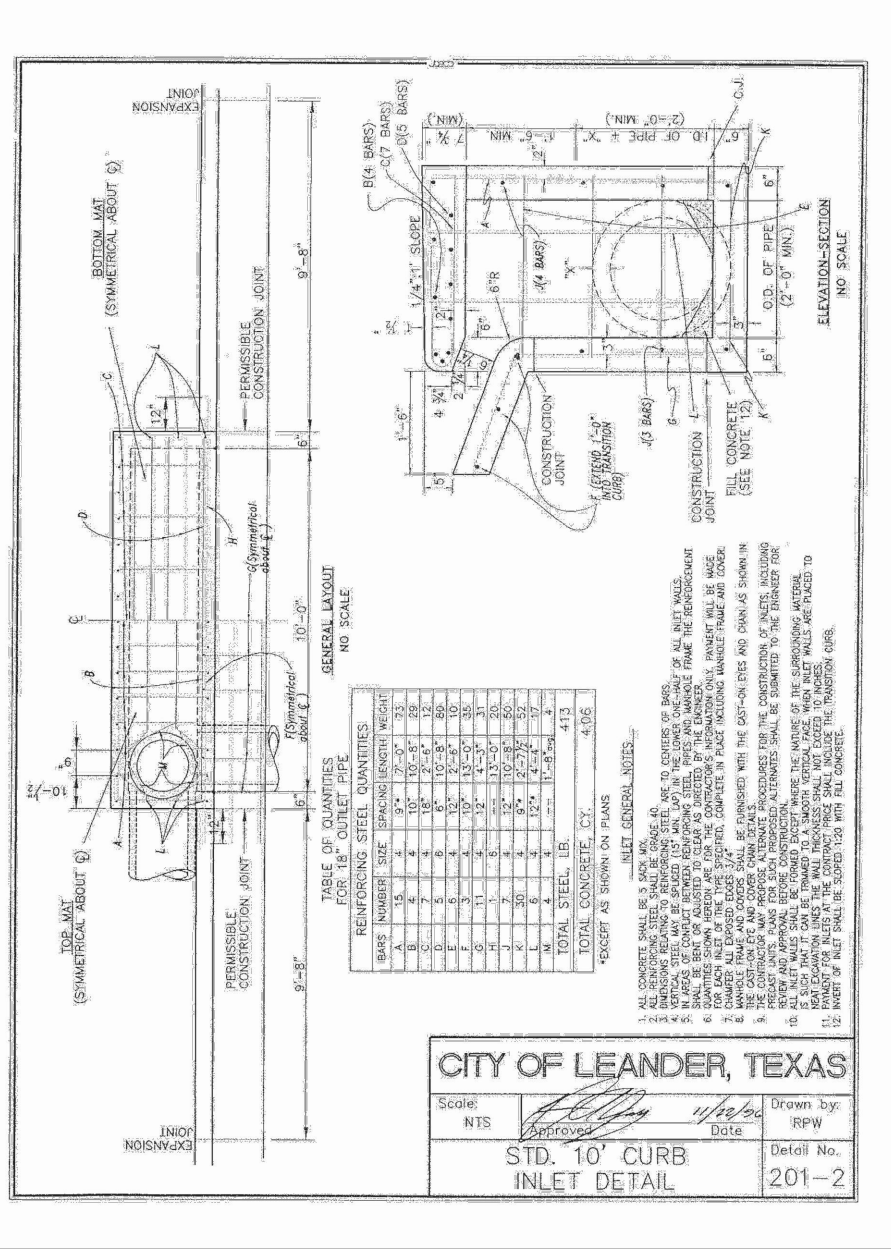
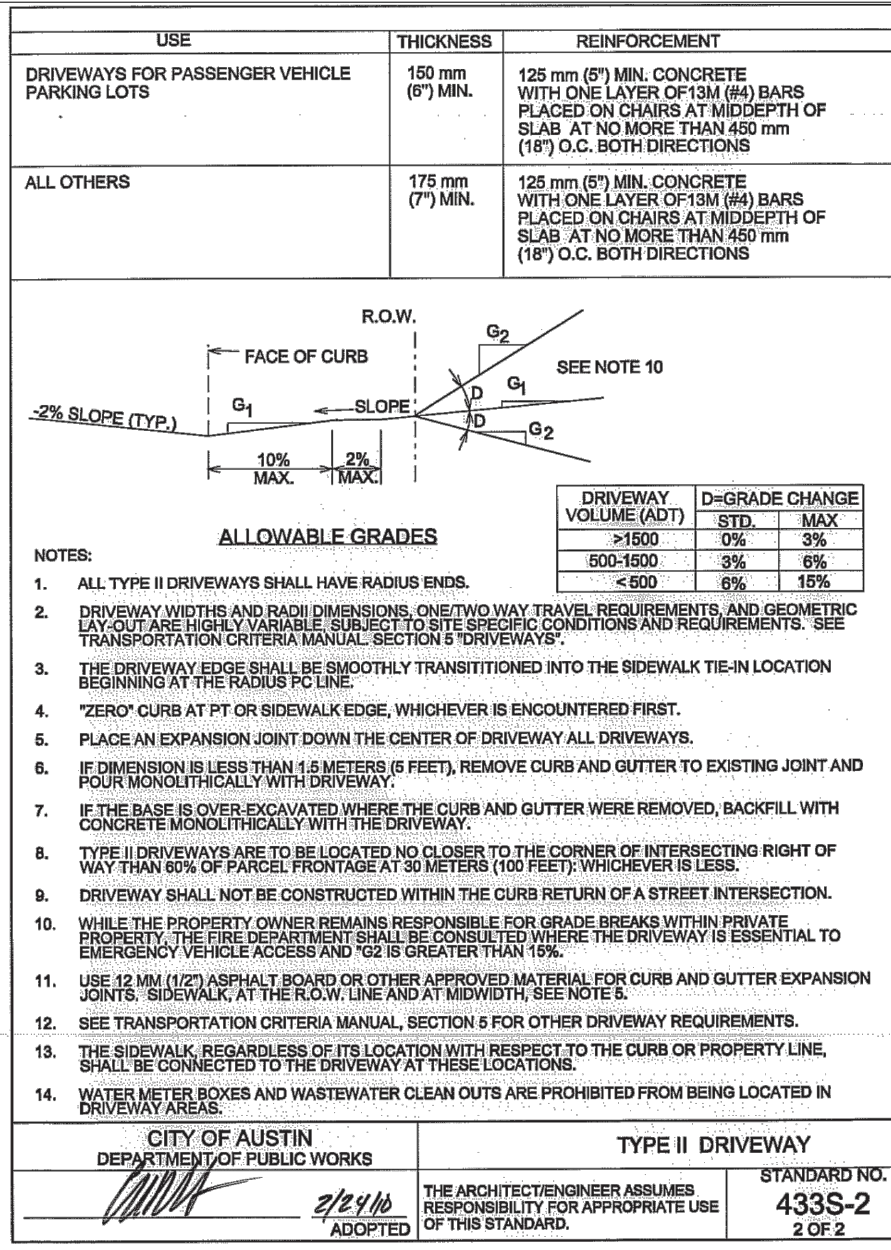
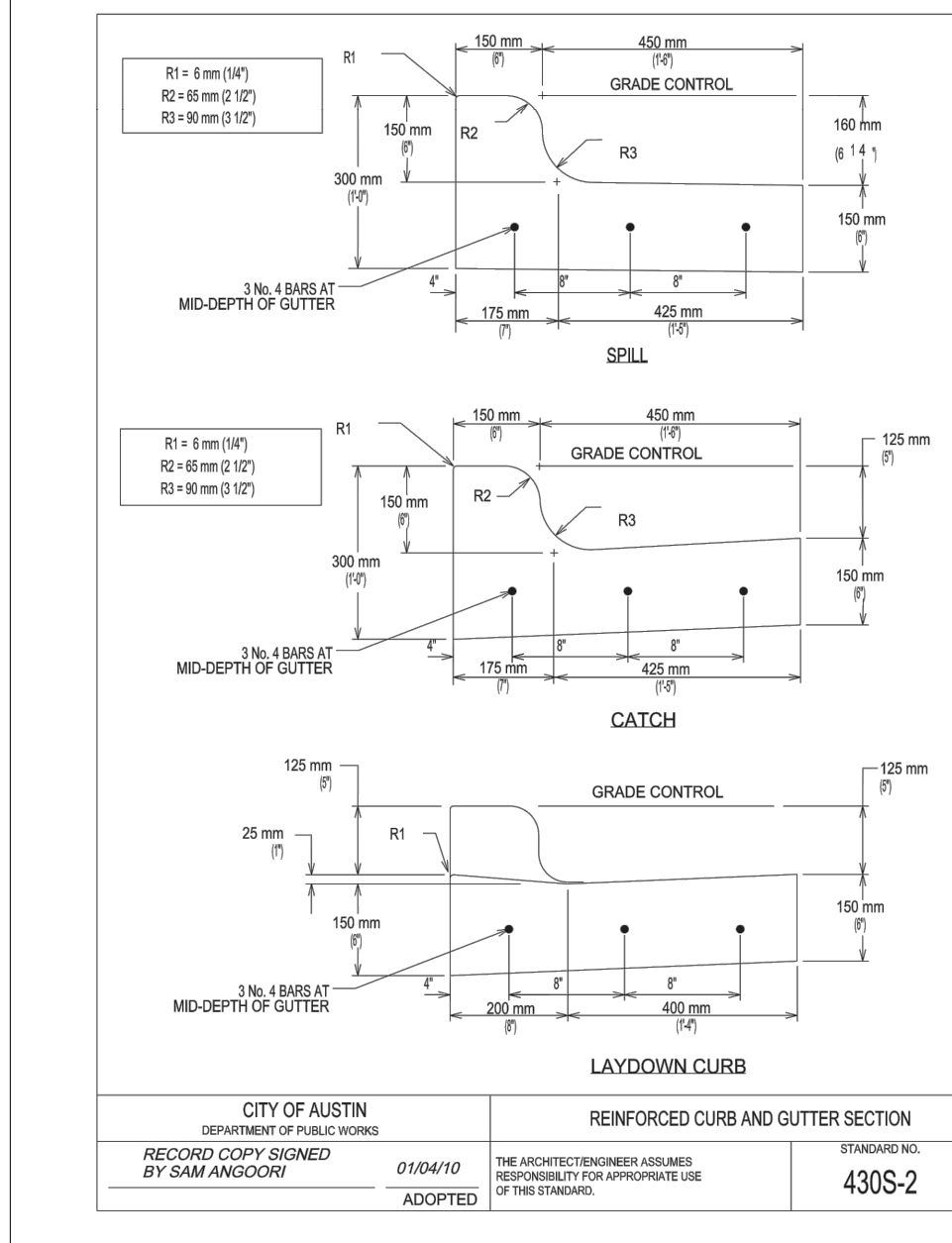
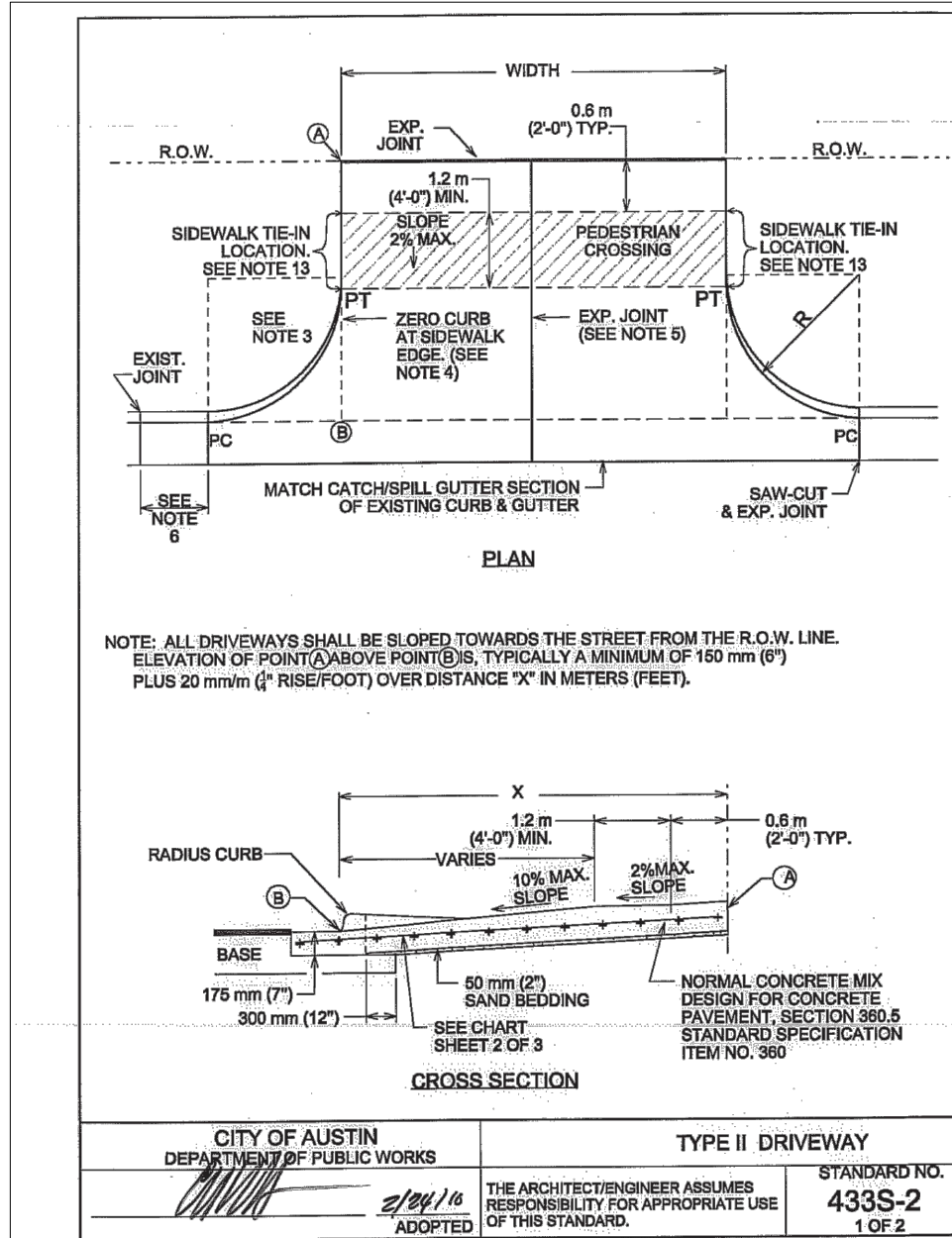






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TEXAS REGISTERED ENGINEERING FIRM F-928

Alison Kennaugh

STATE OF TEXAS  
ALLISON KENNAUGH  
114358  
LICENSED PROFESSIONAL ENGINEERING

12/1/2023

KHA PROJECT  
069252742

DATE  
DECEMBER 2023

SCALE  
AS SHOWN

DESIGNED BY  
ZJR

DRAWN BY  
ZJR

CHECKED BY  
ACK

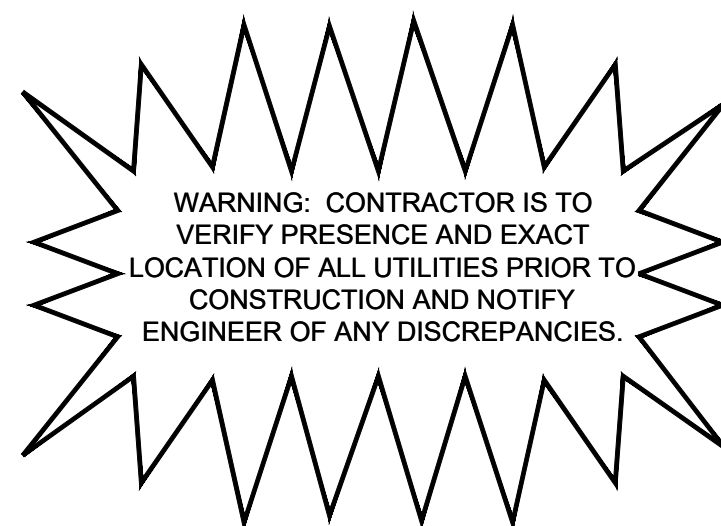
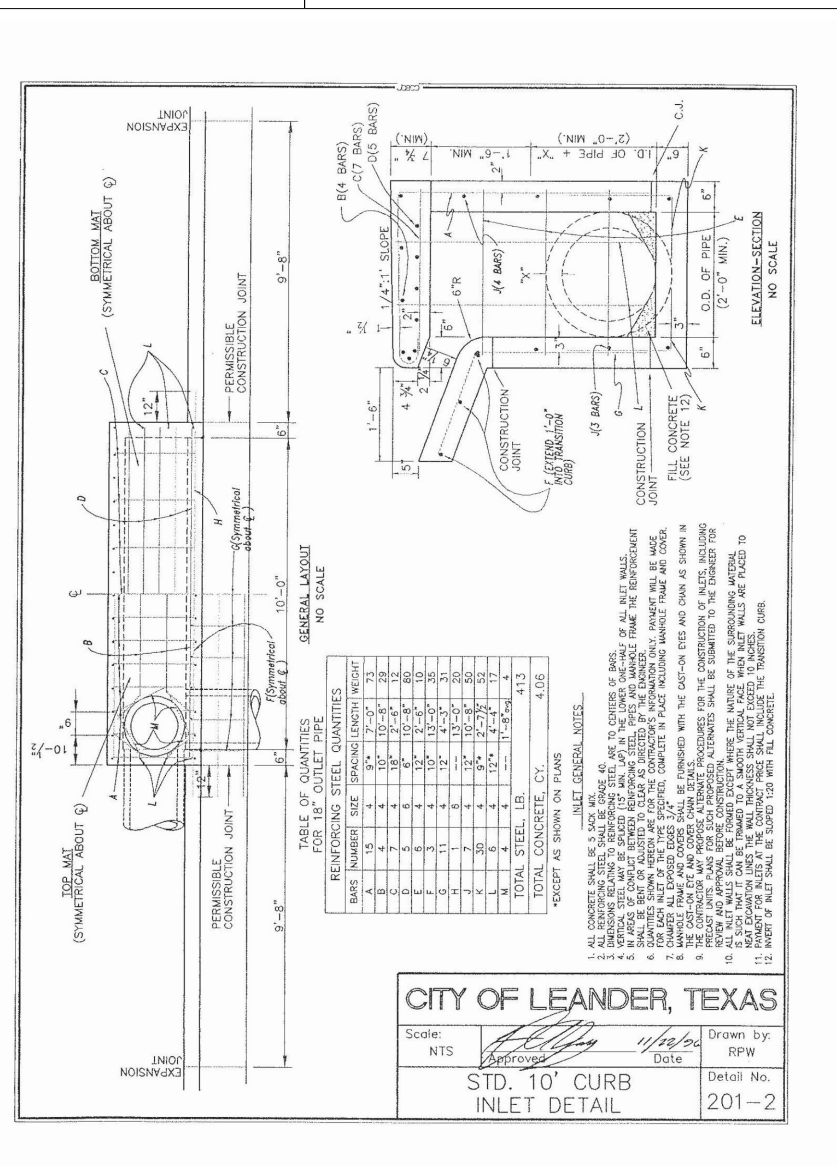
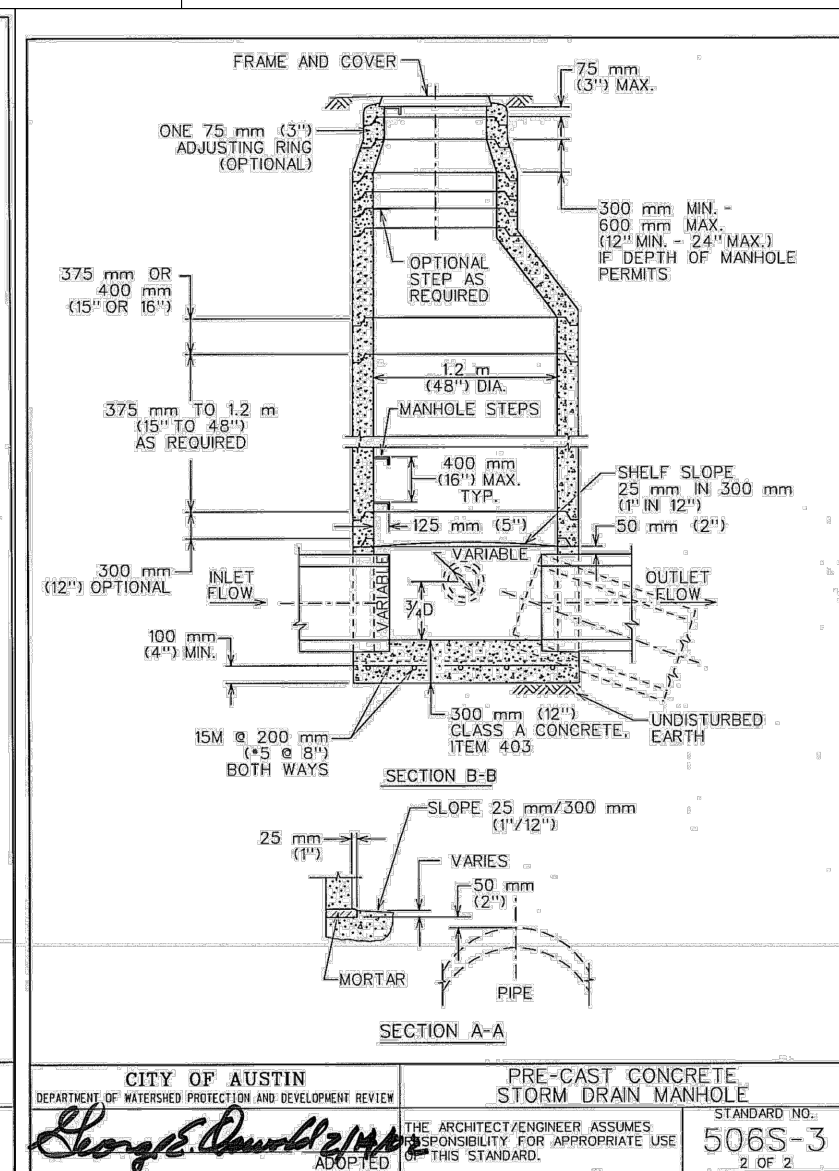
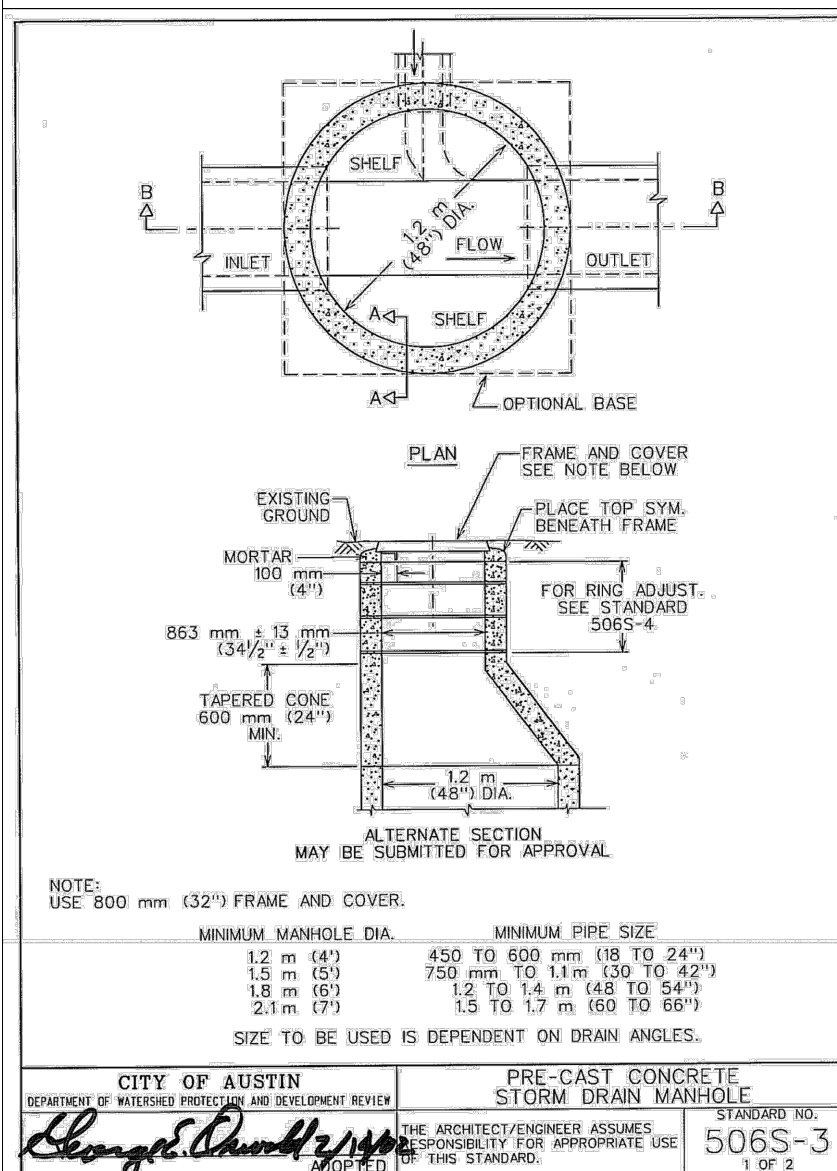
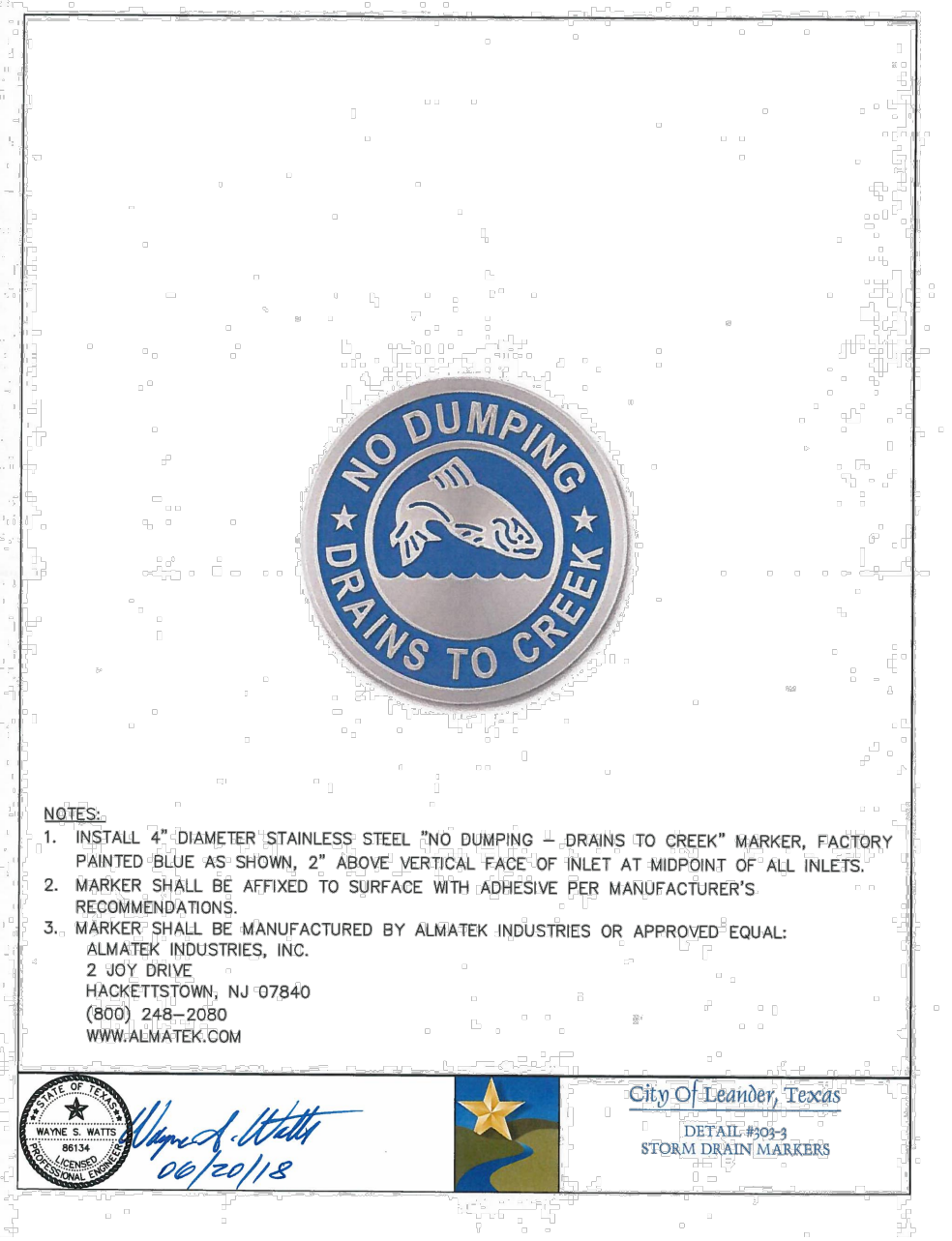
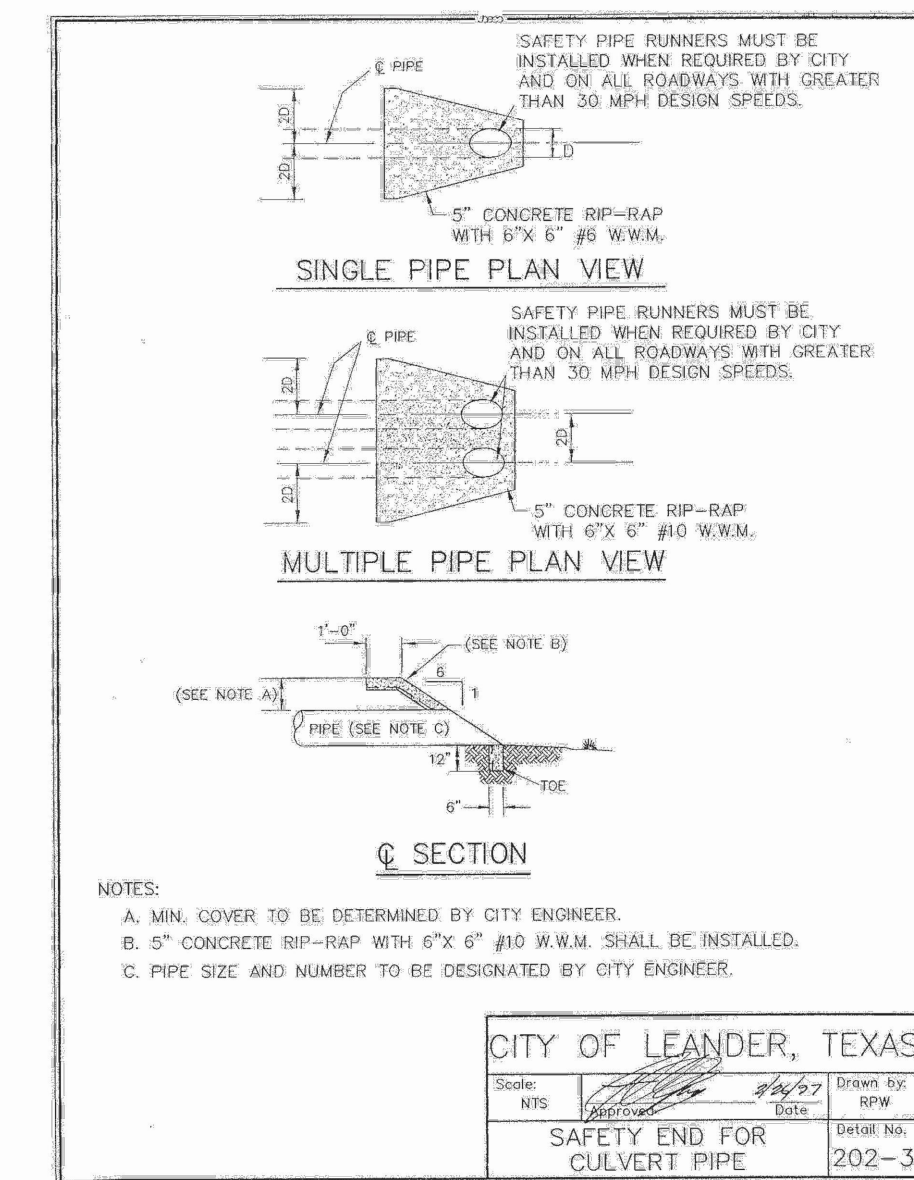
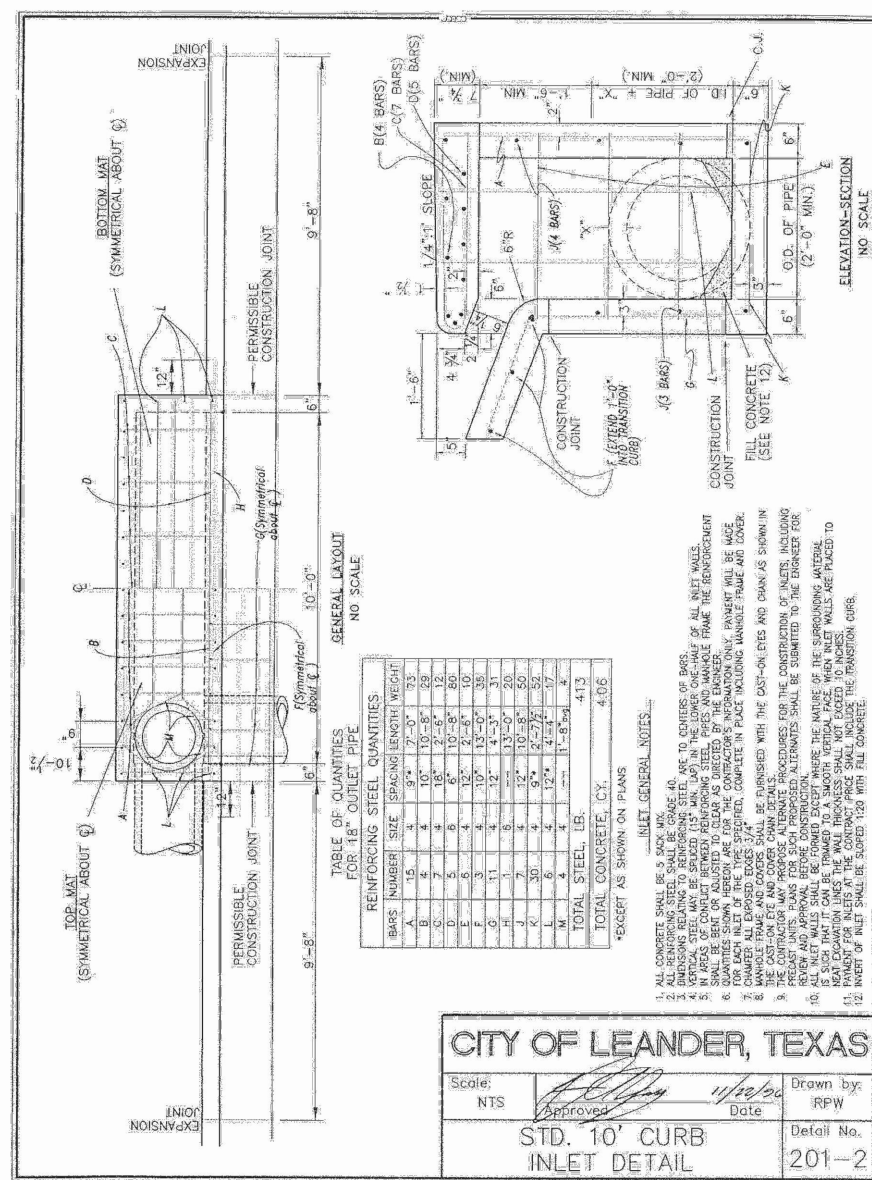
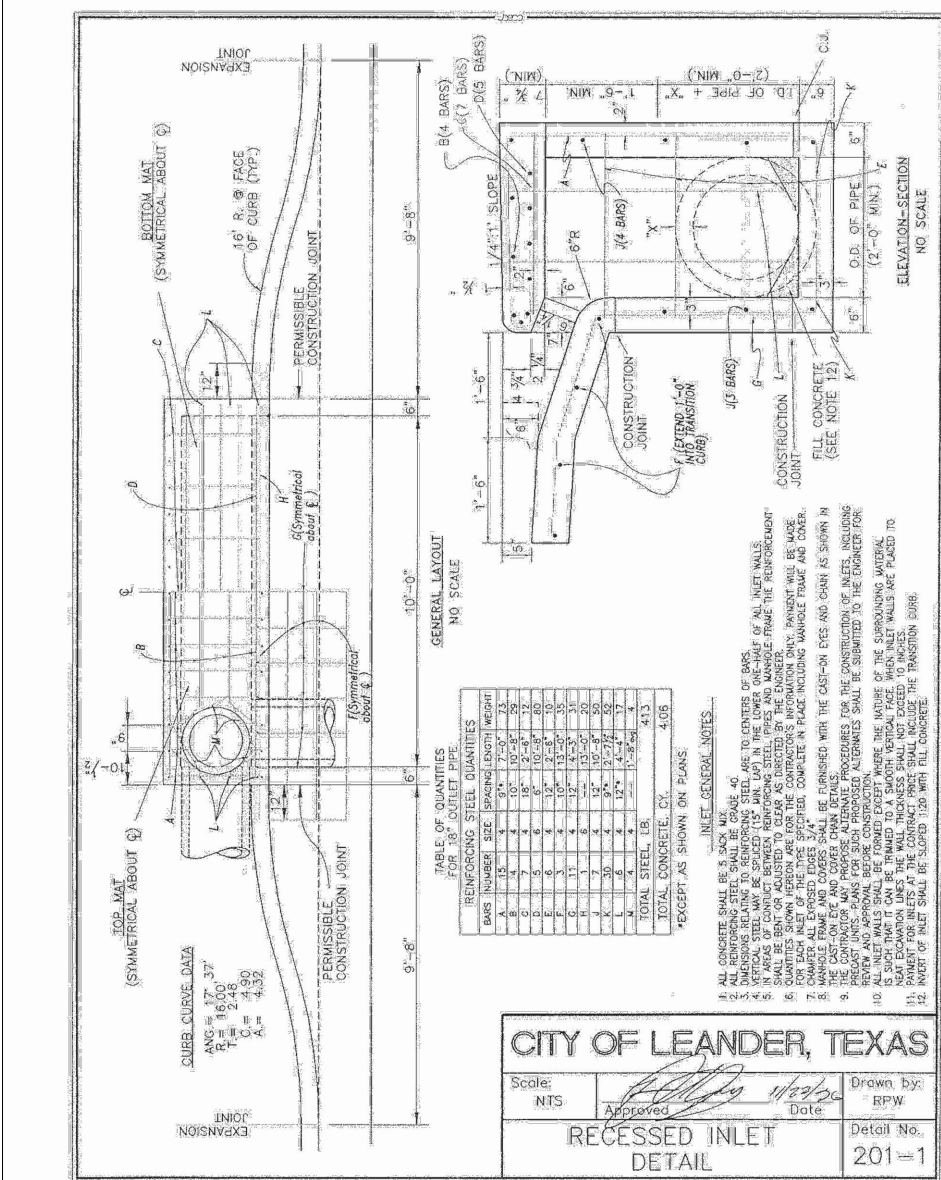
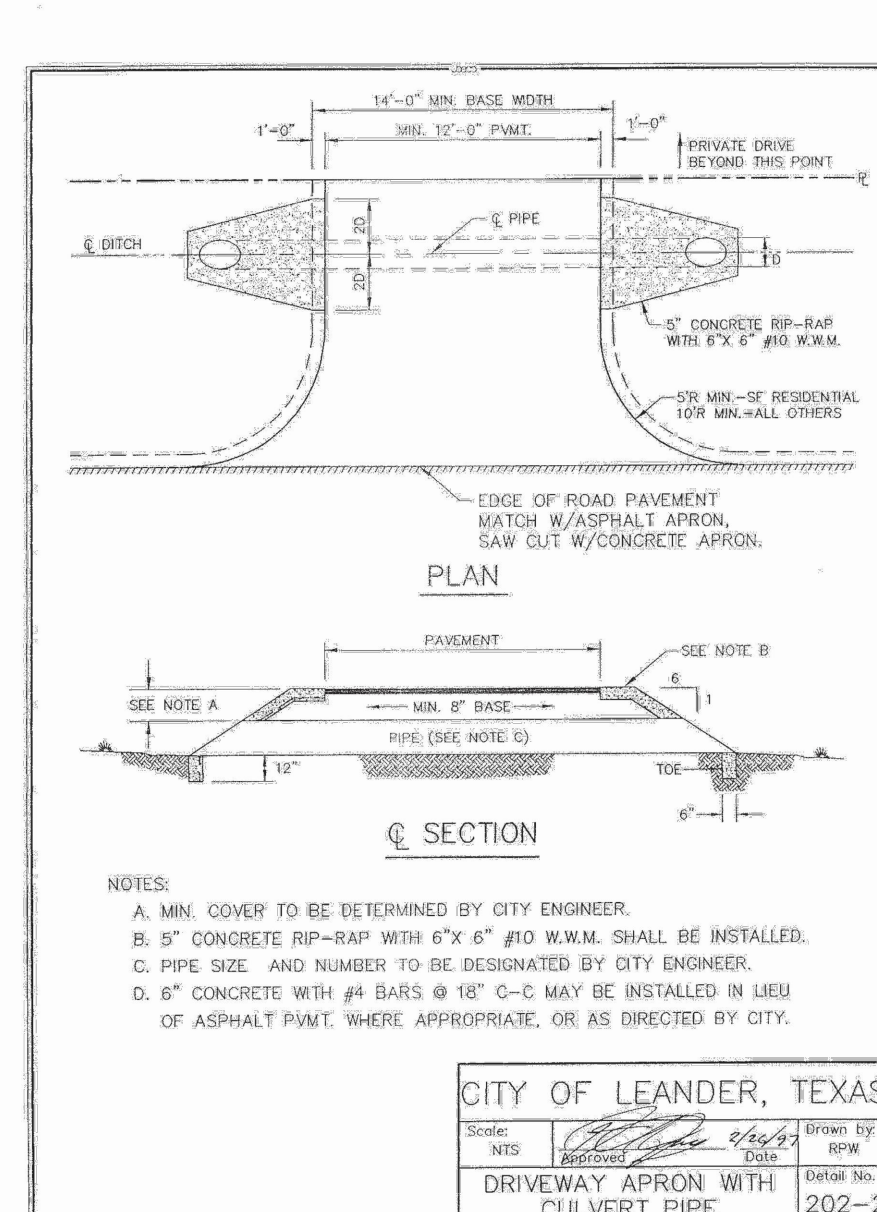
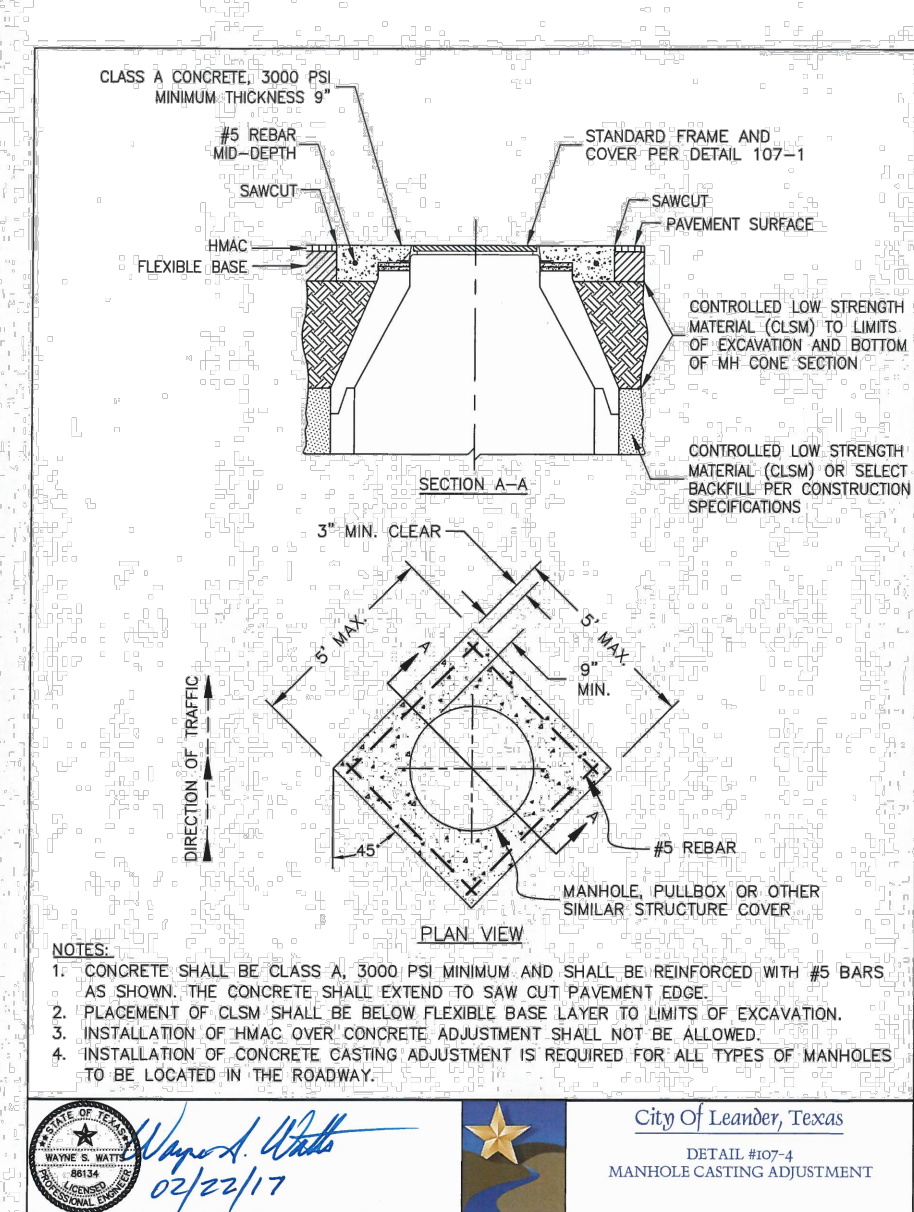
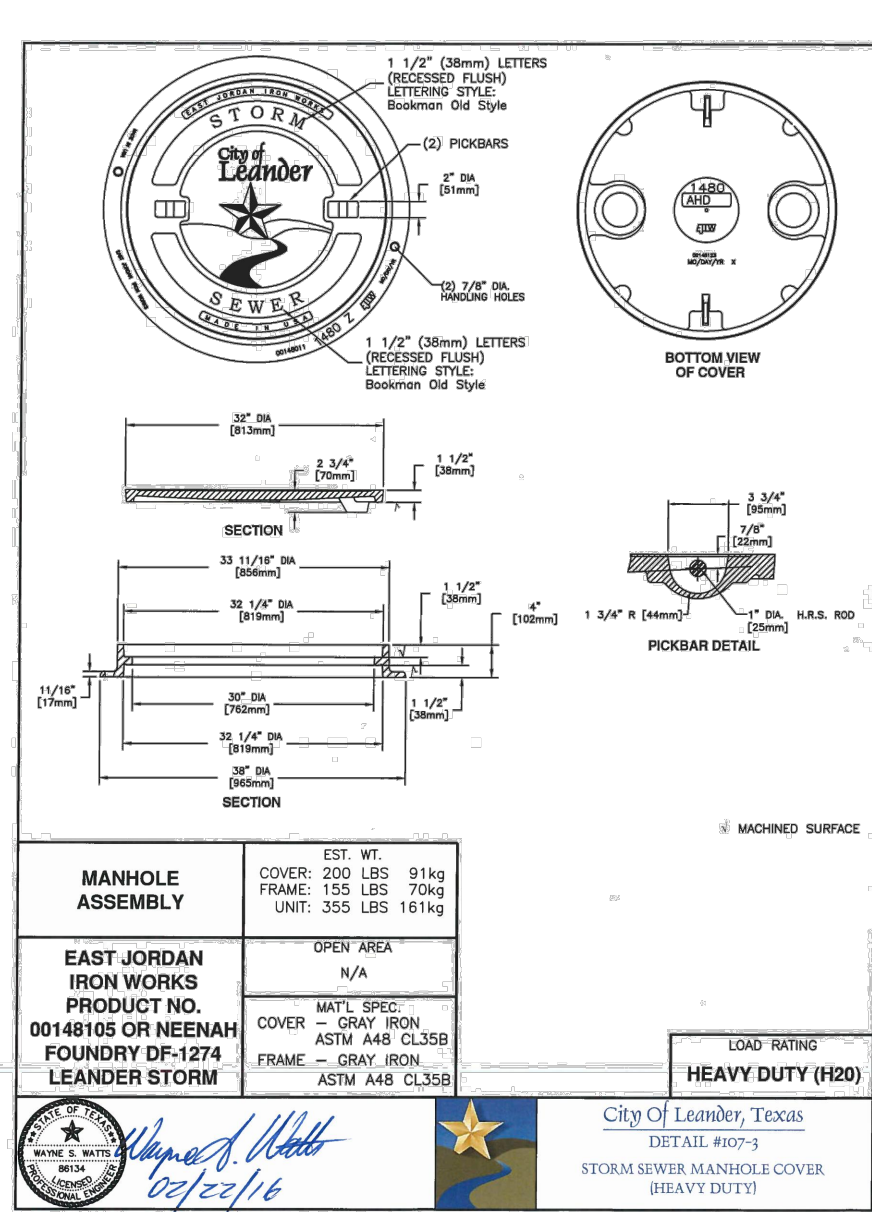
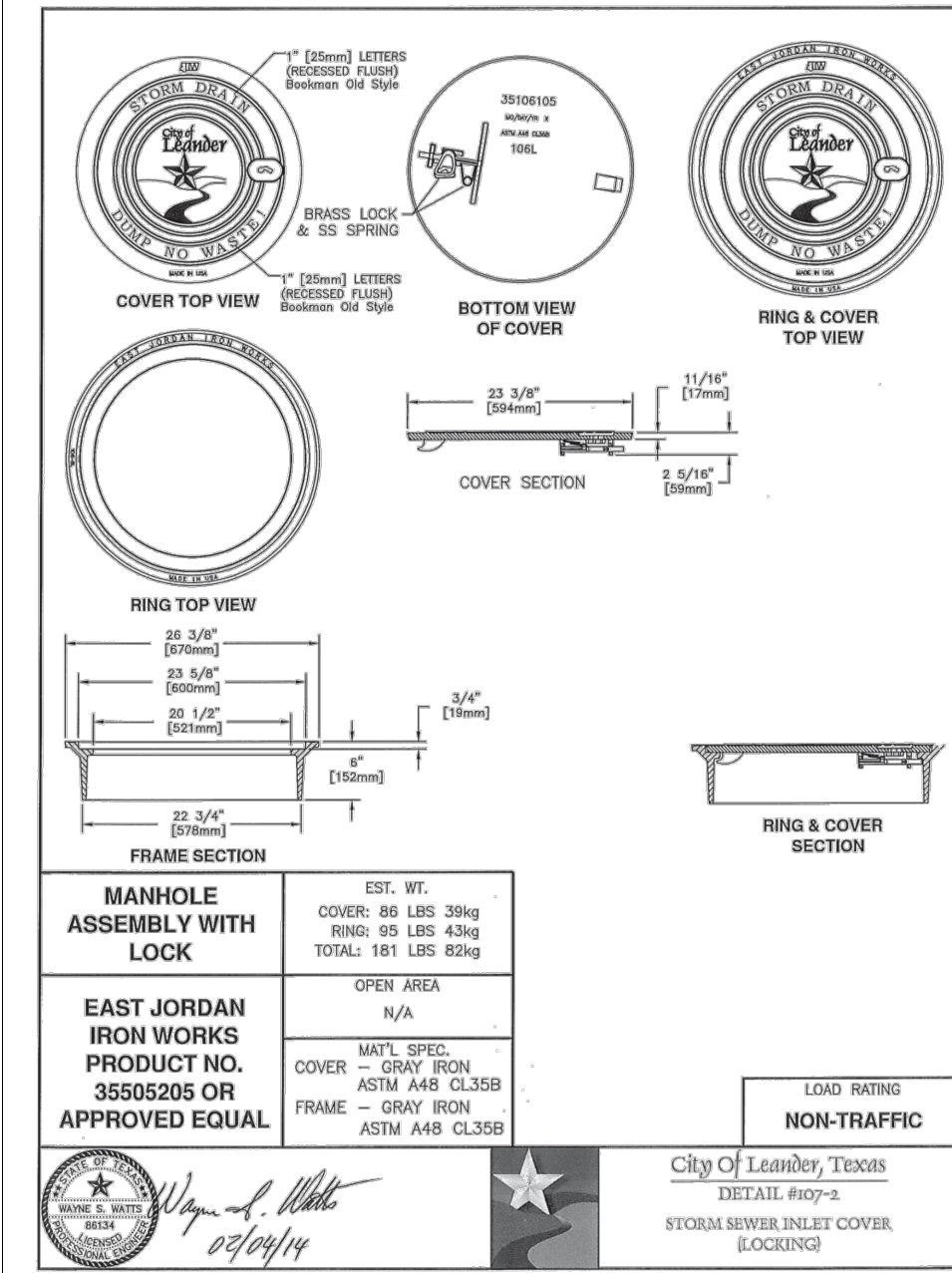
PAVING AND  
SITE DETAILS  
(SHEET 2 OF 2)

VALOR LEANDER  
CITY OF LEANDER  
WILLIAMSON COUNTY, TEXAS

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Plotted By: Ronald, Zach Date: December 01, 2023 03:21:26pm File Path: K:\Users\civil\0695252742-volr-leander\Cad\Site plan\plan sheets\G-Storm Drain Details.dwg  
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**BENCHMARKS**

BENCHMARKS ARE BASED ON NAD83 COORDINATES ARE STATE PLANE CENTRAL ZONE WITH A COMBINED SCALE FACTOR OF 0.9998800143982722

BM #10: SIX COTTON SPINDLE  
GRID NORTH: 10,203,075.39  
GRID EAST: 3,082,766.80  
1035.47

BM #11: SET MAGNETIC NAIL (TRAVIS)  
GRID NORTH: 10,203,986.98  
GRID EAST: 3,082,429.05  
1031.92

Kimley»Horn

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PHONE: 512-418-1771 FAX: 512-418-1791  
WWW.KIMLEY-HORN.COM  
TEXAS REGISTERED ENGINEERING FIRM E-928

Alison Kennaugh

STATE OF TEXAS  
ALLISON KENNAUGH  
114555  
LICENSED  
SURVEYOR

12/1/2023

KHA PROJECT  
0695252742

DATE  
DECEMBER 2023

SCALE  
AS SHOWN

DESIGNED BY  
NAM

DRAWN BY  
ZJR

CHECKED BY  
ACK

STORM DETAILS

VALOR LEANDER  
CITY OF LEANDER  
WILLIAMSON COUNTY, TEXAS

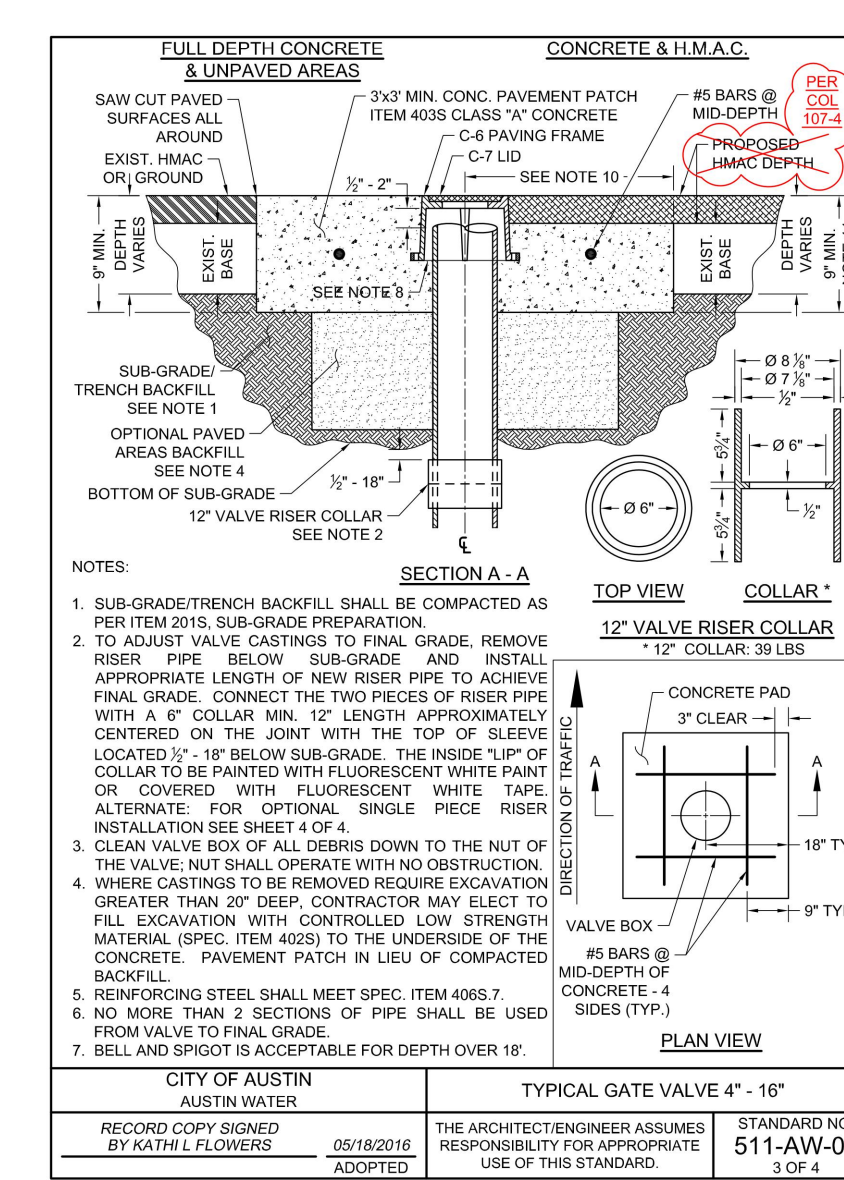
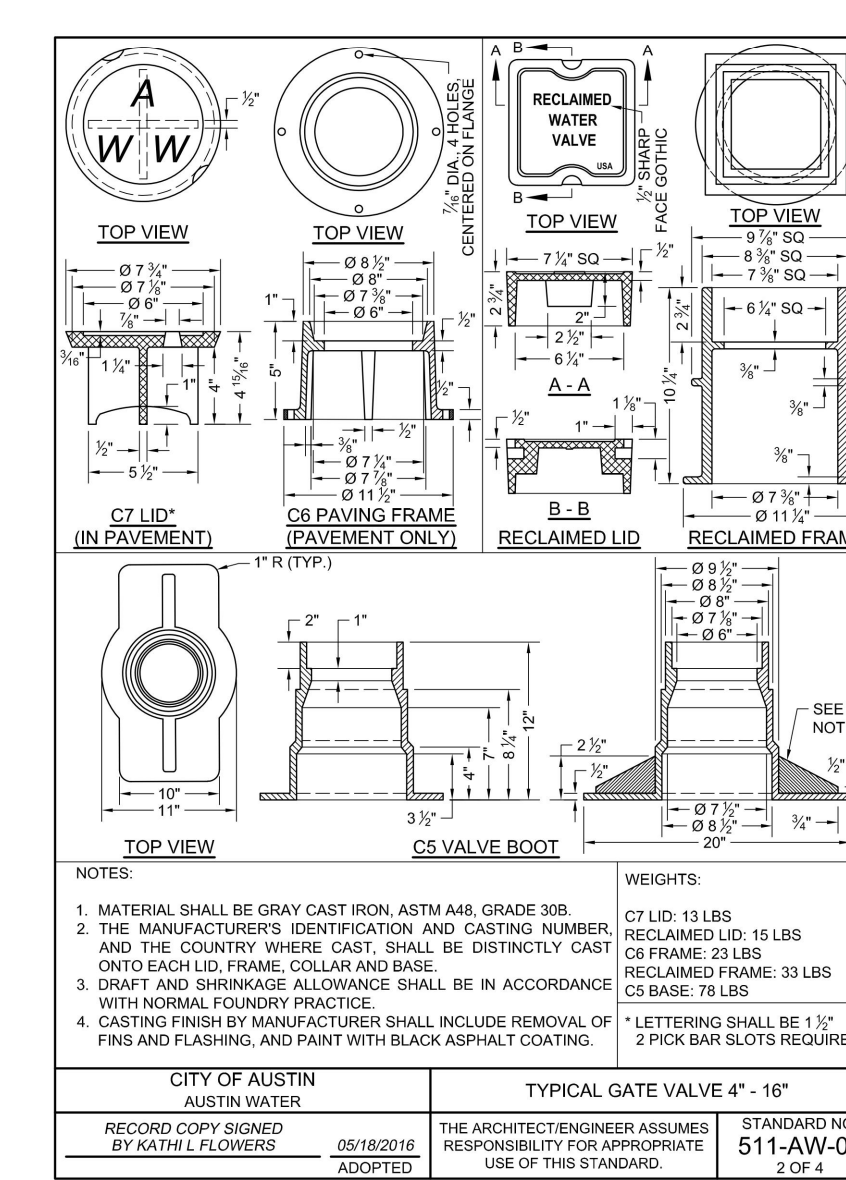
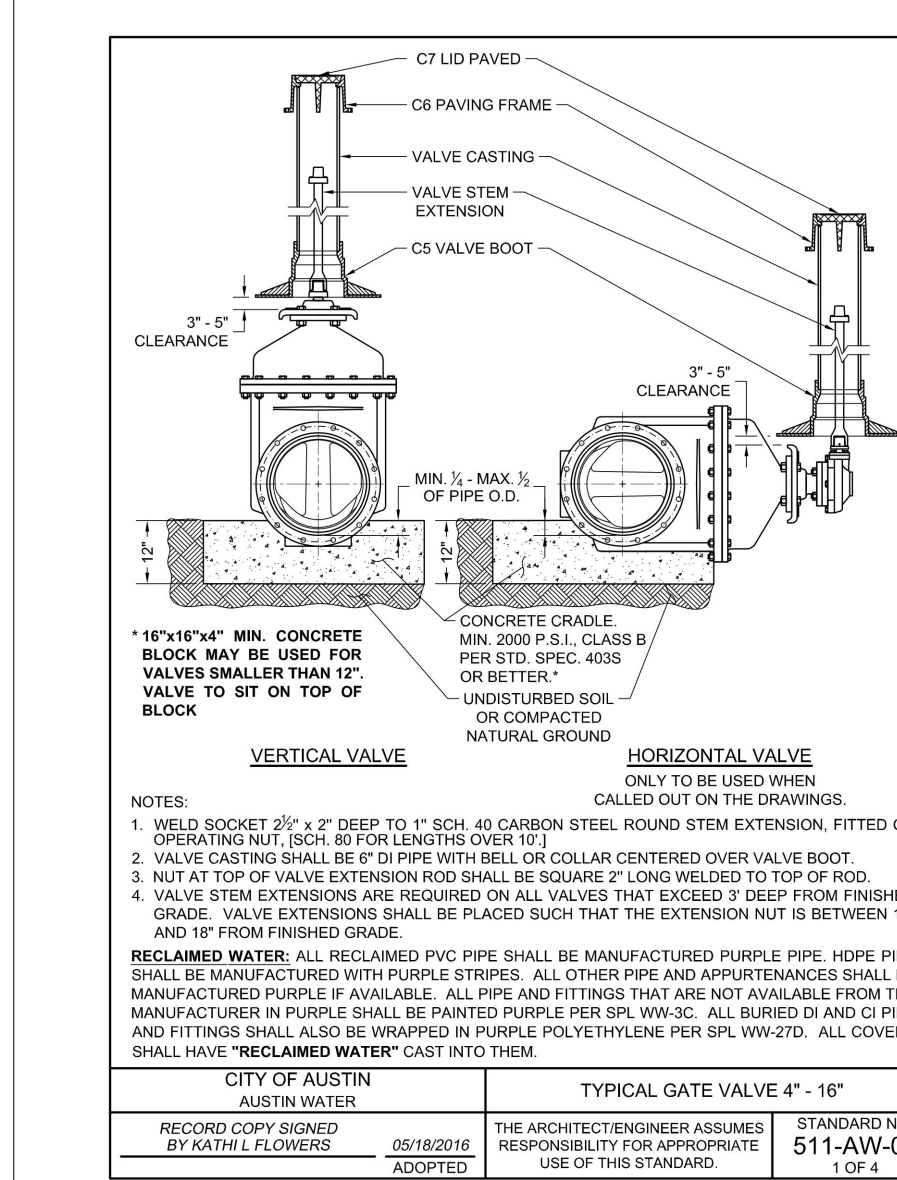
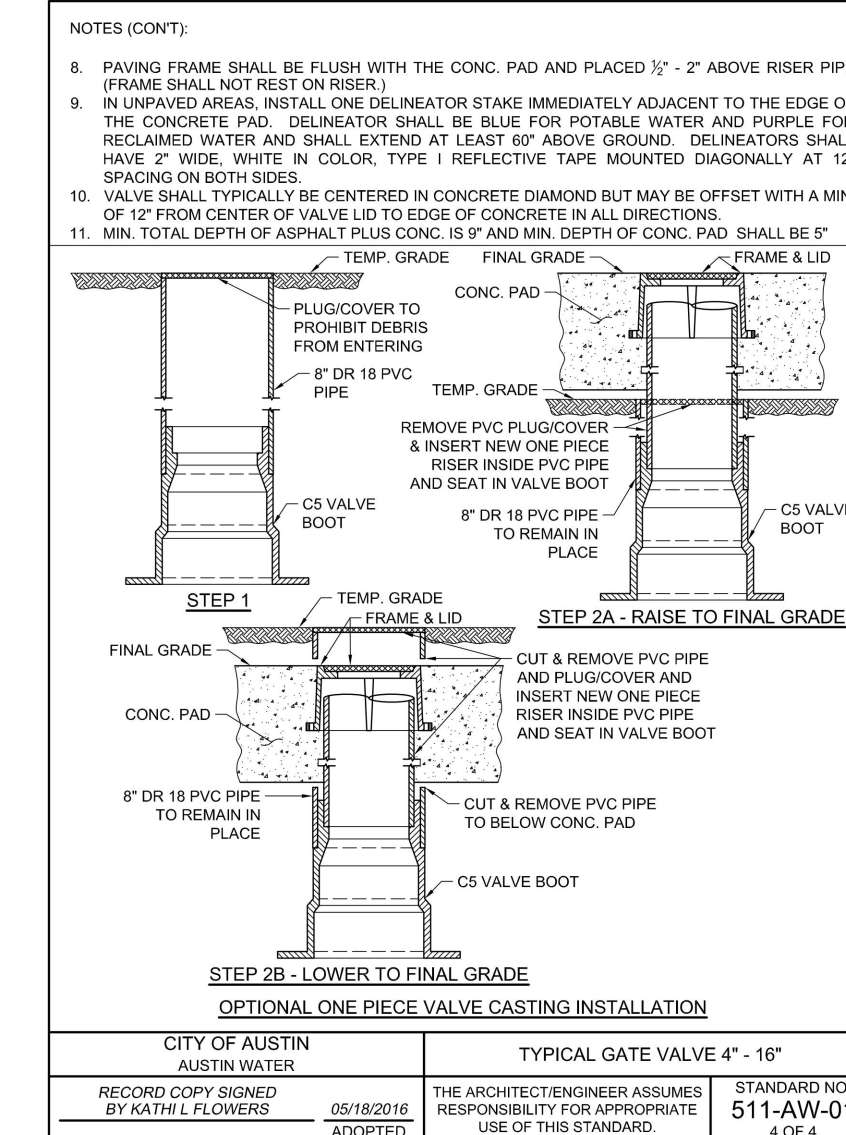
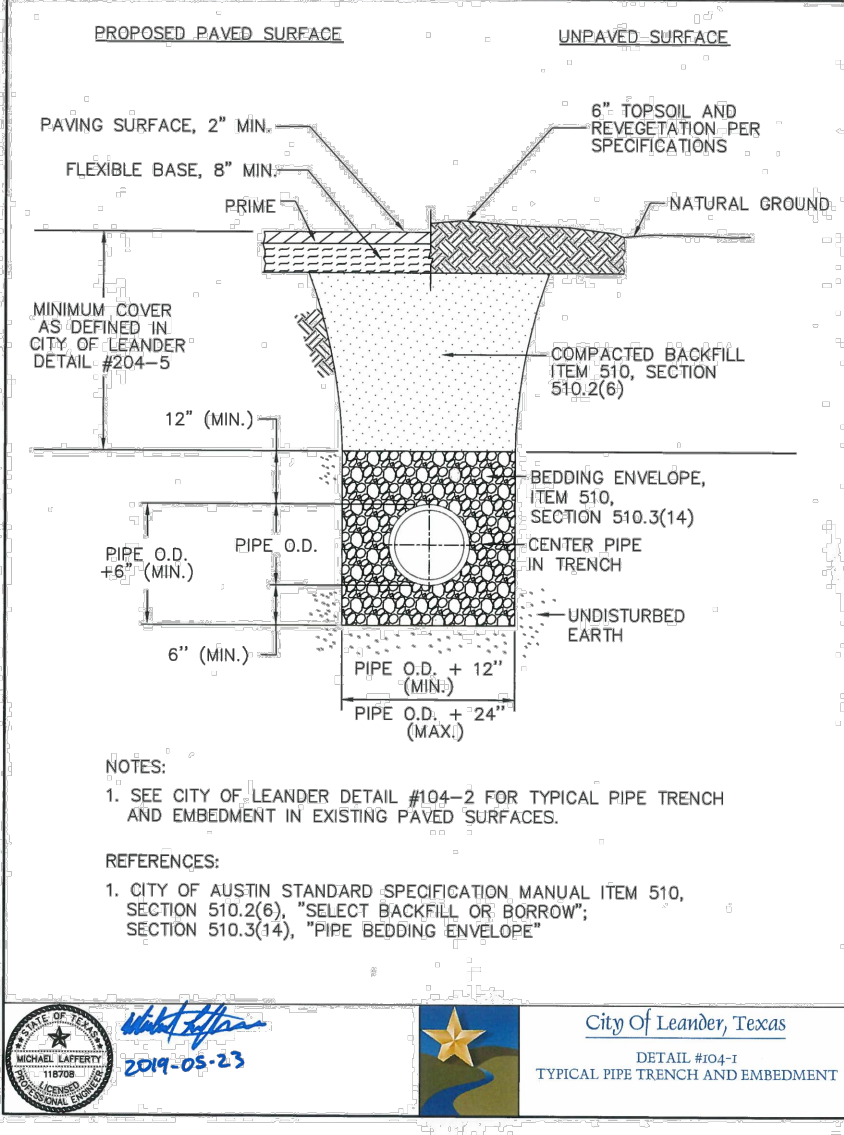
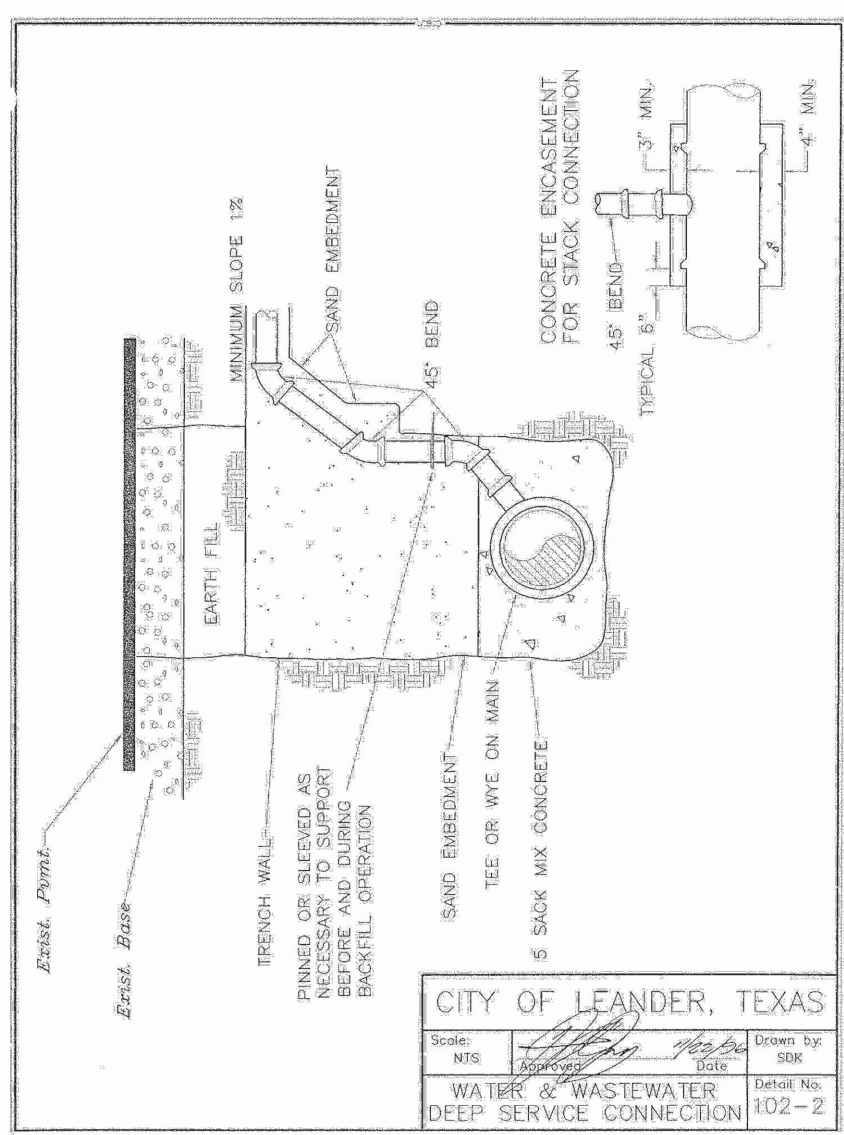
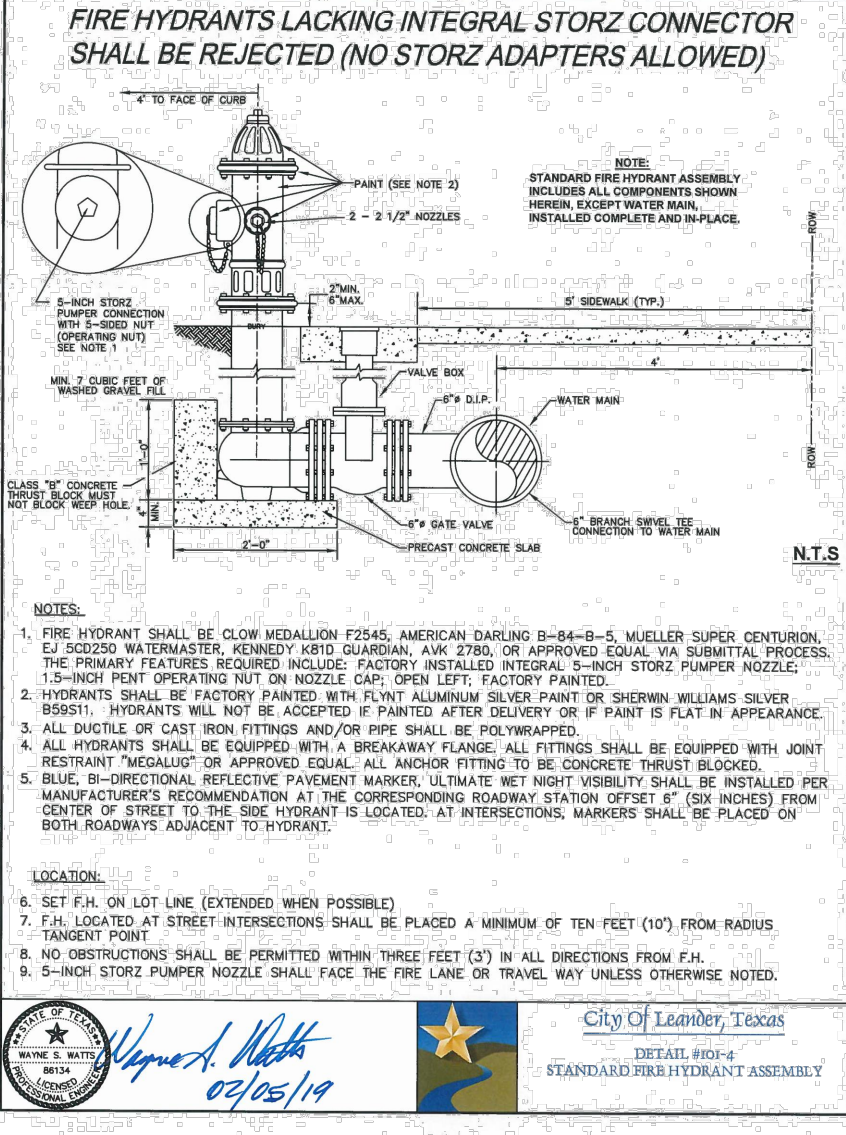
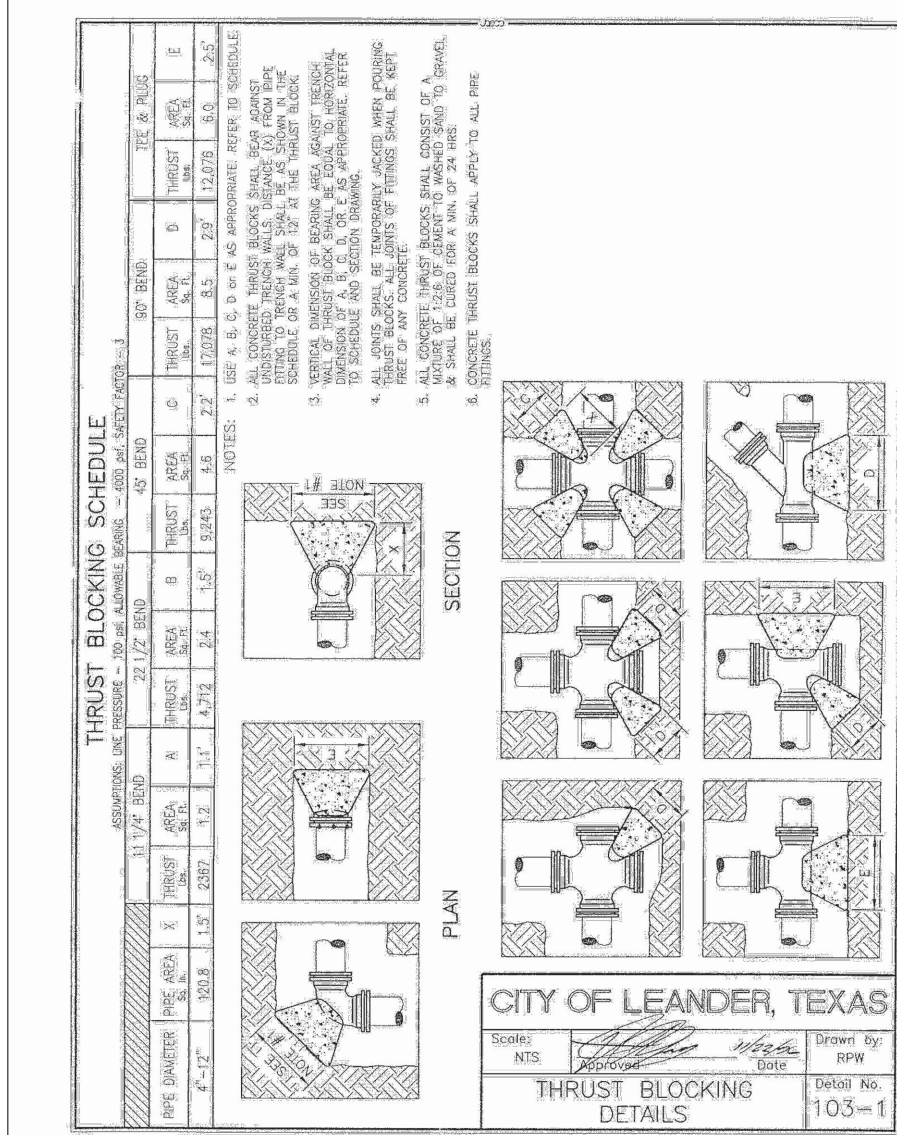
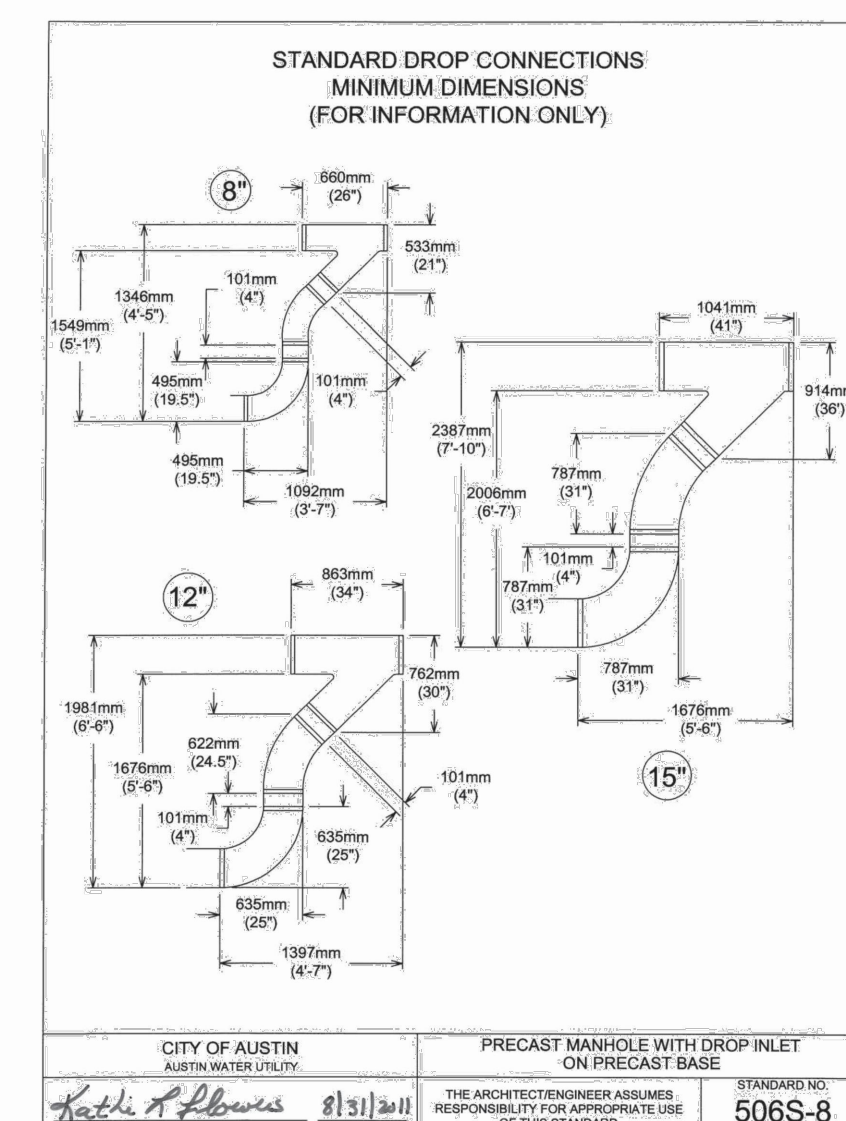
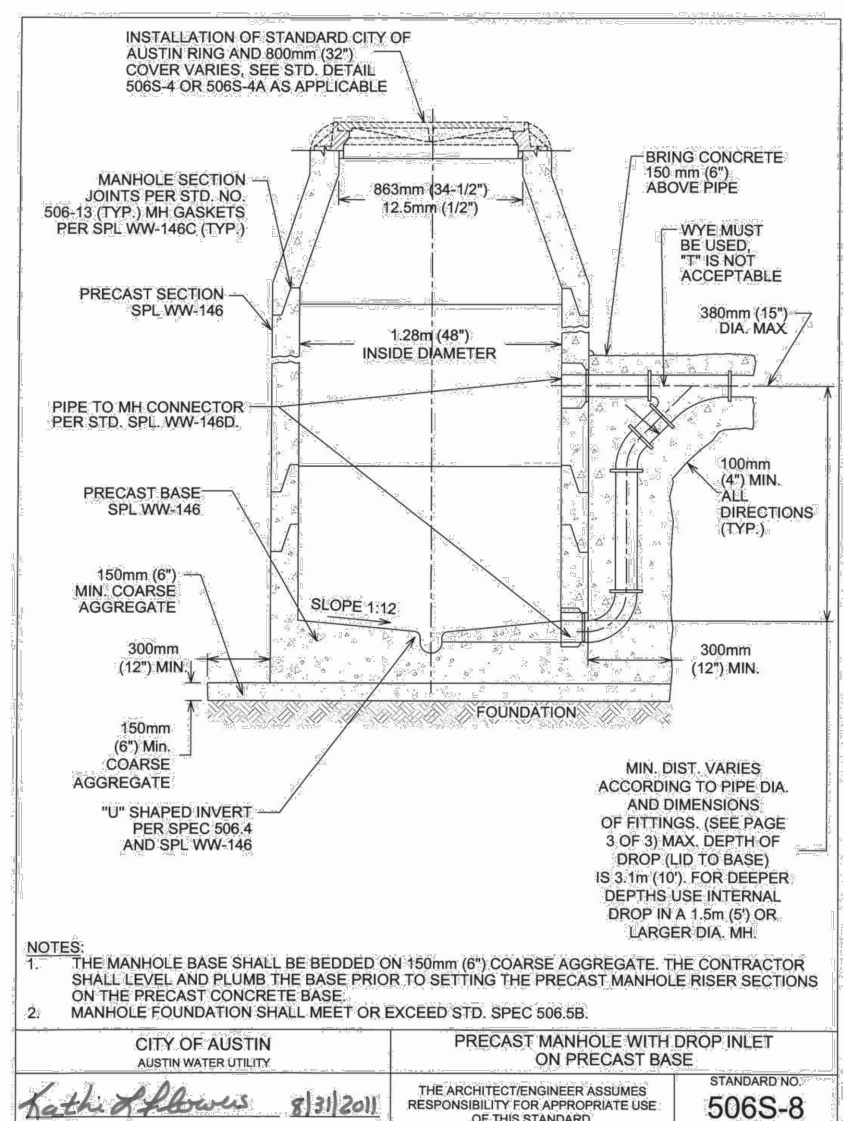
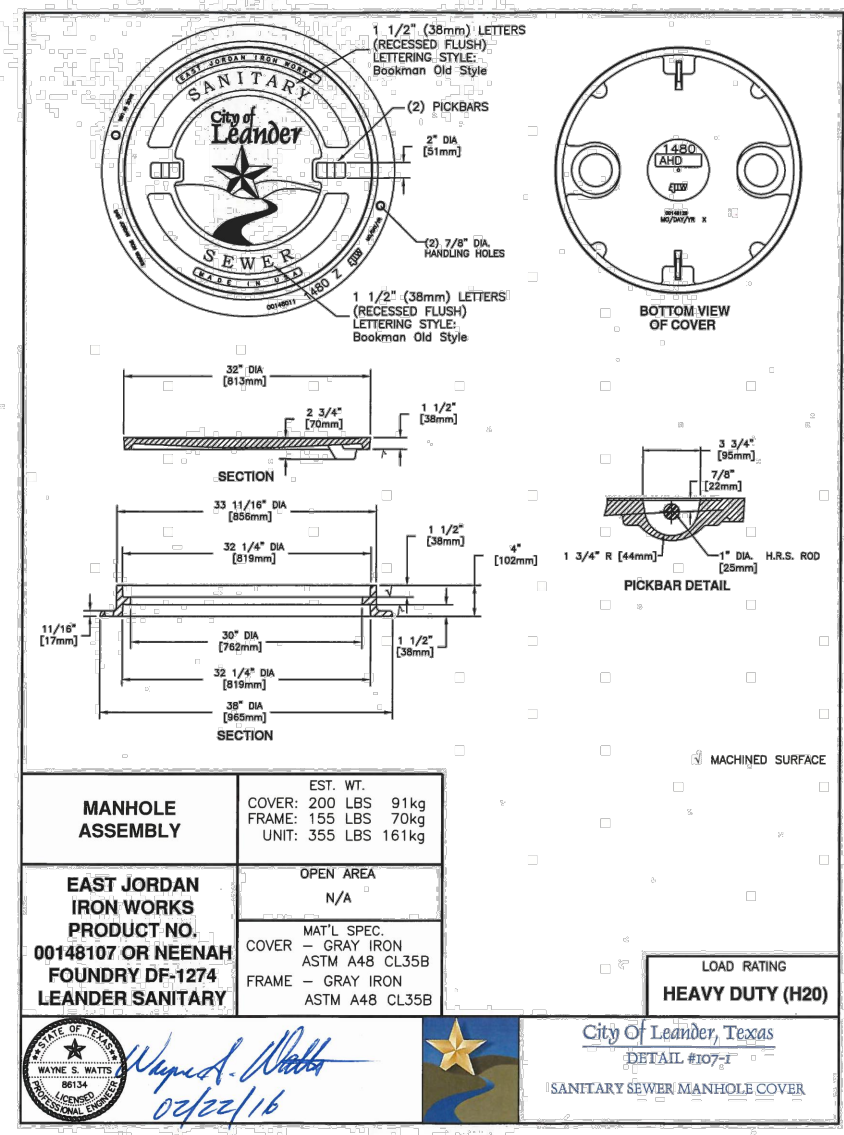
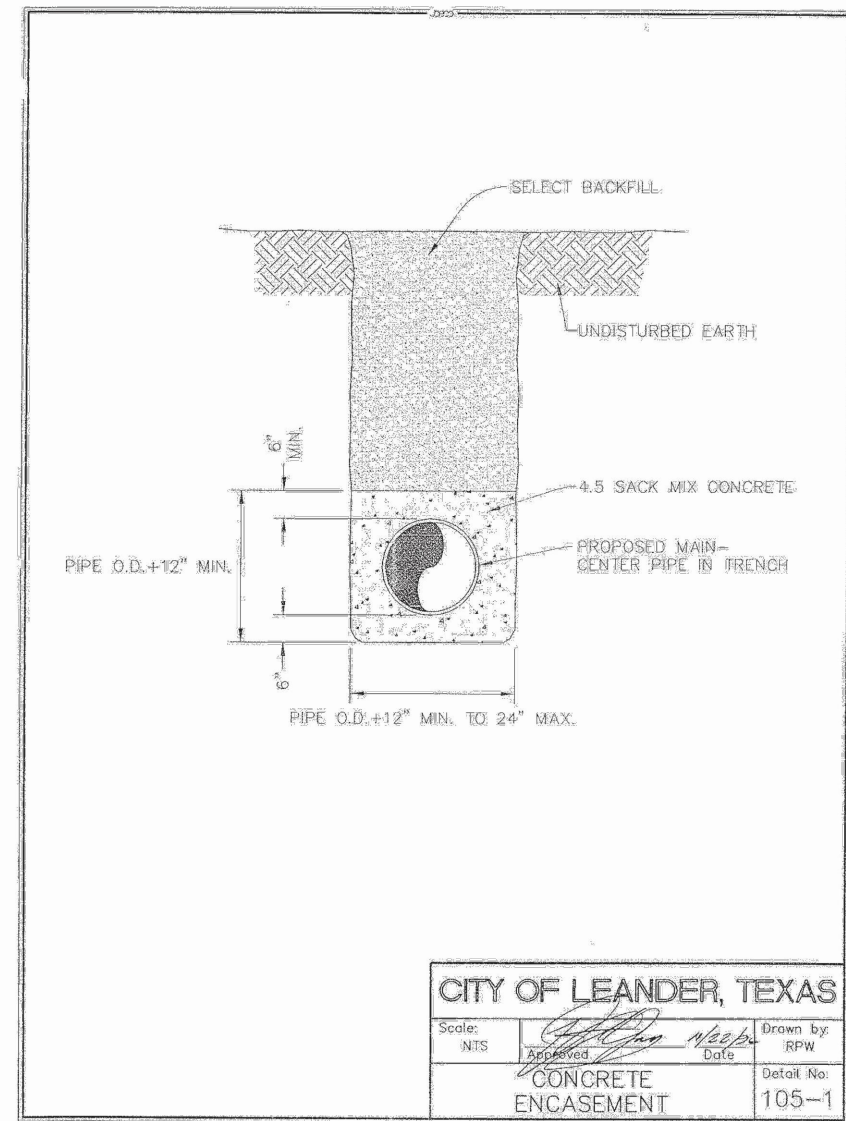
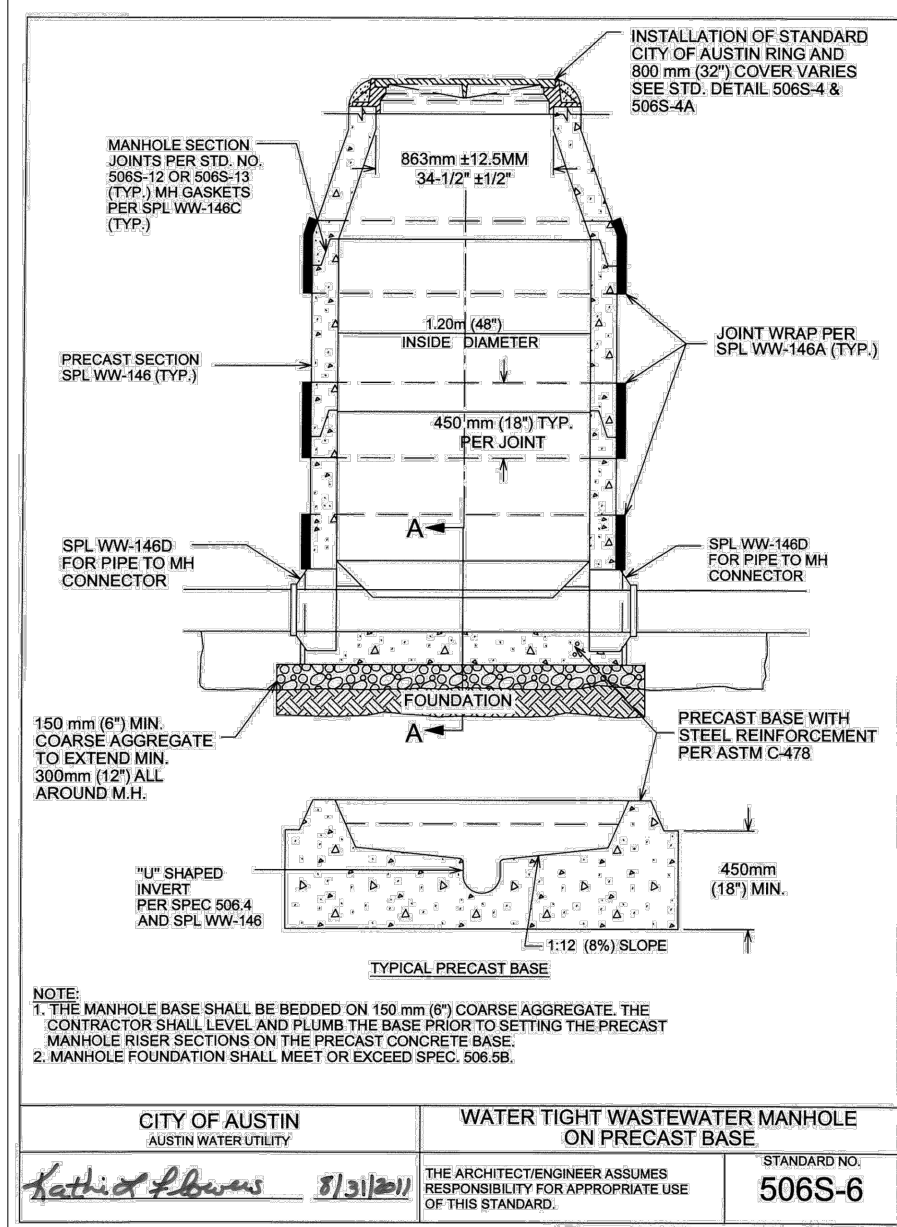
SHEET NUMBER  
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SD-XX-XXXX









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

**811**

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**UTILITY DETAILS (SHEET 2 OF 2)**

**VALOR LEANDER**  
CITY OF LEANDER  
WILLAMSON COUNTY, TEXAS

SHEET NUMBER  
35 OF 39

SD-XX-XXXX