



## WPAP & SCS

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### Atlas Ranch Phase 1, Section 1

Prepared for: Atlas Ranch Holdings, L.P.

Prepared by: Gray Engineering, Inc.

TBPE Registered Firm #: 2946

# 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> Atlas Ranch Holdings, L.P.				<b>2. Regulated Entity No.:</b> 111613758			
<b>3. Customer Name:</b> Matt Michelsen				<b>4. Customer No.:</b> 606063634			
<b>5. Project Type:</b> (Please circle/check one)	New	Modification		Extension	Exception		
<b>6. Plan Type:</b> (Please circle/check one)	WPAP	CZP	SCS	UST	AST	EXP	EXT
<b>7. Land Use:</b> (Please circle/check one)	Residential	Non-residential				<b>8. Site (acres):</b>	895.94 AC
<b>9. Application Fee:</b>	\$13,992	<b>10. Permanent BMP(s):</b>			Batch Detention Pond (1), VFS (1)		
<b>11. SCS (Linear Ft.):</b>	7,984	<b>12. AST/UST (No. Tanks):</b>			N/A		
<b>13. County:</b>	Williamson	<b>14. Watershed:</b>			South Salado Creek		

# Application Distribution

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

[http://www.tceq.texas.gov/assets/public/compliance/field\\_ops/eapp/EAPP%20GWCD%20map.pdf](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)	—	—	<u>  X  </u>
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>  </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.

Nick Marino, P.E.

Print Name of Customer/Authorized Agent

*Nick Marino*

*8/23/2024*

Signature of Customer/Authorized Agent

Date

**\*\*FOR TCEQ INTERNAL USE ONLY\*\***

Date(s) Reviewed:		Date Administratively Complete:	
Received From:		Correct Number of Copies:	
Received By:		Distribution Date:	
EAPP File Number:		Complex:	
Admin. Review(s) (No.):		No. AR Rounds:	
Delinquent Fees (Y/N):		Review Time Spent:	
Lat./Long. Verified:		SOS Customer Verification:	
Agent Authorization Complete/Notarized (Y/N):		Fee Check:	Payable to TCEQ (Y/N):
Core Data Form Complete (Y/N):			Signed (Y/N):
Core Data Form Incomplete Nos.:			Less than 90 days old (Y/N):

# General Information Form

## Texas Commission on Environmental Quality

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

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

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

## Signature

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

Print Name of Customer/Agent: Nick Marino, P.E.

Date: 8/23/2024

Signature of Customer/Agent:

Nick Marino

## Project Information

1. Regulated Entity Name: Atlas Ranch
2. County: Williamson
3. Stream Basin: South Salado Creek
4. Groundwater Conservation District (If applicable): N/A
5. Edwards Aquifer Zone:  
☐ Recharge Zone  
☐ Transition Zone
6. Plan Type:  
☒ WPAP  
☒ SCS  
☒ Modification  
☐ AST

☐ UST

☐ Exception Request

7. Customer (Applicant):

Contact Person: Matt Michelsen

Entity: Atlas Ranch Holdings, LP

Mailing Address: 115 E. 5<sup>th</sup> St #200

City, State: Austin, TX

Zip: 78701

Telephone: (858) 204-4100

FAX: N/A

Email Address: mcm@michelsen.com

8. Agent/Representative (If any):

Contact Person: Nick Marino, P.E.

Entity: Gray Engineering, Inc.

Mailing Address: 8834 N. Capital of Texas Highway, Suite 140

City, State: Austin, TX

Zip: 78759

Telephone: (469) 834-8611

FAX: N/A

Email Address: nmarino@grayengineeringinc.com

9. Project Location:

☐ The project site is located inside the city limits of \_\_\_\_\_.

☐ 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.

Just northwest of the intersection of County Road 305 and 344 approximately 2 miles northwest of the City of Jarrell

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

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

☒ Project site boundaries.

☒ USGS Quadrangle Name(s).

☐ Boundaries of the Recharge Zone (and Transition Zone, if applicable).

☐ Drainage path from the project site to the boundary of the Recharge Zone.

13. ☒ **The TCEQ must be able to inspect the project site or the application will be returned.** Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate

the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment.

☒ Survey staking will be completed by this date: \_\_\_\_\_

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

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

15. Existing project site conditions are noted below:

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

### ***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)

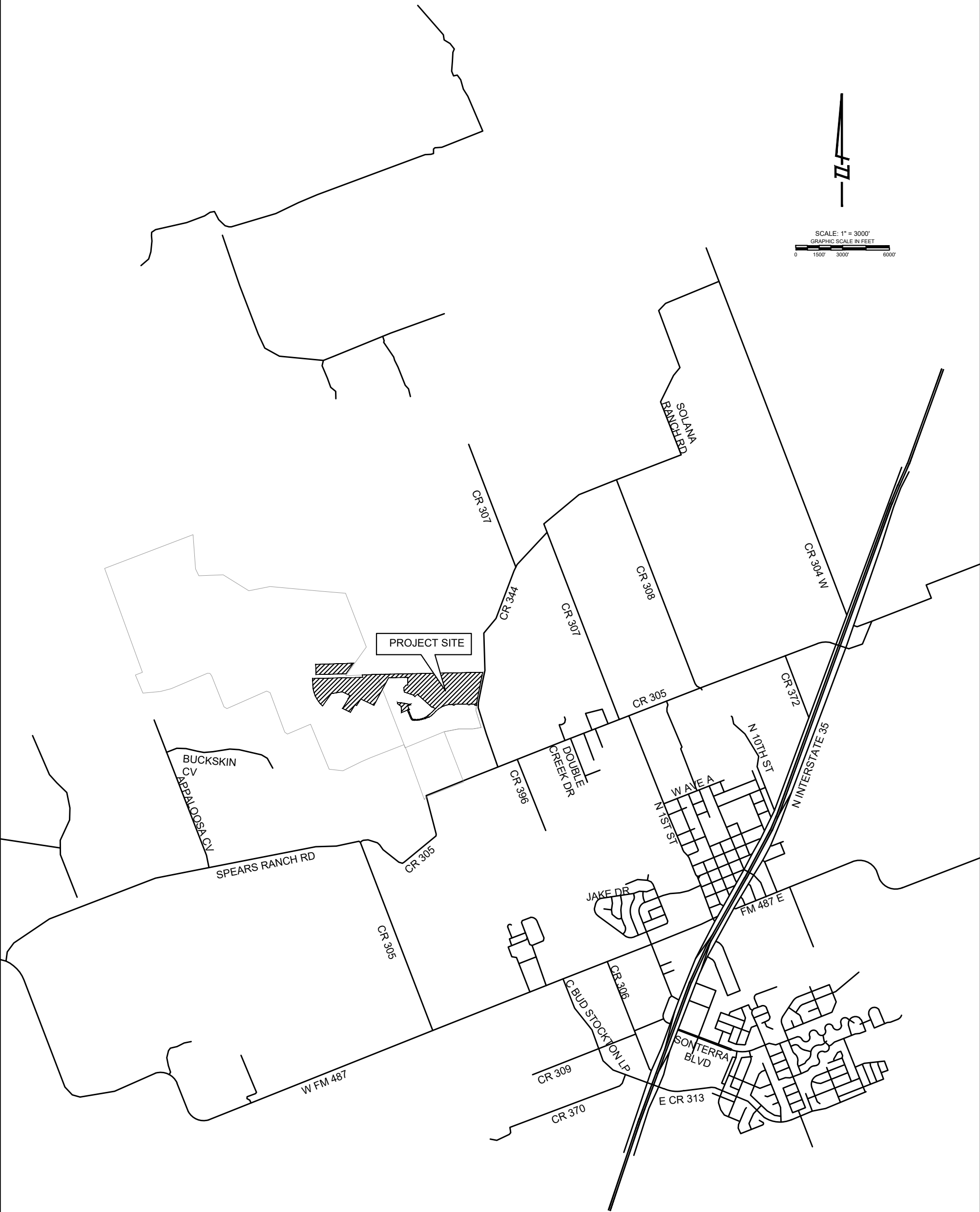
20. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies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


ATLAS RANCH - PHASE 1 SECTION 1  
WATER POLLUTION ABATEMENT PLAN  
ROAD MAP



SCALE: 1" = 3000'  
GRAPHIC SCALE IN FEET  
0 1500' 3000' 6000'

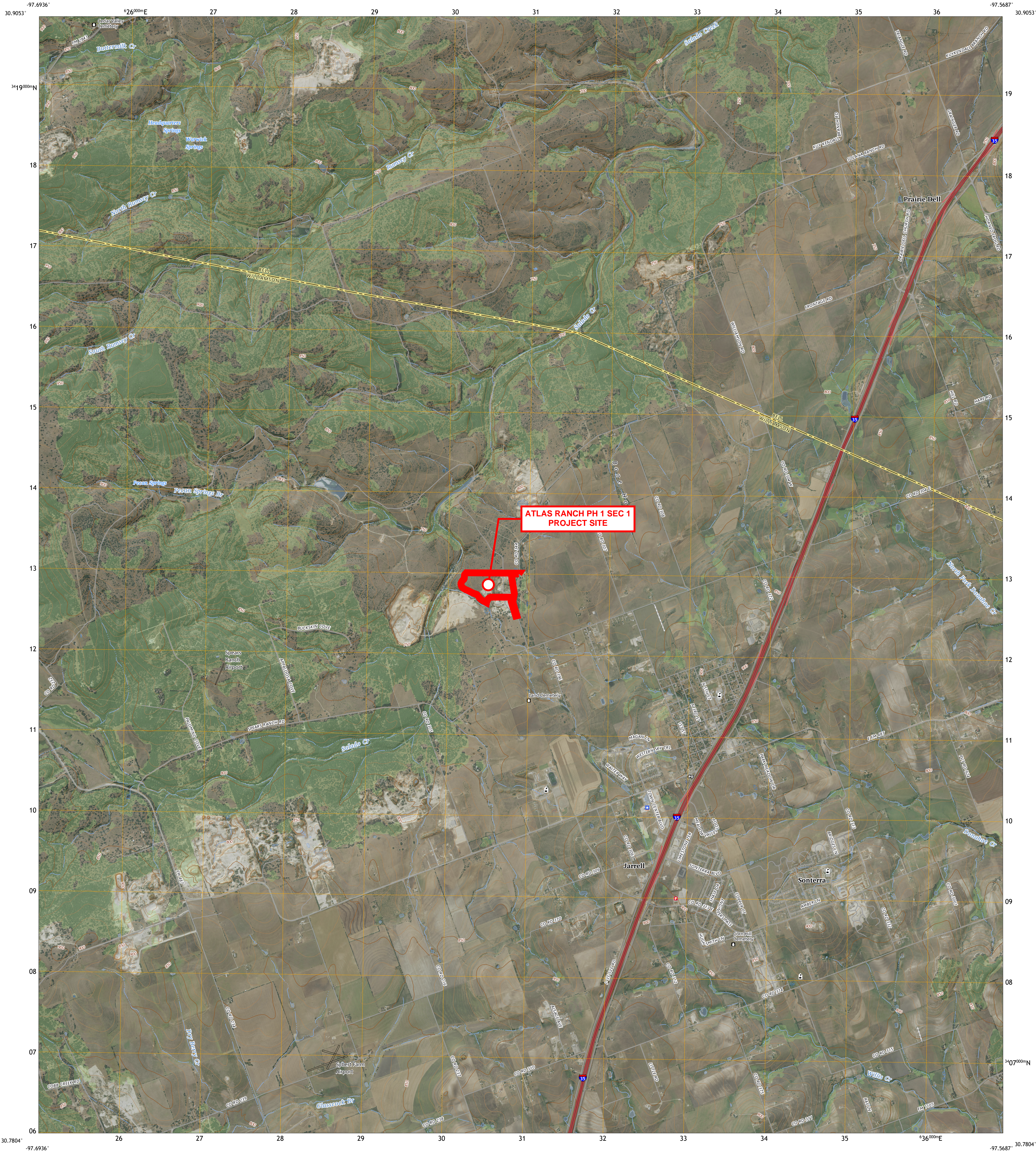


PROJECT NO.	11727	DRAWN BY:	KEL
DATE:	06/04/2024	CHECKED BY:	MZ



8834 N. Capital of Texas Hwy.  
Austin, Texas 78759  
Suite 140  
(512)452-0371  
FAX(512)454-9933  
TBPELS FIRM #2946



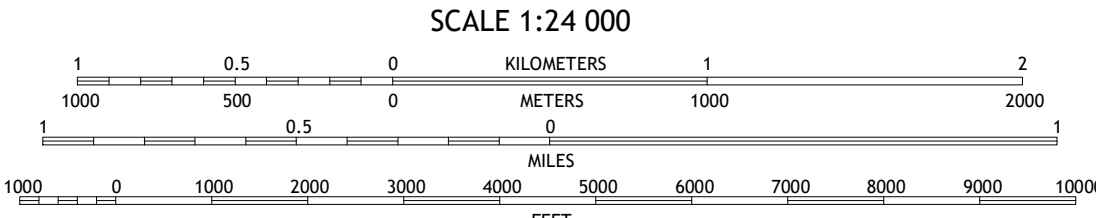
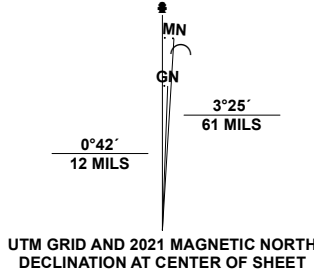


Produced by the United States Geological Survey

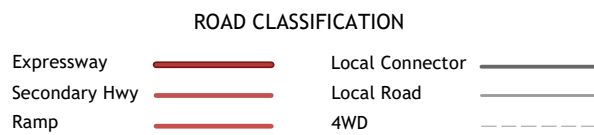
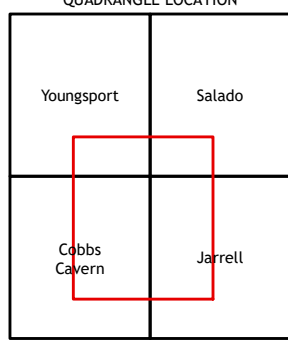
North American Datum of 1983 (NAD83)  
World Geodetic System of 1984 (WGS84). Projection and  
1 000-meter grid/Universal Transverse Mercator, Zone 14R  
Data is provided by The National Map (TNM), is the best available at the time of map  
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Hydrography, Geographic Names, Boundaries, Transportation, Structures, Land Cover,  
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CONTOUR INTERVAL 10 FEET  
NORTH AMERICAN VERTICAL DATUM OF 1988  
CONTOUR SMOOTHNESS = Medium



7.5-MINUTE TOPO, TX  
2023



## Attachment C – Project Description

Atlas Ranch Phase 1, Section 1 lies on multiple tracts totaling 895.94-acres in Williamson County, Texas. The site is located approximately 0.88 miles northwest of the intersection of CR-305 and CR-344.

A small portion of the site contains 1.21 acres of offsite drainage. This area is located at the northeast corner of the site.

No existing impervious cover lies within the project boundary. A total of 69.19 acres will be disturbed in Phase 1, Section 1 by regulated activities such as grading, utility installation, road construction, wastewater treatment plant construction, and home construction for 226 single-family residential lots. An additional 37.02 acres will be reserved for a TLAP, where Phase 1, Section 1 will discharge to. These disturbed areas will be accounted for with various erosion controls, as seen in the Erosion Control sheets from the Construction Plans provided. Thus, the total project site equates to 106.21 acres.

Phase 1, Section 1 includes one (1) batch detention pond and one (1) vegetated filter strip. Batch Detention Pond A will receive 40.96 acres of runoff with 24.34 acres of impervious cover. This equates to a required TSS removal of 21,186 pounds, which Pond A is sized to remove.

VFS 1 receives 2.64 acres of runoff with 1.77 acres of impervious cover. This equates to a required TSS removal of 1,541 pounds, however, VFS 1 will remove 1,679 pounds.

The 1.21 acres of offsite drainage, which includes 0.07 acres of impervious cover, will be untreated. The required TSS removal is 61 pounds and will be accounted for through the overtreatment provided in VFS 1. The TLAP area will contain no impervious cover.

In total, the 106.21-acre site contains 26.18 acres of impervious cover with a required 22,788 pounds of TSS removal. The proposed BMPs will remove 22,865 pounds of removal.

The Atlas Ranch tract once operated as an unregulated quarry site. It was previously registered with TCEQ under the name “Jarrell Site” under the customer name Superior Stone Inc, CN602807927. Quarry activities have ceased and the site has been filled to best mimic previously existing drainage patterns.

A WPAP for the cleanup, remediation, and excavation and embankment of the site has been submitted and approved. It was approved on February 17, 2023 under the Edwards Aquifer Protection Program ID No. 11003384 and Regulated Entity No. RN111613758.

# 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: D Bryan Pairsh

Telephone: 512-535-4368

Date: 02/14/2023 (original - 11/11/2022)

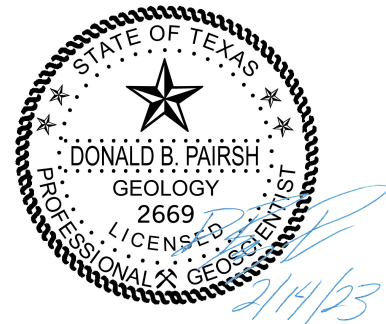
Fax: 512-535-4451

Representing: Capitol Environmental, Inc TBPG Firm Registration #50389 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: Atlas Ranch



## Project Information

1. Date(s) Geologic Assessment was performed: 01/21/2022 thru 01/27/2022 and 02/10/2023

2. Type of Project:

- ☒ WPAP  
☒ SCS

- ☐ AST  
☐ UST

3. Location of Project:

- ☒ Recharge Zone  
☐ Transition Zone  
☐ Contributing Zone within the Transition Zone

4. ☒ **Attachment A - Geologic Assessment Table.** Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.
5. ☒ Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups\* (Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A, Soil Conservation Service, 1986). If there is more than one soil type on the project site, show each soil type on the site Geologic Map or a separate soils map.

**Table 1 - Soil Units, Infiltration Characteristics and Thickness**

Soil Name	Group*	Thickness(feet)
Eckrant stony clay (EeB), 0-3 % slope	D	1-10'
Eckrant-Rock outcrop (ErE), rolling	D	1-10'
Georgetown stony clay loam (GsB), 1-3 % slopes	D	1-10'
Georgetown clay loam (GeB), 0-2% slopes	D	1-10'
Denton silty clay (DnB), 1-3% slopes	D	1-10'

Soil Name	Group*	Thickness(feet)
Doss silty clay (DoC), 1-5% slopes	D	1-10'
Oakalla soils, frequently flooded (Of)	B	1-10'

*\* 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" = 200'  
Site Geologic Map Scale: 1" = 200'  
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 2 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)

☐ The wells are not in use and have been properly abandoned.

☐ The wells are not in use and will be properly abandoned.

☒ The wells are in use and comply with 16 TAC Chapter 76.

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

### ***Administrative Information***

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

## Attachment A – Geologic Table

GEOLOGIC ASSESSMENT TABLE										PROJECT NAME: ATLAS RANCH										
LOCATION				FEATURE CHARACTERISTICS										EVALUATION			PHYSICAL SETTING			
1A	1B*	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10	11	12		
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	D.O.M	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY	CATCHMENT AREA (ACRES)	TOPOGRAPHY		
						X	Y	Z		10						<40	>40	>1.6		
F-1	30.841529	-97.646050	WV	20	Ked	inaccessible							C	5	25	X	X	HILLSIDE		
F-2	30.842616	-97.637130	SC	20	Ked	0.3	0.3	1					O	10	30	X	X	HILLTOP		
W-3	30.839619	-97.632931	MB	30	Ked					Waterwell			X	0	30	X	X	HILLTOP		
W-4	30.839124	-97.632465	MB	30	Ked					Waterwell			X	0	30	X	X	HILLTOP		
Q-5	30.839550	-97.647891	MB	30	Ked	Limits shown on map				Quarry			C	5	35	X	X	HILLTOP		
Q-6	30.838728	-97.648947	MB	30	Ked					Quarry					C	5	35	X	X	HILLTOP
Q-7	30.836989	-97.648026	MB	30	Ked					Quarry					C	5	35	X	X	HILLTOP
S-8	30.840950	-97.641527	O	5	Ked				20	Salado Creek			C	35	40	X	X	STREAMBED		
S-9	30.840729	-97.638334	O	5	Ked				295	Salado Cr Trib			C	35	40	X	X	STREAMBED		
F-42	30.841112	-97.646610	WV	20	Ked	inaccessible							C	5	25	X	X	HILLSIDE		
F-43	30.840289	-97.647184	WV	20	Ked	inaccessible							C	5	25	X	X	HILLSIDE		
F-44	30.839995	-97.647360	WV	20	Ked	inaccessible							C	5	25	X	X	HILLSIDE		
F-45	30.839710	-97.647580	WV	20	Ked	inaccessible							C	5	25	X	X	HILLSIDE		
F-46	30.839423	-97.647813	WV	20	Ked	inaccessible							C	5	25	X	X	HILLSIDE		

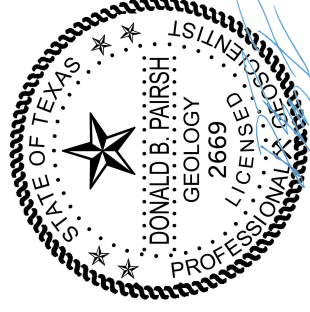
\*DATUM: NAD 83 StatePlane Texas Central

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

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

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

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

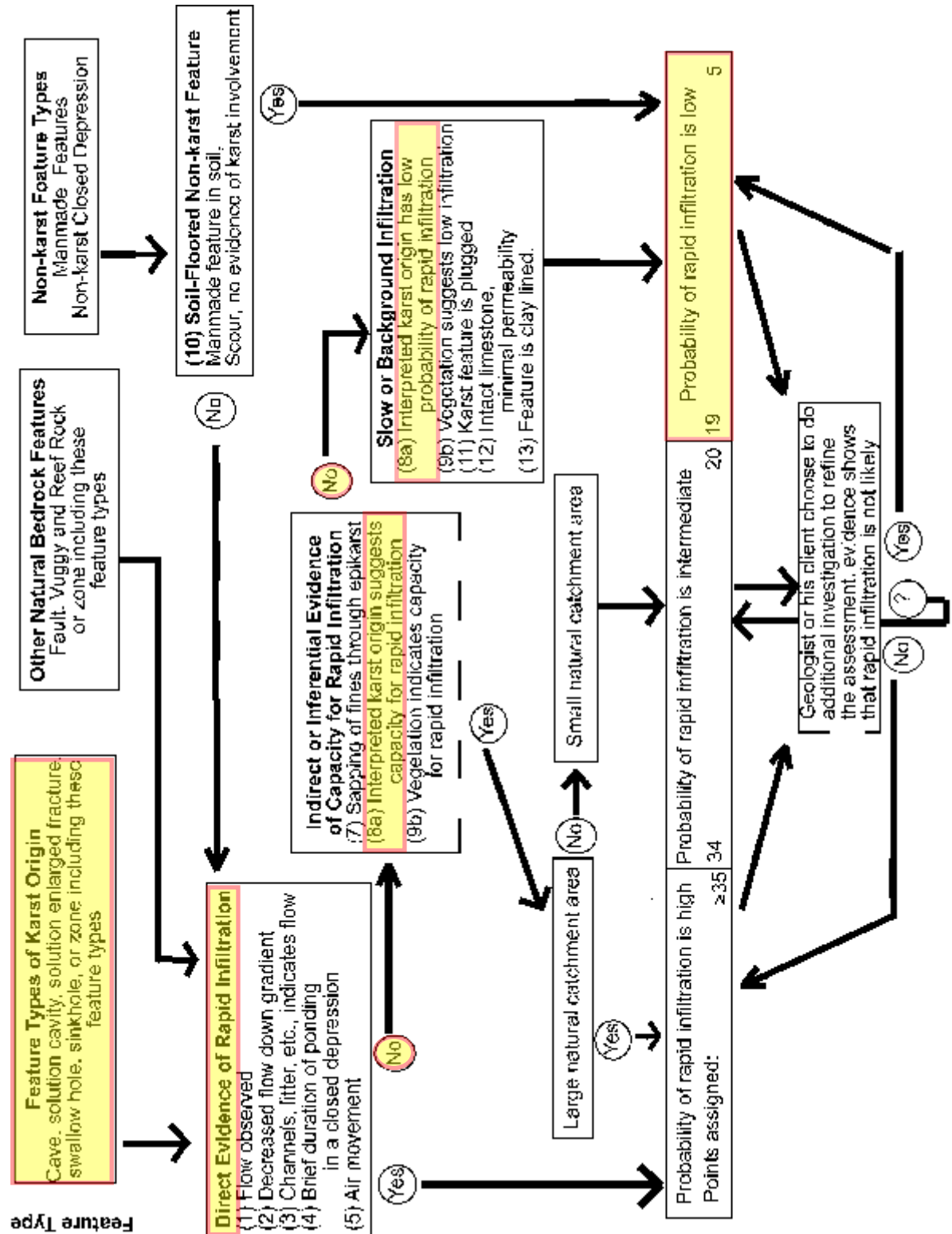


Date: 02/14/2023

Sheet: 1 of 1

## Feature F-1: Wall Void

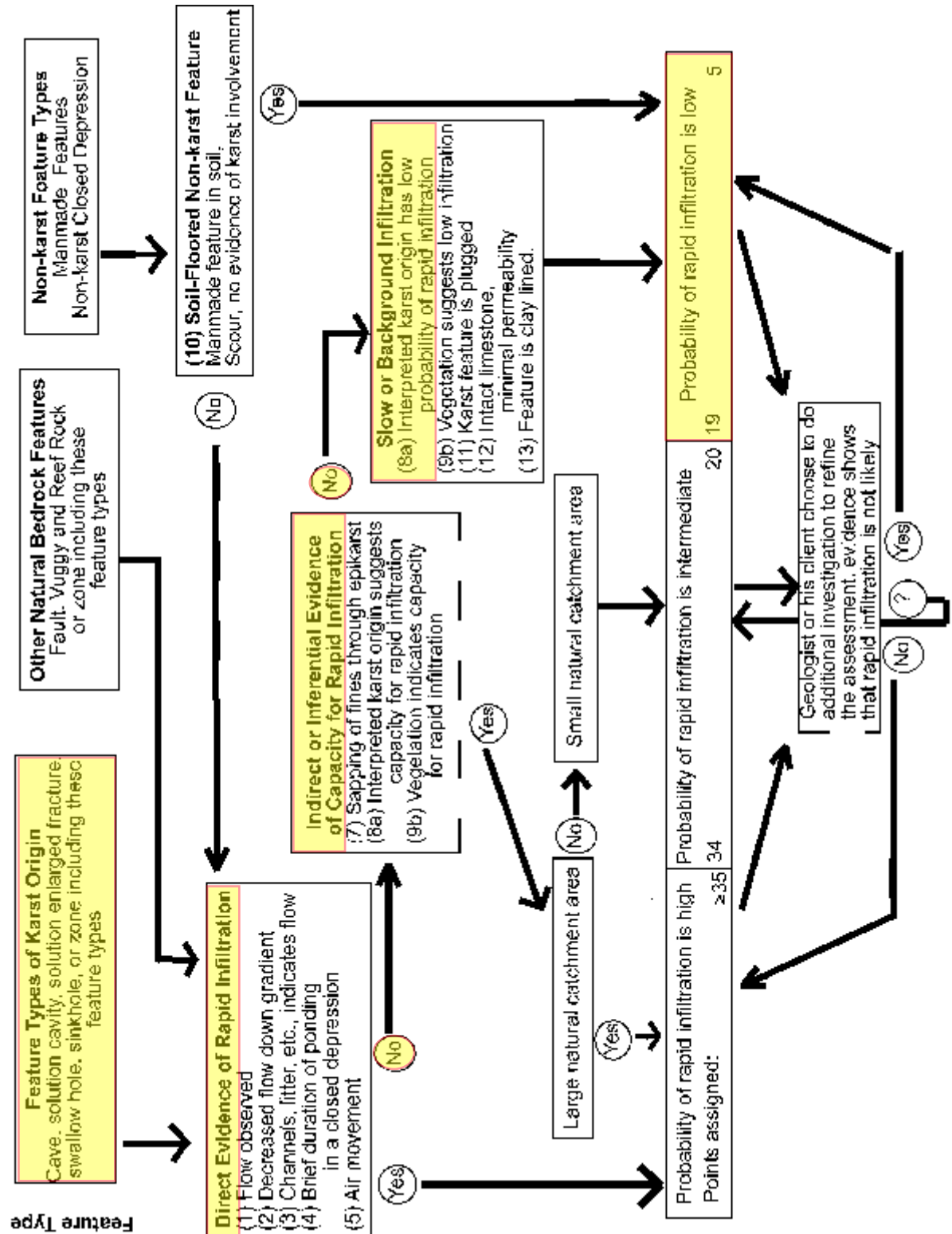
Figure 1: Assessing the Probability that Rapid Infiltration May Occur at a Feature



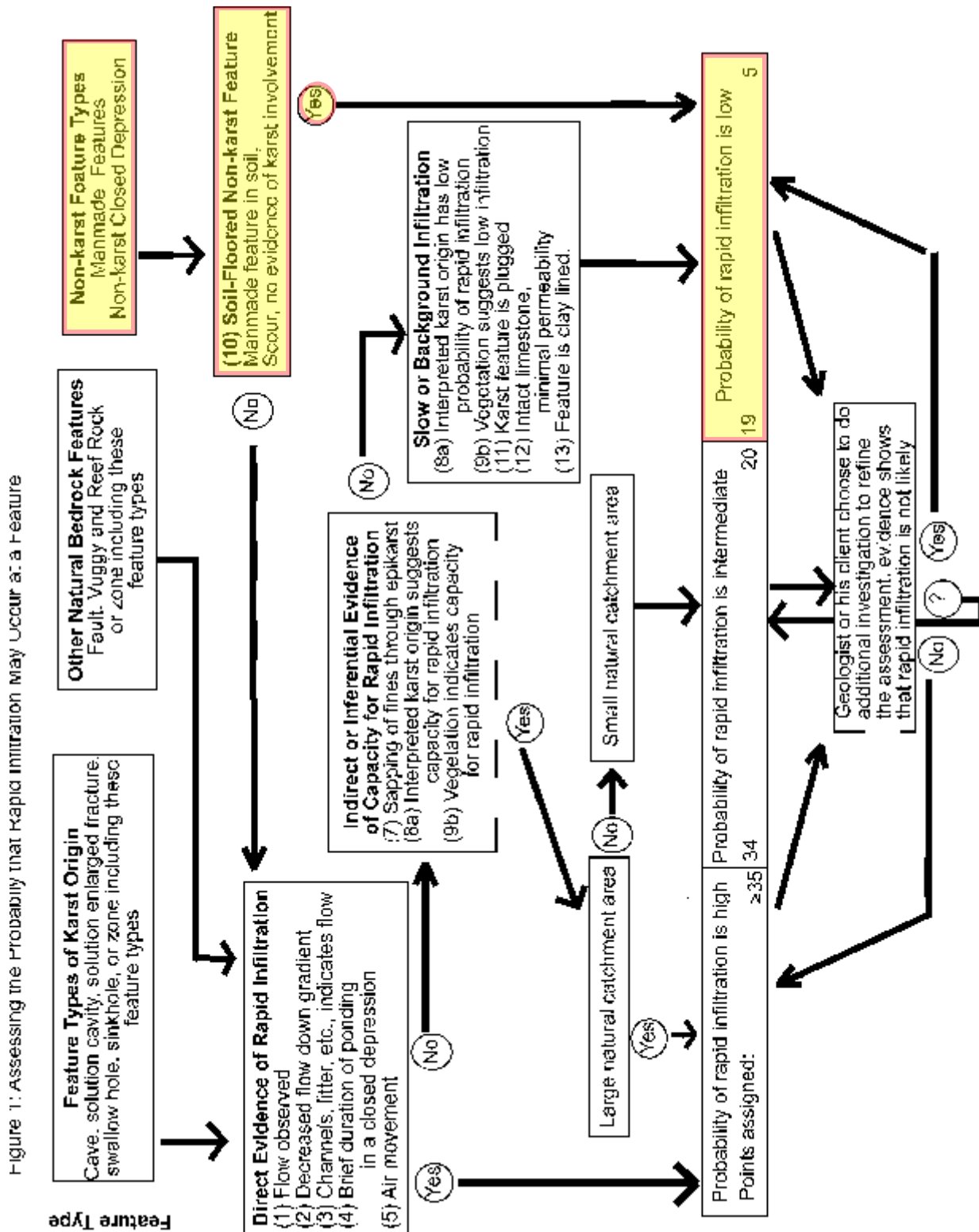


## Feature (F-2): Solution Cavity

Figure 1: Assessing the Probability that Rapid Infiltration May Occur at a Feature

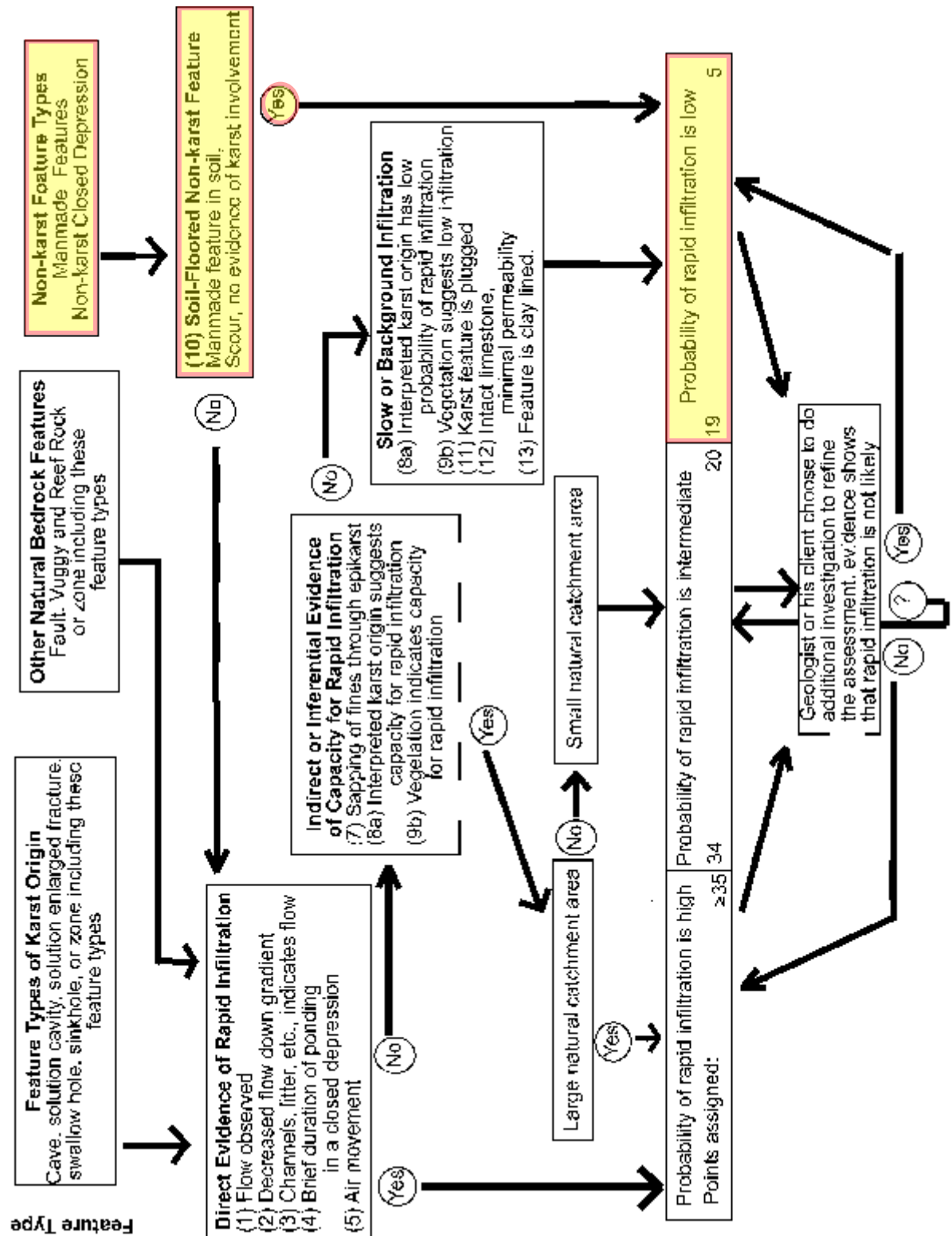


### Feature (W-3): Water Well



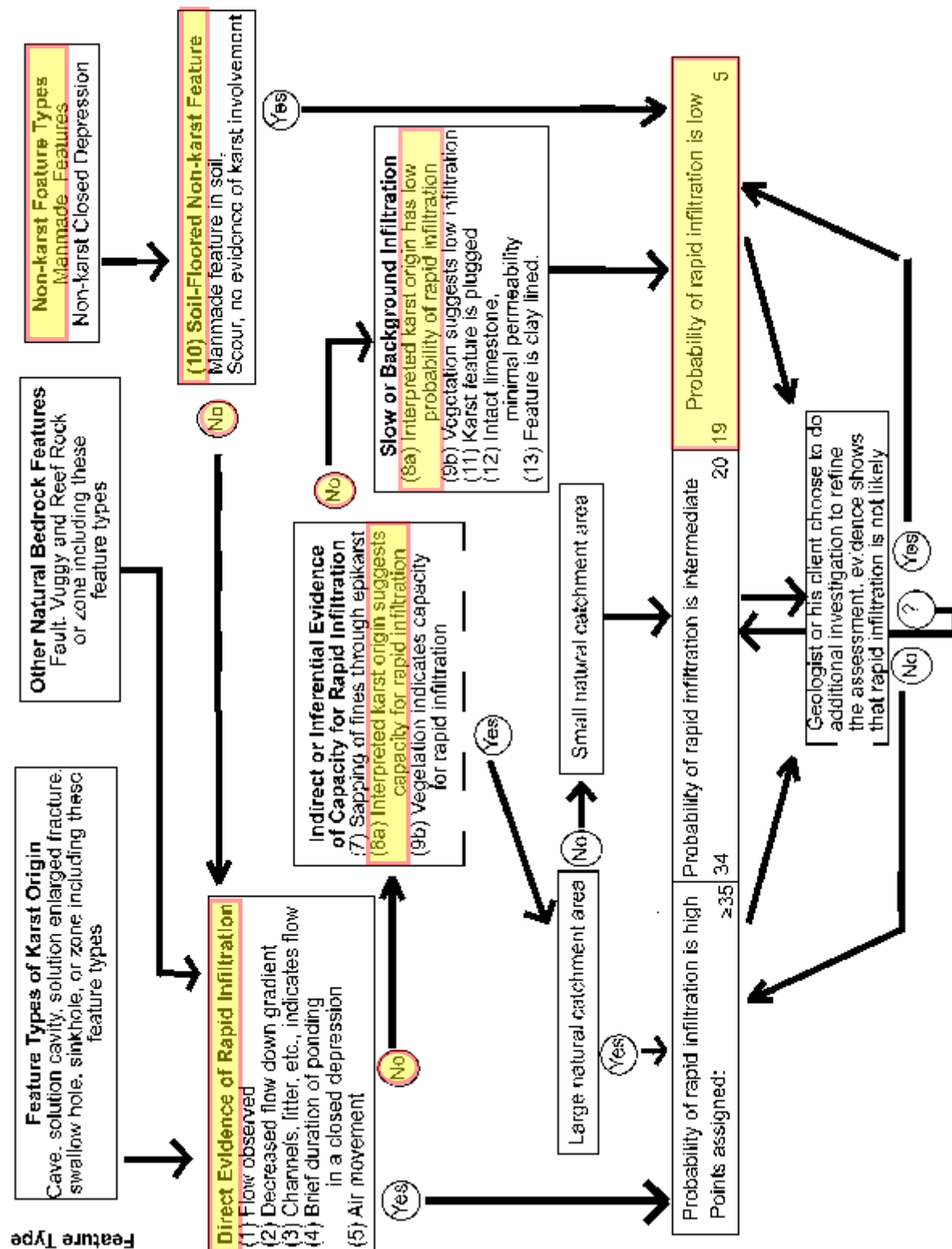
## Feature (W-4): Water Well

Figure 1: Assessing the Probability that Rapid Infiltration May Occur at a Feature



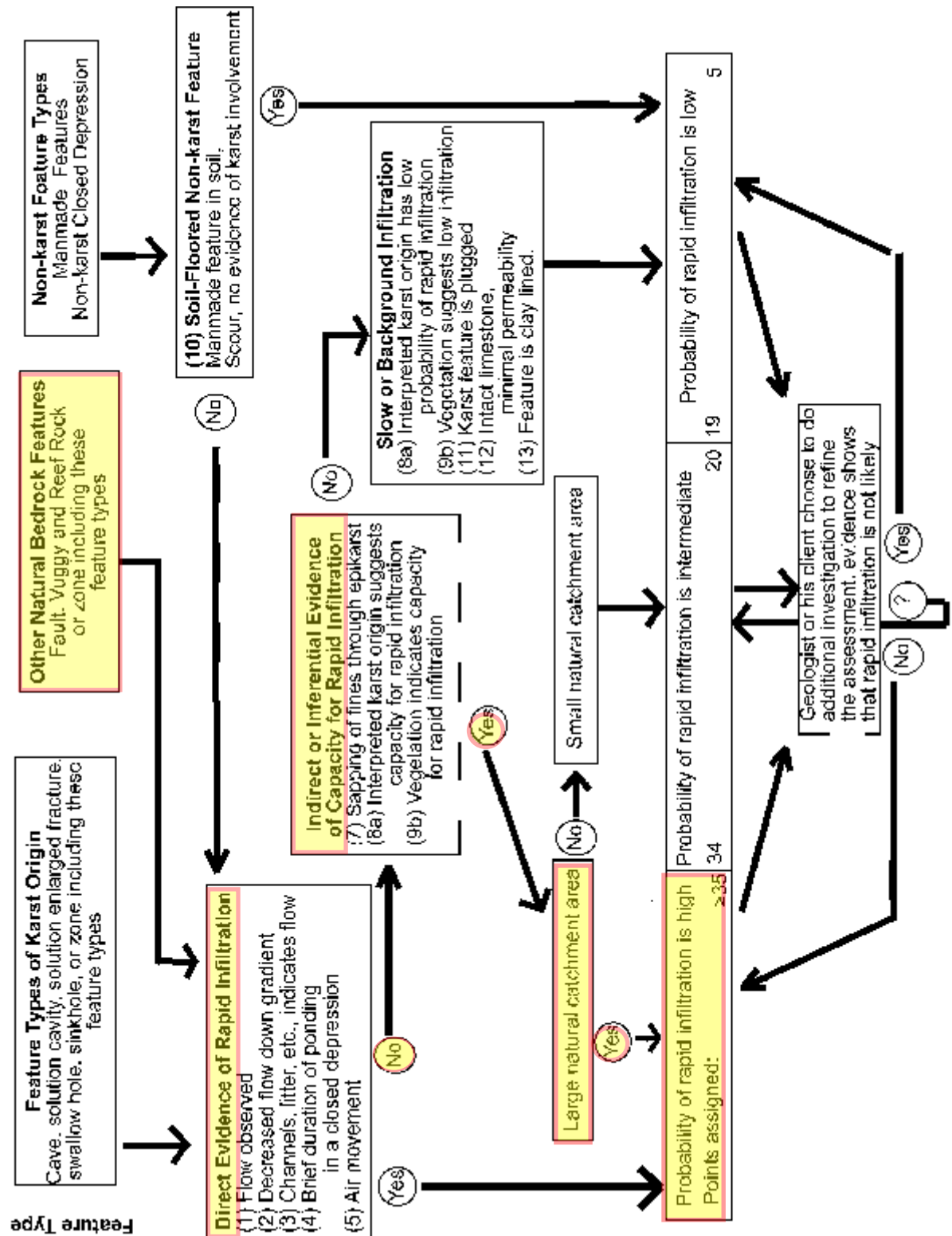
## Feature (Q5-7): Quarry Pit

Figure 1: Assessing the Probability that Rapid Infiltration May Occur at a Feature



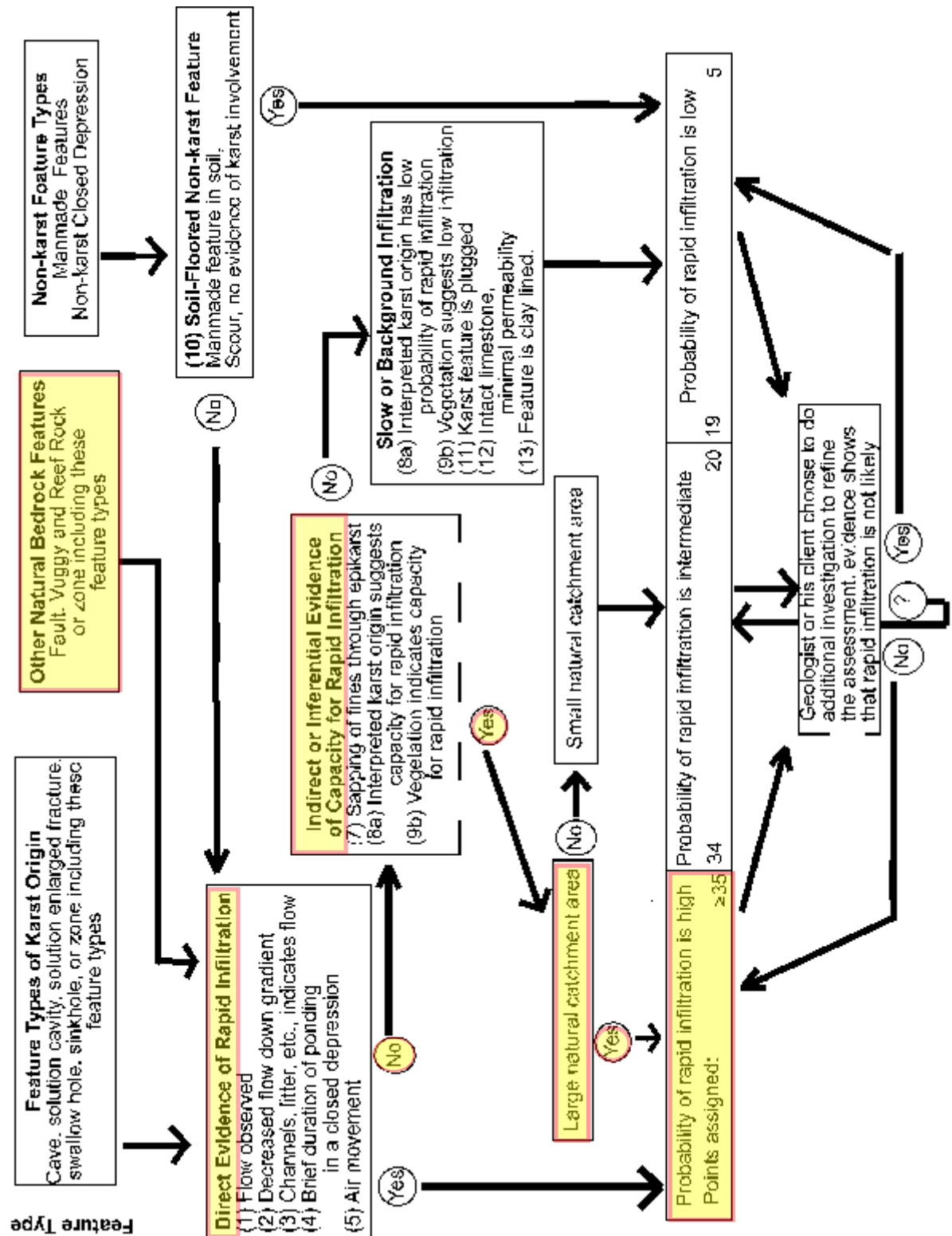
## FEATURE (S-8) - Stream

Figure 1: Assessing the Probability that Rapid Infiltration May Occur at a Feature



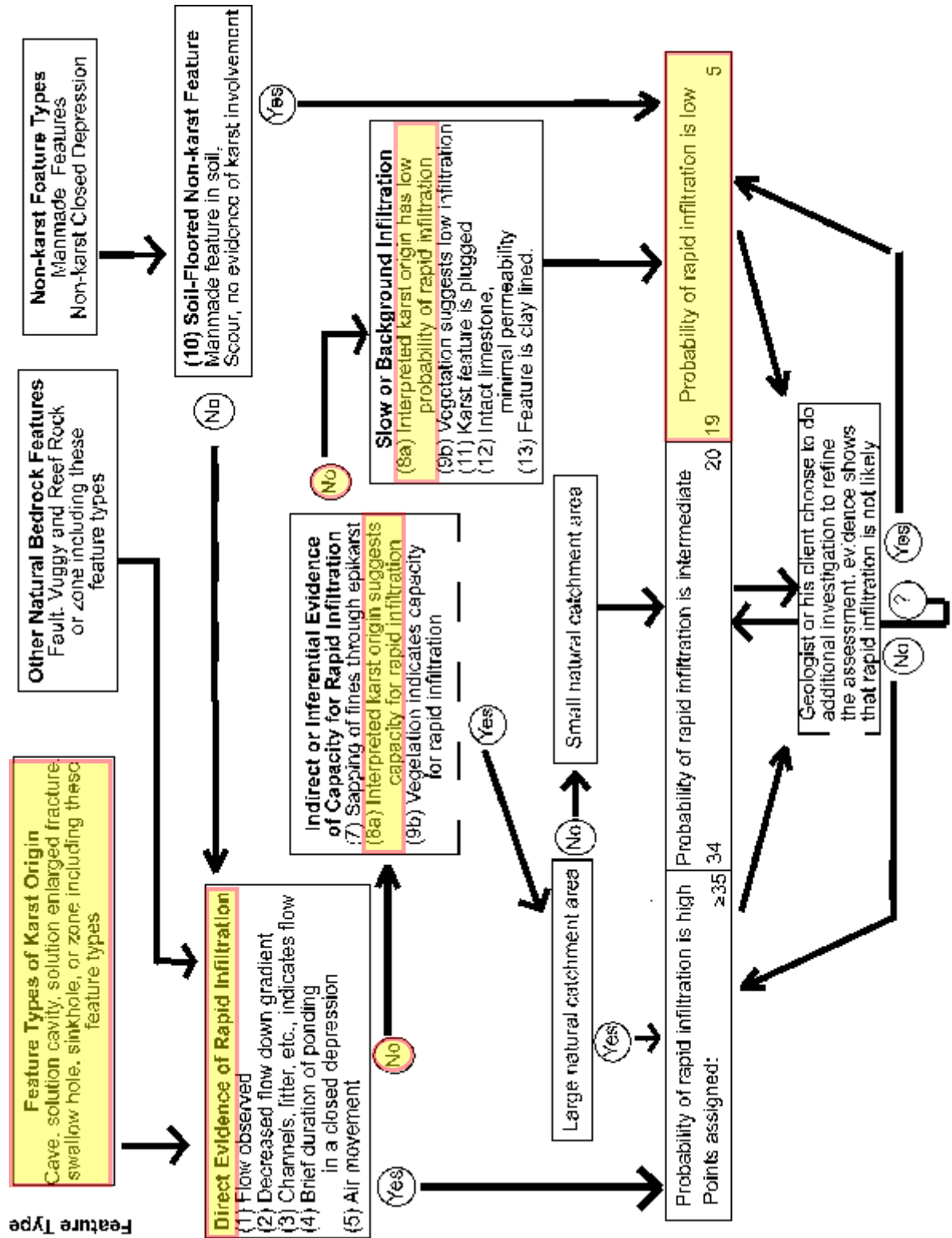
## FEATURE (S-9) - Stream

Figure 1: Assessing the Probability that Rapid Infiltration May Occur at a Feature



## Feature F-42 thru F-46: Wall Void

Figure 1: Assessing the Probability that Rapid Initiation May Occur at a Feature

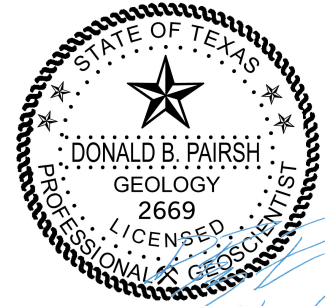
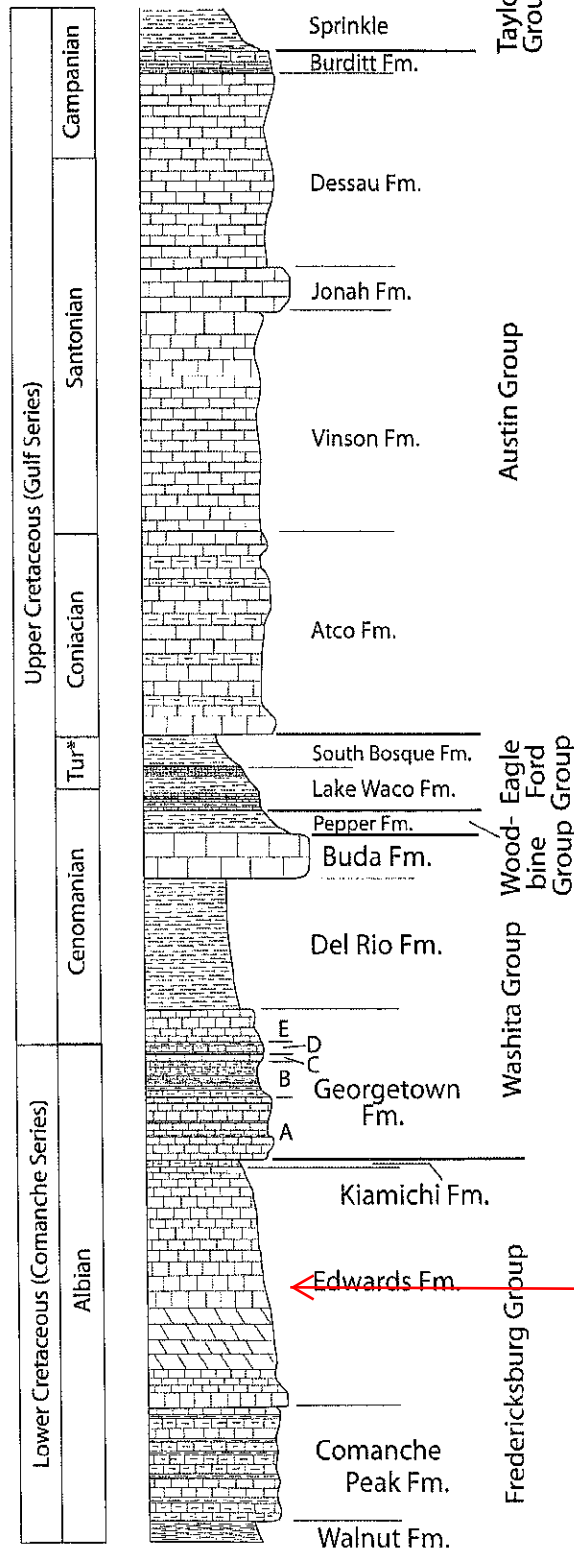


## **Attachment B – Stratigraphic Column**



# Generalized Stratigraphic Column of the Round Rock Area

Period | Stage



← Edwards Fm. — Apparent Outcropping Formation

Tur\* - Turonian

## **Attachment C – Site Geology**

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## NARRATIVE DESCRIPTION OF SITE-SPECIFIC GEOLOGY

### ATLAS RANCH

### 264 ACRE TRACT

### JARRELL, WILLIAMSON COUNTY, TEXAS

01/21/2022-01/27/2022 AND 02/10/2023

REVISED 02/14/2023.

## LOCATION

The subject site is an approximate 264 acres, more or less, tract of land located at County Road 344 in Jarrell, Williamson County, Texas at approximately 30.8449370° North Latitude and approximately -97.6519572° West Longitude. This location lies within the designated Edwards Aquifer Recharge Zone. Therefore, future intended development of the site must conform to criteria in accordance with the Texas Commission on Environmental Quality (TCEQ) Edwards Aquifer Protection Program Rules in accordance with Title 30 of the Texas Administrative Code, Section 213 (30 TAC§ 213).

## EXPLANATION OF ASSESSMENT

This assessment follows general guidelines contained in Texas Commission on Environmental Quality (TCEQ) "*Instruction for Geologist for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones*" (TCEQ Guidance 0585). The site is located on an area of the recharge zone that may contain karst features formed by selective solutioning of limestone minerals by water. Karst features may be expressed as surface features but more commonly tend to persist with depth. This assessment documents the presence or absence of site conditions that were present at the time the site visit that was performed on 01/21/2022-01/27/2022 and 02/10/2023. The site visit consisted of a walk-through survey that consisted of a non-intrusive visual observation or survey of readily accessible, easily visible surface property conditions that were present on the subject property at the time of the site visit. Intrusive subsurface testing such as excavation, cave mapping, infiltrometer test, geophysical studies or tracer studies are not required for the geologic assessment of any feature in accordance with this practice.

A sensitive geologic or manmade feature, for the purpose of this practice is a feature on the recharge zone or transition zone of the Edwards Aquifer with a superficial appearance that suggest a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer and that has the apparent potential for rapid infiltration into the subsurface.

## PHYSICAL DESCRIPTION OF SITE

The majority of the subject site is a 264-acre tract that was previously quarried and operated as a stone yard. Clean-up and salvage activities are currently being conducted onsite to address issues associated with previous operations.

## SURFACE DRAINAGE

After reviewing the project site topographic survey, storm water runoff appears to flow generally toward the North / Northeast.

## SOIL DESCRIPTION

The site soil is composed of:

Georgetown stony clay loam, 1 to 3 percent slopes (GsB), Hydrologic Group D

The Georgetown series consists of moderately deep, well drained, very slowly permeable soils that have formed over indurated limestone of Cretaceous age. These soils occur on nearly level to very gently sloping dissected plateaus. Slope ranges from 0 to 3 percent. Mean annual air temperature is about 19 degrees C (66 degrees F), and mean annual precipitation is about 864 mm (34 in). Well drained. Runoff is very high. Permeability is very slow.

Eckrant-Rock outcrop complex, rolling (ErE), Hydrologic Group D

The Eckrant series consists of soils that are very shallow and shallow to indurated limestone bedrock and interbedded cryptocrystalline quartz, chert, marl, and chalk. These well drained soils formed in residuum derived from limestone. These nearly level to very steep soils are on summits, shoulders, and backslopes of ridges on dissected plateaus. Slope ranges from 1 to 60 percent. Mean annual air temperature is about 20 degrees C (68 degrees F), and the mean annual precipitation is about 668 mm (26 in). Well drained. Permeability is moderately slow. Runoff is very low on 1 to 3 percent slopes, low on 3 to 5 percent slopes, medium on 5 to 20 percent slopes, and high on 20 to 60 percent slopes.

Eckrant extremely stony clay, 0 to 3 percent slopes (EeB), Hydrologic Group D

The Eckrant series consists of soils that are very shallow and shallow to indurated limestone bedrock and interbedded cryptocrystalline quartz, chert, marl, and chalk. These well drained soils formed in residuum derived from limestone. These nearly level to very steep soils are on summits, shoulders, and backslopes of ridges on dissected plateaus. Slope ranges from 1 to 60 percent. Mean annual air temperature is about 20 degrees C (68 degrees F), and the mean annual precipitation is about 668 mm (26 in). Well drained. Permeability is moderately slow. Runoff is very low on 1 to 3 percent slopes, low on 3 to 5 percent slopes, medium on 5 to 20 percent slopes, and high on 20 to 60 percent slopes.

Denton silty clay, 1 to 3 percent slopes (DnB), Hydrologic Group D

The Denton series consist of deep, well drained, slowly permeable soils that formed in clayey materials over residuum weathered from limestone bedrock. These nearly level or gently sloping soils are on uplands and have slopes ranging from 0 to 5 percent. Well drained; medium surface runoff; slow permeability.

Doss silty clay, moist, 1 to 5 percent slopes (DoC), Hydrologic Group D

The Doss series consists of shallow to weakly cemented limestone, well drained, moderately slow permeable soils that formed in calcareous loamy and clayey residuum derived from marls and limestone. These very gently to moderately sloping soils occur on hill slopes on dissected plateaus. Slope ranges from 1 to 8 percent. Mean annual precipitation is about 762 mm (30 in), and mean annual air temperature is about 18.9 degrees C (66 degrees F). Well drained. Permeability is moderately slow. Runoff is medium on 1 to 5 percent slopes and high on 5 to 8

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percent slopes.

Georgetown clay loam, 0 to 2 percent slopes (GeB), Hydrologic Group D

The Georgetown series consists of moderately deep, well drained, very slowly permeable soils that have formed over indurated limestone of Cretaceous age. These soils occur on nearly level to very gently sloping dissected plateaus. Slope ranges from 0 to 3 percent. Mean annual air temperature is about 19 degrees C (66 degrees F), and mean annual precipitation is about 864 mm (34 in). Well drained. Runoff is very high. Permeability is very slow.

Oakalla soils, frequently flooded (Of), Hydrologic Group B

The Oakalla series consists of soils that are very deep. These well drained soils formed in loamy alluvium derived from limestone of Cretaceous age. These soils are on nearly level to gently sloping on flood plains on perennial streams in river valleys. They are subject to flooding by overflow from streams for short periods after heavy rains. Slopes are 0 to 2 percent. Mean annual temperature is about 19 degrees C (67 degrees F), and mean annual precipitation is about 737 mm (29 in). Well drained. Permeability is moderate. Runoff is negligible on 0 to 1 percent slopes and very low on 1 to 2 percent slopes. The soil floods at 1-to-10-year intervals, except where protected by dams.

## **GEOLOGY**

The site is located on the:

Edwards Limestone (Ked)

The Edwards Limestone consist of limestone, dolomite, and chert; limestone aphanitic to fine grained, massive to thin bedded, hard, brittle, in part rudistid biostromes, much miliolid biosparite; dolomite fine to very fine grained, porous, medium gray to grayish brown; chert, nodules and plates common, varies in amount from bed to bed, some intervals free of chert, mostly white to light gray; in zone of weathering considerably recrystallized, "honeycombed," and cavernous forming an aquifer; forms flat areas and plateaus bordered by scarps; thickness 60-350 feet, thins northward.

Georgetown Formation (Kgt)

The Georgetown Formation consist of limestone and marl; mostly limestone, fine grained, argillaceous, nodular, moderately indurated, light gray; some limestone, hard, brittle, thick bedded, white; some shale, marly, soft, light gray to yellowish gray; marine megafossils include *Kingena wacoensis* and *Gryphaea washitaensis*; thickness 30-80 feet, thins southward.

## **STRUCTURAL TREND and FEATURES:**

The subject site is located on the Edwards Plateau within the Balcones / Ouachita structural province in central Texas. The Balcones / Ouachita structural province is an arcuate band of mostly down-to-the-coast normal faults that sub-parallel the Gulf of Mexico. In Williamson County, the regional structural trend of the Balcones / Ouachita province is generally southwest to northeast.

(Source: "Lineament Analysis and Inference of Geologic Structure-Examples from the Balcones/Ouachita Trend of Texas." Curan, Woodruff, Jr, and Thompson, 1982)

The site is located in the vicinity of mapped regional faulting. No surface expressions of local structural features were observed during this assessment.

**SITE SPECIFIC GEOLOGIC FEATURE DESCRIPTIONS**  
**Identified 01/21/2022 - 01/27/2022 and 02/10/2023.**  
**Revised 02/14/2023.**

To the extent that surface property features were readily accessible and observable at the time the site was evaluated on 01/21/2022-01/27/2022 and 02/10/2023 no geologic features were identified on the subject tract of land that has observed potential to affect recharge to the Edwards Aquifer except for the following:

F-1 WV:      **Wall Void – Quarry:** This feature is a void in the wall of the quarry that has no surface expression and no drainage area. Per TCEQ Guidance Document RG-500 (*Best Management Practices for Quarry Operations – Complying with the Edwards Aquifer Rules*), Section 2.2.4: Wall voids with no surface expression and no drainage area are not considered sensitive. Thus, discovering a wall void during quarrying should not increase the risk of contamination and does not require notifying the TCEQ or stopping work. Therefore, this feature is not identified as a sensitive feature.

F-2 SC:      **Solution Cavity:** This feature appears to be a localized area of enhanced solutioning associated with weathering of limestone in the weathered zone near the soil/bedrock interface. This solution cavity, as observed at the time of this assessment, is located in a zone of apparent Epikarst. Epikarst is used herein to identify the zone of weathering at the upper surface of a limestone that includes the solutionally modified (karren) bedrock surface and the overlying regolith. The extent of weathering and dissolution within the Epikarst will diminish with depth and when probed with a rod, this feature terminated in apparently consolidated rock.

Surface conditions observed in connection with this feature are not believed to persist in the subsurface at depth and do not appear to have a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer. Therefore, this feature is not identified as sensitive feature at this time.

W-3 MB:      **Manmade Feature - Water Well:** Assuming that this water well was properly completed in accordance with Texas Department of Licensing and Regulation Water Well Drillers and Pump Installers 16 TAC § 76 (TOC § 1901.253 Completing Water Wells), this feature should not have a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer. Therefore, this feature is not identified as a sensitive feature at this time.

W-4 MB:      **Manmade Feature - Water Well:** Assuming that this water well was properly completed in accordance with Texas Department of Licensing and Regulation Water Well Drillers and Pump Installers 16 TAC § 76 (TOC § 1901.253 Completing Water Wells), this feature should not have a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer. Therefore, this feature is not identified as a sensitive feature at this time.

Q-(5-7) MB: **Manmade Feature – Excavation (Quarry):** This feature is an inactive open quarry pit with vertical rock walls. At the time of the assessment, materials stockpiles and old machinery were located within the quarry. There was no standing water in the bottom of the quarry and no indication the quarry was in communication with groundwater. Per TCEQ Guidance Document RG-500 (*Best Management Practices for Quarry Operations – Complying with the Edwards Aquifer Rules*), quarry pits are not considered sensitive. Therefore, this feature is not identified as sensitive.

S-8 O: **Other Natural Bedrock Feature - Streambed:** This feature is a natural drainage way designated as an Intermittent Stream (Salado Creek) by the USGS National Hydrography Dataset (NHD). In accordance with TCEQ Edwards Aquifer Protection Program Guidance, Streambeds, including dry drainages, are significant because runoff is focused to them. Not only are features in streambeds and natural drainage ways likely to receive large volumes of recharge, but they are likely to be part of hydrologically integrated flow paths because past flow has preferentially enlarged and maintained conduits. This feature was not identified as sensitive in the initial Geologic Assessment dated 11/11/202 due to no indication of sensitive / recharge features (swallets or swallow holes) observed within the streambed at the time the site was evaluated. However, it has since come to Capitol's attention that an investigation of the previous operator was conducted in mid-2015 and the subsequent Investigation Report #1258599 identifies Salado Creek as a "losing" stream and therefore designated sensitive. The Report also states, "a 200-foot buffer was established from the centerline of Salado Creek". Therefore, this feature is identified as sensitive, and the established 200-foot buffer from center line will be required.

S-9 O: **Other Natural Bedrock Feature - Streambed:** This feature is a natural drainage way designated as an Intermittent Stream (Salado Creek Tributary) by the USGS National Hydrography Dataset (NHD). In accordance with TCEQ Edwards Aquifer Protection Program Guidance, Streambeds, including dry drainages, are significant because runoff is focused to them. Not only are features in streambeds and natural drainage ways likely to receive large volumes of recharge, but they are likely to be part of hydrologically integrated flow paths because past flow has preferentially enlarged and maintained conduits. This feature was not identified as sensitive in the initial Geologic Assessment dated 11/11/202 due to no indication of sensitive / recharge features (swallets or swallow holes) observed within the streambed at the time the site was evaluated. However, it has since come to Capitol's attention that an investigation of the previous operator was conducted in mid-2015 and the subsequent Investigation Report #1258599 identifies Salado Creek Tributary as a "losing" stream and therefore designated sensitive. The Report also states, "a 50-foot buffer was established from the centerline of Salado Creek tributary". Therefore, this feature is identified as sensitive, and the established 50-foot buffer from centerline will be required.

F-1 WV: **Wall Void – Quarry:** This feature is a void in the wall of the quarry that has no surface expression and no drainage area. Per TCEQ Guidance Document RG-500 (*Best Management Practices for Quarry Operations – Complying with the Edwards Aquifer Rules*), Section 2.2.4: Wall voids with no surface expression and no drainage area are not considered sensitive. Thus, discovering a wall void during

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quarrying should not increase the risk of contamination and does not require notifying the TCEQ or stopping work. Therefore, this feature is not identified as a sensitive feature.

F-42 WV:     **Wall Void – Quarry:** This feature is a void in the wall of the quarry that has no surface expression and no drainage area. Per TCEQ Guidance Document RG-500 (*Best Management Practices for Quarry Operations – Complying with the Edwards Aquifer Rules*), Section 2.2.4: Wall voids with no surface expression and no drainage area are not considered sensitive. Thus, discovering a wall void during quarrying should not increase the risk of contamination and does not require notifying the TCEQ or stopping work. Therefore, this feature is not identified as a sensitive feature.

F-43 WV:     **Wall Void – Quarry:** This feature is a void in the wall of the quarry that has no surface expression and no drainage area. Per TCEQ Guidance Document RG-500 (*Best Management Practices for Quarry Operations – Complying with the Edwards Aquifer Rules*), Section 2.2.4: Wall voids with no surface expression and no drainage area are not considered sensitive. Thus, discovering a wall void during quarrying should not increase the risk of contamination and does not require notifying the TCEQ or stopping work. Therefore, this feature is not identified as a sensitive feature.

F-44 WV:     **Wall Void – Quarry:** This feature is a void in the wall of the quarry that has no surface expression and no drainage area. Per TCEQ Guidance Document RG-500 (*Best Management Practices for Quarry Operations – Complying with the Edwards Aquifer Rules*), Section 2.2.4: Wall voids with no surface expression and no drainage area are not considered sensitive. Thus, discovering a wall void during quarrying should not increase the risk of contamination and does not require notifying the TCEQ or stopping work. Therefore, this feature is not identified as a sensitive feature.

F-45 WV:     **Wall Void – Quarry:** This feature is a void in the wall of the quarry that has no surface expression and no drainage area. Per TCEQ Guidance Document RG-500 (*Best Management Practices for Quarry Operations – Complying with the Edwards Aquifer Rules*), Section 2.2.4: Wall voids with no surface expression and no drainage area are not considered sensitive. Thus, discovering a wall void during quarrying should not increase the risk of contamination and does not require notifying the TCEQ or stopping work. Therefore, this feature is not identified as a sensitive feature.

F-46 WV:     **Wall Void – Quarry:** This feature is a void in the wall of the quarry that has no surface expression and no drainage area. Per TCEQ Guidance Document RG-500 (*Best Management Practices for Quarry Operations – Complying with the Edwards Aquifer Rules*), Section 2.2.4: Wall voids with no surface expression and no drainage area are not considered sensitive. Thus, discovering a wall void during quarrying should not increase the risk of contamination and does not require notifying the TCEQ or stopping work. Therefore, this feature is not identified as a sensitive feature.

## OBSERVATIONS



To the extent that surface property features were readily accessible and observable at the time the site was evaluated on 01/21/2022-01/27/2022 and 02/10/2023 no sensitive features were identified on the subject tract of land that has observed potential to affect recharge to the Edwards Aquifer except for the following:

S-8 O:      **Other Natural Bedrock Feature - Streambed:** This feature is a natural drainage way designated as an Intermittent Stream (Salado Creek) by the USGS National Hydrography Dataset (NHD). In accordance with TCEQ Edwards Aquifer Protection Program Guidance, Streambeds, including dry drainages, are significant because runoff is focused to them. Not only are features in streambeds and natural drainage ways likely to receive large volumes of recharge, but they are likely to be part of hydrologically integrated flow paths because past flow has preferentially enlarged and maintained conduits. This feature was not identified as sensitive in the initial Geologic Assessment dated 11/11/202 due to no indication of sensitive / recharge features (swallets or swallow holes) observed within the streambed at the time the site was evaluated. However, it has since come to Capitol's attention that an investigation of the previous operator was conducted in mid-2015 and the subsequent Investigation Report #1258599 identifies Salado Creek as a "losing" stream and therefore designated sensitive. The Report also states, "*a 200-foot buffer was established from the centerline of Salado Creek*". Therefore, this feature is identified as sensitive, and the established 200-foot buffer from center line will be required.

S-9 O:      **Other Natural Bedrock Feature - Streambed:** This feature is a natural drainage way designated as an Intermittent Stream (Salado Creek Tributary) by the USGS National Hydrography Dataset (NHD). In accordance with TCEQ Edwards Aquifer Protection Program Guidance, Streambeds, including dry drainages, are significant because runoff is focused to them. Not only are features in streambeds and natural drainage ways likely to receive large volumes of recharge, but they are likely to be part of hydrologically integrated flow paths because past flow has preferentially enlarged and maintained conduits. This feature was not identified as sensitive in the initial Geologic Assessment dated 11/11/202 due to no indication of sensitive / recharge features (swallets or swallow holes) observed within the streambed at the time the site was evaluated. However, it has since come to Capitol's attention that an investigation of the previous operator was conducted in mid-2015 and the subsequent Investigation Report #1258599 identifies Salado Creek Tributary as a "losing" stream and therefore designated sensitive. The Report also states, "*a 50-foot buffer was established from the centerline of Salado Creek tributary*". Therefore, this feature is identified as sensitive, and the established 50-foot buffer from centerline will be required.

## CONCLUDING STATEMENTS

The Client understands that no non-intrusive visual observation or survey can wholly eliminate uncertainty regarding the possible presence of geologic conditions in connection with the subject property. Due to the inherent limits in connection with the agreed Scope of Work, this report does not address uncertainty about site conditions across those portions of the subject property not specifically addressed in this report.

Geologic Assessment  
Atlas Ranch  
County Road 344  
Jarrell, Williamson, Texas

Capitol Environmental, Inc.  
Registered Geosciences Firm  
Texas Registration No. 50389

Development of the site is planned. Additional modification of site surface conditions can be expected as construction proceeds. Unsuspected solution enlarged fractures, caves and cavities may be discovered during construction operations.

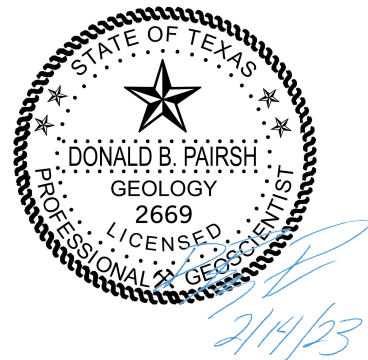
This assessment does not address the possible presence of subsurface conditions that may be exposed during construction operations. Should solution features or conditions be exposed during construction operations that indicate a potential for hydraulic interconnectedness between the surface and the Edwards Aquifer, operations in the vicinity of the feature should be halted and the Texas Commission on Environmental Quality (TCEQ) Edwards Aquifer Protection Program should be contacted immediately in accordance with 30 TAC §213.5(f)(2).

Respectfully,



D Bryan Pairsh, P.G.  
Project Geologist

**Capitol Environmental, Inc**  
**TBPG Firm Registration #50389**  
**Austin, Texas**



## **DISCLAIMER:**

Under standard geologic assessment practice, this assessment is an assessment of surface property conditions that were readily accessible and easily visible at the time of the assessment.

Services performed under this contract were conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions. Under standard geologic assessment practice, information developed in this report represents an assessment of environmental conditions observed as present or absent on portions of the surface of the subject property at the time of the assessment. The field observations, measurements and research reported in this report are considered sufficient in detail and scope to form a contained assessment of discrete portions of the subject property. Capitol warrants that the findings and conclusions contained in this report have been prepared in accordance with generally accepted methods normal for the subject site described in this report.

Not every property will warrant the same level of assessment. Consistent with good commercial and customary practice, the appropriate level of assessment will be guided by the type of property subject to assessment, the expertise and risk tolerance of the Client and information developed in the course of the inquiry. The Assessment has been developed to provide the Client with information regarding apparent indications of the presence or absence of geologic conditions relating to the surface of the subject site. The Geologic Assessment report is necessarily limited to the conditions observed and to the information available at the time the work was performed. Due to the limited nature of the work, there is a possibility that conditions may exist in connection with the subject site which could not be identified within the scope of this assessment practice, or which were not easily visible or not disclosed at the time the report was prepared.

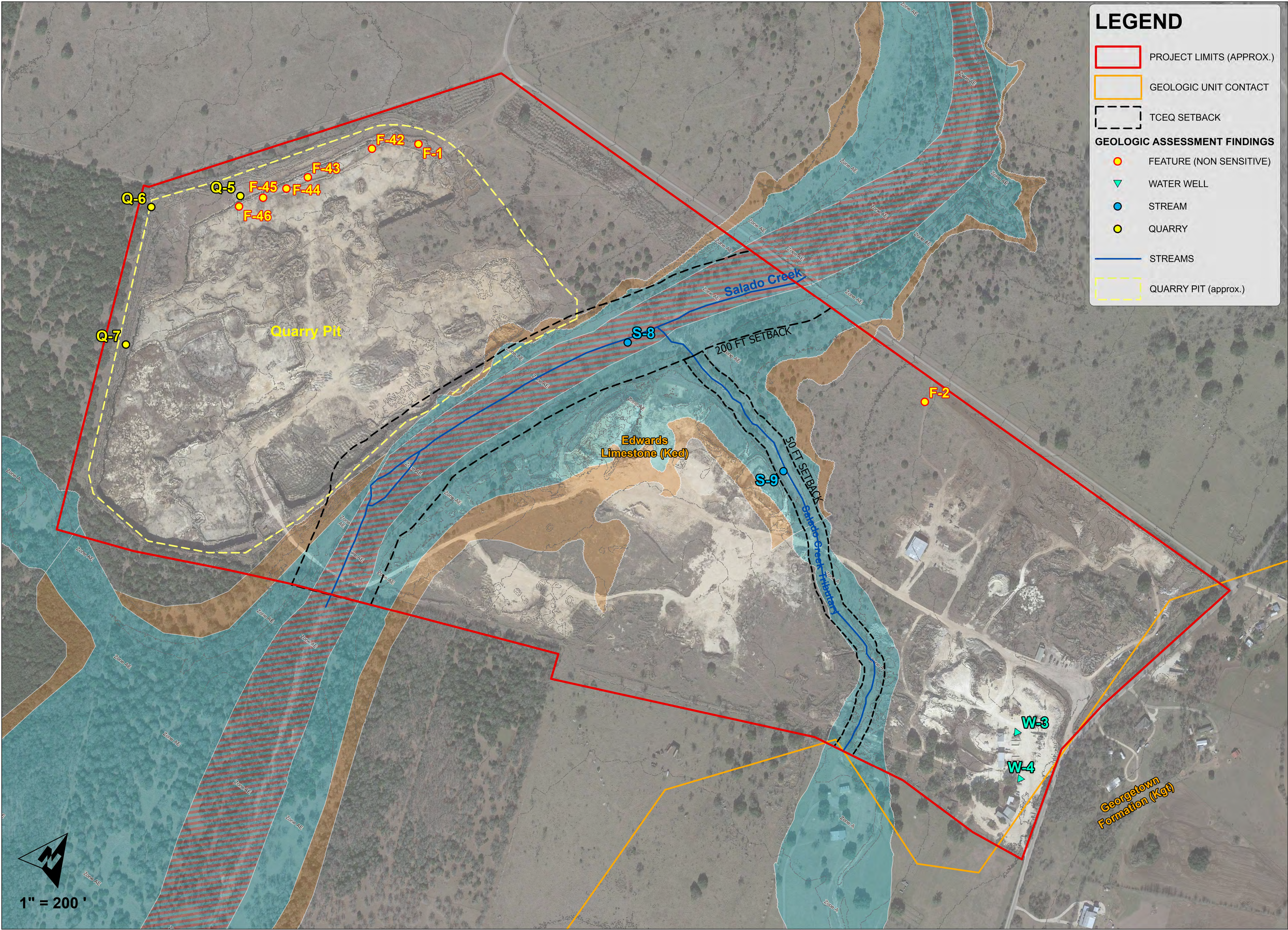
It is also possible that assessment methods employed at the time the report was prepared may be later superseded by more discrete assessment methods. The definition of a "sensitive geologic feature" and / or a "critical environmental feature" can also change statutorily over time. Capitol does not warrant the content or findings of this report in the event of changes in conditions in connection with the subject property; in the event of changes in assessment methods; or in the event of changes in statute that may apply to the subject property in the future.

In preparing this report, Capitol has relied on information derived from third party sources and personal interviews, as well as other investigative work. Except as set forth in this report, Capitol has made no independent investigation as to the accuracy or completeness of the information derived from third party sources.

This report does not address uncertainty about site conditions across those portions of the subject property not specifically assessed in this report. The Client understands that no surface assessment can wholly eliminate uncertainty regarding the possible presence of geologic conditions at depth in connection with the subject property. The Client should recognize that conditions elsewhere in the assessment area may differ from those at the study /sample locations, and that surface conditions described in the assessment practice herein may change at depth. This assessment should not be used as a basis for engineering design.

This report was prepared for the Client, to identify the presence or absence of geologic conditions on surface portions of the subject property. Any use of this report for other purposes or any use of information presented in this report by other parties other than the Client is the Client's responsibility.





# LEGEND

- PROJECT LIMITS (APPROX.)
- GEOLOGIC UNIT CONTACT
- TCEQ SETBACK
- GEOLOGIC ASSESSMENT FINDINGS
  - FEATURE (NON SENSITIVE)
  - WATER WELL
  - STREAM
  - QUARRY
  - STREAMS
  - QUARRY PIT (approx.)

ATLAS RANCH

GEOLOGIC  
SITE MAP

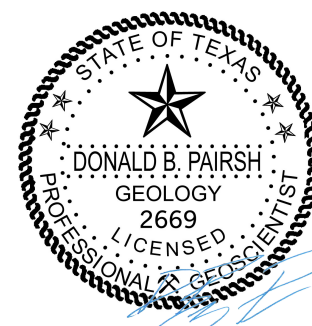
TBPG Firm Registration #50389

CAPITOL  
ENVIRONMENTAL



www.capitolenvironmental.com

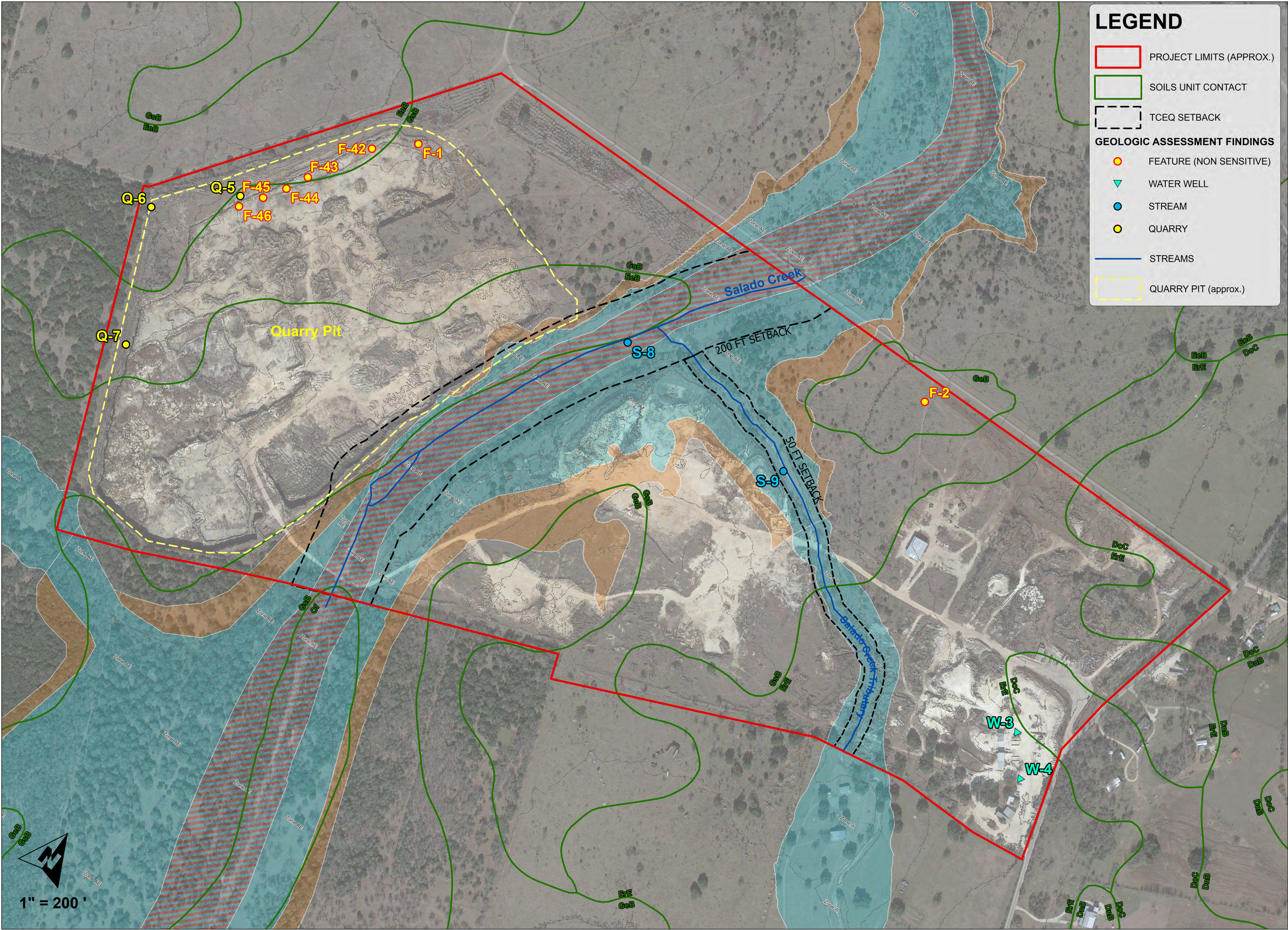
512.535.4368



Not For Construction  
or  
Building Purposes

Sheet No.  
1 of 2





LEGEND

- PROJECT LIMITS (APPROX.)
- SOILS UNIT CONTACT
- TCEQ SETBACK
- GEOLOGIC ASSESSMENT FINDINGS
  - FEATURE (NON SENSITIVE)
  - WATER WELL
  - STREAM
  - QUARRY
  - STREAMS
  - QUARRY PIT (approx.)

ATLAS RANCH

SOILS  
SITE MAP

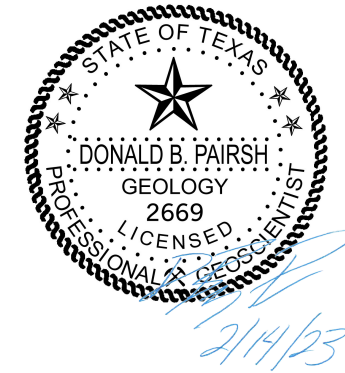
TBPG Firm Registration #50389

CAPITOL  
ENVIRONMENTAL



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512.535.4388



Not For Construction  
or  
Building Purposes

Sheet No.  
2 of 2



# Modification of a Previously Approved Plan

## Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Transition Zone and Relating to 30 TAC 213.4(j), 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 request for a **Modification of a Previously Approved Plan** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Nick Marino, P.E.

Date: 8/23/2024

Signature of Customer/Agent:

Nick Marino

## Project Information

1. Current Regulated Entity Name: Atlas Ranch  
Original Regulated Entity Name: Atlas Ranch  
Regulated Entity Number(s) (RN): 111613758  
Edwards Aquifer Protection Program ID Number(s): 11003384  
☒ The applicant has not changed and the Customer Number (CN) is: 606063634  
☐ The applicant or Regulated Entity has changed. A new Core Data Form has been provided.
2. ☒ **Attachment A: Original Approval Letter and Approved Modification Letters.** A copy of the original approval letter and copies of any modification approval letters are attached.

3. A modification of a previously approved plan is requested for (check all that apply):
- ☐ Physical or operational modification of any water pollution abatement structure(s) including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;
  - ☐ 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;
  - ☒ Development of land previously identified as undeveloped in the original water pollution abatement plan;
  - ☐ Physical modification of the approved organized sewage collection system;
  - ☐ Physical modification of the approved underground storage tank system;
  - ☐ Physical modification of the approved aboveground storage tank system.
4. ☒ Summary of Proposed Modifications (select plan type being modified). If the approved plan has been modified more than once, copy the appropriate table below, as necessary, and complete the information for each additional modification.

<b>WPAP Modification</b>	<b>Approved Project</b>	<b>Proposed Modification</b>
<b>Summary</b>		
Acres	<u>Undeveloped</u>	<u>225</u>
Type of Development	<u>None</u>	
Number of Residential		<u>26.18</u>
Lots	<u>9.58</u>	<u>24.65</u>
Impervious Cover (acres)	<u>3.6</u>	<u>Detention Pond &amp; VFS</u>
Impervious Cover (%)	<u>None</u>	<u>      </u>
Permanent BMPs	<u>      </u>	
Other	<u>106.21</u>	
<u>264.72</u>	<u>Single family residential</u>	

<b>SCS Modification</b>	<b>Approved Project</b>	<b>Proposed Modification</b>
<b>Summary</b>		
Linear Feet	<u>      </u>	<u>      </u>
Pipe Diameter	<u>      </u>	
Other	<u>      </u>	
<u>      </u>	<u>      </u>	

<b><i>AST Modification</i></b>	<b><i>Approved Project</i></b>	<b><i>Proposed Modification</i></b>
<b><i>Summary</i></b>		
Number of ASTs	_____	_____
Volume of ASTs	_____	
Other	_____	
_____	_____	

<b><i>UST Modification</i></b>	<b><i>Approved Project</i></b>	<b><i>Proposed Modification</i></b>
<b><i>Summary</i></b>		
Number of USTs	_____	_____
Volume of USTs	_____	
Other	_____	
_____	_____	

5. ☒ **Attachment B: Narrative of Proposed Modification.** A detailed narrative description of the nature of the proposed modification is attached. It discusses what was approved, including any previous modifications, and how this proposed modification will change the approved plan.
6. ☒ **Attachment C: Current Site Plan of the Approved Project.** A current site plan showing the existing site development (i.e., current site layout) at the time this application for modification is attached. A site plan detailing the changes proposed in the submitted modification is required elsewhere.
- ☐ The approved construction has not commenced. The original approval letter and any subsequent modification approval letters are included as Attachment A to document that the approval has not expired.
- ☒ The approved construction has commenced and has been completed. Attachment C illustrates that the site was constructed as approved.
- ☐ The approved construction has commenced and has been completed. Attachment C illustrates that the site was **not** constructed as approved.
- ☐ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was constructed as approved.
- ☐ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was **not** constructed as approved.
7. ☐ The acreage of the approved plan has increased. A Geologic Assessment has been provided for the new acreage.
- ☒ Acreage has not been added to or removed from the approved plan.



8. ☒ 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.

Jon Niermann, *Chairman*  
Emily Lindley, *Commissioner*  
Bobby Janecka, *Commissioner*  
Erin E. Chancellor, *Interim Executive Director*



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

February 17, 2023

Mr. Matt Michelsen  
Atlas Ranch Holdings  
215 Bella Riva Dr.  
Austin, Texas 78734

Re: Edwards Aquifer, Williamson County  
NAME OF PROJECT: Atlas Ranch; Located at 601 County Road 344; Jarrell, Texas  
TYPE OF PLAN: Request for Approval of a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer  
Edwards Aquifer Protection Program ID No. 11003384; Regulated Entity No. RN111613758

Dear Mr. Michelsen:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP application for the above-referenced project submitted to the Austin Regional Office by BGE, Inc. on behalf of Atlas Ranch Holdings on December 5, 2022. Final review of the WPAP was completed after additional material was received on February 1, 2023. As presented to the TCEQ, the Temporary Best Management Practices (BMPs) were selected, and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

### PROJECT DESCRIPTION

The proposed residential project will have an area of approximately 264.72 acres. It will include earthwork and grading associated with site cleanup and preparation for future development. Ultimately, the site will be developed as a single-family residential development requiring additional EAPP approval. No new impervious cover will be added with this phase; the existing impervious cover is 9.58 acres (3.6 percent). No permanent BMP is proposed with this phase. No wastewater will be generated by this phase.

### GEOLOGY

According to the Geologic Assessment included with the application, the site is characterized surficially by Edwards Limestone. Two sensitive geologic features exist on site, S-8 (Salado Creek) and S-9 (Salado Creek Tributary). Both features have setbacks shown in the application materials. The TCEQ site assessment conducted on February 7, 2023 revealed the site generally as described.

### STANDARD CONDITIONS

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

#### Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the Austin Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.
8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the Austin Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

18. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director.

Mr. Matt Michelsen  
Page 4  
February 17, 2023

Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

19. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
20. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

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

Sincerely,



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

LIB/jcs

Enclosure: Deed Recordation Affidavit, Form TCEQ-0625

Cc: Mr. Nathan Kelly, P.E., BGE, Inc.

**Deed Recordation Affidavit**  
Edwards Aquifer Protection Plan

THE STATE OF TEXAS       §

County of \_\_\_\_\_ §

BEFORE ME, the undersigned authority, on this day personally appeared \_\_\_\_\_ who, being duly sworn by me, deposes and says:

- (1) That my name is \_\_\_\_\_ and that I own the real property described below.
- (2) That said real property is subject to an EDWARDS AQUIFER PROTECTION PLAN which was required under the 30 Texas Administrative Code (TAC) Chapter 213.
- (3) That the EDWARDS AQUIFER PROTECTION PLAN for said real property was approved by the Texas Commission on Environmental Quality (TCEQ) on \_\_\_\_\_.

A copy of the letter of approval from the TCEQ is attached to this affidavit as Exhibit A and is incorporated herein by reference.

- (4) The said real property is located in \_\_\_\_\_ County, Texas, and the legal description of the property is as follows:

\_\_\_\_\_  
LANDOWNER-AFFIANT

SWORN AND SUBSCRIBED TO before me, on this \_\_ day of \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
NOTARY PUBLIC

THE STATE OF \_\_\_\_\_ §

County of \_\_\_\_\_ §

BEFORE ME, the undersigned authority, on this day personally appeared \_\_\_\_\_ 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 \_\_ day of \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
NOTARY PUBLIC

\_\_\_\_\_  
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: \_\_\_\_\_

## Attachment B – Narrative of Proposed Modification

Atlas Ranch Phase 1, Section 1 lies on an 895.94 acre tract of land in Williamson County, Texas. The site is located approximately 0.88 miles northwest of the intersection of CR-305 and CR-344.

A WPAP for the cleanup, remediation, and excavation and embankment of 264.72 acres in preparation for future development has been submitted. It was approved on February 17, 2023 under the Edwards Aquifer Protection Program ID No. 11003384 and Regulated Entity No. RN111613758. There were no permanent BMPs or proposed wastewater with this previous WPAP. The existing impervious cover was 9.58 acres (3.6 percent) with no new impervious cover added. Modifications to the plan are described as follows.

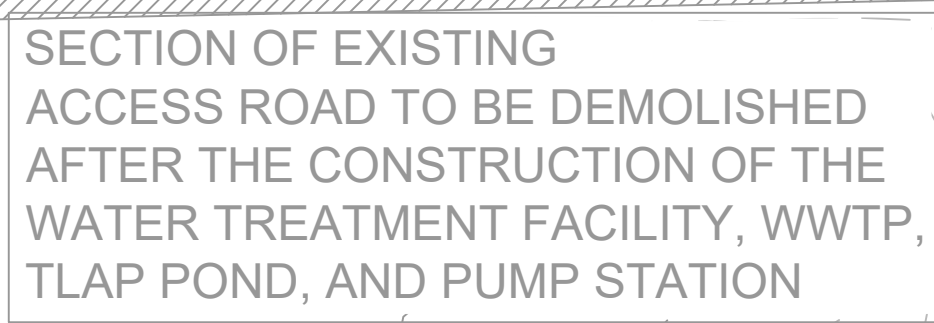
Atlas Ranch Phase 1, Section 1 will disturb 69.19 acres by activities such as grading, utility installation, road construction, wastewater treatment plan construction, and single-family home construction for 225 lots. 37.02 acres will be reserved for a TLAP, where Phase 1, Section 1 will discharge to. This yields a total project area of 106.21 acres. Total proposed impervious cover is 26.18 acres, or 24.65 percent. Proposed permanent BMPs include one batch detention pond and one vegetated filter strip, which is discussed further in the *Permanent Stormwater Section*.

## Attachment C – Current Site Plan of the Approved Project

The Existing Conditions Sheet for the Phase 1, Section 1 construction plans is attached on the following page.



**MATCHLINE TO SHEET 6**



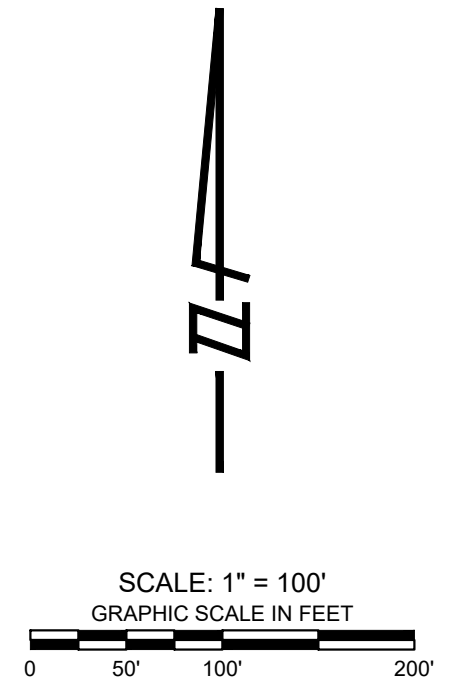
EXISTING ACCESS ROAD

## EXISTING BUILDINGS TO BE REMOVED











OHE TO BE REMOVED

CONTRACTOR TO REMOVE  
EXCESS MATERIAL

X 773.18  
WELL #2



**LEGEND**

	PROPERTY BOUNDARY
	PHASE BOUNDARY
	EXISTING CONTOUR
	EXISTING CONTOUR
	JARRELL ETJ
	100 YR FEMA FLOODPLAIN
	SALADO CREEK OHWM
	500-YR FLOODPLAIN PER FEMA PANEL 48491C0125F DATED DECEMBER 20, 2019
	TCEQ WPAP BOUNDARY
	SALADO CREEK FEMA FIS 500-YR FLOODPLAIN PER STUDY BY BGE, INC., OCTOBER 2023

**GRAY**  
**ENGINEERING**

8834 N. Capital of Texas Hwy.  
Suite 140  
Austin, Texas 78759  
(512) 452-0371  
FAX (512) 454-9933  
TBP&S FIRM #2946

[illegible]

EXISTING  
CONDITIONS AND  
DEMOLITION PLAN  
(1 OF 2)

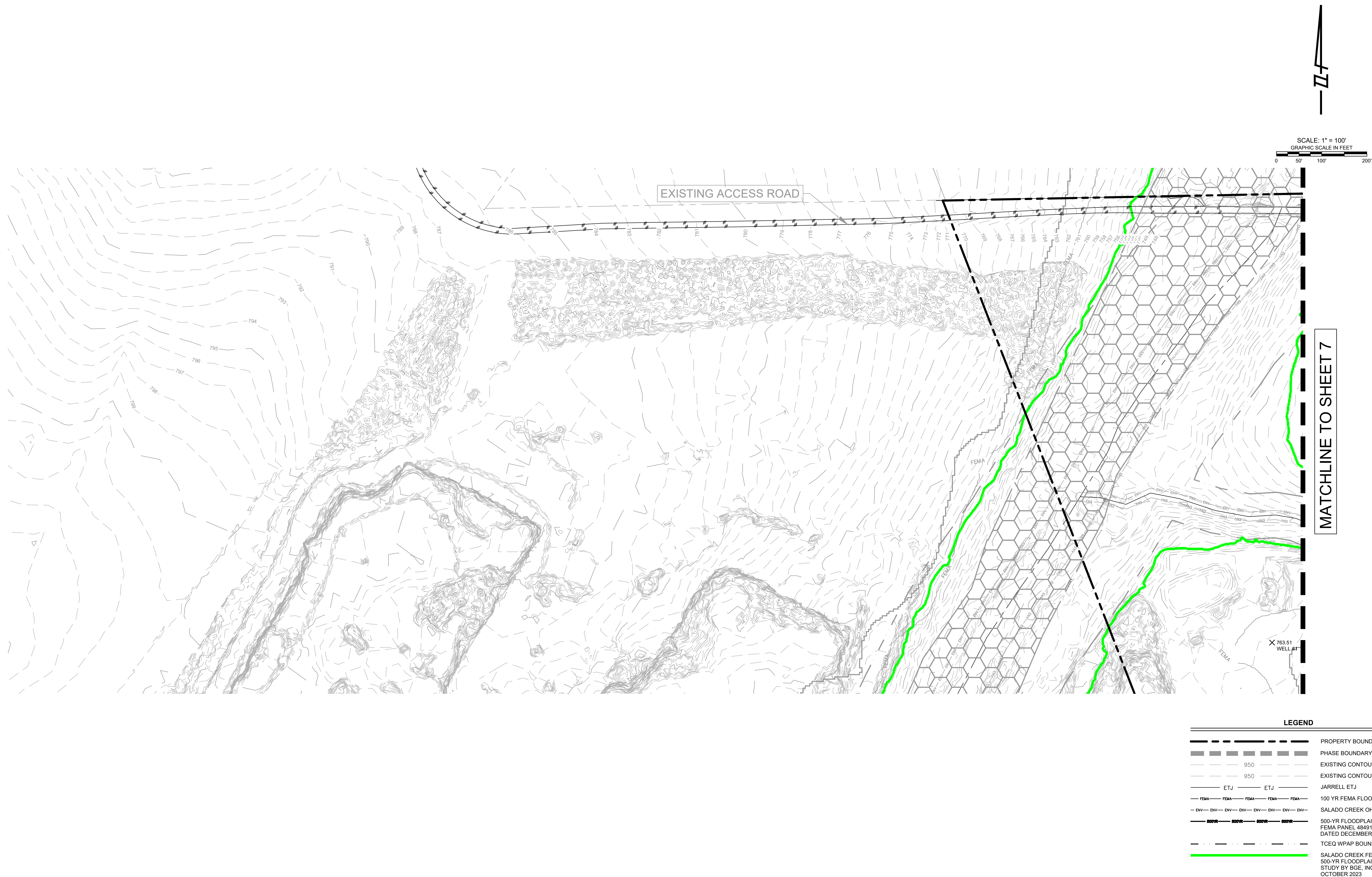
ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX

PROJECT NO: 11727
DESIGNED BY: KEL
DRAWN BY: KEL
CHECKED BY: RR

**NOTICE:**  
ALTERATION OF A  
SEALED DRAWING  
WITHOUT PROPER  
NOTIFICATION TO THE  
RESPONSIBLE ENGINEER  
IS A VIOLATION OF THE  
TEXAS ENGINEERING  
PRACTICE ACT.










MATCHLINE TO SHEET 7

SCALE: 1" = 100'  
GRAPHIC SCALE IN FEET



A horizontal graphic scale bar with alternating black and white segments. Below the bar, the distances 50', 100', and 200' are marked.



ATLAS RANCH PHASE 1 SECTION 1  WILLIAMSON COUNTY, TX						EXISTING CONDITIONS AND DEMOLITION PLAN  (2 OF 2)						 GRAY ENGINEERING					
PROJECT NO: 11727																	
DESIGNED BY: KEL																	
DRAWN BY: KEL																	
CHECKED BY: RR																	
NOTICE: ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.																	
																	
SHEET      6      OF      91																	



# Water Pollution Abatement Plan Application

## Texas Commission on Environmental Quality

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

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

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

## Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Water Pollution Abatement Plan Application Form** is hereby submitted for TCEQ review and Executive Director approval. The form was prepared by:

Print Name of Customer/Agent: Nick Marino, P.E.

Date: 8/23/2024

Signature of Customer/Agent:

Nick Marino

Regulated Entity Name: Atlas Ranch

## Regulated Entity Information

1. The type of project is:

- ☒ Residential: Number of Lots: 225
- ☐ Residential: Number of Living Unit Equivalents: \_\_\_\_\_
- ☐ Commercial
- ☐ Industrial
- ☐ Other: \_\_\_\_\_

2. Total site acreage (size of property): 895.94

3. Estimated projected population: 788

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

**Table 1 - Impervious Cover Table**

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	678,000.00	÷ 43,560 =	15.565
Parking	0	÷ 43,560 =	0
Other paved surfaces	462,389.00	÷ 43,560 =	10.615
Total Impervious Cover	1,140,389.00	÷ 43,560 =	26.180

**Total Impervious Cover** 26.180 ÷ **Total Acreage** 106.21 X 100 = 24.65% **Impervious Cover**

5. ☒ **Attachment A - Factors Affecting Surface Water Quality.** A detailed description of all factors that could affect surface water and groundwater quality that addresses ultimate land use is attached.
6. ☐ Only inert materials as defined by 30 TAC §330.2 will be used as fill material.

### ***For Road Projects Only***

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

7. Type of project:

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

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

- ☐ Concrete  
☐ Asphaltic concrete pavement  
☐ Other: \_\_\_\_\_

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

Width of R.O.W.: \_\_\_\_\_ feet.

L x W = \_\_\_\_\_ Ft<sup>2</sup> ÷ 43,560 Ft<sup>2</sup>/Acre = \_\_\_\_\_ acres.

10. Length of pavement area: \_\_\_\_\_ feet.

Width of pavement area: \_\_\_\_\_ feet.

L x W = \_\_\_\_\_ Ft<sup>2</sup> ÷ 43,560 Ft<sup>2</sup>/Acre = \_\_\_\_\_ acres.

Pavement area \_\_\_\_\_ acres ÷ R.O.W. area \_\_\_\_\_ acres x 100 = \_\_\_\_\_% impervious cover.

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

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

### ***Stormwater to be generated by the Proposed Project***

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

### ***Wastewater to be generated by the Proposed Project***

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

<u>100%</u> Domestic	_____ Gallons/day
_____ % Industrial	_____ Gallons/day
_____ % Commingled	
_____ Gallons/day	
TOTAL gallons/day _____	

15. Wastewater will be disposed of by:

- ☐ On-Site Sewage Facility (OSSF/Septic Tank):
- ☐ **Attachment C - Suitability Letter from Authorized Agent.** An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's (authorized agent) written approval is attached. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities.
- ☐ Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.
- ☒ Sewage Collection System (Sewer Lines):
- ☐ Private service laterals from the wastewater generating facilities will be connected to an existing SCS.
- ☒ Private service laterals from the wastewater generating facilities will be connected to a proposed SCS.
- ☐ The SCS was previously submitted on \_\_\_\_\_.
- ☒ The SCS was submitted with this application.
- ☐ The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to Executive Director approval.

☐ The sewage collection system will convey the wastewater to the Atlas Ranch (name) Treatment Plant. The treatment facility is:

☐ Existing.

☒ Proposed.

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

## **Site Plan Requirements**

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

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

Site Plan Scale: 1" = 100'.

18. 100-year floodplain boundaries:

☒ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.

☐ No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): \_\_\_\_\_

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

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

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

☒ There are 2 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)

☐ The wells are not in use and have been properly abandoned.

☐ The wells are not in use and will be properly abandoned.

☒ The wells are in use and comply with 16 TAC §76.

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

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

☐ All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.

☒ No sensitive geologic or manmade features were identified in the Geologic Assessment.

☐ **Attachment D - Exception to the Required Geologic Assessment.** A request and justification for an exception to a portion of the Geologic Assessment is attached.

- 22. ☒ The drainage patterns and approximate slopes anticipated after major grading activities.
- 23. ☒ Areas of soil disturbance and areas which will not be disturbed.
- 24. ☒ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
- 25. ☒ Locations where soil stabilization practices are expected to occur.
- 26. ☒ Surface waters (including wetlands).  
☐ N/A
- 27. ☒ Locations where stormwater discharges to surface water or sensitive features are to occur.  
☐ There will be no discharges to surface water or sensitive features.
- 28. ☒ Legal boundaries of the site are shown.

### ***Administrative Information***

- 29. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.
- 30. ☒ Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

## Attachment A – Factors Affecting Surface Water Quality

Many factors have the potential of affecting surface water quality during construction, including oil, grease, gas, transmission fluids, and/or other vehicular fluids, as well as shifts in sediment that will occur during excavation and fill operations. Upon completion of construction, normal traffic on the site could be responsible for many similar pollutants.



## Attachment B – Volume and Character of Stormwater

The majority of runoff from Phase 1, Section 1 will drain to on-site BMPs where it will be treated. The total drainage area accounted for by BMPs is 43.60 acres of runoff with 26.18 acres of impervious cover. Resultant runoff is conveyed to one (1) proposed batch detention pond via proposed storm system improvements and one (1) vegetative filter strip. Small portions of runoff will bypass treatment and discharge to tributaries of Salado Creek. BMPs shown in the construction plans have been adequately sized to account for the untreated flows.

The overall proposed drainage area map and water quality calculations are shown in the construction plans included with this submittal. This project lies within the Salado Creek Detention Exempt Stream Reach as defined by Williamson County and drains directly to Salado Creek.

## Attachment C – Suitability Letter from Authorized Agent

Not applicable to this project.

## Attachment D – Exception to the Required Geologic Assessment

Not applicable to this project.

# Organized Sewage Collection System Application

## Texas Commission on Environmental Quality

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

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

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

**Regulated Entity Name:** Atlas Ranch

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: Matt Michelsen

Entity: Atlas Ranch Holdings, LP

Mailing Address: 115 E 5<sup>th</sup> St #200

City, State: Austin, TX

Zip: 78701

Telephone: (858) 204-4100

Fax: N/A

Email Address: mcm@michelsen.com

***The appropriate regional office must be informed of any changes in this information within 30 days of the change.***

3. The engineer responsible for the design of this sewage collection system is:

Contact Person: Nick Marino, P.E.

Texas Licensed Professional Engineer's Number: 146339

Entity: Gray Engineering, Inc.

Mailing Address: 8834 N. Capital of Texas Highway, Suite 140

City, State: Austin, TX

Zip: 78759

Telephone: (469) 834-8611

Fax: N/A

Email Address: [nmarino@grayengineeringinc.com](mailto:nmarino@grayengineeringinc.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: 225  
☐ Multi-family: Number of residential units: \_\_\_\_\_  
☐ Commercial  
☐ Industrial  
☐ Off-site system (not associated with any development)  
☐ Other: \_\_\_\_\_

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

100% Domestic \_\_\_\_\_gallons/day  
\_\_\_\_\_% Industrial \_\_\_\_\_gallons/day  
\_\_\_\_\_% Commingled  
\_\_\_\_gallons/day  
Total gallons/day: \_\_\_\_\_

6. Existing and anticipated infiltration/inflow is \_\_\_\_\_gallons/day. This will be addressed by: \_\_\_\_\_.

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 08/23/2024, 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"	6,562	PVC SDR-26	ASTM 3034
12"	436	PVC SDR-26	ASTM 3034
8"	986	PVC SDR-26	ASTM D2241

<i>Pipe Diameter(Inches)</i>	<i>Linear Feet (1)</i>	<i>Pipe Material (2)</i>	<i>Specifications (3)</i>

**Total Linear Feet:** 7,984

(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 Atlas Ranch (name) Treatment Plant. The treatment facility is:

- ☐ Existing  
☒ Proposed

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

- ☐ The City of \_\_\_\_\_ 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>
WWL B	64 Of 92	5+37.69	MANHOLE

<i>Line</i>	<i>Shown on Sheet</i>	<i>Station</i>	<i>Manhole or Clean-out?</i>
WWL D	66 Of 92	10+26.18	MANHOLE
WWL E	67 Of 92	6+43.32	MANHOLE
WWL F	68 Of 92	4+32.32	MANHOLE
WWL G	69 Of 92	9+97.15	MANHOLE
WWL H	72 Of 92	19+01.05	MANHOLE
WWL J	73 Of 92	4+20.00	MANHOLE
WWL K	74 Of 92	4+20.00	MANHOLE

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

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

<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" = 100'.

19. ☒ The Site Plan must include the sewage collection system general layout, including manholes with station numbers, and sewer pipe stub outs (if any). Site plan must be

overlain by topographic contour lines, using a contour interval of not greater than ten feet and showing the area within both the five-year floodplain and the 100-year floodplain of any drainage way.

20. Lateral stub-outs:

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

21. Location of existing and proposed water lines:

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

22. 100-year floodplain:

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

**Table 3 - 100-Year Floodplain**

<i>Line</i>	<i>Sheet</i>	<i>Station</i>
	of	to
	of	to
	of	to
	of	to

23. 5-year floodplain:

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

**Table 4 - 5-Year Floodplain**

<i>Line</i>	<i>Sheet</i>	<i>Station</i>
	of	to
	of	to



<i>Line</i>	<i>Sheet</i>	<i>Station</i>
	of	to
	of	to

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

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

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

☐ There will be no water line crossings.

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

**Table 5 - Water Line Crossings**

<i>Line</i>	<i>Station or Closest Point</i>	<i>Crossing or Parallel</i>	<i>Horizontal Separation Distance</i>	<i>Vertical Separation Distance</i>
WWL B	4+97.93	CROSSING	>9'	5.7'
WWL D	1+18.15	CROSSING	>9'	14.9'
WWL E	1+27.00	CROSSING	>9'	2.6'
WWL E	4+40.30	CROSSING	>9'	3.1'
WWL F	1+27.00	CROSSING	>9'	7.4'
WWL H	1+27.00	CROSSING	>9'	12.8'
WWL H	9+12.10	CROSSING	>9'	4.2'
WWL J	1+27.00	CROSSING	>9'	2.3'
WWL K	1+26.97	CROSSING	>9'	2.8'
WWL L	3+22.02	CROSSING	>9'	7.6'

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>

28. Drop manholes:

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

**Table 7 - Drop Manholes**

<i>Line</i>	<i>Manhole</i>	<i>Station</i>	<i>Sheet</i>
WWL A	MH A2	3+68.27	63
WWL B	MH B1	1+00.00	64
WWL C	MH C3	9+84.39	65
WWL E	MH E1	1+57.99	67
WWL F	MH F3	1+99.98	68
WWL H	MH H2	8+85.10	71

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>

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**

<i>Standard Details</i>	<i>Shown on Sheet</i>
Lateral stub-out marking <b>[Required]</b>	of
Manhole, showing inverts comply with 30 TAC §217.55(l)(2) <b>[Required]</b>	79 of 91
Alternate method of joining lateral to existing SCS line for potential future connections <b>[Required]</b>	80 of 91
Typical trench cross-sections <b>[Required]</b>	80 of 91
Bolted manholes <b>[Required]</b>	79 of 91
Sewer Service lateral standard details <b>[Required]</b>	80 of 91
Clean-out at end of line <b>[Required, if used]</b>	of

<b>Standard Details</b>	<b>Shown on Sheet</b>
Baffles or concrete encasement for shock/erosion protection [ <b>Required, if flow velocity of any section of pipe &gt;10 fps</b> ]	of
Detail showing Wastewater Line/Water Line Crossing [ <b>Required, if crossings are proposed</b> ]	80 of 91
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) [ <b>Required, if Flexible Pipe is used</b> ]	of
Drop manholes [ <b>Required, if a pipe entering a manhole is more than 24 inches above manhole invert</b> ]	79 of 91

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

## Signature

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

Print Name of Licensed Professional Engineer: Nick Marino, P.E.

Date: 8/23/2024

Place engineer's seal here:



Signature of Licensed Professional Engineer:

Nick Marino

## 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**

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

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

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

**Figure 1 - Manning's Formula**

*Where:*

*v = velocity (ft/sec)*

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

*R<sub>h</sub> = hydraulic radius (ft)*

*S = slope (ft/ft)*

## Attachment A – SCS Engineering Design Report

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY  
CHAPTER 217 DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEMS  
SUBCHAPTER A ADMINISTRATIVE REQUIREMENTS  
RULE §217.10 Final Engineering Report

(f) The engineering report for a collection system project must include the following:

(1) a map showing the current service area, the proposed service area, and any area proposed for future expansion;

**Sheets 62 – 75 in the Phase 1, Section 1 Construction plans contain an overall wastewater plan and plan and profile sheets for each wastewater line.**

(2) the topographical features of the current, the proposed, and any future service areas;

**Sheets 62 – 75 in the Phase 1, Section 1 Construction plans contain an overall wastewater plan and plan and profile sheets for each wastewater line. Each sheet contains existing and proposed topographic information.**

(3) a description of how the design flow was determined;

**The design flow was calculated using the City of Austin wastewater design criteria, which assumes 245 gallons/day/LUE for each pipe segment.**

(4) the minimum and maximum grades for each size and type of pipe;

**The minimum and maximum grades for each size and type of pipe are as follows:**

<u>SIZE</u>	<u>TYPE</u>	<u>MIN. SLOPE</u>	<u>MAX. SLOPE</u>
8"	SDR26, ASTM 3034	0.40%	6.15%
8"	SDR26, ASTM D2241	0.40%	1.79%
12"	SDR26, ASTM 3034	0.50%	1.00%

(5) calculations of expected minimum and maximum velocities in the collection system for each size and type of pipe;

**The minimum and maximum velocities for each size and type of pipe are as follows:**

<u>SIZE</u>	<u>TYPE</u>	<u>MIN. VELOCITY</u>	<u>MAX. VELOCITY</u>
8"	SDR26, ASTM 3034	2.20 fps	8.61 fps
8"	SDR26, ASTM D2241	2.20 fps	4.64 fps
12"	SDR26, ASTM 3034	3.34 fps	4.55 fps

(6) the proposed project's effect on the existing collection system's capacity;

**There is no existing wastewater infrastructure that will be affected. Proposed flow from Atlas Ranch will flow through a proposed collection system to the proposed on-site wastewater treatment plant.**



(7) the existing and anticipated inflow and infiltration, the hydraulic effect of the inflow and infiltration on the proposed and existing systems, inflow and infiltration flow rate monitoring, and inflow and infiltration abatement measures;

**Inflow and infiltration is based on historical data used from local design standards listed in the Wastewater Design section of the City of Austin Utility Criteria Manual, assuming 750 gal/day/ac.**

(8) a description of the ability of the existing and proposed trunk and interceptor collection systems and lift stations to handle the peak flow;

**Not applicable to this project. There are no trunk or intercept wastewater lines proposed as a part of this project.**

(9) the capability of the associated wastewater treatment facility to receive and treat the anticipated peak flow;

**The proposed wastewater improvements will tie into the Atlas Ranch Wastewater Treatment Plant. The current agreement with the WWTP owner, Williamson County, allocates approximately 950 LUEs of capacity (approximately 126,000 [245 gpd per LUE] gpd) for the Atlas Ranch subdivision. Phase 1, Section 1 only consists of 225 LUEs.**

(10) an engineering analysis demonstrating compliance with structural design, minimization of odor-causing conditions, and pipe design requirements of this chapter;

**All wastewater pipe will be laid in straight line segments. Manholes will be coated against gases. Pipe connections and manhole lids will be sealed with rubber gaskets to prevent the escape of gases.**

(11) a description of the areas not initially served by the project, and the projected means of providing service to these areas, including special provisions incorporated into the present plans for future expansion;

**Not applicable to this project. All residential units within the proposed development will be serviced.**

(12) the calculations and pump curves showing the operating characteristics of all collection system lift stations at minimum, maximum, and design flows during both present and future conditions; and

**Not applicable to this project. There are no new or existing lift stations proposed within this plan set.**

(13) the safety considerations incorporated into a project design, including ventilation, entrances, working areas, explosion prevention, and methods for rerouting a portion of the collection system during repair work.

**Trench safety systems will be used for all trenching depths 5 feet or greater. Stepped trenches will be used where necessary. Barricades will be placed appropriately to control access to open trenches and other work areas. Safety meetings will be held by the contractor to ensure the safe installation of all wastewater**

**improvements. No atypical or nonstandard practices or products will be installed as a part of this project. Blasting is neither authorized nor proposed for this project.**

## Attachment B – Justification and Calculations for Deviation in Straight Alignment without Manholes

Not applicable to this project.

## Attachment C – Justification for Variance from Maximum Manhole Spacing

Not applicable to this project.

## Attachment D – Calculations for Slopes for Flows Greater Than 10.0 Feet per Second

Not applicable to this project.

OWNER:  
ATLAS RANCH HOLDINGS, L.P.  
115 E 5TH ST #200  
AUSTIN, TX 78701  
PHONE: (858) 204-4100

ENGINEER:  
GRAY ENGINEERING INC.  
8834 N. CAPITAL OF TEXAS HWY., SUITE 140  
AUSTIN, TEXAS 78759  
(512) 452-0371  
FAX (512) 454-9933

LEGAL DESCRIPTION:  
AW0172 DAVIS, E. SUR., ACRES 80.272  
AW0172 DAVIS, E. SUR., ACRES 26.10, (QUARRY)

REVIEWED FOR COMPLIANCE WITH COUNTY REQUIREMENTS (WCSR 2021B):

WILLIAMSON COUNTY	DATE
WILLIAMSON COUNTY EMERGENCY SERVICE DISTRICT NO.5	DATE
ATLAS RANCH MUD No. 1	DATE

NOTES: REVIEW OF THE PLANS BY THE DISTRICT IS LIMITED TO WATER, WASTEWATER AND DRAINAGE AND DOES NOT INDICATE A REVIEW OF THE ADEQUACY OF THE DESIGN FOR THE FACILITIES. IN APPROVING THESE PLANS, THE DISTRICT MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

- NOTES:
- THIS PROJECT IS LOCATED WITHIN THE NORTH FORK SALADO CREEK WATERSHED.
  - THIS PROJECT IS LOCATED WITHIN THE EDWARDS AQUIFER RECHARGE ZONE.
  - PORTIONS OF THIS PLAN ARE ENCLOSED BY SPECIAL FLOOD HAZARD AREAS INUNDATED BY THE 1% ANNUAL CHANCE FLOOD AS IDENTIFIED BY THE U.S. FEDERAL EMERGENCY MANAGEMENT AGENCY BOUNDARY MAP (FLOOD INSURANCE RATE MAP) COMMUNITY PANEL NUMBERS 48491C0125F, EFFECTIVE DATE DECEMBER 20, 2019 FOR WILLIAMSON COUNTY TEXAS
  - THE CONTRACTOR SHALL OBTAIN A "NOTICE OF PROPOSED INSTALLATION OF UTILITY LINE" PERMIT FROM WILLIAMSON COUNTY FOR ANY WORK PERFORMED IN THE EXISTING RIGHT-OF-WAY (DRIVEWAY APRON, WATER MAIN TIE-IN, ETC.); THIS PERMIT APPLICATION WILL REQUIRE A LIABILITY AGREEMENT, A CONSTRUCTION COST ESTIMATE FOR WORK WITHIN THE RIGHT-OF-WAY INCLUDING PAVEMENT REPAIR (IF NEEDED), A PERFORMANCE BOND, CONSTRUCTION PLANS AND, IF NECESSARY, A TRAFFIC CONTROL PLAN, AN INSPECTION FEE, AND A PRE-CONSTRUCTION MEETING MAY ALSO BE REQUIRED, DEPENDING ON THE SCOPE OF WORK. THE PERMIT WILL BE REVIEWED AND APPROVED BY THE COUNTY ENGINEER, AND MUST ALSO BE APPROVED BY THE WILLIAMSON COUNTY COMMISSIONERS COURT IF ANY ROAD CLOSURE IS INVOLVED.

BENCHMARK

BEARING BASIS NOTE:

BEARING ORIENTATION IS BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. DISTANCES SHOWN HEREON ARE IN SURFACE AND CAN BE CONVERTED TO GRID BY USING THE COMBINED SCALE FACTOR = 1.00014727

BENCHMARK NOTE:

BENCHMARK FOR THIS PROJECT IS A CHISELED SQUARE FOUND AT THE WEST END OF A CONCRETE HEADWALL ALONG THE NORTH SIDE OF COUNTRY RD. 305, LOCATED +/- 120-FEET WEST OF THE INTERSECTION OF COUNTRY RD. 305 AND 344

GRID N. = 10,277,563.05  
GRID E. = 3,144,725.36  
=788.26

NAVD88 (GEIOD 18)

SUBMITTED BY

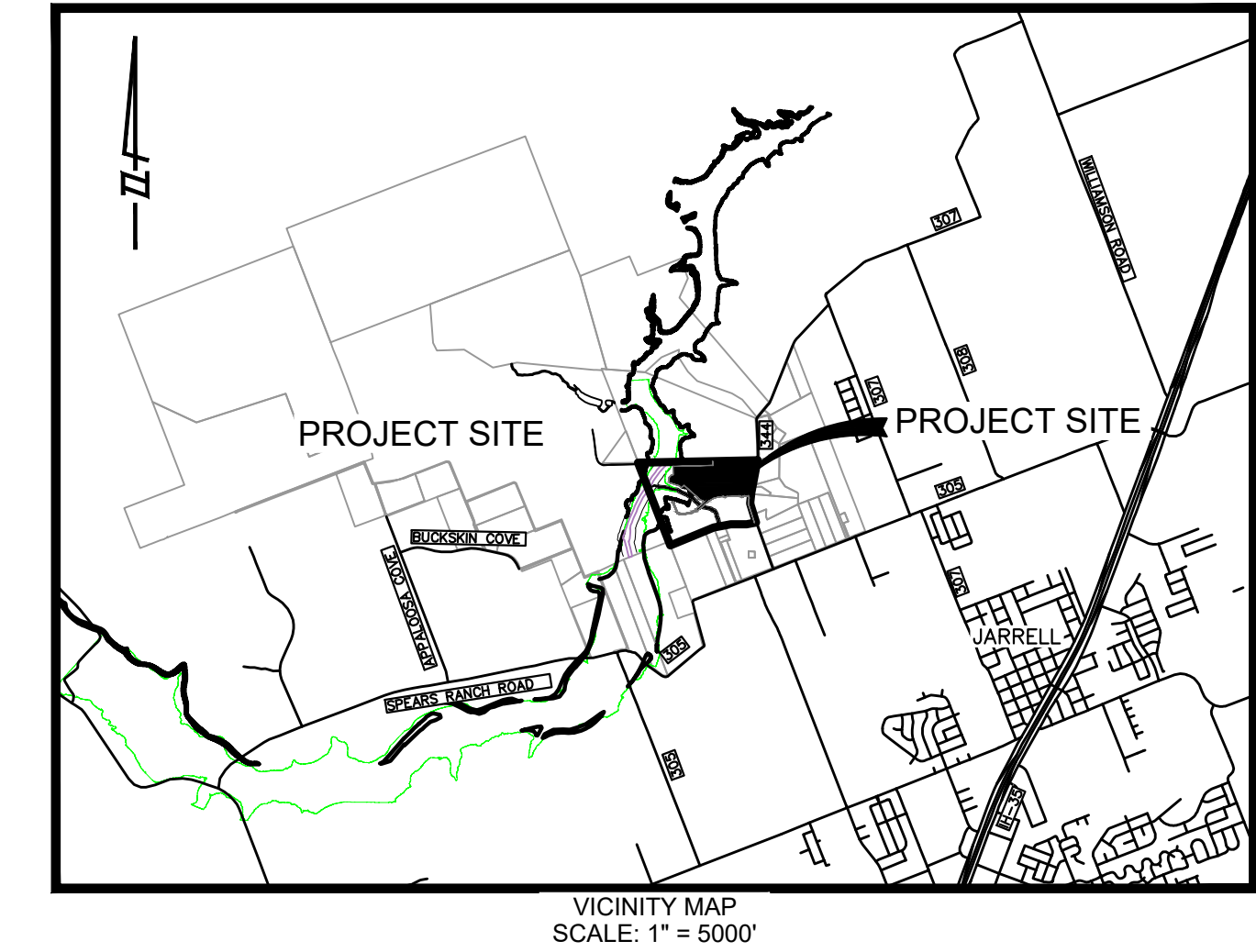
Nick Marino

NICK MARINO, P.E.  
GRAY ENGINEERING INC.  
8834 N. CAPITAL OF TEXAS HWY., SUITE 140  
AUSTIN, TEXAS 78759  
(512) 452-0371

DATE

8/23/2024

SUBMITTAL TRACKING	
SUBMITTAL NO.	DATE
1	

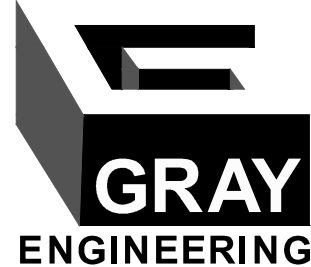


NO.	DATE	SHEETS	REVISION DESCRIPTION

CONSTRUCTION PLANS FOR  
ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON COUNTY, TX  
PAVING, WATER, WASTEWATER, & DRAINAGE IMPROVEMENTS

Sheet List Table			
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3	NOTES (SHEET 2 OF 2)	49	STORM SEWER LATERALS C1-C4 & D1-4
4	PRELIMINARY PLAT	50	STORM SEWER LATERALS D5-D11
5	EXISTING CONDITIONS AND DEMOLITION PLAN (1 OF 2)	51	STORM SEWER LATERALS D12-D16 & E1-E2
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7	EROSION CONTROL PLAN (SHEET 1 OF 2)	53	POND (2 OF 2)
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9	SIGNAGE AND LIGHTING PLAN	55	VEGETATIVE FILTER STRIP PLAN
10	GRADING PLAN (1 OF 2)	56	OVERALL WATER DISTRIBUTION PLAN (1 OF 3)
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44	STORM SEWER LINE E (STA. 1+00 TO END)	90	STREET DETAILS (SHEET 5 OF 5)
45	STORM SEWER LINE X (STA. 1+00 TO END)	91	BRIDGE DETAILS
46	STORM SEWER LATERALS A0.2-A9		

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8834 N. Capital of Texas Hwy.  
Suite 140  
Austin, Texas 78759  
(512)452-0371  
FAX(512)454-9933  
TBPCLS FIRM #2946



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GENERAL NOTES:

1. ALL ROADS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AS APPROVED BY THE COUNTY ENGINEER AND IN ACCORDANCE WITH THE SPECIFICATIONS FOUND IN THE CURRENT VERSION OF THE "TEXAS DEPARTMENT OF TRANSPORTATION MANUAL STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES".
2. ANY EXISTING UTILITIES, PAVEMENT, CURBS, SIDEWALKS, STRUCTURES, TREES, ETC., NOT PLANNED FOR DESTRUCTION OR REMOVAL THAT ARE DAMAGED OR REMOVED SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR SHALL VERIFY ALL DEPTHS AND LOCATIONS OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES WITH THE CONSTRUCTION PLANS FOUND IN THE FIELD SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE ENGINEER WHO SHALL BE RESPONSIBLE FOR REVISING THE PLANS ARE APPROPRIATE.
4. MANHOLE FRAMES, COVERS, VALVES, CLEANOUTS, ETC. SHALL BE RAISED TO FINISHED GRADE PRIOR TO FINAL PAVING CONSTRUCTION.
5. THE CONTRACTOR SHALL GIVE THE WILLIAMSON COUNTY 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION. TELEPHONE (512) 943-3367 (ENGINEERING AND DEVELOPMENT SERVICES DEPARTMENT).
6. ALL AREAS DISTURBED OR EXPOSED DURING CONSTRUCTION SHALL BE REVEGETATED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. REVEGETATION OF ALL DISTURBED OR EXPOSED AREAS SHALL CONSIST OF SODDING OR SEEDING, AT THE CONTRACTOR'S OPTION. HOWEVER, THE TYPE OF REVEGETATION MUST EQUAL OR EXCEED THE TYPE OF VEGETATION PRESENT BEFORE CONSTRUCTION.
7. THE CONTRACTOR AND THE ENGINEER SHALL KEEP ACCURATE RECORDS OF ALL CONSTRUCTION THAT DEVIATES FROM THE PLANS. THE ENGINEER SHALL FURNISH WILLIAMSON COUNTY ACCURATE "AS-BUILT" DRAWINGS FOLLOWING COMPLETION OF ALL CONSTRUCTION. THESE "AS-BUILT" DRAWINGS SHALL MEET WITH THE SATISFACTION OF THE ENGINEERING AND DEVELOPMENT SERVICES DEPARTMENT PRIOR TO FINAL ACCEPTANCE.
8. WHEN CONSTRUCTION IS BEING CARRIED OUT WITHIN EASEMENTS, THE CONTRACTOR SHALL CONFINE HIS WORK TO WITHIN THE PERMANENT AND ANY TEMPORARY EASEMENTS. PRIOR TO FINAL ACCEPTANCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TRASH AND DEBRIS WITHIN THE PERMANENT AND TEMPORARY EASEMENTS. CLEAN-UP SHALL BE TO THE SATISFACTION OF THE CITY ENGINEER.
9. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL APPLY FOR AND SECURE ALL PROPER PERMITS FROM THE APPROPRIATE AUTHORITIES.

TRENCH SAFETY NOTES:

1. IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U. S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, ALL TRENCHES OVER 5 FEET IN DEPTH IN EITHER HARD AND COMPACT OR SOFT AND UNSTABLE SOIL SHALL BE SLOPED, SHORED, SHEETED, BRACED OR OTHERWISE SUPPORTED. FURTHERMORE, ALL TRENCHES LESS THAN 5 FEET IN DEPTH SHALL ALSO BE EFFECTIVELY PROTECTED WHEN HAZARDOUS GROUND MOVEMENT MAY BE EXPECTED. TRENCH SAFETY SYSTEMS TO BE UTILIZED FOR THIS PROJECT (WILL BE PROVIDED BY THE CONTRACTOR)
2. IN ACCORDANCE WITH THE U. S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, WHEN PERSONS ARE IN TRENCHES 4-FEET DEEP OR MORE, ADEQUATE MEANS OF EXIT, SUCH AS A LADDER OR STEPS, MUST BE PROVIDED AND LOCATED SO AS TO REQUIRE NO MORE THAN 25 FEET OF LATERAL TRAVEL.
3. IF TRENCH SAFETY SYSTEM DETAILS WERE NOT PROVIDED IN THE PLANS BECAUSE TRENCHES WERE ANTICIPATED TO BE LESS THAN 5 FEET IN DEPTH AND DURING CONSTRUCTION IT IS FOUND THAT TRENCHES ARE IN FACT 5 FEET OR MORE IN DEPTH OR TRENCHES LESS THAN 5 FEET IN DEPTH ARE IN AN AREA WHERE HAZARDOUS GROUND MOVEMENT IS EXPECTED, ALL CONSTRUCTION SHALL CEASE, THE TRENCHED AREA SHALL BE BARRICADED AND THE ENGINEER NOTIFIED IMMEDIATELY. CONSTRUCTION SHALL NOT RESUME UNTIL APPROPRIATE TRENCH SAFETY SYSTEM DETAILS, AS DESIGNED BY A PROFESSIONAL ENGINEER, ARE RETAINED AND COPIES SUBMITTED TO WILLIAMSON COUNTY.

STREET AND DRAINAGE NOTES:

1. ALL TESTING SHALL BE DONE BY AN INDEPENDENT LABORATORY AT THE OWNER'S EXPENSE. ANY RETESTING SHALL BE PAID FOR BY THE CONTRACTOR. A CITY INSPECTOR SHALL BE PRESENT DURING ALL TESTS. TESTING SHALL BE COORDINATED WITH THE COUNTY INSPECTOR AND HE SHALL BE GIVEN A MINIMUM OF 24 HOURS NOTICE PRIOR TO ANY TESTING. TELEPHONE (512) 943-3367 (INSPECTIONS).
2. BACKFILL BEHIND THE CURB SHALL BE COMPACTED TO OBTAIN A MINIMUM OF 95% MAXIMUM DENSITY TO WITHIN 3" OF TOP OF CURB. MATERIAL USED SHALL BE PRIMARILY GRANULAR WITH NO ROCKS LARGER THAN 6" IN THE GREATEST DIMENSION. THE REMAINING 3" SHALL BE CLEAN TOPSOIL FREE FROM ALL CLODS AND SUITABLE FOR SUSTAINING PLANT LIFE.
3. DEPTH OF COVER FOR ALL CROSSINGS UNDER PAVEMENT INCLUDING GAS, ELECTRIC, TELEPHONE, CABLE TV, WATER SERVICES, ETC., SHALL BE A MINIMUM OF 30" BELOW SUBGRADE.
4. BARRICADES BUILT TO WILLIAMSON COUNTY STANDARDS SHALL BE CONSTRUCTED ON ALL DEAD-END STREETS AND AS NECESSARY DURING CONSTRUCTION TO MAINTAIN JOB AND PUBLIC SAFETY.
5. ALL R.C.P. SHALL BE MINIMUM CLASS III.
6. THE SUBGRADE MATERIAL IN ATLAS RANCH PHASE 1 WAS TESTED BY MLA GEOTECHNICAL ON NOVEMBER 18, 2023 AND THE PAVING SECTIONS DESIGNED IN ACCORDANCE WITH THE CURRENT WILLIAMSON COUNTY DESIGN CRITERIA AND PRESENTED IN THE APPROVED REPORT DATED APRIL 2024. THE PAVING SECTIONS ARE TO BE CONSTRUCTED AS FOLLOWS:

STREET TYPE	SUBGRADE MATERIAL	HOT MIX ASPHALTIC CONCRETE, IN	CRUSHED LIMESTONE BASE, IN	SUBGRADE IMPROVEMENT, IN
LOCAL STREETS	SUBGRADE PI < 20	2.0	12	—
	SUBGRADE 20 < PI < 35	2.0	12	8
	SUBGRADE 35 < PI < 55	2.0	14	8
COLLECTORS	SUBGRADE PI < 20	2.0	14	—
	SUBGRADE 20 < PI < 35	2.0	17	8
	SUBGRADE 35 < PI < 55	2.0	17	8
MAJOR COLLECTORS	SUBGRADE PI < 20	3.0	14	—
	SUBGRADE 20 < PI < 35	3.0	17	8
	SUBGRADE 35 < PI < 55	3.0	17	8
MINOR ARTERIALS	SUBGRADE PI < 20	3.0	20	8
	SUBGRADE 20 < PI < 35	3.5	22	8
	SUBGRADE 35 < PI < 55	3.5	22	10

SHOULD SOLID ROCK BE ENCOUNTERED PRIOR TO THE DEPTH NECESSARY FOR THE 12.0 INCHES AND 14.0 INCHES OF BASE MATERIAL SHOWN ABOVE. THE BASE MATERIAL THICKNESS MAY BE REDUCED TO 8.0 INCHES AND 10.0 INCHES, RESPECTIVELY, AND EXISTING MATERIAL SHALL BE EXCAVATED TO THE EXPOSED ROCK. IT SHOULD BE NOTED PER WILLIAMSON COUNTY SUBDIVISION REGULATIONS SOLID ROCK MUST BE INTACT, UNDISTURBED, AND CONTINUOUS LIMESTONE - WEATHERED LIMESTONE IS NOT CONSIDERED SOLID ROCK. THESE AREAS SHOULD BE DETERMINED IN THE FIELD AT THE DIRECTION OF A REPRESENTATIVE OF MLA GEOTECHNICAL.

7. THE GEOTECHNICAL ENGINEER SHALL INSPECT THE SUBGRADE FOR COMPLIANCE WITH THE DESIGN ASSUMPTIONS MADE DURING PREPARATION OF THE SOILS REPORT. ANY ADJUSTMENTS THAT ARE REQUIRED SHALL BE MADE THROUGH REVISION OF THE CONSTRUCTION PLANS.
8. FILL ASSOCIATED WITH A GRAVEL PIT/QUARRY OPERATION WAS DISCOVERED ON THIS SITE. THE FILL IS PREVALENT THROUGHOUT THE SITE AND RANGES IN DEPTH UP TO APPROXIMATELY 10 FEET DEEP. EXISTING FILL IN THE PUBLIC ROW MUST BE ENTIRELY REMOVED AND REPLACED AND COMPACTED IN ACCORDANCE WITH WILLIAMSON COUNTY STANDARDS, AS DESCRIBED IN THE APPROVED GEOTECHNICAL REPORT. FILL DEPTHS MAY BE TAKEN FROM THE LOGS OF BORINGS AND PLAN OF BORINGS FOUND IN APPENDIX A. WHERE RESIDENTIAL LOTS ARE TO BE CONSTRUCTED, REMEDIATION OF THE FILL MUST BE PERFORMED IN ACCORDANCE WITH THE "RECOMMENDATIONS-LOT FILL REMEDIATION PRIOR TO FOUNDATION CONSTRUCTION"
9. THE SURFACE CLAYS SHOULD STILL BE TESTED FOR SULFATE REACTION AND A MIX DESIGN SHOULD BE COMPLETED TO DETERMINE THE LIME TYPE, MIXING PROCEDURE, AND CURING CONDITIONS REQUIRED FOR THE PROPOSED SUBGRADE MATERIAL OF THIS SITE. THIS SHOULD BE PERFORMED ONCE THE COMPOSITION OF THE SUBGRADE MATERIAL HAS BEEN DETERMINED AFTER GRADING OPERATIONS.
10. THE SUBGRADE IMPROVEMENT SHOULD BE EXTENDED 3 FEET BEYOND THE BACK OF THE CURB LINE.
11. DELINEATION BETWEEN THESE DIFFERENT PAVEMENT THICKNESS SECTIONS SHOULD BE COMPLETED IN THE FIELD BY OBSERVATION OF OPEN UTILITIES TRENCHES AND THE PAVEMENT SUBGRADE BY THE GEOTECHNICAL ENGINEER OR HIS DESIGNATE. GIVEN THE KNOWN VARIABILITY OF SURFACE SOILS AT THIS SITE, THE GEOTECHNICAL ENGINEER MUST VERIFY THE SUBGRADE BEFORE INSTALLATION OF THE PAVEMENT SYSTEM CAN PROCEED. MULTIPLE SITE VISITS MAY BE REQUIRED DEPENDING UPON THE CONSTRUCTION SCHEDULE. FINALIZED DISTINCTION BETWEEN PAVEMENT THICKNESS SECTIONS SHALL BE PROVIDED AS ADDENDUMS TO THIS REPORT AS THESE OBSERVATIONS ARE COMPLETED. PLEASE CONTACT THE GEOTECHNICAL ENGINEER WHEN THE UTILITY TRENCHES ARE OPEN.
12. THESE PAVEMENT THICKNESS DESIGNS ARE INTENDED TO TRANSFER THE LOAD FROM THE ANTICIPATED TRAFFIC CONDITIONS.
13. THE RESPONSIBILITY OF ASSIGNING STREET CLASSIFICATION TO THE STREETS IN THIS PROJECT IS LEFT TO THE CIVIL ENGINEER.
14. IF PAVEMENT DESIGNS OTHER THAN THOSE LISTED ABOVE ARE DESIRED, PLEASE CONTACT MLA GEOTECHNICAL.
15. CONTRACTOR IS TO AVOID INSTALLATION OF UTILITIES, IRRIGATION LINES, PLANTINGS, SILT FENCE, ETC. IN THE BASE OVERBUILD.
16. THE BASE SHOULD EXTEND 18 INCHES BEHIND THE CURB LINE EXCEPT IN AREAS WHERE DEEPLY DEPOSITED HIGH PI SUBGRADE IS ENCOUNTERED. IN THESE AREAS BASE SHOULD EXTEND 36 INCHES BEYOND THE CURB LINE.

TRAFFIC MARKING NOTES:

1. ALL PAVEMENT MARKINGS, MARKERS, PAINT, TRAFFIC BUTTONS, TRAFFIC CONTROLS AND SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITIONS.

EROSION AND SEDIMENTATION CONTROL NOTES:

17. EROSION CONTROL MEASURES, SITE WORK AND RESTORATION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF ROUND ROCK EROSION AND SEDIMENTATION CONTROL ORDINANCE.
18. ALL SLOPES SHALL BE SODDED OR SEEDED WITH APPROVED GRASS, GRASS MIXTURES OR GROUND COVER SUITABLE TO THE AREA AND SEASON IN WHICH THEY ARE APPLIED.
19. SILT FENCES, ROCK BERMS, SEDIMENTATION BASINS AND SIMILARLY RECOGNIZED TECHNIQUES AND MATERIALS SHALL BE EMPLOYED DURING CONSTRUCTION TO PREVENT POINT SOURCE SEDIMENTATION LOADING OF DOWNSTREAM FACILITIES. SUCH INSTALLATION SHALL BE REGULARLY INSPECTED BY WILLIAMSON COUNTY FOR EFFECTIVENESS. ADDITIONAL MEASURES MAY BE REQUIRED IF, IN THE OPINION OF THE CITY ENGINEER, THEY ARE WARRANTED.
20. ALL TEMPORARY EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL FINAL INSPECTION AND APPROVAL OF THE PROJECT BY THE ENGINEER. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL TEMPORARY EROSION CONTROL STRUCTURES AND TO REMOVE EACH STRUCTURE AS APPROVED BY THE ENGINEER.
21. ALL MUD, DIRT, ROCKS, DEBRIS, ETC., SPILLED, TRACKED OR OTHERWISE DEPOSITED ON EXISTING PAVED STREETS, DRIVES AND AREAS USED BY THE PUBLIC SHALL BE CLEANED UP IMMEDIATELY.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY ORGANIZED SEWAGE COLLECTION SYSTEM GENERAL CONSTRUCTION NOTES:

1. THIS ORGANIZED SEWAGE COLLECTION SYSTEM (SCS) MUST BE CONSTRUCTED IN ACCORDANCE WITH 30 TEXAS ADMINISTRATIVE CODE (TAC) §213.5(c), THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) EDWARDS AQUIFER RULES AND ANY LOCAL GOVERNMENT STANDARD SPECIFICATIONS.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROPOSED REGULATED PROJECT MUST BE PROVIDED WITH COPIES OF THE SCS PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS MUST BE REQUIRED TO KEEP ON-SITE COPIES OF THE PLAN AND THE APPROVED 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 SOURING 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 SER LINE/MANHOLE INVERTS DESCRIBED IN 30 TAC §217.55 ARE INCLUDED ON PLAN SHEET XX OF XX.

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 SEWER LINES DEVIATE FROM STRAIGHT ALIGNMENT AND UNIFORM GRADE ALL CURVATURE OF SEWER PIPE MUST BE ACHIEVED BY THE FOLLOWING PROCEDURE WHICH IS R4COMMENDED BY THE PIPE MANUFACTURER: NOT APPLICABLE

IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE USED:p NOT APPLICABLE

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

12. NEW SEWAGE COLLECTION SYSTEM LINES MUST BE CONSTRUCTED WITH STUB OUTS FOR THE CONNECTION OF ANTICIPATED EXTENSIONS. THE LOCATION OF SUCH STUB OUTS MUST BE MARKED ON THE GROUND SUCH THAT THEIR LOCATION CAN BE EASILY DETERMINED AT THE TIME OF CONNECTION OF THE EXTENSIONS. SUCH STUB OUTS MUST BE MANUFACTURED WYES OR TEES THAT ARE COMPATIBLE IN SIZE AND MATERIAL WITH BOTH THE SEWER LINE AND THE EXTENSION. AT THE TIME OF ORIGINAL CONSTRUCTION, NEW STUB-OUTS MUST BE CONSTRUCTED SUFFICIENTLY TO EXTEND BEYOND THE END OF THE STREET PAVEMENT. ALL STUB-OUTS MUST BE SEALED WITH A MANUFACTURED CAP TO PREVENT LEAKAGE. EXTENSIONS THAT WERE NOT ANTICIPATED AT THE TIME OF ORIGINAL CONSTRUCTION OR THAT ARE TO BE CONNECTED TO AN EXISTING SEWER LINE NOT FURNISHED WITH STUB OUTS MUST BE CONNECTED USING A MANUFACTURED SADDLE AND IN ACCORDANCE WITH ACCEPTED PLUMBING TECHNIQUES. IF NO STUB-OUT IS PRESENT AN ALTERNATE METHOD OF JOINING LATERALS IS SHOWN IN THE DETAIL ON PLAN SHEET 80 OF 91. (FOR FUTURE POTENTIAL LATERALS).

THE PRIVATE SERVICE LATERAL STUB-OUTS MUST BE INSTALLED AS SHOWN ON THE PLAN AND PROFILE SHEETS ON PLAN SHEET 62 OF 91 AND MARKED AFTER BACKFILLING AS SHOWN IN THE DETAIL ON PLAN SHEET 80 OF 91 (NOT APPLICABLE).

13. TRENCHING, BEDDING AND BACKFILL MUST CONFORM WITH 30 TAC §217.54. THE BEDDING AND BACKFILL FOR FLEXIBLE PIPE MUST COMPLY WITH THE STANDARDS OF ASTM D-2321, CLASSES IA, IB, II OR III. RIGID PIPE BEDDING MUST COMPLY WITH THE REQUIREMENTS OF ASTM C 12 (ANSI A 106.2) CLASSES A, B, OR C.
14. SEWER LINES MUST BE TESTED FROM MANHOLE TO MANHOLE. WHEN A NEW SEWER LINE IS CONNECTED TO AN EXISTING STUB OR CLEAN-OUT, IT MUST BE TESTED FROM EXISTING MANHOLE TO NEW MANHOLE. IF A STUB OR CLEAN-OUT IS USED AT THE END OF THE PROPOSED SEWER LINE, NO PRIVATE SERVICE ATTACHMENTS MAY BE CONNECTED BETWEEN THE LAST MANHOLE AND THE CLEANOUT UNLESS IT CAN BE CERTIFIED AS CONFORMING WITH THE PROVISIONS OF 30 TAC §213.5(c)(3)(I).
15. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH 30 TAC §217.57. THE ENGINEER MUST RETAIN COPIES OF ALL TEST RESULTS WHICH MUST BE MADE AVAILABLE TO THE EXECUTIVE DIRECTOR UPON REQUEST. THE ENGINEER MUST CERTIFY IN WRITING THAT ALL WASTEWATER LINES HAVE PASSED ALL REQUIRED TESTING TO THE APPROPRIATE REGIONAL OFFICE WITHIN 30 DAYS OF TEST COMPLETION AND PRIOR TO USE OF THE NEW COLLECTION SYSTEM. TESTING METHOD WILL BE:

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

1. LOW PRESSURE AIR TEST.

a. A LOW PRESSURE AIR TEST MUST FOLLOW THE PROCEDURES DESCRIBED IN AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C-828, ASTM C-824, OR ASTM F-1417 OR OTHER PROCEDURE APPROVED BY THE EXECUTIVE DIRECTOR, EXCEPT AS TO TESTING TIMES AS REQUIRED IN TABLE C.3 IN SUBPARAGRAPH (C) OF THIS PARAGRAPH OR EQUATION C.3 IN SUBPARAGRAPH (B)(II) OF THIS PARAGRAPH.

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

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

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

EQUATION C.3

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

WHERE:

T = TIME FOR PRESSURE TO DROP 1.0 POUND PER SQUARE INCH GAUGE IN SECONDS  
K = 0.00419 X D X L, BUT NOT LESS THAN 1.0  
D = AVERAGE INSIDE PIPE DIAMETER IN INCHES  
L = LENGTH OF LINE OF SAME SIZE BEING TESTED, IN FEET  
Q = RATE OF LOSS, 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE

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

PIPE DIAMETER (INCHES)	MINIMUM TIME (SECONDS)	MAXIMUM LENGTH FOR MAXIMUM TIME (FEET)	TIME FOR LONGER LENGTH (SECONDS/FOOT)
6	340	398	0.855
8	454	298	1.520
10	567	239	2.374
12	680	199	3.419
15	850	159	5.342
18	1020	133	7.693
21	1190	114	10.471
24	1360	100	13.676
27	1530	88	17.309
30	1700	80	21.369
33	1870	72	25.856

- 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 A TESTING PERIOD, 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 FLOODPLAIN, 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.

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

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

a. MANDREL SIZING

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

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

iii. ALL DIMENSIONS MUST MEET THE APPROPRIATE STANDARD.

iii. 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 OPTIONS

i. AN ADJUSTABLE OR FLEXIBLE MANDREL IS PROHIBITED.

ii. A TEST MAY NOT USE TELEVISION INSPECTION AS A SUBSTITUTE FOR A DEFLECTION TEST.

iii. IF REQUESTED, THE EXECUTIVE DIRECTOR MAY APPROVE THE USE OF A DEFLECTOMETER OR A MANDREL WITH REMOVABLE LEGS OR RUNNERS ON A CASE-BY-CASE BASIS.

2. FOR A GRAVITY COLLECTION SYSTEM PIPE WITH AN INSIDE DIAMETER 27 INCHES AND GREATER, OTHER TEST METHODS MAY BE USED TO DETERMINE VERTICAL DEFLECTION.

3. A DEFLECTION TEST METHOD MUST BE ACCURATE TO WITHIN PLUS OR MINUS 0.2% DEFLECTION.

4. AN OWNER SHALL NOT CONDUCT A DEFLECTION TEST UNTIL AT LEAST 30 DAYS AFTER THE FINAL BACKFILL.

5. GRAVITY COLLECTION SYSTEM PIPE DEFLECTION MUST NOT EXCEED FIVE PERCENT (5%).

6. IF A PIPE SECTION FAILS A DEFLECTION TEST, AN OWNER SHALL CORRECT THE PROBLEM AND CONDUCT A SECOND TEST AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS.

16. ALL MANHOLES MUST BE TESTED TO MEET OR EXCEED THE REQUIREMENTS OF 30 TAC §217.58.

A. ALL MANHOLES MUST PASS A LEAKAGE TEST.

B. AN OWNER SHALL TEST EACH MANHOLE (AFTER ASSEMBLY AND BACKFILLING) FOR LEAKAGE, SEPARATE AND INDEPENDENT OF THE COLLECTION SYSTEM PIPES, BY HYDROSTATIC EXFILTRATION TESTING, VACUUM TESTING, OR OTHER METHOD APPROVED BY THE EXECUTIVE DIRECTOR.

1. HYDROSTATIC TESTING.

a. THE MAXIMUM LEAKAGE FOR HYDROSTATIC TESTING OR ANY ALTERNATIVE TEST METHODS IS 0.025 GALLONS PER FOOT DIAMETER PER FOOT OF MANHOLE DEPTH PER HOUR.

b. TO PERFORM A HYDROSTATIC EXFILTRATION TEST, AN OWNER SHALL SEAL ALL WASTEWATER PIPES COMING INTO A MANHOLE WITH AN INTERNAL PIPE PLUG, FILL THE MANHOLE WITH WATER, AND MAINTAIN THE TEST FOR AT LEAST ONE HOUR.+

2. VACUUM TESTING.

a. TO PERFORM A VACUUM TEST, AN OWNER SHALL PLUG ALL LIFT HOLES AND EXTERIOR JOINTS WITH A NON-SHRINK GROUT AND PLUG ALL PIPES ENTERING A MANHOLE.

b. NO GROUT MUST BE PLACED IN HORIZONTAL JOINTS BEFORE TESTING.

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

d. AN OWNER SHALL USE A MINIMUM 60 INCH/LB TORQUE WRENCH TO TIGHTEN THE EXTERNAL CLAMPS THAT SECURE A TEST COVER TO THE TOP OF A MANHOLE.

e. A TEST HEAD MUST BE PLACED AT THE INSIDE OF THE TOP OF A CONE SECTION, AND THE SEAL INFLATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

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

g. A TEST DOES NOT BEGIN UNTIL AFTER THE VACUUM PUMP IS OFF.

h. A MANHOLE PASSES THE TEST IF AFTER 2.0 MINUTES AND WITH ALL VALVES CLOSED, THE VACUUM IS AT LEAST 9.0 INCHES OF MERCURY.

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

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NOTES (SHEET 1 OF 2)

ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX

PROJECT NO: 11727

DESIGNED BY: KEL

DRAWN BY: KEL

CHECKED BY: RR

NOTICE:  
ALTERATION OF A  
SEALED DRAWING  
WITHOUT PROPER  
NOTIFICATION TO THE  
RESPONSIBLE ENGINEER  
IS A VIOLATION OF THE  
TEXAS ENGINEERING  
PRACTICE ACT.

SHEET 2 OF 91

8834 N. Capital of Texas Hwy.  
Suite 140  
Austin, Texas 78759  
(512) 952-0371  
FAX (512) 454-9933  
TBPFLS #2946

**GRAY**  
ENGINEERING

NO. BY DATE REVISION DESCRIPTION



HYDROJECTS\732-ATLAS RANCH\CD\PH1\SEC1\ISHEETS\11727-ATLAS RANCH\CD\PH1\SEC1\ISHEETS\11727-COVER.DWG DATE: 8/23/2024 2:22:43 PM BY: K.LIND

STORM WATER POLLUTION PREVENTION PLAN (SWPP) GENERAL NOTES

1. ALL CONSTRUCTION ACTIVITIES DISTURBING ONE ACRE OR GREATER MUST OBTAIN STORM WATER DISCHARGE AUTHORIZATION FROM THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ), THROUGH COMPLIANCE WITH TCEQS GENERAL PERMIT #70X(18)000. THE PRIMARY CONSTRUCTION SITE OPERATOR (PCSO) MUST PREPARE AND IMPLEMENT AN SWPP THROUGHOUT CONSTRUCTION WHICH INCLUDES THE EROSION AND SEDIMENT CONTROL (ESC) PLAN AND OTHER BEST MANAGEMENT PRACTICES (BMPs) SPECIFIED IN THESE PLANS APPROVED BY TRAVIS COUNTY.
2. SMALL CONSTRUCTION ACTIVITIES DISTURBING BETWEEN ONE AND FIVE ACRES SHALL POST A TCEQ CONSTRUCTION SITE NOTICE (CSN) ON SITE PRIOR TO COMMENCING CONSTRUCTION. LARGE CONSTRUCTION ACTIVITIES DISTURBING FIVE ACRES OR GREATER SHALL SUBMIT A NOTICE OF INTENT (NOI) TO TCEQ AND POST THE NOI ON SITE AT LEAST SEVEN (7) DAYS PRIOR TO BEGINNING CONSTRUCTION. NOTICES POSTED MUST BE MAINTAINED THROUGHOUT CONSTRUCTION.
3. THE PCSO MUST REVISE THE SWPP WHENEVER CHANGING SITE CONDITIONS, OR A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE HAS A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS NOT PREVIOUSLY ADDRESSED, OR WHEN RESULTS OF INSPECTIONS BY SITE OPERATORS, TRAVIS COUNTY, TCEQ, OR OTHER LOCAL AGENCY AUTHORIZED TO APPROVE ESC PLANS INDICATE THE SWPP IS PROVING INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANTS IN DISCHARGES FROM THE SITE.
4. TEMPORARY OR PERMANENT EROSION CONTROL AND STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE, AND AS SPECIFIED ON THE PLANS, IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. THESE MEASURES MUST BE INITIATED NO LATER THAN 14 DAYS AFTER CESSATION, UNLESS CONSTRUCTION ACTIVITIES WILL RESUME WITHIN 21 DAYS IN THE AREA.
5. UPON FINAL STABILIZATION OF THE ENTIRE SITE, INCLUDING COMPLETION OF ALL STABILIZATION REQUIREMENTS OF THE APPROVED PLANS AND PERMIT AS VERIFIED BY WILLIAMSON COUNTY, THE PCSO SHALL SUBMIT A NOTICE OF TERMINATION (NOTI) TO TCEQ.

UTILITY COMPANY CONTACT NUMBERS:

<b>BARTLETT ELECTRIC</b> FOR PRE-CONSTRUCTION MEETINGS CALL 254-527-3551 FOR UTILITY LINE LOCATION CALL 311.	<b>AT&amp;T</b> FOR PRE-CONSTRUCTION MEETINGS CALL 370-1000. FOR UTILITY LINE LOCATION CALL 370-1000.
<b>TIME WARNER CABLE</b> FOR PRE-CONSTRUCTION MEETINGS CALL 485-6433. FOR UTILITY LINE LOCATION CALL 485-6356.	<b>ATLAS RANCH MUNICIPAL UTILITY DISTRICT NO. 1</b> FOR PRE-CONSTRUCTION MEETINGS CALL 512-989-2200.

WILLIAMSON COUNTY NOTES:

B4 CONSTRUCTION-GENERAL

- B4.1 A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED PRIOR TO THE START OF CONSTRUCTION. THE DESIGN ENGINEER, OWNER, CONTRACTOR, SUB-CONTRACTORS, AND COUNTY ENGINEER SHALL ATTEND THIS MEETING. ALL ROADS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AS APPROVED BY THE COUNTY ENGINEER AND IN ACCORDANCE WITH THE SPECIFICATIONS FOUND IN THE CURRENT VERSION OF THE TEXAS DEPARTMENT OF TRANSPORTATION MANUAL STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES UNLESS OTHERWISE STATED ON THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER.
- B4.2 ALL MATERIALS SHALL BE SAMPLED AND TESTED BY AN INDEPENDENT TESTING LABORATORY IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER. THE OWNER SHALL PAY FOR ALL TESTING SERVICES AND SHALL FURNISH THE COUNTY ENGINEER WITH CERTIFIED COPIES OF THESE TEST RESULTS. THE COUNTY ENGINEER MUST APPROVE THE TEST RESULTS PRIOR TO CONSTRUCTING THE NEXT COURSE OF THE ROADWAY STRUCTURE. ANY MATERIAL WHICH DOES NOT MEET THE MINIMUM REQUIRED TEST SPECIFICATIONS SHALL BE REMOVED AND RECOMPACTED OR REPLACED UNLESS ALTERNATIVE REMEDIAL ACTION IS APPROVED IN WRITING FROM THE COUNTY ENGINEER.
- B4.3 EXCEPT FOR ELECTRICAL LINES, ALL UNDERGROUND NONFERROUS UTILITIES WITHIN A RIGHT-OF-WAY OR EASEMENT MUST BE ACCOMPANIED BY FERROUS METAL LINES TO AID IN TRACING THE LOCATION OF SAID UTILITIES THROUGH THE USE OF A METAL DETECTOR.
- B4.4 ALL PAVEMENTS ARE TO BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER. THE DESIGN SHALL BE BASED ON A 20-YEAR DESIGN LIFE AND IN CONJUNCTION WITH RECOMMENDATIONS BASED UPON A SOILS REPORT OF SAMPLES TAKEN ALONG THE PROPOSED ROADWAYS. TEST BORINGS SHALL BE PLACED AT A MAXIMUM SPACING OF 500 FEET OR OTHER SAMPLING FREQUENCY APPROVED BY THE COUNTY ENGINEER BASED ON RECOMMENDATIONS PROVIDED BY THE GEOTECHNICAL ENGINEER. THE SOILS REPORT AND PAVEMENT DESIGN SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR REVIEW. THE PAVEMENT DESIGN MUST BE APPROVED BY THE COUNTY ENGINEER PRIOR TO OR CONCURRENTLY WITH THE REVIEW AND APPROVAL OF THE CONSTRUCTION PLANS. IN ADDITION TO THE BASIS OF THE PAVEMENT DESIGN, THE SOILS REPORT SHALL CONTAIN THE RESULTS OF SAMPLED AND TESTED SUBGRADE FOR PLASTICITY INDEX, PH, SULFATE CONTENT, AND MAXIMUM DENSITY.

B5 SUBGRADE

- B5.1 THE PREPARATION OF THE SUBGRADE SHALL FOLLOW GOOD ENGINEERING PRACTICES AS DIRECTED BY THE COUNTY ENGINEER IN CONJUNCTION WITH RECOMMENDATIONS OUTLINED IN THE GEOTECHNICAL REPORT. WHEN THE PLASTICITY INDEX (PI) IS GREATER THAN 20, A SUFFICIENT AMOUNT OF LIME SHALL BE ADDED AS DESCRIBED IN ITEM 260 OF THE CURRENT EDITION OF THE TxDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION UNTIL THE PI IS LESS THAN 20. IF THE ADDITION OF LIME AS DESCRIBED IN ITEM 260 IS NOT FEASIBLE, AN ALTERNATE STABILIZING DESIGN SHALL BE PROPOSED AND SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL. THE SUBGRADE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A DRY DENSITY 132. IN ADDITION, PROOF ROLLING MAY BE REQUIRED BY THE COUNTY ENGINEER.
- B5.2 IF LIME IS NECESSARY, THEN A SUFFICIENT AMOUNT OF LIME SHALL BE ADDED, AS DESCRIBED IN ITEM 260 OF THE CURRENT EDITION OF THE TxDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION TO PROPERLY STABILIZE SUBGRADE. THE USE OF HYDRATED LIME OR LIME SLURRY IS APPROVED; HOWEVER, THE USE OF PELLETIZED LIME IS NOT APPROVED.
- B5.3 PRIOR TO LIME STABILIZATION, A SULFATE TEST OF IN SITU SOILS SHALL BE PERFORMED BY DEVELOPER TO CONFIRM THE APPROPRIATE MEANS AND METHODS OF STABILIZATION. PROVIDE SULFATE TEST TO COUNTY ENGINEER PRIOR TO STABILIZATION.
- B5.4 ANY VARIATION TO THE COUNTY'S STABILIZATION REQUIREMENTS MUST BE APPROVED BY THE COUNTY ENGINEER.
- B5.5 THE SUBGRADE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A DRY DENSITY PER TxDOT ITEM 132. IN ADDITION, PROOF ROLLING MAY BE REQUIRED BY THE COUNTY ENGINEER.
- B5.6 THE SUBGRADE SHALL BE INSPECTED AND APPROVED BY AND INDEPENDENT TESTING LABORATORY AND A CERTIFIED COPY OF ALL INSPECTION REPORTS FURNISHED TO THE COUNTY ENGINEER, WHO MUST APPROVE THE REPORT PRIOR TO APPLICATION OF THE BASE MATERIAL. ALL DENSITY TEST REPORTS SHALL INCLUDE A COPY OF THE WORK SHEET SHOWING THE PERCENTAGE OF THE MAXIMUM DRY (PROCTOR) DENSITY. THE NUMBER AND LOCATION OF ALL SUBGRADE TESTS SHALL BE DETERMINED BY THE COUNTY ENGINEER.

B6 BASE MATERIAL

- B6.1 BASE MATERIAL SHALL CONFORM TO ITEM 247 OF THE CURRENT EDITION OF THE TxDOT STANDARD SPECIFICATION FOR CONSTRUCTION, "FLEXIBLE BASE". THE BASE MATERIAL SHALL BE TYPE A GRADE 4, OR AS APPROVED BY THE COUNTY ENGINEER. GRADE 4 MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF TABLE B6.1 BELOW:

MASTER GRADATION	SIEVE SIZE	CUMULATIVE % RETAINED
	2 1/2"	—
	1 3/4"	0
	3/8"	10%–35%
	3/8"	30%–65%
	#4	45%–75%
	#40	70%–90%
	#200	87%–95%

- B6.2 EACH LAYER OF BASE COURSE SHALL BE TESTED FOR IN-PLACE DRY DENSITY AND MEASURED FOR COMPACTED THICKNESS. THE NUMBER AND LOCATION OF ALL BASE TEST SAMPLES SHALL BE DETERMINED BY THE COUNTY ENGINEER.
- B6.3 THE BASE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A MINIMUM OF 100% OF THE MAXIMUM (PROCTOR) DRY DENSITY OR AS APPROVED BY THE COUNTY ENGINEER UPON RECOMMENDATION BY THE TESTING LABORATORY. THE MAXIMUM LIFT SHALL NOT EXCEED SIX INCHES. THE BASE MUST BE INSPECTED AND APPROVED BY AN INDEPENDENT TESTING LABORATORY AND A CERTIFIED COPY OF THE TEST RESULTS FURNISHED TO THE COUNTY ENGINEER FOR APPROVAL. PRIOR TO THE PLACEMENT OF THE FIRST LIFT OF BASE, THE STOCKPILE SHALL BE TESTED FOR THE SPECIFICATIONS FOUND IN ITEM 247 TABLE 1 AND THE RESULT FURNISHED TO THE COUNTY ENGINEER FOR APPROVAL.
- B7 BITUMINOUS PAVEMENT
- B7.1 URBAN ROADS REQUIRE A MINIMUM 2 INCHES WEARING SURFACE OF TxDOT HMAc TYPE D. THE MIX SHALL BE FROM A TxDOT CERTIFIED PLANT AND THE MIX DESIGN SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF THE MATERIAL.
- B7.2 IF PROVIDING MIXTURE TYPE C OR D, USE PERFORMANCE GRADE (PG) BINDER 70-22. PROVIDE PG BINDER THAT DOES NOT CONTAIN RECYCLED ENGINE OIL BOTTOMS (REOBS) OR POLY PHOSPHORIC ACID (PPA). RECYCLED ASPHALT PAVEMENT (RAP) IS NOT PERMITTED FOR USE AS A COMPONENT OF THE HMAc. THE CONTRACTOR IS ALSO NOT PERMITTED THE USE RECYCLED ASPHALT SHINGLES (RAS) AS A COMPONENT OF THE HMAc.
- B7.3 IF PROVIDING MIXTURE TYPE B, USE PG BINDER 64-22. PROVIDE PG BINDERS THAT DO NOT CONTAIN REOBS OR PPA. FOR SUBSURFACE COURSE TYPE B, THE USE OF TWENTY PERCENT (20%) RAP IS PERMITTED IN THE MIX DESIGN. THE CONTRACTOR IS NOT PERMITTED TO USE RAS AS A COMPONENT OF THE HMAc.
- B7.4 TARGET LABORATORY MOLDED DENSITY IS 96.5% FOR ALL MIXTURES WITHOUT RAP AND WHEN USING A TEXAS GYRATORY COMPACTOR (TGC) FOR DESIGNING THE MIXTURE. WHEN USING SUPERPAVE GYRATORY COMPACTOR TO DESIGN MIXTURES, SUBMIT THE (SGC) MIX DESIGN TO THE ENGINEER FOR APPROVAL.
- B7.5 ALL MIXTURES MUST MEET THE HAMBURG REQUIREMENT AS STATED IN THE TABLE BELOW.

HIGH-TEMPERATURE BINDER GRADE	TEST METHOD	HAMBURG WHEEL TEST REQUIREMENTS*
		MINIMUM # OF PASSES @ 0.5" RUT DEPTH, TESTED @ 122°F
PG 64 OR LOWER	TEX-242-F	7,000
PG 70	TEX-242-F	15,000
PG 76 OR HIGHER	TEX-242-F	20,000

- B7.6 SUBMIT ANY PROPOSED ADJUSTMENTS OR CHANGES TO A JOB MIX FORMULA TO THE COUNTY ENGINEER BEFORE PRODUCTION OF THE NEW JOB MIX FORMULA.
- B7.7 UNLESS OTHERWISE APPROVED, PROVIDE TYPE B MIXTURES THAT HAVE NO LESS THAN 4.5% ASPHALT BINDER, AND TY C AND D MIXTURES WITH NO LESS THAN 4.7% BINDER.
- B7.8 FOR MIXTURE DESIGN VERIFICATION, PROVIDE THE ENGINEER WITH TWO 5-GALLON BUCKETS OF EACH AGGREGATE STOCKPILE TO BE USED ON THE PROJECT AND THREE GALLONS OF EACH PG BINDER TO BE USED ON THE PROJECT. ALSO PROVIDE SUFFICIENT QUANTITIES OF ANY OTHER ADDITIVES THAT WILL BE USED IN THE HMA MIXTURE. THIS MUST BE DONE PRIOR TO APPROVAL OF THE MIX DESIGN, UNLESS ALREADY PERFORMED WITHIN A ONE-YEAR TIME PERIOD.
- B7.9 PRIOR TO ALLOWING PRODUCTION OF THE TRIAL BATCH, THE ENGINEER WILL USE THE MATERIALS PROVIDED BY THE CONTRACTOR TO PERFORM THE FOLLOWING TESTS TO VERIFY THE HMA MIXTURE DESIGN.
- INDIRECT TENSILE TEST IN ACCORDANCE WITH TEX-228-F
  - HAMBURG WHEEL TEST IN ACCORDANCE WITH TEX-242-F
  - OVERLAY TEST IN ACCORDANCE WITH TEX-248-F
  - CANTABRO TEST IN ACCORDANCE WITH TEX-245-F
- FOR MIXTURES DESIGNED WITH A TEXAS GYRATORY COMPACTOR (TGC), THE ENGINEER MAY REQUIRE THAT THE TARGET LABORATORY MOLDED DENSITY BE RAISED TO NO MORE THAN 97.5% OR MAY LOWER THE DESIGN NUMBER OF GYRATIONS TO NO LESS THAN 35 FOR MIXTURES DESIGNED WITH AN SGC IF ANY OF THE FOLLOWING CONDITIONS EXIST.
- THE INDIRECT TENSILE TEST RESULTS IN A VALUE GREATER THAN 200 PSI
  - THE HAMBURG WHEEL TEST RESULTS IN A VALUE LESS THAN 3.0 MM
  - THE OVERLAY TEST RESULTS IN A VALUE LESS THAN 100 CYCLES
  - THE CANTABRO TEST RESULTS IN A VALUE OF MORE THAN 20% LOSS
- IN LIEU OF, OR IN ADDITION TO EVALUATING THE MIXTURE DESIGN PRIOR TO ALLOWING A TRIAL BATCH TO BE PRODUCED, THE ENGINEER MAY ALSO EVALUATE THE MIXTURE PRODUCED DURING THE TRIAL BATCH FOR COMPLIANCE WITH THE 4 TESTS LISTED ABOVE.

- B7.10 CONTRACTOR'S QUALITY CONTROL (CQC) TEST REPORTS SHALL BE SUBMITTED TO THE COUNTY ENGINEER ON A DAILY BASIS. AS A MINIMUM, DAILY CQC TESTING ON THE PRODUCED MIX SHALL INCLUDE: SIEVE ANALYSIS TEX-200-F, ASPHALT CONTENT TEX-210-F, HVEEM STABILITY TEX-208-F, LABORATORY COMPACTED DENSITY TEX-207-F, AND MAXIMUM SPECIFIC GRAVITY TEX-227-F. THE NUMBER AND LOCATION OF ALL HMAc TESTS SHALL BE DETERMINED BY THE COUNTY ENGINEER WITH A MINIMUM OF THREE, 6-INCH DIAMETER FIELD CORES SECURED AND TESTED BY THE CONTRACTOR FROM EACH DAY'S PAVING. EACH HMAc COURSE SHALL BE TESTED FOR IN-PLACE DENSITY, BITUMINOUS CONTENT AND AGGREGATE GRADATION, AND SHALL BE MEASURED FOR COMPACTED THICKNESS. THE NUMBER AND LOCATION OF ALL HMAc TEST SAMPLES SHALL BE DETERMINED BY THE COUNTY ENGINEER.
- B7.11 RURAL ROADS MAY USE EITHER THE SPECIFICATIONS FOUND IN SECTION B7.1 OF A TWO-COURSE SURFACE IN ACCORDANCE WITH ITEM 316, TREATMENT WEARING SURFACE, OF THE CURRENT EDITION OF THE TxDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE TYPE AND RATE OF ASPHALT AND AGGREGATE SHALL BE INDICATED ON THE PLANS AS A BASIS OF ESTIMATE AND SHALL BE DETERMINED AT THE PRE-CONSTRUCTION CONFERENCE. AGGREGATE USED IN THE MIX SHALL BE ON THE TxDOT QUALITY MONITORING SCHEDULE. AGGREGATE SHALL BE TYPE B GRADE 4. GRADATION TESTS SHALL BE REQUIRED FOR EACH 300 CUBIC YARDS OF MATERIAL PLACED WITH A MINIMUM OF TWO TESTS PER EACH GRADE PER EACH PROJECT. TEST RESULTS SHALL BE REVIEWED BY THE COUNTY ENGINEER PRIOR TO APPLICATION OF THE MATERIAL.

B8 CONCRETE PAVEMENT

- B8.1 IN LIEU OF BITUMINOUS PAVEMENT, PORTLAND CEMENT CONCRETE PAVEMENT MAY BE USED. IN SUCH CASES, THE PAVEMENT THICKNESS SHALL BE A MINIMUM OF 9 INCHES OF CONCRETE, AND SHALL BE JOINTED AND REINFORCED IN ACCORDANCE WITH THE DETAIL INCLUDED IN APPENDIX I. THE MIX SHALL BE FROM A TxDOT CERTIFIED PLANT. THE MIX DESIGN SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF THE MATERIAL.

B9 CONCRETE - GENERAL

- B9.1 UNLESS OTHERWISE SPECIFIED, CONCRETE SHALL BE IN ACCORDANCE WITH ITEM 421 OF THE CURRENT EDITION OF THE TxDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND BE PLACED IN ACCORDANCE WITH THE APPLICABLE ITEM.
- B9.2 ALL CONCRETE SHALL BE TESTED FOR COMPRESSIVE STRENGTH. ONE SET OF THREE CONCRETE TEST CYLINDERS SHALL BE MOLDED FOR EVERY 50 CUBIC YARDS OF CONCRETE PLACED FOR EACH CLASS OF CONCRETE PER DAY, OR AT ANY OTHER INTERVAL AS DETERMINED BY THE COUNTY ENGINEER. A SLUMP TEST SHALL BE REQUIRED WITH EACH SET OF TEST CYLINDERS. ONE CYLINDER SHALL BE TESTED FOR COMPRESSIVE STRENGTH AT AN AGE OF SEVEN DAYS AND THE REMAINING TWO CYLINDERS SHALL BE TESTED AT 28 DAYS OF AGE.

TCEQ WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES

1. THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D. WHEN CONFLICTS ARE NOTED WITH LOCAL STANDARDS, THE MORE STRINGENT REQUIREMENT SHALL BE APPLIED. CONSTRUCTION FOR PUBLIC WATER SYSTEMS MUST ALWAYS, AT A MINIMUM, MEET TCEQ'S RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS.
2. AN APPOINTED ENGINEER SHALL NOTIFY IN WRITING THE LOCAL TCEQ'S REGIONAL OFFICE WHEN CONSTRUCTION WILL START. PLEASE KEEP IN MIND THAT UPON COMPLETION OF THE WATER WORKS PROJECT, THE ENGINEER OR OWNER SHALL NOTIFY THE COMMISSION'S WATER SUPPLY DIVISION, IN WRITING, AS TO ITS COMPLETION AND ATTEST TO THE FACT THAT THE WORK HAS BEEN COMPLETED ESSENTIALLY ACCORDING TO THE PLANS AND CHANGE ORDERS ON FILE WITH THE COMMISSION AS REQUIRED IN 30 TAC §290.39(H)(3).
3. ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)/NSF INTERNATIONAL STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI, AS REQUIRED BY 30 TAC §290.44(A)(1).
4. PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NSF INTERNATIONAL SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 150 PSI OR A STANDARD DIMENSION RATIO OF 26 OR LESS, AS REQUIRED BY 30 TAC §290.44(A)(2).
5. NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF DRINKING WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING WATER SUPPLY, AS REQUIRED BY 30 TAC §290.44(A)(3).
6. WATER TRANSMISSION AND DISTRIBUTION LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. HOWEVER, THE TOP OF THE WATER LINE MUST BE LOCATED BELOW THE FROST LINE AND IN NO CASE SHALL THE TOP OF THE WATER LINE BE LESS THAN 24 INCHES BELOW GROUND SURFACE, AS REQUIRED BY 30 TAC §290.44(A)(4). REVISED MARCH 4, 2015
7. PURSUANT TO 30 TAC §290.44(A)(5), THE HYDROSTATIC LEAKAGE RATE SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY THE MOST CURRENT AWWA FORMULAS FOR PVC PIPE, CAST IRON AND DUCTILE IRON PIPE. INCLUDE THE FORMULAS IN THE NOTES ON THE PLANS. O THE HYDROSTATIC LEAKAGE RATE FOR POLYVINYL CHLORIDE (PVC) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-605 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE;
- Q=(LD•P)/148,000

WHERE:

- Q = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR,
- L = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,
- D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND
- P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).

O THE HYDROSTATIC LEAKAGE RATE FOR DUCTILE IRON (DI) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-600 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE;

L=(SD•P)/148,000P

WHERE:

- L = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR,
- S = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,
- D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND
- P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).

THE MAXIMUM ALLOWABLE LEAD CONTENT OF PIPES, PIPE FITTINGS, PLUMBING FITTINGS, AND FIXTURES TO 0.25 PERCENT.

9. THE SYSTEM MUST BE DESIGNED TO MAINTAIN A MINIMUM PRESSURE OF 35 PSI AT ALL POINTS WITHIN THE DISTRIBUTION NETWORK AT FLOW RATES OF AT LEAST 1.5 GALLONS PER MINUTE PER CONNECTION. WHEN THE SYSTEM IS INTENDED TO PROVIDE FIREFIGHTING CAPABILITY, IT MUST ALSO BE DESIGNED TO MAINTAIN A MINIMUM PRESSURE OF 20 PSI UNDER COMBINED FIRE AND DRINKING WATER FLOW CONDITIONS AS REQUIRED BY 30 TAC §290.44(D). REVISED MARCH 4, 2015
10. THE CONTRACTOR SHALL INSTALL APPROPRIATE AIR RELEASE DEVICES IN THE DISTRIBUTION SYSTEM AT ALL POINTS WHERE TOPOGRAPHY OR OTHER FACTORS MAY CREATE AIR LOCKS IN THE LINES. ALL VENT OPENINGS TO THE ATMOSPHERE SHALL BE COVERED WITH 16-MESH OR FINER, CORROSION RESISTANT SCREENING MATERIAL OR AN ACCEPTABLE EQUIVALENT AS REQUIRED BY 30 TAC §290.44(D)(1).
11. PURSUANT TO 30 TAC §290.44(D)(4), ACCURATE WATER METERS SHALL BE PROVIDED. SERVICE CONNECTIONS AND METER LOCATIONS SHOULD BE SHOWN ON THE PLANS.
12. PURSUANT TO 30 TAC §290.44(D)(5), SUFFICIENT VALVES AND BLOWOFFS TO MAKE REPAIRS. THE ENGINEERING REPORT SHALL ESTABLISH CRITERIA FOR THIS DESIGN.
13. PURSUANT TO 30 TAC §290.44(D)(6), THE SYSTEM SHALL BE DESIGNED TO AFFORD EFFECTIVE CIRCULATION OF WATER WITH A MINIMUM OF DEAD ENDS. ALL DEAD-END MAINS SHALL BE PROVIDED WITH ACCEPTABLE FLUSH VALVES AND DISCHARGE PIPING. ALL DEAD-END LINES LESS THAN TWO INCHES IN DIAMETER WILL NOT REQUIRE FLUSH VALVES IF THEY END AT A CUSTOMER SERVICE, WHERE DEAD ENDS ARE NECESSARY AS A STAGE IN THE GROWTH OF THE SYSTEM, THEY SHALL BE LOCATED AND ARRANGED TO ULTIMATELY CONNECT THE ENDS TO PROVIDE CIRCULATION.
14. THE CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE IN ALL DIRECTIONS OF NINE FEET BETWEEN THE PROPOSED WATERLINE AND WASTEWATER COLLECTION FACILITIES INCLUDING MANHOLES AND SEPTIC TANK DRAINFIELDS. IF THIS DISTANCE CANNOT BE MAINTAINED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT ENGINEER FOR FURTHER DIRECTION. SEPARATION DISTANCES, INSTALLATION METHODS, AND MATERIALS UTILIZED MUST MEET 30 TAC §290.44(E)(1)-OF THE CURRENT RULES.
15. PURSUANT TO 30 TAC §290.44(E)(5), THE SEPARATION DISTANCE FROM A POTABLE WATERLINE TO A WASTEWATER MAIN OR LATERAL MANHOLE OR CLEANOUT SHALL BE A MINIMUM OF NINE FEET. WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE POTABLE WATERLINE SHALL BE ENCASED IN A JOINT OF AT LEAST 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED THE ENCASEMENT PIPE SHALL BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEALANT.
16. PURSUANT TO 30 TAC §290.44(E)(6), FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY WASTEWATER LINE, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE REGARDLESS OF CONSTRUCTION.
17. PURSUANT TO 30 TAC §290.44(E)(7), SUCTION MAINS TO PUMPING EQUIPMENT SHALL NOT CROSS WASTEWATER MAINS, WASTEWATER LATERALS, OR WASTEWATER SERVICE LINES. RAW WATER SUPPLY LINES SHALL NOT BE INSTALLED WITHIN FIVE FEET OF ANY TILE OR CONCRETE WASTEWATER MAIN, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE.
18. PURSUANT TO 30 TAC §290.44(E)(8), WATERLINES SHALL NOT BE INSTALLED CLOSER THAN TEN FEET TO SEPTIC TANK DRAINFIELDS. REVISED MARCH 4, 2015
19. PURSUANT TO 30 TAC §290.44(F)(1), THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION.
20. PURSUANT TO 30 TAC §290.44(F)(2), WHEN WATERLINES ARE LAID UNDER ANY FLOWING OR INTERMITTENT STREAM OR SEMI-PERMANENT BODY OF WATER THE WATER MAIN SHALL BE INSTALLED IN A SEPARATE WATERTIGHT PIPE ENCASEMENT. VALVES MUST BE PROVIDED ON EACH SIDE OF THE CROSSING WITH FACILITIES TO ALLOW THE UNDERWATER PORTION OF THE SYSTEM TO BE ISOLATED AND TESTED.
21. THE CONTRACTOR SHALL DISINFECT THE NEW WATER MAINS IN ACCORDANCE WITH AWWA STANDARD C-651 AND THEN FLUSH AND SAMPLE THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATER LINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER, IN ACCORDANCE WITH 30 TAC §290.44(F)(3).

ATLAS RANCH MUNICIPAL UTILITIES DISTRICT NO.1

1. THE DISTRICT ENGINEER, JONES-HEROY & ASSOCIATES, INC. (KEN HEROY, PH. 512-989-2200) SHALL BE CONTACTED 48 HOURS PRIOR TO:
- PRE-CONSTRUCTION MEETINGS;
  - BEGINNING EACH PHASE OF CONSTRUCTION;
  - TESTING OF WATER AND/OR WASTEWATER LINES; AND,
  - FINAL WALK-THROUGH OF FACILITIES

STREET DESIGN TABLE									
STREET NAME	CLASSIFICATION	DESIGN SPEED	LENGTH	ROW WIDTH	PAVEMENT WIDTH	RURAL/URBAN	MAINTENANCE AUTHORITY	DRANIAGE TYPE	SIDEWALK
WINDGAP DRIVE	MAJOR COLLECTOR	40 MPH	1,700.00	70'	48' F-F	URBAN	PUBLIC	CURB & GUTTER	5' BOTH SIDES
ALEGHENY	LOCAL	25 MPH	649.38	50'	33' F-F	URBAN	PUBLIC	CURB & GUTTER	4' BOTH SIDES
CECIL CIRCLE	LOCAL	25 MPH	1,953.00	50'	33' F-F	URBAN	PUBLIC	CURB & GUTTER	4' BOTH SIDES
DUQUENSE CIRCLE	LOCAL	25 MPH	100.00	50'	33' F-F	URBAN	PUBLIC	CURB & GUTTER	4' BOTH SIDES
FAIRWOOD PLACE	LOCAL	25 MPH	485.00	50'	33' F-F	URBAN	PUBLIC	CURB & GUTTER	4' BOTH SIDES
GLEN HAZEL	ARTERIAL	45 MPH	1,285.27	120'	1 X 27' F-F	URBAN	PUBLIC	CURB & GUTTER	5' ONE SIDE
KNOXVILLE GLEN DRIVE	LOCAL	25 MPH	680.00	50'	33' F-F	URBAN	PUBLIC	CURB & GUTTER	4' BOTH SIDES
MOUNT OLIVER SPUR	LOCAL	25 MPH	396.30	50'	33' F-F	URBAN	PUBLIC	CURB & GUTTER	4' BOTH SIDES
SHADYSIDE DRIVE	LOCAL	25 MPH	1,851.46	50'	33' F-F	URBAN	PUBLIC	CURB & GUTTER	4' BOTH SIDES
VARGO KNOLL	MINOR COLLECTOR	30 MPH	230.00	60'	40' F-F	URBAN	PUBLIC	CURB & GUTTER	4' BOTH SIDES
VARGO KNOLL	LOCAL	25 MPH	775.00	50'	33' F-F	URBAN	PUBLIC	CURB & GUTTER	4' BOTH SIDES
TOTAL LENGTH:			10,105.41						

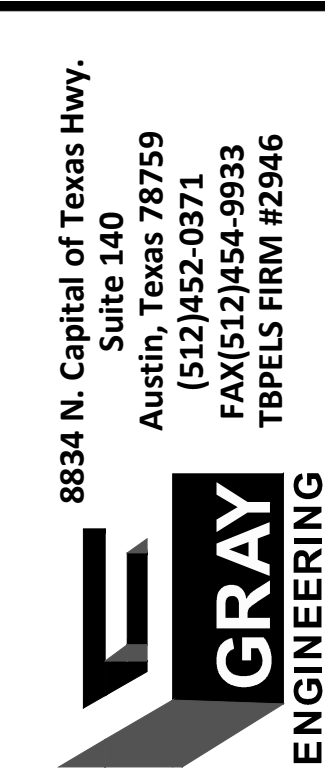
CONSTRUCTION SEQUENCE OF EVENTS

- CALL DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION, DEVELOPMENT ENGINEER CONSTRUCTION INSPECTION AND THE ENVIRONMENTAL AND CONSERVATION SERVICES DEPARTMENT 48 HOURS PRIOR TO BEGINNING ANY WORK. CALL THE ONE CALL CENTER FOR UTILITY LOCATIONS AND OBTAIN PERMIT FOR ANY WORK WITHIN THE CITY OF JERRELL OR WILLIAMSON COUNTY R.O.W. TREE PROTECTION WILL ALSO BE INSTALLED.
- INSTALL TEMPORARY EROSION CONTROL MEASURES AND STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH LOCATIONS AND DETAILS SHOWN ON THE PLANS. PRIOR TO CLEARING AND GRUBBING, NOTIFY WILLIAMSON COUNTY INSPECTORS WHEN EROSION CONTROLS ARE INSTALLED.
- HOLD PRE-CONSTRUCTION CONFERENCE ON SITE WITH THE CONTRACTOR, DESIGN ENGINEER, OWNERS REPRESENTATIVE AND THE CITY'S ENVIRONMENTAL INSPECTOR AFTER INSTALLATION OF THE EROSION/SEDIMENTATION CONTROLS AND PRIOR TO BEGINNING ANY WORK.
- BEGIN CONSTRUCTION OF PROJECT AS FOLLOWS:
  - ROUGH CUT/GRADE STREET, CHANNELS, PONDS, DRAINAGE FACILITIES TO INSURE NO MAJOR DEVIATIONS TO PROPOSED DRAINAGE PATTERNS OCCUR DURING CONSTRUCTION.
  - INSTALL ALL UTILITIES
  - INSTALL ALL CROSSINGS WITHIN STREET RIGHT-OF-WAYS
  - PREPARE SUBGRADE
  - CONSTRUCT STREET BASE
  - INSTALL CURB AND GUTTER
  - COMPLETE ALL ROUGH GRADING AND UNDERGROUND UTILITIES IN STREET RIGHT-OF-WAYS
  - LAY FINAL BASE COURSE
  - LAY ASPHALT
  - COMPLETE ALL NECESSARY FINAL GRADING AND DRESS UP OF AREAS DISTURBED DURING CONSTRUCTION
- HOLD OWNERS POST-CONSTRUCTION CONFERENCE ON SITE WITH THE CONTRACTOR, DESIGN ENGINEER, OWNER'S REPRESENTATIVE AND THE CITY'S ENVIRONMENTAL ENGINEER.
- AFTER ACCEPTANCE OF REVEGETATION BY THE OWNER AND THE CITY'S INSPECTOR, REMOVE TEMPORARY SEDIMENTATION AND EROSION CONTROLS.
- FINAL INSPECTION BY COUNTY AND CITY WITH CONTRACTOR AND ENGINEER.

TCEQ WATER POLLUTION ABATEMENT PLAN GENERAL CONSTRUCTION NOTES:

- 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
- ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN (WPAP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.
- IF ANY SENSITIVE FEATURE(S) (CAVES, SOLUTION CAVITY, SINK HOLE, ETC.) IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES MAY NOT BE RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE APPROPRIATE PROTECTIVE MEASURES IN ORDER TO PROTECT ANY SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.
- 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.
- 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.
- 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.
- SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS NOT LATER THAN WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.
- LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.
- ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.
- IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.
- 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.
- 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:
  - ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;
  - 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;
  - ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

Austin Regional Office 12100 Park 35 Circle, Building A Austin, Texas 78753-1808 Phone (512) 339-2929 Fax (512) 339-3795	San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329
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8834 N. Capital of Texas Hwy.  
Suite 140  
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(512) 527-0371  
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TBEPLS FRMW #2946

NO.		BY	DATE	REVISION DESCRIPTION

NOTES (SHEET 2 OF 2)

ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX

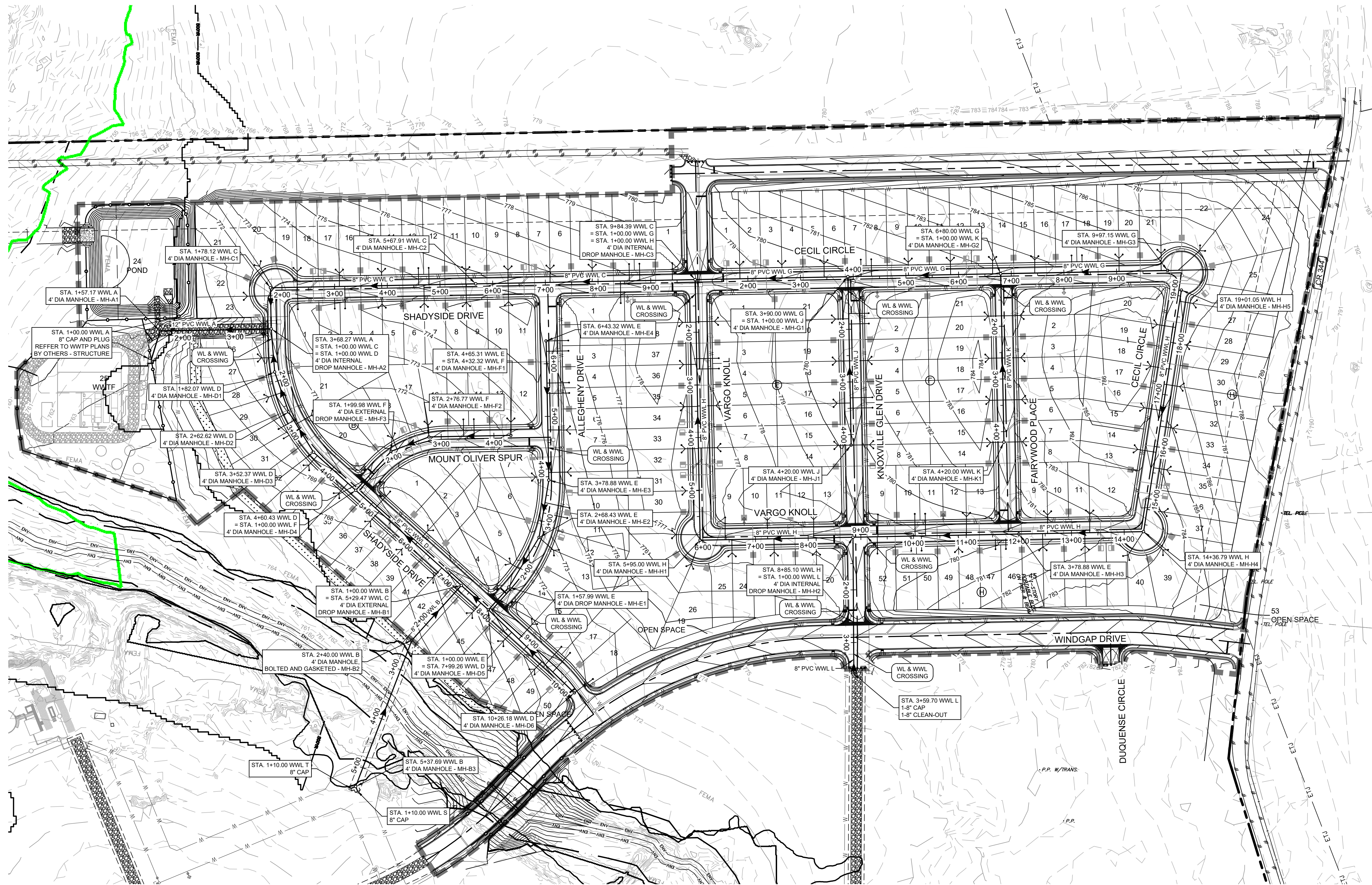
PROJECT NO: 11727

DESIGNED BY: KEL

DRAWN



H:\PROJECTS\1723 - ATLAS RANCH HOLDINGS\1723 - ATLAS RANCH\CD\PHASE1\1723 - C-SSW\CD.DWG DATE: 9/23/2024 2:38:41 PM BY: KLUND



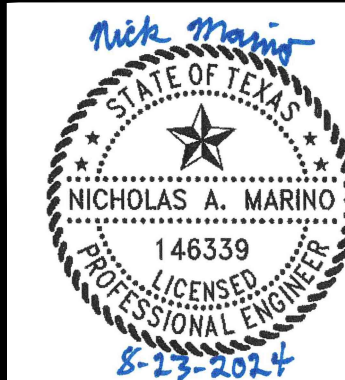
- LEGEND
- PROPERTY BOUNDARY
  - PROPOSED RIGHT OF WAY
  - EXISTING CONTOUR
  - EXISTING CONTOUR
  - PROPOSED CONTOUR
  - PROPOSED CONTOUR
  - PROPOSED WASTEWATER LINE
  - EXISTING WASTEWATER LINE
  - PROPOSED WASTEWATER MANHOLE
  - PROPOSED WASTEWATER PLUG
  - DOUBLE WATER SERVICE
  - SINGLE WATER SERVICE
  - DOUBLE WASTEWATER SERVICE
  - SINGLE WASTEWATER SERVICE
  - DIRECTION OF FLOW

OVERALL  
WASTEWATER  
COLLECTION PLAN

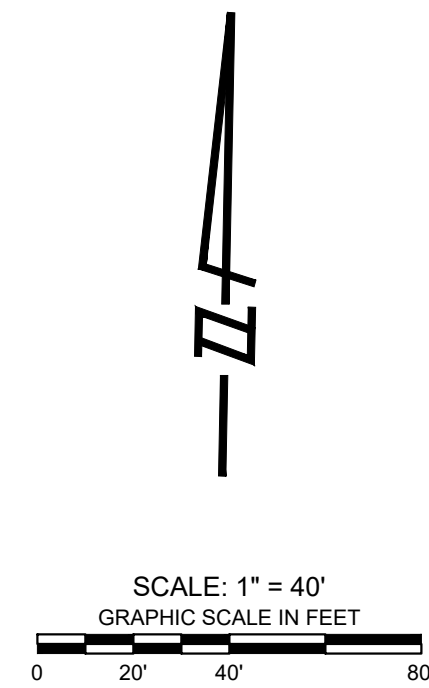
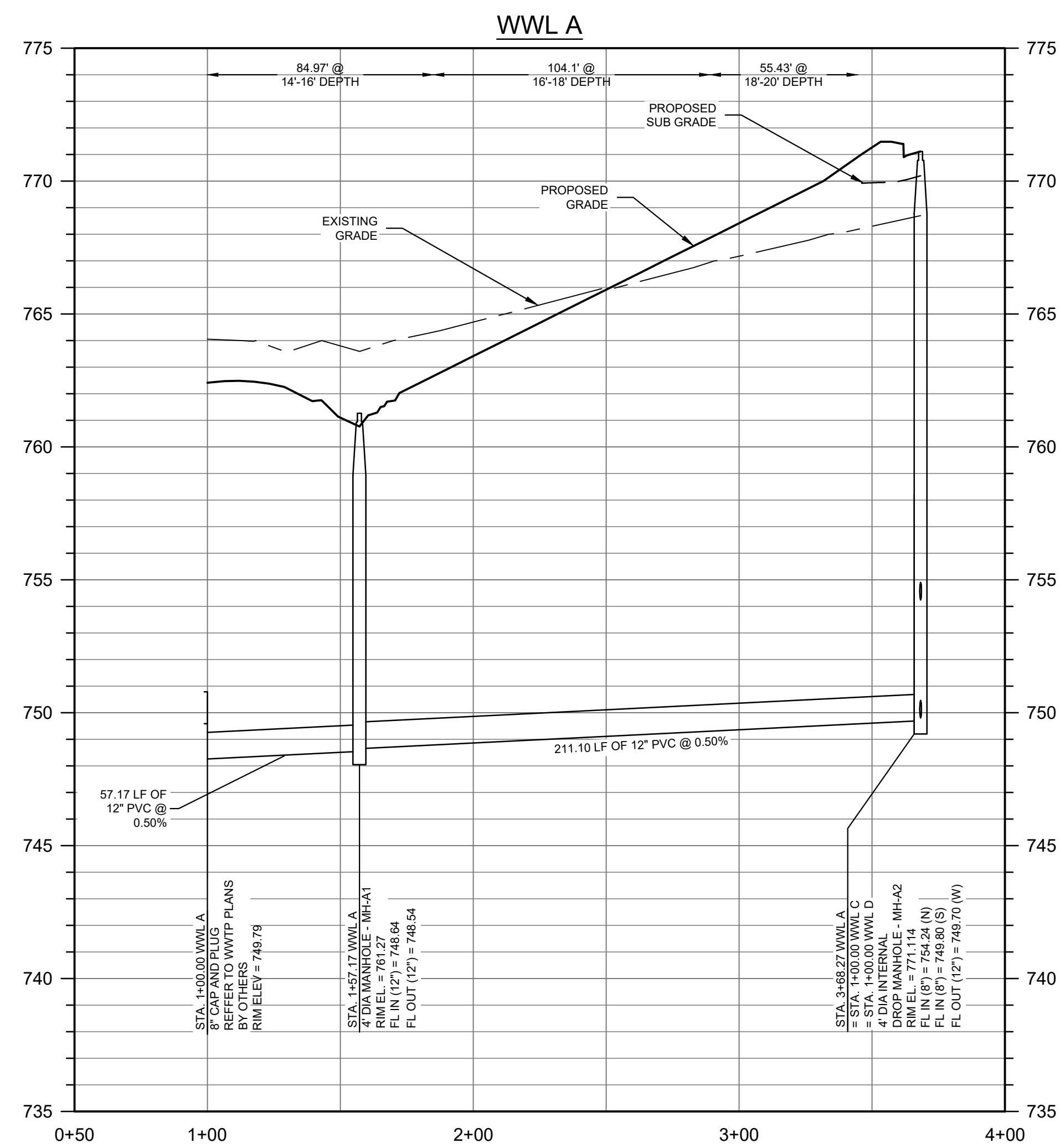
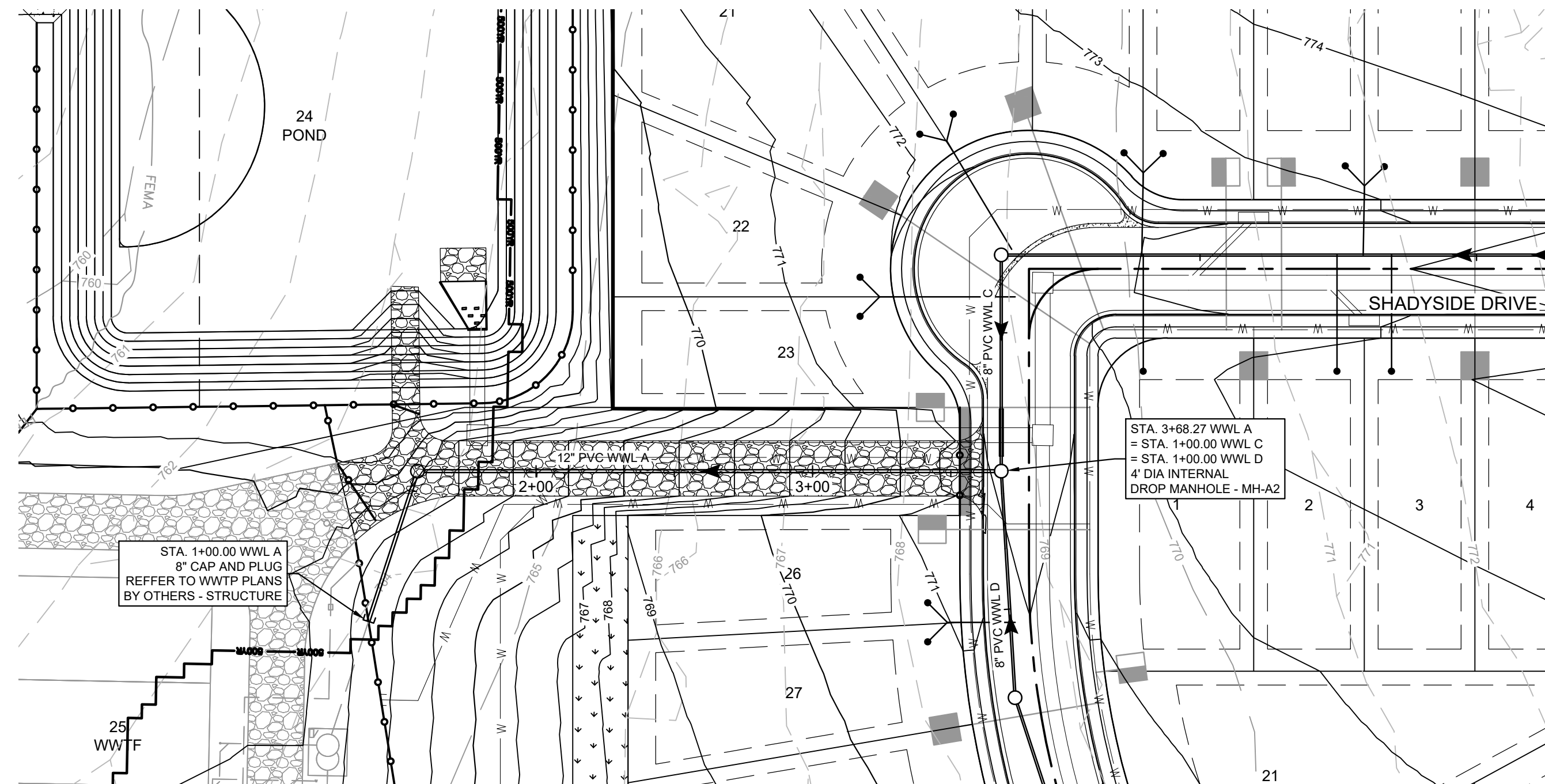
ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX

PROJECT NO: 11727  
DESIGNED BY: KEL  
DRAWN BY: KEL  
CHECKED BY: RR

NOTICE:  
ALTERATION OF A  
SEALED DRAWING  
WITHOUT PROPER  
NOTIFICATION TO THE  
RESPONSIBLE ENGINEER  
IS A VIOLATION OF THE  
TEXAS ENGINEERING  
PRACTICE ACT.

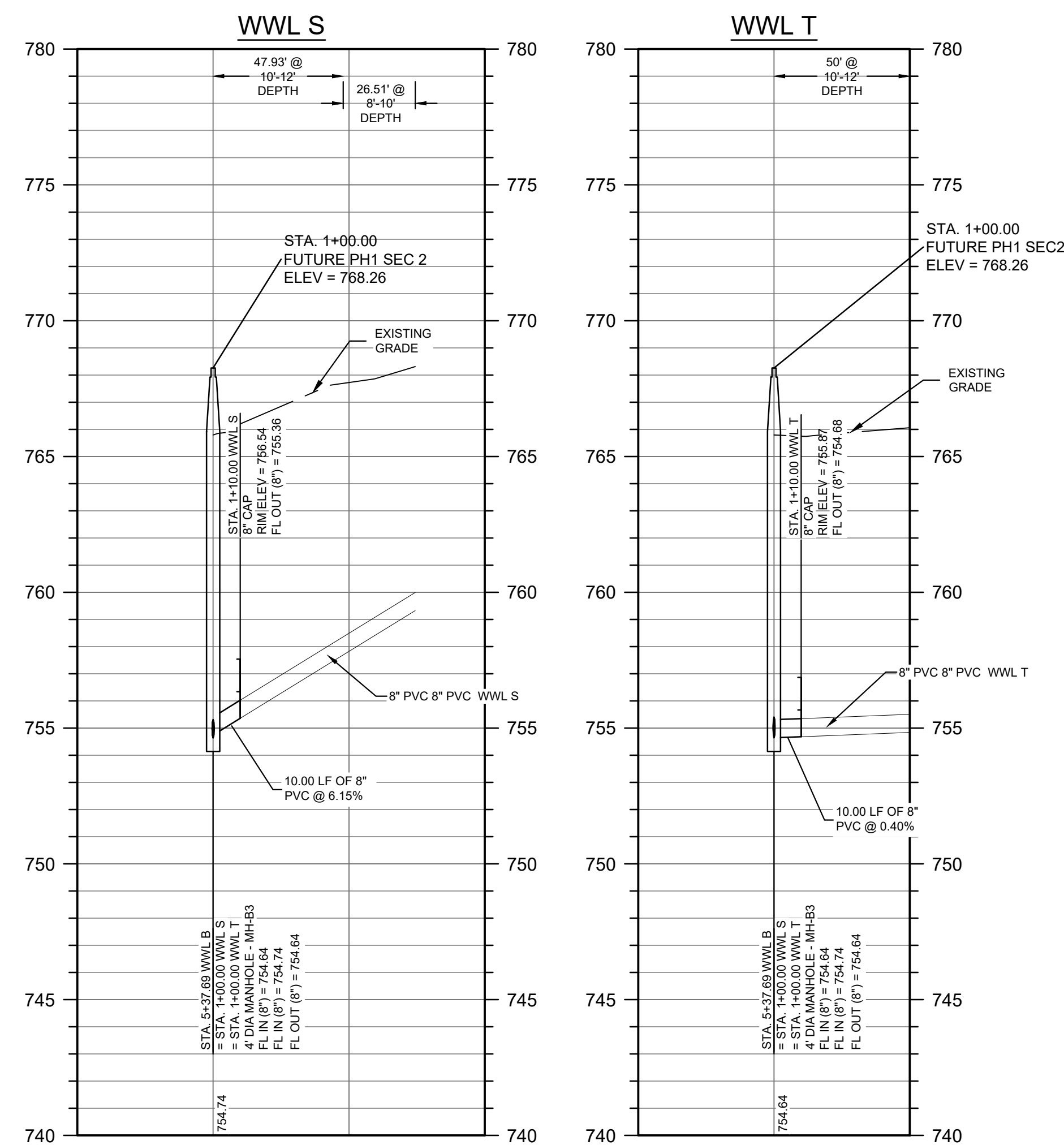
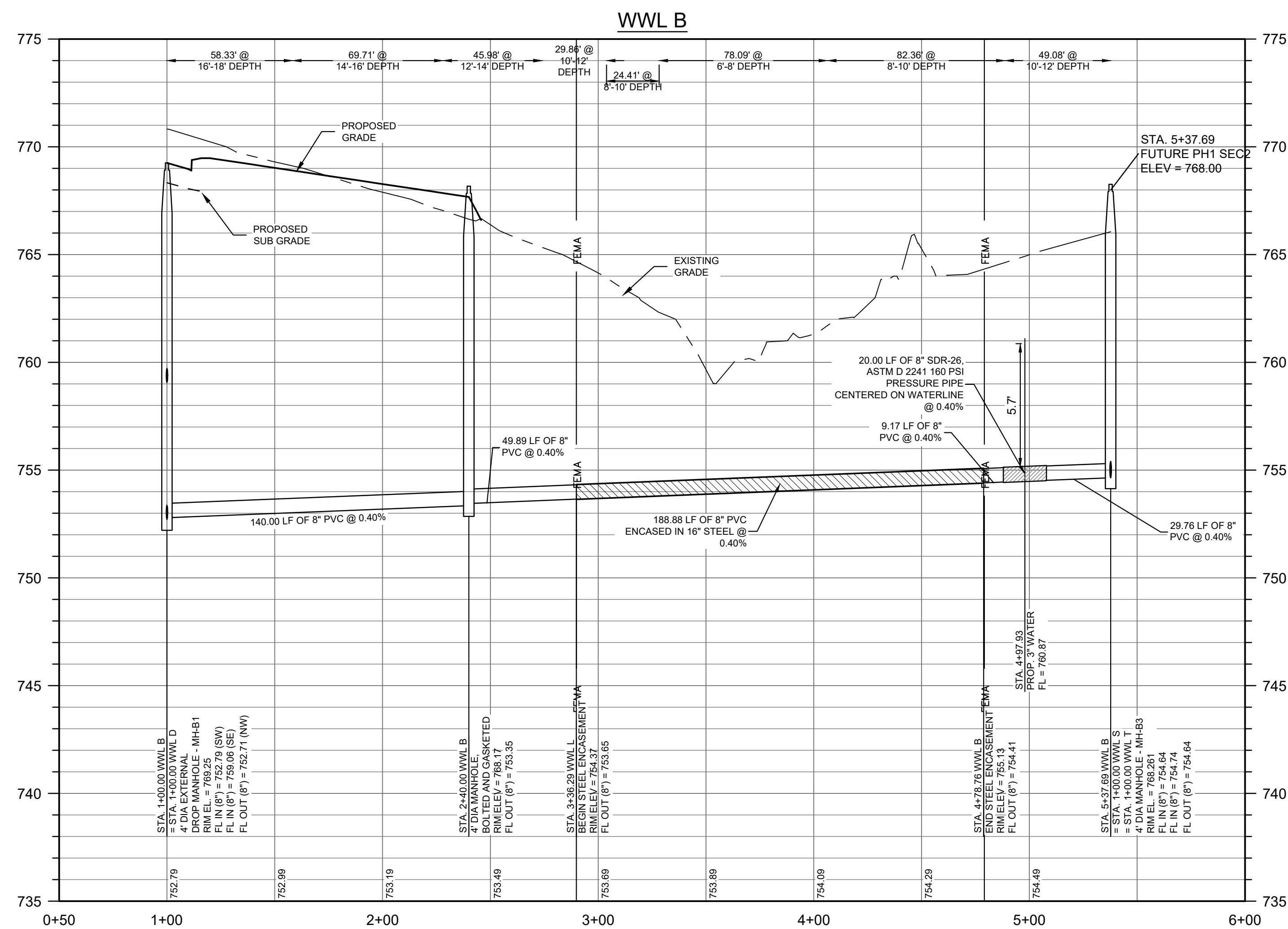
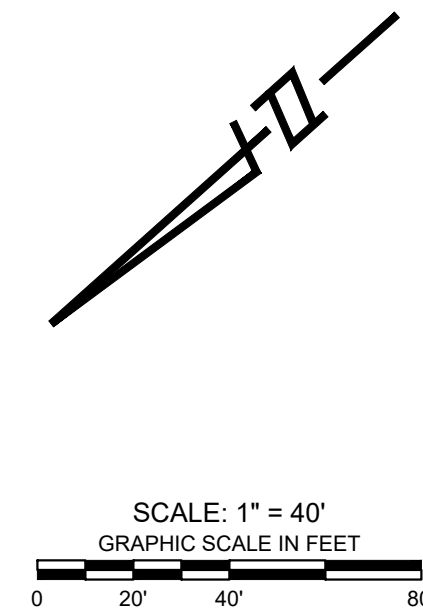
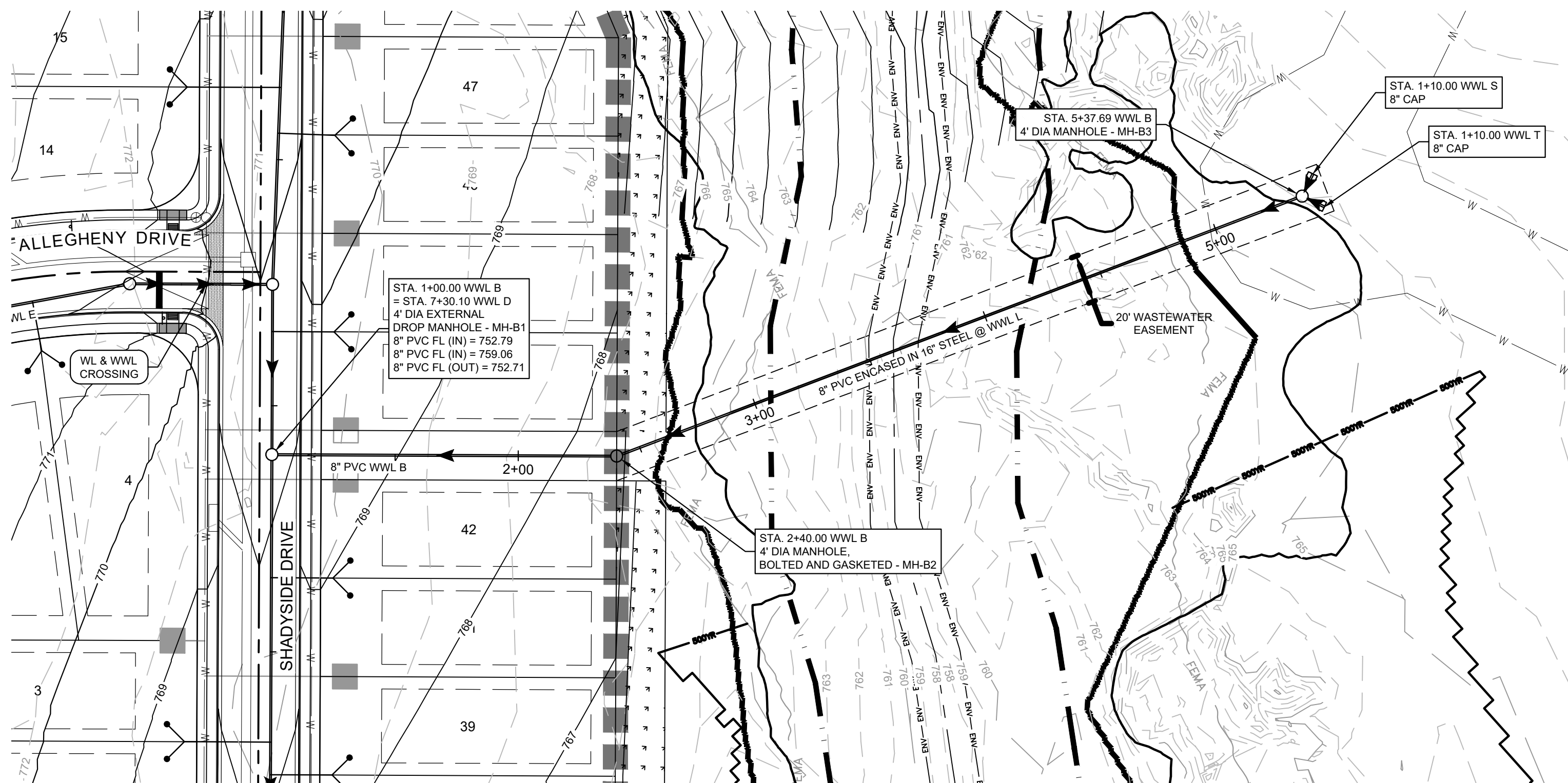




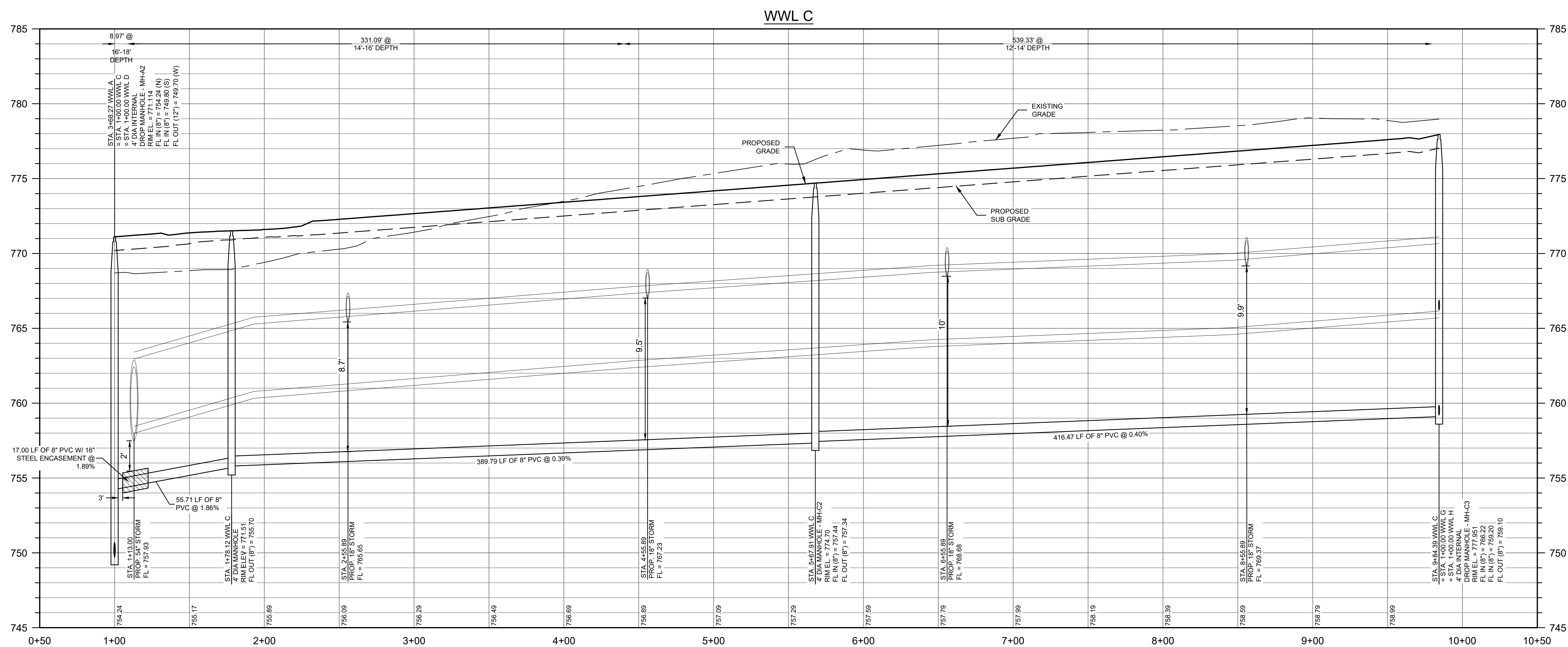
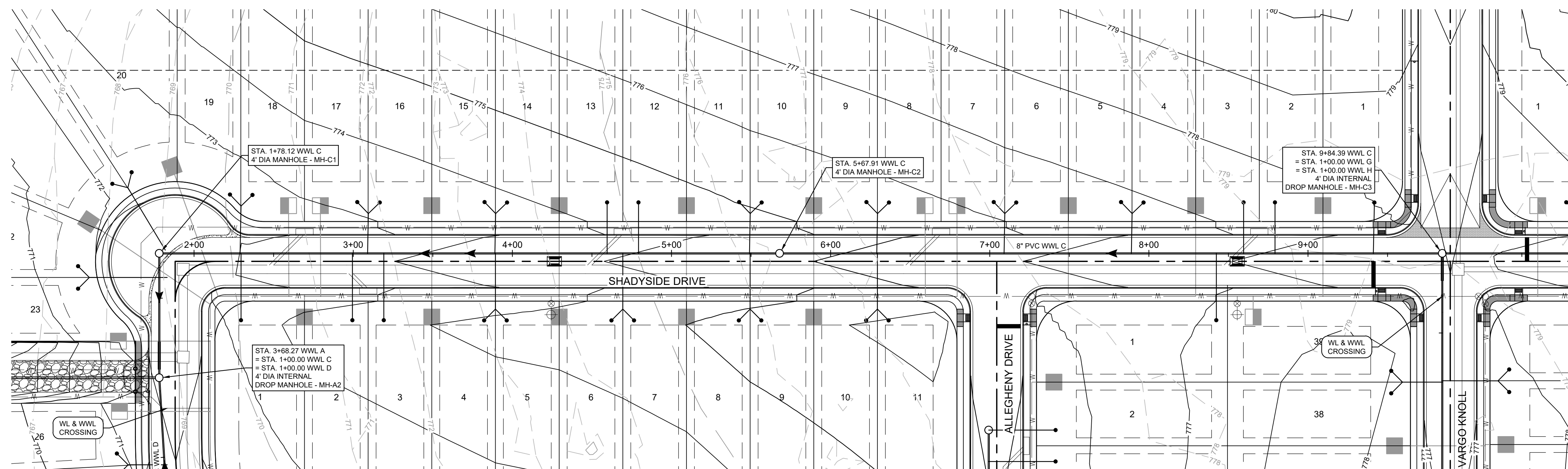


<p>ATLAS RANCH          PHASE 1 SECTION 1          WASTEWATER LINE A          WILLIAMSON          COUNTY, TX</p>				<p>8834 N. Capital of Texas Hwy.          Suite 140          Austin, Texas 78759          (512)452-0371          FAX(512)454-9933          TBP&amp;LS FIRM #2946</p>			
<p>PROJECT NO: 11727</p>				<p>NO. BY DATE REVISION DESCRIPTION</p>			
<p>DESIGNED BY: KEL</p>							
<p>DRAWN BY: KEL</p>							
<p>CHECKED BY: RR</p>							
<p>NOTICE:          ALTERATION OF A          SEALED DRAWING          WITHOUT PROPER          NOTIFICATION TO THE          RESPONSIBLE ENGINEER          IS A VIOLATION OF THE          TEXAS ENGINEERING          PRACTICE ACT.</p>							
<p><i>Nick Marino</i>          STATE OF TEXAS          NICHOLAS A. MARINO          146339          LICENSED PROFESSIONAL ENGINEER          5-13-2024</p>				<p><b>GRAY</b>          ENGINEERING</p>			
<p>SHEET 63 OF 91</p>							





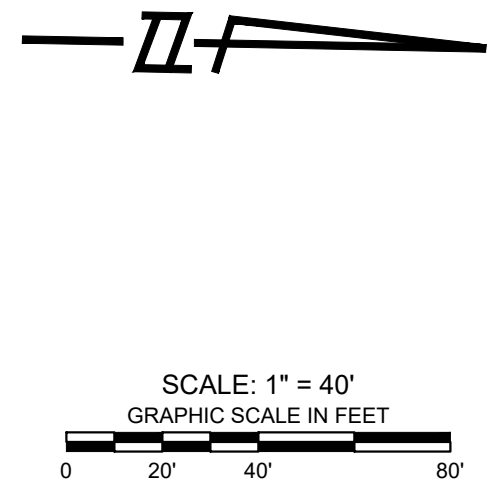













WASTEWATER LINE E  
(STA. 1+00 TO END)

ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX

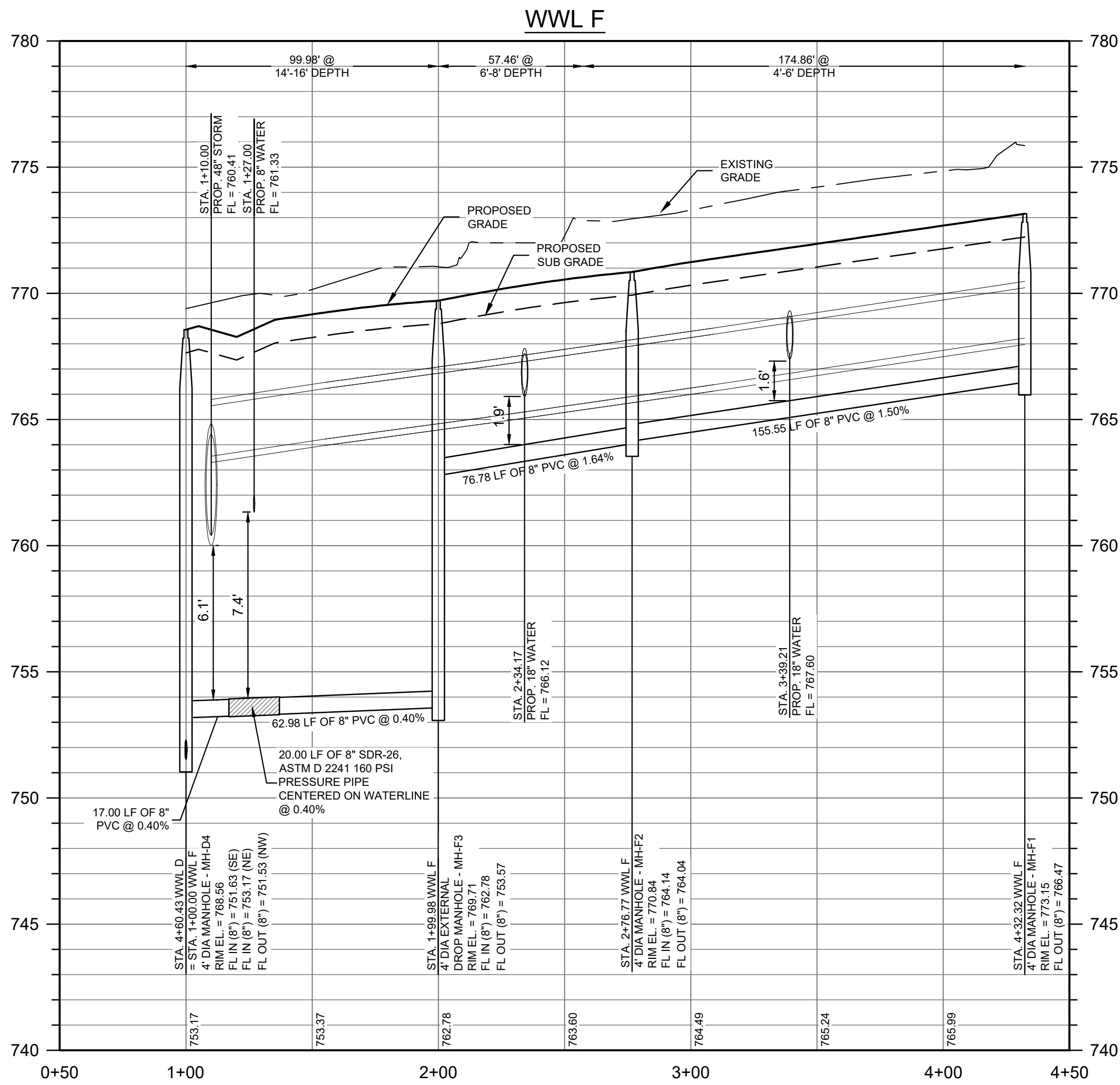
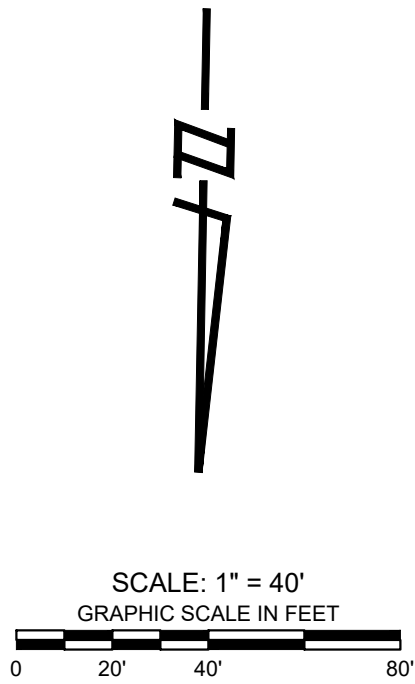
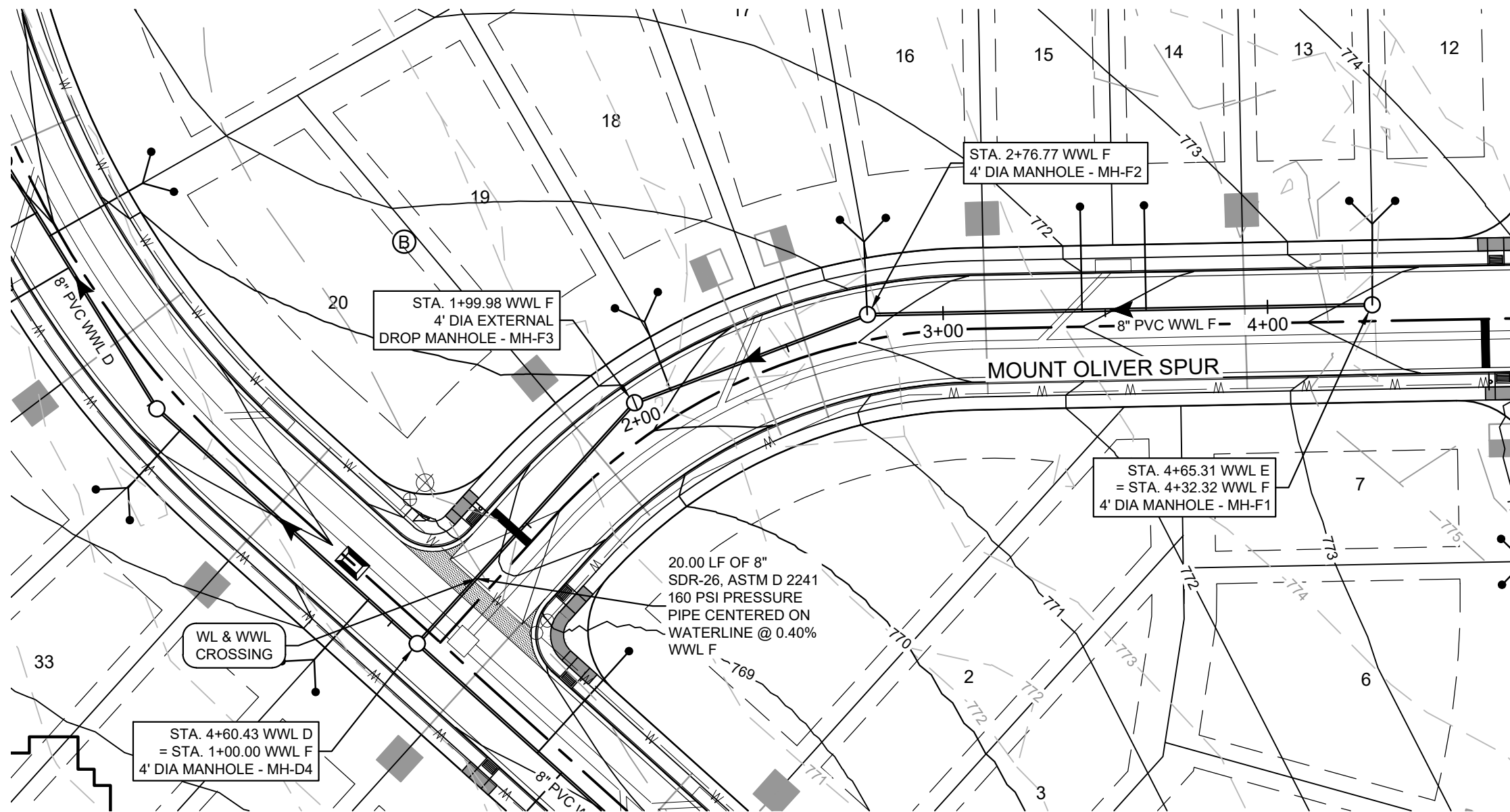
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DESIGNED BY: KEL  
DRAWN BY: KEL  
CHECKED BY: RR

**NOTICE:**  
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WITHOUT PROPER  
NOTIFICATION TO THE  
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IS A VIOLATION OF THE  
TEXAS ENGINEERING  
PRACTICE ACT.





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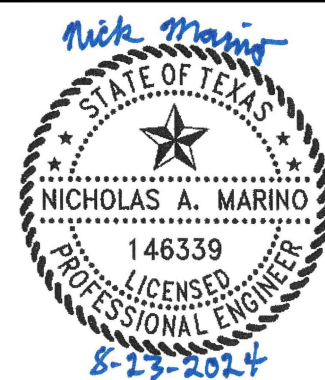
NO.	BY	DATE	REVISION DESCRIPTION

WASTEWATER LINE F  
(STA. 1+00 TO END)

ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX

PROJECT NO: 11727  
DESIGNED BY: KEL  
DRAWN BY: KEL  
CHECKED BY: RR

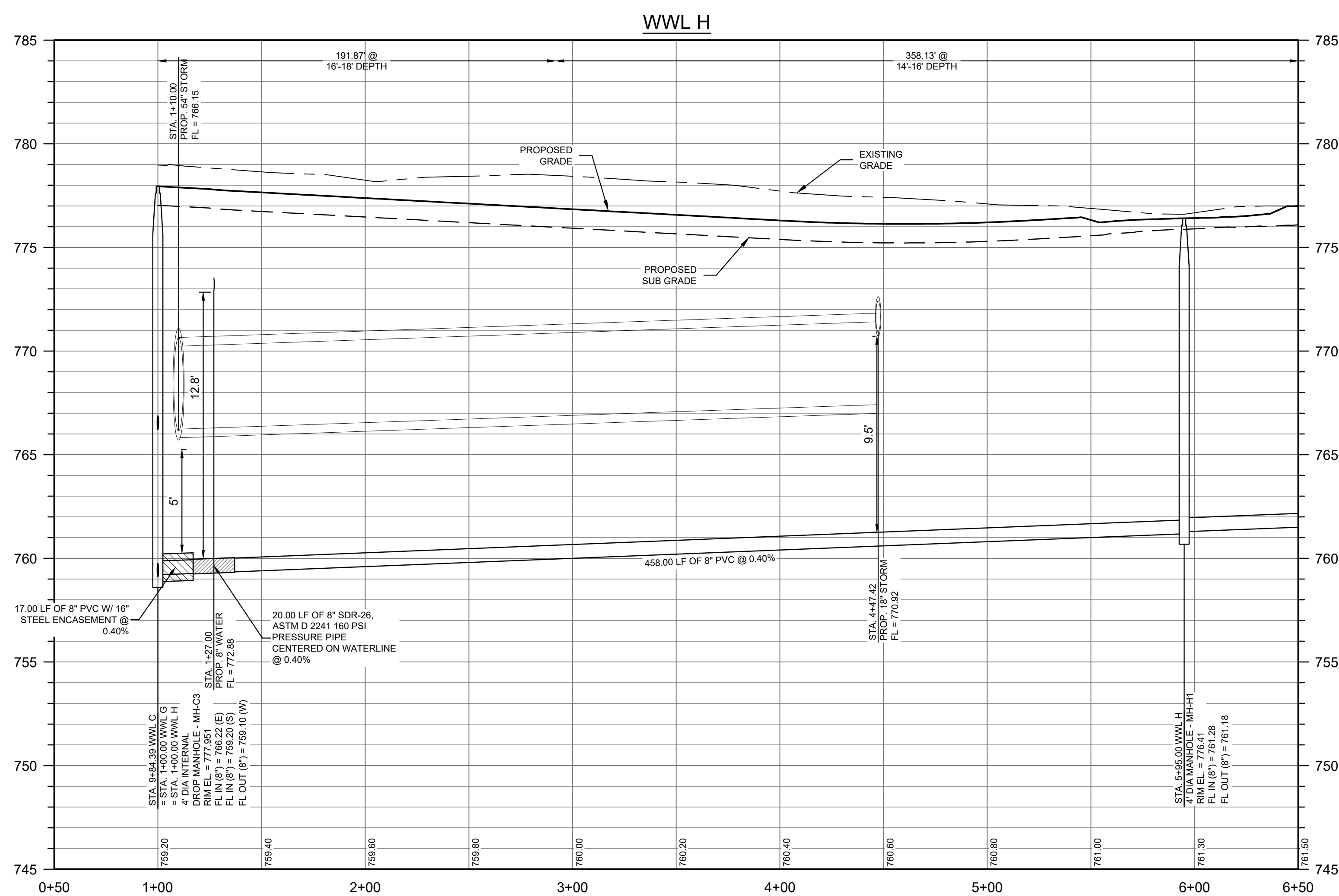
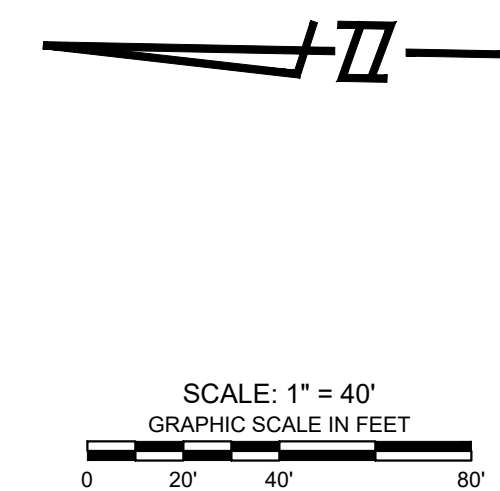
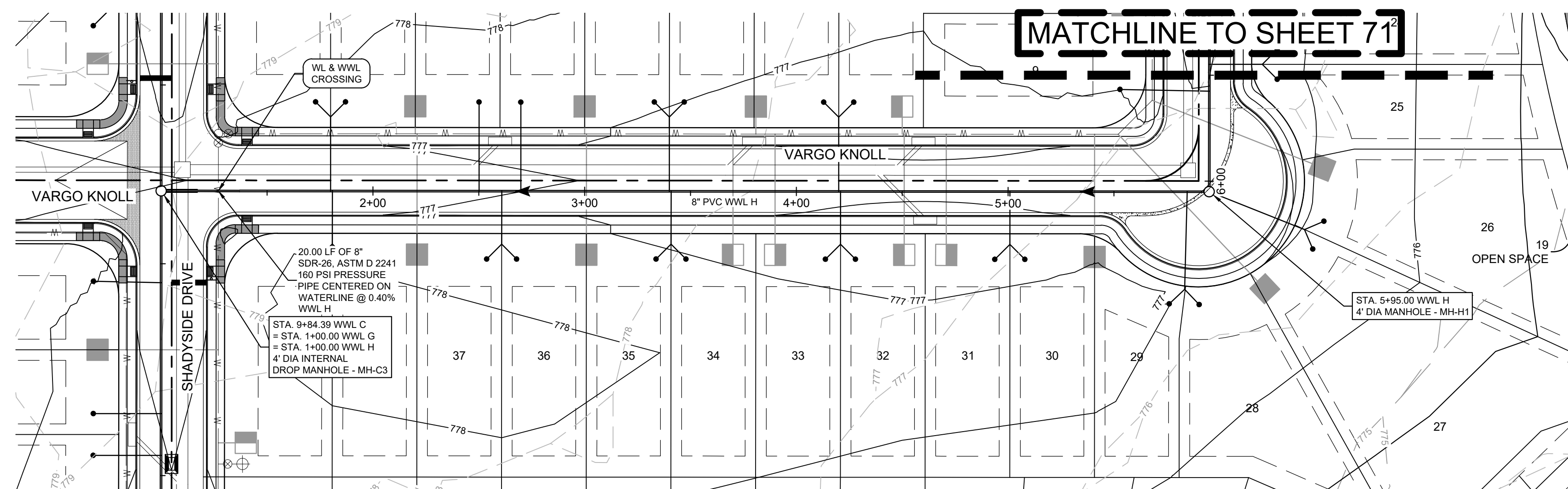
NOTICE:  
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SEALED DRAWING  
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NOTIFICATION TO THE  
RESPONSIBLE ENGINEER  
IS A VIOLATION OF THE  
TEXAS ENGINEERING  
PRACTICE ACT.

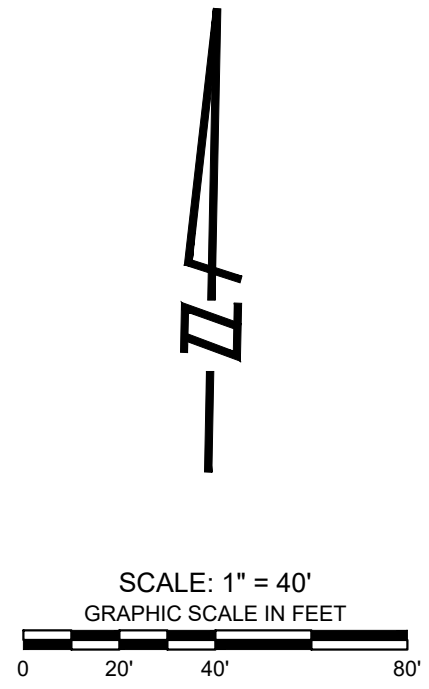
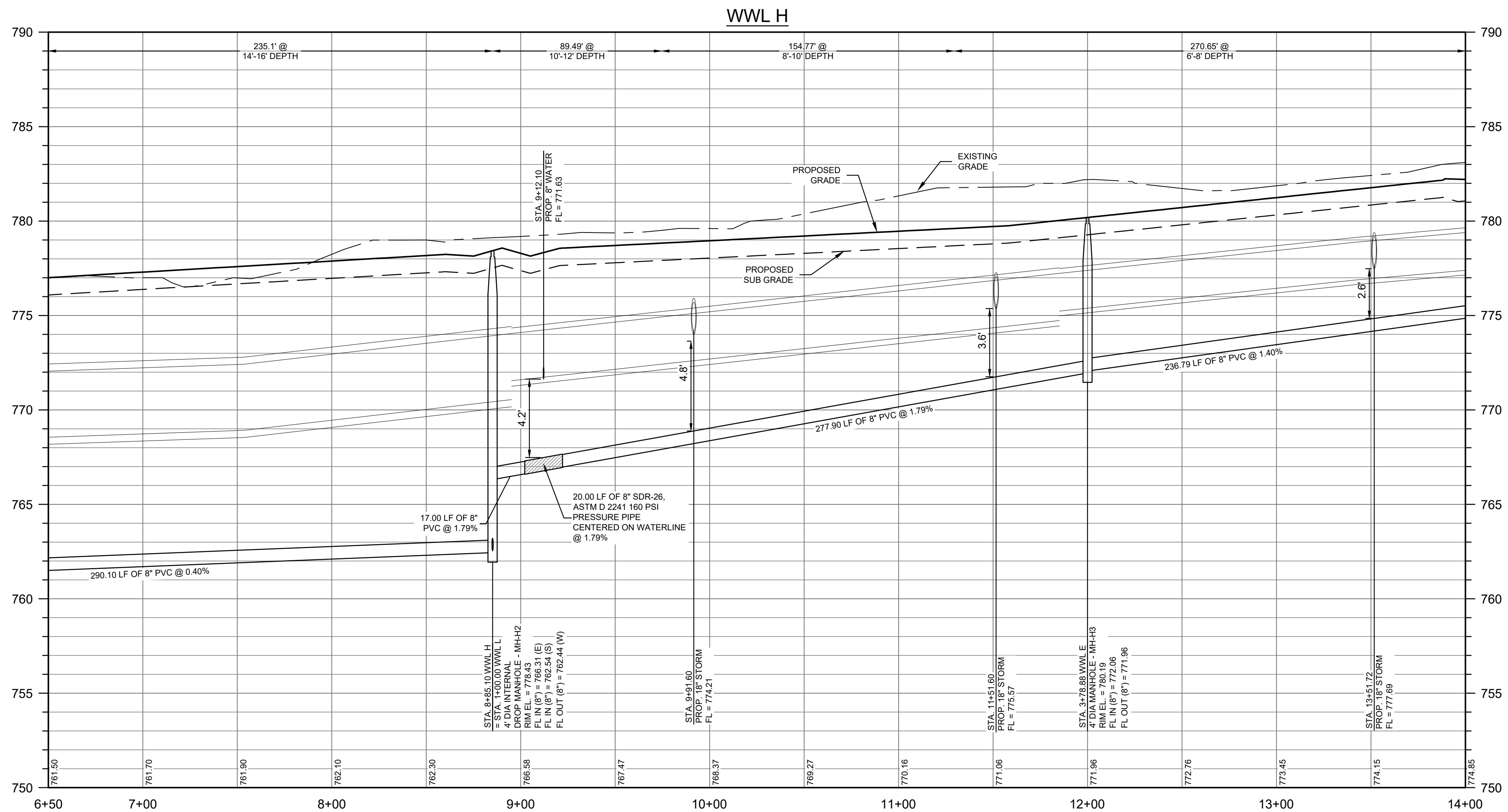
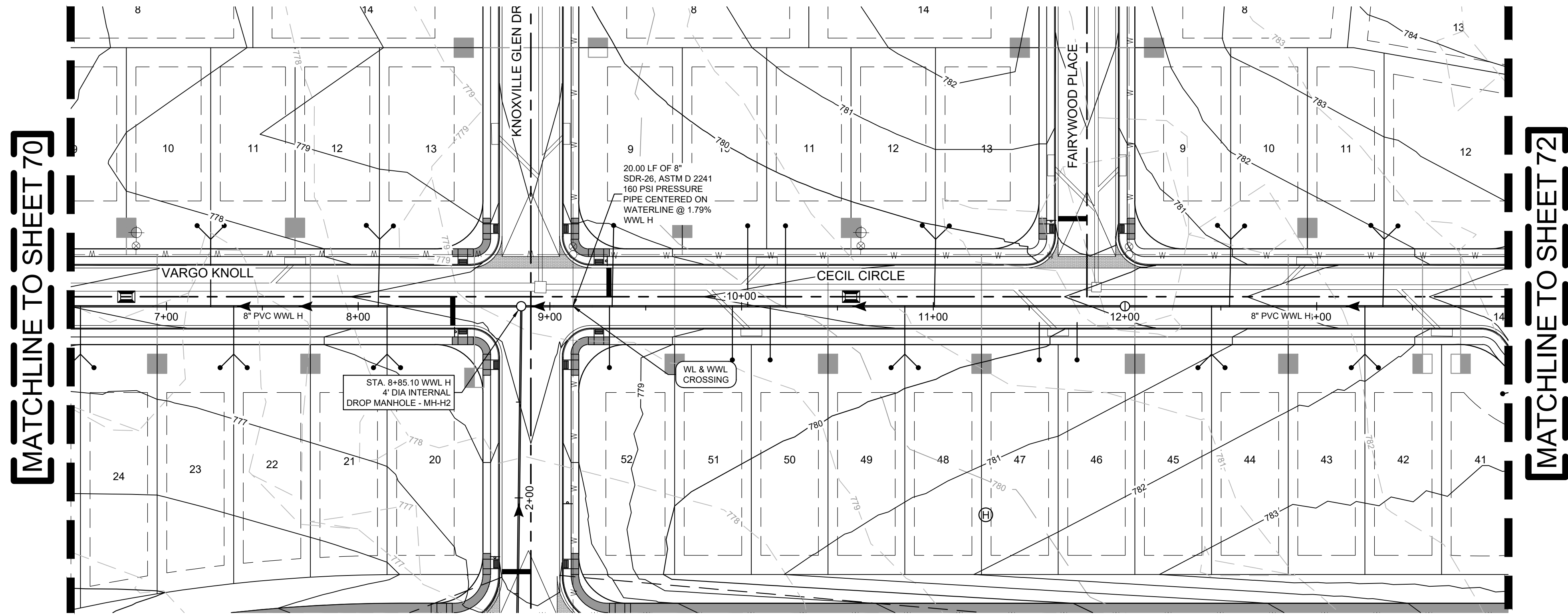












NO	BY	DATE	REVISION DESCRIPTION
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WASTEWATER LINE H  
(STA. 6+50 TO 14+00)

ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX

PROJECT NO: 11727

DESIGNED BY: KEL

DRAWN BY: KEL

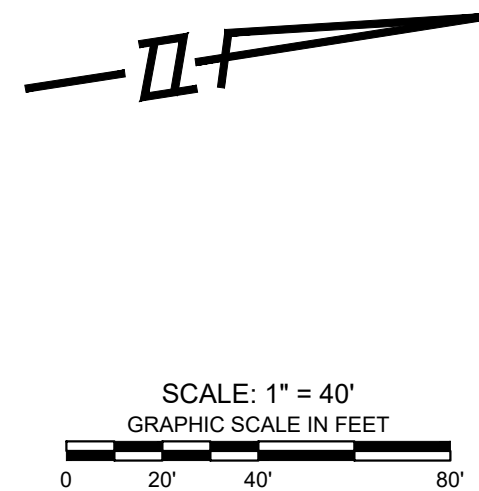
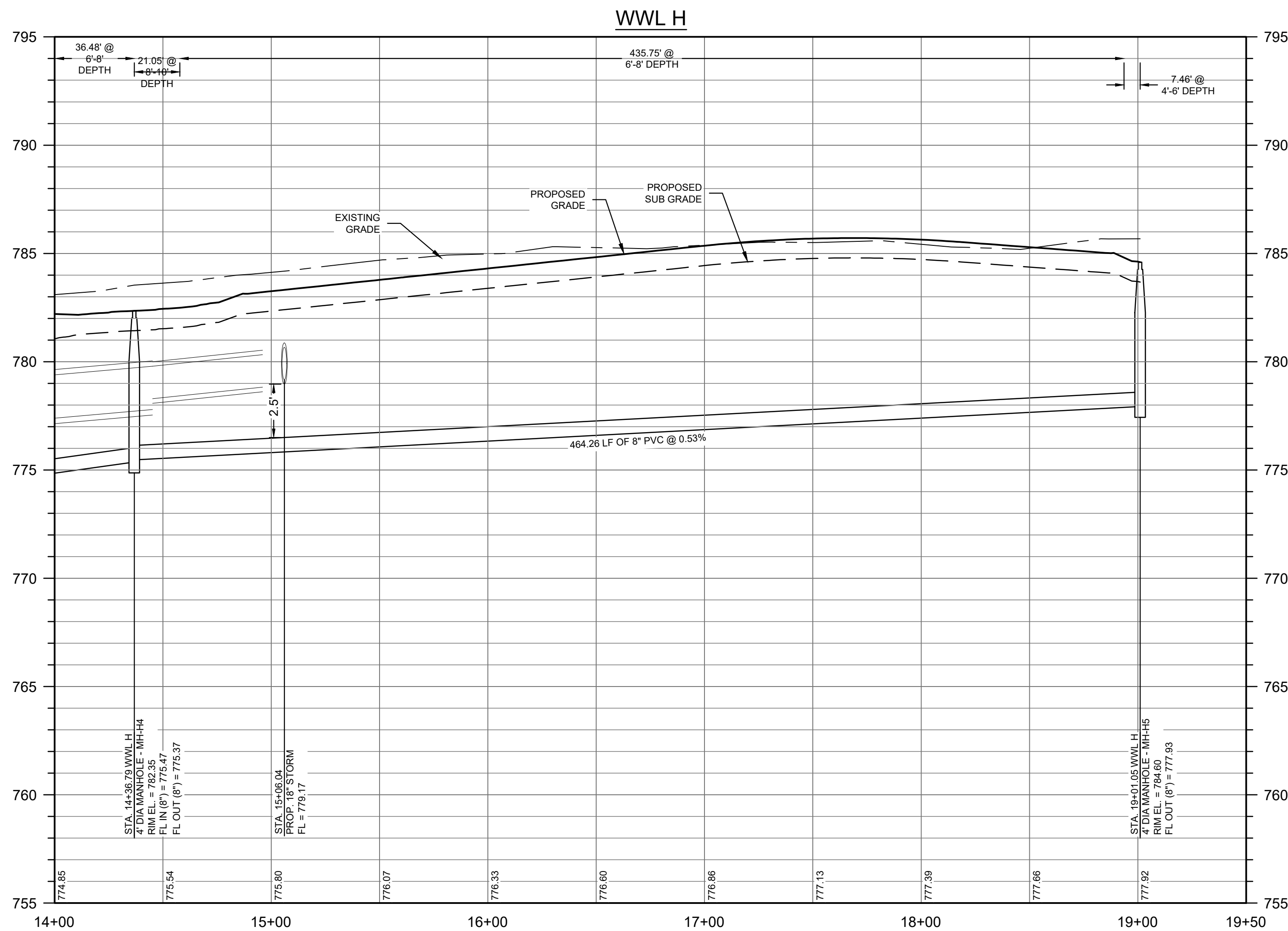
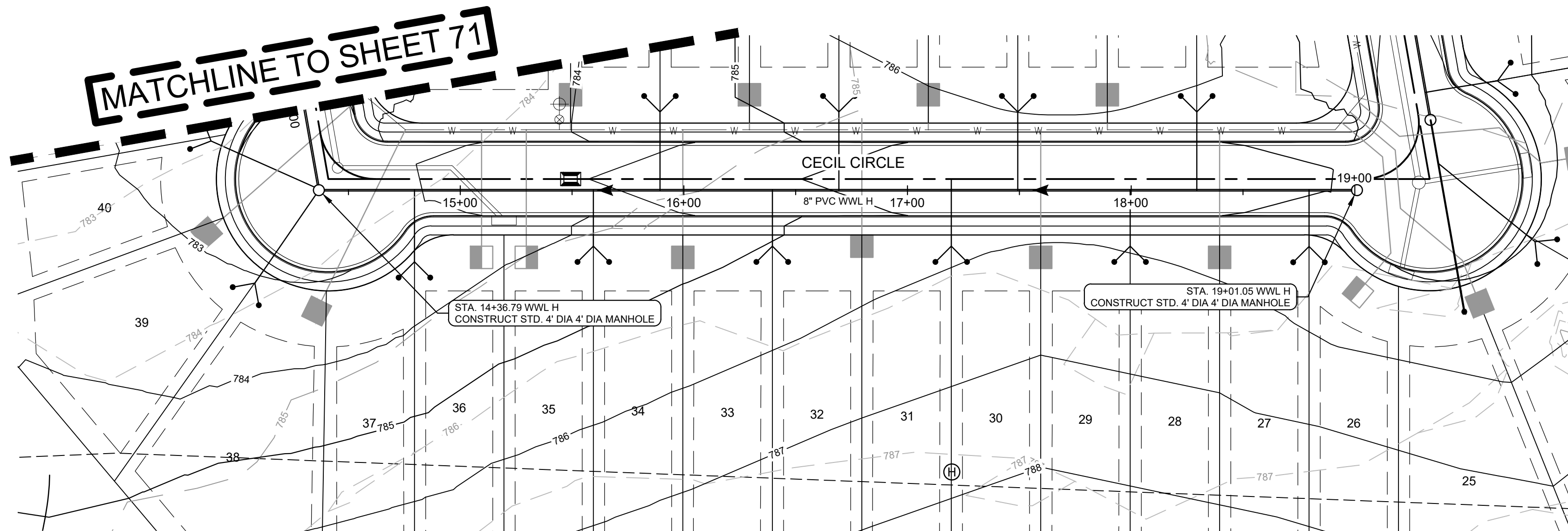
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SEALED DRAWING  
WITHOUT PROPER  
NOTIFICATION TO THE  
RESPONSIBLE ENGINEER  
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TEXAS ENGINEERING  
PRACTICE ACT.





\\PROJECTS\1723-ATLAS RANCH HOLDINGS\11727 ATLAS RANCH\CD\PHASE1\11727-SS\WR.DWG DATE: 8/23/2024 2:41:10 PM BY: MMARINO



NO. BY DATE REVISION DESCRIPTION

WASTEWATER LINE H  
(STA. 14+00 TO END)

ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX

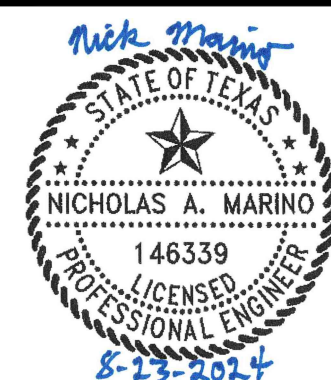
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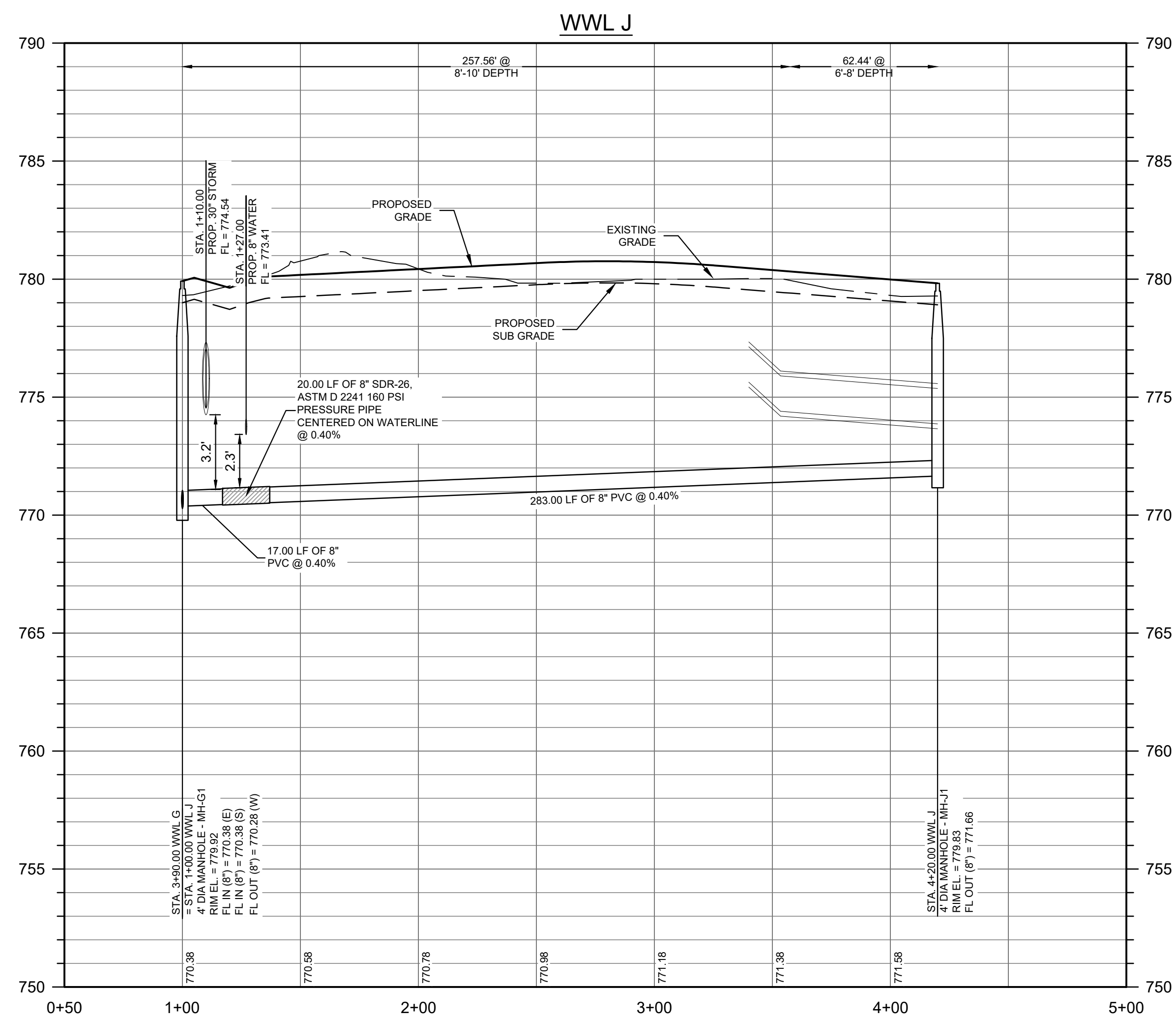
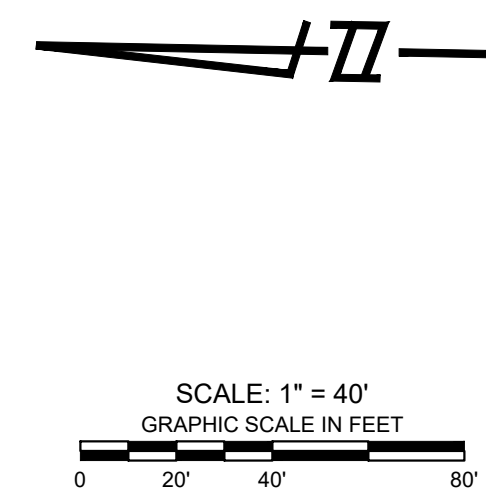
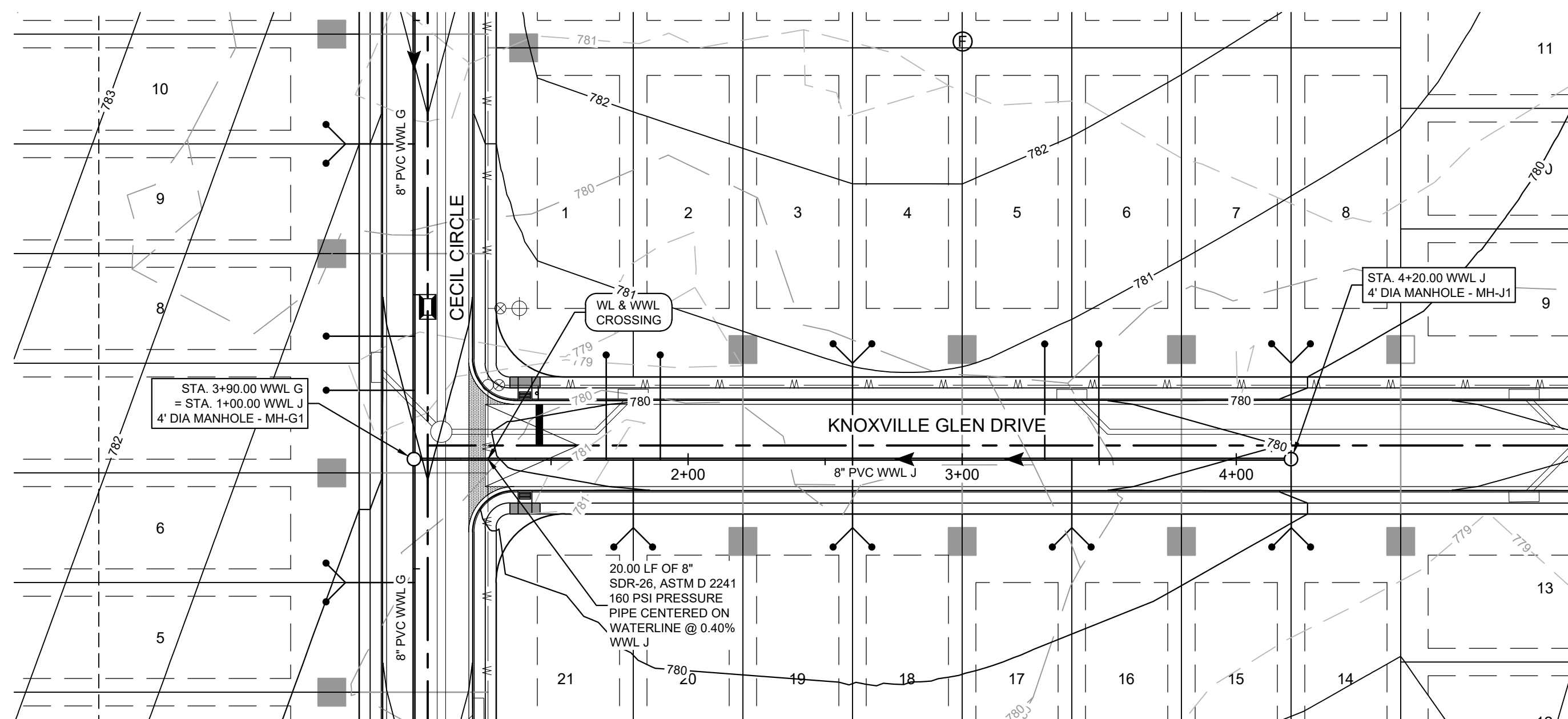
DESIGNED BY: KEL

DRAWN BY: KEL

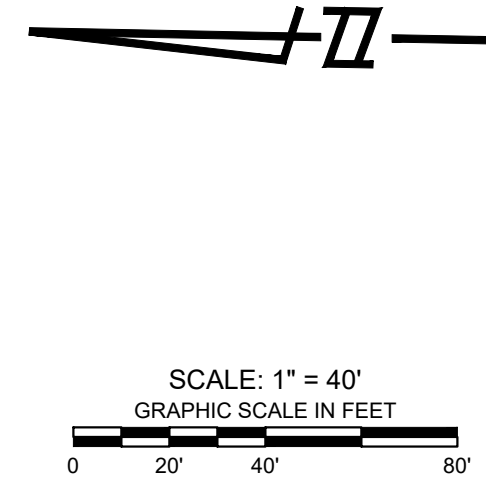
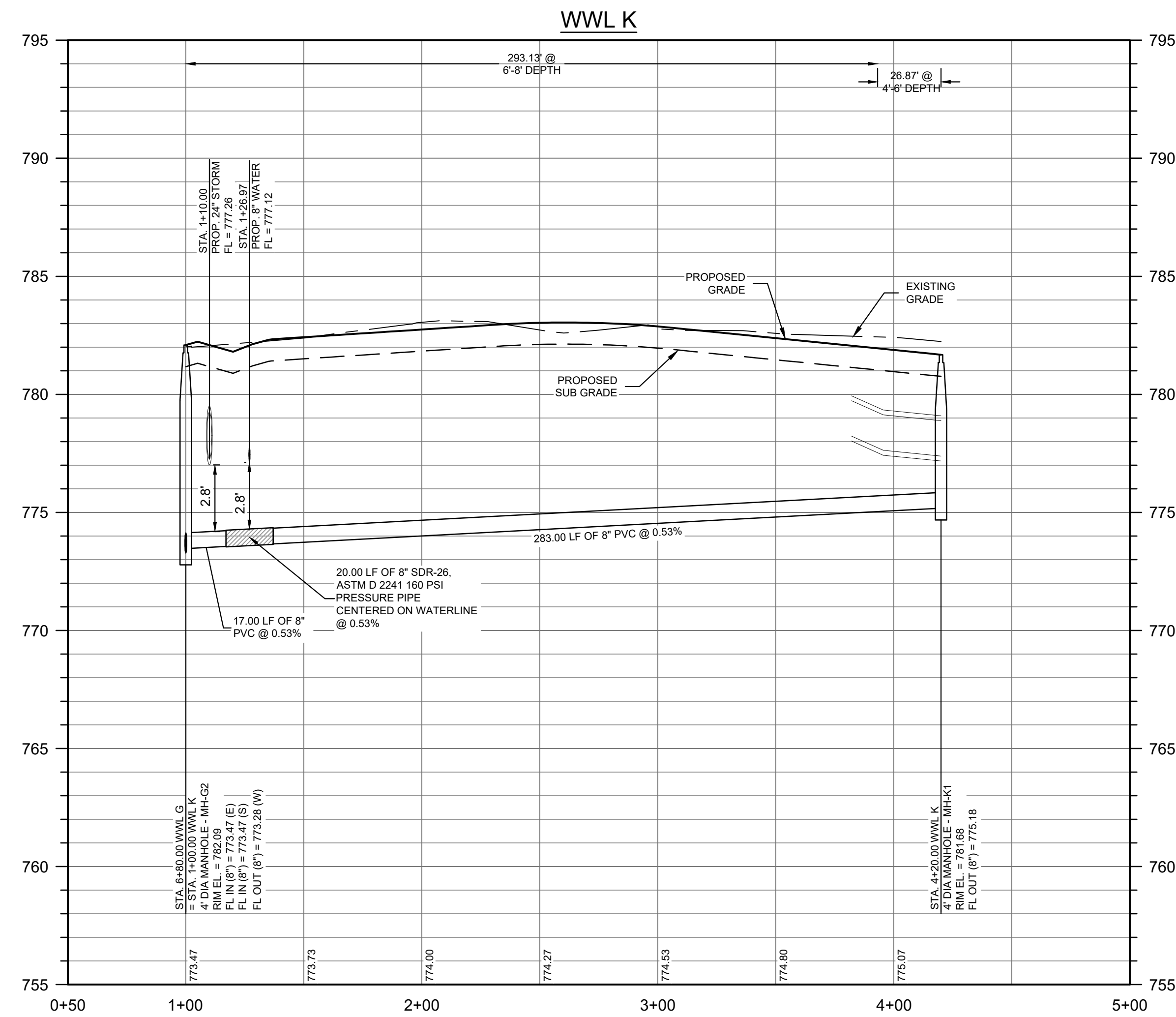
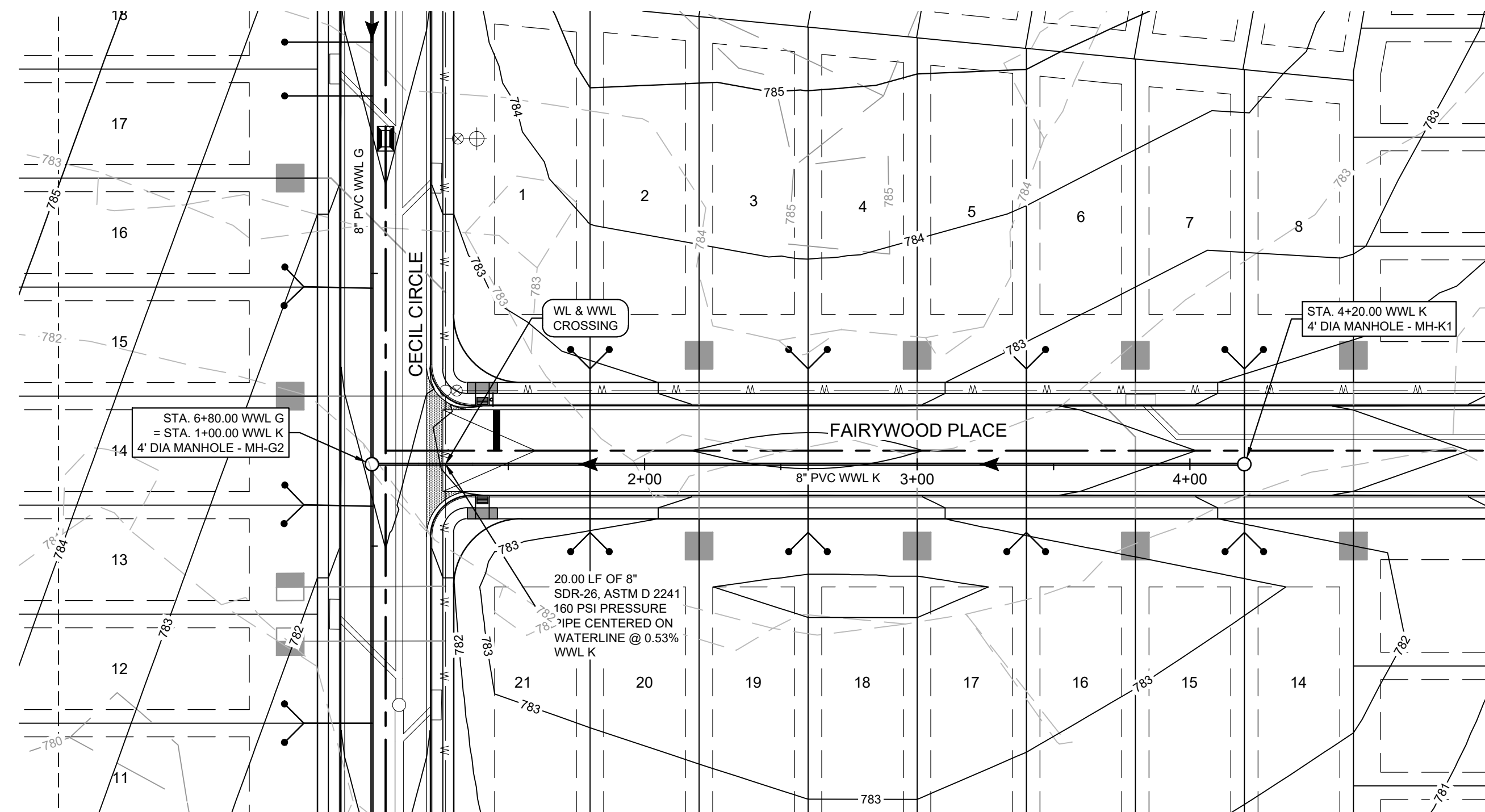
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PRACTICE ACT.







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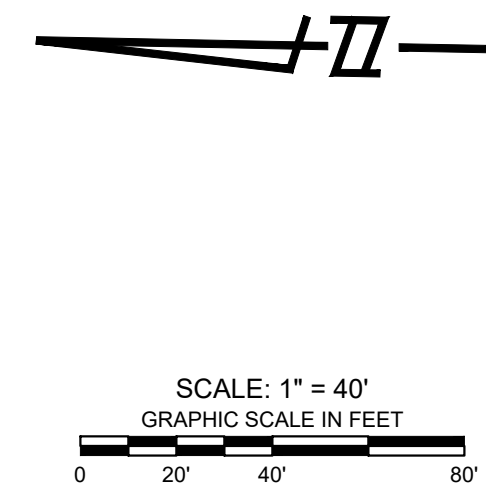
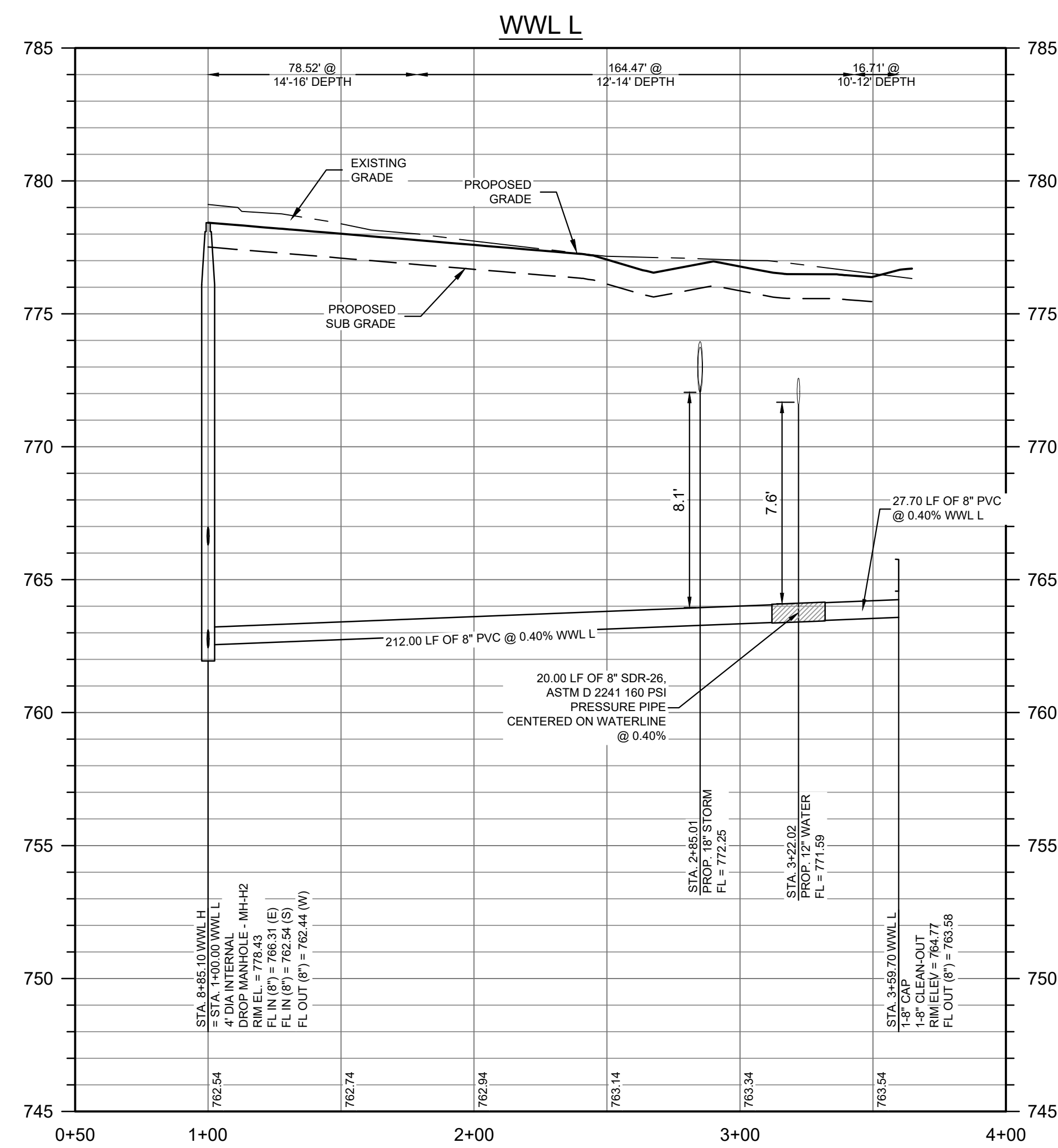
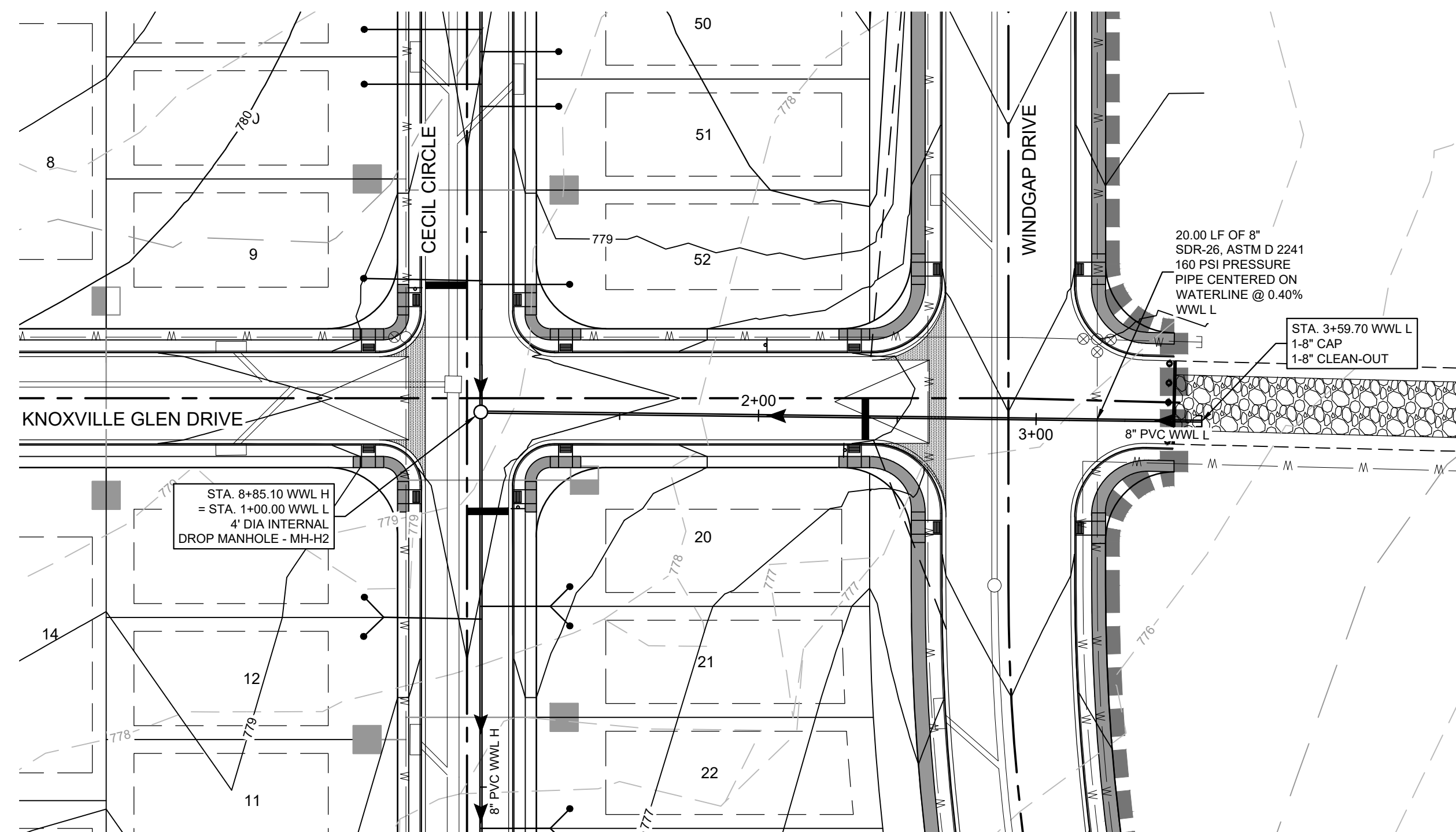
WASTEWATER LINE K  
(STA. 1+00 TO END)

ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX

PROJECT NO: 11727
DESIGNED BY: KEL
DRAWN BY: KEL
CHECKED BY: RR

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PRACTICE ACT.



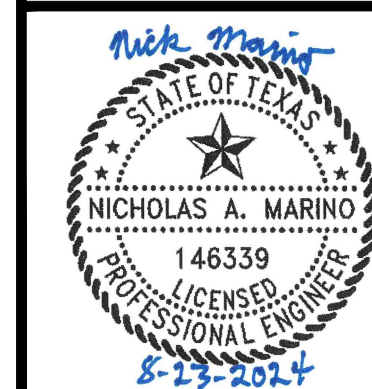
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WASTEWATER LINE L  
(STA. 1+00 TO END)

ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX

PROJECT NO: 11727
DESIGNED BY: KEL
DRAWN BY: KEL
CHECKED BY: RR

**NOTICE:**  
ALTERATION OF A  
SEALED DRAWING  
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NOTIFICATION TO THE  
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PRACTICE ACT.



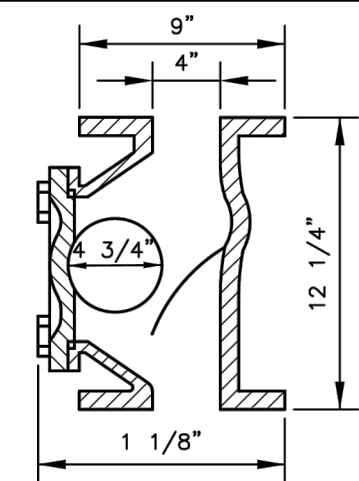




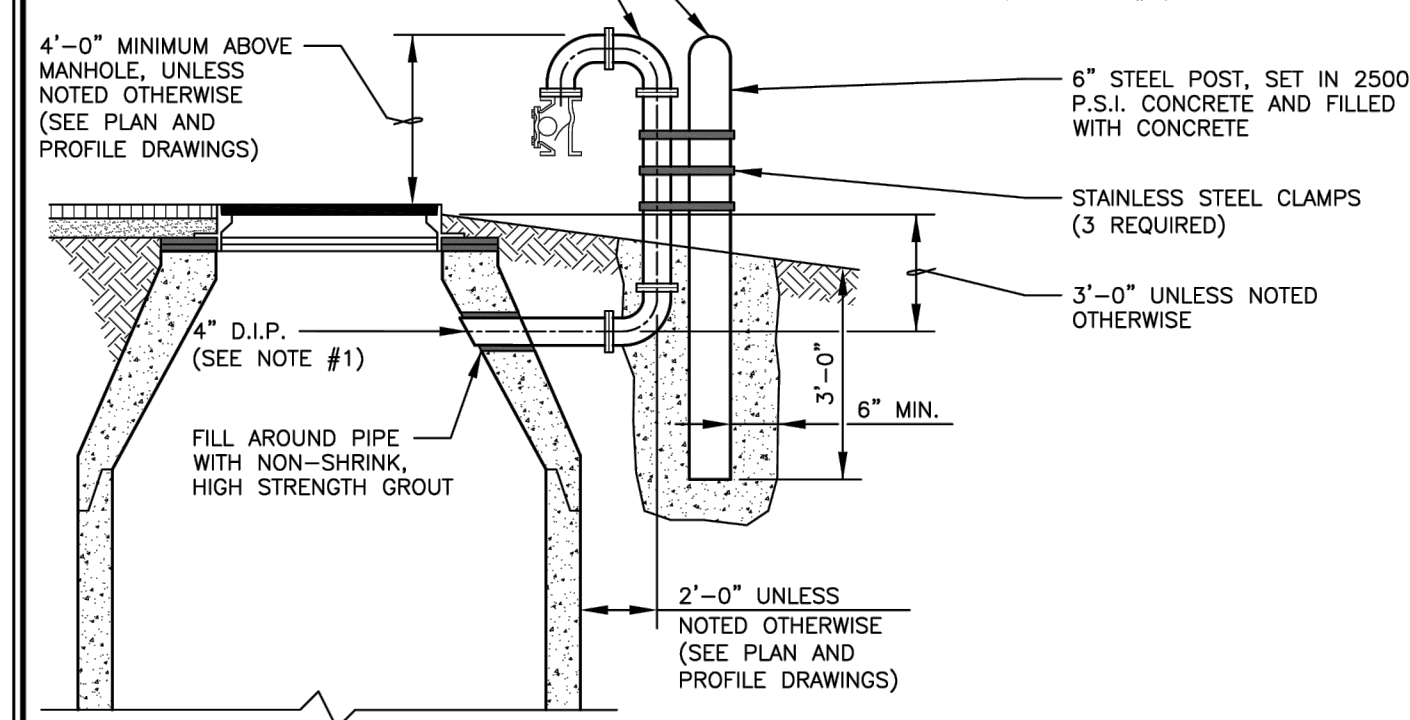








SECTION VIEW  
FLOMATIC MODEL 408 BALL CHECK VALVE  
(SEE NOTE #4)



## NOTES:

1. AIR VENT PIPE TO BE 1/2" D.I.P., CLASS 85 WITH FLANGED CONNECTIONS.
2. ALL FITTINGS TO BE 150 PSIG RATED & ANSI/ANMA 611-01A21.10.
3. AIR VENT PIPE RISER SHALL BE INSTALLED TO A MINIMUM DEPTH FROM GROUND SURFACE AS POSSIBLE, PREFERABLY LOCATED IN THE CONCENTRIC CONCRETE CONE.
4. MINIMUM ELEVATION AT THE VENT OPENING SHALL BE 1 FOOT (1'-0") ABOVE THE ULTIMATE 100 YEAR FLOOD PLAIN ELEVATION. IF ELEVATION OF VENT OPENING IS LESS THAN 1 FOOT (1'-0") ABOVE THE ULTIMATE 100 YEAR FLOOD PLAIN ELEVATION, A FLOTAMIC MODEL 408, PART #2145 BALL CHECK VALVE, OR APPROVED EQUIV, WITH FLOATING TYPE BALL, SHALL BE INSTALLED AT DOWN TURN OF VENT OPENING OF VENT. A 16 MESH 304 STAINLESS STEEL INSECT SCREEN SHALL BE PLACED IN THE OPENING.

RECORD SIGNED COPY  
ON FILE AT U&ES DEPARTMENT

APPROVED

03-01-18

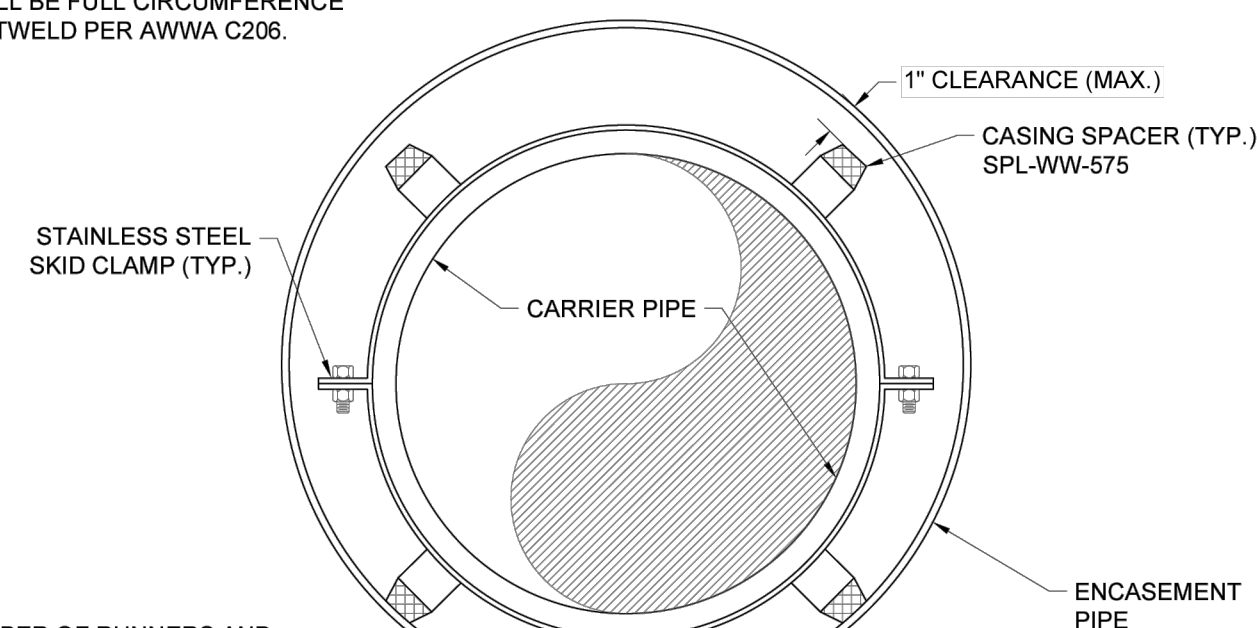
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THE ARCHITECT/ENGINEER ASSUMES  
RESPONSIBILITY FOR THE APPROPRIATE  
USE OF THIS DETAIL. (NOT TO SCALE)

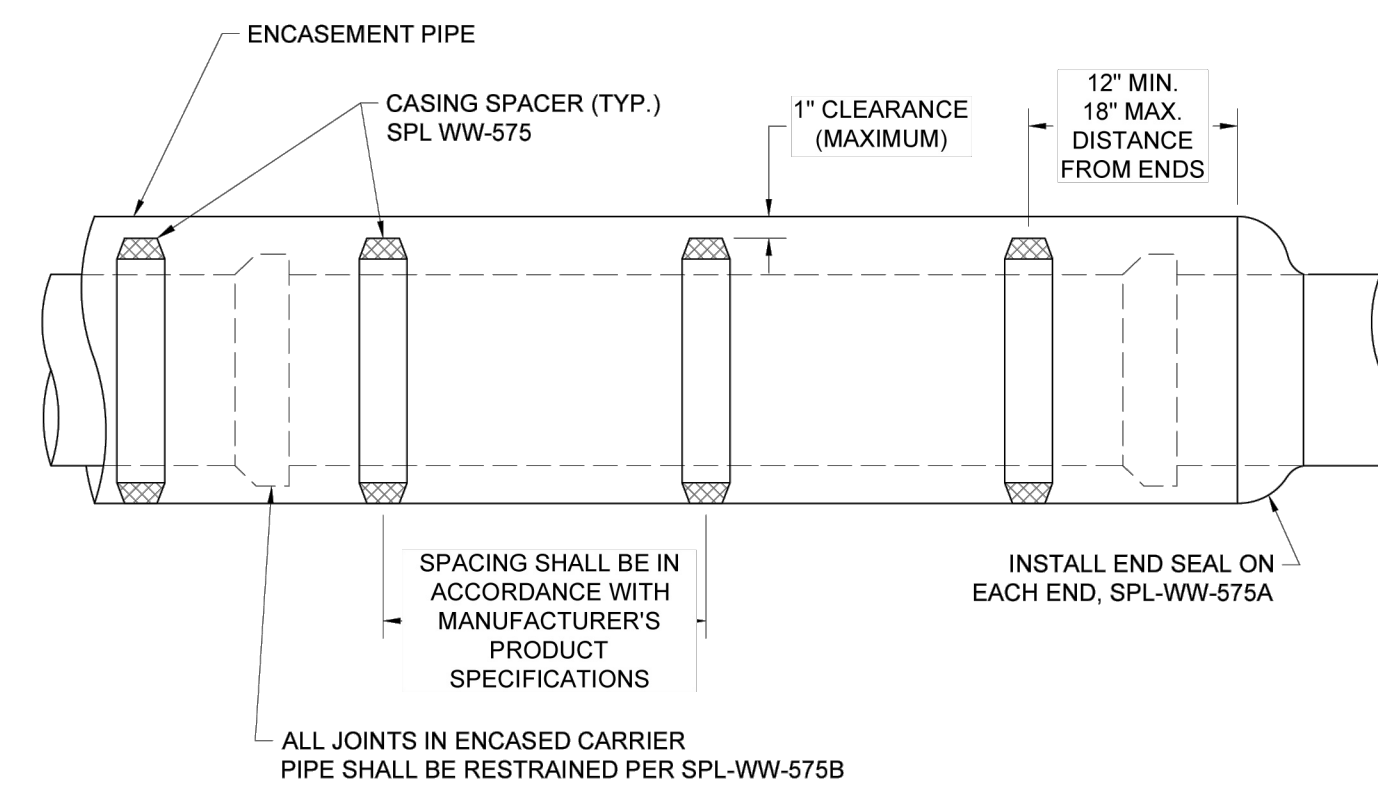
**CITY OF ROUND ROCK**  
MANHOLE VENT FOR ABOVE  
GROUND INSTALLATION DETAIL  
(UNDEVELOPED AREAS)



FIELD WELDS IN ENCASEMENT PIPE  
SHALL BE FULL CIRCUMFERENCE  
BUTTWELD PER AWWA C206.



NUMBER OF RUNNERS AND  
CONFIGURATION SHALL  
COMPLY WITH SPL-WW-575



APPLICABLE REFERENCES:  
STANDARD SPECIFICATION: ITEM 505.4 & 510.3 (19)

CITY OF AUSTIN  
AUSTIN WATER

### ENCASEMENT PIPE DETAIL WITH CASING SPACERS

THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	STANDARD NO 501-AW-0 1 OF 1
--	-----------------------------------

NOTE:

1. FLEXIBLE "SEAL BOOT" RESILIENT CONNECTOR TO BE A MINIMUM OF 12 INCHES (12") FROM A MANHOLE JOINT.

RECORD SIGNED COPY  
ON FILE AT U&ES DEPARTMENT

---

APPROVED

---

03-01-18

---

DATE

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THE ARCHITECT/ENGINEER ASSUMES  
RESPONSIBILITY FOR THE APPROPRIATE  
USE OF THIS DETAIL. (NOT TO SCALE)

CITY OF ROUND ROCK

FLEXIBLE "SEAL BOOT" RESILIENT  
CONNECTOR DETAIL

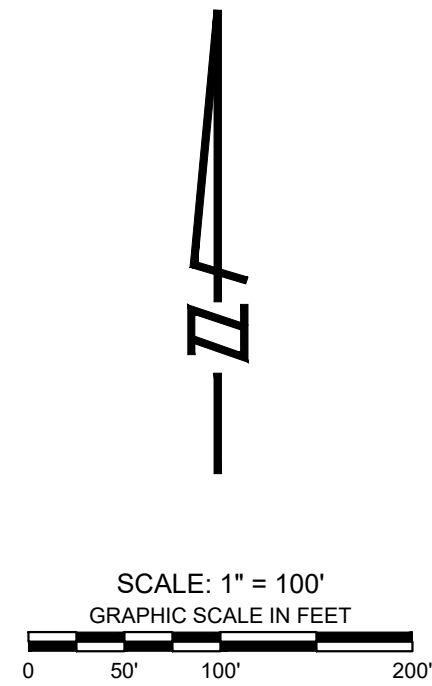
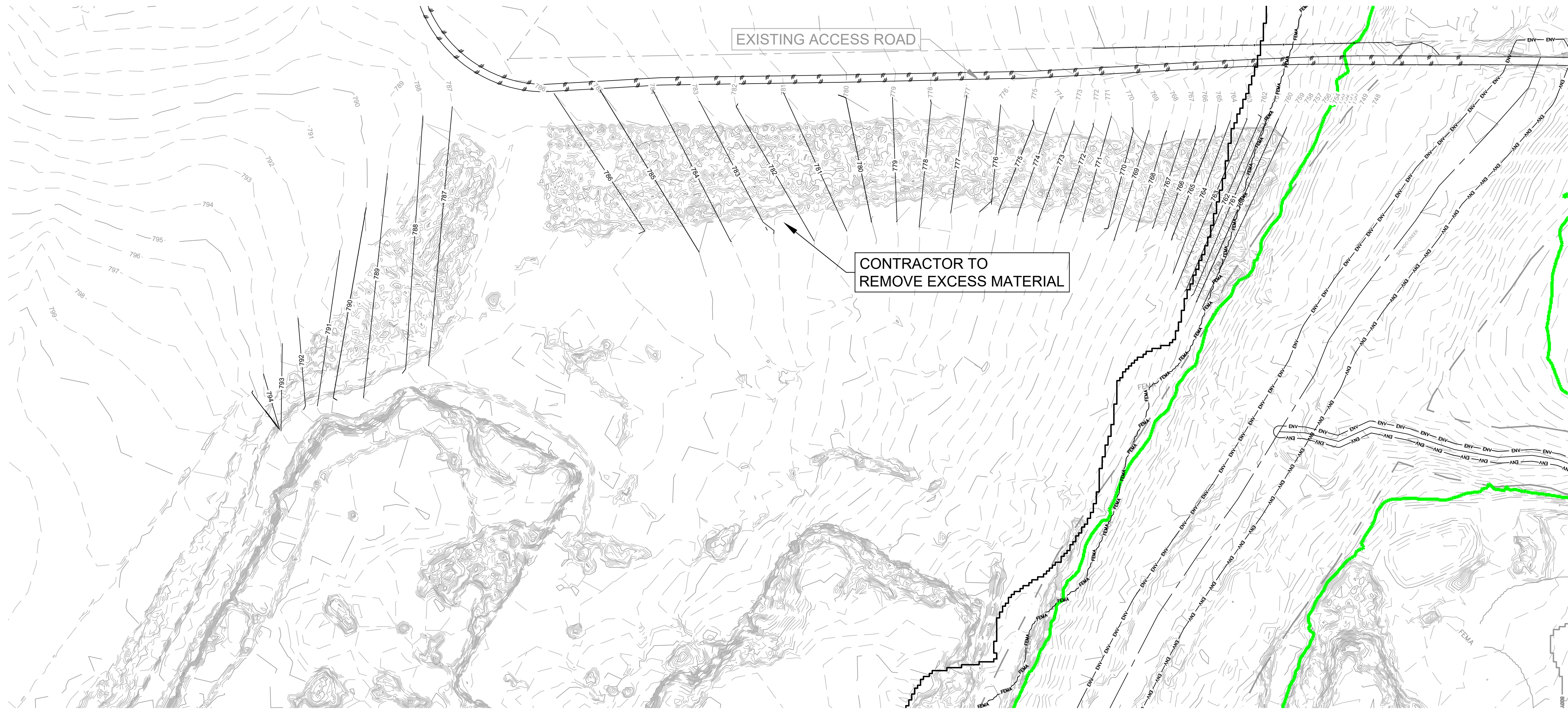


PROJECT NO: 11727
DESIGNED BY: KEL
DRAWN BY: KEL
CHECKED BY: RR

**NOTICE:**  
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PRACTICE ACT.







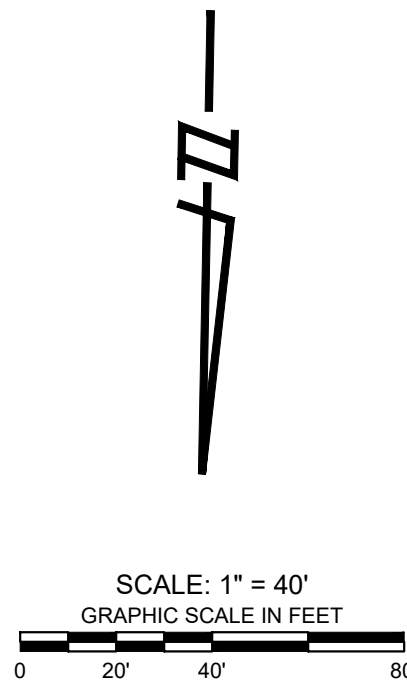
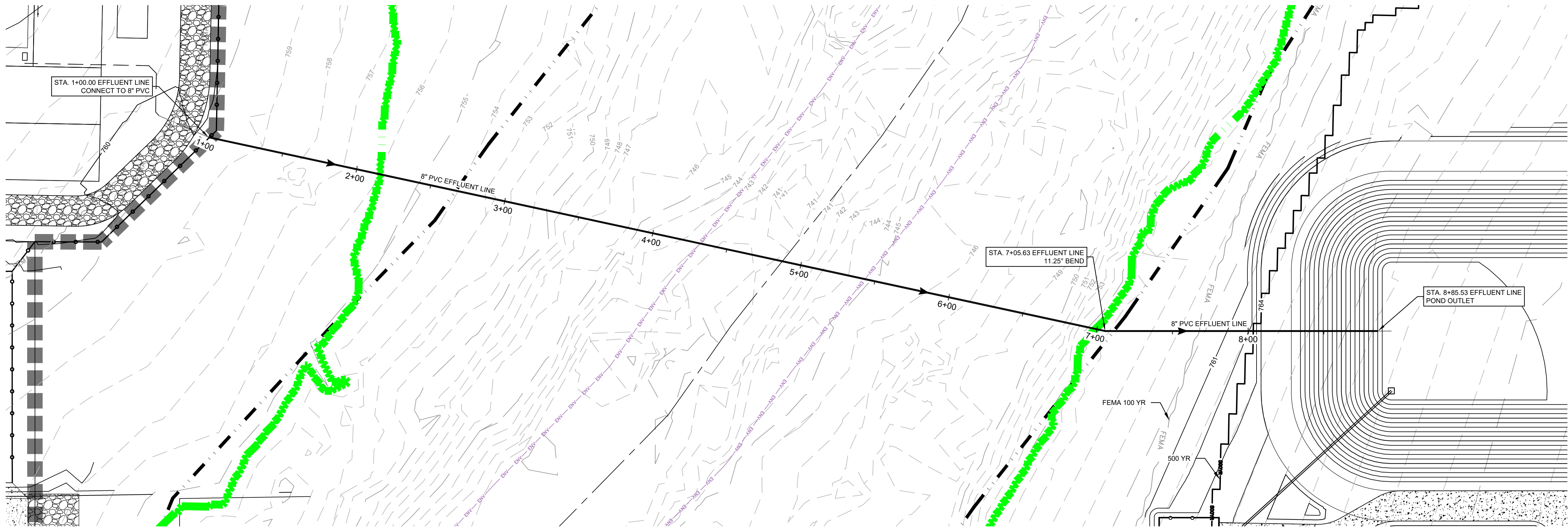
LEGEND	
	EXISTING CONTOUR
	EXISTING CONTOUR
	100 YR FEMA FLOODPLAIN
	SALADO CREEK OHWM
	500-YR FLOODPLAIN PER FEMA PANEL 48491C0125F DATED DECEMBER 20, 2019
	SALADO CREEK FEMA FIS 500-YR FLOODPLAIN PER STUDY BY BGE, INC., OCTOBER 2023



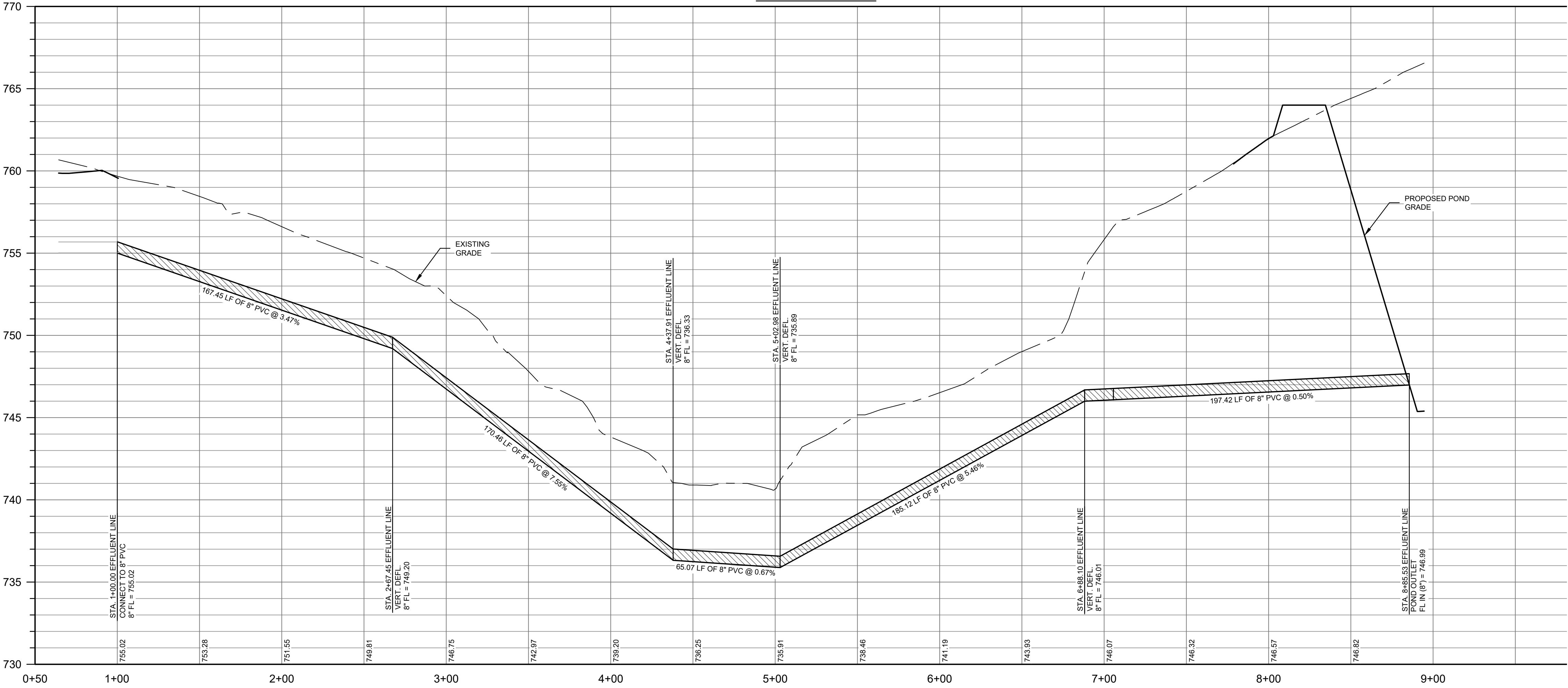
ATLAS RANCH M.U.D. No.1	WILLIMSON COUNTY, TEXAS
ATLAS RANCH WASTEWATER TREATMENT FACILITY	
EFFLUENT POND AND IRRIGATION DEMOLITION PLAN	

Publish Date:				
			Project No:	156
Designed KEL	Drawn KEL	Checked RJ	Sheet:	X-1
Engineer of Record _____				





EFFLUENT LINE



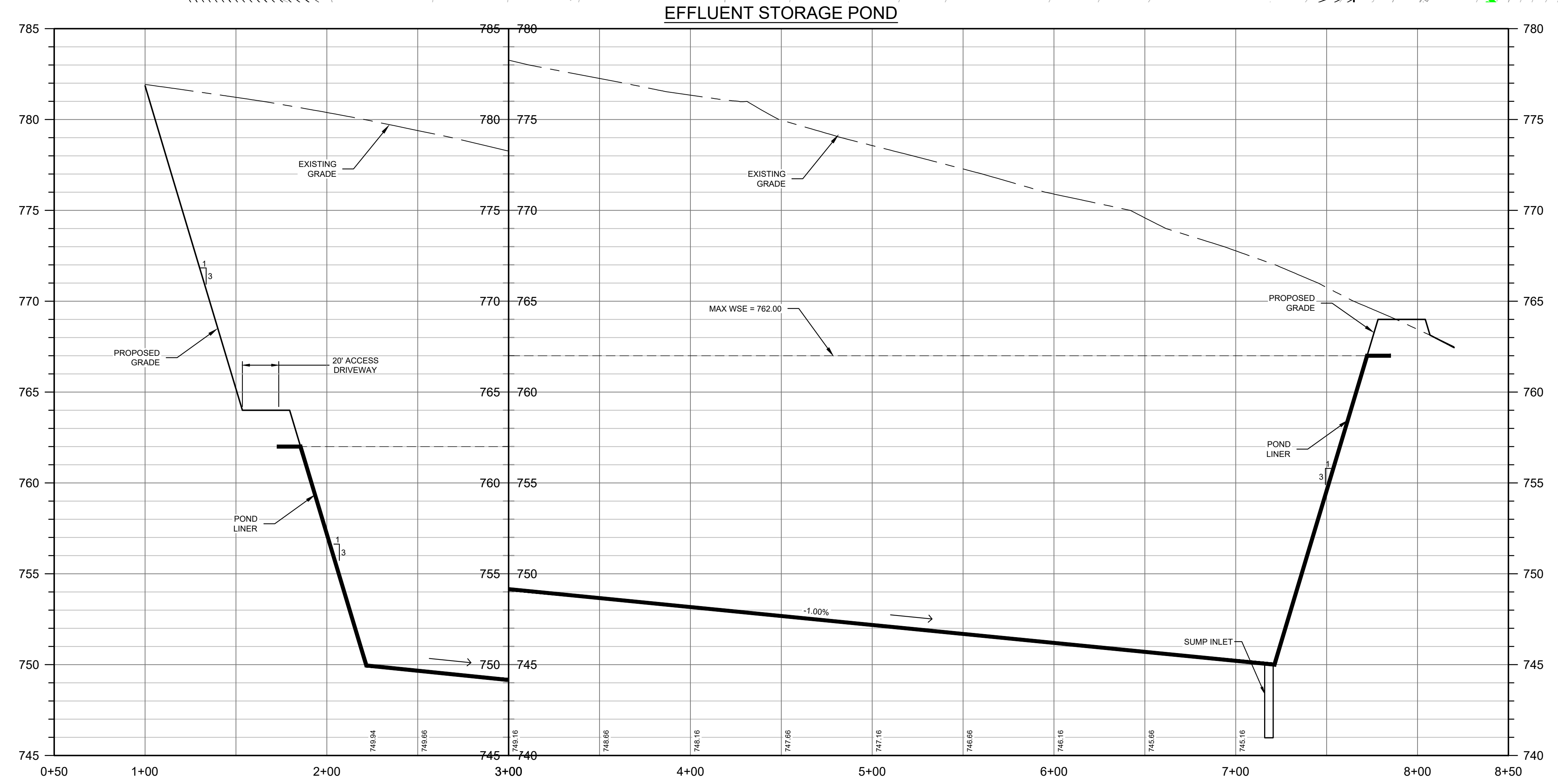
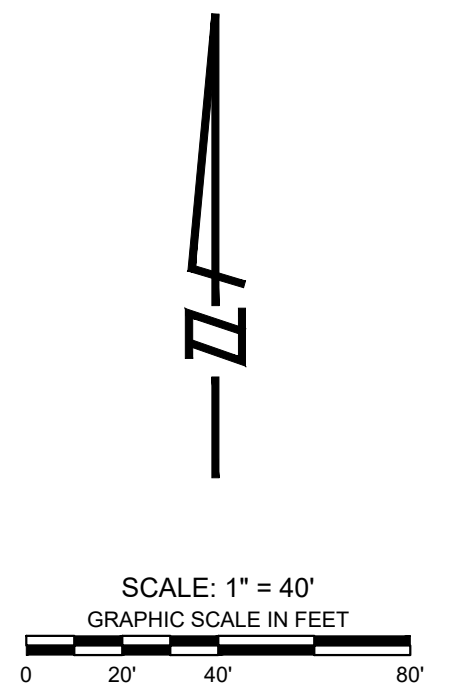
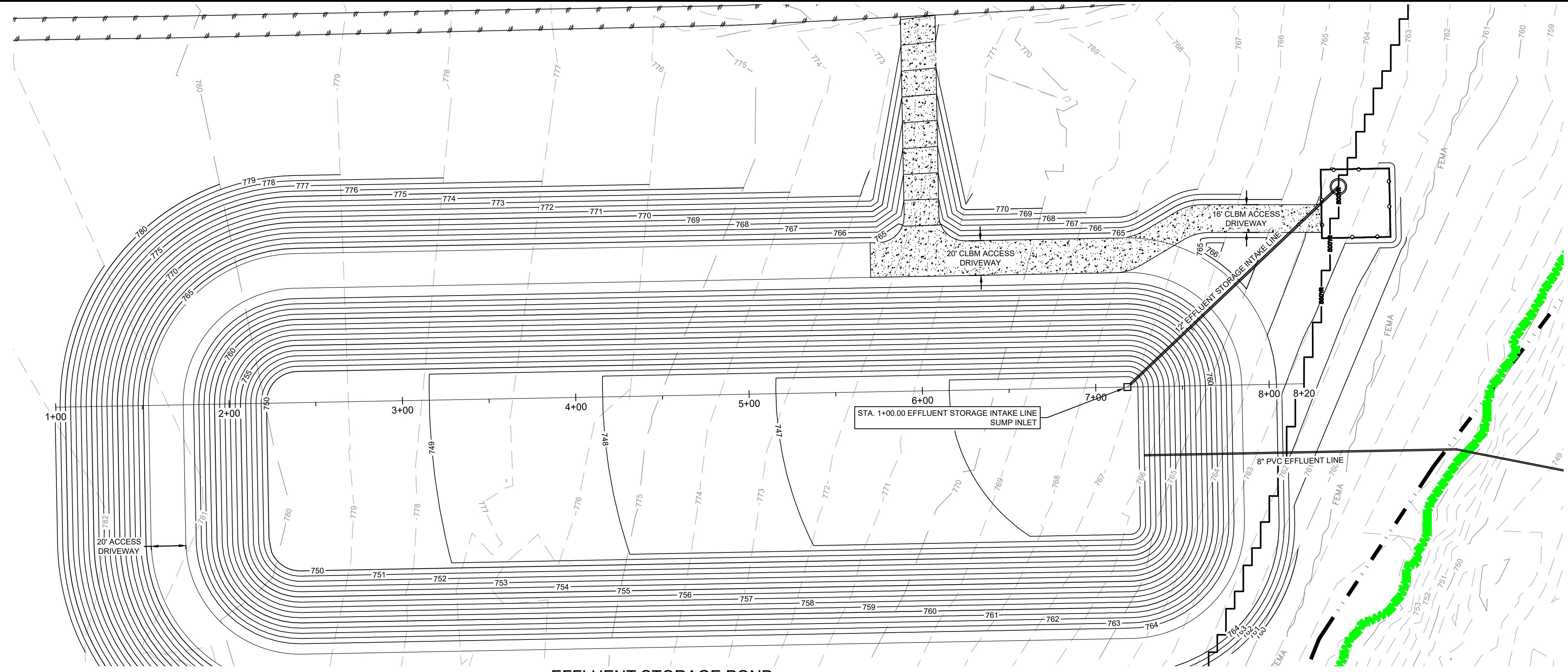
NOT FOR CONSTRUCTION



ATLAS RANCH M.U.D. No. 1 WILLIAMSON COUNTY, TEXAS  
ATLAS RANCH  
WASTEWATER TREATMENT FACILITY  
EFFLUENT LINE (STA. 1+00  
TO END)

Publish Date:			Project No:	156
Designed KE	Drawn KE	Checked RJ	Sheet:	C-07
Engineer of Record				





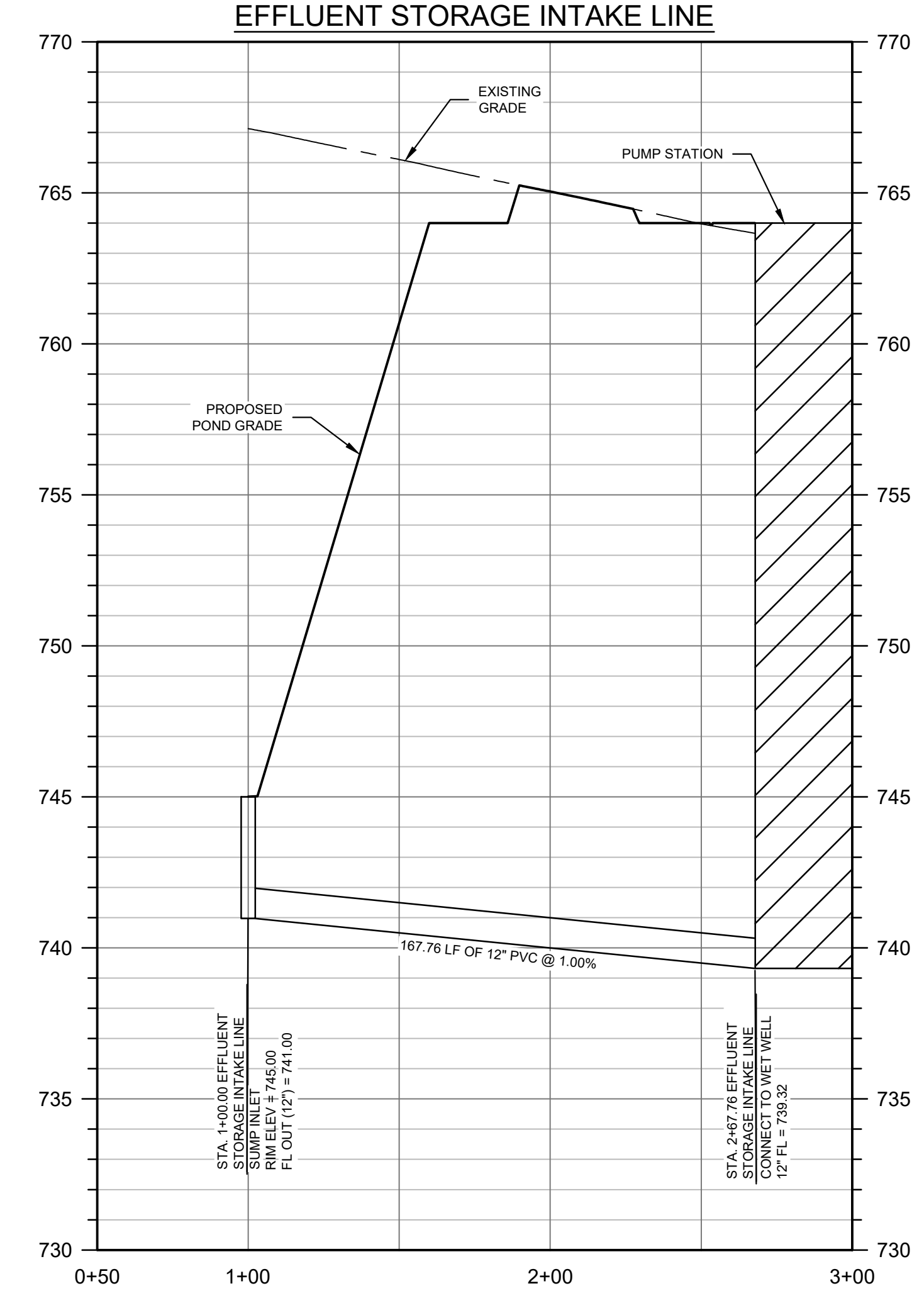
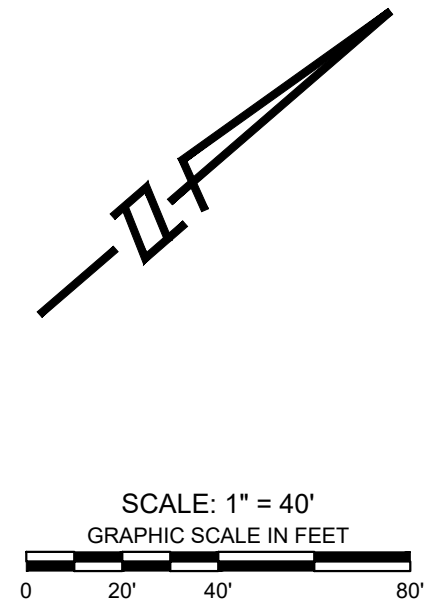
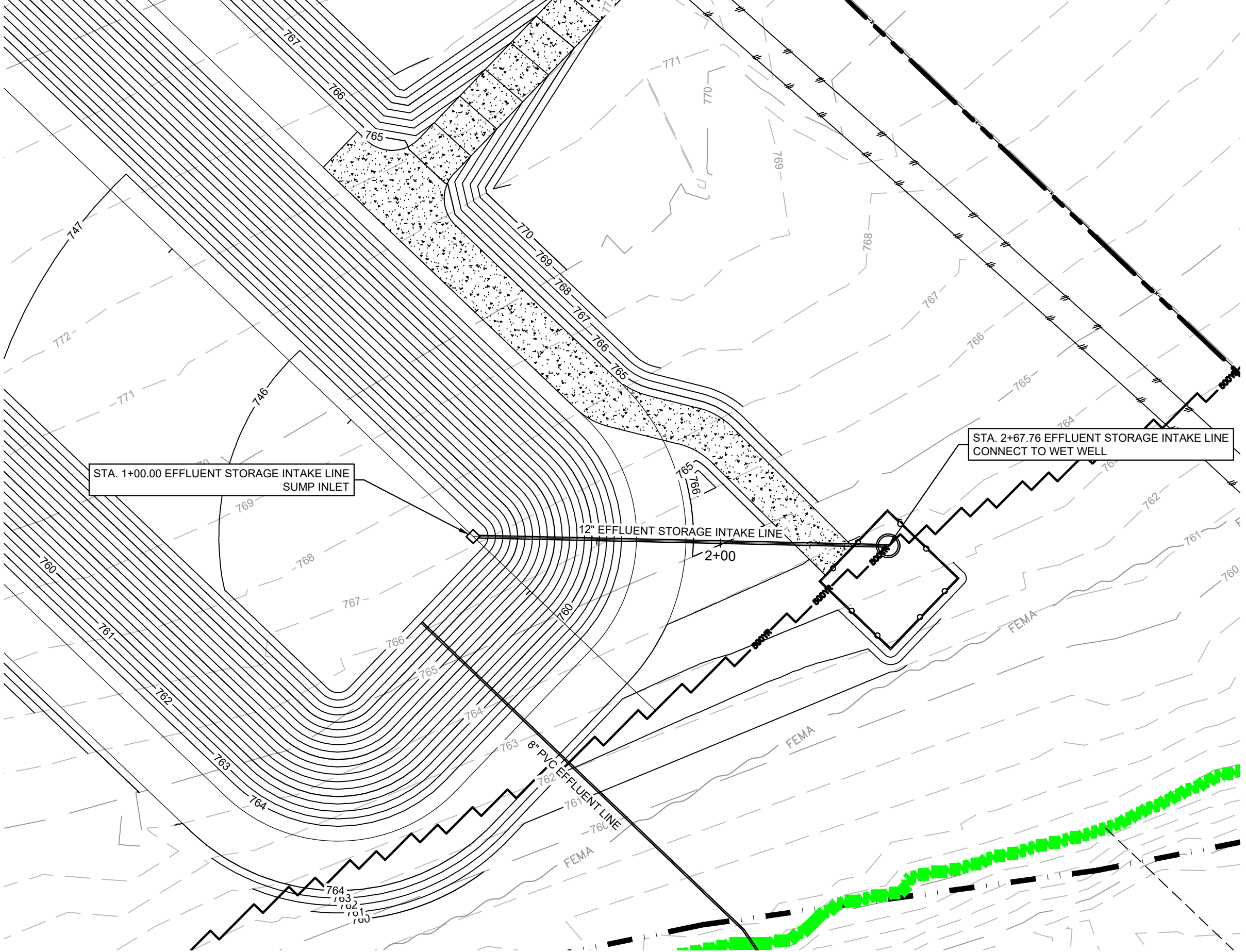
ATLAS RANCH M.U.D. No. 1 WILLIMSON COUNTY, TEXAS

**ATLAS RANCH  
WASTEWATER TREATMENT FACILITY**

EFFLUENT STORAGE POND

Publish Date:			Project No: 156	
Designed KEL	Drawn KEL	Checked RJ	Sheet: C-08	
Engineer of Record				





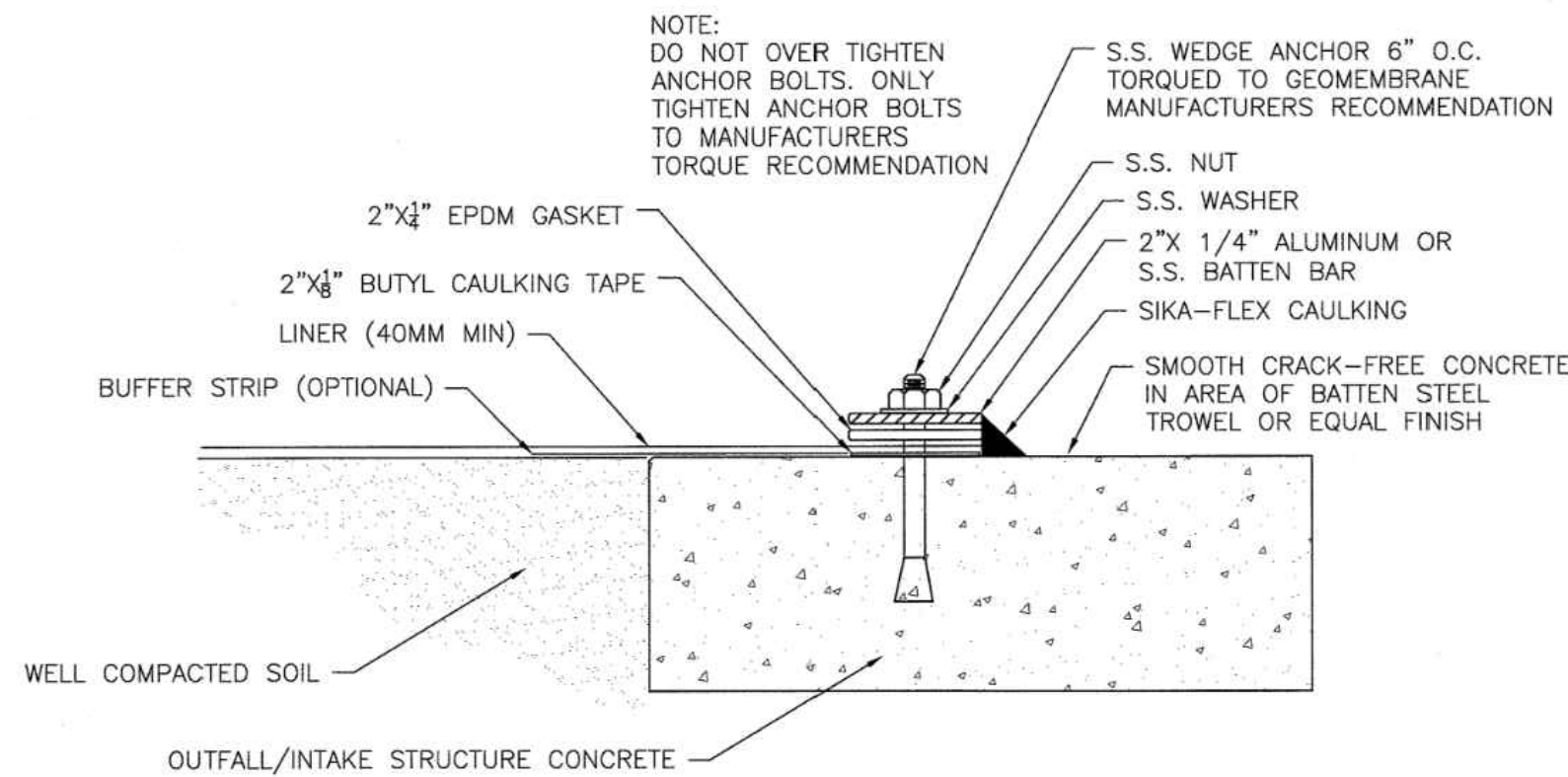
ATLAS RANCH M.U.D. No. 1 WILLIMSON COUNTY, TEXAS

**ATLAS RANCH  
WASTEWATER TREATMENT FACILITY**

**EFFLUENT STORAGE INTAKE**

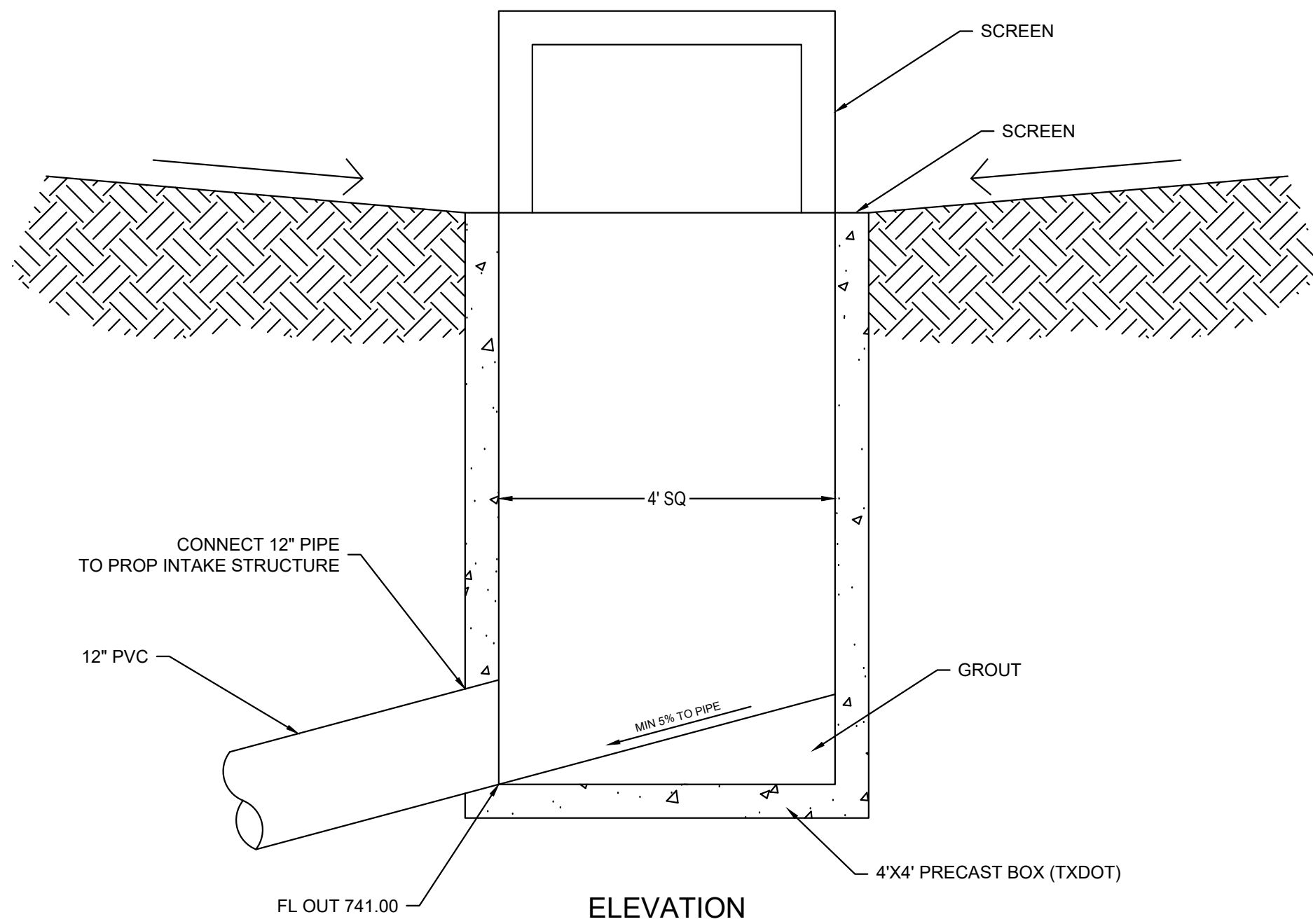
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Designed KEL	Drawn KEL	Checked RJ	Sheet:	C-09
Engineer of Record				



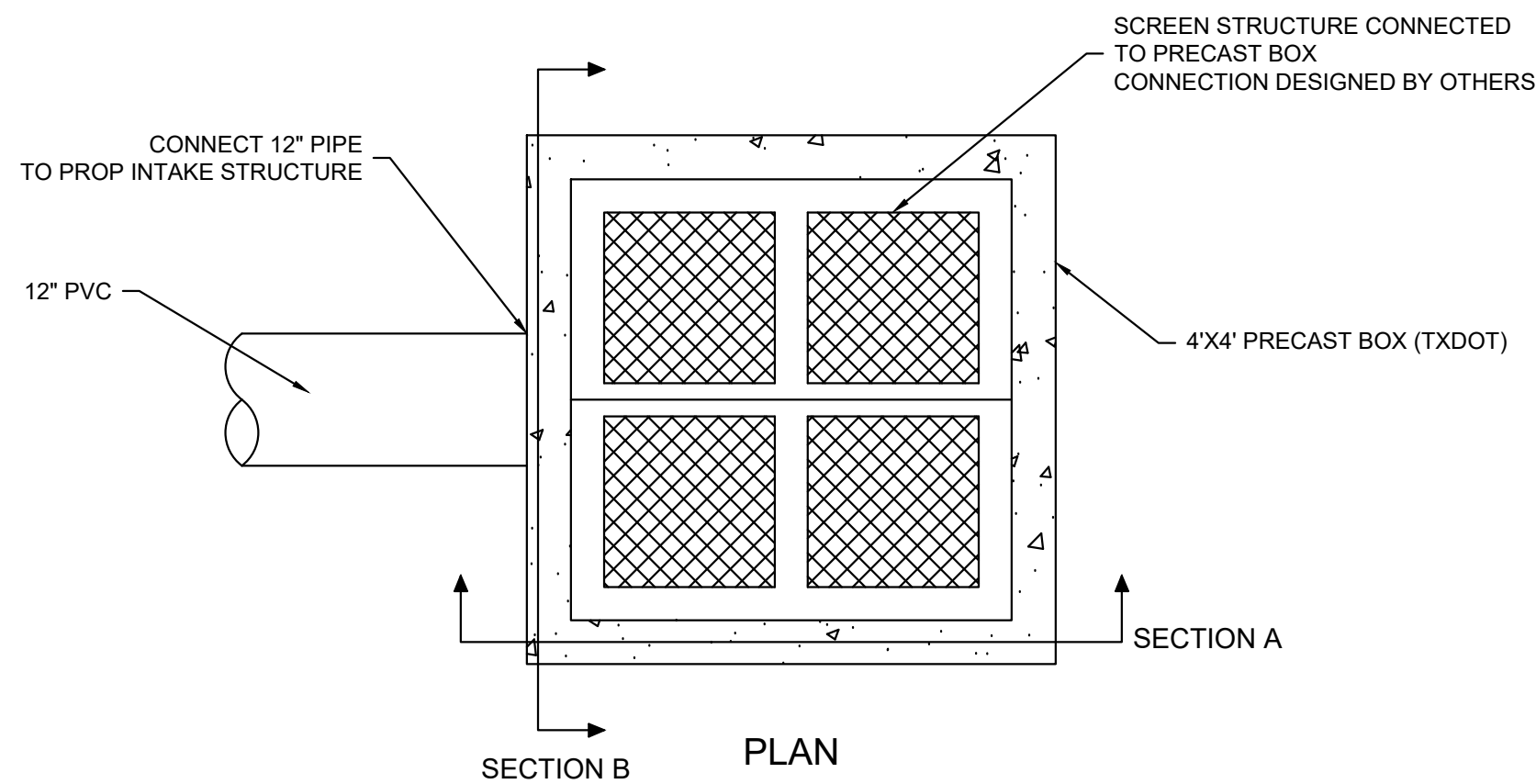


UNDERWATER LINER TO CONCRETE ATTACHMENT DETAIL  
N.T.S.

NOTE:  
THIS DETAIL IS FOR REFERENCE ONLY.  
CONNECTION OF POND LINER TO CONCRETE STRUCTURES SHALL BE FROM MANUFACTURERS RECOMMENDATION.

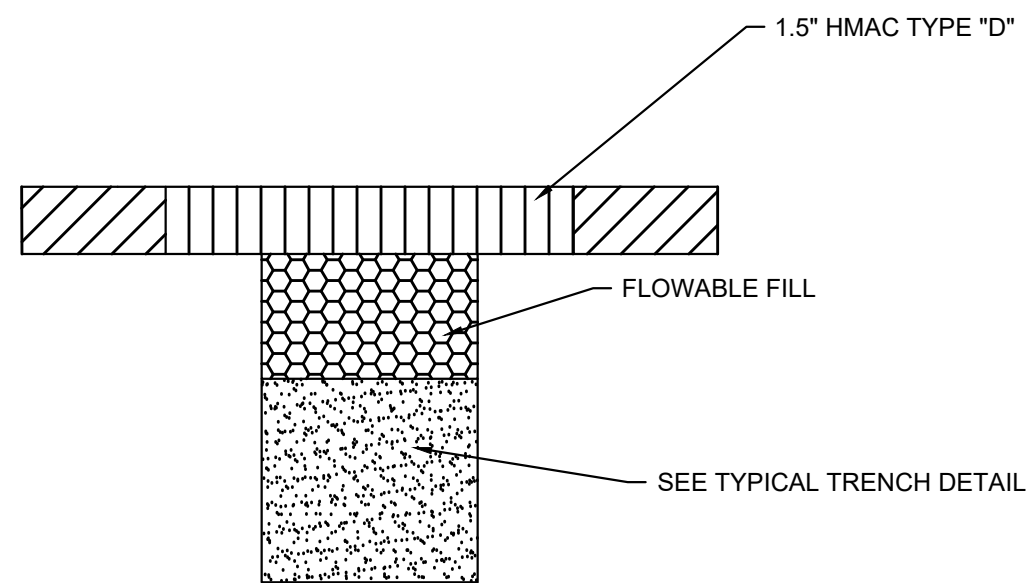


ELEVATION

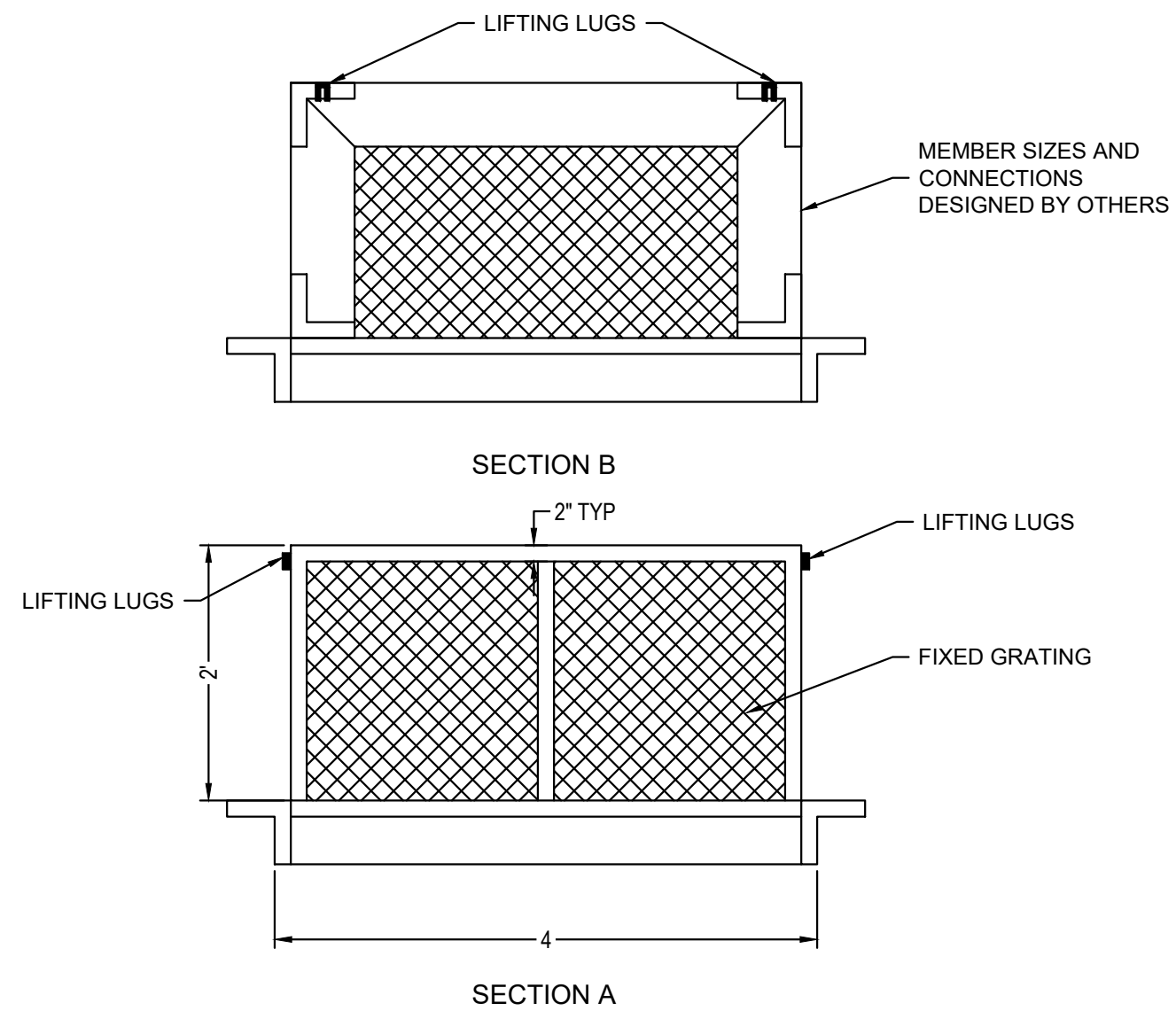


PLAN

EFFLUENT POND INTAKE STRUCTURE DETAIL  
N.T.S.

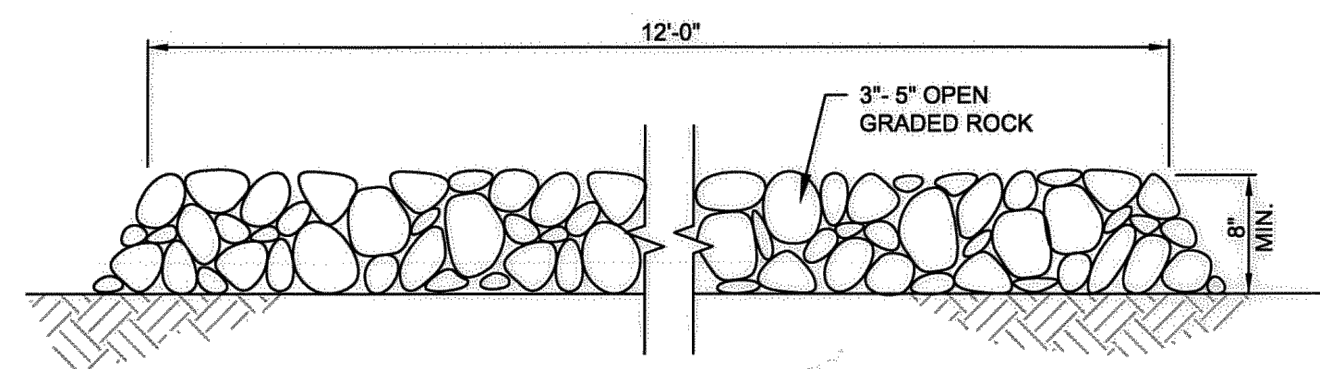


PAVEMENT REPAIR DETAIL  
N.T.S.




- NOTES:
1. INSTALL A 4'x4' PRECAST JUNCTION BOX BASE PER TXDOT WITH A 4'x4' SQUARE TOP OPENING AS SHOWN.
  2. THE SCREEN WILL BE SET IN PLACE OVER THE OPENING IN THE JUNCTION BOX.
  3. THE SCREEN SHALL BE STAINLESS STEEL WIRE MESH WITH 1" SQUARE OPENINGS. THE GAGES OF THE WIRE SHALL BE SUFFICIENT FOR THE ANTICIPATED LOADS, INCLUDING POTENTIAL BLOCKAGE AND FLOWS UP TO 1,100 GPM. THE ENTRY VELOCITY SHALL BE BELOW 1 FPS ASSUMING 50% BLOCKAGE.
  4. THE CONTRACTOR SHALL SUBMIT A STRUCTURAL DESIGN FOR THE SCREEN UNIT.
  5. THE DESIGN OF THE SCREEN UNIT SHALL BE APPROVED BY THE ENGINEERING PRIOR TO CONSTRUCTION.

EFFLUENT POND INTAKE STRUCTURE SCREEN DETAIL  
N.T.S.



- NOTES:
1. STONE SIZE: 75-125 mm (3-5") OPEN GRADED ROCK.
  2. THICKNESS: NOT LESS THAN 200 mm (8").
  3. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	POND MAINTENANCE ROAD CROSS SECTION
 E. J. KEL, P.E. 1/4/2016 ADOPTED	STANDARD NO. 662S-2 THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.



ATLAS RANCH M.U.D. No. 1	WILLIMSON COUNTY, TEXAS
ATLAS RANCH WASTEWATER TREATMENT FACILITY	
EFFLUENT POND DETAILS	

Publish Date:			Project No:  156
Designed KEL	Drawn KEL	Checked RJ	
Engineer of Record			Sheet:  C-10



# 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: Nick Marino, P.E.

Date: 8/23/2024

Signature of Customer/Agent:

Nick Marino

Regulated Entity Name: Atlas Ranch

## 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: Salado Creek

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

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

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



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

- ☒ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.
11. ☐ **Attachment H - Temporary Sediment Pond(s) Plans and Calculations.** Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.
- ☒ N/A
12. ☒ **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.
13. ☒ All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.
14. ☒ If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
15. ☒ Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.
16. ☒ Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

## ***Soil Stabilization Practices***

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

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



- 18. ☒ Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
- 19. ☒ Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

### ***Administrative Information***

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

## Attachment A – Spill Response Action

No spills of hydrocarbons or hazardous substances are expected. However, in the event that such an incidence does occur, the contractor should carefully follow the following TCEQ guidelines:

### Cleanup:

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

### Minor Spills:

1. Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.
2. Use absorbent materials on small spills rather than hosing down or burying the spill.
3. Absorbent materials should be promptly removed and disposed of properly.
4. Follow the practice below for a minor spill:
  - 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 can still 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, using the following practices:

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



## Attachment B – Potential Sources of Contamination

No particular activity or process during construction of the project is anticipated to present a significant risk of being a potential source of contamination. However, during regular construction operations, several common and minor risks of contamination are anticipated. Should any unforeseen mishaps occur during construction, the contractor shall follow the guidelines set forth in “Attachment A – Spill Response Action”.

### **Potential sources of sediment to stormwater runoff:**

- Clearing and grubbing
- Grading and excavation
- Vehicle tracking
- Topsoil stripping and stockpiling
- Landscaping

### **Potential pollutants and sources, other than sediment, to stormwater runoff:**

- Combined Staging Area – small fueling, minor equipment maintenance, sanitary facility.
- Materials Storage Area – solvents, adhesives, paving materials, aggregates, trash, etc.
- Construction Activities – paving, concrete pouring
- Concrete washout areas

### **Potential on-site pollutants:**

- Fertilizer
- Concrete
- Glue, adhesives
- Gasoline, diesel fuel, hydraulic fluids, antifreeze
- Sanitary toilets

**Significant/Hazardous Spills**

For highly toxic materials, the Reportable Quantity (RQ) > 25 gallons. For petroleum/hydrocarbon liquids, RQ > 250 gallons (on land) or any amount which creates a “sheen” on water. Only certified Haz-Mat teams will be responsible for handling the material at the site.

For significant or hazardous spills that are in reportable quantities:

1. Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor’s responsibility to have all emergency phone numbers at the construction site. Additionally, in the event of a hazardous material spill, local Williamson County police, fire, and potentially EMS should be contacted in order to initiate the hazardous material response team.
2. For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110, 191, and 302, the contractor should notify the National Response Center at (800) 424-8802.
3. Notification should first be made by telephone and followed up with a written report of which one copy is to be kept on-site in the report binder and one copy is to be provided to the TCEQ.
4. The services of a spill contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staff have arrived at the job site.
5. Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff’s Office, Fire Department, etc.

More information on spill rules and appropriate responses is available on the TCEQ website at:

<http://www.tceq.state.tx.us/response/spills.html>



## Attachment C - Sequence of Major Activities

1. Temporary erosion and sedimentation controls are to be installed as indicated on the approved subdivision construction plans and in accordance with the stormwater pollution prevention plan (SWPPP) that is required to be posted on the site. Install tree protection and initiate tree mitigation measures.
2. The environmental project manager, and/or site supervisor, and/or designated responsible party, and the general contractor will follow the stormwater pollution prevention plan (SWPPP) posted on the site. Temporary erosion and sedimentation controls will be revised, if needed, to comply with city inspectors' directives, and revised construction schedule relative to the water quality plan requirements and the erosion and sedimentation plan.
3. Temporary erosion and sedimentation controls will be inspected and maintained in accordance with the stormwater pollution prevention plan (SWPPP) posted on the site.
4. A sequence of major construction activities, as well as an estimated area of disturbance for each, is listed below:
  - I. Clearing and grubbing – 69.19 acres
  - II. Rough Cut BMPS – 1.51 acres
  - III. Grading and excavation for roadway and lots – 36.96 acres
  - IV. Excavation for utilities and storm sewer system – 4.95 acres
  - V. Install final BMPs and stabilize – 1.51 acres
  - VI. Construction of utilities and storm sewer system – 3.95 acres
  - VII. Paving, striping, etc. – 8.19 acres
  - VIII. Re-vegetation – 18.56 acres
  - IX. Landscaping – 0.75 acres
5. Upon completion of construction and re-vegetation, the design engineer shall submit an engineer's letter of concurrence to Williamson County indicating that construction, including re-vegetation, is complete and in substantial conformity with the approved plans. After receiving this letter, a final inspection will be scheduled by the appropriate city inspector.
6. After construction is complete and all disturbed areas have been re-vegetated per plan to at least 90 percent established, remove the temporary erosion and sedimentation controls and complete any necessary final re-vegetation resulting from removal of the controls. Conduct any maintenance and rehabilitation of the permanent BMPs.

## Attachment D – Temporary Best Management Practices and Measures

Prior to the commencement of any construction activity, the contractor shall install silt fence, construction entrances, and inlet protection, per the Erosion and Sedimentation Control Plan. All temporary BMPs are to be installed per TCEQ and local requirements.

As surface water flows from and through disturbed areas, the proposed temporary BMPs will prevent pollution by filtering the increased sediment loads and other pollutant sources (listed in “Attachment B – Potential Sources of Contamination”) prior to any runoff leaving the site. As shown in the attached site plan, silt fence will be utilized downstream of any grading and construction activities to remove debris and sediment from run-off in the area (activities here will primarily involve road grading and storm sewer excavation). Inlet protection will prevent sediment laden runoff from entering the storm sewer system during construction. Rock berms will be used to dissipate velocities and prevent erosion in channels where flow can concentrate, releasing runoff in sheet flow. Concrete washout basins will contain pollutants discharged when concrete trucks are washed out, and stabilized construction entrances will prevent the transport of sediment off-site.

In using the aforementioned treatment methods and maintaining natural drainage patterns downgradient of the proposed site, any flow to naturally occurring sensitive features, both known and unknown, will be maintained.



## Attachment E – Request to Temporary Seal a Feature

Not applicable to this project.

## Attachment F – Structural Practices

The following temporary BMP structural practices will be employed on the site:

- A. Silt Fence – Used for sediment filtration along the downslope perimeter of portions of the project, as well as to prevent runoff from storage of excavated materials during utility construction. The fence retains sediment primarily by retarding flow and promoting deposition of sediment on the uphill side of the slope. Runoff is filtered as it passes through the geotextile.
- B. Inlet Protection – To be provided around all proposed storm sewer inlets during construction. Locations are indicated on the attached site plan. The measures will trap and settle out sediment and debris prior to runoff entering the proposed storm sewer system.
- C. Construction Entrance – Stone pads will be constructed at entrances and exits to the project to prevent off-site transport of sediment by construction vehicles. The pads are a minimum of 50' long and 8" deep. They will be graded to prevent runoff from leaving the site.



## Attachment G – Drainage Area Map

Existing and proposed drainage area maps are shown in the attached construction plans with this submittal.

## Attachment H – Temporary Sediment Pond(s) Plans and Calculations

In order to assist with managing erosion control, the contractor will rough cut the Batch Detention Pond to act as a temporary sedimentation pond for the sake of stormwater management during construction. The temporary sedimentation pond will then be converted into a batch detention pond for permanent stormwater management.



## Attachment I – Inspection and Maintenance for BMPs

The inspection and maintenance of temporary BMPs will be made according to TCEQ RG-348, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices.

### **Inspection Personnel:**

Inspections shall be conducted by qualified representatives of the contractor acting on behalf of the owner or a designated party, if hired separately by the owner. Each operator must delegate authority to the specifically described position or person performing inspections, as provided by 30 TAC 305.128, as an authorized person for signing reports and performing certain activities requested by the director or required by the TPDES general permit. This delegation of authority must be provided to the director of TCEQ in writing and a copy shall be kept along with the signed effective copy of the SWPPP.

### **Inspection Schedule and Procedures:**

An inspection shall occur weekly and after any rain event.

The authorized party shall inspect all disturbed areas of the site, areas used for storage of materials that are exposed to precipitation, structural control measures, and locations where vehicles enter or exit the site.

Disturbed areas and areas used for storage of materials that are exposed to precipitation or within limits of the 1% annual chance (100 year) floodplain must be inspected for evidence of, or the potential for, pollutants entering the runoff from the site. Erosion and sediment control measures identified in the plan must be observed to ensure that they are operating correctly. Observations can be made during wet or dry weather conditions. Where discharge locations or points are accessible, they must be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. This can be done by inspecting receiving waters to see where vehicles enter or exit the site for evidence of off-site sediment tracking.

Based on the results of the inspection, the site description and the pollution prevention measures identified in the plan must be revised as soon as possible after an inspection that reveals inadequacies. The inspection and plan review process must provide for timely implementation of any changes to the plan within 7 calendar days of the inspection.

An inspection report shall be completed, which summarizes the scope of the inspection, name(s) and qualifications of personnel conducting the inspection, the date(s) of the inspection, and major observations relating to the implementation of the SWPPP. Major observations shall include, at a minimum, location of discharges of sediment or other pollutants from the site, location of BMPs that need to be maintained, location of BMPs that failed to operate as designed or proved inadequate for a particular location, and locations where BMPs are needed.

Actions taken as a result of the inspections must be described within, and retained as a part of, the SWPPP. Reports must identify and incidents of non-compliance. Where a report does not identify any incidents of non-compliance, the report must contain a certification that the facility or site is in compliance with the

SWPPP and the TPDES general permit. The report must be signed by the authorized representative delegated by the operators in accordance with TAC 305.128.

**Maintenance and Corrective Actions** – Maintenance of erosion control facilities shall consist of the minimum requirements as follows:

- A. In ongoing construction areas, inspect erosion control improvements to confirm facilities are in place and operable. Where facilities have been temporarily set aside or damaged due to construction activity, place facilities in service before leaving job site.
- B. If weather forecast predicts a possibility of rain, check entire facilities throughout the site to ensure they are in place and operable. If job site weather conditions indicate a high probability of rain, make special inspection of erosion control facilities.
- C. After rainfall events, review erosion control facilities as soon as the site is accessible. Clean rock berms, construction entrances, and other structural facilities. Determine where additional facilities or alternative techniques are needed to control sediment leaving the site.
- D. After portions of the site have been seeded, review these areas on a regular basis in accordance with project specifications to assure property watering until grass is established. Re-seed areas where grass is not well-established.
- E. Spills are to be handled as specified by the manufacturer of the product in a timely and safe manner by qualified personnel. The site superintendent will be responsible for coordinate spill prevention and cleanup operations.
- F. Concrete trucks will discharge extra concrete or wash out drum only at an approved location on site. Residual product shall be properly disposed of.
- G. Inspect vehicle entrances and exits for evidence of off-site tracking and correct as needed.
- H. Remove sediment from traps and ponds no later than when the design capacity has been reduced by 50%.
- I. If sediment escapes the site, the contractor, where feasible and where access is available, shall collect and remove sedimentation material by appropriate non-damaging methods. Additionally, the contractor shall correct the condition causing discharges.
- J. If inspections or other information sources reveal a control has been used incorrectly, or that control is performing inadequately, the contractor must replace, correct, or modify the control as soon as practical after discovery of the deficiency.



## Attachment J – Schedule of Interim and Permanent Soil Stabilization Practices

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

- Prior to site disturbance
  - Install all temporary erosion and sedimentation control features.
- During construction
  - Maintain all temporary erosion and sedimentation control structures. Inspect all temporary erosion and sedimentation control structures on a weekly and/or daily basis and after all rain events.
- After completion of cons
  - Install all permanent erosion and sedimentation controls.
- After completion of permanent controls
  - Remove all temporary erosion and sedimentation control features.

Interim on-site stabilization measures, which are continuous, will include minimizing soil disturbance by exposing the smallest practical area of land required for the shortest period of time and maximizing use of natural vegetation. As soon as practical, all disturbed soil will be stabilized as per project specifications in accordance with TCEQ's Technical Guidance Manual (TGM). Mulching, netting, erosion blankets and seeding are acceptable.

Stabilization measure will be limited as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and except as provided below, will be initiated no more than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased. Where construction activity in that portion of the site has temporarily or permanently 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 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 possible.

# Permanent Stormwater Section

## Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(C), (D)(li), (E), and (5), Effective June 1, 1999

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

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

## Signature

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

Print Name of Customer/Agent: Nick Marino, P.E.

Date: 8/23/2024

Signature of Customer/Agent:

Nick Marino

Regulated Entity Name: Atlas Ranch

## Permanent Best Management Practices (BMPs)

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

1. ☒ Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.  
☐ N/A
2. ☒ These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.  
☒ The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.



- ☐ A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is: \_\_\_\_\_
- ☐ N/A
3. ☒ Owners must insure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.
- ☐ N/A
4. Where a site is used for low density single-family residential development and has 20 % or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.
- ☐ The site will be used for low density single-family residential development and has 20% or less impervious cover.
- ☒ The site will be used for low density single-family residential development but has more than 20% impervious cover.
- ☐ The site will not be used for low density single-family residential development.
5. The executive director may waive the requirement for other permanent BMPs for multi-family residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.
- ☐ **Attachment A - 20% or Less Impervious Cover Waiver.** The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.
- ☐ The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.
- ☒ The site will not be used for multi-family residential developments, schools, or small business sites.
6. ☒ **Attachment B - BMPs for Upgradient Stormwater.**

- ☒ A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached.
  - ☐ No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.
  - ☐ Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.
7. ☒ **Attachment C - BMPs for On-site Stormwater.**
- ☒ A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is attached.
  - ☐ Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.
8. ☐ **Attachment D - BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is attached. Each feature identified in the Geologic Assessment as sensitive has been addressed.
- ☒ N/A
9. ☒ The applicant understands that to the extent practicable, BMPs and measures must maintain flow to naturally occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.
- ☐ The permanent sealing of or diversion of flow from a naturally-occurring sensitive feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed.
  - ☐ **Attachment E - Request to Seal Features.** A request to seal a naturally-occurring sensitive feature, that includes, for each feature, a justification as to why no reasonable and practicable alternative exists, is attached.
10. ☒ **Attachment F - Construction Plans.** All construction plans and design calculations for the proposed permanent BMP(s) and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. The plans are attached and, if applicable include:
- ☒ Design calculations (TSS removal calculations)
  - ☒ TCEQ construction notes
  - ☒ All geologic features
  - ☒ All proposed structural BMP(s) plans and specifications
- ☐ N/A



11. ☒ **Attachment G - Inspection, Maintenance, Repair and Retrofit Plan.** A plan for the inspection, maintenance, repairs, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan includes all of the following:
- ☒ Prepared and certified by the engineer designing the permanent BMPs and measures
  - ☒ Signed by the owner or responsible party
  - ☒ Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit
  - ☒ A discussion of record keeping procedures
- ☐ N/A
12. ☐ **Attachment H - Pilot-Scale Field Testing Plan.** Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.
- ☒ N/A
13. ☐ **Attachment I - Measures for Minimizing Surface Stream Contamination.** A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that results in water quality degradation.
- ☒ N/A

### ***Responsibility for Maintenance of Permanent BMP(s)***

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

14. ☒ The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.
- ☐ N/A
15. ☒ A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.
- ☐ N/A

## Attachment A – 20% or Less Impervious Cover Declaration

Not applicable to this project.



## Attachment B – BMPs for Upgradient Stormwater

Upgradient stormwater can be characterized as runoff flowing from adjacent sites which contain either no impervious cover or are being treated by existing BMPs. The upgradient stormwater is being diverted around the proposed Phase 1, Section 1 site through an existing grassy swale where it will discharge to Salado Creek.

## Attachment C – BMPs for On-Site Stormwater

On-site stormwater will be treated by (2) different BMPs which account for all proposed impervious cover on site, and portions from the future Phase 1, Section 2 development. The one Batch Detention Pond will account for a majority of the TSS Removal. There is also one vegetative filter strip that will account for additional treatment and is oversized to account for untreated offsite runoff. A summary of the TSS Removal requirements are shown below. The TSS Removal calculations for each BMP are shown in the attached Phase 1, Section 1 construction plans.

**Table 1. TSS Summary Table**

	AREA (AC)	IMPERVIOUS AREA (AC)	TSS REQ. (LBS)	REQ. VOLUME (CF)	TSS REMOVED (LBS)
POND A	40.96	24.34	21,186	98,019	21,186
OFFSITE	1.21	0.07	61	-	-
CULV-A	69.28	-	-	-	-
VFS 1	2.64	1.77	1,541		1,679
	<b>114.09</b>	<b>26.18</b>	<b>22,788</b>	-	<b>22,865</b>



## Attachment D – BMPs for Surface Streams

No BMPs are proposed specifically for surface streams. Proposed on-site BMPs and drainage systems are designed to mimic existing flow patterns.

## Attachment E – Request to Seal a Feature

Not applicable to this project.



## Attachment F – Construction Plans

Construction plan sheets for BMPs, proposed storm improvements, and erosion controls are attached with this submittal.

OWNER:  
ATLAS RANCH HOLDINGS, L.P.  
115 E 5TH ST #200  
AUSTIN, TX 78701  
PHONE: (858) 204-4100

ENGINEER:  
GRAY ENGINEERING INC.  
8834 N. CAPITAL OF TEXAS HWY., SUITE 140  
AUSTIN, TEXAS 78759  
(512) 452-0371  
FAX (512) 454-9933

LEGAL DESCRIPTION:  
AW0172 DAVIS, E. SUR., ACRES 80.272  
AW0172 DAVIS, E. SUR., ACRES 26.10, (QUARRY)

REVIEWED FOR COMPLIANCE WITH COUNTY REQUIREMENTS (WCSR 2021B):

WILLIAMSON COUNTY DATE

WILLIAMSON COUNTY EMERGENCY SERVICE DISTRICT NO.5 DATE

ATLAS RANCH MUD No. 1 DATE

NOTES: REVIEW OF THE PLANS BY THE DISTRICT IS LIMITED TO WATER, WASTEWATER AND DRAINAGE AND DOES NOT INDICATE A REVIEW OF THE ADEQUACY OF THE DESIGN FOR THE FACILITIES. IN APPROVING THESE PLANS, THE DISTRICT MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

- NOTES:
- THIS PROJECT IS LOCATED WITHIN THE NORTH FORK SALADO CREEK WATERSHED.
  - THIS PROJECT IS LOCATED WITHIN THE EDWARDS AQUIFER RECHARGE ZONE.
  - PORTIONS OF THIS PLAN ARE ENCROACHED BY SPECIAL FLOOD HAZARD AREAS INUNDATED BY THE 1% ANNUAL CHANCE FLOOD AS IDENTIFIED BY THE U.S. FEDERAL EMERGENCY MANAGEMENT AGENCY BOUNDARY MAP (FLOOD INSURANCE RATE MAP) COMMUNITY PANEL NUMBERS 48491C0125F, EFFECTIVE DATE DECEMBER 20, 2019 FOR WILLIAMSON COUNTY TEXAS
  - THE CONTRACTOR SHALL OBTAIN A "NOTICE OF PROPOSED INSTALLATION OF UTILITY LINE" PERMIT FROM WILLIAMSON COUNTY FOR ANY WORK PERFORMED IN THE EXISTING RIGHT-OF-WAY (DRIVEWAY APRON, WATER MAIN TIE-IN, ETC.); THIS PERMIT APPLICATION WILL REQUIRE A LIABILITY AGREEMENT, A CONSTRUCTION COST ESTIMATE FOR WORK WITHIN THE RIGHT-OF-WAY INCLUDING PAVEMENT REPAIR (IF NEEDED), A PERFORMANCE BOND, CONSTRUCTION PLANS AND, IF NECESSARY, A TRAFFIC CONTROL PLAN, AN INSPECTION FEE, AND A PRE-CONSTRUCTION MEETING MAY ALSO BE REQUIRED, DEPENDING ON THE SCOPE OF WORK. THE PERMIT WILL BE REVIEWED AND APPROVED BY THE COUNTY ENGINEER, AND MUST ALSO BE APPROVED BY THE WILLIAMSON COUNTY COMMISSIONERS COURT IF ANY ROAD CLOSURE IS INVOLVED.

BENCHMARK

BEARING BASIS NOTE:

BEARING ORIENTATION IS BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE 4203, NAD83. DISTANCES SHOWN HEREON ARE IN SURFACE AND CAN BE CONVERTED TO GRID BY USING THE COMBINED SCALE FACTOR = 1.00014727

BENCHMARK NOTE:

BENCHMARK FOR THIS PROJECT IS A CHISELED SQUARE FOUND AT THE WEST END OF A CONCRETE HEADWALL ALONG THE NORTH SIDE OF COUNTRY RD. 305, LOCATED +/- 120-FEET WEST OF THE INTERSECTION OF COUNTRY RD. 305 AND 344

GRID N. = 10,277,563.05 NAVD88 (GEIOD 18)  
GRID E. = 3,144,725.36  
=788.26

SUBMITTED BY

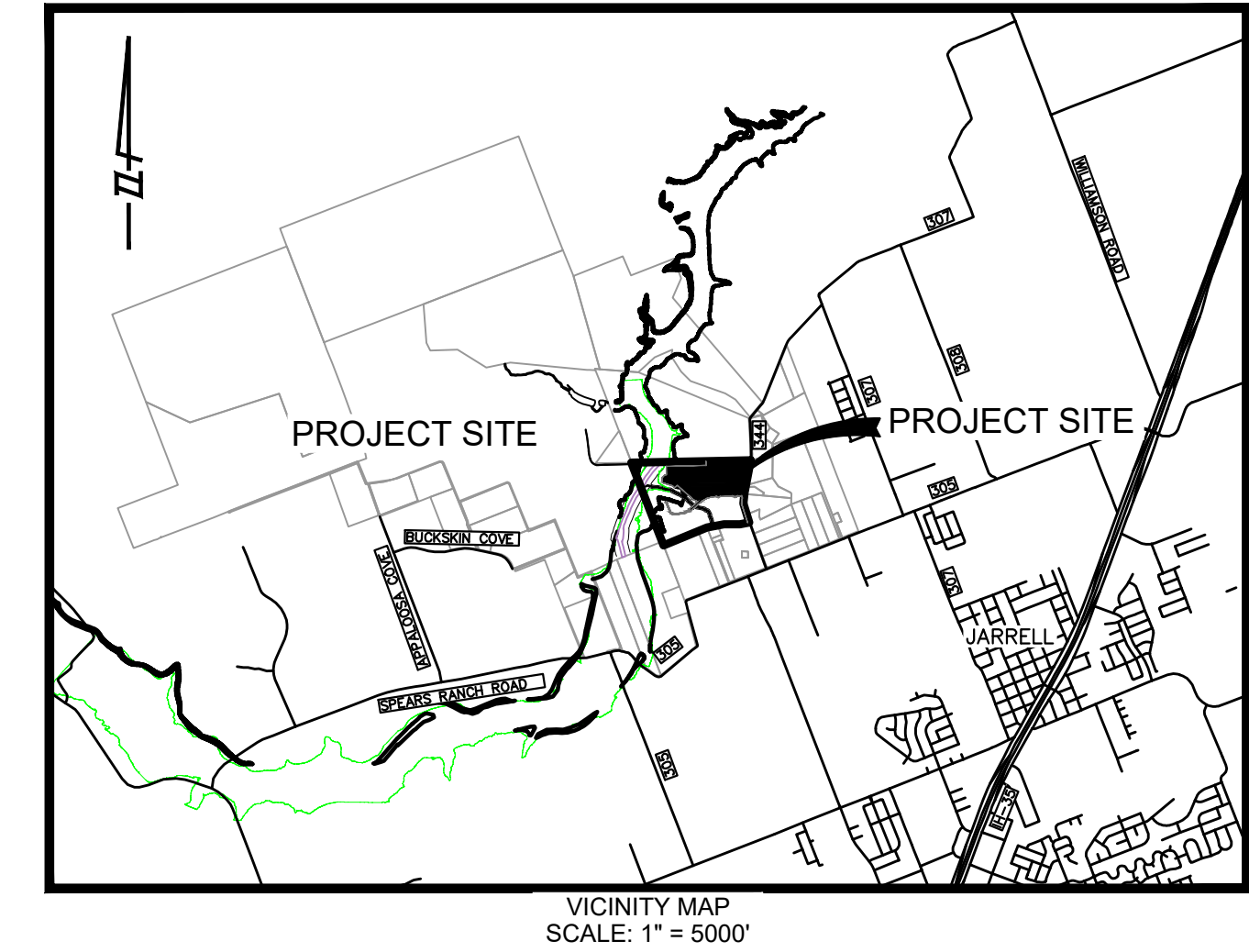
Nick Marino

NICK MARINO, P.E.  
GRAY ENGINEERING INC.  
8834 N. CAPITAL OF TEXAS HWY., SUITE 140  
AUSTIN, TEXAS 78759  
(512) 452-0371

DATE

8/23/2024

SUBMITTAL TRACKING	
SUBMITTAL NO.	DATE
1	

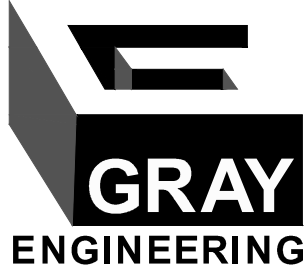


NO.	DATE	SHEETS	REVISION DESCRIPTION

CONSTRUCTION PLANS FOR  
ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON COUNTY, TX  
PAVING, WATER, WASTEWATER, & DRAINAGE IMPROVEMENTS

Sheet List Table			
Sheet Number	Sheet Title		
1	COVER SHEET	47	STORM SEWER LATERALS A10-A12 & B1-B5
2	NOTES (SHEET 1 OF 2)	48	STORM SEWER LATERALS B6-B13
3	NOTES (SHEET 2 OF 2)	49	STORM SEWER LATERALS C1-C4 & D1-4
4	PRELIMINARY PLAT	50	STORM SEWER LATERALS D5-D11
5	EXISTING CONDITIONS AND DEMOLITION PLAN (1 OF 2)	51	STORM SEWER LATERALS D12-D16 & E1-E2
6	EXISTING CONDITIONS AND DEMOLITION PLAN (2 OF 2)	52	POND (1 OF 2)
7	EROSION CONTROL PLAN (SHEET 1 OF 2)	53	POND (2 OF 2)
8	EROSION CONTROL PLAN (SHEET 2 OF 2)	54	POND DETAILS
9	SIGNAGE AND LIGHTING PLAN	55	VEGETATIVE FILTER STRIP PLAN
10	GRADING PLAN (1 OF 2)	56	OVERALL WATER DISTRIBUTION PLAN (1 OF 3)
11	GRADING PLAN (2 OF 2)	57	OVERALL WATER DISTRIBUTION PLAN (2 OF 3)
12	WINDGAP DRIVE (STA. 1+00 TO 7+50)	58	OVERALL WATER DISTRIBUTION PLAN (3 OF 3)
13	WINDGAP DRIVE (STA. 7+50 TO END)	59	WATER LINE A (1+00 TO 8+00)
14	GLEN HAZEL ROAD (STA. 1+00 TO 7+50)	60	WATER LINE A (8+00 TO 14+50)
15	GLEN HAZEL ROAD (STA. 7+50 TO END)	61	WATER LINE A (14+50 TO END)
16	ALLEGHENY DRIVE (STA. 1+00 TO END)	62	OVERALL WASTEWATER COLLECTION PLAN
17	CECIL CIRCLE (STA. 1+00 TO 8+50)	63	WASTEWATER LINE A (STA. 1+00 TO END)
18	CECIL CIRCLE (STA. 8+50 TO 16+50)	64	WASTEWATER LINE B, S, & T (STA. 1+00 TO END)
19	CECIL CIRCLE (STA. 16+50 TO END)	65	WASTEWATER LINE C (STA. 1+00 TO END)
20	DUQUENSE CIRCLE (STA. 1+00 TO 2+00 & 19+50 TO END)	66	WASTEWATER LINE D (STA. 1+00 TO END)
21	FAIRYWOOD PLACE (STA. 1+00 TO END)	67	WASTEWATER LINE E (STA. 1+00 TO END)
22	KNOXVILLE GLEN DRIVE (STA. 1+00 TO END)	68	WASTEWATER LINE F (STA. 1+00 TO END)
23	MOUNT OLIVER SPUR (STA. 1+00 TO END)	69	WASTEWATER LINE G (STA. 1+00 TO END)
24	SHADYSIDE DRIVE (STA. 1+00 TO 10+00)	70	WASTEWATER LINE H (STA. 1+00 TO 6+50)
25	SHADYSIDE DRIVE (STA. 10+00 TO END)	71	WASTEWATER LINE H (STA. 6+50 TO 14+00)
26	VARGO KNOLL (STA. 1+00 TO END)	72	WASTEWATER LINE H (STA. 14+00 TO END)
27	VARGO KNOLL (STA. 6+50 TO END)	73	WASTEWATER LINE J (STA. 1+00 TO END)
28	EXISTING DRAINAGE PLAN	74	WASTEWATER LINE K (STA. 1+00 TO END)
29	PROPOSED DRAINAGE PLAN	75	WASTEWATER LINE L (STA. 1+00 TO END)
30	PROPOSED DRAINAGE AREAS	76	WATER DETAILS (SHEET 1 OF 3)
31	DRAINAGE CALCULATIONS (SHEET 1 OF 4)	77	WATER DETAILS (SHEET 2 OF 3)
32	DRAINAGE CALCULATIONS (SHEET 2 OF 4)	78	WATER DETAILS (SHEET 3 OF 3)
33	DRAINAGE CALCULATIONS (SHEET 3 OF 4)	79	WASTEWATER DETAILS (SHEET 1 OF 3)
34	DRAINAGE CALCULATIONS (SHEET 4 OF 4)	80	WASTEWATER DETAILS (SHEET 2 OF 3)
35	OVERALL STORM SEWER PLAN	81	WASTEWATER DETAILS (SHEET 3 OF 3)
36	STORM SEWER LINE A (STA. 1+00 TO 7+50)	82	DRAINAGE DETAILS (SHEET 1 OF 3)
37	STORM SEWER LINE A (STA. 7+50 TO 14+00)	83	DRAINAGE DETAILS (SHEET 2 OF 3)
38	STORM SEWER LINE A (STA. 14+00 TO END)	84	DRAINAGE DETAILS (SHEET 3 OF 3)
39	STORM SEWER LINE B (STA. 1+00 TO 10+50)	85	EROSION CONTROL DETAILS
40	STORM SEWER LINE B (STA. 10+50 TO END)	86	STREET DETAILS (SHEET 1 OF 5)
41	STORM SEWER LINE C (STA. 1+00 TO END)	87	STREET DETAILS (SHEET 2 OF 5)
42	STORM SEWER LINE D (STA. 1+00 TO 8+50)	88	STREET DETAILS (SHEET 3 OF 5)
43	STORM SEWER LINE D (STA. 8+50 TO END)	89	STREET DETAILS (SHEET 4 OF 5)
44	STORM SEWER LINE E (STA. 1+00 TO END)	90	STREET DETAILS (SHEET 5 OF 5)
45	STORM SEWER LINE X (STA. 1+00 TO END)	91	BRIDGE DETAILS
46	STORM SEWER LATERALS A0.2-A9		

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8834 N. Capital of Texas Hwy.  
Suite 140  
Austin, Texas 78759  
(512)452-0371  
FAX(512)454-9933  
TBPELS FIRM #2946



1. ALL ROADS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AS APPROVED BY THE COUNTY ENGINEER AND IN ACCORDANCE WITH THE SPECIFICATIONS FOUND IN THE CURRENT VERSION OF THE "TEXAS DEPARTMENT OF TRANSPORTATION MANUAL STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES".
2. ANY EXISTING UTILITIES, PAVEMENT, CURBS, SIDEWALKS, STRUCTURES, TREES, ETC., NOT PLANNED FOR DESTRUCTION OR REMOVAL THAT ARE DAMAGED OR REMOVED SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR SHALL VERIFY ALL DEPTHS AND LOCATIONS OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES WITH THE CONSTRUCTION PLANS FOUND IN THE FIELD SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE ENGINEER WHO SHALL BE RESPONSIBLE FOR REVISING THE PLANS ARE APPROPRIATE.
4. MANHOLE FRAMES, COVERS, VALVES, CLEANOUTS, ETC. SHALL BE RAISED TO FINISHED GRADE PRIOR TO FINAL PAVING CONSTRUCTION.
5. THE CONTRACTOR SHALL GIVE THE WILLIAMSON COUNTY 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION. TELEPHONE (512) 943-3367 (ENGINEERING AND DEVELOPMENT SERVICES DEPARTMENT).
6. ALL AREAS DISTURBED OR EXPOSED DURING CONSTRUCTION SHALL BE REVEGETATED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. REVEGETATION OF ALL DISTURBED OR EXPOSED AREAS SHALL CONSIST OF SODDING OR SEEDING, AT THE CONTRACTOR'S OPTION. HOWEVER, THE TYPE OF REVEGETATION MUST EQUAL OR EXCEED THE TYPE OF VEGETATION PRESENT BEFORE CONSTRUCTION.
7. THE CONTRACTOR AND THE ENGINEER SHALL KEEP ACCURATE RECORDS OF ALL CONSTRUCTION THAT DEVIATES FROM THE PLANS. THE ENGINEER SHALL FURNISH WILLIAMSON COUNTY ACCURATE "AS-BUILT" DRAWINGS FOLLOWING COMPLETION OF ALL CONSTRUCTION. THESE "AS-BUILT" DRAWINGS SHALL MEET WITH THE SATISFACTION OF THE ENGINEERING AND DEVELOPMENT SERVICES DEPARTMENT PRIOR TO FINAL ACCEPTANCE.
8. WHEN CONSTRUCTION IS BEING CARRIED OUT WITHIN EASEMENTS, THE CONTRACTOR SHALL CONFINES HIS WORK TO WITHIN THE PERMANENT AND ANY TEMPORARY EASEMENTS. PRIOR TO FINAL ACCEPTANCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TRASH AND DEBRIS WITHIN THE PERMANENT AND TEMPORARY EASEMENTS. CLEAN-UP SHALL BE TO THE SATISFACTION OF THE CITY ENGINEER.
9. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL APPLY FOR AND SECURE ALL PROPER PERMITS FROM THE APPROPRIATE AUTHORITIES.

1. IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U. S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, ALL TRENCHES OVER 5 FEET IN DEPTH IN EITHER HARD AND COMPACT OR SOFT AND UNSTABLE SOIL SHALL BE SLOPED, SHORED, SHEETED, BRACED OR OTHERWISE SUPPORTED. FURTHERMORE, ALL TRENCHES LESS THAN 5 FEET IN DEPTH SHALL ALSO BE EFFECTIVELY PROTECTED WHEN HAZARDOUS GROUND MOVEMENT MAY BE EXPECTED. TRENCH SAFETY SYSTEMS TO BE UTILIZED FOR THIS PROJECT (WILL BE PROVIDED BY THE CONTRACTOR)
2. IN ACCORDANCE WITH THE U. S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, WHEN PERSONS ARE IN TRENCHES 4-FEET DEEP OR MORE, ADEQUATE MEANS OF EXIT, SUCH AS A LADDER OR STEPS, MUST BE PROVIDED AND LOCATED SO AS TO REQUIRE NO MORE THAN 25 FEET OF LATERAL TRAVEL.
3. IF TRENCH SAFETY SYSTEM DETAILS WERE NOT PROVIDED IN THE PLANS BECAUSE TRENCHES WERE ANTICIPATED TO BE LESS THAN 5 FEET IN DEPTH AND DURING CONSTRUCTION IT IS FOUND THAT TRENCHES ARE IN FACT 5 FEET OR MORE IN DEPTH OR TRENCHES LESS THAN 5 FEET IN DEPTH ARE IN AN AREA WHERE HAZARDOUS GROUND MOVEMENT IS EXPECTED, ALL CONSTRUCTION SHALL CEASE, THE TRENCHED AREA SHALL BE BARRICADED AND THE ENGINEER NOTIFIED IMMEDIATELY. CONSTRUCTION SHALL NOT RESUME UNTIL APPROPRIATE TRENCH SAFETY SYSTEM DETAILS, AS DESIGNED BY A PROFESSIONAL ENGINEER, ARE RETAINED AND COPIES SUBMITTED TO WILLIAMSON COUNTY.

1. ALL TESTING SHALL BE DONE BY AN INDEPENDENT LABORATORY AT THE OWNER'S EXPENSE. ANY RETESTING SHALL BE PAID FOR BY THE CONTRACTOR. A CITY INSPECTOR SHALL BE PRESENT DURING ALL TESTS. TESTING SHALL BE COORDINATED WITH THE COUNTY INSPECTOR AND HE SHALL BE GIVEN A MINIMUM OF 24 HOURS NOTICE PRIOR TO ANY TESTING. TELEPHONE (612) 943-3367 (INSPECTIONS).
2. BACKFILL BEHIND THE CURB SHALL BE COMPACTED TO OBTAIN A MINIMUM OF 95% MAXIMUM DENSITY TO WITHIN 3" OF TOP OF CURB. MATERIAL USED SHALL BE PRIMARILY GRANULAR WITH NO ROCKS LARGER THAN 6" IN THE GREATEST DIMENSION. THE REMAINING 3" SHALL BE CLEAN TOPSOIL FREE FROM ALL CLODS AND SUITABLE FOR SUSTAINING PLANT LIFE.
3. DEPTH OF COVER FOR ALL CROSSINGS UNDER PAVEMENT INCLUDING GAS, ELECTRIC, TELEPHONE, CABLE TV, WATER SERVICES, ETC., SHALL BE A MINIMUM OF 30" BELOW SUBGRADE.
4. BARRICADES BUILT TO WILLIAMSON COUNTY STANDARDS SHALL BE CONSTRUCTED ON ALL DEAD-END STREETS AND AS NECESSARY DURING CONSTRUCTION TO MAINTAIN JOB AND PUBLIC SAFETY.
5. ALL R.C.P. SHALL BE MINIMUM CLASS III.
6. THE SUBGRADE MATERIAL IN ATLAS RANCH PHASE 1 WAS TESTED BY MLA GEOTECHNICAL ON NOVEMBER 18, 2023 AND THE PAVING SECTIONS DESIGNED IN ACCORDANCE WITH THE CURRENT WILLIAMSON COUNTY DESIGN CRITERIA AND PRESENTED IN THE APPROVED REPORT DATED APRIL 2024. THE PAVING SECTIONS ARE TO BE CONSTRUCTED AS FOLLOWS:

SHOULD SOLID ROCK BE ENCOUNTERED PRIOR TO THE DEPTH NECESSARY FOR THE 12.0 INCHES AND 14.0 INCHES OF BASE MATERIAL SHOWN ABOVE, THE BASE MATERIAL THICKNESS MAY BE REDUCED TO 8.0 INCHES AND 10.0 INCHES, RESPECTIVELY, AND EXISTING MATERIAL SHALL BE EXCAVATED TO THE EXPOSED ROCK. IT SHOULD BE NOTED PER WILLIAMSON COUNTY SUBDIVISION REGULATIONS SOLID ROCK MUST BE INTACT, UNDISTURBED, AND CONTINUOUS LIMESTONE - WEATHERED LIMESTONE IS NOT CONSIDERED SOLID ROCK. THESE AREAS SHOULD BE DETERMINED IN THE FIELD AT THE DIRECTION OF A REPRESENTATIVE OF MLA GEOTECHNICAL.

7. THE GEOTECHNICAL ENGINEER SHALL INSPECT THE SUBGRADE FOR COMPLIANCE WITH THE DESIGN ASSUMPTIONS MADE DURING PREPARATION OF THE SOILS REPORT. ANY ADJUSTMENTS THAT ARE REQUIRED SHALL BE MADE THROUGH REVISION OF THE CONSTRUCTION PLANS.
8. FILL ASSOCIATED WITH A GRAVEL PIT/QUARRY OPERATION WAS DISCOVERED ON THIS SITE. THE FILL IS PREVALENT THROUGHOUT THE SITE AND RANGES IN DEPTH UP TO APPROXIMATELY 10 FEET DEEP. EXISTING FILL IN THE PUBLIC ROW MUST BE ENTIRELY REMOVED AND REPLACED AND COMPACTED IN ACCORDANCE WITH WILLIAMSON COUNTY STANDARDS, AS DESCRIBED IN THE APPROVED GEOTECHNICAL REPORT. FILL DEPTHS MAY BE TAKEN FROM THE LOGS OF BORINGS AND PLAN OF BORINGS FOUND IN APPENDIX A. WHERE RESIDENTIAL LOTS ARE TO BE CONSTRUCTED, REMEDIATION OF THE FILL MUST BE PERFORMED IN ACCORDANCE WITH THE "RECOMMENDATIONS-LOT FILL REMEDIATION PRIOR TO FOUNDATION CONSTRUCTION."
9. THE SURFACE CLAYS SHOULD STILL BE TESTED FOR SULFATE REACTION AND A MIX DESIGN SHOULD BE COMPLETED TO DETERMINE THE LIME TYPE, MIXING PROCEDURE, AND CURING CONDITIONS REQUIRED FOR THE PROPOSED SUBGRADE MATERIAL OF THIS SITE. THIS SHOULD BE PERFORMED ONCE THE COMPOSITION OF THE SUBGRADE MATERIAL HAS BEEN DETERMINED AFTER GRADING OPERATIONS.
10. THE SUBGRADE IMPROVEMENT SHOULD BE EXTENDED 3 FEET BEYOND THE BACK OF THE CURB LINE.
11. DELINEATION BETWEEN THESE DIFFERENT PAVEMENT THICKNESS SECTIONS SHOULD BE COMPLETED IN THE FIELD BY OBSERVATION OF OPEN UTILITIES TRENCHES AND THE PAVEMENT SUBGRADE BY THE GEOTECHNICAL ENGINEER OR HIS DESIGNATE. GIVEN THE KNOWN VARIABILITY OF SURFACE SOILS AT THIS SITE, THE GEOTECHNICAL ENGINEER MUST VERIFY THE SUBGRADE BEFORE INSTALLATION OF THE PAVEMENT SYSTEM CAN PROCEED. MULTIPLE SITE VISITS MAY BE REQUIRED DEPENDING UPON THE CONSTRUCTION SCHEDULE. FINALIZED DISTINCTION BETWEEN PAVEMENT THICKNESS SECTION OPTIONS SHALL BE PROVIDED AS ADDENDUMS TO THIS REPORT AS THESE OBSERVATIONS ARE COMPLETED. PLEASE CONTACT THE GEOTECHNICAL ENGINEER WHEN THE UTILITY TRENCHES ARE OPEN.
12. THESE PAVEMENT THICKNESS DESIGNS ARE INTENDED TO TRANSFER THE LOAD FROM THE ANTICIPATED TRAFFIC CONDITIONS.
13. THE RESPONSIBILITY OF ASSIGNING STREET CLASSIFICATION TO THE STREETS IN THIS PROJECT IS LEFT TO THE CIVIL ENGINEER.
14. IF PAVEMENT DESIGNS OTHER THAN THOSE LISTED ABOVE ARE DESIRED, PLEASE CONTACT MLA GEOTECHNICAL.
15. CONTRACTOR IS TO AVOID INSTALLATION OF UTILITIES, IRRIGATION LINES, PLANTINGS, SILT FENCE, ETC. IN THE BASE OVERBUILD.
16. THE BASE SHOULD EXTEND 18 INCHES BEHIND THE CURB LINE EXCEPT IN AREAS WHERE DEEPLY DEPOSITED HIGH PI SUBGRADE IS ENCOUNTERED. IN THESE AREAS BASE SHOULD EXTEND 36 INCHES BEYOND THE CURB LINE.

1. ALL PAVEMENT MARKINGS, MARKERS, PAINT, TRAFFIC BUTTONS, TRAFFIC CONTROLS AND SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITIONS.

17. EROSION CONTROL MEASURES, SITE WORK AND RESTORATION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF ROUND ROCK EROSION AND SEDIMENTATION CONTROL ORDINANCE.
18. ALL SLOPES SHALL BE SODDED OR SEEDED WITH APPROVED GRASS, GRASS MIXTURES OR GROUND COVER SUITABLE TO THE AREA AND SEASON IN WHICH THEY ARE APPLIED.
19. SILT FENCES, ROCK BERMS, SEDIMENTATION BASINS AND SIMILARLY RECOGNIZED TECHNIQUES AND MATERIALS SHALL BE EMPLOYED DURING CONSTRUCTION TO PREVENT POINT SOURCE SEDIMENTATION LOADING OF DOWNSTREAM FACILITIES. SUCH INSTALLATION SHALL BE REGULARLY INSPECTED BY WILLIAMSON COUNTY FOR EFFECTIVENESS. ADDITIONAL MEASURES MAY BE REQUIRED IF, IN THE OPINION OF THE CITY ENGINEER, THEY ARE WARRANTED.
20. ALL TEMPORARY EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL FINAL INSPECTION AND APPROVAL OF THE PROJECT BY THE ENGINEER. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL TEMPORARY EROSION CONTROL STRUCTURES AND TO REMOVE EACH STRUCTURE AS APPROVED BY THE ENGINEER.
21. ALL MUD, DIRT, ROCKS, DEBRIS, ETC., SPILLED, TRACKED OR OTHERWISE DEPOSITED ON EXISTING PAVED STREETS, DRIVES AND AREAS USED BY THE PUBLIC SHALL BE CLEANED UP IMMEDIATELY.

1. THIS ORGANIZED SEWAGE COLLECTION SYSTEM (SCS) MUST BE CONSTRUCTED IN ACCORDANCE WITH 30 TEXAS ADMINISTRATIVE CODE (TAC) §213.5(c), THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) EDWARDS AQUIFER RULES AND ANY LOCAL GOVERNMENT STANDARD SPECIFICATIONS.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROPOSED REGULATED PROJECT MUST BE PROVIDED WITH COPIES OF THE SCS PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS MUST BE REQUIRED TO KEEP ON-SITE COPIES OF THE PLAN AND THE APPROVED 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. 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 TCOE 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 SOURING 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.

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 SEWER LINES DEViate FROM STRAIGHT ALIGNMENT AND UNIFORM GRADE ALL CURVATURE OF SEWER PIPE MUST BE ACHIEVED BY THE FOLLOWING PROCEDURE WHICH IS RECOMMENDED BY THE PIPE MANUFACTURER. NOT APPLICABLE

IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE USED:p NOT APPLICABLE

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

12. NEW SEWAGE COLLECTION SYSTEM LINES MUST BE CONSTRUCTED WITH STUB OUTS FOR THE CONNECTION OF ANTICIPATED EXTENSIONS. THE LOCATION OF SUCH STUB OUTS MUST BE MARKED ON THE GROUND SUCH THAT THEIR LOCATION CAN BE EASILY DETERMINED AT THE TIME OF CONNECTION OF THE EXTENSIONS. SUCH STUB OUTS MUST BE MANUFACTURED WYES OR TEES THAT ARE COMPATIBLE IN SIZE AND MATERIAL WITH BOTH THE SEWER LINE AND THE EXTENSION. AT THE TIME OF ORIGINAL CONSTRUCTION, NEW STUB-OUTS MUST BE CONSTRUCTED SUFFICIENTLY TO EXTEND BEYOND THE END OF THE STREET PAVEMENT. ALL STUB-OUTS MUST BE SUBMITTED WITH A MANUFACTURED SADDLE AND AN ACCEPTED PLUMBING TECHNIQUE. IF A STUB-OUT IS PRESENT AT 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 80 OF 91. (FOR FUTURE POTENTIAL LATERALS).

THE PRIVATE SERVICE LATERAL STUB-OUTS MUST BE INSTALLED AS SHOWN ON THE PLAN AND PROFILE SHEETS ON PLAN SHEET 62 OF 91 AND MARKED AFTER BACKFILLING AS SHOWN IN THE DETAIL ON PLAN SHEET 80 OF 91 (NOT APPLICABLE).

13. TRENCING, BEDDING AND BACKFILL MUST CONFORM WITH 30 TAC §217.54. THE BEDDING AND BACKFILL FOR FLEXIBLE PIPE MUST COMPLY WITH THE STANDARDS OF ASTM D-2321, CLASSES IA, IB, II OR III. RIGID PIPE BEDDING MUST COMPLY WITH THE REQUIREMENTS OF ASTM C 12 (ANSI A 106.2) CLASSES A, B, OR C.
14. SEWER LINES MUST BE TESTED FROM MANHOLE TO MANHOLE. WHEN A NEW SEWER LINE IS CONNECTED TO AN EXISTING STUB OR CLEAN-OUT, IT MUST BE TESTED FROM EXISTING MANHOLE TO NEW MANHOLE. IF A STUB OR CLEAN-OUT IS USED AT THE END OF THE PROPOSED SEWER LINE, NO PRIVATE SERVICE ATTACHMENTS MAY BE CONNECTED BETWEEN THE LAST MANHOLE AND THE CLEANOUT UNLESS IT CAN BE CERTIFIED AS CONFORMING WITH THE PROVISIONS OF 30 TAC §213.5(c)(3)(E).
15. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH 30 TAC §217.57. THE ENGINEER MUST RETAIN COPIES OF ALL TEST RESULTS WHICH MUST BE MADE AVAILABLE TO THE EXECUTIVE DIRECTOR UPON REQUEST. THE ENGINEER MUST CERTIFY IN WRITING THAT ALL WASTEWATER LINES HAVE PASSED ALL REQUIRED TESTING TO THE APPROPRIATE REGIONAL OFFICE WITHIN 30 DAYS OF TEST COMPLETION AND PRIOR TO USE OF THE NEW COLLECTION SYSTEM. TESTING METHOD WILL BE:
- (A) FOR A COLLECTION SYSTEM PIPE THAT WILL TRANSPORT WASTEWATER BY GRAVITY FLOW, THE DESIGN MUST SPECIFY AN INFILTRATION AND EXFILTRATION TEST OR A LOW-PRESSURE AIR TEST. A TEST MUST CONFORM TO THE FOLLOWING REQUIREMENTS:
1. LOW PRESSURE AIR TEST.
    - a. A LOW PRESSURE AIR TEST MUST FOLLOW THE PROCEDURES DESCRIBED IN AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C-828, ASTM C-924, OR ASTM F-1417 OR OTHER PROCEDURE APPROVED BY THE EXECUTIVE DIRECTOR, EXCEPT AS TO TESTING TIMES AS REQUIRED IN TABLE C.3 IN SUBPARAGRAPH (C) OF THIS PARAGRAPH OR EQUATION C.3 IN SUBPARAGRAPH (B)(II) OF THIS PARAGRAPH.
    - b. FOR SECTIONS OF COLLECTION SYSTEM PIPE LESS THAN 36 INCH AVERAGE INSIDE DIAMETER, THE FOLLOWING PROCEDURE MUST APPLY, UNLESS A PIPE IS TO BE TESTED AS REQUIRED BY PARAGRAPH (2) OF THIS SUBSECTION.
  - i. A PIPE MUST BE PRESSURIZED TO 3.5 POUNDS PER SQUARE INCH (PSI) GREATER THAN THE PRESSURE EXERTED BY GROUNDWATER ABOVE THE PIPE.
  - ii. ONCE THE PRESSURE IS STABILIZED, THE MINIMUM TIME ALLOWABLE FOR THE PRESSURE TO DROP FROM 3.5 PSI GAUGE TO 2.5 PSI GAUGE IS COMPUTED FROM THE FOLLOWING EQUATION:

T = TIME FOR PRESSURE TO DROP 1.0 POUND PER SQUARE INCH GAUGE IN SECONDS  
K = 0.00419 X D X L, BUT NOT LESS THAN 1.0  
D = AVERAGE INSIDE PIPE DIAMETER IN INCHES  
L = LENGTH OF LINE OF SAME SIZE BEING TESTED, IN FEET  
Q = RATE OF LOSS, 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE

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

- a. AN OWNER MAY STOP A TEST IF NO PRESSURE LOSS HAS OCCURRED DURING THE FIRST 25% OF THE CALCULATED TESTING TIME.
- f. IF ANY PRESSURE LOSS OR LEAKAGE HAS OCCURRED DURING THE FIRST 25% OF A TESTING PERIOD, THEN THE TEST MUST CONTINUE FOR THE ENTIRE TEST DURATION AS OUTLINED ABOVE OR UNTIL FAILURE.
- 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 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 FLOODPLAIN, 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.

- (B) IF A GRAVITY COLLECTION PIPE IS COMPOSED OF FLEXIBLE PIPE, DEFLECTION TESTING IS ALSO REQUIRED. THE FOLLOWING PROCEDURES MUST BE FOLLOWED:
1. FOR A COLLECTION PIPE WITH INSIDE DIAMETER LESS THAN 27 INCHES, DEFLECTION MEASUREMENT REQUIRES A RIGID MANDREL.
    - a. MANDREL SIZING
      - i. A RIGID MANDREL MUST HAVE AN OUTSIDE DIAMETER (OD) NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER (ID) OR AVERAGE ID OF A PIPE, AS SPECIFIED IN THE APPROPRIATE STANDARD BY THE ASTMs, AMERICAN WATER WORKS ASSOCIATION, UNI-BELL, OR AMERICAN NATIONAL STANDARDS INSTITUTE, OR ANY RELATED APPENDIX.
    - ii. IF A MANDREL SIZING DIAMETER IS NOT SPECIFIED IN THE APPROPRIATE STANDARD, THE MANDREL MUST HAVE AN OD EQUAL TO 95% OF THE ID OF A PIPE. IN THIS CASE, THE ID OF THE PIPE, FOR THE PURPOSE OF DETERMINING THE OD OF THE MANDREL, MUST EQUAL BE THE AVERAGE OUTSIDE DIAMETER MINUS TWO MINIMUM WALL 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 OPTIONS
      - i. AN ADJUSTABLE OR FLEXIBLE MANDREL IS PROHIBITED.
      - ii. A TEST MAY NOT USE TELEVISION INSPECTION AS A SUBSTITUTE FOR A DEFLECTION TEST.
      - iii. IF REQUESTED, THE EXECUTIVE DIRECTOR MAY APPROVE THE USE OF A DEFLECTOMETER OR A MANDREL WITH REMOVABLE LEGS OR RUNNERS ON A CASE-BY-CASE BASIS.
  2. FOR A GRAVITY COLLECTION SYSTEM PIPE WITH AN INSIDE DIAMETER 27 INCHES AND GREATER, OTHER TEST METHODS MAY BE USED TO DETERMINE VERTICAL DEFLECTION.
    3. A DEFLECTION TEST METHOD MUST BE ACCURATE TO WITHIN PLUS OR MINUS 0.2% DEFLECTION.
    4. AN OWNER SHALL NOT CONDUCT A DEFLECTION TEST UNTIL AT LEAST 30 DAYS AFTER THE FINAL BACKFILL.
    5. GRAVITY COLLECTION SYSTEM PIPE DEFLECTION MUST NOT EXCEED FIVE PERCENT (5%).
    6. IF A PIPE SECTION FAILS A DEFLECTION TEST, AN OWNER SHALL CORRECT THE PROBLEM AND CONDUCT A SECOND TEST AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS.
16. ALL MANHOLES MUST BE TESTED TO MEET OR EXCEED THE REQUIREMENTS OF 30 TAC §217.58.
- A. ALL MANHOLES MUST PASS A LEAKAGE TEST.
  - B. AN OWNER SHALL TEST EACH MANHOLE (AFTER ASSEMBLY AND BACKFILLING) FOR LEAKAGE, SEPARATE AND INDEPENDENT OF THE COLLECTION SYSTEM PIPES, BY HYDROSTATIC EXFILTRATION TESTING, VACUUM TESTING, OR OTHER METHOD APPROVED BY THE EXECUTIVE DIRECTOR.
    1. HYDROSTATIC TESTING.
      - a. THE MAXIMUM LEAKAGE FOR HYDROSTATIC TESTING OR ANY ALTERNATIVE TEST METHODS IS 0.025 GALLONS PER FOOT DIAMETER PER FOOT OF MANHOLE DEPTH PER HOUR.
      - b. TO PERFORM A HYDROSTATIC EXFILTRATION TEST, AN OWNER SHALL SEAL ALL WASTEWATER PIPES COMING INTO A MANHOLE WITH AN INTERNAL PIPE PLUG, FILL THE MANHOLE WITH WATER, AND MAINTAIN THE TEST FOR AT LEAST ONE HOUR.+
    2. VACUUM TESTING.
      - a. TO PERFORM A VACUUM TEST, AN OWNER SHALL PLUG ALL LIFT HOLES AND EXTERIOR JOINTS WITH A NON-SHRINK GROUT AND PLUG ALL PIPES ENTERING A MANHOLE.
      - b. NO GROUT MUST BE PLACED IN HORIZONTAL JOINTS BEFORE TESTING.
      - c. STUB-OUTS, MANHOLE BOOTS, AND PIPE PLUGS MUST BE SECURED TO PREVENT MOVEMENT WHILE A VACUUM IS DRAWN.
      - d. AN OWNER SHALL USE A MINIMUM 60 INCH-LB TORQUE WRENCH TO TIGHTEN THE EXTERNAL CLAMPS THAT SECURE A TEST COVER TO THE TOP OF A MANHOLE.
      - e. A TEST HEAD MUST BE PLACED AT THE INSIDE OF THE TOP OF A CONE SECTION, AND THE SEAL INFLATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
      - f. THERE MUST BE A VACUUM OF 10 INCHES OF MERCURY INSIDE A MANHOLE TO PERFORM A VALID TEST.
      - g. A TEST DOES NOT BEGIN UNTIL AFTER THE VACUUM PUMP IS OFF.
      - h. A MANHOLE PASSES THE TEST IF AFTER 2.0 MINUTES AND WITH ALL VALVES CLOSED, THE VACUUM IS AT LEAST 9.0 INCHES OF MERCURY.
17. ALL PRIVATE SERVICE LATERALS MUST BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH 30 TAC §213.5(c)(3)(i). AFTER INSTALLATION OF AND PRIOR TO COVERING AND CONNECTING A PRIVATE SERVICE LATERAL TO AN EXISTING ORGANIZED SEWAGE COLLECTION SYSTEM, A TEXAS LICENSED PROFESSIONAL ENGINEER, TEXAS REGISTERED SANITARIAN, OR APPROPRIATE CITY INSPECTOR MUST VISUALLY INSPECT THE PRIVATE SERVICE LATERAL AND THE CONNECTION TO THE SEWAGE COLLECTION SYSTEM, AND CERTIFY THAT IT IS CONSTRUCTED IN CONFORMITY WITH THE APPLICABLE PROVISIONS OF THIS SECTION. THE OWNER OF THE COLLECTION SYSTEM MUST MAINTAIN SUCH CERTIFICATIONS FOR FIVE YEARS AND FORWARD COPIES TO THE APPROPRIATE REGIONAL OFFICE UPON REQUEST. CONNECTIONS MAY ONLY BE MADE TO AN APPROVED SEWAGE COLLECTION SYSTEM.

Austin Regional Office 12100 Park 35 Circle, Building A Austin, Texas 78753-1808 Phone (512) 339-2929 Fax (512) 339-3795	San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329
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HYDROJECTS\723-ATLAS RANCH\HOLDINGS\11727-ATLAS RANCH\CD\PH1\SEC1\ISHEETS\11727-C COVER.DWG DATE: 8/23/2024 2:22:43 PM BY: KLIND

STORM WATER POLLUTION PREVENTION PLAN (SWPP) GENERAL NOTES

1. ALL CONSTRUCTION ACTIVITIES DISTURBING ONE ACRE OR GREATER MUST OBTAIN STORM WATER DISCHARGE AUTHORIZATION FROM THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ), THROUGH COMPLIANCE WITH TCEQS GENERAL PERMIT #TXR180000. THE PRIMARY CONSTRUCTION SITE OPERATOR (PCSO) MUST PREPARE AND IMPLEMENT AN SWPP THROUGHOUT CONSTRUCTION WHICH INCLUDES THE EROSION AND SEDIMENT CONTROL (ESC) PLAN AND OTHER BEST MANAGEMENT PRACTICES (BMPs) SPECIFIED IN THESE PLANS APPROVED BY TRAVIS COUNTY.
2. SMALL CONSTRUCTION ACTIVITIES DISTURBING BETWEEN ONE AND FIVE ACRES SHALL POST A TCEQ CONSTRUCTION SITE NOTICE (CSN) ON SITE PRIOR TO COMMENCING CONSTRUCTION. LARGE CONSTRUCTION ACTIVITIES DISTURBING FIVE ACRES OR GREATER SHALL SUBMIT A NOTICE OF INTENT (NOI) TO TCEQ AND POST THE NOI ON SITE AT LEAST SEVEN (7) DAYS PRIOR TO BEGINNING CONSTRUCTION. NOTICES POSTED MUST BE MAINTAINED THROUGHOUT CONSTRUCTION.
3. THE PCSO MUST REVISE THE SWPP WHENEVER CHANGING SITE CONDITIONS, OR A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE HAS A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS NOT PREVIOUSLY ADDRESSED, OR WHEN RESULTS OF INSPECTIONS BY SITE OPERATORS, TRAVIS COUNTY, TCEQ, OR OTHER LOCAL AGENCY AUTHORIZED TO APPROVE ESC PLANS INDICATE THE SWPP IS PROVING INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANTS IN DISCHARGES FROM THE SITE.
4. TEMPORARY OR PERMANENT EROSION CONTROL AND STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE, AND AS SPECIFIED ON THE PLANS, IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. THESE MEASURES MUST BE INITIATED NO LATER THAN 14 DAYS AFTER CESSATION, UNLESS CONSTRUCTION ACTIVITIES WILL RESUME WITHIN 21 DAYS IN THE AREA.
5. UPON FINAL STABILIZATION OF THE ENTIRE SITE, INCLUDING COMPLETION OF ALL STABILIZATION REQUIREMENTS OF THE APPROVED PLANS AND PERMIT AS VERIFIED BY WILLIAMSON COUNTY, THE PCSO SHALL SUBMIT A NOTICE OF TERMINATION (NOTI) TO TCEQ.

UTILITY COMPANY CONTACT NUMBERS:

<b>BARTLETT ELECTRIC</b> FOR PRE-CONSTRUCTION MEETINGS CALL 254-527-3551 FOR UTILITY LINE LOCATION CALL 311.	<b>AT&amp;T</b> FOR PRE-CONSTRUCTION MEETINGS CALL 370-1000. FOR UTILITY LINE LOCATION CALL 370-1000.
<b>TIME WARNER CABLE</b> FOR PRE-CONSTRUCTION MEETINGS CALL 485-6433. FOR UTILITY LINE LOCATION CALL 485-6356.	<b>ATLAS RANCH MUNICIPAL UTILITY DISTRICT NO. 1</b> FOR PRE-CONSTRUCTION MEETINGS CALL 512-989-2200.

WILLIAMSON COUNTY NOTES:

B4 CONSTRUCTION-GENERAL

- B4.1 A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED PRIOR TO THE START OF CONSTRUCTION. THE DESIGN ENGINEER, OWNER, CONTRACTOR, SUB-CONTRACTORS, AND COUNTY ENGINEER SHALL ATTEND THIS MEETING. ALL ROADS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AS APPROVED BY THE COUNTY ENGINEER AND IN ACCORDANCE WITH THE SPECIFICATIONS FOUND IN THE CURRENT VERSION OF THE TEXAS DEPARTMENT OF TRANSPORTATION MANUAL STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES UNLESS OTHERWISE STATED ON THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER.
- B4.2 ALL MATERIALS SHALL BE SAMPLED AND TESTED BY AN INDEPENDENT TESTING LABORATORY IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER. THE OWNER SHALL PAY FOR ALL TESTING SERVICES AND SHALL FURNISH THE COUNTY ENGINEER WITH CERTIFIED COPIES OF THESE TEST RESULTS. THE COUNTY ENGINEER MUST APPROVE THE TEST RESULTS PRIOR TO CONSTRUCTING THE NEXT COURSE OF THE ROADWAY STRUCTURE. ANY MATERIAL WHICH DOES NOT MEET THE MINIMUM REQUIRED TEST SPECIFICATIONS SHALL BE REMOVED AND RECOMPACTED OR REPLACED UNLESS ALTERNATIVE REMEDIAL ACTION IS APPROVED IN WRITING FROM THE COUNTY ENGINEER.
- B4.3 EXCEPT FOR ELECTRICAL LINES, ALL UNDERGROUND NONFERROUS UTILITIES WITHIN A RIGHT-OF-WAY OR EASEMENT MUST BE ACCOMPANIED BY FERROUS METAL LINES TO AID IN TRACING THE LOCATION OF SAID UTILITIES THROUGH THE USE OF A METAL DETECTOR.
- B4.4 ALL PAVEMENTS ARE TO BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER. THE DESIGN SHALL BE BASED ON A 20-YEAR DESIGN LIFE AND IN CONJUNCTION WITH RECOMMENDATIONS BASED UPON A SOILS REPORT OF SAMPLES TAKEN ALONG THE PROPOSED ROADWAYS. TEST BORINGS SHALL BE PLACED AT A MAXIMUM SPACING OF 500 FEET OR OTHER SAMPLING FREQUENCY APPROVED BY THE COUNTY ENGINEER BASED ON RECOMMENDATIONS PROVIDED BY THE GEOTECHNICAL ENGINEER. THE SOILS REPORT AND PAVEMENT DESIGN SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR REVIEW. THE PAVEMENT DESIGN MUST BE APPROVED BY THE COUNTY ENGINEER PRIOR TO OR CONCURRENTLY WITH THE REVIEW AND APPROVAL OF THE CONSTRUCTION PLANS. IN ADDITION TO THE BASIS OF THE PAVEMENT DESIGN, THE SOILS REPORT SHALL CONTAIN THE RESULTS OF SAMPLED AND TESTED SUBGRADE FOR PLASTICITY INDEX, PH, SULFATE CONTENT, AND MAXIMUM DENSITY.

B5 SUBGRADE

- B5.1 THE PREPARATION OF THE SUBGRADE SHALL FOLLOW GOOD ENGINEERING PRACTICES AS DIRECTED BY THE COUNTY ENGINEER IN CONJUNCTION WITH RECOMMENDATIONS OUTLINED IN THE GEOTECHNICAL REPORT. WHEN THE PLASTICITY INDEX (PI) IS GREATER THAN 20, A SUFFICIENT AMOUNT OF LIME SHALL BE ADDED AS DESCRIBED IN ITEM 260 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION UNTIL THE PI IS LESS THAN 20. IF THE ADDITION OF LIME AS DESCRIBED IN ITEM 260 IS NOT FEASIBLE, AN ALTERNATE STABILIZING DESIGN SHALL BE PROPOSED AND SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL. THE SUBGRADE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A DRY DENSITY 132. IN ADDITION, PROOF ROLLING MAY BE REQUIRED BY THE COUNTY ENGINEER.
- B5.2 IF LIME IS NECESSARY, THEN A SUFFICIENT AMOUNT OF LIME SHALL BE ADDED, AS DESCRIBED IN ITEM 260 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION TO PROPERLY STABILIZE SUBGRADE. THE USE OF HYDRATED LIME OR LIME SLURRY IS APPROVED; HOWEVER, THE USE OF PELLETIZED LIME IS NOT APPROVED.
- B5.3 PRIOR TO LIME STABILIZATION, A SULFATE TEST OF IN SITU SOILS SHALL BE PERFORMED BY DEVELOPER TO CONFIRM THE APPROPRIATE MEANS AND METHODS OF STABILIZATION. PROVIDE SULFATE TEST TO COUNTY ENGINEER PRIOR TO STABILIZATION.
- B5.4 ANY VARIATION TO THE COUNTY'S STABILIZATION REQUIREMENTS MUST BE APPROVED BY THE COUNTY ENGINEER.
- B5.5 THE SUBGRADE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A DRY DENSITY PER TXDOT ITEM 132. IN ADDITION, PROOF ROLLING MAY BE REQUIRED BY THE COUNTY ENGINEER.
- B5.6 THE SUBGRADE SHALL BE INSPECTED AND APPROVED BY AND INDEPENDENT TESTING LABORATORY AND A CERTIFIED COPY OF ALL INSPECTION REPORTS FURNISHED TO THE COUNTY ENGINEER, WHO MUST APPROVE THE REPORT PRIOR TO APPLICATION OF THE BASE MATERIAL. ALL DENSITY TEST REPORTS SHALL INCLUDE A COPY OF THE WORK SHEET SHOWING THE PERCENTAGE OF THE MAXIMUM DRY (PROCTOR) DENSITY. THE NUMBER AND LOCATION OF ALL SUBGRADE TESTS SHALL BE DETERMINED BY THE COUNTY ENGINEER.

B6 BASE MATERIAL

- B6.1 BASE MATERIAL SHALL CONFORM TO ITEM 247 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATION FOR CONSTRUCTION, "FLEXIBLE BASE". THE BASE MATERIAL SHALL BE TYPE A GRADE 4, OR AS APPROVED BY THE COUNTY ENGINEER. GRADE 4 MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF TABLE B6.1 BELOW:

MASTER GRADATION	SIEVE SIZE	CUMULATIVE % RETAINED
2 1/2"		—
1 3/4"		0
3/8"		10%–35%
3/8"		30%–65%
#4		45%–75%
#40		70%–90%
#200		87%–95%

- B6.2 EACH LAYER OF BASE COURSE SHALL BE TESTED FOR IN-PLACE DRY DENSITY AND MEASURED FOR COMPACTED THICKNESS. THE NUMBER AND LOCATION OF ALL BASE TEST SAMPLES SHALL BE DETERMINED BY THE COUNTY ENGINEER.
- B6.3 THE BASE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A MINIMUM OF 100% OF THE MAXIMUM (PROCTOR) DRY DENSITY OR AS APPROVED BY THE COUNTY ENGINEER UPON RECOMMENDATION BY THE TESTING LABORATORY. THE MAXIMUM LIFT SHALL NOT EXCEED SIX INCHES. THE BASE MUST BE INSPECTED AND APPROVED BY AN INDEPENDENT TESTING LABORATORY AND A CERTIFIED COPY OF THE TEST RESULTS FURNISHED TO THE COUNTY ENGINEER FOR APPROVAL. PRIOR TO THE PLACEMENT OF THE FIRST LIFT OF BASE, THE STOCKPILE SHALL BE TESTED FOR THE SPECIFICATIONS FOUND IN ITEM 247 TABLE 1 AND THE RESULT FURNISHED TO THE COUNTY ENGINEER FOR APPROVAL.
- B7 BITUMINOUS PAVEMENT
- B7.1 URBAN ROADS REQUIRE A MINIMUM 2 INCHES WEARING SURFACE OF TXDOT HMAc TYPE D. THE MIX SHALL BE FROM A TXDOT CERTIFIED PLANT AND THE MIX DESIGN SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF THE MATERIAL.
- B7.2 IF PROVIDING MIXTURE TYPE C OR D, USE PERFORMANCE GRADE (PG) BINDER 70-22. PROVIDE PG BINDER THAT DOES NOT CONTAIN RECYCLED ENGINE OIL BOTTOMS (REOBS) OR POLY PHOSPHORIC ACID (PPA). RECYCLED ASPHALT PAVEMENT (RAP) IS NOT PERMITTED FOR USE AS A COMPONENT OF THE HMAc. THE CONTRACTOR IS ALSO NOT PERMITTED THE USE RECYCLED ASPHALT SHINGLES (RAS) AS A COMPONENT OF THE HMAc.
- B7.3 IF PROVIDING MIXTURE TYPE B, USE PG BINDER 64-22. PROVIDE PG BINDERS THAT DO NOT CONTAIN REOBS OR PPA. FOR SUBSURFACE COURSE TYPE B, THE USE OF TWENTY PERCENT (20%) RAP IS PERMITTED IN THE MIX DESIGN. THE CONTRACTOR IS NOT PERMITTED TO USE RAS AS A COMPONENT OF THE HMAc.
- B7.4 TARGET LABORATORY MOLDED DENSITY IS 96.5% FOR ALL MIXTURES WITHOUT RAP AND WHEN USING A TEXAS GYRATORY COMPACTOR (TGC) FOR DESIGNING THE MIXTURE. WHEN USING SUPERPAVE GYRATORY COMPACTOR TO DESIGN MIXTURES, SUBMIT THE (SGC) MIX DESIGN TO THE ENGINEER FOR APPROVAL.
- B7.5 ALL MIXTURES MUST MEET THE HAMBURG REQUIREMENT AS STATED IN THE TABLE BELOW.

HIGH-TEMPERATURE BINDER GRADE	TEST METHOD	HAMBURG WHEEL TEST REQUIREMENTS*
		MINIMUM # OF PASSES @ 0.5" RUT DEPTH, TESTED @ 122°F
PG 64 OR LOWER	TEX-242-F	7,000
PG 70	TEX-242-F	15,000
PG 76 OR HIGHER	TEX-242-F	20,000

- B7.6 SUBMIT ANY PROPOSED ADJUSTMENTS OR CHANGES TO A JOB MIX FORMULA TO THE COUNTY ENGINEER BEFORE PRODUCTION OF THE NEW JOB MIX FORMULA.
- B7.7 UNLESS OTHERWISE APPROVED, PROVIDE TYPE B MIXTURES THAT HAVE NO LESS THAN 4.5% ASPHALT BINDER, AND TY C AND D MIXTURES WITH NO LESS THAN 4.7% BINDER.
- B7.8 FOR MIXTURE DESIGN VERIFICATION, PROVIDE THE ENGINEER WITH TWO 5-GALLON BUCKETS OF EACH AGGREGATE STOCKPILE TO BE USED ON THE PROJECT AND THREE GALLONS OF EACH PG BINDER TO BE USED ON THE PROJECT. ALSO PROVIDE SUFFICIENT QUANTITIES OF ANY OTHER ADDITIVES THAT WILL BE USED IN THE HMA MIXTURE. THIS MUST BE DONE PRIOR TO APPROVAL OF THE MIX DESIGN, UNLESS ALREADY PERFORMED WITHIN A ONE-YEAR TIME PERIOD.
- B7.9 PRIOR TO ALLOWING PRODUCTION OF THE TRIAL BATCH, THE ENGINEER WILL USE THE MATERIALS PROVIDED BY THE CONTRACTOR TO PERFORM THE FOLLOWING TESTS TO VERIFY THE HMA MIXTURE DESIGN.
- INDIRECT TENSILE TEST IN ACCORDANCE WITH TEX-228-F
  - HAMBURG WHEEL TEST IN ACCORDANCE WITH TEX-242-F
  - OVERLAY TEST IN ACCORDANCE WITH TEX-248-F
  - CANTABRO TEST IN ACCORDANCE WITH TEX-245-F
- FOR MIXTURES DESIGNED WITH A TEXAS GYRATORY COMPACTOR (TGC), THE ENGINEER MAY REQUIRE THAT THE TARGET LABORATORY MOLDED DENSITY BE RAISED TO NO MORE THAN 97.5% OR MAY LOWER THE DESIGN NUMBER OF GYRATIONS TO NO LESS THAN 35 FOR MIXTURES DESIGNED WITH AN SGC IF ANY OF THE FOLLOWING CONDITIONS EXIST.
- THE INDIRECT TENSILE TEST RESULTS IN A VALUE GREATER THAN 200 PSI
  - THE HAMBURG WHEEL TEST RESULTS IN A VALUE LESS THAN 3.0 MM
  - THE OVERLAY TEST RESULTS IN A VALUE LESS THAN 100 CYCLES
  - THE CANTABRO TEST RESULTS IN A VALUE OF MORE THAN 20% LOSS
- IN LIEU OF, OR IN ADDITION TO EVALUATING THE MIXTURE DESIGN PRIOR TO ALLOWING A TRIAL BATCH TO BE PRODUCED, THE ENGINEER MAY ALSO EVALUATE THE MIXTURE PRODUCED DURING THE TRIAL BATCH FOR COMPLIANCE WITH THE 4 TESTS LISTED ABOVE.

- B7.10 CONTRACTOR'S QUALITY CONTROL (CQC) TEST REPORTS SHALL BE SUBMITTED TO THE COUNTY ENGINEER ON A DAILY BASIS. AS A MINIMUM, DAILY CQC TESTING ON THE PRODUCED MIX SHALL INCLUDE: SIEVE ANALYSIS TEX-200-F, ASPHALT CONTENT TEX-210-F, HVEEM STABILITY TEX-208-F, LABORATORY COMPACTED DENSITY TEX-207-F, AND MAXIMUM SPECIFIC GRAVITY TEX-227-F. THE NUMBER AND LOCATION OF ALL HMAc TESTS SHALL BE DETERMINED BY THE COUNTY ENGINEER WITH A MINIMUM OF THREE, 6-INCH DIAMETER FIELD CORES SECURED AND TESTED BY THE CONTRACTOR FROM EACH DAY'S PAVING. EACH HMAc COURSE SHALL BE TESTED FOR IN-PLACE DENSITY, BITUMINOUS CONTENT AND AGGREGATE GRADATION, AND SHALL BE MEASURED FOR COMPACTED THICKNESS. THE NUMBER AND LOCATION OF ALL HMAc TEST SAMPLES SHALL BE DETERMINED BY THE COUNTY ENGINEER.
- B7.11 RURAL ROADS MAY USE EITHER THE SPECIFICATIONS FOUND IN SECTION B7.1 OF A TWO-COURSE SURFACE IN ACCORDANCE WITH ITEM 316, TREATMENT WEARING SURFACE, OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE TYPE AND RATE OF ASPHALT AND AGGREGATE SHALL BE INDICATED ON THE PLANS AS A BASIS OF ESTIMATE AND SHALL BE DETERMINED AT THE PRE-CONSTRUCTION CONFERENCE. AGGREGATE USED IN THE MIX SHALL BE ON THE TXDOT QUALITY MONITORING SCHEDULE. AGGREGATE SHALL BE TYPE B GRADE 4. GRADATION TESTS SHALL BE REQUIRED FOR EACH 300 CUBIC YARDS OF MATERIAL PLACED WITH A MINIMUM OF TWO TESTS PER EACH GRADE PER EACH PROJECT. TEST RESULTS SHALL BE REVIEWED BY THE COUNTY ENGINEER PRIOR TO APPLICATION OF THE MATERIAL.

B8 CONCRETE PAVEMENT

- B8.1 IN LIEU OF BITUMINOUS PAVEMENT, PORTLAND CEMENT CONCRETE PAVEMENT MAY BE USED. IN SUCH CASES, THE PAVEMENT THICKNESS SHALL BE A MINIMUM OF 9 INCHES OF CONCRETE, AND SHALL BE JOINTED AND REINFORCED IN ACCORDANCE WITH THE DETAIL INCLUDED IN APPENDIX I. THE MIX SHALL BE FROM A TXDOT CERTIFIED PLANT. THE MIX DESIGN SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF THE MATERIAL.

B9 CONCRETE - GENERAL

- B9.1 UNLESS OTHERWISE SPECIFIED, CONCRETE SHALL BE IN ACCORDANCE WITH ITEM 421 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND BE PLACED IN ACCORDANCE WITH THE APPLICABLE ITEM.
- B9.2 ALL CONCRETE SHALL BE TESTED FOR COMPRESSIVE STRENGTH. ONE SET OF THREE CONCRETE TEST CYLINDERS SHALL BE MOLDED FOR EVERY 50 CUBIC YARDS OF CONCRETE PLACED FOR EACH CLASS OF CONCRETE PER DAY, OR AT ANY OTHER INTERVAL AS DETERMINED BY THE COUNTY ENGINEER. A SLUMP TEST SHALL BE REQUIRED WITH EACH SET OF TEST CYLINDERS. ONE CYLINDER SHALL BE TESTED FOR COMPRESSIVE STRENGTH AT AN AGE OF SEVEN DAYS AND THE REMAINING TWO CYLINDERS SHALL BE TESTED AT 28 DAYS OF AGE.

TCEQ WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES

1. THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D. WHEN CONFLICTS ARE NOTED WITH LOCAL STANDARDS, THE MORE STRINGENT REQUIREMENT SHALL BE APPLIED. CONSTRUCTION FOR PUBLIC WATER SYSTEMS MUST ALWAYS, AT A MINIMUM, MEET TCEQ'S RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS.
2. AN APPOINTED ENGINEER SHALL NOTIFY IN WRITING THE LOCAL TCEQ'S REGIONAL OFFICE WHEN CONSTRUCTION WILL START. PLEASE KEEP IN MIND THAT UPON COMPLETION OF THE WATER WORKS PROJECT, THE ENGINEER OR OWNER SHALL NOTIFY THE COMMISSION'S WATER SUPPLY DIVISION, IN WRITING, AS TO ITS COMPLETION AND ATTEST TO THE FACT THAT THE WORK HAS BEEN COMPLETED ESSENTIALLY ACCORDING TO THE PLANS AND CHANGE ORDERS ON FILE WITH THE COMMISSION AS REQUIRED IN 30 TAC §290.39(H)(3).
3. ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)/NSF INTERNATIONAL STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI, AS REQUIRED BY 30 TAC §290.44(A)(1).
4. PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NSF INTERNATIONAL SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 150 PSI OR A STANDARD DIMENSION RATIO OF 26 OR LESS, AS REQUIRED BY 30 TAC §290.44(A)(2).
5. NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF DRINKING WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING WATER SUPPLY, AS REQUIRED BY 30 TAC §290.44(A)(3).
6. WATER TRANSMISSION AND DISTRIBUTION LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. HOWEVER, THE TOP OF THE WATER LINE MUST BE LOCATED BELOW THE FROST LINE AND IN NO CASE SHALL THE TOP OF THE WATER LINE BE LESS THAN 24 INCHES BELOW GROUND SURFACE, AS REQUIRED BY 30 TAC §290.44(A)(4). REVISED MARCH 4, 2015
7. PURSUANT TO 30 TAC §290.44(A)(5), THE HYDROSTATIC LEAKAGE RATE SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY THE MOST CURRENT AWWA FORMULAS FOR PVC PIPE, CAST IRON AND DUCTILE IRON PIPE. INCLUDE THE FORMULAS IN THE NOTES ON THE PLANS. O THE HYDROSTATIC LEAKAGE RATE FOR POLYVINYL CHLORIDE (PVC) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-605 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE;
- Q=(LD)P/148,000

WHERE:

- Q = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR,
- L = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,
- D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND
- P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).

O THE HYDROSTATIC LEAKAGE RATE FOR DUCTILE IRON (DI) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-600 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE;

L=(SD)P/148,000P

WHERE:

- L = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR,
- S = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,
- D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND
- P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).

THE MAXIMUM ALLOWABLE LEAD CONTENT OF PIPES, PIPE FITTINGS, PLUMBING FITTINGS, AND FIXTURES TO 0.25 PERCENT.

9. THE SYSTEM MUST BE DESIGNED TO MAINTAIN A MINIMUM PRESSURE OF 35 PSI AT ALL POINTS WITHIN THE DISTRIBUTION NETWORK AT FLOW RATES OF AT LEAST 1.5 GALLONS PER MINUTE PER CONNECTION. WHEN THE SYSTEM IS INTENDED TO PROVIDE FIREFIGHTING CAPABILITY, IT MUST ALSO BE DESIGNED TO MAINTAIN A MINIMUM PRESSURE OF 20 PSI UNDER COMBINED FIRE AND DRINKING WATER FLOW CONDITIONS AS REQUIRED BY 30 TAC §290.44(D). REVISED MARCH 4, 2015
10. THE CONTRACTOR SHALL INSTALL APPROPRIATE AIR RELEASE DEVICES IN THE DISTRIBUTION SYSTEM AT ALL POINTS WHERE TOPOGRAPHY OR OTHER FACTORS MAY CREATE AIR LOCKS IN THE LINES. ALL VENT OPENINGS TO THE ATMOSPHERE SHALL BE COVERED WITH 16-MESH OR FINER, CORROSION RESISTANT SCREENING MATERIAL OR AN ACCEPTABLE EQUIVALENT AS REQUIRED BY 30 TAC §290.44(D)(1).
11. PURSUANT TO 30 TAC §290.44(D)(4), ACCURATE WATER METERS SHALL BE PROVIDED. SERVICE CONNECTIONS AND METER LOCATIONS SHOULD BE SHOWN ON THE PLANS.
12. PURSUANT TO 30 TAC §290.44(D)(5), SUFFICIENT VALVES AND BLOWOFFS TO MAKE REPAIRS. THE ENGINEERING REPORT SHALL ESTABLISH CRITERIA FOR THIS DESIGN.
13. PURSUANT TO 30 TAC §290.44(D)(6), THE SYSTEM SHALL BE DESIGNED TO AFFORD EFFECTIVE CIRCULATION OF WATER WITH A MINIMUM OF DEAD ENDS. ALL DEAD-END MAINS SHALL BE PROVIDED WITH ACCEPTABLE FLUSH VALVES AND DISCHARGE PIPING. ALL DEAD-END LINES LESS THAN TWO INCHES IN DIAMETER WILL NOT REQUIRE FLUSH VALVES IF THEY END AT A CUSTOMER SERVICE, WHERE DEAD ENDS ARE NECESSARY AS A STAGE IN THE GROWTH OF THE SYSTEM, THEY SHALL BE LOCATED AND ARRANGED TO ULTIMATELY CONNECT THE ENDS TO PROVIDE CIRCULATION.
14. THE CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE IN ALL DIRECTIONS OF NINE FEET BETWEEN THE PROPOSED WATERLINE AND WASTEWATER COLLECTION FACILITIES INCLUDING MANHOLES AND SEPTIC TANK DRAINFIELDS. IF THIS DISTANCE CANNOT BE MAINTAINED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT ENGINEER FOR FURTHER DIRECTION. SEPARATION DISTANCES, INSTALLATION METHODS, AND MATERIALS UTILIZED MUST MEET 30 TAC §290.44(E)(1)-OF THE CURRENT RULES.
15. PURSUANT TO 30 TAC §290.44(E)(5), THE SEPARATION DISTANCE FROM A POTABLE WATERLINE TO A WASTEWATER MAIN OR LATERAL MANHOLE OR CLEANOUT SHALL BE A MINIMUM OF NINE FEET. WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE POTABLE WATERLINE SHALL BE ENCASED IN A JOINT OF AT LEAST 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED THE ENCASEMENT PIPE SHALL BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEALANT.
16. PURSUANT TO 30 TAC §290.44(E)(6), FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY WASTEWATER LINE, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE REGARDLESS OF CONSTRUCTION.
17. PURSUANT TO 30 TAC §290.44(E)(7), SUCTION MAINS TO PUMPING EQUIPMENT SHALL NOT CROSS WASTEWATER MAINS, WASTEWATER LATERALS, OR WASTEWATER SERVICE LINES. RAW WATER SUPPLY LINES SHALL NOT BE INSTALLED WITHIN FIVE FEET OF ANY TILE OR CONCRETE WASTEWATER MAIN, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE.
18. PURSUANT TO 30 TAC §290.44(E)(8), WATERLINES SHALL NOT BE INSTALLED CLOSER THAN TEN FEET TO SEPTIC TANK DRAINFIELDS. REVISED MARCH 4, 2015
19. PURSUANT TO 30 TAC §290.44(F)(1), THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION.
20. PURSUANT TO 30 TAC §290.44(F)(2), WHEN WATERLINES ARE LAID UNDER ANY FLOWING OR INTERMITTENT STREAM OR SEMI-PERMANENT BODY OF WATER THE WATER MAIN SHALL BE INSTALLED IN A SEPARATE WATERTIGHT PIPE ENCASEMENT. VALVES MUST BE PROVIDED ON EACH SIDE OF THE CROSSING WITH FACILITIES TO ALLOW THE UNDERWATER PORTION OF THE SYSTEM TO BE ISOLATED AND TESTED.
21. THE CONTRACTOR SHALL DISINFECT THE NEW WATER MAINS IN ACCORDANCE WITH AWWA STANDARD C-651 AND THEN FLUSH AND SAMPLE THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATER LINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER, IN ACCORDANCE WITH 30 TAC §290.44(F)(3).

ATLAS RANCH MUNICIPAL UTILITIES DISTRICT NO.1

1. THE DISTRICT ENGINEER, JONES-HEROY & ASSOCIATES, INC. (KEN HEROY, PH. 512-989-2200) SHALL BE CONTACTED 48 HOURS PRIOR TO:
- PRE-CONSTRUCTION MEETINGS;
  - BEGINNING EACH PHASE OF CONSTRUCTION;
  - TESTING OF WATER AND/OR WASTEWATER LINES; AND,
  - FINAL WALK-THROUGH OF FACILITIES

STREET DESIGN TABLE									
STREET NAME	CLASSIFICATION	DESIGN SPEED	LENGTH	ROW WIDTH	PAVEMENT WIDTH	RURAL/URBAN	MAINTENANCE AUTHORITY	DRANIAGE TYPE	SIDEWALK
WINDGAP DRIVE	MAJOR COLLECTOR	40 MPH	1,700.00	70'	48' F-F	URBAN	PUBLIC	CURB & GUTTER	5' BOTH SIDES
ALEGHENY	LOCAL	25 MPH	649.38	50'	33' F-F	URBAN	PUBLIC	CURB & GUTTER	4' BOTH SIDES
CECIL CIRCLE	LOCAL	25 MPH	1,953.00	50'	33' F-F	URBAN	PUBLIC	CURB & GUTTER	4' BOTH SIDES
DUQUENSE CIRCLE	LOCAL	25 MPH	100.00	50'	33' F-F	URBAN	PUBLIC	CURB & GUTTER	4' BOTH SIDES
FAIRWOOD PLACE	LOCAL	25 MPH	485.00	50'	33' F-F	URBAN	PUBLIC	CURB & GUTTER	4' BOTH SIDES
GLEN HAZEL	ARTERIAL	45 MPH	1,285.27	120'	1 X 27' F-F	URBAN	PUBLIC	CURB & GUTTER	5' ONE SIDE
KNOXVILLE GLEN DRIVE	LOCAL	25 MPH	680.00	50'	33' F-F	URBAN	PUBLIC	CURB & GUTTER	4' BOTH SIDES
MOUNT OLIVER SPUR	LOCAL	25 MPH	396.30	50'	33' F-F	URBAN	PUBLIC	CURB & GUTTER	4' BOTH SIDES
SHADYSIDE DRIVE	LOCAL	25 MPH	1,851.46	50'	33' F-F	URBAN	PUBLIC	CURB & GUTTER	4' BOTH SIDES
VARGO KNOLL	MINOR COLLECTOR	30 MPH	230.00	60'	40' F-F	URBAN	PUBLIC	CURB & GUTTER	4' BOTH SIDES
VARGO KNOLL	LOCAL	25 MPH	775.00	50'	33' F-F	URBAN	PUBLIC	CURB & GUTTER	4' BOTH SIDES
TOTAL LENGTH:			10,105.41						

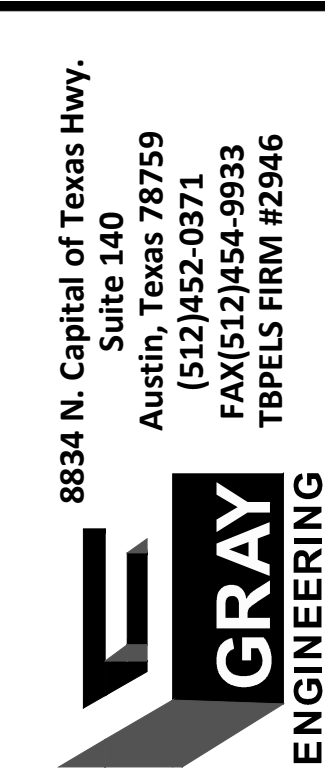
CONSTRUCTION SEQUENCE OF EVENTS

- CALL DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION, DEVELOPMENT ENGINEER CONSTRUCTION INSPECTION AND THE ENVIRONMENTAL AND CONSERVATION SERVICES DEPARTMENT 48 HOURS PRIOR TO BEGINNING ANY WORK. CALL THE ONE CALL CENTER FOR UTILITY LOCATIONS AND OBTAIN PERMIT FOR ANY WORK WITHIN THE CITY OF JERRELL OR WILLIAMSON COUNTY R.O.W. TREE PROTECTION WILL ALSO BE INSTALLED.
- INSTALL TEMPORARY EROSION CONTROL MEASURES AND STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH LOCATIONS AND DETAILS SHOWN ON THE PLANS. PRIOR TO CLEARING AND GRUBBING, NOTIFY WILLIAMSON COUNTY INSPECTORS WHEN EROSION CONTROLS ARE INSTALLED.
- HOLD PRE-CONSTRUCTION CONFERENCE ON SITE WITH THE CONTRACTOR, DESIGN ENGINEER, OWNERS REPRESENTATIVE AND THE CITY'S ENVIRONMENTAL INSPECTOR AFTER INSTALLATION OF THE EROSION/SEDIMENTATION CONTROLS AND PRIOR TO BEGINNING ANY WORK.
- BEGIN CONSTRUCTION OF PROJECT AS FOLLOWS:
  - ROUGH CUT/GRADE STREET, CHANNELS, PONDS, DRAINAGE FACILITIES TO INSURE NO MAJOR DEVIATIONS TO PROPOSED DRAINAGE PATTERNS OCCUR DURING CONSTRUCTION.
  - INSTALL ALL UTILITIES
  - INSTALL ALL CROSSINGS WITHIN STREET RIGHT-OF-WAYS
  - PREPARE SUBGRADE
  - CONSTRUCT STREET BASE
  - INSTALL CURB AND GUTTER
  - COMPLETE ALL ROUGH GRADING AND UNDERGROUND UTILITIES IN STREET RIGHT-OF-WAYS
  - LAY FINAL BASE COURSE
  - LAY ASPHALT
  - COMPLETE ALL NECESSARY FINAL GRADING AND DRESS UP OF AREAS DISTURBED DURING CONSTRUCTION
- HOLD OWNERS POST-CONSTRUCTION CONFERENCE ON SITE WITH THE CONTRACTOR, DESIGN ENGINEER, OWNER'S REPRESENTATIVE AND THE CITY'S ENVIRONMENTAL ENGINEER.
- AFTER ACCEPTANCE OF REVEGETATION BY THE OWNER AND THE CITY'S INSPECTOR, REMOVE TEMPORARY SEDIMENTATION AND EROSION CONTROLS.
- FINAL INSPECTION BY COUNTY AND CITY WITH CONTRACTOR AND ENGINEER.

TCEQ WATER POLLUTION ABATEMENT PLAN GENERAL CONSTRUCTION NOTES:

- 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
- ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN (WPAP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.
- IF ANY SENSITIVE FEATURE(S) (CAVES, SOLUTION CAVITY, SINK HOLE, ETC.) IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES MAY NOT BE RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE APPROPRIATE PROTECTIVE MEASURES IN ORDER TO PROTECT ANY SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.
- 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.
- 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.
- 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.
- SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS NOT LATER THAN WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.
- LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.
- ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.
- IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.
- 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.
- 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:
  - ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;
  - 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;
  - ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

Austin Regional Office 12100 Park 35 Circle, Building A Austin, Texas 78753-1808 Phone (512) 339-2929 Fax (512) 339-3795	San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329
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TXBPELS FRMW #2946

NOTES (SHEET 2 OF 2)

ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX

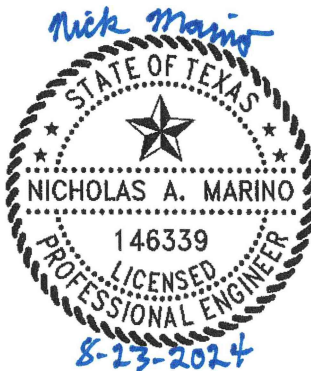
PROJECT NO: 11727

DESIGNED BY: KEL

DRAWN BY: KEL

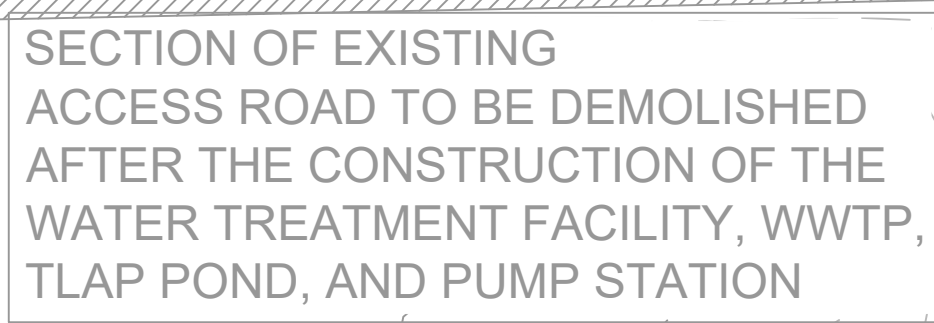
CHECKED BY: RR

NOTICE:  
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WITHOUT PROPER  
NOTIFICATION TO THE  
RESPONSIBLE ENGINEER  
IS A VIOLATION OF THE  
TEXAS ENGINEERING  
PRACTICE ACT.





**MATCHLINE TO SHEET 6**



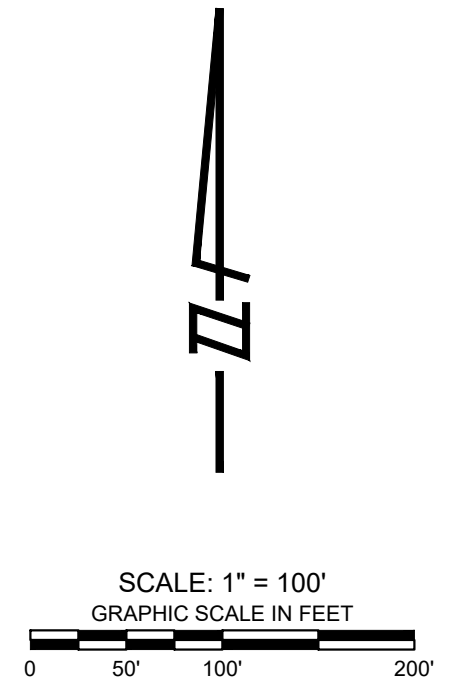
EXISTING ACCESS ROAD

## EXISTING BUILDINGS TO BE REMOVED







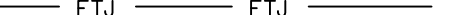



OHE TO BE REMOVED

CONTRACTOR TO REMOVE  
EXCESS MATERIAL

X 773.18  
WELL #2



**LEGEND**

	PROPERTY BOUNDARY
	PHASE BOUNDARY
	EXISTING CONTOUR
	EXISTING CONTOUR
	JARRELL ETJ
	100 YR FEMA FLOODPLAIN
	SALADO CREEK OHWM
	500-YR FLOODPLAIN PER FEMA PANEL 48491C0125F DATED DECEMBER 20, 2019
	TCEQ WPAP BOUNDARY
	SALADO CREEK FEMA FIS 500-YR FLOODPLAIN PER STUDY BY BGE, INC., OCTOBER 2023

**GRAY**  
**ENGINEERING**

8834 N. Capital of Texas Hwy.  
Suite 140  
Austin, Texas 78759  
(512) 452-0371  
FAX (512) 454-9933  
TBP&S FIRM #2946

[illegible]

EXISTING  
CONDITIONS AND  
DEMOLITION PLAN  
(1 OF 2)

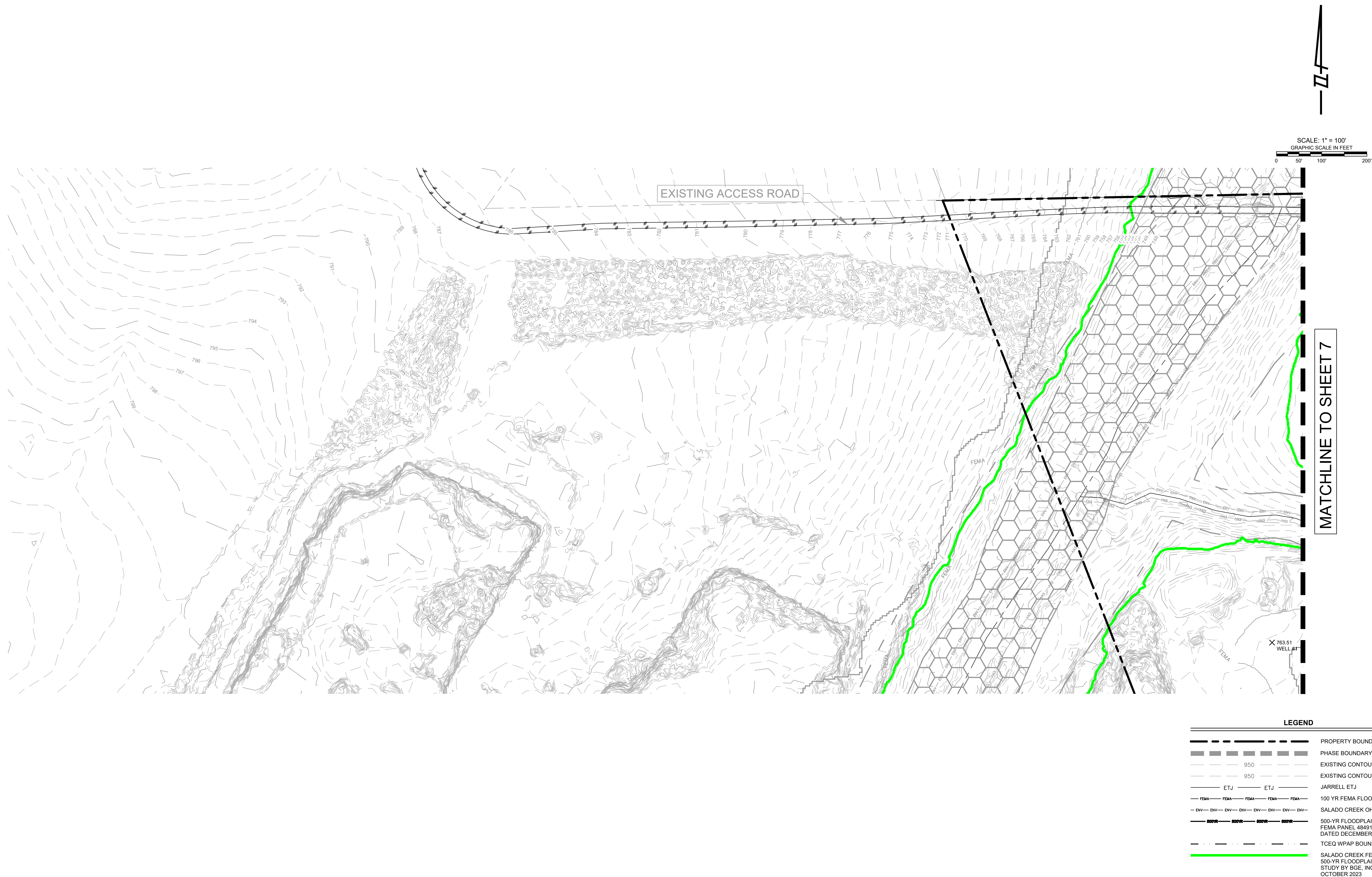
ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX

PROJECT NO: 11727
DESIGNED BY: KEL
DRAWN BY: KEL
CHECKED BY: RR

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MATCHLINE TO SHEET 7

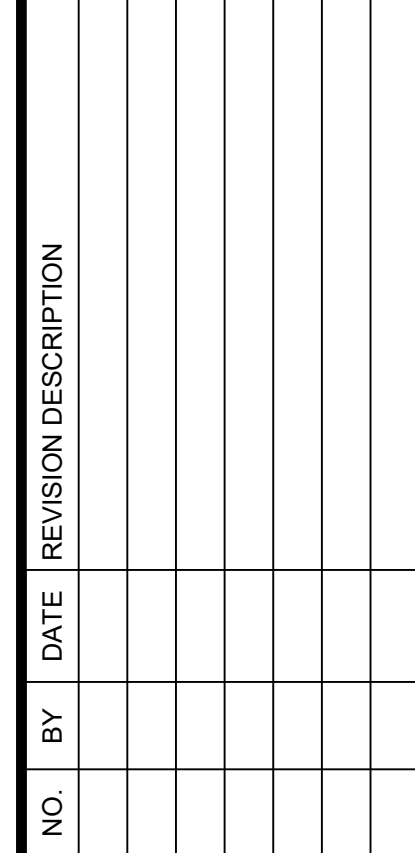
SCALE: 1" = 100'  
GRAPHIC SCALE IN FEET



A horizontal graphic scale bar with alternating black and white segments. Below the bar, numerical labels indicate distances in feet: 50' at the first segment end, 100' at the second segment end, and 200' at the final end.

[illegible]



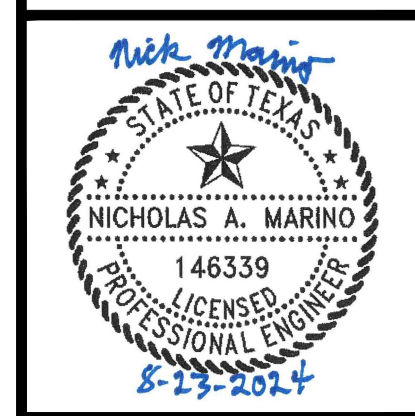


# EXISTING DRAINAGE PLAN

ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX

PROJECT NO: 11727
DESIGNED BY: KEL
DRAWN BY: KEL
CHECKED BY: RR

**NOTICE:**  
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\\PROJECTS\1723-ATLAS RANCH HOLDINGS\11727-ATLAS RANCH\CD\PHASE1\1727-CDRAN-CALC.DWG DATE: 8/29/2024 2:27:34 PM BY: NMA83NO

LAND USE TABLE																	
Condition	Drainage Area	Area (ft²)	Area (Acre)	Width of Street (ft)	Length of Street (ft)	Impervious Area, Street (ft²)	Number of Lots	Impervious Area, Lots (ft²)	Impervious Area (ft²)	Pervious Area (ft²)	Pervious Type	Impervious (%)	Pervious (%)	Runoff Coefficient			
														2 Year	10 Year	25 Year	100 Year
DEVELOPED	A0.1	40,746	0.935	34	160	4,832	4.00	12000	16,832	23,914	Grass (0-2%)	41.31%	58.69%	0.46	0.52	0.56	0.64
DEVELOPED	A0.2	63,310	1.453	34	55	3,450	3.00	9000	12,450	50,860	Grass (0-2%)	19.67%	80.33%	0.35	0.40	0.45	0.52
DEVELOPED	A1	34,375	0.789	34	200	4,200	5.00	15000	19,200	15,175	Grass (0-2%)	55.85%	44.15%	0.53	0.60	0.64	0.72
DEVELOPED	A2	24,445	0.561	34	402	8,442	1.75	5250	13,692	10,753	Grass (0-2%)	56.01%	43.99%	0.53	0.60	0.64	0.72
DEVELOPED	A3	34,000	0.781	34	200	4,200	5.00	15000	19,200	14,800	Grass (0-2%)	56.47%	43.53%	0.53	0.60	0.64	0.73
DEVELOPED	A4	6,350	0.146	34	250	5,250	0.00	0	5,250	1,100	Grass (0-2%)	82.68%	17.32%	0.66	0.74	0.79	0.87
DEVELOPED	A4.5	26,253	0.603	34	250	5,250	3.50	10500	15,750	10,503	Grass (0-2%)	59.99%	40.01%	0.55	0.62	0.66	0.75
DEVELOPED	A5	34,000	0.781	34	200	4,200	5.00	15000	19,200	14,800	Grass (0-2%)	56.47%	43.53%	0.53	0.60	0.64	0.73
DEVELOPED	A5.5	26,500	0.608	34	100	2,100	5.00	15000	17,100	9,400	Grass (0-2%)	64.53%	35.47%	0.57	0.64	0.69	0.77
DEVELOPED	A6	8,000	0.184	34	273	5,733	0.00	0	5,733	2,267	Grass (0-2%)	71.66%	28.34%	0.61	0.68	0.73	0.81
DEVELOPED	A6.5	17,400	0.399	34	270	5,670	2.00	6000	11,670	5,730	Grass (0-2%)	67.07%	32.93%	0.59	0.66	0.70	0.79
DEVELOPED	A7	34,000	0.781	34	200	4,200	5.00	15000	19,200	14,800	Grass (0-2%)	56.47%	43.53%	0.53	0.60	0.64	0.73
DEVELOPED	A8	21,513	0.494	34	343	7,203	2.00	6000	13,203	8,310	Grass (0-2%)	61.37%	38.63%	0.56	0.63	0.67	0.75
DEVELOPED	A8.5	23,700	0.544	34	382	8,022	2.00	6000	14,022	9,678	Grass (0-2%)	59.16%	40.84%	0.55	0.61	0.66	0.74
DEVELOPED	A9	34,000	0.781	34	200	4,200	5.00	15000	19,200	14,800	Grass (0-2%)	56.47%	43.53%	0.53	0.60	0.64	0.73
DEVELOPED	A10	34,000	0.781	34	200	4,200	5.00	15000	19,200	14,800	Grass (0-2%)	56.47%	43.53%	0.53	0.60	0.64	0.73
DEVELOPED	A11	9,630	0.221	34	395	8,295	0.00	0	8,295	1,335	Grass (0-2%)	86.14%	13.86%	0.68	0.76	0.81	0.89
DEVELOPED	A12	34,000	0.781	34	200	4,200	5.00	15000	19,200	14,800	Grass (0-2%)	56.47%	43.53%	0.53	0.60	0.64	0.73
DEVELOPED	B0	25,840	0.593	49	341	10,885	0.00	0	10,885	14,956	Grass (0-2%)	42.12%	57.88%	0.46	0.52	0.57	0.65
DEVELOPED	B1	15,552	0.357	49	314	8,949	0.00	0	8,949	6,603	Grass (0-2%)	57.54%	42.46%	0.54	0.60	0.65	0.73
DEVELOPED	B2	4,019	0.092	49	125	3,563	0.00	0	3,563	457	Grass (0-2%)	88.64%	11.36%	0.69	0.77	0.82	0.91
DEVELOPED	B2.5	9,152	0.210	49	250	7,500	0.00	0	7,500	1,652	Grass (0-2%)	81.95%	18.05%	0.66	0.73	0.78	0.87
DEVELOPED	B3	19,746	0.453	34	310	6,510	2.00	6000	12,510	7,236	Grass (0-2%)	63.35%	36.65%	0.57	0.64	0.68	0.76
DEVELOPED	B3.5	20,575	0.472	34	385	8,085	2.00	6000	14,085	6,490	Grass (0-2%)	68.46%	31.54%	0.59	0.66	0.71	0.79
DEVELOPED	B4	43,853	1.007	49	263	7,496	5.00	15000	22,496	21,358	Grass (0-2%)	51.30%	48.70%	0.51	0.57	0.62	0.70
DEVELOPED	B5	18,209	0.418	49	526	14,991	0.00	0	14,991	3,218	Grass (0-2%)	82.33%	17.67%	0.66	0.74	0.78	0.87
DEVELOPED	B5.5	12,797	0.294	49	365	10,403	0.00	0	10,403	2,395	Grass (0-2%)	81.29%	18.71%	0.66	0.73	0.78	0.87
DEVELOPED	B6	37,280	0.856	34	300	6,300	3.00	9000	15,300	21,980	Grass (0-2%)	41.04%	58.96%	0.46	0.52	0.56	0.64
DEVELOPED	B7	32,027	0.735	34	120	2,520	6.00	18000	20,520	11,507	Grass (0-2%)	64.07%	35.93%	0.57	0.64	0.69	0.77
DEVELOPED	B8	31,772	0.729	34	120	2,520	5.00	15000	17,520	14,252	Grass (0-2%)	55.14%	44.86%	0.53	0.59	0.64	0.72
DEVELOPED	B9	13,949	0.320	34	445	9,345	0.50	1500	10,845	3,104	Grass (0-2%)	77.75%	22.25%	0.64	0.71	0.76	0.85
DEVELOPED	B9.5	21,679	0.498	34	275	5,775	3.00	9000	14,775	6,904	Grass (0-2%)	68.15%	31.85%	0.59	0.66	0.71	0.79
DEVELOPED	B10.1	12,645	0.290	34	520	10,920	0.00	0	10,920	1,725	Grass (0-2%)	86.36%	13.64%	0.68	0.76	0.81	0.89
DEVELOPED	B10.2	6,710	0.154	34	264	5,544	0.00	0	5,544	1,166	Grass (0-2%)	82.62%	17.38%	0.66	0.74	0.79	0.87
DEVELOPED	B11.1	40,283	0.925	34	142	2,982	5.50	16500	19,482	20,801	Grass (0-2%)	48.36%	51.64%	0.49	0.56	0.60	0.68
DEVELOPED	B11.2	21,784	0.500	34	450	9,450	1.00	3000	12,450	9,334	Grass (0-2%)	57.15%	42.85%	0.54	0.60	0.65	0.73
DEVELOPED	B11.2.5	21,530	0.494	34	250	5,250	2.50	7500	12,750	8,780	Grass (0-2%)	59.22%	40.78%	0.55	0.61	0.66	0.74
DEVELOPED	B12	49,828	1.144	34	380	7,980	6.50	19500	27,480	22,348	Grass (0-2%)	55.15%	44.85%	0.53	0.59	0.64	0.72
DEVELOPED	B13	20,766	0.477	34	345	7,245	1.50	4500	11,745	9,021	Grass (0-2%)	56.56%	43.44%	0.53	0.60	0.65	0.73
DEVELOPED	C0	30,366	0.697	34	400	8,400	4.00	12000	20,400	9,966	Grass (0-2%)	67.18%	32.82%	0.59	0.66	0.70	0.79
DEVELOPED	C1	20,800	0.478	34	80	1,680	4.00	12000	13,680	7,120	Grass (0-2%)	65.77%	34.23%	0.58	0.65	0.70	0.78
DEVELOPED	C2	31,200	0.716	34	120	2,520	6.00	18000	20,520	10,680	Grass (0-2%)	65.77%	34.23%	0.58	0.65	0.70	0.78
DEVELOPED	C3	41,165	0.945	34	444	9,324	6.00	18000	27,324	13,841	Grass (0-2%)	66.38%	33.62%	0.58	0.65	0.70	0.78
DEVELOPED	C4	33,385	0.766	34	104	2,184	6.00	18000	20,184	13,201	Grass (0-2%)	60.46%	39.54%	0.55	0.62	0.67	0.75
DEVELOPED	D0	59,109	1.357	34	240	6,879	6.00	18000	24,879	34,230							



\\PROJECTS\1723-ATLAS RANCH HOLDINGS\11727-ATLAS RANCH\CD\PHASE1\1727-ATLAS RANCH\CALC.DWG DATE: 8/25/2024 2:27:38 PM BY: NIMARINO

Drainage Area	Sheet Flow					Shallow Concentrated Flow							Channel or Storm Drain Flow					Time of Concentration (min.)
						Unpaved			Paved			Total						
	Surface Type	n	Length (ft)	Slope (%)	Tt (min.)	Length (ft)	Slope (%)	Tt (min.)	Length (ft)	Slope (%)	Tt (min.)	Tt (min.)	Q,peak(ft³/s)	Area (ft²)	Velocity (ft/s)	Length (ft)	Tt (min.)	Tc (min.)
A0.1	Grass (Dense grasses2)	0.24	100	1.5%	14.21	117	1.5%	0.99	168	0.50%	1.95	2.93						17.15
A0.2	Grass (Dense grasses2)	0.24	100	1.5%	14.21	102	1.5%	0.86	83	0.50%	0.96	1.82						16.04
A1	Grass (Dense grasses2)	0.24	100	2.0%	12.67	51	1.5%	0.43	207	0.75%	1.96	2.39						15.06
A2	Grass (Dense grasses2)	0.24	61	1.5%	9.57				353	0.75%	3.34	3.34						12.91
A3	Grass (Dense grasses2)	0.24	100	1.5%	14.21	53.5	1.5%	0.45	200	0.75%	1.89	2.34						16.56
A4	Grass (Dense grasses2)	0.24	100	1.5%	14.21	117	1.5%	0.99	200	0.75%	1.89	2.88						17.09
A4.5	Grass (Dense grasses2)	0.24	100	1.5%	14.21	117	1.5%	0.99	200	0.75%	1.89	2.88						17.09
A5	Grass (Dense grasses2)	0.24	100	1.5%	14.21	53.5	1.5%	0.45	200	0.75%	1.89	2.34						16.56
A5.5	Grass (Dense grasses2)	0.24	100	1.5%	14.21	53.5	1.5%	0.45	200	0.50%	2.32	2.77						16.98
A6	Grass (Dense grasses2)	0.24	100	1.5%	14.21	148.5	1.5%	1.25	273	0.75%	2.58	3.84						18.05
A6.5	Grass (Dense grasses2)	0.24	100	1.5%	14.21	148.5	1.5%	1.25	273	0.75%	2.58	3.84						18.05
A7	Grass (Dense grasses2)	0.24	100	1.5%	14.21	53.5	1.5%	0.45	200	0.75%	1.89	2.34						16.56
A8	Grass (Dense grasses2)	0.24	100	1.5%	14.21	53.5	1.5%	0.45	240	0.75%	2.27	2.72						16.94
A8.5	Grass (Dense grasses2)	0.24	100	1.5%	14.21	53.5	1.5%	0.45	240	0.75%	2.27	2.72						16.94
A9	Grass (Dense grasses2)	0.24	100	1.5%	14.21	53.5	1.5%	0.45	200	0.75%	1.89	2.34						16.56
A10	Grass (Dense grasses2)	0.24	100	1.5%	14.21	53.5	1.5%	0.45	200	0.75%	1.89	2.34						16.56
A11	Concrete (rough or smoothed finish)	0.015	30	2.0%	0.53				375	0.75%	3.55	3.55						5.00
A12	Grass (Dense grasses2)	0.24	100	1.5%	14.21	53.5	1.5%	0.45	200	0.75%	1.89	2.34						16.56
B0	Grass (Dense grasses2)	0.24	100	1.5%	14.21	119.5	1.5%	1.01	150	1.07%	1.19	2.20						16.41
B1	Concrete (rough or smoothed finish)	0.015	30	3.0%	0.45				300	0.93%	2.55	2.55						5.00
B2	Concrete (rough or smoothed finish)	0.015	30	2.0%	0.53				635	0.93%	5.40	5.40						5.92
B2.5	Concrete (rough or smoothed finish)	0.015	30	2.0%	0.53				635	1.07%	5.03	5.03						5.56
B3	Grass (Dense grasses2)	0.24	100	3.0%	10.77	30	1.5%	0.25	374	0.93%	3.18	3.43						14.20
B3.5	Grass (Dense grasses2)	0.24	100	3.0%	10.77	30	1.5%	0.25	374	0.93%	3.18	3.43						14.20
B4	Grass (Dense grasses2)	0.24	100	3.0%	10.77	50	1.5%	0.42	270	0.93%	2.30	2.72						13.49
B5	Concrete (rough or smoothed finish)	0.015	30	2.0%	0.53				607	0.93%	5.16	5.16						5.69
B5.5	Concrete (rough or smoothed finish)	0.015	30	2.0%	0.53				607	0.93%	5.16	5.16						5.69
B6	Grass (Dense grasses2)	0.24	100	2.0%	12.67	120	1.5%	1.01	210	0.80%	1.92	2.94						15.61
B7	Grass (Dense grasses2)	0.24	100	1.5%	14.21	143.5	1.5%	1.21	114	0.50%	1.32	2.53						16.75
B8	Grass (Dense grasses2)	0.24	100	1.5%	14.21	161	1.5%	1.36	108	1.83%	0.65	2.01						16.23
B9	Grass (Dense grasses2)	0.24	100	1.5%	14.21	40	1.5%	0.34	244	0.80%	2.24	2.57						16.79
B9.5	Grass (Dense grasses2)	0.24	100	1.5%	14.21	40	1.5%	0.34	244	0.70%	2.39	2.73						16.94
B10.1	Concrete (rough or smoothed finish)	0.015	38	2.0%	0.64				470	0.75%	4.45	4.45						5.09
B10.2	Concrete (rough or smoothed finish)	0.015	16.5	2.0%	0.33				270	0.75%	2.56	2.56						5.00
B11.1	Grass (Dense grasses2)	0.24	100	1.5%	14.21	170	1.5%	1.43	80	0.75%	0.76	2.19						16.41
B11.2	Grass (Dense grasses2)	0.24	100	1.5%	14.21	33	1.5%	0.28	252	0.75%	2.39	2.66						16.88
B11.2.5	Grass (Dense grasses2)	0.24	100	1.5%	14.21	33	1.5%	0.28	252	0.75%	2.39	2.66						16.88
B12	Grass (Dense grasses2)	0.24	100	1.5%	14.21	230	1.5%	1.94	0	0.75%		1.94						16.15
B13	Grass (Dense grasses2)	0.24	100	1.5%	14.21	53.5	1.5%	0.45	435	0.75%	4.12	4.57						18.78
C0	Grass (Dense grasses2)	0.24	100	1.5%	14.21	136	1.5%	1.15	81	0.50%	0.94	2.09						16.30
C1	Grass (Dense grasses2)	0.24	100	1.5%	14.21	143.5	1.5%	1.21	80	0.50%	0.93	2.14						16.35
C2	Grass (Dense grasses2)	0.24	100	1.5%	14.21	143.5	1.5%	1.21	120	0.50%	1.39	2.60						16.82
C3	Grass (Dense grasses2)	0.24	100	1.5%	14.21	142	1.5%	1.20	118	1.44%	0.81	2.00						16.22
C4	Grass (Dense grasses2)	0.24	100	1.5%	14.21	163.5	1.5%	1.38	110	1.44%	0.75	2.13						16.34
D0	Grass (Dense grasses2)	0.24	100	1.5%	14.21	117	1.5%	0.99	240	1.05%	1.92	2.91						17.12
D1	Grass (Dense grasses2)	0.24	100	1.5%	14.21				100	1.05%	0.80	0.80						15.01
D2	Grass (Dense grasses2)	0.24	100	1.5%	14.21	108	1.5%	0.91	221	1.05%	1.77	2.68						16.89
D3	Grass (Dense grasses2)	0.24	100	1.5%	14.21	28	1.5%	0.24	160	1.05%	1.28	1.52						15.73
D4	Grass (Dense grasses2)	0.24	100	1.5%	14.21	167	1.5%	1.41	117	1.00%	0.96	2.37						16.58
D5	Grass (Dense grasses2)	0.24	100	1.5%	14.21	146	1.5%	1.23	141	1.00%	1.16	2.39						16.60
D6	Concrete (rough or smoothed finish)	0.015	16.5	2.0%	0.33				261	1.00%	2.14	2.14						5.00
D7	Grass (Dense grasses2)	0.24	100	1.5%	14.21	13.5	1.5%	0.11	282	0.50%	3.27	3.38						17.60
D7.5	Grass (Dense grasses2)	0.24	100	1.5%	14.21	13.5	1.5%	0.11	282	1.05%	2.26	2.37						16.58
D8	Grass (Dense grasses2)	0.24	100	1.5%	14.21	28.5	1.5%	0.24	200	0.50%	2.32	2.56						16.77
D9	Grass (Dense grasses2)	0.24	100	1.5%	14.21	150	1.5%	1.27	80	0.80%	0.73	2.00						16.21
D10	Grass (Dense grasses2)	0.24	100	1.5%	14.21	150	1.5%	1.27	125	0.80%	1.15	2.41						16.63
D11	Concrete (rough or smoothed finish)	0.015	16.5	2.0%	0.33				225	0.80%	2.06	2.06						5.00
D12	Grass (Dense grasses2)	0.24	100	1.5%	14.21	13.5	1.5%	0.11	246	0.58%	2.65	2.76						16.98
D12.5	Grass (Dense grasses2)	0.24	100	1.5%	14.21	13.5	1.5%	0.11	246	1.05%	1.97	2.08						16.30
D13.1	Grass (Dense grasses2)	0.24	72	1.5%	10.93				260	0.50%	3.01	3.01						13.94
D13.2	Grass (Dense grasses2)	0.24	100	1.5%	14.21	150	1.5%	1.27	80	0.50%	0.93	2.19						16.41
D14.1	Concrete (rough or smoothed finish)	0.015	16.5	1.5%	0.37				393	0.50%	4.56	4.56						5.00
D14.2	Concrete (rough or smoothed finish)	0.015	16.5	1.5%	0.37				330	0.50%	3.83	3.83						5.00
D15	Grass (Dense grasses2)	0.24	100	1.5%	14.21	148.5	1.5%	1.25	120	0.54%	1.34	2.59						16.81
D16	Grass (Dense grasses2)	0.24	100	1.5%	14.21	148.5	1.5%	1.25	120	0.54%	1.34	2.59						16.81
E0	Grass (Dense grasses2)	0.24	38	2.0%	5.84				685	0.53%	7.71	7.71						13.56
E1	Grass (Dense grasses2)	0.24	38	2.0%	5.84				465	0.53%	5.24	5.24						11.08
X0	Concrete (rough or smoothed finish)	0.015	45	2.0%	0.73				305	0.93%	2.59	2.59						5.00
X1	Concrete (rough or smoothed finish)	0.015	45	2.0%	0.73				305	0.93%	2.59	2.59						5.00
OS 1	Grass (Dense grasses2)	0.24	38	2.0%	5.84				165	1.07%	1.31	1.31						7.15
POND	Grass (Dense grasses2)	0.24	100	2.0%	12.67	30	2.0%	0.22				0.22						12.89
VFS1	Grass (Dense grasses2)	0.24	100	2.0%	12.67	20	2.0%	0.15				0.15						12.82

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TBP&LS FIRM #2946

GRAY  
ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX

DRAINAGE  
CALCULATIONS  
(SHEET 2 OF 4)

PROJECT NO: 11727

DESIGNED BY: KEL

DRAWN BY: KEL

CHECKED BY: RR

NOTICE:  
ALTERATION OF A  
SEALED DRAWING  
WITHOUT PROPER  
NOTIFICATION TO THE  
RESPONSIBLE ENGINEER  
IS A VIOLATION OF THE  
TEXAS ENGINEERING  
PRACTICE ACT.



Nick Marino  
NICHOLAS A. MARINO  
146339  
LICENSED PROFESSIONAL ENGINEER  
8-23-2024

SHEET 32 OF 91



\\PROJECTS\1723-ATLAS RANCH HOLDINGS\11727 ATLAS RANCH\CD\PHASE1\11727-CDRAN-CALC.DWG DATE: 8/25/2024 2:27:38 PM BY: NIMARINO

25 Year Storm																								
Drainage Area	Inlet	Type	Upstream	Qadd (ft³/s)	Qpeak (ft³/s)	Street Capacity					Alley Capacity (cfs)	Inlet on Grade							Sump Inlet					Remarks
						Street Width (ft)	Slope (%)	Gutter Depression (ft)	Water Depth (ft)	Ponded Width		Qa/La	Length Needed (ft)	Length (ft)	L/Lneed	a/Y <sub>o</sub>	Possible Q (ft³/s)	Qpass (ft³/s)	Clogging Factor	Q (ft³/s)	Allowable head (ft)	Inlet Length (ft)	Calculated head (ft)	
A0.1	A0	GRADE			3.80	33	0.50%	0.42	0.43	10.2	-	0.89	4.27	10	1.00	0.98	8.88	0.00						
A0.2	A1	GRADE			4.82	33	0.50%	0.42	0.46	12.0	-	0.93	5.21	10	1.00	0.90	9.27	0.00						
A1	A1	GRADE			3.88	33	0.75%	0.42	0.40	9.2	-	0.86	4.51	10	1.00	1.04	8.61	0.00						
A2	A2	GRADE			2.96	33	0.75%	0.42	0.37	8.0	-	0.82	3.59	10	1.00	1.13	8.24	0.00						
A3	A3	GRADE			3.69	33	0.75%	0.42	0.40	9.0	-	0.86	4.29	10	1.00	1.06	8.61	0.00						
A4	A4	GRADE		2.89	3.72	33	0.75%	0.42	0.48	13.1	-	0.95	3.93	10	1.00	0.87	9.46	0.00						
A4.5	A4	NONE			2.89	33	0.75%	0.42	0.36	7.9	-	0.82	3.52	10	1.00	1.14	8.21	0.00						
A5	A5	GRADE			3.69	33	0.75%	0.42	0.40	9.0	-	0.85	4.32	10	1.00	1.05	8.54	0.00						
A5.5	A5.5	GRADE			3.03	33	0.50%	0.42	0.40	9.0	-	0.85	3.55	10	1.00	1.05	8.55	0.00						
A6	A6	GRADE		1.97	2.91	33	0.75%	0.42	0.43	10.5	-	0.90	3.25	10	1.00	0.96	8.96	0.00						
A6.5	A6	NONE			1.97	33	0.75%	0.42	0.32	6.6	-	0.78	2.54	10	1.00	1.30	7.75	0.00						
A7	A7	GRADE			3.69	33	0.75%	0.42	0.40	9.0	-	0.85	4.32	10	1.00	1.05	8.54	0.00						
A8	A8	GRADE		2.60	5.00	33	0.75%	0.42	0.50	15.0	-	0.97	5.15	10	1.00	0.83	9.72	0.00						
A8.5	A8	NONE			2.60	33	0.75%	0.42	0.35	7.5	-	0.81	3.22	10	1.00	1.18	8.08	0.00						
A9	A9	GRADE			3.69	33	0.75%	0.42	0.40	9.0	-	0.85	4.32	10	1.00	1.05	8.54	0.00						
A10	A10	GRADE			3.69	33	0.75%	0.42	0.40	9.0	-	0.85	4.32	10	1.00	1.05	8.54	0.00						
A11	A11	GRADE			2.04	33	0.75%	0.42	0.33	6.7	-	0.78	2.62	10	1.00	1.28	7.79	0.00						
A12	A12	GRADE			3.69	33	0.75%	0.42	0.40	9.0	-	0.85	4.32	10	1.00	1.05	8.54	0.00						
B0	B0	GRADE			2.48	48	1.07%	0.42	0.30	8.8	-	0.75	3.29	10	1.00	1.39	7.54	0.00						
B1	B1	GRADE			2.66	48	0.93%	0.42	0.32	9.5	-	0.77	3.46	10	1.00	1.32	7.70	0.00						
B2	B2	GRADE		1.83	2.65	48	0.93%	0.42	0.38	12.3	-	0.84	3.16	10	1.00	1.09	8.39	0.00						
B2.5	B2	NONE			1.83	48	1.07%	0.42	0.27	7.7	-	0.72	2.53	10	1.00	1.55	7.22	0.00						
B3	B3	GRADE		2.64	5.07	33	0.93%	0.42	0.46	12.1	-	0.93	5.46	10	1.00	0.90	9.29	0.00						
B3.5	B3	NONE			2.64	33	0.93%	0.42	0.32	6.5	-	0.77	3.43	10	1.00	1.32	7.69	0.00						
B4	B4	GRADE			5.00	48	0.93%	0.42	0.40	13.1	-	0.86	5.84	10	1.00	1.05	8.55	0.00						
B5	B5	GRADE		2.53	6.15	48	0.93%	0.42	0.48	19.7	-	0.95	6.47	10	1.00	0.86	9.52	0.00						
B5.5	B5	NONE			2.53	48	0.93%	0.42	0.31	9.2	-	0.76	3.31	10	1.00	1.34	7.64	0.00						
B6	B6	GRADE			3.62	33	0.80%	0.42	0.39	8.7	-	0.85	4.28	10	1.00	1.07	8.47	0.00						
B7	B7	GRADE			3.68	33	0.50%	0.42	0.42	10.0	-	0.88	4.16	10	1.00	0.99	8.83	0.00						
B8	B8	GRADE			3.44	33	1.83%	0.42	0.33	7.0	-	0.79	4.37	10	1.00	1.25	7.88	0.00						
B9	B9	GRADE		2.55	4.33	33	0.80%	0.42	0.48	13.3	-	0.95	4.56	10	1.00	0.87	9.48	0.00						
B9.5	B9	NONE			2.55	33	0.70%	0.42	0.35	7.6	-	0.81	3.15	10	1.00	1.18	8.10	0.00						
B10.1	B10	SUMP			2.67	33	0.75%	0.42	0.36	7.6	-								10%	4.06	0.5	10	0.28	
B10.2	B10	SUMP			1.39	33	0.75%	0.42	0.29	5.7	-													
B11.1	B11	SUMP			4.09	33	0.75%	0.42	0.41	9.5	-								10%	8.82	0.5	10	0.47	
B11.2	B11	SUMP		2.37	4.72	33	0.75%	0.42	0.49	14.3	-													
B11.2.5	B11	NONE			2.37	33	0.75%	0.42	0.34	7.2	-	0.80	2.97	10	1.00	1.22	7.96	0.00						
B12	B12	GRADE			5.41	33	0.75%	0.42	0.45	11.2	-	0.91	5.93	10	1.00	0.93	9.12	0.00						
B13	B13	GRADE			2.12	33	0.75%	0.42	0.33	6.9	-	0.78	2.71	10	1.00	1.26	7.84	0.00						
C0	C0	GRADE			3.62	33	0.50%	0.42	0.42	9.9	-	0.88	4.11	10	1.00	0.99	8.81	0.00						
C1	C1	GRADE			2.45	33	0.50%	2.42	0.37	8.1	-	7.36	0.33	10	1.00	6.55	73.61	0.00						
C2	C2	GRADE			3.62	33	0.50%	0.42	0.42	9.9	-	0.88	4.11	10	1.00	0.99	8.81	0.00						
C3	C3	GRADE			4.88	33	1.44%	0.42	0.39	8.7	-	0.85	5.76	10	1.00	1.07	8.47	0.00						
C4	C4	GRADE			3.77	33	1.44%	0.42	0.36	7.7	-	0.81	4.63	10	1.00	1.17	8.13	0.00						
D0	D0	GRADE			5.55	33	1.05%	0.42																



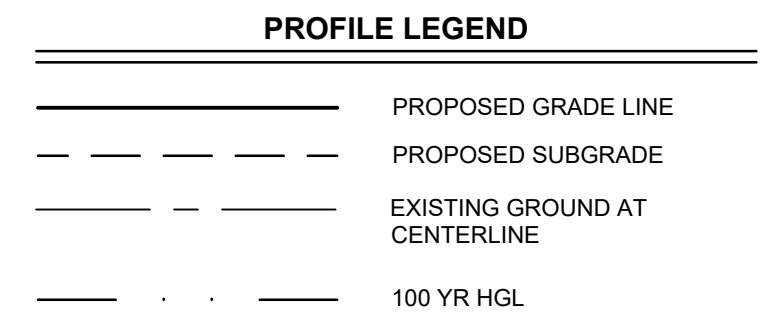
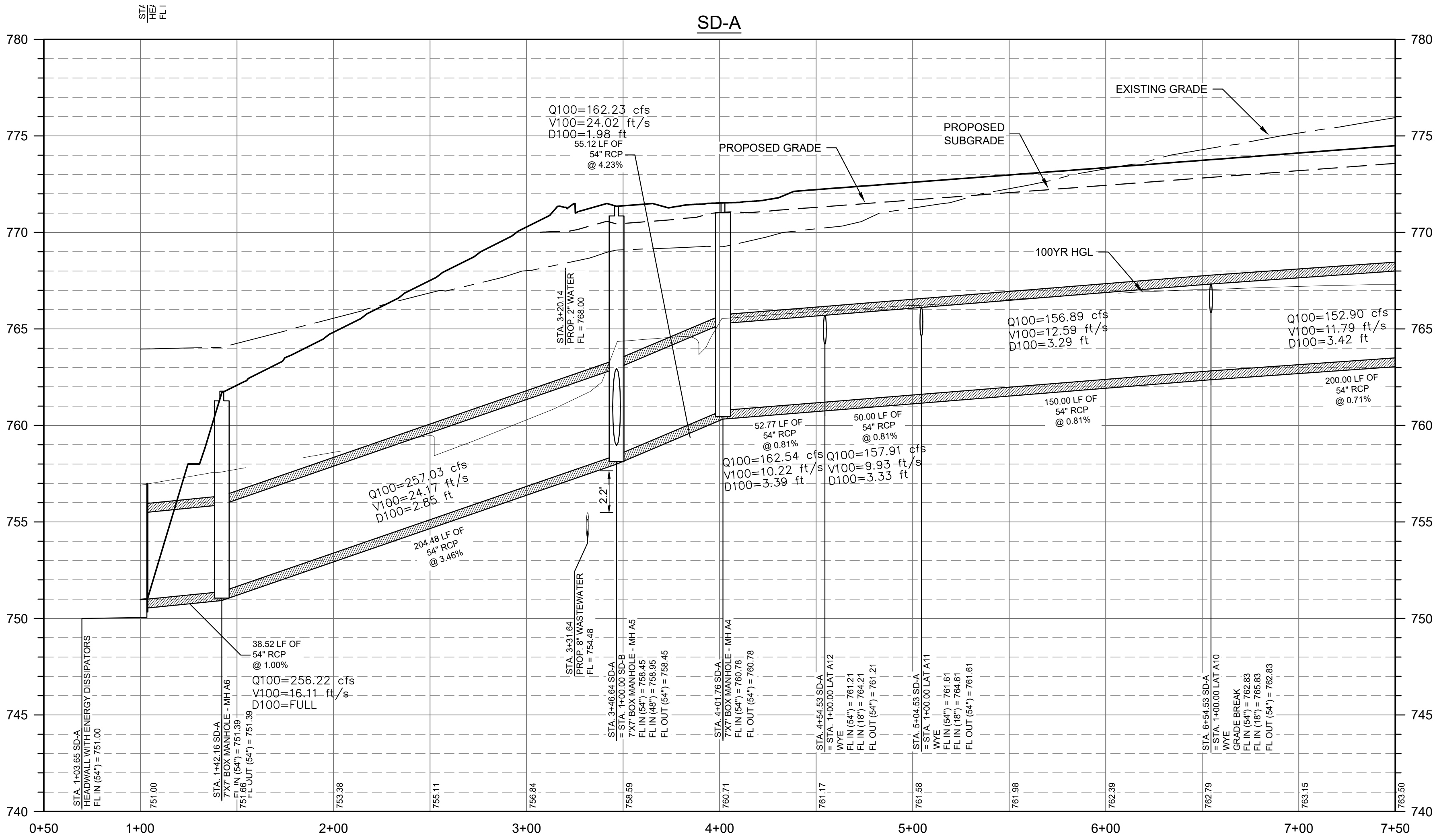
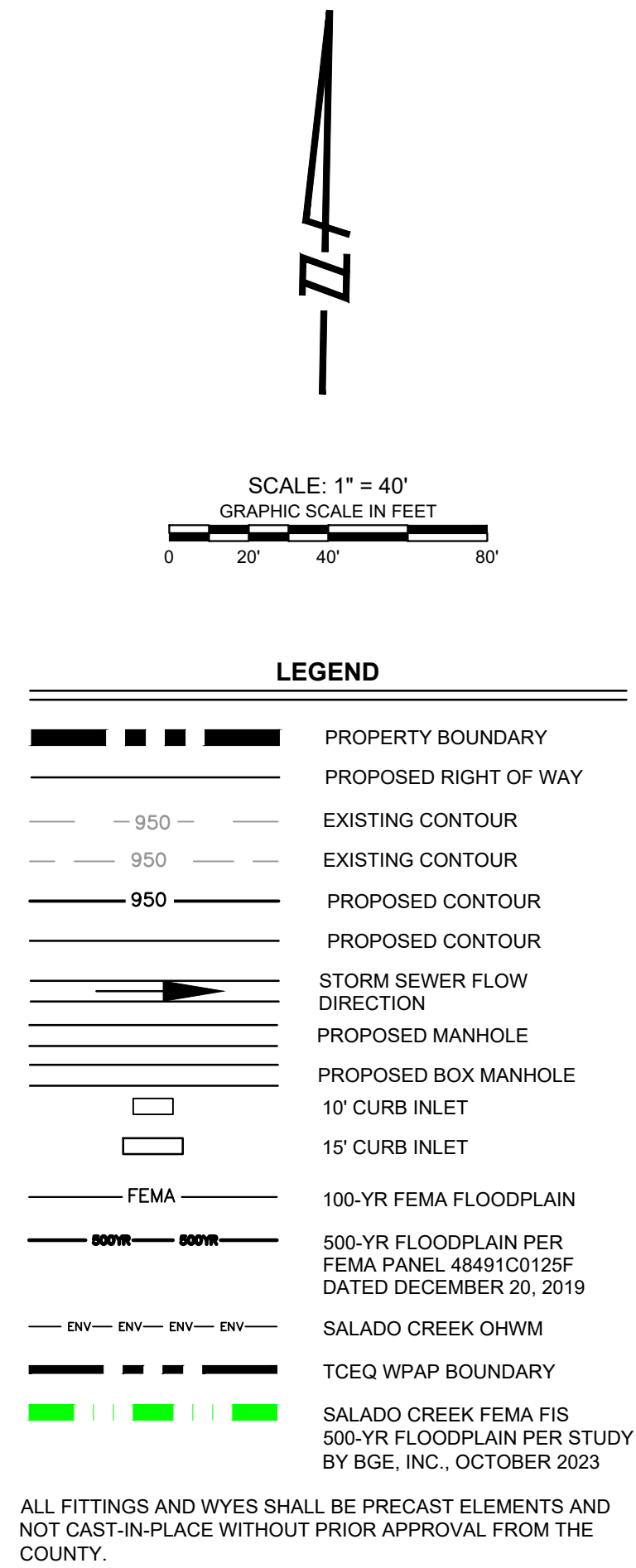
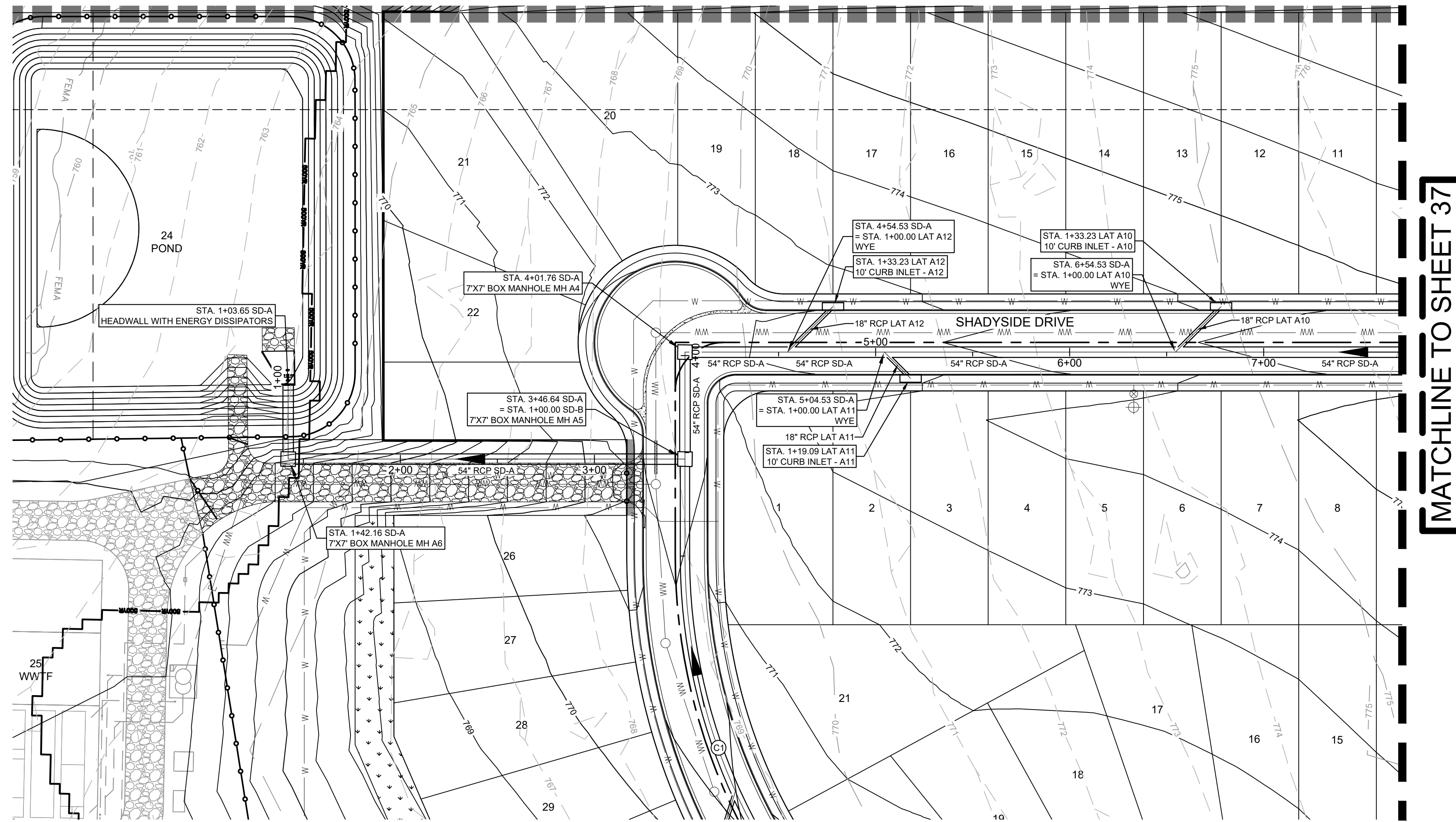
\\PROJECTS\1723-ATLAS RANCH HOLDINGS\11727-ATLAS RANCH\CD\PH1\SEC1\SHEETS\11727-CRAN-CALC.DWG DATE: 8/29/2024 2:27:40 PM BY: NMA8NCO

100 Year Storm																								
Drainage Area	Inlet	Type	Upstream	Qadd (ft³/s)	Qpeak (ft³/s)	Street Capacity					Inlet on Grade								Sump Inlet					Remarks
						Street Width (ft)	Slope (%)	Gutter Depression (ft)	Water Depth (ft)	Ponded Width	Alley Capacity (cfs)	Qa/La	Length Needed (ft)	Length (ft)	L/Lneed	a/Y <sub>0</sub>	Possible Q (ft³/s)	Qpass (ft³/s)	Clogging Factor	Q (ft³/s)	Allowable head (ft)	Inlet Length (ft)	Calculated head (ft)	
A0.1	A0	GRADE			5.76	33	0.50%	0.42	0.49	12.9	-	0.96	6.02	10	1.00	0.85	9.58	0.00						
A0.2	A1	GRADE			7.49	33	0.50%	0.42	0.53	15.0	-	1.01	7.43	10	1.00	0.78	10.09	0.00						
A1	A1	GRADE			5.82	33	0.75%	0.42	0.46	10.7	-	0.92	6.30	10	1.00	0.91	9.24	0.00						
A2	A2	GRADE			4.43	33	0.75%	0.42	0.42	9.0	-	0.88	5.04	10	1.00	0.99	8.81	0.00						
A3	A3	GRADE			5.54	33	0.75%	0.42	0.45	10.4	-	0.92	6.04	10	1.00	0.92	9.16	0.00						
A4	A4	GRADE		4.33	5.55	33	0.75%	0.42	0.55	15.0	-	1.02	5.42	10	1.00	0.76	10.24	0.00						
A4.5	A4	NONE			4.33	33	0.75%	0.42	0.42	8.9	-	0.88	4.93	10	1.00	1.00	8.77	0.00						
A5	A5	GRADE			5.54	33	0.75%	0.42	0.45	10.4	-	0.92	6.04	10	1.00	0.92	9.16	0.00						
A5.5	A5.5	GRADE			4.53	33	0.50%	0.42	0.45	10.4	-	0.92	4.94	10	1.00	0.92	9.16	0.00						
A6	A6	GRADE		2.94	4.34	33	0.75%	0.42	0.49	13.5	-	0.96	4.50	10	1.00	0.84	9.64	0.00						
A6.5	A6	NONE			2.94	33	0.75%	0.42	0.37	7.3	-	0.82	3.57	10	1.00	1.14	8.23	0.00						
A7	A7	GRADE			5.54	33	0.75%	0.42	0.45	10.4	-	0.92	6.04	10	1.00	0.92	9.16	0.00						
A8	A8	GRADE		3.90	7.49	33	0.75%	0.42	0.57	15.0	-	1.05	7.11	10	1.00	0.73	10.54	0.00						
A8.5	A8	NONE			3.90	33	0.75%	0.42	0.40	8.4	-	0.86	4.52	10	1.00	1.03	8.62	0.00						
A9	A9	GRADE			5.54	33	0.75%	0.42	0.45	10.4	-	0.92	6.04	10	1.00	0.92	9.16	0.00						
A10	A10	GRADE			5.54	33	0.75%	0.42	0.45	10.4	-	0.92	6.04	10	1.00	0.92	9.16	0.00						
A11	A11	GRADE			3.01	33	0.75%	0.42	0.37	7.3	-	0.83	3.64	10	1.00	1.13	8.26	0.00						
A12	A12	GRADE			5.54	33	0.75%	0.42	0.45	10.4	-	0.92	6.04	10	1.00	0.92	9.16	0.00						
B0	B0	GRADE			3.76	48	1.07%	0.42	0.35	10.8	-	0.80	4.67	10	1.00	1.19	8.04	0.00						
B1	B1	GRADE			3.99	48	0.93%	0.42	0.37	11.6	-	0.82	4.85	10	1.00	1.14	8.22	0.00						
B2	B2	GRADE		2.70	3.92	48	0.93%	0.42	0.44	15.6	-	0.90	4.34	10	1.00	0.95	9.01	0.00						
B2.5	B2	NONE			2.70	48	1.07%	0.42	0.31	9.2	-	0.76	3.54	10	1.00	1.34	7.64	0.00						
B3	B3	GRADE		3.92	7.56	33	0.93%	0.42	0.54	15.0	-	1.01	7.48	10	1.00	0.78	10.10	0.00						
B3.5	B3	NONE			3.92	33	0.93%	0.42	0.36	11.5	-	0.82	4.79	10	1.00	1.14	8.20	0.00						
B4	B4	GRADE			7.52	48	0.93%	0.42	0.46	17.2	-	0.92	8.14	10	1.00	0.91	9.24	0.00						
B5	B5	GRADE		3.74	9.09	48	0.93%	0.42	0.56	15.0	-	1.03	8.78	10	1.00	0.75	10.35	0.00						
B5.5	B5	NONE			3.74	48	0.93%	0.42	0.36	11.2	-	0.81	4.60	10	1.00	1.17	8.13	0.00						
B6	B6	GRADE			5.50	33	0.80%	0.42	0.45	10.1	-	0.91	6.04	10	1.00	0.93	9.09	0.00						
B7	B7	GRADE			5.49	33	0.50%	0.42	0.48	12.2	-	0.95	5.78	10	1.00	0.86	9.49	0.00						
B8	B8	GRADE			5.17	33	1.83%	0.42	0.38	7.7	-	0.84	6.16	10	1.00	1.09	8.39	0.00						
B9	B9	GRADE		3.81	6.43	33	0.80%	0.42	0.55	15.0	-	1.02	6.28	10	1.00	0.76	10.24	0.00						
B9.5	B9	NONE			3.81	33	0.70%	0.42	0.40	8.4	-	0.86	4.41	10	1.00	1.03	8.63	0.00						
B10.1	B10	SUMP			3.94	33	0.75%	0.42	0.40	8.4	-								10%	8.22	0.5	10	0.45	
B10.2	B10	SUMP			2.05	33	0.75%	0.42	0.33	6.1	-													
B11.1	B11	SUMP			6.18	33	0.75%	0.42	0.47	11.3	-								10%	15.20	0.5	10	0.68	
B11.2	B11	SUMP		3.55	7.08	33	0.75%	0.42	0.56	15.0	-													
B11.2.5	B11	NONE			3.55	33	0.75%	0.42	0.39	8.0	-													
B12	B12	GRADE			8.12	33	0.75%	0.42	0.51	15.0	-	0.98	8.25	10	1.00	0.81	9.84	0.00						
B13	B13	GRADE			3.19	33	0.75%	0.42	0.38	7.6	-	0.83	3.82	10	1.00	1.11	8.34	0.00						
C0	C0	GRADE			5.39	33	0.50%	0.42	0.48	11.9	-	0.95	5.70	10	1.00	0.87	9.46	0.00						
C1	C1	GRADE			3.65	33	0.50%	0.42	0.42	9.1	-	0.88	4.14	10	1.00	0.99	8.82	0.00						
C2	C2	GRADE			5.40	33	0.50%	0.42	0.48	12.0	-	0.95	5.71	10	1.00	0.87	9.47	0.00						
C3	C3	GRADE			7.28	33	1.44%	0.42	0.44	10.0	-	0.91	8.03	10	1.00	0.94	9.07	0.00						
C4	C4	GRADE			5.64	33	1.44%	0.42	0.41	8.6	-	0.87	6.50	10	1.00	1.02	8.68	0.00						
D0	D0	GRADE			8.42	33	1.05%	0.42	0.49	13.0	-	0.96	8.78	10	1.00	0.85	9.60	0.00						



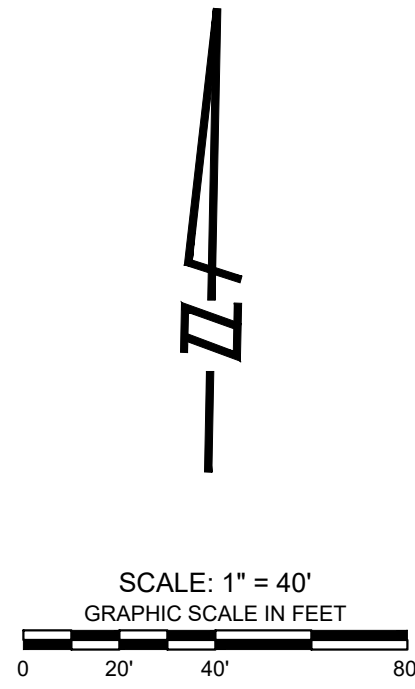
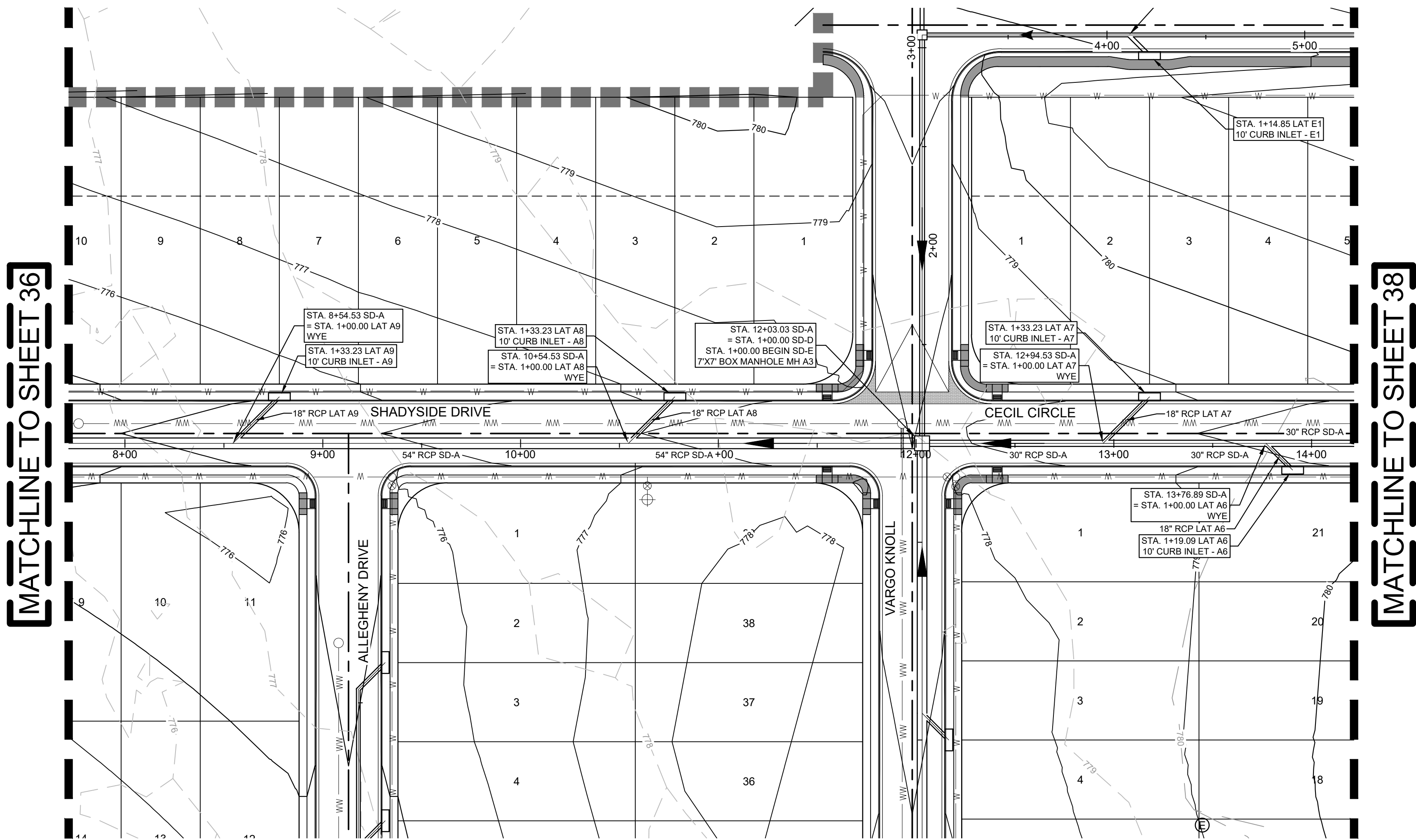




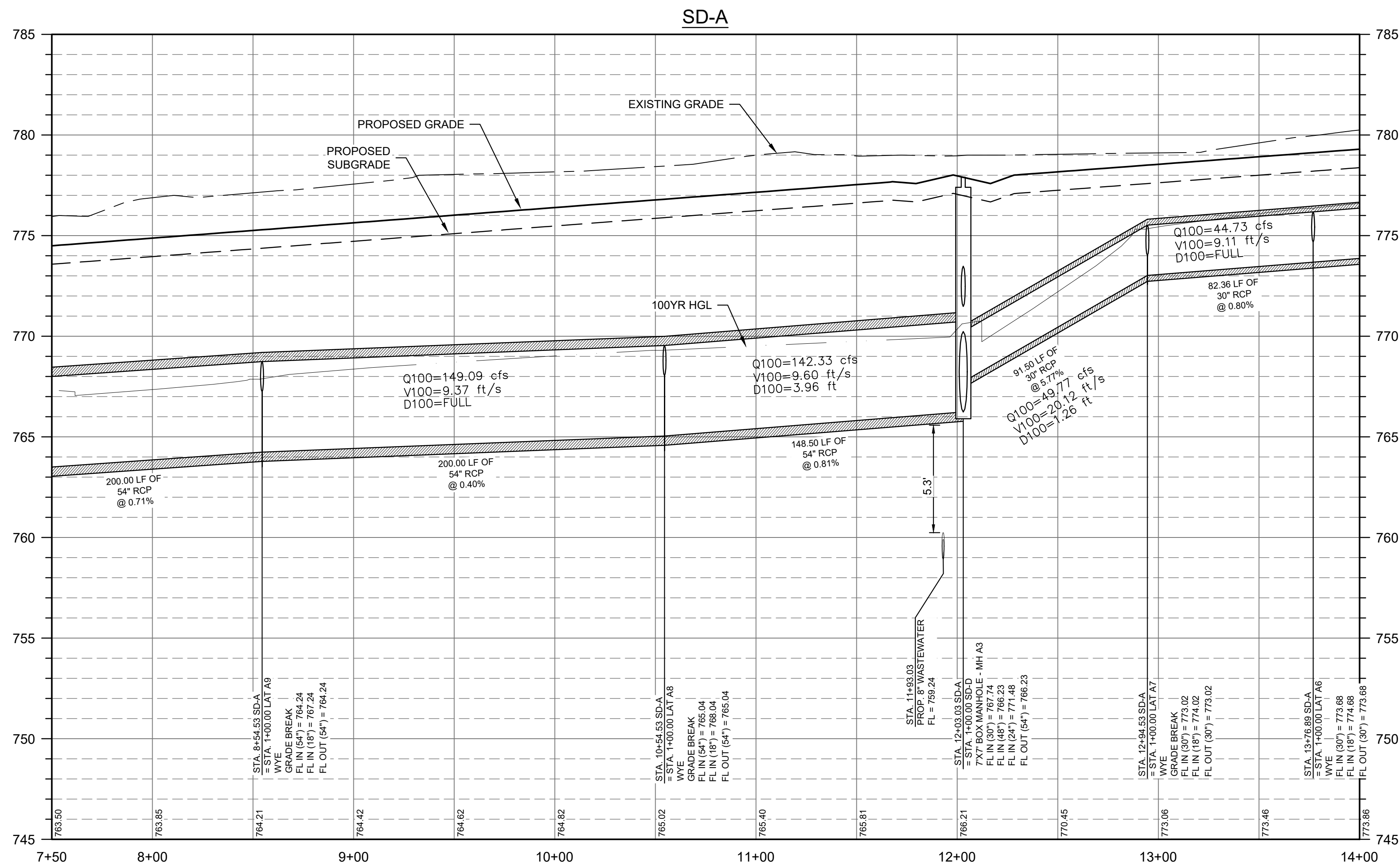




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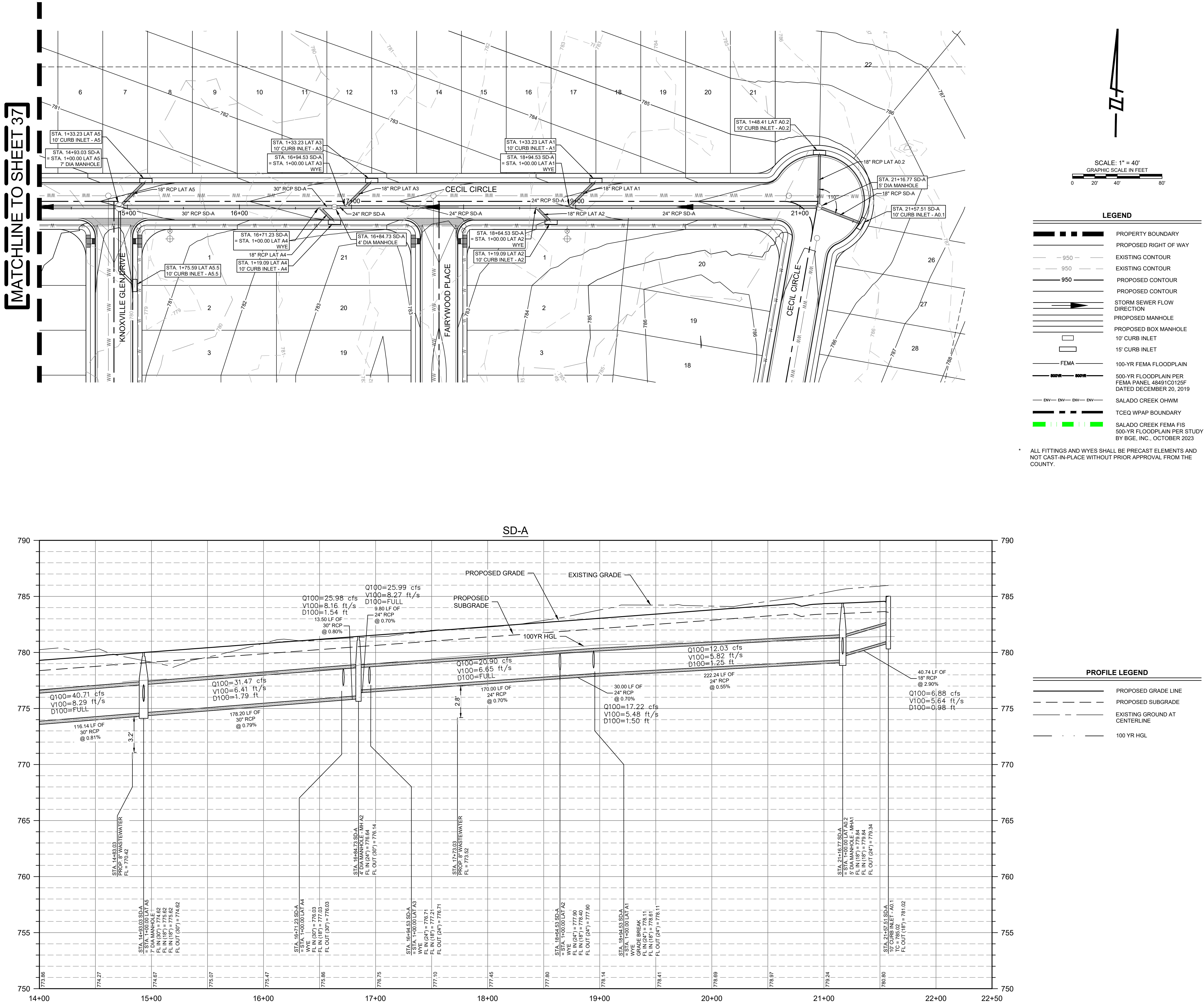


- LEGEND**
- PROPERTY BOUNDARY
  - PROPOSED RIGHT OF WAY
  - EXISTING CONTOUR
  - EXISTING CONTOUR
  - PROPOSED CONTOUR
  - PROPOSED CONTOUR
  - STORM SEWER FLOW DIRECTION
  - PROPOSED MANHOLE
  - PROPOSED BOX MANHOLE
  - 10' CURB INLET
  - 15' CURB INLET
  - FEMA
  - 100-YR FEMA FLOODPLAIN
  - 500-YR FLOODPLAIN PER FEMA PANEL 48491C0125F DATED DECEMBER 20, 2019
  - SALADO CREEK OHWM
  - TCEQ WPAP BOUNDARY
  - SALADO CREEK FEMA FIS
  - 500-YR FLOODPLAIN PER STUDY BY BGE, INC., OCTOBER 2023
- \* ALL FITTINGS AND WYES SHALL BE PRECAST ELEMENTS AND NOT CAST-IN-PLACE WITHOUT PRIOR APPROVAL FROM THE COUNTY.



- PROFILE LEGEND**
- PROPOSED GRADE LINE
  - PROPOSED SUBGRADE
  - EXISTING GROUND AT CENTERLINE
  - 100 YR HGL



[illegible]

STORM SEWER LINE A  
(STA.14+00 TO END)

ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX

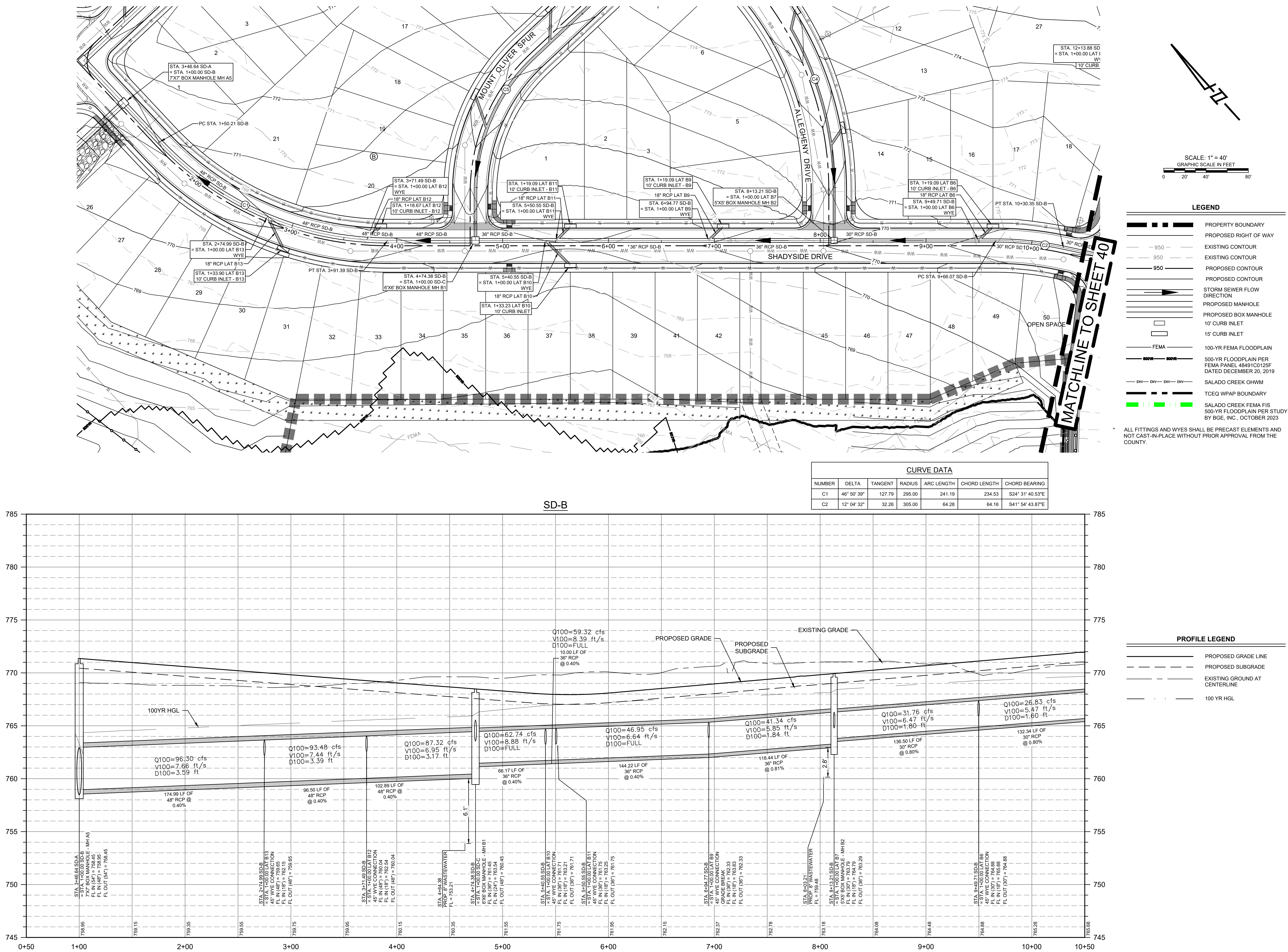
PROJECT NO: 11727
DESIGNED BY: KE
DRAWN BY: KEL
CHECKED BY: RR

**NOTICE:**  
ALTERATION OF A  
SEALED DRAWING  
WITHOUT PROPER  
NOTIFICATION TO THE  
RESPONSIBLE ENGINEER  
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PRACTICE ACT.





HYPROJECTS1723-ATLAS RANCH HOLDINGS11727-ATLAS RANCH/CIDPH/SEC1/SHEETS11727 C-STRM.DWG DATE: 8/23/2024 2:29:46 PM BY: NMA3NO



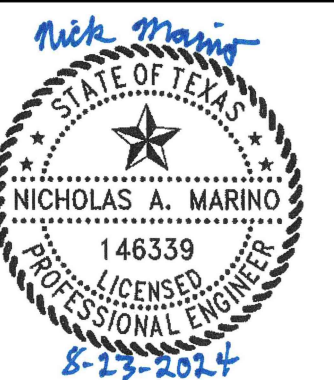
NO.	BY	DATE	REVISION DESCRIPTION

STORM SEWER LINE B  
(STA. 1+00 TO 10+50)

ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX

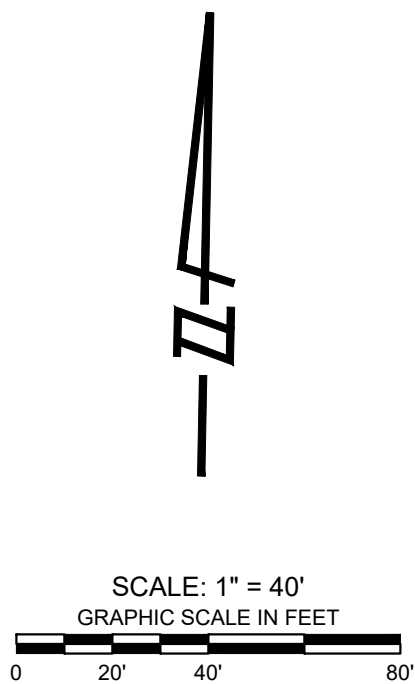
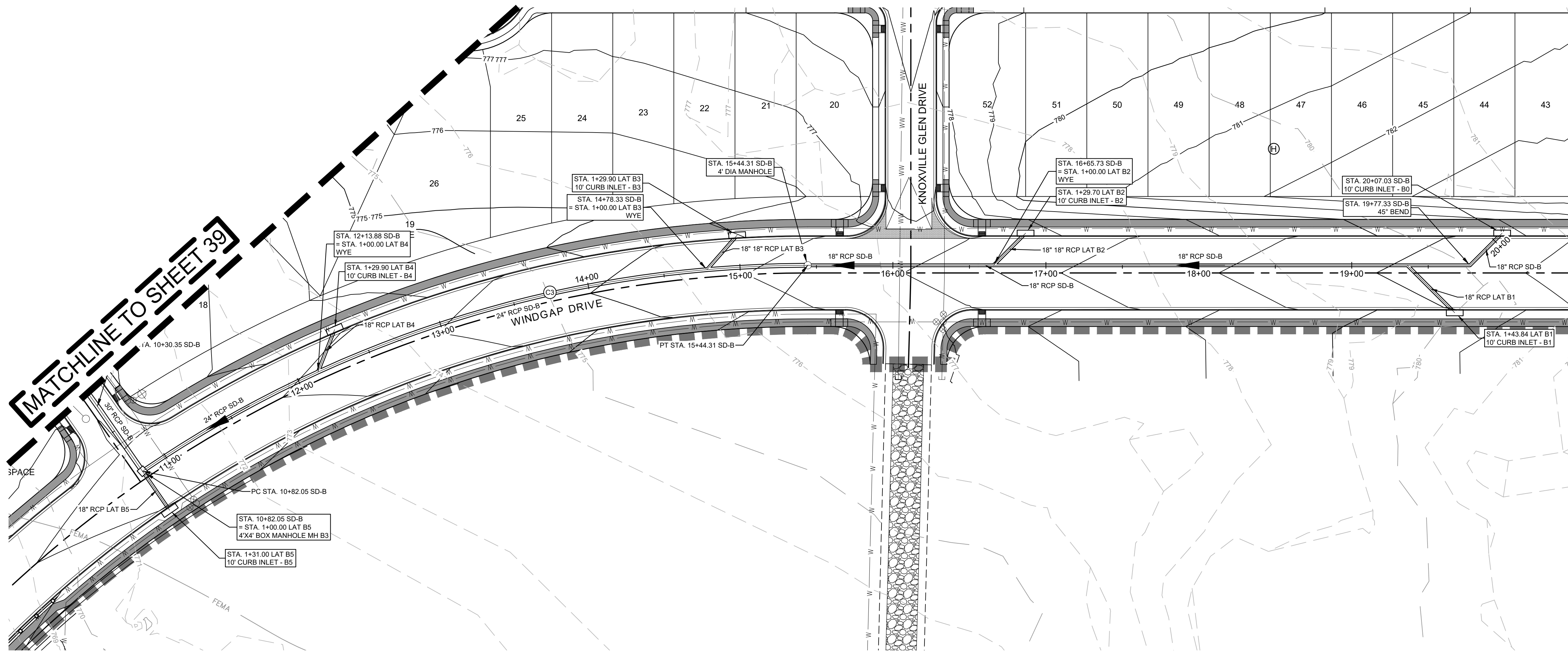
PROJECT NO: 11727  
DESIGNED BY: KEL  
DRAWN BY: KEL  
CHECKED BY: RR

NOTICE:  
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TEXAS ENGINEERING  
PRACTICE ACT.





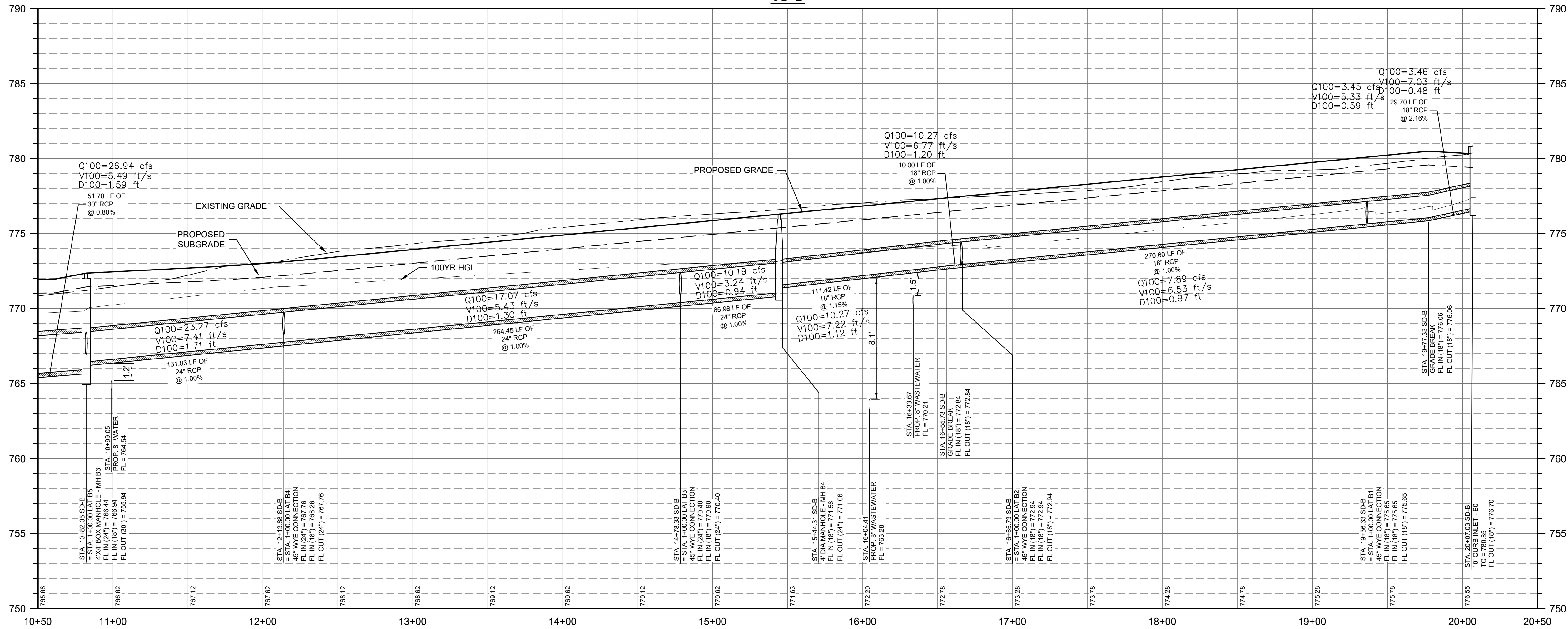
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- LEGEND**
- PROPERTY BOUNDARY
  - PROPOSED RIGHT OF WAY
  - EXISTING CONTOUR
  - EXISTING CONTOUR
  - PROPOSED CONTOUR
  - PROPOSED CONTOUR
  - STORM SEWER FLOW DIRECTION
  - PROPOSED MANHOLE
  - PROPOSED BOX MANHOLE
  - 10' CURB INLET
  - 15' CURB INLET
  - FEMA
  - 100-YR FEMA FLOODPLAIN
  - 500-YR FLOODPLAIN PER FEMA PANEL 48491C0125F DATED DECEMBER 20, 2019
  - SALADO CREEK OHWM
  - TCEQ WPAP BOUNDARY
  - SALADO CREEK FEMA FIS
  - 500-YR FLOODPLAIN PER STUDY BY BGE, INC., OCTOBER 2023
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CURVE DATA						
NUMBER	DELTA	TANGENT	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C3	34° 23' 47"	238.33	770.00	462.26	455.35	N71° 41' 45.12"E

SD-B

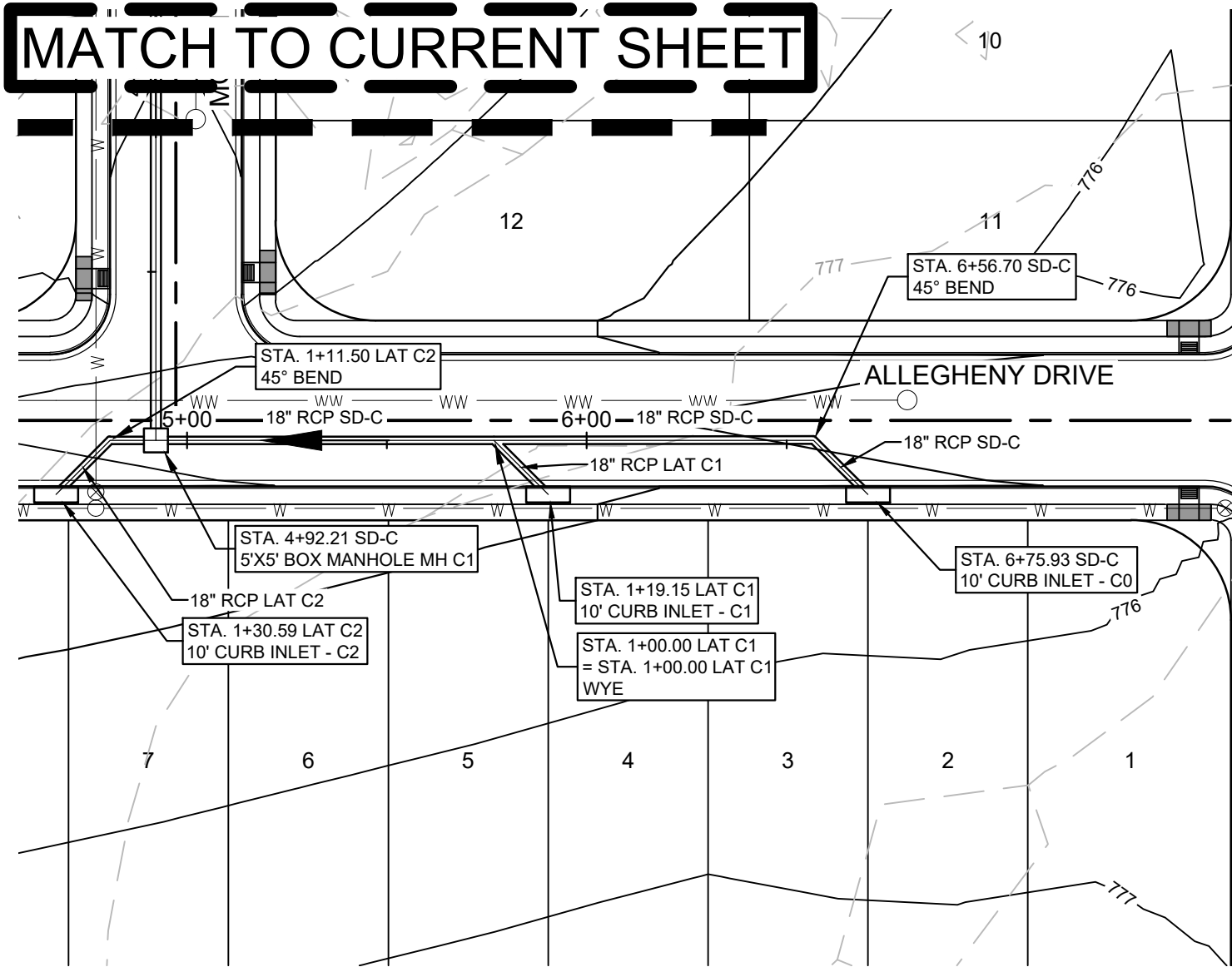
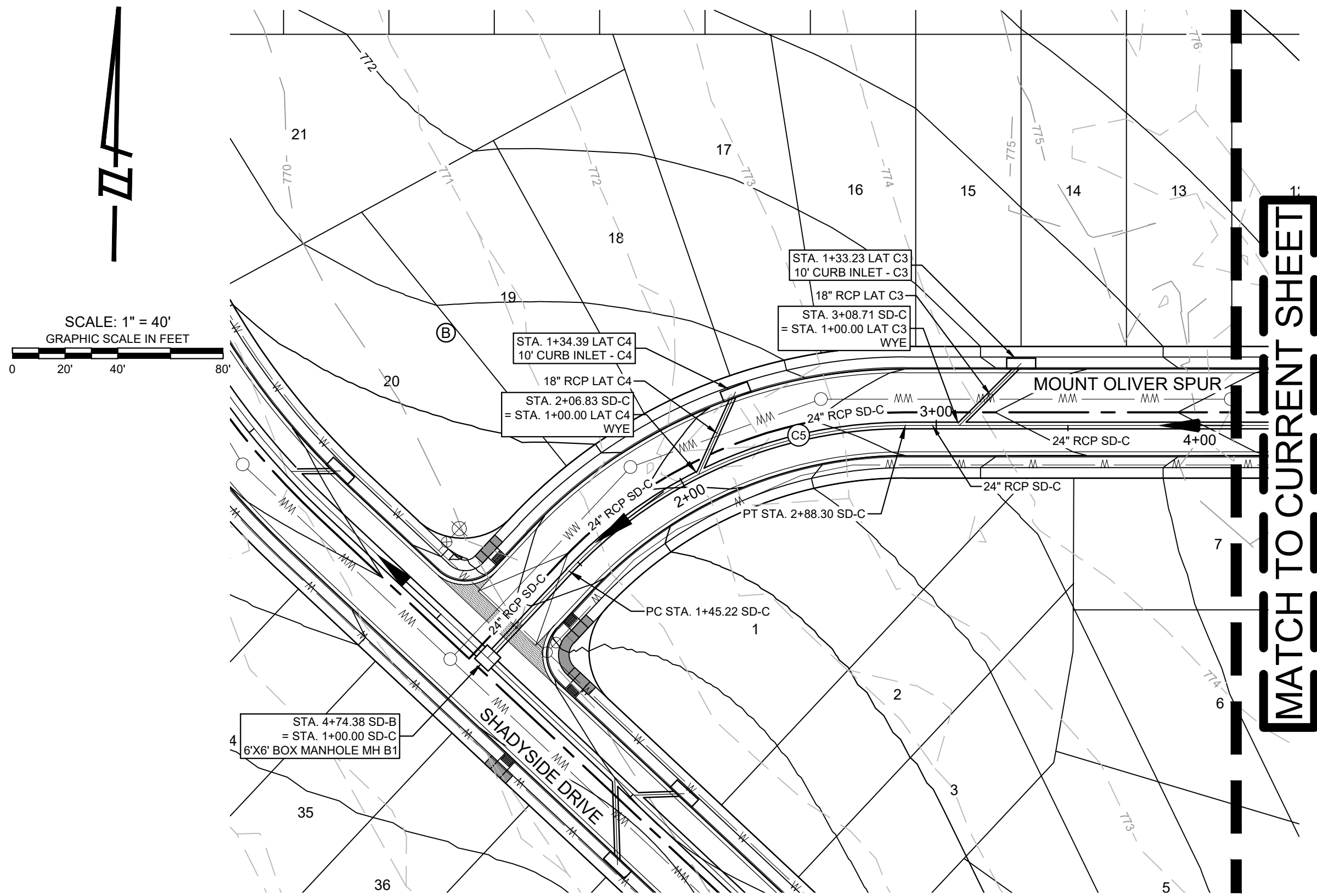


- PROFILE LEGEND**
- PROPOSED GRADE LINE
  - PROPOSED SUBGRADE
  - EXISTING GROUND AT CENTERLINE
  - 100 YR HGL

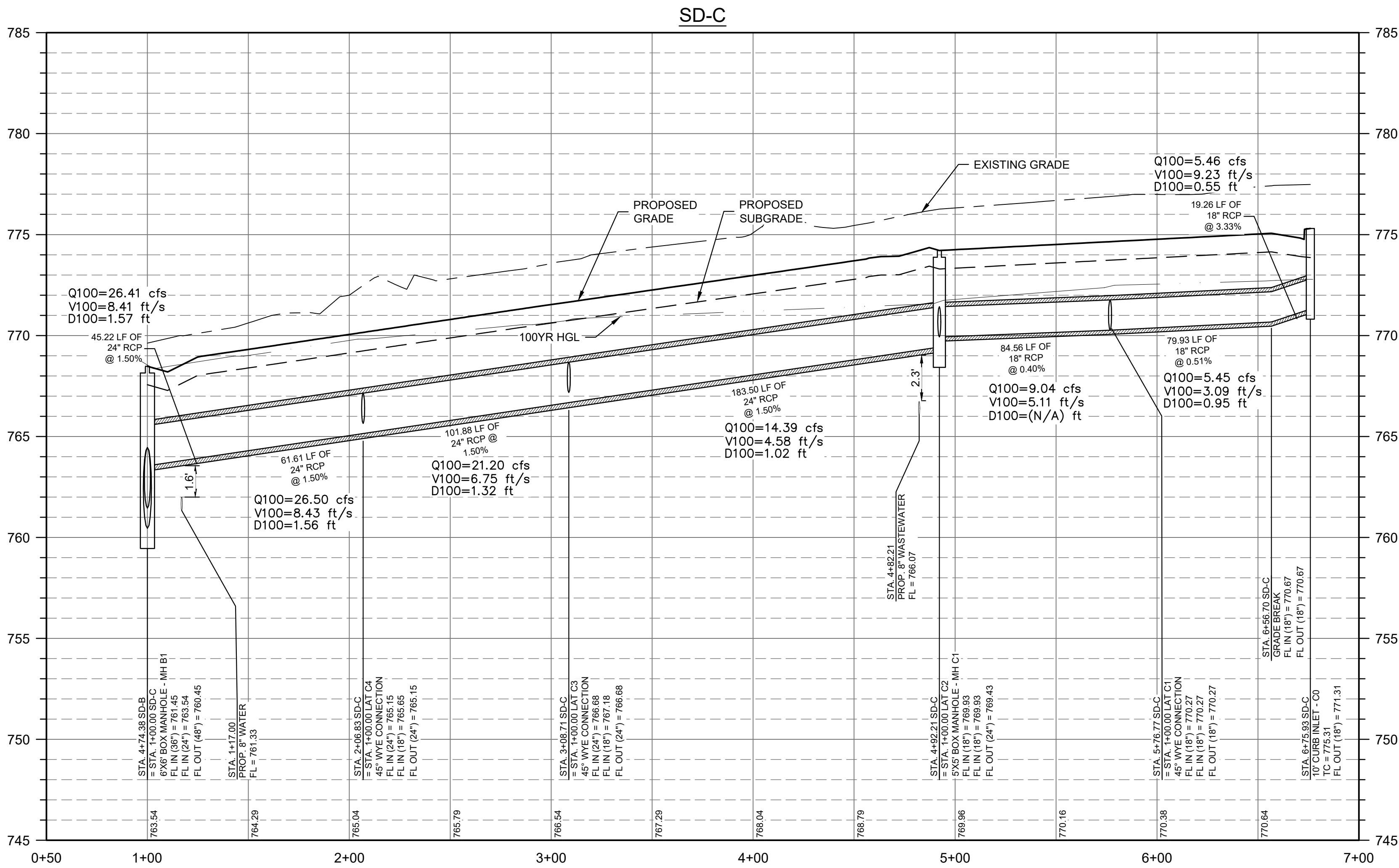


HYPROJECT/S1723-ATLAS RANCH HOLDINGS/11727 ATLAS RANCH/CADD/PHASE1/11727 C-STRM.DWG DATE: 8/23/2024 2:30:27 PM BY: NMAIRNO

CURVE DATA					
NUMBER	DELTA	TANGENT	RADIUS	ARC LENGTH	CHORD BEARING
C5	48° 50' 39"	75.81	175.00	143.08	N85° 28' 19.47"E



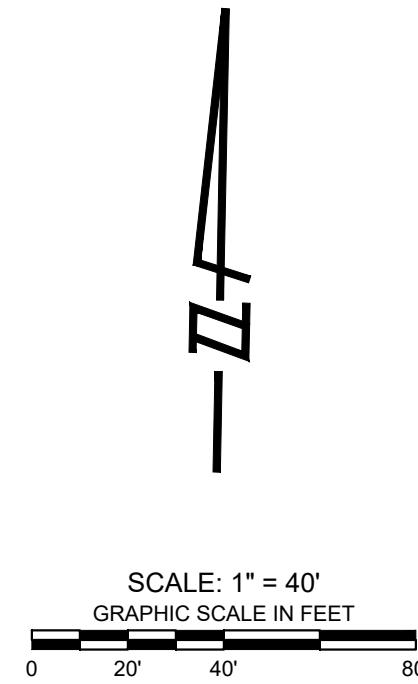
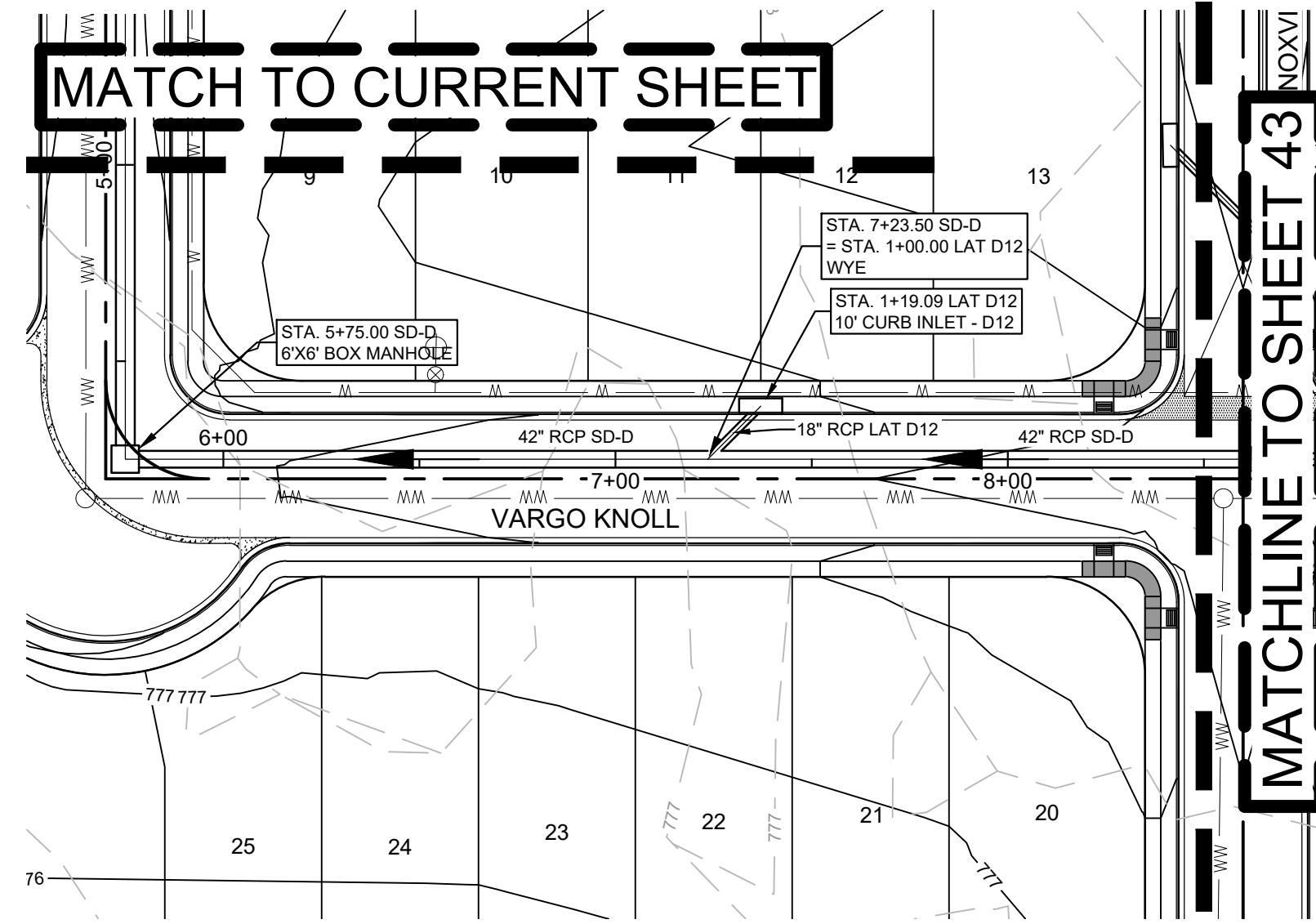
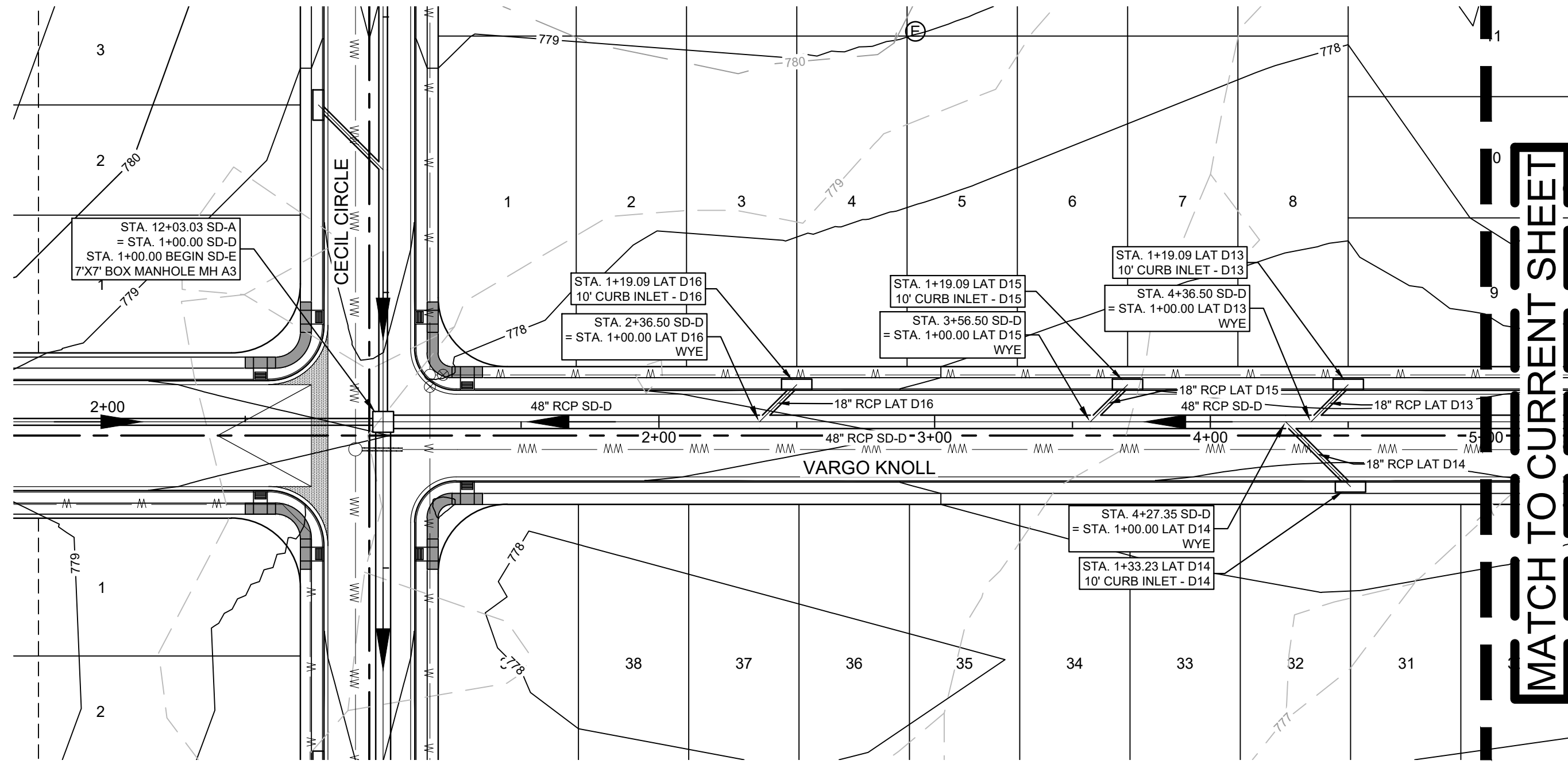
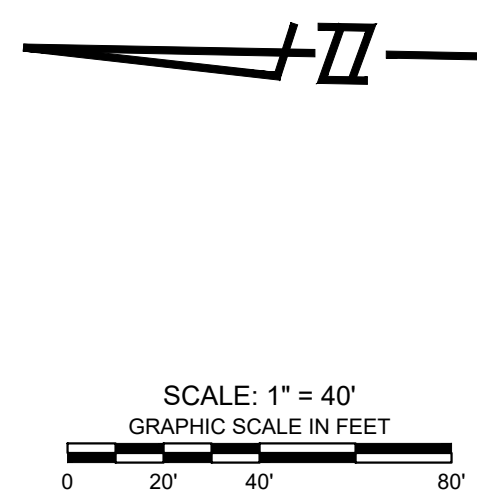
- LEGEND**
- PROPERTY BOUNDARY
  - PROPOSED RIGHT OF WAY
  - EXISTING CONTOUR
  - EXISTING CONTOUR
  - PROPOSED CONTOUR
  - PROPOSED CONTOUR
  - STORM SEWER FLOW DIRECTION
  - PROPOSED MANHOLE
  - PROPOSED BOX MANHOLE
  - 10' CURB INLET
  - 15' CURB INLET
  - FEMA
  - 100-YR FEMA FLOODPLAIN
  - 500-YR FLOODPLAIN PER FEMA PANEL 48491C0125F DATED DECEMBER 20, 2019
  - SALADO CREEK OHWM
  - TCEQ WPAP BOUNDARY
  - SALADO CREEK FEMA FIS
  - 500-YR FLOODPLAIN PER STUDY BY BGE, INC., OCTOBER 2023
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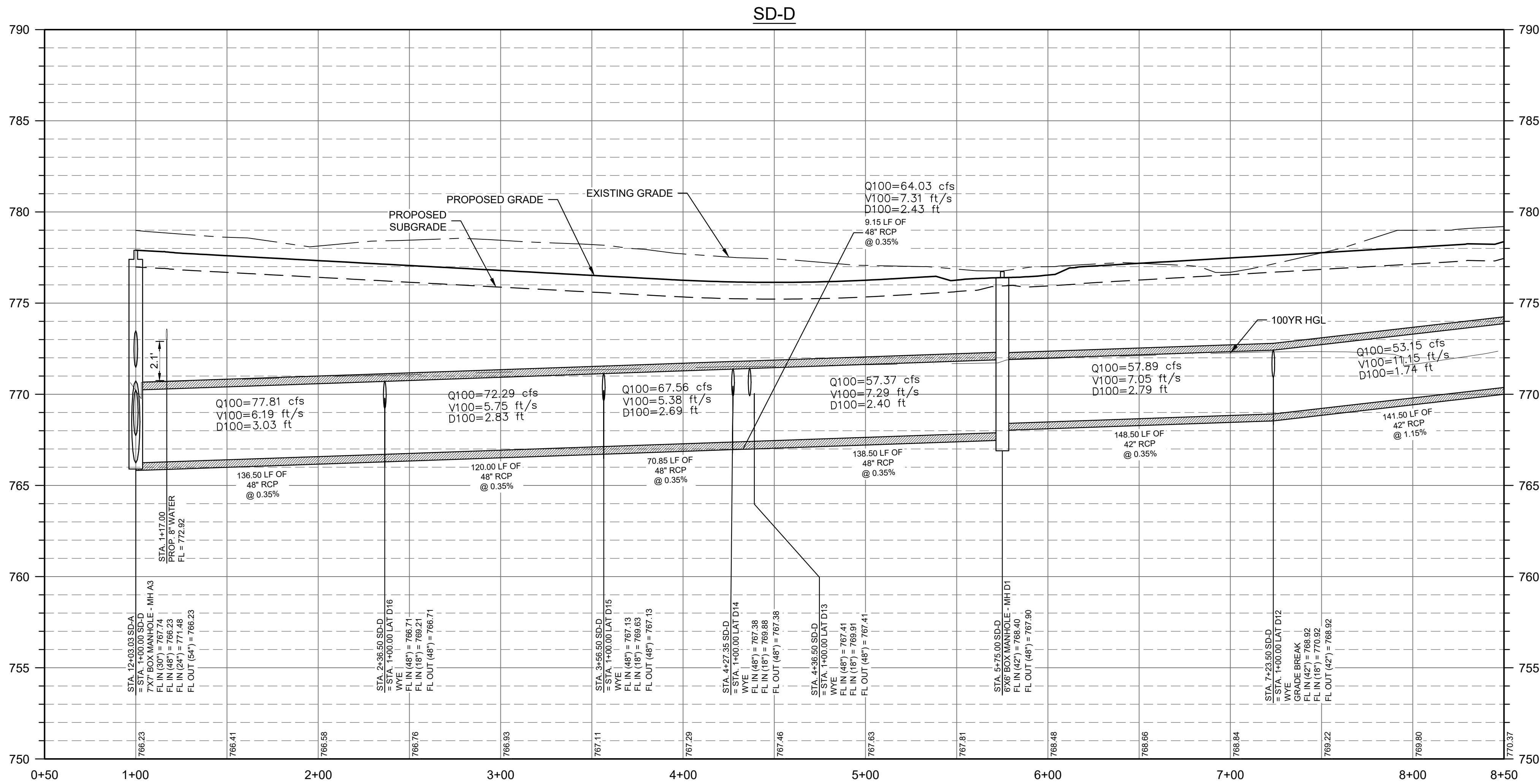
- PROFILE LEGEND**
- PROPOSED GRADE LINE
  - PROPOSED SUBGRADE
  - EXISTING GROUND AT CENTERLINE
  - 100 YR HGL



HYPROJECT/S1723-ATLAS RANCH HOLDINGS/S11727-ATLAS RANCH/CADD/PH/SEC/ISHEETS/S11727-STRM.DWG DATE: 8/23/2024 2:30:47 PM BY: NMA/SNO



- LEGEND**
- PROPERTY BOUNDARY
  - PROPOSED RIGHT OF WAY
  - EXISTING CONTOUR
  - EXISTING CONTOUR
  - PROPOSED CONTOUR
  - PROPOSED CONTOUR
  - STORM SEWER FLOW DIRECTION
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- PROFILE LEGEND**
- PROPOSED GRADE LINE
  - PROPOSED SUBGRADE
  - EXISTING GROUND AT CENTERLINE
  - 100 YR HGL

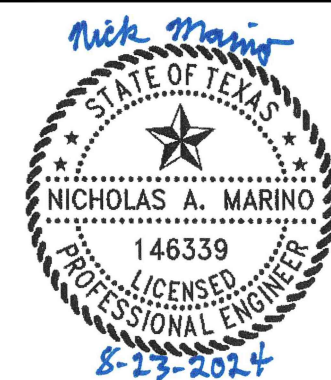
NO.	BY	DATE	REVISION DESCRIPTION

STORM SEWER LINE D  
(STA 1+00 TO 8+50)

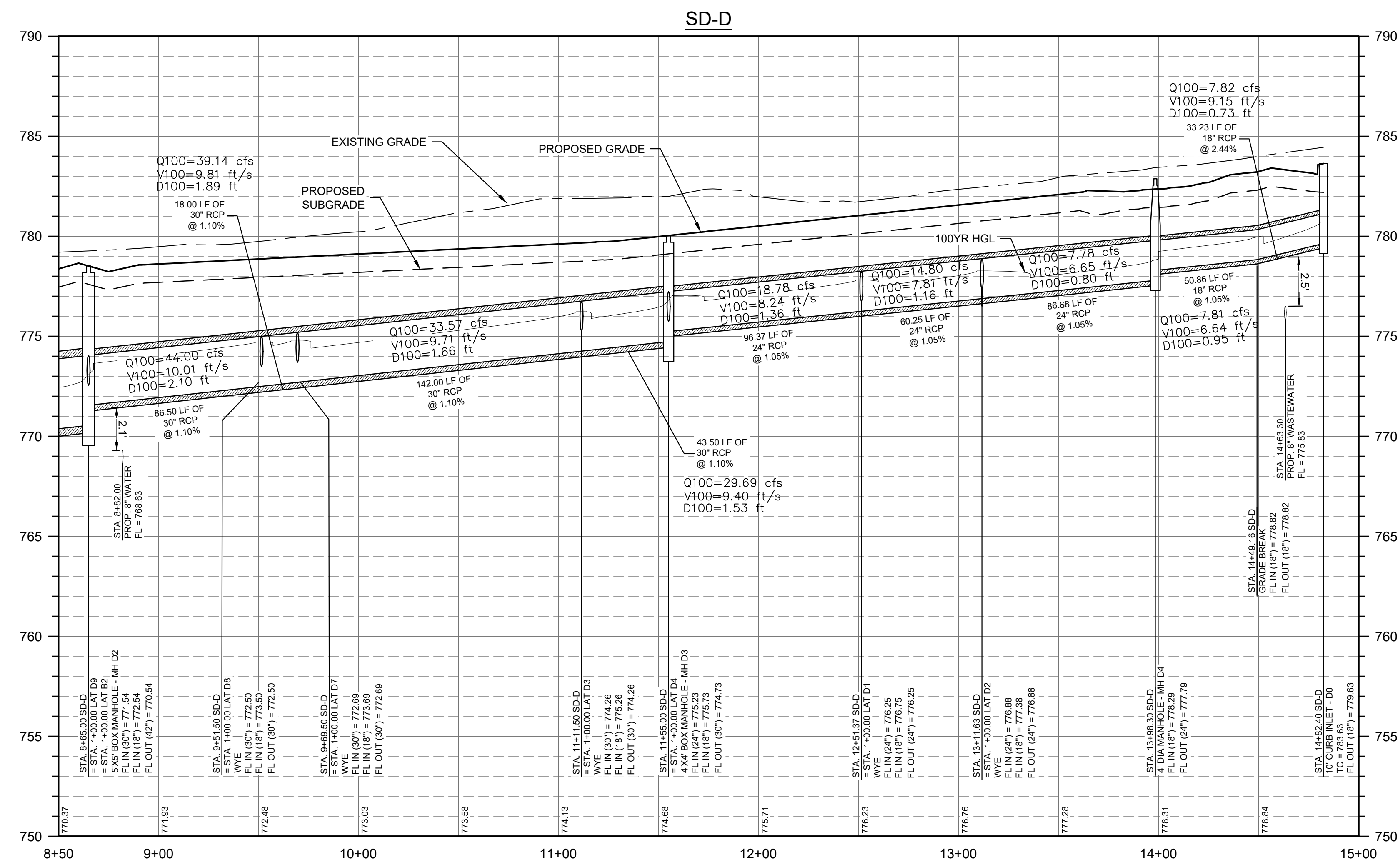
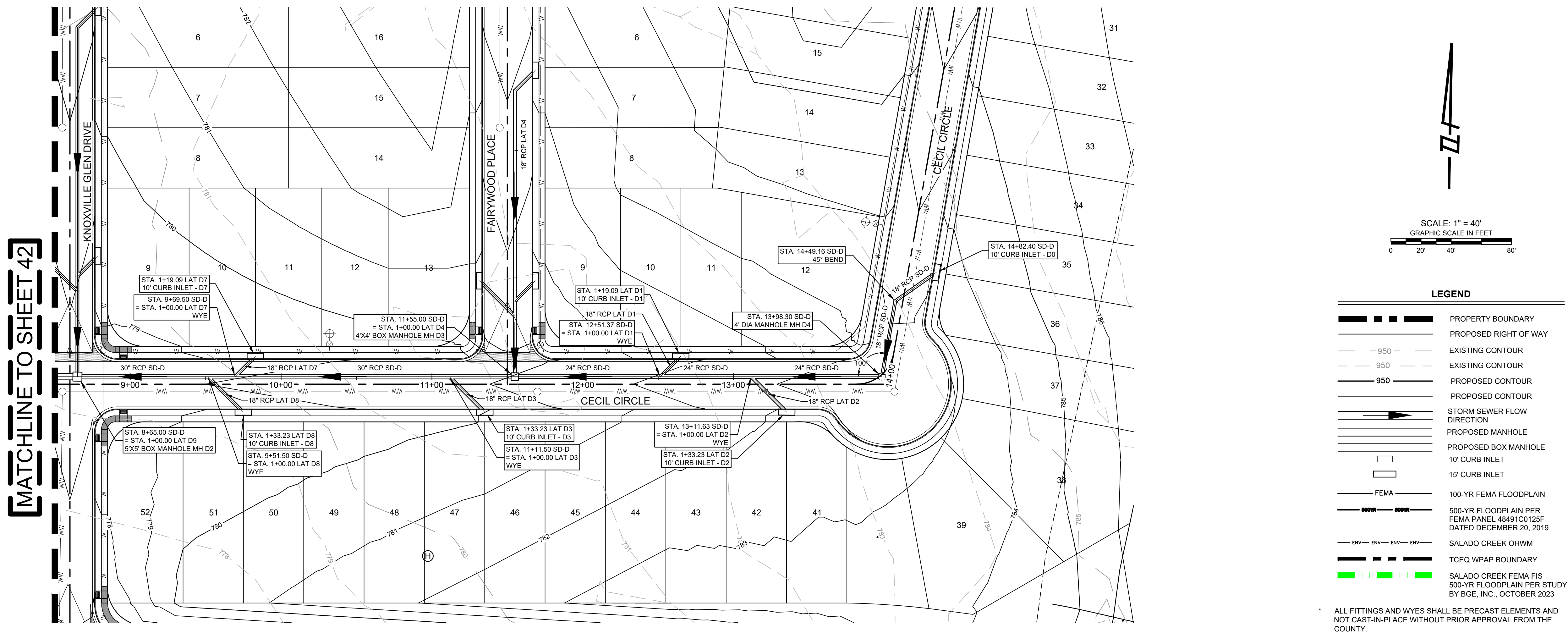
ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX

PROJECT NO: 11727  
DESIGNED BY: KEL  
DRAWN BY: KEL  
CHECKED BY: RR

NOTICE:  
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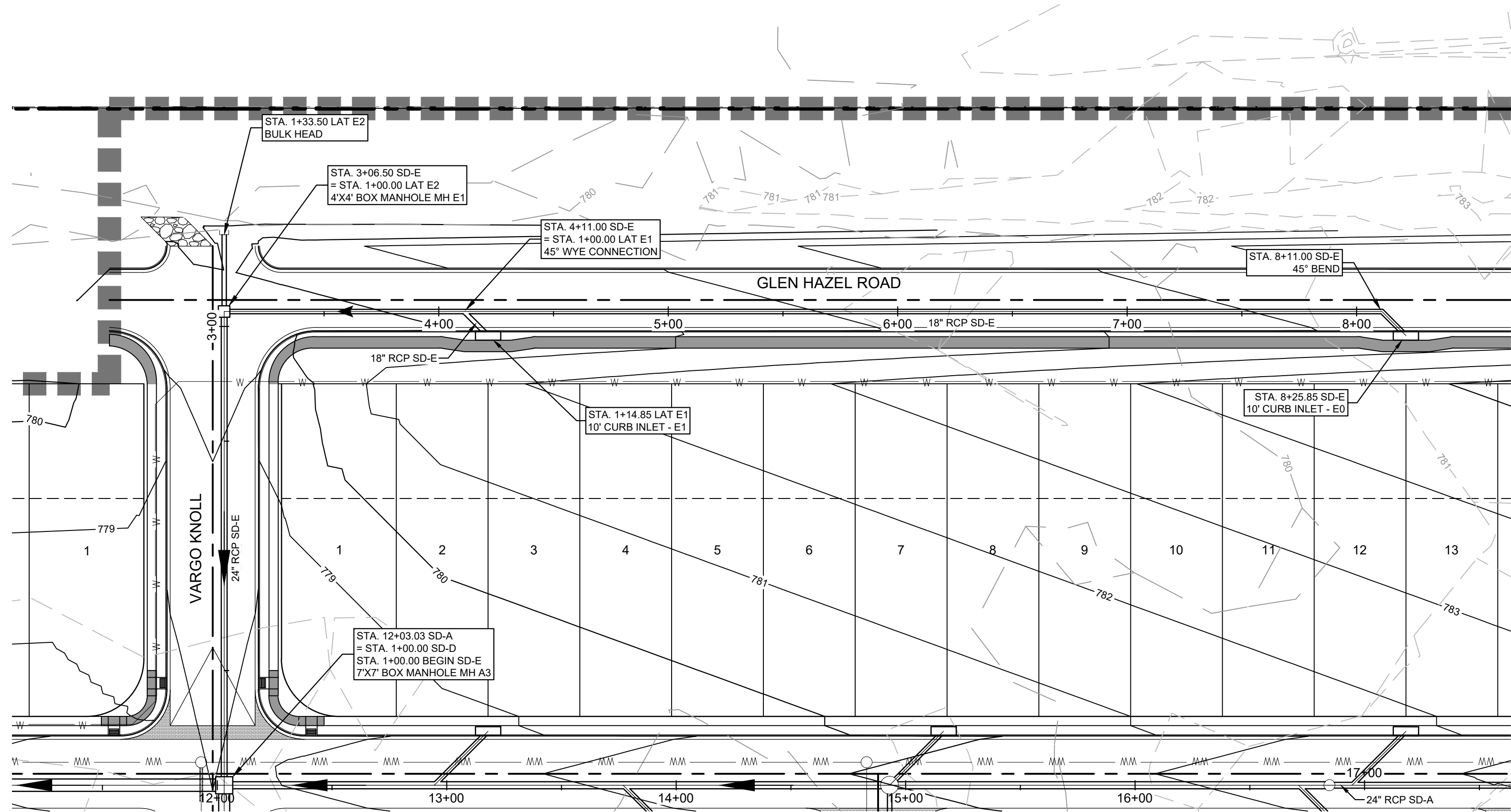
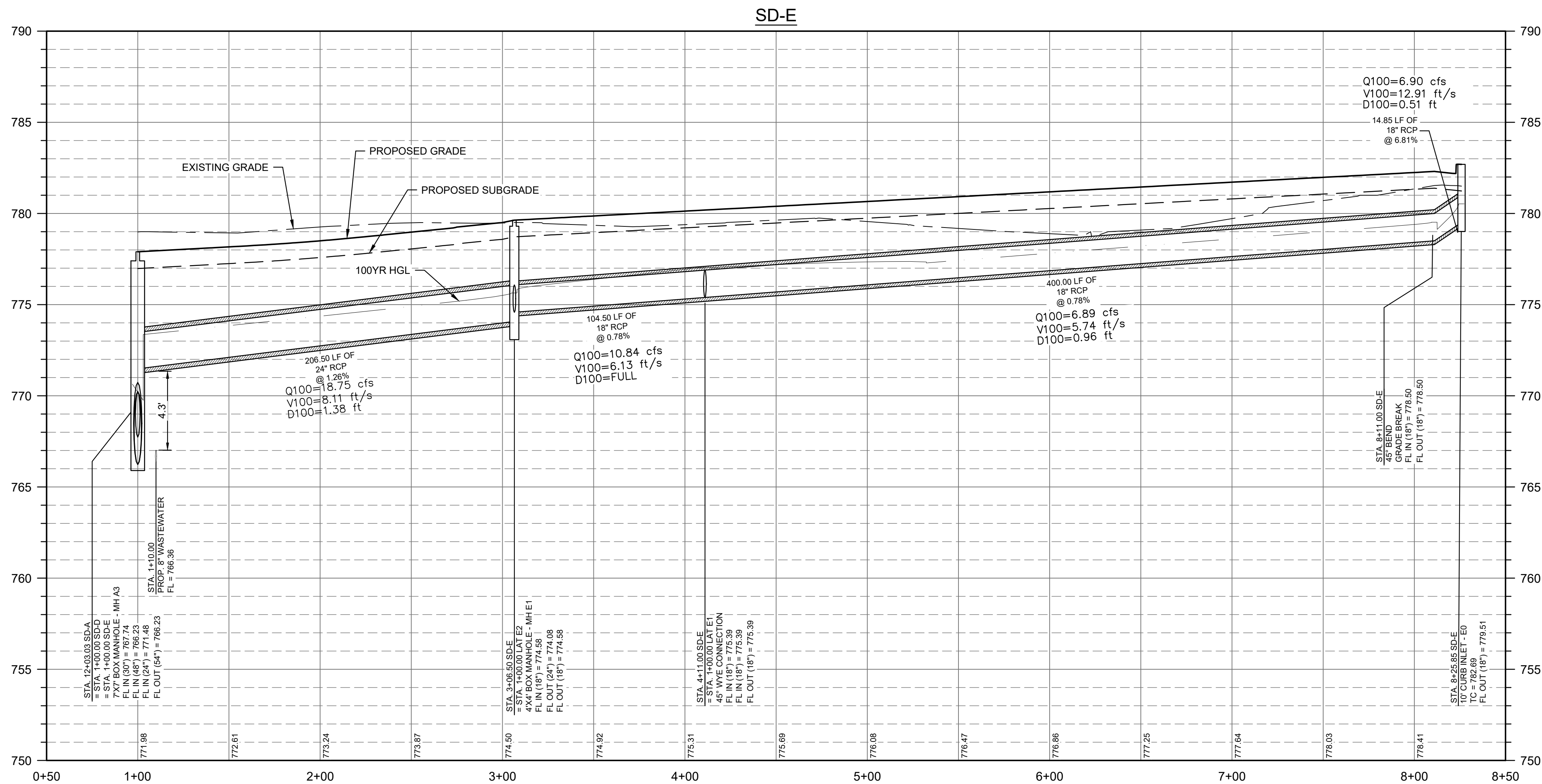








\\PROJECTS\1723-ATLAS RANCH HOLDINGS\11727 ATLAS RANCH\CD\PH1\SEC1\SHEETS\11727 C-STRM.DWG DATE: 8/23/2024 2:31:16 PM BY: NMASSINO



SCALE: 1" = 40'  
GRAPHIC SCALE IN FEET

#### LEGEND

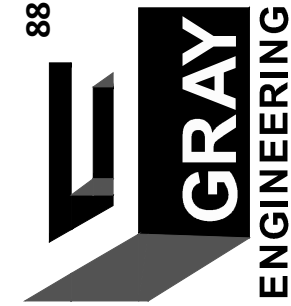
- PROPERTY BOUNDARY
- PROPOSED RIGHT OF WAY
- EXISTING CONTOUR
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED CONTOUR
- STORM SEWER FLOW DIRECTION
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- SALADO CREEK OHWM
- TCEQ WPAP BOUNDARY
- SALADO CREEK FEMA FIS
- 500-YR FLOODPLAIN PER STUDY BY BGE, INC., OCTOBER 2023

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#### PROFILE LEGEND

- PROPOSED GRADE LINE
- PROPOSED SUBGRADE
- EXISTING GROUND AT CENTERLINE
- 100 YR HGL

8834 N. Capital of Texas Hwy.  
Suite 140  
Austin, Texas 78759  
(512) 452-0371  
FAX (512) 454-9933  
TBPELS FRW #2946



NO. BY DATE REVISION DESCRIPTION

STORM SEWER LINE E  
(STA 1+00 TO END)

ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX

PROJECT NO: 11727

DESIGNED BY: KEL

DRAWN BY: KEL

CHECKED BY: RR

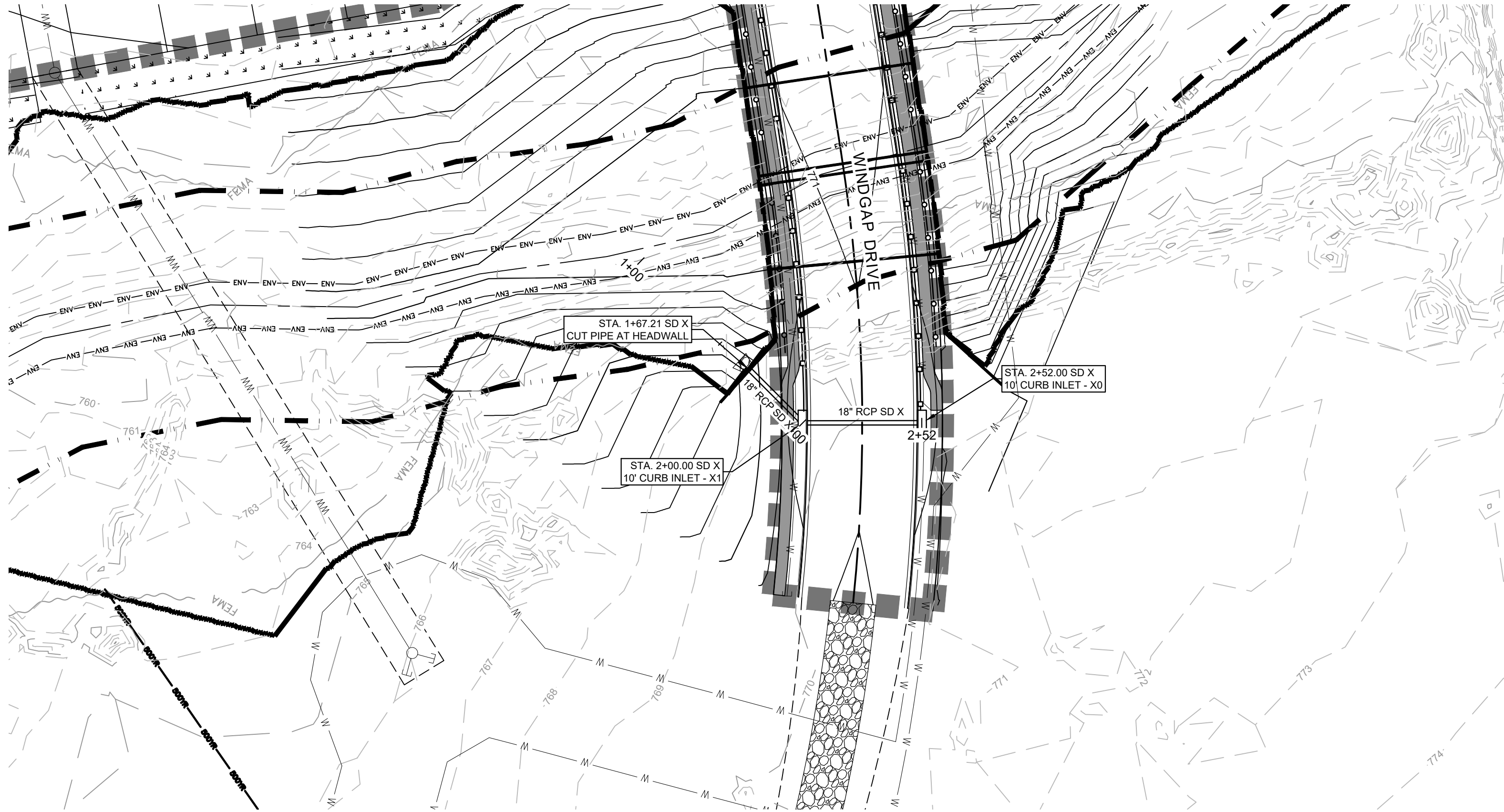
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PRACTICE ACT.



SHEET 44 OF 91



\\PROJECTS\1725-ATLAS RANCH HOLDINGS\11727 ATLAS RANCH\CD\PH1\SEC1\SHEETS\11727 C-STRM.DWG DATE: 8/23/2024 2:31:33 PM BY: NMAIRNO

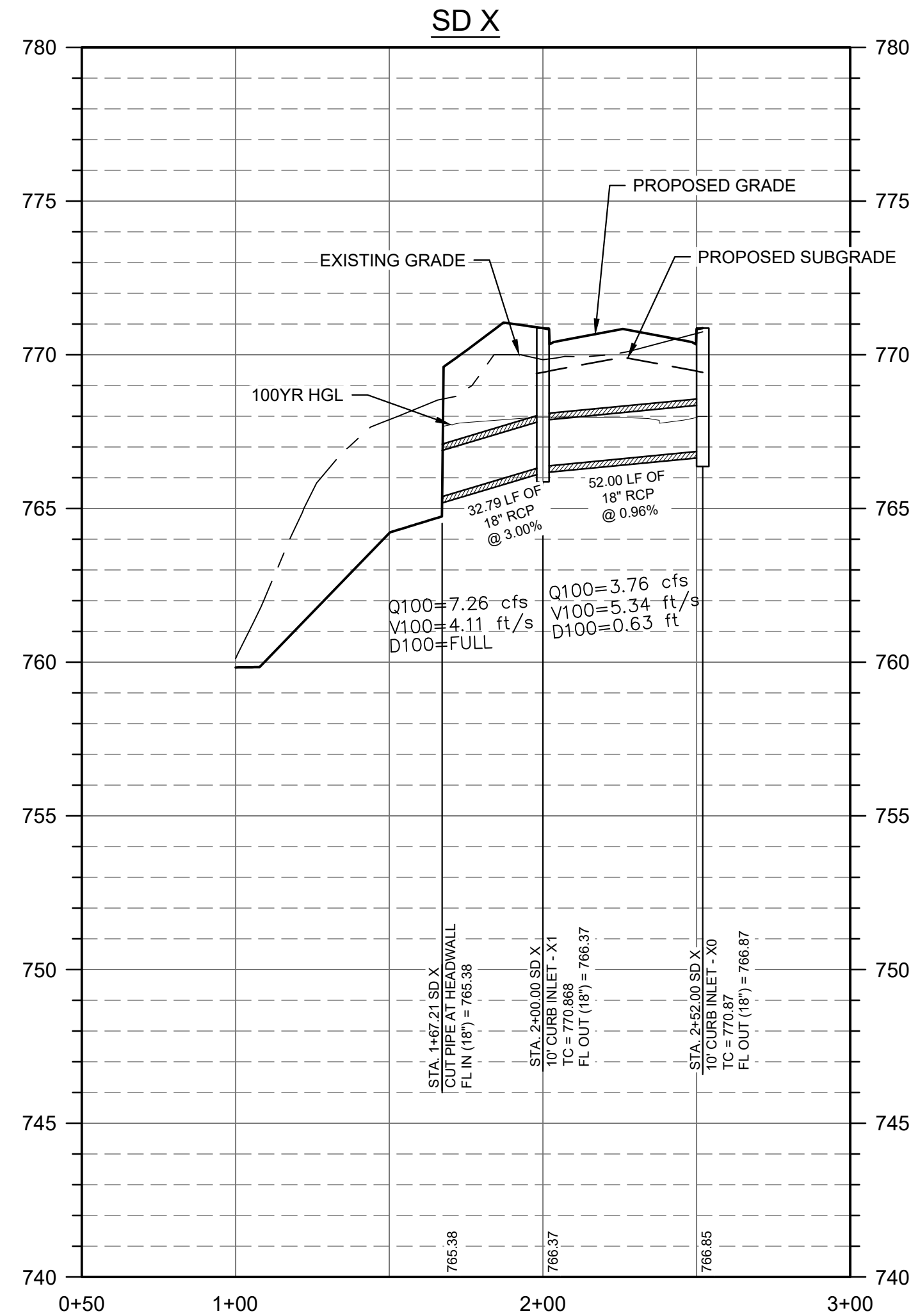


SCALE: 1" = 40'  
GRAPHIC SCALE IN FEET  
0 20' 40' 80'

#### LEGEND

- PROPERTY BOUNDARY
- PROPOSED RIGHT OF WAY
- EXISTING CONTOUR
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED CONTOUR
- STORM SEWER FLOW DIRECTION
- PROPOSED MANHOLE
- PROPOSED BOX MANHOLE
- 10' CURB INLET
- 15' CURB INLET
- FEMA
- 100-YR FEMA FLOODPLAIN
- 500-YR FLOODPLAIN PER FEMA PANEL 48491C0125F DATED DECEMBER 20, 2019
- SALADO CREEK OHWM
- TCEQ WPAP BOUNDARY
- SALADO CREEK FEMA FIS
- 500-YR FLOODPLAIN PER STUDY BY BGE, INC., OCTOBER 2023

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#### PROFILE LEGEND

- PROPOSED GRADE LINE
- PROPOSED SUBGRADE
- EXISTING GROUND AT CENTERLINE
- 100 YR HGL

NO.	BY	DATE	REVISION DESCRIPTION

### STORM SEWER LINE X (STA 1+00 TO END)

### ATLAS RANCH PHASE 1 SECTION 1 WILLIAMSON COUNTY, TX

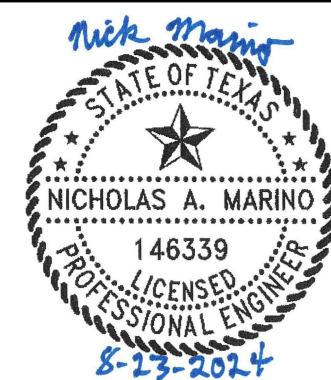
PROJECT NO: 11727

DESIGNED BY: KEL

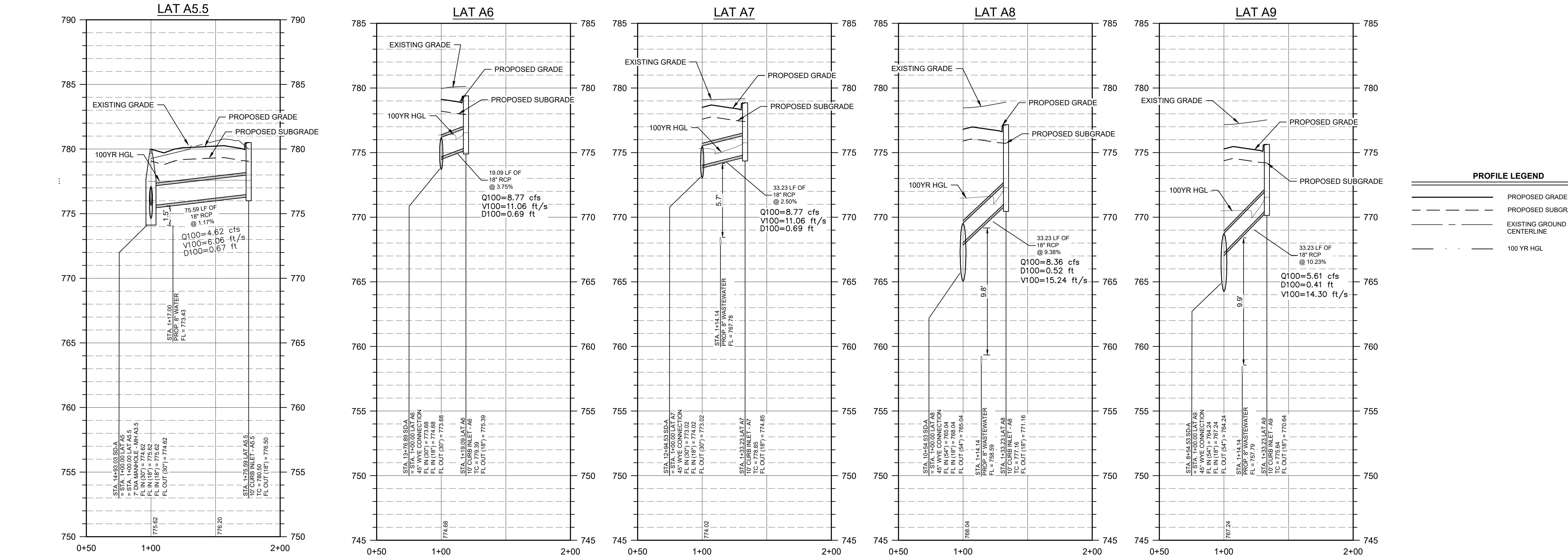
DRAWN BY: KEL

CHECKED BY: RR

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PRACTICE ACT.







*Nick Marino*

STATE OF TEXAS

NICHOLAS A. MARINO

146339

LICENSED PROFESSIONAL ENGINEER

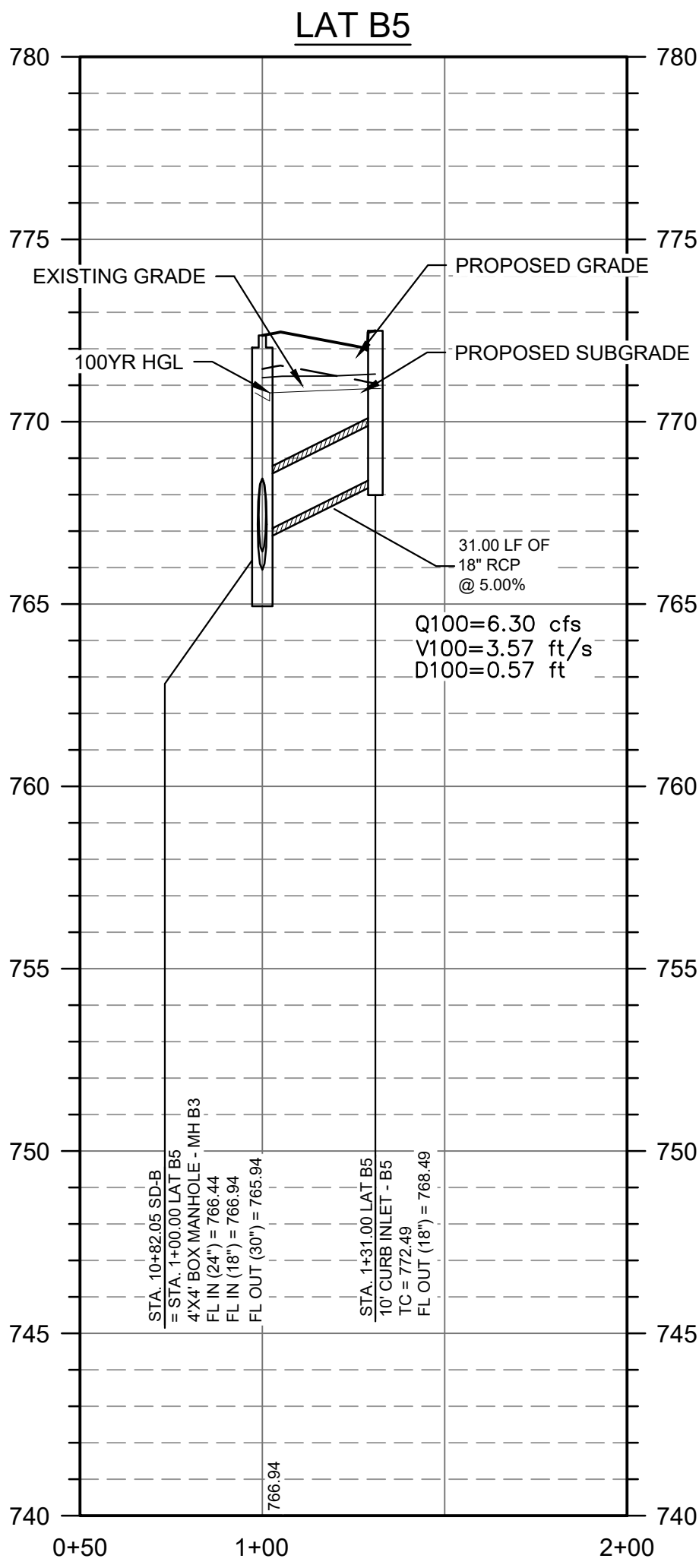
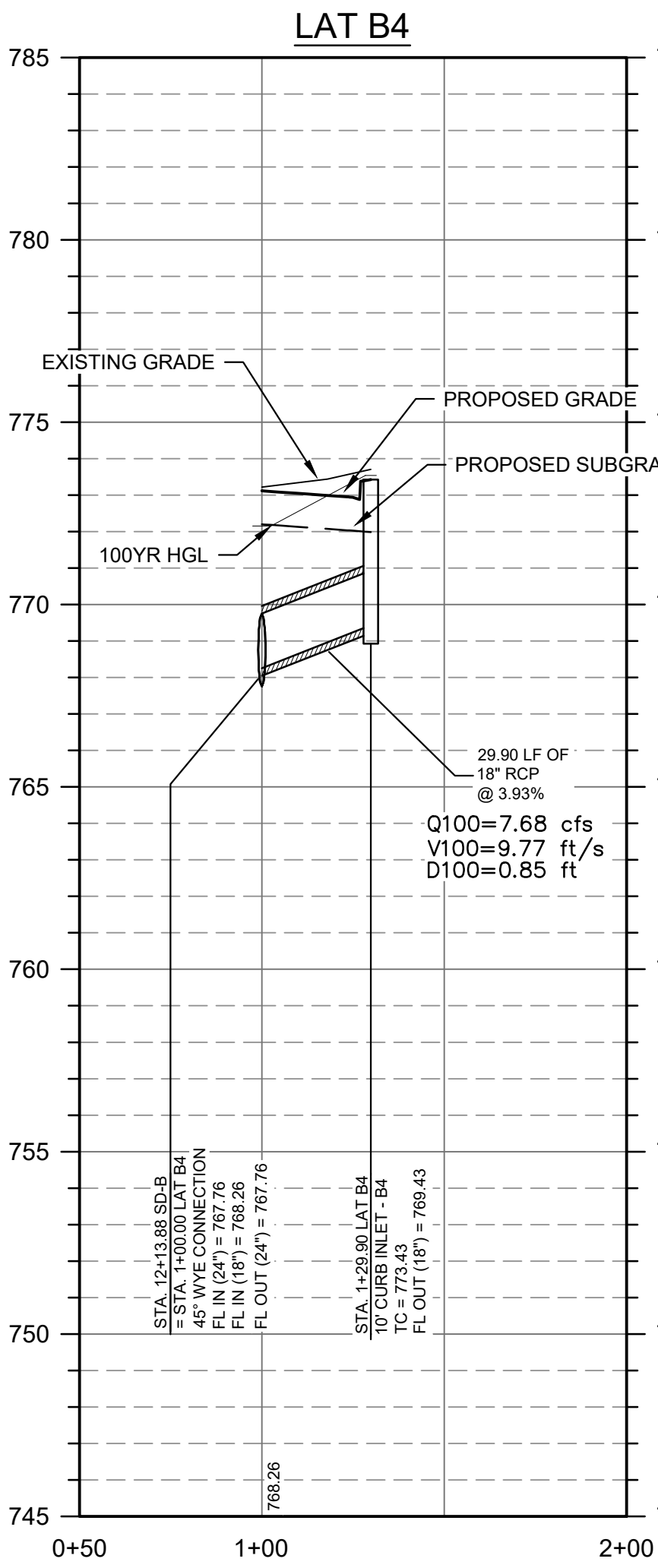
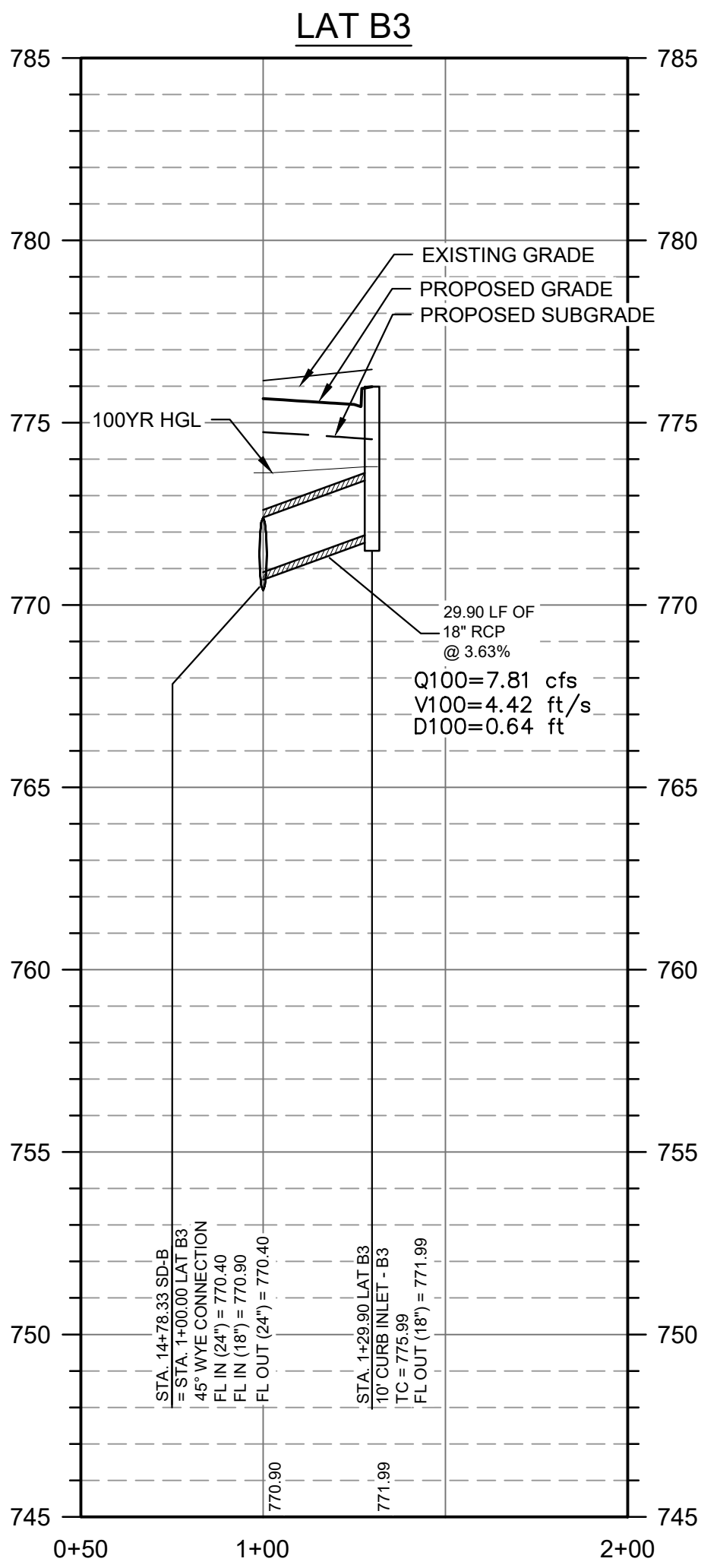
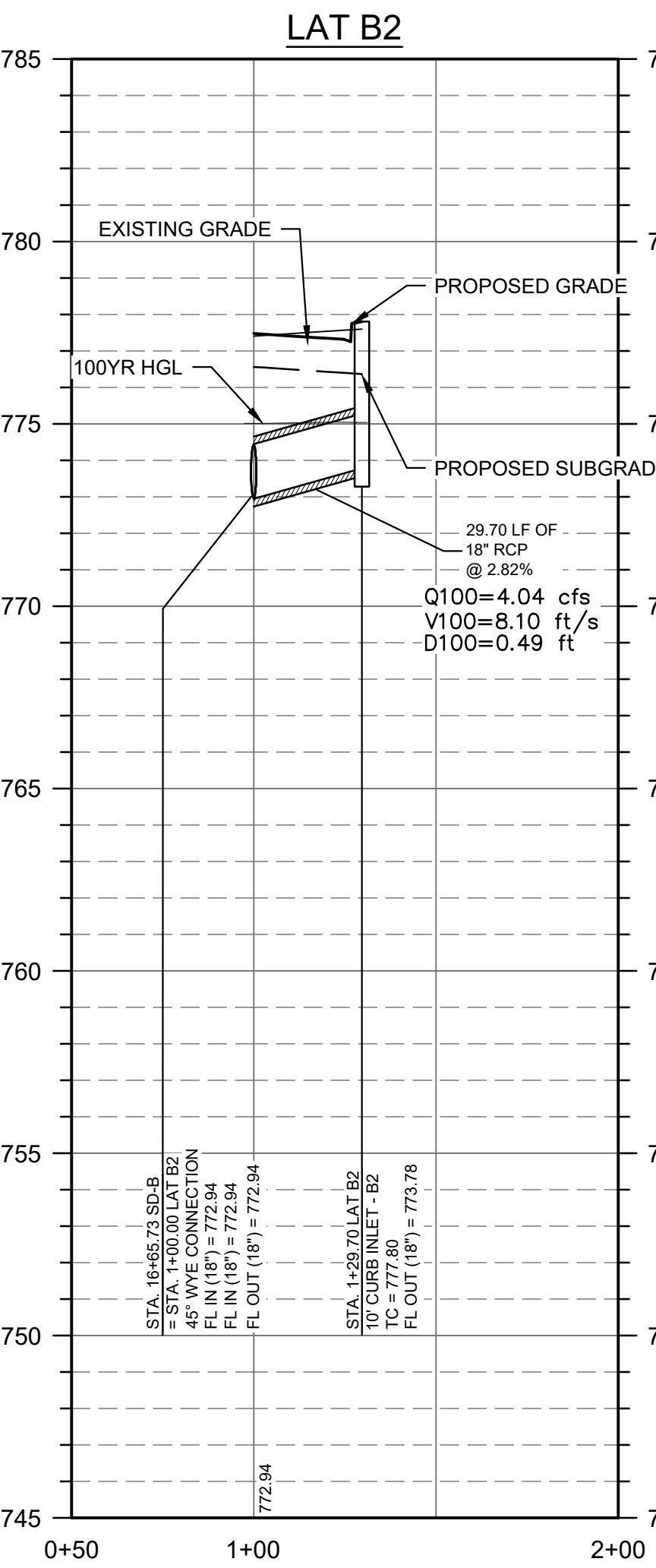
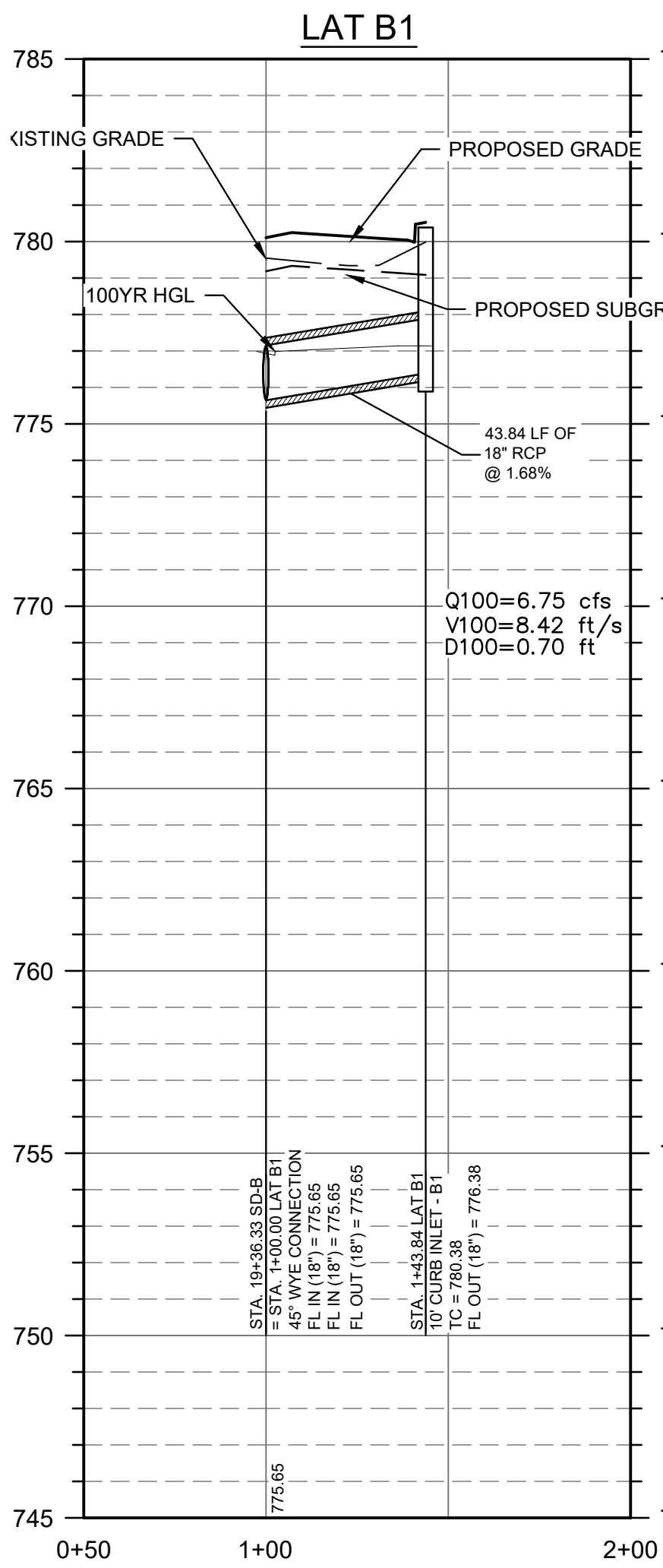
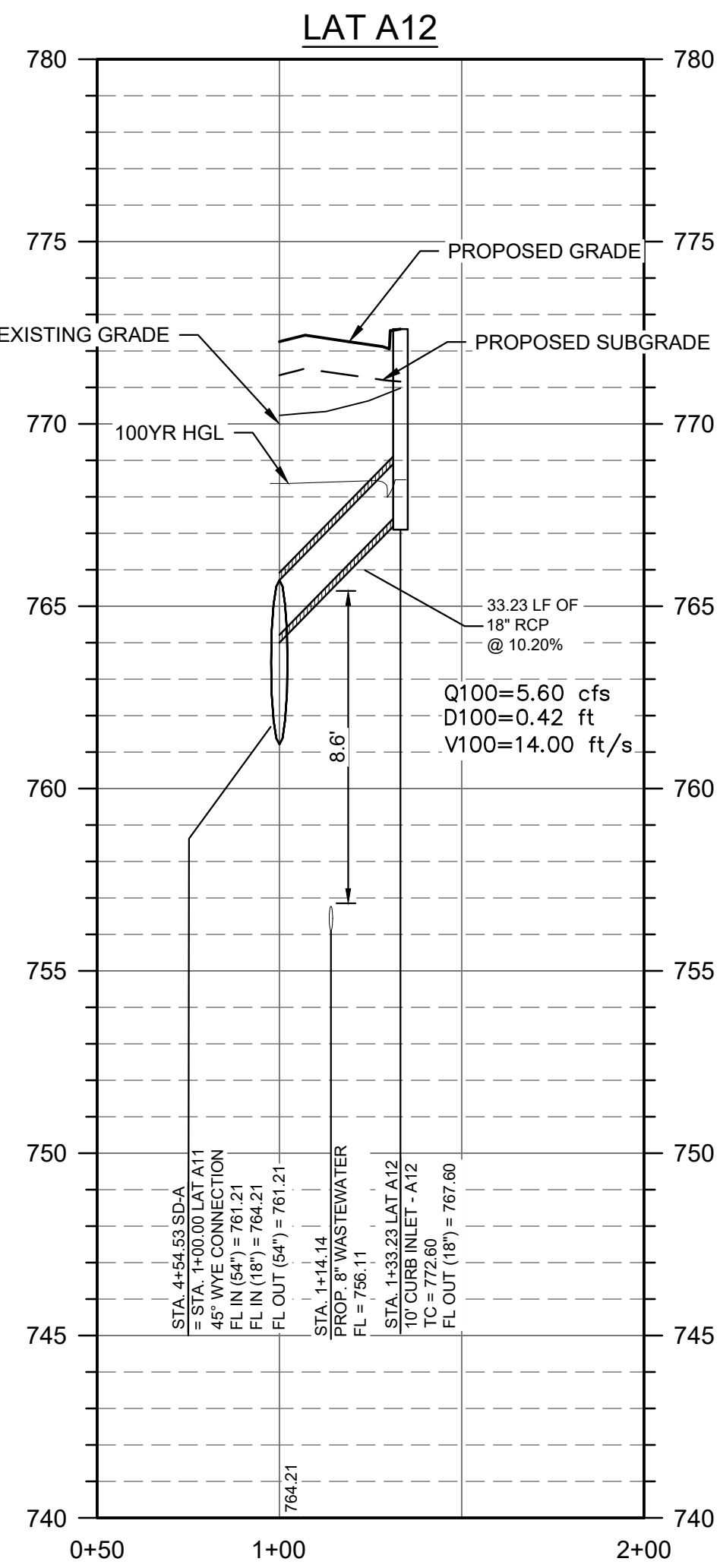
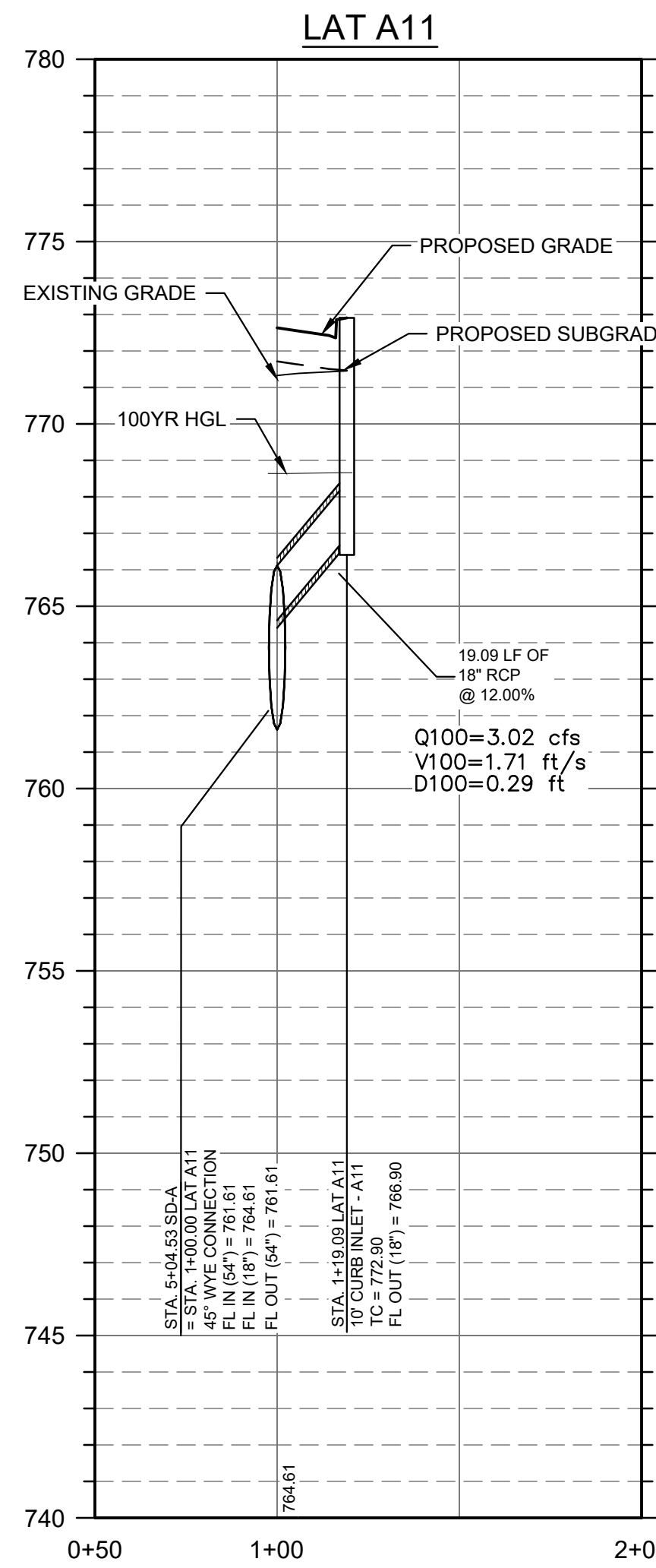
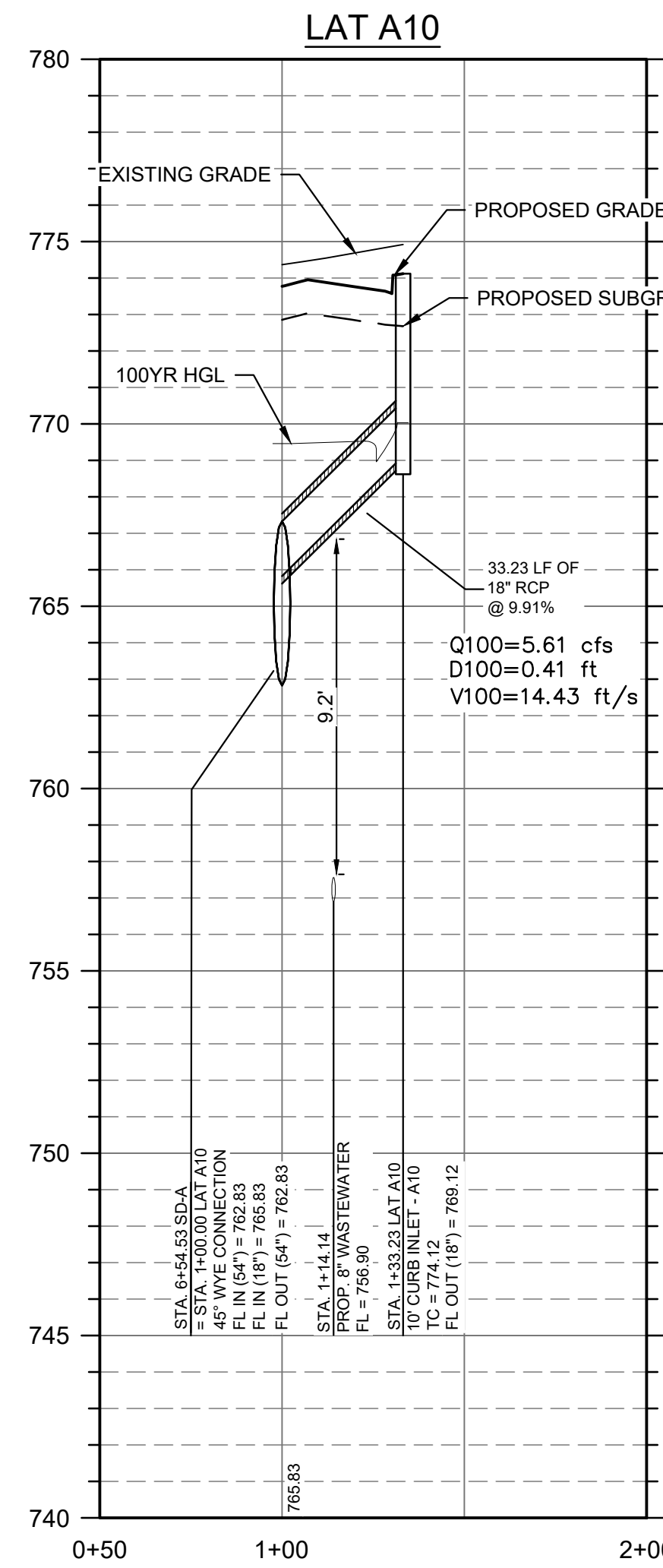
*8-23-2024*

SHEET 46 OF 91

H:\PROJECTS\1723 - ATLAS RANCH HOLDINGS\11727 ATLAS RANCH\CAD\PH1\SEC1\SHEETS\11727-C-STRM.DWG DATE: 8/23/2024 2:32:09 PM BY: NIMARINO



HIPOPROJECTS1723-ATLAS RANCH HOLDINGS11727 ATLAS RANCH/CADDPH/SEC1/SHEETS11727 C-STRM.DWG DATE: 8/23/2024 2:32:28 PM BY: NMAIRNO



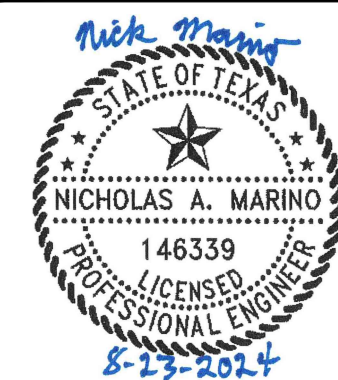
PROFILE LEGEND	
	PROPOSED GRADE LINE
	PROPOSED SUBGRADE
	EXISTING GROUND AT CENTERLINE
	100 YR HGL

STORM SEWER  
LATERALS A10-A12 &  
B1-B5

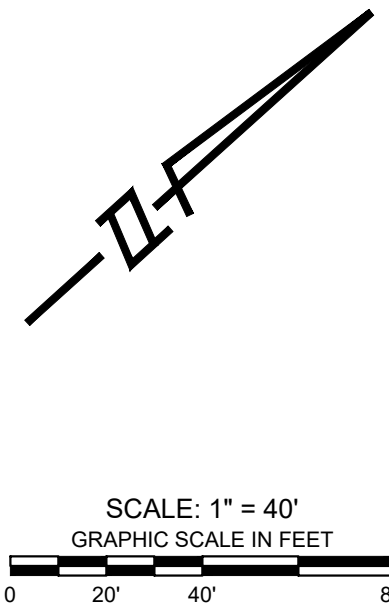
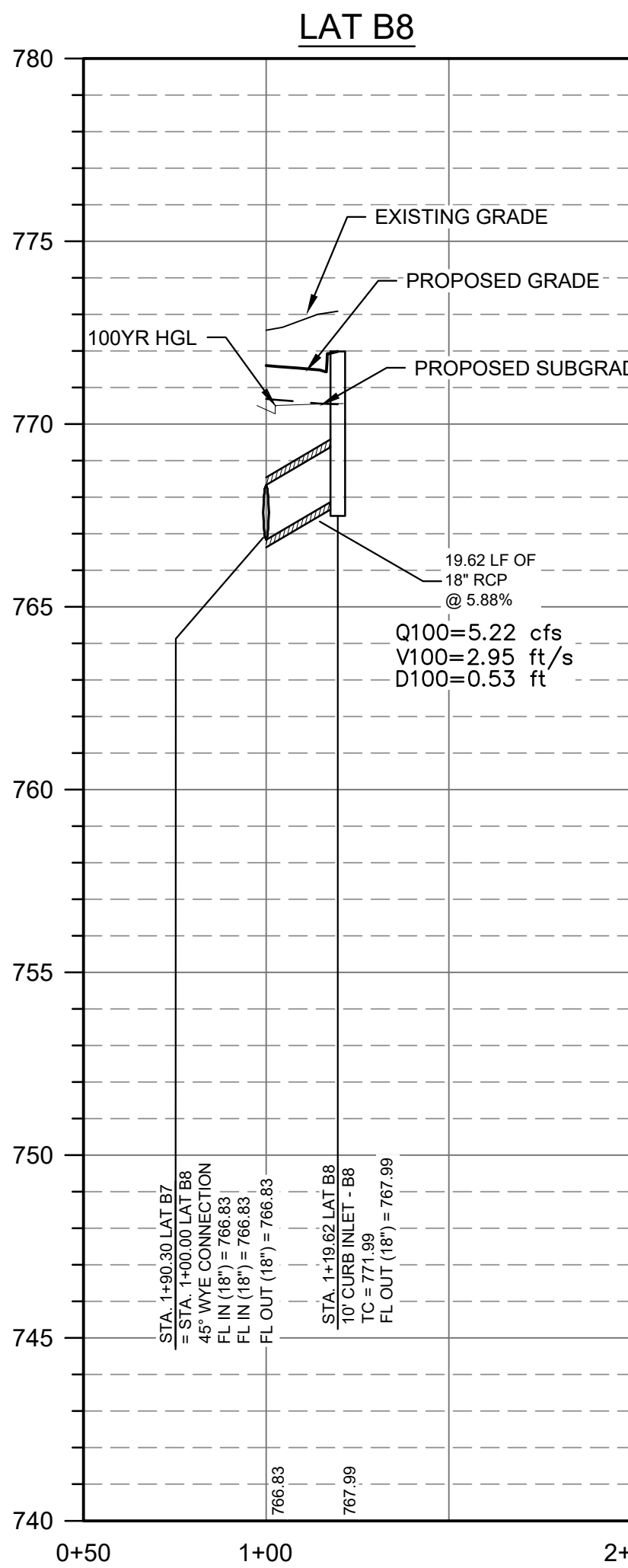
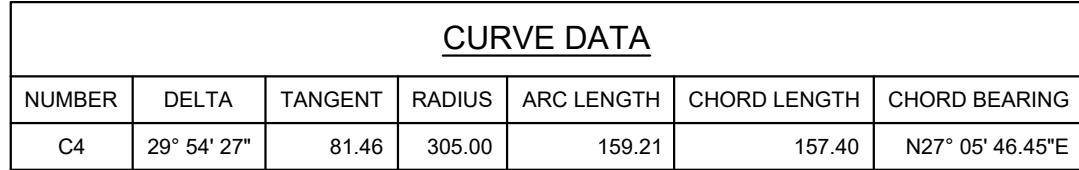
ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX

PROJECT NO: 11727  
DESIGNED BY: KEL  
DRAWN BY: KEL  
CHECKED BY: RR





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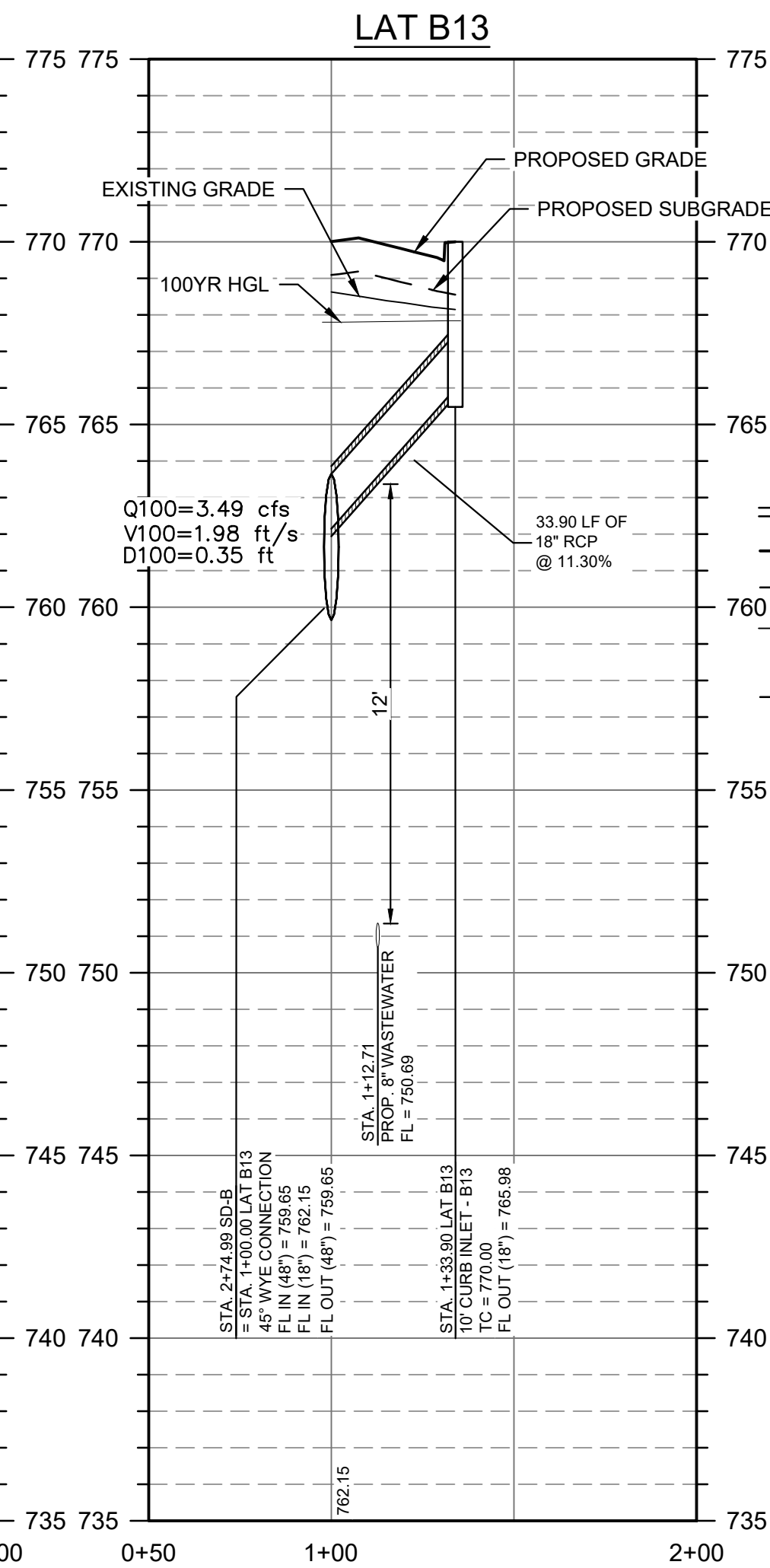
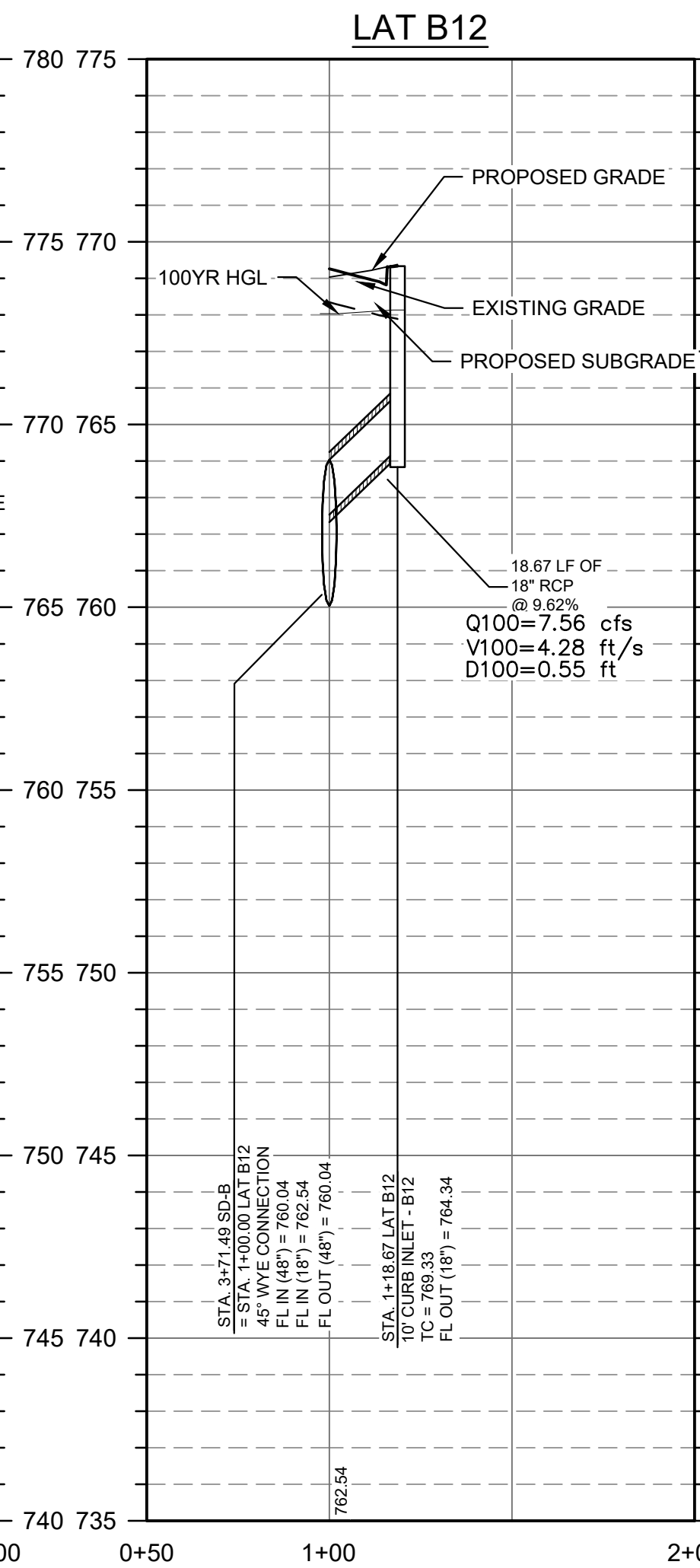
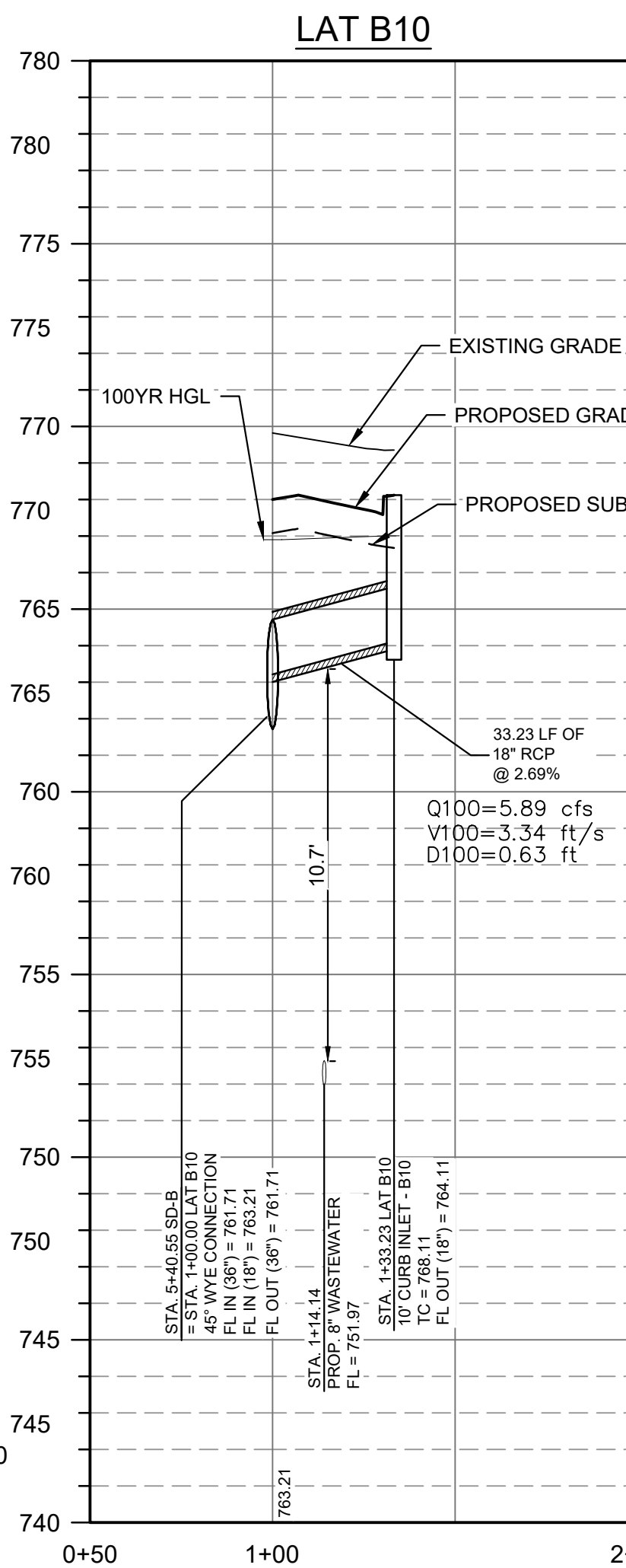






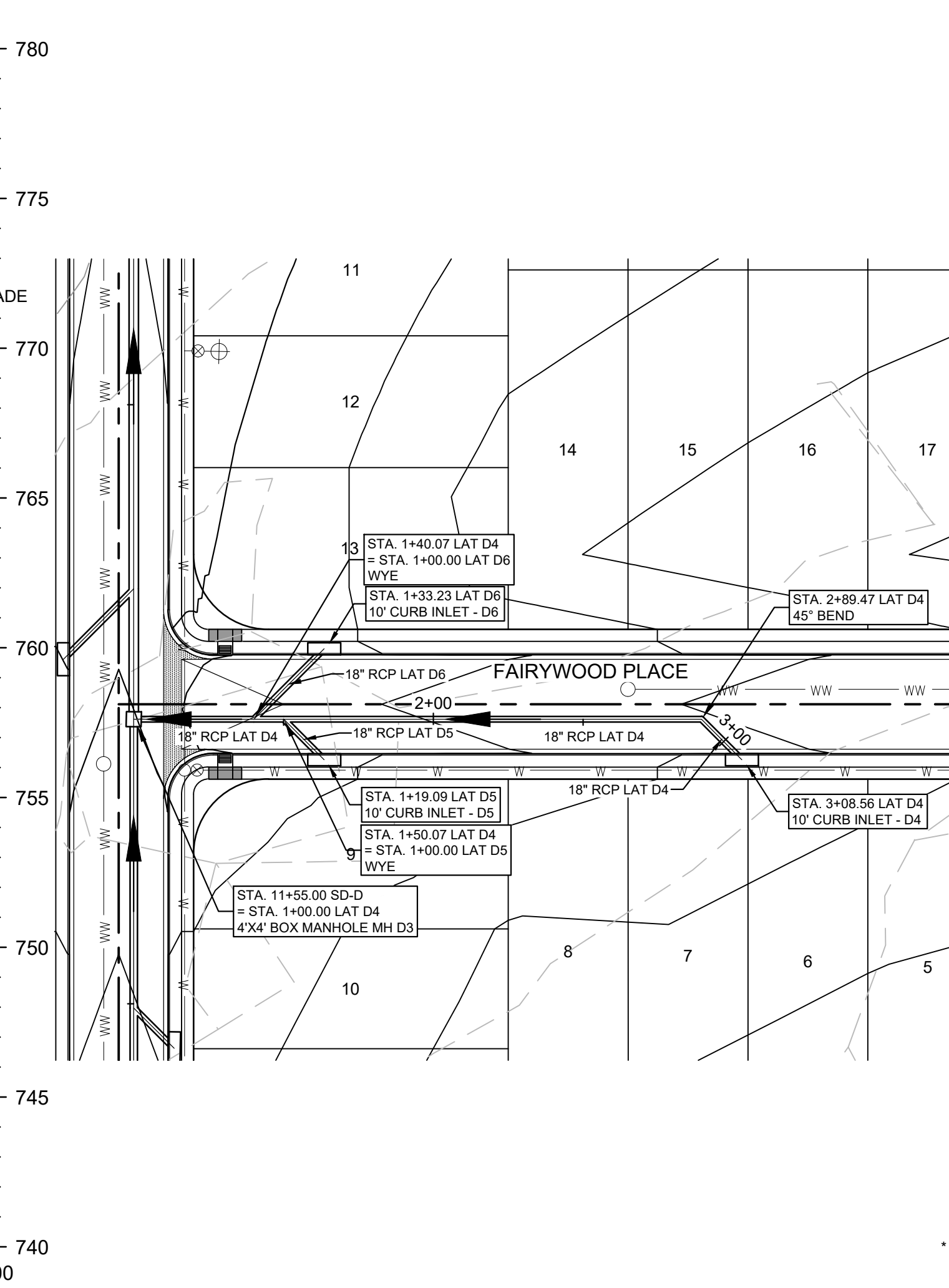
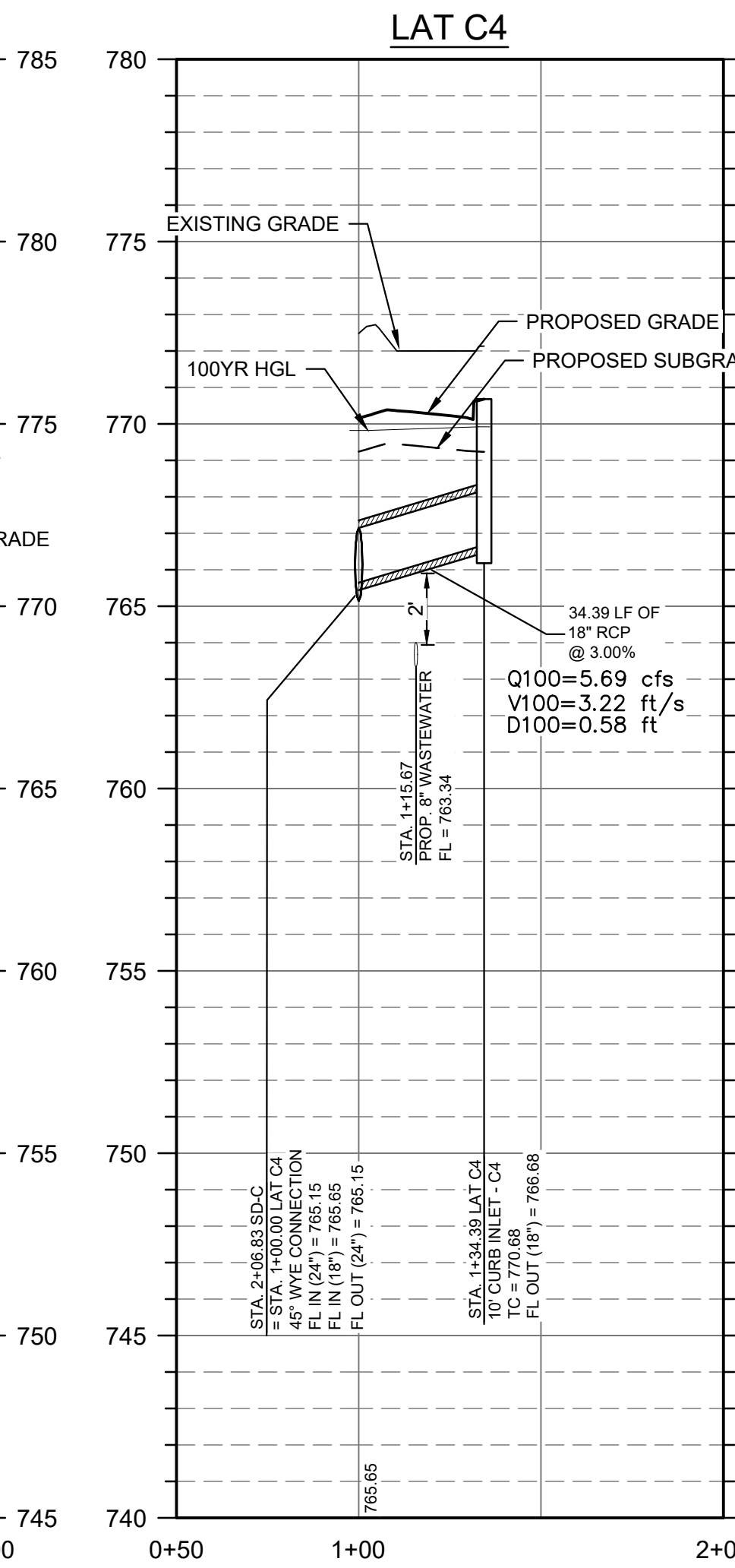
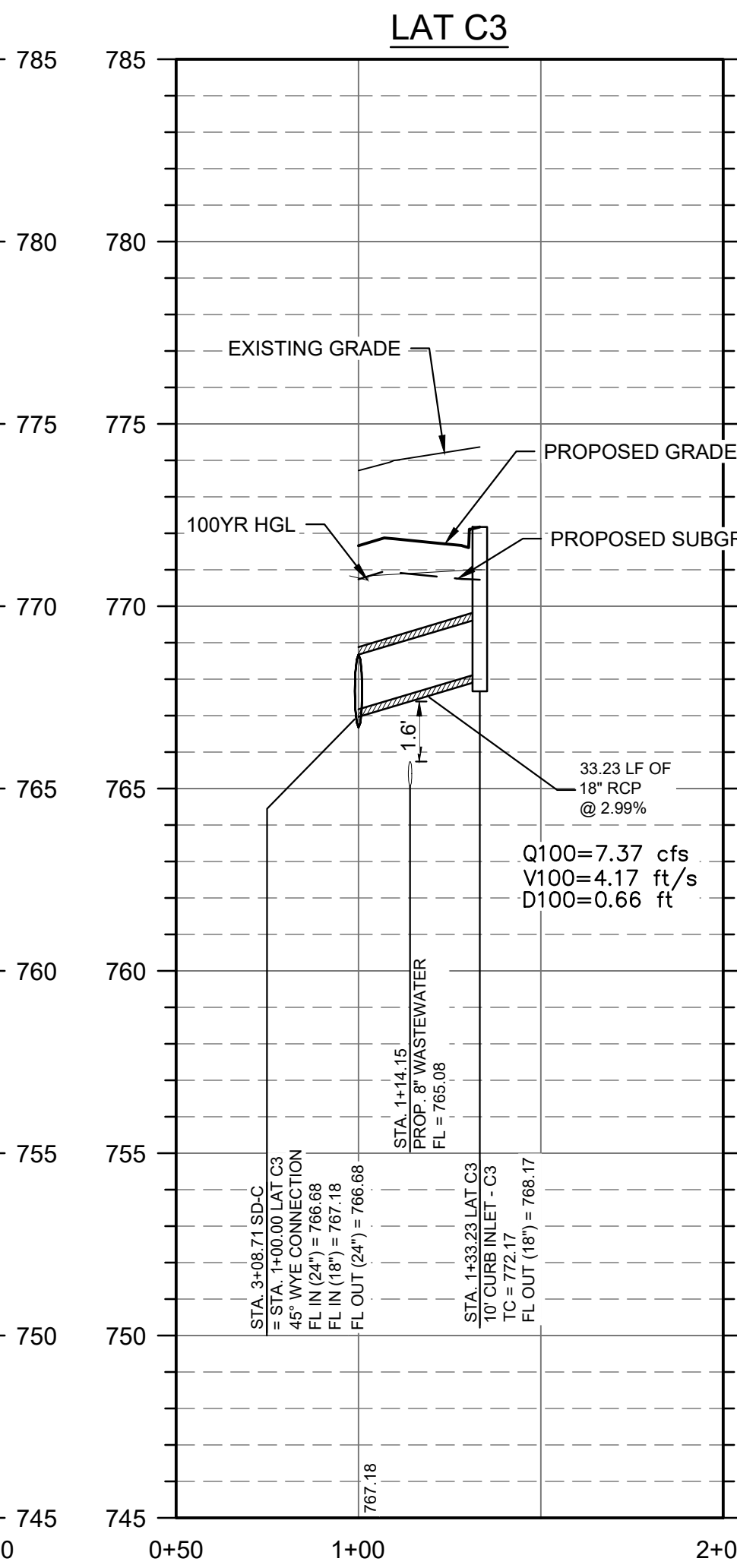
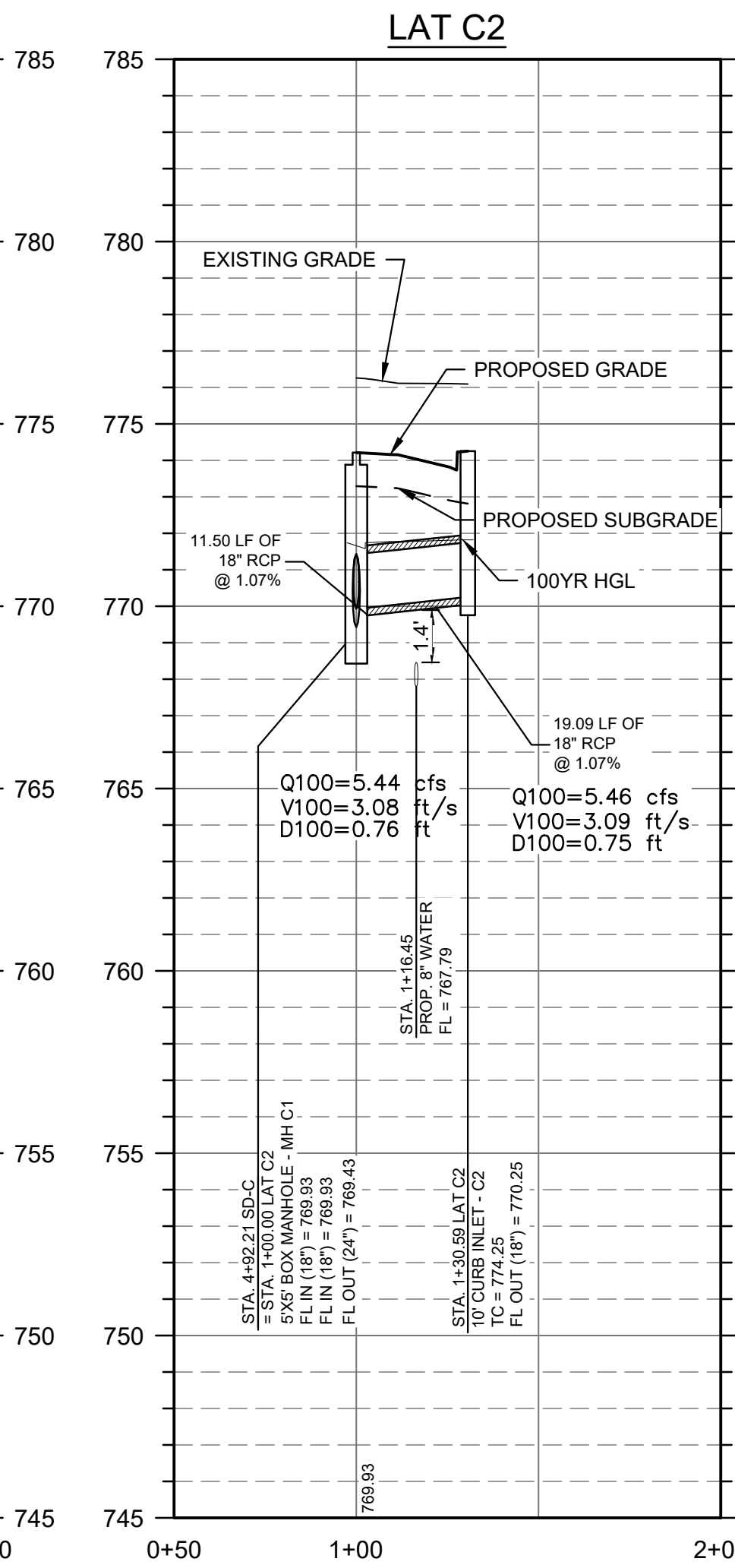
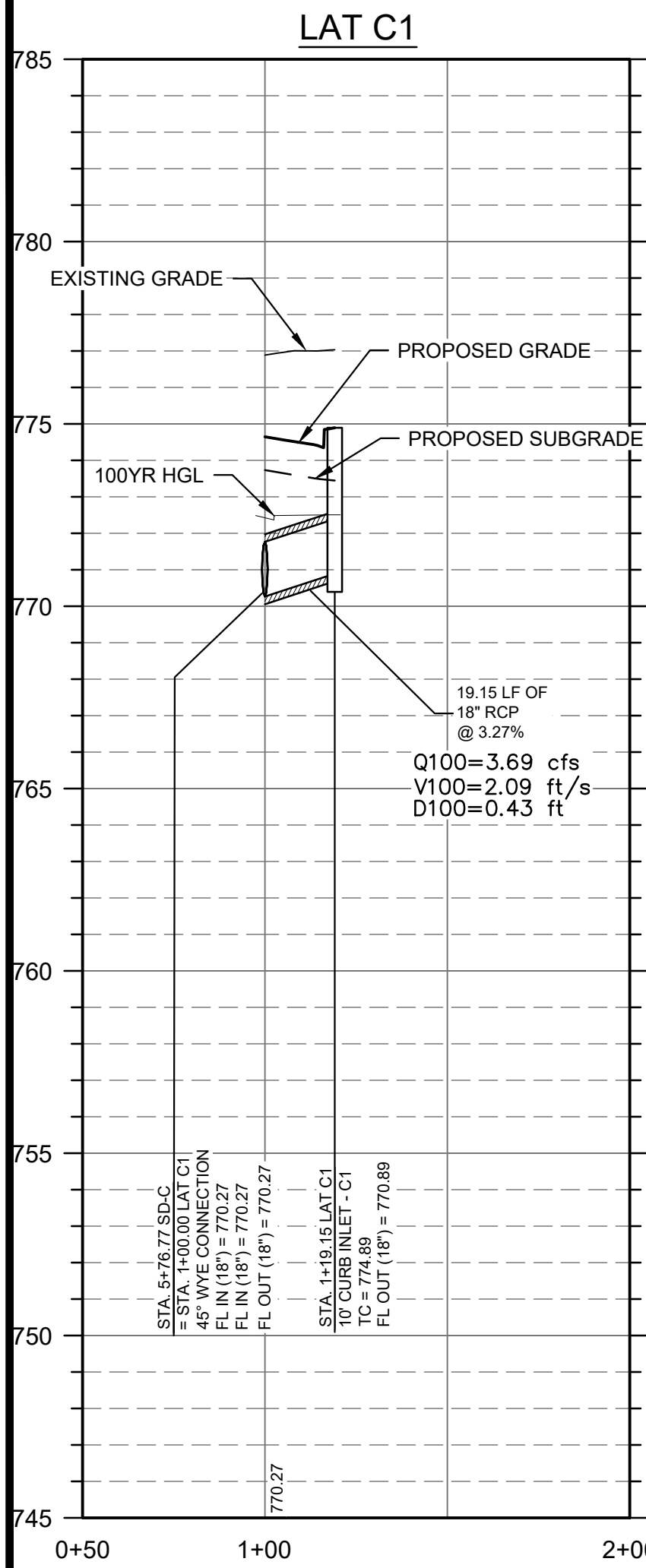
### PROFILE LEGEND

	PROPOSED GRADE LINE
	PROPOSED SUBGRADE
	EXISTING GROUND AT CENTERLINE
	100 YR HGL

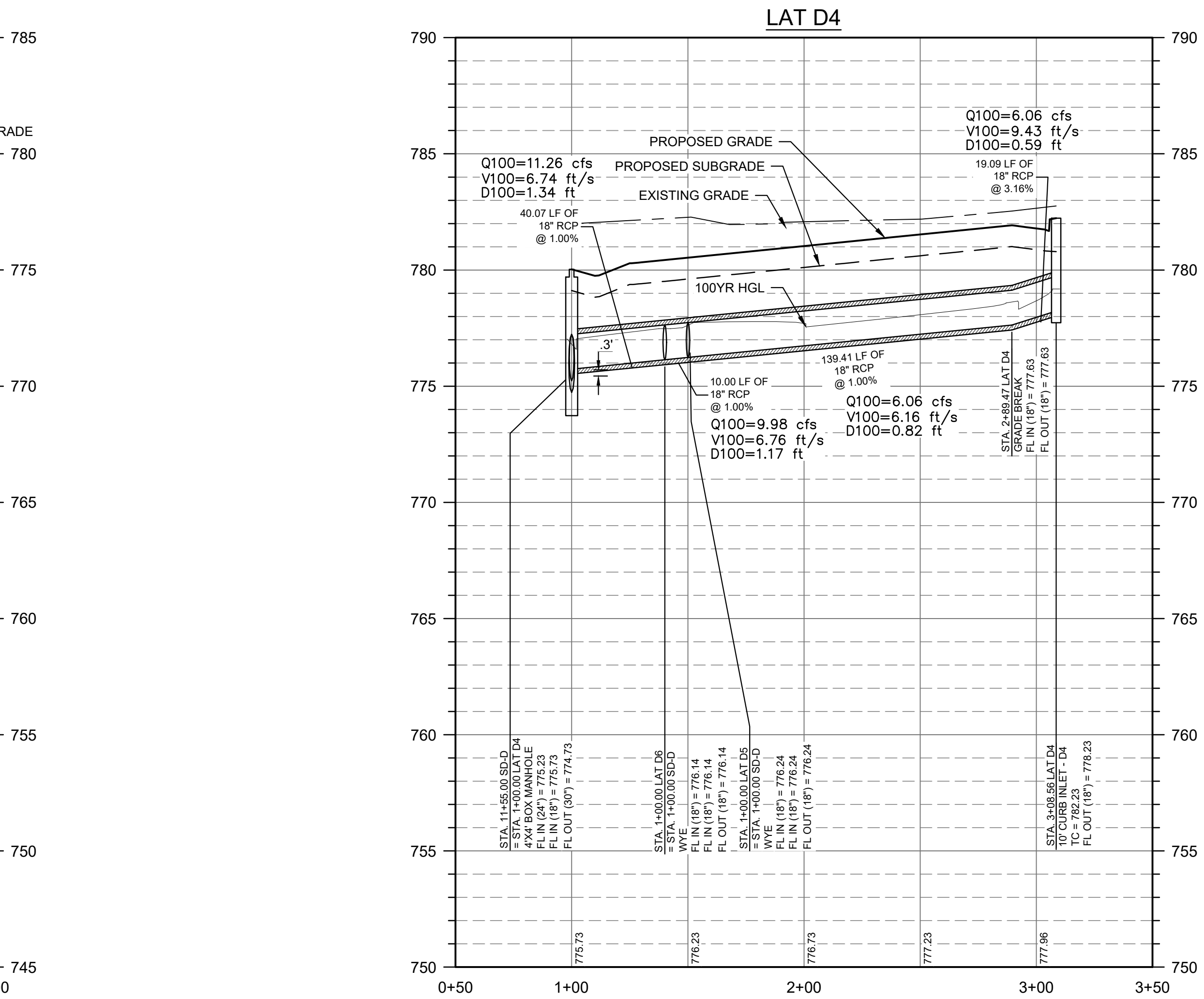
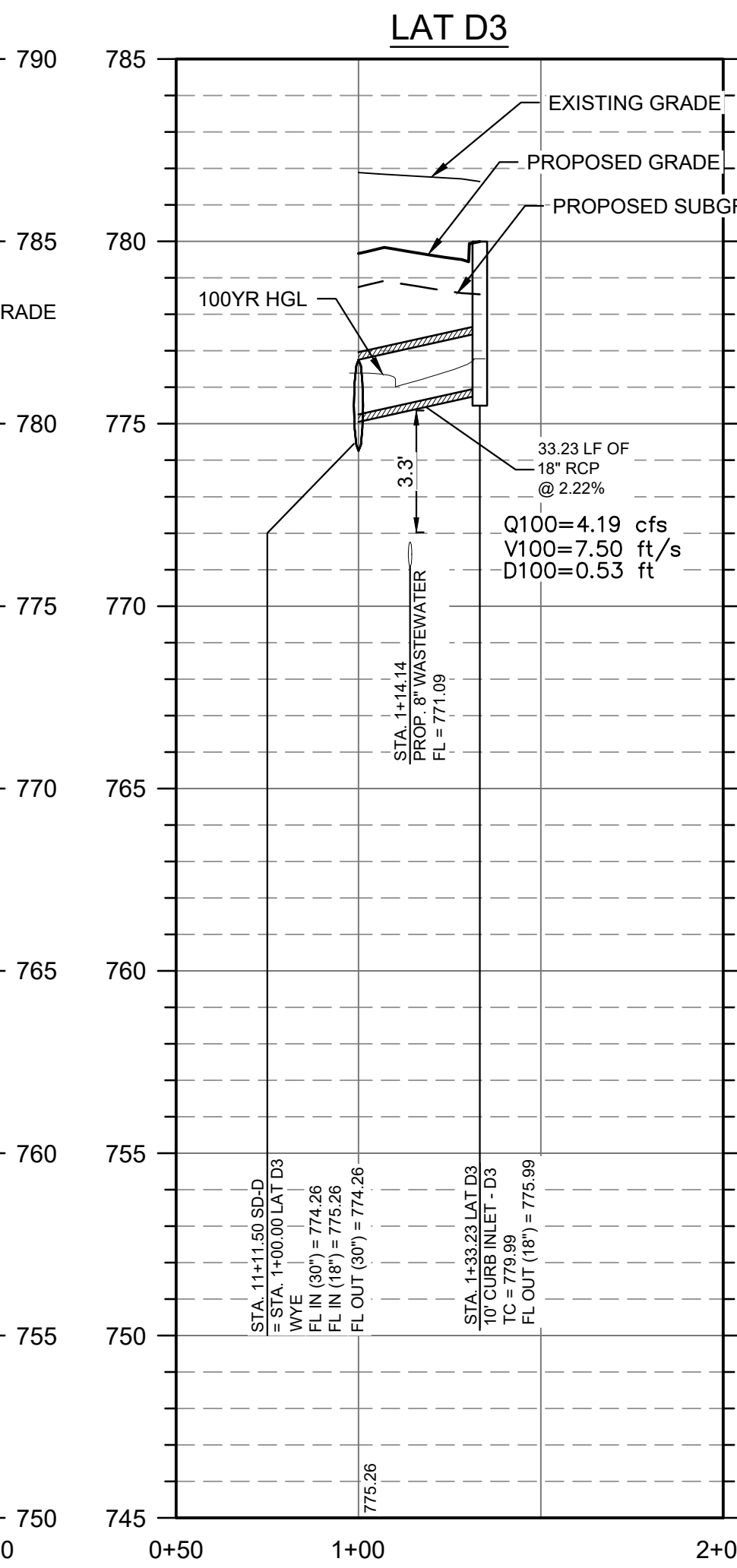
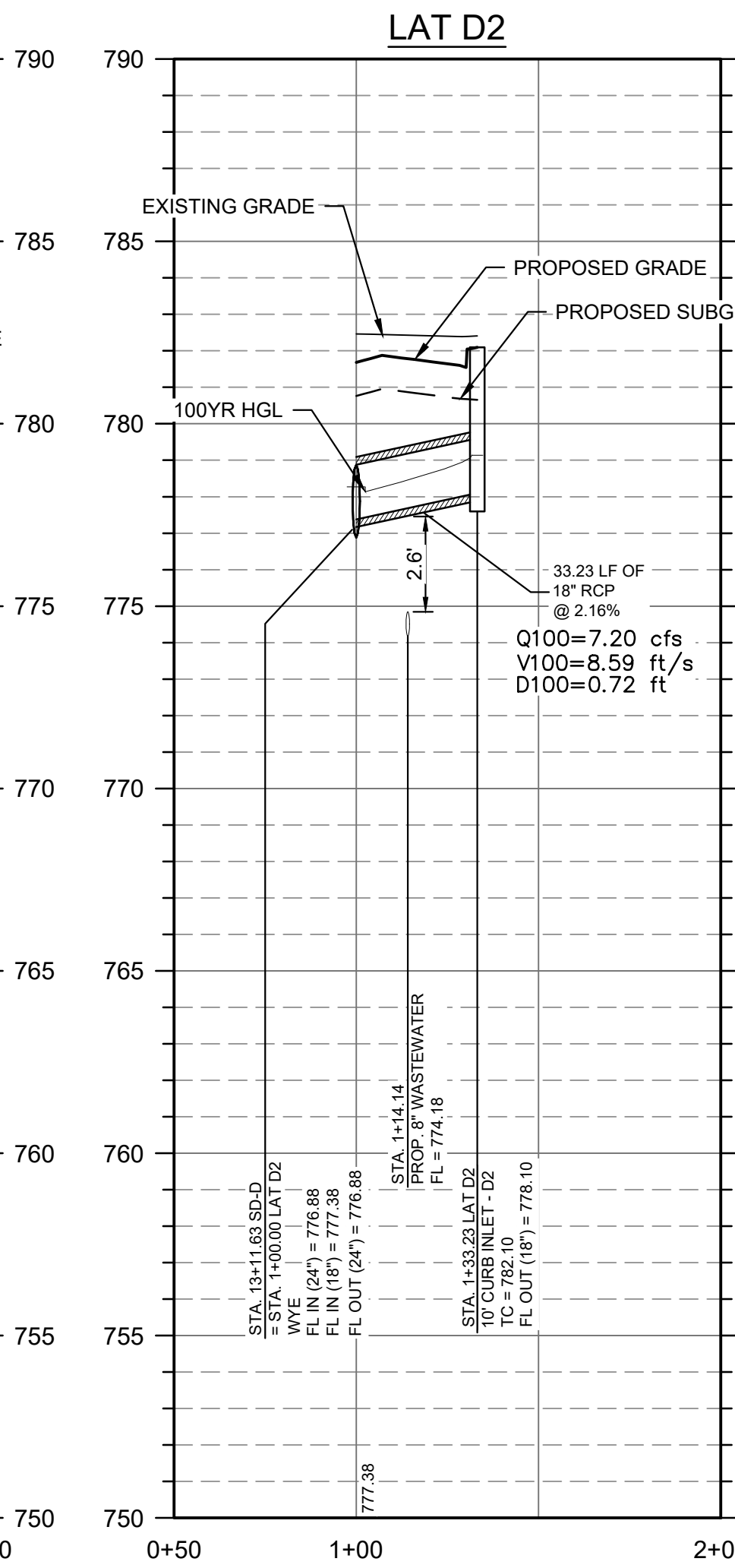
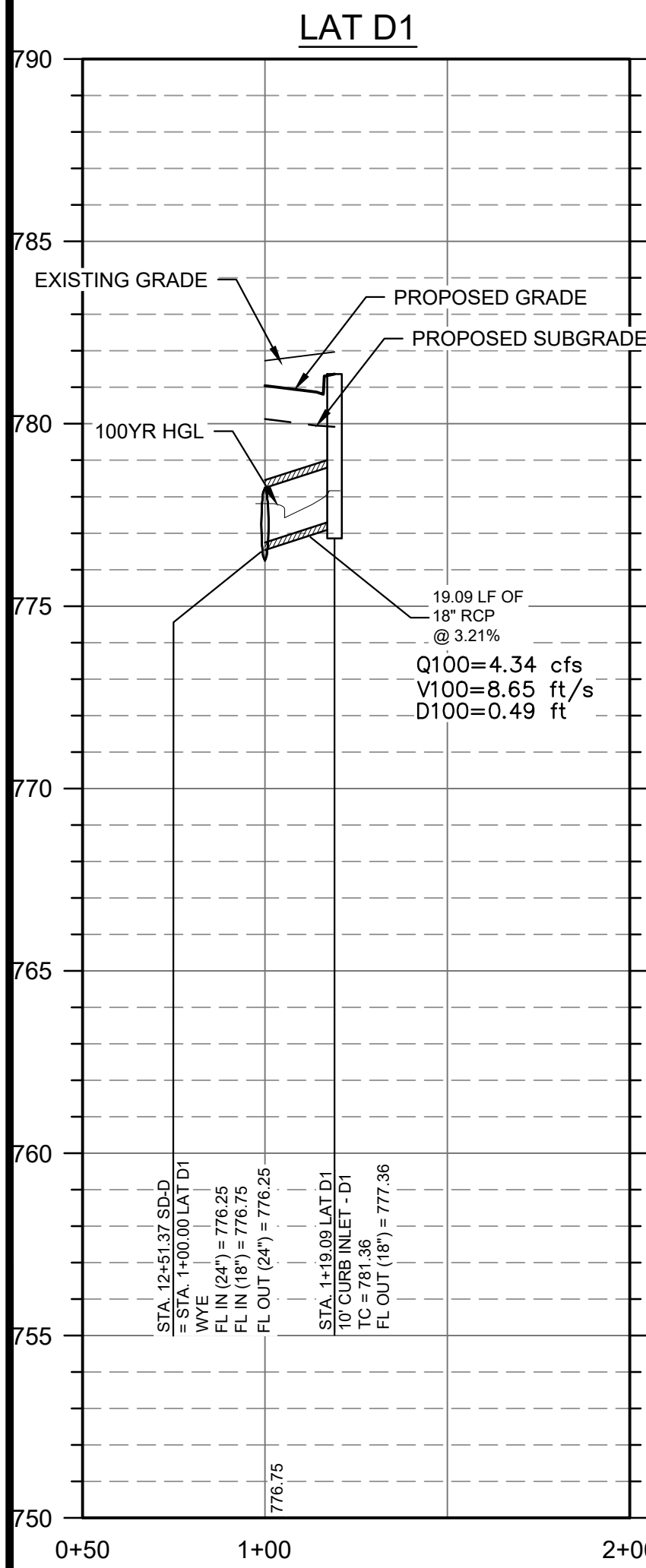




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- LEGEND**
- PROPERTY BOUNDARY
  - PROPOSED RIGHT OF WAY
  - EXISTING CONTOUR
  - PROPOSED CONTOUR
  - PROPOSED CONTOUR
  - STORM SEWER FLOW DIRECTION
  - PROPOSED MANHOLE
  - PROPOSED BOX MANHOLE
  - 10' CURB INLET
  - 15' CURB INLET
  - FEMA
  - 100-YR FEMA FLOODPLAIN
  - 500-YR FLOODPLAIN PER FEMA PANEL 48491C0125F DATED DECEMBER 20, 2019
  - ENV - ENV - ENV - ENV
  - SALADO CREEK OHWM
  - TCEQ WPAP BOUNDARY
  - SALADO CREEK FEMA FIS
  - 500-YR FLOODPLAIN PER STUDY BY BGE, INC., OCTOBER 2023
- ALL FITTINGS AND WYES SHALL BE PRECAST ELEMENTS AND NOT CAST-IN-PLACE WITHOUT PRIOR APPROVAL FROM THE COUNTY.



- PROFILE LEGEND**
- PROPOSED GRADE LINE
  - PROPOSED SUBGRADE
  - EXISTING GROUND AT CENTERLINE
  - 100 YR HGL

8834 N. Capital of Texas Hwy.  
Suite 140  
Austin, Texas 78759  
(512) 452-0371  
FAX (512) 454-9933  
TBPELS FRM #2946

**GRAY**  
ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

**STORM SEWER  
LATERALS C1-C4 &  
D1-D4**

**ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX**

PROJECT NO: 11727

DESIGNED BY: KEL

DRAWN BY: KEL

CHECKED BY: RR

NOTICE:  
ALTERATION OF A  
SEALED DRAWING  
WITHOUT PROPER  
NOTIFICATION TO THE  
RESPONSIBLE ENGINEER  
IS A VIOLATION OF THE  
TEXAS ENGINEERING  
PRACTICE ACT.

*Nick Marni*  
NICHOLAS F. MARNI  
146339  
LICENSED PROFESSIONAL ENGINEER  
8-23-2024

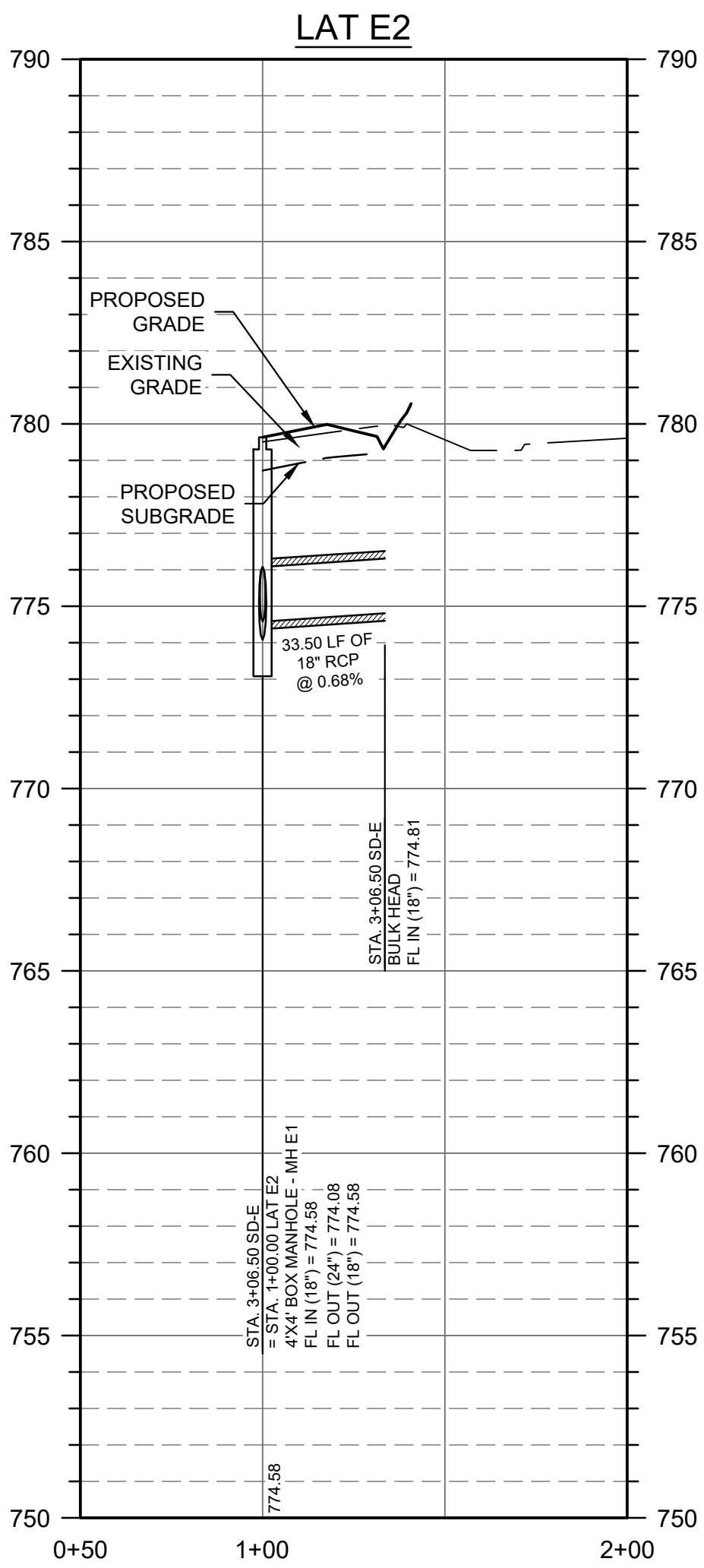
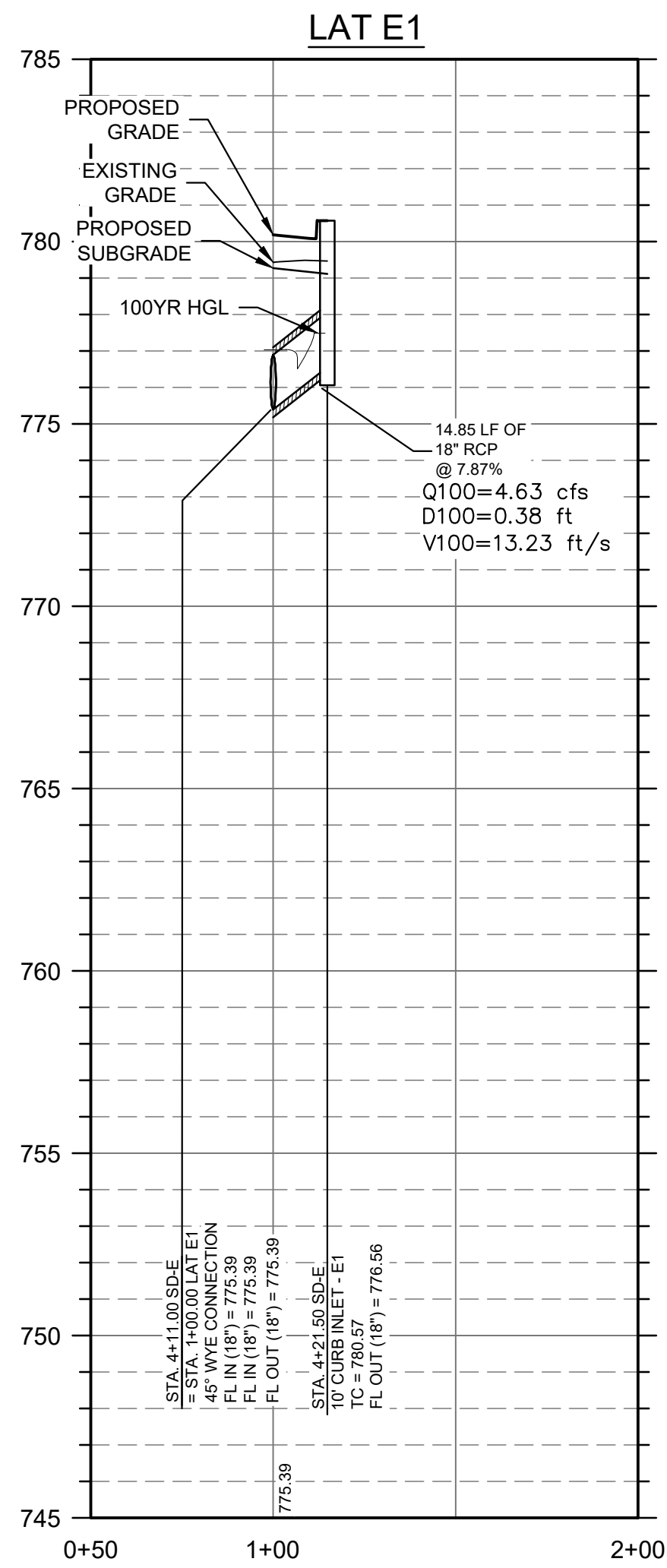
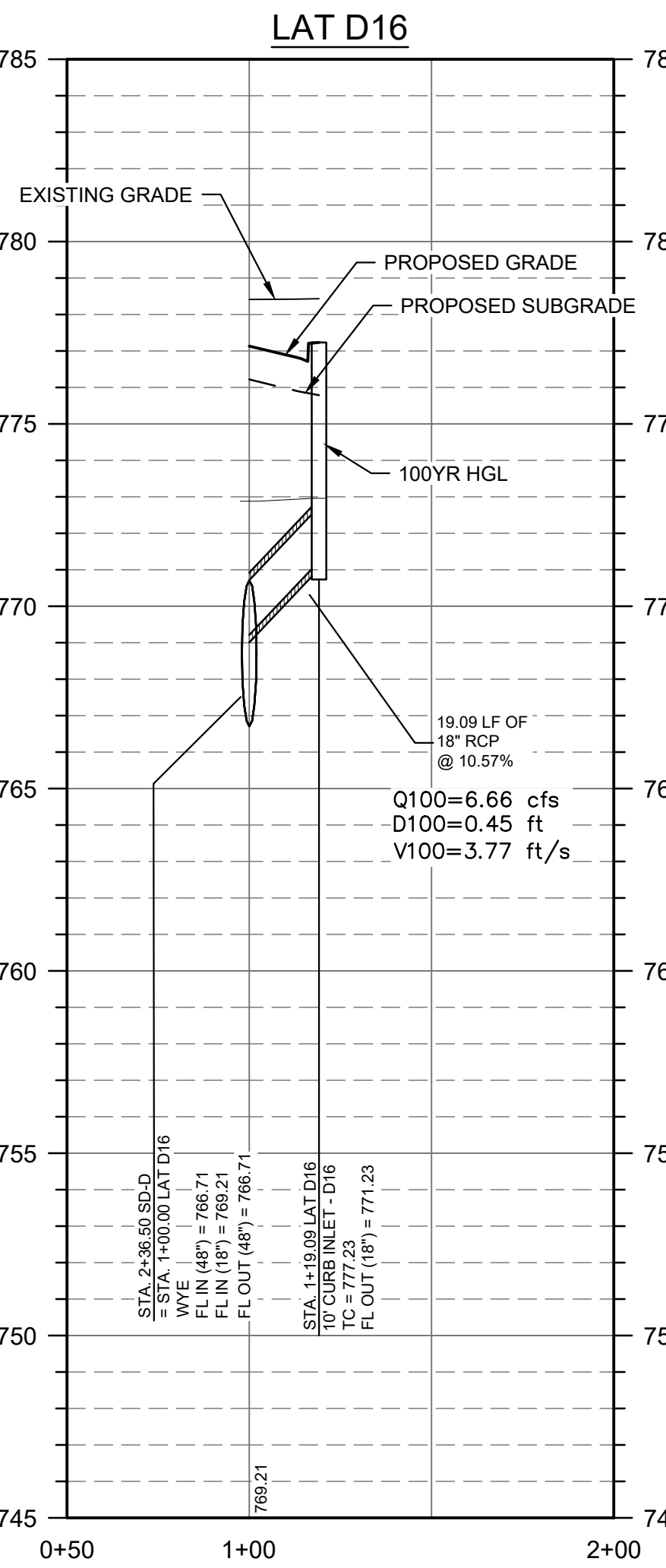
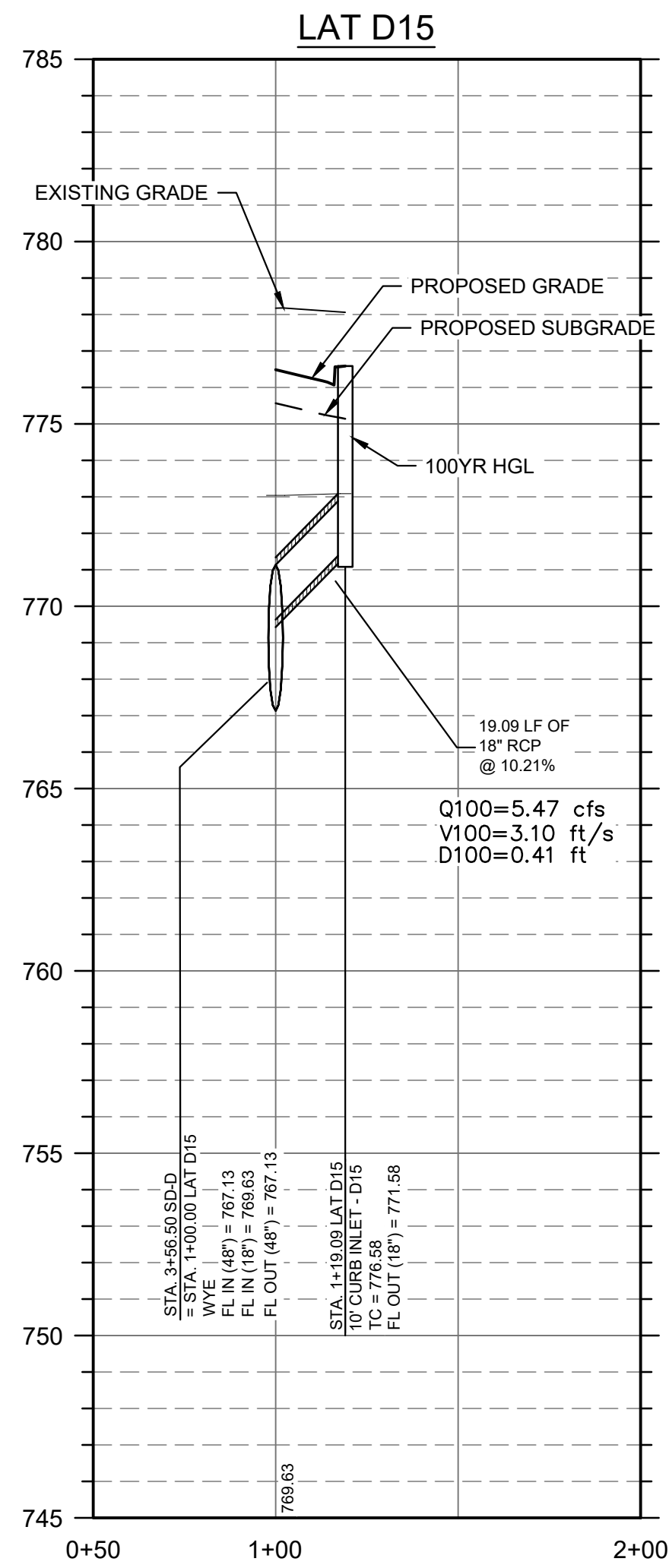
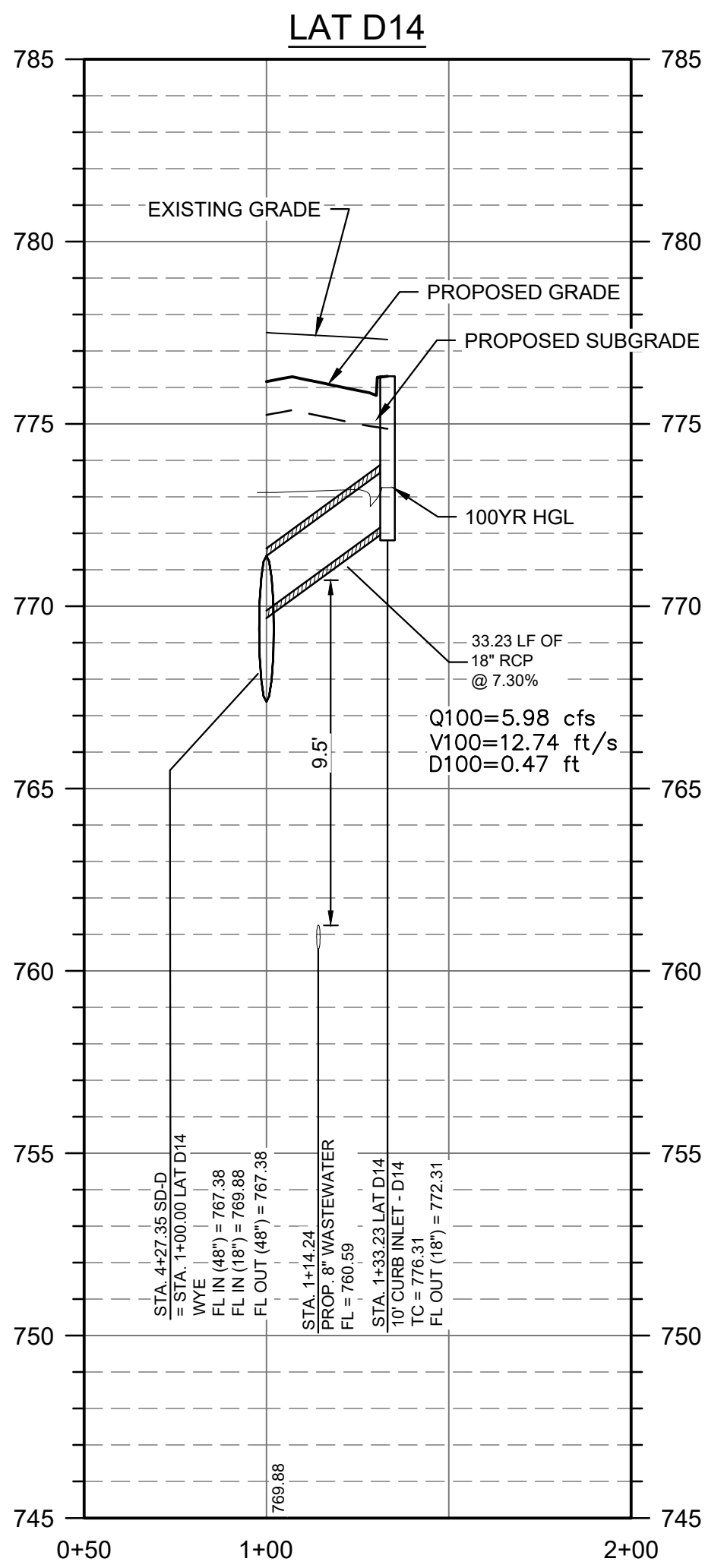
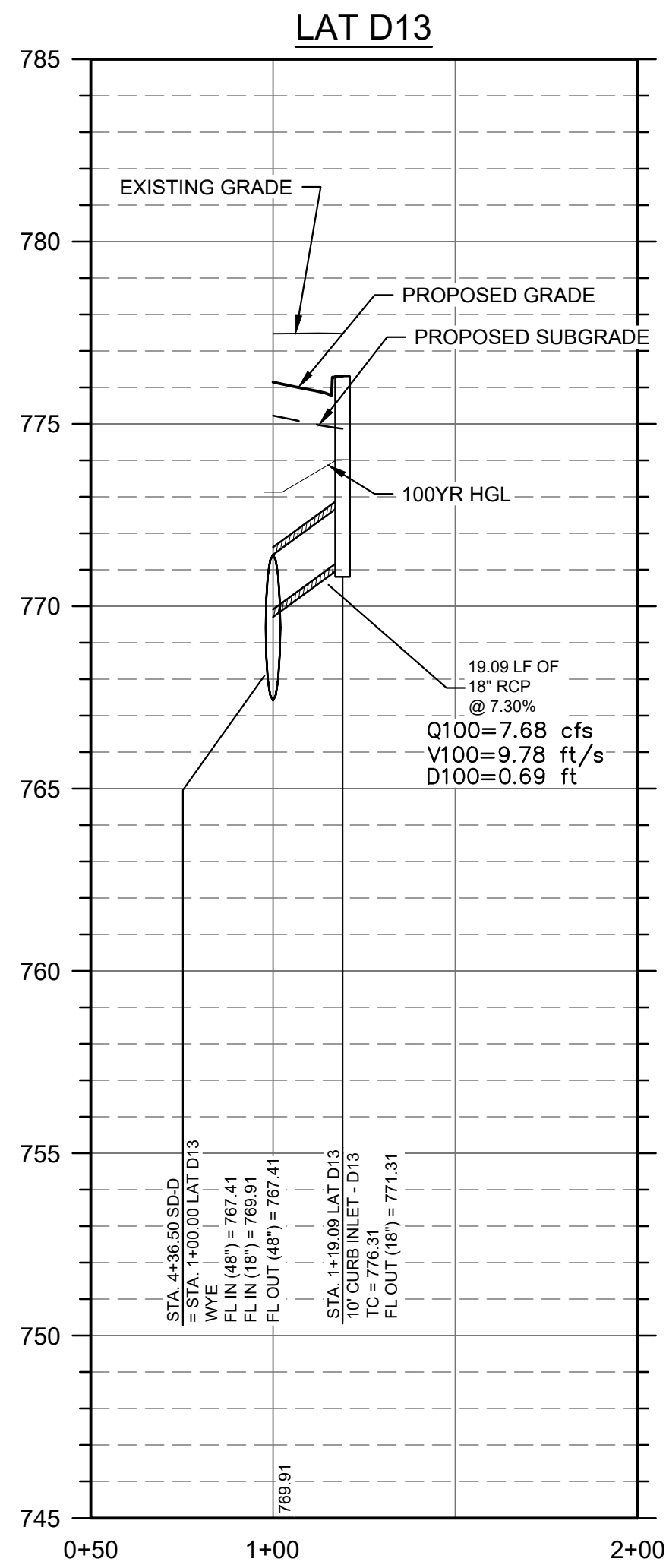
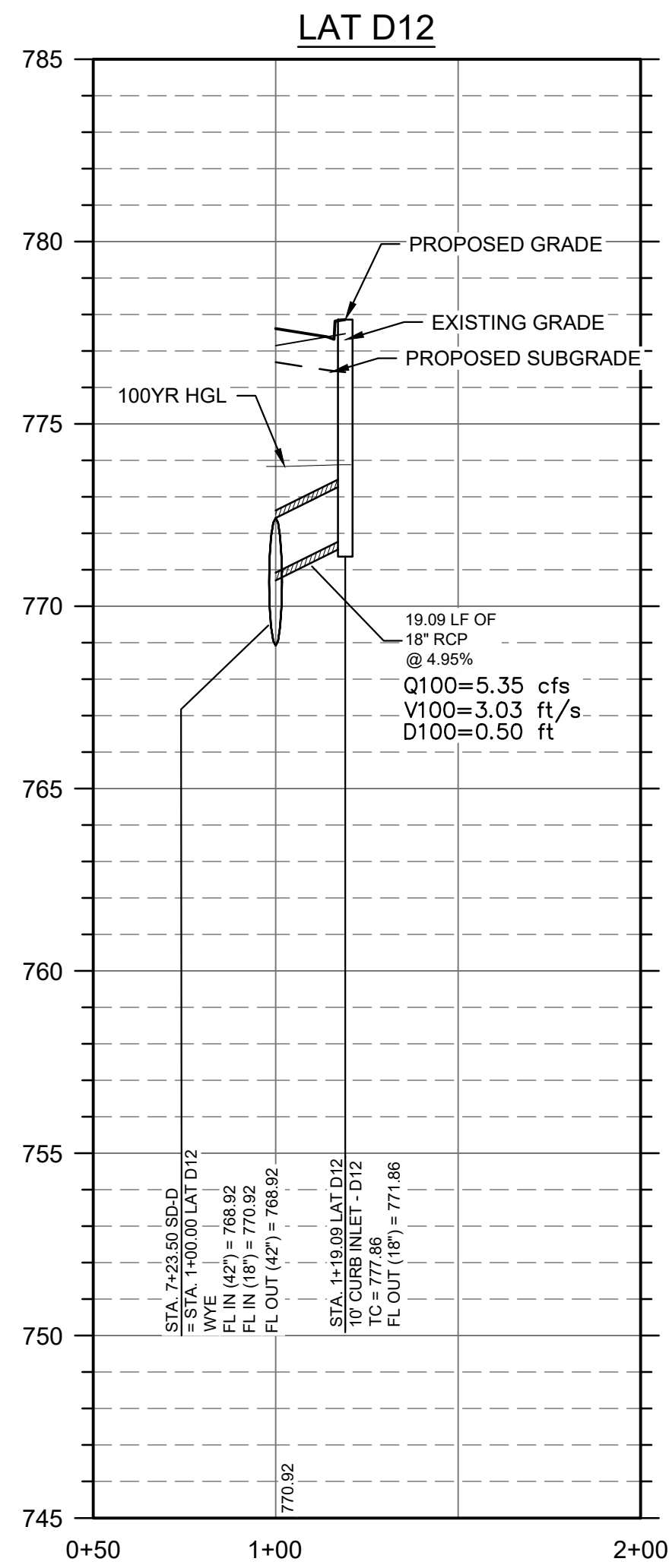
SHEET 49 OF 91







HYPROJECTS\1723-ATLAS RANCH HOLDINGS\11727 ATLAS RANCH\CD\PHASE1\11727 C-STRM.DWG DATE: 8/23/2024 2:35:20 PM BY: NMAIRNO

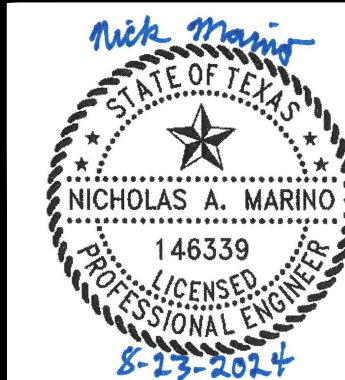


PROFILE LEGEND	
	PROPOSED GRADE LINE
	PROPOSED SUBGRADE
	EXISTING GROUND AT CENTERLINE
	100 YR HGL

ATLAS RANCH  
PHASE 1 SECTION 1  
STORM SEWER  
LATERALS D12-D16 &  
E1-E2  
WILLIAMSON  
COUNTY, TX

PROJECT NO: 11727  
DESIGNED BY: KEL  
DRAWN BY: KEL  
CHECKED BY: RR

NOTICE:  
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SEALED DRAWING  
WITHOUT PROPER  
NOTIFICATION TO THE  
RESPONSIBLE ENGINEER  
IS A VIOLATION OF THE  
TEXAS ENGINEERING  
PRACTICE ACT.

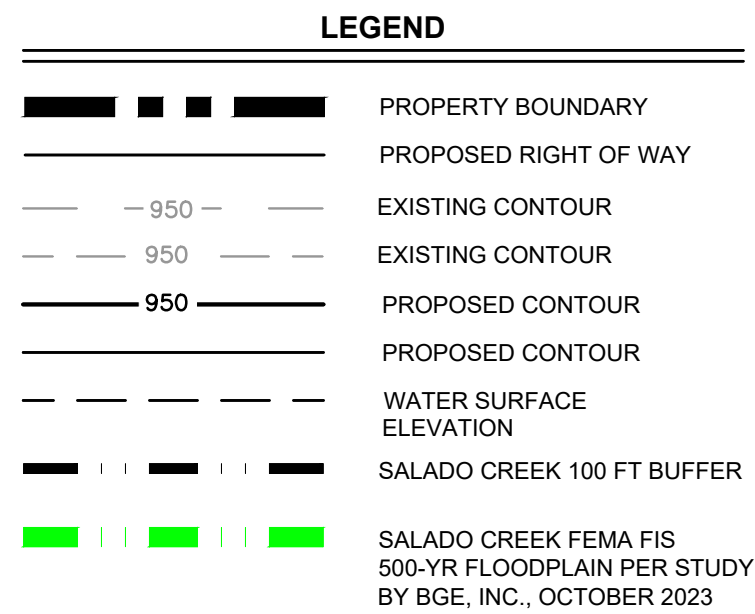
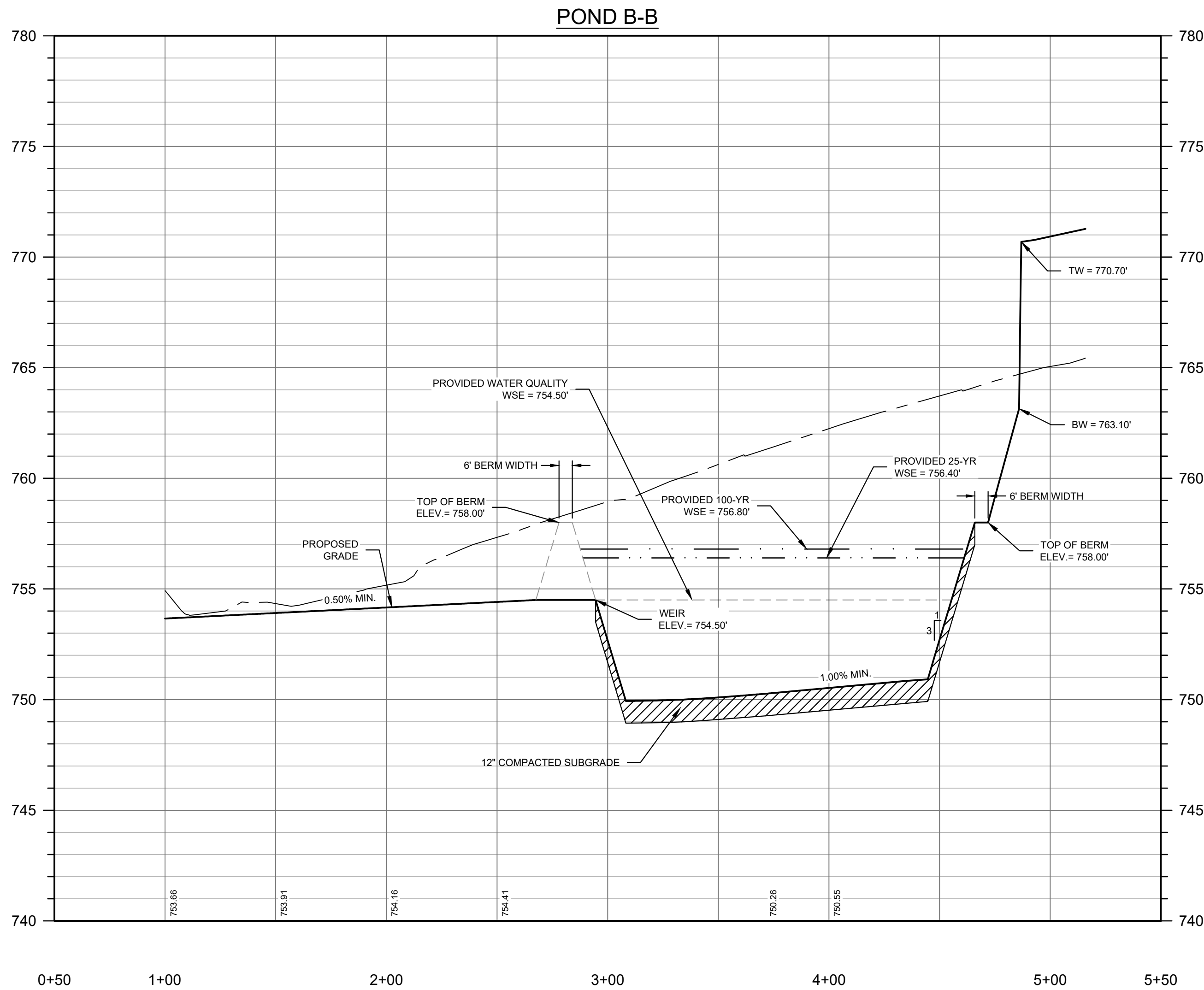
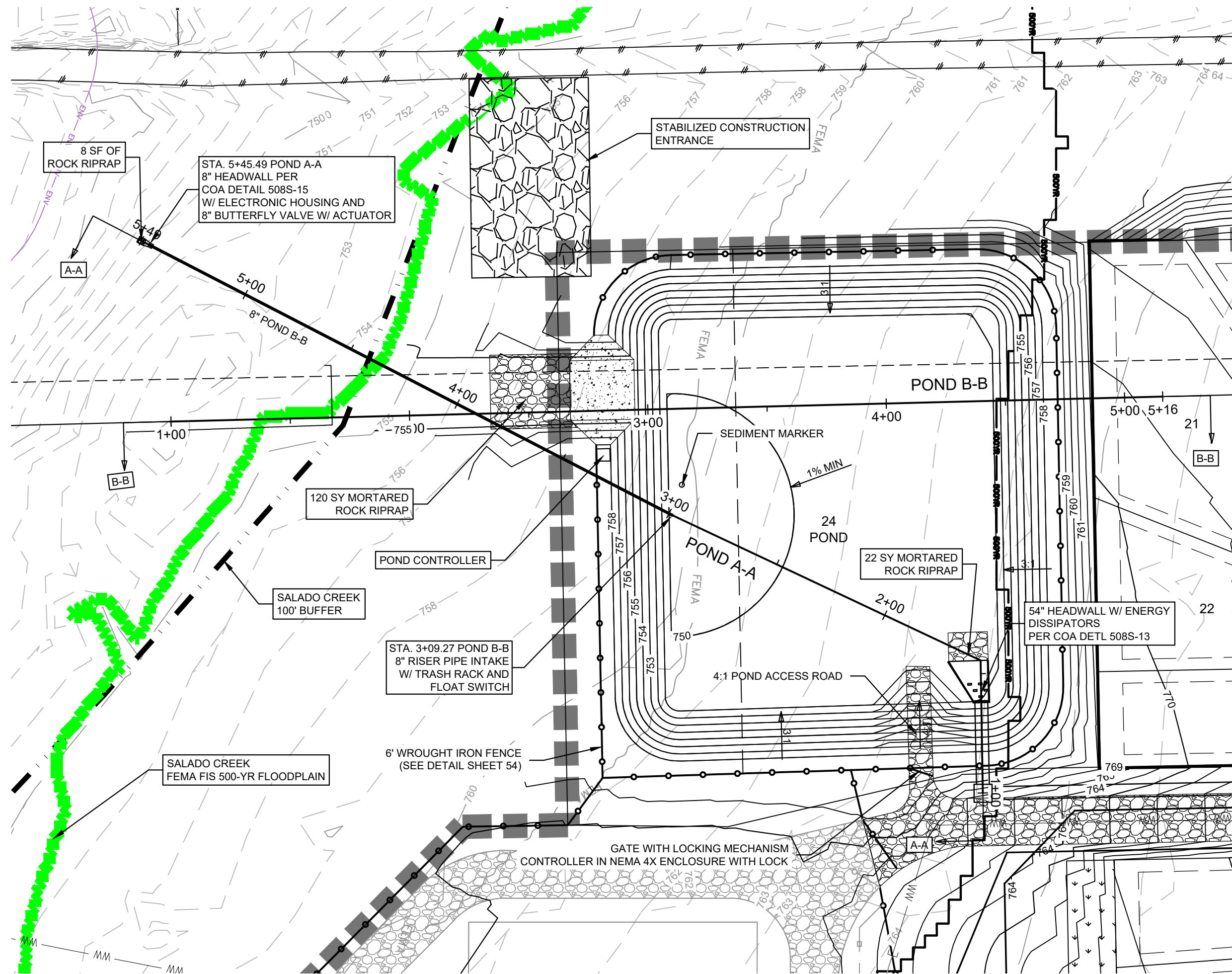


8834 N. Capital of Texas Hwy.  
Suite 140  
Austin, Texas 78759  
(512) 452-0371  
FAX (512) 454-9933  
TBPELS FRW #2946

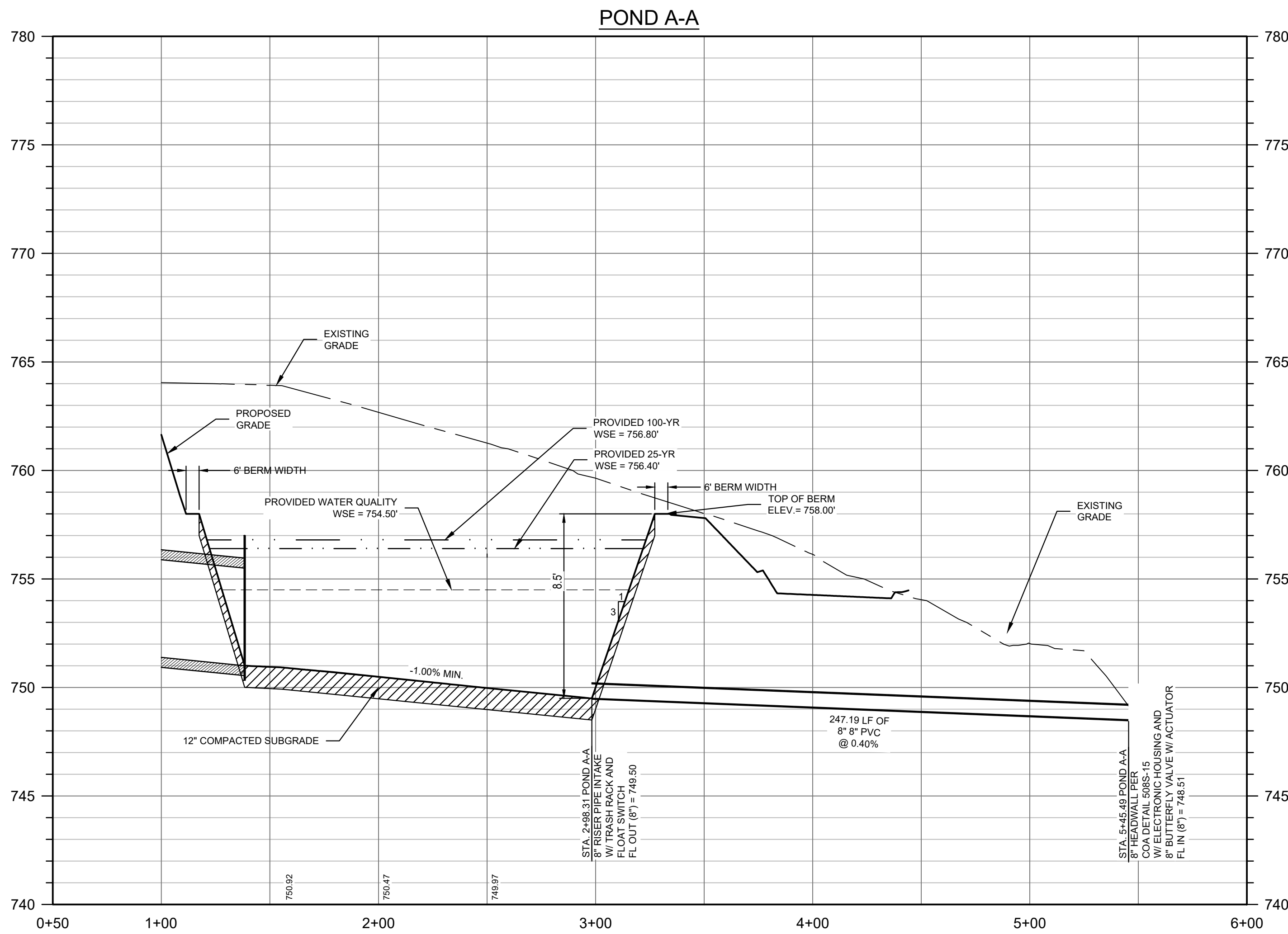
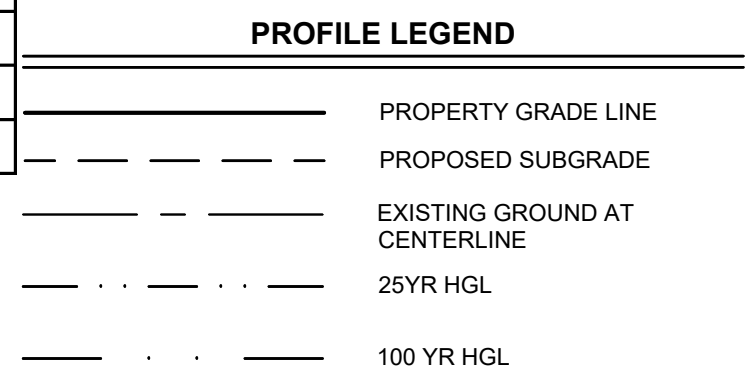
**GRAY**  
ENGINEERING



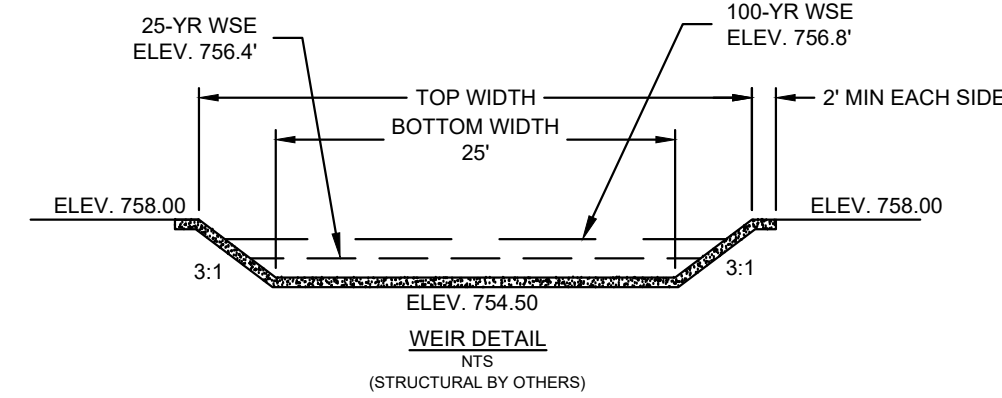
HIPOPROJECTS1723-ATLAS RANCH HOLDINGS11727 ATLAS RANCH/CID/PH1/SEC1/SHEETS11727 C-POND DWG DATE: 8/23/2024 2:35:03 PM BY: KLUND



- NOTES:
- FLOAT SWITCH TO BE INSTALLED ON A 4" CONCRETE PAD.
  - SYSTEM SHALL BE 12 VDC WITH SOLAR CHARGED 12 VDC BATTERY. ALTERNATE ELECTRICAL DESIGN MAY BE ALSO UTILIZED IN LIEU OF SOLAR POWER WITH ENGINEERS APPROVAL.
  - ACTUATOR SHALL BE ELECTRONIC QUARTER-TURN WITH MANUAL OVERRIDE AND POSITION INDICATOR.
  - CONTROLLER SHALL BE SET TO OPEN VALVE 12 HOURS AFTER INITIAL RAINFALL DETECTION. VALVE TO REMAIN OPEN UNTIL 2 HOURS FOLLOWING BASIN EMPTY SIGNALS.
  - CONTROLLER SHALL BE IN LOCKED ENCLOSURE WITH EXTERNAL INDICATOR.
  - CONTROLLER SHALL HAVE TEST SEQUENCE, ON/OFF/RESET SWITCH AND THE PROGRAMMING SHALL BE FIELD UPLOADABLE.
  - ALL WIRING SHALL BE INSTALLED IN CONDUIT AND BURIED. CONTACT ENGINEER FOR ADDITIONAL CONTROLLER SCHEMATICS.
  - CONTRACTOR SHALL TEST AND VERIFY POND IS FUNCTIONING AS DESIGNED PRIOR TO ACCEPTANCE. CONTRACTOR SHALL SUBMIT LIST OF CONTROL PANEL COMPONENTS AND OPERATIONS MANUAL TO ENGINEER.



Pond A Elevation-Storage-Discharge Table				
Elevation (ft)	Surface Area (ft)	Incremental Volume (Ac-ft)	Total Volume (cf)	Total Volume (Ac-ft)
749.5	0	0.000	0.0	0.000
750	4,225	0.024	1056.3	0.024
751	22,393	0.306	14365.3	0.330
752	24,377	0.537	37750.0	0.867
753	26,306	0.582	63091.3	1.448
754	28,280	0.627	90384.3	2.075
754.5	29,274	0.330	104772.8	2.405
755	30,300	0.342	119666.3	2.747
756	32,366	0.719	150999.3	3.466
757	34,500	1.488	184466.3	4.954
758	36,717	1.586	220082.3	6.540





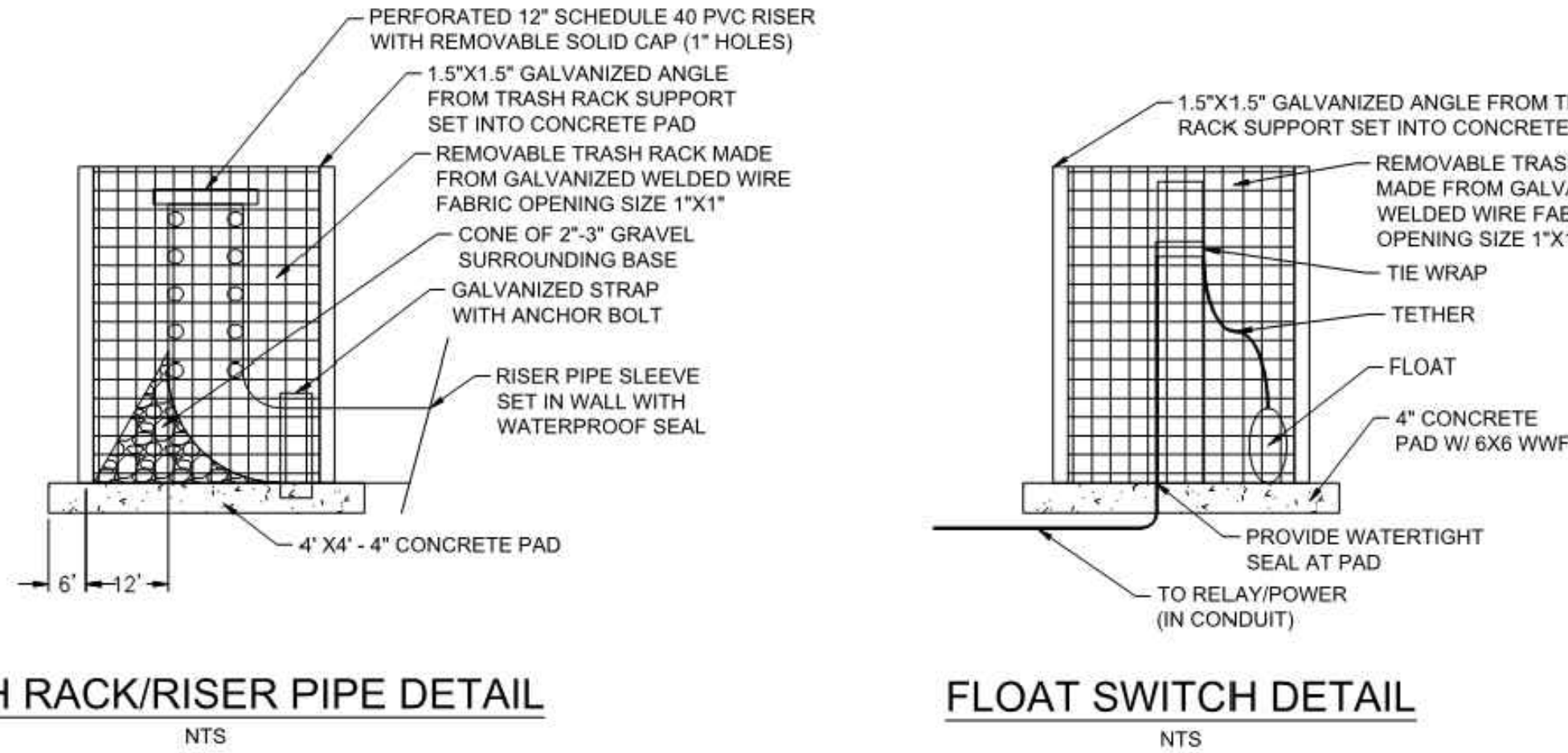
PROPERTY BOUNDARY  
 PROPOSED RIGHT OF WAY  
 EXISTING CONTOUR  
 EXISTING CONTOUR  
 PROPOSED CONTOUR  
 PROPOSED CONTOUR  
 WATER SURFACE  
 ELEVATION  
 SALADO CREEK 100 FT BUFFER  
 SALADO CREEK FEMA FIS  
 500-YR FLOODPLAIN PER STUDY  
 BY BGE, INC., OCTOBER 2023

1. FLYOT SWITCH TO BE INSTALLED ON A 4" CONCRETE PAD.
2. SYSTEM SHALL BE 12 VDC WITH SOLAR CHARGED 12 VDC BATTERY. ALTERNATE ELECTRICAL DESIGN MAY BE ALSO UTILIZED IN LIEU OF SOLAR POWER WITH ENGINEERS APPROVAL.
3. ACTUATOR SHALL BE ELECTRONIC QUARTER-TURN WITH MANUAL OVERRIDE AND POSITION INDICATOR.
4. CONTROLLER SHALL BE SET TO OPEN VALVE 12 HOURS AFTER INITIAL RAINFALL DETECTION. VALVE TO REMAIN OPEN UNTIL 2 HOURS FOLLOWING BASIN EMPTY SIGNALS.
5. CONTROLLER SHALL BE IN LOCKED ENCLOSURE WITH EXTERNAL SUBMIT LIST.
6. CONTROLLER SHALL HAVE TEST SEQUENCE, ON/OFF/RESET SWITCH AND THE PROGRAMMING SHALL BE FIELD UP/DOWNABLE.
7. ALL WIRING SHALL BE INSTALLED IN CONDUIT AND BURIED. CONTACT ENGINEER FOR ADDITIONAL CONTROLLER SCHEMATICS.
8. CONTRACTOR SHALL TEST AND VERIFY POND IS FUNCTIONING AS DESIGNED PRIOR TO ACCEPTANCE. CONTRACTOR SHALL SUBMIT LIST OF CONTROL PANEL COMPONENTS AND OPERATIONS MANUAL TO ENGINEER.

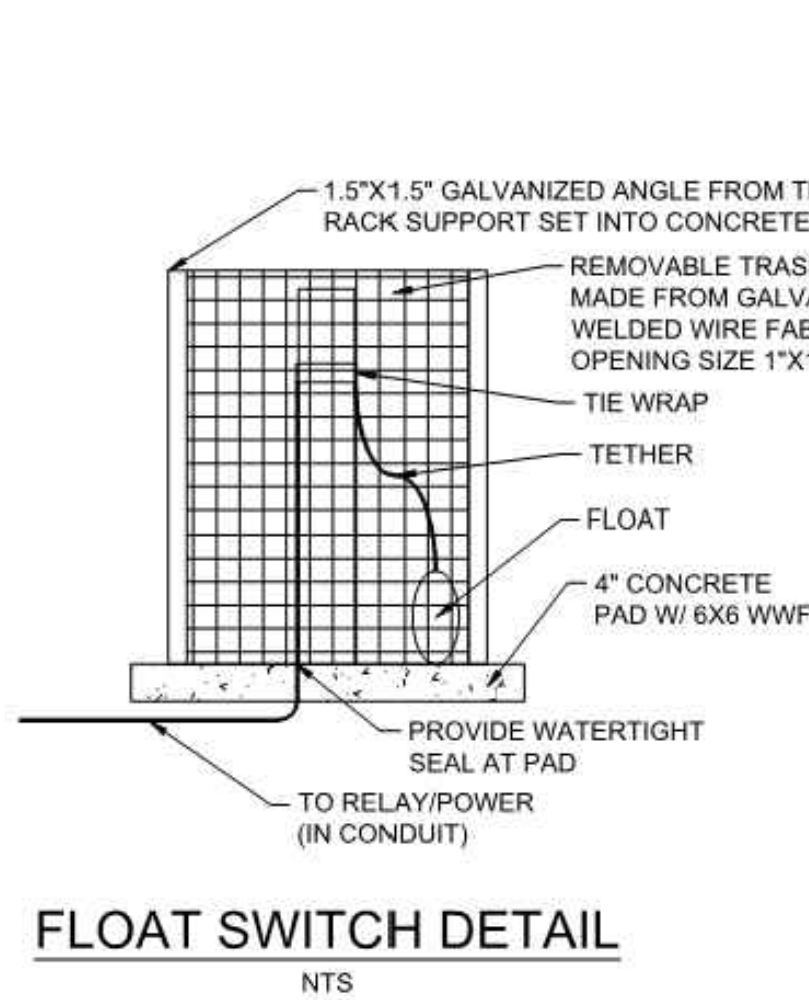
—————	PROPERTY GRADE LINE
- - - - -	PROPOSED SUBGRADE
—————	EXISTING GROUND AT CENTERLINE
— . . — . . —	25YR HGL
— . . — . . —	100 YR HGL



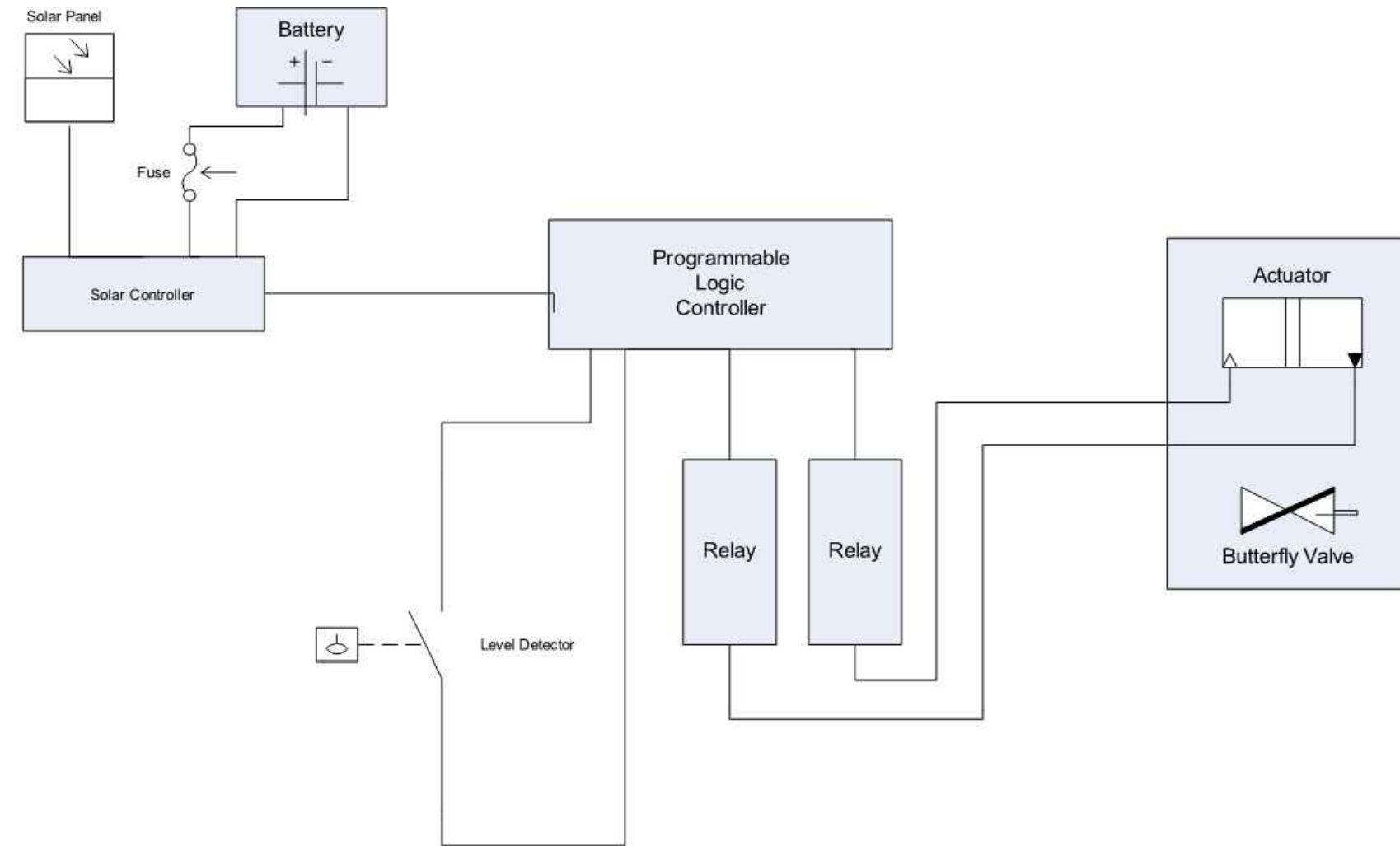
HYDROJECTS/1723-ATLAS RANCH HOLDINGS/11727-ATLAS RANCH/CADD/PH/SEC1/SHEETS/11727-C-POND.DWG DATE: 8/23/2024 2:36:05 PM BY: KLUND



TRASH RACK/RISER PIPE DETAIL  
NTS

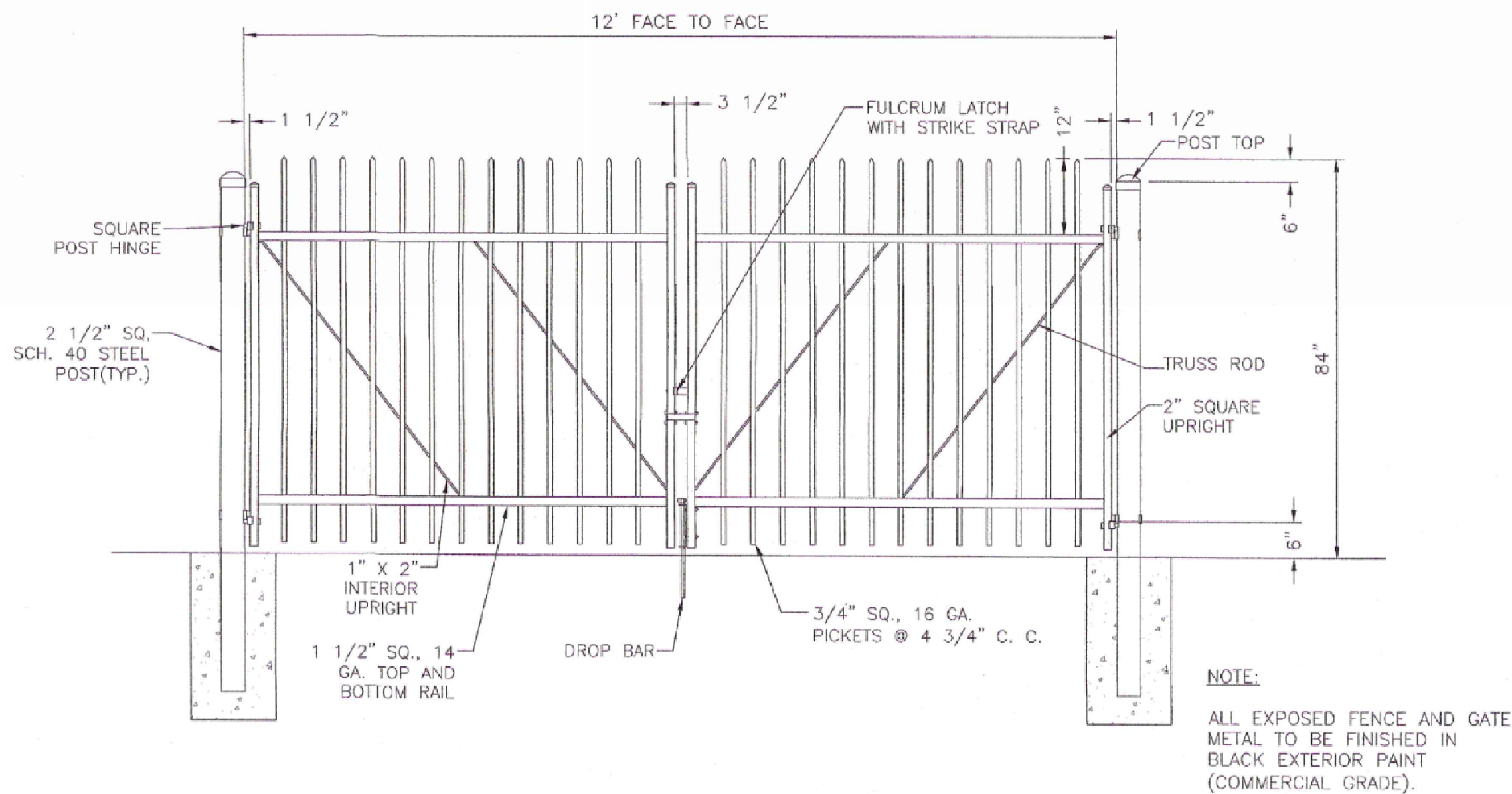


FLOAT SWITCH DETAIL  
NTS

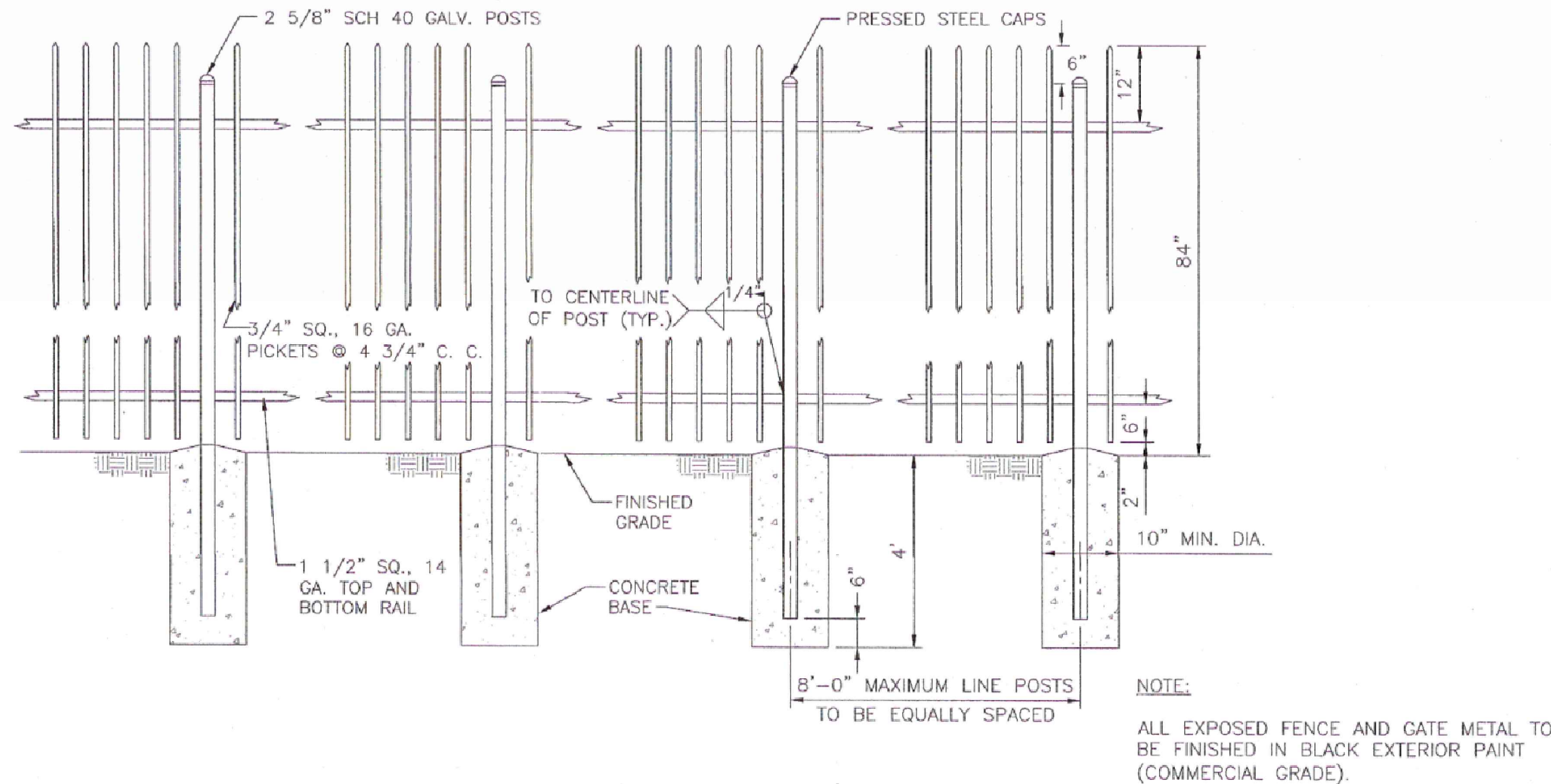


CONTROLLER CIRCUIT DIAGRAM

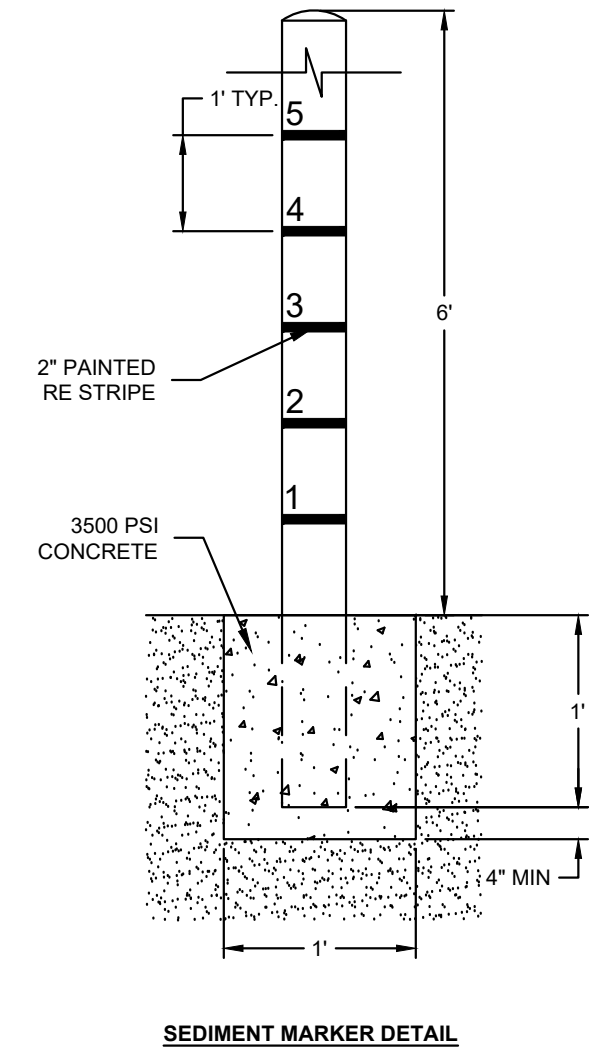
- NOTES:
1. A SIGN WILL BE POSTED NEXT TO THE ALARM LIGHT THAT INCLUDED THE PHONE NUMBERS OF THE OWNER AND THE TCEQ AUSTIN REGIONAL OFFICE
  2. THE CONTROLLER DETECTS WATER FILLING THE BASE FROM THE LEVEL SENSOR AND INITIATED AS 12- HOUR DETENTION TIME. AT THE END OF THE REQUIRED DETENTION TIME, THE CONTROLLER OPENS THE VALVE AND DRAINS OUT OF THE BASIN. SUBSEQUENT RAINFALL EVENTS THAT OCCUR PRIOR TO THE BASIN DRAINING SHOULD CAUSE THE VALVE TO REMAIN OPEN AND ALLOW THE ADDITIONAL STORM WATER RUNOFF TO PASS THROUGH THE BASIN. ONCE THE BASIN IS DRAINED THE CONTROLLER CLOSED THE VALVE.
  3. THE ACTUATOR VALVE FOR THE PONDS WILL BE SIZED TO ALLOW FOR COMPLETE DRAWDOWN OF THE WATER QUALITY VOLUME WITHIN THE 48 HOURS AFTER THE VALVE IS OPENED.
  4. THE LOGIC CONTROLLER SYSTEM PROVIDED THE FOLLOWING: A TEST SEQUENCE TO SIGNAL LOW BATTERY/POWER OUTAGES, AN ON/OFF/RESET SWITCH MANUAL OPEN/CLOSE SWITCHES, CLEARLY VISIBLE EXTERNAL INDICATOR TO INDICATE WHEN A CYCLE IS IN PROGRESS WITHOUT OPENING THE BOX. THE ABILITY TO EXERCISE THE VALVE TO PREVENT SEIZING



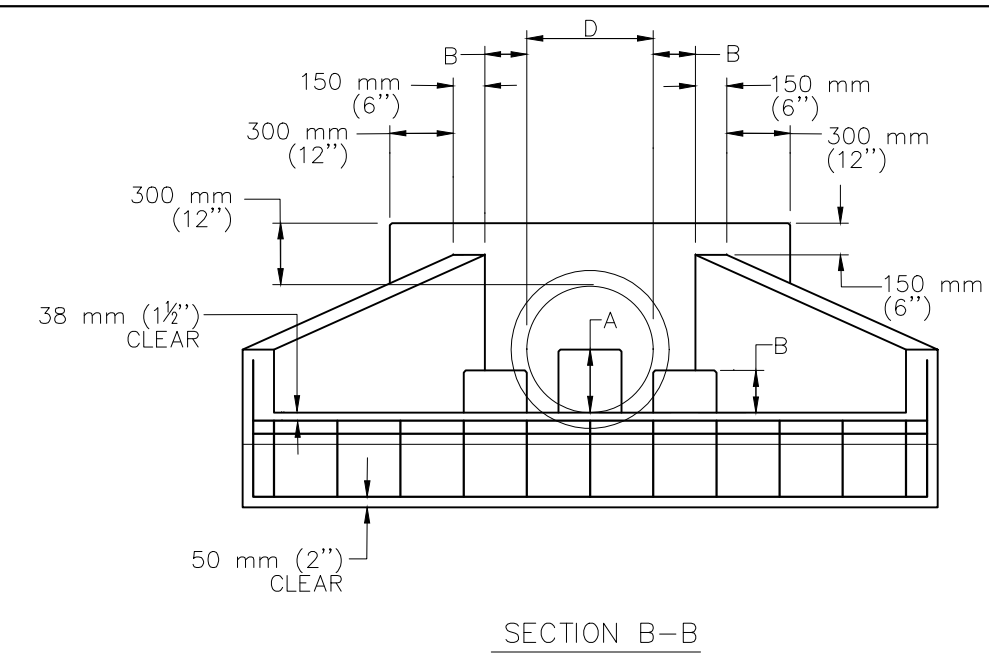
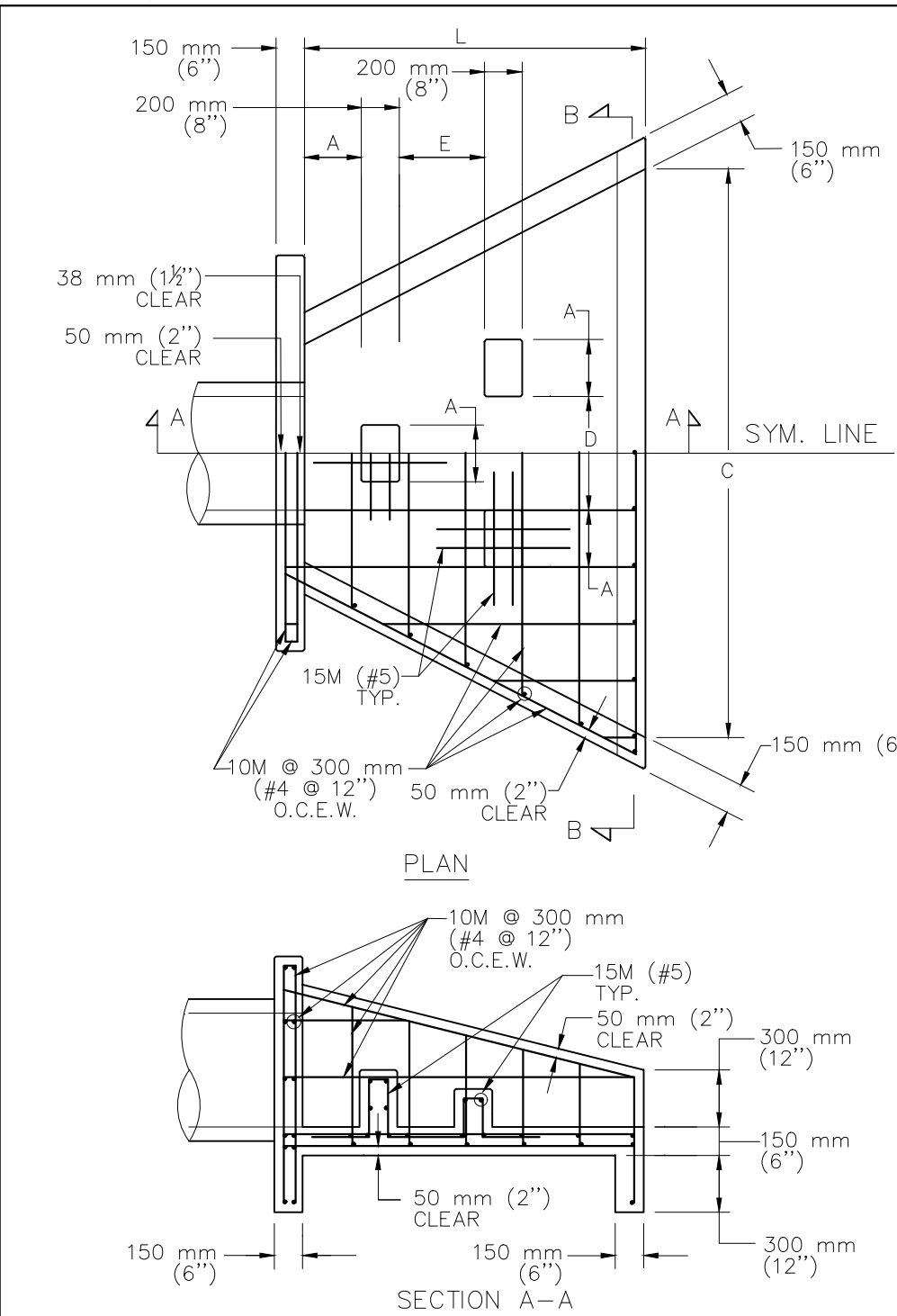
ORNAMENTAL IRON GATE DETAIL  
N.T.S.



ORNAMENTAL IRON FENCE DETAIL  
N.T.S.



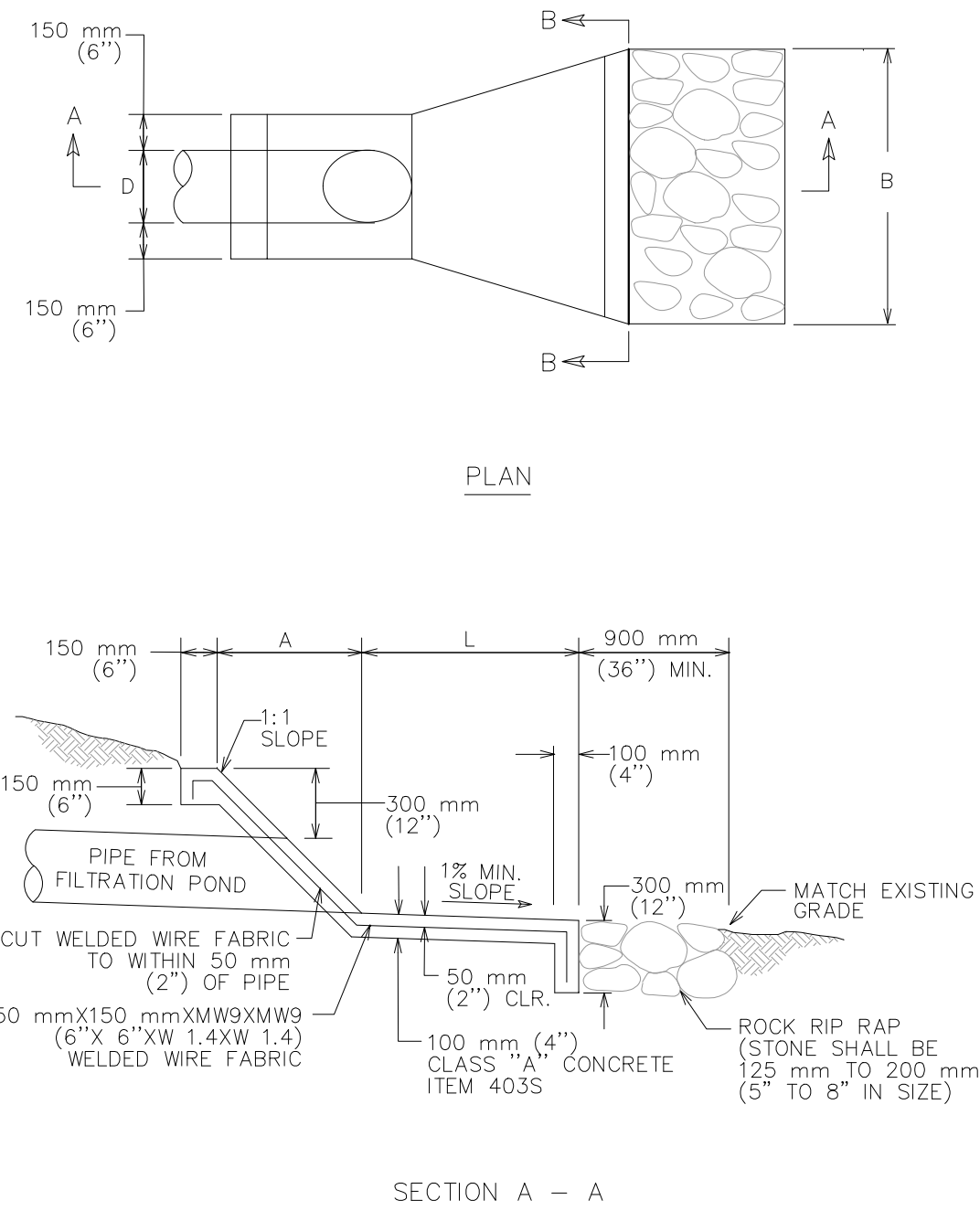
SEDIMENT MARKER DETAIL



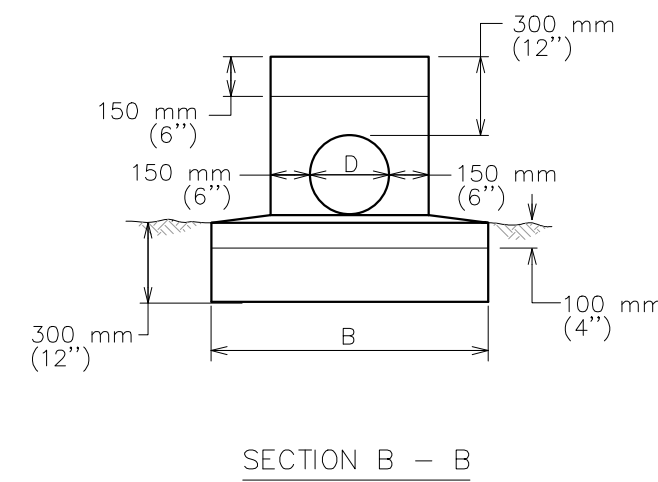
- NOTES:
1. ALL CONCRETE SHALL BE TYPE "C" AS PER SPEC. 403S, CONCRETE FOR STRUCTURES.
  2. CHAMFER ALL EXTERNAL VISIBLE CORNERS.
  3. DISSIPATOR BLOCKS REQUIRED ON DISCHARGE HEADWALLS ONLY.

D	457 mm (18")	533 mm (21")	610 mm (24")	686 mm (27")	765 mm (30")	838 mm (33")	914 mm (36")	1,067 mm (42")	1,219 mm (48")	1,372 mm (54")	1,524 mm (60")
A	225 mm (9")	250 mm (10")	300 mm (12")	350 mm (14")	375 mm (15")	400 mm (16")	450 mm (18")	505 mm (20")	600 mm (24")	675 mm (27")	750 mm (30")
B	150 mm (6")	175 mm (7")	200 mm (8")	225 mm (9")	250 mm (10")	275 mm (11")	300 mm (12")	350 mm (14")	400 mm (16")	450 mm (18")	500 mm (20")
C	229 mm (9")	267 mm (10")	305 mm (12")	343 mm (13")	381 mm (15")	419 mm (16")	457 mm (18")	533 mm (21")	610 mm (24")	686 mm (27")	762 mm (30")
L	1,37 mm (54")	1,60 mm (63")	1,83 mm (72")	2,06 mm (81")	2,29 mm (90")	2,51 mm (99")	2,74 mm (108")	3,20 mm (126")	3,66 mm (144")	4,11 mm (162")	4,57 mm (180")
E	300 mm (12")	350 mm (14")	400 mm (16")	450 mm (18")	500 mm (20")	550 mm (22")	600 mm (24")	700 mm (28")	800 mm (32")	900 mm (36")	1000 mm (40")

DIMENSIONS IN MILLIMETERS, METERS AND (INCHES).  
DISCHARGE VELOCITIES GREATER THAN 3 METERS/SECOND (10 fps) REQUIRE ROCK OUTLET PROTECTION.

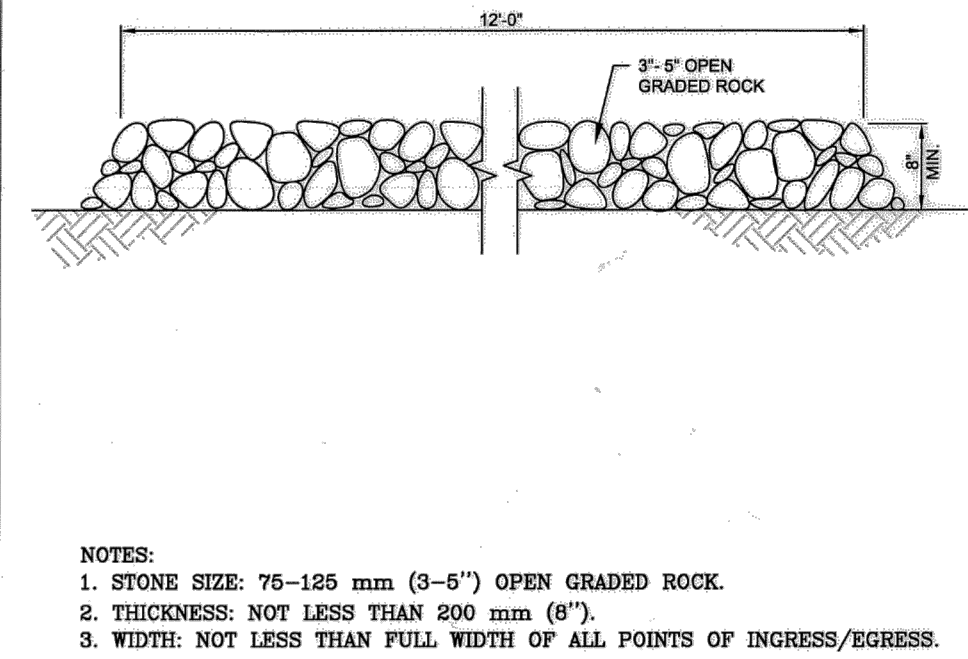


SECTION A - A



SECTION B - B

A	450 mm (18")	500 mm (20")	550 mm (22")	600 mm (24")	675 mm (27")
B	750 mm (30")	800 mm (32")	850 mm (34")	1,05 mm (42")	1,27 mm (51")
D	150 mm (6")	200 mm (8")	250 mm (10")	300 mm (12")	375 mm (15")
L	600 mm (24")	600 mm (24")	750 mm (30")	900 mm (36")	1,2 m (48")



- NOTES:
1. STONE SIZE: 75-125 mm (3-5") OPEN GRADED ROCK.
  2. THICKNESS: NOT LESS THAN 200 mm (8").
  3. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.

CITY OF AUSTIN  
DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW  
RECORD COPY SIGNED BY BILL GARDNER  
08/20/07  
ADOPTED

STANDARD HEADWALL AND ENERGY DISSIPATORS  
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.  
STANDARD NO. 508S-13  
1 OF 2

CITY OF AUSTIN  
DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW  
RECORD COPY SIGNED BY BILL GARDNER  
08/20/07  
ADOPTED

STANDARD HEADWALL AND ENERGY DISSIPATORS  
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.  
STANDARD NO. 508S-13  
2 OF 2

CITY OF AUSTIN  
DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW  
RECORD COPY SIGNED BY GEORGE E. OSWALD  
3/15/05  
ADOPTED

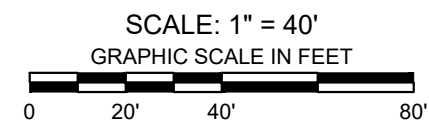
HEADWALL FOR FILTRATION PONDS W/OUTFALL PIPE 150 mm (6") TO 375 mm (15") DIA.  
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.  
STANDARD NO. 508S-15  
1 OF 2

CITY OF AUSTIN  
DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW  
RECORD COPY SIGNED BY GEORGE E. OSWALD  
3/15/05  
ADOPTED

HEADWALL FOR FILTRATION PONDS W/OUTFALL PIPE 150 mm (6") TO 375 mm (15") DIA.  
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.  
STANDARD NO. 508S-15  
2 OF 2

CITY OF AUSTIN  
DEPARTMENT OF PUBLIC WORKS  
POND MAINTENANCE ROAD CROSS SECTION  
RECORD COPY SIGNED BY NICHOLAS A. MARINO  
3/15/2016  
ADOPTED  
STANDARD NO. 662S-2





V.F.S. NOTES (TCEQ RG 348)

1. THE FILTER STRIP SHOULD EXTEND ALONG THE ENTIRE LENGTH OF THE CONTRIBUTING AREA AND THE SLOPE SHOULD NOT BE LESS THAN 2% IN THE DIRECTION OF FLOW. THE SLOPE (IN THE DIRECTION OF FLOW) SHOULD BE NO LESS THAN 15 FEET. THE MAXIMUM WIDTH (IN THE DIRECTION OF FLOW) OF THE CONTRIBUTING IMPERVIOUS AREA SHOULD NOT EXCEED 72 FEET. THE MAXIMUM WIDTH (IN THE DIRECTION OF FLOW) OF BOTH SIDES THE TOTAL WIDTH OF THE ROADWAY SHOULD NOT EXCEED 144 FEET (I.E. 72 FEET DRAINING TO EACH SIDE).
2. MINIMUM VEGETATED COVER FOR ENGINEERED STRIPS IS 80%.
3. THE AREA CONTRIBUTING RUNOFF TO A FILTER STRIP SHOULD BE RELATIVELY FLAT SO THAT THE RUNOFF IS DISTRIBUTED EVENLY OVER THE VEGETATED AREA WITHOUT THE USE OF A LEVEL SPREADER.
4. TH4 AREA TO BE USED FOR THE STRIP SHOULD BE FREE OF OBSTACLES THAT CAN CONCENTRATE OVERLAND FLOW (SCHUELER, 1987).
5. THE TIP EDGE OF THE FILTER STRIP ALONG THE PAVEMENT SHOULD BE SLOPED TO AVOID THE FORMATION OF A LOW SPOT. TRAVEL SHOULD BE TOWARD THE FILTER STRIP, RATHER THAN THROUGH IT.
6. TOP EDGE OF THE FILTER STRIP SHOULD BE LEVEL, OTHERWISE RUNOFF TEND TO FORM A CHANNEL. THE FILTER STRIP SHOULD BE LEVEL. SPREADER SHOULD NOT BE USED TO DISTRIBUTE RUNOFF TO AN ENGINEERED FILTER STRIP.
7. FILTER STRIPS SHOULD BE INSTALLED AFTER OTHER PORTIONS OF THE PROJECT ARE COMPLETED.

H:\PROJECTS\1723 - ATLAS RANCH HOLDINGS\11727 ATLAS RANCH\CAD\PH1\SEC1\SHEETS\11727-C-VES.DWG DATE: 8/23/2024 2:36:22 PM BY: KILIND

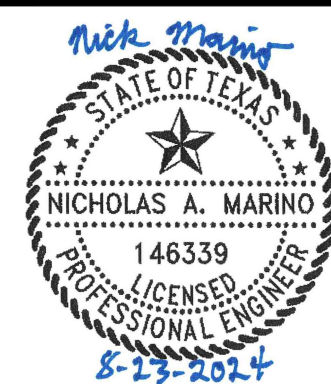
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## VEGETATIVE FILTER STRIP PLAN

ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX

PROJECT NO: 11727
DESIGNED BY: KEL
DRAWN BY: KEL
CHECKED BY: RR

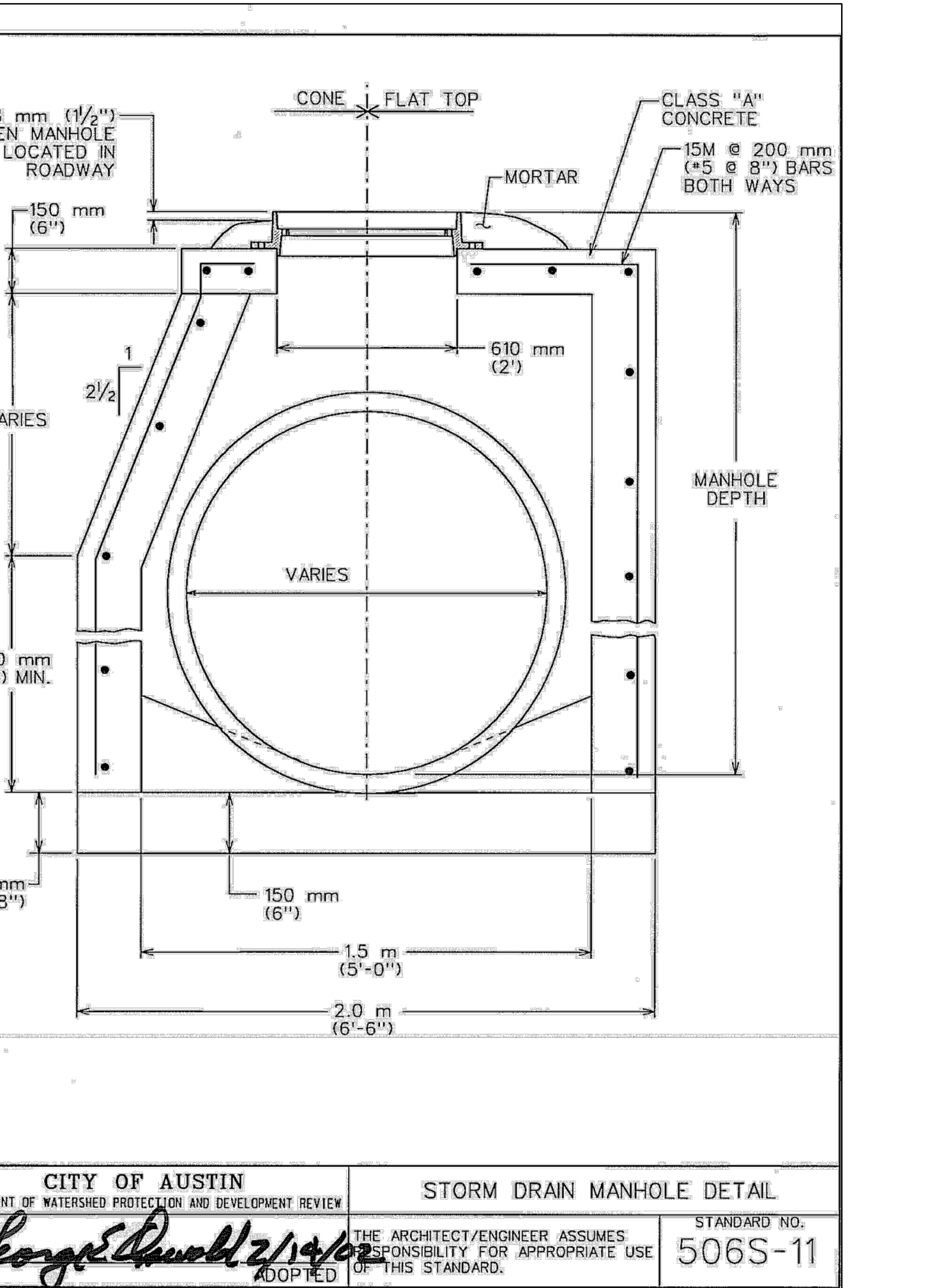
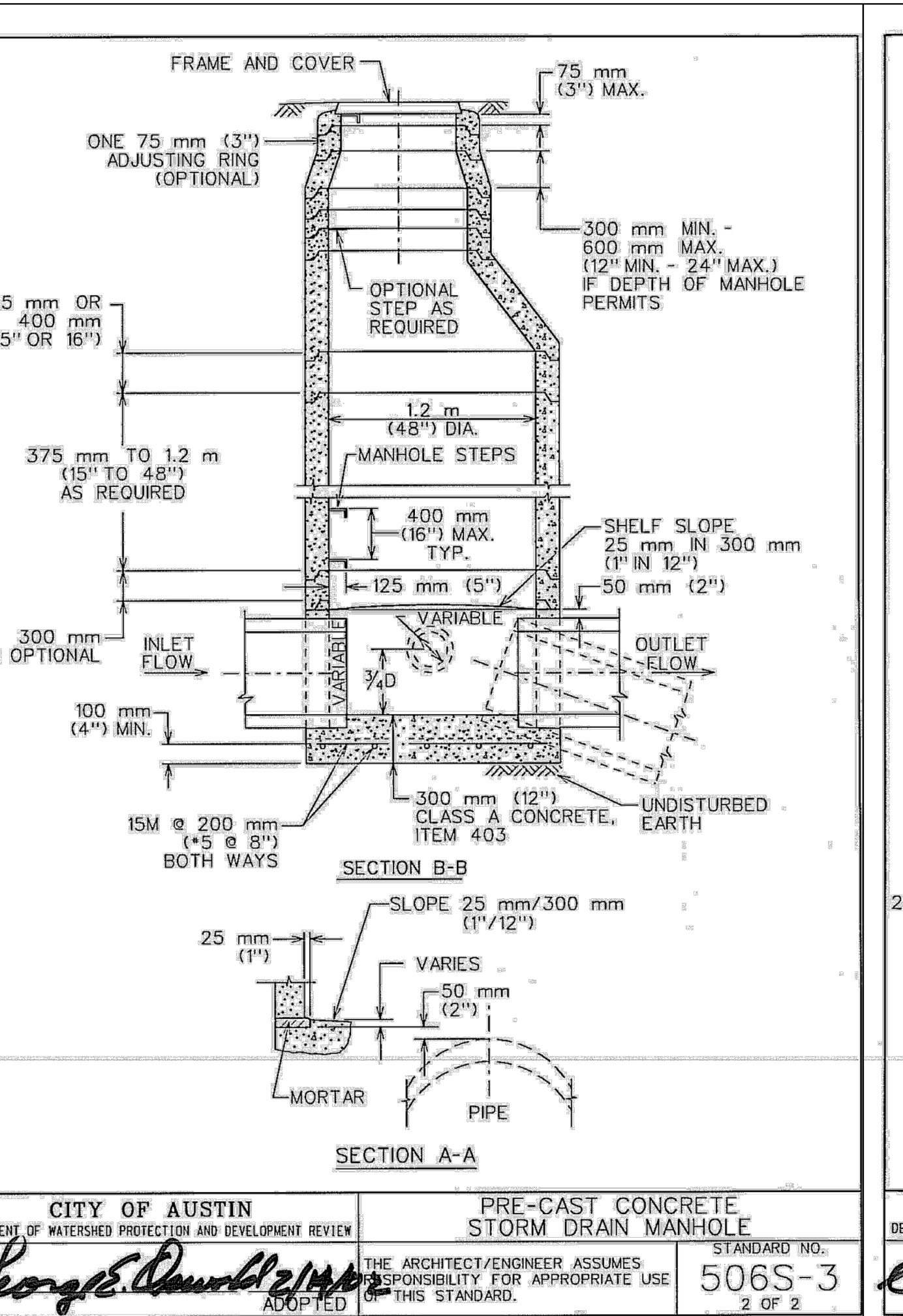
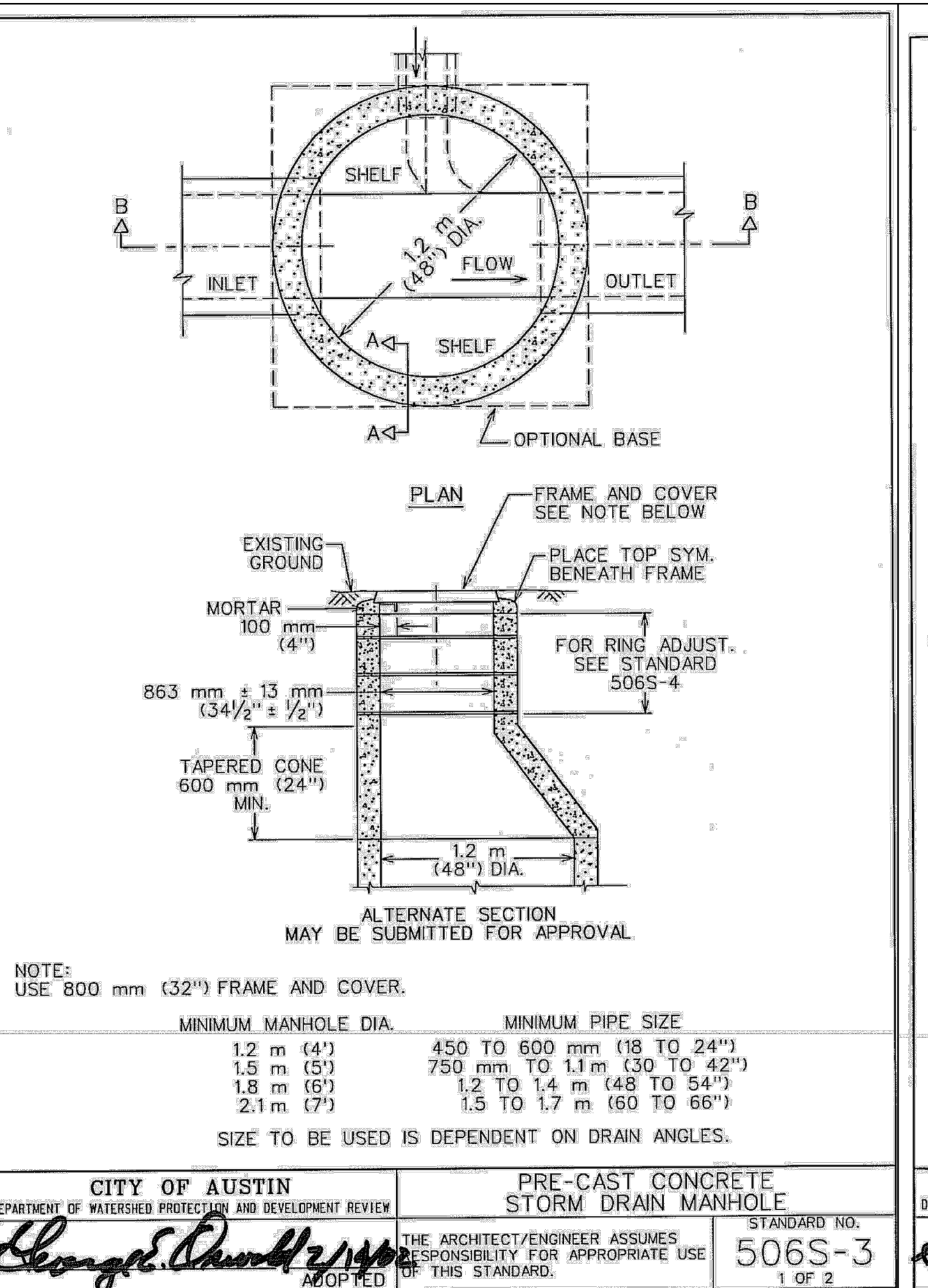
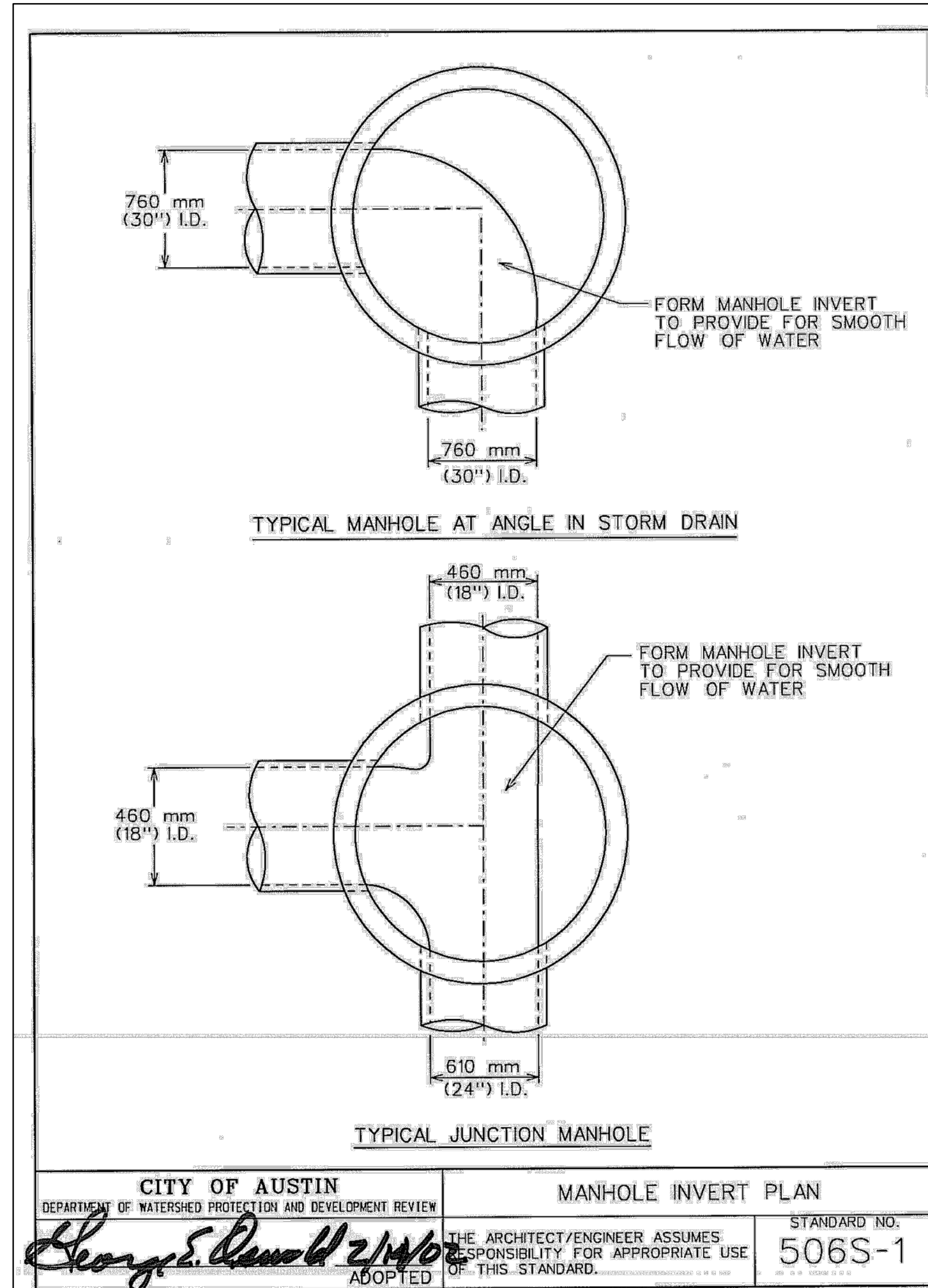
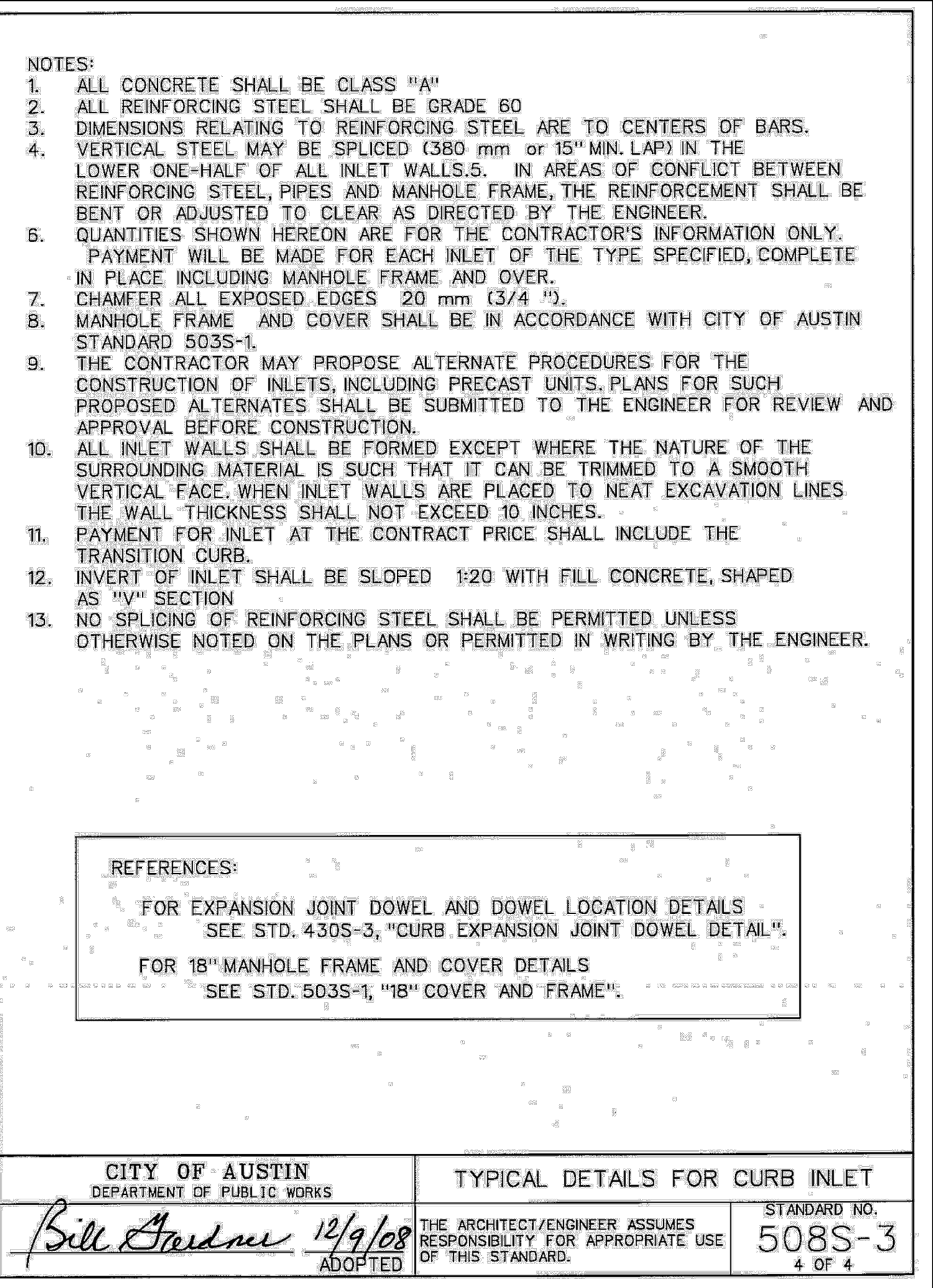
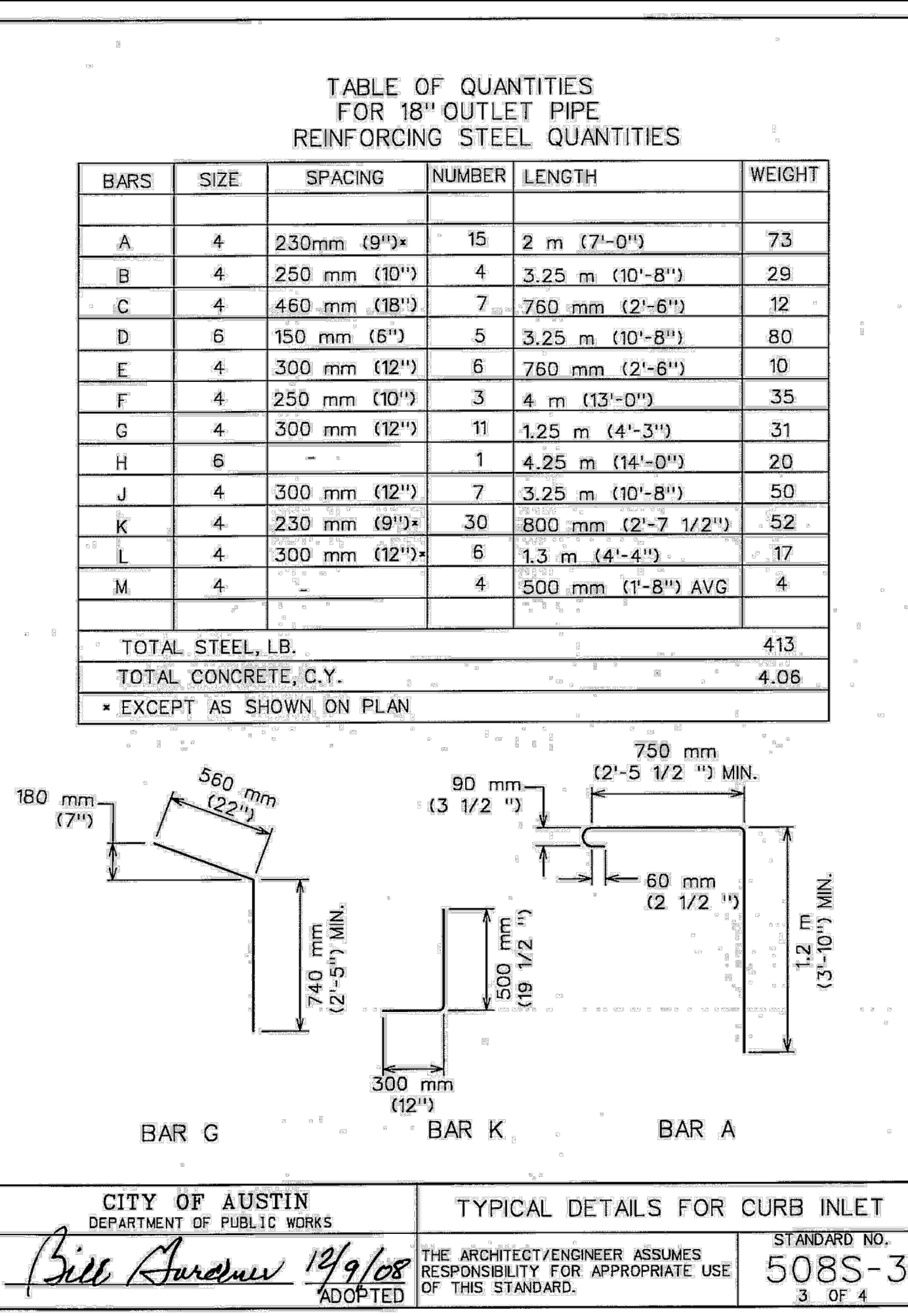
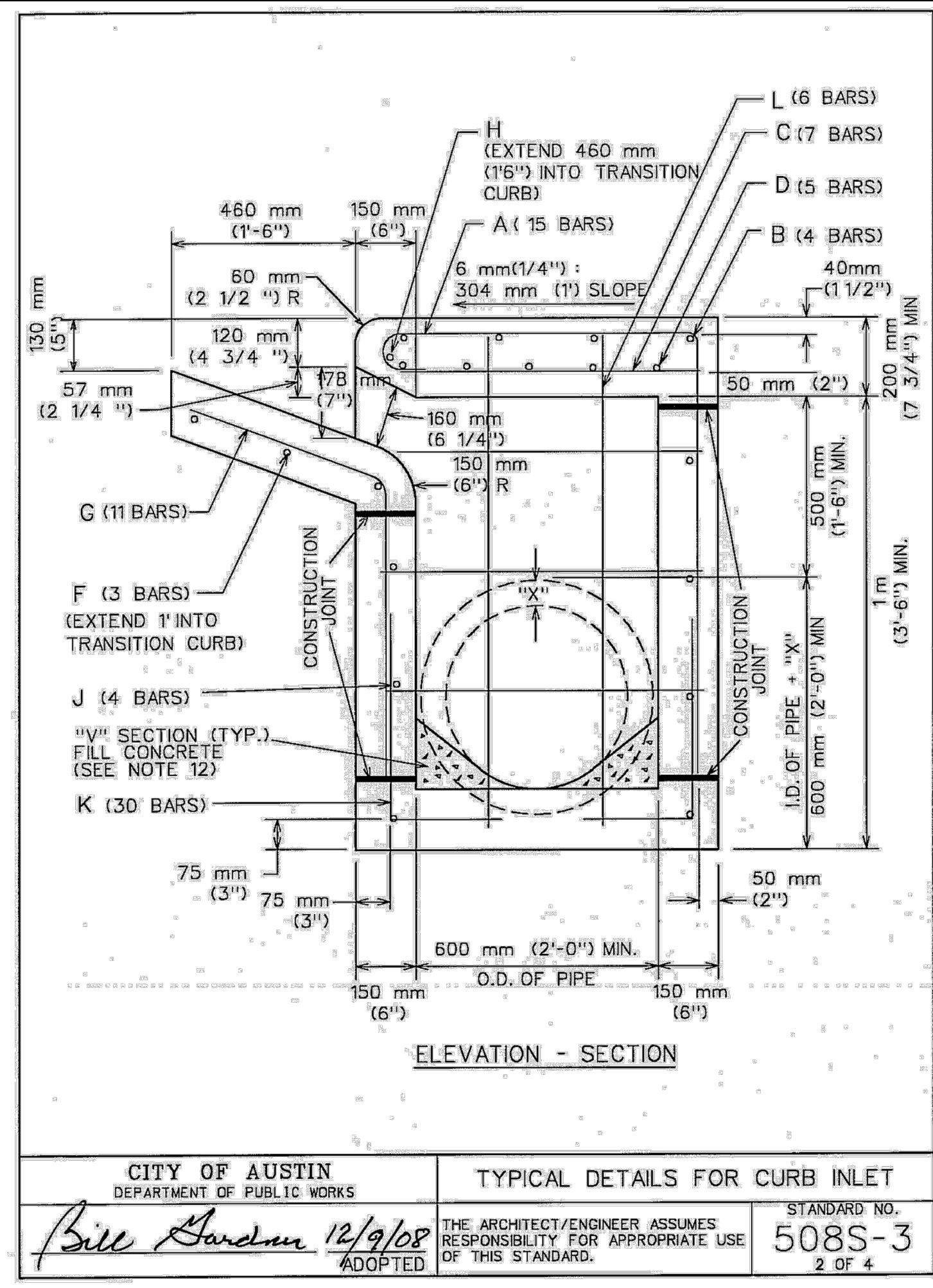
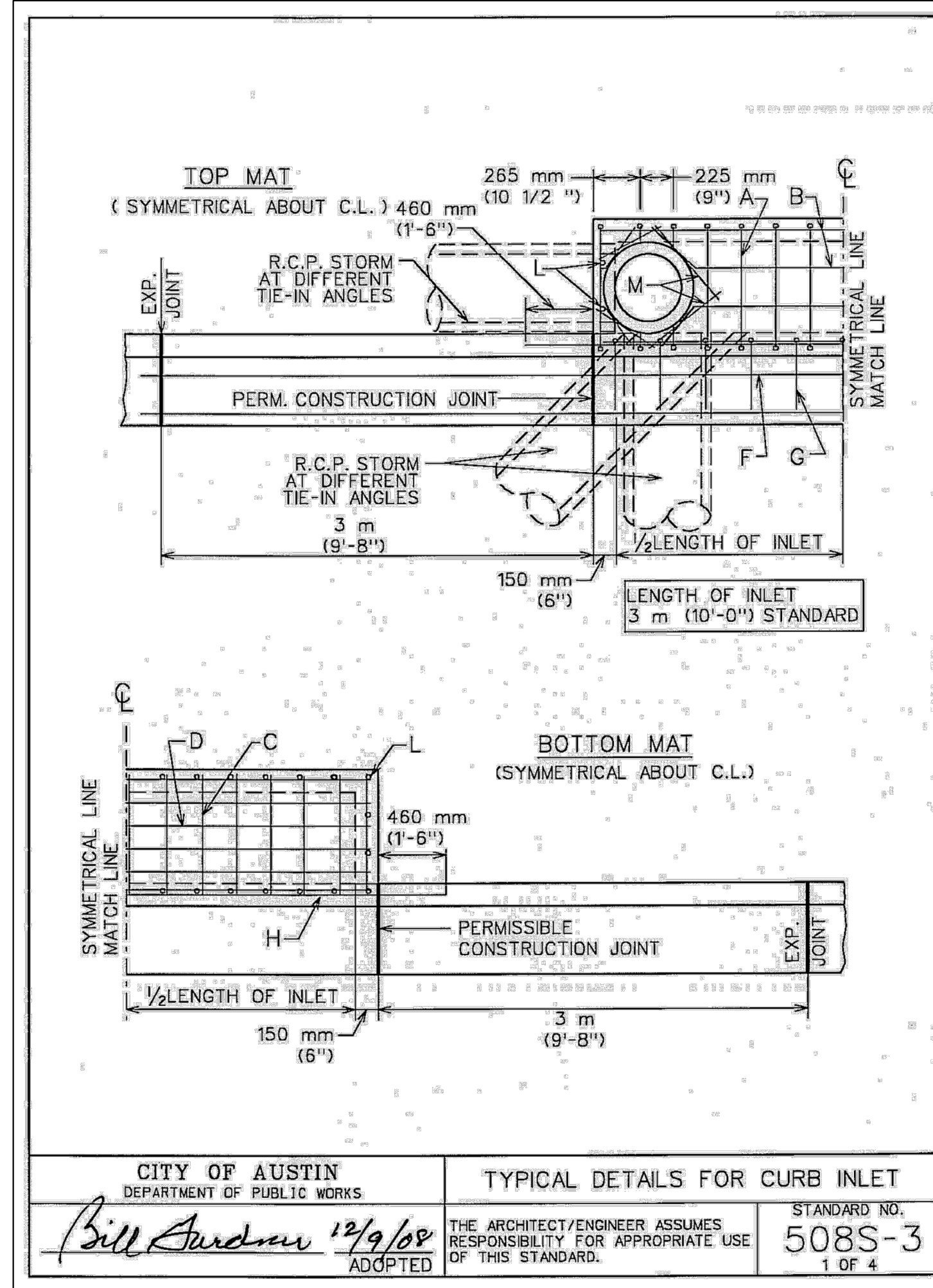
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PRACTICE ACT.



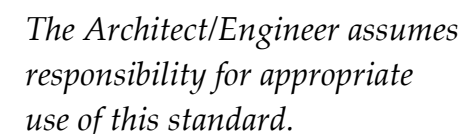














CITY OF GEORGETOWN  
CONSTRUCTION STANDARDS AND DETAILS  
CONCRETE TRANCH CAP DETAIL  
FOR STORM SEWER


REVISION NO:		ADOPTED 6/21/2006	
DRAWING NAME:			
SD39			
SCALE:	DATE:		
NTS	1/2003		
DRAWN BY:	APPROVED BY:		
MRS	TRB		



CITY OF AUSTIN		HEADWALL FOR FILTRATION PONDS W/OUTFALL	
DEPARTMENT OF	WATERSHED PROTECTION AND DEVELOPMENT REVIEW	PIPE 150 mm (6") TO 375 mm (15") DIA.	
 George E. Powell 3/15/05 g ADOPTED		STANDARD NO. 5085-15 	



A	450 mm (18")	500 mm (20")	550 mm (22")	600 mm (24")	675 mm (27")
B	750 mm (30")	800 mm (32")	850 mm (34")	1.05 m (42")	1.27 m (51")
D	150 mm (6")	200 mm (8")	250 mm (10")	300 mm (12")	375 mm (15")
L	600 mm (24")	600 mm (24")	750 mm (30")	900 mm (36")	1.2 m (48")

CITY OF AUSTIN		HEADWALL FOR FILTRATION PONDS W/OUTFLA	
DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW		PIPE 150 mm (6") TO 375 mm (15") DIA.	
 3/15/03		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	
ADOPTED		STANDARD NO. 508S-15 2 OF 2	



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

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

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



CITY OF GEORGETOWN  
CONSTRUCTION STANDARDS AND DETAILS  
TRENCH AND EMBEDMENT DETAIL  
UNDER PROPOSED ROADWAY  
FOR STORM SEWER

DESIGNATION: <b>ADOPTED 6/21/2006</b>	
DRAWING NAME: <b>SD41</b>	
SCALE: <b>NTS</b>	DATE: <b>1/2003</b>
DRAWN BY: <b>MRS</b>	APPROVED BY: <b>TRB</b>



1. PIPE SHALL BE REINFORCED CONCRETE PIPE CLASS III UNLESS THE DEPTH OF PIPE REQUIRES A STRONGER CLASS.
2. ALL FITTINGS AND WYES SHALL BE MANUFACTURED AND NOT CONSTRUCTED ON THE PROJECT WITHOUT PRIOR APPROVAL FROM THE CITY.
3. ALL JOINTS SHALL BE WRAPPED WITH MARFI-140-N GEOTEXTILE FABRIC OR APPROVED EQUIVALENT. EACH JOINT SHALL BE WRAPPED WITH 18" WIDE FABRIC CENTERED ON THE JOINT.

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



CITY OF GEORGETOWN  
CONSTRUCTION STANDARDS AND DETAILS  
TRENCH AND EMBEDMENT DETAIL  
(PROFILE) FOR STORM SEWER

REVISION: <b>ADOPTED 6/21/2006</b>	
DRAWING NAME: <b>SD42</b>	
SCALE: <b>NTS</b>	DATE: <b>1/2003</b>
DRAWN BY: <b>MRS</b>	APPROVED BY: <b>TRB</b>



1. STONE SIZE: 75-125 mm (3-5") OPEN GRADED ROCK.
2. THICKNESS: NOT LESS THAN 200 mm (8").
3. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.

**CITY OF AUSTIN**  
DEPARTMENT OF PUBLIC WORKS

### POND MAINTENANCE ROAD CROSS SECTION

STANDARD NO.  
**662S-2**

E. J. L., P.E. 1/4/2011  
ADOPTED

THE ARCHITECT/ENGINEER ASSUMES  
RESPONSIBILITY FOR APPROPRIATE USE  
OF THIS STANDARD.

STANDARD NO.  
**662S-2**

**GRAY**  
**ENGINEERING**

8834 N. Capital of Texas Hwy.  
Suite 140  
Austin, Texas 78759  
(512)452-0371  
FAX(512)454-9933  
TBPELS FIRM #2946

[illegible]

**DRAINAGE DETAILS**  
**(SHEET 3 OF 3)**

ATLAS RANCH  
PHASE 1 SECTION 1  
WILLIAMSON  
COUNTY, TX

PROJECT NO: 11727

DESIGNED BY: KEL

DRAWN BY: KEL

CHECKED BY: RR

**NOTICE:**  
ALTERATION OF A  
SEALED DRAWING  
WITHOUT PROPER  
NOTIFICATION TO THE  
RESPONSIBLE ENGINEER  
IS A VIOLATION OF THE  
TEXAS ENGINEERING  
PRACTICE ACT.





## Attachment G – Inspection, Maintenance, Repair and Retrofit Plan

### **Batch Detention Pond**

The pond should be inspected at least twice per year, preferably during wet weather. The inspections should check for clogging of the primary outfall mechanism, as well as erosion issues in the upper stage pilot channel and its flow path to the lower stage, if any. Erosion within and downstream of the BMP should be identified and repaired and/or revegetated immediately.

The basin, basin side slopes, and embankment must be mowed to prevent woody growth and control weeds. A mulching mower should be used, or the grass clippings should be caught and removed. Mowing should take place at least twice a year, or more frequently if vegetation exceeds 18 inches in height. More frequent mowing to maintain aesthetic appeal may be necessary for landscaped areas. At the time of mowing, litter and debris should be removed from the surface of the basin. Particular attention should be given to floatable debris around the outlet structure. The outlet should be checked for possible clogging or obstructions and any debris removed. Additionally, at this time, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.).

With each inspection, any damage to structural elements of the basin (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired immediately. An example of this type of repair can include patching of cracked concrete, sealing of voids, removal of vegetation from cracks and joints. The various inlet/outlet structures in a basin will eventually deteriorate and must be replaced.

Sediment shall be removed from the basin at least every 5 years, when sediment depth exceeds 6 inches, when the sediment interferes with the level sensor or when the basin does not drain within 48 hours. Care should be taken not to compromise the basin lining during maintenance.

The Logic Controller should be inspected as part of the twice yearly investigations. Verify that the external indicators (active, cycle in progress) are operating properly by turning the controller off and on, and by initiating a cycle by triggering the level sensor in the basin. The valve should be manually opened and closed using the open/close switch to verify valve operation and to assist in inspecting the valve for debris. The solar panel should be inspected and any dust or debris on the panel should be carefully removed. The controller and all other circuitry and wiring should be inspected for signs of corrosion, damage from insects, water leaks, or other damage. At the end of the inspection, the controller should be reset.

### **Vegetated Filter Strips**

Inspection of the filter strip for erosion and damage to vegetation should occur at least twice per year; additional inspection periods, however, should occur after heavy rainfall. The BMPs should be checked for uniformity of grass cover, debris and litter, and areas of sediment accumulation. If areas are found that have bare spots or that need restoration, those areas should be replanted to meet the TCEQ requirements.

Inspections for debris and litter removal should be performed twice per year, at the minimum. Routine periodic checks are preferred. The filter strips should be kept free of obstructions and debris to allow for



proper usage and minimal blockage. Additionally, monitoring to ensure channels and preferential flow paths have not developed should be conducted during routine inspection.

Grass areas in and around basins must be mowed at least four times a year to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. When mowing is performed, a mulching mower should be used, or grass clippings should be caught and removed. Regular mowing should also include weed control practices; herbicide usage, however, should be kept to a minimum.

\*All inspection and maintenance records must be kept at the office of the operator for the previous three years.

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



Responsible Party: Matt Michelsen – Atlas Ranch Holdings, LP

Mailing Address: 115 E. 5<sup>th</sup> St #200

City, State, Zip: Austin, TX 78701

Telephone: (848) 204 - 4100

**Atlas Ranch Holdings, LP**

By: Atlas Ranch Holdings GP, LLC, its General Partner



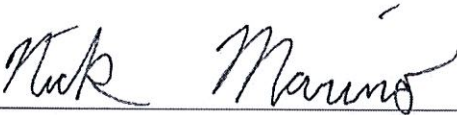
(Signature of Responsible Party)

Agent/Engineer: Nick Marino, P.E. – Gray Engineering, Inc.

Mailing Address: 8834 N. Capital of Texas Highway, Suite 140

City, state, Zip: Austin, Texas 78759

Telephone: (469) 834-8611



(Signature of Agent/Engineer)



## Attachment H – Pilot-Scale Field Testing Plan

Not applicable to this project.



## Attachment I – Measures for Minimizing Surface Stream Contamination

The site will utilize silt fence, with all stabilization installed prior to construction. After construction is completed, all stabilization will be removed. These methods will minimize any increases in erosion caused by construction. The proposed permanent BMPs will also treat any stormwater passing through the site prior to the stormwater returning to existing drainage patterns, eventually flowing into surface streams.



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

I Matthew C. Michelsen,  
Print Name  
Manager of Atlas Ranch Holdings GP, LLC, the General Partner of Atlas Ranch Holdings, LP,  
Title - Owner/President/Other  
of Atlas Ranch Holdings, LP,  
Corporation/Partnership/Entity Name  
have authorized Nick Marino, P.E.  
Print Name of Agent/Engineer  
of Gray Engineering, Inc.  
Print Name of Firm

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

I also understand that:

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



SIGNATURE PAGE:  
Atlas Ranch Holdings, LP

By: Atlas Ranch Holdings GP, LLC,  
its General Partner

By: Matthew  
Applicant's Signature

05/15/2024  
Date

THE STATE OF TX §

County of Travis §

BEFORE ME, the undersigned authority, on this day personally appeared Matthew Nielsen 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 15 day of May 2024.



Sharon Majors  
NOTARY PUBLIC  
Sharon Majors  
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 04/16/2028



# Application Fee Form

## Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Atlas Ranch

Regulated Entity Location: Just NW of the intersection of CR-305 and CR-344 near Jarrell, TX

Name of Customer: Atlas Ranch Holdings, L.P.

Contact Person: Matt Michelsen

Phone: (858) 204-4100

Customer Reference Number (if issued): CN 606063634

Regulated Entity Reference Number (if issued): RN 111613758

### 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

Type of Plan	Size	Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	895.94 Acres	\$ 10,000.00
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	\$
Sewage Collection System	7,984 L.F.	\$ 3,992.00
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: Nick Marino



Date: 9/30/2024

## 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***

<b><i>Project</i></b>	<b><i>Project Area in Acres</i></b>	<b><i>Fee</i></b>
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***

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

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

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

#### ***Exception Requests***

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



***Extension of Time Requests***

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





# TCEQ Core Data Form

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

## SECTION I: General Information

<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)	Follow this link to search for CN or RN numbers in Central Registry**	<b>3. Regulated Entity Reference Number</b> (if issued)
CN 606063634		RN 111613758

## SECTION II: Customer Information

<b>4. General Customer Information</b>		<b>5. Effective Date for Customer Information Updates</b> (mm/dd/yyyy)		
<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>	
Atlas Ranch Holdings LP				
<b>7. TX SOS/CPA Filing Number</b>	<b>8. TX State Tax ID</b> (11 digits)	<b>9. Federal Tax ID</b> (9 digits)	<b>10. DUNS Number</b> (if applicable)	
804272930	32081437587			
<b>11. Type of Customer:</b>	<input type="checkbox"/> Corporation	<input type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input checked="" 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 type="checkbox"/> Other:	
<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 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>	115 E 5th St #200			
	City	Austin	State	TX
			ZIP	78701
			ZIP + 4	
<b>16. Country Mailing Information</b> (if outside USA)			<b>17. E-Mail Address</b> (if applicable)	
			mcm@michelsen.com	
<b>18. Telephone Number</b>		<b>19. Extension or Code</b>		<b>20. Fax Number</b> (if applicable)



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### SECTION III: Regulated Entity Information

<b>21. General Regulated Entity Information</b> <i>(If "New Regulated Entity" is selected, a new permit application is also required.)</i> <input checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information																							
<i>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).</i>																							
<b>22. Regulated Entity Name</b> <i>(Enter name of the site where the regulated action is taking place.)</i>  Atlas Ranch Phase 1, Section 1																							
<b>23. Street Address of the Regulated Entity:</b>  <u>(No PO Boxes)</u>		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; height: 30px;"></td> <td style="width: 15%; height: 30px;"></td> <td style="width: 15%; height: 30px;"></td> <td style="width: 15%; height: 30px;"></td> <td style="width: 15%; height: 30px;"></td> <td style="width: 15%; height: 30px;"></td> <td style="width: 15%; height: 30px;"></td> <td style="width: 15%; height: 30px;"></td> </tr> <tr> <td style="text-align: center; font-size: small;">City</td> <td></td> <td style="text-align: center; font-size: small;">State</td> <td></td> <td style="text-align: center; font-size: small;">ZIP</td> <td></td> <td style="text-align: center; font-size: small;">ZIP + 4</td> <td></td> </tr> </table>														City		State		ZIP		ZIP + 4	
City		State		ZIP		ZIP + 4																	
<b>24. County</b>																							

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

<b>25. Description to Physical Location:</b>		Located 0.88 miles WNW of the intersection of CR305 and CR304, approximately 2 miles northwest of the City of Jarrell					
<b>26. Nearest City</b>				<b>State</b>		<b>Nearest ZIP Code</b>	
Jarrell				TX		76537	
<i>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).</i>							
<b>27. Latitude (N) In Decimal:</b>		30.841665		<b>28. Longitude (W) In Decimal:</b>		-97.633734	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds		
30	50	29.9934	-97	38	1.4424		
<b>29. Primary SIC Code</b> (4 digits)		<b>30. Secondary SIC Code</b> (4 digits)		<b>31. Primary NAICS Code</b> (5 or 6 digits)		<b>32. Secondary NAICS Code</b> (5 or 6 digits)	
1521				237210			
<b>33. What is the Primary Business of this entity?</b> <i>(Do not repeat the SIC or NAICS description.)</i>  <div style="height: 30px; border: 1px solid black;"></div>							
<b>34. Mailing Address:</b>		115 E 5 <sup>th</sup> St #200					
City	Austin	State	TX	ZIP	78701	ZIP + 4	
<b>35. E-Mail Address:</b>		mcm@michelsen.com					
<b>36. Telephone Number</b>			<b>37. Extension or Code</b>		<b>38. Fax Number</b> <i>(if applicable)</i>		
(   )   -					(   )   -		

**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 checked="" 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>	Nick Marino, 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>	
( 469 ) 834-8611		( ) -		

## **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>	Gray Engineering, Inc	<b>Job Title:</b>	Project Manager
<b>Name (In Print):</b>	Nick Marino, PE	<b>Phone:</b>	( 469 ) 834- 8611
<b>Signature:</b>	<i>Nick Marino</i>	<b>Date:</b>	5-8-2024