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**CONTRIBUTING ZONE PLAN (CZP)**  
**Water, Sewer, Drainage and Paving Improvements**  
**for Wildspring Phase 1**

**CITY OF LEANDER, WILLIAMSON COUNTY, TEXAS**  
**CI JOB NO. 2021-CLD-01-020**  
**PICP-22-0037**  
**March 2023**

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# **Contributing Zone Plan – Table of Contents**

- I. **Edwards Aquifer Application Cover Page (TCEQ-20705)**
- II. **Contributing Zone Plan (TCEQ-10257)**
  - Attachment A - Road Map
  - Attachment B - USGS Map
  - Attachment C - Project Description
  - Attachment D – Factors Affecting Surface Water Quality
  - Attachment E – Volume and Character of Stormwater
  - Attachment F – Suitability Letter from Authorized Agent
  - Attachment G – Alternative Secondary Containment Methods
  - Attachment H – AST Containment Structure Drawings
  - Attachment I – 20% or Less Impervious Cover Declaration
  - Attachment J – BMPs for Upgradient Stormwater
  - Attachment K – BMPs for On-site Stormwater
  - Attachment L – BMPs for Surface Streams
  - Attachment M – Construction Plans
  - Attachment N – Inspection, Maintenance, Repair and Retrofit Plan
  - Attachment O – Pilot-Scale Field Testing Plan
  - Attachment P – Measures for Minimizing Surface Stream Contamination
- III. **Temporary Stormwater Section (TCEQ-0602)**
  - Attachment A – Spill Response Actions
  - Attachment B – Potential Sources of Contamination
  - Attachment C – Sequence of Major Activities
  - Attachment D – Temporary Best Management Practices and Measures
  - Attachment E – Request to Temporarily Seal a Feature
  - Attachment F – Structural Practices
  - Attachment G – Drainage Area Map
  - Attachment H – Temporary Sediment Ponds(s) Plans and Calculations
  - Attachment I – Inspection and Maintenance for BMPs
  - Attachment J – Schedule of Interim and Permanent
- IV. **Copy of Notice of Intent (NOI)**
- V. **Agent Authorization Form (TCEQ-0599)**
- VI. **Application Fee Form (TCEQ-0574)**
- VII. **Core Data Form (TCEQ-10400)**



# 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: Wildspring Phase 1</b>						<b>2. Regulated Entity No.: N/A</b>			
<b>3. Customer Name: Toll Southwest, LLC</b>						<b>4. Customer No.: CN602840076</b>			
<b>5. Project Type:</b> (Please circle/check one)	New		Modification			Extension		Exception	
<b>6. Plan Type:</b> (Please circle/check one)	WPAP	X CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
<b>7. Land Use:</b> (Please circle/check one)	X Residential		Non-residential			<b>8. Site (acres):</b>		55.14	
<b>9. Application Fee:</b>	\$6,500		<b>10. Permanent BMP(s):</b>				Batch Detention, Vegetative Filter Strips		
<b>11. SCS (Linear Ft.):</b>	N/A		<b>12. AST/UST (No. Tanks):</b>				N/A		
<b>13. County:</b>	Williamson		<b>14. Watershed:</b>				Brushy 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>  X  </u> Leander <u>  </u> Liberty Hill <u>  </u> Pflugerville <u>  </u> Round Rock

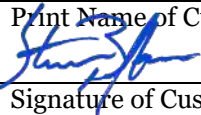
San Antonio Region					
County:	Bexar	Comal	Kinney	Medina	Uvalde
Original (1 req.)	—	—	—	—	—
Region (1 req.)	—	—	—	—	—
County(ies)	—	—	—	—	—
Groundwater Conservation District(s)	<u>  </u> Edwards Aquifer Authority <u>  </u> Trinity-Glen Rose	<u>  </u> Edwards Aquifer Authority	<u>  </u> Kinney	<u>  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



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

Steven Buffum

Print Name of Customer/Authorized Agent



20230420

Signature of Customer/Authorized Agent

Date

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

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



## Section II

### Contributing Zone Plan (TCEQ-10257)



# Contributing Zone Plan Application

## Texas Commission on Environmental Quality

for Regulated Activities on the Contributing Zone to the Edwards Aquifer and Relating to 30 TAC §213.24(1), 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 **Contributing Zone Plan Application** is hereby submitted for TCEQ review and Executive Director approval. The application was prepared by:

Print Name of Customer/Agent: Steven Buffum

Date: 3/24/2022

Signature of Customer/Agent:



Regulated Entity Name: Wildspring, Phase 1

## Project Information

1. County: Williamson
2. Stream Basin: Brushy Creek
3. Groundwater Conservation District (if applicable): N/A
4. Customer (Applicant):

Contact Person: Adrienne Donatucci

Entity: Toll Brothers, Inc.

Mailing Address: 1320 Arrow Point Dr, Suite 401

City, State: Cedar Park, Texas

Telephone: 412-780-2312

Email Address: adonatucci@tollbrothers.com

Zip: 78613

Fax: 512-528-5036



5. Agent/Representative (If any):

Contact Person: Steven Buffum

Entity: Costello Inc

Mailing Address: 9050 N Capital of Texas Hwy Bldg 3, Suite 390

City, State: Austin, Texas

Zip: 78759

Telephone: 512-646-3463

Fax: N/A

Email Address: sbuffum@costelloinc.com

6. Project Location:

- ☒ The project site is located inside the city limits of Leander, TX.
- ☐ 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.

7. ☒ The location of the project site is described below. Sufficient detail and clarity has been provided so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

Northwest intersection of CR 175 and CR 177 in Leander, Texas, and part of a 111.569 acre tract of land out of the John T. Church Survey and the Milton Hicks Survey.

8. ☒ **Attachment A - Road Map.** A road map showing directions to and the location of the project site is attached. The map clearly shows the boundary of the project site.
9. ☒ **Attachment B - USGS Quadrangle Map.** A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') is attached. The map(s) clearly show:
- ☒ Project site boundaries.
- ☒ USGS Quadrangle Name(s).
10. ☒ **Attachment C - Project Narrative.** A detailed narrative description of the proposed project is attached. 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

11. 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/Not cleared)  
☐ Other: \_\_\_\_\_

12. The type of project is:

- ☒ Residential: # of Lots: 148  
☐ Residential: # of Living Unit Equivalents: \_\_\_\_\_  
☐ Commercial  
☐ Industrial  
☐ Other: \_\_\_\_\_

13. Total project area (size of site): 55.14 Acres

Total disturbed area: 55.14 Acres

14. Estimated projected population: 518

15. The amount and type of impervious cover expected after construction is complete is shown below:

**Table 1 - Impervious Cover**

<i><b>Impervious Cover of Proposed Project</b></i>	<i><b>Sq. Ft.</b></i>	<i><b>Sq. Ft./Acre</b></i>	<i><b>Acres</b></i>
Structures/Rooftops	612,000	÷ 43,560 =	14.05
Parking	0	÷ 43,560 =	0.00
Other paved surfaces	330,620	÷ 43,560 =	7.59
Total Impervious Cover	942,620	÷ 43,560 =	21.64

**Total Impervious Cover** 21.64 ÷ **Total Acreage** 55.14 X 100 = 39.25% **Impervious Cover**

16. ☒ **Attachment D - Factors Affecting Surface Water Quality.** A detailed description of all factors that could affect surface water quality is attached. If applicable, this includes the location and description of any discharge associated with industrial activity other than construction.

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

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

***Complete questions 18 - 23 if this application is exclusively for a road project.***

☒ N/A



18. 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.

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

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

20. Right of Way (R.O.W.):

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

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

$L \times W = \text{_____ Ft}^2 \div 43,560 \text{ Ft}^2/\text{Acre} = \text{_____ acres.}$

21. Pavement Area:

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

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

$L \times W = \text{_____ Ft}^2 \div 43,560 \text{ Ft}^2/\text{Acre} = \text{_____ acres.}$

Pavement area \_\_\_\_\_ acres  $\div$  R.O.W. area \_\_\_\_\_ acres  $\times 100 = \text{_____ \%}$  impervious cover.

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

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

23. ☐ 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***

24. ☒ **Attachment E - 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 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***

25. ☒ Wastewater is to be discharged in the contributing zone. Requirements under 30 TAC §213.6(c) relating to Wastewater Treatment and Disposal Systems have been satisfied.

☐ N/A



26. Wastewater will be disposed of by:

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

☐ **Attachment F - 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):

The sewage collection system will convey the wastewater to the BCRWWA (Brushy Creek Regional) (name) Treatment Plant. The treatment facility is:

☒ Existing.

☐ Proposed.

☒ N/A

### ***Permanent Aboveground Storage Tanks(ASTs) ≥ 500 Gallons***

***Complete questions 27 - 33 if this project includes the installation of AST(s) with volume(s) greater than or equal to 500 gallons.***

☒ N/A

27. Tanks and substance stored:

**Table 2 - Tanks and Substance Storage**

<b><i>AST Number</i></b>	<b><i>Size (Gallons)</i></b>	<b><i>Substance to be Stored</i></b>	<b><i>Tank Material</i></b>
1			
2			
3			
4			
5			

**Total x 1.5 = \_\_\_\_\_ Gallons**

28. ☐ The AST will be placed within a containment structure that is sized to capture one and one-half (1 1/2) times the storage capacity of the system. For facilities with more than



one tank system, the containment structure is sized to capture one and one-half (1 1/2) times the cumulative storage capacity of all systems.

- ☐ **Attachment G - Alternative Secondary Containment Methods.** Alternative methods for providing secondary containment are proposed. Specifications showing equivalent protection for the Edwards Aquifer are attached.

29. Inside dimensions and capacity of containment structure(s):

**Table 3 - Secondary Containment**

<i>Length (L)(Ft.)</i>	<i>Width(W)(Ft.)</i>	<i>Height (H)(Ft.)</i>	<i>L x W x H = (Ft3)</i>	<i>Gallons</i>

**Total: \_\_\_\_\_ Gallons**

30. Piping:

- ☐ All piping, hoses, and dispensers will be located inside the containment structure.
- ☐ Some of the piping to dispensers or equipment will extend outside the containment structure.
- ☐ The piping will be aboveground
- ☐ The piping will be underground

31. ☐ The containment area must be constructed of and in a material impervious to the substance(s) being stored. The proposed containment structure will be constructed of: \_\_\_\_\_.

32. ☐ **Attachment H - AST Containment Structure Drawings.** A scaled drawing of the containment structure is attached that shows the following:

- ☐ Interior dimensions (length, width, depth and wall and floor thickness).
- ☐ Internal drainage to a point convenient for the collection of any spillage.
- ☐ Tanks clearly labeled
- ☐ Piping clearly labeled
- ☐ Dispenser clearly labeled

33. ☐ Any spills must be directed to a point convenient for collection and recovery. Spills from storage tank facilities must be removed from the controlled drainage area for disposal within 24 hours of the spill.

- ☐ In the event of a spill, any spillage will be removed from the containment structure within 24 hours of the spill and disposed of properly.



- ☐ In the event of a spill, any spillage will be drained from the containment structure through a drain and valve within 24 hours of the spill and disposed of properly. The drain and valve system are shown in detail on the scaled drawing.

## **Site Plan Requirements**

**Items 34 - 46 must be included on the Site Plan.**

34. ☒ The Site Plan must have a minimum scale of 1" = 400'.  
Site Plan Scale: 1" = 100'.
35. 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): \_\_\_\_\_.
36. ☒ 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, etc. are shown on the site plan.
- ☐ The layout of the development is shown with existing contours at appropriate, but not greater than ten-foot contour intervals. Finished topographic contours will not differ from the existing topographic configuration and are not shown. Lots, recreation centers, buildings, roads, etc. are shown on the site plan.
37. ☒ A drainage plan showing all paths of drainage from the site to surface streams.
38. ☒ The drainage patterns and approximate slopes anticipated after major grading activities.
39. ☒ Areas of soil disturbance and areas which will not be disturbed.
40. ☒ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
41. ☒ Locations where soil stabilization practices are expected to occur.
42. ☒ Surface waters (including wetlands).  
☐ N/A
43. ☒ Locations where stormwater discharges to surface water.  
☐ There will be no discharges to surface water.
44. ☐ Temporary aboveground storage tank facilities.  
☒ Temporary aboveground storage tank facilities will not be located on this site.



45. ☐ Permanent aboveground storage tank facilities.  
☒ Permanent aboveground storage tank facilities will not be located on this site.
46. ☒ Legal boundaries of the site are shown.

### ***Permanent Best Management Practices (BMPs)***

#### ***Practices and measures that will be used during and after construction is completed.***

47. ☒ Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.  
☐ N/A
48. ☒ 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
49. ☒ 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
50. 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.



51. 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 I - 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.

52. ☒ **Attachment J - 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.

53. ☒ **Attachment K - 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.

54. ☒ **Attachment L - BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams is attached.

☐ N/A

55. ☒ **Attachment M - Construction Plans.** Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. Construction plans for the proposed permanent BMPs and measures are



attached and include: Design calculations, TCEQ Construction Notes, all proposed structural plans and specifications, and appropriate details.

☐ N/A

56. ☒ **Attachment N - Inspection, Maintenance, Repair and Retrofit Plan.** A site and BMP specific plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan fulfills all of the following:

- ☒ Prepared and certified by the engineer designing the permanent BMPs and measures
- ☒ Signed by the owner or responsible party
- ☒ Outlines specific procedures for documenting inspections, maintenance, repairs, and, if necessary, retrofit.
- ☒ Contains a discussion of record keeping procedures

☐ N/A

57. ☐ **Attachment O - 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

58. ☒ **Attachment P - 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 result in water quality degradation.

☐ N/A

***Responsibility for Maintenance of Permanent BMPs and Measures after Construction is Complete.***

59. ☒ 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.
60. ☒ 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.

### ***Administrative Information***

- 61. ☒ 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.
- 62. ☒ Any modification of this Contributing Zone Plan may require TCEQ review and Executive Director approval prior to construction, and may require submission of a revised application, with appropriate fees.
- 63. ☒ The site description, controls, maintenance, and inspection requirements for the storm water pollution prevention plan (SWPPP) developed under the EPA NPDES general permits for stormwater discharges have been submitted to fulfill paragraphs 30 TAC §213.24(1-5) of the technical report. All requirements of 30 TAC §213.24(1-5) have been met by the SWPPP document.
- ☒ The Temporary Stormwater Section (TCEQ-0602) is included with the application.



## ATTACHMENT A: ROAD MAP

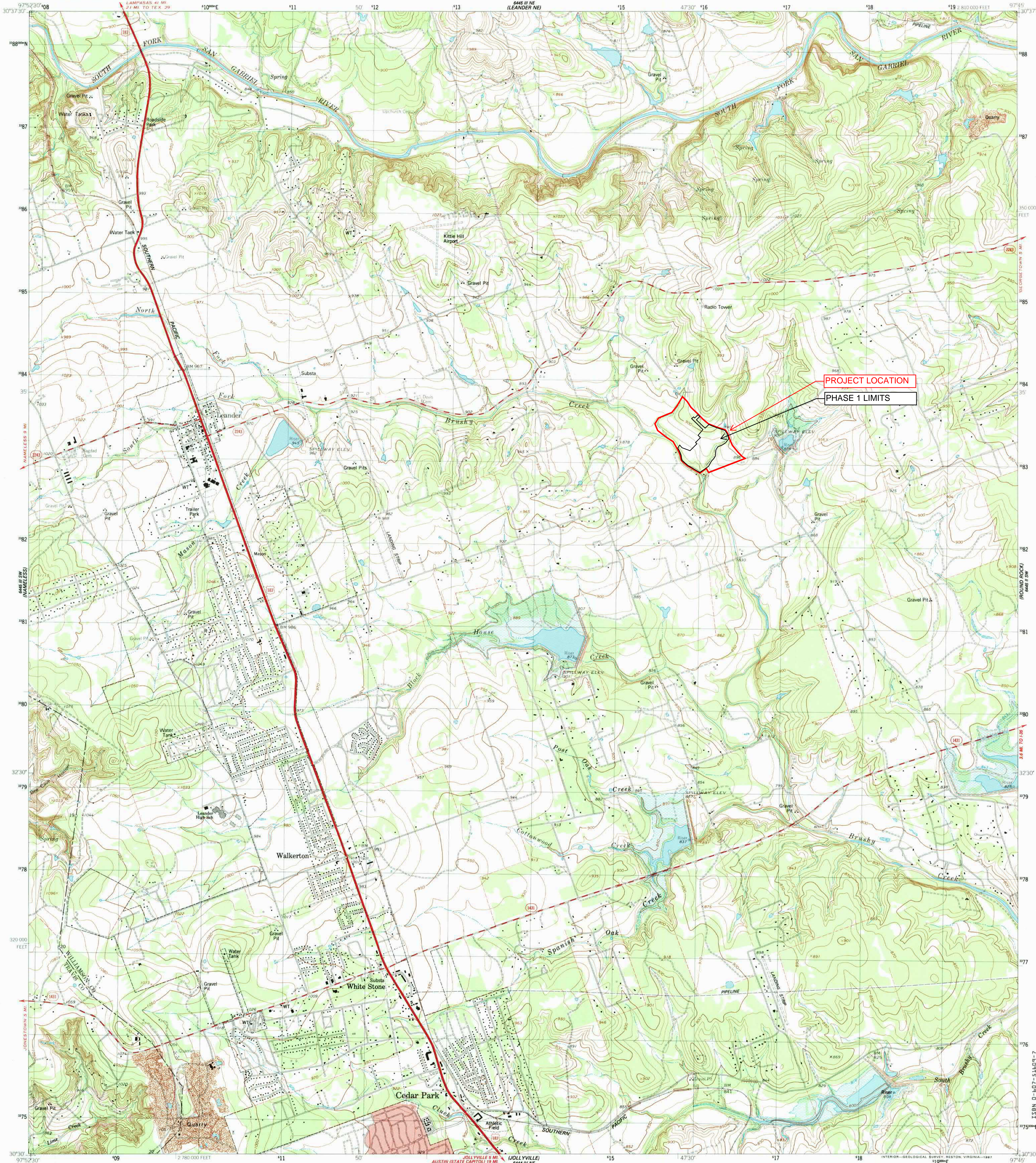




ATTACHMENT B - WILDSPRING PHASE 1

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

LEANDER QUADRANGLE  
TEXAS  
7.5 MINUTE SERIES (TOPOGRAPHIC)



Mapped, edited, and published by the Geological Survey

Control by USGS and NOS/NOAA

Topography by photogrammetric methods from aerial photographs taken 1962. Field checked 1963. Revised from aerial photographs taken 1985. Field checked 1986. Map edited 1987

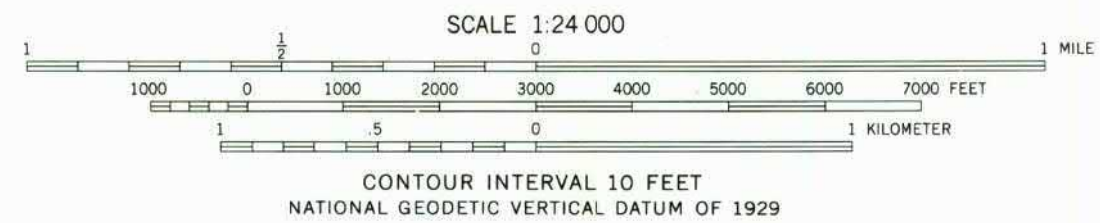
Projection and 10,000-foot grid ticks: Texas coordinate system, central zone (Lambert conformal conic) 1000-meter Universal Transverse Mercator grid, zone 14 1927 North American Datum

To place on the predicted North American Datum 1983 move the projection lines 17 meters south and 28 meters east as shown by dashed corner ticks

Fine red dashed lines indicate selected fence line

Red tint indicates areas in which only landmark buildings are shown

Areas covered by dashed light-blue pattern are subject to controlled inundation



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



QUADRANGLE LOCATION

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



LEANDER, TEX.  
30097-E7-TF-024

1987

DMA 6445 III SE-SERIES V882



# TCEQ Contributing Zone Plan

## Attachment C - Project Narrative

### Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

Wildspring Phase 1 will be the first phase of a three-phase residential development providing housing to the Austin market. The project consists of a 111.569 acre parcel of land located at the northwest intersection of CR 175 and CR 177 in Leander, Williamson County, Texas. Phase 1 of the development will be limited to a 55.17-acre boundary which includes the phase 1 plat boundary as well as roadway improvements for CR-175. Both plan sets are included for reference in Section 2. The subject property is currently an undeveloped ranch, covered with prairie grass and native trees. The property is bordered to the west by Brushy Creek and has a tributary flowing through it, running east to west. A separate Contributing Zone Plan was submitted for the clearing of this project and included BMP's which will also be used in this application (Approved on 12/23/22).

There are 1.48 acres of off-site flow draining into the BMPs on our site, with no impervious cover. There are off-site flows "passing through" Brushy Creek and the tributary described previously, but we are not treating those flows in our water-quality ponds. They are, however, accounted for in the pre- and post-development calculations. This creek will be protected from construction runoff by both temporary and permanent BMP's, which will include silt fence, vegetative filter strips and batch detention basins designed to meet the required TSS removal for this project.

Development of this land into a single-family subdivision will have the following effects on impervious cover: The proposed project consists of 148 single family homes, including all associated water, sewer, drainage and paving infrastructure and site amenities. Concrete access drives, parking, vehicle circulation areas and sidewalk will provide access to the building pads from the proposed Right-of-Way. Additional improvements to the existing CR-175 Roadway are also included in the scope of this application. This will result in a net increase of 21.64 Acres of impervious cover over the Phase 1 impact. Mitigation for development impacts is provided onsite via vegetative filter strips and batch detention ponds, appropriately sized to meet City of Austin and TCEQ pollutant removal criteria. Please see Section "E" for calculations.



# TCEQ Contributing Zone Plan

## Attachment D - Factors Affecting Surface Water Quality

### Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

Water, Sewer Drainage and Paving to serve Wildspring Phase 1 is likely going to have the following factors affecting surface water quality during construction and when completed:

1. Sediment
2. Runoff
3. Trash
4. Fuel
5. Chemicals

BMP's will be used to minimize the impact of these pollutants and are described in other sections of this application. The project site consists of undeveloped prairie/woodland with slopes on site vary from 0.5% to 9%. The underlying soil in this phase is primarily lean to fat clay over limestone. The site will be developed into a single-family subdivision with an estimated increase of 21.64 acres impervious cover, including sidewalks, roadways, residential driveways and dwellings. The increase in impervious cover will cause the typical increases in the Total Suspended Solids (TSS) from rainfall events. There is also an expectation of consistent traffic and parked vehicles due to the proposed facility residents, therefore there may be an increase in fuels and other chemicals released from vehicles which may also increase the TSS for the site.



# TCEQ Contributing Zone Plan

## Attachment E - Volume and Character of Stormwater Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

The volume and character of stormwater at the project site for both existing and post-development conditions are as follows:

Development of Wildspring Phase 1 will result in a net increase of 21.64 Acres of impervious cover. The runoff coefficient of the site will be altered from prairie to single family residential with all associated improvements. On-site impervious cover will consist of new building rooftops, concrete sidewalks and asphalt drive and parking areas. The runoff from the proposed development increases peak runoff and TSS loads. For reference, sheets 9 and 10 of the Wildspring construction plans detail the change in drainage patterns between the existing and proposed conditions, as well as the change in impervious cover.

Mitigation for development impacts is proposed within batch detention ponds and vegetative filter strips. The City of Austin requires pollutant removal rates in excess of the 80% TSS reduction required by the TCEQ. Water Quality Volume (WQV) is used as a basis for the design of the proposed CoA sedimentation and filtration pond is calculated by following CoA guidelines. Calculations showing the pond design meets CoA and TCEQ design targets are attached for both the interim and ultimate conditions.

**Please find the Attached Calculations for Sediment Removal.**



### TSS Removal Calculations - Wildspring Phase 1 and CR 175 Realignment

Loading Calculations		
Site Area:	55.14	ac
Total Proposed IC:	21.64	ac
Load Removal Required ( $L_M$ ):	17,126	lbs/yr
Load Removal Provided ( $L_P$ ):	17,579	lbs/yr
Load Removal Remaining:	-453	lbs/yr

BMP Calculations	Inputs						Outputs		
	Total On-Site DA to BMP (ac)	Pre-development On-Site IC to BMP (ac)	Post-development On-Site IC to BMP (ac)	Off-Site DA to BMP (ac)	Off-Site IC to BMP (ac)	$L_M$ (lbs/yr)	$L_R$ (lbs/yr)	F	Volume (cf)
Pond A	7.44	0.32	4.21	0.00	0.00	3,862	4,291	0.90	21,860
Pond B	10.78	0.00	5.32	0.00	0.00	4,957	5,447	0.91	29,924
Pond C	26.84	0.02	8.59	0.00	0.00	8,051	8,946	0.90	53,334
VFS-H	0.86	0.00	0.33	0.00	0.00	287	287	0.90	-
VFS-I	0.84	0.00	0.48	0.00	0.00	422	422	0.91	-



*Michael A. Kenney*

3/24/2023



Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.  
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.

Characters shown in red are data entry fields.

Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

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

Page 3-29 Equation 3.3:  $L_M = 27.2(A_N \times P)$

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

Site Data: Determine Required Load Removal Based on the Entire Project		
County =	Williamson	
Total project area included in plan *	55.14	acres
Predevelopment impervious area within the limits of the plan *	1.96	acres
Total post-development impervious area within the limits of the plan*	21.64	acres
Total post-development impervious cover fraction *	0.39	
P =	32	inches

$L_{M \text{ TOTAL PROJECT}}$  = 17126 lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 5



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

Drainage Basin/Outfall Area No. =	PR-A	
Total drainage basin/outfall area =	7.44	acres
Predevelopment impervious area within drainage basin/outfall area =	0.32	acres
Post-development impervious area within drainage basin/outfall area =	4.21	acres
Post-development impervious fraction within drainage basin/outfall area =	0.57	
L <sub>M THIS BASIN</sub> =	3,389	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention  
Removal efficiency = 91 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area  
A<sub>I</sub> = Impervious area proposed in the BMP catchment area  
A<sub>P</sub> = Pervious area remaining in the BMP catchment area  
L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A <sub>C</sub> =	7.44	acres
A <sub>I</sub> =	4.21	acres
A <sub>P</sub> =	3.23	acres
L <sub>R</sub> =	4,291	lbs

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

Desired L<sub>M THIS BASIN</sub> = 3,862 lbs.  
F = 0.90

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348

Pages 3-34 to 3-36

Rainfall Depth = 1.70 inches  
Post Development Runoff Coefficient = 0.40  
On-site Water Quality Volume = 18,217 cubic feet

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

Off-site area draining to BMP = 0.00 acres  
Off-site Impervious cover draining to BMP = 0.00 acres  
Impervious fraction of off-site area = 0  
Off-site Runoff Coefficient = 0.00  
Off-site Water Quality Volume = 0 cubic feet  
Storage for Sediment = 3,643  
Total Capture Volume (required water quality volume(s) x 1.20) = 21,860 cubic feet



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

Drainage Basin/Outfall Area No. =	PR-B	
Total drainage basin/outfall area =	10.78	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	5.32	acres
Post-development impervious fraction within drainage basin/outfall area =	0.49	
L <sub>M THIS BASIN</sub> =	4,632	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention  
Removal efficiency = 91 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area  
A<sub>I</sub> = Impervious area proposed in the BMP catchment area  
A<sub>P</sub> = Pervious area remaining in the BMP catchment area  
L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A <sub>C</sub> =	10.78	acres
A <sub>I</sub> =	5.32	acres
A <sub>P</sub> =	5.46	acres
L <sub>R</sub> =	5,447	lbs

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

Desired L<sub>M THIS BASIN</sub> = 4,957 lbs.  
F = 0.91

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348

Pages 3-34 to 3-36

Rainfall Depth = 1.80 inches  
Post Development Runoff Coefficient = 0.35  
On-site Water Quality Volume = 24,937 cubic feet

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

Off-site area draining to BMP = 0.00 acres  
Off-site Impervious cover draining to BMP = 0.00 acres  
Impervious fraction of off-site area = 0  
Off-site Runoff Coefficient = 0.00  
Off-site Water Quality Volume = 0 cubic feet  
Storage for Sediment = 4,987  
Total Capture Volume (required water quality volume(s) x 1.20) = 29,924 cubic feet



Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.

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Characters shown in red are data entry fields.

Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

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

Drainage Basin/Outfall Area No. =	PR-C	
Total drainage basin/outfall area =	26.84	acres
Predevelopment impervious area within drainage basin/outfall area =	0.02	acres
Post-development impervious area within drainage basin/outfall area =	8.59	acres
Post-development impervious fraction within drainage basin/outfall area =	0.32	
L <sub>M THIS BASIN</sub> =	7,467	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention  
Removal efficiency = 91 percent

Aqualogic Cartridge Filter  
Bioretention  
Contech StormFilter  
Constructed Wetland  
Extended Detention  
Grassy Swale  
Retention / Irrigation  
Sand Filter  
Stormceptor  
Vegetated Filter Strips  
Vortechs  
Wet Basin  
Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area  
A<sub>I</sub> = Impervious area proposed in the BMP catchment area  
A<sub>P</sub> = Pervious area remaining in the BMP catchment area  
L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A <sub>C</sub> =	26.84	acres
A <sub>I</sub> =	8.59	acres
A <sub>P</sub> =	18.25	acres
L <sub>R</sub> =	8,946	lbs

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

Desired L<sub>M THIS BASIN</sub> = 8,051 lbs.  
F = 0.90

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348

Pages 3-34 to 3-36

Rainfall Depth = 1.70 inches  
Post Development Runoff Coefficient = 0.27  
On-site Water Quality Volume = 44,445 cubic feet

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

Off-site area draining to BMP = 0.00 acres  
Off-site Impervious cover draining to BMP = 0.00 acres  
Impervious fraction of off-site area = 0  
Off-site Runoff Coefficient = 0.00  
Off-site Water Quality Volume = 0 cubic feet  
Storage for Sediment = 8,889  
Total Capture Volume (required water quality volume(s) x 1.20) = 53,334 cubic feet



Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.

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Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

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

Drainage Basin/Outfall Area No. =	VFS-H	
Total drainage basin/outfall area =	0.86	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.33	acres
Post-development impervious fraction within drainage basin/outfall area =	0.39	
L <sub>M THIS BASIN</sub> =	287	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips  
Removal efficiency = 85 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

- A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area
- A<sub>I</sub> = Impervious area proposed in the BMP catchment area
- A<sub>P</sub> = Pervious area remaining in the BMP catchment area
- L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A <sub>C</sub> =	0.86	acres
A <sub>I</sub> =	0.33	acres
A <sub>P</sub> =	0.53	acres
L <sub>R</sub> =	318	lbs

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

Desired L<sub>M THIS BASIN</sub> = 287 lbs.



Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.

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

Drainage Basin/Outfall Area No. =	VFS-I	
Total drainage basin/outfall area =	0.84	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.48	acres
Post-development impervious fraction within drainage basin/outfall area =	0.58	
L <sub>M THIS BASIN</sub> =	422	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips  
Removal efficiency = 85 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

- A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area
- A<sub>I</sub> = Impervious area proposed in the BMP catchment area
- A<sub>P</sub> = Pervious area remaining in the BMP catchment area
- L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A <sub>C</sub> =	0.84	acres
A <sub>I</sub> =	0.48	acres
A <sub>P</sub> =	0.36	acres
L <sub>R</sub> =	461	lbs

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

Desired L<sub>M THIS BASIN</sub> = 422 lbs.



TSS Removal Calculations - Wildspring Development (Ultimate Build-Out)

Loading Calculations		
Site Area:	116.53	ac
Total Proposed IC:	45.45	ac
Load Removal Required (L <sub>M</sub> ):	37,850	lbs/yr
Load Removal Provided (L <sub>P</sub> ):	37,918	lbs/yr
Load Removal Remaining:	-69	lbs/yr

BMP Calculations	Inputs						Outputs		
	Total On-Site DA to BMP (ac)	Pre-development On-Site IC to BMP (ac)	Post-development On-Site IC to BMP (ac)	Off-Site DA to BMP (ac)	Off-Site IC to BMP (ac)	L <sub>M</sub> (lbs/yr)	L <sub>R</sub> (lbs/yr)	F	Volume (cf)
Pond A	7.44	0.32	4.21	0.00	0.00	3,865	4,294	0.90	21,874
Pond B	10.78	0.00	5.31	0.00	0.00	4,950	5,440	0.91	29,892
Pond C	32.50	0.02	16.66	0.00	0.00	15,332	17,036	0.90	87,735
Pond D	11.51	0.09	5.24	0.00	0.00	4,844	5,382	0.90	28,477
Pond E	16.71	0.25	7.46	0.00	0.00	6,893	7,659	0.90	40,765
VFS-F	1.37	0.00	0.64	0.00	0.00	559	559	0.91	-
VFS-G	1.55	0.00	0.68	0.00	0.00	594	594	0.91	-
VFS-H	0.86	0.00	0.33	0.00	0.00	287	287	0.90	-
VFS-I	0.84	0.00	0.48	0.00	0.00	422	422	0.91	-
VFS-J	0.42	0.00	0.20	0.00	0.00	172	172	0.91	-



Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.  
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1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3:  $L_M = 27.2(A_N \times P)$

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

Site Data: Determine Required Load Removal Based on the Entire Project		
County =	Williamson	
Total project area included in plan *	116.53	acres
Predevelopment impervious area within the limits of the plan *	1.96	acres
Total post-development impervious area within the limits of the plan*	45.45	acres
Total post-development impervious cover fraction *	0.39	
P =	32	inches

$L_{M \text{ TOTAL PROJECT}}$  = 37850 lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 10



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

Drainage Basin/Outfall Area No. =	PR-A	
Total drainage basin/outfall area =	7.44	acres
Predevelopment impervious area within drainage basin/outfall area =	0.32	acres
Post-development impervious area within drainage basin/outfall area =	4.21	acres
Post-development impervious fraction within drainage basin/outfall area =	0.57	
$L_{M \text{ THIS BASIN}}$ =	3,392	lbs.

Pond A

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention  
Removal efficiency = 91 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

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

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

where:

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

$A_C$ =	7.44	acres
$A_i$ =	4.21	acres
$A_p$ =	3.23	acres
$L_R$ =	4,294	lbs

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

Desired  $L_{M \text{ THIS BASIN}}$  = 3,865 lbs.  
  
F = 0.90

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348      Pages 3-34 to 3-36

Rainfall Depth =	1.70	inches
Post Development Runoff Coefficient =	0.40	
On-site Water Quality Volume =	18,229	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	3,646	
Total Capture Volume (required water quality volume(s) x 1.20) =	21,874	cubic feet



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

Drainage Basin/Outfall Area No. =	PR-B		
Total drainage basin/outfall area =	10.78	acres	
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres	
Post-development impervious area within drainage basin/outfall area =	5.31	acres	
Post-development impervious fraction within drainage basin/outfall area =	0.49		Pond B
$L_{M \text{ THIS BASIN}}$ =	4,625	lbs.	

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention  
Removal efficiency = 91 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

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

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

where:

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

$A_C$  = 10.78 acres  
 $A_I$  = 5.31 acres  
 $A_P$  = 5.47 acres  
 $L_R$  = 5,440 lbs

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

Desired  $L_{M \text{ THIS BASIN}}$  = 4,950 lbs.  
 $F$  = 0.91

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth = 1.80 inches  
Post Development Runoff Coefficient = 0.35  
On-site Water Quality Volume = 24,910 cubic feet

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

Off-site area draining to BMP = 0.00 acres  
Off-site Impervious cover draining to BMP = 0.00 acres  
Impervious fraction of off-site area = 0  
Off-site Runoff Coefficient = 0.00  
Off-site Water Quality Volume = 0 cubic feet  
Storage for Sediment = 4,982  
Total Capture Volume (required water quality volume(s) x 1.20) = 29,892 cubic feet



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

Drainage Basin/Outfall Area No. =	PR-C		
Total drainage basin/outfall area =	32.50	acres	
Predevelopment impervious area within drainage basin/outfall area =	0.02	acres	
Post-development impervious area within drainage basin/outfall area =	16.66	acres	
Post-development impervious fraction within drainage basin/outfall area =	0.51		Pond C
$L_{M \text{ THIS BASIN}}$ =	14,488	lbs.	

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention  
Removal efficiency = 91 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

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

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

where:

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

$A_C$  = 32.50 acres  
 $A_I$  = 16.66 acres  
 $A_P$  = 15.84 acres  
 $L_R$  = 17,036 lbs

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

Desired  $L_{M \text{ THIS BASIN}}$  = 15,332 lbs.  
 $F$  = 0.90

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth = 1.70 inches  
Post Development Runoff Coefficient = 0.36  
On-site Water Quality Volume = 73,113 cubic feet

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

Off-site area draining to BMP = 0.00 acres  
Off-site Impervious cover draining to BMP = 0.00 acres  
Impervious fraction of off-site area = 0  
Off-site Runoff Coefficient = 0.00  
Off-site Water Quality Volume = 0 cubic feet  
Storage for Sediment = 14,623  
Total Capture Volume (required water quality volume(s) x 1.20) = 87,735 cubic feet



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

Drainage Basin/Outfall Area No. =	PR-D		
Total drainage basin/outfall area =	11.51	acres	
Predevelopment impervious area within drainage basin/outfall area =	0.09	acres	
Post-development impervious area within drainage basin/outfall area =	5.24	acres	
Post-development impervious fraction within drainage basin/outfall area =	0.46		Pond D
L <sub>M THIS BASIN</sub> =	4,482	lbs.	

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention  
Removal efficiency = 91 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area  
A<sub>I</sub> = Impervious area proposed in the BMP catchment area  
A<sub>P</sub> = Pervious area remaining in the BMP catchment area  
L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A <sub>C</sub> =	11.51	acres
A <sub>I</sub> =	5.24	acres
A <sub>P</sub> =	6.26	acres
L <sub>R</sub> =	5,382	lbs

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

Desired L<sub>M THIS BASIN</sub> = 4,844 lbs.  
F = 0.90

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth = 1.70 inches  
Post Development Runoff Coefficient = 0.33  
On-site Water Quality Volume = 23,731 cubic feet

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

Off-site area draining to BMP = 0.00 acres  
Off-site Impervious cover draining to BMP = 0.00 acres  
Impervious fraction of off-site area = 0  
Off-site Runoff Coefficient = 0.00  
Off-site Water Quality Volume = 0 cubic feet  
Storage for Sediment = 4,746  
Total Capture Volume (required water quality volume(s) x 1.20) = 28,477 cubic feet



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

Drainage Basin/Outfall Area No. =	PR-E		
Total drainage basin/outfall area =	16.71	acres	
Predevelopment impervious area within drainage basin/outfall area =	0.25	acres	
Post-development impervious area within drainage basin/outfall area =	7.46	acres	
Post-development impervious fraction within drainage basin/outfall area =	0.45		Pond E
L <sub>M THIS BASIN</sub> =	6,277	lbs.	

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention  
Removal efficiency = 91 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area  
A<sub>I</sub> = Impervious area proposed in the BMP catchment area  
A<sub>P</sub> = Pervious area remaining in the BMP catchment area  
L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A<sub>C</sub> = 16.71 acres  
A<sub>I</sub> = 7.46 acres  
A<sub>P</sub> = 9.25 acres  
L<sub>R</sub> = 7,659 lbs

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

Desired L<sub>M THIS BASIN</sub> = 6,893 lbs.  
F = 0.90

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth = 1.70 inches  
Post Development Runoff Coefficient = 0.33  
On-site Water Quality Volume = 33,970 cubic feet

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

Off-site area draining to BMP = 0.00 acres  
Off-site Impervious cover draining to BMP = 0.00 acres  
Impervious fraction of off-site area = 0  
Off-site Runoff Coefficient = 0.00  
Off-site Water Quality Volume = 0 cubic feet  
Storage for Sediment = 6,794  
Total Capture Volume (required water quality volume(s) x 1.20) = 40,765 cubic feet



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

Drainage Basin/Outfall Area No. =	VFS-F		
Total drainage basin/outfall area =	1.37	acres	
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres	
Post-development impervious area within drainage basin/outfall area =	0.64	acres	
Post-development impervious fraction within drainage basin/outfall area =	0.47		VFS-F
L <sub>M THIS BASIN</sub> =	559	lbs.	

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	Vegetated Filter Strips	
Removal efficiency =	85	percent
		Aqualogic Cartridge Filter
		Bioretention
		Contech StormFilter
		Constructed Wetland
		Extended Detention
		Grassy Swale
		Retention / Irrigation
		Sand Filter
		Stormceptor
		Vegetated Filter Strips
		Vortechs
		Wet Basin
		Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

- A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area
- A<sub>I</sub> = Impervious area proposed in the BMP catchment area
- A<sub>P</sub> = Pervious area remaining in the BMP catchment area
- L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A <sub>C</sub> =	1.37	acres
A <sub>I</sub> =	0.64	acres
A <sub>P</sub> =	0.72	acres
L <sub>R</sub> =	615	lbs

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

Desired L <sub>M THIS BASIN</sub> =	559	lbs.
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2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. =	VFS-G	
Total drainage basin/outfall area =	1.55	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.68	acres
Post-development impervious fraction within drainage basin/outfall area =	0.44	
L <sub>M THIS BASIN</sub> =	594	lbs.

VFS-G

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips  
Removal efficiency = 85 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

- A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area
- A<sub>I</sub> = Impervious area proposed in the BMP catchment area
- A<sub>P</sub> = Pervious area remaining in the BMP catchment area
- L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A <sub>C</sub> =	1.55	acres
A <sub>I</sub> =	0.68	acres
A <sub>P</sub> =	0.87	acres
L <sub>R</sub> =	655	lbs

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

Desired L<sub>M THIS BASIN</sub> = 594 lbs.



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

Drainage Basin/Outfall Area No. =	VFS-H	
Total drainage basin/outfall area =	0.86	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.33	acres
Post-development impervious fraction within drainage basin/outfall area =	0.39	
L <sub>M THIS BASIN</sub> =	287	lbs.

VFS-H

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips  
Removal efficiency = 85 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

- A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area
- A<sub>I</sub> = Impervious area proposed in the BMP catchment area
- A<sub>P</sub> = Pervious area remaining in the BMP catchment area
- L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A <sub>C</sub> =	0.86	acres
A <sub>I</sub> =	0.33	acres
A <sub>P</sub> =	0.53	acres
L <sub>R</sub> =	318	lbs

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

Desired L<sub>M THIS BASIN</sub> = 287 lbs.



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

Drainage Basin/Outfall Area No. =	VFS-I	
Total drainage basin/outfall area =	0.84	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.48	acres
Post-development impervious fraction within drainage basin/outfall area =	0.58	
L <sub>M THIS BASIN</sub> =	422	lbs.

VFS-I

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips  
Removal efficiency = 85 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

- A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area
- A<sub>I</sub> = Impervious area proposed in the BMP catchment area
- A<sub>P</sub> = Pervious area remaining in the BMP catchment area
- L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A <sub>C</sub> =	0.84	acres
A <sub>I</sub> =	0.48	acres
A <sub>P</sub> =	0.36	acres
L <sub>R</sub> =	461	lbs

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

Desired L<sub>M THIS BASIN</sub> = 422 lbs.



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

Drainage Basin/Outfall Area No. =	VFS-J		
Total drainage basin/outfall area =	0.42	acres	
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres	
Post-development impervious area within drainage basin/outfall area =	0.20	acres	
Post-development impervious fraction within drainage basin/outfall area =	0.47		VFS-J
L <sub>M THIS BASIN</sub> =	172	lbs.	

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips  
Removal efficiency = 85 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

- A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area
- A<sub>I</sub> = Impervious area proposed in the BMP catchment area
- A<sub>P</sub> = Pervious area remaining in the BMP catchment area
- L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A <sub>C</sub> =	0.42	acres
A <sub>I</sub> =	0.20	acres
A <sub>P</sub> =	0.23	acres
L <sub>R</sub> =	189	lbs

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

Desired L<sub>M THIS BASIN</sub> = 172 lbs.



# TCEQ Contributing Zone Plan

## Attachment F- Suitability Letter from Authorized Agent

### Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

No on-site sewage facilities (OSSF) are proposed on site.

**Section not applicable to this project**



# TCEQ Contributing Zone Plan

## Attachment G - Alternative Secondary Containment Methods

### Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

No ground storage tanks are proposed in this project.

**Section not applicable to this project**



# TCEQ Contributing Zone Plan

## Attachment H - AST Containment Structure Drawings

### Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

No ground storage tanks are proposed in this project.

**Section not applicable to this project**



# TCEQ Contributing Zone Plan

## Attachment I - 20% or Less Impervious Cover Waiver

### Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

The site will not be used for multi-family residential developments, schools, or small business sites.

**Section not applicable to this project**



# TCEQ Contributing Zone Plan

## Attachment J - BMPs For Upgradient Stormwater Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

Wildspring Phase 1 is receiving 2.01 acres of off-site flow to the site. The following best management practices (BMPs) will be used to prevent pollution of the surface water our site flows into from upgradient stormwater:

1. **Batch Detention** – Batch Detention ponds for this project will all function for the purposes of sedimentation control and water quality. Ponds shall utilize an automated valve and outflow control structure to slow the flow of stormwater runoff and settle out particulates before discharge. These ponds will be utilized for the removal of suspended solids. Please see section 02 – Attachment E for TSS removal and sizing calculations.
2. **Vegetative Filter Strips**-Along the borders of disturbed areas that run off into water ways on the project, Vegetative Filter Strips (VFS) will be planted to reduce sediments and contaminants from entering the surface water adjacent to the project site. Please see section 02 – Attachment E for TSS removal and sizing calculations.
3. **Silt Fence**-Installed along the downstream borders of the site and along future ROW lines that run off into water ways on the project, silt fence will be installed to intercept sediment while allowing water to slowly percolate through. This is a temporary measure that will be removed after the disturbed area is re-vegetated.



# TCEQ Contributing Zone Plan

## Attachment K - BMPs For On-Site Stormwater Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

The following best management practices (BMPs) will be used to prevent pollution of the surface water from on-site stormwater:

1. **Batch Detention** - Batch Detention ponds for this project will all function for the purposes of sedimentation control and water quality. Ponds shall utilize an automated valve and outflow control structure to slow the flow of stormwater runoff and settle out particulates before discharge. These ponds will be utilized for the removal of suspended solids. Please see section 02 – Attachment E for TSS removal and sizing calculations.
2. **Vegetative Filter Strips**-Along the borders of disturbed areas that run off into water ways on the project, Vegetative Filter Strips (VFS) will be planted to reduce sediments and contaminants from entering the surface water adjacent to the project site. Please see section 02 – Attachment E for TSS removal calculations.
3. **Silt Fence**-Installed along the downstream borders of the site and along future ROW lines that run off into water ways on the project, silt fence will be installed to intercept sediment while allowing water to slowly percolate through. This is a temporary measure that will be removed after the disturbed area is re-vegetated.



# TCEQ Contributing Zone Plan

## Attachment L - BMPs For Surface Streams

### Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

The following best management practices (BMPs) will be used to prevent pollution of the existing surface streams from our site flows:

1. **Batch Detention** - Batch Detention ponds for this project will all function for the purposes of sedimentation control and water quality. Ponds shall utilize an automated valve and outflow control structure to slow the flow of stormwater runoff and settle out particulates before discharge. These ponds will be utilized for the removal of suspended solids. Please see section 02 - Attachment E for TSS removal and sizing calculations.
2. **Vegetative Filter Strips**-Along the borders of disturbed areas that run off into water ways on the project, Vegetative Filter Strips (VFS) will be planted to reduce sediments and contaminants from entering the surface water adjacent to the project site. Please see section 02 - Attachment E for TSS removal calculations.
3. **Silt Fence**-Installed along the downstream borders of the site and along future ROW lines that run off into water ways on the project, silt fence will be installed to intercept sediment while allowing water to slowly percolate through. This is a temporary measure that will be removed after the disturbed area is re-vegetated.



# TCEQ Contributing Zone Plan

## Attachment M - Construction Plans

### Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

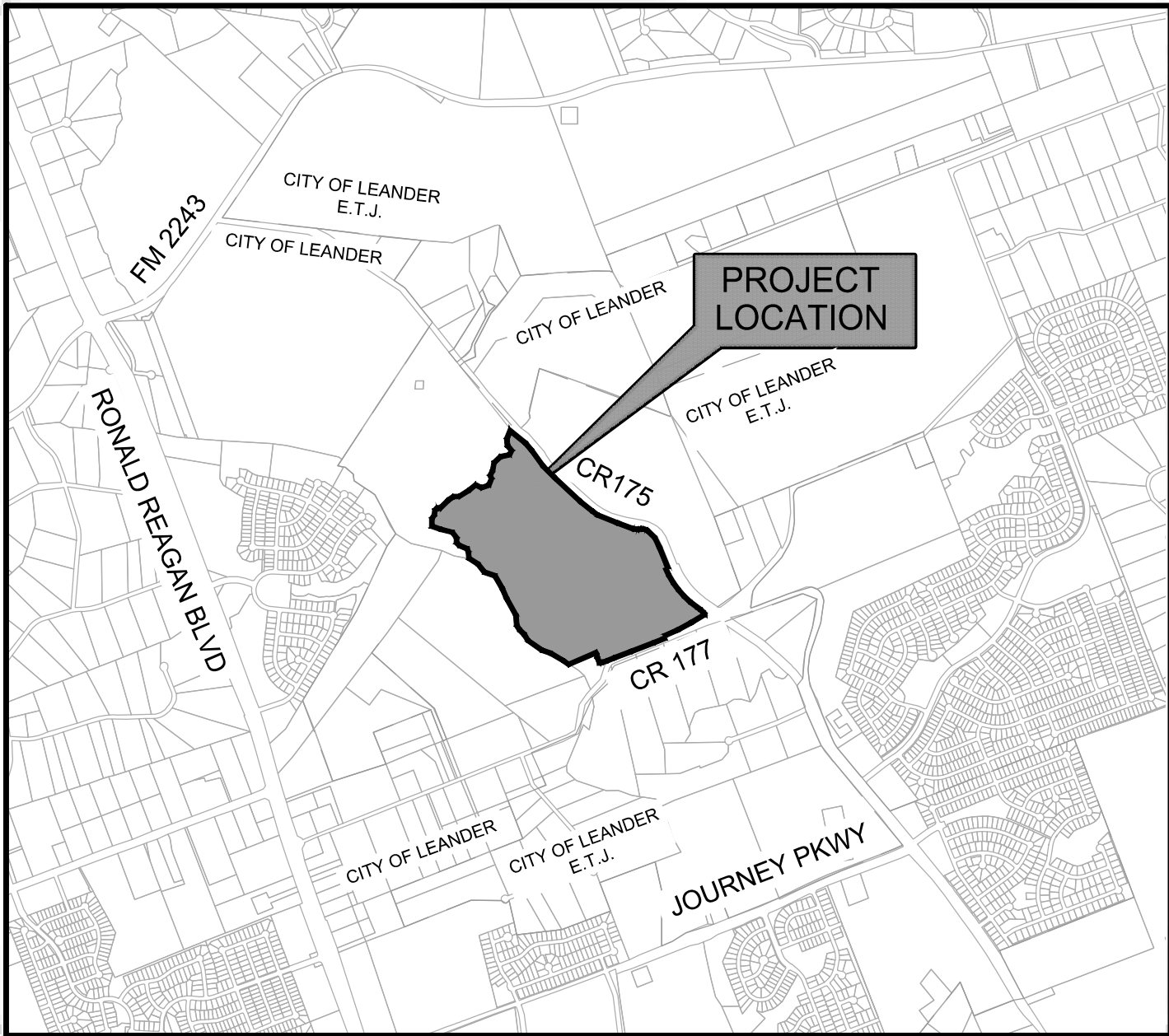
Please find the attached construction plans for Wildspring Phase 1.



# WILDSRING

## PHASE 1 - CONSTRUCTION PLANS PROJECT NO. PICP-22-0037

CITY OF LEANDER, WILLIAMSON COUNTY, TEXAS  
SUBMITTAL DATE: 12/06/2022



VICINITY MAP  
SCALE: 1" = 2000'

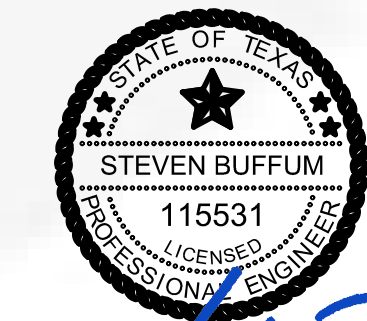
### PROJECT INFORMATION:

OWNER / DEVELOPER: TOLL BROTHERS  
1320 ARROW POINT DR., STE 401, CEDAR PARK, TX 78613  
412-780-2312

ENGINEER: COSTELLO, INC. TBPE 280  
9050 N CAPITAL OF TX HWY, BLDG. 3, SUITE 390  
AUSTIN, TX 78759  
512-646-3456

SURVEYOR: LANDESIGN SERVICES, INC. TBPELS 10001800  
10090 W HIGHWAY 29  
LIBERTY HILL, TX 78642  
512-238-7901

AGENT: COSTELLO, INC. TBPE 280  
9050 N CAPITAL OF TX HWY, BLDG. 3, SUITE 390  
AUSTIN, TX 78759  
512-646-3456



STEVEN BUFFUM, P.E.  
COSTELLO, INC. TBPE NO. 280

3/22/2023

DATE

Sheet List	
Sheet Number	Sheet Title
1	COVER SHEET
2	GENERAL NOTES
3	TCEQ NOTES
4	FINAL PLAT (1 OF 2)
5	FINAL PLAT (2 OF 2)
6	EXISTING CONDITIONS (1 OF 2)
7	EXISTING CONDITIONS (2 OF 2)
8	PRELIMINARY PHASING PLAN
9	EXISTING DRAINAGE AREA MAP
10	PROPOSED DRAINAGE AREA MAP
11	OVERALL EROSION CONTROL PLAN
12	EROSION & SEDIMENTATION CONTROL DETAILS
13	STREETS OVERALL
14	WHITE MISTFLOWER DR 3+50 TO 12+50
15	WHITE MISTFLOWER DR 12+50 TO 21+00
16	WHITE MISTFLOWER DR CUL-DE-SAC START TO END
17	WILD JUNIPER 0+50 TO 9+00
18	WILD JUNIPER 9+00 TO 13+75
19	INDIGO BUSH LN 11+00 TO 20+00
20	INDIGO BUSH LN 20+00 TO 21+50 AND INDIGO BUSH TEMP CUL-DE-SAC
21	DESERT MARIGOLD DR 0+50 TO 7+00
22	WHITE ROSEMARY RD 0+50 TO 5+50
23	WHITE ROSEMARY CUL DE SAC 4+00 TO 8+00
24	DESERT BLOOM DR & PEACH DRIFT DR
25	SWEET VIOLET DR 3+00 TO 12+00
26	SWEET VIOLET DR 12+00 TO 15+00 & CUL DE SAC 13+25 TO 17+50
27	DAYLILIES DR & SENITA DR
28	GRADING PLAN (1 OF 3)
29	GRADING PLAN (2 OF 3)
30	GRADING PLAN (3 OF 3)
31	INLET DRAINAGE AREA MAP
32	POND A AND CROSS SECTIONS A AND B
33	POND B AND CROSS SECTIONS A AND B
34	POND C AND CROSS SECTION A 1+00 - 10+00
35	POND C AND CROSS SECTION A 10+00 - 15+00
36	POND C CROSS SECTIONS B, C, AND D
37	POND DETAILS
38	STORMSEWER PLAN OVERALL
39	STORMSEWER PLAN & PROFILES - DRAINAGE CALCS
40	STORMSEWER PLAN & PROFILES - STORM LINE A
41	STORMSEWER PLAN & PROFILES - STORM LINE C03 6+00-12+00
42	STORMSEWER PLAN & PROFILES - STORM LINE B01
43	STORMSEWER PLAN & PROFILES - STORM LINE B01 (2) & B02
44	STORMSEWER PLAN & PROFILES - STORM LINE C01
45	STORMSEWER PLAN & PROFILES - STORM LINE C02
46	STORMSEWER PLAN & PROFILES - STORM LINE C03
47	STORMSEWER LATERALS 1 OF 3
48	STORMSEWER LATERALS 2 OF 3
49	STORMSEWER LATERALS 3 OF 3
50	WATER OVERALL
51	WL A 1+00 - 10+00
52	WL A 10+00 - 20+00
53	WL A 19+50 - 28+00
54	WL A 28+00 - END

55	WL B C D 1+00 - END
56	WL F G 1+00 - END
57	WL H K 1+00 - END
58	WL J 1+00 - 10+00
59	WL N 1+00 - 9+00
60	WL N 9+00 - END & WL M 1+00 -END
61	WASTE WATER PLAN OVERALL
62	WWL A 1+00 - 9+00
63	WWL A 9+00 - 17+50
64	WWL A 17+50 - END
65	WWL B 1+00 - 10+00
66	WWL B 10+00 - 18+50
67	WWL B 18+50 - END
68	WWL C 1+00 - END
69	WWL F 1+00 - END
70	WWL D AND J 1+00 - END
71	WWL G 1+00 - END
72	WWL K AND M 1+00 - END
73	DUCT PLAN 1 OF 5
74	DUCT PLAN 2 OF 5
75	DUCT PLAN 3 OF 5
76	DUCT PLAN 4 OF 5
77	DUCT PLAN 5 OF 5
78	SIGNAGE & STRIPING PLAN
79	SIGNAGE & STRIPING DETAILS
80	WATER AND WW DETAILS 1
81	WATER AND WW DETAILS 2
82	WATER AND WW DETAILS 3
83	WATER AND WW DETAILS 4
84	WATER AND WW DETAILS 5
85	PAVING AND SIGNAGE DETAILS 1
86	PAVING AND SIGNAGE DETAILS 2
87	PAVING AND SIGNAGE DETAILS 3
88	TRAFFIC CONTROL DETAILS 1
89	TRAFFIC CONTROL DETAILS 2
90	LIGHTING DETAILS 1
91	LIGHTING DETAILS 2
92	LIGHTING DETAILS 3
93	LIGHTING DETAILS 4
94	LIGHTING DETAILS 5
95	LIGHTING DETAILS 6
96	DRAINAGE DETAILS 1
97	TREE MITIGATION PLAN
98	TREE MITIGATION PLAN
99	TREE MITIGATION PLAN
100	TREE MITIGATION PLAN
101	PLANTING PLAN
102	PLANTING PLAN
103	PLANTING PLAN
104	TRAIL MASTER PLAN
105	LANDSCAPE DETAILS
106	LANDSCAPE DETAILS
107	FENCE PLAN
108	PEDESTRIAN PROTECTION FENCE PLAN
109	FENCE ELEVATIONS
110	FENCE ELEVATIONS

ALL PUBLIC IMPROVEMENTS INCLUDING WATER, WASTEWATER, AND STORM SEWER WITHIN DEDICATED RIGHT OF WAY AND PUBLIC UTILITY EASEMENTS TO BE OWNED AND MAINTAINED BY THE CITY OF LEANDER. STORM WATER QUALITY PONDS AND SWQ PONDS TO BE MAINTAINED BY THE HOA.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY IS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES

APPROVED BY:

ROBIN M. GRIFFIN, AICP, EXECUTIVE DIRECTOR OF DEVELOPMENT SERVICES

DATE

EMILY TRUMAN, P.E., CFM, CITY ENGINEER

DATE

GINA ELLISON, P.E., PUBLIC WORKS DIRECTOR

DATE

MARK TUMMONS, CPRP, DIRECTOR OF PARKS AND RECREATION

DATE

CHIEF JOSHUA DAVIS, FIRE MARSHAL

DATE

SUBMITTAL DATE: DECEMBER 6, 2022

PROJECT NUMBER: PICP-22-0037

ZONING: MASON TRACT - C.R. 175 MINOR PLANNED UNIT DEVELOPMENT  
P.U.D. (SFC-2-B) & (SFU-2-B) - ORDINANCE NO. 21-091-00

DEVELOPMENT AGREEMENT: CSM MASON FAMILY DATED FEBRUARY 16, 2017 #20170015559

DESCRIPTION OF 111.569 ACRES OF LAND OUT OF THE M. HICKS SURVEY, ABSTRACT NO. 287, WILLIAMSON COUNTY, TEXAS; BEING A PORTION OF A CERTAIN CALLED 121 ACRE FIRST TRACT AND DESCRIBED IN THE DEED TO CAROLYN DAVIS BUSH AND WILLIAM E. BUSH, MARGARET DAVIS CROSLIN AND CHARLES W. CROSLIN, JR OF RECORD IN VOLUME 553, PAGE 233, DEED RECORDS OF WILLIAMSON COUNTY, TEXAS.

FUTURE LAND USE CATEGORY: NEIGHBORHOOD RESIDENTIAL/ GREENWAY

THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY, REGULATORY COMPLIANCE, AND ADEQUACY OF THESE PLANS AND/ OR SPECIFICATIONS WHETHER OR NOT THE PLANS AND/OR SPECIFICATIONS WERE REVIEWED BY THE CITY ENGINEER(S).  
**STORMWATER MANAGEMENT:**  
ONSITE WATER QUALITY AND DETENTION THROUGH BATCH DETENTION.

**FLOODPLAIN:**  
FLOODPLAIN MODIFICATIONS ARE PROPOSED IN CONJUNCTION WITH THIS DEVELOPMENT  
PORTIONS OF THIS TRACT ARE WITHIN A FLOOD HAZARD AREA AS SHOWN ON THE FLOOD INSURANCE RATE MAP PANEL #48491C0460F FOR WILLIAMSON CO., EFFECTIVE 12/20/2019

**WATERSHED:**  
THIS PROJECT IS LOCATED IN THE BRUSHY CREEK WATERSHED.

**ENVIRONMENTAL:**  
THIS PROJECT IS LOCATED IN THE EDWARDS AQUIFER CONTRIBUTING ZONE.

**TRAFFIC IMPACT ANALYSIS:**  
SEE REPORT BY COSTELLO, INC. DATED NOVEMBER 2021

TIA PHASE 1 ROADWAY IMPROVEMENTS INCLUDE:  
APPROXIMATELY 3,300 LF OF ROADWAY IMPROVEMENTS TO CR 175. IMPROVEMENTS INCLUDE A CONTINUOUS LEFT TURN LANE ADJACENT THE WILDSRING SUBDIVISION. NO ROADWAY IMPROVEMENTS TO CR 177 ARE REQUIRED FOR THE PHASE 1 DEVELOPMENT. CR 175 IMPROVEMENTS ARE PROPOSED IN PICP-23-0052.

**PLAT NOTE:**  
FOR EVERY SIX HUNDRED (600) SQUARE FEET OF AREA IN THE LANDSCAPE LOTS (B-17, I-14, O-39), TWO (2) SHADE TREES (TOW-INCH CALIPER OR LARGER) AND FOUR (4) SHRUBS (FIVE GALLON CONTAINER SIZE OR LARGER) SHALL BE PLANTED AND MAINTAINED. TWO ORNAMENTAL TREES PER SHADE TREE MAY BE SUBSTITUTED FOR UP TO FIFTY PERCENT OF THE SHADE TREES IF DESIRED. A SIX-FOOT PRIVACY FENCE, BU NO HIGHER THAT THREE FEET WITHIN TWENTY FIVE FEET OF AN INTERSECTING STREET, SHALL BE CONSTRUCTED WITH THE SUBDIVISION IMPROVEMENTS AT THE COMMON LOT LINE BETWEEN THE LANDSCAPE LOT AND THE SINGLE-FAMILY OR TWO-FAMILY LOTS. THE FENCE IS REQUIRED TO BE CONSTRUCTED OF ONE OR MORE OF THE FOLLOWING MATERIALS: BRICK, STONE, CAST STONE, STUCCO, FACTORY TINTED (NOT PAINTED) SPLIT-FACED CONCRETE MASONRY UNIT, OR OTHER SIMILAR MATERIAL APPROVED BY THE DIRECTOR OF PLANNING. IN ADDITION TO THE MATERIALS LISTED ABOVE, TEXTURED PRE-CAST CONCRETE (E.G. WOODCRETE) IS ALSO PERMITTED WHEN THE PRIVACY FENCE IS ADJACENT TO COLLECTORS. ALL COLUMNS ARE REQUIRED TO HAVE CONCRETE FOOTINGS. THE LANDSCAPE LOT IS REQUIRED TO BE MAINTAINED BY A PRIVATE ASSOCIATION.

A PORTION OF THIS TRACT IS WITHIN A FLOOD HAZARD AREA AS SHOWN ON THE FLOOD INSURANCE RATE MAP PANEL # 48491C0460C FOR WILLIAMSON CO., EFFECTIVE DECEMBER 20, 2019.

DEVELOPER HAS PERFORMED A TRAFFIC IMPACT ANALYSIS (T.I.A) TO ACCESS IMPROVEMENTS ON CR175 THAT WILL BE ADDRESSED AT TIME OF CONSTRUCTION PLAN PERMIT.

REVISIONS/CORRECTIONS					
REV NO.	DESCRIPTION	DATE	REVISE (R) ADD (A) VOID (V) SHEET NO.'S	APPROVED BY:	APPROVAL DATE:



Engineering and Surveying  
9050 N Capital of TX Hwy, Bldg. 3, Ste 390  
Austin, Texas 78759  
(512)646-3456  
TBPE FIRM REG. No. 280  
TBPLS FIRM REG. No. 100486







1. TRENCH SAFETY SYSTEMS TO BE UTILIZED FOR THIS PROJECT ARE DESCRIBED IN ITEM 5095 "TRENCH SAFETY SYSTEMS" OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS AND SHALL BE IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U.S. OCCUPATION SAFETY AND HEALTH ADMINISTRATION REGULATIONS.

1. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF THIS PROJECT. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
2. THE CONTRACTOR SHALL CONSTRUCT EARTHEN EMBANKMENTS WITH SLOPES NO STEEPER THAN 3:1 AND COMPACT SOIL TO 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD SPECIFICATIONS.
3. AREAS OF SOIL DISTURBANCE ARE LIMITED TO GRADING AND IMPROVEMENTS SHOWN. ALL OTHER AREAS WILL NOT BE DISTURBED.

Control Point Table				
Point #	Northing	Easting	Elevation	Raw Description
1	10183884.97	3098786.39	898.95	CP IRSC
2	10184384.63	3098340.11	900.77	CP IRSC
13	10183386.06	3097860.08	874.68	CP IRSC 1/2
14	10183631.19	3098472.41	885.27	CP IRSC 1/2
15	10184948.25	3098131.47	893.11	CP IRSC 1/2
16	10185128.45	3097457.14	913.47	CP IRSC 1/2
18	10185502.93	3097056.82	920.08	CP 60D

The following listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director (ED), nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code (TAC), Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following listed "construction notes" restricts the powers of the ED, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, TAC, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the ED's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, TAC § 213.01 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following listed "construction notes" in no way represent an approved exception by the ED to any part of Title 30 TAC, Chapters 213 and 217, or any other TCEQ applicable regulation.

1. A written notice of construction must be submitted to the TCEQ regional office at least 48 hours prior to the start of any ground disturbance or construction activities. This notice must include:
  - the name of the approved project;
  - the activity start date; and
  - the contact information of the prime contractor.
2. All contractors conducting regulated activities associated with this project should be provided with complete copies of the approved Contributing Zone Plan (CZP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractor(s) should keep copies of the approved plan and approval letter on-site.
3. No hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.
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. 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.
5. 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.
6. Sediment must be removed from the sediment traps or sedimentation basins when it occupies 50% of the basin's design capacity.
7. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.
8. All excavated material that will be stored on-site must have proper E&S controls.
9. If portions of the site will have a cease in construction activity lasting longer than 14 days, soil

Page 1 of 2

10. The following records should 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.
11. The holder of any approved CZP must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:
  - A. any physical or operational modification of any best management practices (BMPs) or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;

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

EDWARDS AQUIFER PROTECTION PROGRAM CONSTRUCTION NOTES – LEGAL DISCLAIMER

THE FOLLOWING/LISTED "CONSTRUCTION NOTES" ARE INTENDED TO BE ADVISORY IN NATURE ONLY AND DO NOT CONSTITUTE AN APPROVAL OR CONDITIONAL APPROVAL BY THE EXECUTIVE DIRECTOR, NOR DO THEY CONSTITUTE A COMPREHENSIVE LISTING OF RULES OR CONDITIONS TO BE FOLLOWED DURING CONSTRUCTION. FURTHER, THE ACTS OF CONSTRUCTION ARE SUBJECT TO THE TCEQ REGULATIONS FOUND IN TITLE 30, TEXAS ADMINISTRATIVE CODE, CHAPTERS 213 AND 217, AS WELL AS LOCAL ORDINANCES AND REGULATIONS PROVIDING FOR THE PROTECTION OF WATER QUALITY. ADDITIONALLY, NOTHING CONTAINED IN THE FOLLOWING/LISTED "CONSTRUCTION NOTES" RESTRICTS THE POWERS OF THE EXECUTIVE DIRECTOR, THE COMMISSION OR ANY OTHER GOVERNMENTAL ENTITY TO PREVENT, CORRECT, OR CURTAIL ACTIVITIES THAT RESULT OR MAY RESULT IN POLLUTION OF THE EDWARDS AQUIFER OR HYDROLOGICALLY CONNECTED SURFACE WATERS. THE HIGH AQUIFER PROTECTION PROGRAM "CONSTRUCTION NOTES" ARE NOT RESPONSIBLE FOR COMPLIANCE WITH TITLE 30, TEXAS ADMINISTRATIVE CODE, CHAPTERS 213 OR ANY OTHER APPLICABLE TCEQ REGULATION, AS WELL AS ALL CONDITIONS OF AN EDWARDS AQUIFER PROTECTION PLAN THROUGH ALL PHASES OF PLAN IMPLEMENTATION. FAILURE TO COMPLY WITH ANY CONDITION OF THE EXECUTIVE DIRECTOR'S APPROVAL, WHETHER OR NOT IN CONTRADICTION OF ANY "CONSTRUCTION NOTES" IS A VIOLATION OF TCEQ REGULATIONS AND ANY VIOLATION IS SUBJECT TO ADMINISTRATIVE RULES, ORDERS, AND PENALTIES AS PROVIDED UNDER TITLE 30, TEXAS ADMINISTRATIVE CODE, CHAPTERS 213 AND 217, AND ANY OTHER APPLICABLE TCEQ REGULATION. CIVIL PENALTIES AND INJUNCTIONS TO THE FOLLOWING/LISTED "CONSTRUCTION NOTES" IN NO WAY REPRESENT AN APPROVED EXCEPTION BY THE EXECUTIVE DIRECTOR TO ANY PART OF TITLE 30 TEXAS ADMINISTRATIVE CODE, CHAPTERS 213 AND 217, OR ANY OTHER TCEQ APPLICABLE REGULATION.

3. THIS ORGANIZED SEWAGE COLLECTION SYSTEM (SCS) MUST BE CONSTRUCTED IN ACCORDANCE WITH THE 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 APPROVAL LETTER.
3. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE PRESIDING TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
  - THE NAME OF THE APPROVED PROJECT;
  - THE ACTIVITY START DATE; AND
  - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.
4. ANY MODIFICATION TO THE ACTIVITIES DESCRIBED IN THE REFERENCED SCS APPLICATION FOLLOWING THE DATE OF APPROVAL MAY REQUIRE THE SUBMITTAL OF AN SCS APPLICATION TO MODIFY THIS APPROVAL, INCLUDING THE PAYMENT OF APPROPRIATE FEES AND ALL INFORMATION NECESSARY FOR ITS REVIEW AND APPROVAL.
5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
6. IF ANY SENSITIVE FEATURES ARE DISCOVERED DURING THE WASTEWATER LINE TRENCHING ACTIVITIES, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPLICANT MUST IMMEDIATELY NOTIFY THE APPROPRIATE REGIONAL OFFICE OF THE TCEQ OF THE FEATURE DISCOVERED. A GEOLOGIST'S ASSESSMENT OF THE LOCATION AND EXTENT OF THE FEATURE DISCOVERED MUST BE REPORTED TO THAT REGIONAL OFFICE IN WRITING AND THE APPLICANT MUST SUBMIT A PLAN FOR ENSURING THE STRUCTURAL INTEGRITY OF THE SEWER LINE OR FOR MODIFYING THE PROPOSED SEWAGE COLLECTION SYSTEM ALIGNMENT AROUND THE FEATURE. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST NOT PROCEED UNTIL THE TCEQ-0596(REV. JULY 15, 2015) PAGE 1 OF 6 EXECUTIVE DIRECTOR HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY WHILE MAINTAINING THE STRUCTURAL INTEGRITY OF THE LINE.
7. SEWER LINES LOCATED WITHIN OR CROSSING THE 5-YEAR FLOODPLAIN OF A DRAINAGE WAY WILL BE PROTECTED FROM INUNDATION AND STREAM VELOCITIES WHICH COULD CAUSE EROSION AND SCOURING OF BACKFILL. TRENCHES MUST BE CARPED 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. BEFORE THE NOTED CATCH BASIN IS CONSTRUCTED, THE COVER FOR ANY PORTION OF THE MANHOLE, THE DIAMETER OF THE MANHOLES MUST BE A MINIMUM OF FOUR FEET AND THE MANHOLE FOR ENTRY MUST HAVE A MINIMUM CLEAR OPENING DIAMETER OF 30 INCHES. THESE DIMENSIONS AND OTHER DETAILS SHOWING COMPLIANCE WITH THE COMMISSION'S RULES CONCERNING MANHOLES AND SEWER LINE/MANHOLE INVERTS DESCRIBED IN 30 TAC §217.55 ARE INCLUDED ON PLAN SHEET \_\_\_ OF \_\_\_. 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).

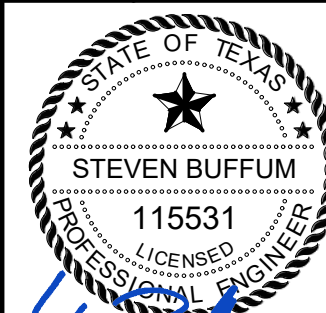
- (III) A BARREL SECTION LENGTH MUST EQUAL AT LEAST 75% OF THE INSIDE

17. PRIVATE SERVICE LATERALS MUST BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH 30 TAC §23.15(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, A TEXAS SURVEYOR, OR AN APPROPRIATE CITY OR COUNTY ENGINEER 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 THEM TO THE APPROPRIATE REGIONAL OFFICE UPON REQUEST. CONNECTIONS MAY ONLY BE MADE TO AN APPROVED SEWAGE COLLECTION SYSTEM.

San Antonio Regional Office  
14250 Judson Road  
San Antonio, Texas 78233-4480  
Phone (210) 490-3096  
Fax (210) 545-4329

WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641

1001



*[Signature]* 4/28/20

SHEET 3

OF **118** SHEET

VII D SPRING PHASE 1



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# WILDSRING PHASE 1 FINAL PLAT

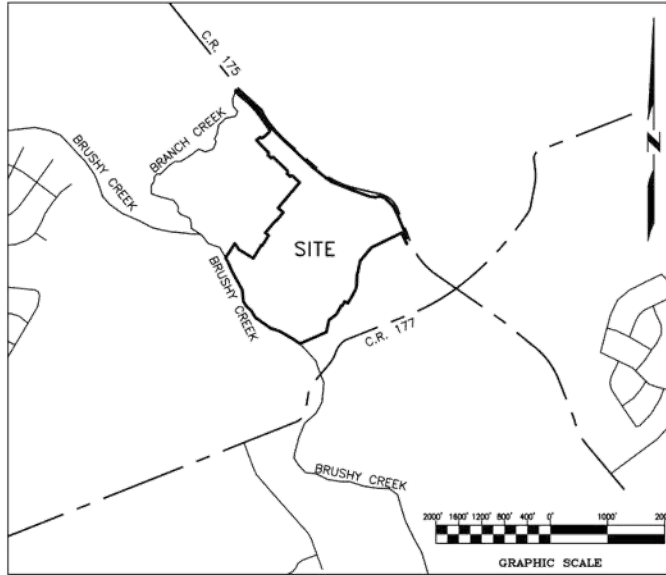
OWNER/DEVELOPER: TOLL SOUTHWEST LLC  
2555 SW GRAPEVINE PARKWAY, STE 100  
GRAPEVINE, TEXAS 76051

SURVEYOR: LANDESIGN SERVICES, INC.  
10000 W HIGHWAY 29  
LIBERTY HILL, TEXAS 78642  
512-238-7901

ENGINEER: COSTELLO INC.  
9050 N. CAPITAL OF TEXAS HWY  
BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
512-646-3456

FLING DATE: NOVEMBER XX, 2022

VICINITY MAP  
(1" = 2000')



AREA: 52.95 ACRES

SURVEY: MILTON HICKS SURVEY  
ABSTRACT NO. 287

LOTS: 137 SINGLE FAMILY LOTS (23.68 ACRES)  
1 HOA LANDSCAPE/POND LOTS (16.94 ACRES)  
2 HOA LANDSCAPE LOTS (0.368 OF ONE ACRE)  
1 HOA LANDSCAPE/MENTY LOT (1.36 ACRES)

BLOCKS: 9

STREET DEDICATION - INDIGO BUSH LANE 943 LF (1.09 ACRES)  
SWEET VIOLET DRIVE 1097 LF (1.41 ACRES)  
WHITE ROSEMARY ROAD 287 LF (0.645 OF ONE ACRE)  
WILD JUNIPER LANE 1282 LF (1.48 ACRES)  
DESERT MARIGOLD DRIVE 525 LF (0.616 OF ONE ACRE)  
WHITE MISTFLOWER DRIVE 1728 LF (2.27 ACRES)  
DESERT BLOOM DRIVE 145 LF (0.312 OF ONE ACRE)  
PEACH DRIFT DRIVE 145 LF (0.320 OF ONE ACRE)

SHEET INDEX: SHEET 1 - COVER SHEET  
SHEET 2-3 - FINAL PLAT  
SHEET 4 - LINE AND CURVE TABLES  
SHEET 5 - SIGNATURES AND PLAT NOTES

PRELIMINARY. THIS DOCUMENT SHALL NOT BE  
RECORDED FOR ANY PURPOSE AND SHALL NOT  
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FINAL SURVEY DOCUMENT.

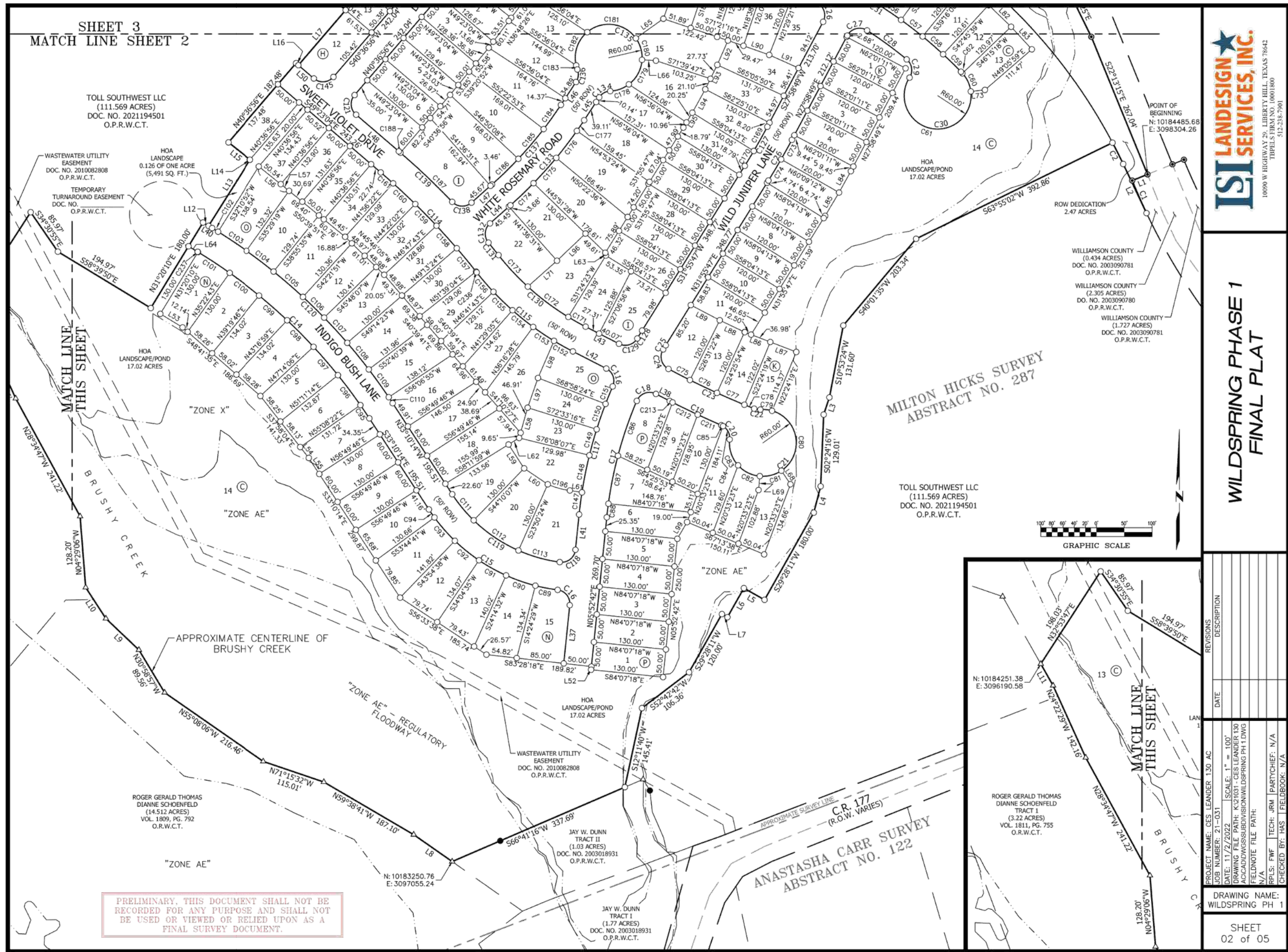


## WILDSRING PHASE 1 FINAL PLAT

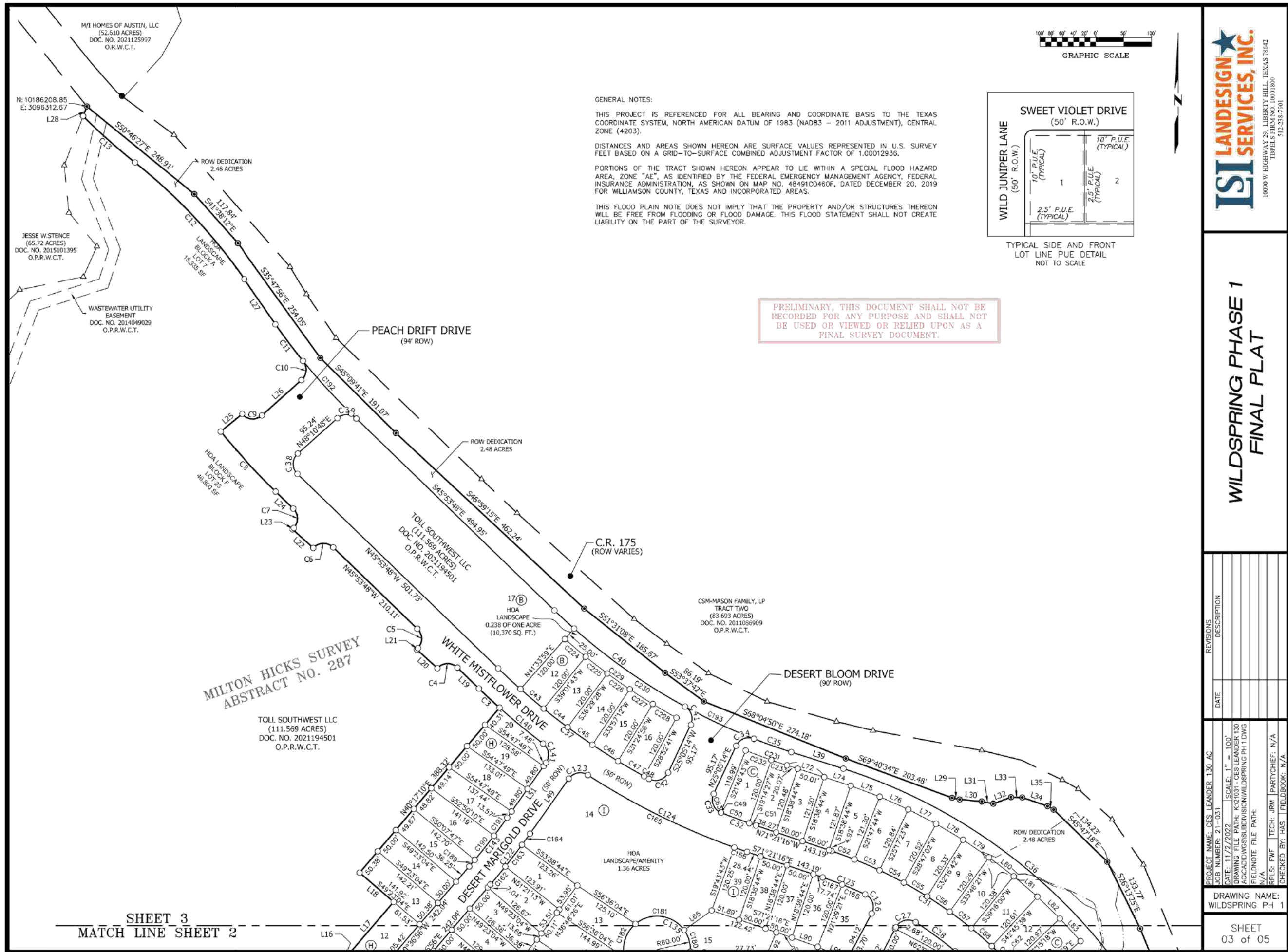
REVISION	DATE	DESCRIPTION

DRAWING NAME:  
WILDSRING PH 1

SHEET  
04 of 05



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FINAL SURVEY DOCUMENT.



## WILDSRING PHASE 1 FINAL PLAT

REVISION	DATE	DESCRIPTION

DRAWING NAME:  
WILDSRING PH 1

SHEET  
03 of 05



WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641

FINAL PLAT (1 OF 2)

FOR  
INFORMATION  
ONLY

SHEET  
4  
OF 110 SHEETS

ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512)646-3456 (512) 514-0315 FAX

TBPE FIRM REG. No. 280  
TBPLS FIRM REG. No. 100486



DESIGNED:  
DESIGN CHECKED:  
DRAWN:  
COCO CHECKED:  
SURVEY CHECKED:  
QA/QC:  
QA/QC REVISIONS:

NO.  
REVISION  
DATE  
BY



y:\05\_land\_dev\02\_projects\01\brothers\17505\_cadd\plan set.ph1 preliminary plat.dwg

CURVE TABLE				
CURVE #	RADIUS	LENGTH	DELTA	CHORD BEARING
C1	1121.99	84.00	2716°05'	023°46'31"W
C2	964.00	42.81	229°34'	N02°57'41"W
C3	1279.00	50.80	2716°32'	N02°57'04"W
C4	25.00	40.07	81°49'34"	S88°12'25"W
C5	25.00	38.47	88°10'26"	N01°48'35"W
C6	25.00	40.07	81°49'34"	N01°48'12'25"W
C7	25.00	38.47	88°10'26"	N01°48'35"W
C8	1279.00	146.67	83°41'14"	N02°56'41"W
C9	25.00	40.30	82°29'36"	S87°42'23"E
C10	25.00	38.00	87°17'32"	N04°32'02"E
C11	1084.00	82.20	42°02'40"	N06°56'24"W
C12	984.00	288.03	16°46'16"	N04°28'12"W
C13	1084.00	125.07	6°36'38"	N48°14'01"W
C14	975.00	433.82	25°29'36"	S45°55'02"E
C15	325.00	281.40	49°37'07"	S57°58'48"E
C16	325.00	28.80	88°40'03"	S58°57'20"E
C17	725.00	216.80	17°08'29"	N42°54'56"E
C18	25.00	41.06	84°50'48"	N07°00'05"E
C19	1225.00	102.56	37°51'12"	S64°46'40"E
C20	25.00	31.72	72°41'54"	S30°23'19"E
C21	60.00	293.54	280°18'20"	N45°48'27"E
C22	25.00	11.33	25°57'25"	N81°22'00"W
C23	1475.00	169.78	8°35'43"	N63°02'28"W
C24	25.00	246.80	84°50'30"	N05°54'48"W
C25	725.00	8.81	0°41'47"	N03°14'53"E
C26	1225.00	84.44	84°50'36"	N02°57'18"E
C27	25.00	41.39	84°51'24"	N02°54'31"E
C28	750.00	88.13	84°53'57"	S53°44'49"E
C29	25.00	36.26	83°06'24"	S08°52'38"E
C30	60.00	270.60	238°23'58"	N83°28'35"E
C31	800.00	38.65	27°20'01"	N57°41'16"W
C32	1229.00	36.60	27°06'32"	N69°40'16"E
C33	25.00	40.72	83°19'58"	N01°54'45"W
C34	25.00	37.69	86°22'52"	N68°16'40"E
C35	1084.00	71.20	37°45'48"	S70°24'47"E
C36	984.00	762.88	44°25'13"	S50°05'05"E
C37	1229.00	336.41	15°41'00"	N53°44'18"W
C38	25.00	41.00	94°04'36"	N01°08'30"E
C39	25.00	37.49	85°55'24"	S88°19'30"E
C40	1084.00	291.30	1°23'49"	S53°14'45"E
C41	25.00	37.69	86°22'52"	S10°06'11"E
C42	25.00	40.72	83°20'04"	S71°40'17"W
C43	1229.00	54.43	23°32'16"	S49°42'09"E
C44	1229.00	54.43	23°32'16"	S52°14'25"E
C45	1229.00	54.43	23°32'16"	S54°46'40"E
C46	1229.00	54.43	23°32'16"	S57°18'58"E
C47	1229.00	54.43	23°32'16"	S59°51'17"E
C48	1229.00	1.83	0°27'29"	S61°20'14"E
C49	25.00	0.52	1°11'37"	S67°38'58"E
C50	1229.00	53.91	23°30'48"	S69°30'09"E
C51	1229.00	12.77	0°35'44"	S71°03'25"E
C52	800.00	43.99	37°09'01"	N69°46'46"W
C53	800.00	48.79	37°29'39"	N69°27'28"W
C54	800.00	48.79	37°29'39"	N62°57'47"W
C55	800.00	48.79	37°29'39"	N59°28'08"W
C56	800.00	48.79	37°29'39"	N55°58'28"W
C57	800.00	48.79	37°29'39"	N52°28'50"W
C58	800.00	48.79	37°29'39"	N48°59'11"W
C59	800.00	44.93	37°15'00"	N45°57'49"W
C60	60.00	36.34	34°42'10"	N04°41'28"W
C61	60.00	230.40	220°00'57"	S77°19'55"E
C62	60.00	3.85	37°40'51"	N43°52'59"W
C63	25.00	40.20	82°08'22"	S02°58'57"E

CURVE TABLE				
CURVE #	RADIUS	LENGTH	DELTA	CHORD BEARING
C73	1225.00	39.91	7°51'57"	N02°54'49"E
C74	1225.00	44.53	27°04'56"	N02°53'17"E
C75	1475.00	43.36	1°41'03"	S82°38'07"E
C76	1475.00	53.84	27°05'28"	S64°31'22"E
C77	1475.00	53.72	27°05'12"	S66°36'42"E
C78	1475.00	18.88	0°44'00"	S68°01'18"E
C79	60.00	21.21	20°15'18"	N84°13'04"W
C80	60.00	136.52	132°22'10"	N02°54'20"W
C81	60.00	40.78	38°56'31"	N79°14'01"E
C82	60.00	44.60	42°38'12"	S63°27'36"E
C83	60.00	50.37	48°06'09"	S18°05'27"E
C84	25.00	28.14	64°28'59"	N26°16'32"W
C85	25.00	3.58	87°12'54"	N62°37'48"W
C86	725.00	104.38	87°43'50"	S18°53'43"W
C87	725.00	87.86	67°58'38"	S11°17'58"W
C88	725.00	24.66	17°58'50"	S08°51'10"W
C89	325.00	40.82	77°11'50"	S79°11'26"E
C90	325.00	55.78	97°50'03"	S79°40'30"E
C91	325.00	55.78	97°50'03"	S69°50'12"E
C92	325.00	55.78	97°50'03"	S51°10'23"E
C93	325.00	55.78	97°50'03"	S41°10'20"E
C94	325.00	17.50	37°05'00"	S34°42'46"E
C95	975.00	28.75	17°41'23"	N34°00'56"W
C96	975.00	67.25	37°57'08"	N05°50'16"W
C97	975.00	67.25	37°57'08"	N47°47'26"W
C98	975.00	67.25	37°57'08"	N44°44'27"W
C99	975.00	67.25	37°57'13"	N44°41'38"W
C100	975.00	67.25	37°57'03"	N52°38'46"W
C101	975.00	67.99	37°59'43"	N56°13'09"W
C102	1025.00	12.50	0°41'55"	N58°18'53"W
C103	1025.00	61.79	37°21'15"	S58°14'19"E
C104	1025.00	61.50	37°26'16"	N52°47'33"W
C105	1025.00	61.50	37°26'16"	N35°36'13"W
C106	1025.00	12.78	0°42'51"	N33°31'40"W
C107	1025.00	61.50	37°26'16"	N52°47'33"W
C108	1025.00	61.50	37°26'16"	N35°36'13"W
C109	1025.00	61.50	37°26'16"	N35°36'13"W
C110	1025.00	12.78	0°42'51"	N33°31'40"W
C111	275.00	60.77	12°39'38"	S39°30'40"E
C112	275.00	97.57	20°19'43"	S65°59'44"E
C113	275.00	77.26	18°05'46"	S74°12'29"E
C114	1285.00	249.24	11°06'47"	S43°49'40"E
C115	525.00	225.53	24°36'47"	S50°34'40"E
C116	25.00	37.71	86°25'00"	S19°40'34"E
C117	775.00	238.79	17°39'15"	S14°42'19"W
C118	25.00	40.08	91°51'56"	S51°18'40"W
C119	275.00	238.59	49°05'58"	N57°42'48"W
C120	1025.00	456.07	29°59'39"	N45°55'02"W
C121	25.00	39.27	90°00'00"	N04°23'04"W
C122	1225.00	115.73	57°24'46"	N37°54'33"E
C123	25.00	38.26	87°41'41"	N79°03'01"E
C124	1279.00	318.15	14°15'08"	S64°13'43"E
C125	750.00	82.22	67°16'53"	S68°12'50"E
C126	25.00	40.60	93°03'13"	S18°32'47"E
C127	1175.00	80.99	37°56'58"	S29°51'16"W
C128	775.00	16.65	17°35'50"	S31°08'32"W
C129	25.00	37.71	86°25'00"	S73°54'26"W
C130	475.00	204.05	24°36'47"	N50°34'40"W
C131	1335.00	28.66	17°15'49"	N38°53'11"W
C132	25.00	38.35	87°53'55"	N04°28'42"E
C133	775.00	202.79	14°59'33"	N40°53'43"E
C134	25.00	23.55	53°58'05"	N60°22'59"E
C135	60.00	301.53	287°56'10"	N56°36'54"W

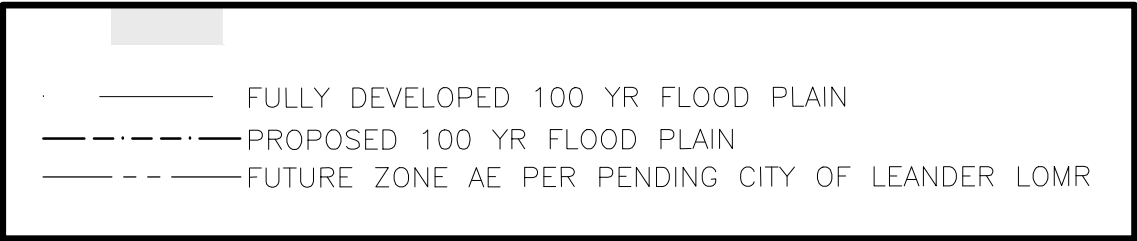
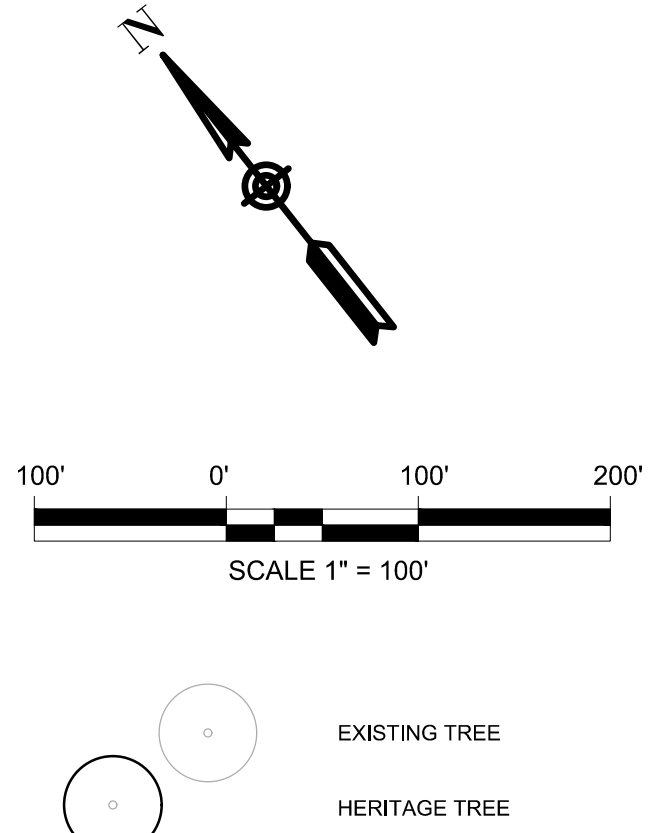
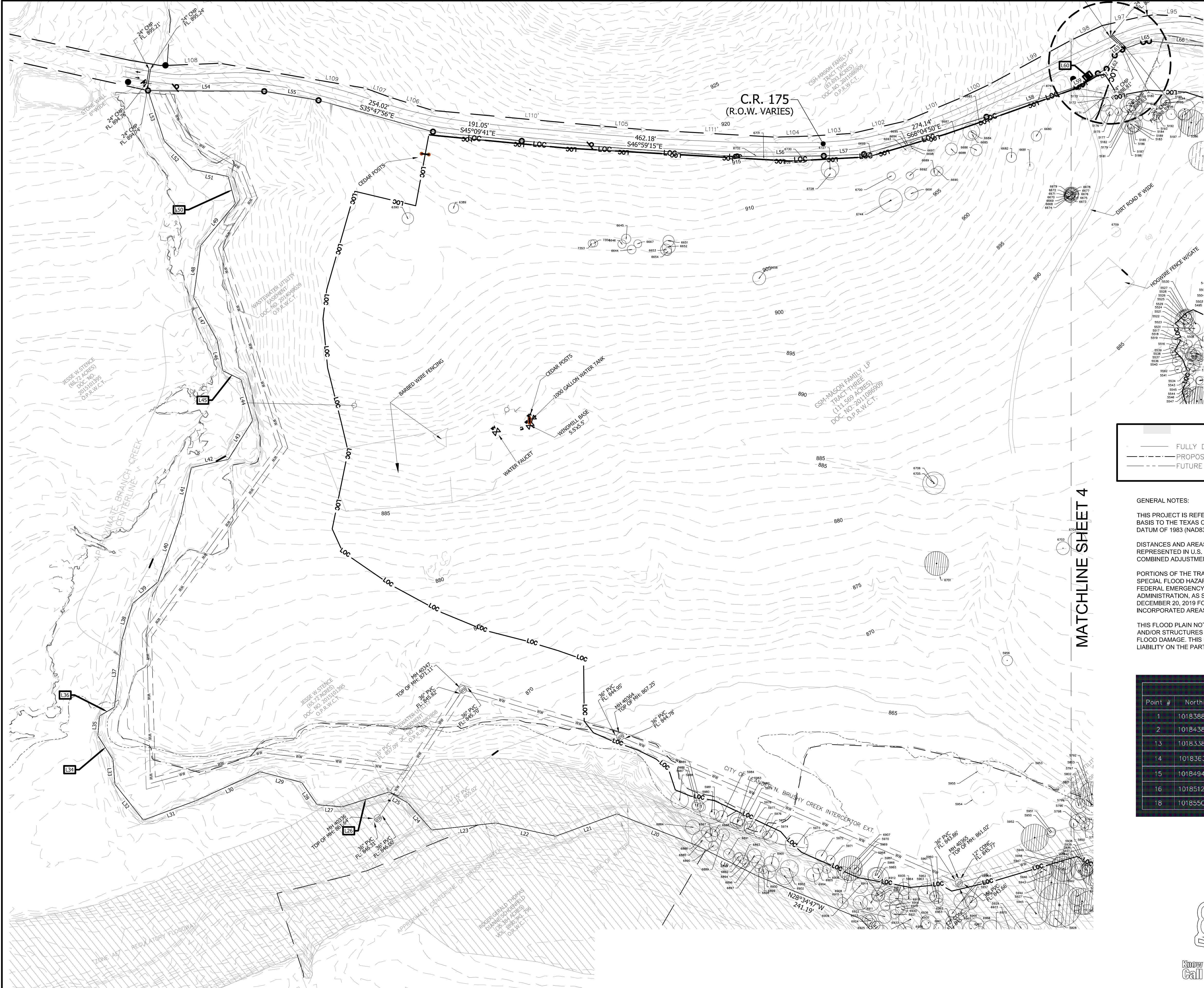
CURVE TABLE				
CURVE #	RADIUS	LENGTH	DELTA	CHORD BEARING
C136	25.00	23.55	53°58'05"	S68°24'54"W
C137	725.00	189.71	14°59'33"	S40°53'43"W
C138	25.00	38.30	87°53'35"	N87°39'43"W
C139	1335.00	132.09	57°40'08"	N48°53'00"W
C140	1279.00	101.24	43°37'07"	S50°56'24"E
C141	25.00	38.36	87°54'38"	S08°45'08"E
C142	1175.00	111.00	52°44'46"	S37°54'33"W
C143	25.00	39.27	90°00'00"	S85°36'56"W
C144	775.00	40.03	25°37'34"	S07°12'29"W
C145	25.00	38.27	90°00'00"	S85°36'56"W
C146	775.00	40.03	25°37'34"	S07°12'29"W
C147	25.00	68.00	59°31'37"	S11°17'04"W
C148	775.00	48.44	37°34'52"	S19°39'19"W
C149	775.00	48.44	37°34'52"	S19°39'19"W
C150	775.00	48.44	37°34'52"	S19°41'40"W
C151	775.00	33.89	23°30'27"	S22°16'46"W
C152	525.00	38.91	41°44'47"	S60°45'40"E
C153	525.00	45.01	45°44'44"	S58°10'54"E
C154	525.00	47.74	51°21'38"	S50°10'13"E
C155	525.00	47.74	51°21'38"	S49°54'36"E
C156	525.00	46.12	53°00'00"	S49°47'17"E
C157	1285.00	54.45	22°20'41"	N41°59'27"W
C158	1285.00	54.45	22°20'41"	N41°59'27"W
C159	1285.00	54.45	22°20'41"	N41°59'27"W
C160	1285.00	54.45	22°20'41"	N41°59'27"W
C161	1285.00	29.69	17°19'25"	N48°43'21"W
C162	1225.00	42.11	15°01'10"	N49°19'52"E
C163	1225.00	49.00	27°17'31"	N37°30'20"E
C164	1225.00	24.62	10°59'05"	N35°46'43"E
C165	1279.00	293.97	131°01'08"	S63°41'13"E
C166	1279.00	24.18	10°59'59"	S70°48'47"E
C167	750.00	37.23	25°30'38"	N69°53'58"W
C168	750.00	45.00	32°01'55"	N66°47'31"W
C169	1175.00	49.78	22°20'38"	N28°11'38"E
C170	1175.00	31.21	13°10'16"	N31°00'07"E
C171	475.00	35.57	47°17'26"	S69°44'23"E
C172	475.00	91.08	10°59'12"	S53°56'01"E
C173	475.00	77.40	92°00'08"	S42°56'21"E
C174	775.00	57.48	41°43'58"	N46°16'00"E
C175	775.00	61.12	43°10'08"	N41°52'58"E
C176	775.00	61.05	43°00'48"	N37°22'00"E
C177	775.00	23.14	14°42'40"	N57°15'16"E
C178	60.00	36.17	54°32'22"	N20°15'51"E
C179	60.00	51.63	48°17'56"	N28°10'42"E
C180	60.00	40.94	39°05'45"	N16°10'09"W
C181	60.00	88.70	94°17'52"	N82°42'57"W
C182	60.00	66.37	63°22'41"	S18°26'46"W
C183	60.00	76.17	71°19'35"	S16°54'22"E
C184	725.00	53.39	47°11'11"	N35°30'32"E
C185	725.00	70.17	53°24'49"	N46°13'38"E
C186	725.00	66.14	57°13'37"	N45°46'44"E
C187	1335.00	128.24	53°00'74"	N48°18'03"W
C188	1335.00	3.84	0°09'54"	N49°18'07"W
C189	1175.00	15.28	04°44'33"	N40°14'35"E
C190	1175.00	55.50	24°27'33"	N38°31'02"E
C191	125.00	40.21	15°37'39"	N36°31'00"E
C192	1084.00	128.33	64°70'07"	S42°30'14"E
C193	1084.00	136.94	77°14'16"	S64°04'46"E
C194	145.00	4.05	18°22'43"	S74°20'25"E
C195	1525.00	46.54	14°54'54"	S60°57'45"E
C196	145.00	4.05	18°22'43"	S74°20'25"E
C197	1510'27"25"	18.33		
C198	1015'38'01"	56.55		
C199	N33°10'14"	51.18		
C200	N55°59'44"	51.18		
C201	N81°09'44"	21.83		
C202	N58°11'59"	22.43		
C203	S11°05'12"	5.03		

PRELIMINARY. THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR VIEWED OR RELIED UPON AS A FINAL SURVEY DOCUMENT.

LINE TABLE		
LINE #	BEARING	DISTANCE
L1	S68°00'51"W	29.73
L2	N02°52'54"W	97.75
L3	S18°23'45"W	32.58
L4	S14°32'37"W	48.86
L5	N60°31'48"W	42.62
L6	S29°28'11"W	60.00
L7	N60°31'48"W	11.38
L8	N55°59'39"W	84.35
L9	N48°57'04"W	81.76
L10	N32°59'03"W	66.4



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GENERAL NOTES:

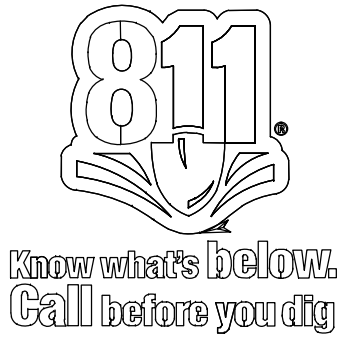
THIS PROJECT IS REFERENCED FOR ALL BEARING AND COORDINATE BASIS TO THE TEXAS COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD83 - 2011 ADJUSTMENT), CENTRAL ZONE (4203).

DISTANCES AND AREAS SHOWN HEREON ARE SURFACE VALUES REPRESENTED IN U.S. SURVEY FEET BASED ON A GRID-TO-SURFACE COMBINED ADJUSTMENT FACTOR OF 1.00012936.

PORTIONS OF THE TRACT SHOWN HEREON APPEAR TO LIE WITHIN A SPECIAL FLOOD HAZARD AREA, ZONE "AE" AS IDENTIFIED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FEDERAL INSURANCE ADMINISTRATION, AS SHOWN ON MAP NO. 48491C0460F, DATED DECEMBER 20, 2019 FOR WILLIAMSON COUNTY, TEXAS AND INCORPORATED AREAS.

THIS FLOOD PLAIN NOTE DOES NOT IMPLY THAT THE PROPERTY AND/OR STRUCTURES THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE. THIS FLOOD STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF THE SURVEYOR.

Control Point Table				
Point #	Northing	Easting	Elevation	Raw Description
1	10183884.97	3098786.39	898.95	CP IRSC
2	10184384.63	3098340.11	900.77	CP IRSC
13	10183386.06	3097860.08	874.68	CP IRSC 1/2
14	10183351.19	3098472.41	885.27	CP IRSC 1/2
15	10184948.25	3098131.47	893.11	CP IRSC 1/2
16	10185128.45	3097457.14	913.47	CP IRSC 1/2
18	10185502.93	3097056.82	920.08	CP 60D



DESIGNED:  
DRAWN:  
COCO CHECKED:  
SURVEY CHECKED:  
QA/QC:  
DATE:  
QA/QC REVISIONS:

ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512)846-3456 (512) 514-0315 FAX  
TBPE FIRM REG. No. 280  
TBPLS FIRM REG. No. 100486

WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641

EXISTING CONDITIONS 1 OF 2

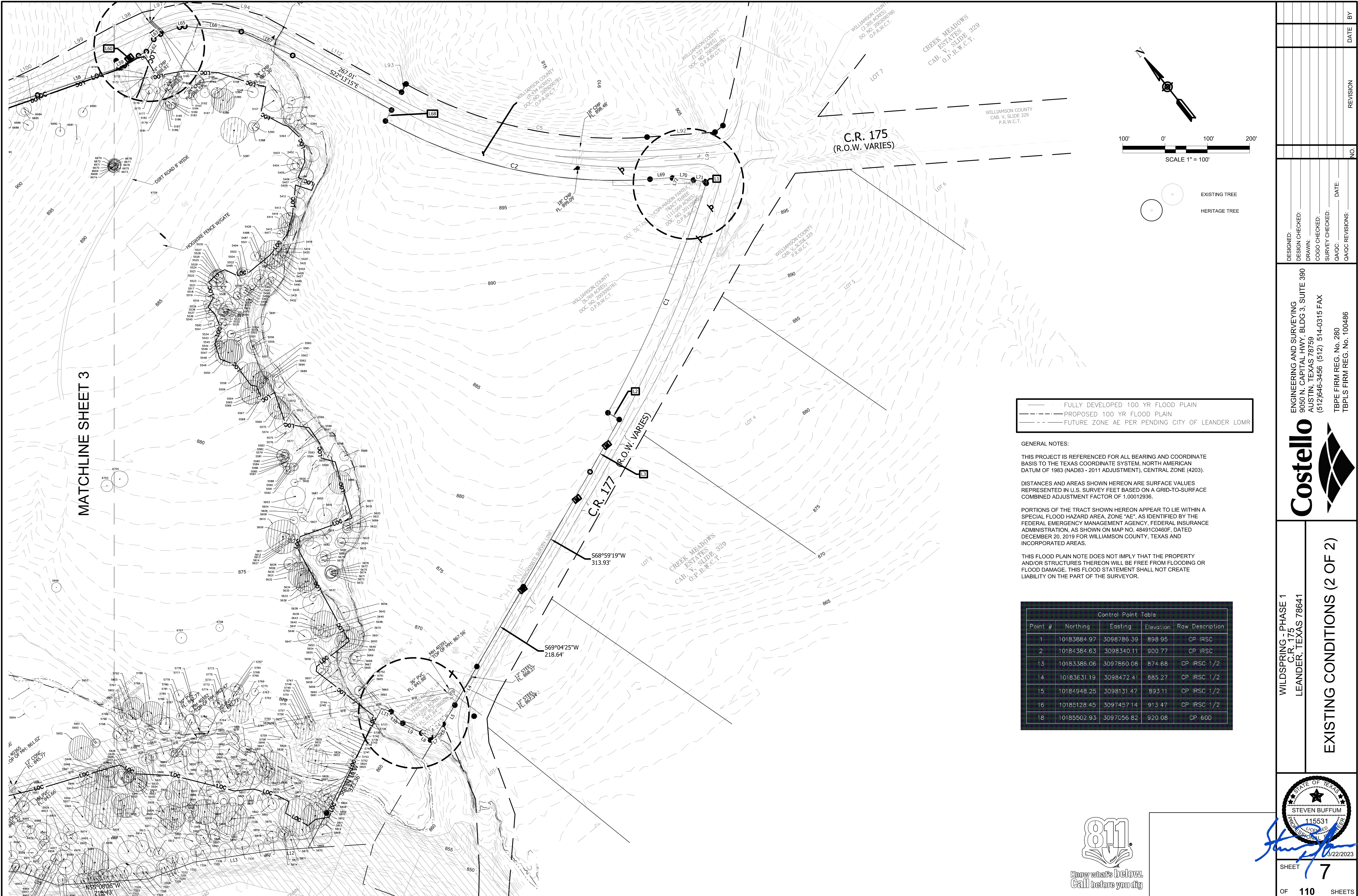
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OF 110 SHEETS

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DATE  
REVISION  
NO.  
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**WILDSRING - PHASE 1**  
C.R. 175  
LEANDER, TEXAS 78641

**EXISTING CONDITIONS (2 OF 2)**

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

**STEVEN BUFFUM**  
115531  
3/22/2023

SHEET **7** OF **110** SHEETS

DESIGNED:	DRAWN:	COGO CHECKED:	SURVEY CHECKED:	QA/QC:	QA/QC REVISIONS:	NO.	REVISION	DATE	BY

ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512)846-3456 (512) 514-0315 FAX

**Costello**

TBPE FIRM REG. No. 280  
TBPLS FIRM REG. No. 100486

STATE OF TEXAS  
STEVEN BUFFUM  
115531  
3/22/2023





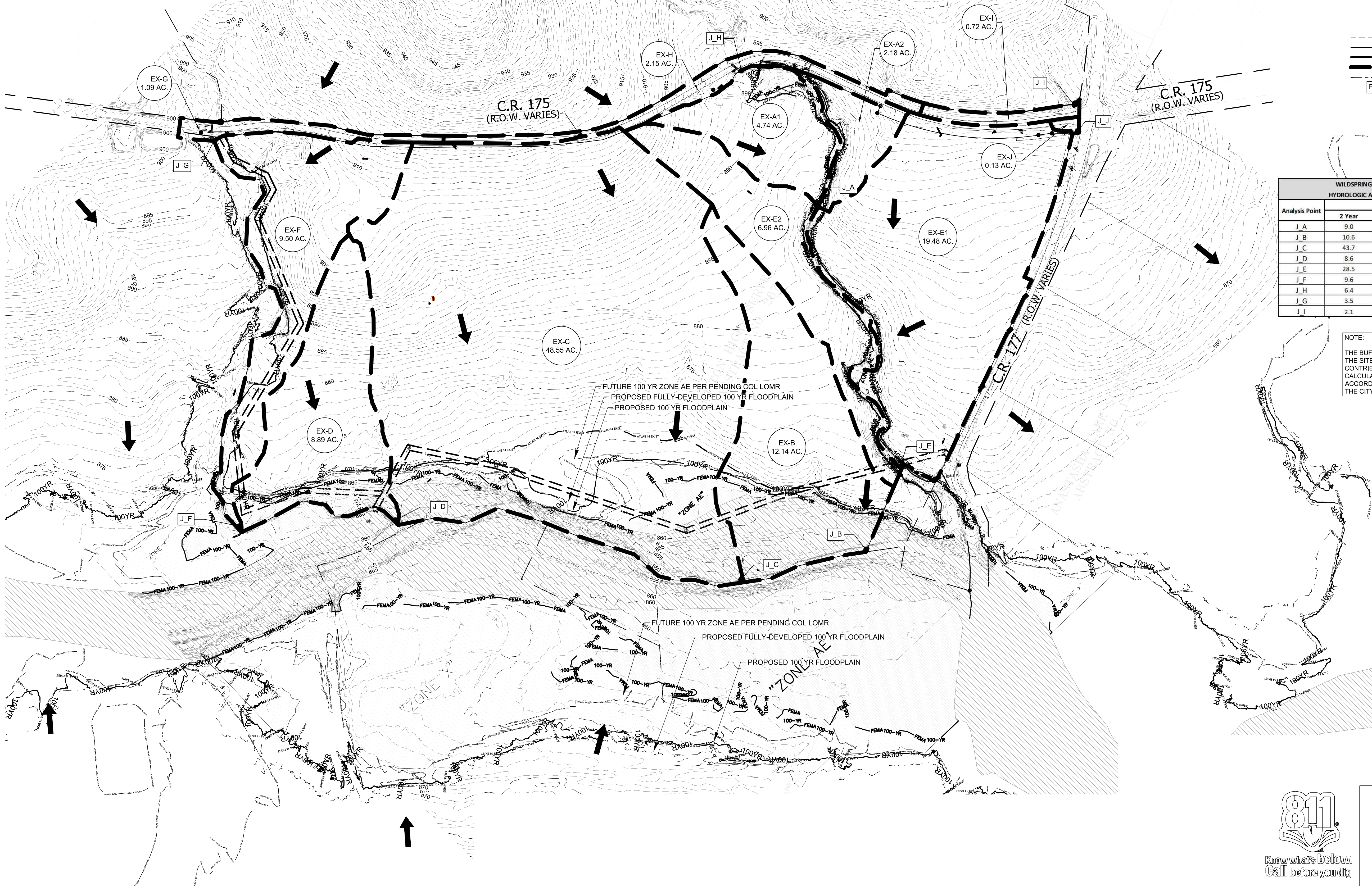
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*Phasing Schedule-Project Delivery	
Phase 1-	Summer 2023
Phase 2-	Summer 2025
Phase 3-	Summer 2027
*this is an anticipated schedule and is not guaranteed	

22-PP-007



HEC-HMS INPUTS, ROUTING, AND DISCHARGE DATA										TIME OF CONCENTRATION CALCULATIONS (TR-55 METHODOLOGY)												
Area Characteristics						Peak Discharge (cfs)				Sheet Flow					Shallow Concentrated Flow				Channel Flow			
Area ID	Area (sq. mi.)	CN	% Imp.	Tc (min)	Tlag (min)	2 Year	10 Year	25 Year	100 Year	Sheet Flow Length (ft)	Sheet Flow 'n' Value	P <sub>2</sub> (inches)	Sheet Flow Slope (ft/ft)	Sheet Flow Travel Time (min)	SCF Length (ft)	SCF Slope (ft/ft)	SCF Velocity (fps)	SCF Travel Time (min)	Channel Flow Length (ft)	Channel Slope (ft/ft)	Channel Velocity (fps) (Bank-Full)	Channel Flow Travel Time (min)
EX-A1	0.007406	65.92	0.00	11.19	6.71	6.1	16.0	23.8	38.0	100	0.24	3.98	0.078	7.44	685	0.036	3.08	3.71	9	0.046	4.22	0.04
EX-A2	0.003407	65.92	1.53	10.31	6.18	3.0	7.7	11.4	18.0	100	0.24	3.98	0.053	8.70	164	0.111	5.37	0.51	279	0.009	4.22	1.10
EX-B	0.018970	64.94	0.00	22.78	13.67	10.6	29.1	43.8	70.5	100	0.24	3.98	0.017	13.64	1222	0.025	2.56	7.95	255	0.016	3.57	1.19
EX-C	0.075854	64.94	0.31	21.77	13.06	43.7	119.5	179.2	288.6	100	0.24	3.98	0.056	8.45	2093	0.028	2.72	12.84	103	0.008	3.57	0.48
EX-D	0.013894	64.94	0.00	18.13	10.88	8.6	23.7	35.6	57.3	100	0.24	3.98	0.021	12.64	1034	0.049	3.58	4.81	146	0.042	3.57	0.68
EX-E1	0.030430	65.92	1.09	17.88	10.73	21.0	55.0	81.4	129.5	100	0.24	3.98	0.039	9.77	1265	0.031	2.82	7.46	163	0.023	4.22	0.64
EX-E2	0.010870	65.92	0.00	16.79	10.07	7.5	20.0	29.7	47.3	100	0.24	3.98	0.058	8.33	713	0.049	3.58	3.32	1300	0.013	4.22	5.13
EX-F	0.014837	65.92	0.57	20.03	12.02	9.6	25.3	37.6	59.9	100	0.24	3.98	0.046	9.18	657	0.036	3.05	3.59	1477	0.017	3.39	7.26
EX-G	0.001710	65.92	38.82	5.00	3.00	3.5	6.4	8.6	12.6	15	0.015	3.98	0.040	0.24	0				966	0.026	4.00	4.03
EX-H	0.003364	64.94	36.95	5.30	3.18	6.4	12.1	16.3	23.9	14	0.015	3.98	0.051	0.20	0				1224	0.025	4.00	5.10
EX-I	0.001131	65.92	31.29	5.00	3.00	2.1	4.0	5.5	8.1	31	0.015	3.98	0.176	0.23	0				633	0.009	4.00	2.64
EX-J	0.000198	65.92	50.68	5.00	3.00	0.5	0.8	1.1	1.5	37	0.015	3.98	0.046	0.44	0				79	0.031	4.00	0.33



WILDSRING - EXISTING CONDITIONS HYDROLOGIC ANALYSIS NODE SUMMARY				
Analysis Point	Peak Discharge (cfs)			
	2 Year	10 Year	25 Year	100 Year
J A	9.0	23.7	35.2	23.7
J B	10.6	29.1	43.8	29.1
J C	43.7	119.5	179.2	119.5
J D	8.6	23.7	35.6	23.7
J E	28.5	74.9	111.0	74.9
J F	9.6	25.3	37.6	25.3
J H	6.4	12.1	16.3	12.1
J G	3.5	6.4	8.6	6.4
J I	2.1	4.0	5.5	4.0

NOTE:  
THE BUFFER ZONES FOR WATERWAYS WITHIN THE SITE DRAINING MORE THAN 64-ACRES OF CONTRIBUTING AREA ARE DEFINED AS THE CALCULATED EXISTING 100-YEAR FLOODPLAIN IN ACCORDANCE WITH ARTICLE III, §49(a)(2) OF THE CITY OF LEANDER SUBDIVISION ORDINANCE.

DESIGNED: ENGINEERING AND SURVEYING  
DRAWN: 9050 N. CAPITAL HWY. BLDG 3, SUITE 390  
COSTELLO, TEXAS 78759  
SURVEY CHECKED: (512)646-3456 (512) 514-0315 FAX  
QA/QC: TBPE FIRM REG. No. 280  
QA/QC REVISIONS: TBPLS FIRM REG. No. 100486

DATE: 3/22/2023

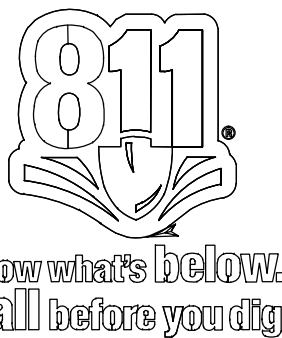
REVISION: 9

BY: 110

WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641

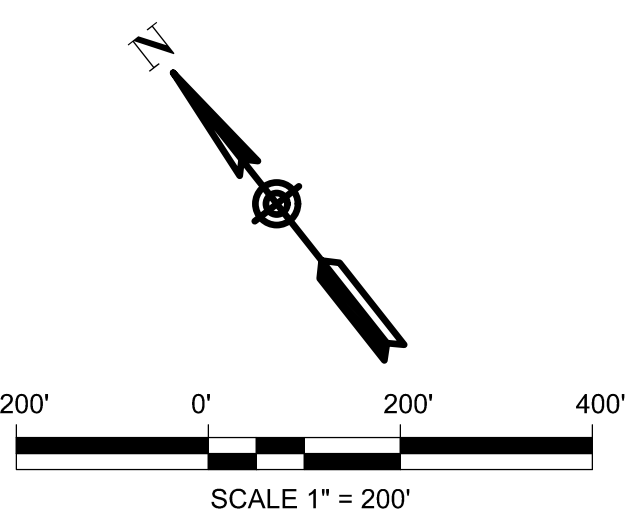
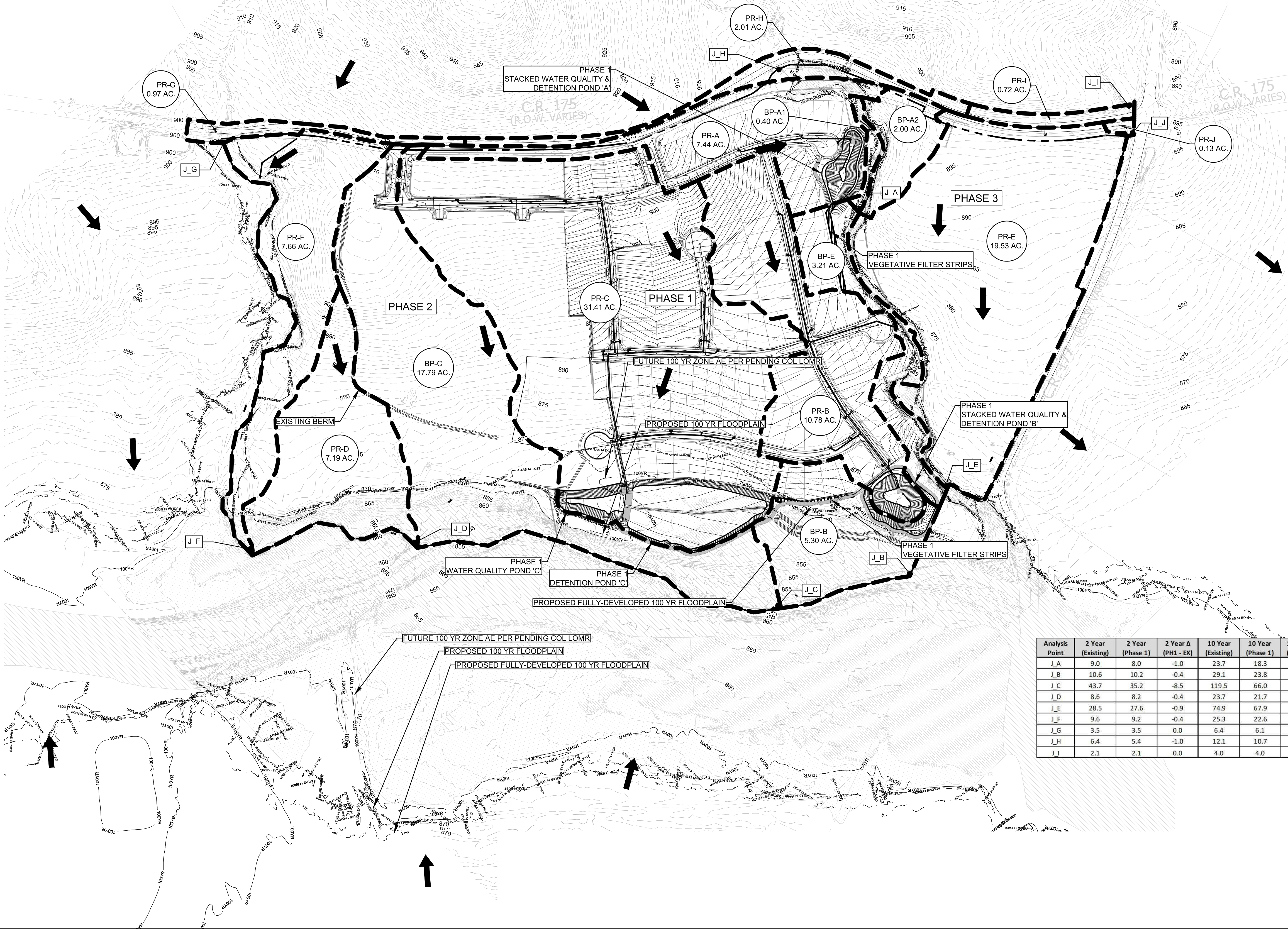
EXISTING DRAINAGE AREA MAP

3/22/2023





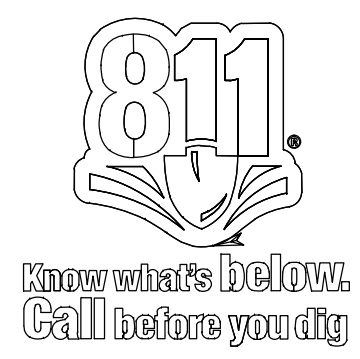
HEC-HMS INPUTS, ROUTING, AND DISCHARGE DATA										TIME OF CONCENTRATION CALCULATIONS (TR-55 METHODOLOGY)																								
Area Characteristics					Peak Discharge (cfs)					Sheet Flow					Shallow Concentrated Flow					Channel Flow					Street Flow					Storm Sewer				
Area ID	Area (sq. mi.)	CN	% Imp.	Tc (min)	Tag (min)	2 Year	10 Year	25 Year	100 Year	Sheet Flow Length (ft)	Sheet Flow 'n' Value	P <sub>2</sub> (inches)	Sheet Flow Slope (ft/ft)	Sheet Flow Travel Time (min)	SCF Length (ft)	SCF Slope (ft/ft)	SCF Velocity (fps)	SCF Travel Time (min)	Channel Flow Length (ft)	Channel Slope (ft/ft)	Channel Velocity (fps) (Bank-Full)	Channel Flow Travel Time (min)	Street Flow Length (ft)	Street Slope (ft/ft)	Street Velocity (fps) (Curb-Full)	Street Flow Travel Time (min)	Storm Sewer Flow Length (ft)	Storm Sewer Slope (ft/ft)	Storm Sewer Velocity (fps) (Pipe-Full)	Storm Sewer Flow Travel Time (min)				
BP-A1	0.000618	65.92	0.00	5.0	3.0	0.6	1.7	2.5	4.0	38	0.24	3.98	0.102	3.1	0				466	0.014	4.22	1.8	0				0							
BP-A2	0.003124	65.92	13.51	10.3	6.2	3.5	7.9	11.2	17.3	100	0.24	3.98	0.053	8.7	164	0.111	5.4	0.5	279	0.009	4.22	1.1	0				0							
BP-B	0.008274	64.94	8.67	9.5	5.7	8.2	20.0	29.1	45.6	100	0.24	3.98	0.081	7.3	14	0.055	3.8	0.1	457	0.015	3.57	2.1	0				0							
BP-C	0.027797	64.94	3.15	22.8	13.7	16.9	44.2	65.6	104.6	100	0.24	3.98	0.049	8.9	153	0.017	2.1	1.2	2715	0.022	3.57	12.7	0				0							
BP-E	0.005017	65.92	26.99	11.7	7.0	6.8	13.6	18.7	27.9	100	0.24	3.98	0.108	6.5	0				1326	0.013	4.22	5.2	0				0							
PR-A	0.011629	65.92	56.55	7.9	4.7	26.0	44.4	57.7	81.2	55	0.24	3.98	0.051	5.5	117	0.065	4.1	0.5	0				192	0.029	3.00	1.1	419	0.023	8.00	0.9				
PR-B	0.016846	64.94	49.36	8.5	5.1	33.5	59.2	78.2	111.8	37	0.24	3.98	0.054	3.8	259	0.025	2.6	1.7	0				103	0.017	3.00	0.6	1140	0.015	8.00	2.4				
PR-C	0.049073	64.94	29.78	10.6	6.4	69.6	137.9	189.2	281.2	59	0.24	3.98	0.045	6.0	101	0.036	3.1	0.5	0				88	0.010	3.00	0.5	1720	0.026	8.00	3.6				
PR-D	0.011228	64.94	2.11	14.4	8.6	8.2	21.7	32.3	51.7	100	0.24	3.98	0.049	9.0	849	0.034	3.0	4.7	146	0.042	3.57	0.7	0				0							
PR-E	0.030515	65.92	3.02	17.9	10.7	22.1	56.2	82.7	130.9	100	0.24	3.98	0.039	9.8	1265	0.031	2.8	7.5	163	0.023	4.22	0.6	0				0							
PR-F	0.011969	65.92	5.56	17.9	10.7	9.2	22.6	32.9	51.8	100	0.24	3.98	0.053	8.7	409	0.047	3.5	1.9	1477	0.017	3.39	7.3	0				0							
PR-G	0.001513	65.92	48.79	5.0	3.0	3.5	6.1	8.0	11.5	15	0.015	3.98	0.040	0.2	0				966	0.026	4.00	4.0	0				0							
PR-H	0.003143	64.94	30.10	5.3	3.2	5.4	10.7	14.7	21.8	14	0.015	3.98	0.051	0.2	0				1224	0.025	4.00	5.1	0				0							
PR-I	0.001131	65.92	31.29	5.0	3.0	2.1	4.0	5.5	8.1	31	0.015	3.98	0.176	0.2	0				633	0.009	4.00	2.6	0				0							
PR-J	0.000198	65.92	64.76	5.0	3.0	0.5	0.9	1.1	1.6	37	0.015	3.98	0.046	0.4	0				79	0.031	4.00	0.3	0				0							



LEGEND	
	EXISTING CONTOUR
	PROPOSED CONTOUR
	PROPERTY BOUNDARY
	DRAINAGE DIVIDE
	TOC FLOWPATH
	PROPOSED STORM LINE CURB INLET
	PROPOSED STORM MANHOLE
	PROPOSED STORM JUNCTION BOX
	ROCK RIP RAP
	DISCHARGE POINT
	PROPOSED DRAINAGE AREA CALLOUT

A FLOODPLAIN DEVELOPMENT PERMIT MUST BE OBTAINED FROM THE CITY OF LEANDER PRIOR TO COMMENCEMENT OF CONSTRUCTION FOR THE PROPOSED DEVELOPMENT.

Analysis Point	2 Year (Existing)	2 Year (Phase 1)	2 Year Δ (PH1 - EX)	10 Year (Existing)	10 Year (Phase 1)	10 Year Δ (PH1 - EX)	25 Year (Existing)	25 Year (Phase 1)	25 Year Δ (PH1 - EX)	100 Year (Existing)	100 Year (Phase 1)	100 Year Δ (PH1 - EX)
J_A	9.0	8.0	-1.0	23.7	18.3	-5.4	35.2	29.9	-5.3	56.0	52.1	-3.9
J_B	10.6	10.2	-0.4	29.1	23.8	-5.3	43.8	39.4	-4.4	70.5	70.3	-0.2
J_C	43.7	35.2	-8.5	119.5	66.0	-53.5	179.2	93.4	-85.8	288.6	220.9	-67.7
J_D	8.6	8.2	-0.4	23.7	21.7	-2.0	35.6	32.3	-3.3	57.3	51.7	-5.6
J_E	28.5	27.6	-0.9	74.9	67.9	-7.0	111.0	98.9	-12.1	176.8	155.1	-21.7
J_F	9.6	9.2	-0.4	25.3	22.6	-2.7	37.6	32.9	-4.7	59.9	51.8	-8.1
J_G	3.5	3.5	0.0	6.4	6.1	-0.3	8.6	8.0	-0.6	12.6	11.5	-1.1
J_H	6.4	5.4	-1.0	12.1	10.7	-1.4	16.3	14.7	-1.6	23.9	21.8	-2.1
J_I	2.1	2.1	0.0	4.0	4.0	0.0	5.5	5.5	0.0	8.1	8.1	0.0



DESIGNED: ENGINEERING AND SURVEYING  
DRAWN: 9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
COSTELLO  
AUSTIN, TEXAS 78759  
SURVEY CHECKED: (512)846-3456 (512) 514-0315 FAX  
QA/QC: TBPE FIRM REG. No. 280  
DATE: TBPLS FIRM REG. No. 100486

WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641

PROPOSED DRAINAGE AREA MAP

MICHAEL A. KENNEY  
131885  
LICENSED PROFESSIONAL ENGINEER  
3/22/2023

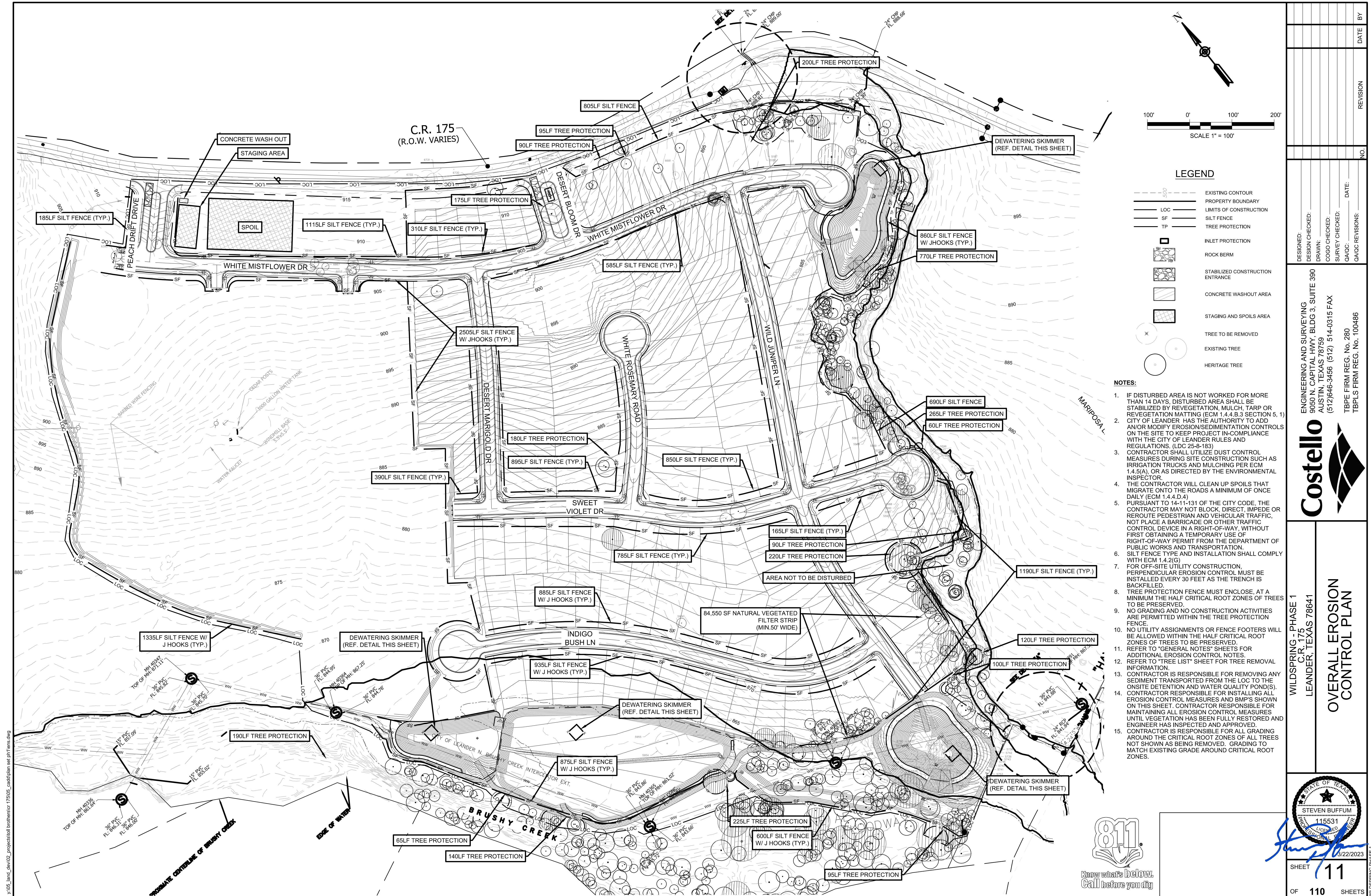
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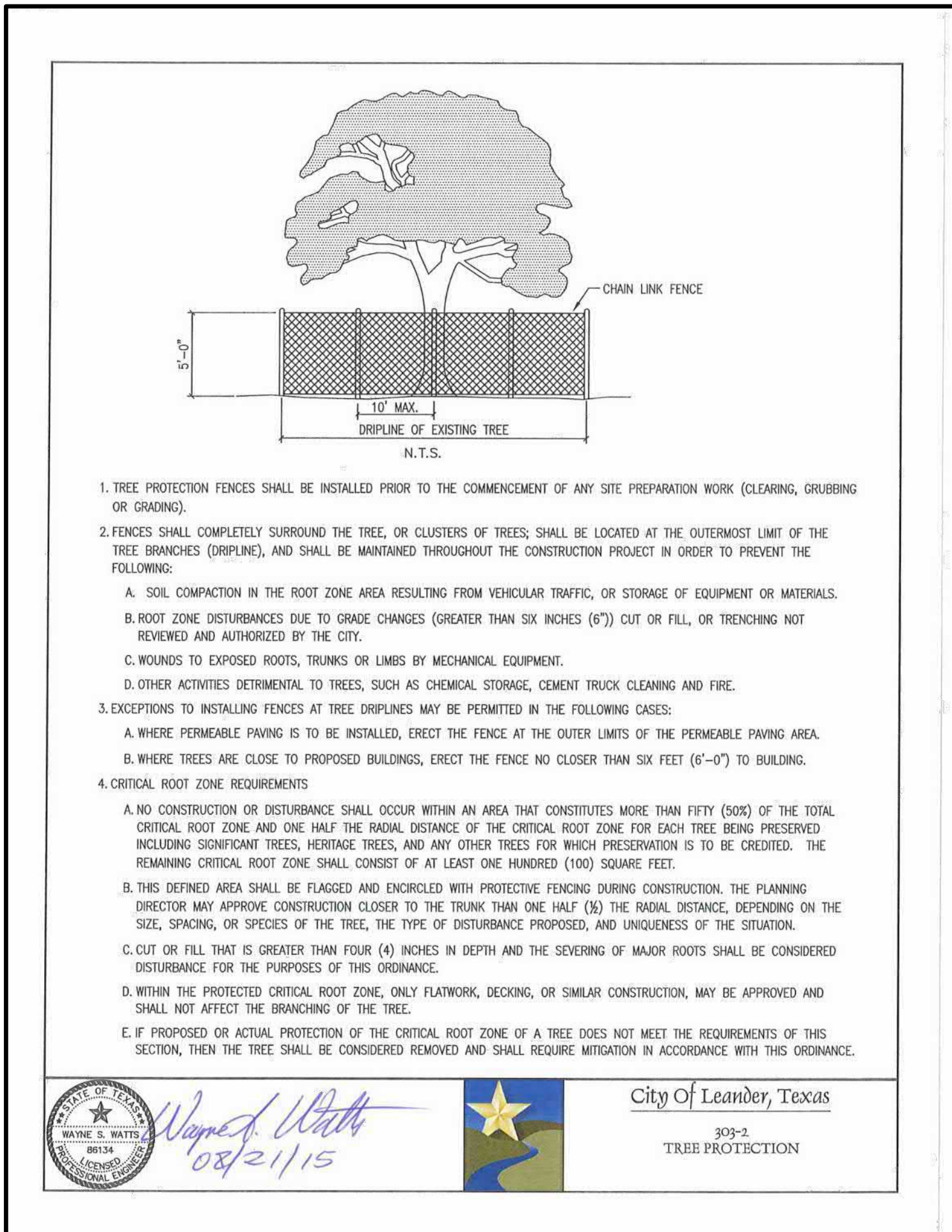
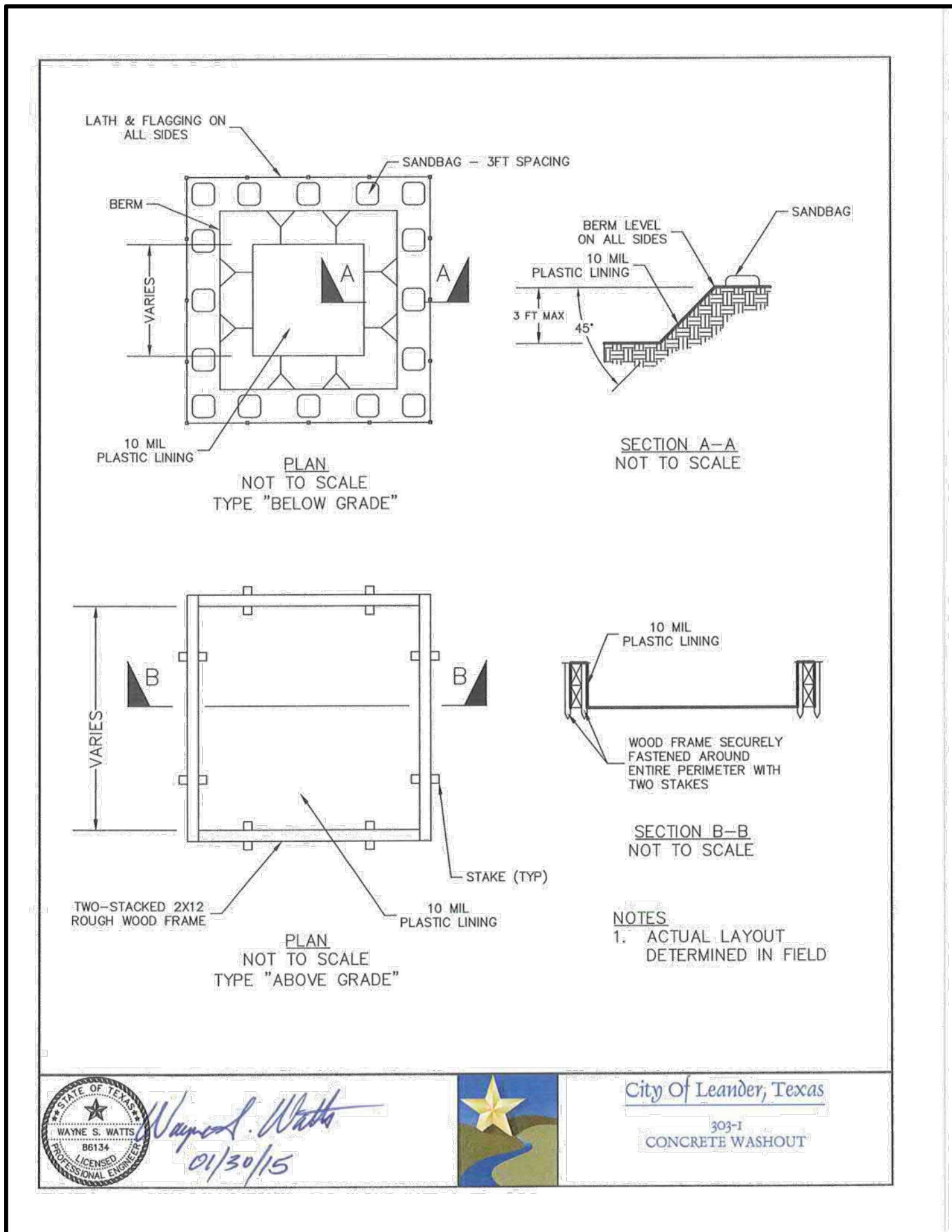
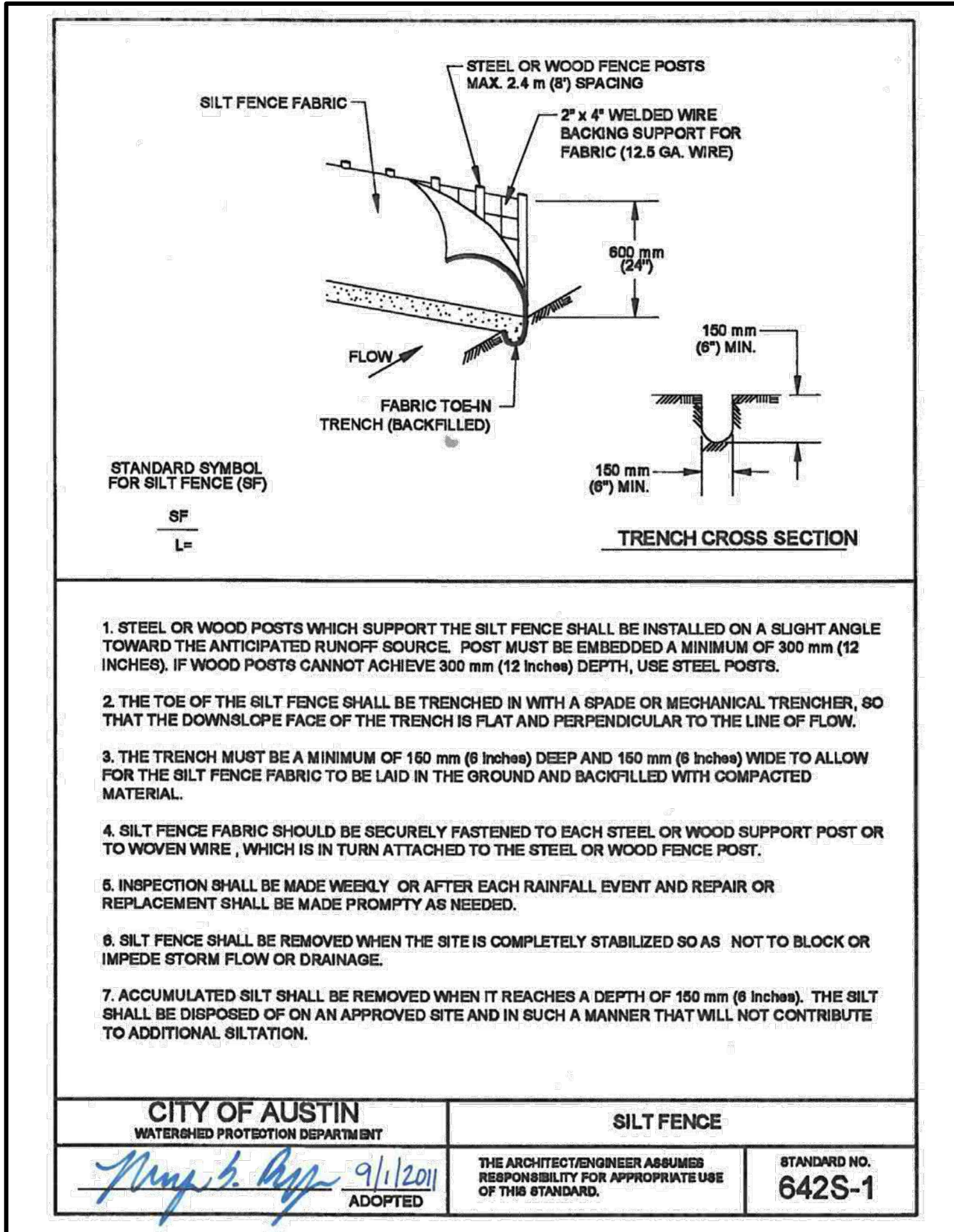
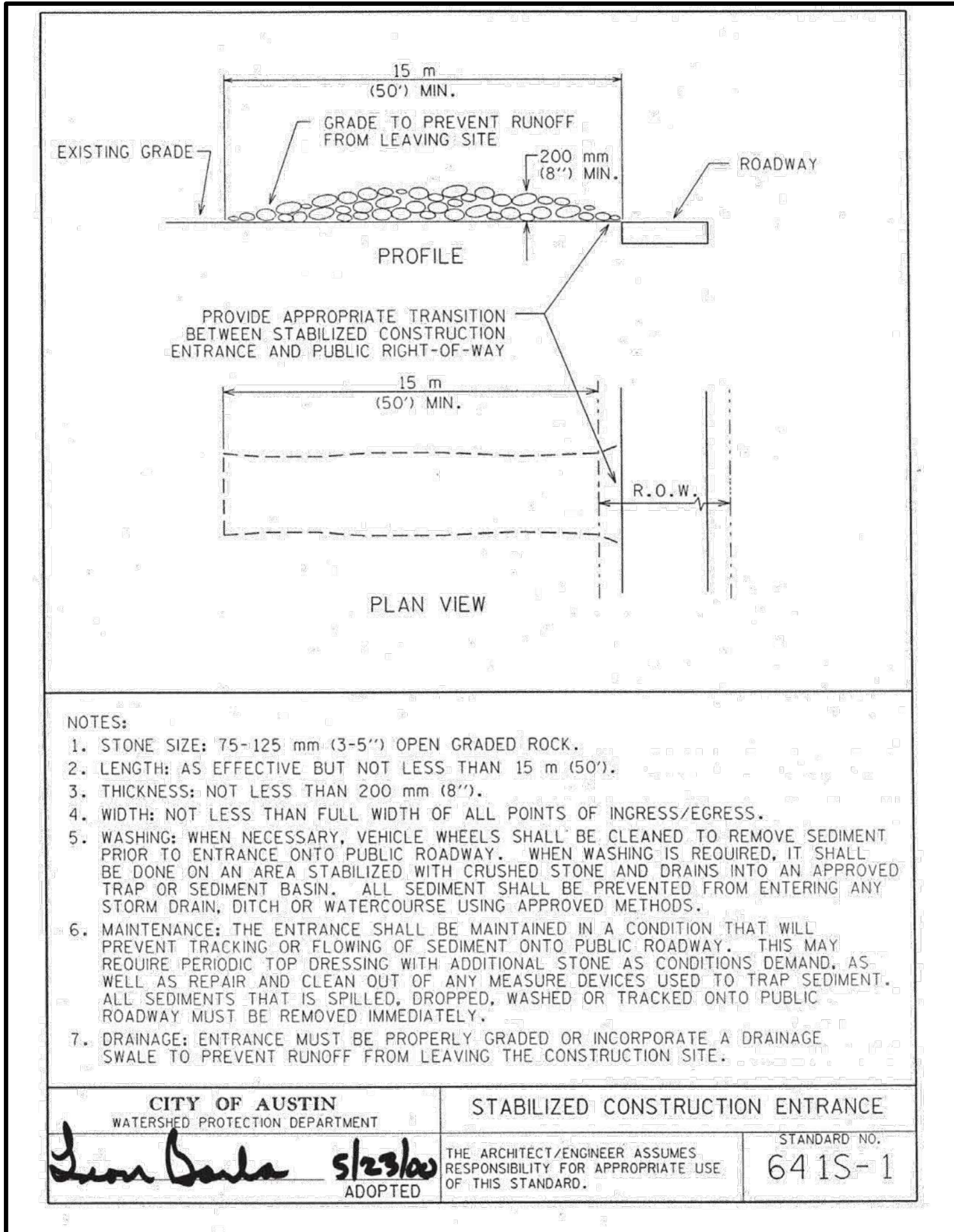
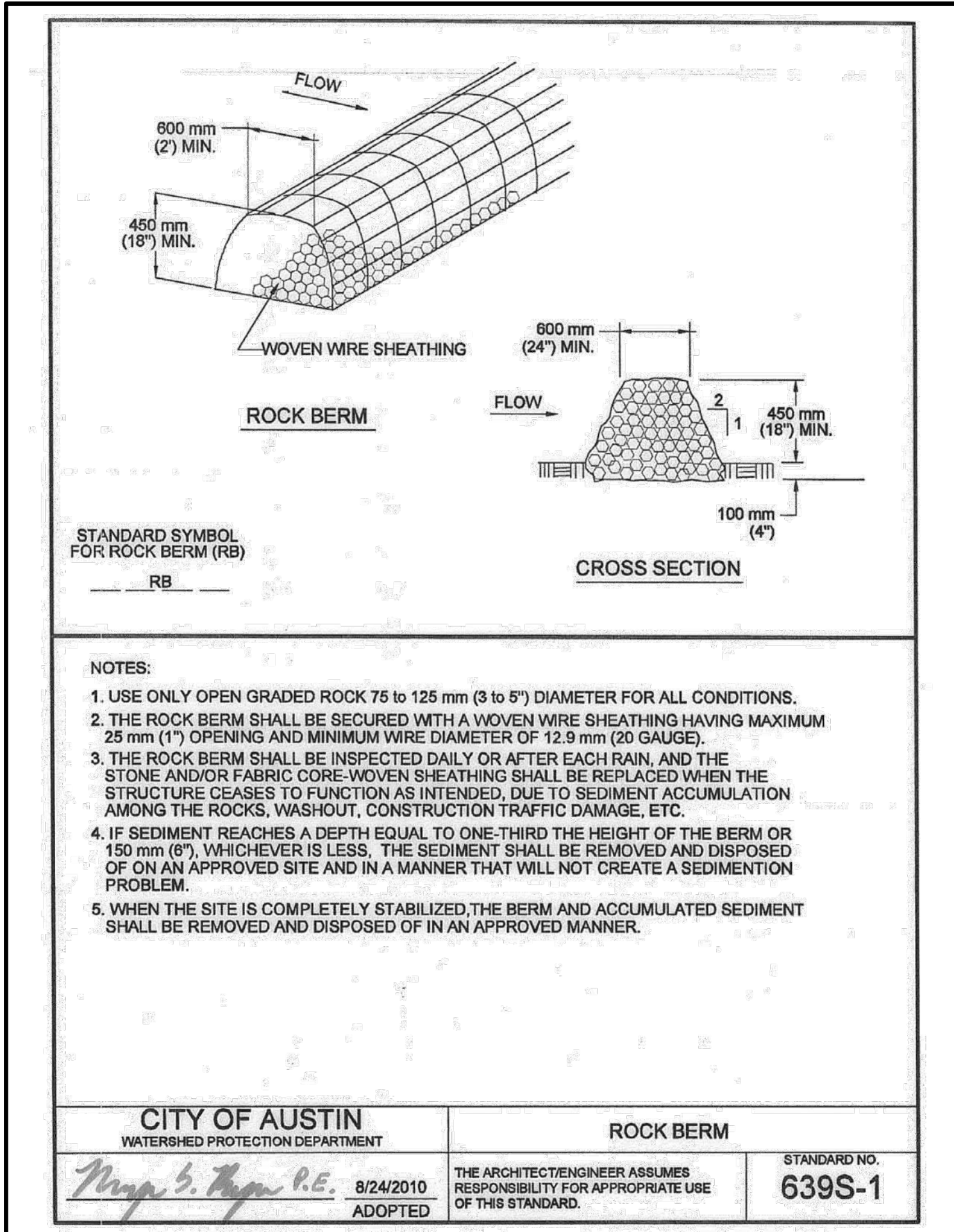
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ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY. BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512) 846-3466 (512) 514-0315 FAX  
TBPE FIRM REG. No. 280  
TBPLS FIRM REG. No. 100486

**Costello**

WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641

**EROSION & SEDIMENTATION  
CONTROL DETAILS**

**CITY OF TEXAS**  
STEVEN BUFFUM  
115531  
3/22/2023

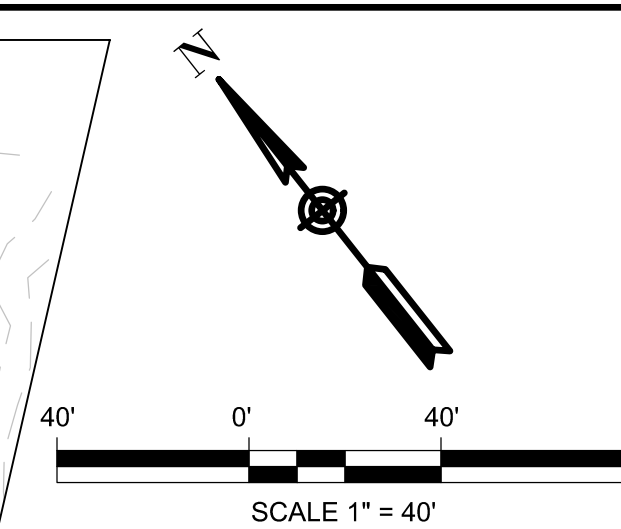
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**LEGEND**

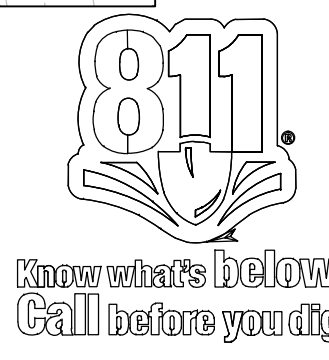
- 504 --- EXISTING CONTOUR
- 505 --- PROPOSED CONTOUR
- --- PROPERTY LINE
- --- PROPOSED CURB (SD-06)
- --- SIDEWALK
- FLOW ARROW
- HP = XXX.XX HIGH POINT ELEVATION
- LP = XXX.XX LOW POINT ELEVATION
- FP = XXX.XX FINISH PAVEMENT ELEVATION
- TC = XXX.XX TOP OF CURB ELEVATION
- TW = XXX.XX TOP OF WALL ELEVATION
- BW = XXX.XX BOTTOM OF WALL ELEVATION  
(BW=FP AT BASE OF WALL NOT WALL FOOTING DEPTH)

**NOTE:**

1. RUNNING SLOPE OF ACCESSIBLE ROUTES SHALL NOT EXCEED 1" : 20' (5.0%) CROSS SLOPE OF ACCESSIBLE ROUTES SHALL NOT EXCEED 1" : 50' (2.0%). CONTRACTOR TO VERIFY ALL SLOPES PRIOR TO CONSTRUCTION OF ACCESSIBLE ROUTES.
2. ALL WALLS 30" OR HIGHER THAN FINAL GRADE AND ALONG PEDESTRIAN OR VEHICULAR ROUTES MAY NEED HANDRAIL. CONTRACTOR TO COORDINATE HANDRAIL LOCATIONS WITH OWNER AND ENGINEER DURING CONSTRUCTION.

**NOTES:**

1. IF DISTURBED AREA IS NOT WORKED FOR MORE THAN 14 DAYS, DISTURBED AREA SHALL BE STABILIZED BY REVEGETATION, MULCH, TARP OR REVEGETATION MATTING (ECM 1.4.4.B.3 SECTION 5, 1)
2. ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON THE SITE TO KEEP PROJECT IN-COMPLIANCE WITH THE CITY OF LEANDER RULES AND REGULATIONS. (LDC 25-8-183)
3. CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURES DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING PER ECM 1.4.5(A), OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
4. THE CONTRACTOR WILL CLEAN UP SPOILS THAT MIGRATE ONTO THE ROADS A MINIMUM OF ONCE DAILY (ECM 1.4.4.D.4)
5. PURSUANT TO 14-11-131 OF THE CITY CODE, THE CONTRACTOR MAY NOT BLOCK, DIRECT, IMPEDE OR REROUTE PEDESTRIAN AND VEHICULAR TRAFFIC. NOT PLACE A BARRIADRE OR OTHER TRAFFIC CONTROL DEVICE IN A RIGHT-OF-WAY, WITHOUT FIRST OBTAINING A TEMPORARY USE OF RIGHT-OF-WAY PERMIT FROM THE DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION.
6. SILT FENCE TYPE AND INSTALLATION SHALL COMPLY WITH ECM 1.4.2(G)
7. FOR OFF-SITE UTILITY CONSTRUCTION, PERPENDICULAR EROSION CONTROL MUST BE INSTALLED EVERY 30 FEET AS THE TRENCH IS BACKFILLED.
8. TREE PROTECTION FENCE MUST ENCLOSE, AT A MINIMUM THE HALF CRITICAL ROOT ZONES OF TREES TO BE PRESERVED.
9. NO GRADING AND NO CONSTRUCTION ACTIVITIES ARE PERMITTED WITHIN THE TREE PROTECTION FENCE.
10. NO UTILITY ASSIGNMENTS OR FENCE FOOTERS WILL BE ALLOWED WITHIN THE HALF CRITICAL ROOT ZONES OF TREES TO BE PRESERVED.
11. REFER TO "GENERAL NOTES" SHEETS FOR ADDITIONAL EROSION CONTROL NOTES.
12. REFER TO "TREE LIST" SHEET FOR TREE REMOVAL INFORMATION.
13. CONTRACTOR IS RESPONSIBLE FOR REMOVING ANY SEDIMENT TRANSPORTED FROM THE LOC TO THE OFFSITE DETENTION AND WATER QUALITY POND(S).
14. CONTRACTOR RESPONSIBLE FOR INSTALLING ALL EROSION CONTROL MEASURES AND BMP'S SHOWN ON THIS SHEET. CONTRACTOR RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL MEASURES UNTIL VEGETATION HAS BEEN FULLY RESTORED AND ENGINEER HAS INSPECTED AND APPROVED
15. CONTRACTOR IS RESPONSIBLE FOR ALL GRADING AROUND THE CRITICAL ROOT ZONES OF ALL TREES NOT SHOWN AS BEING REMOVED. GRADING TO MATCH EXISTING GRADE AROUND CRITICAL ROOT ZONES.



DESIGNED: ENGINEERING AND SURVEYING 9050 N. CAPITAL HWY, BLDG 3, SUITE 390 AUSTIN, TEXAS 78759 (512)846-3456 (512) 514-0315 FAX		DATE: _____
DRAWN: _____		REVISION: _____
COCO CHECKED: _____		NO. _____
SURVEY CHECKED: _____		BY _____
QA/QC: _____		DATE: _____
QA/QC REVISIONS: _____		

WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641

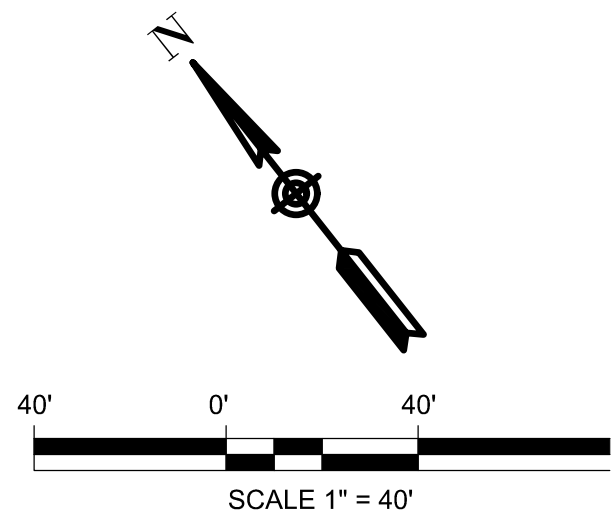
**GRADING PLAN (2 OF 3)**

STATE OF TEXAS  
STEVEN BUFFUM  
115531  
LICENSED PROFESSIONAL ENGINEER  
3/22/2023

SHEET **29**  
OF 110 SHEETS



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- LEGEND**
- 504 EXISTING CONTOUR
  - 505 PROPOSED CONTOUR
  - PROPERTY LINE
  - PROPOSED CURB (SD-06)
  - SIDEWALK
  - FLOW ARROW
  - HP = XXX.XX HIGH POINT ELEVATION
  - LP = XXX.XX LOW POINT ELEVATION
  - FP = XXX.XX FINISH PAVEMENT ELEVATION
  - TC = XXX.XX TOP OF CURB ELEVATION
  - TW = XXX.XX TOP OF WALL ELEVATION
  - BW = XXX.XX BOTTOM OF WALL ELEVATION (BW=FP AT BASE OF WALL/ NOT WALL FOOTING DEPTH)

- NOTE:**
1. RUNNING SLOPE OF ACCESSIBLE ROUTES SHALL NOT EXCEED 1" : 20" (5.0%) CROSS SLOPE OF ACCESSIBLE ROUTES SHALL NOT EXCEED 1" : 50" (2.0%). CONTRACTOR TO VERIFY ALL SLOPES PRIOR TO CONSTRUCTION OF ACCESSIBLE ROUTES.
  2. ALL WALLS 30" OR HIGHER THAN FINAL GRADE AND ALONG PEDESTRIAN OR VEHICULAR ROUTES MAY NEED HANDRAIL. CONTRACTOR TO COORDINATE HANDRAIL LOCATIONS WITH OWNER AND ENGINEER DURING CONSTRUCTION.

- NOTES:**
1. IF DISTURBED AREA IS NOT WORKED FOR MORE THAN 14 DAYS, DISTURBED AREA SHALL BE STABILIZED BY REVEGETATION, MULCH, TARP OR REVEGETATION MATTING (ECM 1.4.4.B.3 SECTION 5, 1)
  2. ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD ANIOR MODIFY EROSION/SEDIMENTATION CONTROLS ON THE SITE TO KEEP PROJECT IN-COMPLIANCE WITH THE CITY OF LEANDER. RULES AND REGULATIONS. (LDC 25-8-183)
  3. CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURES DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING PER ECM 1.4.5(A), OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
  4. THE CONTRACTOR WILL CLEAN UP SPOILS THAT MIGRATE ONTO THE ROADS A MINIMUM OF ONCE DAILY (ECM 1.4.4.D.4) PURSUANT TO 14-11-131 OF THE CITY CODE. THE CONTRACTOR MAY NOT BLOCK, DIRECT, IMPEDE OR REROUTE PEDESTRIAN AND VEHICULAR TRAFFIC. NOT PLACE A BARRICADE OR OTHER TRAFFIC CONTROL DEVICE IN A RIGHT-OF-WAY, WITHOUT FIRST OBTAINING A TEMPORARY USE OF RIGHT-OF-WAY PERMIT FROM THE DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION.
  6. SILT FENCE TYPE AND INSTALLATION SHALL COMPLY WITH ECM 1.4.2(G)
  7. FOR OFF-SITE UTILITY CONSTRUCTION, PERPENDICULAR EROSION CONTROL MUST BE INSTALLED EVERY 30 FEET AS THE TRENCH IS BACKFILLED.
  8. TREE PROTECTION FENCE MUST ENCLOSE, AT A MINIMUM THE HALF CRITICAL ROOT ZONES OF TREES TO BE PRESERVED.
  9. NO GRADING AND NO CONSTRUCTION ACTIVITIES ARE PERMITTED WITHIN THE TREE PROTECTION FENCE.
  10. NO UTILITY ASSIGNMENTS OR FENCE FOOTERS WILL BE ALLOWED WITHIN THE HALF CRITICAL ROOT ZONES OF TREES TO BE PRESERVED.
  11. REFER TO "GENERAL NOTES" SHEETS FOR ADDITIONAL EROSION CONTROL NOTES.
  12. REFER TO "TREE LIST" SHEET FOR TREE REMOVAL INFORMATION.
  13. CONTRACTOR IS RESPONSIBLE FOR REMOVING ANY SEDIMENT TRANSPORTED FROM THE LOC TO THE OFFSITE DETENTION AND WATER QUALITY POND(S).
  14. CONTRACTOR RESPONSIBLE FOR INSTALLING ALL EROSION CONTROL MEASURES AND BMP'S SHOWN ON THIS SHEET. CONTRACTOR RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL MEASURES UNTIL VEGETATION HAS BEEN FULLY RESTORED AND ENGINEER HAS INSPECTED AND APPROVED.
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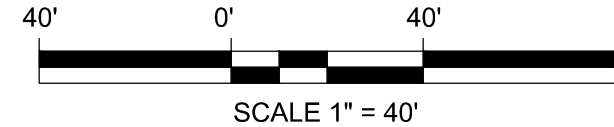
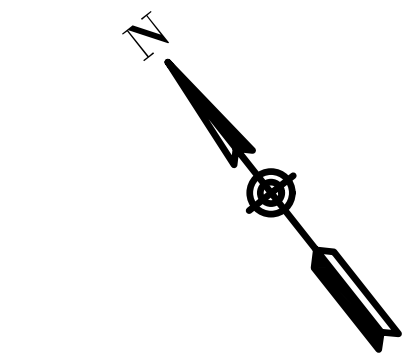


DESIGNED: ENGINEERING AND SURVEYING 9050 N. CAPITAL HWY, BLDG 3, SUITE 390 AUSTIN, TEXAS 78759 (512)846-3456 (512) 514-0315 FAX TBPE FIRM REG. No. 280 TBPLS FIRM REG. No. 100486	DATE: _____	REVISION: _____	BY: _____
<b>Costello</b>			
WILDSRING - PHASE 1 C.R. 175 LEANDER, TEXAS 78641			
GRADING PLAN (3 OF 3)			
SHEET <b>30</b>			
OF <b>110</b> SHEETS			



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C.R. 175  
(R.O.W. VARIES)



#### LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPERTY BOUNDARY
- DRAINAGE DIVIDE
- TOC FLOWPATH
- PROPOSED STORM LINE
- CURB INLET
- PROPOSED STORM MANHOLE
- PROPOSED STORM JUNCTION BOX
- ROCK RIP RAP
- DISCHARGE POINT
- DA #
- AREA

#### NOTES:

- IF DISTURBED AREA IS NOT WORKED FOR MORE THAN 14 DAYS, DISTURBED AREA SHALL BE STABILIZED BY REVEGETATION, MULCH, TARP OR REVEGETATION MATTING (ECM 1.4.4.B.3 SECTION 5, 1)
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WILDSRING RATIONAL METHOD FLOW CALCULATIONS											
BASIN LABEL	INLET LABEL	INLET TYPE*	AREA (SQ.FT.)	AREA (AC)	25-YR			100-YR			Q
					C	I	Q	C	I	Q	
A1	N/A	N/A	81,082	1.86	0.65	11.30	13.68	0.73	15.00	20.38	
A2	IA-02	CSAG	48,719	1.12	0.65	11.30	8.22	0.73	15.00	12.25	
A3	IA-03	CGRD	44,674	1.03	0.65	11.30	7.54	0.73	15.00	11.23	
A4	IA-04	CGRD	52,000	1.19	0.65	11.30	8.77	0.73	15.00	13.07	
C19	IC-19	CSAG	61,809	1.42	0.65	11.30	10.43	0.73	15.00	15.54	
C20	IC-20	CGRD	34,278	0.79	0.65	11.30	5.78	0.73	15.00	8.62	
C21	IC-21	CGRD	33,991	0.78	0.65	11.30	5.73	0.73	15.00	8.54	
C22	IC-22	CGRD	34,916	0.80	0.65	11.30	5.89	0.73	15.00	8.78	
B1a	N/A	N/A	33,101	0.76	0.65	11.30	5.58	0.73	15.00	8.32	
B3a	IB-03a	CGRD	43,910	1.01	0.65	11.30	7.41	0.73	15.00	11.04	
B4	IB-04	CGRD	28,057	0.64	0.65	11.30	4.73	0.73	15.00	7.05	
B5	IB-05	CSAG	66,344	1.52	0.65	11.30	11.19	0.73	15.00	16.68	
B6	IB-06	CGRD	17,422	0.40	0.65	11.30	2.94	0.73	15.00	4.38	
B7	IB-07	CGRD	34,515	0.79	0.65	11.30	5.82	0.73	15.00	8.68	
B8	IB-08	CGRD	35,402	0.81	0.65	11.30	5.97	0.73	15.00	8.90	
B9	IB-09	CGRD	42,120	0.97	0.65	11.30	7.10	0.73	15.00	10.59	
B10	IB-10	CGRD	50,868	1.17	0.65	11.30	8.58	0.73	15.00	12.79	
C1	IC-01	N/A	250,158	5.74	0.65	11.30	42.20	0.73	15.00	62.88	
C2	IC-02	CSAG	16,338	0.38	0.65	11.30	2.76	0.73	15.00	4.11	
C3	IC-03	CSAG	62,884	1.44	0.65	11.30	10.61	0.73	15.00	15.81	
C4	IC-04	CGRD	41,135	0.94	0.65	11.30	6.94	0.73	15.00	10.34	
C5	IC-05	CGRD	39,493	0.91	0.65	11.30	6.66	0.73	15.00	9.93	
C6	IC-06	CGRD	34,041	0.78	0.65	11.30	5.74	0.73	15.00	8.56	
C7	IC-07	CGRD	21,766	0.50	0.65	11.30	3.67	0.73	15.00	5.47	
C8	IC-08	CSAG	23,093	0.53	0.65	11.30	3.90	0.73	15.00	5.80	
C9	IC-09	CSAG	25,055	0.58	0.65	11.30	4.23	0.73	15.00	6.30	
C10	IC-10	CGRD	20,326	0.47	0.65	11.30	3.43	0.73	15.00	5.11	
C11	IC-11	CGRD	18,784	0.43	0.65	11.30	3.17	0.73	15.00	4.72	
C12a	IC-12a	CGRD	30,856	0.71	0.65	11.30	5.20	0.73	15.00	7.76	
C13	IC-13	CGRD	58,333	1.34	0.65	11.30	9.84	0.73	15.00	14.66	
C14	IC-14	CGRD	34,509	0.79	0.65	11.30	5.82	0.73	15.00	8.67	
C15	IC-15	CGRD	36,652	0.84	0.65	11.30	6.18	0.73	15.00	9.21	
C16	IC-16	CGRD	31,293	0.72	0.65	11.30	5.28	0.73	15.00	7.87	
C17	IC-17	CGRD	31,504	0.72	0.65	11.30	5.31	0.73	15.00	7.92	
C18	IC-18	CSAG	61,972	1.42	0.65	11.30	10.45	0.73	15.00	15.58	
C-FutPh2	N/A	N/A	573,606	13.17	0.42	11.30	62.52	0.49	15.00	96.78	
VFS-G	N/A	N/A	67,538	1.55	0.42	11.30	7.36	0.49	15.00	11.40	
VFS-H	N/A	N/A	36,689	0.84	0.42	11.30	4.00	0.49	15.00	6.19	
VHS-I	N/A	N/A	48,617	1.12	0.42	11.30	5.30	0.49	15.00	8.20	
U1	N/A	N/A	30,588	0.70	0.42	11.30	3.33	0.49	15.00	5.16	
C12b	IC-12b	CGRD	29,678	0.68	0.42	11.30	3.23	0.49	15.00	5.01	
B3b	IB-03b	CGRD	37,865	0.87	0.42	11.30	4.13	0.49	15.00	6.39	
B2	IB-02	CGRD	34,984	0.80	0.42	11.30	3.81	0.49	15.00	5.90	
B1b*	B-01b*	CGRD	22,560	0.52	0.42	11.30	2.46	0.49	15.00	3.81	
B1c*	B-01c*	CGRD	23,640	0.54	0.42	11.30	2.58	0.49	15.00	3.99	

\*No inlet associated with this area. Area used to check spread width only

\*Inlet Type Legend:  
CGRD = CURB OPENING INLET ON GRADE  
CSAG = CURB OPENING INLET IN SAG  
GGRD = GRATE INLET ON GRADE  
GSAG = GRATE INLET IN SAG  
ASAG = AREA ZONE DRAIN IN SAG  
SSAG = SLOTTED DRAIN IN SAG  
SGRD = SLOTTED DRAIN ON GRADE  
TGRD = TRENCH DRAIN ON GRADE  
BLDG = BUILDING ROOFTOP DRAINAGE  
OFFSITE = FLOW LEAVES SITE

ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
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(512)846-3456 (512) 514-0315 FAX  
TBPE FIRM REG. No. 280  
TBPLS FIRM REG. No. 100486

**Costello**

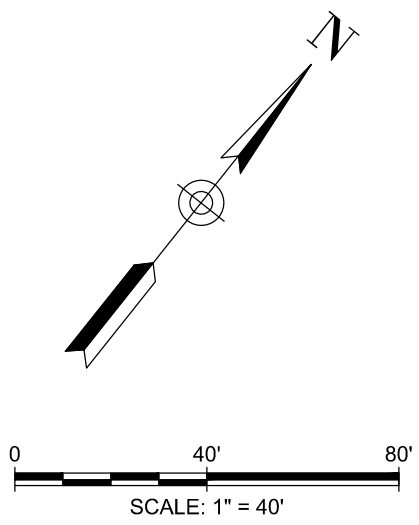
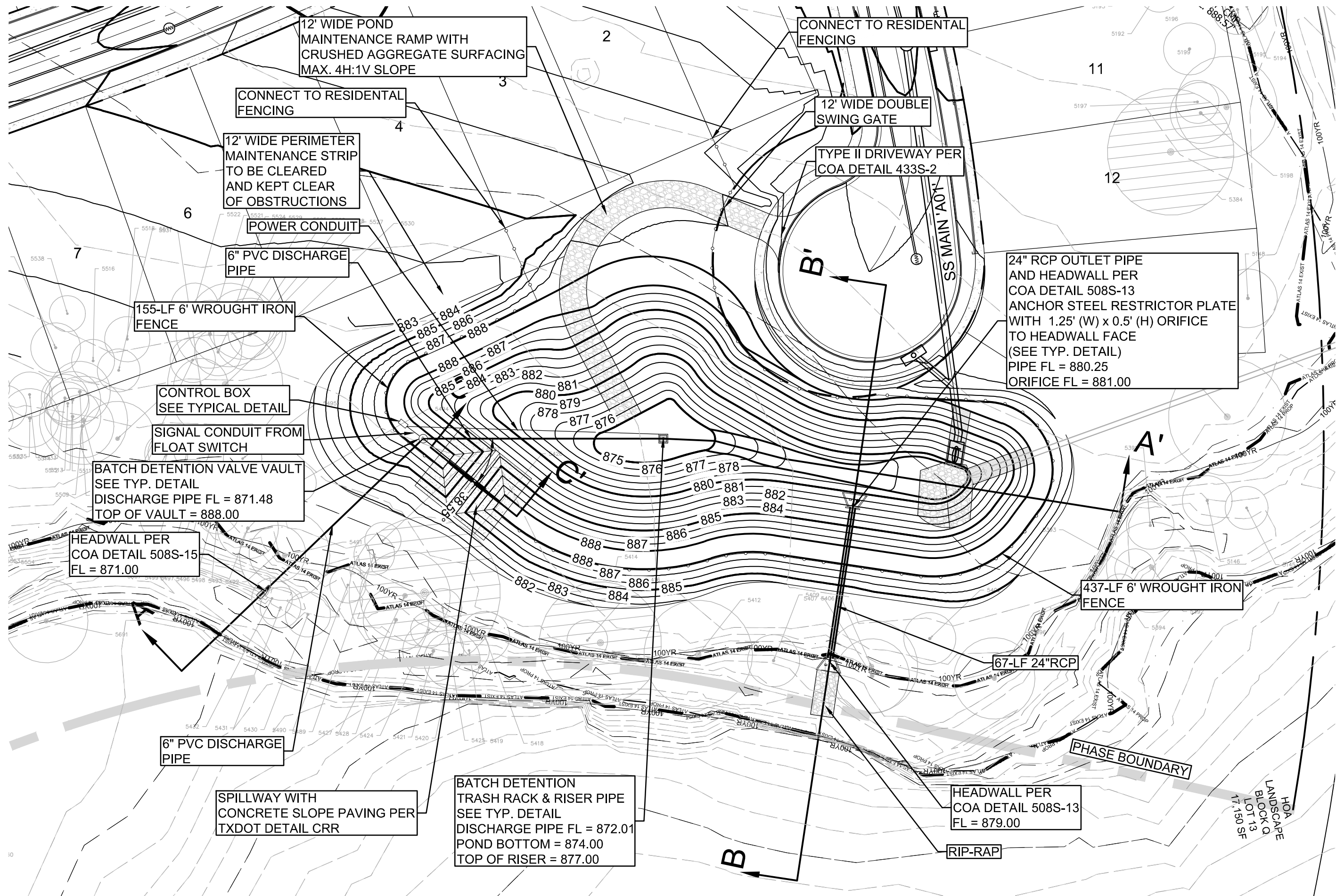
WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641  
**INLET DRAINAGE AREA  
MAP**

SHEET **31**  
OF 110 SHEETS

DATE  
REVISION  
NO.

BY





**LEGEND**

--- 50.4 --- EXISTING CONTOUR  
--- 500 --- PROPOSED CONTOUR  
--- PROPOSED STORM LINE  
○ CURB INLET  
○ PROPOSED STORM MANHOLE  
□ PROPOSED STORM JUNCTION BOX  
□ ROCK RIP RAP

**PROFILE SCALE**  
1" = 40' HORIZ.  
1" = 4' VERT.

**PROFILE LEGEND**  
--- PROPOSED FINISHED GRADE  
--- EXISTING GRADE (CENTER)

NOTE:  
1. ALL FILL AREAS SHALL BE COMPACTED TO 95% PROCTOR DENSITY PRIOR TO INSTALLATION OF UTILITIES.  
2. ALL PIPE VELOCITIES ARE CONFIRMED LESS THAN 20 FPS.

ALL FILL AREAS SHALL BE PROOF ROLLED AND BE PLACED IN MAXIMUM 8-INCH LIFTS AND COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY AT +/-2 PERCENTAGE POINTS OF OPTIMUM MOISTURE CONTENT.

ALL EXIST. SWALES AND LOW AREAS SHALL BE DE-MUCKED, PROOF ROLLED AND FILLED.

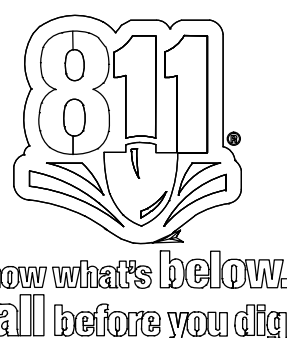
Stage-Storage Table - Pond A			
Elevation	Area (sf)	Area (ac)	Volume (cf)
874.00	0	0.00000	0
875.00	938	0.02153	313
876.00	1,517	0.03483	1,529
877.00	2,230	0.05119	3,391
878.00	3,137	0.07202	6,061
879.00	4,630	0.10629	9,921
880.00	6,563	0.15067	15,489
881.00	8,105	0.18607	22,810
882.00	9,724	0.22323	31,712
883.00	11,410	0.26194	42,268
884.00	13,163	0.30218	54,544
885.00	14,988	0.34408	68,609
886.00	16,881	0.38753	84,534
887.00	18,822	0.43209	102,377
888.00	20,808	0.47769	122,184

Elevation-Discharge Table - Pond A				
Storm Event	Water Surface Elevation		Discharge (cfs)	
	Phase 1	Ultimate	Phase 1	Ultimate
2-Year	883.56	883.56	4.8-cfs	4.8-cfs
10-Year	884.84	884.83	13.5-cfs	13.4-cfs
25-Year	885.55	885.54	21.7-cfs	21.5-cfs
100-Year	886.67	886.64	37.6-cfs	37.1-cfs

Pond A Drawdown Calculations			
Detention Drawdown		Water Quality Drawdown	
Time at Max (hr):	12.22	Time at Max (hr):	0
WQV (ac-ft):	0.53	Time at 0.0 ac-ft (hr):	7.30
Time at WQV (hr):	30.07	Water Quality Drawdown Time (hrs):	7.30
Detention Drawdown Time (hrs):	17.85		

SS MAIN 'A01' Outfall Rip-Rap Calculations	
$D_{50} = 0.0105V^{2.06}$	
Outfall Dia./Span	2.5 ft
Rip-rap Area =	12.5 ft. W x 25 ft. L
$V_{100} =$	6.5 ft/s
$D_{50} =$	5.96 in.
Class:	I
$D_{100} =$	12 in.
Min. Depth =	12 in. ( $D_{100}$ or $1.5D_{50}$ )
35-SY CLASS I ROCK RIP-RAP MIN. 12" DEPTH	

CR175 System Outfall Rip-Rap Calculations	
$D_{50} = 0.0105V^{2.06}$	
Outfall Dia./Span	2 ft
Rip-rap Area =	10 ft. W x 20 ft. L
$V_{100} =$	9.5 ft/s
$D_{50} =$	13.02 in.
Class:	III
$D_{100} =$	24 in.
Min. Depth =	24 in. ( $D_{100}$ or $1.5D_{50}$ )
22-SY CLASS III ROCK RIP-RAP MIN. 24" DEPTH	



DESIGNED: \_\_\_\_\_  
DRAWN: \_\_\_\_\_  
COCO CHECKED: \_\_\_\_\_  
SURVEY CHECKED: \_\_\_\_\_  
QA/QC: \_\_\_\_\_  
DATE: \_\_\_\_\_

ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512)646-3456 (512) 514-0315 FAX

**Costello**

WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641

POND A AND CROSS SECTIONS A AND B

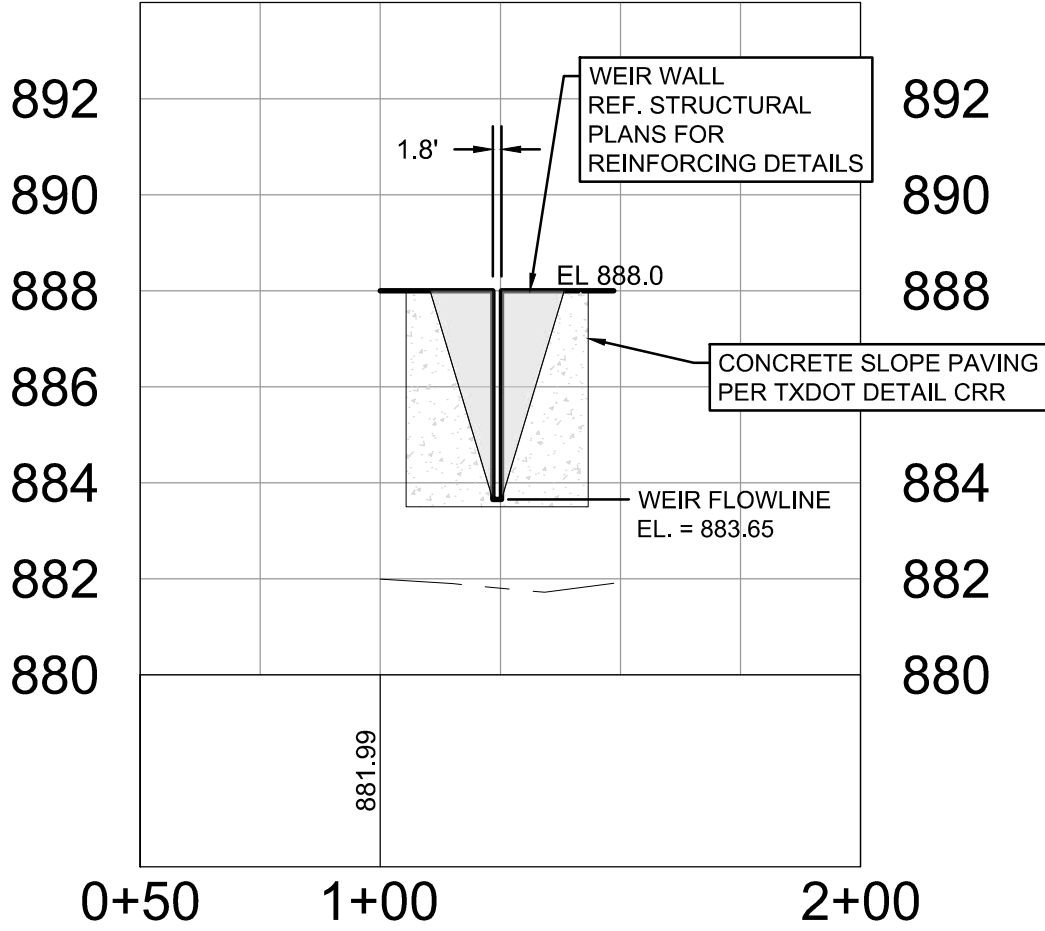
MICHAEL A. KENNEY  
131885  
LICENSED PROFESSIONAL ENGINEER  
3/22/2023

SHEET **32**  
OF **110** SHEETS

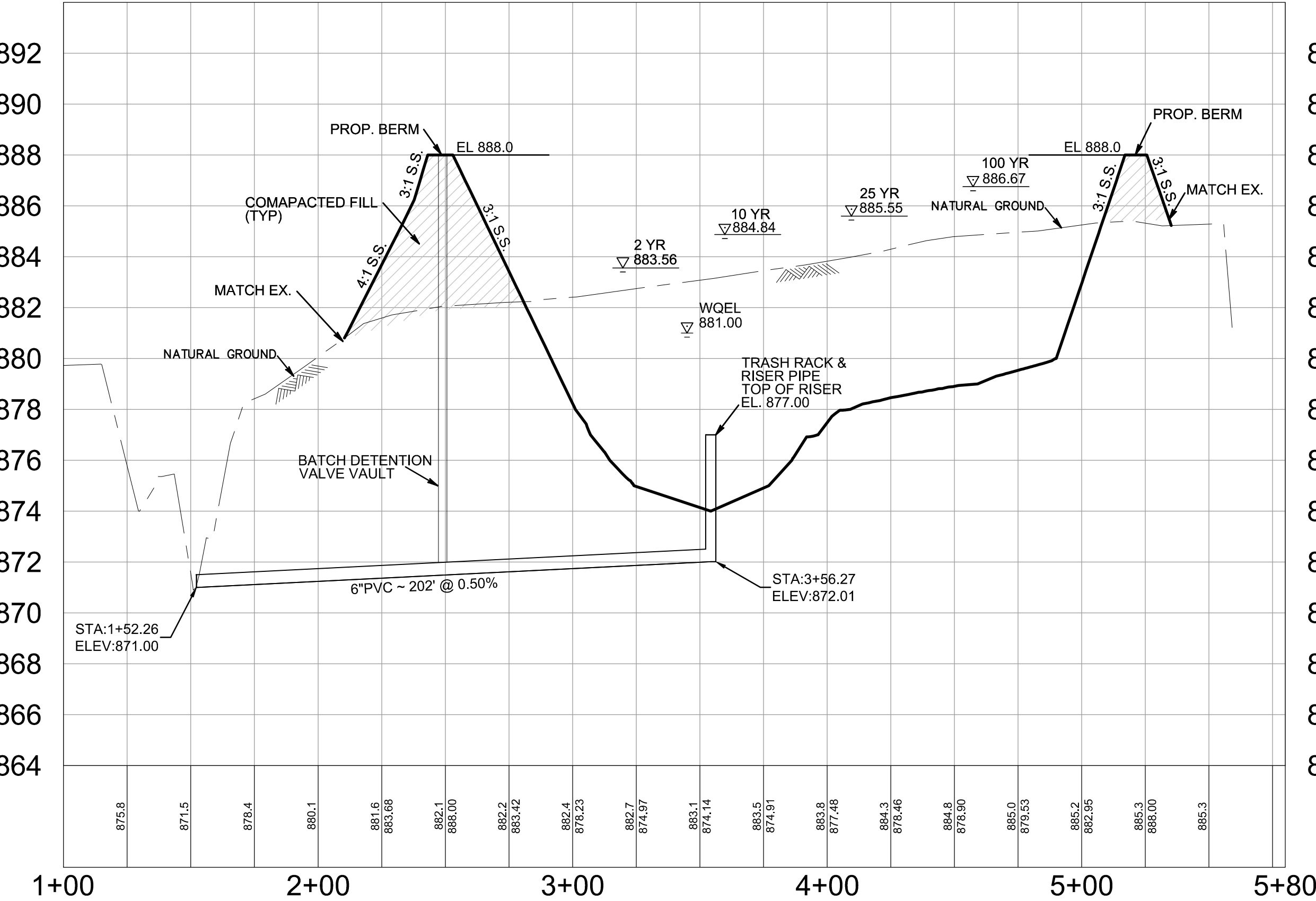
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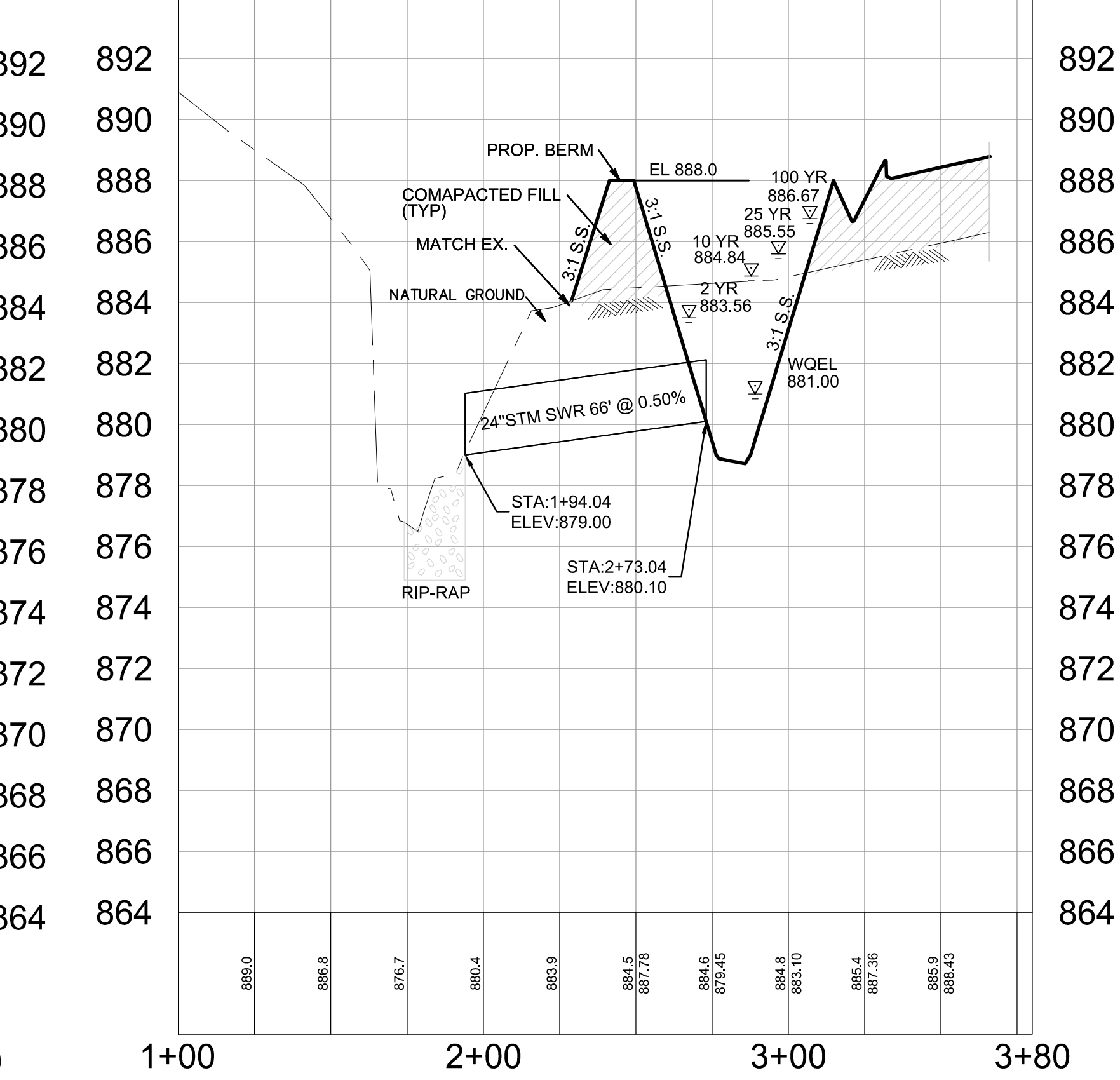
## POND A SECTION 'C'



## POND A SECTION 'A'



## POND A SECTION 'B'

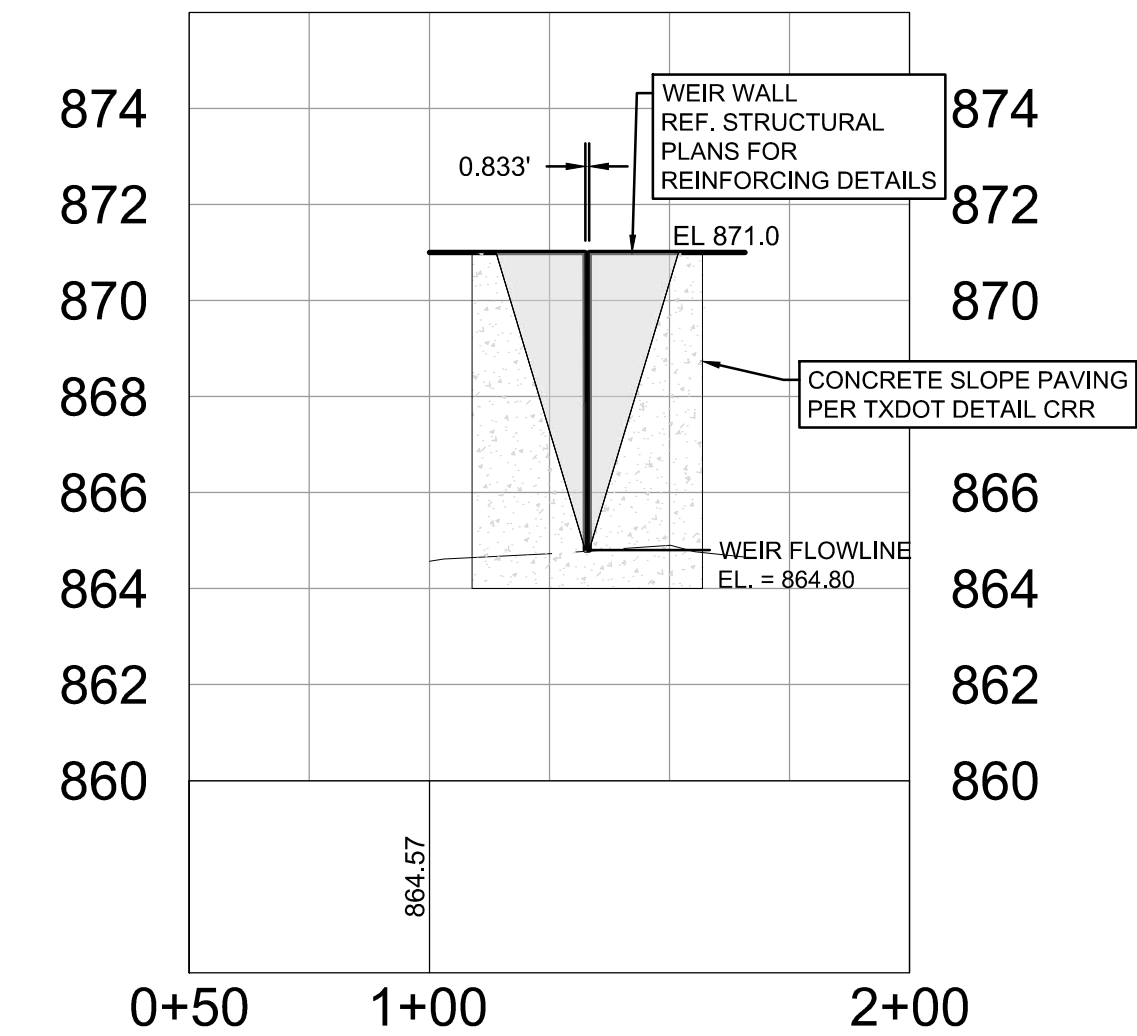


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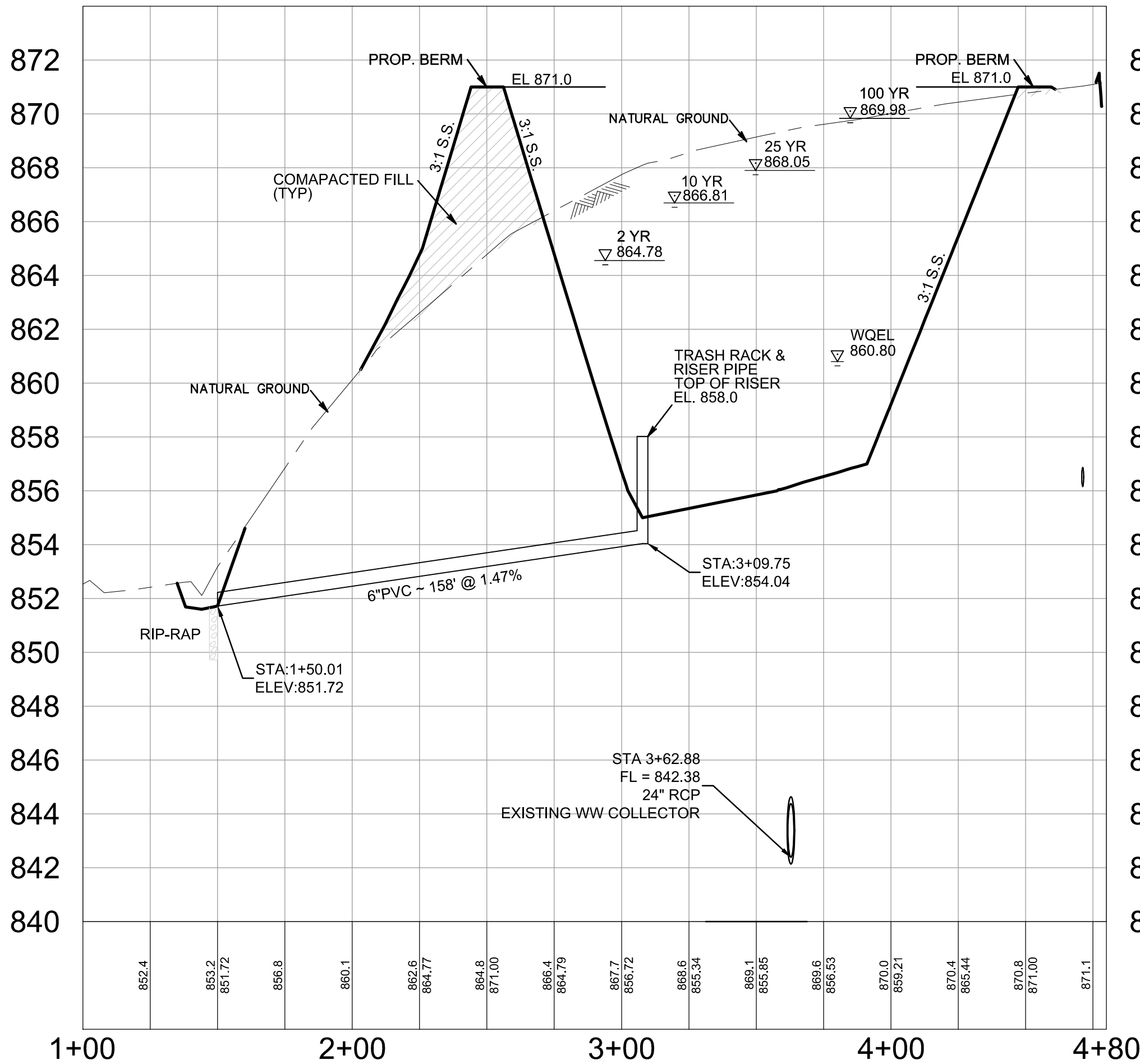
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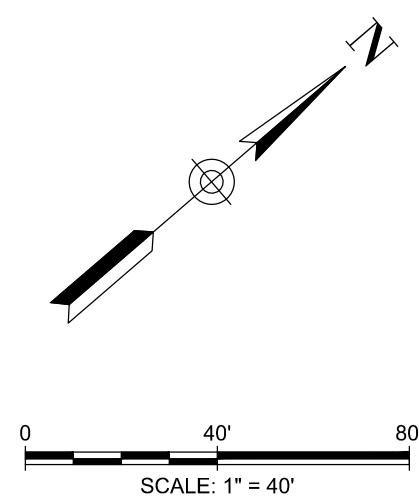
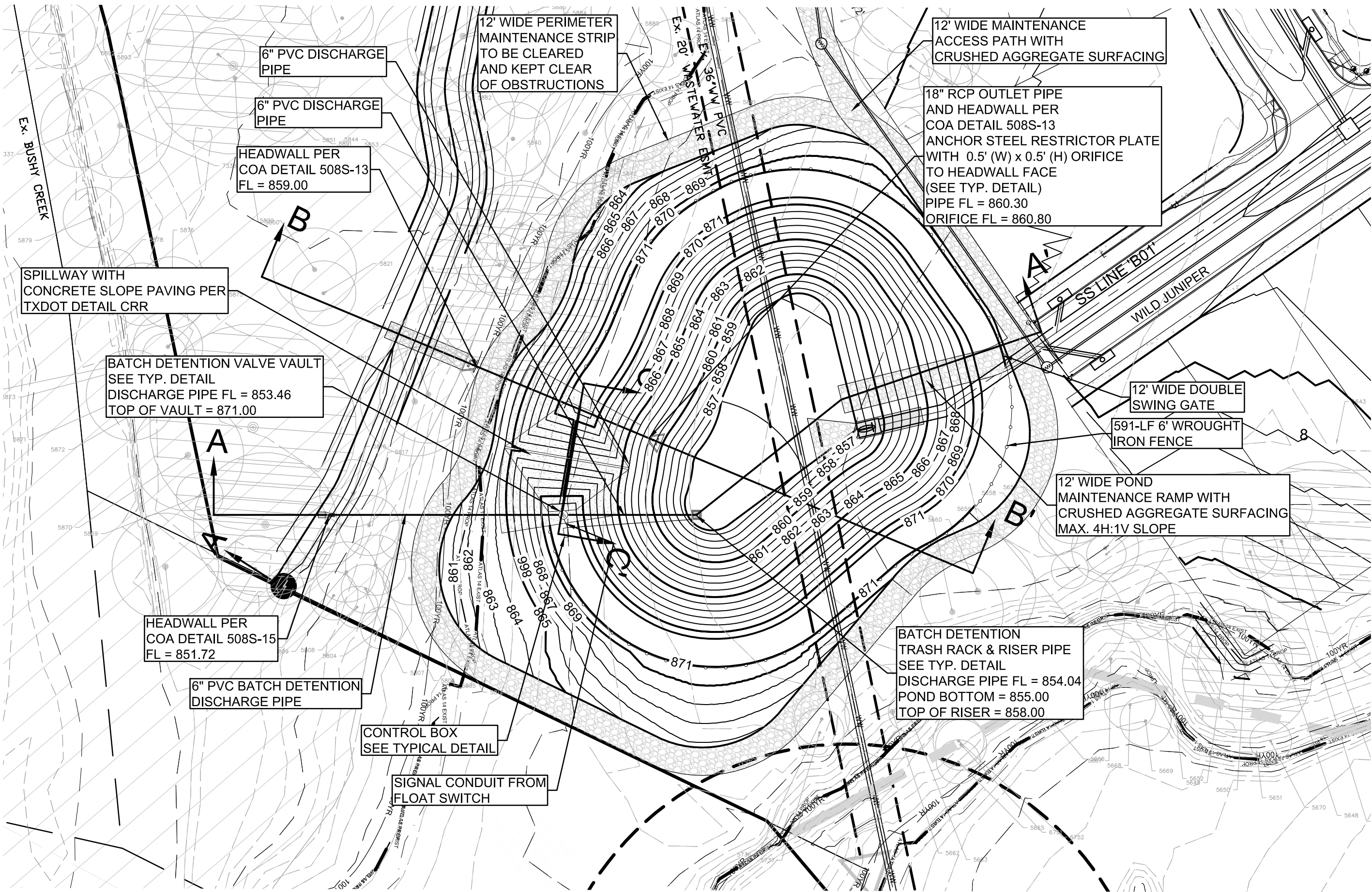
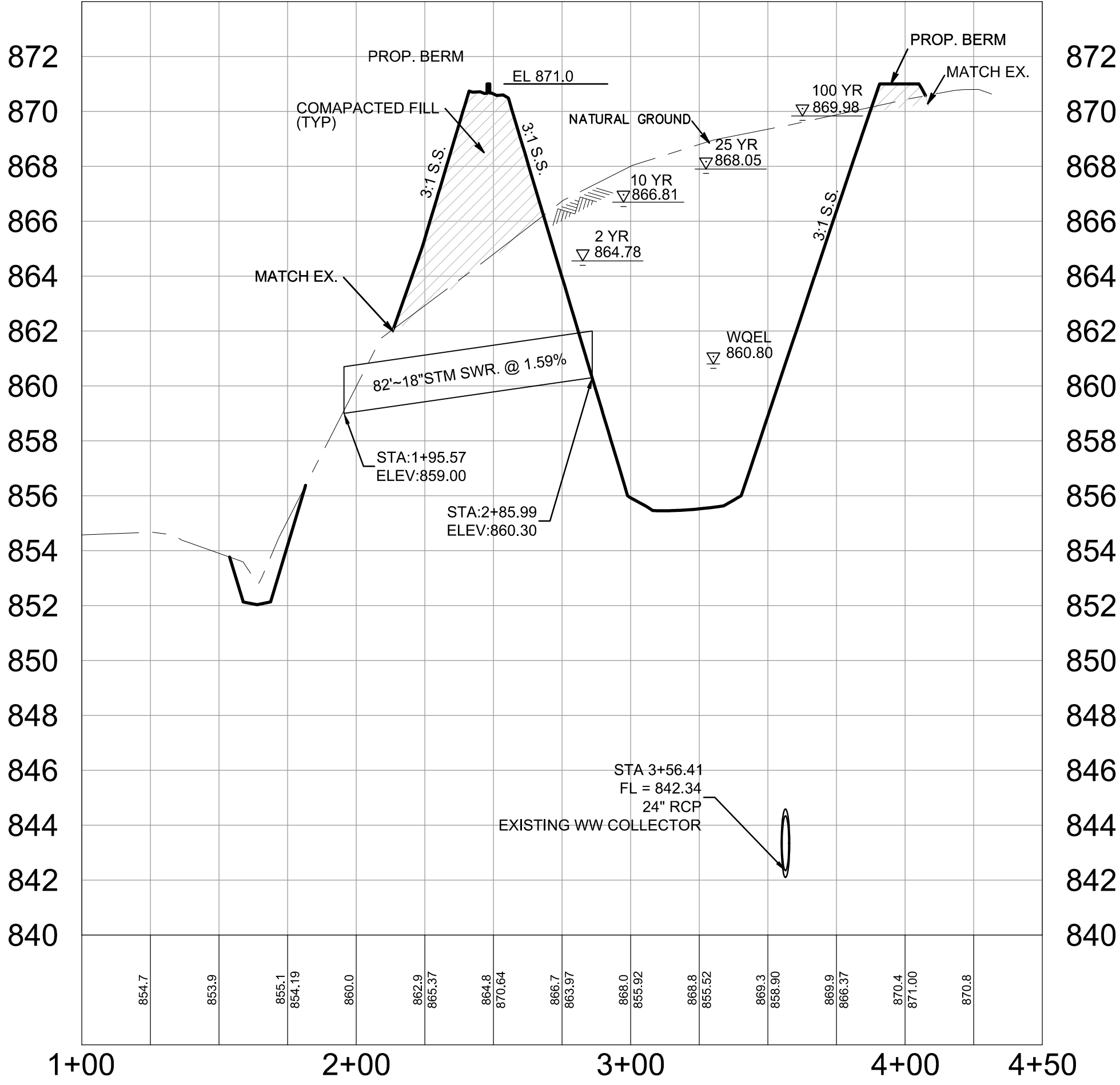
POND B SECTION 'C'



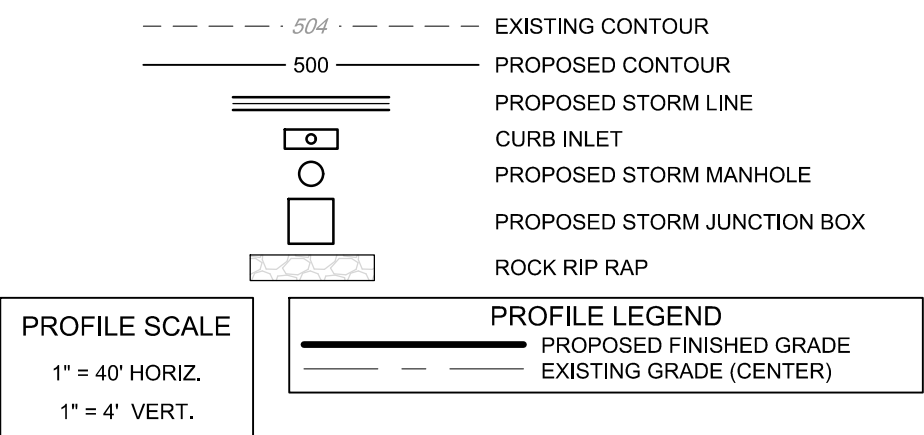
POND B SECTION 'A'



POND B SECTION 'B'



LEGEND



NOTE:  
1. ALL FILL AREAS SHALL BE COMPACTED TO 95% PROCTOR DENSITY PRIOR TO INSTALLATION OF UTILITIES.  
2. ALL PIPE VELOCITIES ARE CONFIRMED LESS THAN 20 FPS.

ALL FILL AREAS SHALL BE PROOF ROLLED AND BE PLACED IN MAXIMUM 8-INCH LIFTS AND COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY AT +/- PERCENTAGE POINTS OF OPTIMUM MOISTURE CONTENT.  
  
ALL EXIST, SWALES AND LOW AREAS SHALL BE DE-MUCKED, PROOF ROLLED AND FILLED.

Stage-Storage Table - Pond B				WQV
Elevation	Area (sf)	Area (ac)	Volume (cf)	
855.00	0	0.00000	0	
856.00	1,901	0.04364	634	
857.00	4,934	0.11327	3,933	
858.00	5,978	0.13724	9,381	
859.00	6,977	0.16017	15,852	
860.00	8,034	0.18444	23,351	
860.80	8,925	0.20489	30,128	
861.00	9,148	0.21001	31,936	
862.00	10,321	0.23694	41,664	WQV
863.00	11,551	0.26517	52,595	
864.00	12,839	0.29474	64,784	
865.00	14,185	0.32564	78,290	
866.00	15,623	0.35865	93,189	
867.00	17,088	0.39229	109,539	
868.00	18,611	0.42725	127,383	
869.00	20,215	0.46407	146,790	
870.00	21,860	0.50184	167,822	
871.00	23,559	0.54084	190,527	

Elevation-Discharge Table - Pond B				
Storm Event	Water Surface Elevation		Discharge (cfs)	
	Phase 1	Ultimate	Phase 1	Ultimate
2-Year	864.78	864.78	2.5-cfs	2.5-cfs
10-Year	866.81	866.81	10.8-cfs	10.8-cfs
25-Year	868.05	868.05	19.1-cfs	19.1-cfs
100-Year	869.98	869.98	35.4-cfs	35.4-cfs

Pond B Drawdown Calculations			
Detention Drawdown		Water Quality Drawdown	
Time at Max (hr):	12.32	Time at Max (hr):	0
WQV (ac-ft):	0.70	Time at 0.0 ac-ft (hr):	12.95
Time at WQV (hr):	44.73	Water Quality Drawdown Time (hrs):	12.95
Detention Drawdown Time (hrs):	32.42		

SS LINE 'B01' Outfall Rip-Rap Calculations	
D <sub>50</sub> = 0.0105V <sup>2.06</sup>	
Outfall Dia./Span	4 ft
Rip-rap Area =	20 ft. W x 40 ft. L
V <sub>100</sub> =	7 ft/s
D <sub>50</sub> =	6.94 in.
Class:	I
D <sub>100</sub> =	12 in.
Min. Depth =	12 in. (D <sub>100</sub> or 1.5D <sub>50</sub> )
89-SY CLASS I ROCK RIP-RAP MIN. 12" DEPTH	



ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
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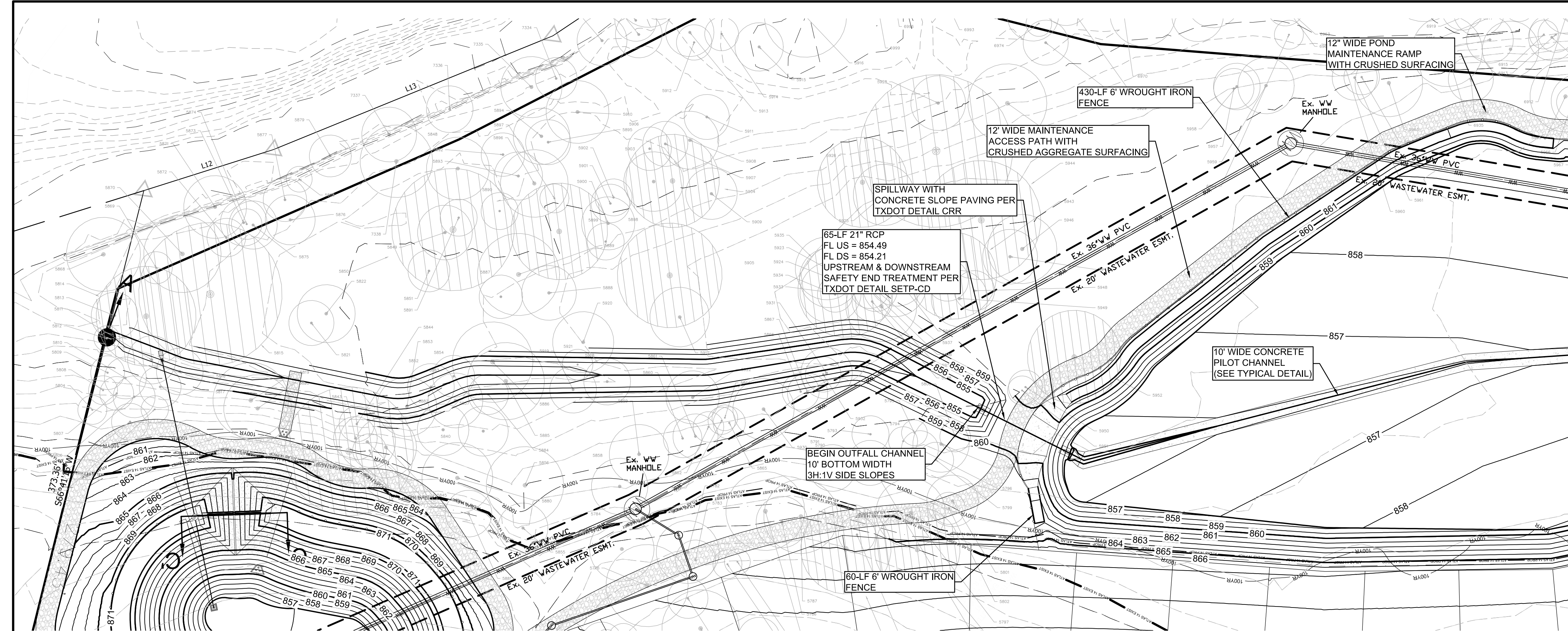


WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641  
  
POND 'B' SECTION 'A' &  
POND 'B' SECTION 'B'



SHEET 33  
OF 110 SHEETS





0 40' 80'

SCALE: 1" = 40'

LEGEND

--- 504 --- EXISTING CONTOUR

--- 500 --- PROPOSED CONTOUR

==== PROPOSED STORM LINE

○ CURB INLET

○ PROPOSED STORM MANHOLE

□ PROPOSED STORM JUNCTION BOX

□ ROCK RIP RAP

PROFILE SCALE

1" = 40' HORIZ.

1" = 4' VERT.

PROFILE LEGEND

— PROPOSED FINISHED GRADE

--- EXISTING GRADE (CENTER)

NOTE:

1. ALL FILL AREAS SHALL BE COMPACTED TO 95% PROCTOR DENSITY PRIOR TO INSTALLATION OF UTILITIES.

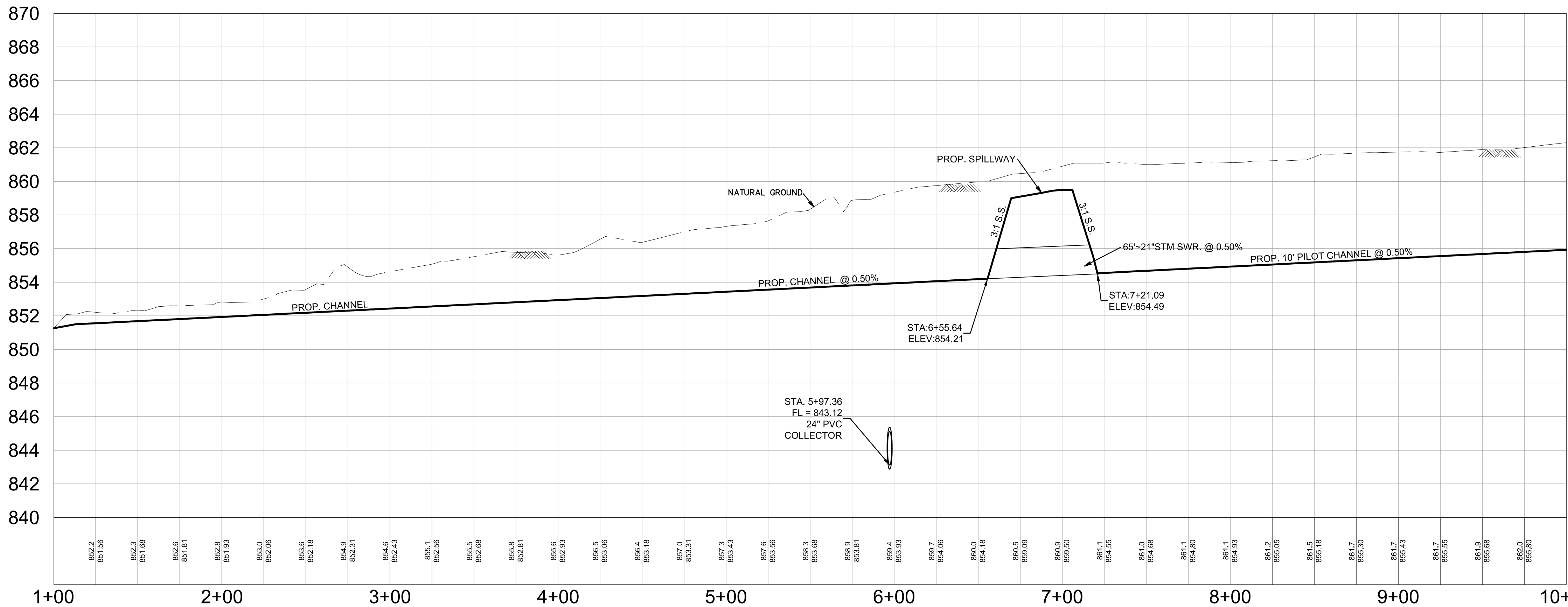
2. ALL PIPE VELOCITIES ARE CONFIRMED LESS THAN 20 FPS.

Stage-Storage Table - Pond C (Det)			
Elevation	Area (sf)	Area (ac)	Volume (cf)
854.49	0	0.00000	0
855.00	242	0.00556	41
856.00	4,105	0.09424	1,822
857.00	20,895	0.47968	13,243
858.00	50,146	1.15119	47,713
859.00	82,123	1.88528	113,194
860.00	95,582	2.19426	201,961
861.00	99,702	2.28884	299,596
862.00	105,898	2.43108	402,380
863.00	109,214	2.50721	509,932
864.00	111,577	2.56146	620,325
865.00	114,305	2.62408	733,264
866.00	116,628	2.67741	848,728

Elevation-Discharge Table - Pond C (Det)				
Storm Event	Water Surface Elevation		Discharge (cfs)	
	Phase 1	Ultimate	Phase 1	Ultimate
2-Year	858.08	858.72	18.8-cfs	21.1-cfs
10-Year	859.29	859.90	23.0-cfs	40.4-cfs
25-Year	859.94	860.40	42.5-cfs	86.2-cfs
100-Year	860.66	861.12	122.2-cfs	203.6-cfs

Pond C (Det) Drawdown Calculations	
Detention Drawdown	
Time at Max (hr):	12.23
Time at 0.0 ac-ft (hr):	24.42
Detention Drawdown Time (hrs):	12.18

## POND C SECTION 'A'



811

Know what's below.  
Call before you dig.

WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641

POND 'C' SECTION 'A'

131885

MICHAEL A. KENNEY

PROFESSIONAL ENGINEER

3/22/2023

SHEET 34

OF 110 SHEETS

DESIGNED: \_\_\_\_\_

DESIGN CHECKED: \_\_\_\_\_

DRAWN: \_\_\_\_\_

COGO CHECKED: \_\_\_\_\_

SURVEY CHECKED: \_\_\_\_\_

QA/QC: \_\_\_\_\_

DATE: \_\_\_\_\_

QA/QC REVISIONS: \_\_\_\_\_

ENGINEERING AND SURVEYING

9050 N. CAPITAL HWY, BLDG 3, SUITE 390

AUSTIN, TEXAS 78759

(512)646-3456 (512) 514-0315 FAX

TBPE FIRM REG. No. 280

TBPLS FIRM REG. No. 100486

Costello

WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641

POND 'C' SECTION 'A'

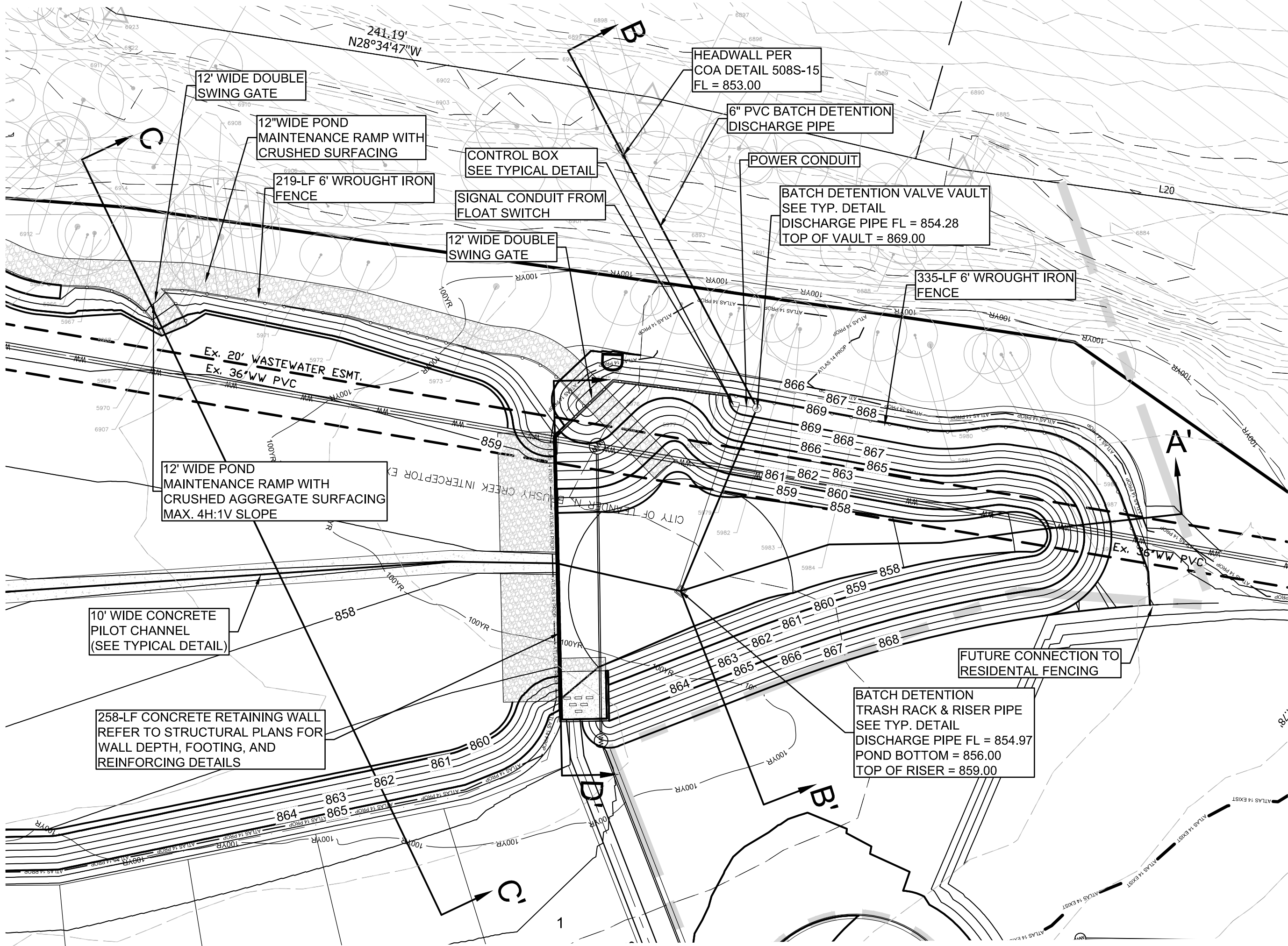
3/22/2023

SHEET 34

OF 110 SHEETS

WILDSRING PHASE 1

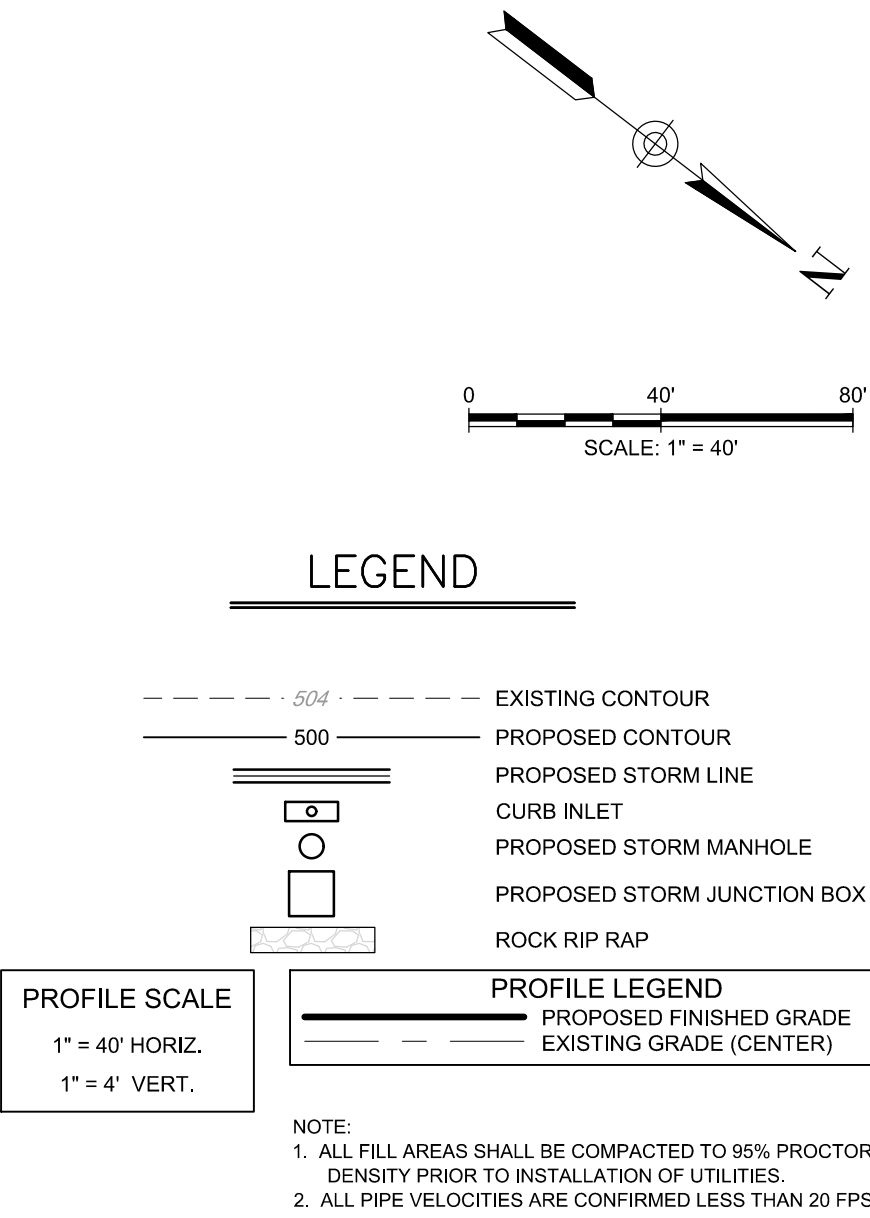




Stage-Storage Table - Pond C (WQ)			
Elevation	Area (sf)	Area (ac)	Volume (cf)
856.00	0	0.00000	0
857.00	2,797	0.06421	932
858.00	9,987	0.22927	6,955
859.00	11,358	0.26074	17,621
860.00	12,759	0.29291	29,672
861.00	14,190	0.32576	43,140
862.00	15,651	0.35930	58,055
863.00	17,143	0.39355	74,446
864.00	18,666	0.42851	92,345
865.00	20,249	0.46485	111,798
866.00	22,257	0.51095	133,043
867.00	23,605	0.54190	155,609
868.00	24,980	0.57346	180,253
869.00	26,382	0.60565	205,931

Elevation-Discharge Table - Pond C (WQ)				
Storm Event	Water Surface Elevation		Discharge (cfs)	
	Phase 1	Ultimate	Phase 1	Ultimate
2-Year	864.36	864.47	68.2-cfs	102.3-cfs
10-Year	864.57	864.69	136.1-cfs	183.5-cfs
25-Year	864.70	864.83	186.9-cfs	243.9-cfs
100-Year	864.91	865.06	279.5-cfs	350.9-cfs

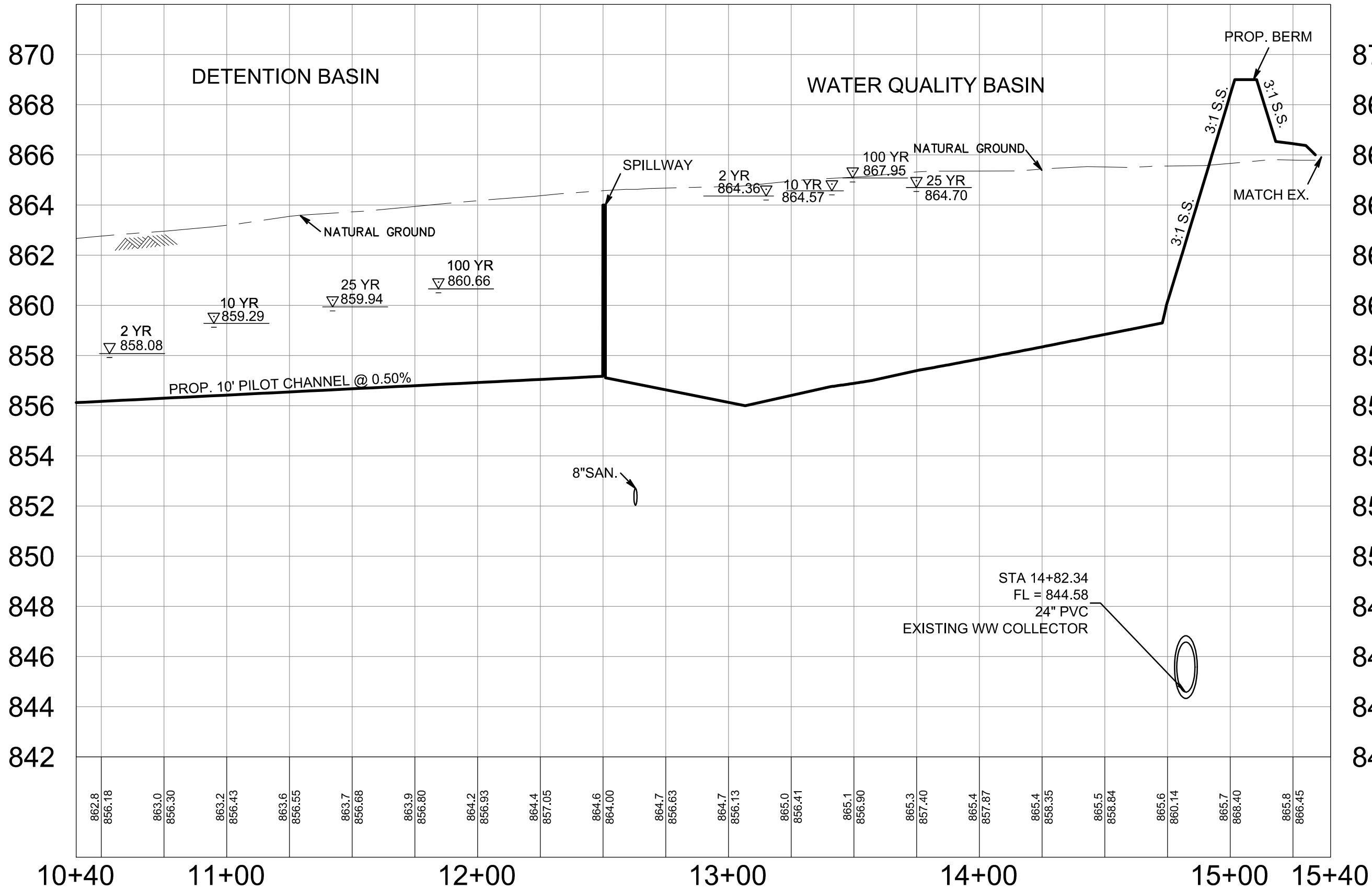
Pond C (WQ) Drawdown Calculations	
Water Quality Drawdown	
Time at Max (hr):	0
Time at 0.0 ac-ft (hr):	32.13
Water Quality Drawdown Time (hrs):	32.13



ALL FILL AREAS SHALL BE PROOF ROLLED AND BE PLACED IN MAXIMUM 8-INCH LIFTS AND COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY AT +/-2 PERCENTAGE POINTS OF OPTIMUM MOISTURE CONTENT.

ALL EXIST. SWALES AND LOW AREAS SHALL BE DE-MUCKED, PROOF ROLLED AND FILLED.

POND C SECTION 'A'

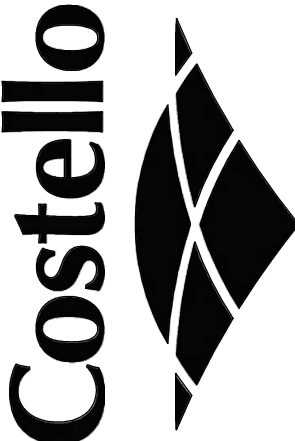


FOR CROSS SECTION B, C & D  
SEE SHEET 39

SS MAIN 'C01' Outfall Rip-Rap Calculations	
$D_{50} = 0.0105V^{2.06}$	
Outfall Dia./Span	5 ft
Rip-rap Area =	25 ft. W x 50 ft. L
$V_{100} =$	11.5 ft/s
$D_{50} =$	19.29 in.
Class:	V
$D_{100} =$	36 in.
Min. Depth =	36 in. ( $D_{100}$ or $1.5D_{50}$ )
139-SY CLASS V ROCK RIP-RAP	
MIN. 36" DEPTH	



ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
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WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641

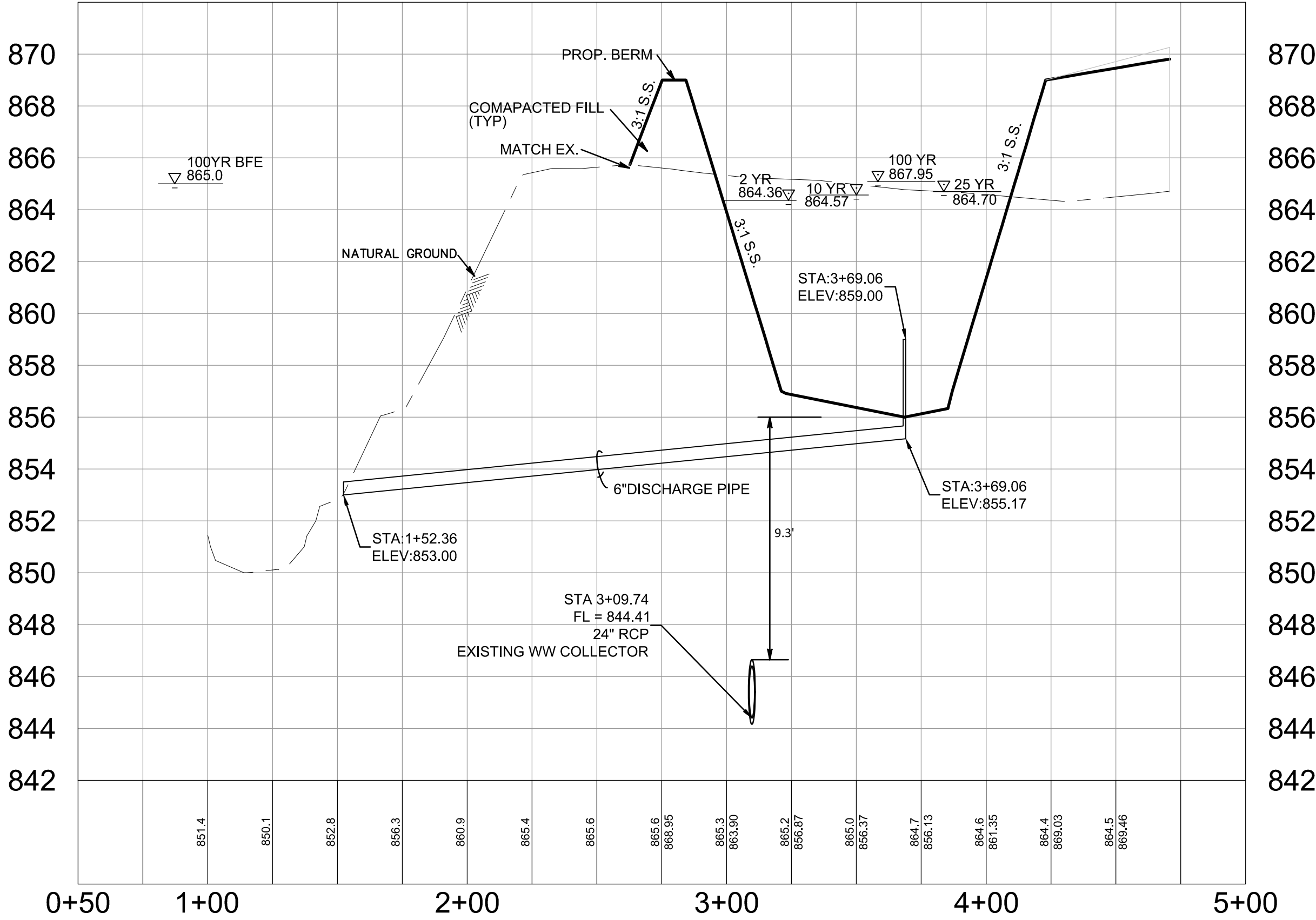
POND 'C' SECTION A



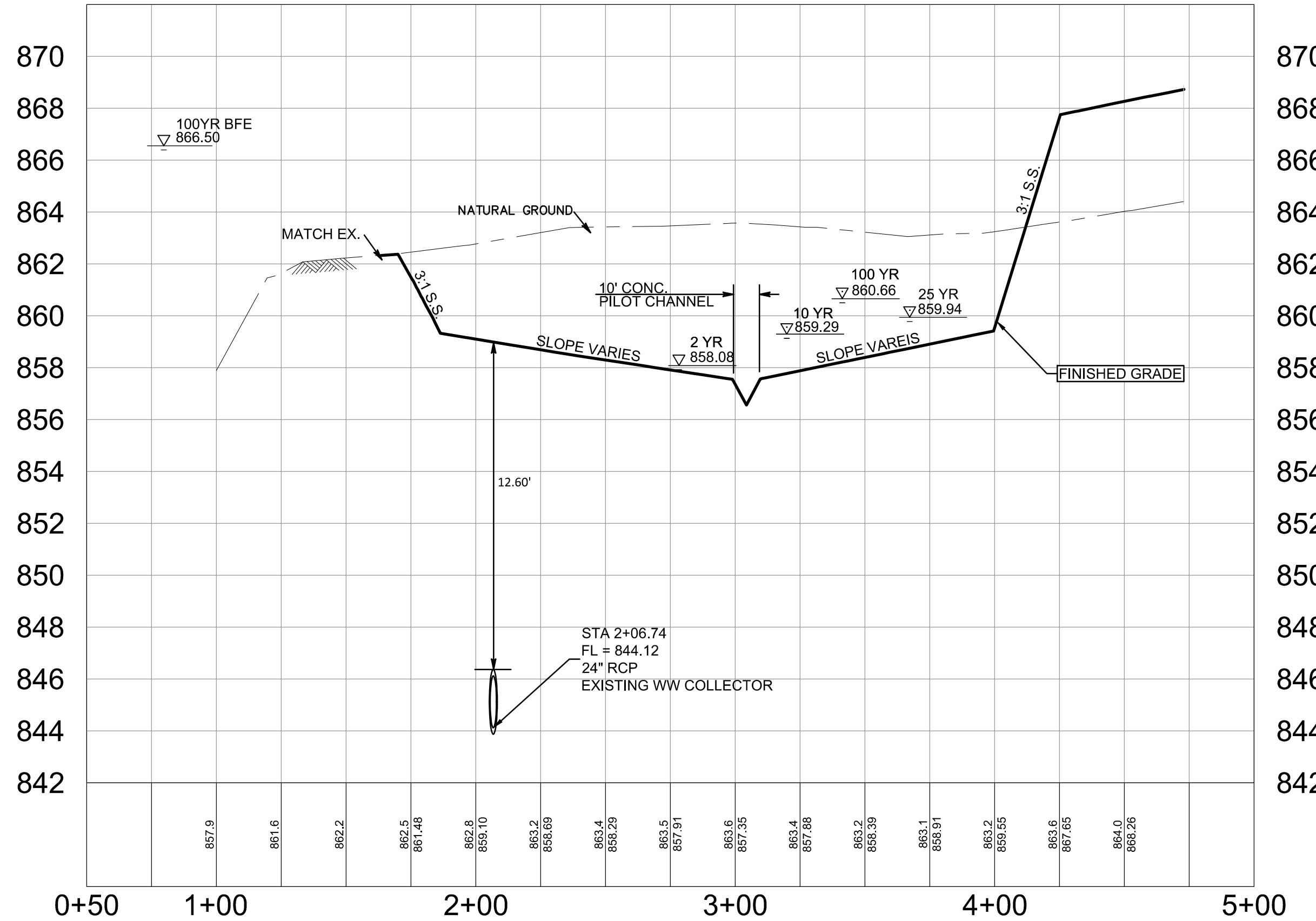


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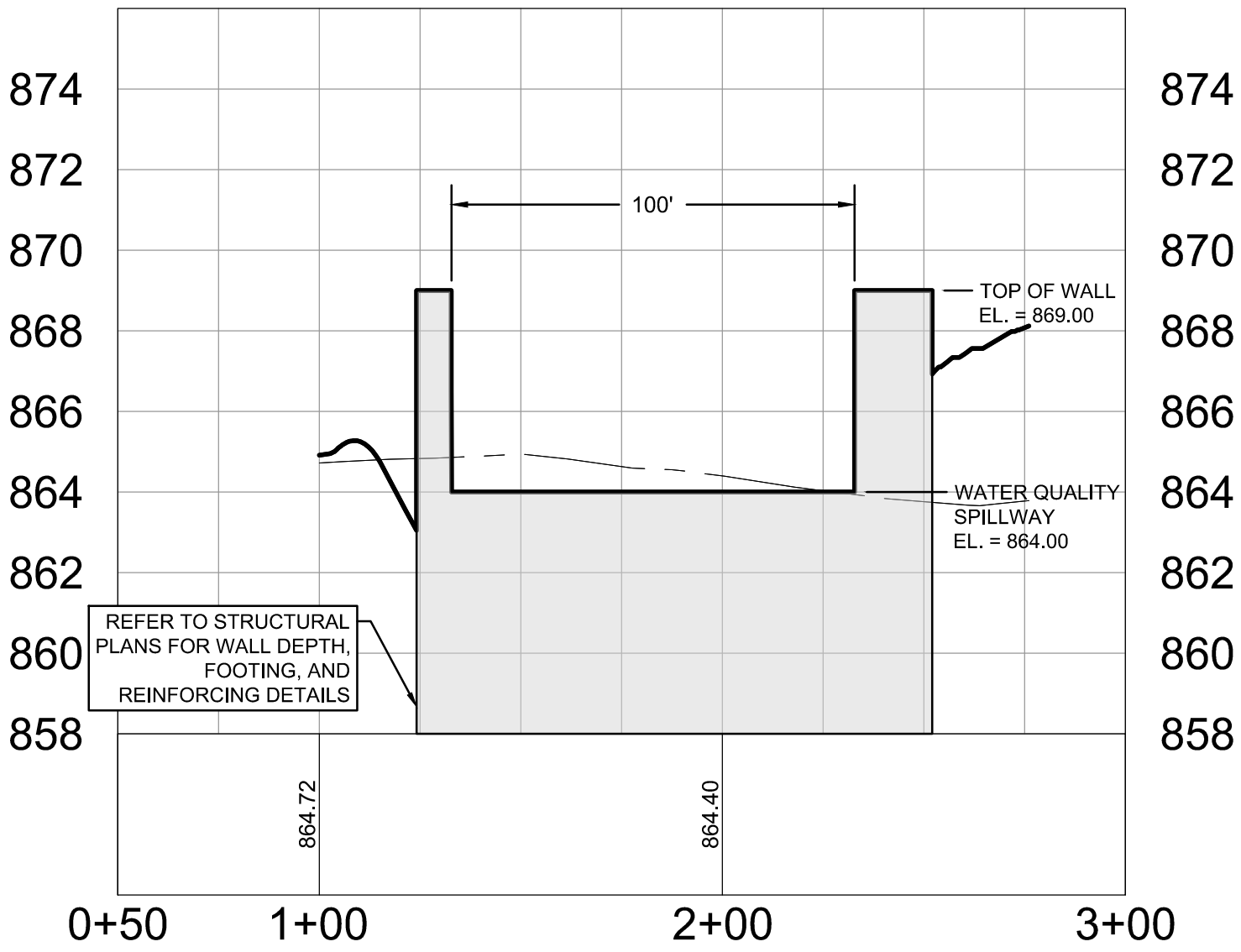
POND C SECTION 'B'



POND C SECTION 'C'



POND C SECTION 'D'



Know what's below.  
Call before you dig.

DESIGNED: _____		REVISION	DATE	BY
DESIGN CHECKED: _____				
DRAWN: _____				
COCO CHECKED: _____				
SURVEY CHECKED: _____				
QA/QC: _____		NO.	DATE	BY
QA/QC REVISIONS: _____				
ENGINEERING AND SURVEYING 9050 N. CAPITAL HWY, BLDG 3, SUITE 390 AUSTIN, TEXAS 78759 (512)646-3456 (512) 514-0315 FAX TBPE FIRM REG. No. 280 TBPLS FIRM REG. No. 100486				
				
WILDSRING - PHASE 1 C.R. 175 LEANDER, TEXAS 78641				
POND C CROSS SECTIONS B, C, AND D				
				
3/22/2023				
SHEET 36				
OF 110 SHEETS				









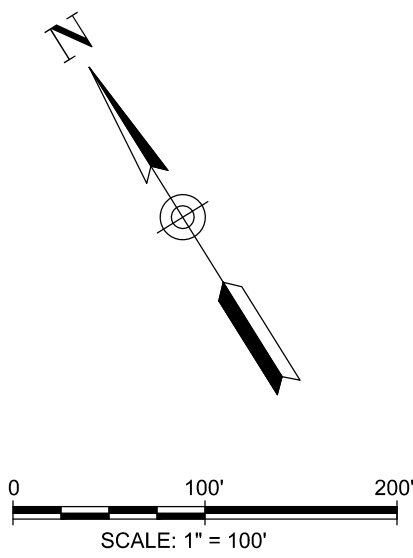


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Curb Inlets On Grade Calculation Summary: 25 year																										
Drainag e Area No.	Inlet No.	Q <sub>05</sub> (cfs)	Q <sub>pass</sub> (cfs)	Q <sub>total</sub> (cfs)	Slope (%)	n	Ku	Street Width (ft)	Crown Height (ft)	Inlet Depression, a (ft)	K0	K1	K2	y0 (ft)	a	b	Flow Spread, T (ft)	H1 (ft)	H2 (ft)	Qa/La (cfs/ft)	Length (ft)	Qa	Q <sub>pass</sub> (cfs)	% Captured	Bypas s to inlet	Flow Captured by Inlet (cfs)
A3	IA-03	7.54	0.00	7.54	2.3%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.42	0.0714	0.0026	8.49	0.84	0.42	0.88	10.00	8.83		100%	IA2	7.54
A4	IA-04	8.77	0.00	8.77	5.0%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.38	0.0714	0.0026	7.28	0.80	0.42	0.84	10.00	8.42	0.35	96%	IA3	8.42
C20	IC-20	5.73	0.00	5.78	5.2%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.33	0.0714	0.0026	5.82	0.75	0.42	0.79	10.00	7.88		100%	IC19	5.78
C21	IC-21	5.73	0.00	5.73	0.5%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.49	0.0714	0.0026	11.94	0.91	0.42	0.96	10.00	9.57		100%	IC20	5.73
C22	IC-22	5.89	0.00	5.89	0.7%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.47	0.0714	0.0026	10.39	0.88	0.42	0.93	10.00	9.32		100%	IC21	5.89
B3a	IB-03a	7.41	0.00	7.41	0.9%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.48	0.0714	0.0026	11.42	0.90	0.42	0.95	10.00	9.50		100%		7.41
B4	IB-04	4.73	0.00	4.73	0.6%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.45	0.0714	0.0026	9.38	0.86	0.42	0.91	10.00	9.08		100%		4.73
B6	IB-06	2.94	0.00	2.94	1.2%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.34	0.0714	0.0026	6.07	0.76	0.42	0.79	10.00	7.94		100%		2.94
B7	IB-07	5.82	0.00	5.82	0.8%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.46	0.0714	0.0026	10.03	0.88	0.42	0.92	10.00	9.24		100%	IB4	5.82
B8	IB-08	5.97	0.00	5.97	0.8%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.46	0.0714	0.0026	9.98	0.88	0.42	0.92	10.00	9.23		100%	IB7	5.97
B9	IB-09	7.10	0.00	7.10	1.0%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.47	0.0714	0.0026	10.47	0.88	0.42	0.93	10.00	9.34		100%	IB8	7.10
B10	IB-10	8.58	0.00	8.58	1.6%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.46	0.0714	0.0026	10.10	0.88	0.42	0.93	10.00	9.26		100%	IB9	8.58
C4	IC-04	6.94	0.00	6.94	0.8%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.48	0.0714	0.0026	11.35	0.90	0.42	0.95	10.00	9.49		100%	IC3	6.94
C5	IC-05	6.66	0.00	6.66	0.8%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.48	0.0714	0.0026	10.91	0.89	0.42	0.94	10.00	9.42		100%	IC4	6.66
C6	IC-06	5.74	0.00	5.74	0.8%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.45	0.0714	0.0026	9.70	0.87	0.42	0.92	10.00	9.17		100%	IC5	5.74
C7	IC-07	3.67	0.00	3.67	0.8%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.39	0.0714	0.0026	7.45	0.81	0.42	0.85	10.00	8.49		100%	IC6	3.67
C10	IC-10	3.43	0.00	3.43	0.5%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.41	0.0714	0.0026	8.15	0.83	0.42	0.87	10.00	8.73		100%	IC9	3.43
C11	IC-11	3.17	0.00	3.17	3.0%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.30	0.0714	0.0026	5.13	0.72	0.42	0.75	10.00	7.52		100%	IC9	3.17
C12a	IC-12a	5.20	0.00	5.20	3.0%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.35	0.0714	0.0026	6.40	0.77	0.42	0.81	10.00	8.08		100%	IC9	5.20
C13	IC-13	9.84	0.00	9.84	6.2%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.39	0.0714	0.0026	7.31	0.80	0.42	0.84	10.00	8.43	1.41	86%	IC11	8.43
C14	IC-14	5.82	0.00	5.82	0.5%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.49	0.0714	0.0026	12.18	0.91	0.42	0.96	10.00	9.60		100%	IC10	5.82
C15	IC-15	6.18	0.00	6.18	2.3%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.39	0.0714	0.0026	7.43	0.81	0.42	0.85	10.00	8.48		100%	IC10	6.18
C16	IC-16	5.28	0.00	5.28	2.3%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.37	0.0714	0.0026	6.86	0.79	0.42	0.83	10.00	8.26		100%	IC10	5.28
C17	IC-17	5.31	0.00	5.31	4.9%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.33	0.0714	0.0026	5.77	0.74	0.42	0.78	10.00	7.81		100%	IC15	5.31
C12b	IC-12b	3.23	0.00	3.23	0.2%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.27	0.0714	0.0026	4.45	0.68	0.42	0.72	10.00	7.20		100%	IC12a	3.23
B3b	IB-03b	4.13	0.00	4.13	0.9%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.40	0.0714	0.0026	7.68	0.81	0.42	0.86	10.00	8.57		100%		4.13
B2	IB-02	3.81	0.00	3.81	0.5%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.43	0.0714	0.0026	8.67	0.84	0.42	0.89	10.00	8.89		100%		3.81
B1b*	B-01b*	2.46	0.00	2.46	0.5%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.37	0.0714	0.0026	6.86	0.79	0.42	0.83	10.00	8.26		100%		2.46
B1c*	B-01c*	2.58	0.00	2.58	0.5%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.38	0.0714	0.0026	7.02	0.79	0.42	0.83	10.00	8.32		100%		2.58

Curb Inlets On Grade Calculation Summary: 100 year																										
Drainage Area No.	Inlet No.	Q <sub>100</sub> (cfs)	Q <sub>pass</sub> (cfs)	Q <sub>total</sub> (cfs)	Slope (%)	n	Ku	Street Width (ft)	Crown Height (ft)	Inlet Depression, a (ft)	K0	K1	K2	y0 (ft)	a	b	Flow Spread, T (ft)	H1 (ft)	H2 (ft)	Qa/La (cfs/ft)	Length (ft)	Qa	Q <sub>pass</sub> (cfs)	% Captured	Bypass to Inlet	Flow Captured by Inlet (cfs)
A3	IA-03	11.23	0.00	11.23	2.1%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.48	0.0714	0.0026	11.33	0.90	0.42	0.95	10.00	9.49	1.74	85%	IA2	9.49
A4	IA-04	13.07	0.00	13.07	5.0%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.44	0.0714	0.0026	9.11	0.86	0.42	0.90	10.00	9.01	4.06	69%	IA3	9.01
C20	IC-20	8.62	0.00	8.62	5.2%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.38	0.0714	0.0026	7.15	0.80	0.42	0.84	10.00	8.37	0.24	97%	IC19	8.37
C21	IC-21	8.54	0.00	8.54	0.5%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	Overflow	0.0714	0.0026	14.00	0.92	0.42	0.97	10.00	9.69		100%	IC20	8.54
C22	IC-22	8.78	0.00	8.78	0.7%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	Overflow	0.0714	0.0026	14.00	0.92	0.42	0.97	10.00	9.69		100%	IC21	8.78
B3a	IB-03a	11.04	0.00	11.04	0.9%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	Overflow	0.0714	0.0026	14.00	0.92	0.42	0.97	10.00	9.69	1.34	88%	0	9.69
B4	IB-04	7.05	0.00	7.05	0.6%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	Overflow	0.0714	0.0026	14.00	0.92	0.42	0.97	10.00	9.69		100%	0	7.05
B6	IB-06	4.38	0.00	4.38	1.2%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.39	0.0714	0.0026	7.35	0.80	0.42	0.84	10.00	8.45		100%	0	4.38
B7	IB-07	8.68	0.00	8.68	0.8%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	Overflow	0.0714	0.0026	14.00	0.92	0.42	0.97	10.00	9.69		100%	IB4	8.68
B8	IB-08	8.90	0.00	8.90	0.8%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	Overflow	0.0714	0.0026	14.00	0.92	0.42	0.97	10.00	9.69		100%	IB7	8.90
B9	IB-09	10.59	0.00	10.59	1.0%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	Overflow	0.0714	0.0026	14.00	0.92	0.42	0.97	10.00	9.69	0.89	92%	IB8	9.69
B10	IB-10	12.79	0.00	12.79	1.6%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	Overflow	0.0714	0.0026	14.00	0.92	0.42	0.97	10.00	9.69	3.09	76%	IB9	9.69
C4	IC-04	10.34	0.00	10.34	0.8%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	Overflow	0.0714	0.0026	14.00	0.92	0.42	0.97	10.00	9.69	0.65	94%	IC3	9.69
C5	IC-05	9.93	0.00	9.93	0.8%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	Overflow	0.0714	0.0026	14.00	0.92	0.42	0.97	10.00	9.69	0.23	98%	IC4	9.69
C6	IC-06	8.56	0.00	8.56	0.8%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	Overflow	0.0714	0.0026	14.00	0.92	0.42	0.97	10.00	9.69		100%	IC5	8.56
C7	IC-07	5.47	0.00	5.47	0.8%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.45	0.0714	0.0026	9.39	0.86	0.42	0.91	10.00	9.09		100%	IC6	5.47
C10	IC-10	5.11	0.00	5.11	0.5%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.47	0.0714	0.0026	10.62	0.89	0.42	0.94	10.00	9.37		100%	IC9	5.11
C11	IC-11	4.72	0.00	4.72	3.0%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.34	0.0714	0.0026	6.11	0.76	0.42	0.80	10.00	7.96		100%	IC9	4.72
C12a	IC-12a	7.76	0.00	7.76	3.0%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.40	0.0714	0.0026	7.80	0.82	0.42	0.86	10.00	8.61		100%	IC9	7.76
C13	IC-13	14.66	0.00	14.66	6.2%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.44	0.0714	0.0026	9.16	0.86	0.42	0.90	10.00	9.02	5.64	62%	IC11	9.02
C14	IC-14	8.67	0.00	8.67	0.5%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	Overflow	0.0714	0.0026	14.00	0.92	0.42	0.97	10.00	9.69		100%	IC10	8.67
C15	IC-15	9.21	0.00	9.21	2.3%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.44	0.0714	0.0026	9.34	0.86	0.42	0.91	10.00	9.07	0.14	99%	IC10	9.07
C16	IC-16	7.87	0.00	7.87	2.3%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.42	0.0714	0.0026	8.47	0.84	0.42	0.88	10.00	8.83		100%	IC10	7.87
C17	IC-17	7.92	0.00	7.92	4.9%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.37	0.0714	0.0026	6.95	0.79	0.42	0.83	10.00	8.30		100%	IC15	7.92
C12b	IC-12b	5.01	0.00	5.01	6.2%	0.016	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.31	0.0714	0.0026	5.34	0.73	0.42	0.76	10.00	7.62		100%	IC12a	5.01
B3b	IB-03b	6.39	0.00	6.39	0.9%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.46	0.0714	0.0026	10.04	0.88	0.42	0.92	10.00	9.25		100%	0	9.25
B2	IB-02	5.90	0.00	5.90	0.5%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.49	0.0714	0.0026	12.45	0.91	0.42	0.96	10.00	9.62		100%	0	6.39
B1b*	B-01b*	3.81	0.00	3.81	0.5%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.43	0.0714	0.0026	8.66	0.84	0.42	0.89	10.00	8.88		100%	0	3.81
B1c*	B-01c*	3.99	0.00	3.99	0.5%	0.020	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.43	0.0714	0.0026	8.91	0.85	0.42	0.90	10.00	8.96		100%	0	3.99





LEGEND	
	EXISTING CONTOUR
	PROPOSED CONTOUR
	PROPERTY BOUNDARY
	RIGHT OF WAY
	EASEMENT
	PROPOSED WATER LINE
	PROPOSED FIRE HYDRANT
	PROPOSED GATE VALVE
	PROPOSED TEE
	PROPOSED BEND
	WATER PLUG
	DOUBLE WASTEWATER SERVICE
	SINGLE WASTEWATER SERVICE
	SINGLE WATER SERVICE
	DOUBLE WATER SERVICE

WATER NOTES:

- ALL WATER LINES ARE 8" AWWA C-900 CURRENT, PRESSURE CLASS 305 PIS (DR-14), UNLESS OTHERWISE NOTED ON THE PLANS.
- ALL WATER AND WASTEWATER SERVICES ARE TO BE PLACED WITHIN RIGHT OF WAY OR PUBLIC UTILITY EASEMENTS. NO SERVICES ARE TO BE LOCATED IN SIDEWALKS OR CURB RAMPS. ALL FIRE HYDRANTS ARE TO BE PLACED IN RIGHT-OF-WAY.
- WATER AND WASTEWATER SERVICES SHOWN ON PLANS ARE GRAPHICAL REPRESENTATIONS AND NOT TO SCALE. ACTUAL SERVICES SHALL BE PLACED PER DETAIL.
- ALL GATE VALVES TO BE INSTALLED PER COA DETAIL 511-AW-01 AT P.C. OF CURB AT ALL INTERSECTIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- FIRE HYDRANTS SHALL BE CONSTRUCTED PER COL DETAIL #101-4. FIRE HYDRANTS MUST BE LOCATED IN THE RIGHT-OF-WAY AND MAY NOT BE CLOSER THAN 7.5' TO A STORM INLET.
- HOME BUILDERS ARE REQUIRED TO INSTALL PRESSURE REDUCING VALVES ON THE PROPERTY OWNER'S SIDE OF EACH METER.
- WATER LINES SHALL CONFORM TO COA STANDARD SPECIFICATION 510.3.
- ALL PIPE WITHIN ENCASEMENT PIPE SHALL BE RETAINED.
- CENTER ONE 9" SLEEVE OF 4" SCH. 40 PVC FOR WATER SERVICE AT STORM SEWER CROSSINGS.
- A BLUE TYPE II-B-B REFLECTORIZED PAVEMENT MARKER, CONFORMING TO STANDARD SPECIFICATION ITEM NO. 863S, SHALL BE PLACED 2 TO 3 FEET OFFSET FROM THE CENTERLINE OF PAVED STREETS, ON THE SIDE OF AND IN LINE WITH, ALL NEWLY INSTALLED FIRE HYDRANTS.
- HYDRANTS SHALL BE FLOW TESTED BY CONTRACTORS AND RESULTS PROVIDED TO FIRE MARSHAL'S AND CITY ENGINEER'S OFFICES. THE HYDRANT BONNET TO FLANGE AND NOZZLE CAPS SHALL BE PAINTED THE APPROVED COLOR CORRESPONDING WITH THE APPROPRIATE FLOW RATE.



DESIGNED:	DESIGN CHECKED:	NO.	REVISION	DATE	BY
DRAWN:	COGO CHECKED:				
SURVEY CHECKED:	QA/QC:	DATE:			
QA/QC REVISIONS:					

ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512) 646-3456 (512) 514-0315 FAX

**Costello**

WILDSRING - PHASE 1  
LEANDER, TEXAS 78641  
C.R. 175

WATER OVERALL

3/22/2023

SHEET 50

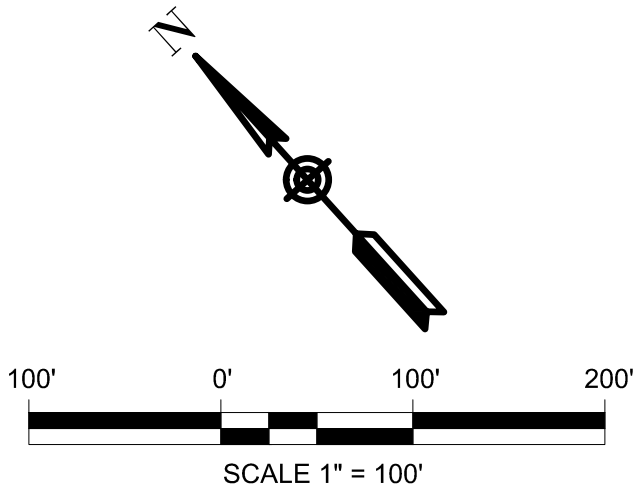
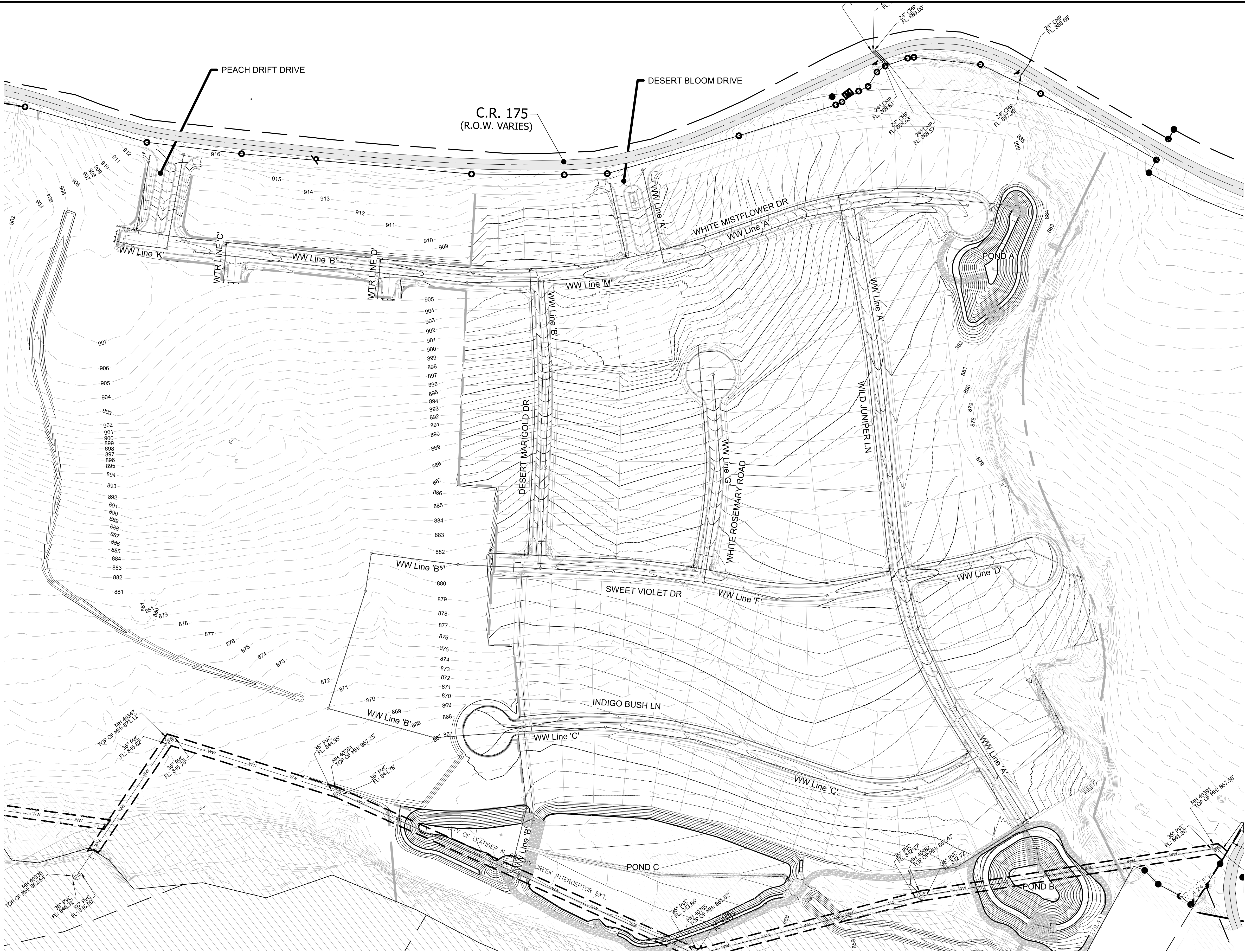
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WILDSRING PHASE 1

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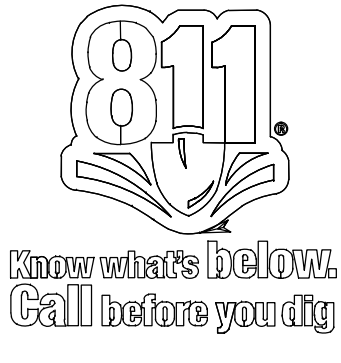


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LEGEND	
EXISTING	PROPOSED
W	PROPERTY LINE
WW	EASEMENT
SS	WATER
UO	WASTEWATER
G	STORM SEWER
	OVERHEAD ELECTRIC
	UNDERGROUND ELECTRIC
	GAS
	MAJOR ELEV CONTOUR
	MINOR ELEV CONTOUR
	CURB & GUTTER
	WOOD FENCE
	ACCESSIBLE PATH
	LIMITS OF CONSTRUCTION
	LOC
	FIRE HYDRANT ASSEMBLY
	WATER VALVE
	WATER SERVICE
	WASTEWATER SERVICE
	WASTEWATER MANHOLE
	STORM SEWER MANHOLE

- NOTES:
- CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS AND APPURTENANCES AS CALLED OUT ON PLANS.
  - REPAIR ASPHALT AS REQUIRED FOR INSTALLATION OF WATER & WASTEWATER LINES PER C.O.A. DETAIL 1100S-2 REFERENCE CONSTRUCTION DETAILS.
  - NO COMBUSTIBLE CONSTRUCTION WILL BEGIN ON THIS SITE PLAN UNTIL THE WATER LINE EXTENSION IS COMPLETED AND THE REQUIRED FIRE FLOW IS AVAILABLE.
  - EXISTING SERVICE LINE LOCATIONS ARE APPROXIMATE AND NEED TO BE FIELD VERIFIED. LIMITS OF CONSTRUCTION ARE SHOWN ON EROSION AND SEDIMENTATION CONTROL PLANS.
  - UNDERGROUND MAINS FEEDING PRIVATE HYDRANTS MUST BE INSTALLED AND TESTED IN ACCORDANCE WITH NFPA 24, AND THE FIRE CODE BY A LICENSED CONTRACTOR WITH A PLUMBING PERMIT. THE ENTIRE MAIN MUST BE HYDROSTATICALLY TESTED AT ONE TIME UNLESS ISOLATION VALVES ARE PROVIDED IN BETWEEN TESTED SECTIONS.
  - REFERENCE GENERAL NOTES FOR ADDITIONAL UTILITY NOTES.
  - THIS SHEET IS AN OVERALL VIEW OF UTILITIES, PLEASE REFER TO PLAN AND PROFILE VIEWS FOR DETAILED INFORMATION.
  - UNLESS OTHERWISE NOTED, ALL EXISTING SURFACE UTILITY APPURTENANCES TO BE ADJUSTED TO FINAL GRADE.
  - WASTEWATER CLEANOUTS ARE REQUIRED ALONG ALL BUILDING SERVICE LEADS AND PRIVATE MAINS AT EVERY BEND AND AT INTERVALS OF 100 FEET.



DESIGNED: ENGINEERING AND SURVEYING 9050 N. CAPITAL HWY, BLDG 3, SUITE 390 AUSTIN, TEXAS 78759 (512)846-3456 (512) 514-0315 FAX	DATE: 3/22/2023
DRAWN: [Signature]	NO.
CHECKED: [Signature]	REVISION
QA/QC: [Signature]	BY
QA/QC REVISIONS: [Signature]	DATE

WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641

**WASTE WATER PLAN OVRALL**

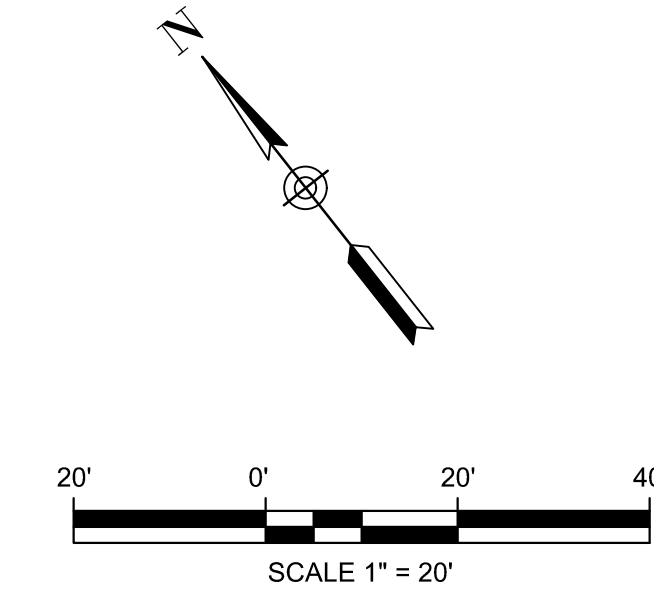
STATE OF TEXAS  
STEVEN BUFFUM  
115531  
LICENSED PROFESSIONAL ENGINEER

[Signature]  
3/22/2023

SHEET **61**  
OF 110 SHEETS

WILDSRING PHASE 1





LEGEND	
	PROPOSED R.O.W.
	PROPOSED LOT LINE
	EASEMENT LINE
	PROPOSED CURB AND GUTTER
	PROPOSED SIDEWALK
	PROPOSED PAVEMENT

TRAFFIC CONTROL SIGNAGE			
SYMBOL	TYPE	SIZE	TOTAL
	STOP	24" x 24"	15
	REFLECTIVE STOP LINE, REF STANDARD DETAIL 871S-1-SM		15
	STREET SIGN, REF STANDARD DETAIL 824S-2-SM		13
	SPEED LIMIT	24" x 30"	2
	STRIPED CROSSWALK, REF STANDARD DETAIL 871S-1-SM		19
	BARRICADE, REF DETAIL 803S-1-SM		4
	YIELD HERE TO PEDESTRIAN	36" x 36"	2
	NO OUTLET	36" x 8"	1

- NOTES:
- CONTRACTOR SHALL COMPLY WITH GEOTECHNICAL REPORT PREPARED BY MLA LABS, INC. DATED OCTOBER 2019.
  - CONTRACTOR SHALL VERIFY EXISTING STREETLIGHTS, SIGNS AND STRIPING.
  - ALL SIDEWALKS FRONTING SINGLE FAMILY LOTS WILL BE CONSTRUCTED BY HOMEBUILDERS, AND ALL OTHER SIDEWALKS WILL BE CONSTRUCTED BY DEVELOPER REFERENCE PLANS AND LEGEND.



DESIGNED: \_\_\_\_\_  
DRAWN: \_\_\_\_\_  
COCO CHECKED: \_\_\_\_\_  
SURVEY CHECKED: \_\_\_\_\_  
QA/QC: \_\_\_\_\_  
DATE: \_\_\_\_\_

ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512)846-3456 (512) 514-0315 FAX

**Costello**

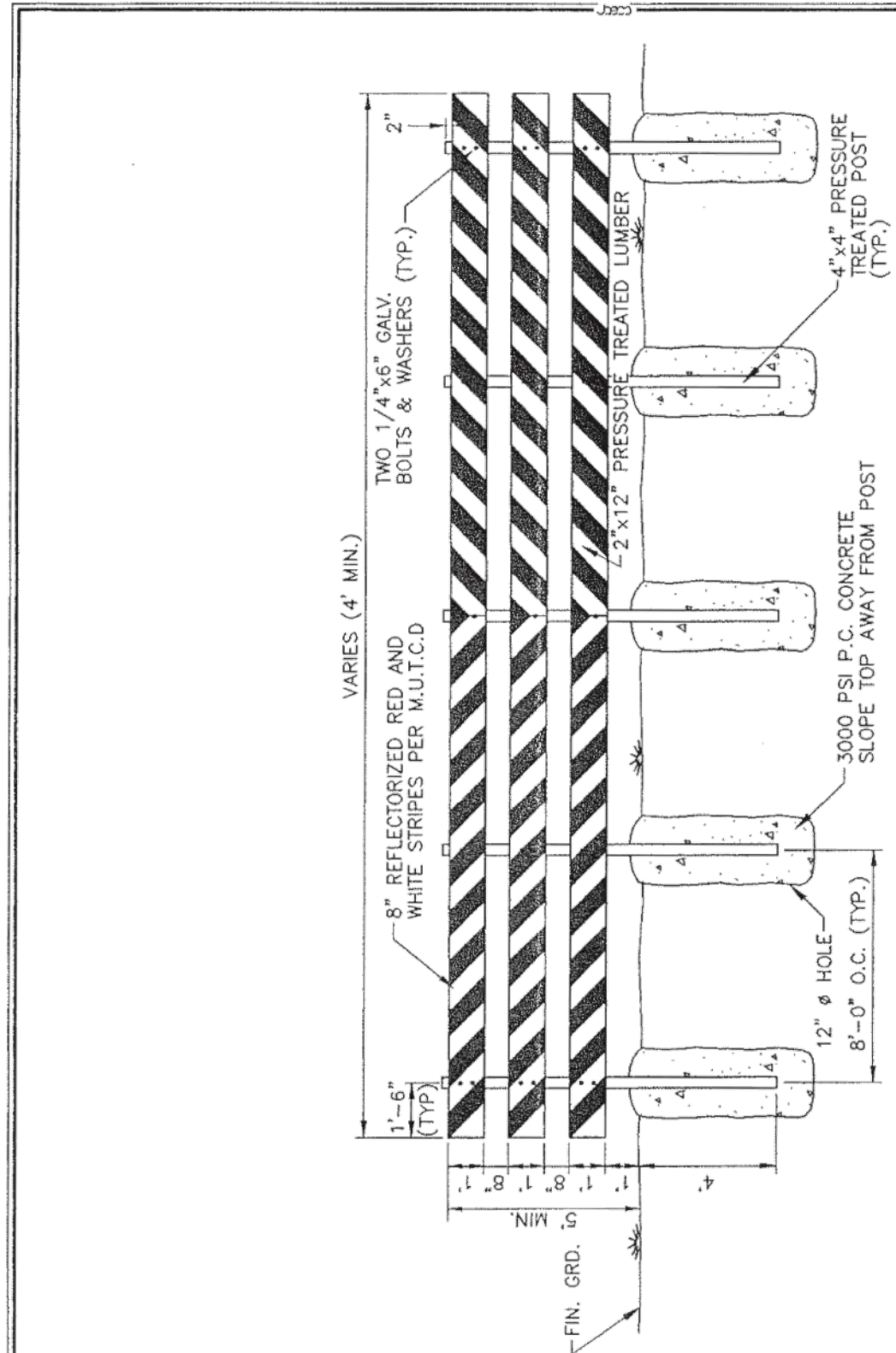
WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641

**SIGNAGE & STRIPING PLAN**

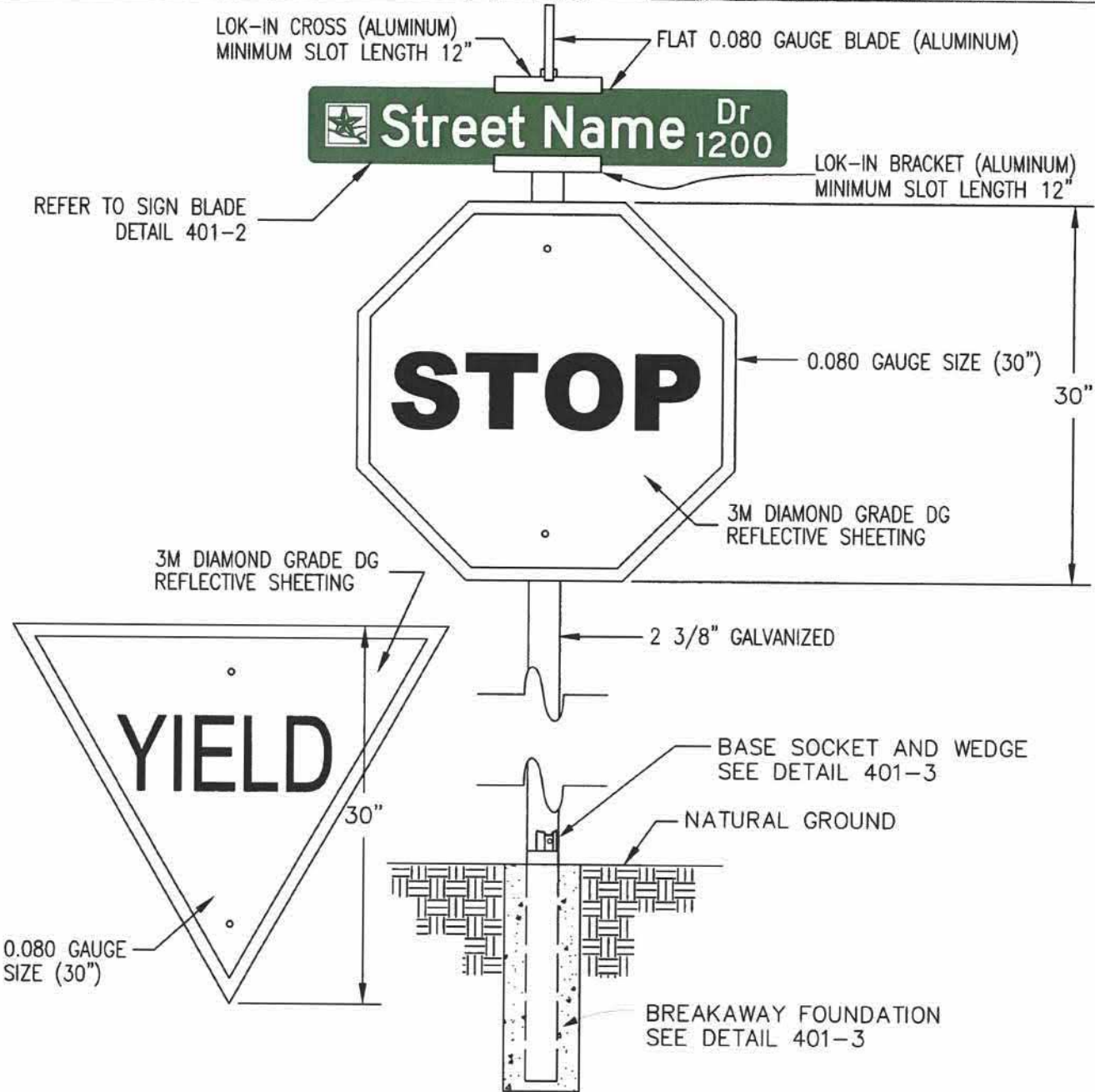
SHEET **78**  
OF **110** SHEETS

REVISION  
NO. \_\_\_\_\_  
DATE \_\_\_\_\_  
BY \_\_\_\_\_





CITY OF LEANDER, TEXAS  
Scale: NTS  
Approved: [Signature]  
Date: 11/06/2021  
Drawn by: RPW  
Detail No. 400-1  
TRAFFIC BARRICADE  
TYPE III

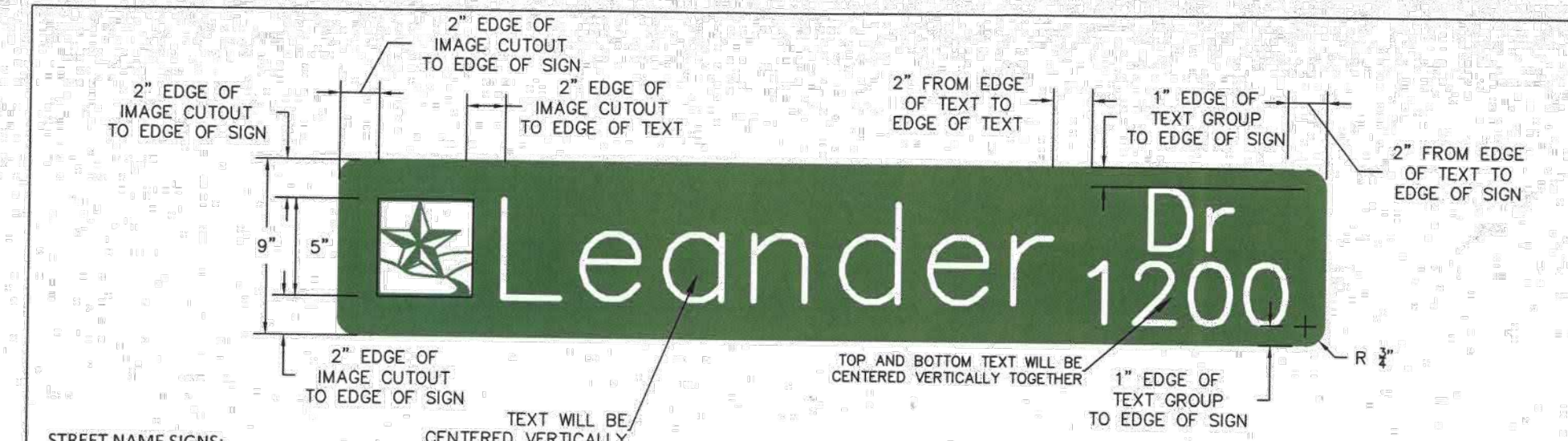


- NOTES:
- 7-FOOT MIN. HEIGHT FROM GROUND TO BOTTOM OF SIGN.
  - ALL SIGNS TO BE IN CONFORMANCE WITH THE CURRENT EDITION OF THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
  - ALL SIGNAGE SHEETINGS SHALL BE 3M DIAMOND GRADE DG REFLECTIVE SHEETING.

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



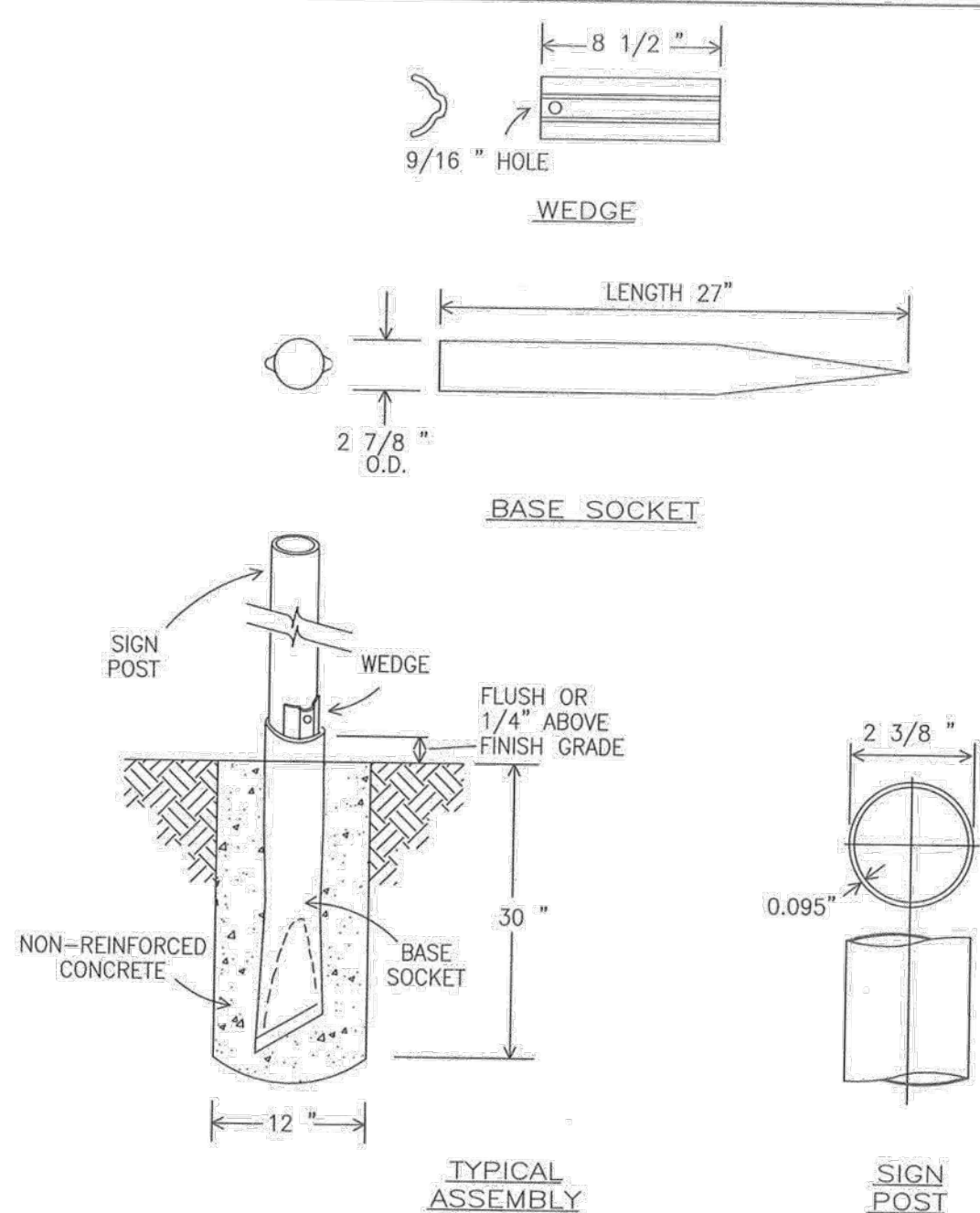
City Of Leander, Texas  
DETAIL #401-1  
STREET SIGNS



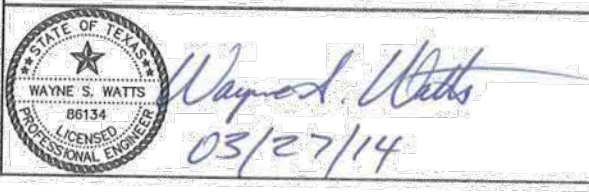
- STREET NAME SIGNS:
- HEIGHT SHALL BE EITHER:
    - 9 INCHES WITH 5-INCH UPPER CASE AND 3.75-INCH LOWER CASE LETTERING ON STREETS WITH SPEED LIMITS 40 MPH OR LESS OR ON STREETS WITH ANY SPEED LIMIT THAT HAVE NO MORE THAN TWO LANES;
    - 12 INCHES WITH 8-INCH UPPER CASE AND 6-INCH LOWER CASE LETTERING ON STREETS WITH SPEED LIMITS GREATER THAN 40 MPH AND MORE THAN TWO LANES.
  - 0.080 INCH THICK ALUMINUM BLANK. LENGTH DEPENDENT ON STREET NAME WITH A MINIMUM OF 24 INCHES. COVERED ON BOTH SIDES WITH 3M DIAMOND GRADE, WHITE, REFLECTIVE SHEETING (3M NUMBER 4090). STREET NAME WILL BE CUT OUT OF GREEN, 3M ELECTRO CUT FILM (3M NUMBER 1177C).
  - SIGN BLADES SHALL BE A MINIMUM OF TWENTY-FOUR INCHES (24") IN LENGTH AND A MAXIMUM OF FIFTY-FOUR INCHES (54") IN LENGTH.
  - STREET DESIGNATION (DR, ST, TRL, RD, ETC.) IN UPPER RIGHT HAND CORNER, BEGINNING BLOCK NUMBER UNDERNEATH
  - CITY LOGO WILL BE PLACED ON THE LEFT-HAND SIDE OF THE SIGN AS SHOWN IN THE ABOVE ILLUSTRATION. LOGO SHALL BE CUT OUT OF GREEN ELECTRO CUT FILM AND SHALL BE THE SAME HEIGHT AS THE UPPER-CASE LETTERING.
  - ALL FONTS SHALL BE TRAFFIC CAD SERIES D OR FHWA SERIES D. SERIES C OR B LETTERING MAY BE USED TO WHERE USE OF SERIES D LETTERING WILL RESULT IN SIGN BLADES LENGTHS GREATER THAN FIFTY FOUR INCHES (54").
  - NO WATER-BASED ADHESIVES ARE PERMISSIBLE FOR USE IN ANY PART OF SIGN.
  - BLOCK NUMBER WILL BE PLACED ON BOTTOM RIGHT CORNER AS SHOWN IN THE ABOVE ILLUSTRATION. BLOCK NUMBER SHALL BE CUT OUT OF GREEN ELECTRO CUT FILM AND SHALL NOT BE A STICKER.



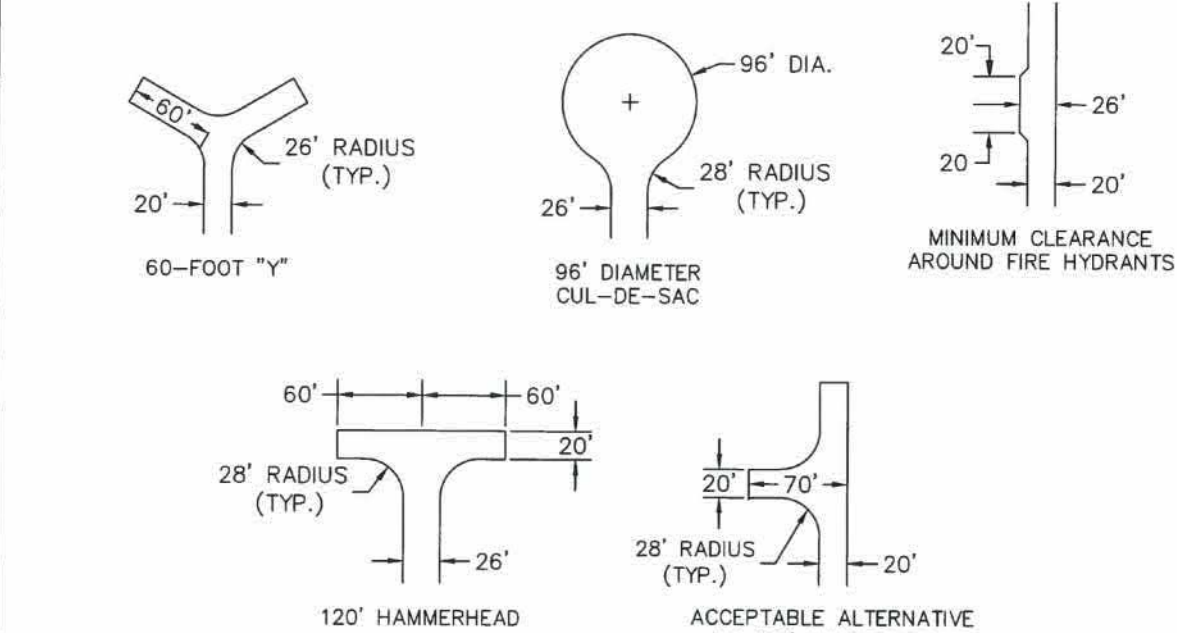
City Of Leander, Texas  
DETAIL #401-2  
STREET NAME SIGN BLADES



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



City Of Leander, Texas  
401-3  
POZ-LOC FOUNDATION

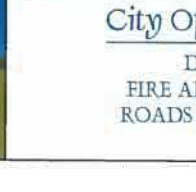
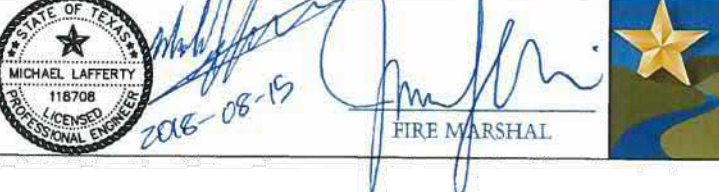


- FIRE APPARATUS ACCESS ROADS:
- ALL FIRE APPARATUS ACCESS ROADS AND TEMPORARY TURNAROUNDS SHALL COMPLY WITH THE CURRENT INTERNATIONAL FIRE CODE, AS ADOPTED BY THE CITY OF LEANDER, AND CITY OF LEANDER CODE OF ORDINANCES.
  - ALL FACILITIES, BUILDINGS OR PORTIONS OF BUILDINGS SHALL BE ACCESSIBLE TO FIRE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

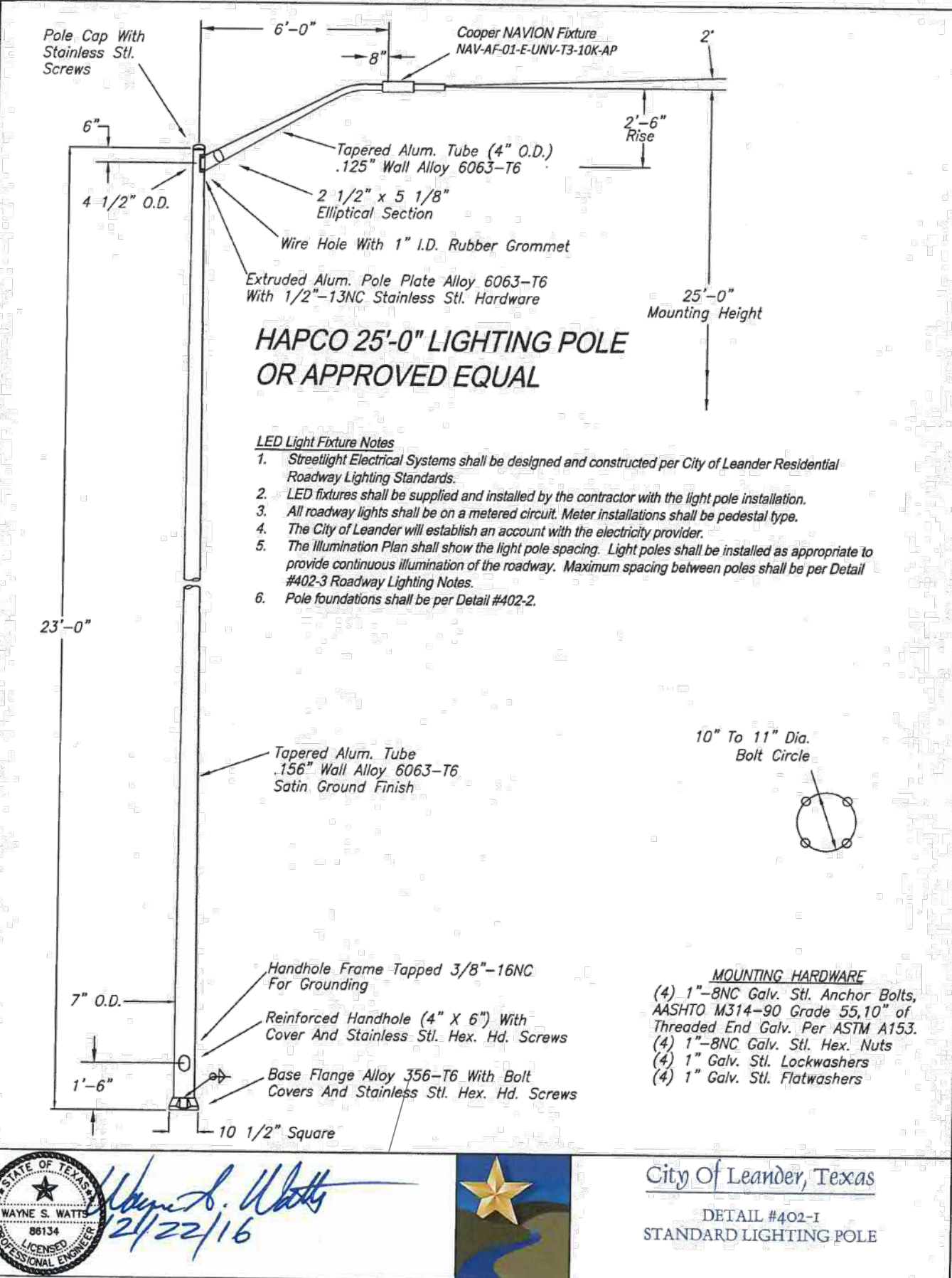
LENGTH (FEET)	WIDTH (FEET)	TURNAROUNDS REQUIRED
0-150	20	NONE REQUIRED
151-500	20	120-FOOT HAMMERHEAD, 60-FOOT "Y" OR 96-FOOT DIAMETER CUL-DE-SAC
501-750	26	120-FOOT HAMMERHEAD, 60-FOOT "Y" OR 96-FOOT DIAMETER CUL-DE-SAC
OVER 750		SPECIAL APPROVAL REQUIRED

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

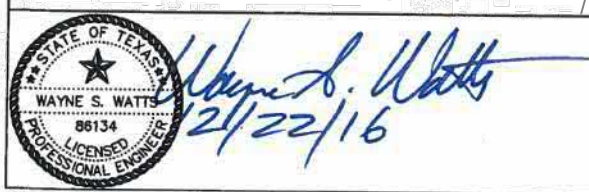
\*THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. DRAWING NOT TO SCALE.



City Of Leander, Texas  
DETAIL #501-3  
FIRE APPARATUS ACCESS  
ROADS & TURNAROUNDS



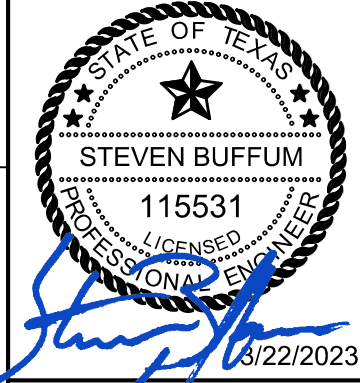
- LED Light Fixture Notes
- Streetlight Electrical Systems shall be designed and constructed per City of Leander Residential Roadway Lighting Standards.
  - LED fixtures shall be supplied and installed by the contractor with the light pole installation.
  - All roadway lights shall be on a metered circuit. Meter installations shall be pedestal type.
  - The City of Leander will establish an account with the electricity provider.
  - The Illumination Plan shall show the light pole spacing. Light poles shall be installed as appropriate to provide continuous illumination of the roadway. Maximum spacing between poles shall be per Detail #402-3 Roadway Lighting Notes.
  - Pole foundations shall be per Detail #402-2.



City Of Leander, Texas  
DETAIL #402-1  
STANDARD LIGHTING POLE



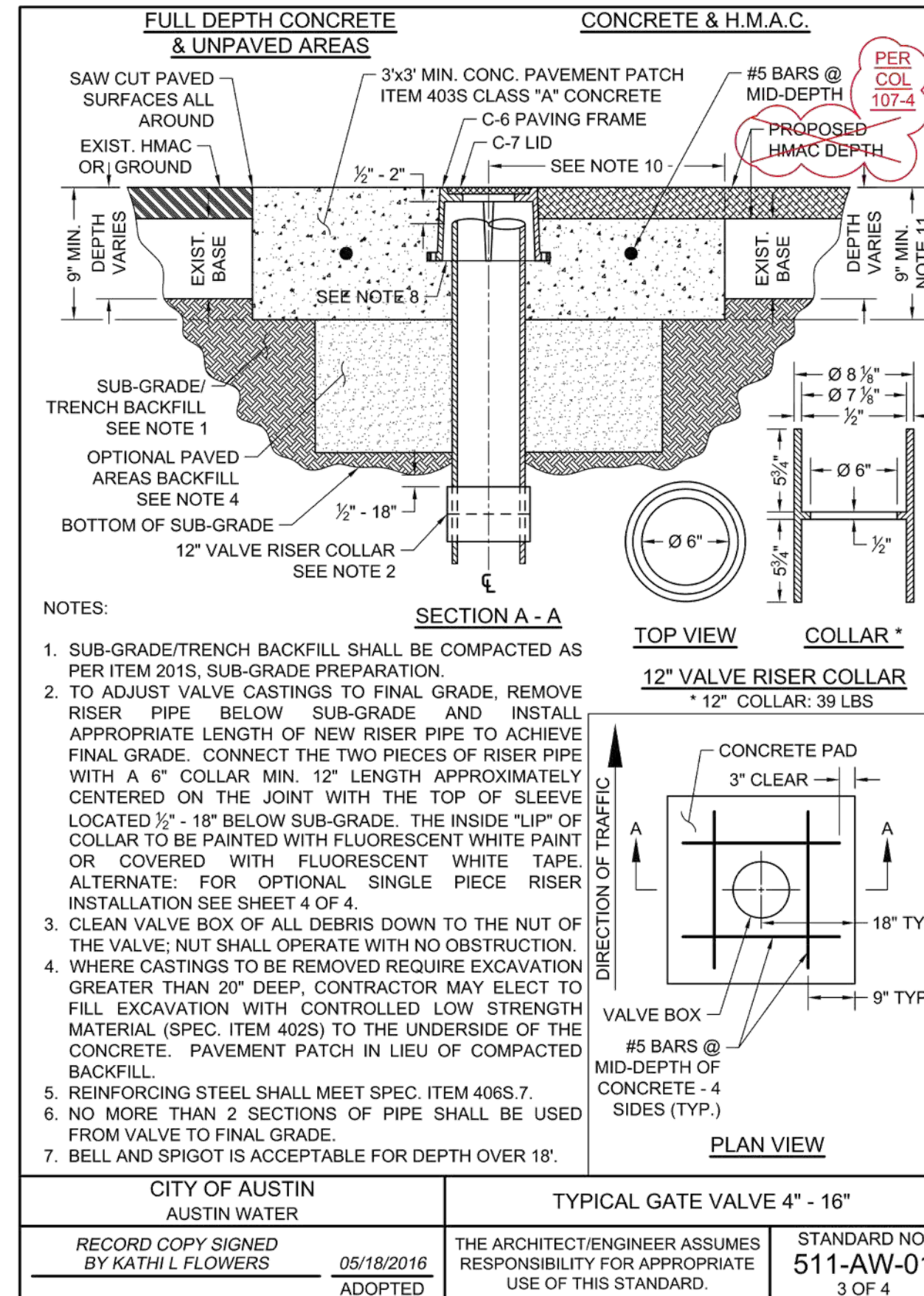
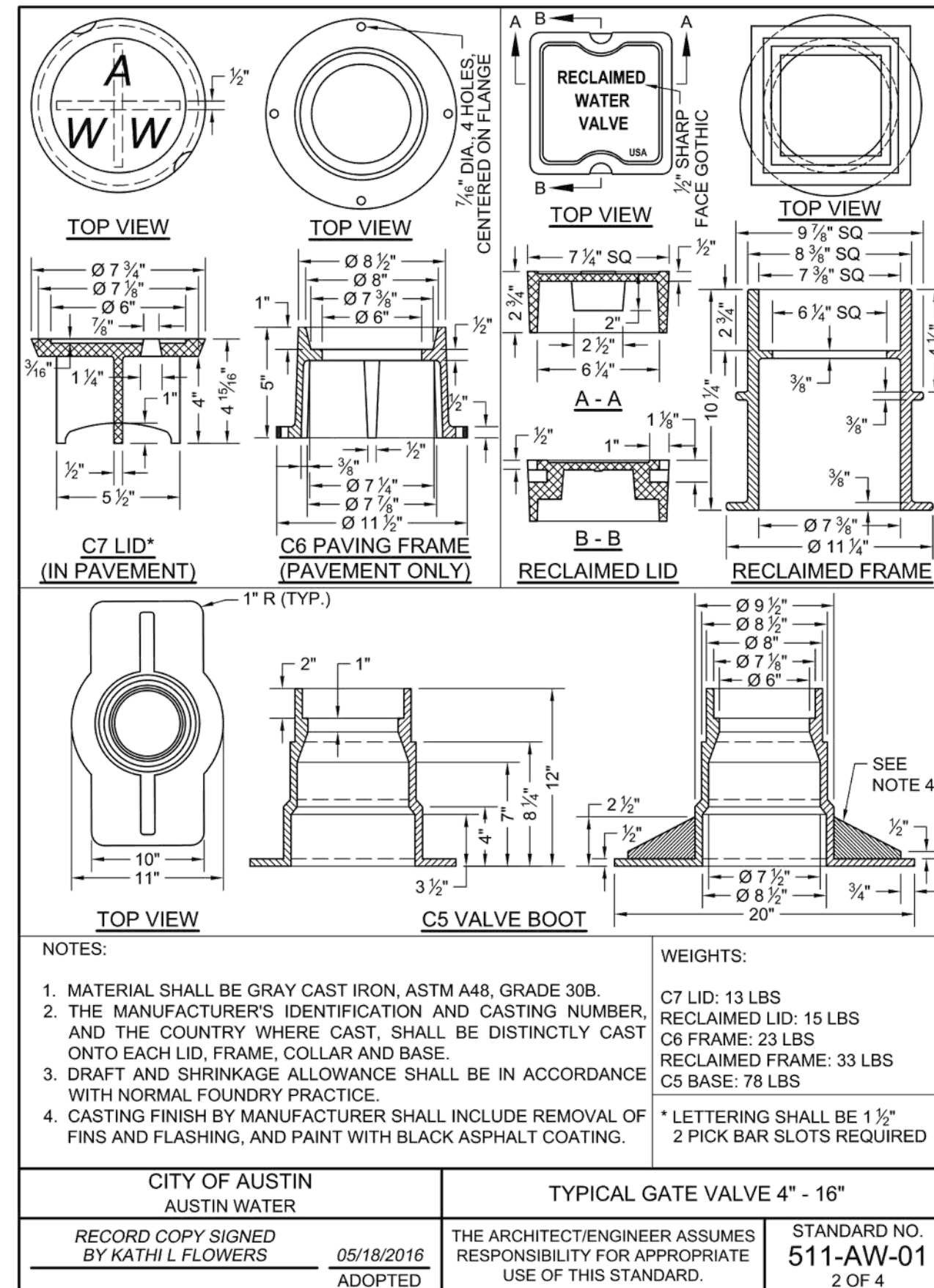
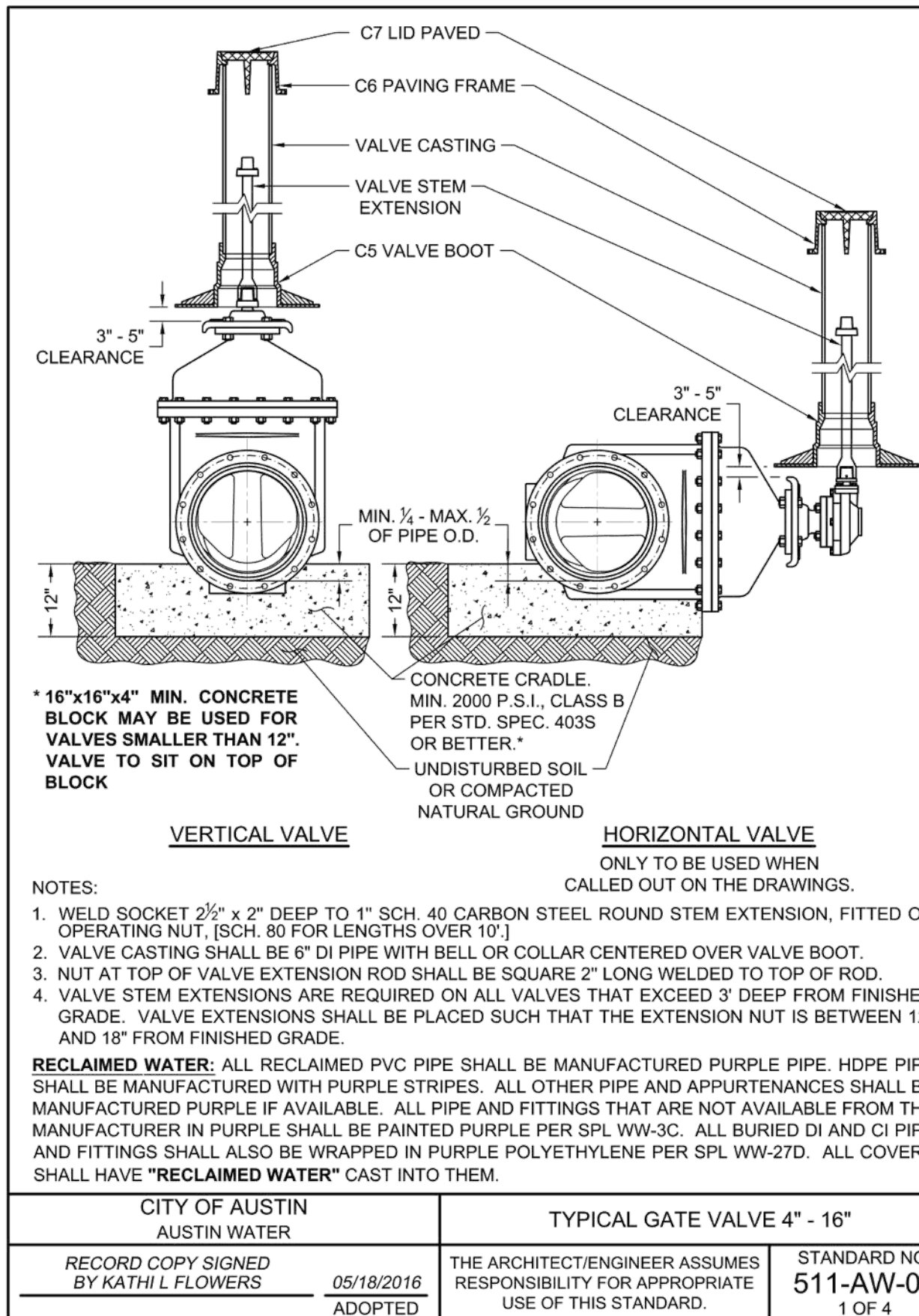
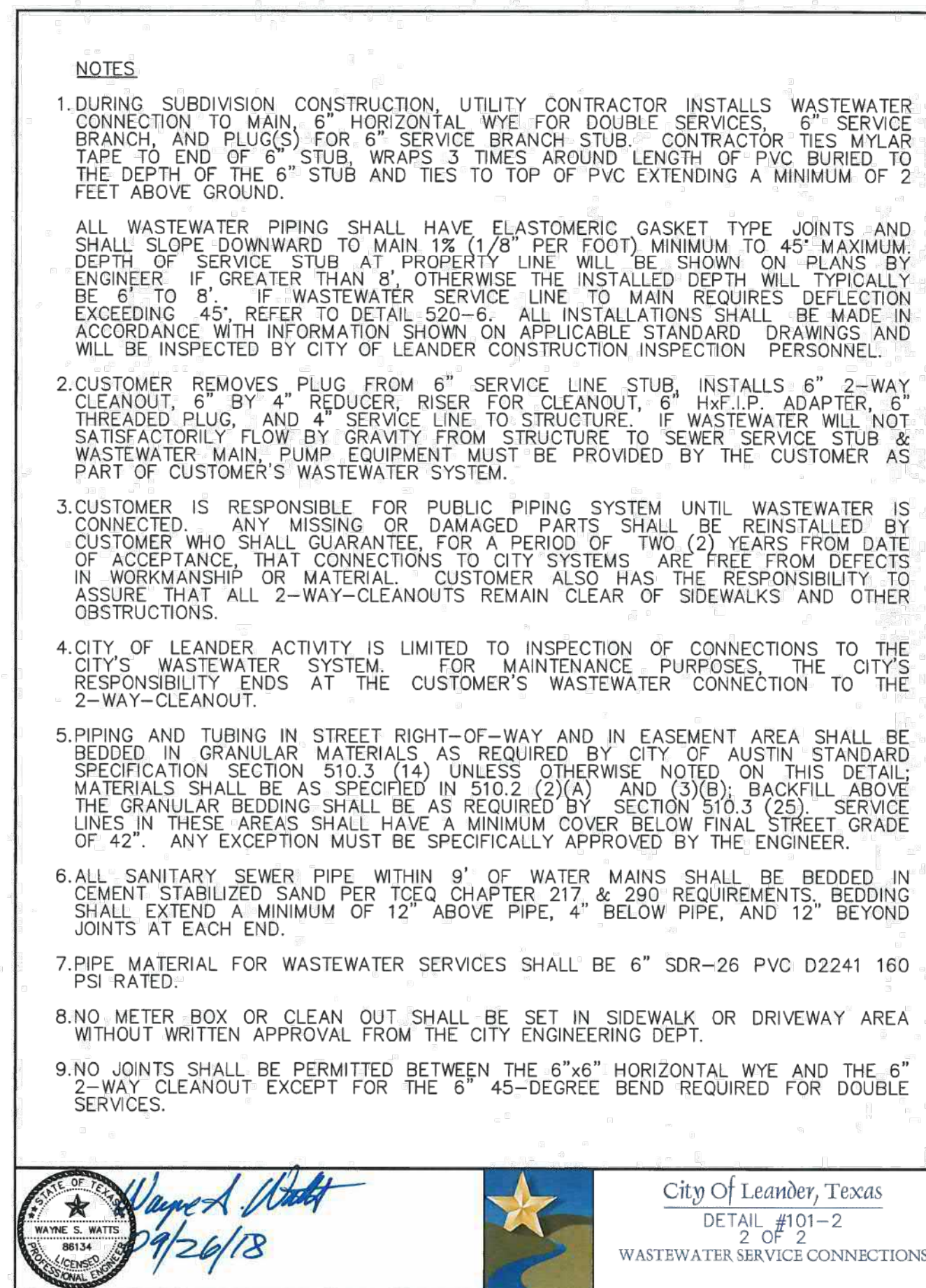
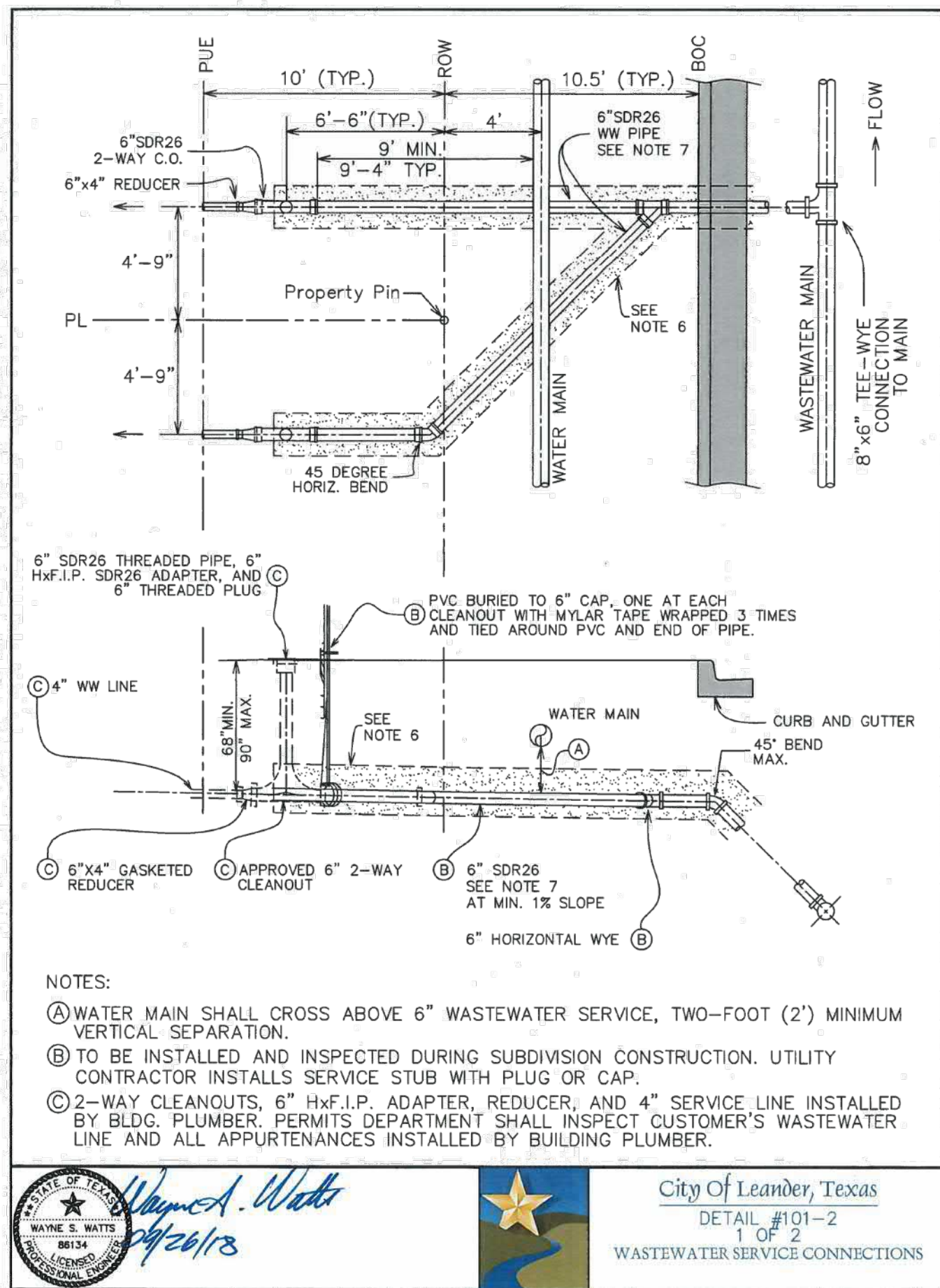
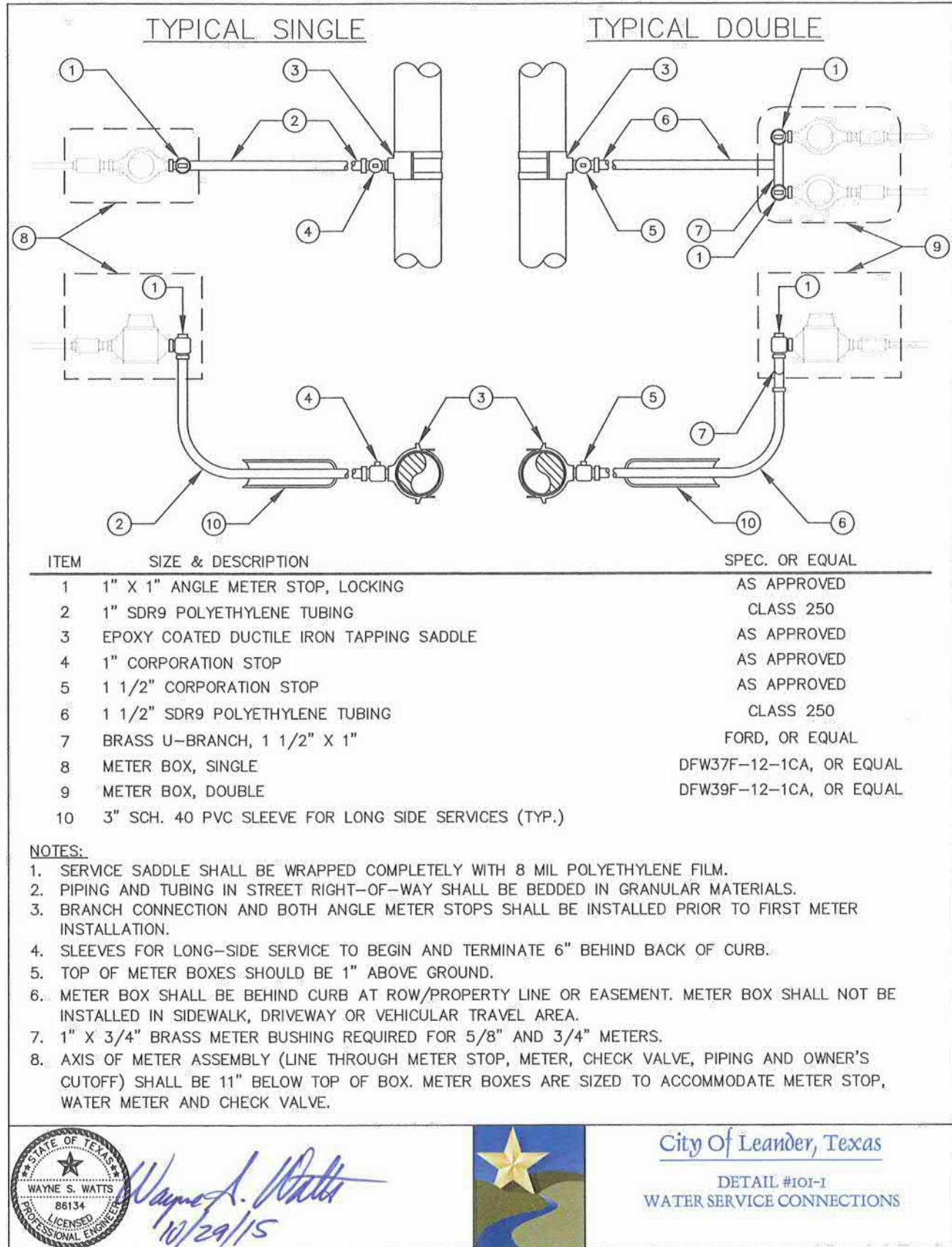
WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641  
SIGNAGE & STRIPING DETAILS



SHEET 79  
OF 110 SHEETS

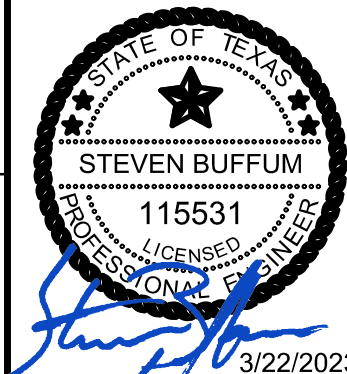
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WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641

WATER AND WW DETAILS 1



SHEET 80

OF 110 SHEETS

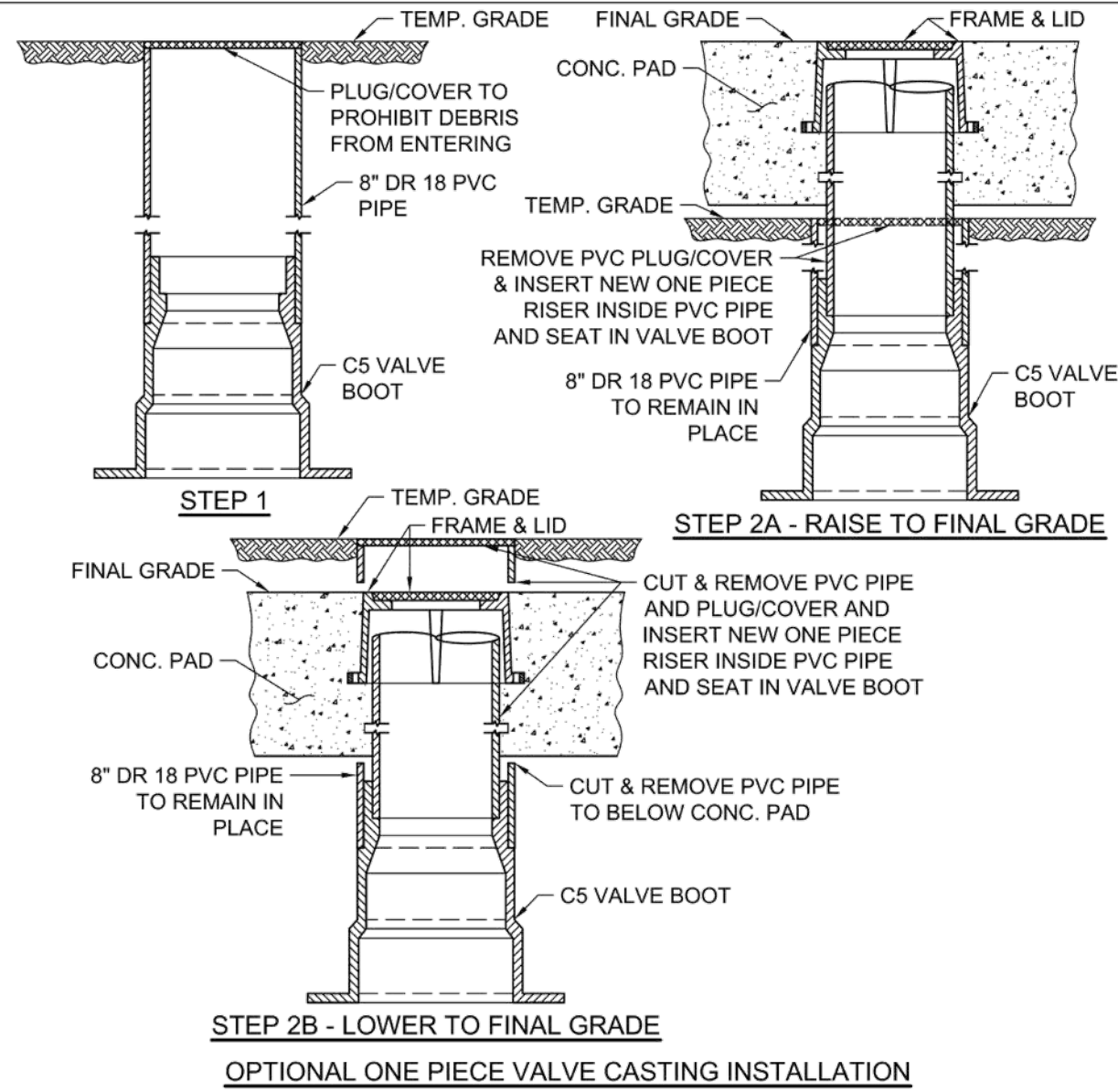
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NOTES (CONT):

- PAVING FRAME SHALL BE FLUSH WITH THE CONC. PAD AND PLACED 1/2" - 2" ABOVE RISER PIPE (FRAME SHALL NOT REST ON RISER.)
- IN UNPAVED AREAS, INSTALL ONE DELINEATOR STAKE IMMEDIATELY ADJACENT TO THE EDGE OF THE CONCRETE PAD. DELINEATOR SHALL BE BLUE FOR POTABLE WATER AND PURPLE FOR RECLAIMED WATER AND SHALL EXTEND AT LEAST 60" ABOVE GROUND. DELINEATORS SHALL HAVE 2" WIDE, WHITE IN COLOR, TYPE 1 REFLECTIVE TAPE MOUNTED DIAGONALLY AT 12" SPACING ON BOTH SIDES.
- VALVE SHALL TYPICALLY BE CENTERED IN CONCRETE DIAMOND BUT MAY BE OFFSET WITH A MIN. OF 12" FROM CENTER OF VALVE LID TO EDGE OF CONCRETE IN ALL DIRECTIONS.
- MIN. TOTAL DEPTH OF ASPHALT PLUS CONC. IS 9" AND MIN. DEPTH OF CONC. PAD SHALL BE 5"



CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	
RECORD COPY SIGNED BY KATHI L FLOWERS	05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
		STANDARD NO. 511-AW-01 4 OF 4

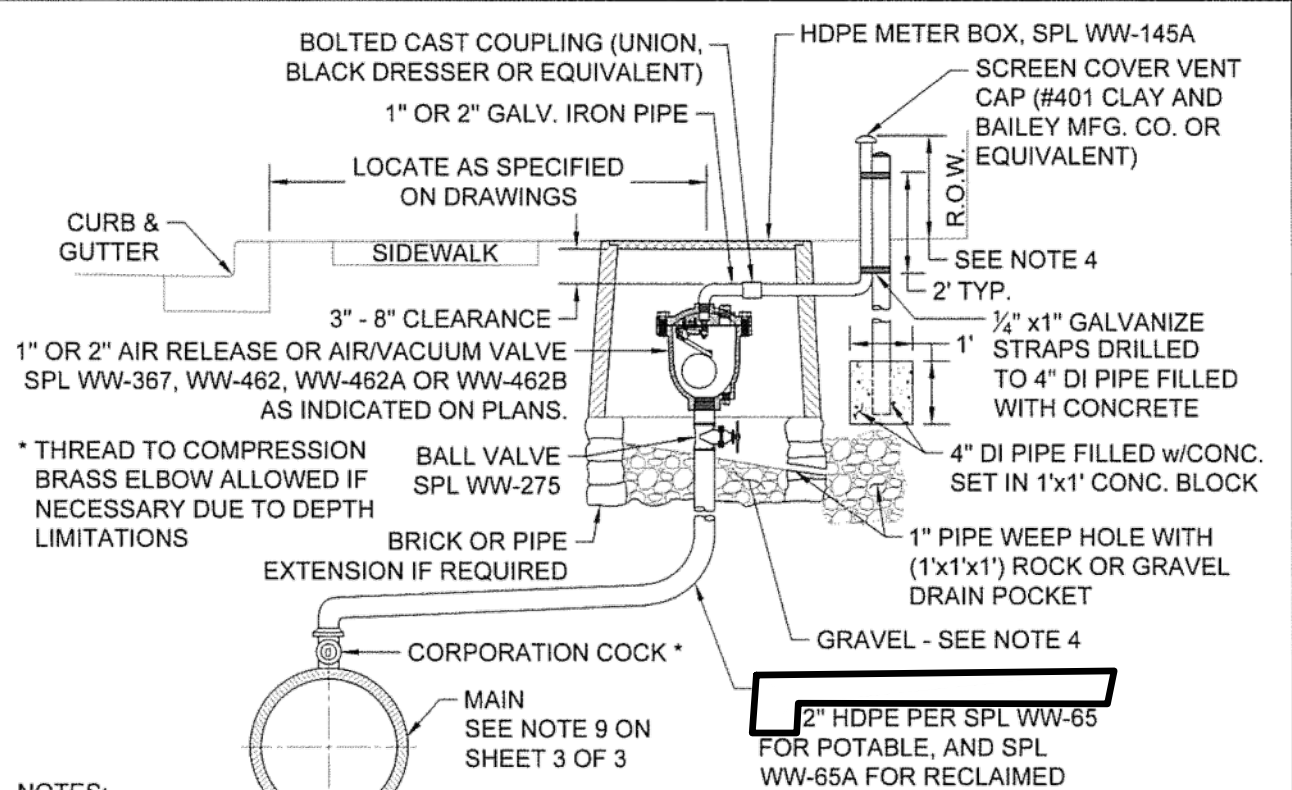
NOTES:

- ON 10" AND LARGER TWO PIECE COMBINATION AIR VALVES, THE OUTLET PIPING OF THE SMALL VALVE SHALL BE VENTED WITHIN THE VAULT INTO THE LARGER VENT PIPE
- AIR VENT PIPE 6" AND LARGER SHALL BE DI (CLASS 350 MIN.) PIPE FLANGE FITTINGS AND EXTERIOR SURFACES OF ALL EXPOSED PIPE SHALL BE PAINTED PER SPL WW-3C. POTABLE WATER PIPE SHALL BE PAINTED SAFETY BLUE. SURFACE PREPARATION SHALL BE PER PAINT MANUFACTURER'S REQUIREMENTS.
- ENTIRE AIR VENT ASSEMBLY SHALL BE LOCATED WITHIN EASEMENT OR R.O.W.
- CONCRETE PIPE PENETRATIONS SHALL BE CORE BIT DRILLED. VOID SHALL BE SEALED w/LINKSEAL LS 300 OR APPROVED EQUAL.
- CROSS SECTIONAL AREA OF OPENING TO BE EQUAL TO OR GREATER THAN CROSS SECTIONAL AREA OF AIR VENT PIPE.
- AIR/VACUUM VALVE SHALL BE INSTALLED IN A MANNER WHICH WILL ALLOW REMOVAL OF ASSEMBLY WITHOUT REMOVAL OF PRECAST CONCRETE LID.
- IN UNDEVELOPED AREAS, THE AIR VENT PIPE SHALL BE 4" MIN. IN HEIGHT SUPPORTED BY A 4" DIA. DI PIPE WHICH HAS BEEN FILLED WITH CONCRETE (SUPPORT PIPE SHALL BE 6' LONG, BURIED IN CLASS A CONCRETE OR CLSM 3' BELOW FINAL GRADE AND EXTENDING 3' ABOVE FINAL GRADE). INSTALL ONE DELINEATOR STAKE WITHIN 3' OF THE VAULT ON THE VEHICULAR ACCESS SIDE OF VAULT OR AS DIRECTED BY AUSTIN WATER. DELINEATOR SHALL BE BLUE FOR POTABLE WATER AND SHALL EXTEND AT LEAST 60" ABOVE GROUND. DELINEATORS SHALL HAVE 2" WIDE, WHITE IN COLOR, TYPE 1 REFLECTIVE TAPE MOUNTED DIAGONALLY AT 12" SPACING ON BOTH SIDES. IN DEVELOPED AREAS, THE AIR VENT PIPE SHALL BE LOCATED NOT TO CONFLICT WITH SIDEWALK, DRIVEWAY, OR OTHER PEDESTRIAN TRAFFIC.
- GATE VALVE, PIPE, AND FITTINGS FROM MAIN TO ARV SHALL BE OF EQUAL DIAMETER AS THE AIR VALVE EXCEPT 3" ARV SHALL HAVE 4" FITTINGS AND A 4"x3" REDUCER AT THE ARV, AND ALL PIPE AND FITTINGS ON THE OUTLET SIDE OF THE ARV SHALL BE EQUAL TO THE SIZE OF THE OUTLET OF THE ARV. VAULTS SHALL BE 5' DIAMETER FOR 3" VALVE; 6' DIAMETER FOR 4", 6", AND 8" VALVES; AND 7' DIAMETER FOR 10" AND 12" VALVES.
- FOR 24" AND LARGER MAINS, AN 18" OUTLET WITH BLIND FLANGE SHALL BE INSTALLED AT CONNECTION OF ARV.

3" OR LARGER AIR/VACUUM VALVE INSTALLATION - TYPE II

**RECLAIMED WATER:** ALL RECLAIMED PVC PIPE SHALL BE MANUFACTURED PURPLE PIPE. HDPE PIPE SHALL BE MANUFACTURED WITH PURPLE STRIPES. ALL OTHER PIPE AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL PIPE AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE "RECLAIMED WATER" CAST INTO THEM.

CITY OF AUSTIN AUSTIN WATER	AIR RELEASE AND AIR/VACUUM VALVE	
Kathi L. Flowers	05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
		STANDARD NO. 511-AW-04 3 OF 3



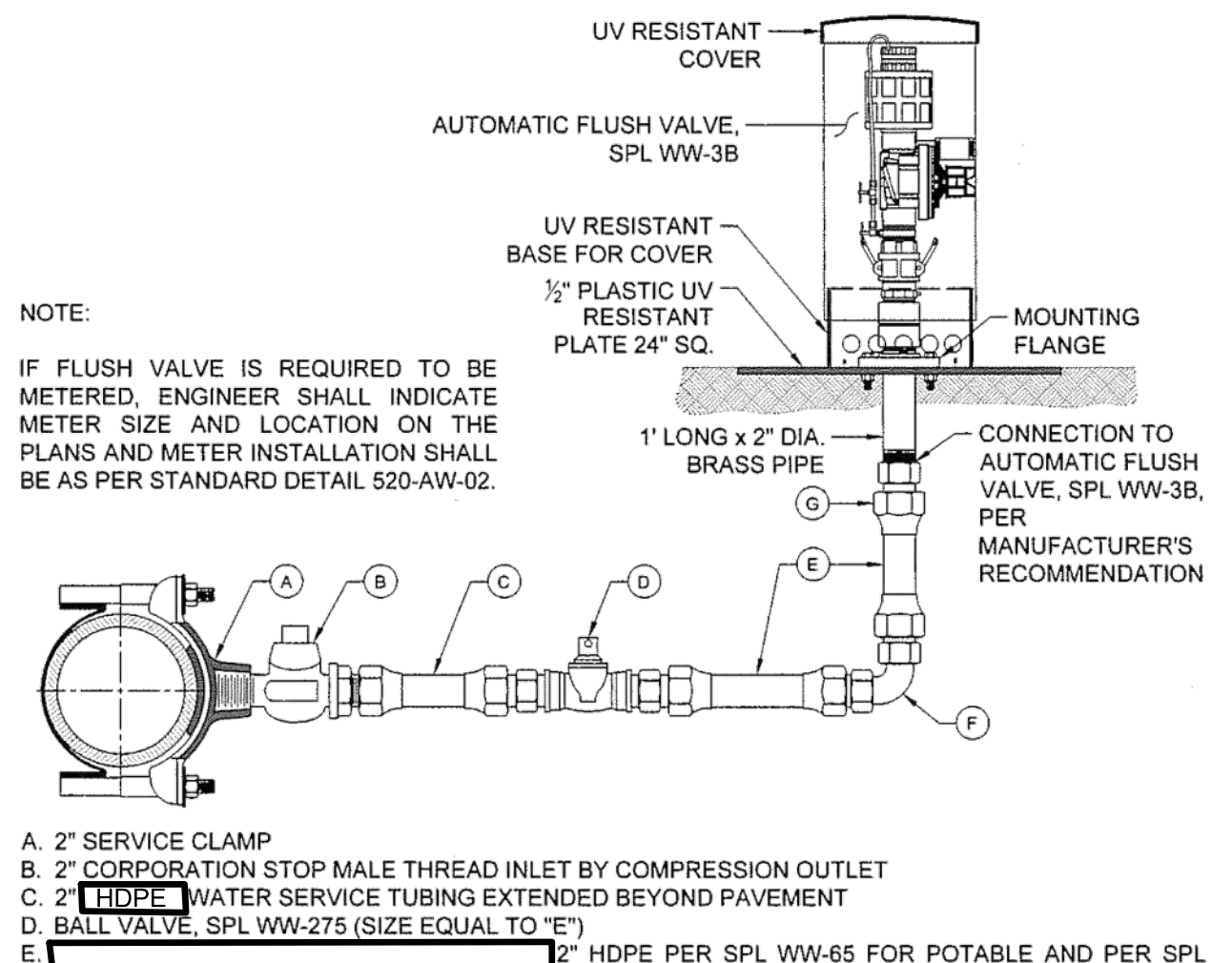
NOTES:

- EXTERIOR SURFACES OF EXPOSED AIR VENT PIPE AND DI SUPPORT PIPE SHALL BE PAINTED PER SPL WW-3C. POTABLE WATER PIPE SHALL BE PAINTED SAFETY BLUE.
- AIR VENT PIPE INSTALLATION SHALL BE AS NEAR AS PRACTICAL TO RIGHT-OF-WAY LINE WITH MINIMUM CLEARANCE OF 18" FROM ANY OBSTACLE.
- HDPE METER BOX PENETRATION SHALL BE CORE BIT DRILLED. VOID SHALL BE FILLED WITH LINKSEAL LS 300 OR APPROVED EQUAL.
- COMPACTED COARSE GRAVEL OR BROKEN STONE MIXED WITH SAND SLOPED TO DRAIN.
- IN UNDEVELOPED AREAS, THE AIR VENT PIPE SHALL BE 4" MIN. IN HEIGHT SUPPORTED BY A 4" DIA. DI PIPE WHICH HAS BEEN FILLED WITH CONCRETE (SUPPORT PIPE SHALL BE 6' LONG, BURIED IN CLASS A CONCRETE OR CLSM 3' BELOW FINAL GRADE AND EXTENDING 3' ABOVE FINAL GRADE). INSTALL ONE DELINEATOR STAKE WITHIN 3' OF THE VAULT ON THE VEHICULAR ACCESS SIDE OF VAULT OR AS DIRECTED BY AUSTIN WATER. DELINEATOR SHALL BE BLUE FOR POTABLE WATER AND SHALL EXTEND AT LEAST 60" ABOVE GROUND. DELINEATORS SHALL HAVE 2" WIDE, WHITE IN COLOR, TYPE 1 REFLECTIVE TAPE MOUNTED DIAGONALLY AT 12" SPACING ON BOTH SIDES. IN DEVELOPED AREAS, THE AIR VENT PIPE SHALL BE 8" - 12" IN HEIGHT AND LOCATED NOT TO CONFLICT WITH SIDEWALK, DRIVEWAY, OR OTHER PEDESTRIAN TRAFFIC.
- THE AIR VALVE AND ASSOCIATED PIPING SHALL BE INSTALLED ABOVE THE HIGHEST ELEVATION OF THE WATER MAIN. AIR VALVE PIPING, FROM THE WATER MAIN TO THE AIR VALVE, SHALL MAINTAIN A CONSTANT RISE, WITH NO DIPS, TO THE TOP OF THE GROUND.

1" - 2" AIR RELEASE OR AIR/VACUUM VALVE INSTALLATION - TYPE I

**RECLAIMED WATER:** ALL RECLAIMED PVC PIPE SHALL BE MANUFACTURED PURPLE PIPE. HDPE PIPE SHALL BE MANUFACTURED WITH PURPLE STRIPES. ALL OTHER PIPE AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL PIPE AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE "RECLAIMED WATER" CAST INTO THEM.

CITY OF AUSTIN AUSTIN WATER	AIR RELEASE AND AIR/VACUUM VALVE	
Kathi L. Flowers	05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
		STANDARD NO. 511-AW-04 1 OF 3

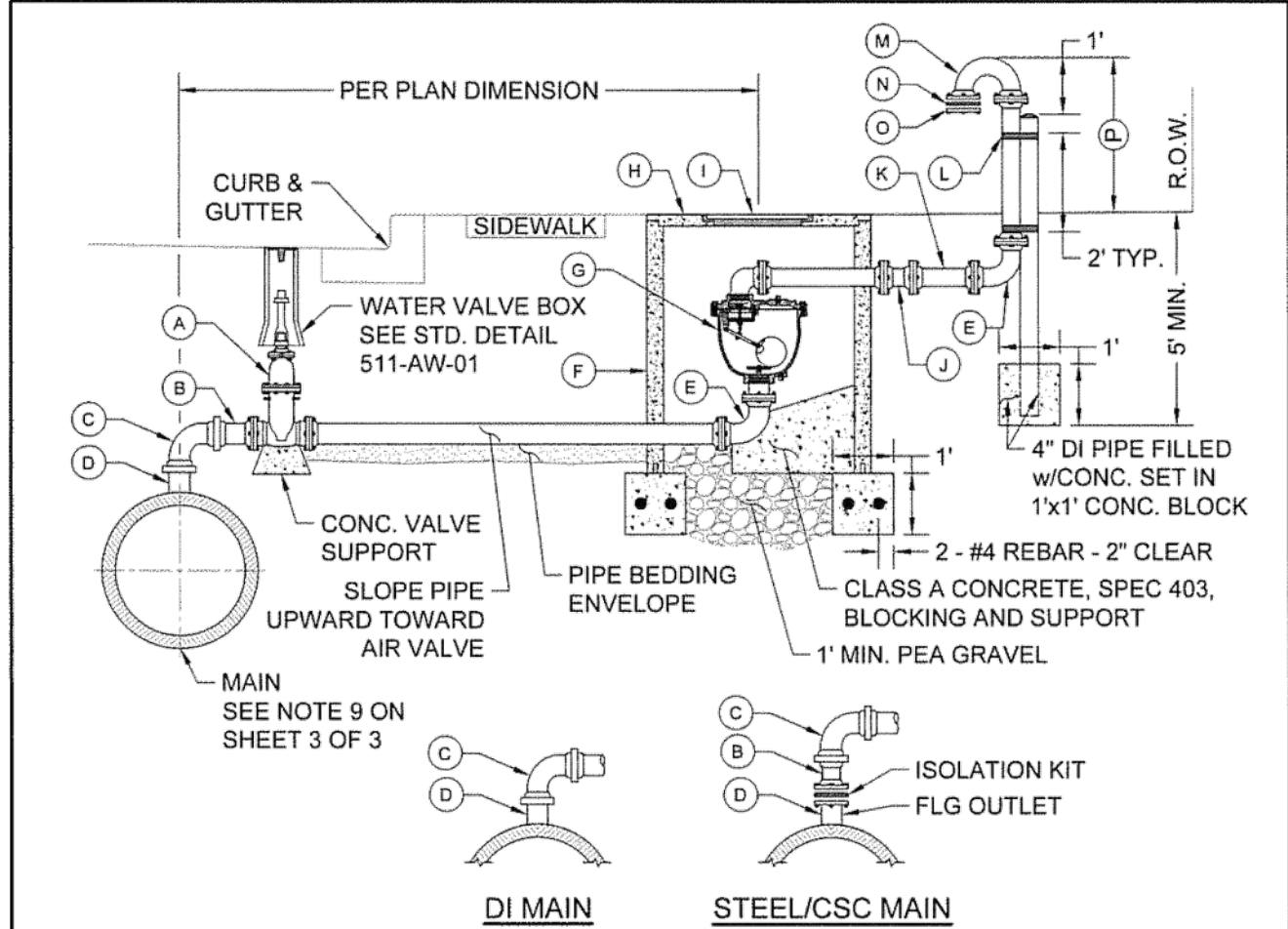


- 2" SERVICE CLAMP
- 2" CORPORATION STOP MALE THREAD INLET BY COMPRESSION OUTLET
- 2" HDPE WATER SERVICE TUBING EXTENDED BEYOND PAVEMENT
- BALL VALVE, SPL WW-275 (SIZE EQUAL TO "E")
- 2" HDPE PER SPL WW-65 FOR POTABLE AND PER SPL WW-65A FOR RECLAIMED
- 2" BRASS 90° BEND, COMPRESSION x COMPRESSION OR HDPE WITH STIFFENERS PER SPL WW-65B AT ALL CONNECTIONS
- 2" BRASS COUPLING, COMPRESSION x FIP

NOTES:

- AUTOMATIC FLUSH VALVE MAY ALSO BE USED ON TAPPED PLUGS AND CAPS.
- THE CONTRACTOR SHALL PROVIDE THE FLUSH VALVE ACCESS KEY TO AUSTIN WATER UPON FLUSH VALVE ACCEPTANCE.
- VALVE "D" SHALL NOT BE LOCATED MORE THAN 36" BELOW FLUSH VALVE OR MORE THAN 24" HORIZONTALLY FROM FLUSH VALVE. VALVE "D" SHALL NOT BE LOCATED IN A SIDEWALK OR DRIVEWAY.
- METER BOX (IF REQUIRED) AND FLUSH VALVE SHALL NOT BE LOCATED IN A SIDEWALK, DRIVEWAY, PEDESTRIAN WAY OR TRAFFIC WAY. TEMPORARY FLUSH VALVES SHALL BE LOCATED AS SHOWN ON APPROVED PLANS.
- A DRAINAGE WAY, CONTAINED WITHIN THE R.O.W. OR AN EASEMENT, SHALL BE PROVIDED FROM FLUSH VALVE TO STORM SEWER SYSTEM OR PUBLIC DRAINAGE WAY.
- DESIGN ENGINEER SHALL PROVIDE CALCULATIONS WITH PLANS AT THE TIME OF REVIEW INCLUDING FREQUENCY AND FLUSH RATE REQUIRED TO CIRCULATE WATER IN DEAD END MAIN EVERY 72 HOURS.

CITY OF AUSTIN AUSTIN WATER	AUTOMATIC FLUSH VALVE	
Kathi L. Flowers	05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
		STANDARD NO. 511-AW-05 1 OF 1

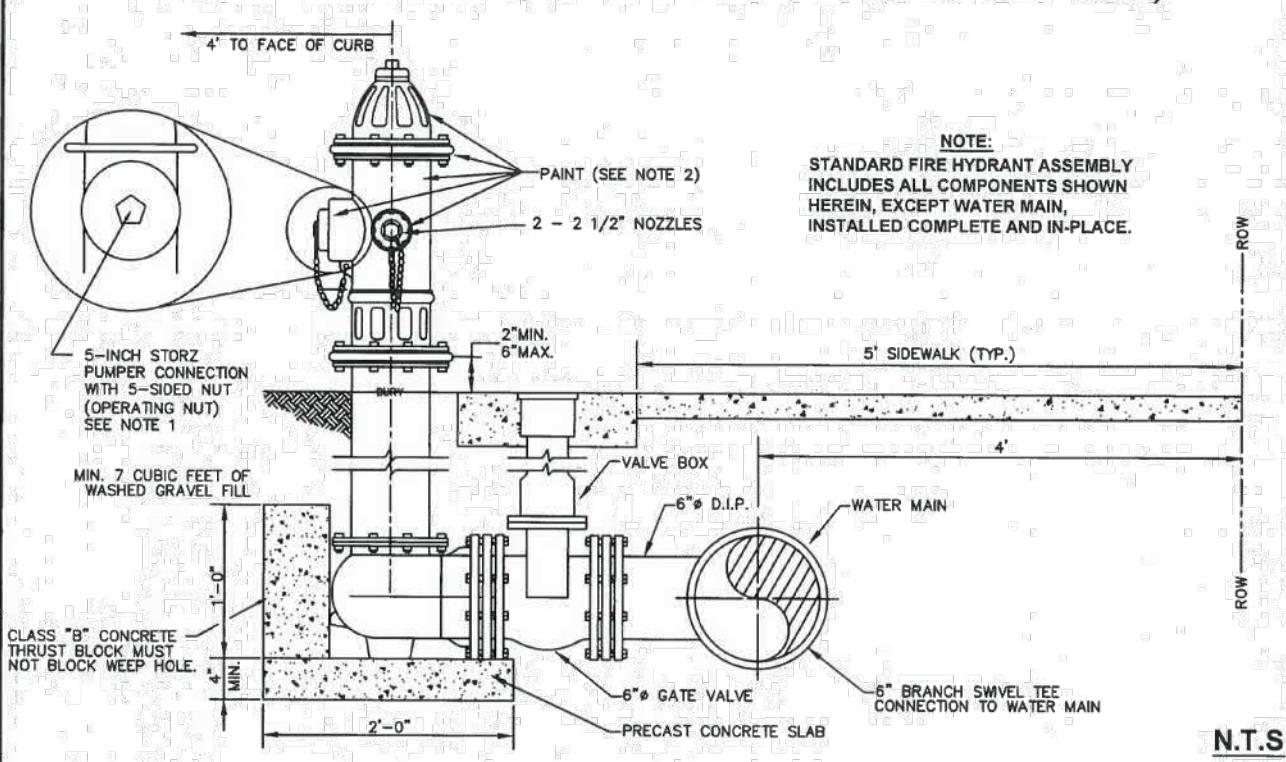


- DI MAIN**
- STEEL/CSC MAIN**
- GATE VALVE (FLG x FLG). GATE VALVE SHALL NOT BE INSTALLED DIRECTLY ABOVE WATER MAIN.
  - PIPE FLG x FACTORY RESTRAINED JOINT SPIGOT END.
  - 90° BEND w/FACTORY RESTRAINED JOINT BELL ENDS, SPL WW-27F.
  - FOR DI MAIN, WELDED-ON OUTLET w/FACTORY RESTRAINED JOINT SPIGOT END.
  - FOR STEEL/CSC MAIN, WELDED-ON FLANGED OUTLET w/ISOLATION KIT AND FLG x FACTORY RESTRAINED SPIGOT END.
  - 90° BEND (FLG x FLG).
  - CLASS III RCP VAULT 60" MIN. I.D.
  - AIR RELEASE VALVE w/GOOSENECK PER AIR RELEASE VALVES FOR WATER SPL WW-367 OR AIR RELEASE/VACUUM RELIEF VALVES FOR POTABLE WATER SPL WW-462A OR AIR RELEASE/VACUUM RELIEF VALVES FOR RECLAIMED WATER SPL WW-462B OR AIR RELEASE/AIR VACUUM VALVE FOR WASTEWATER SPL WW-462B.
  - REINFORCED PRECAST CONCRETE LID (AASHTO H-20 LOADING).
  - COA FRAME AND 32" COVER WITH LETTERING MODIFIED FOR WATER.
  - BOLTED CAST COUPLING (SMITH-BLAIR 441 OMNI CAST COUPLING OR APPROVED EQUAL).
  - AIR VENT PIPE, 3" PIPE - GALVANIZED IRON, 4" AND LARGER PIPE - DI ONLY.
  - 1/2" x 1" GALVANIZE STRAPS DRILLED TO 4" DI PIPE FILLED w/CONCRETE (SEE NOTE 7).
  - RETURN BEND (FLG x FLG).
  - No. 16 MESH BRASS CLOTH
  - COMPANION FLANGE (SEE NOTE 5).
  - 4" MIN. - UNDEVELOPED AREAS.

3" OR LARGER AIR/VACUUM VALVE INSTALLATION - TYPE II

CITY OF AUSTIN AUSTIN WATER	AIR RELEASE AND AIR/VACUUM VALVE	
Kathi L. Flowers	05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
		STANDARD NO. 511-AW-04 2 OF 3

FIRE HYDRANTS LACKING INTEGRAL STORZ CONNECTOR SHALL BE REJECTED (NO STORZ ADAPTERS ALLOWED)

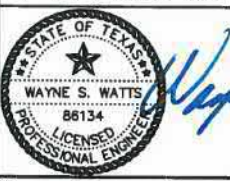


NOTES:

- FIRE HYDRANT SHALL BE CLOW MEDALLION F2545, AMERICAN DARLING B-84-B-5, MUELLER SUPER CENTURION, EU 50C250 WATERMASTER, KENNEDY K810 GUARDIAN, AVK 2780, OR APPROVED EQUAL VIA SUBMITTAL PROCESS. THE PRIMARY FEATURES REQUIRED INCLUDE: FACTORY INSTALLED INTEGRAL 5-INCH STORZ PUMPER NOZZLE; 1.5-INCH PENT OPERATING NUT ON NOZZLE CAP; OPEN LEFT; FACTORY PAINTED.
- HYDRANTS SHALL BE FACTORY PAINTED WITH FLYN'T ALUMINUM SILVER PAINT OR SHERWIN WILLIAMS SILVER B99S11. HYDRANTS WILL NOT BE ACCEPTED IF PAINTED AFTER DELIVERY OR IF PAINT IS FLAT IN APPEARANCE.
- ALL DUCTILE OR CAST IRON FITTINGS AND/OR PIPE SHALL BE POLYWRAPPED.
- ALL HYDRANTS SHALL BE EQUIPPED WITH A BREAKAWAY FLANGE. ALL FITTINGS SHALL BE EQUIPPED WITH JOINT RESTRAINT "MEGALUG" OR APPROVED EQUAL. ALL ANCHOR FITTING TO BE CONCRETE THRUST BLOCKED.
- BLUE, BI-DIRECTIONAL REFLECTIVE PAVEMENT MARKER, ULTIMATE WET NIGHT VISIBILITY SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATION AT THE CORRESPONDING ROADWAY STATION OFFSET 6" (SIX INCHES) FROM CENTER OF STREET TO THE SIDE HYDRANT IS LOCATED. AT INTERSECTIONS, MARKERS SHALL BE PLACED ON BOTH ROADWAYS ADJACENT TO HYDRANT.

LOCATION:

- SET F.H. ON LOT LINE (EXTENDED WHEN POSSIBLE).
- F.H. LOCATED AT STREET INTERSECTIONS SHALL BE PLACED A MINIMUM OF TEN FEET (10') FROM RADIIUS TANGENT POINT
- NO OBSTRUCTIONS SHALL BE PERMITTED WITHIN THREE FEET (3') IN ALL DIRECTIONS FROM F.H.
- 5-INCH STORZ PUMPER NOZZLE SHALL FACE THE FIRE LANE OR TRAVEL WAY UNLESS OTHERWISE NOTED.



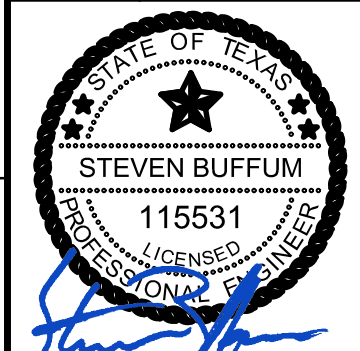
Kathi L. Flowers  
05/18/2016



City of Leander, Texas  
DETAIL #101-4  
STANDARD FIRE HYDRANT ASSEMBLY

WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641

WATER AND WW DETAILS 2

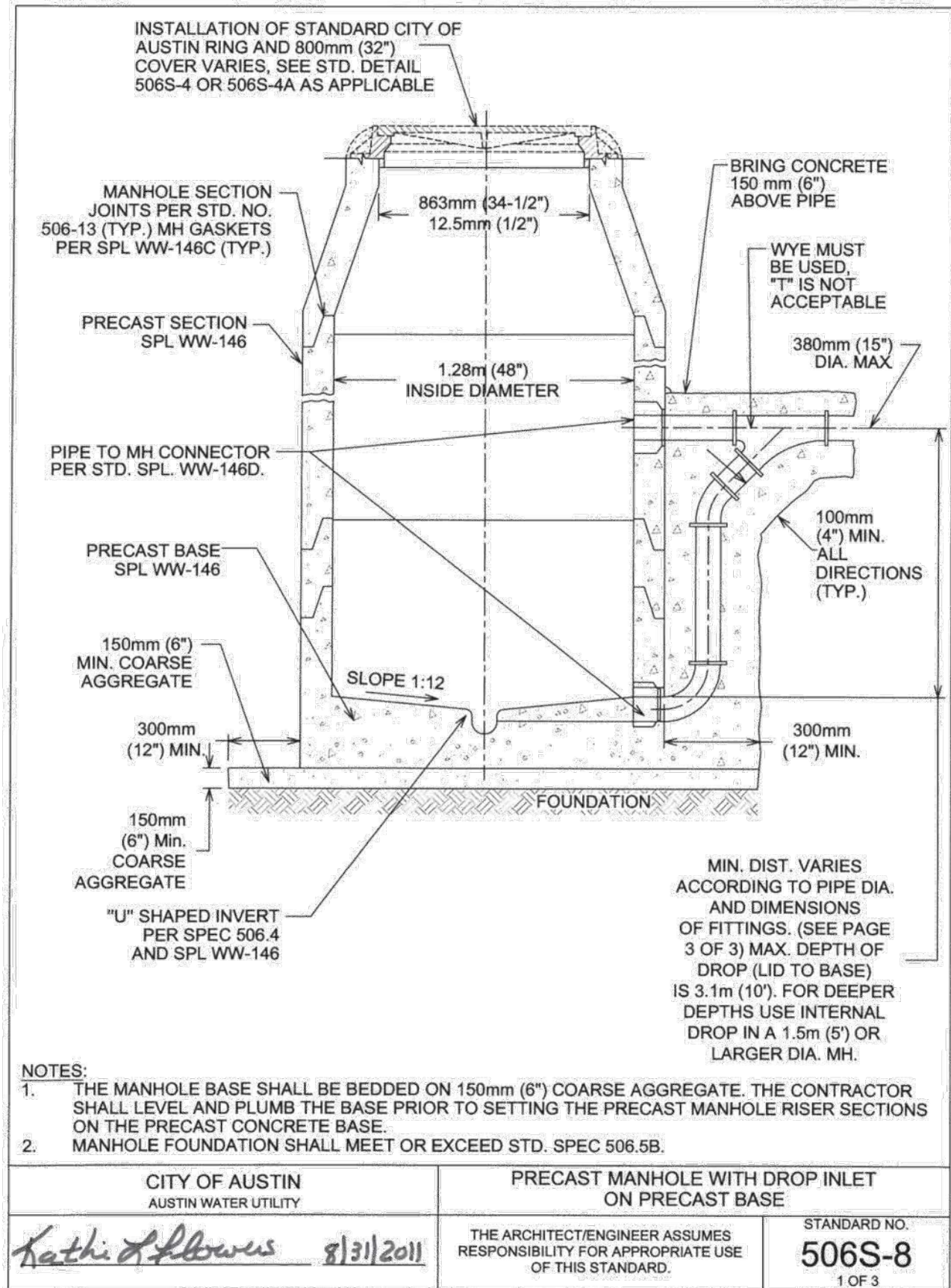
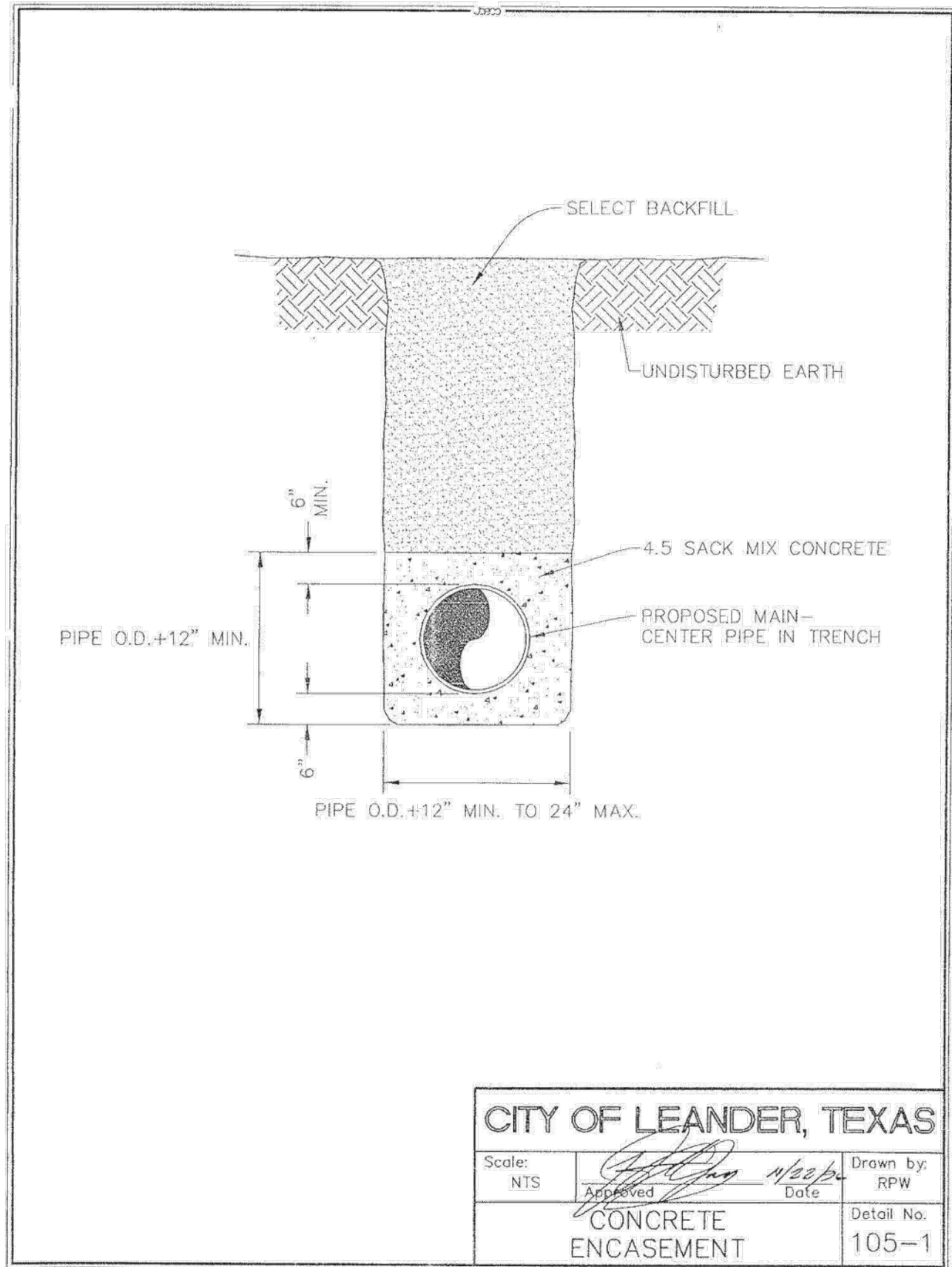
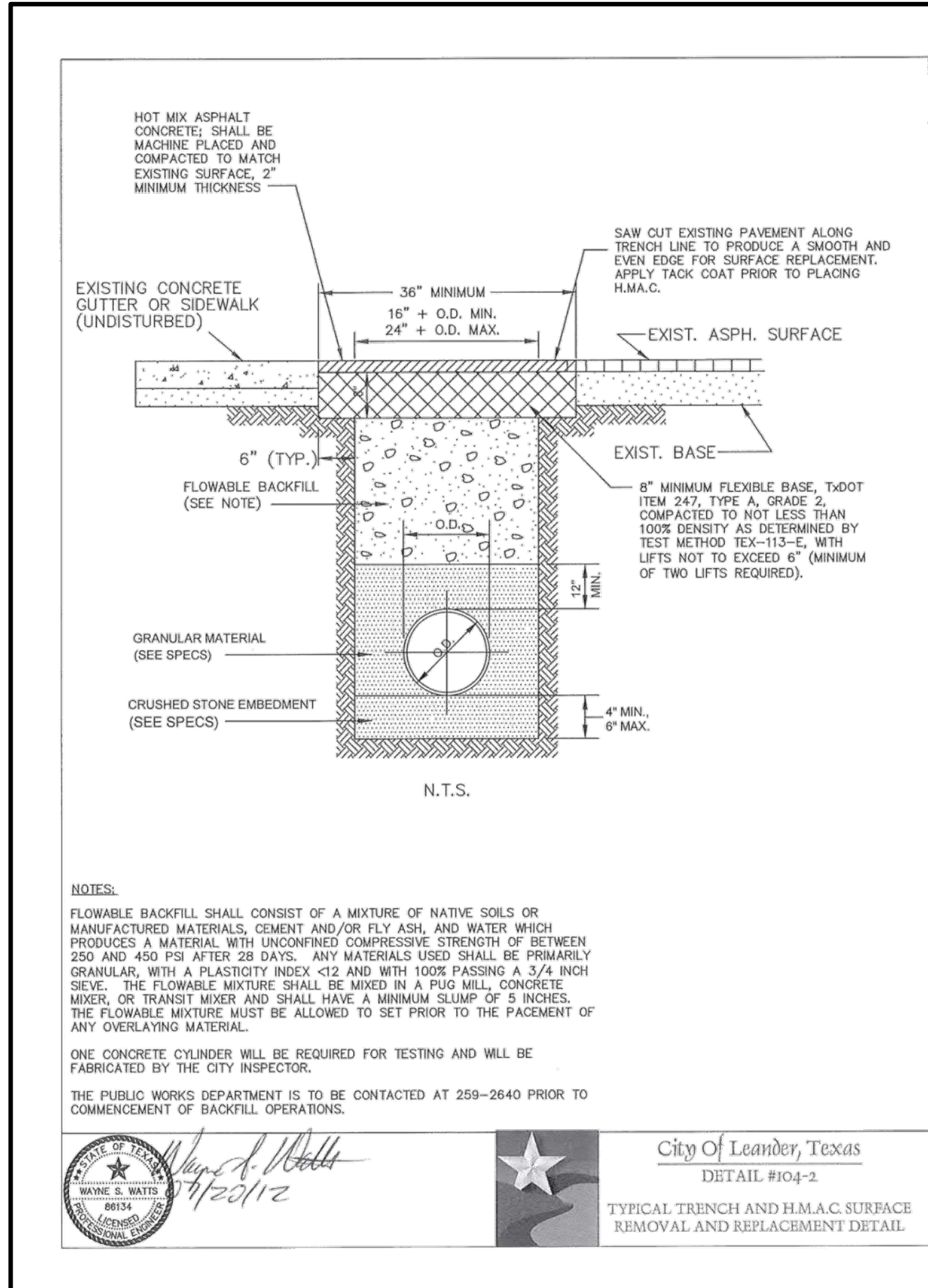


SHEET 81

OF 110 SHEETS

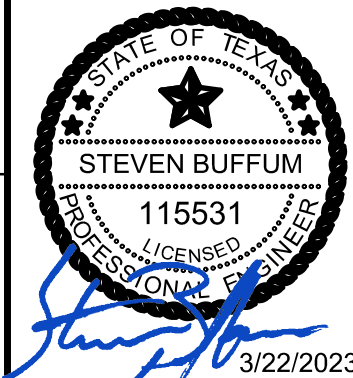


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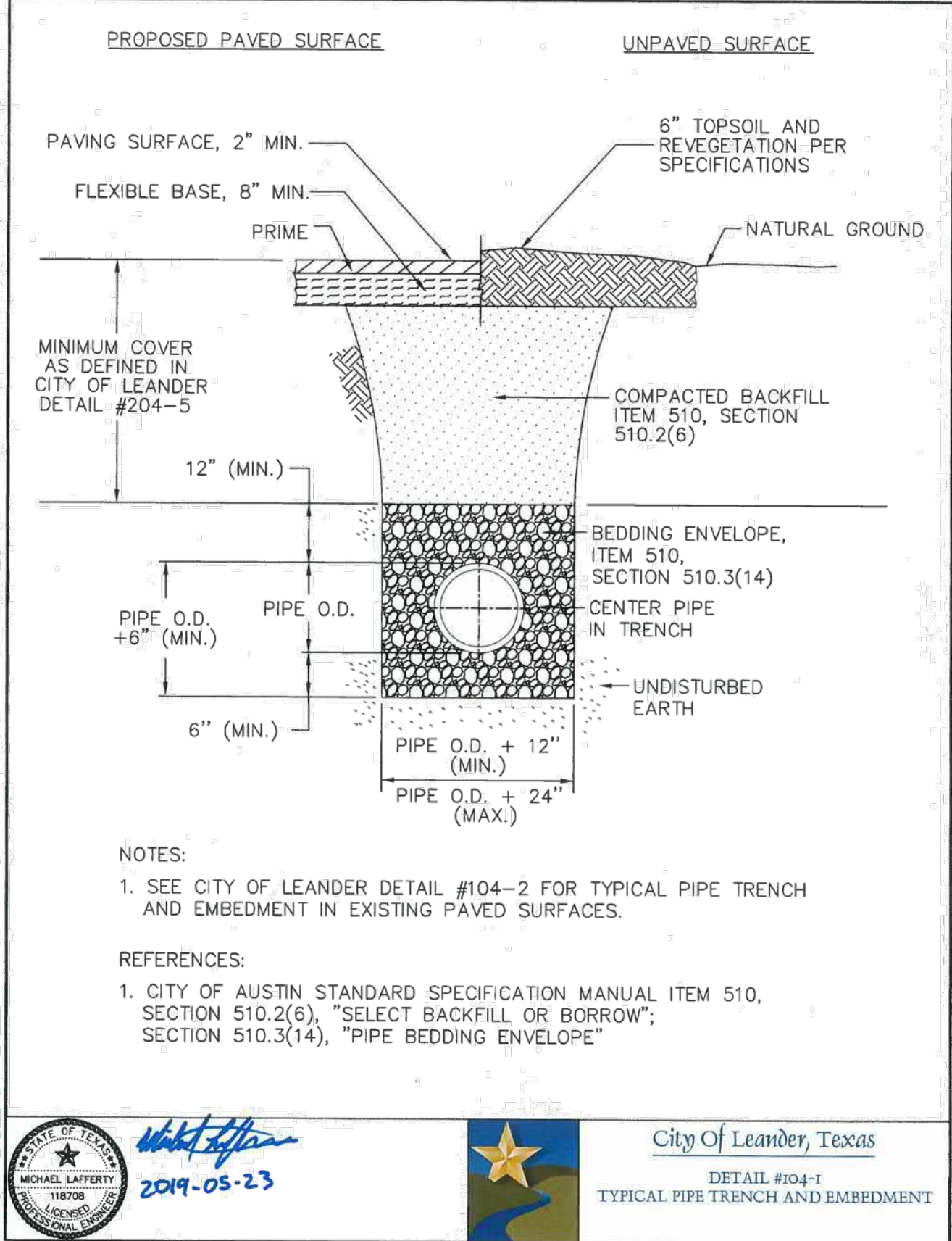
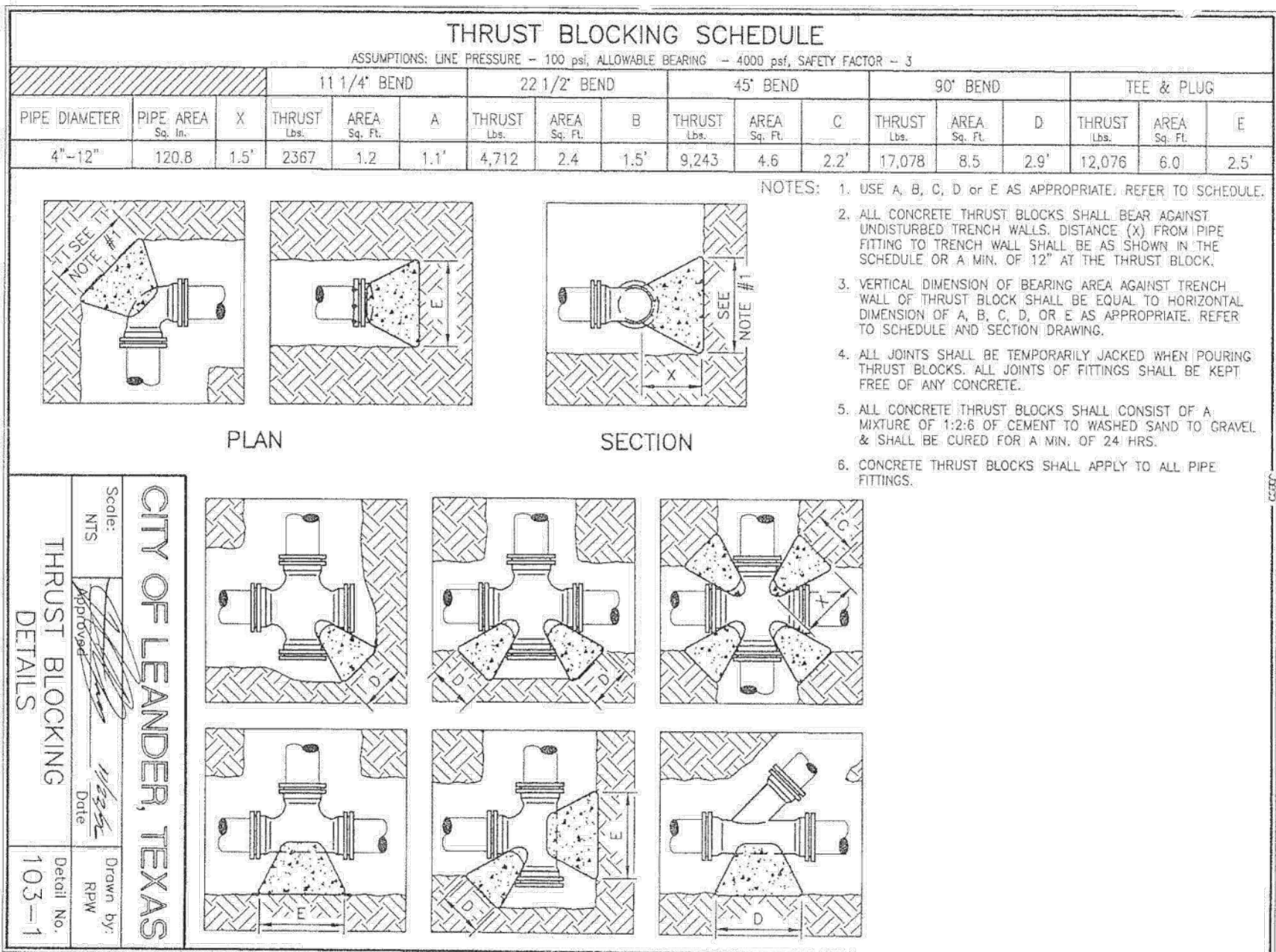
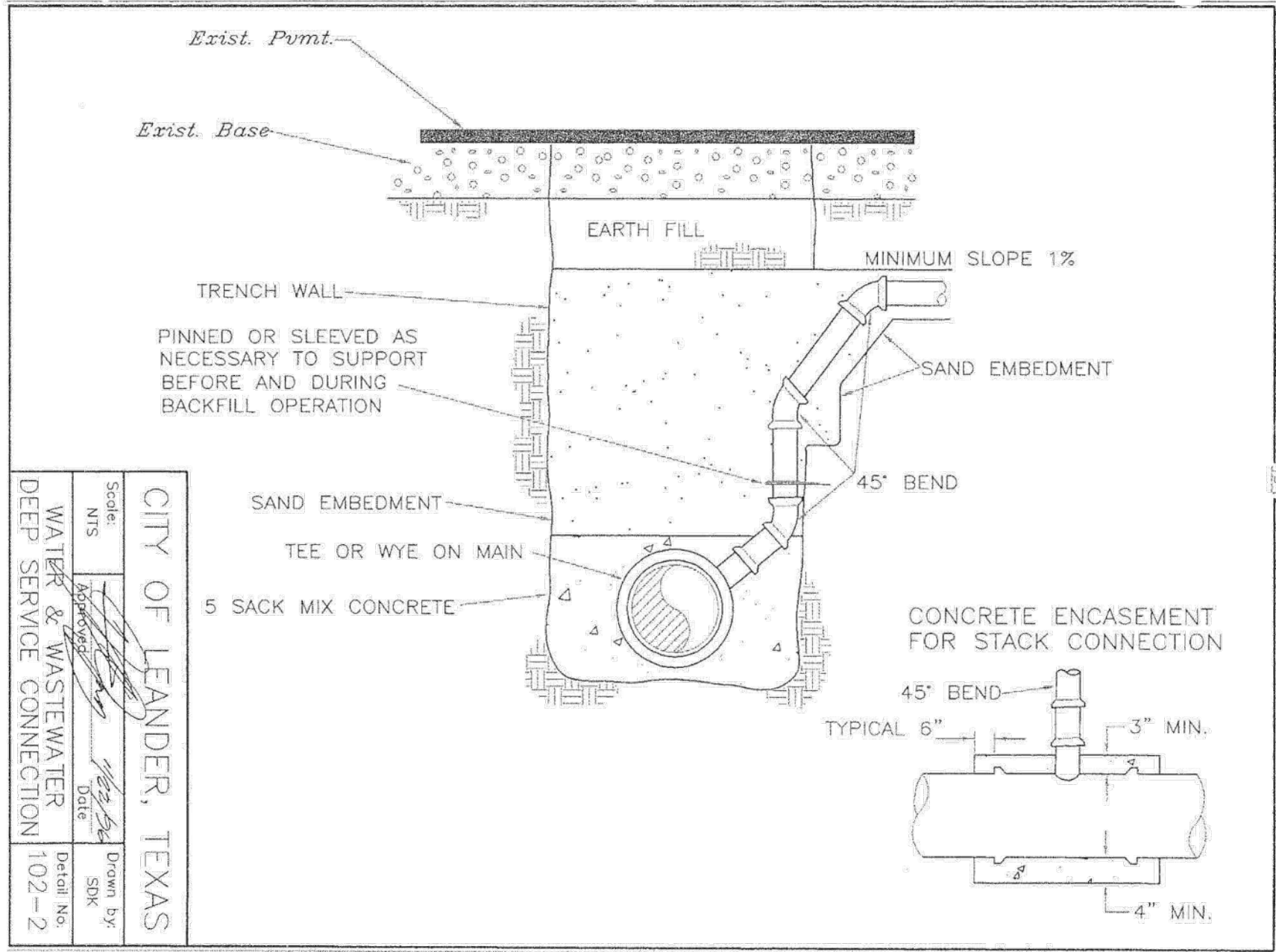
WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641

WATER AND WW DETAILS 3



SHEET 82  
OF 110 SHEETS

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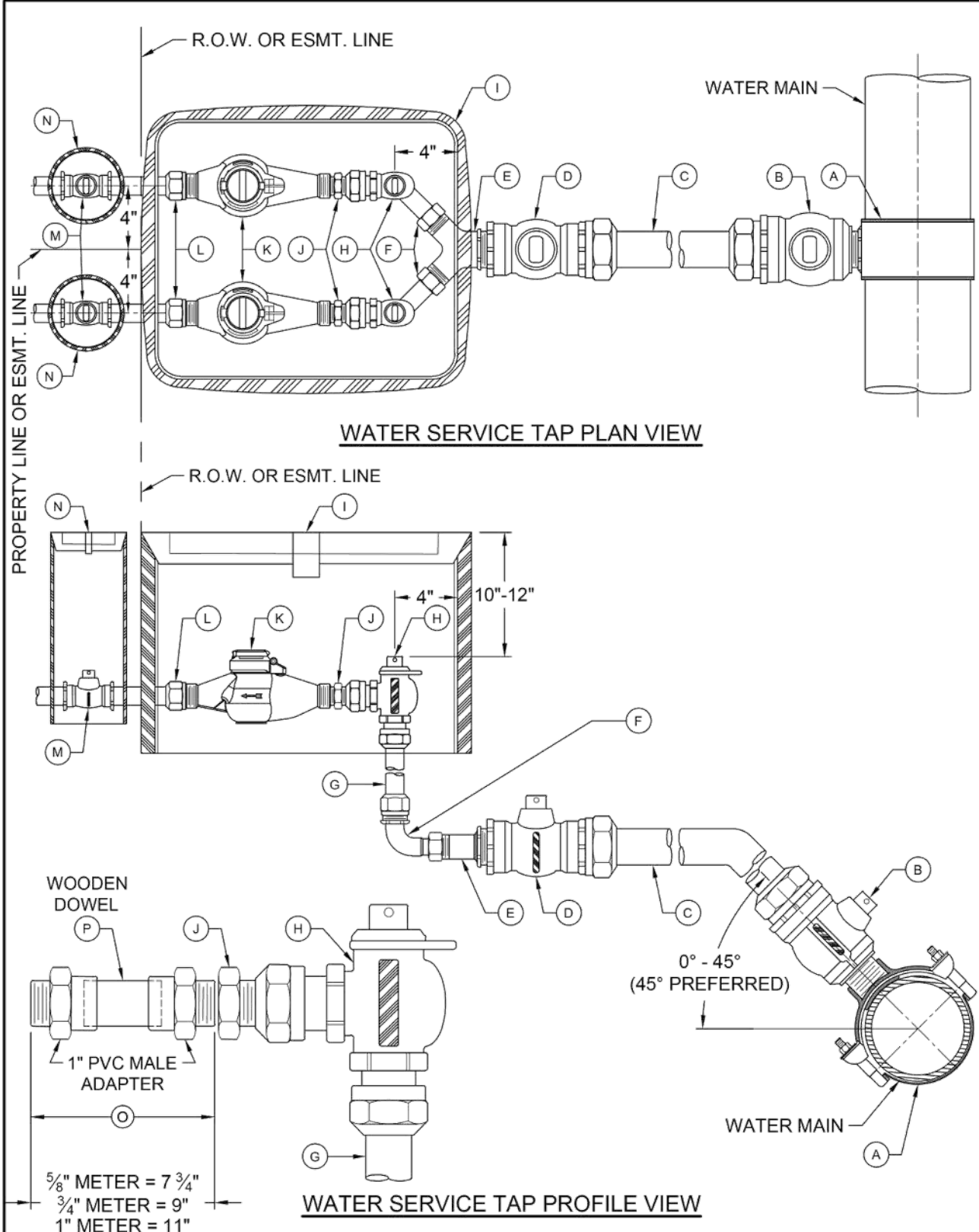
WILDSRING PHASE 1







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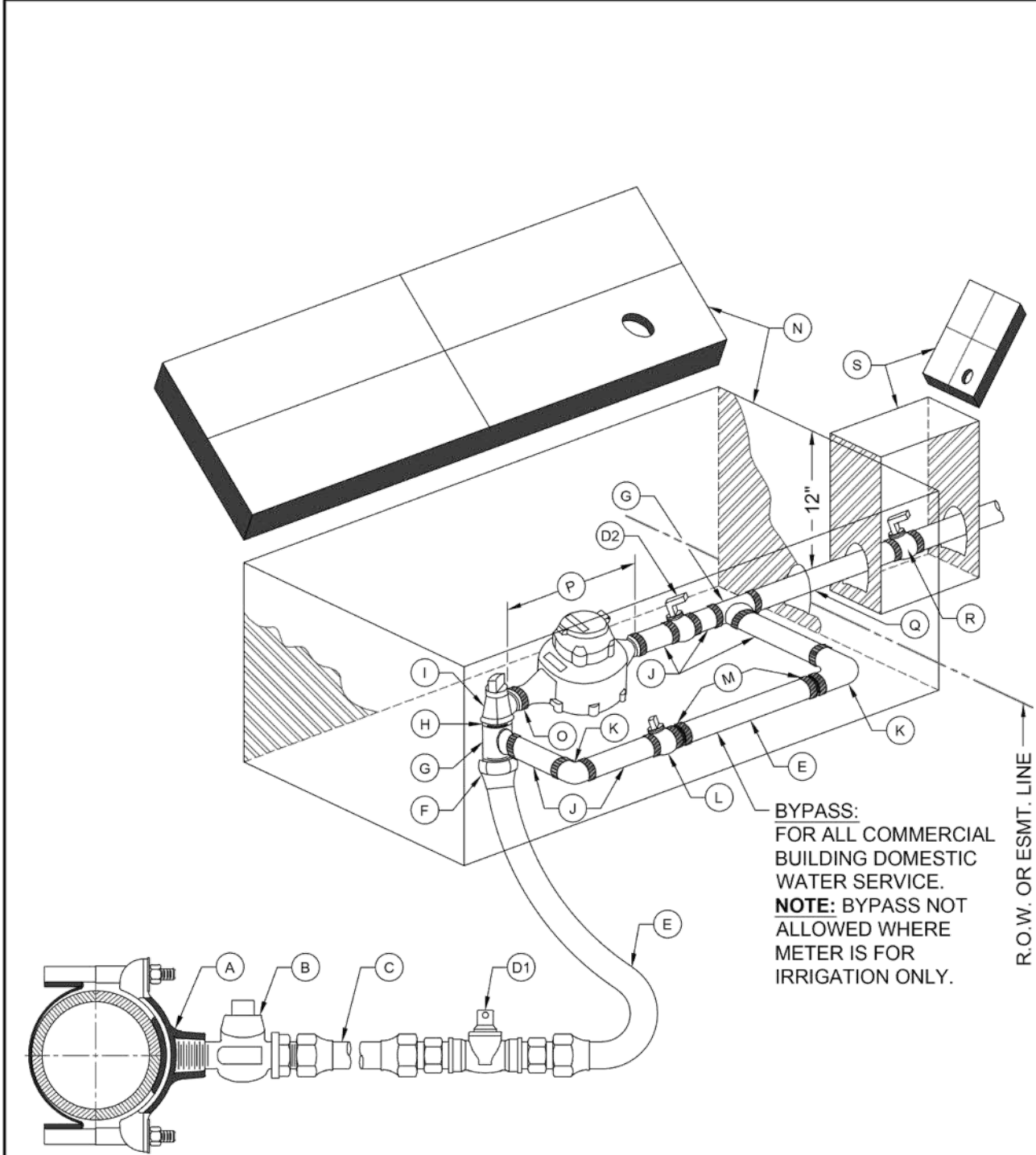
CITY OF AUSTIN AUSTIN WATER	WATER SERVICE & METER INSTALLATION - 1" & SMALLER METERS	
JEFF A. KYLE	08/16/2019 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
		STANDARD NO. <b>520-AW-01B</b> 1 OF 2

- MATERIALS LIST:**
- A. 2" SERVICE CLAMP, SPL WW-264
  - B. 2" CORPORATION STOP, SPL WW-68
  - C. 2" HDPE WATER SERVICE TUBING, SPL WW-65
  - D. 2" BALL VALVE, SPL WW-68
  - E. SINGLE SERVICE: 2" MIP X 1" COPPER FLARE FITTING, SPL WW-68 OR  
DOUBLE SERVICE: 2" MIP X 1" COPPER FLARE WYE, SPL WW-68
  - F. 1" SWIVEL NUT X 1" COMPRESSION 90° BEND, SPL WW-68
  - G. 1" HDPE WATER SERVICE TUBING, SPL WW-65
  - H. 1" ANGLE METER STOP, SPL WW-68
  - I. METER BOX AND LID, SPL WW-145A;  
FOR DUAL 1" METERS: USE TWO SINGLE METER BOXES

- MATERIALS TO BE INSTALLED BY PLUMBER:**
- J. BRASS METER BUSHING - SIZE AS NEEDED TO CONNECT ANGLE METER STOP TO METER
  - K. WATER METER PURCHASED FROM AUSTIN WATER
  - L. BRASS WATER METER COUPLING MALE IPT X SWIVEL COUPLING NUT:  
5/8" AND 3/4" METERS: 8 1/2" LONG X 3/4" DIA.  
1" METERS: 8 1/2" LONG X 1" DIA.
  - M. PROPERTY OWNER'S CUT OFF VALVE, SPL WW-276
  - N. PROPERTY OWNER'S CUT OFF VALVE BOX AND LID
  - O. TEMPORARY METER SPACER (REQUIRED TO ASSURE METER WILL FIT APPROPRIATELY)
  - P. 1" WOODEN DOWEL (SHOW ADDRESS ON DOWEL USING WATERPROOF MARKER)

- NOTES:**
- SERVICE CLAMP SHALL BE WRAPPED COMPLETELY WITH 8 MIL. POLYETHYLENE FILM, SPL WW-27D.
  - BRANCH CONNECTIONS AND ALL ANGLE METER STOPS MUST BE INSTALLED PRIOR TO ANY METER INSTALLATION.
  - TOP OF METER BOXES SHOULD BE 4" ABOVE GROUND.
  - PIPING AND TUBING IN STREET RIGHT-OF-WAY SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY SECTION 510.3 (14) OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS; BACKFILL ABOVE GRANULAR BEDDING AS REQUIRED BY SECTION 510.3 (25).
  - METER BOX MUST BE BEHIND CURB NEXT TO PROPERTY LINE OR EASEMENT AND OUT OF VEHICULAR TRAFFIC AREA AND SIDEWALK.
  - BALL VALVE "D" SHALL NOT BE LOCATED UNDER SIDEWALK, CURB, OR PAVEMENT, AND NOT BE LOCATED MORE THAN 36" BELOW FINAL GRADE.
  - METER SIZES TO BE SHOWN ON PLANS.
  - METER BOX CUT OUTS SHALL NOT EXCEED TWO TIMES THE PIPE DIAMETER.
  - INSTALL METALLIC TRACER TAPE, SPL WW-597, MINIMUM 1' ABOVE TUBING FROM SERVICE CLAMP "A" TO BALL VALVE "D".
  - TUBING SHALL BE PLACED IN A STRAIGHT ALIGNMENT AND ALLOWED TO RELAX AND "SNAKE" LOOSELY IN THE TRENCH. TUBING BEHIND CURB AND GUTTER SHALL BE INSTALLED WITH A MINIMUM 2" DEPTH OF COVER.
  - 1" TUBING, WHEN BENT, SHALL HAVE A RADIUS NO SMALLER THAN 3'. 2" TUBING, WHEN BENT, SHALL HAVE A RADIUS NO SMALLER THAN 5'. BRASS FITTINGS SHALL NOT BE CONNECTED TO A BENT SECTION OF TUBING.
  - SOLID TUBULAR STAINLESS STEEL INSERT STIFFENERS FOR HDPE TUBING SHALL BE USED AT ALL COMPRESSION FITTINGS. INSERT STIFFENERS SHALL BE FROM THE SAME MANUFACTURER AS THE COMPRESSION FITTING USED.
  - FOR RECLAIMED WATER SERVICES AND METERS, ALL RECLAIMED TUBING SHALL BE MANUFACTURED SOLID PURPLE, SPL WW-65A. ALL APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL METER BOX LIDS SHALL BE PURPLE AND HAVE "RECLAIMED WATER" CAST INTO THEM, SPL WW-145A.

CITY OF AUSTIN AUSTIN WATER	WATER SERVICE & METER INSTALLATION - 1" & SMALLER METERS	
JEFF A. KYLE	08/16/2019 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
		STANDARD NO. <b>520-AW-01B</b> 2 OF 2



CITY OF AUSTIN AUSTIN WATER	1 1/2" - 2" METER INSTALLATION SHOWING OPTIONAL BYPASS	
RECORD COPY SIGNED BY KATHI L. FLOWERS	05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
		STANDARD NO. <b>520-AW-04</b> 1 OF 2

- MATERIALS LIST:**
- A. 2" SERVICE CLAMP
  - B. 2" CORPORATION STOP MALE THREAD INLET BY COMPRESSION OUTLET
  - C. 2" ~~HDPE~~ WATER SERVICE TUBING EXTENDED BEYOND PAVEMENT
  - D1. 2" BALL VALVE, SPL WW-275
  - D2. 2" BALL VALVE, SPL WW-275
  - E. 2" ~~HDPE~~ SERVICE TUBING
  - F. 2" BRASS COUPLING - COMPRESSION TO MALE IPT
  - G. 2" BRASS TEE
  - H. 2" BRASS CLOSE-NIPPLE
  - I. 2" ANGLE METER STOP; SERVICE TUBING INLET X FLANGED OUTLET
  - J. 2" BRASS NIPPLE
  - K. 2" BRASS ELBOW
  - L. 2" LOCKABLE CURB STOP - FEMALE IPT INLET BY COMPRESSION OUTLET
  - M. 2" BRASS COUPLING - SERVICE TUBING TO MALE IPT
  - N. RECTANGULAR METER BOX AND COVER, SPL WW-145A
  - O. BRASS ADAPTER (2" x 1 1/2") FOR 1 1/2" METER ONLY
  - P. WATER METER, LENGTH 13", (PURCHASED FROM AUSTIN WATER)
  - Q. 2" ~~HDPE~~ SERVICE TUBING (PRIVATE PLUMBING PER CODE)
  - R. CUSTOMER CUT-OFF VALVE
  - S. CUSTOMER VALVE BOX AND LID

- NOTES:**
- SERVICE CLAMP SHALL BE WRAPPED COMPLETELY WITH 8 MIL. POLYETHYLENE FILM.
  - BRANCH CONNECTIONS AND ALL ANGLE METER STOPS MUST BE INSTALLED PRIOR TO ANY METER INSTALLATION.
  - TOP OF BOXES SHOULD BE 1" ABOVE GROUND.
  - PIPING AND TUBING IN STREET RIGHT-OF-WAY SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY SECTION 510.3 (14) OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS; BACKFILL ABOVE GRANULAR BEDDING AS REQUIRED BY SECTION 510.3 (25).
  - BOX MUST BE BEHIND CURB NEXT TO PROPERTY LINE OR EASEMENT AND OUT OF VEHICULAR TRAFFIC AREA AND SIDEWALK.
  - BALL VALVE "D1" SHALL NOT BE LOCATED UNDER SIDEWALK, CURB, OR PAVEMENT, AND NOT BE LOCATED MORE THAN 24" HORIZONTALLY FROM METER BOX OR 36" BELOW FINAL GRADE.
  - COPPER SERVICE SHALL BE COPPER TUBING SIZE ANNEALED SEAMLESS TYPE "K" MEETING ASTM B88 WITH NO SWEAT OR SOLDERED JOINTS.

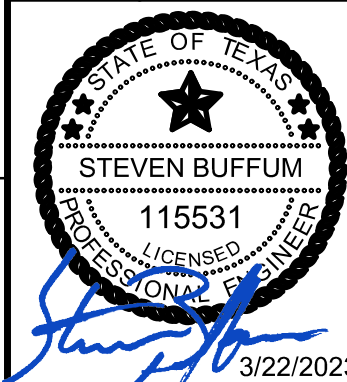
**RECLAIMED WATER:**

FOR RECLAIMED WATER SERVICES AND METERS, ALL RECLAIMED TUBING SHALL BE MANUFACTURED PURPLE TUBING. ALL OTHER TUBING AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL TUBING AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE "RECLAIMED WATER" CAST INTO THEM.

CITY OF AUSTIN AUSTIN WATER	1 1/2" - 2" METER INSTALLATION SHOWING OPTIONAL BYPASS	
RECORD COPY SIGNED BY KATHI L. FLOWERS	05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
		STANDARD NO. <b>520-AW-04</b> 2 OF 2

WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641

WATER AND WW DETAILS 5



SHEET  
84

OF 110 SHEETS

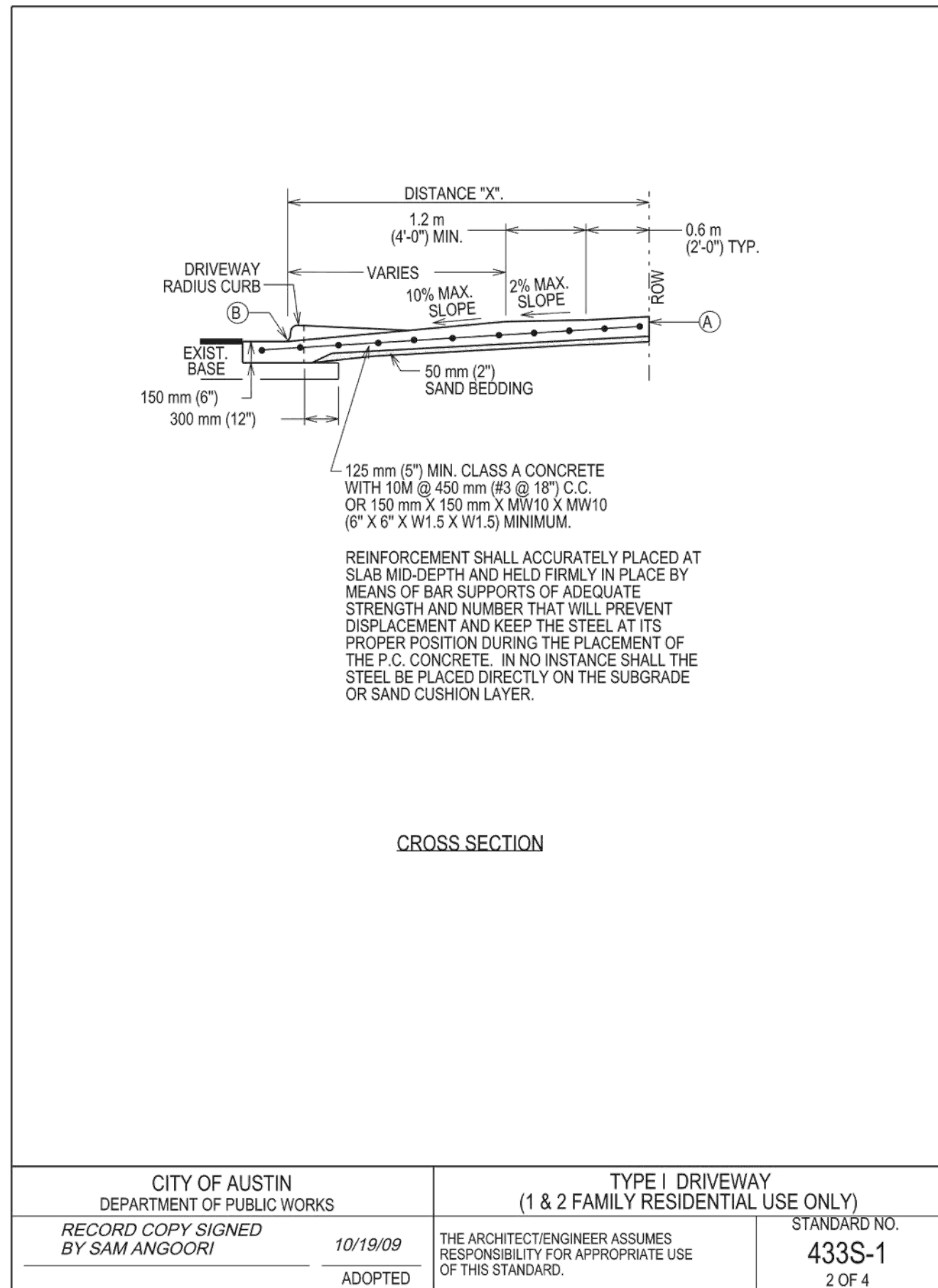
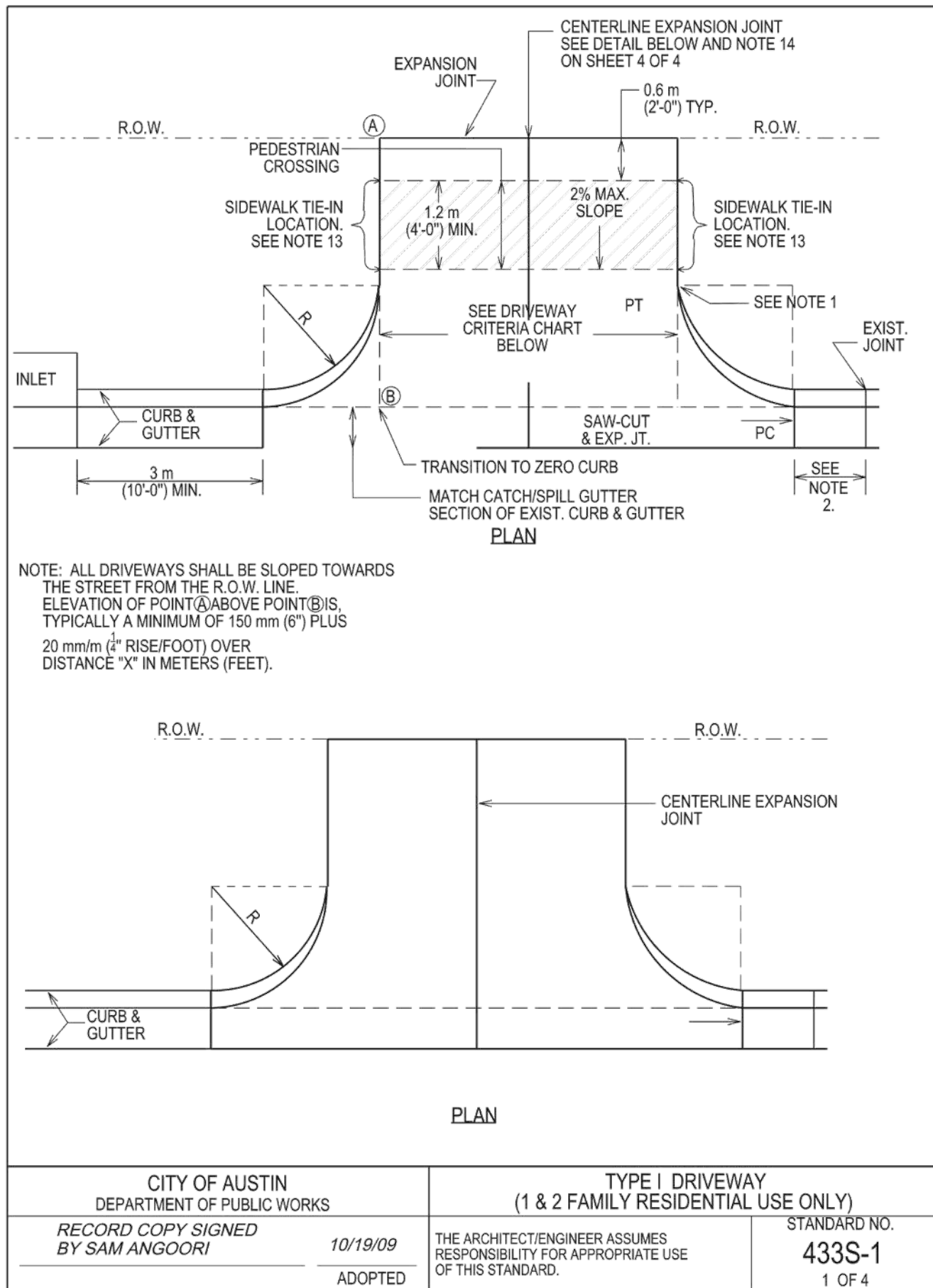
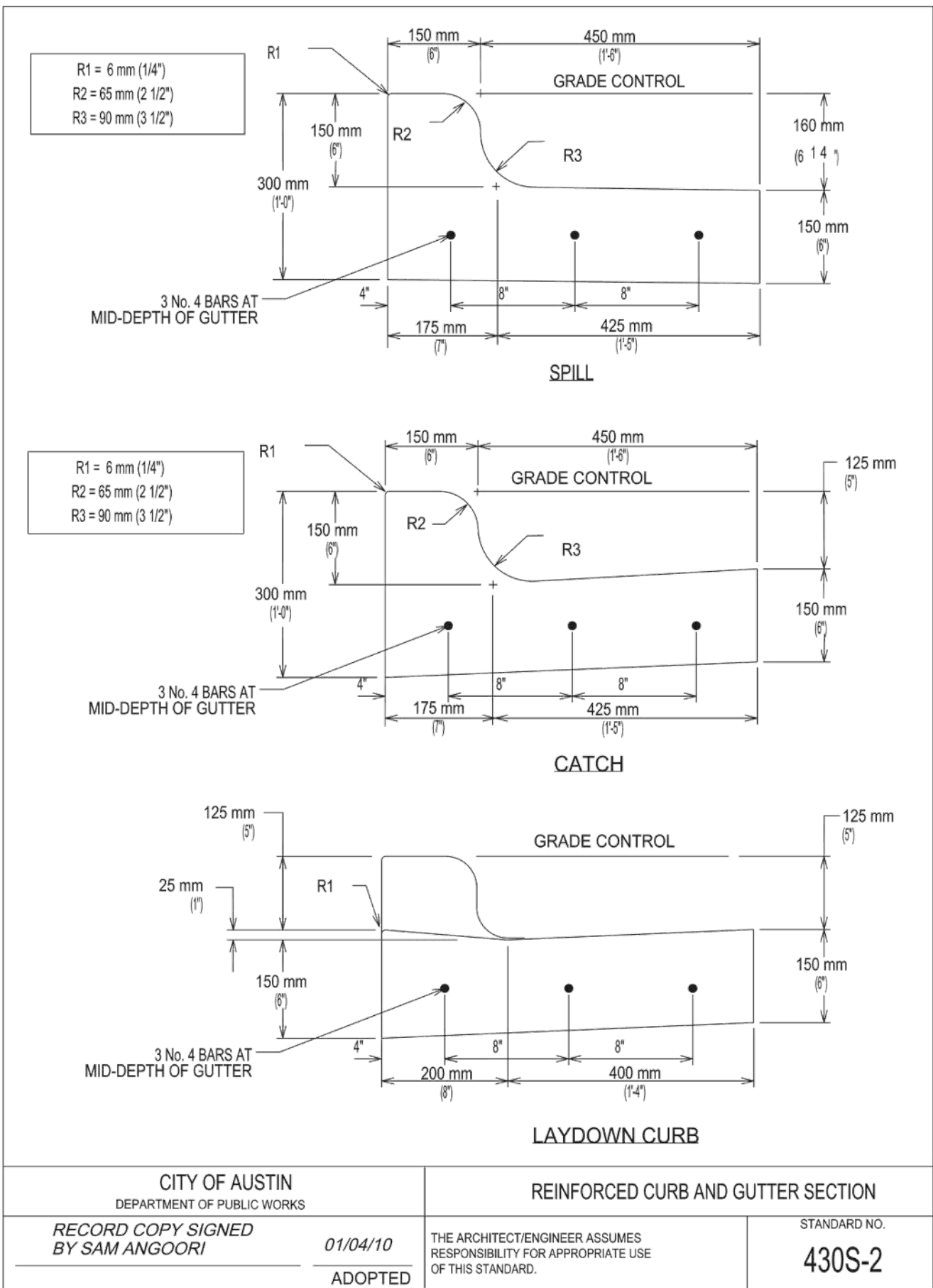
ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512)846-3466 (512) 514-0315 FAX  
TBPLS FIRM REG. No. 280  
TBPLS FIRM REG. No. 100486



DESIGNED:	DESIGN CHECKED:	DRAWN:	COGO CHECKED:	SURVEY CHECKED:	QA/QC:	DATE:	NO.	REVISION	DATE	BY



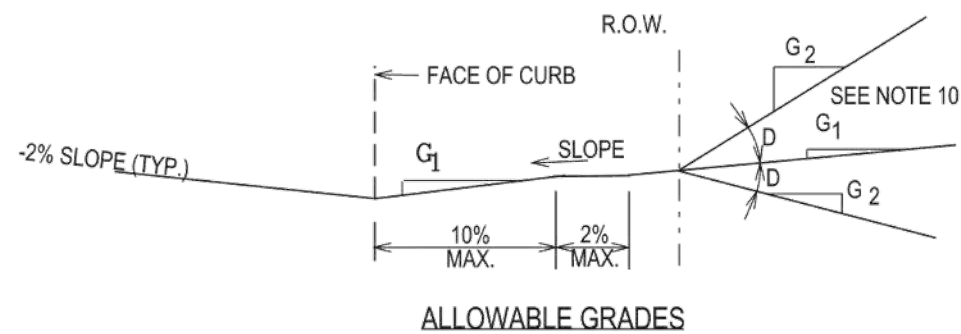
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DRIVEWAY CRITERIA USE	WIDTH METERS (FEET)		
	MIN.	OPT.	MAX.
SIN. FAMILY	3.66 (12)	5.50 (18)	11.80 (25)
DUPLEX	4.56 (15)	5.50 (18)	11.80 (25)
TOWN HOME	4.56 (15)	5.50 (18)	11.80 (25)

\*OPTIMUM

\*OPTIMUM

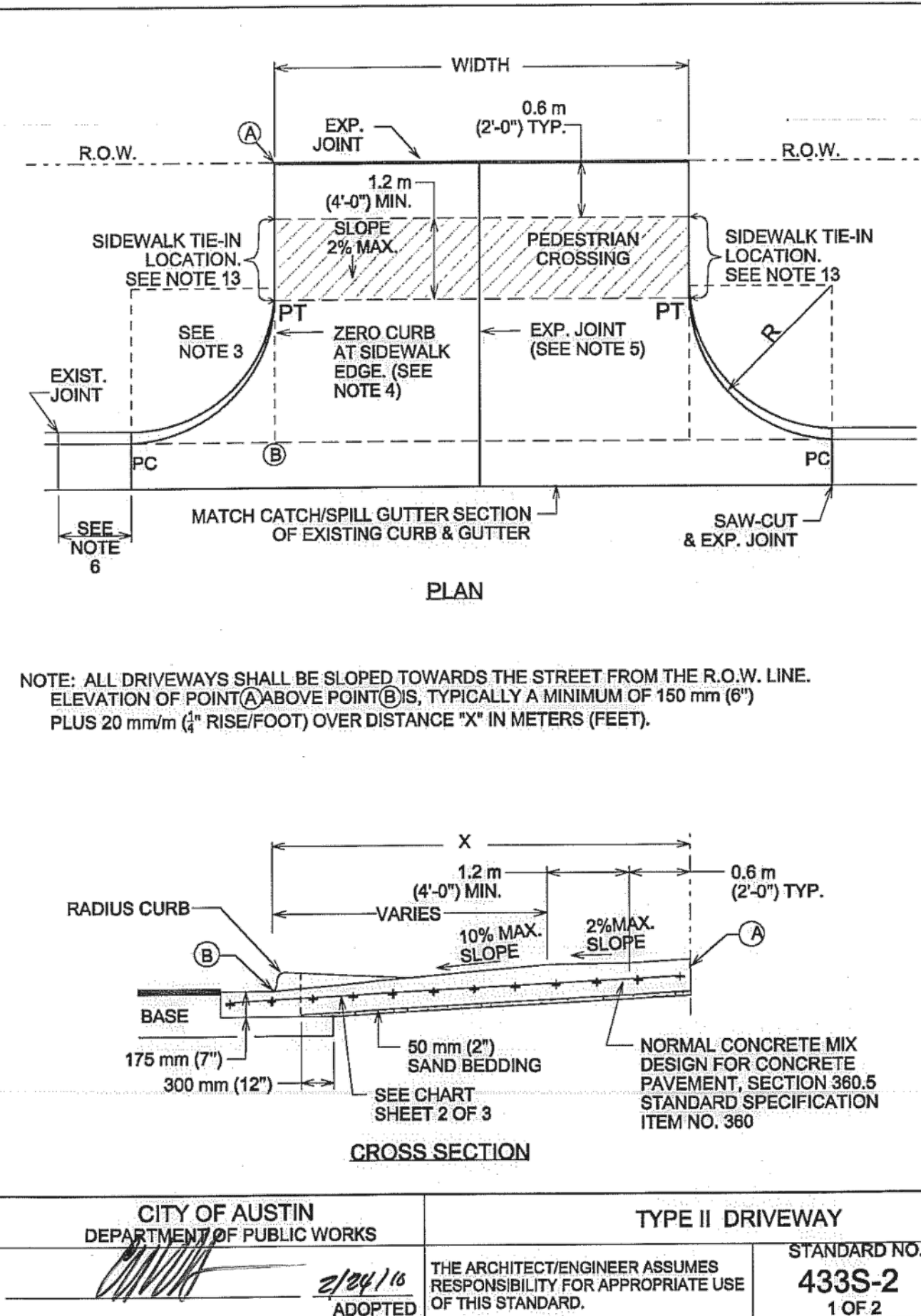


ALLOWABLE GRADES

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPE I DRIVEWAY (1 & 2 FAMILY RESIDENTIAL USE ONLY)	
RECORD COPY SIGNED BY SAM ANGOORI	10/19/09 ADOPTED	STANDARD NO. 433S-1 3 OF 4

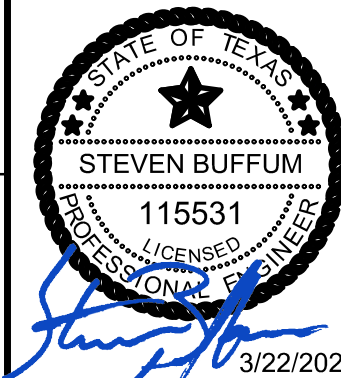
- NOTES:
- "ZERO" CURB AT PT OR SIDEWALK EDGE, WHICHEVER IS ENCOUNTERED FIRST. THE DRIVEWAY EDGE SHALL BE SMOOTHLY TRANSITIONED INTO THE SIDEWALK BEGINNING AT THE RADIUS PC LINE.
  - IF DIMENSION IS LESS THAN 1.5 METERS (5 FEET), REMOVE CURB AND GUTTER TO EXISTING JOINT AND POUR MONOLITHICALLY WITH THE DRIVEWAY.
  - IF THE BASE IS OVER EXCAVATED WHERE THE CURB AND GUTTER WAS REMOVED, BACKFILL WITH CONCRETE MONOLITHICALLY WITH THE DRIVEWAY.
  - ALL DRIVEWAYS MUST BE CONSTRUCTED WITHIN THE STREET FRONTAGE OF THE SUBJECT PROPERTY AS DETERMINED BY EXTENDING THE SIDE PROPERTY LINES TO THE CURB.
  - DRIVEWAYS SHALL NOT EXCEED 70% OF A LOTS' STREET FRONTAGE.
  - TYPE I DRIVEWAYS ARE TO BE LOCATED NO CLOSER TO THE CORNER OF INTERSECTING RIGHTS-OF-WAY THAN 60% OF PARCEL FRONTAGE OR 15 METERS (50 FEET); WHICHEVER IS LESS.
  - DRIVEWAYS SHALL NOT BE CONSTRUCTED WITHIN THE CURB RETURN OF A STREET INTERSECTION.
  - SINGLE FAMILY LOTS LIMITED TO ONE DRIVEWAY EXCEPT FOR APPROVED SEMICIRCULAR DRIVES.
  - WHEN TWO DRIVEWAYS ARE USED (ONE PER UNIT; TWO MAXIMUM) FOR DUPLEXES AND TOWN HOMES, SINGLE FAMILY STANDARDS SHALL APPLY.
  - WHILE THE PROPERTY OWNER REMAINS RESPONSIBLE FOR GRADE BREAKS WITHIN PRIVATE PROPERTY, THE FIRE DEPARTMENT SHOULD BE CONSULTED WHERE THE DRIVEWAY IS ESSENTIAL TO EMERGENCY VEHICLE ACCESS AND "G2" IS GREATER THAN 15%. "G1" PLUS "D" SHOULD NOT EXCEED 15%.
  - SEE TRANSPORTATION MANUAL SECTION 5 FOR OTHER DRIVEWAY REQUIREMENTS.
  - USE 12 mm (#1) ASPHALT BOARD, OR OTHER APPROVED MATERIAL, FOR CURB AND GUTTER EXPANSION JOINTS.
  - THE SIDEWALK, REGARDLESS OF ITS LOCATION WITH RESPECT TO THE CURB OR PROPERTY LINE, SHALL BE CONNECTED TO THE DRIVEWAY AT THESE LOCATIONS.
  - PLACE AN EXPANSION JOINT DOWN THE CENTER OF ALL DRIVEWAYS.
  - WATER METER BOXES AND WASTEWATER CLEAN OUTS ARE PROHIBITED FROM BEING LOCATED IN DRIVEWAY AREAS.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPE I DRIVEWAY (1 & 2 FAMILY RESIDENTIAL USE ONLY)	
RECORD COPY SIGNED BY SAM ANGOORI	10/19/09 ADOPTED	STANDARD NO. 433S-1 4 OF 4



WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641

PAVING AND SIGNAGE DETAILS 1



3/22/2023

SHEET 85

OF 110 SHEETS

DESIGNED:	DESIGN CHECKED:	DRAWN:	COGO CHECKED:	SURVEY CHECKED:	QA/QC:	DATE:	QA/QC REVISIONS:	NO.	REVISION	DATE	BY

ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY. BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512)846-3456 (512) 514-0315 FAX  
TBPE FIRM REG. No. 280  
TBPLS FIRM REG. No. 100486





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

**ALLOWABLE GRADES**

DRIVEWAY VOLUME (ADT)	D=GRADE CHANGE	
	STD.	MAX.
>1500	0%	3%
500-1500	3%	0%
<500	6%	15%

**NOTES:**

- ALL TYPE II DRIVEWAYS SHALL HAVE RADIUS ENDS.
- DRIVEWAY WIDTHS AND RADII DIMENSIONS, ONE-TWO WAY TRAVEL REQUIREMENTS, AND GEOMETRIC LAY-OUT ARE HIGHLY VARIABLE. SUBJECT TO SITE SPECIFIC CONDITIONS AND REQUIREMENTS. SEE TRANSPORTATION CRITERIA MANUAL, SECTION 5 "DRIVEWAYS".
- THE DRIVEWAY EDGE SHALL BE SMOOTHLY TRANSITIONED INTO THE SIDEWALK TIE-IN LOCATION BEGINNING AT THE RADIUS PC LINE.
- "ZERO" CURB AT PT OR SIDEWALK EDGE, WHICHEVER IS ENCOUNTERED FIRST.
- PLACE AN EXPANSION JOINT DOWN THE CENTER OF DRIVEWAY ALL DRIVEWAYS.
- IF DIMENSION IS LESS THAN 1.5 METERS (5 FEET), REMOVE CURB AND GUTTER TO EXISTING JOINT AND POUR MONOLITHICALLY WITH DRIVEWAY.
- IF THE BASE IS OVER-EXCAVATED WHERE THE CURB AND GUTTER WERE REMOVED, BACKFILL WITH CONCRETE MONOLITHICALLY WITH THE DRIVEWAY.
- TYPE II DRIVEWAYS ARE TO BE LOCATED NO CLOSER TO THE CORNER OF INTERSECTING RIGHT OF WAY THAN 60% OF PARCEL FRONTAGE AT 30 METERS (100 FEET); WHICHEVER IS LESS.
- DRIVEWAY SHALL NOT BE CONSTRUCTED WITHIN THE CURB RETURN OF A STREET INTERSECTION.
- WHILE THE PROPERTY OWNER REMAINS RESPONSIBLE FOR GRADE BREAKS WITHIN PRIVATE PROPERTY, THE FIRE DEPARTMENT SHALL BE CONSULTED WHERE THE DRIVEWAY IS ESSENTIAL TO EMERGENCY VEHICLE ACCESS AND "G2" IS GREATER THAN 15%.
- USE 12 MM (1/2") ASPHALT BOARD OR OTHER APPROVED MATERIAL FOR CURB AND GUTTER EXPANSION JOINTS. SIDEWALK, AT THE R.O.W. LINE AND AT MIDWIDTH, SEE NOTE 6.
- SEE TRANSPORTATION CRITERIA MANUAL, SECTION 5 FOR OTHER DRIVEWAY REQUIREMENTS.
- THE SIDEWALK, REGARDLESS OF ITS LOCATION WITH RESPECT TO THE CURB OR PROPERTY LINE, SHALL BE CONNECTED TO THE DRIVEWAY AT THESE LOCATIONS.
- WATER METER BOXES AND WASTEWATER CLEAN OUTS ARE PROHIBITED FROM BEING LOCATED IN DRIVEWAY AREAS.

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

**DOWEL DETAIL**

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

ARTERIAL ROADWAYS	
DROPOFF HEIGHT/ CONDITION	RAIL OPTIONS
< 30" DROPOFF	TXDOT PRD-13 TY C or TY E
≥ 30" DROPOFF OR ALONG BICYCLE PATH	TXDOT PRD-13 TY E

ALL OTHER ROADWAY CLASSIFICATIONS	
DROPOFF HEIGHT/ CONDITION	RAIL OPTIONS
< 30" DROPOFF	TXDOT PRD-13 TY C, TXDOT PRD-13 TY E, or COA 707S-2
≥ 30" DROPOFF OR ALONG BICYCLE PATH	TXDOT PRD-13 TY E or COA 707S-2

**NOTES:**

- BICYCLE PATHS INCLUDE ALL SIDEWALKS OR PATHS GREATER THAN SIX FEET (6') IN WIDTH.
- HANDRAIL TYPE AND FINISH SHALL REMAIN CONSISTENT AT EACH INSTALLATION LOCATION (CULVERT CROSSING, DROPOFF, ETC.).
- ALL HANDRAIL INSTALLED ALONG ARTERIAL ROADWAYS SHALL BE GALVANIZED.
- HANDRAIL INSTALLED ALONG ALL OTHER ROADWAYS SHALL BE GALVANIZED OR FACTORY POWDER-COATED BLACK.

**REFERENCES:**

- CITY OF AUSTIN STANDARD NO. 707S-2 PEDESTRIAN HANDRAIL OPTION 1.
- TEXAS DEPARTMENT OF TRANSPORTATION PEDESTRIAN HANDRAILS DETAIL PRD-13.

*Michael Lafferty* 2020-04-07  
City Of Leander, Texas  
DETAIL #202-4  
PEDESTRIAN HANDRAIL

**PLAN**

**SECTION**

**CITY OF AUSTIN**  
DEPARTMENT OF PUBLIC WORKS  
*Bill Anderson* 3/26/08  
ADOPTED

**SIDEWALK**

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

STANDARD NO.  
432S-1  
1 OF 3

**RESIDENTIAL LOCAL STREET SECTION WITH STANDARD UTILITY ASSIGNMENTS**

**NOTES:**

- DIMENSIONS FOR ROW AND FOC-FOC ARE FOR RESIDENTIAL LOCAL STREETS ONLY. SEE TRANSPORTATION PLAN FOR ROADWAY AND RIGHT-OF-WAY WIDTHS FOR ALL OTHER ROADWAY CLASSIFICATIONS.
- BASE COURSE TO EXTEND 1' (MINIMUM) PAST BACK OF CURB FOR SOILS WITH PI OF 20 OR LESS, 3' FOR ALL OTHER SOILS.
- PAVEMENT STRUCTURAL SECTION SHALL, IN NO CASE, BE LESS THAN THE VALUES SHOWN ABOVE.
- GEOTECHNICAL ENGINEER SHALL PROVIDE A PAVEMENT DESIGN TO DETERMINE THE NEED FOR ADDITIONAL ASPHALT THICKNESS, BASE THICKNESS, SUB-BASE AND GEOGRID BASED UPON ON-SITE SOIL CONDITIONS AND TRAFFIC PROJECTIONS.
- SIDEWALK TO HAVE MAXIMUM 2% CROSS SLOPE.
- SLOPE FROM BACK OF CURB TO RIGHT-OF-WAY SHALL BE 2% UNLESS OTHERWISE INDICATED ON THE GRADING PLAN.
- STREET TREES, WHERE REQUIRED, SHALL BE PLACED BETWEEN SIDEWALK AND BACK OF CURB. SEE DETAIL 204-4.
- METER BOXES AND SEWER SERVICE STUBS SHALL BE PLACED IN THE PUBLIC UTILITY EASEMENT ABUTTING THE SIDEWALK.

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

*Wayne S. Watts* 12/21/17  
City Of Leander, Texas  
DETAIL #204-3  
RESIDENTIAL LOCAL STREET SECTION WITH STANDARD UTILITY ASSIGNMENTS

**MINIMUM COVER BELOW FINISH-GRADE**

	BELOW SUBGRADE
STORM SEWER	48"
WASTEWATER	48"
WATER	36"
ELECTRIC PRIMARY*	30"
ELECTRIC SECONDARY*	24"
GAS*	24"
TELECOMMUNICATIONS*	24"

**RESIDENTIAL STREET**  
NOT TO SCALE

\*NOTE:  
ALL GAS, ELECTRIC, AND TELECOMMUNICATION LINES SHALL BE INSTALLED PER THE UTILITY PROVIDER'S STANDARDS AND SPECIFICATIONS.

*Wayne S. Watts* 3/22/2018  
City Of Leander, Texas  
DETAIL #204-5  
UTILITY ASSIGNMENTS WITHIN RESIDENTIAL DEVELOPMENT

DESIGNED:	DESIGN CHECKED:	DRAWN:	COGO CHECKED:	SURVEY CHECKED:	DATE:	NO.	REVISION	DATE	BY

ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512) 846-3466 (512) 514-0315 FAX  
TBPE FIRM REG. NO. 280  
TBPLS FIRM REG. NO. 100486

**Costello**

WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641

**PAVING AND SIGNAGE DETAILS 2**

STATE OF TEXAS  
STEVEN BUFFUM  
115531  
LICENSED PROFESSIONAL ENGINEER  
3/22/2023

SHEET 86  
OF 110 SHEETS

WILDSRING PHASE 1



APPROVED BY:

ROBIN M. GRIFFIN, AICP, EXECUTIVE DIRECTOR OF DEVELOPMENT SERVICES

DATE

EMILY TRUMAN, P.E., CFM, CITY ENGINEER

DATE

GINA ELLISON, P.E., PUBLIC WORKS DIRECTOR

DATE

MARK TUMMONS, CPRP, DIRECTOR OF PARKS AND RECREATION

DATE

CHIEF JOSHUA DAVIS, FIRE MARSHAL

DATE

DEVELOPER INFORMATION:

OWNER / DEVELOPER: TOLL BROTHERS  
1320 ARROW POINT DR., STE 401, CEDAR PARK, TX 78613  
412-780-2312

ENGINEER: COSTELLO, INC. TBPE 280  
9050 N CAPITAL OF TX HWY, BLDG. 3, SUITE 390  
AUSTIN, TX 78759  
512-646-3456

SURVEYOR: LANDESIGN SERVICES, INC. TBPELS 10001800  
10090 W HIGHWAY 29  
LIBERTY HILL, TX 78642  
512-238-7901

AGENT: COSTELLO, INC. TBPE 280  
9050 N CAPITAL OF TX HWY, BLDG. 3, SUITE 390  
AUSTIN, TX 78759  
512-646-3456

STORMWATER MANAGEMENT:

ONSITE WATER QUALITY AND DETENTION THROUGH  
BATCH DETENTION.

FLOODPLAIN:

FLOODPLAIN MODIFICATIONS ARE PROPOSED IN CONJUNCTION WITH THIS  
DEVELOPMENT

PORTIONS OF THIS TRACT ARE WITHIN A FLOOD HAZARD AREA AS SHOWN ON THE FLOOD  
INSURANCE RATE MAP PANEL #48491C0460F FOR WILLIAMSON CO., EFFECTIVE 12/20/2019

WATERSHED:

THIS PROJECT IS LOCATED IN THE BRUSHY CREEK WATERSHED.

ENVIRONMENTAL:

THIS PROJECT IS LOCATED IN THE EDWARDS AQUIFER CONTRIBUTING ZONE.

TRAFFIC IMPACT ANALYSIS:

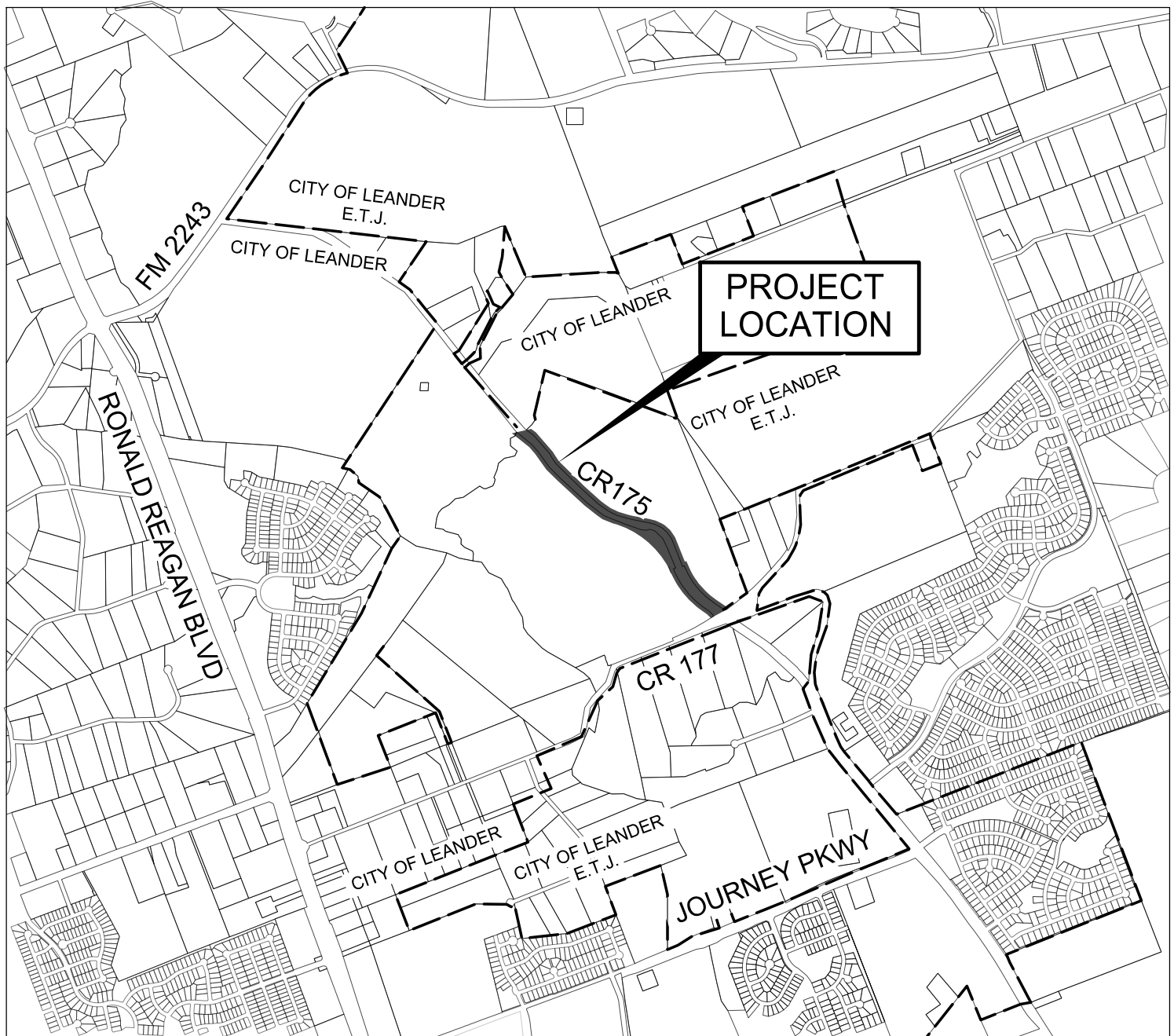
SEE REPORT BY COSTELLO, INC. DATED NOVEMBER 2021

# CR 175

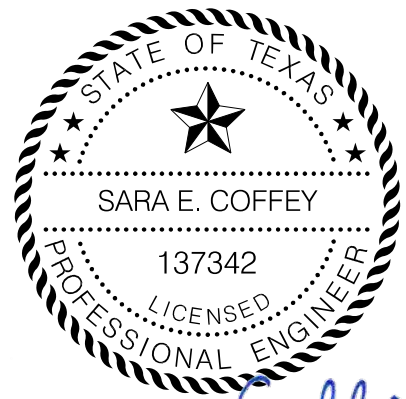
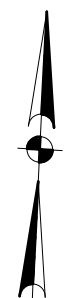
## ROADWAY IMPROVEMENTS

### PROJECT NO. \_\_\_\_\_

CITY OF LEANDER, WILLIAMSON COUNTY, TEXAS



VICINITY MAP  
SCALE: NTS



*Sara Coffey*

SARA COFFEY, P.E.  
COSTELLO, INC. TBPE NO. 280

3/22/2023

DATE

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2 - 3	GENERAL NOTES
4	PROJECT LAYOUT
5 - 6	TREE MITIGATION
7 - 8	EROSION & SEDIMENTATION CONTROL PLAN LAYOUT
9	EXISTING TYPICAL SECTIONS
10	PROPOSED TYPICAL SECTIONS
11	HORIZONTAL ALIGNMENT DATA
12 - 19	CR 175 PLAN & PROFILE
20	DRAINAGE AREA MAP
21	EXISTING DRAINAGE AREA MAP
22	OVERALL DRAINAGE AREA MAP
23	DRAINAGE CALCULATIONS
24 - 25	GRADING LAYOUT
26	CULVERT LAYOUT
27	CULVERT PLAN & PROFILE
28	DRAINAGE LATERALS
29 - 30	SIGNING AND PAVEMENT MARKING LAYOUT
31	STREET LIGHT PLAN
32 - 33	TRAFFIC CONTROL PLAN PHASE 1
34 - 35	TRAFFIC CONTROL PLAN PHASE 2
36	EROSION CONTROL DETAILS
37	PAVING DETAILS
38	DRAINAGE DETAILS
39	CULVERT DETAILS
40	PAVEMENT MARKING DETAILS
41 - 43	TRAFFIC CONTROL DETAILS
44 - 47	STREET LIGHT PLAN DETAILS
48	LANDSCAPE PLAN

DESIGN SPEED = 45 MPH



Know what's below.  
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REVISIONS/CORRECTIONS					
SHEET LIST	DESCRIPTION	DATE	REVISE (R) ADD (A) VOID (V) SHEET NO.'S	ACCEPTED BY:	APPROVAL DATE:



ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3. SUITE 390  
AUSTIN, TEXAS 78759  
(512)646-3456 (512)514-0315, FAX  
TBPE FIRM REG. No. 280  
TBPLS FIRM REG. No. 100486

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN  
AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE  
EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK.  
HE/SHE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES  
WHICH MIGHT BE OCCASIONED BY THE FAILURE TO EXACTLY LOCATE AND  
PRESERVE ANY AND ALL UNDERGROUND UTILITIES





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GENERAL NOTES

REVISED JUNE 22, 2022  
ANY CHANGES TO THESE NOTES SHOULD BE CLOUDED ON THE PLAN SET.  
CITY CONTACTS:  
ENGINEERING MAIN LINE: 512-528-2766  
PLANNING DEPARTMENT: 512-528-2750  
PUBLIC WORKS MAIN LINE: 512-259-2640  
STORMWATER INSPECTIONS: 512-285-0055  
UTILITIES MAIN LINE: 512-259-1142  
UTILITIES ON-CALL: 512-690-4760  
UTILITY LOCATE REQUESTS [locates@leandertx.gov](mailto:locates@leandertx.gov)

1. THE CONTRACTOR SHALL VERIFY ALL DEPTHS AND LOCATIONS OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES WITH CONSTRUCTION PLANS FOUND IN THE FIELD SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE ENGINEER.
2. THE CONTRACTOR SHALL CONTACT THE TEXAS EXCAVATION SYSTEM AT 1-800-344-8377 FOR EXISTING UTILITY LOCATIONS 48 HOURS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES THAT ARE TO BE EXTENDED, TIED TO, CROSSED, OR ALTERED; OR SUBJECT TO DAMAGE/INCONVENIENCE BY THE CONSTRUCTION OPERATIONS.
3. CONTACT THE CITY OF LEANDER PUBLIC WORKS DEPARTMENT FOR EXISTING WATER AND WASTEWATER LOCATIONS 48 HOURS PRIOR TO CONSTRUCTION.
  - a. LOCATE REQUESTS MUST INCLUDE A COPY OF YOUR 811 TICKET. THE CITY OF LEANDER IS ALLOWED UP TO 48 HOURS TO COMPLY WITH YOUR REQUEST, EXCLUDING WEEKENDS AND DESIGNATED CITY HOLIDAYS.
  - b. REFRESH ALL LOCATES BEFORE 14 DAYS – LOCATE REFRESH REQUESTS MUST INCLUDE A COPY OF YOUR 811 TICKET. SUBMIT ALL REQUESTS TO [LOCATES@LEANDERTX.GOV](mailto:LOCATES@LEANDERTX.GOV). TEXAS PIPELINE DAMAGE PREVENTION LAWS REQUIRE THAT A LOCATE REFRESH REQUEST BE SUBMITTED BEFORE 14 DAYS, OR IF LOCATION MARKERS ARE NO LONGER VISIBLE.
  - c. REPORT PIPELINE DAMAGE IMMEDIATELY – IF YOU WITNESS OR EXPERIENCE PIPELINE EXCAVATION DAMAGE, PLEASE CONTACT THE CITY OF LEANDER BY PHONE AT 512-259-2640.
4. ANY CHANGES OR REVISIONS TO THESE PLANS MUST FIRST BE SUBMITTED TO THE CITY BY THE DESIGN ENGINEER FOR REVIEW AND WRITTEN APPROVAL PRIOR TO CONSTRUCTION OF THE REVISION.
5. A TRAFFIC CONTROL PLAN, IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO ANY PARTIAL OR COMPLETE ROADWAY CLOSURES. TRAFFIC CONTROL PLANS SHALL BE SITE SPECIFIC AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER. LANE CLOSURES ON ARTERIALS AND ANY FULL ROAD CLOSURES REQUIRE MESSAGE BOARDS NOTIFYING THE PUBLIC ONE WEEK PRIOR TO THE CLOSURE.
6. NO WORK IS TO BE PERFORMED BETWEEN THE HOURS OF 9:00 P.M. AND 7:00 A.M. THE CITY INSPECTOR RESERVES THE RIGHT TO REQUIRE THE CONTRACTOR TO UNCOVER ALL WORK PERFORMED WITHOUT INSPECTION. FURTHER, THERE IS A NOISE ORDINANCE IN EFFECT FOR CONSTRUCTION ACTIVITY BETWEEN THE HOURS OF 9:00 PM AND 7:00 AM. REQUESTS FOR EXCEPTIONS TO THE ORDINANCE MUST BE MADE TO LEANDER CITY COUNCIL.
7. CONTACT THE CITY INSPECTOR 4 DAYS PRIOR TO WORK TO SCHEDULE ANY INSPECTIONS ON WEEKENDS OR CITY HOLIDAYS.
8. NO STREET LIGHTS OR SIGNS OF ANY KIND ARE TO BE PLACED WITHIN ANY SIDEWALKS.
9. NO BLASTING IS ALLOWED.
10. ANY EXISTING UTILITIES, PAVEMENT, CURBS, SIDEWALKS, STRUCTURES, TREES, ETC., THAT ARE DAMAGED OR REMOVED SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER.
11. THE CONTRACTOR SHALL GIVE THE CITY OF LEANDER 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION. CONTACT ASSIGNED CITY INSPECTOR.
12. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD WITH THE CONTRACTOR, DESIGN ENGINEER/PERMIT APPLICANT AND THE CITY OF LEANDER REPRESENTATIVES PRIOR TO INSTALLATION OF EROSION/SEDIMENTATION CONTROLS AND TREE PROTECTION MEASURES AND PRIOR TO BEGINNING ANY WORK. THE CONTRACTOR SHALL NOTIFY THE CITY OF LEANDER PLANNING DEPARTMENT PLANNING COORDINATOR AT LEAST THREE (3) DAYS PRIOR TO THE MEETING DATE.
13. THE CONTRACTOR AND ENGINEER SHALL KEEP ACCURATE RECORDS OF ALL CONSTRUCTION THAT DEVIATES FROM THE PLANS. THE ENGINEER SHALL FURNISH THE CITY OF LEANDER ACCURATE "RECORD DRAWINGS" FOLLOWING THE COMPLETION OF ALL CONSTRUCTION. THESE "RECORD DRAWINGS" SHALL MEET THE SATISFACTION OF THE ENGINEERING DEPARTMENTS PRIOR TO FINAL ACCEPTANCE.
14. WHEN CONSTRUCTION IS BEING CARRIED OUT WITHIN EASEMENTS, THE CONTRACTOR SHALL CONFINE HIS WORK TO WITHIN THE PERMANENT AND TEMPORARY EASEMENTS. PRIOR TO ACCEPTANCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TRASH AND DEBRIS WITHIN THE PERMANENT EASEMENTS. CLEANUP SHALL BE TO THE SATISFACTION OF THE ENGINEER.
15. CONTRACTOR TO LOCATE, PROTECT, AND MAINTAIN BENCHMARKS, MONUMENTS, CONTROL POINTS AND PROJECT ENGINEERING REFERENCE POINTS. RE-ESTABLISH DISTURBED OR DESTROYED ITEMS BY REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, AT NO ADDITIONAL COST TO OWNER.
16. THE CONTRACTOR SHALL PROTECT ALL EXISTING FENCES. IN THE EVENT THAT A FENCE MUST BE REMOVED, THE CONTRACTOR SHALL REPLACE SAID FENCE OR PORTION THEREOF WITH THE SAME TYPE OF FENCING TO A QUALITY OF EQUAL OR BETTER THAN THE ORIGINAL FENCE.
17. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA). OSHA STANDARDS MAY BE PURCHASED FROM THE GOVERNMENT PRINTING OFFICE; INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, 1033 LA POSADA DR. SUITE 375, AUSTIN, TEXAS 78752-3832.
18. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT WHERE NOT SPECIFICALLY COVERED IN THE PROJECT SPECIFICATIONS SHALL CONFORM TO ALL CITY OF LEANDER DETAILS AND CITY OF AUSTIN STANDARD SPECIFICATIONS.
19. PROJECT SPECIFICATIONS TAKE PRECEDENCE OVER PLANS AND SPECIAL CONDITIONS GOVERN OVER TECHNICAL SPECIFICATIONS.
20. HOT MIX ASPHALTIC CONCRETE PAVEMENT SHALL BE MINIMUM THICKNESS OF 2 INCHES WITH NO RECYCLED ASPHALT SHINGLES CONTENT.
21. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY RISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS OF DIMENSIONS OR GRADES NECESSARY FOR THE CONSTRUCTION OF THIS PROJECT.
22. CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.

- (CONT.)
23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION BETWEEN HIMSELF AND OTHER CONTRACTORS AND UTILITIES IN THE VICINITY OF THE PROJECT. THIS INCLUDES GAS, WATER, WASTEWATER, ELECTRICAL, TELEPHONE, CABLE TV AND STREET DRAINAGE WORK. ONCE THE CONTRACTOR BECOMES AWARE OF A POSSIBLE CONFLICT, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ENGINEER WITHIN TWENTY-FOUR (24) HOURS.
  24. THE CONTRACTOR MUST OBTAIN A CONSTRUCTION WATER METER FOR ALL WATER USED DURING CONSTRUCTION. A COPY OF THIS PERMIT MUST BE CARRIED AT ALL TIMES BY ALL WHO USE WATER.
  25. CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ROADS AND DRIVES ADJACENT TO AND NEAR THE SITE FREE FROM SOIL, SEDIMENT AND DEBRIS. CONTRACTOR WILL NOT REMOVE SOIL, SEDIMENT OR DEBRIS FROM ANY AREA OR VEHICLE BY MEANS OF WATER. ONLY SHOVELING AND SWEEPING WILL BE ALLOWED. CONTRACTOR WILL BE RESPONSIBLE FOR DUST CONTROL FROM THE SITE.
  26. THE CITY OF LEANDER SHALL NOT BE PETITIONED FOR ACCEPTANCE UNTIL ALL NECESSARY EASEMENT DOCUMENTS HAVE BEEN SIGNED AND RECORDED.
  27. AN ENGINEER'S CONCURRENCE LETTER AND RECORD DRAWINGS SHALL BE SUBMITTED TO THE ENGINEERING DEPARTMENT PRIOR TO THE ISSUANCE OF CERTIFICATE OF COMPLETION OR SUBDIVISION ACCEPTANCE. THE ENGINEER AND CONTRACTOR SHALL VERIFY THAT ALL FINAL REVISIONS AND CHANGES HAVE BEEN MADE TO THE DIGITAL COPY PRIOR TO CITY SUBMITTAL. RECORD CONSTRUCTION DRAWINGS, INCLUDING ROADWAY AND ALL UTILITIES SHALL BE PROVIDED TO THE CITY IN DIGITAL FORMAT AS AUTOCAD ".DWG" FILES, MICROSTATION ".DGN" FILES OR ESRI ".SHP" FILES ON CD ROM. LINE WEIGHTS, LINE TYPES AND TEXT SIZE SHALL BE SUCH THAT IF HALF-SIZE PRINTS (11"x17") WERE PRODUCED, THE PLANS WOULD STILL BE LEGIBLE. ALL REQUIRED DIGITAL FILES SHALL CONTAIN A MINIMUM OF TWO CONTROL POINTS REFERENCED TO THE STATE PLANE GRID COORDINATE SYSTEM – TEXAS CENTRAL ZONE (4203), IN US SURVEY FEET AND SHALL INCLUDE ROTATION INFORMATION AND SCALE FACTOR REQUIRED TO REDUCE SURFACE COORDINATES TO GRID COORDINATES IN US SURVEY FEET
  28. TREES IN EXISTING ROW SHOULD BE PROTECTED OR NOTED IN THE PLANS TO BE REMOVED.

EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND TREE PROTECTIVE FENCING PRIOR TO ANY WORK (CLEARING, GRUBBING OR EXCAVATION). CONTACT STORMWATER INSPECTOR FOR ON SITE INSPECTION PRIOR TO BEGINNING CONSTRUCTION.
2. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS AND AFTER SIGNICANT RAINFALL EVENTS TO ENSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.
3. THE TEMPORARY SPOILS DISPOSAL SITE IS TO BE SHOWN IN THE EROSION CONTROL MAP.
4. ANY ON-SITE SPOILS DISPOSAL SHALL BE REMOVED PRIOR TO ACCEPTANCE UNLESS SPECIFICALLY SHOWN ON THE PLANS. THE DEPTH OF SPOIL SHALL NOT EXCEED 10 FEET IN ANY AREA.
5. ALL AREAS DISTURBED OR EXPOSED DURING CONSTRUCTION SHALL BE RESTORED WITH A MINIMUM OF 6 INCHES OF TOPSOIL AND COMPOST BLEND. TOPSOIL ON SINGLE FAMILY LOTS MAY BE INSTALLED WITH HOME CONSTRUCTION. THE TOPSOIL AND COMPOST BLEND SHALL CONSIST OF 75% TOPSOIL AND 25% COMPOST.
6. SEEDING FOR REESTABLISHING VEGETATION SHALL COMPLY WITH THE AUSTIN GROW GREEN GUIDE OR WILLIAMSON COUNTY'S PROTOCOL FOR SUSTAINABLE ROADSIDES (SPEC 164--WC001 SEEDING FOR EROSION CONTROL). RESEEDING VARIETIES OF BERMUDA SHALL NOT BE USED.
7. STABILIZED CONSTRUCTION ENTRANCE IS REQUIRED AT ALL POINTS WHERE CONSTRUCTION TRAFFIC IS EXITING THE PROJECT ONTO EXISTING PAVEMENT. LINEAR CONSTRUCTION PROJECTS MAY REQUIRE SPECIAL CONSIDERATION. ROADWAYS SHALL REMAIN CLEAR OF SILT AND MUD.
8. TEMPORARY STOP SIGNS SHOULD BE INSTALLED AT ALL CONSTRUCTION ENTRANCES WHERE A STOP CONDITION DOES NOT ALREADY EXIST.
9. IN THE EVENT OF INCLEMENT WEATHER THAT MAY RESULT IN A FLOODING SITUATION, THE CONTRACTOR SHALL REMOVE INLET PROTECTION MEASURES UNTIL SUCH TIME AS THE WEATHER EVENT HAS PASSED.

TRENCH SAFETY NOTES

1. TRENCH SAFETY SYSTEMS TO BE UTILIZED FOR THIS PROJECT ARE DESCRIBED IN ITEM 509S "TRENCH SAFETY SYSTEMS" OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS AND SHALL BE IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U.S. OCCUPATION SAFETY AND HEALTH ADMINISTRATION REGULATIONS.

GRADING NOTES

1. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF THIS PROJECT. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY POUNDING OF WATER.
2. THE CONTRACTOR SHALL CONSTRUCT EARTHEN EMBANKMENTS WITH SLOPES NO STEEPER THAN 3:1 AND COMPACT SOIL TO 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD SPECIFICATIONS.
3. AREAS OF SOIL DISTURBANCE ARE LIMITED TO GRADING AND IMPROVEMENTS SHOWN. ALL OTHER AREAS WILL NOT BE DISTURBED.

BENCHMARK NOTES

THE PROJECT IS REFERENCED FOR ALL BEARING AND COORDINATE BASIS TO THE TEXAS COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD83- 2011 ADJUSTMENT), CENTRAL ZONE (4203).

DISTANCES AND AREAS SHOWN HEREON ARE SURFACE VALUES REPRESENTED IN US SURVEY FEET BASED ON A GRID-TO-SURFACE COMBINED ADJUSTMENT FACTOR OF 1.00012936.

PORTIONS OF THE TRACT SHOWN HEREON APPEAR TO LIE WITHIN A SPECIAL FLOOD HAZARD AREA, ZONE "AE", AS IDENTIFIED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FEDERAL INSURANCE ADMINISTRATION, AS SHOWN ON MAP NO. 48491C0460F, DATED DECEMBER 20, 2019 FOR WILLIAMSON COUNTY, TEXAS AND INCORPORATED AREAS.

THIS FLOOD PLAIN NOTE DOES NOT IMPLY THAT THE PROPERTY AND/PR STRUCTURES THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE. THIS FLOOD STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF THE SURVEYOR.

STREET AND DRAINAGE NOTES

1. ALL SIDEWALKS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT. THE CITY OF LEANDER HAS NOT REVIEWED THESE PLANS FOR COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT, OR ANY OTHER ACCESSIBILITY LEGISLATION, AND DOES NOT WARRANTY OR APPROVE THESE PLANS FOR ANY ACCESSIBILITY STANDARDS.
2. PRIOR TO ACCEPTANCE THE ENGINEER SHALL SUBMIT DOCUMENTATION THAT THE IMPROVEMENTS WERE INSPECTED BY TDLR OR A REGISTERED ACCESSIBILITY SPECIALIST (RAS) AND ARE IN COMPLIANCE WITH THE REQUIREMENTS OF THE TABA.
3. CONTRACTOR SHALL PROVIDE QUALITY TESTING FOR ALL INFRASTRUCTURES TO BE ACCEPTED AND MAINTAINED BY THE CITY OF LEANDER AFTER COMPLETION. THE CONTRACTOR SHALL NOTIFY THE CITY OF LEANDER ENGINEERING DEPARTMENT AT 528-2700 NO LESS THAN 48 HOURS PRIOR TO ANY TESTING.
4. BACKFILL BEHIND THE CURB SHALL BE COMPACTED TO OBTAIN A MINIMUM OF 95% MAXIMUM DENSITY TO WITHIN 6" OF TOP OF CURB. MATERIAL USED SHALL BE PRIMARILY GRANULAR WITH NO ROCKS LARGER THAN 6" IN THE GREATEST DIMENSION. THE REMAINING 6" SHALL BE CLEAN TOPSOIL FREE FROM ALL CLODS AND SUITABLE FOR SUSTAINING PLANT LIFE
5. A MINIMUM OF 6" OF TOPSOIL SHALL BE PLACED BETWEEN THE CURB AND RIGHT-OF-WAY AND IN ALL DRAINAGE CHANNELS EXCEPT CHANNELS CUT IN STABLE ROCK.
6. DEPTH OF COVER FOR ALL CROSSINGS UNDER PAVEMENT, INCLUDING GAS, ELECTRIC TELEPHONE, CABLE TV, ETC., SHALL BE A MINIMUM OF 36" BELOW SUBGRADE.
7. STREET RIGHT-OF-WAY SHALL BE GRADED AT A SLOPE OF ¼" PER FOOT TOWARD THE CURB UNLESS OTHERWISE INDICATED. HOWEVER, IN NO CASE SHALL THE WIDTH OF RIGHT-OF-WAY AT ¼" PER FOOT SLOPE BE LESS THAN 10 FEET UNLESS A SPECIFIC REQUEST FOR AN ALTERNATE GRADING SCHEME IS MADE TO AND ACCEPTED BY THE CITY OF LEANDER PUBLIC WORKS DEPARTMENT.
8. BARRICADES BUILT TO THE CITY OF LEANDER STANDARDS SHALL BE ERECTED ON ALL DEAD-END STREETS AND AS NECESSARY DURING CONSTRUCTION TO MAINTAIN JOB AND PUBLIC SAFETY.
9. ALL REINFORCED CONCRETE PIPE SHALL BE MINIMUM CLASS III OF TONGUE AND GROOVE OR O-RING JOINT DESIGN.
10. THE CONTRACTOR IS TO NOTIFY THE ENGINEERING INSPECTOR 48 HOURS PRIOR TO THE FOLLOWING TESTING: PROOF ROLLING SUB-GRADE AND EVERY LIFT OF ROADWAY EMBANKMENT, IN-PLACE DENSITY TESTING OF EVERY BASE COURSE, AND ASPHALT CORES. ALL OF THIS TESTING MUST BE WITNESSED BY A CITY OF LEANDER REPRESENTATIVE.
11. THE CONTRACTOR MUST PROVIDE A PNEUMATIC TRUCK PER TXDOT SPEC FOR PROOF ROLLING.
12. AT INTERSECTIONS WHICH HAVE VALLEY DRAINAGE, THE CROWNS OF THE INTERSECTING STREETS WILL CULMINATE IN A DISTANCE OF 40 FEET FROM INTERSECTING CURB LINE UNLESS OTHERWISE NOTED.
13. AT THE INTERSECTION OF TWO 44' STREETS OR LARGER, THE CROWNS OF THE INTERSECTING STREETS WILL CULMINATE IN A DISTANCE OF 40 FEET FROM INTERSECTING CURB LINE UNLESS OTHERWISE NOTED.
14. A CURB LAYDOWN IS REQUIRED AT ALL POINTS WHERE THE PROPOSED SIDEWALK INTERSECTS THE CURB.
15. ALL STRIPING, WITH THE EXCEPTION OF STOP BARS, CROSS WALKS, WORDS AND ARROWS, IS TO BE TYPE II (WATER BASED). STOP BARS, CROSS WALKS, WORDS AND ARROWS REQUIRE TYPE I THERMOPLASTIC.
16. MANHOLE FRAMES, COVERS, VALVES, CLEAN-OUTS, ETC. SHALL BE RAISED TO GRADE PRIOR TO FINAL PAVEMENT CONSTRUCTION.
17. CONTRACTOR SHALL NOTIFY THE LEANDER ENGINEERING DEPARTMENT AT 528-2700 AT LEAST 48 HOURS PRIOR TO THE INSTALLATION OF ANY DRAINAGE FACILITY WITHIN A DRAINAGE EASEMENT OR STREET ROW. THE METHOD OF PLACEMENT AND COMPACTION OF BACKFILL IN THE CITY'S ROW MUST BE APPROVED PRIOR TO THE START OF BACKFILL OPERATIONS.
18. A STOP BAR SHALL BE PLACED AT ALL STOP SIGN LOCATIONS.
19. A MINIMUM OF SEVEN DAYS OF CURE TIME IS REQUIRED FOR HMAC PRIOR TO THE INTRODUCTION OF PUBLIC VEHICULAR TRAFFIC TO ANY STREETS.
20. 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 REVISIONS OF THE CONSTRUCTION PLANS.
21. GEOTECHNICAL INVESTIGATION INFORMATION AND PAVEMENT RECOMMENDATIONS WERE PROVIDED BY ALPHA TESTING. PAVEMENT RECOMMENDATIONS ARE AS FOLLOWS:  
3" HMAC TY D SURFACE COURSE  
5" HMAC TY B BASE  
13" FLEXIBLE GRANULAR BASE  
8" LIME STABILIZED SUBGRADE

CR 175 ROAD IMPROVEMENTS  
LEANDER, TEXAS

GENERAL NOTES





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WATER AND WASTEWATER NOTES

1. PRESSURE TAPS SHALL BE IN ACCORDANCE WITH CITY OF LEANDER STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL PERFORM ALL EXCAVATION, ETC. AND SHALL FURNISH, INSTALL AND AIR TEST THE SLEEVE AND VALVE. A CITY OF LEANDER INSPECTOR MUST BE PRESENT WHEN THE CONTRACTOR MAKES A TAP, AND/OR ASSOCIATED TESTS. A MINIMUM OF TWO (2) WORKING DAYS NOTICE IS REQUIRED. "SIZE ON SIZE" TAPS WILL NOT BE PERMITTED UNLESS MADE BY THE USE OF AN APPROVED FULL-CIRCLE GASKETED TAPPING SLEEVE. CONCRETE BLOCKING SHALL BE PLACED BEHIND AND UNDER ALL TAP SLEEVES A MINIMUM OF 24 HOURS PRIOR TO THE BRANCH BEING PLACED INTO SERVICE. BLOCKING SHALL BE INSPECTED PRIOR TO BACKFILL.

2. FIRE HYDRANTS ON MAINS UNDER CONSTRUCTION SHALL BE SECURELY WRAPPED WITH A BLACK POLY WRAP BAG AND TAPED INTO PLACE. THE POLY WRAP SHALL BE REMOVED WHEN THE MAINS ARE ACCEPTED AND PLACED INTO SERVICE.

3. CURVILINEAR WASTEWATER DESIGN LAYOUT IS NOT PERMITTED.

4. THRUST BLOCKING OR RESTRAINTS SHALL BE IN ACCORDANCE WITH THE CITY OF LEANDER STANDARD SPECIFICATIONS AND REQUIRED AT ALL FITTINGS PER DETAIL OR MANUFACTURER'S RECOMMENDATION. ALL FITTINGS SHALL HAVE BOTH THRUST BLOCKING AND RESTRAINTS.

5. MANDREL TESTING WILL BE REQUIRED ON ALL WASTEWATER PIPE, PER TCEQ. THIS TEST MUST BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS.

6. ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SANITATION FOUNDATION (ANSI/NSF) STANDARD 61 AND MUST BE CERTIFIED BY AND ORGANIZATION ACCREDITED BY ANSI

7. DURING PERIODS OF EXTENDED DRY WEATHER, TRENCH BACKFILL MUST BE COMPACTED BY FLOODING THE TRENCHES AS DIRECTED BY THE CITY ENGINEER.

8. ALL WATER SERVICE, WASTEWATER SERVICE AND VALVE LOCATIONS SHALL BE APPROPRIATELY STAMPED AS FOLLOWS:  
WATER SERVICE "W" ON TOP OF CURB  
WASTEWATER SERVICE "S" ON TOP OF CURB  
VALVE "V" ON TOP OF CURB

9. TOOLS FOR STAMPING THE CURBS SHALL BE PROVIDED BY THE CONTRACTOR. OTHER APPROPRIATE MEANS OF STAMPING SERVICE AND VALVE LOCATIONS SHALL BE PROVIDED IN AREAS WITHOUT CURBS. SUCH MEANS OF STAMPING SHALL BE SPECIFIED BY THE ENGINEER AND ACCEPTED BY THE CITY OF LEANDER

10. ALL PLASTIC PIPES FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NATIONAL SANITATION FOUNDATION SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 200 PSI.

11. NO PIPE OR FITTING 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.

12. TYPICAL DEPTH OF COVER FOR ALL WASTEWATER LINES SHALL BE 48" MINIMUM. WATER LINES SHALL BE 36" MINIMUM UNDER BOTH PAVEMENT AND NATURAL GROUND. STORM SEWER SHALL BE 24" MINIMUM UNDER NATURAL GROUND

13. THE HYDROSTATIC LEAKAGE RATE SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY AWWA FORMULAS.

14. ALL WATER MAINS, DISTRIBUTION LINES AND SERVICE LINES SHALL BE INSTALLED IN ENCASEMENT PIPE UNDERNEATH EXISTING STREETS AND OTHER PAVED SURFACES UNLESS APPROVED WITH PLANS.

15. ALL MECHANICAL RESTRAINTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

16. ALL DEAD-END WATER MAINS SHALL HAVE THRUST RESTRAINTS INSTALLED ON THE LAST THREE PIPE-LENGTHS (STANDARD 20' LAYING LENGTH), AT MINIMUM, AND THRUST BLOCKS INSTALLED ON THE PLUG. ADDITIONAL THRUST RESTRAINTS MAY BE REQUIRED BASED UPON THE MANUFACTURER'S RECOMMENDATIONS AND/OR CALCULATIONS BY THE ENGINEER OF RECORD.

17. WHERE WATER LINES CROSS WASTEWATER LINES AND THERE IS LESS THAN 9 FEET CLEARANCE BETWEEN LINES, THE WASTEWATER LINE SHALL BE PLACED SO THAT THE WASTEWATER PIPE SECTION IS CENTERED ON THE WATER LINE AND CONSTRUCTED IN ACCORDANCE WITH TCEQ CHAPTERS 217.53(b) AND 290.44(e).

18. PIPE MATERIAL FOR WATER MAINS SHALL BE PVC (AWWA C900-16 MIN. 235 PSI PRESSURE RATING). WATER SERVICES (2" OR LESS) SHALL BE POLYETHYLENE TUBING (BLACK, 200PSI, SDR-(9)). DUCTILE IRON PIPE (AWWA C115/C151, MIN. PRESSURE CLASS 250) MAY BE USED FOR WATER MAINS WITH THE EXPRESS APPROVAL OF CITY OF LEANDER ENGINEERING.

19. PIPE FOR PRESSURE WASTEWATER MAINS SHALL BE PVC (AWWA C900-16), GREEN AND MARKED FOR SEWER. PIPE MATERIAL FOR GRAVITY WASTEWATER MAINS SHALL BE PVC (ASTM D2241, D3034 MAX. SDR-26 OR PS115 F679) OR FIBERGLASS WITH PIPE STIFFNESS OF 72 PSI PER COA SPL WW-509.

20. ALL FIRE HYDRANT LEADS SHALL BE DUCTILE IRON PIPE (AWWA C115/C151 PRESSURE CLASS 350).

21. INTERIOR SURFACES OF ALL DUCTILE IRON POTABLE OR RECLAIMED WATER PIPE SHALL BE CEMENT-MORTAR LINED AND SEAL COATED AS REQUIRED BY AWWA C104.

22. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED WITH MINIMUM 8-MIL POLYETHYLENE.

23. THE CONTRACTOR SHALL CONTACT THE ENGINEERING DEPARTMENT INSPECTOR AT 528-2700 AT LEAST 48 HOURS PRIOR TO CONNECTING TO THE EXISTING WATER LINES.

24. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON RING AND COVER. TAPPING OF FIBERGLASS MANHOLES SHALL NOT BE ALLOWED.

25. EXISTING MANHOLES MODIFIED BY CONSTRUCTION ACTIVITY SHALL BE TESTED FOR LEAKAGE BY VACUUM. ANY EXISTING MANHOLE WHICH FAILS TO PASS THE VACUUM TEST SHALL BE CLOSELY EXAMINED BY THE INSPECTOR AND THE CONTRACTOR TO DETERMINE IF THE MANHOLE CAN BE REPAIRED. THEREAFTER, THE CONTRACTOR SHALL EITHER REPAIR OR REMOVE AND REPLACE THE MANHOLE AS DIRECTED.

26. PIPE CONNECTIONS TO EXISTING MANHOLES AND JUNCTION BOXES SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF AUSTIN SPECIFICATION 506.5.F.

27. LINE FLUSHING OR ANY ACTIVITY USING A LARGE QUANTITY OF WATER MUST BE COORDINATED WITH THE PUBLIC WORKS DEPARTMENT.

28. THE CONTRACTOR, AT HIS EXPENSE, SHALL PERFORM STERILIZATION OF ALL CONSTRUCTED POTABLE WATER LINES AND SHALL PROVIDE ALL EQUIPMENT (INCLUDING TEST GAUGES), SUPPLIES (INCLUDING CONCENTRATED CHLORINE DISINFECTING MATERIAL), AND NECESSARY LABOR REQUIRED FOR THE STERILIZATION PROCEDURE. THE STERILIZATION PROCEDURE SHALL BE MONITORED BY CITY OF LEANDER PERSONNEL. WATER SAMPLES WILL BE COLLECTED BY THE CITY OF LEANDER TO VERIFY EACH TREATED LINE HAS ATTAINED AN INITIAL CHLORINE CONCENTRATION OF 50 PPM. WHERE MEANS OF FLUSHING IS NECESSARY, THE CONTRACTOR, AT HIS EXPENSE, SHALL PROVIDE FLUSHING DEVICES AND REMOVE SAID DEVICES PRIOR TO FINAL ACCEPTANCE BY THE CITY OF LEANDER.

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29. SAMPLING TAPS SHALL BE BROUGHT UP TO 3 FEET ABOVE GRADE AND SHALL BE EASILY ACCESSIBLE FOR CITY PERSONNEL. AT THE CONTRACTORS' REQUEST, AND IN HIS PRESENCE, SAMPLES FOR BACTERIOLOGICAL TESTING WILL BE COLLECTED BY THE CITY OF LEANDER NOT LESS THAN 24 HOURS AFTER THE TREATED LINE HAS BEEN FLUSHED OF THE CONCENTRATED CHLORINE SOLUTION AND CHARGED WITH WATER APPROVED BY THE CITY.

30. TESTING SHALL BE PERFORMED FOR ALL WASTEWATER PIPE INSTALLED AND PRESSURE PIPE HYDROSTATIC TESTING OF ALL WATER LINES CONSTRUCTED. THE OWNER'S CONTRACTOR SHALL PROVIDE ALL EQUIPMENT (INCLUDING PUMPS AND GAUGES), SUPPLIES AND LABOR NECESSARY TO PERFORM THE TESTS. THE CONTRACTOR SHALL NOTIFY THE CITY OF LEANDER ENGINEERING DEPARTMENT NO LESS THAN 48 HOURS PRIOR TO PERFORMING STERILIZATION, QUALITY TESTS, OR PRESSURE TESTS. A CITY OF LEANDER INSPECTOR SHALL BE PRESENT FOR ALL TESTS AND SHALL BE PAID FOR BY THE OWNER/CONTRACTOR. THESE SERVICES ARE PAID FOR AT THE TIME OF CONSTRUCTION PLAN SUBMITTAL.

31. THE CONTRACTOR SHALL NOT OPEN OR CLOSE ANY VALVE UNLESS AUTHORIZED BY THE CITY OF LEANDER.

32. ALL VALVE BOXES AND COVERS SHALL BE CAST IRON.

33. ALL WATER VALVE COVERS ARE TO BE PAINTED BLUE.

34. ALL WATER METER BOXES SHALL BE:  
a. SINGLE, 1" METER AND BELOW DFW37F-12-1CA, OR EQUAL  
b. DUAL, 1" METERS AND BELOW DFW39F-12-1CA, OR EQUAL  
c. 1.5" SINGLE METER DFW65C-14-1CA, OR EQUAL  
d. 2" SINGLE METER DFW1730F-12-1CA, OR EQUAL

35. SAND, AS DESCRIBED IN AUSTIN SPECIFICATION ITEM 510 PIPE, SHALL NOT BE USED AS BEDDING FOR WATER AND WASTEWATER LINES. ACCEPTABLE BEDDING MATERIALS ARE PIPE BEDDING STONE, PEA GRAVEL AND IN LIEU OF SAND, A NATURALLY OCCURRING OR MANUFACTURED STONE MATERIAL CONFORMING TO ASTM C33 FOR STONE QUALITY AND MEETING THE FOLLOWING GRADATION SPECIFICATION:

SIEVE SIZE	PERCENT RETAINED BY WEIGHT
1/2"	0
3/8"	0-2
#4	40-85
#10	95-100

36. THE CONTRACTOR IS HEREBY NOTIFIED THAT CONNECTING TO, SHUTTING DOWN, OR TERMINATING EXISTING UTILITY LINES MAY HAVE TO OCCUR AT OFF-PEAK HOURS. SUCH HOURS ARE USUALLY OUTSIDE NORMAL WORKING HOURS AND POSSIBLY BETWEEN 12 AM AND 6 AM.

37. ALL WASTEWATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS, 30 TAC CHAPTER 213 AND 30 TAC CHAPTER 217, AS APPLICABLE. WHENEVER TCEQ AND CITY OF LEANDER SPECIFICATION CONFLICT, THE MORE STRINGENT SHALL APPLY.

38. MANHOLES SHALL BE COATED PER CITY OF AUSTIN SPL WW-511 (RAVEN 405 OR SPRAYWALL).

39. DENSITY TESTING FOR TRENCH BACKFILL LOCATED WITHIN THE LIMITS OF THE PAVED AREA IS TO BE DONE IN 12' LIFTS EVERY 500' AND AT LEAST ONCE PER LINE SEGMENT

40. ALL GRAVITY WASTEWATER MAINS TO BE TESTED BY CAMERA AND PAID FOR BY THE CONTRACTOR. CAMERA TESTING FOR WASTEWATER LINES IN ROADWAY SHALL OCCUR BEFORE PAVING. CONTRACTOR SHALL PROVIDE THE CITY WITH A DVD COPY OF THE FULL CAMERA INSPECTION.

41. RECLAIMED AND RECYCLED WATER LINE SHALL BE CONSTRUCTED OF "PURPLE PIPE." ALL RECLAIMED AND RECYCLED WATER VALVE COVERS SHALL BE SQUARE AND PAINTED PURPLE.

CR 175 ROAD IMPROVEMENTS  
LEANDER, TEXAS

GENERAL NOTES



ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512)646-3456 (512) 514-0315 FAX  
TBPE FIRM REG. No. 280  
TBPLS FIRM REG. No. 100486



DESIGNED: \_\_\_\_\_  
DESIGN CHECKED: \_\_\_\_\_  
DRAWN: \_\_\_\_\_  
COCO CHECKED: \_\_\_\_\_  
SURVEY CHECKED: \_\_\_\_\_  
QA/QC: \_\_\_\_\_ DATE: \_\_\_\_\_  
QA/QC REVISIONS: \_\_\_\_\_

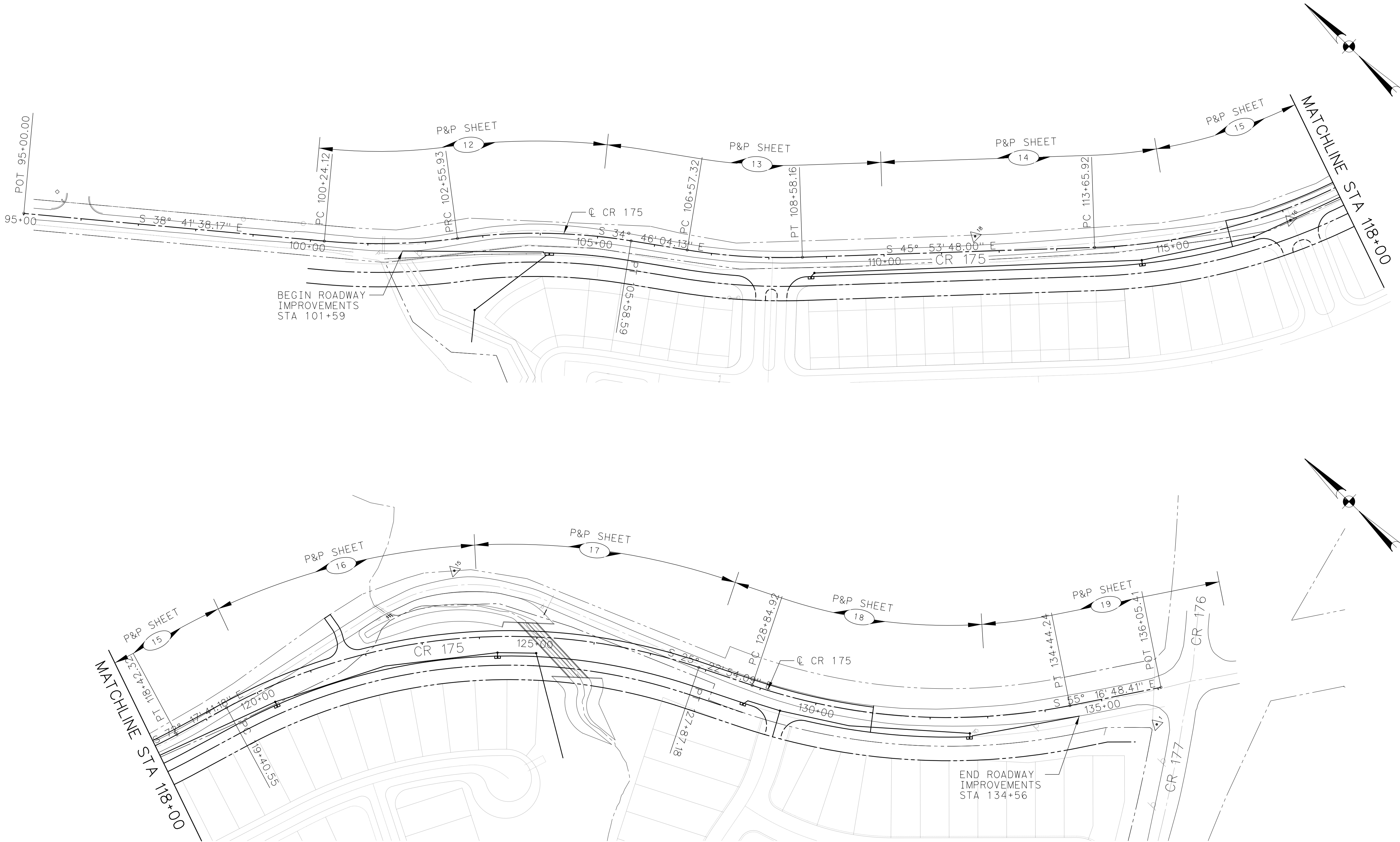
NO.

REVISION

DATE BY



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BENCHMARK NOTES:

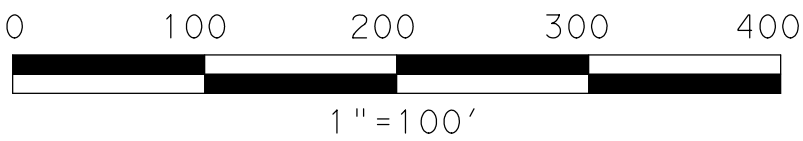
THE PROJECT IS REFERENCED FOR ALL BEARING AND COORDINATE BASIS TO THE TEXAS COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD83- 2011 ADJUSTMENT), CENTRAL ZONE (4203).

DISTANCES AND AREAS SHOWN HEREON ARE SURFACE VALUES REPRESENTED IN US SURVEY FEET BASED ON A GRID-TO-SURFACE COMBINED ADJUSTMENT FACTOR OF 1.00012936.

PORTIONS OF THE TRACT SHOWN HEREON APPEAR TO LIE WITHIN A SPECIAL FLOOD HAZARD AREA, ZONE "AE", AS IDENTIFIED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FEDERAL INSURANCE ADMINISTRATION, AS SHOWN ON MAP NO. 48491C0460F, DATED DECEMBER 20, 2019 FOR WILLIAMSON COUNTY, TEXAS AND INCORPORATED AREAS.

THIS FLOOD PLAIN NOTE DOES NOT IMPLY THAT THE PROPERTY AND/OR STRUCTURES THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE. THIS FLOOD STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF THE SURVEYOR.

Control Point Table				
Point #	Northing	Easting	Elevation	Raw Description
1	10183884.97	3098786.39	898.95	CP IRSC
15	10184948.25	3098131.47	893.11	CP IRSC 1/2
16	10185128.45	3097457.14	913.47	CP IRSC 1/2
18	10185502.93	3097056.82	920.08	CP 60D

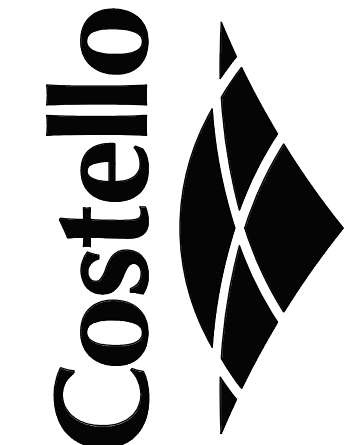


CR 175 ROAD IMPROVEMENTS  
LEANDER, TEXAS

PROJECT LAYOUT



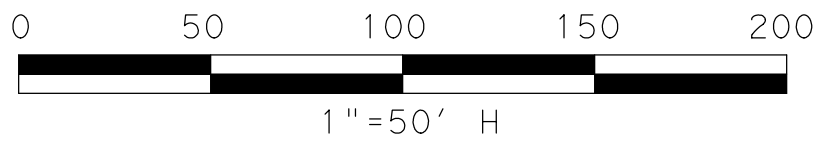
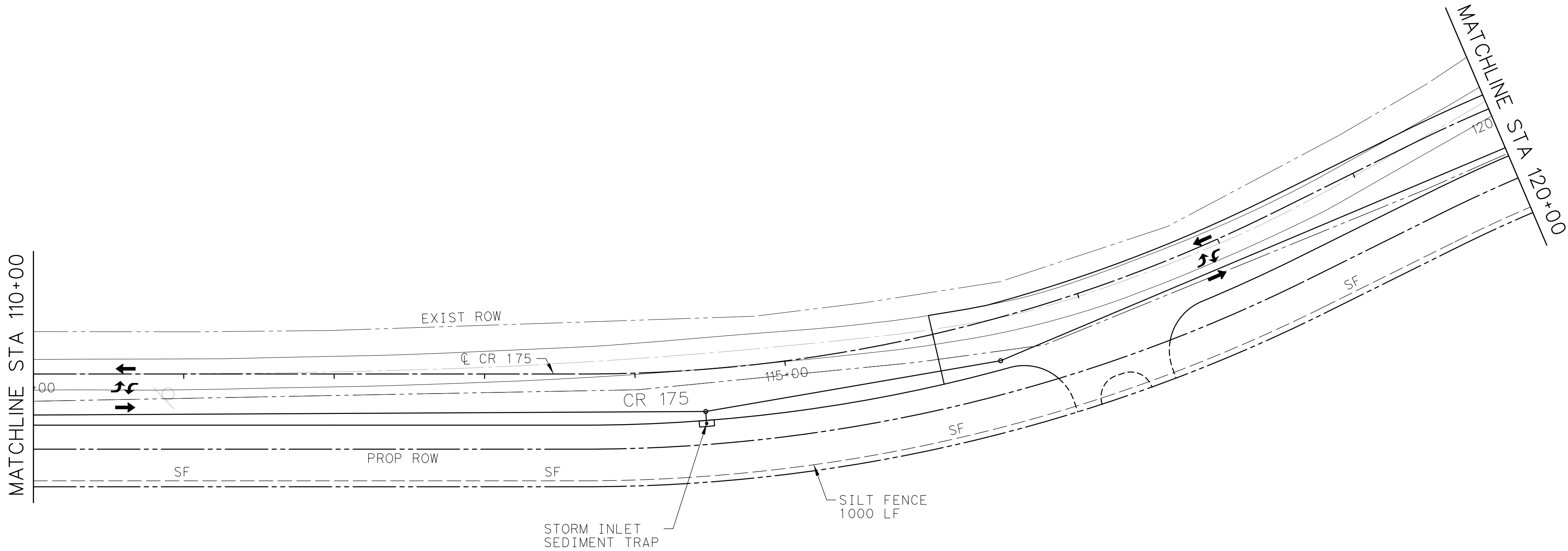
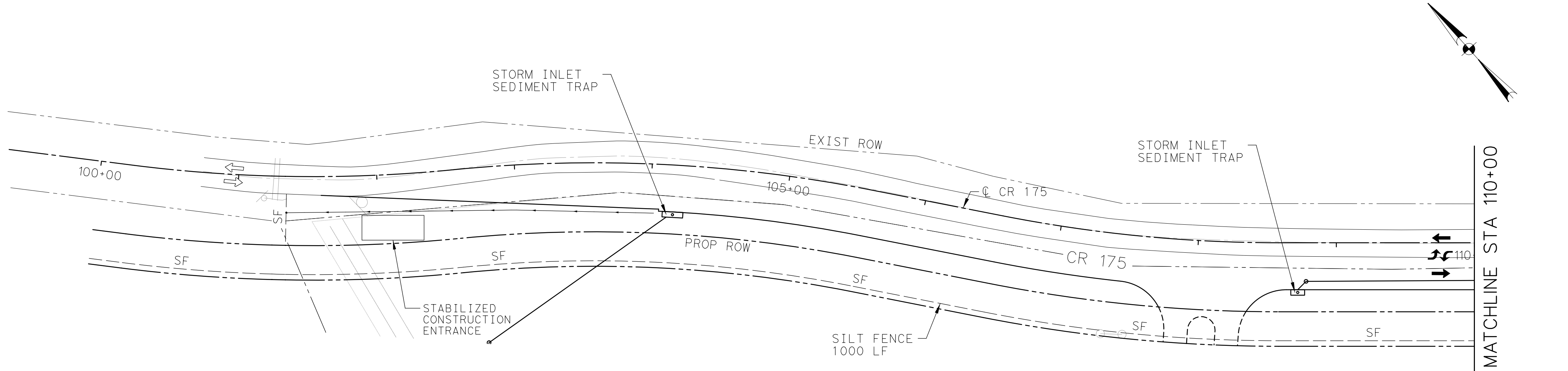
ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512)646-3456 (512) 514-0315 FAX  
TBPE FIRM REG. No. 280  
TBPLS FIRM REG. No. 100486



DESIGNED:	NO.	REVISION	DATE	BY
DESIGN CHECKED:				
DRAWN:				
COCO CHECKED:				
SURVEY CHECKED:				
QA/QC:				
QA/QC REVISIONS:				



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CR 175 ROAD IMPROVEMENTS  
LEANDER, TEXAS

EROSION AND SEDIMENTATION  
CONTROL LAYOUT  
BEG PROJECT TO STA 120+00



SHEET  
OF 48 SHEETS

ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512) 646-3456 (512) 514-0315 FAX  
TBPE FIRM REG. No. 280  
TBPLS FIRM REG. No. 100486



DESIGNED:  
DESIGN CHECKED:  
DRAWN:  
COCO CHECKED:  
SURVEY CHECKED:  
QA/QC:  
QA/QC REVISIONS:

NO.

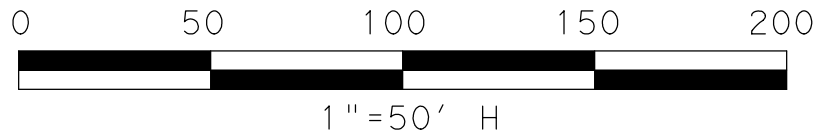
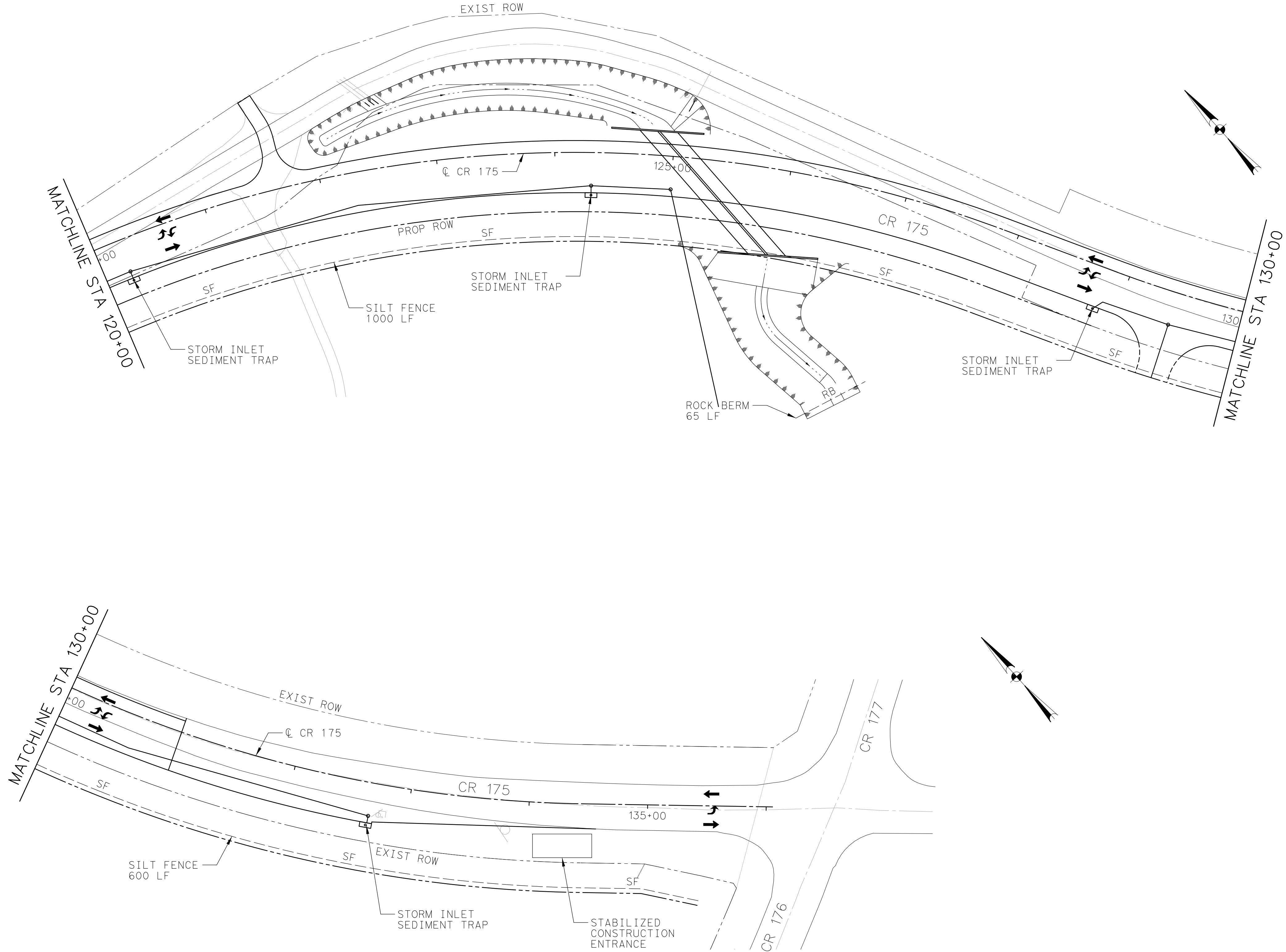
REVISION


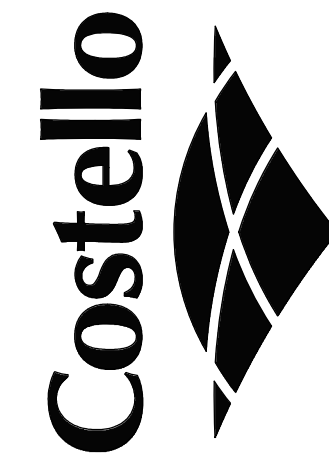
DATE

BY



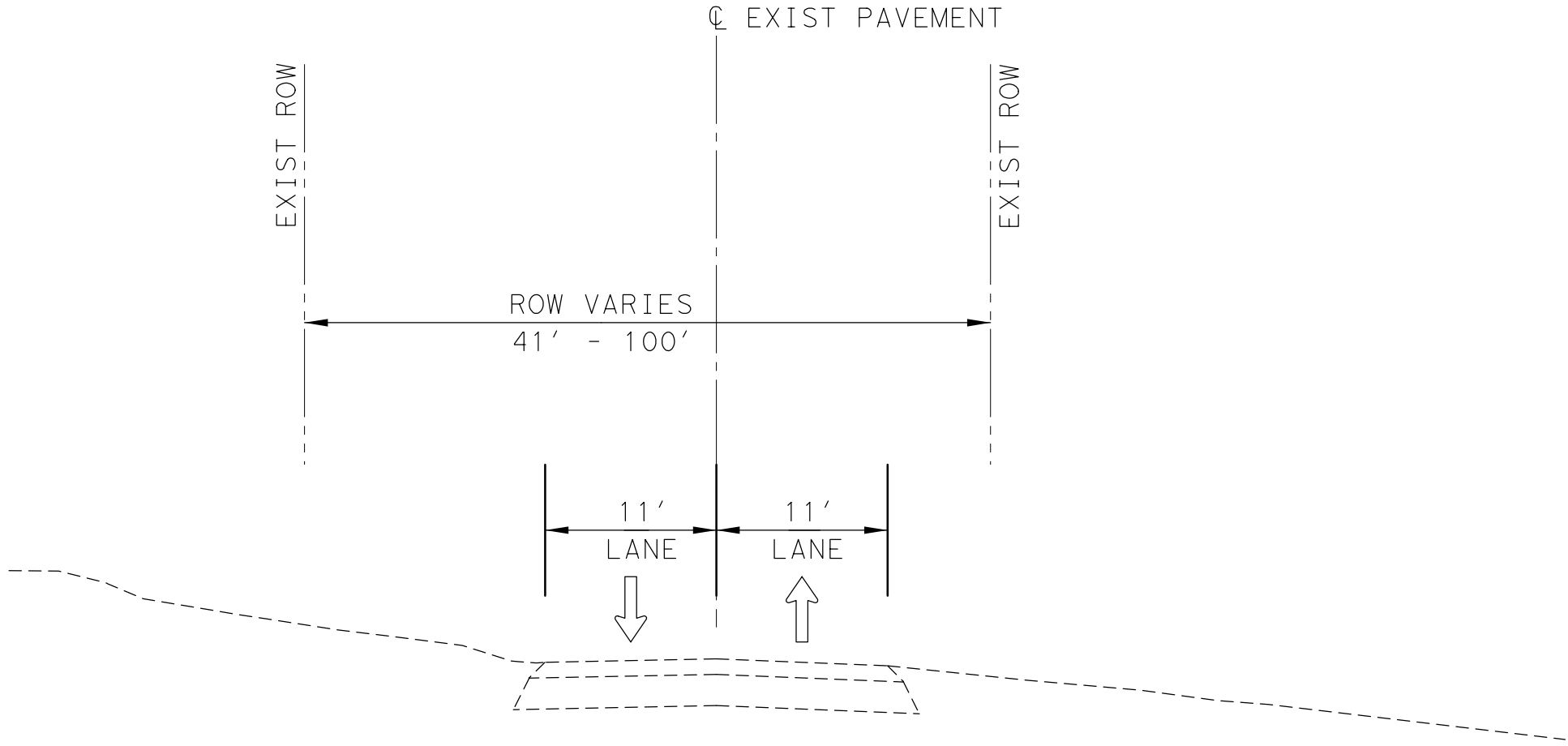
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CR 175 ROAD IMPROVEMENTS LEANDER, TEXAS		 Sara Coffey 3/22/2023		SHEET <b>8</b>		OF <b>48</b> SHEETS	
EROSION AND SEDIMENTATION CONTROL LAYOUT STA 120+00 TO END PROJECT		 Costello ENGINEERING AND SURVEYING 9050 N. CAPITAL HWY, BLDG 3, SUITE 390 AUSTIN, TEXAS 78759 (512) 646-3456 (512) 514-0315 FAX TBPE FIRM REG. No. 280 TBPLS FIRM REG. No. 100486		DESIGNED: _____ DRAWN: _____ COCO CHECKED: _____ SURVEY CHECKED: _____ QA/QC: _____ QA/QC REVISIONS: _____		DATE: _____ NO. _____ REVISION _____ DATE _____ BY _____	



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EXIST TYPICAL SECTION  
SCALE: NTS  
CR 175

LEGEND

← EXISTING LANE

CR 175 ROAD IMPROVEMENTS  
LEANDER, TEXAS

EXIST TYPICAL SECTION



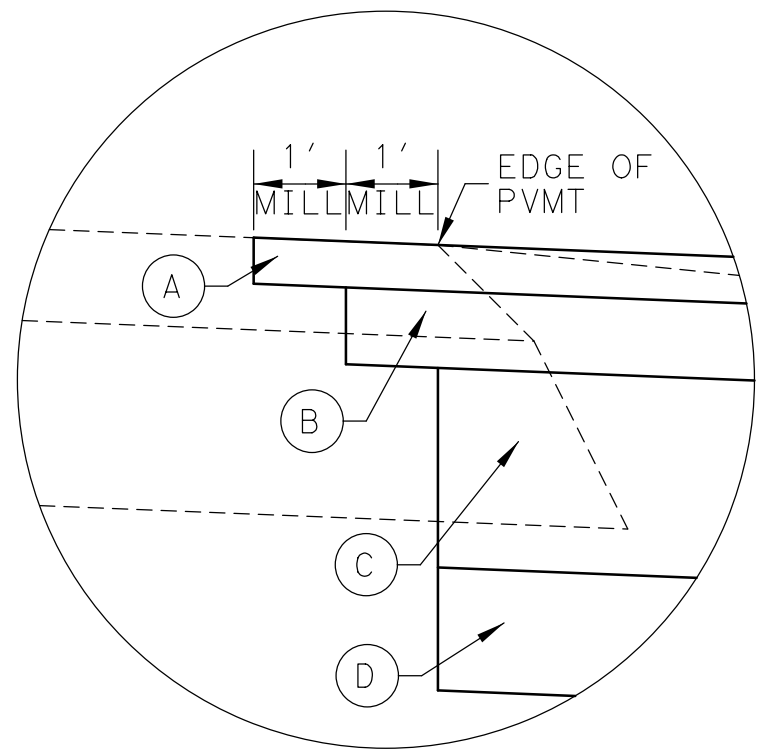
**Costello**  
ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512)646-3456 (512) 514-0315 FAX  
TBPE FIRM REG. No. 280  
TBPLS FIRM REG. No. 100486

DESIGNED: \_\_\_\_\_  
DESIGN CHECKED: \_\_\_\_\_  
DRAWN: \_\_\_\_\_  
COGO CHECKED: \_\_\_\_\_  
SURVEY CHECKED: \_\_\_\_\_  
QA/QC: \_\_\_\_\_ DATE: \_\_\_\_\_  
QA/QC REVISIONS: \_\_\_\_\_

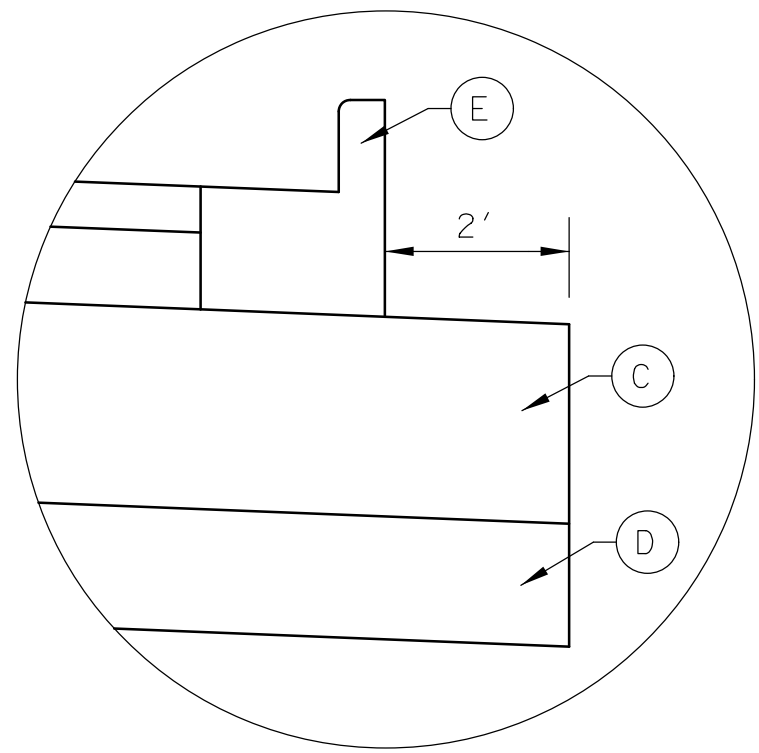
NO.	REVISION	DATE	BY



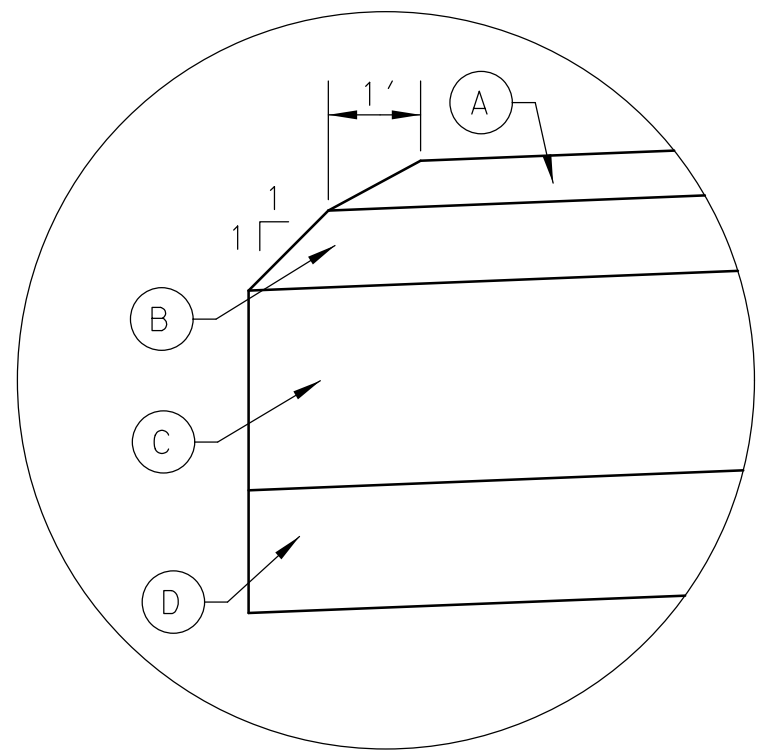
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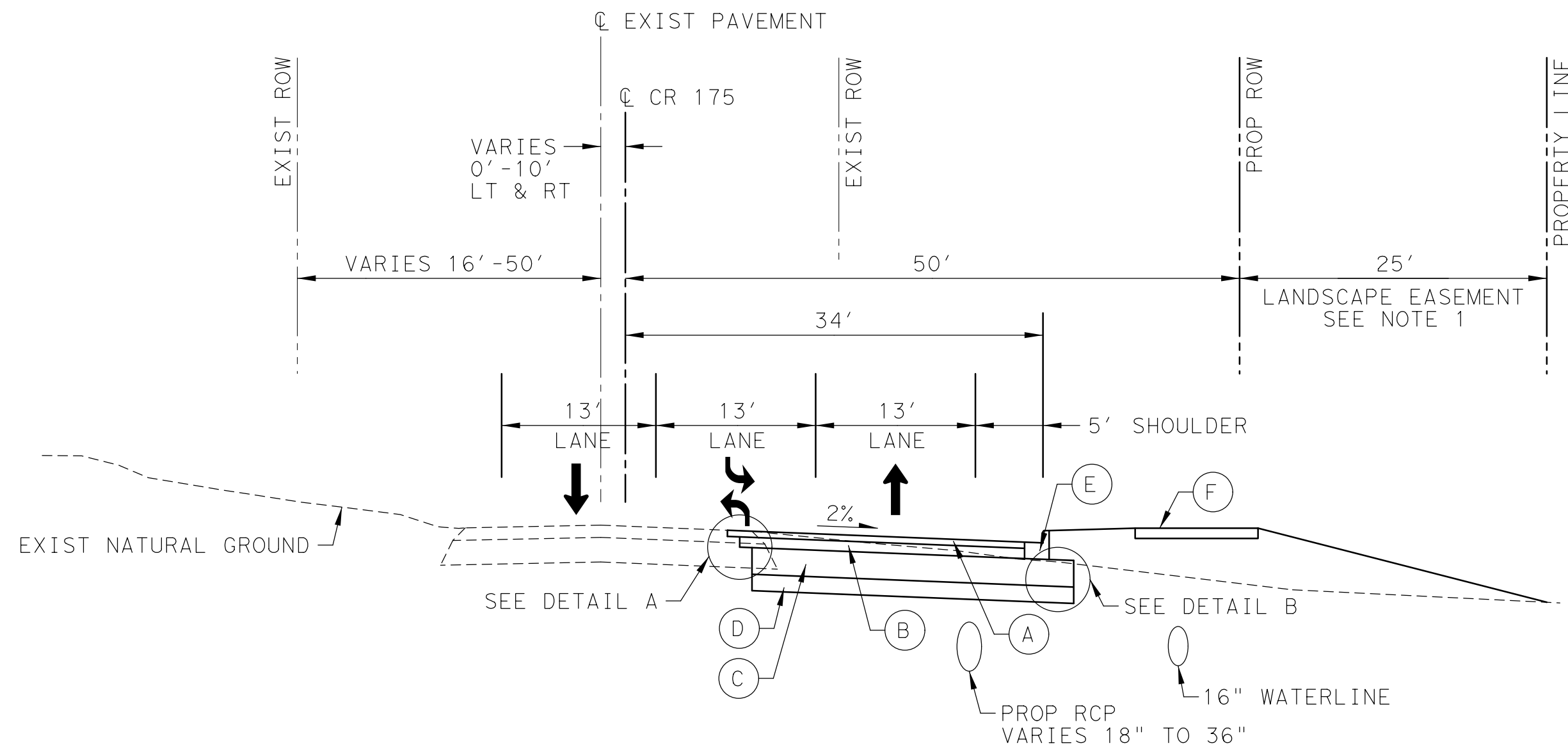
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SCALE: NTS



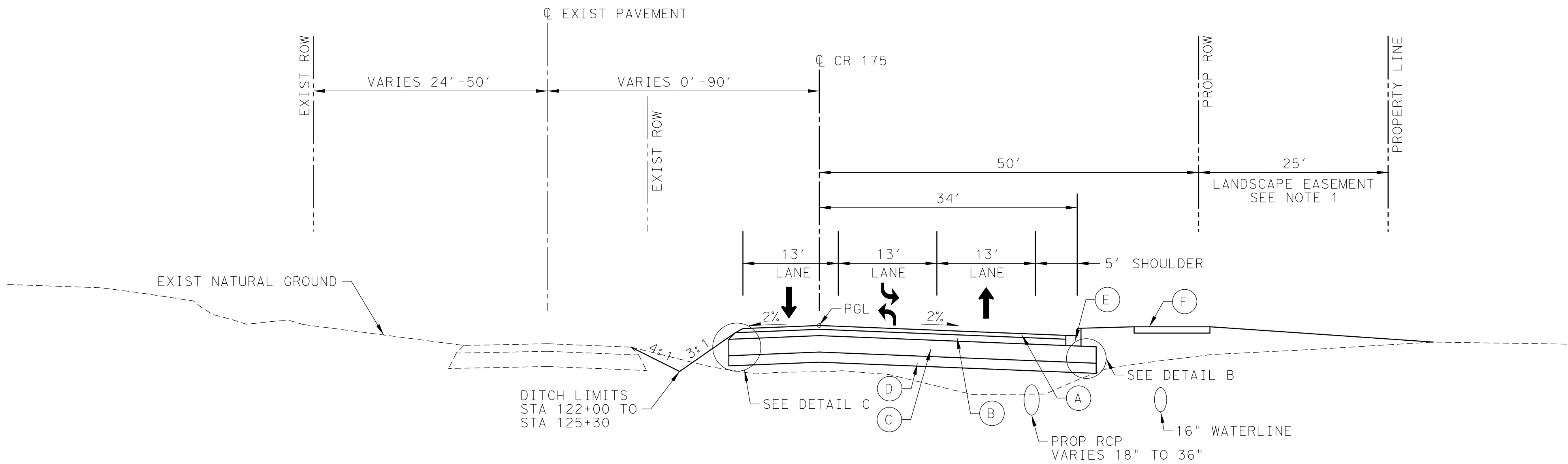
DETAIL B  
SCALE: NTS



DETAIL C  
SCALE: NTS



PROP TYPICAL SECTION  
SCALE: NTS  
LIMITS:  
STA 104+06.12 TO STA 116+00  
STA 131+00 TO STA 132+72.00



PROP TYPICAL SECTION  
SCALE: NTS  
LIMITS:  
STA 116+00 TO STA 131+00

LEGEND

- (A) 3" ASPHALT SURFACE
- (B) 5" ASPHALT BASE
- (C) 13" FLEXIBLE BASE
- (D) 8" LIME STABILIZED SUBGRADE
- (E) CONCRETE CURB & GUTTER
- (F) 10' SIDEWALK
- PROPOSED LANE
- ← EXISTING LANE

NOTES  
1. LANDSCAPE EASEMENT TO BE MAINTAINED AND GRADED TO DRAIN FOR WILDSRING DEVELOPMENT.

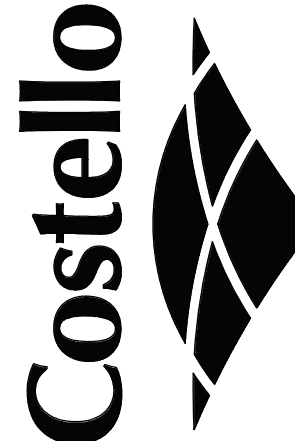
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ENGINEERING AND SURVEYING 9050 N. CAPITAL HWY, BLDG 3, SUITE 390 AUSTIN, TEXAS 78759 (512)646-3456 (512) 514-0315 FAX TBPE FIRM REG. No. 280 TBPLS FIRM REG. No. 100486									
CR 175 ROAD IMPROVEMENTS LEANDER, TEXAS									
PROPOSED TYPICAL SECTION									
SHEET 10 OF 48 SHEETS									



Course from PT CR1754 to PC CR1755 S 72° 17' 41.18" E Dist 98.23

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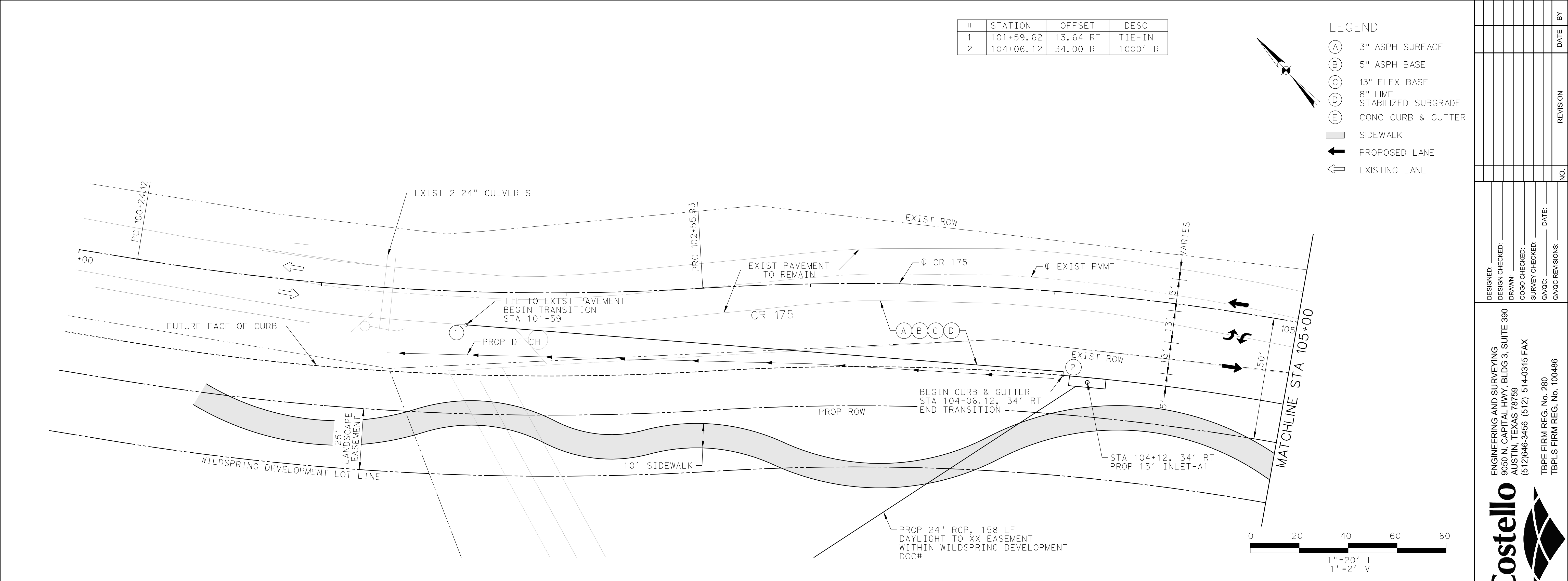
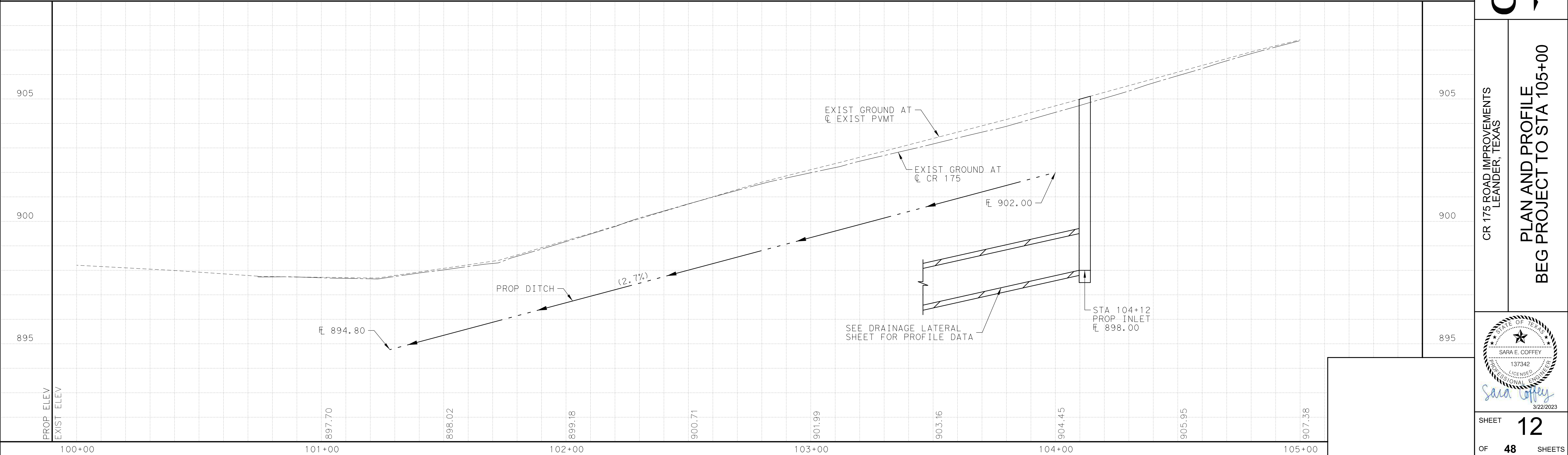
## HORIZONTAL ALIGNMENT DATA



SHEET 11  
OF 48 SHEET

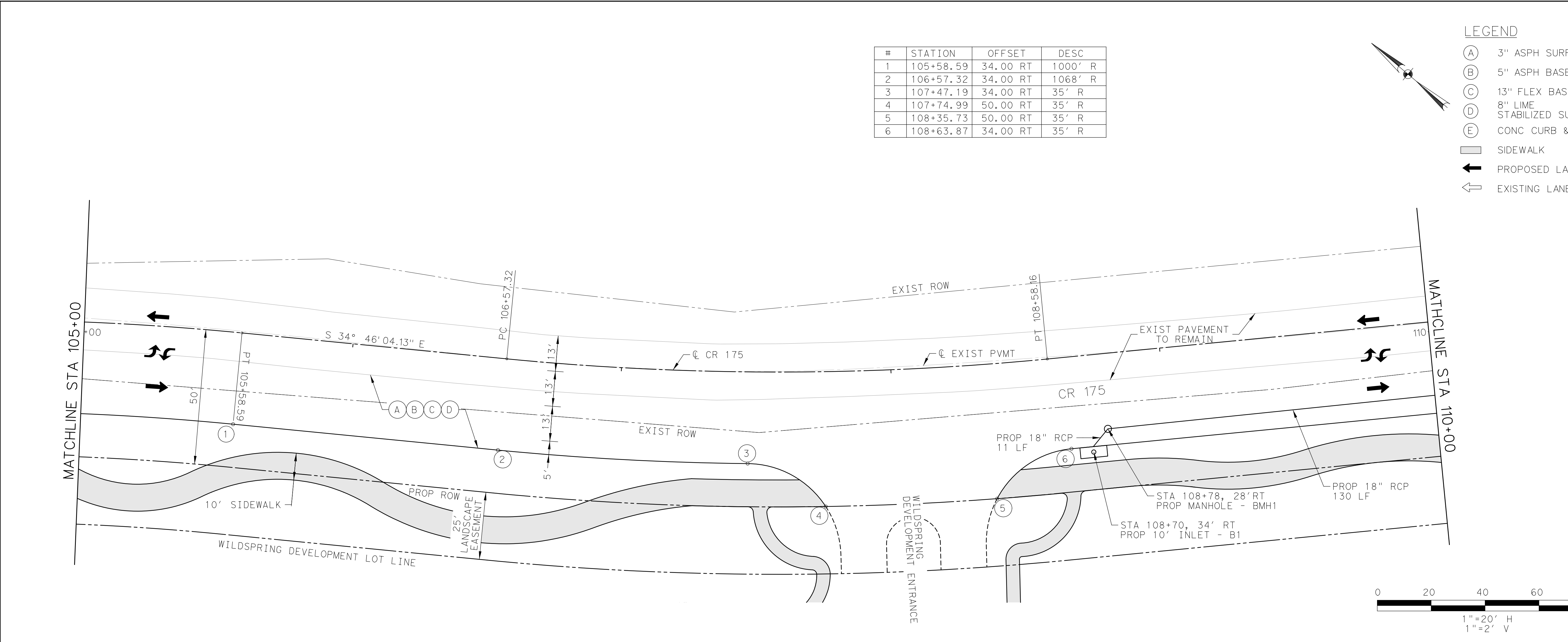
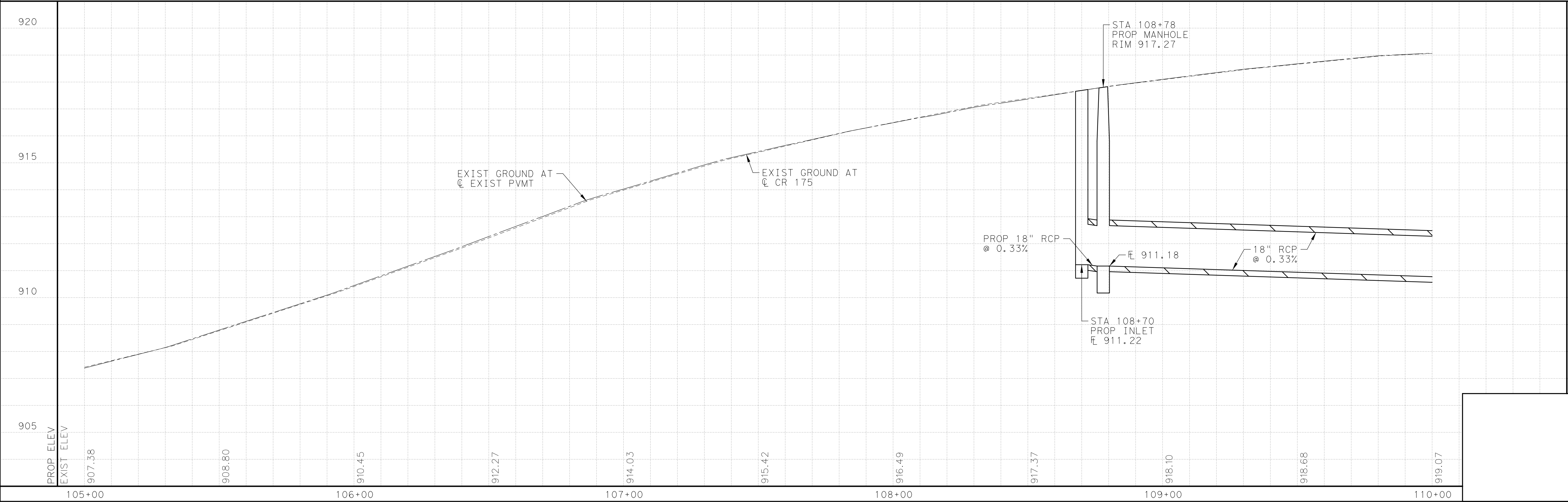


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#	STATION	OFFSET	DESC
1	105+58.59	34.00 RT	1000' R
2	106+57.32	34.00 RT	1068' R
3	107+47.19	34.00 RT	35' R
4	107+74.99	50.00 RT	35' R
5	108+35.73	50.00 RT	35' R
6	108+63.87	34.00 RT	35' R

- LEGEND
- (A) 3" ASPH SURFACE
  - (B) 5" ASPH BASE
  - (C) 13" FLEX BASE
  - (D) 8" LIME STABILIZED SUBGRADE
  - (E) CONC CURB & GUTTER
  - SIDWALK
  - PROPOSED LANE
  - EXISTING LANE

DESIGNED:  
DRAWN:  
COCO CHECKED:  
SURVEY CHECKED:  
QA/QC:  
QA/QC REVISIONS:

ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512) 646-3456 (512) 514-0315 FAX

**Costello**

CR 175 ROAD IMPROVEMENTS  
LEANDER, TEXAS

DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
NO. \_\_\_\_\_  
BY \_\_\_\_\_

DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
NO. \_\_\_\_\_  
BY \_\_\_\_\_

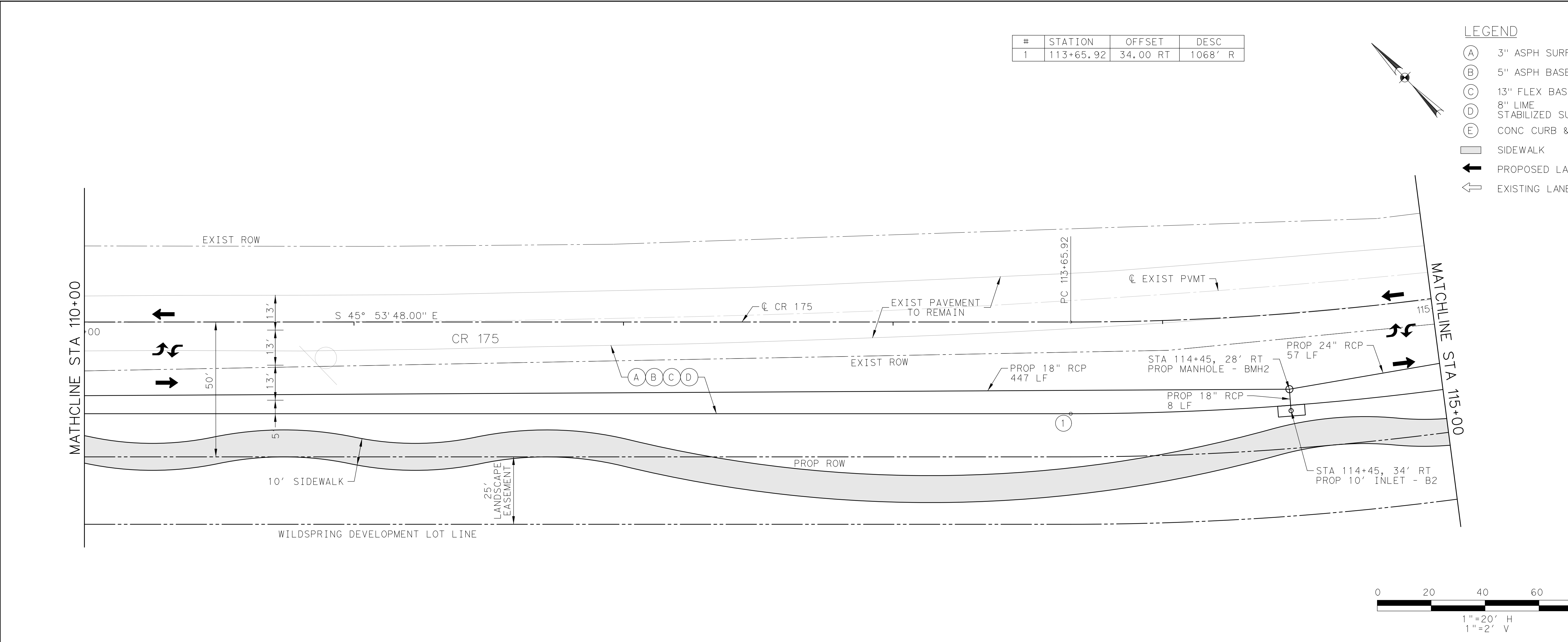
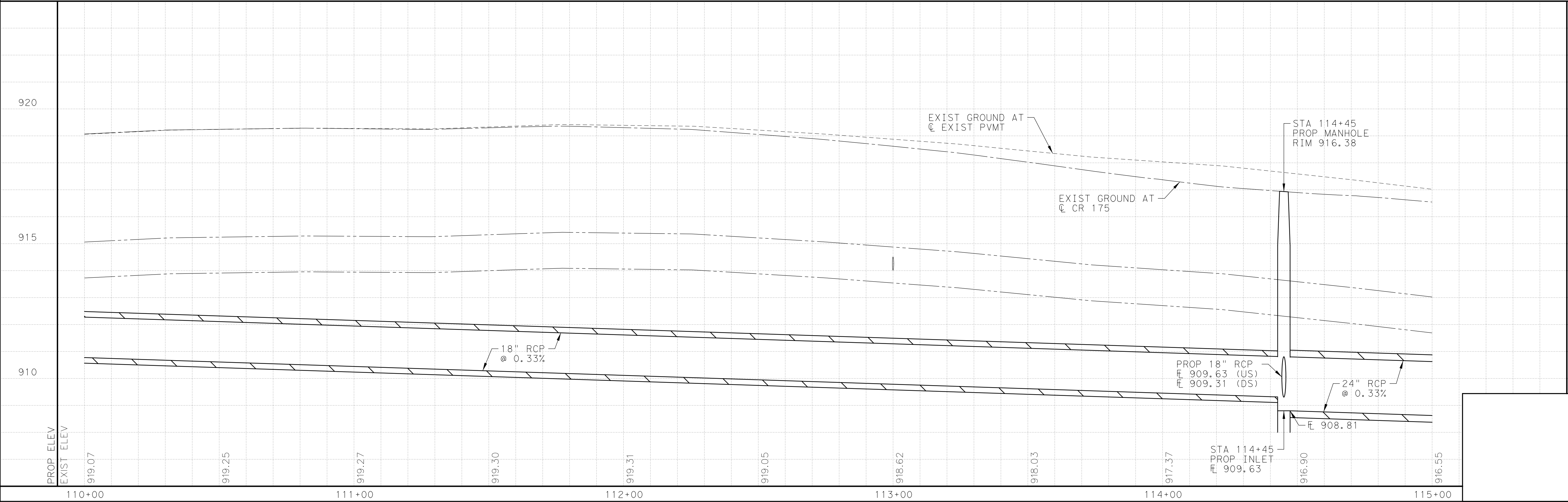
SHEET  
OF

13  
48

SHEETS



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#	STATION	OFFSET	DESC
1	113+65.92	34.00 RT	1068' R

- LEGEND
- (A) 3" ASPH SURFACE
  - (B) 5" ASPH BASE
  - (C) 13" FLEX BASE
  - (D) 8" LIME STABILIZED SUBGRADE
  - (E) CONC CURB & GUTTER
  - SIDWALK
  - PROPOSED LANE
  - EXISTING LANE

ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512) 646-3456 (512) 514-0315 FAX

**Costello**

CR 175 ROAD IMPROVEMENTS  
LEANDER, TEXAS

PLAN AND PROFILE  
STA 110+00 TO STA 115+00

SHEET 14  
OF 48 SHEETS

DESIGNED: \_\_\_\_\_  
DRAWN: \_\_\_\_\_  
COCO CHECKED: \_\_\_\_\_  
SURVEY CHECKED: \_\_\_\_\_  
QA/QC: \_\_\_\_\_  
QA/QC REVISIONS: \_\_\_\_\_

DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
NO. \_\_\_\_\_  
BY \_\_\_\_\_

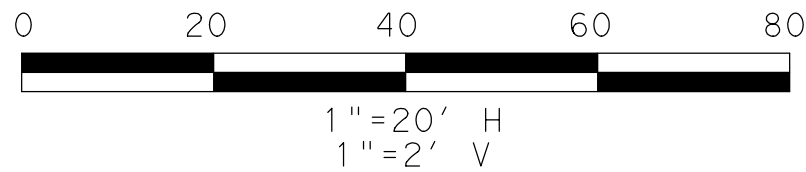
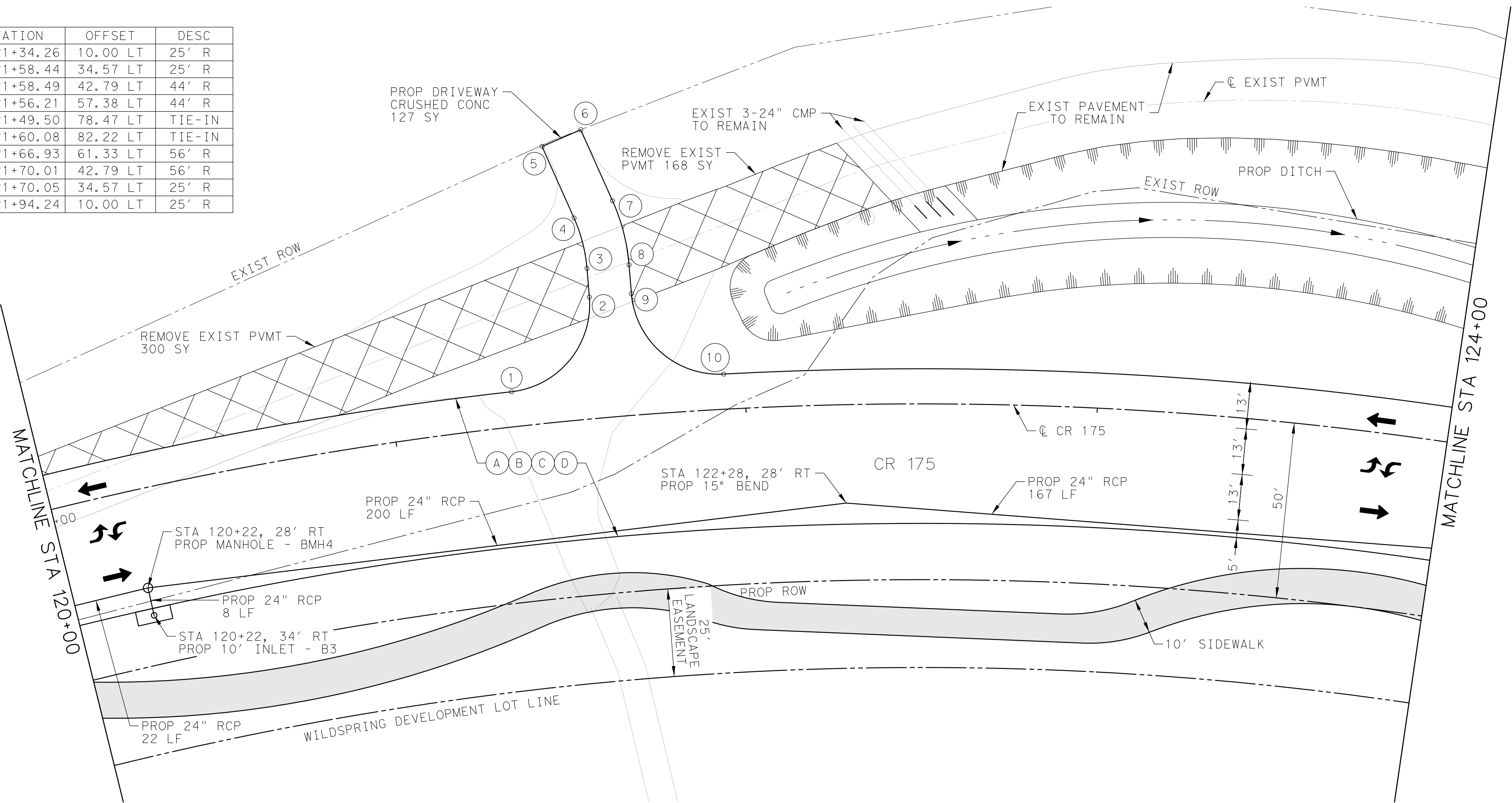




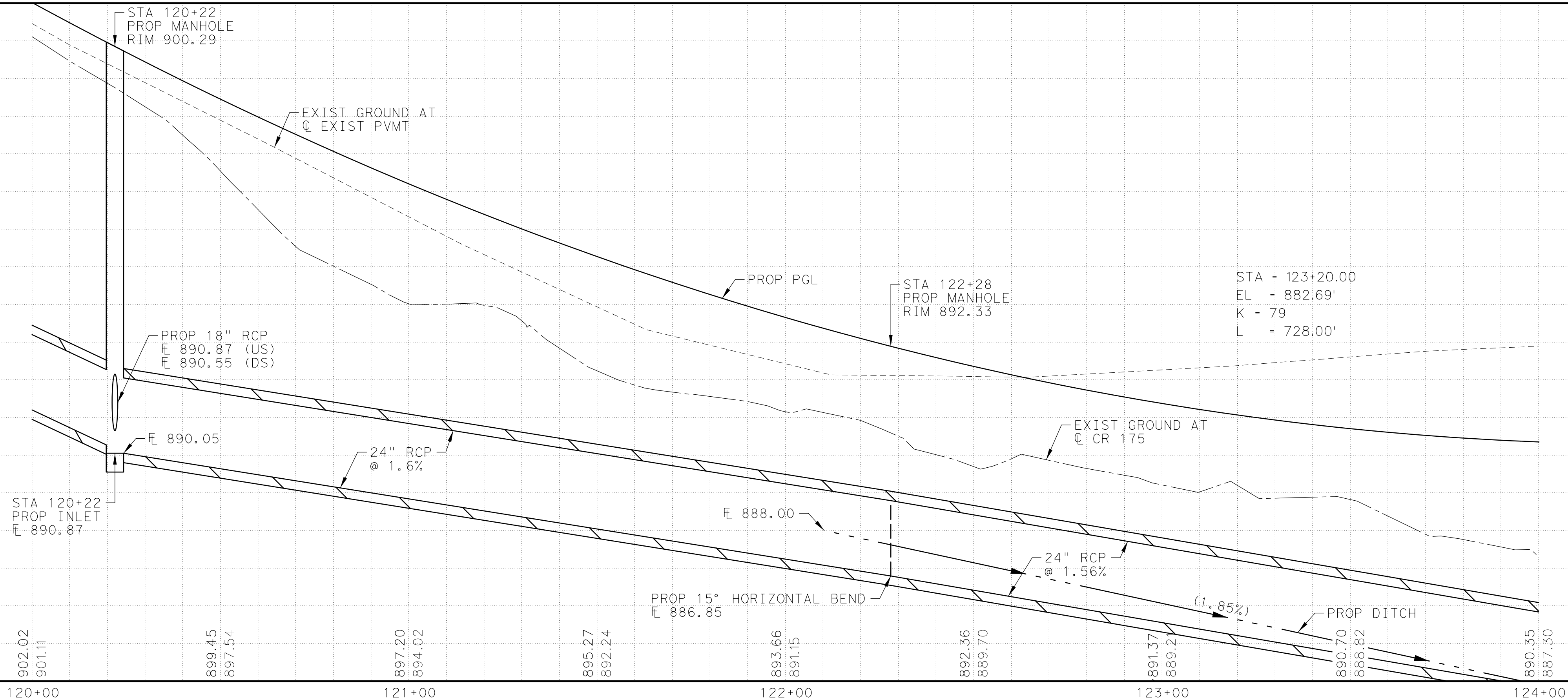
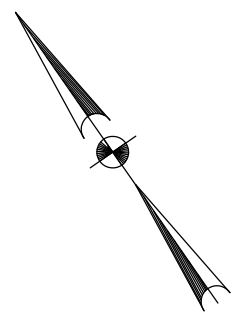


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#	STATION	OFFSET	DESC
1	121+34.26	10.00 LT	25' R
2	121+58.44	34.57 LT	25' R
3	121+58.49	42.79 LT	44' R
4	121+56.21	57.38 LT	44' R
5	121+49.50	78.47 LT	TIE-IN
6	121+60.08	82.22 LT	TIE-IN
7	121+66.93	61.33 LT	56' R
8	121+70.01	42.79 LT	56' R
9	121+70.05	34.57 LT	25' R
10	121+94.24	10.00 LT	25' R



- LEGEND
- (A) 3" ASPH SURFACE
  - (B) 5" ASPH BASE
  - (C) 13" FLEX BASE
  - (D) 8" LIME STABILIZED SUBGRADE
  - (E) CONC CURB & GUTTER
  - SIDWALK
  - PROPOSED LANE
  - EXISTING LANE



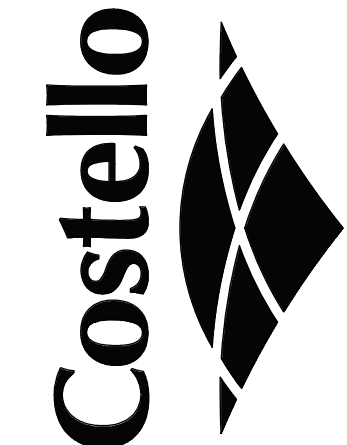
CR 175 ROAD IMPROVEMENTS  
LEANDER, TEXAS

PLAN AND PROFILE  
STA 120+00 TO STA 124+00



SHEET  
OF 48 SHEETS

ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512) 646-3456 (512) 514-0315 FAX  
TBPE FIRM REG. No. 280  
TBPLS FIRM REG. No. 100486



DESIGNED:  
DRAWN:  
COCO CHECKED:  
SURVEY CHECKED:  
QA/QC:  
QA/QC REVISIONS:

NO.

REVISION

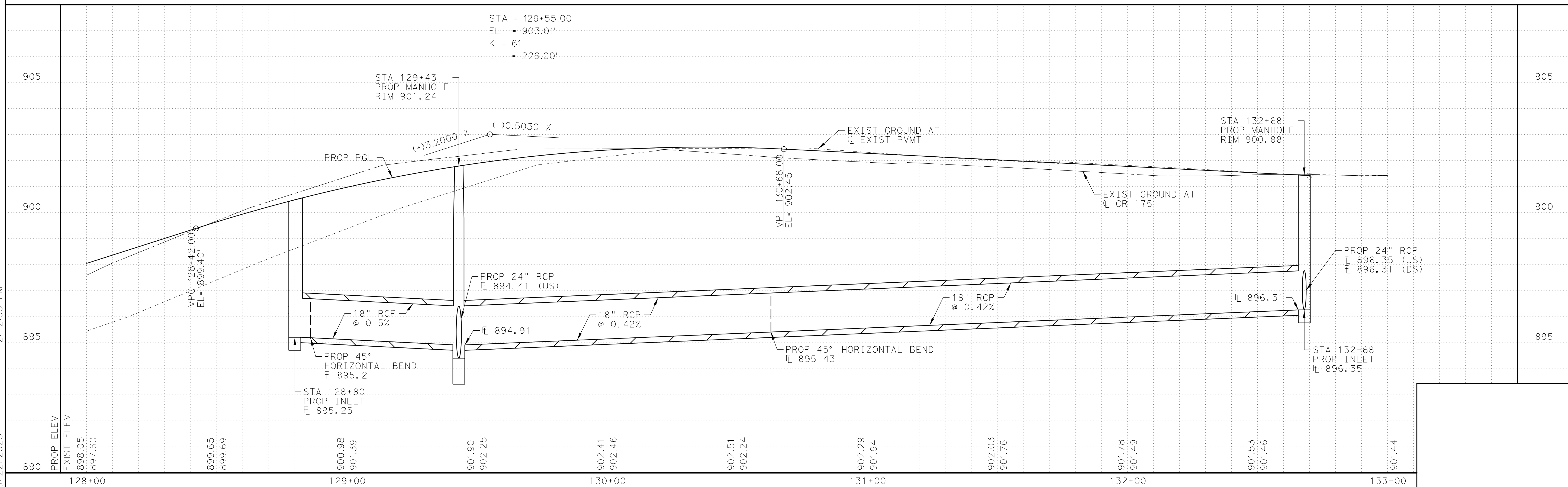
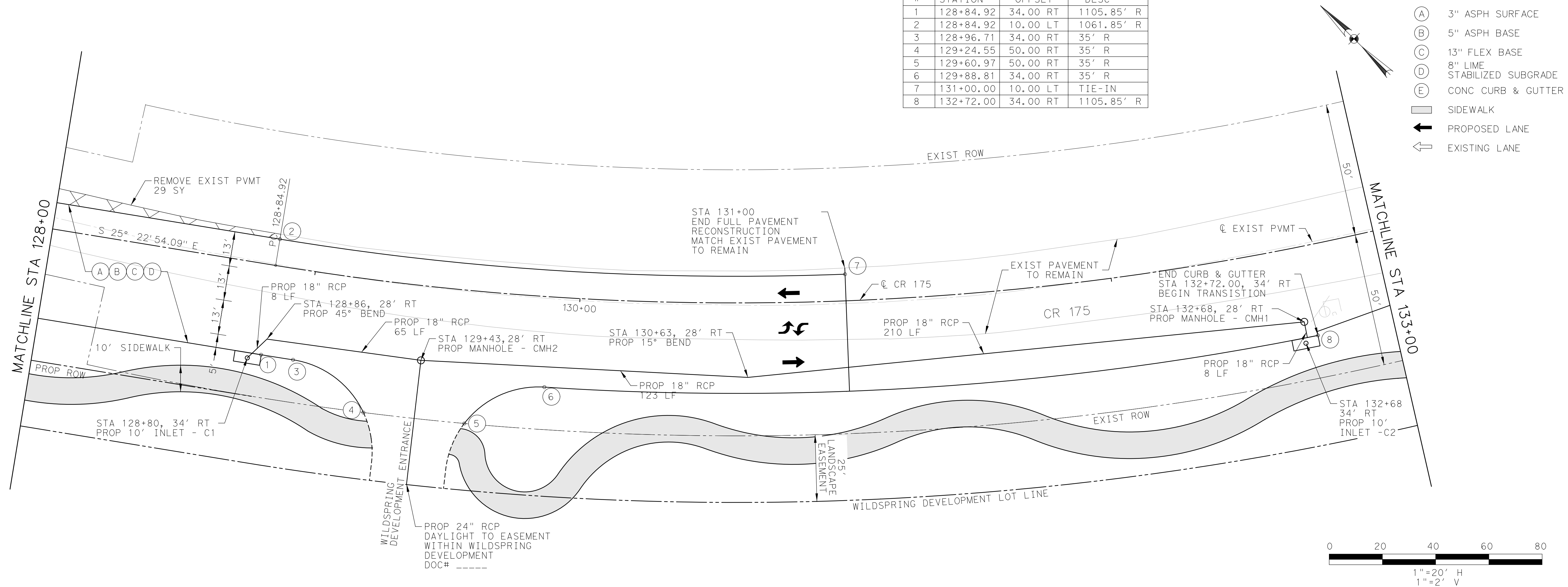
DATE BY





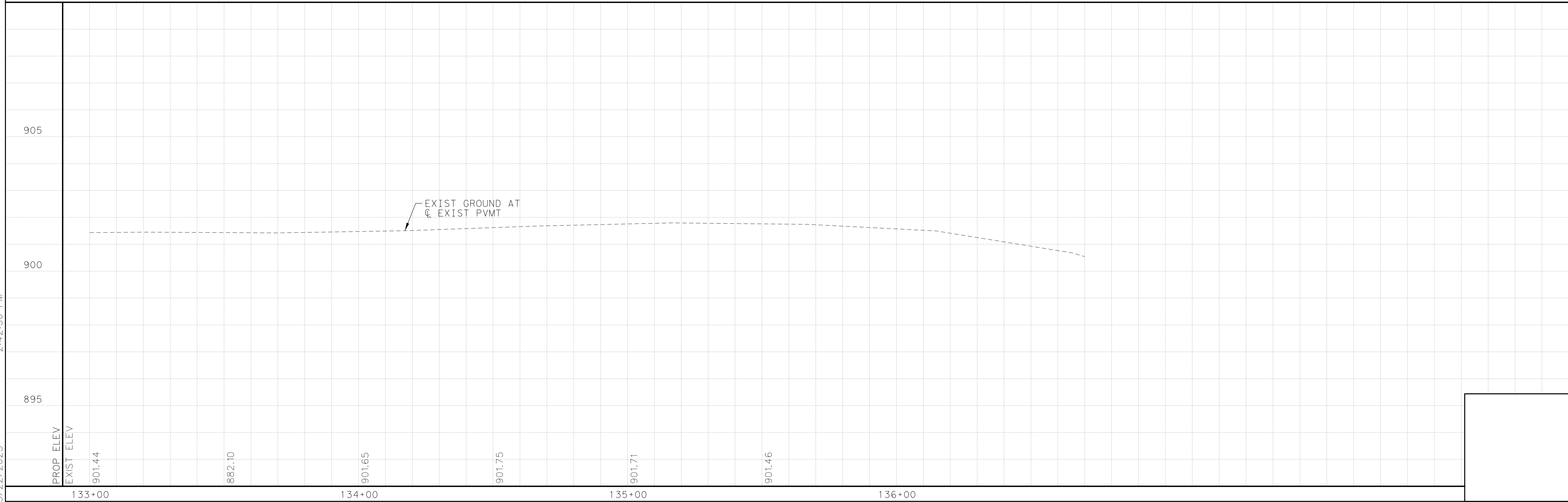


#	STATION	OFFSET	DESC
1	128+84.92	34.00 RT	1105.85' R
2	128+84.92	10.00 LT	1061.85' R
3	128+96.71	34.00 RT	35' R
4	129+24.55	50.00 RT	35' R
5	129+60.97	50.00 RT	35' R
6	129+88.81	34.00 RT	35' R
7	131+00.00	10.00 LT	TIE-IN
8	132+72.00	34.00 RT	1105.85' R

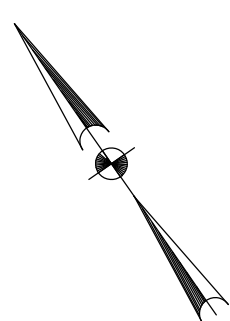
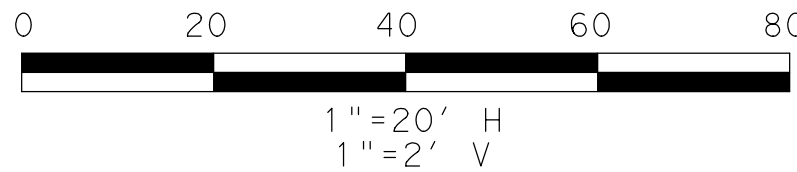
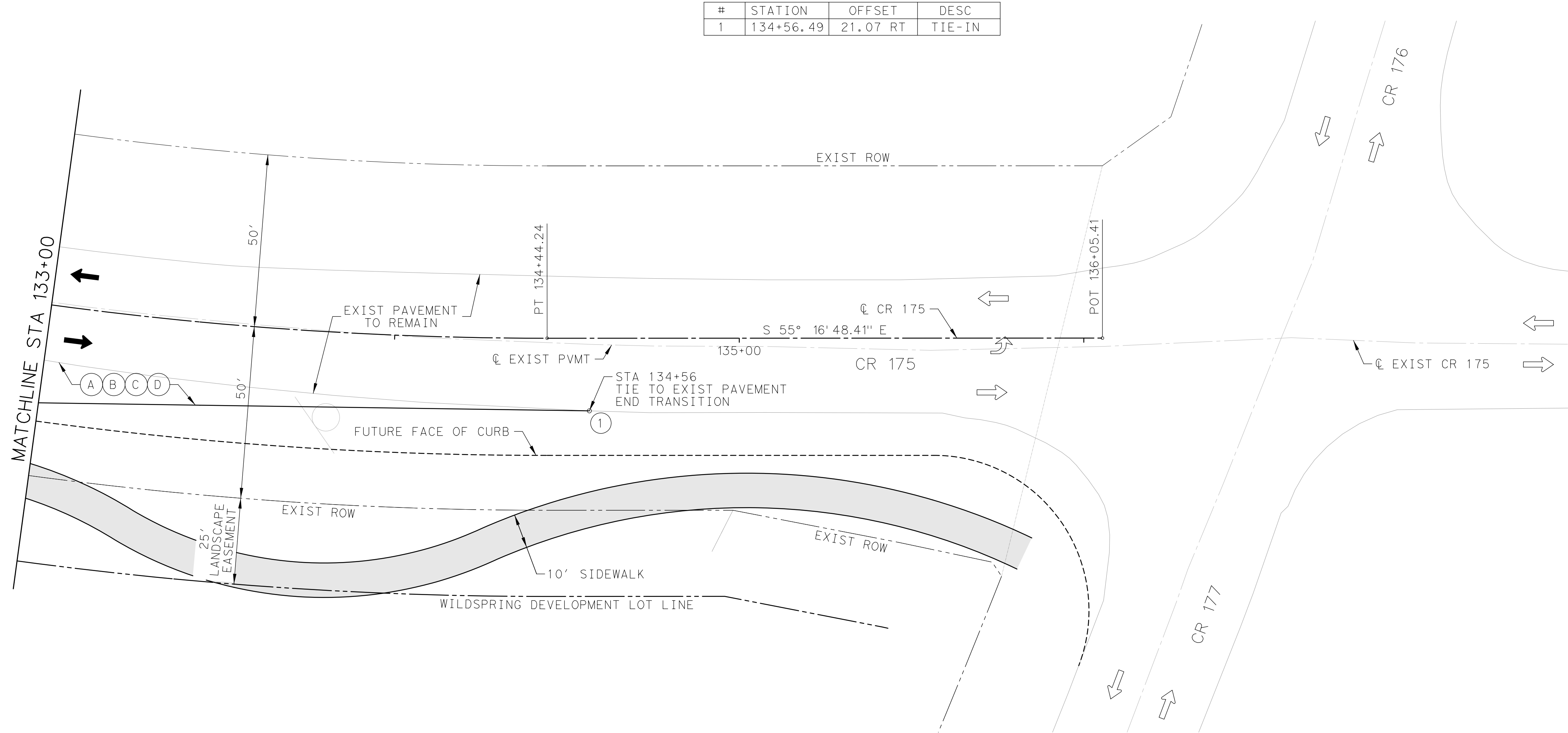







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#	STATION	OFFSET	DESC
1	134+56.49	21.07 RT	TIE-IN



- LEGEND**
- |   |                                |
|---|--------------------------------|
| (A)   | 3" ASPH SURFACE                |
| (B)   | 5" ASPH BASE                   |
| (C)   | 13" FLEX BASE                  |
| (D)   | 8" LIME<br>STABILIZED SUBGRADE |
| (E)   | CONC CURB & GUTTER             |
|  | SIDEWALK                       |
|  | PROPOSED LANE                  |
|  | EXISTING LANE                  |

<div style="display: flex; justify-content: space-between;"> <div> <p>CR 175 ROAD IMPROVEMENTS LEANDER, TEXAS</p> </div> <div> <p>PLAN AND PROFILE STA 133+00 TO END PROJECT</p> </div> </div>		<p>ENGINEERING AND SURVEYING 9050 N. CAPITAL HWY, BLDG 3, SUITE 390 AUSTIN, TEXAS 78759 (512)646-3456 (512) 514-0315 FAX</p>	DESIGNED: _____	_____	_____	_____
			DESIGN CHECKED: _____	_____	_____	_____
			DRAWN: _____	_____	_____	_____
			COGO CHECKED: _____	_____	_____	_____
			SURVEY CHECKED: _____	_____	_____	_____
			QA/QC: _____ DATE: _____	_____	_____	_____
			QA/QC REVISIONS: _____	NO.	_____	_____
				REVISION	DATE	BY



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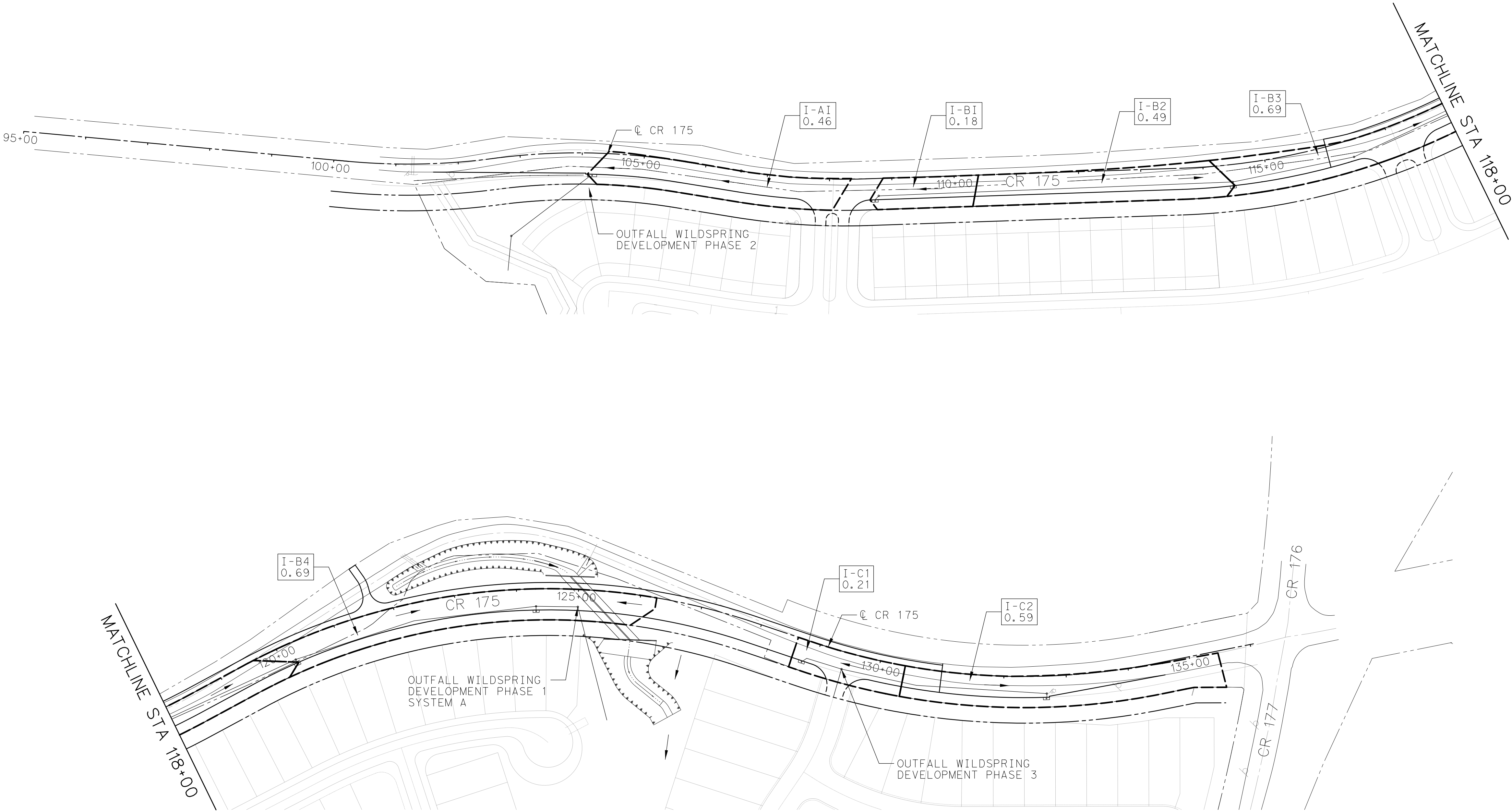
PROJECT NAME														
RATIONAL METHOD FLOW CALCULATIONS FOR STORM INLETS														
BASIN	INLET	INLET	AREA	AREA	IMPERVIOUS	IMPERVIOUS	PERVIOUS	TC	25-YR			100-YR		
LABEL	LABEL	TYPE*	(SQ.FT)	(AC)	(SF)	%	%	(MIN)	C	I	Q	C	I	Q
A1	I-A1	CGRD	20,198	0.46	18,178	90.0%	10.0%	5	0.83	11.79	4.56	0.92	15.42	6.59
B1	I-B1	CGRD	8,007	0.18	7,206	90.0%	10.0%	5	0.83	11.79	1.81	0.92	15.42	2.61
B2	I-B2	CGRD	21,376	0.49	19,238	90.0%	10.0%	5	0.83	11.79	4.83	0.92	15.42	6.98
B3	I-B3	CGRD	30,129	0.69	27,116	90.0%	10.0%	5	0.83	11.79	6.80	0.92	15.42	9.84
B4	I-B4	CSAG	30,113	0.69	27,101	90.0%	10.0%	5	0.83	11.79	6.80	0.92	15.42	9.83
C1	I-C1	CGRD	9,050	0.21	8,145	90.0%	10.0%	5	0.83	11.79	2.04	0.92	15.42	2.95
C2	I-C2	CSAG	25,895	0.59	23,306	90.0%	10.0%	5	0.83	11.79	5.85	0.92	15.42	8.45

LEGEND

- DRAINAGE BOUNDARY
- FLOW DIRECTION
- I-XX  
0.00

DRAINAGE AREA  
ACREAGE

NOTE: SEE OVERALL  
DRAINAGE MAP FOR  
WILDSRING DEVELOPMENT  
AND CR 175



ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512)646-3456 (512) 514-0315 FAX  
TBPE FIRM REG. No. 280  
TBPLS FIRM REG. No. 100486



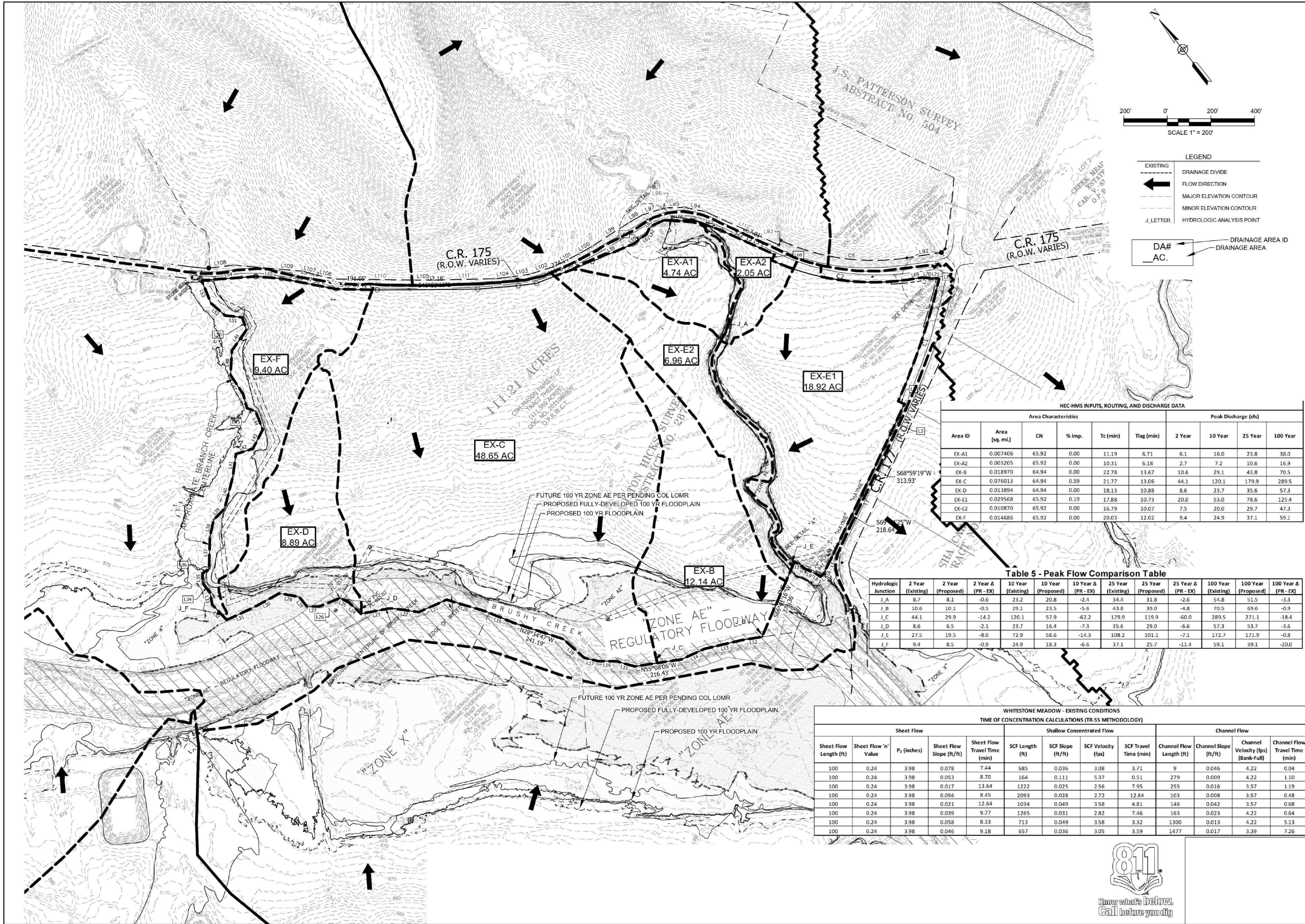
CR 175 ROAD IMPROVEMENTS  
LEANDER, TEXAS

DRAINAGE AREA MAP





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HEC-HMS INPUTS, ROUTING, AND DISCHARGE DATA									
Area Characteristics					Peak Discharge (cfs)				
Area ID	Area (sq. mi.)	CN	% Imp.	Tc (min)	Time lag (min)	2 Year	10 Year	25 Year	100 Year
EX-A1	0.007405	65.92	0.00	11.19	6.71	6.1	16.0	23.8	38.0
EX-A2	0.003205	65.92	0.00	10.31	6.18	2.7	7.2	10.6	16.9
EX-B	0.018970	64.94	0.00	22.78	13.67	10.6	29.1	43.8	70.5
EX-C	0.076013	64.94	0.59	21.77	13.06	44.1	120.1	179.9	289.5
EX-D	0.013894	64.94	0.00	18.13	10.88	8.6	23.7	35.6	57.3
EX-E1	0.029568	65.92	0.19	17.88	10.73	20.0	53.0	78.6	125.4
EX-E2	0.010870	65.92	0.00	15.79	10.67	7.5	20.0	29.7	47.3
EX-F	0.014686	65.92	0.00	20.03	12.02	9.4	24.9	37.1	59.1

Table 5 - Peak Flow Comparison Table											
Hydrologic Junction	2 Year (Existing)	2 Year (Proposed)	2 Year Δ (PR - EX)	10 Year (Existing)	10 Year (Proposed)	10 Year Δ (PR - EX)	25 Year (Existing)	25 Year (Proposed)	25 Year Δ (PR - EX)	100 Year (Existing)	100 Year Δ (PR - EX)
J.A	8.7	8.1	-0.6	23.2	20.8	-2.4	34.4	31.8	-2.6	54.8	-3.3
J.B	10.6	10.1	-0.5	29.1	23.5	-5.6	43.8	39.0	-4.8	70.5	-6.9
J.C	44.1	29.9	-14.2	120.1	57.9	-62.2	179.9	119.9	-60.0	289.5	-184.4
J.D	8.6	6.5	-2.1	23.7	16.4	-7.3	35.6	29.0	-6.6	57.3	-5.5
J.E	27.5	19.5	-8.0	72.9	58.6	-14.3	108.2	101.1	-7.1	172.7	-60.8
J.F	9.4	8.5	-0.9	24.9	18.3	-6.6	37.1	25.7	-11.4	59.1	-39.1

WHITSTONE MEADOW - EXISTING CONDITIONS											
TIME OF CONCENTRATION CALCULATIONS (TR-55 METHODOLOGY)											
Sheet Flow				Shallow Concentrated Flow				Channel Flow			
Sheet Flow Length (ft)	Sheet Flow 'n' Value	P <sub>s</sub> (inches)	Sheet Flow Slope (ft/ft)	Sheet Flow Travel Time (min)	SCF Length (ft)	SCF Slope (ft/ft)	SCF Velocity (fps)	SCF Travel Time (min)	Channel Flow Length (ft)	Channel Slope (ft/ft)	Channel Velocity (fps) (Bank-Full)
100	0.24	3.98	0.078	7.44	685	0.036	3.08	3.71	9	0.046	4.22
100	0.24	3.98	0.053	8.70	164	0.111	5.37	0.51	279	0.009	4.22
100	0.24	3.98	0.017	13.64	1222	0.025	2.56	7.95	255	0.016	3.57
100	0.24	3.98	0.056	8.45	2093	0.028	2.72	12.84	103	0.008	3.57
100	0.24	3.98	0.021	12.64	1034	0.049	3.58	4.81	146	0.042	3.57
100	0.24	3.98	0.039	9.77	1265	0.031	2.82	7.46	163	0.023	4.22
100	0.24	3.98	0.058	8.33	713	0.049	3.58	3.32	1300	0.013	4.22
100	0.24	3.98	0.046	9.18	657	0.036	3.05	3.59	1477	0.017	3.39



FOR REGULATORY REVIEW ONLY - NOT FOR CONSTRUCTION

NOTE: EXIST DRAINAGE MAP FOR REFERENCE ONLY. SUBMITTED UNDER OTHER PROJECT # XXXXXX

DESIGNED: ENGINEERING AND SURVEYING 9050 N. CAPITAL HWY, BLDG 3, SUITE 390 AUSTIN, TEXAS 78759 (512)646-3456 (512) 514-0315 FAX (512)646-3456 (512) 514-0315 FAX  
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CHECKED: COSTELLO  
DATE: 11/8/2022  
NO. 100486

WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641

EXISTING DRAINAGE AREA MAP

THESE CONSTRUCTION PLANS ARE RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF  
MICHAEL A. KEHNEY  
P.E. 131885  
11/8/2022  
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SHEET 12  
OF 89 SHEETS

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CHECKED: COSTELLO  
DATE: 11/8/2022  
NO. 100486

CR 175 ROAD IMPROVEMENTS  
LEANDER, TEXAS

EXIST DRAINAGE AREA MAP

STATE OF TEXAS  
SARA E. COFFEY  
137342  
LICENSED PROFESSIONAL ENGINEER  
3/22/2023

SHEET 21  
OF 48 SHEETS

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DATE: 11/8/2022  
NO. 100486

CR 175 ROAD IMPROVEMENTS  
LEANDER, TEXAS

EXIST DRAINAGE AREA MAP

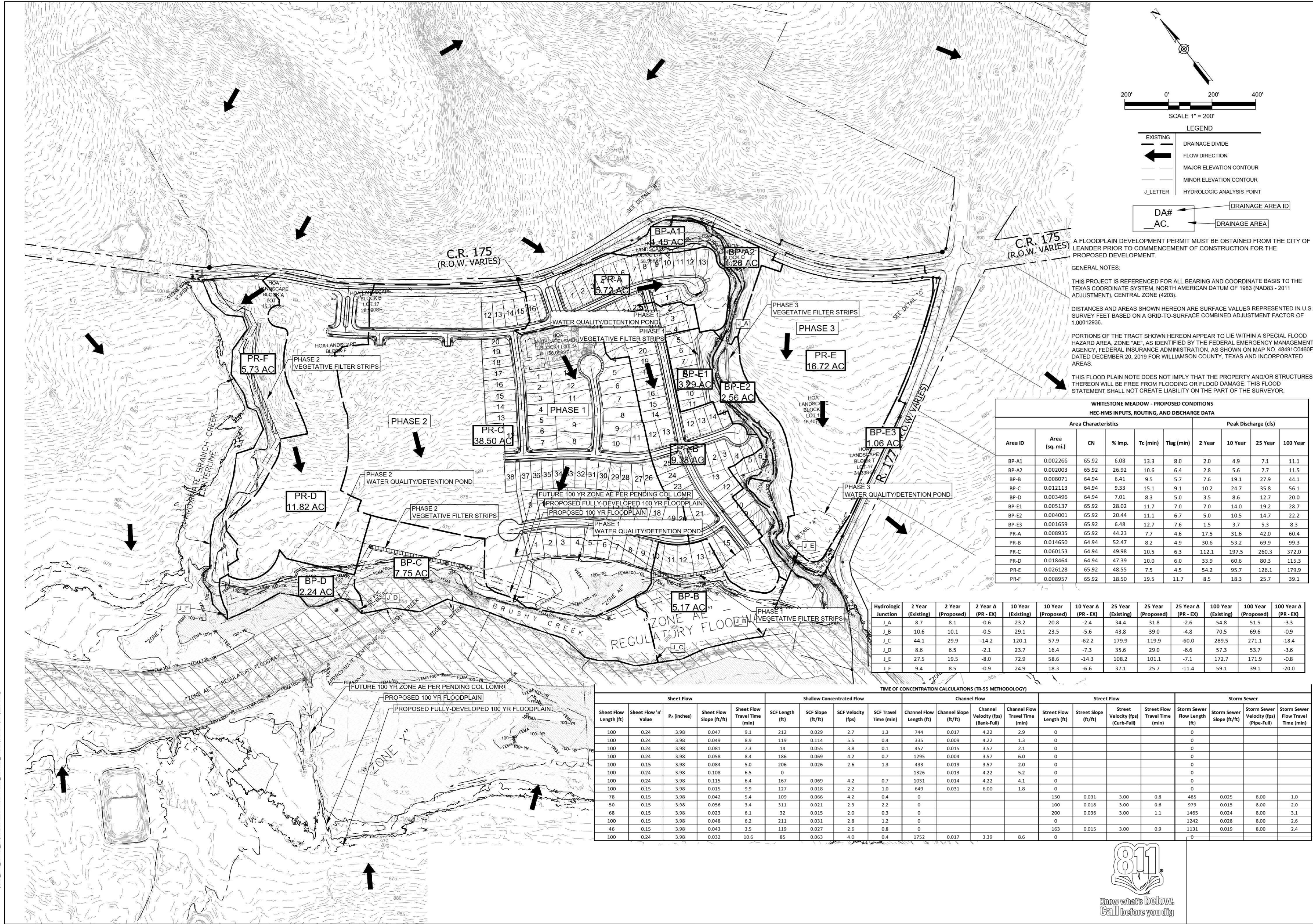
STATE OF TEXAS  
SARA E. COFFEY  
137342  
LICENSED PROFESSIONAL ENGINEER  
3/22/2023

SHEET 21  
OF 48 SHEETS



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NOTE: OVERALL DRAINAGE MAP FOR REFERENCE ONLY. SUBMITTED UNDER OTHER PROJECT # XXXXXX

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DRAWN: [ ]  
COCO CHECKED: [ ]  
SURVEY CHECKED: [ ]  
QA/QC: [ ]  
DATE: [ ]  
REVISION: [ ]  
BY: [ ]

ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512)646-3456 (512) 514-0315 FAX

**Costello**

WILDSRING - PHASE 1  
LEANDER, TEXAS 78641

PROPOSED DRAINAGE AREA MAP

THESE CONSTRUCTION PLANS ARE RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF  
MICHAEL A. KENNEY  
P.E. 131862  
11/8/2022  
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SHEET **13**  
OF **89** SHEETS

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COCO CHECKED: [ ]  
SURVEY CHECKED: [ ]  
QA/QC: [ ]  
DATE: [ ]  
REVISION: [ ]  
NO. [ ]  
BY [ ]

ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512)646-3456 (512) 514-0315 FAX

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CR 175 ROAD IMPROVEMENTS  
LEANDER, TEXAS

OVERALL DRAINAGE AREA MAP

SHEET **22**  
OF **48** SHEETS



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PROJECT NAME														
RATIONAL METHOD FLOW CALCULATIONS FOR STORM INLETS														
BASIN	INLET	INLET	AREA	AREA	IMPERVIOUS	IMPERVIOUS	PERVIOUS	TC	25-YR			100-YR		
									C	I	Q	C	I	Q
A1	I-A1	CGRD	20,198	0.46	18,178	90.0%	10.0%	5	0.83	11.79	4.56	0.92	15.42	6.59
B1	I-B1	CGRD	8,007	0.18	7,206	90.0%	10.0%	5	0.83	11.79	1.81	0.92	15.42	2.61
B2	I-B2	CGRD	21,376	0.49	19,238	90.0%	10.0%	5	0.83	11.79	4.83	0.92	15.42	6.98
B3	I-B3	CGRD	30,129	0.69	27,116	90.0%	10.0%	5	0.83	11.79	6.80	0.92	15.42	9.84
B4	I-B4	CSAG	30,113	0.69	27,101	90.0%	10.0%	5	0.83	11.79	6.80	0.92	15.42	9.83
C1	I-C1	CGRD	9,050	0.21	8,145	90.0%	10.0%	5	0.83	11.79	2.04	0.92	15.42	2.95
C2	I-C2	CSAG	25,895	0.59	23,306	90.0%	10.0%	5	0.83	11.79	5.85	0.92	15.42	8.45

COA C-Values				
	2	10	25	100
Impervious	0.75	0.8	0.88	0.97
Pervious	0.33	0.38	0.42	0.49

COA IDF Curve Values			
Year	a	b	c
2	45.24	9.339	0.7399
10	61.25	8.352	0.7147
25	69.96	7.941	0.6954
100	77.31	6.832	0.6524

Curb Inlets On Grade Calculation Summary: 100 year																																		
Drainage Area No.	Inlet No.	Q <sub>100</sub> (cfs)	Q <sub>pass</sub> (cfs)	Q <sub>total</sub> (cfs)	Slope (%)	n	Ku	Street Width (ft)	S <sub>x</sub> (%)	Crown Height (above gutter FL) (ft)	Curb Depression, a' (ft)	Inlet Depression, a (ft)	W (ft)	Gutter slope, S <sub>w</sub> (%)	Z	Sw/Sx	Depressed Gutter Slope, S' <sub>w</sub> (%)	Reduction Factor	Q <sub>c</sub> (Assumed) (cfs)	E <sub>o</sub>	T/W	Ponded Width,T (ft)	Width in Street, T <sub>s</sub> (ft)	Q <sub>c,calculated</sub> (cfs)	Error	S <sub>c</sub> (ft/ft)	y0 (ft)	L <sub>r</sub> (ft)	Length (ft)	L/L <sub>r</sub>	Q <sub>pass</sub> (cfs)	% Captured	(Bypass to Inlet #)	Flow Captured by Inlet (cfs)
A1	I-A1	6.59	0	6.59	1.30%	0.016	0.560	34.00	2.00%	0.423	0.083	0.42	1.50	7.53%	50.00	3.77	27.78%	1.0	4.47	0.32	9.0	13.6	12.1	4.47	0%	0.11	0.32	16.22	15.00	0.92	0.06	99%	0	6.53
B1	I-B1	2.61	0	2.61	1.20%	0.016	0.560	34.00	2.00%	0.423	0.083	0.42	1.50	7.53%	50.00	3.77	27.78%	1.0	1.41	0.46	6.30	945%	795%	141%	0%	0.15	0.24	8.99	10.00	1.11		100%	A1	2.61
B2	I-B2	6.98	0	6.98	0.70%	0.020	0.560	34.00	2.00%	0.423	0.083	0.42	1.50	7.53%	50.00	3.77	27.78%	1.0	5.20	0.25	11.38	1707%	1557%	520%	0%	0.09	0.39	13.52	10.00	0.74	0.62	91%	B3	6.36
B3	I-B3	9.84	0	9.84	5.40%	0.016	0.560	34.00	2.00%	0.423	0.083	0.42	1.50	7.53%	50.00	3.77	27.78%	1.0	6.24	0.37	7.97	1196%	1046%	624%	0%	0.12	0.29	27.65	10.00	0.36	4.38	55%	B4	5.45
C1	I-C1	2.95	0	2.95	2.50%	0.016	0.560	34.00	2.00%	0.423	0.083	0.42	1.50	7.53%	50.00	3.77	27.78%	1.0	1.46	0.50	5.68	852%	702%	146%	0%	0.16	0.22	11.22	10.00	0.89	0.05	98%	0	2.90

Curb Inlets On Grade Calculation Summary: 25 year																																			
Drainage Area No.	Inlet No.	Q <sub>25</sub> (cfs)	Q <sub>pass</sub> (cfs)	Q <sub>total</sub> (cfs)	Slope (%)	n	Ku	Street Width (ft)	Sx (%)	Crown Height (above gutter FL) (ft)	Curb Depression, a' (ft)	Inlet Depression, a (ft)	W (ft)	Gutter slope, Sw (%)	Z	Sw/Sx	Depressed Gutter Slope, S' <sub>w</sub> (%)	Reduction Factor	Q <sub>c</sub> (Assumed) (cfs)	E <sub>o</sub>	T/W	Ponded Width,T (ft)	Width in Street, Ts (ft)	Q <sub>c,calculated</sub> (cfs)	Error	S <sub>c</sub> (ft/ft)	y0 (ft)	L <sub>r</sub> (ft)	Length (ft)	L/L <sub>r</sub>	Q <sub>pass</sub> (cfs)	% Captured	(Bypass to Inlet #)	Flow C by Inl	Comput (Only c all inp are fir
A1	I-A1	4.56	0	4.56	1.30%	0.016	0.560	34.00	2.00%	0.423	0.083	0.42	1.50	7.53%	50.00	3.77	27.78%	1.0	2.86	0.37	7.8	11.7	10.2	2.86	0%	0.12	0.29	12.91	15.00	1.16		100.0%			4.56
B1	I-B1	1.81	0	1.81	1.20%	0.016	0.560	34.00	2.00%	0.423	0.083	0.42	1.50	7.53%	50.00	3.77	27.78%	1.0	0.85	0.53	5.38	8.07	6.57	0.85	0%	0.17	0.21	7.14	10.00	1.40		100.0%	A1		1.81
B2	I-B2	4.83	0	4.83	0.70%	0.020	0.560	34.00	2.00%	0.423	0.083	0.42	1.50	7.53%	50.00	3.77	27.78%	1.0	3.40	0.29	9.86	14.79	13.29	3.40	0%	0.10	0.35	10.79	10.00	0.93	0.04	99.1%	B3		4.78
B3	I-B3	6.80	0	6.80	5.40%	0.016	0.560	34.00	2.00%	0.423	0.083	0.42	1.50	7.53%	50.00	3.77	27.78%	1.0	3.92	0.42	6.86	10.29	8.79	3.92	0%	0.14	0.26	21.98	10.00	0.45	2.28	66.5%	B4		4.52
C1	I-C1	2.04	0	2.04	2.50%	0.016	0.560	34.00	2.00%	0.423	0.083	0.42	1.50	7.53%	50.00	3.77	27.78%	1.0	0.86	0.58	4.83	7.24	5.74	0.86	0%	0.18	0.20	8.91	10.00	1.12		100.0%			2.04

Curb Inlets in Sump Calculation Summary: 25 year															
Drainage Area No.	Inlet No.	Q <sub>25</sub> (cfs)	Qpass (cfs)	Qttotal (cfs)	W (ft)	Inlet Depression, a (ft)	Curb opening height, h (ft)	Reduction Factor	Length (ft)	d <sub>weir</sub> Above S <sub>x</sub> (ft)	d <sub>orifice</sub> above S <sub>x</sub> (ft)	Depth of Ponding over S <sub>w</sub> , d (ft)	S <sub>x</sub> (%)	z	Ponded Width (ft)
B4	I-B4	6.80	0.00	6.80	1.50	0.42	0.52	1.00	10.00	0.38	0.00	0.31	2.00%	50.00	15.46
C2	I-C2	5.85	0.00	5.85	1.50	0.42	0.52	1.00	10.00	0.34	0.00	0.31	2.00%	50.00	15.46

Curb Inlets in Sump Calculation Summary: 100 year															
Drainage Area No.	Inlet No.	Q <sub>100</sub> (cfs)	Qpass (cfs)	Qttotal (cfs)	W (ft)	Inlet Depression, a (ft)	Curb opening height, h (ft)	Reduction Factor	Length (ft)	d <sub>weir</sub> Above S <sub>x</sub> (ft)	d <sub>orifice</sub> above S <sub>x</sub> (ft)	Depth of Ponding over S <sub>w</sub> , d (ft)	S <sub>x</sub> (%)	z	Ponded Width (ft)
B4	I-B4	9.83	0.00	9.83	1.50	0.42	0.52	1.00	10.00	0.48	0.00	0.31	2.00%	50.00	15.46
C2	I-C2	8.45	0.00	8.45	1.50	0.42	0.52	1.00	10.00	0.44	0.00	0.31	2.00%	50.00	15.46

StormCAD Model Drainage Sytem Exports																	
Pipe Conditions									25yr Flow Characteristics					100yr Flow Characteristics			
Conduit Label	Start Node	Stop Node	Invert Start (ft)	Invert Stop (ft)	Length (ft)	Slope (ft/ft)	Mannin g's n	Diamet er (in)	Capacity Full Flow (cfs)	Flow (cfs)	Velocity (ft/s)	HGL Upstream (ft)	HGL Downstre am (ft)	Flow (cfs)	Velocity (ft/s)	HGL Upstream (ft)	HGL Downstre am (ft)
CR175-A1.1	CR175-IA1	CR175-AB1	898	894.5	157.2	0.022	0.013	24	33.76	4.56	7.5	898.75	895.27	6.59	8.33	898.91	895.43
CR175-A1.2	CR175-AB1	CR175-AOUT	894.5	893.37	50.6	0.022	0.013	24	33.81	4.56	7.51	895.25	895.37	6.59	8.34	895.41	895.37
CR175-B1.1	CR175-BM1	CR175-BMH1	911.22	911.18	11.4	0.003	0.013	18	6.03	1.81	2.98	911.83	911.82	2.61	3.29	911.98	911.96
CR175-B1.2	CR175-BM1	CR175-BMH2	911.18	909.31	569	0.003	0.013	18	6.03	1.81	2.98	911.75	910.25	2.61	3.29	911.87	910.63
CR175-B1.3	CR175-BMH2	CR175-BMH3	908.81	908.15	199	0.003	0.013	24	12.99	6.64	4.16	909.82	909.32	9.59	4.53	910.09	909.58
CR175-B1.4	CR175-BMH3	CR175-BMH4	908.16	890.05	385.6	0.047	0.013	24	48.99	6.64	10.89	909.07	892.49	9.59	12.1	909.26	893.92
CR175-B1.5	CR175-BMH4	CR175-BB1	890.05	886.85	200.1	0.016	0.013	24	28.6	13.44	8.96	891.37	890.04	19.43	6.18	893.07	891.59
CR175-B1.6	CR175-BB1	CR175-BMH5	886.85	883.77	197.2	0.016	0.013	24	28.27	13.44	4.28	889.85	889.15	19.43	6.18	891.19	889.73
CR175-B1.7	CR175-BMH5	CR175-BMH6	883.27	882.41	67.1	0.013	0.013	24	25.69	20.24	6.44	888.38	887.84	29.26	9.31	891.16	890.03
CR175-B1.8	CR175-BMH6	CR175-BOU	882.41	880	188.1	0.013	0.013	24	25.58	20.24	6.44	887.11	885.6	29.26	9.31	889.9	886.75
CR175-BLAT2	CR175-IB2	CR175-BMH2	909.63	909.31	8	0.04	0.013	18	21	4.83	9.66	910.47	909.92	6.98	10.68	910.65	910.49
CR175-BLAT3	CR175-IB3	CR175-BMH4	890.87	890.55	8	0.04	0.013	18	21	6.8	3.85	892.43	892.39	9.84	5.57	893.79	893.72
CR175-BLAT4	CR175-IB4	CR175-BMH5	884.59	884.27	8	0.04	0.013	18	21	6.8	3.85	889.22	889.18	9.83	5.56	889.8	889.73
CR175-C1.1	CR175-IC2	CR175-CMH1	896.35	896.31	8	0.004	0.013	18	6.82	5.85	3.31	897.96	897.94	8.45	4.78	899.27	899.22
CR175-C1.2	CR175-CMH1	CR175-CB1	896.31	895.43	210.1	0.004	0.013	18	6.82	5.85	4.34	897.4	896.81	8.45	4.78	898.79	897.43
CR175-C1.3	CR175-CB1	CR175-CMH2	895.43	894.91	123	0.004	0.013	18	6.82	5.85	4.34	896.54	896.2	8.45	4.78	897.2	896.4
CR175-C1.4	CR175-CMH2	CR175-COUT	894.41	894	97	0.004	0.013	24	14.69	7.89	4.76	896.09	896	11.4	5.17	896.2	896
CR175-CLAT2.2	CR175-IC1	CR175-CB2	895.25	895.2	10.2	0.005	0.013	18	7.43	2.04	3.59	896.32	896.32	2.95	3.96	896.65	896.65
CR175-CLAT2.1	CR175-CB2	CR175-CMH2	895.2	894.91	58.4	0.005	0.013	18	7.43	2.04	3.59	896.31	896.29	2.95	3.96	896.63	896.59

DESIGNED: \_\_\_\_\_  
DRAWN: \_\_\_\_\_  
COCO CHECKED: \_\_\_\_\_  
QA/QC: \_\_\_\_\_  
DATE: \_\_\_\_\_

REVISION  
NO. \_\_\_\_\_

DATE BY

ENGINEERING AND SURVEYING  
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AUSTIN, TEXAS 78759  
(512)646-3456 (512) 514-0315 FAX

CR 175 ROAD IMPROVEMENTS  
LEANDER, TEXAS

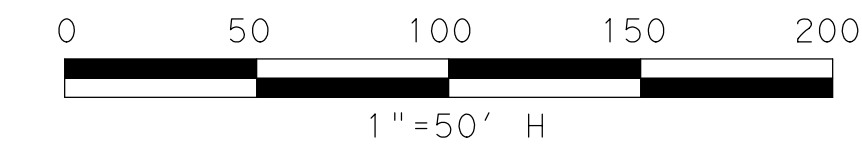
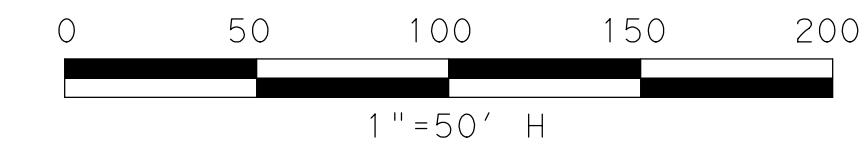
DRAINAGE CALCULATIONS

STATE OF TEXAS  
SARA E. COFFEY  
137342  
PROFESSIONAL ENGINEER


Sara Coffey  
3/22/2023

SHEET 23  
OF 48 SHEETS



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GRADING LAYOUT  
BEG PROJECT TO STA 120+00



DESIGNED: \_\_\_\_\_  
 DESIGN CHECKED: \_\_\_\_\_  
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 SURVEY CHECKED: \_\_\_\_\_  
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 QA/QC REVISIONS: \_\_\_\_\_

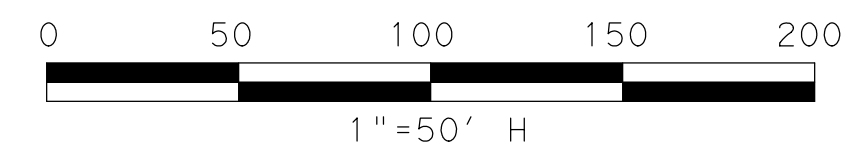
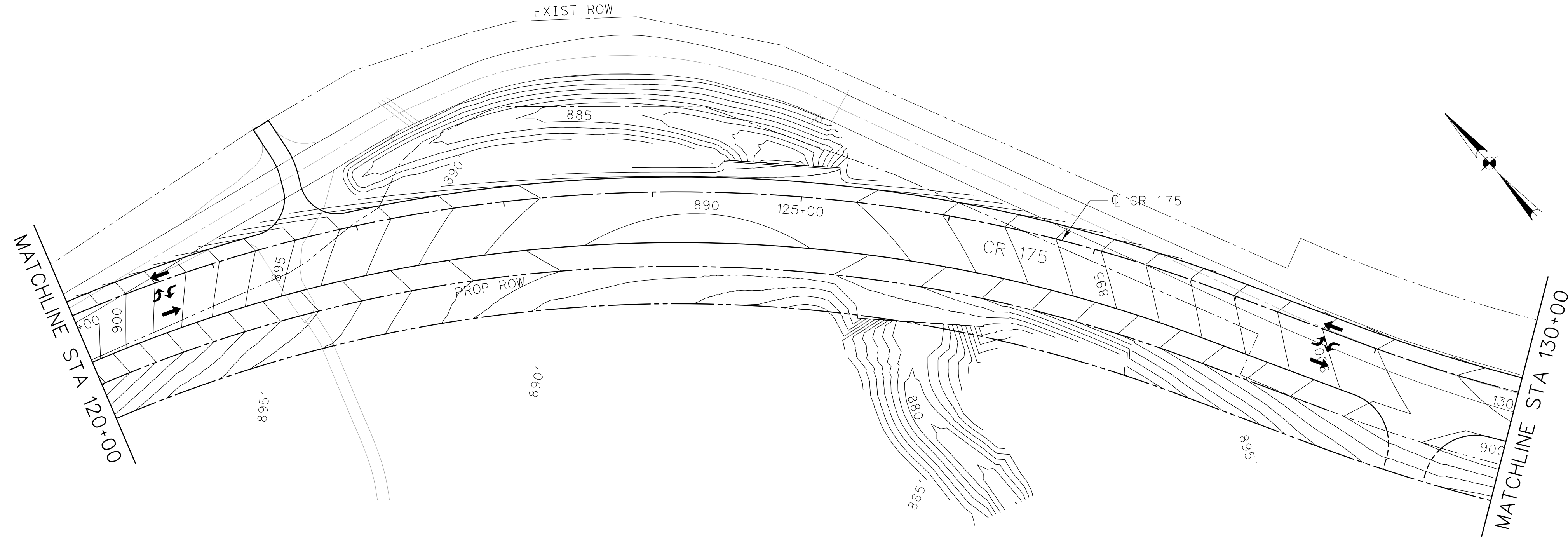
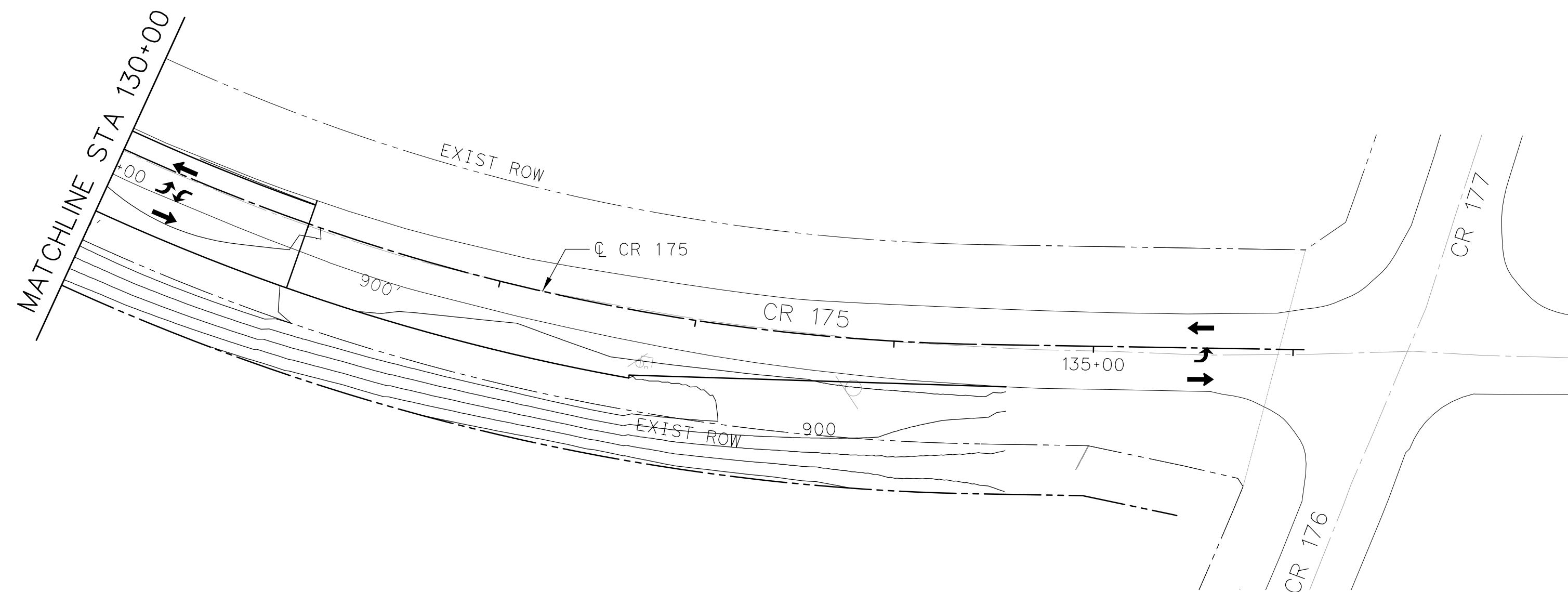
REVISION

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CR 175 ROAD IMPROVEMENTS  
LEANDER, TEXAS


GRADING LAYOUT  
STA 120+00 TO END PROJECT



SHEET 25  
OF 48 SHEETS

ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
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TBPE FIRM REG. No. 280  
TBPLS FIRM REG. No. 100486

The logo for Costello, featuring the word "Costello" in a bold, serif font, with a stylized diamond shape to its right. The diamond is divided into four quadrants by a vertical and a horizontal line, with the top and bottom quadrants being solid black and the left and right quadrants being white.

DESIGNED: \_\_\_\_\_  
 DESIGN CHECKED: \_\_\_\_\_  
 DRAWN: \_\_\_\_\_  
 COGO CHECKED: \_\_\_\_\_  
 SURVEY CHECKED: \_\_\_\_\_  
 QA/QC: \_\_\_\_\_  
 QA/QC REVISIONS: \_\_\_\_\_

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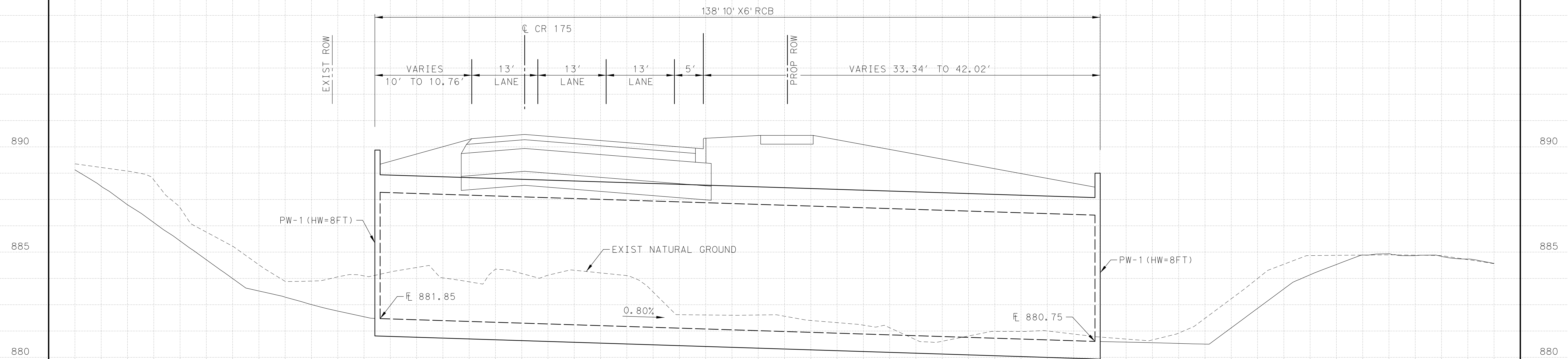
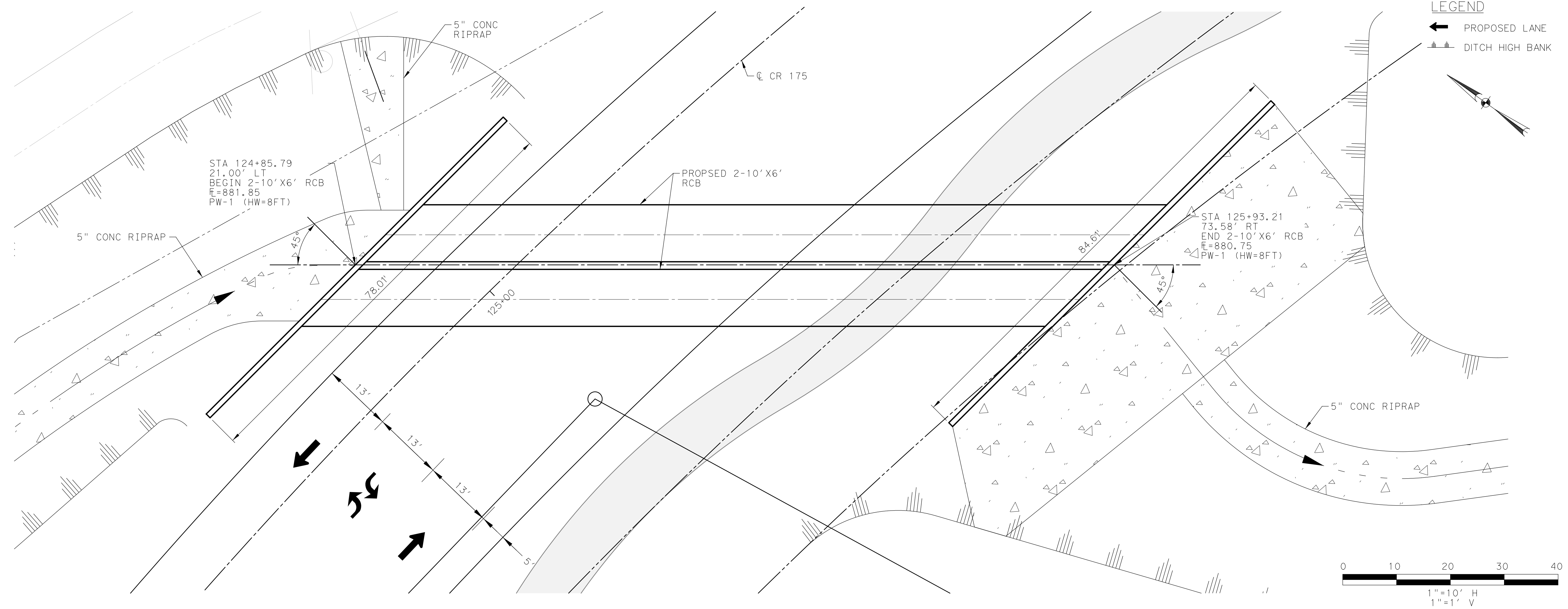
REVISION

BY





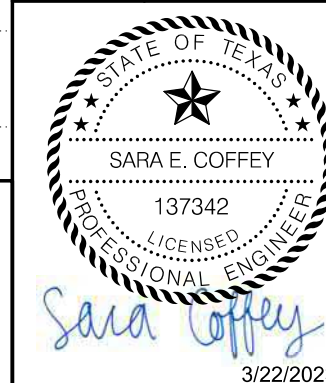




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CR 175 ROAD IMPROVEMENTS  
LEANDER, TEXAS

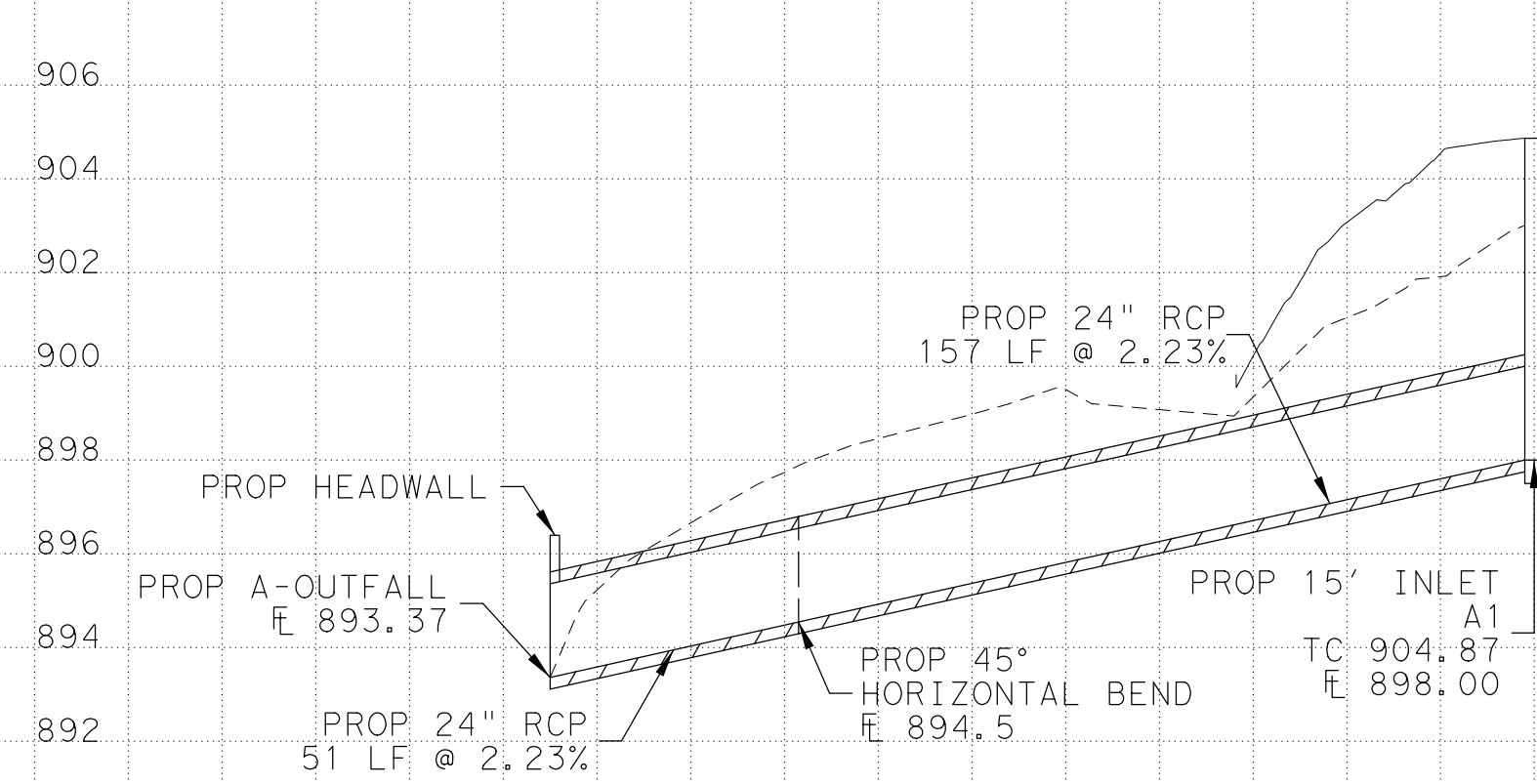
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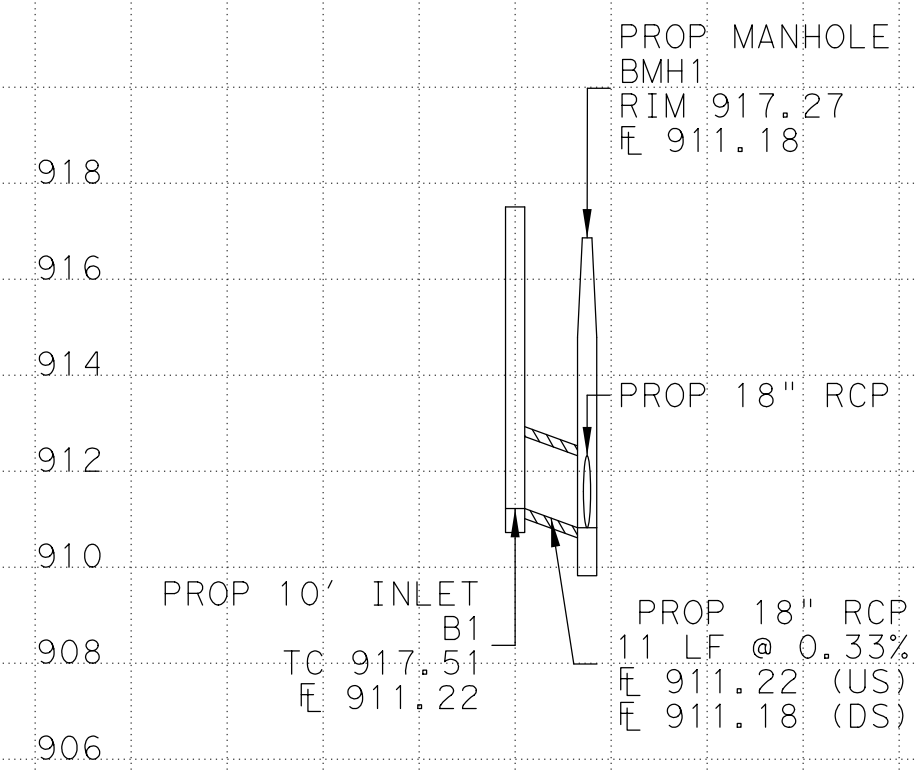
SHEET 27  
OF 48 SHEETS

ENGINEERING AND SURVEYING 9050 N. CAPITAL HWY, BLDG 3, SUITE 390 AUSTIN, TEXAS 78759 (512)646-3456 (512) 514-0315 FAX	DESIGNED: DESIGN CHECKED: DRAWN: COGO CHECKED: — SURVEY CHECKED: QA/QC: QA/QC REVISIONS:
TP&E FIRM REG. No. 280 TBPLS FIRM REG. No. 100486	

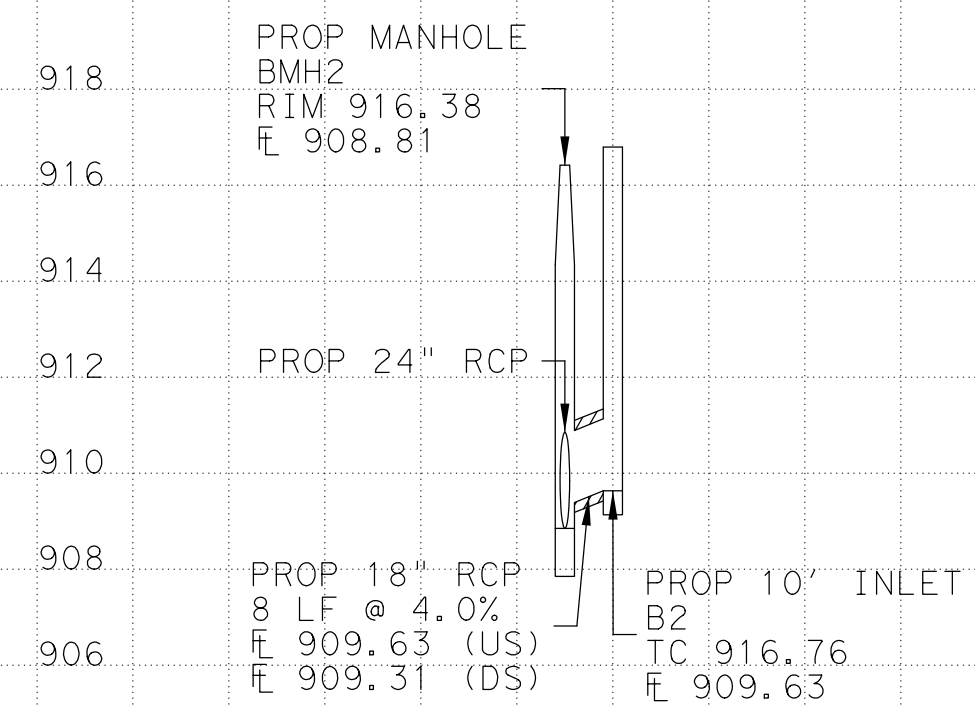




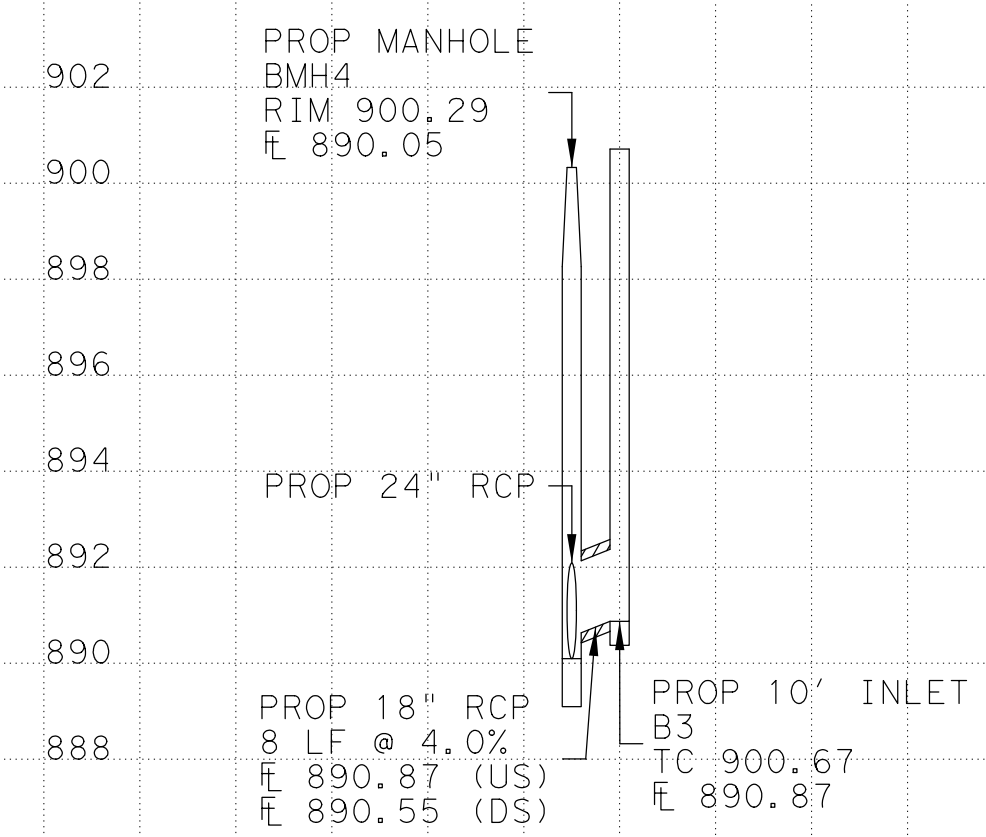
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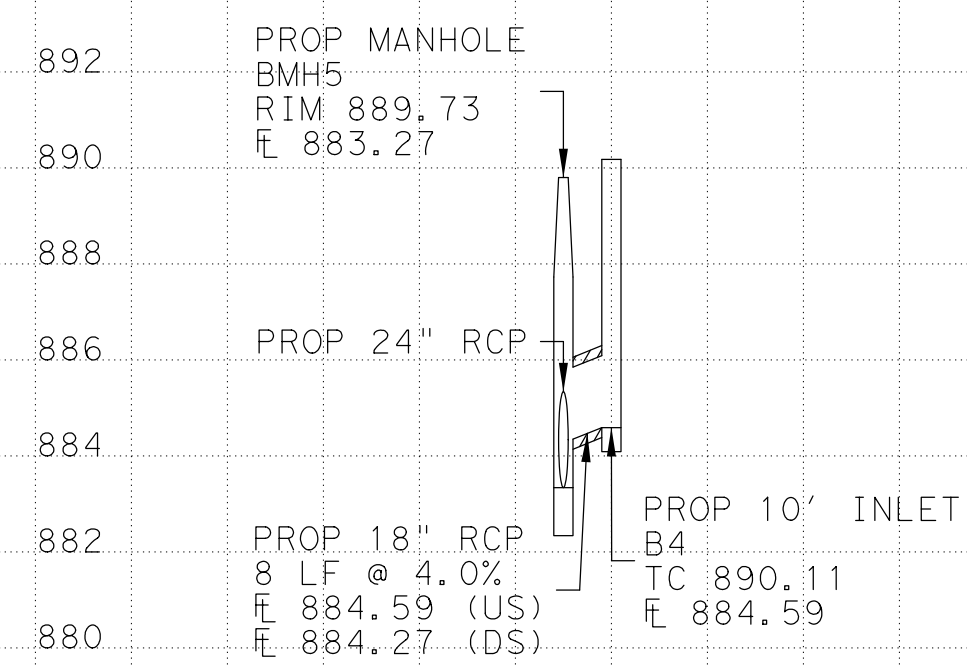
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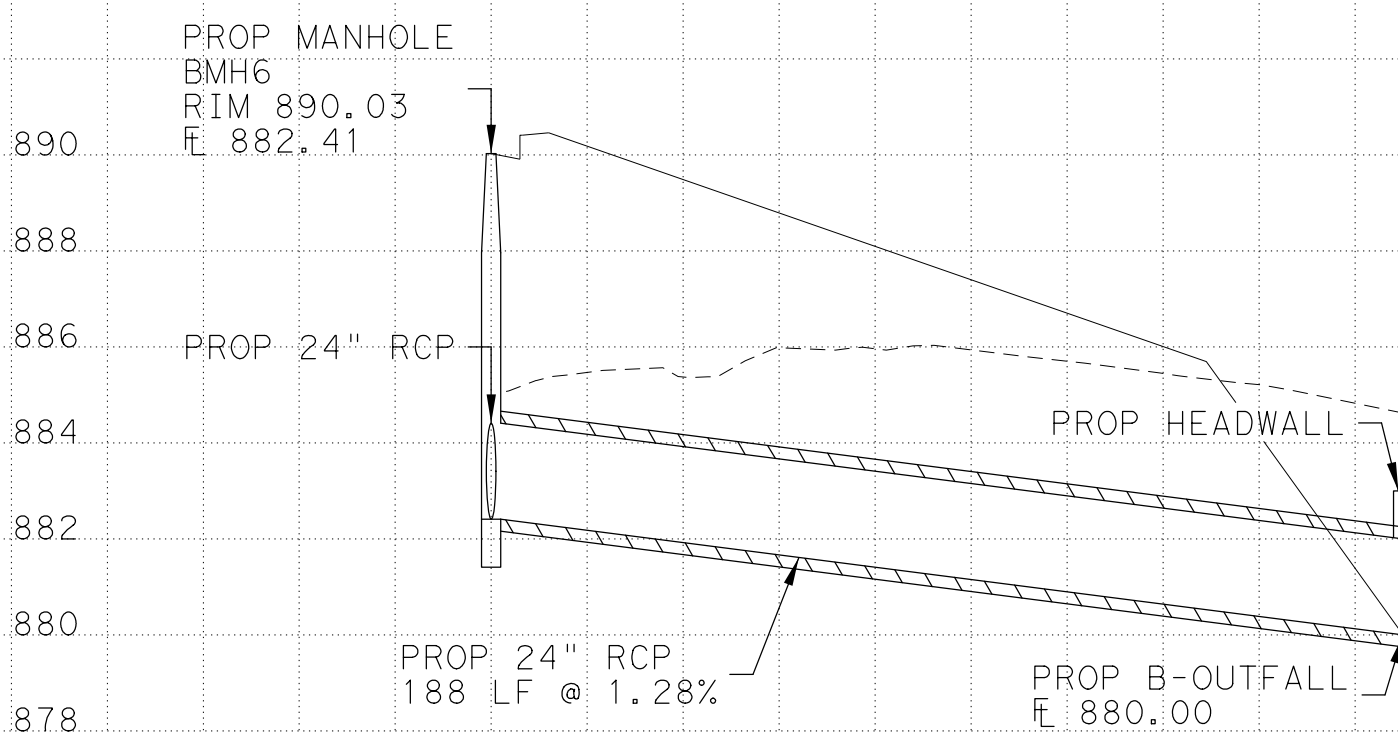
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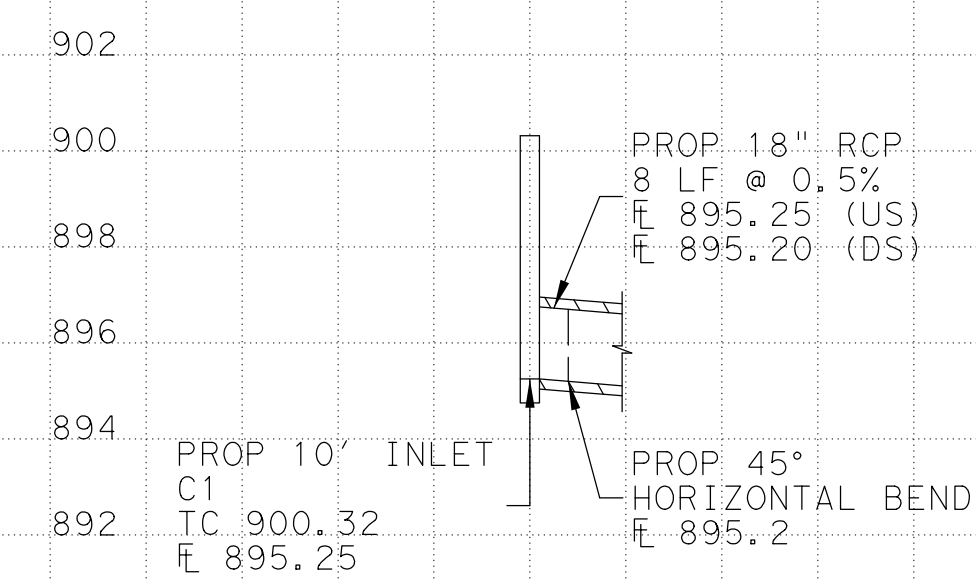
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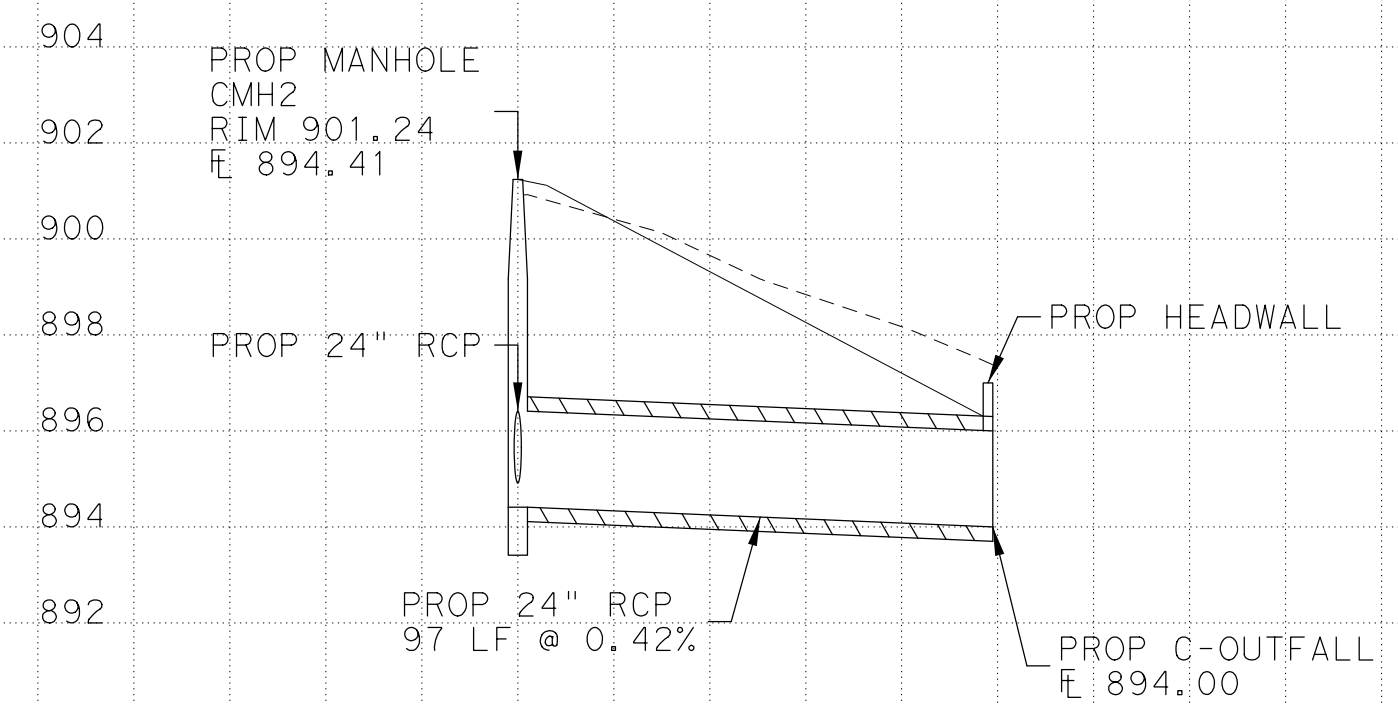
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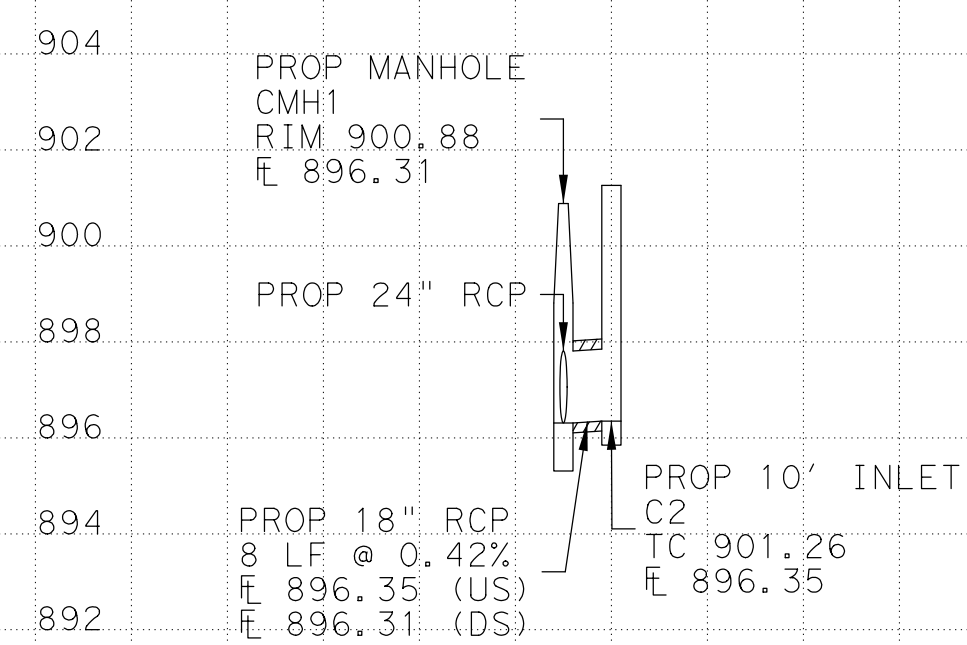
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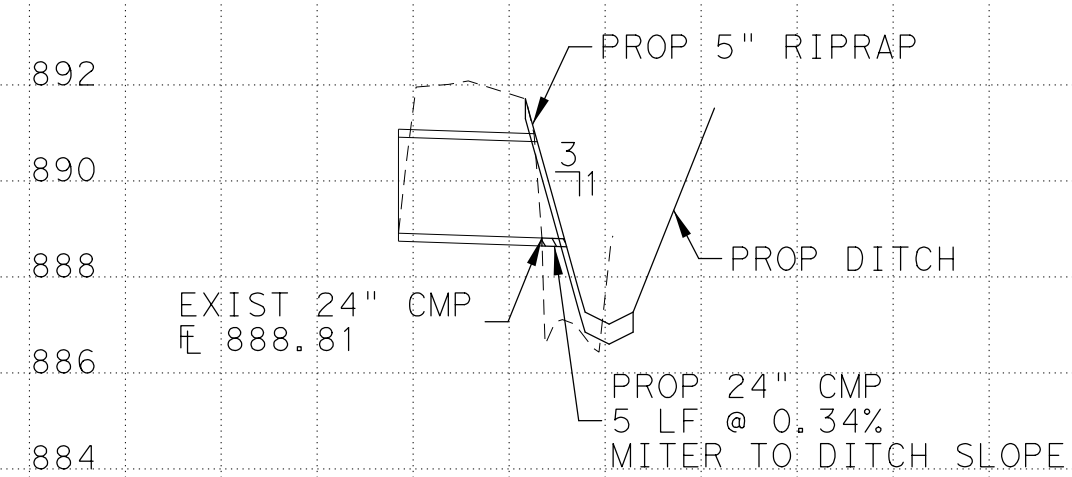
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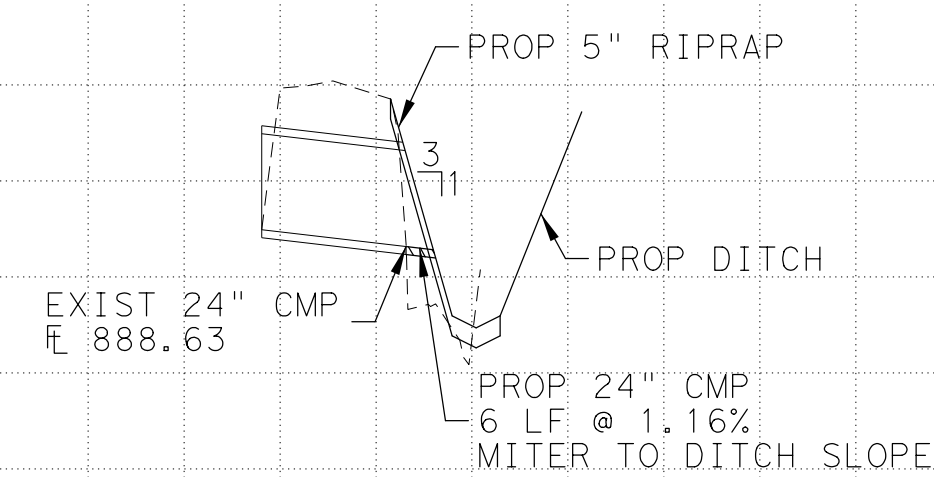
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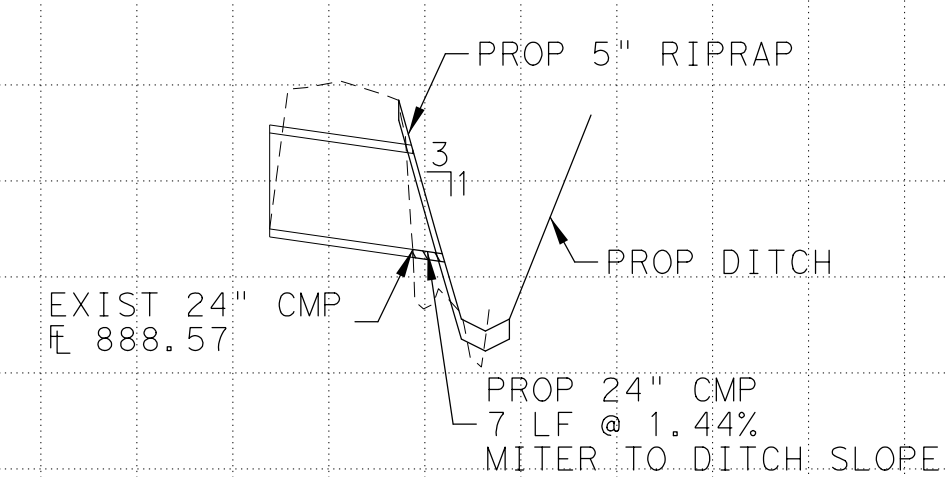
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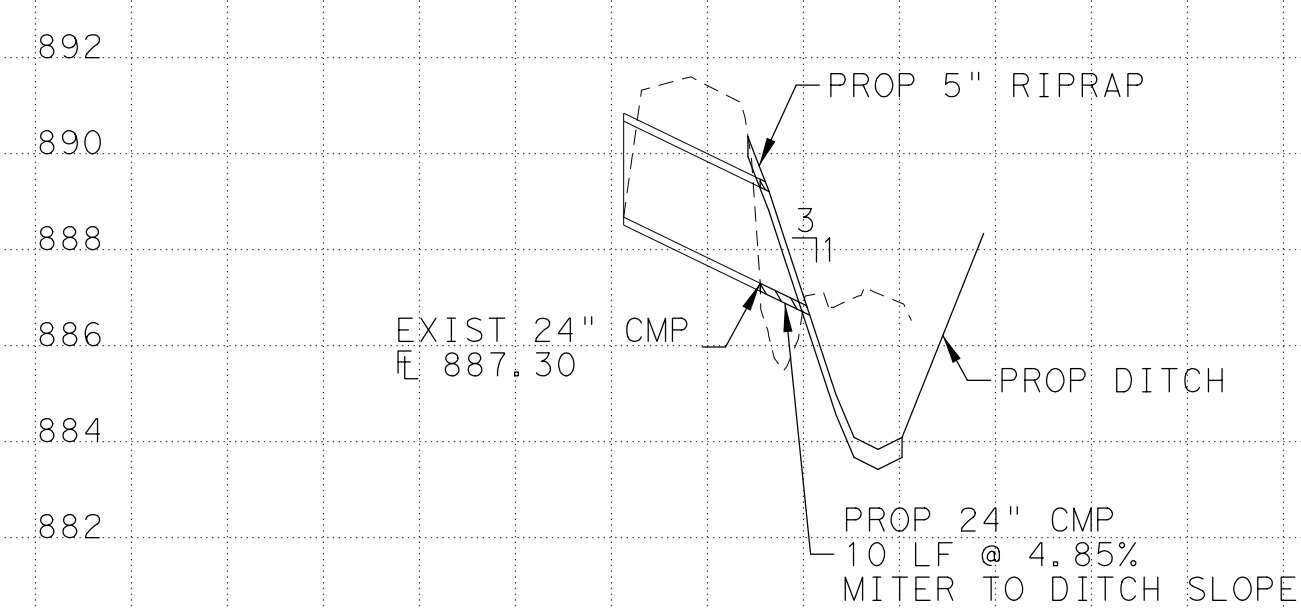
STA 122+48.15



STA 122+51.22



STA 122+54.10



STA 125+13.86

[illegible]

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TBPLS FIRM REG. No. 100486

CR 175 ROAD IMPROVEMENTS  
LEANDER, TEXAS

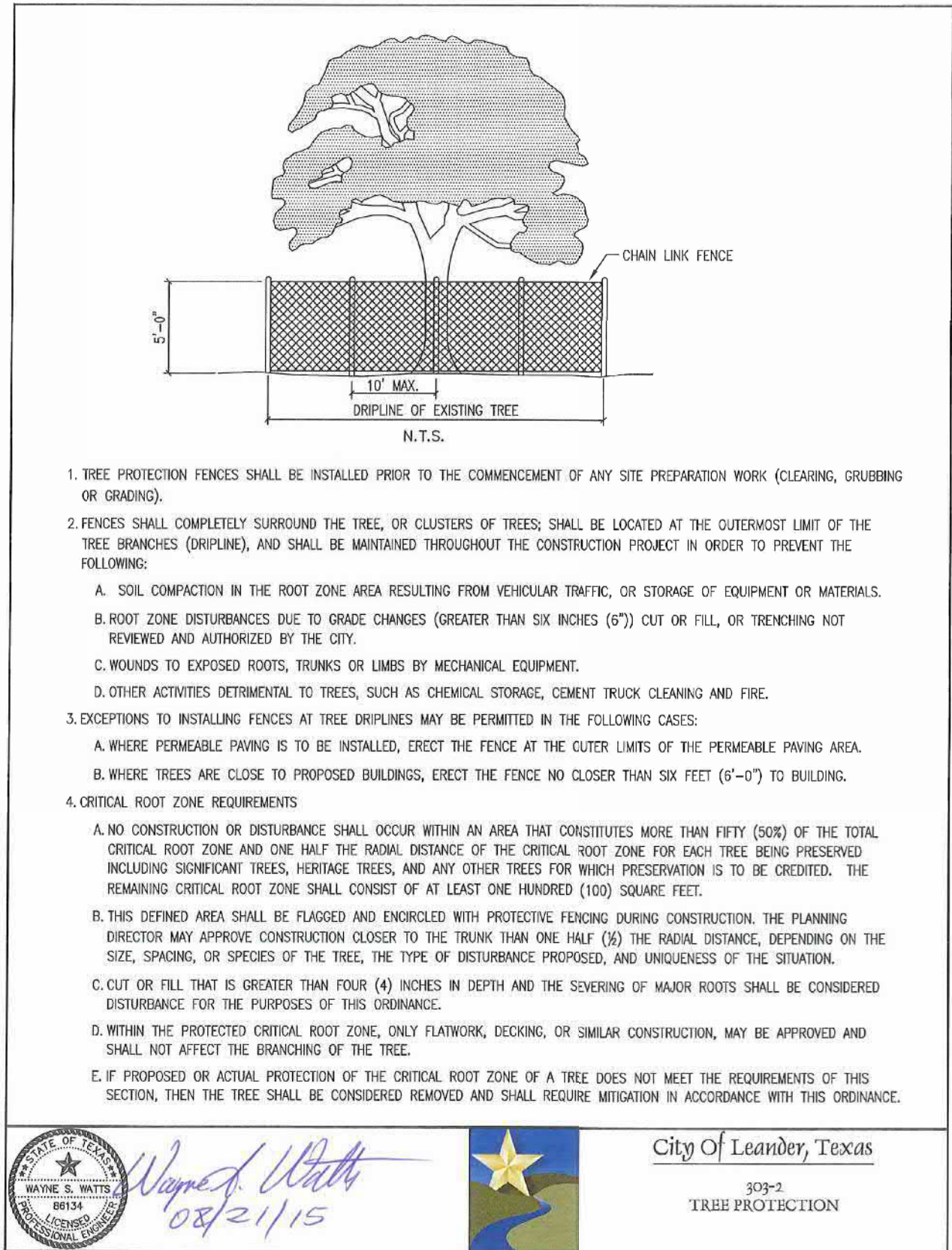
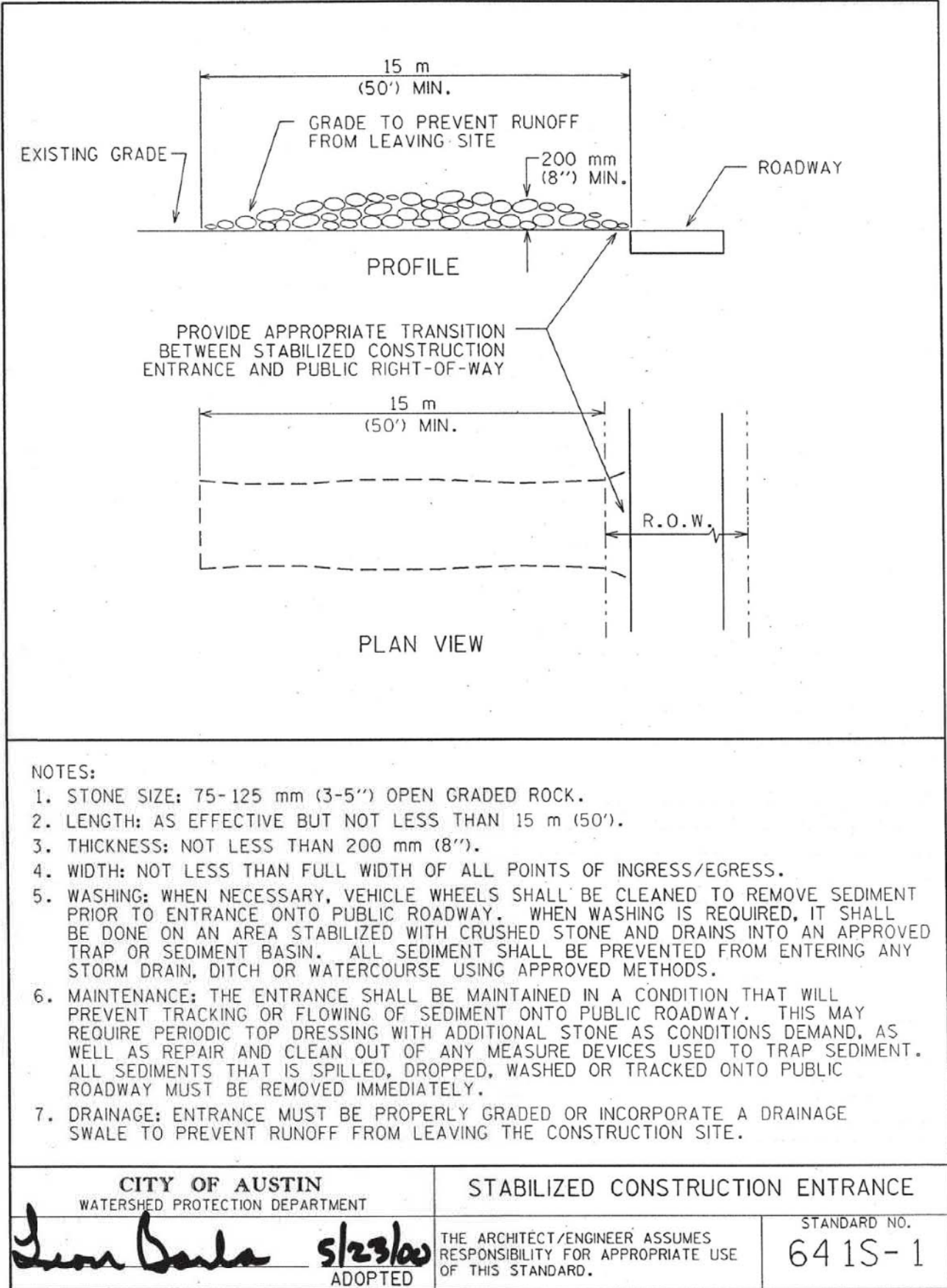
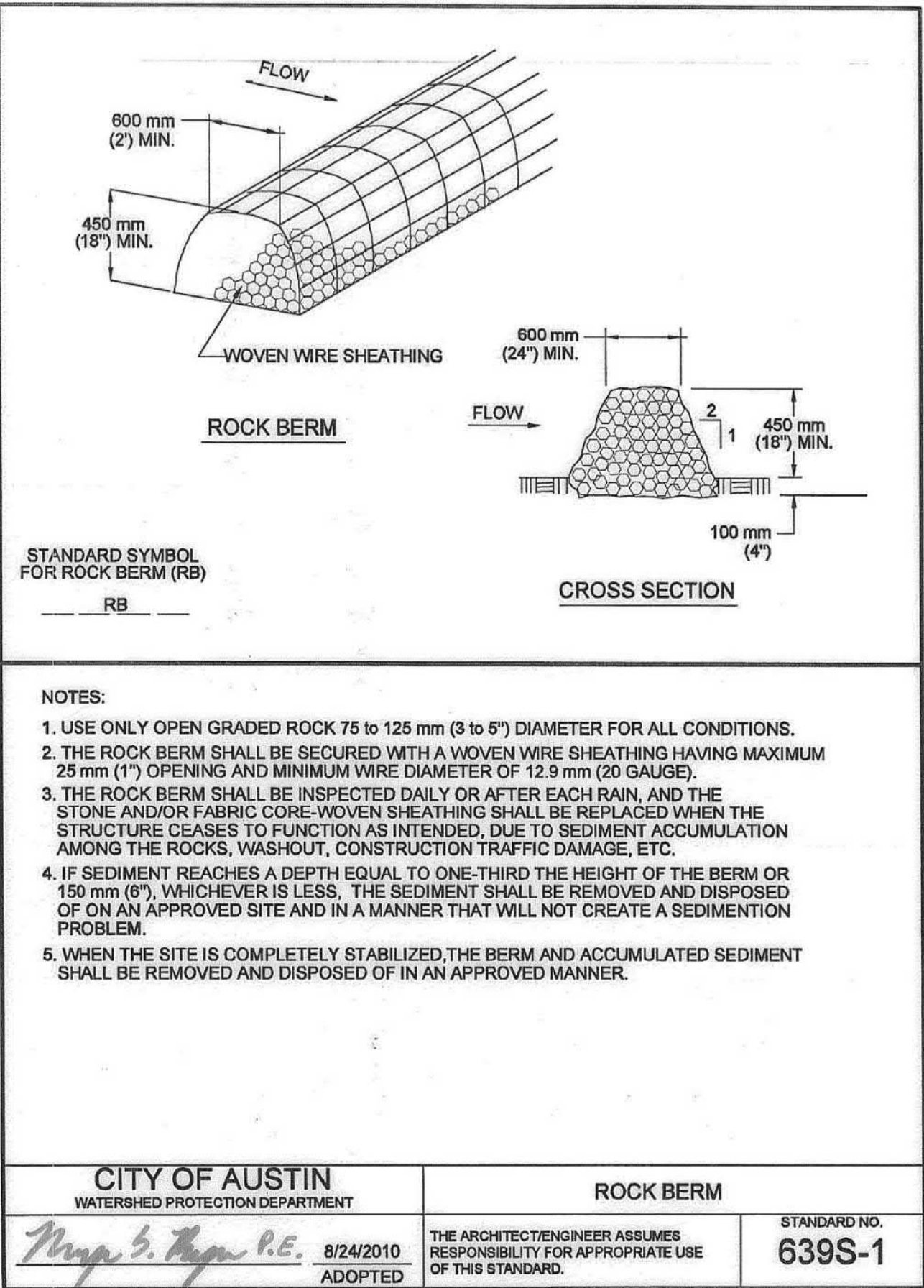
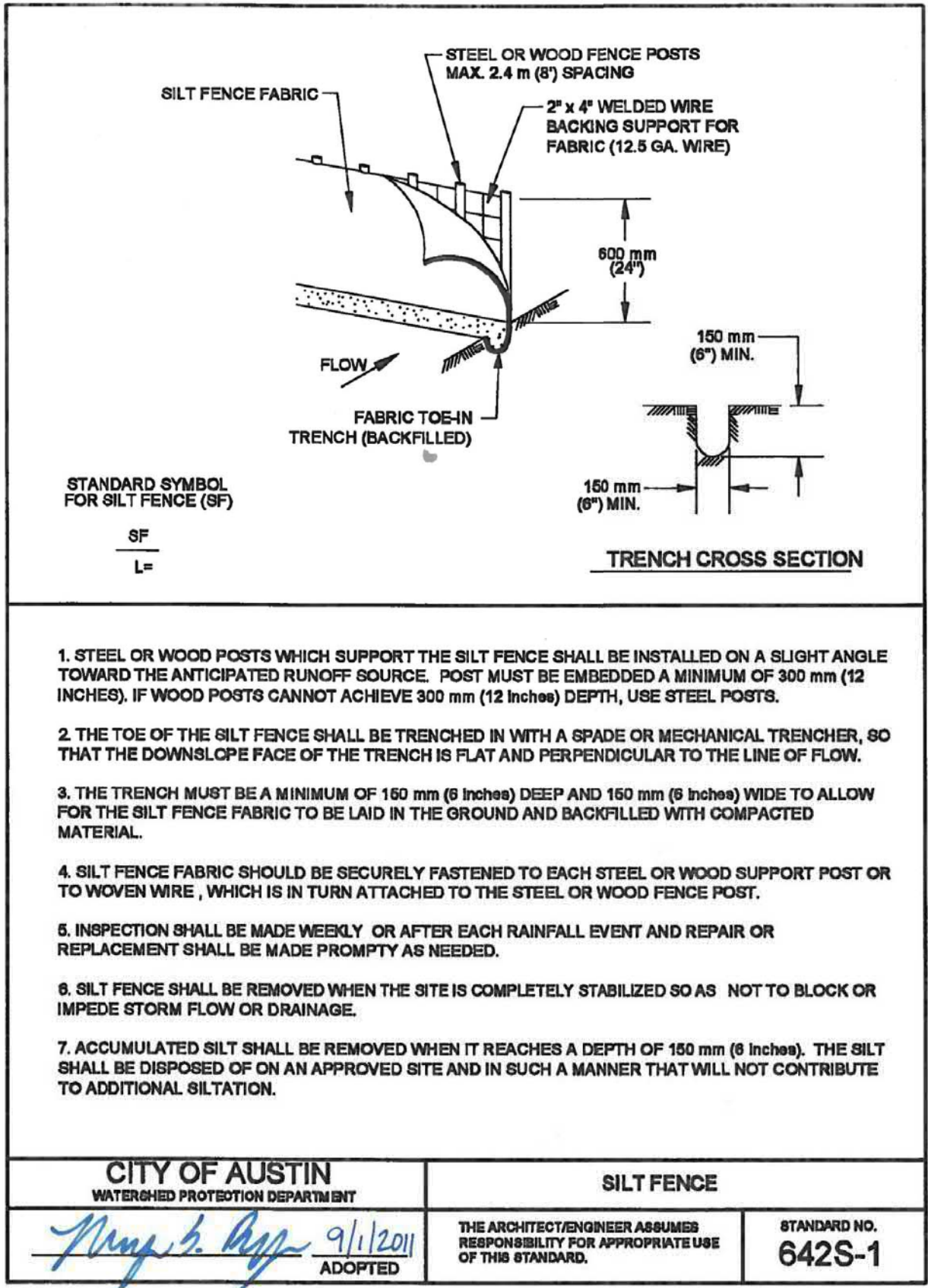
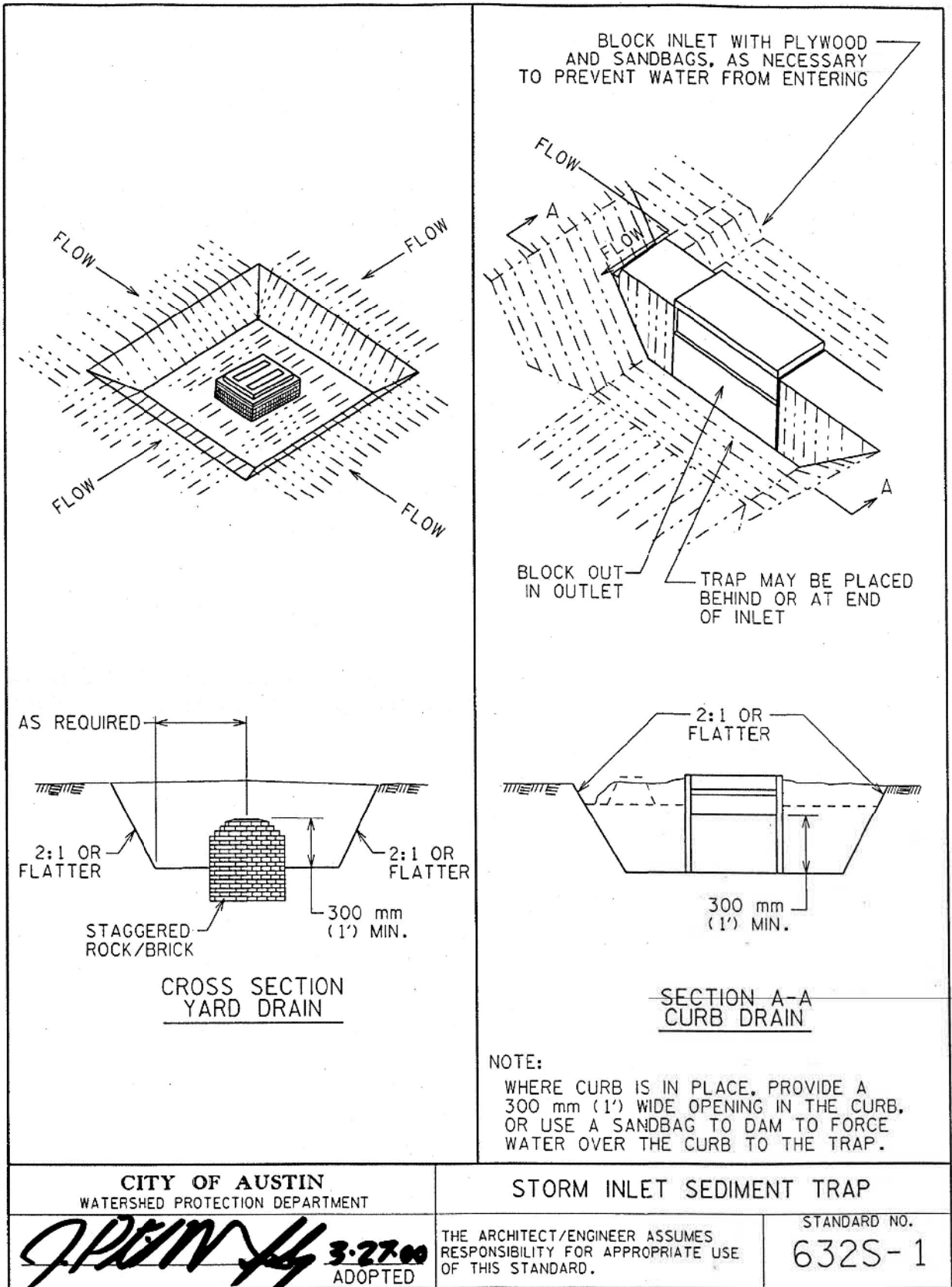
## DRAINAGE LATERALS



SHEET **28**  
OF **48** SHEETS

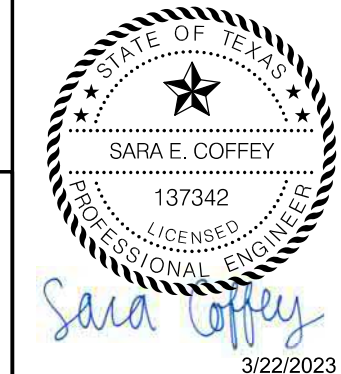


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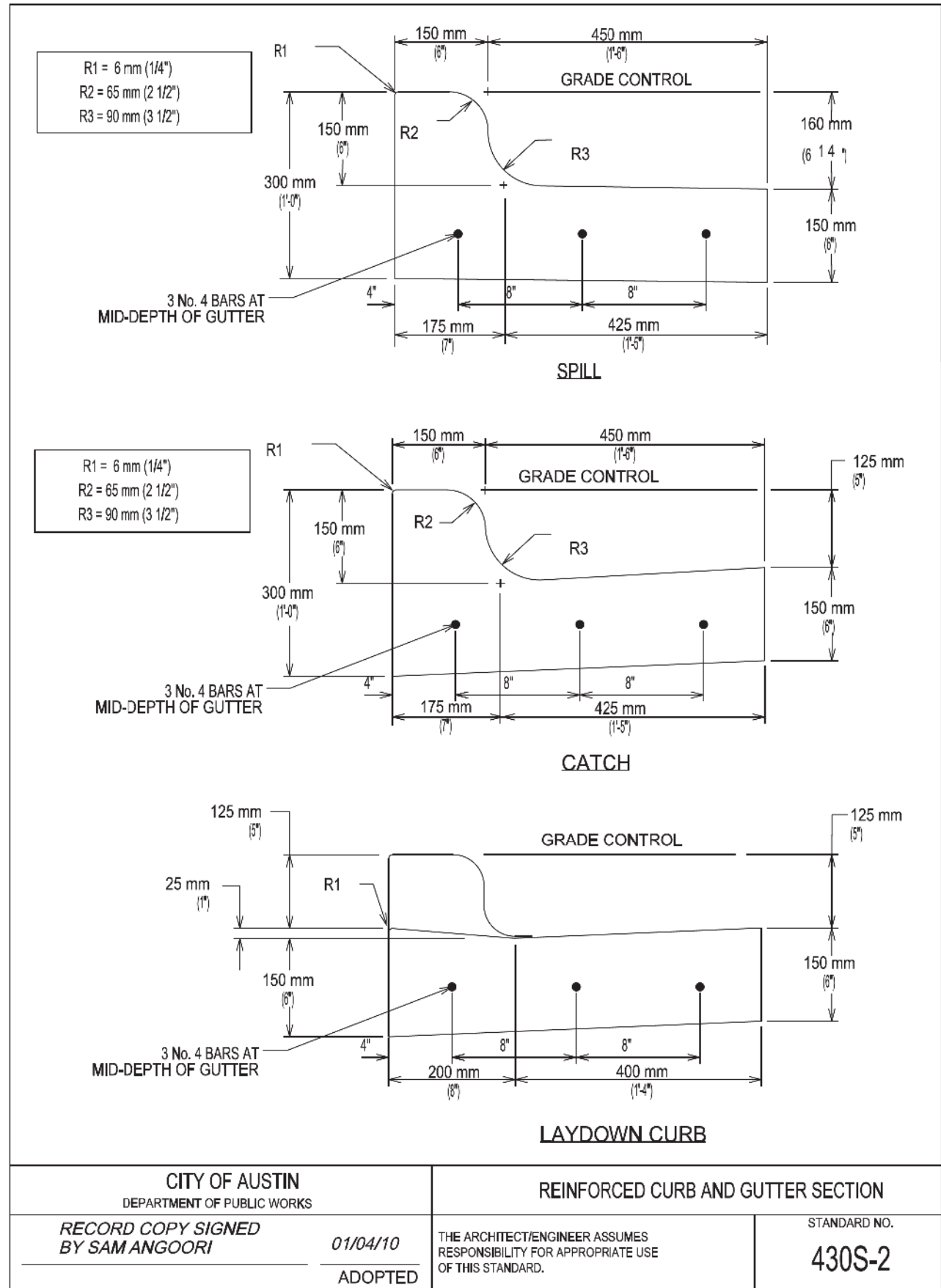
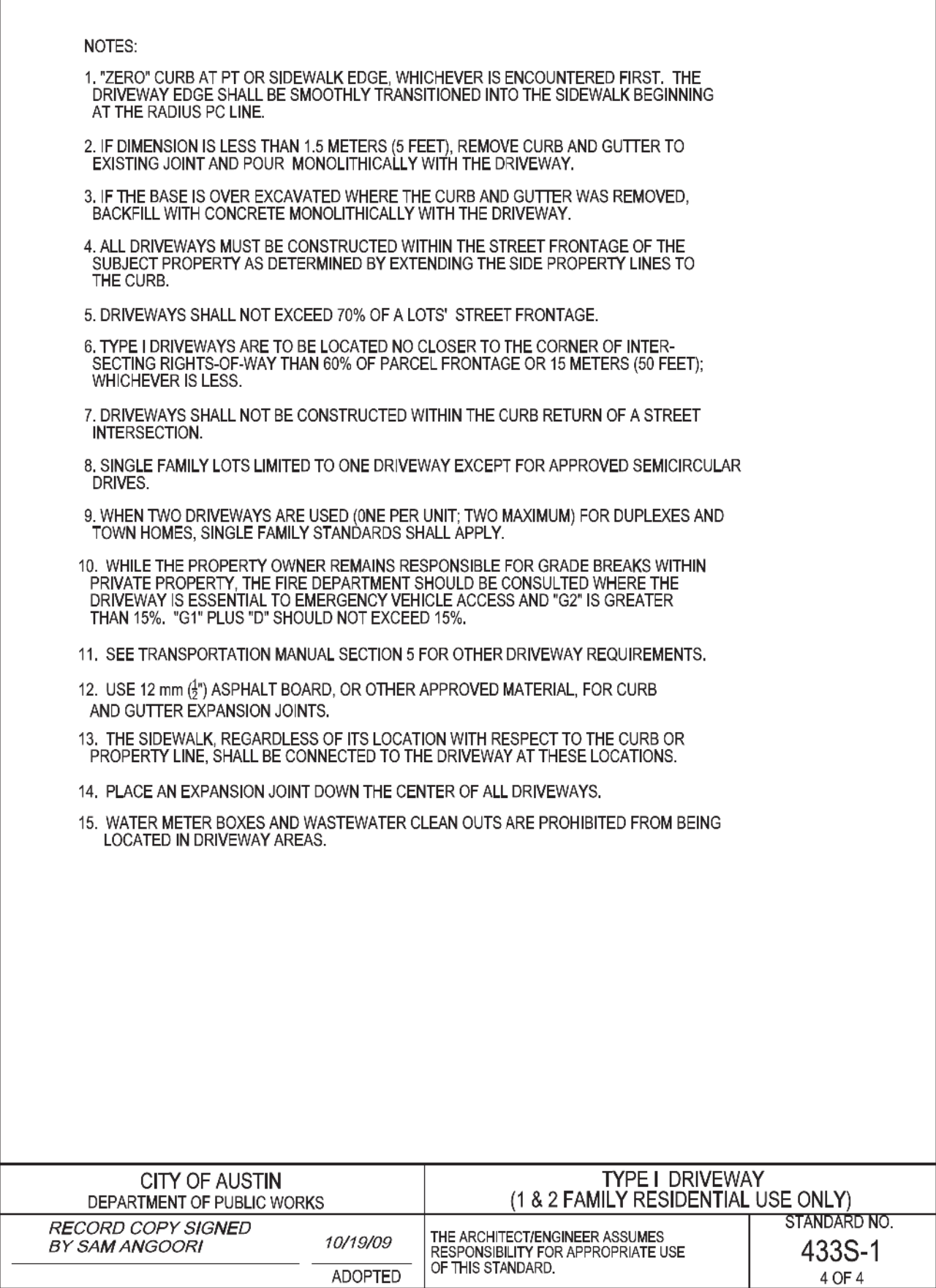
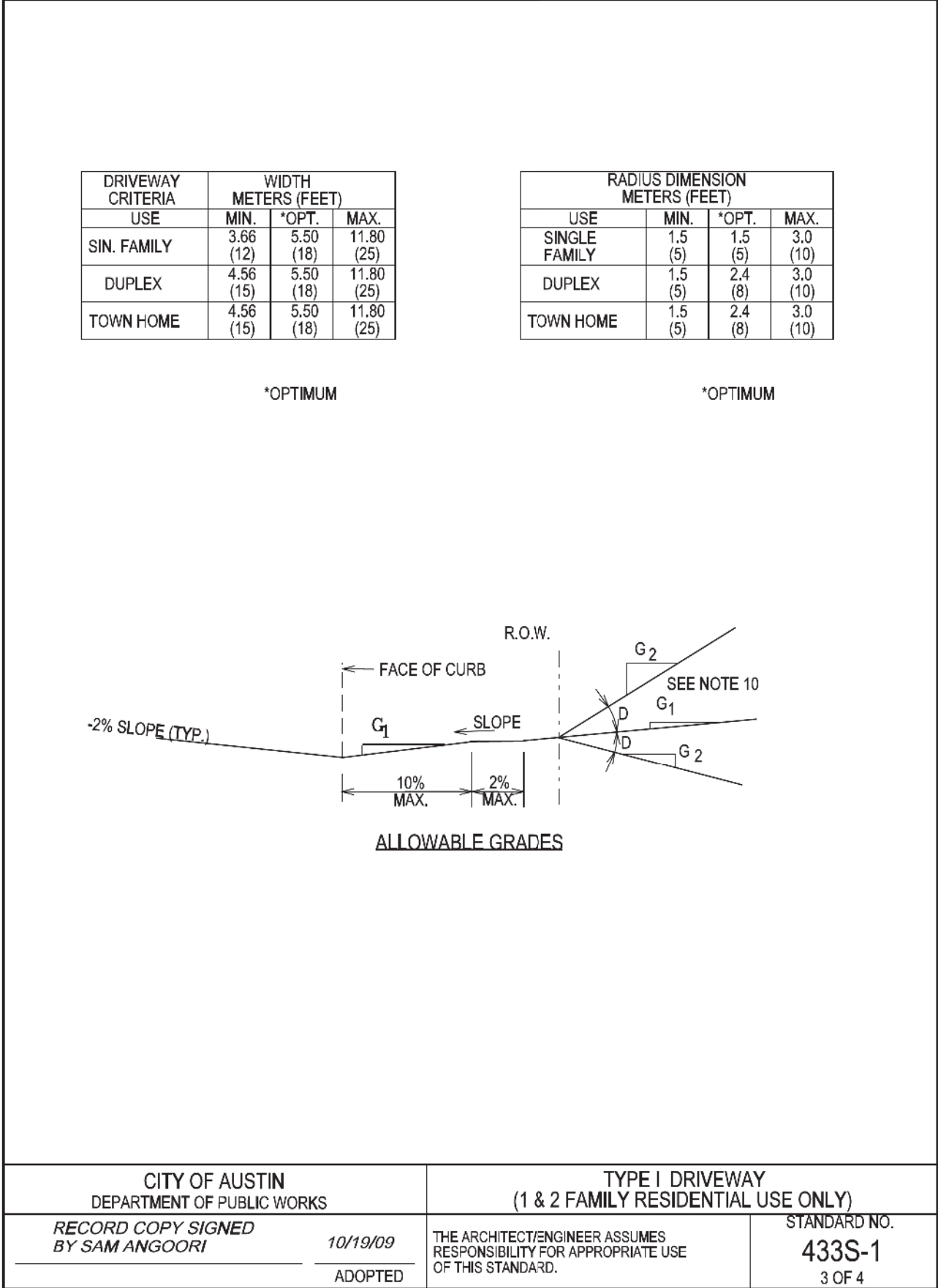
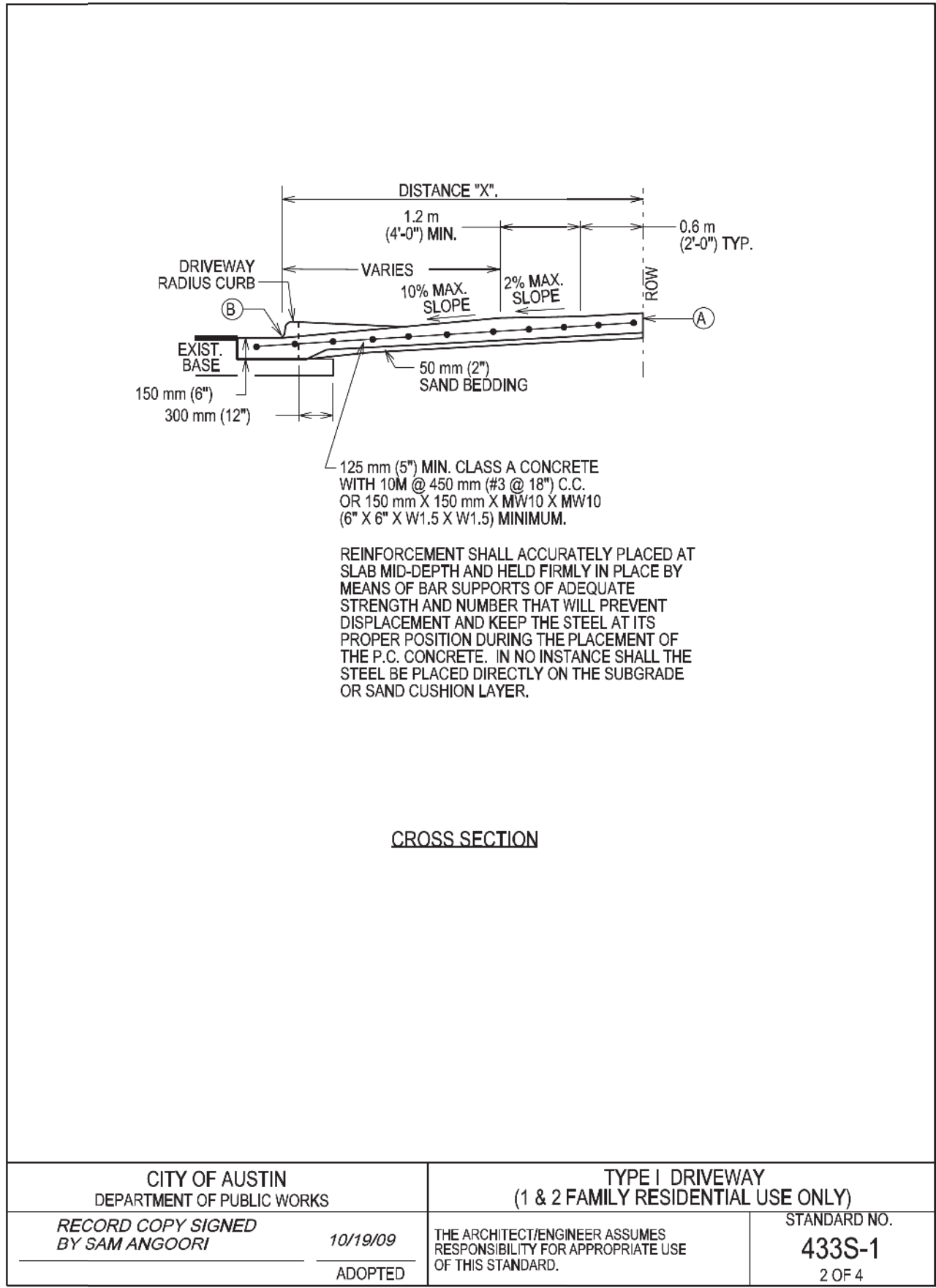
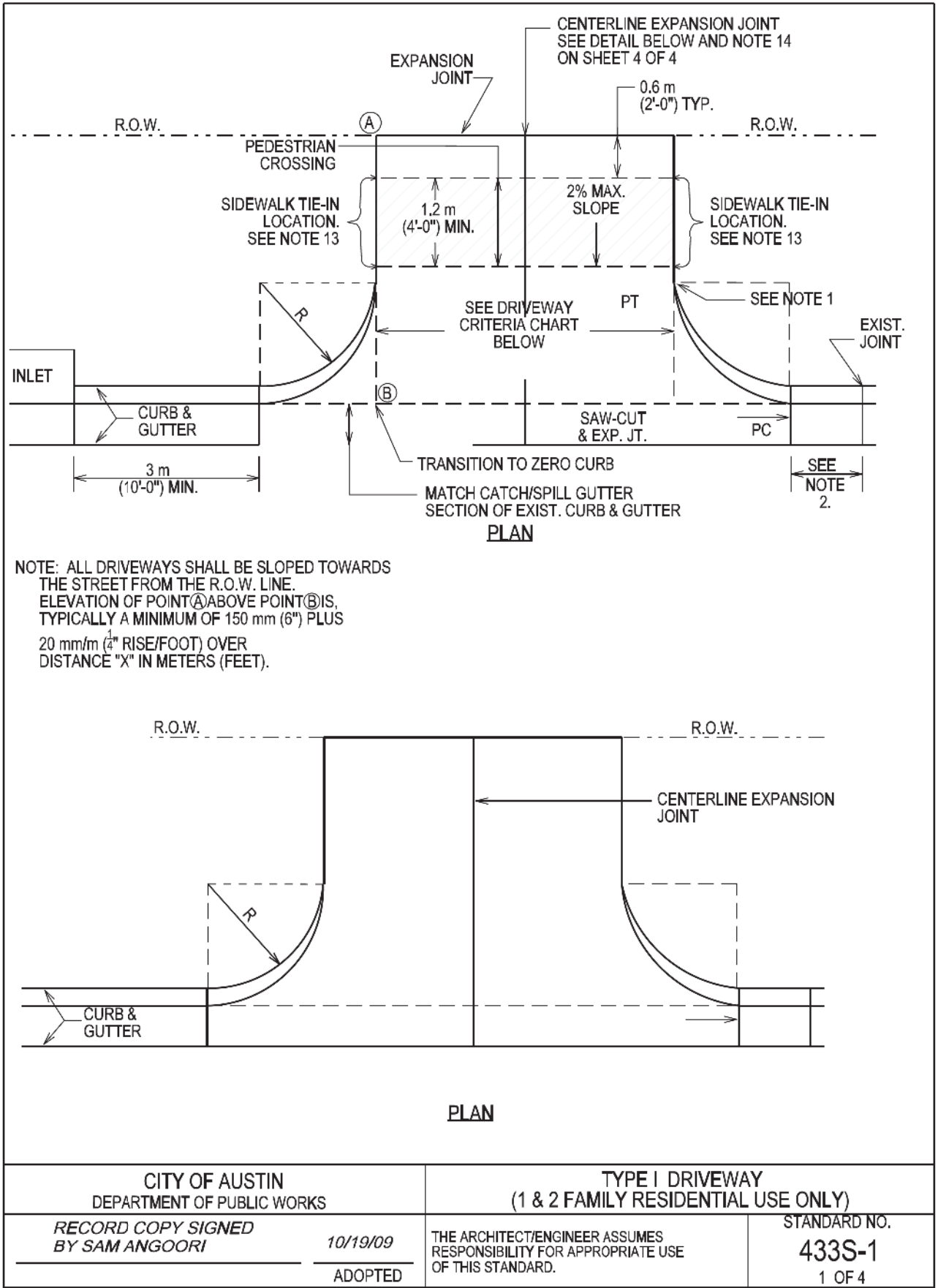
CR 175 ROAD IMPROVEMENTS  
LEANDER, TEXAS

EROSION CONTROL DETAILS



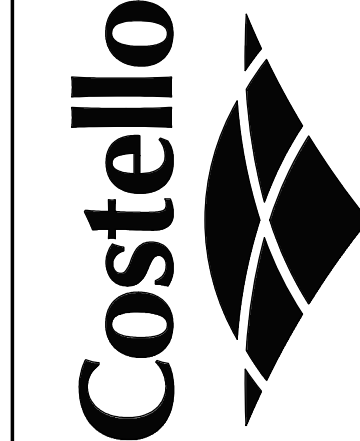


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LEANDER, TEXAS

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9050 N. CAPITAL HWY, BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512) 646-3456 (512) 514-0315 FAX

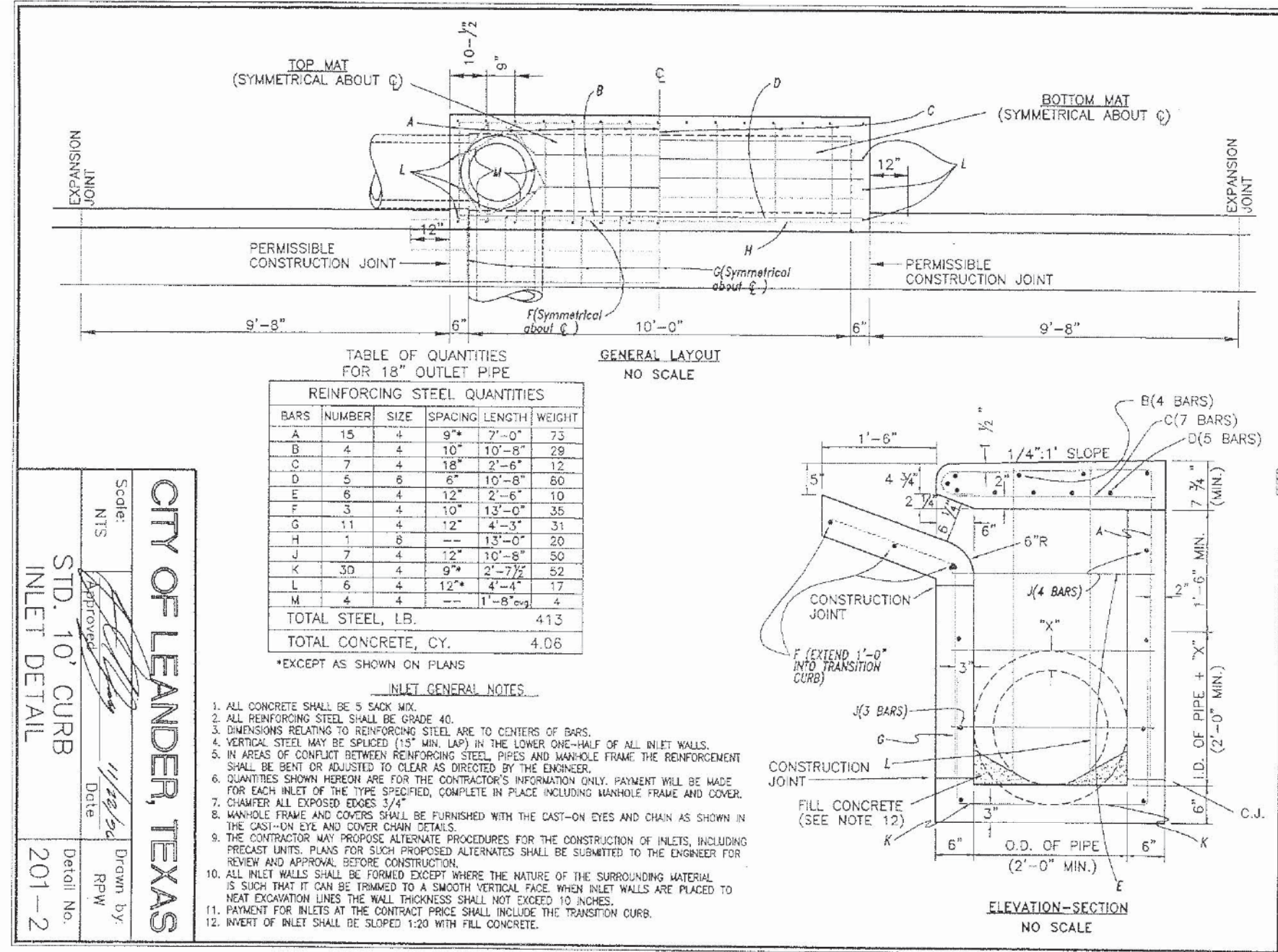
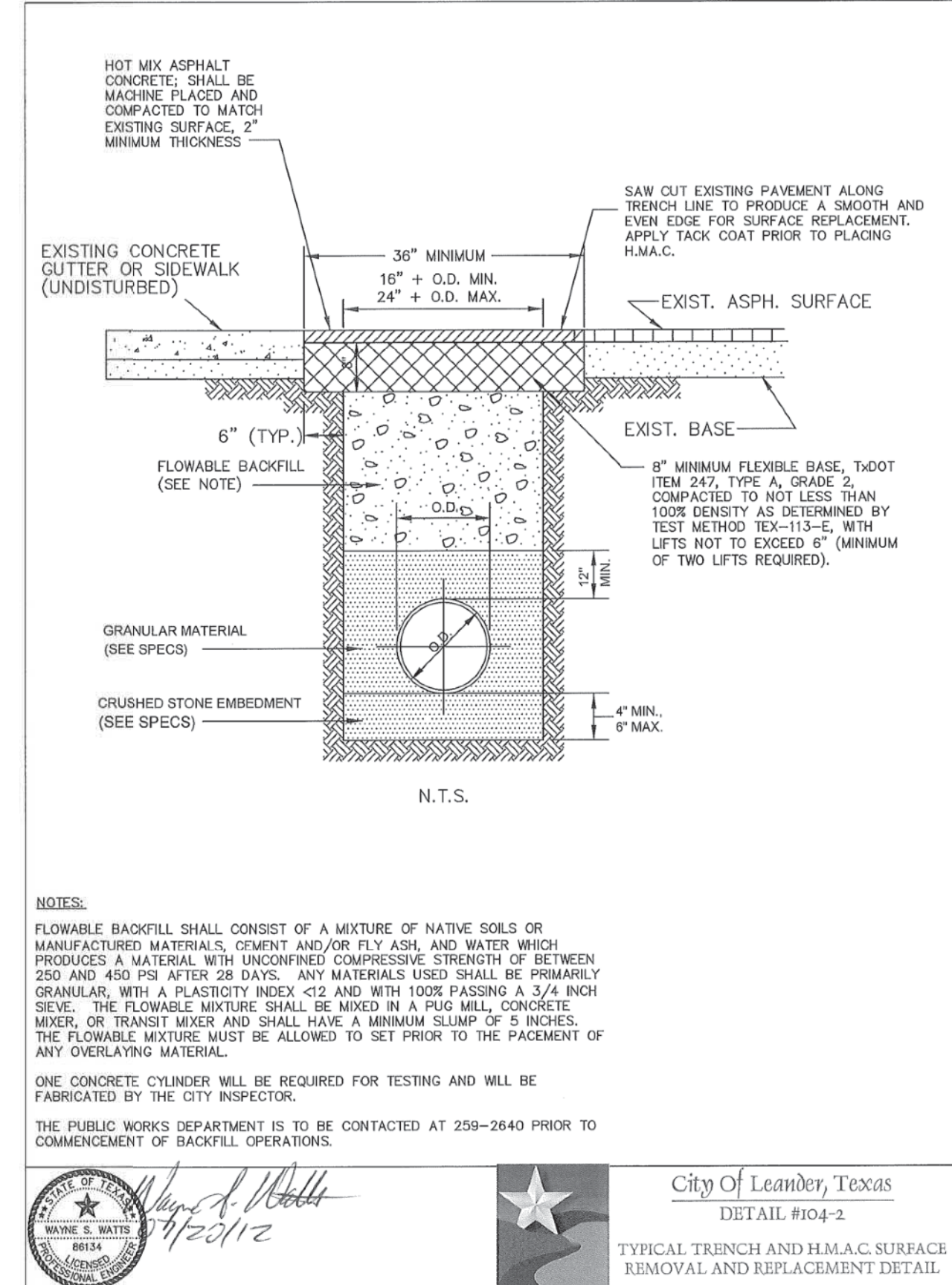
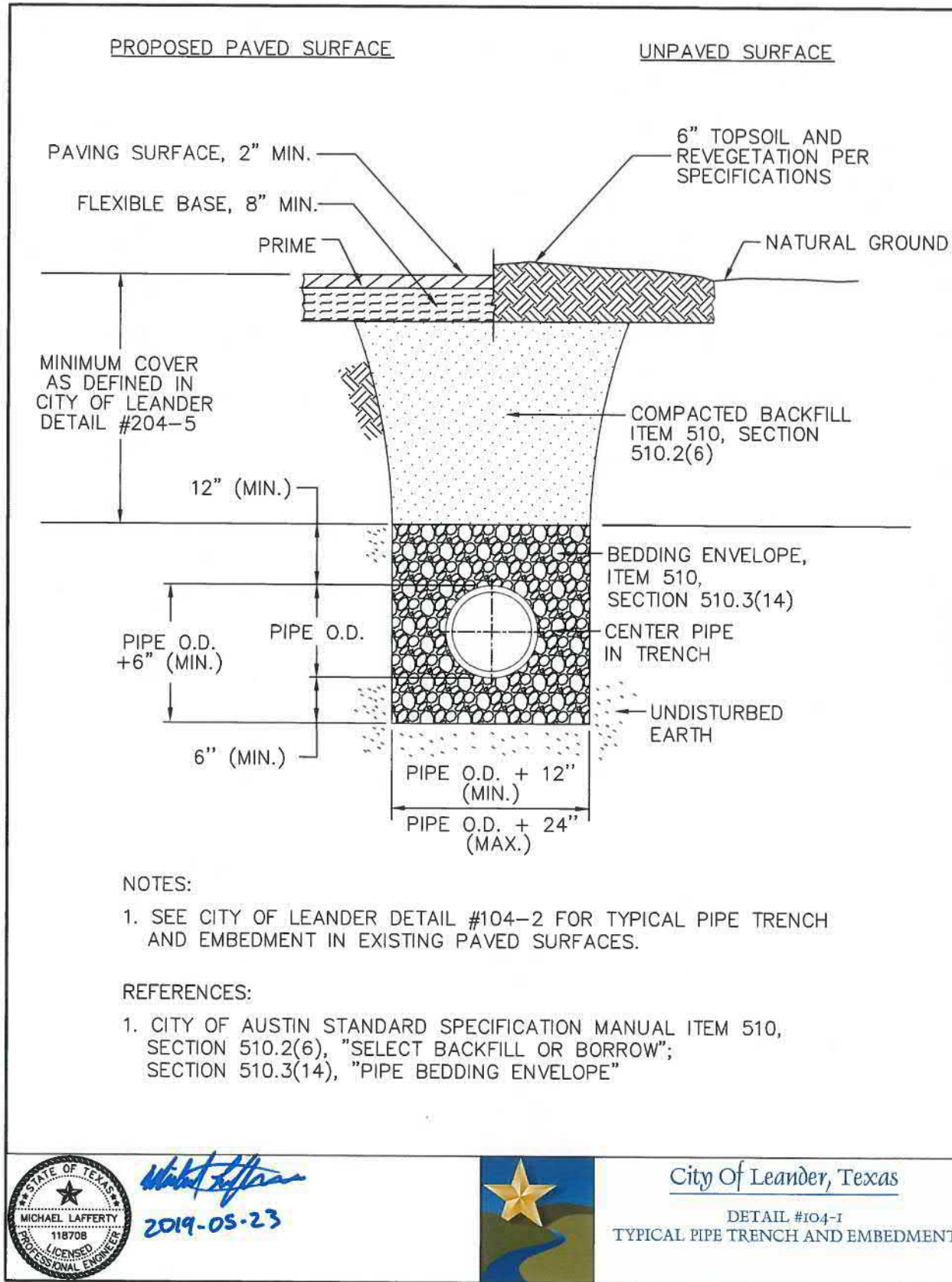
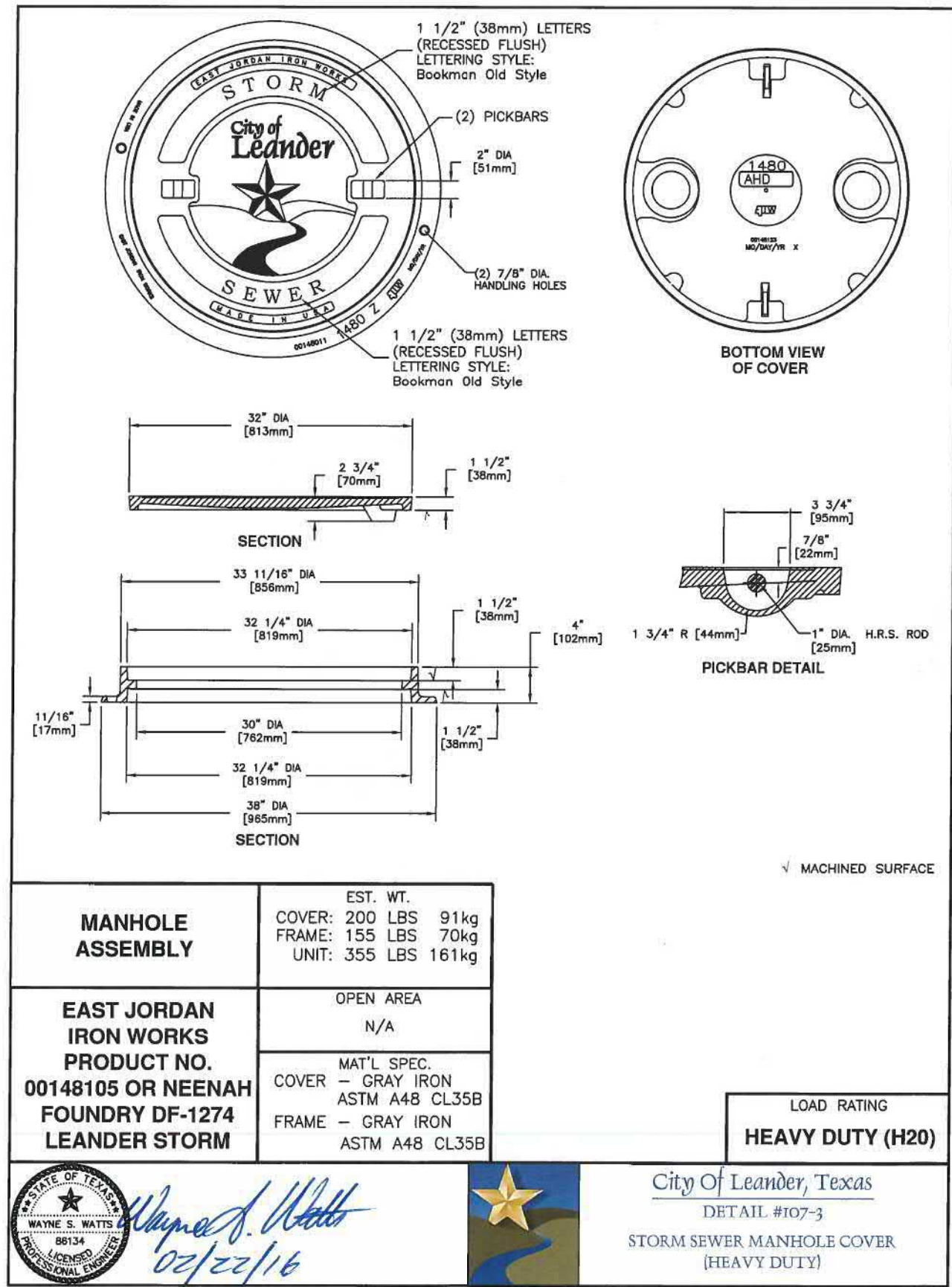
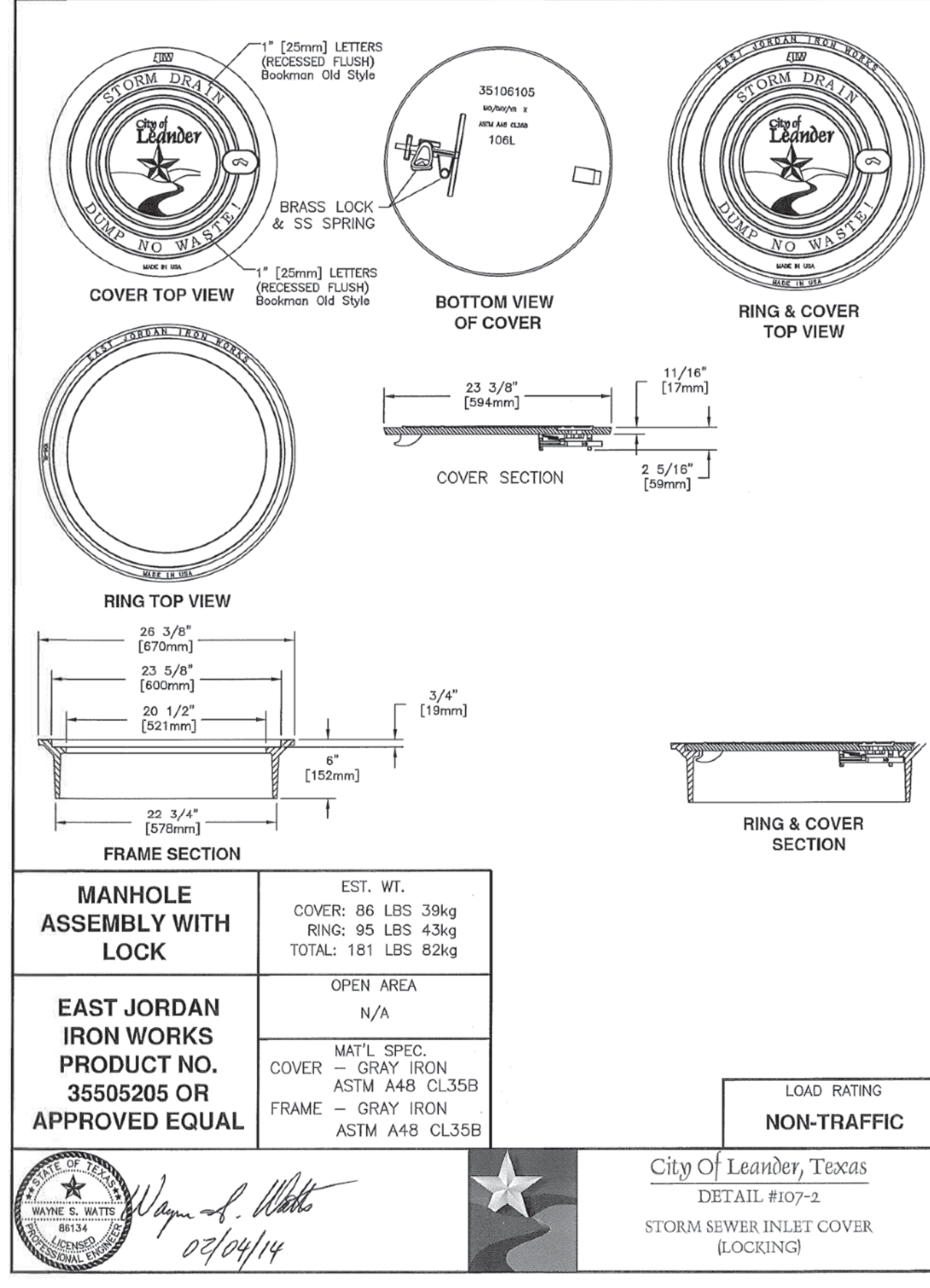
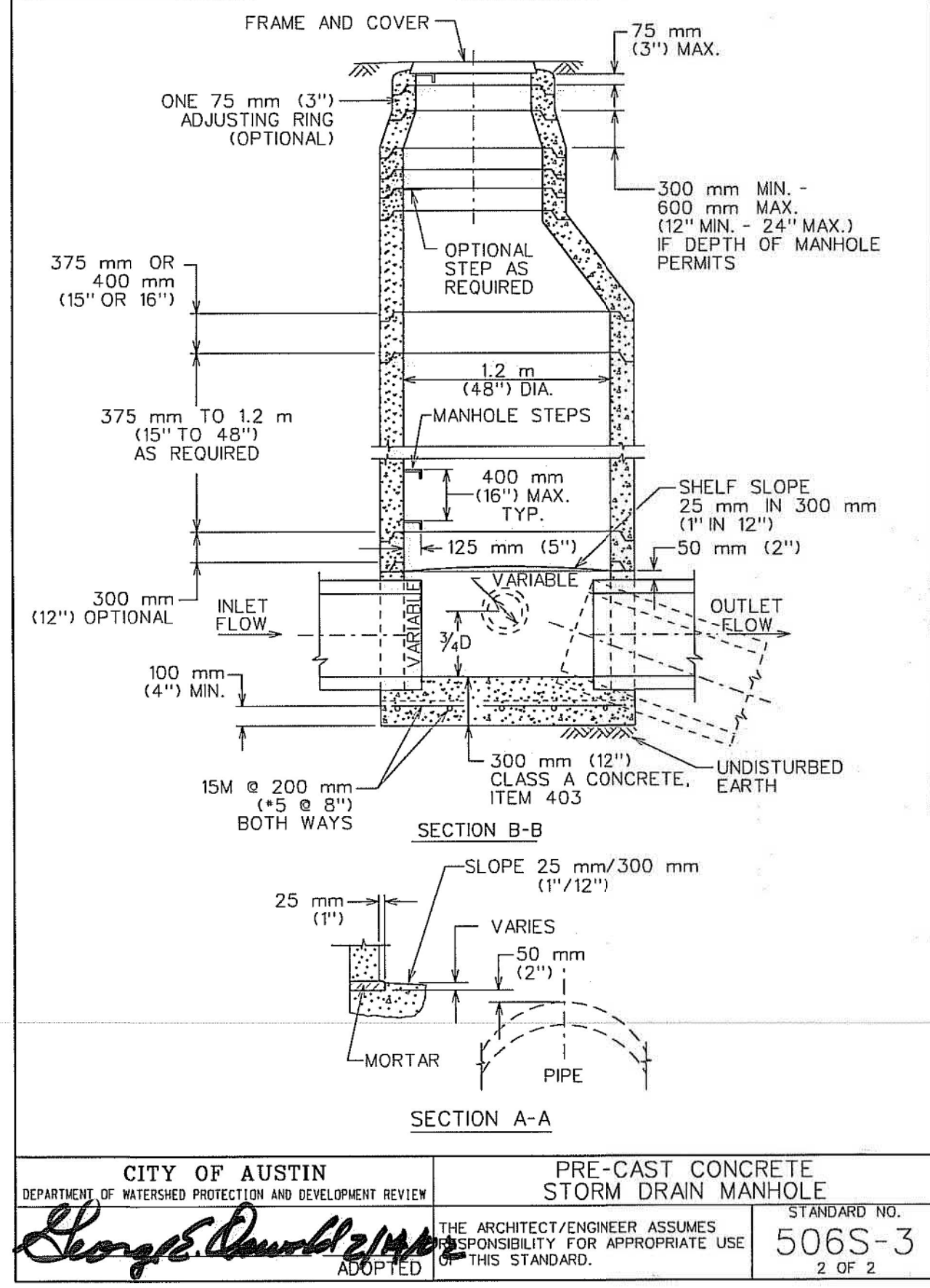
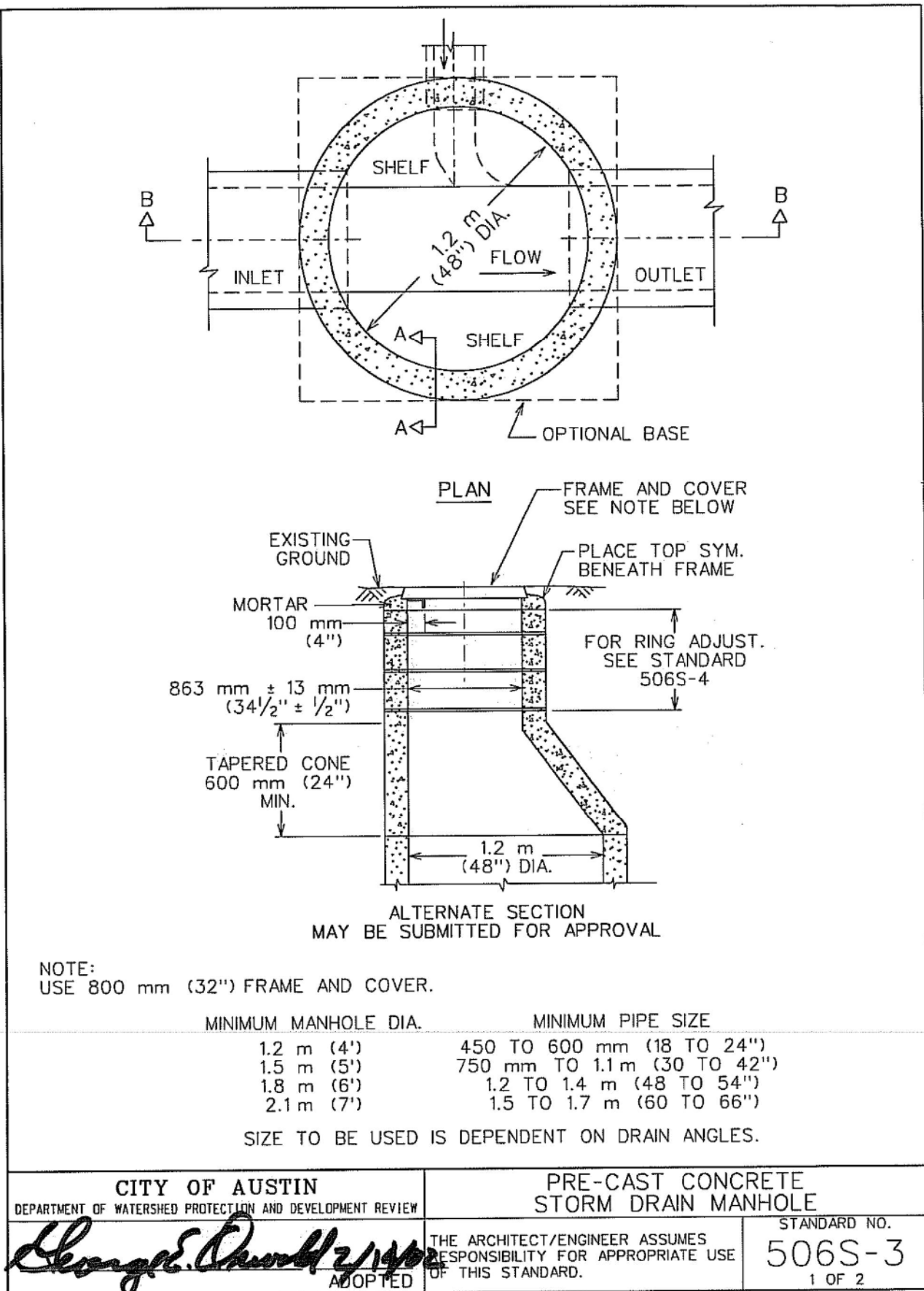


PAVING DETAILS





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OR 175 ROAD IMPROVEMENTS  
LEANDER, TEXAS

DRAINAGE DETAILS



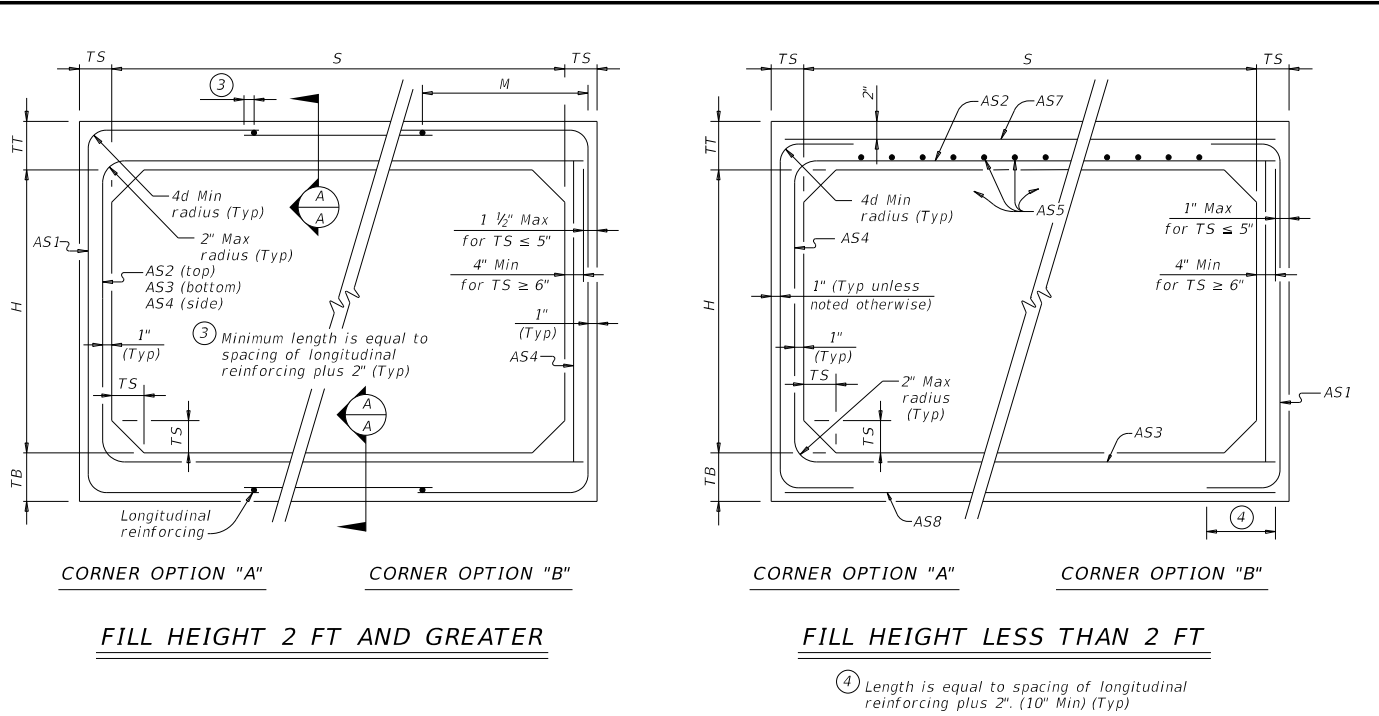


DATE: FILE:

DISCLAIMER: The user of this software is responsible for providing the necessary information and data to the software. The software is provided as is, without warranty of any kind. The user assumes all liability for any errors or omissions in the software and its use.

BOX DATA													
SECTION DIMENSIONS						REINFORCING (sq. in. / ft.) <sup>②</sup>						① Unit Weight (tons)	
S	H	TT	TB	TS	Height (ft.)	AS1	AS2	AS3	AS4	AS5	AS7	AS8	
10	4	10	10	10	< 2	-	0.33	0.34	0.27	0.24	0.24	0.24	18.5
10	4	10	10	10	2 < 3	58	0.38	0.35	0.30	0.24	-	-	16.5
10	4	10	10	10	3 - 5	58	0.31	0.28	0.27	0.24	-	-	16.5
10	4	10	10	10	10	52	0.36	0.32	0.33	0.24	-	-	16.5
10	4	10	10	10	15	52	0.47	0.42	0.43	0.24	-	-	16.5
10	4	10	10	10	20	52	0.61	0.54	0.55	0.24	-	-	16.5
10	4	10	10	10	25	52	0.75	0.67	0.68	0.24	-	-	16.5
10	5	10	10	10	< 2	-	0.30	0.36	0.30	0.24	0.24	0.24	17.5
10	5	10	10	10	2 < 3	58	0.35	0.39	0.34	0.24	-	-	17.5
10	5	10	10	10	3 - 5	52	0.28	0.31	0.30	0.24	-	-	17.5
10	5	10	10	10	10	52	0.33	0.35	0.36	0.24	-	-	17.5
10	5	10	10	10	15	47	0.42	0.46	0.47	0.24	-	-	17.5
10	5	10	10	10	20	47	0.55	0.59	0.61	0.24	-	-	17.5
10	5	10	10	10	25	47	0.68	0.73	0.75	0.24	-	-	17.5
10	6	10	10	10	< 2	-	0.28	0.38	0.33	0.24	0.24	0.24	18.5
10	6	10	10	10	2 < 3	58	0.32	0.42	0.37	0.24	-	-	18.5
10	6	10	10	10	3 - 5	53	0.26	0.34	0.33	0.24	-	-	18.5
10	6	10	10	10	10	52	0.30	0.38	0.39	0.24	-	-	18.5
10	6	10	10	10	15	47	0.39	0.49	0.51	0.24	-	-	18.5
10	6	10	10	10	20	47	0.50	0.63	0.65	0.24	-	-	18.5
10	6	10	10	10	25	47	0.61	0.78	0.80	0.24	-	-	18.5
10	7	10	10	10	< 2	-	0.25	0.40	0.36	0.24	0.24	0.24	19.5
10	7	10	10	10	2 < 3	58	0.30	0.45	0.40	0.24	-	-	19.5
10	7	10	10	10	3 - 5	58	0.24	0.36	0.35	0.24	-	-	19.5
10	7	10	10	10	10	52	0.28	0.40	0.42	0.24	-	-	19.5
10	7	10	10	10	15	47	0.36	0.52	0.54	0.24	-	-	19.5
10	7	10	10	10	20	47	0.46	0.67	0.69	0.24	-	-	19.5
10	7	10	10	10	25	47	0.56	0.82	0.85	0.24	-	-	19.5
10	8	10	10	10	< 2	-	0.24	0.41	0.38	0.24	0.24	0.24	20.5
10	8	10	10	10	2 < 3	64	0.27	0.47	0.43	0.24	-	-	20.5
10	8	10	10	10	3 - 5	58	0.24	0.38	0.38	0.24	-	-	20.5
10	8	10	10	10	10	52	0.26	0.42	0.44	0.24	-	-	20.5
10	8	10	10	10	15	47	0.34	0.54	0.57	0.24	-	-	20.5
10	8	10	10	10	20	47	0.43	0.69	0.72	0.24	-	-	20.5
10	9	10	10	10	< 2	-	0.24	0.42	0.41	0.24	0.24	0.24	21.5
10	9	10	10	10	2 < 3	70	0.26	0.50	0.46	0.24	-	-	21.5
10	9	10	10	10	3 - 5	64	0.24	0.40	0.40	0.24	-	-	21.5
10	9	10	10	10	10	58	0.25	0.43	0.46	0.24	-	-	21.5
10	9	10	10	10	15	52	0.32	0.56	0.59	0.24	-	-	21.5
10	9	10	10	10	20	47	0.40	0.71	0.75	0.24	-	-	21.5
10	10	10	10	10	< 2	-	0.24	0.44	0.44	0.24	0.24	0.24	22.5
10	10	10	10	10	2 < 3	79	0.25	0.52	0.48	0.24	-	-	22.5
10	10	10	10	10	3 - 5	70	0.24	0.42	0.43	0.24	-	-	22.5
10	10	10	10	10	10	64	0.24	0.44	0.48	0.24	-	-	22.5
10	10	10	10	10	15	52	0.30	0.57	0.61	0.24	-	-	22.5
10	10	10	10	10	20	52	0.38	0.73	0.77	0.24	-	-	22.5

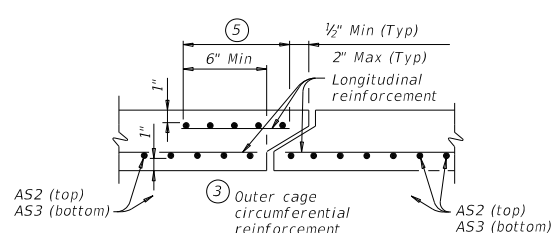
- ① For box length = 0'-0"  
② AS1 thru AS4, AS7 and AS8 are minimum required areas of reinforcement per linear foot of box length. AS5 is minimum required area of reinforcement per linear foot of box width.



FILL HEIGHT 2 FT AND GREATER

FILL HEIGHT LESS THAN 2 FT

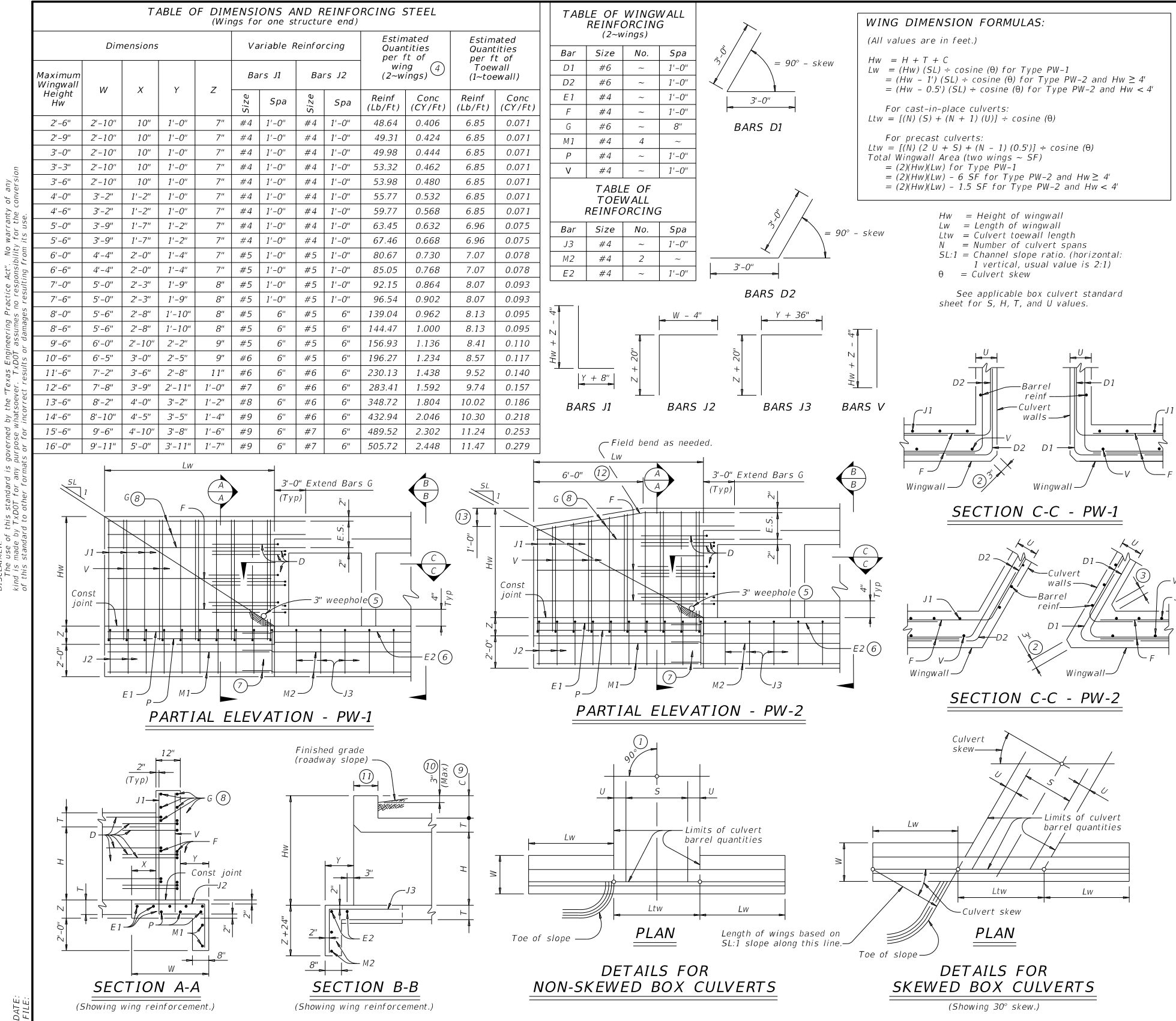
① Length is equal to spacing of longitudinal reinforcing plus 2" (10" Min) (Typ)



SECTION A-A  
(Showing top and bottom slab joint reinforcement.)

**MATERIAL NOTES:**  
Provide 0.03 sq. in./ft. minimum longitudinal reinforcement at each face in slabs and walls. This minimum requirement may be met by the transverse wires when wire mesh reinforcement is used.  
Provide Class H concrete (f'c = 5,000 psi).  
**GENERAL NOTES:**  
Designs shown conform to ASTM C1577. Refer to ASTM C1577 for information on details not shown.  
See Box Culverts Precast Miscellaneous Details (SCP-MD) standard sheet for details and notes not shown.  
In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or exceeds the box design for the design fill height in the table. Submit shop plans for alternate designs in accordance with Item "Precast Concrete Structural Members (Fabrication)".

HL93 LOADING				Bridge Division Standard	
Texas Department of Transportation				Bridge Division Standard	
SINGLE BOX CULVERTS				Bridge Division Standard	
PRECAST				Bridge Division Standard	
10'-0" SPAN				Bridge Division Standard	
SCP-10				Bridge Division Standard	
REV	DESCRIPTION	DATE	BY	CHKD	APP'D
01	SC10H1-2019	February 2020	SC10	SC10	SC10
02	February 2020	SC10	SC10	SC10	SC10
03	February 2020	SC10	SC10	SC10	SC10
04	February 2020	SC10	SC10	SC10	SC10
05	February 2020	SC10	SC10	SC10	SC10
06	February 2020	SC10	SC10	SC10	SC10
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96	February 2020	SC10	SC10	SC10	SC10
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100	February 2020	SC10	SC10	SC10	SC10





# TCEQ Contributing Zone Plan

## Attachment N - Inspection, Maintenance, Repair, and Retrofit Plan

### Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

The following are recommended maintenance procedures as outlined in the TCEQ's Edwards Aquifer Technical Guidance Manual:

#### **Batch Detention:**

- Inspection should be at a minimum of twice a year. One inspection should take place during wet weather to determine if the basin is meeting the target time of 12 hours and a drawdown time of no more than 48 hours. Remaining inspections should occur between storm events so that the manual operation of the valve and controller can be verified. The level sensor in the basin should be inspected and any debris or sediment in the area should be removed. The outlet structure and trash screen should be cleared of any debris. Check embankment, spillways and outlet for erosion damage, and inspect the embankment for piping and settlement. Repair should be made promptly as needed by the contractor.
- Trash and other debris should be collected and removed at least twice a year to prevent clogging of the outlet structure.
- Accumulated silt should be removed, at least every 5 years, or when the sediment depth exceeds 6 inches, or when the sediment interferes with the level sensor.
- Grass areas in and around the detention basin must be mowed at least twice a year to limit vegetation height to 18 inches.
- The logic controller should be inspected as part of the twice-yearly inspections. Verify that the external indicators 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. 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.

#### **Vegetative Buffers:**

- The need for routine maintenance such as mowing, fertilizing, irrigating and weed and pest control will depend on the species of plants and trees, soil types, location and climatic conditions. County agricultural extension agencies are a good source of this type of information.
- Check for damage and loss of vegetative cover. Any damaged sections should be re-seeded with a mix of erosion resistant, soil binding species.
- Trash and other debris should be removed to prevent runoff to downstream waterways.

#### **Silt Fence:**

- Inspection should be made weekly and after each rainfall.
- Sediment should be removed when buildup reaches 6 inches in depth.
- Replace any torn fabric or install a second line of fencing parallel to the torn section.



- Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.
- When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

#### **Final Turf Establishment:**

- After construction activity, disturbed areas should be reseeded using an approved seed mix.
- Irrigation may be required during periods of dry weather, until the turf is well established.
- Additional applications of seed and/or fertilizer may be required to achieve required coverage.

#### **Inspection Procedures and Record Keeping:**

- 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 SW3P.
- 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 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 whether any signs or erosion or sediment are associated with the discharge location. Locations where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking.
- An inspection report that summarizes the scope of the inspection, name(s) and qualifications of inspection personnel, the date of the inspection, and major observations relating to the implementation of the SW3P shall be provided for each inspection. Major observations shall include, at minimum: location of discharges of sediment or other pollutants from the site, locations of BMPs that need to undergo maintenance, locations of BMPs that have failed or have provided inadequate, and locations where BMPs are needed.
- Should the inspection reveal any inadequacies, the site description and the pollution prevention measures identified in the plan must be revised as soon as possible. The inspection and plan review process must provide for implementation of any changes to the plan within 7 calendar days of the inspection.
- Actions taken as a result of the inspections must be described within, and retained as part of, the SW3P. Reports must identify any 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 SW3P and the TPDES general permit. The report must be signed by the authorized representative delegated by the operators in accordance with TAC 305.128.



This document was prepared by Costello Inc. on behalf of Toll Southwest LLC (Owner) in accordance with the requirements of the TCEQ Contributing Zone Plan.

Engineer Signature: Michael A. Kenney

Date: 3/24/2023





# TCEQ Contributing Zone Plan

## Attachment O - Pilot Scale Field Testing Plan

### Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

No innovative or unrecognized BMPs are proposed in this plan.

**Section not applicable to this project**



# TCEQ Contributing Zone Plan

## Attachment P - Measures for Minimizing Surface Stream Contamination

### Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

In order to minimize surface stream contamination on the Brushy Creek and Tributary the following measures will be implemented.

1. **Silt Fence-** Installed upstream of the creek, along the edges of disturbance. Silt fence will be installed to intercept sediment before it can enter the stream while allowing water to slowly percolate through. This is a temporary measure that will be removed after the disturbed area is re-vegetated.
2. **Green Belt-** Existing trees and natural vegetation near the existing creek and tributary will be largely preserved for future park space and landscape buffers. These trees will be protected from construction activities, not only by a silt fence barrier (described previously), but also tree protection fencing to discourage disturbances under the dripline of these trees.
3. **Vegetative Filter Strips-** Along the borders of disturbed areas that run off into water ways on the project, Vegetative Filter Strips (VFS) will be planted to reduce sediments and contaminants from entering the surface water adjacent to the project site.
4. **Batch Detention / Sedimentation Basin-** Batch detention ponds for this project will be located between the development and the existing streams to intercept natural runoff from the site. Ponds will be rough cut and function as sedimentation ponds in the interim conditions during the construction phase and will be fitted with temporary dewatering skimmers prior to completion of the batch detention elements. The temporary dewatering skimmers will be removed when the batch detention comes online.



### Section III

#### Temporary Stormwater Section (TCEQ-0602)



# 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.***

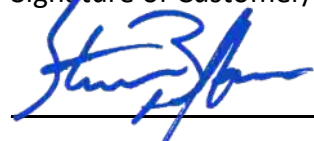
## Signature

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: Steven Buffum

Date: 3/24/2023

Signature of Customer/Agent:



Regulated Entity Name: Wildspring, Phase 1

## Project Information

### Potential Sources of Contamination

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

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

☒ The following fuels and/or hazardous substances will be stored on the site: Diesel, Gasoline

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: Brushy 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.



# TCEQ Temporary Stormwater Section

## Attachment A - Spill Response Actions

### Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

The following measures will be taken to contain any spill of hydrocarbons on the site:

1. **Emergency Measures-** As an immediate precautionary measure, isolate spill or leak area for at least 150 feet in all directions. Consider wind direction. Secure all ignition sources (flame, spark, hot work, hot metal, etc.) from area. Evaluate the direction of product travel to confirm spill areas. Do not touch or walk-through spilled material.
2. **Personal Precautions-** Due to high vapor density, flammable / toxic vapors may be present in low lying areas, dikes, pits, drains, or trenches. Vapors may accumulate in low lying areas and reach ignitable concentrations. Use of non-sparking tools and intrinsically safe equipment is recommended. Potential for flammable atmosphere should be monitored using a combustible gas indicator positioned downwind of the spill area. Use appropriate personal protective equipment to prevent eye/skin contact and absorption. Use NIOSH approved respiratory protection, if warranted, to prevent exposures above permissible limits. Contaminated clothing should not be near sources of ignition.
3. **Environmental Precautions-** Stop the spill to prevent environmental release if it can be done safely. Product is toxic to aquatic life. Take action to isolate environmental receptors including drains, storm sewers and natural water bodies. Keep on impervious surface if at all possible. Use water sparingly to prevent product from spreading. Foam and absorbents may be used to reduce / prevent airborne release. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact. Follow federal, state or local requirements for reporting environmental release where necessary.
4. **Containment & Clean-Up-** Carefully contain and stop the source of the spill, if safe to do so. Protect bodies of water by diking absorbents, or absorbent boom, if possible. Take up with dry earth, sand or other non-combustible, inert oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container with clean, non-sparking tools for reclamation or disposal. Response and cleanup crews must be properly trained and must utilize proper protective equipment.

#### Reporting Requirements for Significant/Hazardous Spills:

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 8AM and 5PM. 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 Travis County and/or Austin police, fire, and potentially EMS personnel should be contacted in order to handle the event and form a response team.
2. For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110, 119, and 302, the contractor should notify the National Response Center at (800)-424-8802.
3. Notification should first be made by telephone and followed up with a written report. One copy of the report is to be kept onsite in the report binder and one copy provided to the TCEQ.
4. The services of a spills contractor or a hazmat team should be obtained immediately. Construction personnel should not attempt the cleanup until directed by the appropriate and qualified staff.



More information on the rules and appropriate responses to spills is available on the TCEQ website at <http://www.tceq.state.tx.us/response/spills.html>.



# TCEQ Temporary Stormwater Section

## Attachment B - Potential Sources of Contamination

### Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

No particular activity or process during the facility's construction is anticipated to present a significant risk for contamination or pollution. However, regular construction operations do create situations where contamination may occur. The contractor shall manage the following activities and prevent the resultant possible contamination using the guidelines set forth in Attachment D – Temporary Best Management Practices and Measures:

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

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

**Potential pollutant sources to stormwater runoff:**

- Combined Staging Area – small fueling, minor equipment maintenance, sanitary facility
- Materials Storage Area – Chip & haul stockpiles, trash
- Construction Activity Areas – paving, concrete pouring
- Concrete washout area

**Potential onsite pollutants:**

- Fertilizer
- Concrete
- Glue, Adhesives
- Gasoline, diesel fuel, hydraulic fluids, antifreeze
- Sanitary facilities



# TCEQ Temporary Stormwater Section

## Attachment C - Sequence of Major Activities

### Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

The sequence of activities for the Wildspring Phase 1 Water, Sewer, Drainage and Paving improvements will be as follows:

1. **Perimeter SWPPP Controls & Tree Protection** - Prior to commencement of primary construction activities temporary erosion and sedimentation controls shall be installed as indicated on the approved plans and in accordance with the stormwater pollution prevention plan. Tree protection fencing shall also be installed prior to mobilization. Estimated Impact = 1.00 Acre. SWPPP Controls will be revised as needed to comply with city inspector's directives and revisions as needed during the construction process.
2. **Detention Excavation** – Mass grading operations will begin with rough cutting the ponds. In the interim conditions these ponds will function as sedimentation basins and will include dewatering skimmers for the treatment of stormwater runoff. Estimated Impact = 7.0 Acres. This installation will minimize the impacts of later phases of construction.
3. **Mass Grading Operations** - Upon completion of the detention ponds, grading operations will expand to the rest of the site. Re-grading is required to meet ADA grading requirements and fall within the allowable pavement slopes. Estimated Impact = 55.14 Acres. Impacts from this activity are to be minimized by existing SWPPP Controls listed above.
4. **Underground Utility Improvements** – Installation of water, sewer and drainage improvements will follow mass grading operations. Estimated Impact = 6.00 Acres. Impacts from this activity are to be minimized by existing SWPPP Controls listed above.
5. **Paving Improvements** - Installation of paving improvements will follow mass grading operations. Estimated Impact = 6.36 Acres. Impacts from this activity are to be minimized by existing SWPPP Controls listed above.
6. **Turf Establishment & Revegetation**- All disturbed areas shall be re-seeded within 14 days of the end of construction activity. Construction activity shall not be considered complete until re-vegetation is complete. Estimated Impact = 55.14 Acres. No additional controls are proposed for this phase, and all temporary SWPPP Controls are to be removed after re-vegetation is complete.
7. **Final Inspection** - Upon completion of the construction and site revegetation, the design engineer shall submit an engineer's letter of concurrence to the city of Leander indicating that the construction, including revegetation, 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.

Activity	Approximate Acreage	Temporary BMPs Proposed	Estimated Duration
Perimeter SWPPP Controls	1.00	Silt Fence, Tree Protection, Vegetative filter strips	1 week
Rough Detention Excavation	7.00	Sedimentation Basin	8 weeks
Mass Grading Operations	55.14	Silt Fence, Vegetative filter strips	8 weeks
Underground Utility Improvements	6.00	Silt Fence	8 weeks
Paving Improvements	6.36	Silt Fence	8 weeks



# TCEQ Temporary Stormwater Section

## Attachment D - Temporary Best Management Practices

### Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

Wildspring Phase 1 will utilize the following TBMP's (Temporary Best Management Practices):

1. **Tree Protection/Vegetative Buffers-** Several areas near the creek have been preserved as a buffer zone and will have tree protection installed prior to construction. By preserving these trees and the natural vegetation beneath them, we are minimizing the amount of disturbed area which could generate sediment during rain events. Preservation of these areas adjacent to the creek also helps prevent erosion by maintaining a healthy root structure and vegetative cover over the existing high bank, reducing stormwater runoff rates and minimizing the potential for erosion.
2. **Stabilized Construction Exit-** A temporary gravel construction entrance will be provided to minimize or eliminate the tracking of sediment onto adjacent public rights of way.
3. **Silt Fence-** Installed along the downstream borders of the site and along future ROW lines that run off into water ways on the project, silt fence will be installed to intercept sediment while allowing water to slowly percolate through. This is a temporary measure that will be removed after the disturbed area is re-vegetated.
4. **Sedimentation Basins** – The sedimentation basins for this project will function for the purposes of sedimentation control and water quality. Ponds shall utilize of low flow pipe and a dewatering skimmer to slow the flow of stormwater runoff and settle out particulates before discharge. These ponds will be utilized as sedimentation basins in the interim condition for the removal of suspended solids before being converted to batch detention basins. Sizing and TSS removal calculations are included elsewhere.
5. **Turf Establishment/Broadcast Seeding** – All disturbed areas shall be re-seeded after construction to reduce erosion and runoff from the soil.

Each of these controls is to be installed and maintained as outlined in the TCEQ's Edwards Aquifer Technical Guidance Manual.



# TCEQ Temporary Stormwater Section

Attachment E - Request to Temporarily Seal a Feature

Water, Sewer, Drainage and Paving to Serve

Wildspring Phase 1

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

**Section not applicable to this project**



# TCEQ Temporary Stormwater Section

## Attachment F - Structural Practices

### Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

Wildspring Phase 1 will utilize the following Structural Practices to reduce pollutant runoff:

1. **Sedimentation Basin** – Development Runoff within the site will be diverted to the interim sedimentation basins for treatment. Ponds shall utilize a low flow pipe and a dewatering skimmer to slow the flow of stormwater runoff and settle out particulates before discharge. These basins will be converted to batch detention at final completion but will function as sedimentation basins during most of the construction phase. Sizing calculations are included in Attachment H.
2. **Vegetative Filter Strips** – Areas near the creek have been preserved as a buffer zone and will have tree protection installed prior to construction. By preserving these trees and the natural vegetation beneath them, we are minimizing the amount of disturbed area which could generate sediment during rain events. Preservation of these areas adjacent to the creek also helps prevent erosion by maintaining a healthy root structure and vegetative cover over the existing high bank, reducing stormwater runoff rates and minimizing the potential for erosion.



# TCEQ Temporary Stormwater Section

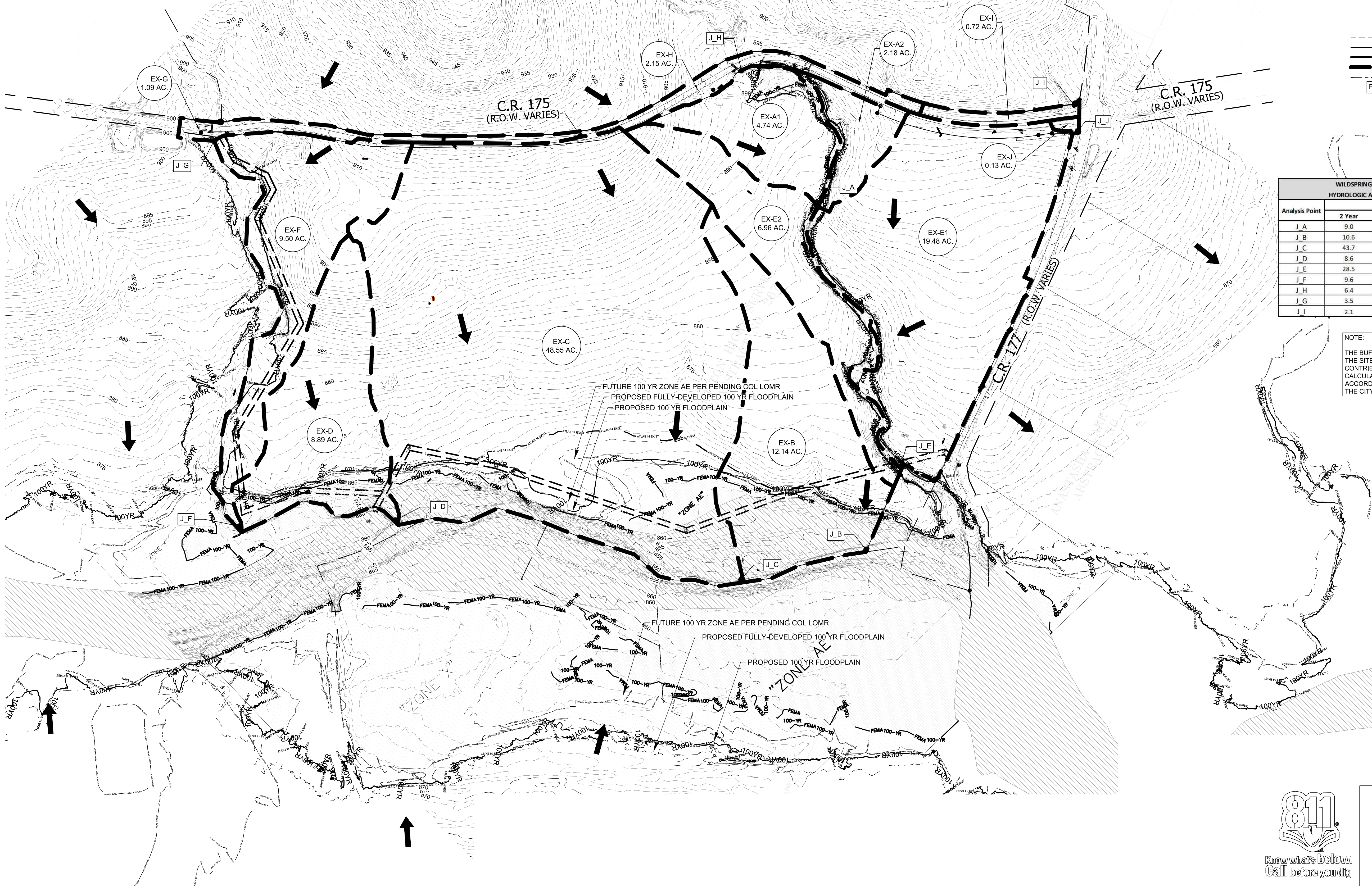
## Attachment G - Drainage Area Map

### Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

Please find the attached drainage area map for Wildspring Phase 1.



HEC-HMS INPUTS, ROUTING, AND DISCHARGE DATA										TIME OF CONCENTRATION CALCULATIONS (TR-55 METHODOLOGY)												
Area Characteristics						Peak Discharge (cfs)				Sheet Flow					Shallow Concentrated Flow				Channel Flow			
Area ID	Area (sq. mi.)	CN	% Imp.	Tc (min)	Tlag (min)	2 Year	10 Year	25 Year	100 Year	Sheet Flow Length (ft)	Sheet Flow 'n' Value	P <sub>2</sub> (inches)	Sheet Flow Slope (ft/ft)	Sheet Flow Travel Time (min)	SCF Length (ft)	SCF Slope (ft/ft)	SCF Velocity (fps)	SCF Travel Time (min)	Channel Flow Length (ft)	Channel Slope (ft/ft)	Channel Velocity (fps) (Bank-Full)	Channel Flow Travel Time (min)
EX-A1	0.007406	65.92	0.00	11.19	6.71	6.1	16.0	23.8	38.0	100	0.24	3.98	0.078	7.44	685	0.036	3.08	3.71	9	0.046	4.22	0.04
EX-A2	0.003407	65.92	1.53	10.31	6.18	3.0	7.7	11.4	18.0	100	0.24	3.98	0.053	8.70	164	0.111	5.37	0.51	279	0.009	4.22	1.10
EX-B	0.018970	64.94	0.00	22.78	13.67	10.6	29.1	43.8	70.5	100	0.24	3.98	0.017	13.64	1222	0.025	2.56	7.95	255	0.016	3.57	1.19
EX-C	0.075854	64.94	0.31	21.77	13.06	43.7	119.5	179.2	288.6	100	0.24	3.98	0.056	8.45	2093	0.028	2.72	12.84	103	0.008	3.57	0.48
EX-D	0.013894	64.94	0.00	18.13	10.88	8.6	23.7	35.6	57.3	100	0.24	3.98	0.021	12.64	1034	0.049	3.58	4.81	146	0.042	3.57	0.68
EX-E1	0.030430	65.92	1.09	17.88	10.73	21.0	55.0	81.4	129.5	100	0.24	3.98	0.039	9.77	1265	0.031	2.82	7.46	163	0.023	4.22	0.64
EX-E2	0.010870	65.92	0.00	16.79	10.07	7.5	20.0	29.7	47.3	100	0.24	3.98	0.058	8.33	713	0.049	3.58	3.32	1300	0.013	4.22	5.13
EX-F	0.014837	65.92	0.57	20.03	12.02	9.6	25.3	37.6	59.9	100	0.24	3.98	0.046	9.18	657	0.036	3.05	3.59	1477	0.017	3.39	7.26
EX-G	0.001710	65.92	38.82	5.00	3.00	3.5	6.4	8.6	12.6	15	0.015	3.98	0.040	0.24	0				966	0.026	4.00	4.03
EX-H	0.003364	64.94	36.95	5.30	3.18	6.4	12.1	16.3	23.9	14	0.015	3.98	0.051	0.20	0				1224	0.025	4.00	5.10
EX-I	0.001131	65.92	31.29	5.00	3.00	2.1	4.0	5.5	8.1	31	0.015	3.98	0.176	0.23	0				633	0.009	4.00	2.64
EX-J	0.000198	65.92	50.68	5.00	3.00	0.5	0.8	1.1	1.5	37	0.015	3.98	0.046	0.44	0				79	0.031	4.00	0.33



**LEGEND**

- 504 --- EXISTING CONTOUR
- 500 --- PROPOSED CONTOUR
- --- PROPERTY BOUNDARY
- --- DRAINAGE DIVIDE
- --- TOC FLOWPATH
- POI --- DISCHARGE POINT
- DA # AREA EXISTING DRAINAGE AREA CALLOUT

WILDSRING - EXISTING CONDITIONS HYDROLOGIC ANALYSIS NODE SUMMARY				
Analysis Point	Peak Discharge (cfs)			
	2 Year	10 Year	25 Year	100 Year
J A	9.0	23.7	35.2	23.7
J B	10.6	29.1	43.8	29.1
J C	43.7	119.5	179.2	119.5
J D	8.6	23.7	35.6	23.7
J E	28.5	74.9	111.0	74.9
J F	9.6	25.3	37.6	25.3
J H	6.4	12.1	16.3	12.1
J G	3.5	6.4	8.6	6.4
J I	2.1	4.0	5.5	4.0

NOTE:  
THE BUFFER ZONES FOR WATERWAYS WITHIN THE SITE DRAINING MORE THAN 64-ACRES OF CONTRIBUTING AREA ARE DEFINED AS THE CALCULATED EXISTING 100-YEAR FLOODPLAIN IN ACCORDANCE WITH ARTICLE III, §49(a)(2) OF THE CITY OF LEANDER SUBDIVISION ORDINANCE.

DESIGNED:	DESIGN CHECKED:	NO.	REVISION	DATE	BY
DRAWN:	COGO CHECKED:				
SURVEY CHECKED:	QA/QC:				
DATE:	QA/QC REVISIONS:				

ENGINEERING AND SURVEYING  
9050 N. CAPITAL HWY. BLDG 3, SUITE 390  
AUSTIN, TEXAS 78759  
(512)646-3456 (512) 514-0315 FAX

**Costello**

WILDSRING - PHASE 1  
C.R. 175  
LEANDER, TEXAS 78641

**EXISTING DRAINAGE AREA MAP**

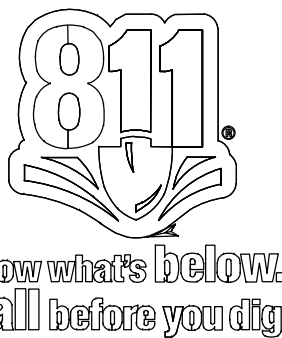
MICHAEL A. KENNEY  
131885  
LICENSED PROFESSIONAL ENGINEER

3/22/2023

SHEET  
OF 110 SHEETS

9

WILDSRING PHASE 1





# TCEQ Temporary Stormwater Section

## Attachment H - Temporary Sediment Ponds Plans and Calculations

### Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

The attached calculations detail sediment removal for the Wildspring Phase 1, Per the TCEQ Technical Guidance Manual (TGM). These calculations cover all three Basins as well as the Vegetative Filter Strips.

**Please find the Attached Calculations for Sediment Removal.**



### TSS Removal Calculations - Wildspring Phase 1 and CR 175 Realignment

#### Loading Calculations

Site Area:	55.14	ac
Total Proposed IC:	21.64	ac
Load Removal Required (L <sub>M</sub> ):	17,126	lbs/yr
Load Removal Provided (L <sub>P</sub> ):	17,579	lbs/yr
Load Removal Remaining:	-453	lbs/yr

BMP Calculations	Inputs						Outputs		
	Total On-Site DA to BMP (ac)	Pre-development On-Site IC to BMP (ac)	Post-development On-Site IC to BMP (ac)	Off-Site DA to BMP (ac)	Off-Site IC to BMP (ac)	L <sub>M</sub> (lbs/yr)	L <sub>R</sub> (lbs/yr)	F	Volume (cf)
Pond A	7.44	0.32	4.21	0.00	0.00	3,862	4,291	0.90	21,860
Pond B	10.78	0.00	5.32	0.00	0.00	4,957	5,447	0.91	29,924
Pond C	26.84	0.02	8.59	0.00	0.00	8,051	8,946	0.90	53,334
VFS-H	0.86	0.00	0.33	0.00	0.00	287	287	0.90	-
VFS-I	0.84	0.00	0.48	0.00	0.00	422	422	0.91	-



Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.  
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.

Characters shown in red are data entry fields.

Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

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

Page 3-29 Equation 3.3:  $L_M = 27.2(A_N \times P)$

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

Site Data: Determine Required Load Removal Based on the Entire Project		
County =	Williamson	
Total project area included in plan *	55.14	acres
Predevelopment impervious area within the limits of the plan *	1.96	acres
Total post-development impervious area within the limits of the plan*	21.64	acres
Total post-development impervious cover fraction *	0.39	
P =	32	inches

$L_{M \text{ TOTAL PROJECT}}$  = 17126 lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 5



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

Drainage Basin/Outfall Area No. =	PR-A	
Total drainage basin/outfall area =	7.44	acres
Predevelopment impervious area within drainage basin/outfall area =	0.32	acres
Post-development impervious area within drainage basin/outfall area =	4.21	acres
Post-development impervious fraction within drainage basin/outfall area =	0.57	
L <sub>M THIS BASIN</sub> =	3,389	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention  
Removal efficiency = 91 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area  
A<sub>I</sub> = Impervious area proposed in the BMP catchment area  
A<sub>P</sub> = Pervious area remaining in the BMP catchment area  
L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A <sub>C</sub> =	7.44	acres
A <sub>I</sub> =	4.21	acres
A <sub>P</sub> =	3.23	acres
L <sub>R</sub> =	4,291	lbs

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

Desired L<sub>M THIS BASIN</sub> = 3,862 lbs.  
F = 0.90

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348

Pages 3-34 to 3-36

Rainfall Depth = 1.70 inches  
Post Development Runoff Coefficient = 0.40  
On-site Water Quality Volume = 18,217 cubic feet

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

Off-site area draining to BMP = 0.00 acres  
Off-site Impervious cover draining to BMP = 0.00 acres  
Impervious fraction of off-site area = 0  
Off-site Runoff Coefficient = 0.00  
Off-site Water Quality Volume = 0 cubic feet  
Storage for Sediment = 3,643  
Total Capture Volume (required water quality volume(s) x 1.20) = 21,860 cubic feet



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

Drainage Basin/Outfall Area No. =	PR-B	
Total drainage basin/outfall area =	10.78	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	5.32	acres
Post-development impervious fraction within drainage basin/outfall area =	0.49	
L <sub>M THIS BASIN</sub> =	4,632	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention  
Removal efficiency = 91 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area  
A<sub>I</sub> = Impervious area proposed in the BMP catchment area  
A<sub>P</sub> = Pervious area remaining in the BMP catchment area  
L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A <sub>C</sub> =	10.78	acres
A <sub>I</sub> =	5.32	acres
A <sub>P</sub> =	5.46	acres
L <sub>R</sub> =	5,447	lbs

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

Desired L<sub>M THIS BASIN</sub> = 4,957 lbs.  
F = 0.91

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348

Pages 3-34 to 3-36

Rainfall Depth =	1.80	inches
Post Development Runoff Coefficient =	0.35	
On-site Water Quality Volume =	24,937	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	4,987	
Total Capture Volume (required water quality volume(s) x 1.20) =	29,924	cubic feet



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Characters shown in red are data entry fields.  
Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

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

Drainage Basin/Outfall Area No. =	PR-C	
Total drainage basin/outfall area =	26.84	acres
Predevelopment impervious area within drainage basin/outfall area =	0.02	acres
Post-development impervious area within drainage basin/outfall area =	8.59	acres
Post-development impervious fraction within drainage basin/outfall area =	0.32	
L <sub>M THIS BASIN</sub> =	7,467	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention  
Removal efficiency = 91 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area  
A<sub>I</sub> = Impervious area proposed in the BMP catchment area  
A<sub>P</sub> = Pervious area remaining in the BMP catchment area  
L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A <sub>C</sub> =	26.84	acres
A <sub>I</sub> =	8.59	acres
A <sub>P</sub> =	18.25	acres
L <sub>R</sub> =	8,946	lbs

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

Desired L<sub>M THIS BASIN</sub> = 8,051 lbs.  
F = 0.90

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348

Pages 3-34 to 3-36

Rainfall Depth = 1.70 inches  
Post Development Runoff Coefficient = 0.27  
On-site Water Quality Volume = 44,445 cubic feet

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

Off-site area draining to BMP = 0.00 acres  
Off-site Impervious cover draining to BMP = 0.00 acres  
Impervious fraction of off-site area = 0  
Off-site Runoff Coefficient = 0.00  
Off-site Water Quality Volume = 0 cubic feet  
Storage for Sediment = 8,889  
Total Capture Volume (required water quality volume(s) x 1.20) = 53,334 cubic feet



Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.

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Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

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

Drainage Basin/Outfall Area No. =	VFS-H	
Total drainage basin/outfall area =	0.86	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.33	acres
Post-development impervious fraction within drainage basin/outfall area =	0.39	
L <sub>M THIS BASIN</sub> =	287	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips  
Removal efficiency = 85 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

- A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area
- A<sub>I</sub> = Impervious area proposed in the BMP catchment area
- A<sub>P</sub> = Pervious area remaining in the BMP catchment area
- L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A <sub>C</sub> =	0.86	acres
A <sub>I</sub> =	0.33	acres
A <sub>P</sub> =	0.53	acres
L <sub>R</sub> =	318	lbs

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

Desired L<sub>M THIS BASIN</sub> = 287 lbs.



Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.

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Characters shown in red are data entry fields.

Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

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

Drainage Basin/Outfall Area No. =	VFS-I	
Total drainage basin/outfall area =	0.84	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.48	acres
Post-development impervious fraction within drainage basin/outfall area =	0.58	
L <sub>M THIS BASIN</sub> =	422	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips  
Removal efficiency = 85 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

- A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area
- A<sub>I</sub> = Impervious area proposed in the BMP catchment area
- A<sub>P</sub> = Pervious area remaining in the BMP catchment area
- L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A <sub>C</sub> =	0.84	acres
A <sub>I</sub> =	0.48	acres
A <sub>P</sub> =	0.36	acres
L <sub>R</sub> =	461	lbs

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

Desired L<sub>M THIS BASIN</sub> = 422 lbs.



TSS Removal Calculations - Wildspring Development (Ultimate Build-Out)

Loading Calculations		
Site Area:	116.53	ac
Total Proposed IC:	45.45	ac
Load Removal Required (L <sub>M</sub> ):	37,850	lbs/yr
Load Removal Provided (L <sub>P</sub> ):	37,918	lbs/yr
Load Removal Remaining:	-69	lbs/yr

BMP Calculations	Inputs						Outputs		
	Total On-Site DA to BMP (ac)	Pre-development On-Site IC to BMP (ac)	Post-development On-Site IC to BMP (ac)	Off-Site DA to BMP (ac)	Off-Site IC to BMP (ac)	L <sub>M</sub> (lbs/yr)	L <sub>R</sub> (lbs/yr)	F	Volume (cf)
Pond A	7.44	0.32	4.21	0.00	0.00	3,865	4,294	0.90	21,874
Pond B	10.78	0.00	5.31	0.00	0.00	4,950	5,440	0.91	29,892
Pond C	32.50	0.02	16.66	0.00	0.00	15,332	17,036	0.90	87,735
Pond D	11.51	0.09	5.24	0.00	0.00	4,844	5,382	0.90	28,477
Pond E	16.71	0.25	7.46	0.00	0.00	6,893	7,659	0.90	40,765
VFS-F	1.37	0.00	0.64	0.00	0.00	559	559	0.91	-
VFS-G	1.55	0.00	0.68	0.00	0.00	594	594	0.91	-
VFS-H	0.86	0.00	0.33	0.00	0.00	287	287	0.90	-
VFS-I	0.84	0.00	0.48	0.00	0.00	422	422	0.91	-
VFS-J	0.42	0.00	0.20	0.00	0.00	172	172	0.91	-



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

Page 3-29 Equation 3.3:  $L_M = 27.2(A_N \times P)$

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

Site Data: Determine Required Load Removal Based on the Entire Project		
County =	Williamson	
Total project area included in plan *	116.53	acres
Predevelopment impervious area within the limits of the plan *	1.96	acres
Total post-development impervious area within the limits of the plan*	45.45	acres
Total post-development impervious cover fraction *	0.39	
P =	32	inches

$L_{M \text{ TOTAL PROJECT}}$  = 37850 lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 10



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

Drainage Basin/Outfall Area No. =	PR-A		
Total drainage basin/outfall area =	7.44	acres	
Predevelopment impervious area within drainage basin/outfall area =	0.32	acres	
Post-development impervious area within drainage basin/outfall area =	4.21	acres	
Post-development impervious fraction within drainage basin/outfall area =	0.57		Pond A
$L_{M \text{ THIS BASIN}}$ =	3,392	lbs.	

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention  
Removal efficiency = 91 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

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

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

where:

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

$A_C$ =	7.44	acres
$A_I$ =	4.21	acres
$A_P$ =	3.23	acres
$L_R$ =	4,294	lbs

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

Desired  $L_{M \text{ THIS BASIN}}$  = 3,865 lbs.  
  
 $F$  = 0.90

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth = 1.70 inches  
Post Development Runoff Coefficient = 0.40  
On-site Water Quality Volume = 18,229 cubic feet

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

Off-site area draining to BMP = 0.00 acres  
Off-site Impervious cover draining to BMP = 0.00 acres  
Impervious fraction of off-site area = 0  
Off-site Runoff Coefficient = 0.00  
Off-site Water Quality Volume = 0 cubic feet  
  
Storage for Sediment = 3,646  
Total Capture Volume (required water quality volume(s) x 1.20) = 21,874 cubic feet



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

Drainage Basin/Outfall Area No. =	PR-B		
Total drainage basin/outfall area =	10.78	acres	
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres	
Post-development impervious area within drainage basin/outfall area =	5.31	acres	
Post-development impervious fraction within drainage basin/outfall area =	0.49		Pond B
L <sub>M THIS BASIN</sub> =	4,625	lbs.	

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention  
Removal efficiency = 91 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area  
A<sub>I</sub> = Impervious area proposed in the BMP catchment area  
A<sub>P</sub> = Pervious area remaining in the BMP catchment area  
L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A<sub>C</sub> = 10.78 acres  
A<sub>I</sub> = 5.31 acres  
A<sub>P</sub> = 5.47 acres  
L<sub>R</sub> = 5,440 lbs

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

Desired L<sub>M THIS BASIN</sub> = 4,950 lbs.  
F = 0.91

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth = 1.80 inches  
Post Development Runoff Coefficient = 0.35  
On-site Water Quality Volume = 24,910 cubic feet

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

Off-site area draining to BMP = 0.00 acres  
Off-site Impervious cover draining to BMP = 0.00 acres  
Impervious fraction of off-site area = 0  
Off-site Runoff Coefficient = 0.00  
Off-site Water Quality Volume = 0 cubic feet  
Storage for Sediment = 4,982  
Total Capture Volume (required water quality volume(s) x 1.20) = 29,892 cubic feet



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

Drainage Basin/Outfall Area No. =	PR-C		
Total drainage basin/outfall area =	32.50	acres	
Predevelopment impervious area within drainage basin/outfall area =	0.02	acres	
Post-development impervious area within drainage basin/outfall area =	16.66	acres	
Post-development impervious fraction within drainage basin/outfall area =	0.51		Pond C
L <sub>M THIS BASIN</sub> =	14,488	lbs.	

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention  
Removal efficiency = 91 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area  
A<sub>I</sub> = Impervious area proposed in the BMP catchment area  
A<sub>P</sub> = Pervious area remaining in the BMP catchment area  
L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A<sub>C</sub> = 32.50 acres  
A<sub>I</sub> = 16.66 acres  
A<sub>P</sub> = 15.84 acres  
L<sub>R</sub> = 17,036 lbs

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

Desired L<sub>M THIS BASIN</sub> = 15,332 lbs.  
F = 0.90

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth = 1.70 inches  
Post Development Runoff Coefficient = 0.36  
On-site Water Quality Volume = 73,113 cubic feet

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

Off-site area draining to BMP = 0.00 acres  
Off-site Impervious cover draining to BMP = 0.00 acres  
Impervious fraction of off-site area = 0  
Off-site Runoff Coefficient = 0.00  
Off-site Water Quality Volume = 0 cubic feet  
Storage for Sediment = 14,623  
Total Capture Volume (required water quality volume(s) x 1.20) = 87,735 cubic feet



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

Drainage Basin/Outfall Area No. =	PR-D		
Total drainage basin/outfall area =	11.51	acres	
Predevelopment impervious area within drainage basin/outfall area =	0.09	acres	
Post-development impervious area within drainage basin/outfall area =	5.24	acres	
Post-development impervious fraction within drainage basin/outfall area =	0.46		Pond D
$L_{M \text{ THIS BASIN}}$ =	4,482	lbs.	

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention  
Removal efficiency = 91 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

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

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

where:

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

$A_C$  = 11.51 acres  
 $A_i$  = 5.24 acres  
 $A_p$  = 6.26 acres  
 $L_R$  = 5,382 lbs

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

Desired  $L_{M \text{ THIS BASIN}}$  = 4,844 lbs.  
 $F$  = 0.90

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth = 1.70 inches  
Post Development Runoff Coefficient = 0.33  
On-site Water Quality Volume = 23,731 cubic feet

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

Off-site area draining to BMP = 0.00 acres  
Off-site Impervious cover draining to BMP = 0.00 acres  
Impervious fraction of off-site area = 0  
Off-site Runoff Coefficient = 0.00  
Off-site Water Quality Volume = 0 cubic feet  
Storage for Sediment = 4,746  
Total Capture Volume (required water quality volume(s) x 1.20) = 28,477 cubic feet



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

Drainage Basin/Outfall Area No. =	PR-E		
Total drainage basin/outfall area =	16.71	acres	
Predevelopment impervious area within drainage basin/outfall area =	0.25	acres	
Post-development impervious area within drainage basin/outfall area =	7.46	acres	
Post-development impervious fraction within drainage basin/outfall area =	0.45		Pond E
L <sub>M THIS BASIN</sub> =	6,277	lbs.	

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention  
Removal efficiency = 91 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area  
A<sub>I</sub> = Impervious area proposed in the BMP catchment area  
A<sub>P</sub> = Pervious area remaining in the BMP catchment area  
L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A<sub>C</sub> = 16.71 acres  
A<sub>I</sub> = 7.46 acres  
A<sub>P</sub> = 9.25 acres  
L<sub>R</sub> = 7,659 lbs

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

Desired L<sub>M THIS BASIN</sub> = 6,893 lbs.  
F = 0.90

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area.

Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth = 1.70 inches  
Post Development Runoff Coefficient = 0.33  
On-site Water Quality Volume = 33,970 cubic feet

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

Off-site area draining to BMP = 0.00 acres  
Off-site Impervious cover draining to BMP = 0.00 acres  
Impervious fraction of off-site area = 0  
Off-site Runoff Coefficient = 0.00  
Off-site Water Quality Volume = 0 cubic feet  
Storage for Sediment = 6,794  
Total Capture Volume (required water quality volume(s) x 1.20) = 40,765 cubic feet



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

Drainage Basin/Outfall Area No. =	VFS-F		
Total drainage basin/outfall area =	1.37	acres	
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres	
Post-development impervious area within drainage basin/outfall area =	0.64	acres	
Post-development impervious fraction within drainage basin/outfall area =	0.47		VFS-F
L <sub>M THIS BASIN</sub> =	559	lbs.	

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips  
Removal efficiency = 85 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

- A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area
- A<sub>I</sub> = Impervious area proposed in the BMP catchment area
- A<sub>P</sub> = Pervious area remaining in the BMP catchment area
- L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A <sub>C</sub> =	1.37	acres
A <sub>I</sub> =	0.64	acres
A <sub>P</sub> =	0.72	acres
L <sub>R</sub> =	615	lbs

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

Desired L<sub>M THIS BASIN</sub> = 559 lbs.



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

Drainage Basin/Outfall Area No. =	VFS-G	
Total drainage basin/outfall area =	1.55	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.68	acres
Post-development impervious fraction within drainage basin/outfall area =	0.44	
L <sub>M THIS BASIN</sub> =	594	lbs.

VFS-G

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips  
Removal efficiency = 85 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

- A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area
- A<sub>I</sub> = Impervious area proposed in the BMP catchment area
- A<sub>P</sub> = Pervious area remaining in the BMP catchment area
- L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A <sub>C</sub> =	1.55	acres
A <sub>I</sub> =	0.68	acres
A <sub>P</sub> =	0.87	acres
L <sub>R</sub> =	655	lbs

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

Desired L<sub>M THIS BASIN</sub> = 594 lbs.



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

Drainage Basin/Outfall Area No. =	VFS-H	
Total drainage basin/outfall area =	0.86	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.33	acres
Post-development impervious fraction within drainage basin/outfall area =	0.39	
L <sub>M THIS BASIN</sub> =	287	lbs.

VFS-H

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips  
Removal efficiency = 85 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

- A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area
- A<sub>I</sub> = Impervious area proposed in the BMP catchment area
- A<sub>P</sub> = Pervious area remaining in the BMP catchment area
- L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A <sub>C</sub> =	0.86	acres
A <sub>I</sub> =	0.33	acres
A <sub>P</sub> =	0.53	acres
L <sub>R</sub> =	318	lbs

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

Desired L<sub>M THIS BASIN</sub> = 287 lbs.



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

Drainage Basin/Outfall Area No. =	VFS-I	
Total drainage basin/outfall area =	0.84	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.48	acres
Post-development impervious fraction within drainage basin/outfall area =	0.58	
L <sub>M THIS BASIN</sub> =	422	lbs.

VFS-I

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips  
Removal efficiency = 85 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

- A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area
- A<sub>I</sub> = Impervious area proposed in the BMP catchment area
- A<sub>P</sub> = Pervious area remaining in the BMP catchment area
- L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A <sub>C</sub> =	0.84	acres
A <sub>I</sub> =	0.48	acres
A <sub>P</sub> =	0.36	acres
L <sub>R</sub> =	461	lbs

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

Desired L<sub>M THIS BASIN</sub> = 422 lbs.



Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.  
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Characters shown in red are data entry fields.  
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2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. =	VFS-J	
Total drainage basin/outfall area =	0.42	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.20	acres
Post-development impervious fraction within drainage basin/outfall area =	0.47	
L <sub>M THIS BASIN</sub> =	172	lbs.

VFS-J

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips  
Removal efficiency = 85 percent

- Aqualogic Cartridge Filter
- Bioretention
- Contech StormFilter
- Constructed Wetland
- Extended Detention
- Grassy Swale
- Retention / Irrigation
- Sand Filter
- Stormceptor
- Vegetated Filter Strips
- Vortechs
- Wet Basin
- Wet Vault

4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

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

where:

- A<sub>C</sub> = Total On-Site drainage area in the BMP catchment area
- A<sub>I</sub> = Impervious area proposed in the BMP catchment area
- A<sub>P</sub> = Pervious area remaining in the BMP catchment area
- L<sub>R</sub> = TSS Load removed from this catchment area by the proposed BMP

A <sub>C</sub> =	0.42	acres
A <sub>I</sub> =	0.20	acres
A <sub>P</sub> =	0.23	acres
L <sub>R</sub> =	189	lbs

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

Desired L<sub>M THIS BASIN</sub> = 172 lbs.



# TCEQ Temporary Stormwater Section

## Attachment I - Inspection and Maintenance for BMP's

### Water, Sewer, Drainage and Paving to Serve

### Wildspring Phase 1

Wildspring Phase 1 utilizes a variety of BMP controls which require periodic inspection and maintenance to perform as designed. In general, all temporary erosion control features should be inspected weekly and after each rainfall. A site visit report should be created for each inspection noting all items of maintenance, repair or replacement required during each visit. Please see below for additional information on each control.

1. **Tree Protection/Vegetative Buffers-** Damaged fencing shall be replaced as needed and parking under preserved trees is to be discouraged. The need for routine maintenance such as mowing, fertilizing, irrigating and weed and pest control will depend on the species of plants and trees, soil types, location and climatic conditions.
2. **Stabilized Construction Exit-** To maintain the entrance in good working condition, occasional top dressing with additional stone may be required, and any silt or debris found in the adjacent ROW should be removed. The contractor shall keep the adjacent street clean at all times.
3. **Silt Fence-** Sediment depth in excess of 6 inches shall be removed and any ripped or torn material is to be replaced. After construction is complete, and the construction area has been re-vegetated, the silt fence shall be removed.
4. **Sedimentation Basins-** At each inspection, the embankment, spillways and outlet should be checked for erosion damage. Trash and debris should be removed from the structure to prevent clogging, and accumulated silt should be removed after the capacity of the basin has been reduced by 25%. The basin should be routinely checked for settlement or signs of piping.
5. **Turf Establishment/Broadcast Seeding –** Seeding locations should be inspected weekly and after each rain event to locate and repair any erosion. Any areas requiring repair, or areas with less than 80% cover should be repaired and re-seeded. Watering may be required for seed to start during dry weather.

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, Revised July 2005.

#### **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 SW3P.

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

Inspections must comply with the following:

- 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 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 whether any signs of erosion or sediment are associated with the discharge location. Locations where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking.
- Should the inspection reveal any inadequacies, the site description and the pollution prevention measures identified in the plan must be revised as soon as possible. The inspection and plan review process must provide for implementation of any changes to the plan within 7 calendar days of the inspection.
- An inspection report that summarizes the scope of the inspection, name(s) and qualifications of inspection personnel, the date of the inspection, and major observations relating to the implementation of the SW3P. Major observations shall include, at minimum: location of discharges of sediment or other pollutants from the site, locations of BMPs that need to undergo maintenance, locations of BMPs that have failed or have provided inadequate, and locations where BMPs are needed.
- Actions taken as a result of the inspections must be described within, and retained as part of, the SW3P. Reports must identify any 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 SW3P 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 following minimum requirements:

- 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 the job site.
- If the weather forecast predicts the possibility of rain, check all facilities throughout the site to ensure they are in place and operable. If job site weather conditions indicate high probability of rain, make special inspection of erosion control facilities.
- After rainfall events review erosion control facilities as soon as the site is accessible. Clean rock berms, berm/swales, and other structural facilities. Determine where additional facilities or alternative techniques are needed to control sediment leaving the site.
- After portions of the site have been seeded, review these areas on a regular basis (in accordance with project specifications) to ensure proper watering until grass is established. Re-seed areas where grass is not well established.
- Spills are to be handled as specified by the product manufacturer in a safe and timely manner by construction personnel. The site superintendent will be responsible for coordinating spill prevention and cleanup operations. See also Attachment A-Spill Response Actions.
- Concrete trucks will discharge extra concrete or wash out their drums only at an approved location on site. Residual product shall be properly disposed of.
- Inspect vehicle entrances and exits for evidence of off-site tracking and correct as needed.



- Remove sediment from traps/ponds as soon as the sediment load has been reduced to 50% of the design capacity.
- The contractor, where feasible and where access is available, shall collect and remove sedimentation material that escapes the site, using appropriate non-damaging methods. The contractor shall also correct the condition that allowed the sediment to escape.
- If inspections or other information sources reveal a control has been used incorrectly, or that a control is performing inadequately, the contractor must replace, correct, or modify the control as soon as is practical after discovery of the deficiency.



# TCEQ Temporary Stormwater Section

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

### Water, Sewer, Drainage and Paving to Serve Wildspring Phase 1

Wildspring Phase 1 shall establish Interim and Permanent Soil Stabilization in the following order:

1. **Tree Protection/Vegetative Buffers: Day 1** - Protected greenspace is to be identified and preserved prior to mobilization of heavy equipment.
2. **Turf Establishment for Siltation Ponds: Day 30** – Siltation ponds shall be constructed and seeded as soon as practical in order to minimize runoff from the site, after they have been cut to final grade. There will be a slight lag time on this item as it requires completion of excavation and grading operations.
3. **Final Turf Establishment: Day 45-150** - Final seeding may occur as soon as an area has been fully cleared and is no longer actively being worked by construction equipment. Seeding shall occur no later than 14 days after construction activities have ceased.

Temporary erosion and sedimentation control structures shall be maintained at all times during construction, and shall be inspected on a weekly basis and after rain events.

Bare soils should be seeded or otherwise stabilized within 14 calendar days after final grading or where construction activity has temporarily ceased for more than 21 days.

After the entire site is stabilized, any sediment that has accumulated will be removed and hauled off-site for disposal. Construction debris, trash, sanitary toilets, material storage, and temporary BMPs including silt fences will also be removed and any areas disturbed during the removal process will be seeded or re-seeded immediately.

See also Attachment C for sequence of major activities.



## Section IV

### Copy of Notice of Intent (NOI)





# Notice of Intent (NOI) for an Authorization for Stormwater Discharges Associated with Construction Activity under TPDES General Permit TXR150000

## IMPORTANT INFORMATION

Please read and use the General Information and Instructions prior to filling out each question in the NOI form.

Use the NOI Checklist to ensure all required information is completed correctly.

**Incomplete applications delay approval or result in automatic denial.**

Once processed your permit authorization can be viewed by entering the following link into your internet browser: [http://www2.tceq.texas.gov/wq\\_dpa/index.cfm](http://www2.tceq.texas.gov/wq_dpa/index.cfm) or you can contact TCEQ Stormwater Processing Center at 512-239-3700.

## ePERMITS

**Effective September 1, 2018, this paper form must be submitted to TCEQ with a completed electronic reporting waiver form (TCEQ-20754).**

To submit an NOI electronically, enter the following web address into your internet browser and follow the instructions: <https://www3.tceq.texas.gov/steers/index.cfm>

## APPLICATION FEE AND PAYMENT

The application fee for submitting a paper NOI is \$325. The application fee for electronic submittal of a NOI through the TCEQ ePermits system (STEERS) is \$225.

Payment of the application fee can be submitted by mail or through the TCEQ ePay system. The payment and the NOI must be mailed to separate addresses. To access the TCEQ ePay system enter the following web address into your internet browser: <http://www.tceq.texas.gov/epay>.

Provide your payment information for verification of payment:

- If payment was mailed to TCEQ, provide the following:
  - Check/Money Order Number: N/A
  - Name printed on Check: N/A
- If payment was made via ePay, provide the following:
  - ✓ Voucher Number: TBD\*
  - A copy of the payment voucher is attached to this paper NOI form.

\*Account created in STEERS as a placeholder for NOI.



**RENEWAL** (This portion of the NOI is not applicable after June 3, 2018)

Is this NOI for a renewal of an existing authorization? ☐ Yes ☒ No

If Yes, provide the authorization number here: TXR15 N/A

NOTE: If an authorization number is not provided, a new number will be assigned.

**SECTION 1. OPERATOR (APPLICANT)**

a) If the applicant is currently a customer with TCEQ, what is the Customer Number (CN) issued to this entity? CN 602840076

(Refer to Section 1.a) of the Instructions)

b) What is the Legal Name of the entity (applicant) applying for this permit? (The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal document forming the entity.)

Toll Southwest LLC dba Toll Brothers Inc

c) What is the contact information for the Operator (Responsible Authority)?

Prefix (Mr. Ms. Miss): Ms.

First and Last Name: Adrienne Donatucci

Suffix:

Title: Land Development Manager

Credentials:

Phone Number: 412-780-2312

Fax Number: 512-528-5036

E-mail: adonatucci@tollbrothers.com

Mailing Address: 1320 Arrow Point Drive, Ste 401

City, State, and Zip Code: Cedar Park, TX 78613

Mailing Information if outside USA:

Territory: N/A

Country Code: N/A

Postal Code: N/A

d) Indicate the type of customer:

☐ Individual

☐ Limited Partnership

☐ General Partnership

☐ Trust

☐ Sole Proprietorship (D.B.A.)

☒ Corporation

☐ Estate

☐ Federal Government

☐ County Government

☐ State Government

☐ City Government

☐ Other Government

☐ Other:

e) Is the applicant an independent operator? ☐ Yes

☒ No



(If a governmental entity, a subsidiary, or part of a larger corporation, check No.)

f) Number of Employees. Select the range applicable to your company.

☐ 0-20

☐ 251-500

☐ 21-100

☒ 501 or higher

☐ 101-250

g) Customer Business Tax and Filing Numbers: (**Required** for Corporations and Limited Partnerships. **Not Required** for Individuals, Government, or Sole Proprietors.)

State Franchise Tax ID Number: 32050842304

Federal Tax ID: 47-2582910

Texas Secretary of State Charter (filing) Number: 0801775669

DUNS Number (if known): ---

## SECTION 2. APPLICATION CONTACT

Is the application contact the same as the applicant identified above?

☐ Yes, go to Section 3

☒ No, complete this section

Prefix (Mr. Ms. Miss): Mr.

First and Last Name: Steven Buffum

Suffix:

Title: Partner/Project Manager

Credential: P.E.

Organization Name: Costello Inc

Phone Number: 512-646-3463

Fax Number: N/A

E-mail: sbuffum@costelloinc.com

Mailing Address: 9050 N. Capital of Texas Hwy, Bldg. 3, Ste 390

Internal Routing (Mail Code, Etc.): N/A

City, State, and Zip Code: Austin, TX 78759

Mailing information if outside USA:

Territory: N/A

Country Code: N/A

Postal Code: N/A

## SECTION 3. REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

a) If this is an existing permitted site, what is the Regulated Entity Number (RN) issued to this site? RN N/A

(Refer to Section 3.a) of the Instructions)



b) Name of project or site (the name known by the community where it's located):

Wildspring Phase 1

c) In your own words, briefly describe the type of construction occurring at the regulated site (residential, industrial, commercial, or other): Single family residential development, including associated water, sewer, drainage and paving.

d) County or Counties (if located in more than one): Williamson

e) Latitude: 30° 34' 36.14" Longitude: 97° 47' 11.18"

f) Site Address/Location

If the site has a physical address such as 12100 Park 35 Circle, Austin, TX 78753, complete *Section A*.

If the site does not have a physical address, provide a location description in *Section B*. Example: located on the north side of FM 123, 2 miles west of the intersection of FM 123 and Highway 1.

*Section A:*

Street Number and Name: N/A

City, State, and Zip Code: N/A

*Section B:*

Location Description: Northwest Intersection of CR 175 & CR 177

City (or city nearest to) where the site is located: Leander

Zip Code where the site is located: 78641

#### SECTION 4. GENERAL CHARACTERISTICS

a) Is the project or site located on Indian Country Lands?

☐ Yes, do not submit this form. You must obtain authorization through EPA Region 6.

☒ No

b) Is your construction activity associated with a facility that, when completed, would be associated with the exploration, development, or production of oil or gas or geothermal resources?

☐ Yes. Note: The construction stormwater runoff may be under jurisdiction of the Railroad Commission of Texas and may need to obtain authorization through EPA Region 6.

☒ No

c) What is the Primary Standard Industrial Classification (SIC) Code that best describes the construction activity being conducted at the site? 1629 - Heavy Construction

d) What is the Secondary SIC Code(s), if applicable? 1623 - Water, Sewer, Pipeline

e) What is the total number of acres to be disturbed? 55.14 Acres

f) Is the project part of a larger common plan of development or sale?



☒ Yes

☐ No. The total number of acres disturbed, provided in e) above, must be 5 or more. If the total number of acres disturbed is less than 5, do not submit this form. See the requirements in the general permit for small construction sites.

g) What is the estimated start date of the project? November 2023

h) What is the estimated end date of the project? July 2024

i) Will concrete truck washout be performed at the site? ☐ Yes ☒ No

j) What is the name of the first water body(ies) to receive the stormwater runoff or potential runoff from the site? Brushy Creek

k) What is the segment number(s) of the classified water body(ies) that the discharge will eventually reach? 1244A

l) Is the discharge into a Municipal Separate Storm Sewer System (MS4)?

☐ Yes ☒ No

If Yes, provide the name of the MS4 operator: N/A

Note: The general permit requires you to send a copy of this NOI form to the MS4 operator.

m) Is the discharge or potential discharge from the site within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer, as defined in 30 TAC Chapter 213?

☒ Yes, complete the certification below.

☐ No, go to Section 5

I certify that the copy of the TCEQ-approved Plan required by the Edwards Aquifer Rule (30 TAC Chapter 213) that is included or referenced in the Stormwater Pollution Prevention Plan will be implemented. ☒ Yes

## SECTION 5. NOI CERTIFICATION

a) I certify that I have obtained a copy and understand the terms and conditions of the Construction General Permit (TXR150000). ☒ Yes

b) I certify that the full legal name of the entity applying for this permit has been provided and is legally authorized to do business in Texas. ☒ Yes

c) I understand that a Notice of Termination (NOT) must be submitted when this authorization is no longer needed. ☒ Yes

d) I certify that a Stormwater Pollution Prevention Plan has been developed, will be implemented prior to construction and to the best of my knowledge and belief is compliant with any applicable local sediment and erosion control plans, as required in the Construction General Permit (TXR150000). ☒ Yes

Note: For multiple operators who prepare a shared SWP3, the confirmation of an operator may be limited to its obligations under the SWP3, provided all obligations are confirmed by at least one operator.




## SECTION 6. APPLICANT CERTIFICATION SIGNATURE

Operator Signatory Name: Steven Buffum

Operator Signatory Title: Partner / Project Manager

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under 30 Texas Administrative Code §305.44 to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signature (use blue ink):  Date: 03/24/2023



# NOTICE OF INTENT CHECKLIST (TXR150000)

Did you complete everything? Use this checklist to be sure!

Are you ready to mail your form to TCEQ? Go to the General Information Section of the Instructions for mailing addresses.

Confirm each item (or applicable item) in this form is complete. This checklist is for use by the applicant to ensure a complete application is being submitted. **Missing information may result in denial of coverage under the general permit.** (See NOI process description in the General Information and Instructions.)

## APPLICATION FEE

If paying by check:

- ☐ Check was mailed **separately** to the TCEQs Cashier's Office. (See Instructions for Cashier's address and Application address.)
- ☐ Check number and name on check is provided in this application.

If using ePay:

- ☒ The voucher number is provided in this application and a copy of the voucher is attached.

## RENEWAL

- ☐ If this application is for renewal of an existing authorization, the authorization number is provided.

## OPERATOR INFORMATION

- ☒ Customer Number (CN) issued by TCEQ Central Registry
- ☒ Legal name as filed to do business in Texas. (Call TX SOS 512-463-5555 to verify.)
- ☒ Name and title of responsible authority signing the application.
- ☒ Phone number and e-mail address
- ☒ Mailing address is complete & verifiable with USPS. [www.usps.com](http://www.usps.com)
- ☒ Type of operator (entity type). Is applicant an independent operator?
- ☒ Number of employees.
- ☒ For corporations or limited partnerships - Tax ID and SOS filing numbers.
- ☒ Application contact and address is complete & verifiable with USPS. <http://www.usps.com>

## REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

- ☒ Regulated Entity Number (RN) (if site is already regulated by TCEQ)
- ☒ Site/project name and construction activity description
- ☒ County
- ☒ Latitude and longitude <http://www.tceq.texas.gov/gis/sqmaview.html>



☒ Site Address/Location. Do not use a rural route or post office box.

#### GENERAL CHARACTERISTICS

☒ Indian Country Lands -the facility is not on Indian Country Lands.

☒ Construction activity related to facility associated to oil, gas, or geothermal resources

☒ Primary SIC Code that best describes the construction activity being conducted at the site.  
[www.osha.gov/oshstats/sicser.html](http://www.osha.gov/oshstats/sicser.html)

☒ Estimated starting and ending dates of the project.

☒ Confirmation of concrete truck washout.

☒ Acres disturbed is provided and qualifies for coverage through a NOI.

☒ Common plan of development or sale.

☒ Receiving water body or water bodies.

☒ Segment number or numbers.

☒ MS4 operator.

☒ Edwards Aquifer rule.

#### CERTIFICATION

☒ Certification statements have been checked indicating Yes.

☒ Signature meets 30 Texas Administrative Code (TAC) §305.44 and is original.



# Instructions for Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity under TPDES General Permit (TXR150000)

## GENERAL INFORMATION

### Where to Send the Notice of Intent (NOI):

By Regular Mail:

TCEQ

Stormwater Processing Center (MC228)

P.O. Box 13087

Austin, Texas 78711-3087

By Overnight or Express Mail:

TCEQ

Stormwater Processing Center (MC228)

12100 Park 35 Circle

Austin, TX

### Application Fee:

The application fee of \$325 is required to be paid at the time the NOI is submitted. Failure to submit payment at the time the application is filed will cause delays in acknowledgment or denial of coverage under the general permit. Payment of the fee may be made by check or money order, payable to TCEQ, or through EPAY (electronic payment through the web).

### Mailed Payments:

Use the attached General Permit Payment Submittal Form. The application fee is submitted to a different address than the NOI. Read the General Permit Payment Submittal Form for further instructions, including the address to send the payment.

### ePAY Electronic Payment: <http://www.tceq.texas.gov/epay>

When making the payment you must select Water Quality, and then select the fee category "General Permit Construction Storm Water Discharge NOI Application". You must include a copy of the payment voucher with your NOI. Your NOI will not be considered complete without the payment voucher.

### TCEQ Contact List:

Application - status and form questions:

512-239-3700, [swpermit@tceq.texas.gov](mailto:swpermit@tceq.texas.gov)

Technical questions:

512-239-4671, [swgp@tceq.texas.gov](mailto:swgp@tceq.texas.gov)

Environmental Law Division:

512-239-0600

Records Management - obtain copies of forms:

512-239-0900

Reports from databases (as available):

512-239-DATA (3282)

Cashier's office:

512-239-0357 or 512-239-0187

### Notice of Intent Process:

When your NOI is received by the program, the form will be processed as follows:

- **Administrative Review:** Each item on the form will be reviewed for a complete response. In addition, the operator's legal name must be verified with Texas Secretary of State as valid and active (if applicable). The address(es) on the form must be verified with the US Postal service as receiving regular mail delivery. Do not give an overnight/express mailing address.



- **Notice of Deficiency:** If an item is incomplete or not verifiable as indicated above, a notice of deficiency (NOD) will be mailed to the operator. The operator will have 30 days to respond to the NOD. The response will be reviewed for completeness.
- **Acknowledgment of Coverage:** An Acknowledgment Certificate will be mailed to the operator. This certificate acknowledges coverage under the general permit.

or

**Denial of Coverage:** If the operator fails to respond to the NOD or the response is inadequate, coverage under the general permit may be denied. If coverage is denied, the operator will be notified.

### **General Permit (Your Permit)**

For NOIs submitted **electronically** through ePermits, provisional coverage under the general permit begins immediately following confirmation of receipt of the NOI form by the TCEQ.

For **paper** NOIs, provisional coverage under the general permit begins **7 days after a completed NOI is postmarked for delivery** to the TCEQ.

You should have a copy of your general permit when submitting your application. You may view and print your permit for which you are seeking coverage, on the TCEQ web site <http://www.tceq.texas.gov>. Search using keyword TXR150000.

### **Change in Operator**

An authorization under the general permit is not transferable. If the operator of the regulated project or site changes, the present permittee must submit a Notice of Termination and the new operator must submit a Notice of Intent. The NOT and NOI must be submitted no later than 10 days prior to the change in Operator status.

### **TCEQ Central Registry Core Data Form**

The Core Data Form has been incorporated into this form. Do not send a Core Data Form to TCEQ. After final acknowledgment of coverage under the general permit, the program will assign a Customer Number and Regulated Entity Number, if one has not already been assigned to this customer or site.

For existing customers and sites, you can find the Customer Number and Regulated Entity Number by entering the following web address into your internet browser: <http://www15.tceq.texas.gov/crpub/> or you can contact the TCEQ Stormwater Processing Center at 512-239-3700 for assistance. On the website, you can search by your permit number, the Regulated Entity (RN) number, or the Customer Number (CN). If you do not know these numbers, you can select "Advanced Search" to search by permittee name, site address, etc.

The Customer (Permittee) is responsible for providing consistent information to the TCEQ, and for updating all CN and RN data for all authorizations as changes occur. For this permit, a Notice of Change form must be submitted to the program area.



## INSTRUCTIONS FOR FILLING OUT THE NOI FORM

**Renewal of General Permit.** Dischargers holding active authorizations under the expired General Permit are required to submit a NOI to continue coverage. The existing permit number is required. If the permit number is not provided or has been terminated, expired, or denied, a new permit number will be issued.

### Section 1. OPERATOR (APPLICANT)

#### a) Customer Number (CN)

TCEQ's Central Registry will assign each customer a number that begins with CN, followed by nine digits. **This is not a permit number, registration number, or license number.**

If the applicant is an existing TCEQ customer, the Customer Number is available at the following website: <http://www15.tceq.texas.gov/crpub/>. If the applicant is not an existing TCEQ customer, leave the space for CN blank.

#### b) Legal Name of Applicant

Provide the current legal name of the applicant. The name must be provided exactly as filed with the Texas Secretary of State (SOS), or on other legal documents forming the entity, as filed in the county. You may contact the SOS at 512-463-5555, for more information related to filing in Texas. If filed in the county, provide a copy of the legal documents showing the legal name.

#### c) Contact Information for the Applicant (Responsible Authority)

Provide information for the person signing the application in the Certification section. This person is also referred to as the Responsible Authority.

Provide a complete mailing address for receiving mail from the TCEQ. The mailing address must be recognized by the US Postal Service. You may verify the address on the following website: <https://tools.usps.com/go/ZipLookupAction!input.action>.

The phone number should provide contact to the applicant.

The fax number and e-mail address are optional and should correspond to the applicant.

#### d) Type of Customer (Entity Type)

Check only one box that identifies the type of entity. Use the descriptions below to identify the appropriate entity type. Note that the selected entity type also indicates the name that must be provided as an applicant for an authorization.

##### **Individual**

An individual is a customer who has not established a business, but conducts an activity that needs to be regulated by the TCEQ.

##### **Partnership**

A customer that is established as a partnership as defined by the Texas Secretary of State Office (TX SOS). If the customer is a 'General Partnership' or 'Joint Venture' filed in the county (not filed with TX SOS), the legal name of each partner forming the 'General Partnership' or 'Joint Venture' must be provided. Each 'legal entity' must apply as a co-applicant.



### **Trust or Estate**

A trust and an estate are fiduciary relationships governing the trustee/executor with respect to the trust/estate property.

### **Sole Proprietorship (DBA)**

A sole proprietorship is a customer that is owned by only one person and has not been incorporated. This business may:

1. be under the person's name
2. have its own name (doing business as or DBA)
3. have any number of employees.

If the customer is a Sole Proprietorship or DBA, the 'legal name' of the individual business 'owner' must be provided. The DBA name is not recognized as the 'legal name' of the entity. The DBA name may be used for the site name (regulated entity).

### **Corporation**

A customer that meets all of these conditions:

1. is a legally incorporated entity under the laws of any state or country
2. is recognized as a corporation by the Texas Secretary of State
3. has proper operating authority to operate in Texas

The corporation's 'legal name' as filed with the Texas Secretary of State must be provided as applicant. An 'assumed' name of a corporation is not recognized as the 'legal name' of the entity.

### **Government**

Federal, state, county, or city government (as appropriate)

The customer is either an agency of one of these levels of government or the governmental body itself. The government agency's 'legal name' must be provided as the applicant. A department name or other description of the organization is not recognized as the 'legal name'.

### **Other**

This may include a utility district, water district, tribal government, college district, council of governments, or river authority. Provide the specific type of government.

#### **e) Independent Entity**

Check No if this customer is a subsidiary, part of a larger company, or is a governmental entity. Otherwise, check Yes.

#### **f) Number of Employees**

Check one box to show the number of employees for this customer's entire company, at all locations. This is not necessarily the number of employees at the site named in the application.



#### **g) Customer Business Tax and Filing Numbers**

These are required for Corporations and Limited Partnerships. These are not required for Individuals, Government, and Sole Proprietors.

##### **State Franchise Tax ID Number**

Corporations and limited liability companies that operate in Texas are issued a franchise tax identification number. If this customer is a corporation or limited liability company, enter the Tax ID number.

##### **Federal Tax ID**

All businesses, except for some small sole proprietors, individuals, or general partnerships should have a federal taxpayer identification number (TIN). Enter this number here. Use no prefixes, dashes, or hyphens. Sole proprietors, individuals, or general partnerships do not need to provide a federal tax ID.

##### **TX SOS Charter (filing) Number**

Corporations and Limited Partnerships required to register with the Texas Secretary of State are issued a charter or filing number. You may obtain further information by calling SOS at 512-463-5555.

##### **DUNS Number**

Most businesses have a DUNS (Data Universal Numbering System) number issued by Dun and Bradstreet Corp. If this customer has one, enter it here.

#### **Section 2. APPLICATION CONTACT**

Provide the name and contact information for the person that TCEQ can contact for additional information regarding this application.

#### **Section 3. REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE**

##### **a) Regulated Entity Number (RN)**

The RN is issued by TCEQ's Central Registry to sites where an activity is regulated by TCEQ. This is not a permit number, registration number, or license number. Search TCEQ's Central Registry to see if the site has an assigned RN at <http://www15.tceq.texas.gov/crpub/>. If this regulated entity has not been assigned an RN, leave this space blank.

If the site of your business is part of a larger business site, an RN may already be assigned for the larger site. Use the RN assigned for the larger site.

If the site is found, provide the assigned RN and provide the information for the site to be authorized through this application. The site information for this authorization may vary from the larger site information.

An example is a chemical plant where a unit is owned or operated by a separate corporation that is accessible by the same physical address of your unit or facility. Other examples include industrial parks identified by one common address but different corporations have control of defined areas within the site. In both cases, an RN would be assigned for the physical address location and the permitted sites would be identified separately under the same RN.



**b) Name of the Project or Site**

Provide the name of the site or project as known by the public in the area where the site is located. The name you provide on this application will be used in the TCEQ Central Registry as the Regulated Entity name.

**c) Description of Activity Regulated**

In your own words, briefly describe the primary business that you are doing that requires this authorization. Do not repeat the SIC Code description.

**d) County**

Provide the name of the county where the site or project is located. If the site or project is located in more than one county, provide the county names as secondary.

**e) Latitude and Longitude**

Enter the latitude and longitude of the site in degrees, minutes, and seconds or decimal form. For help obtaining the latitude and longitude, go to:

<http://www.tceq.texas.gov/gis/sqmapview.html>.

**f) Site Address/Location**

If a site has an address that includes a street number and street name, enter the complete address for the site in *Section A*. If the physical address is not recognized as a USPS delivery address, you may need to validate the address with your local police (911 service) or through an online map site used to locate a site. Please confirm this to be a complete and valid address. Do not use a rural route or post office box for a site location.

If a site does not have an address that includes a street number and street name, provide a complete written location description in *Section B*. For example: "The site is located on the north side of FM 123, 2 miles west of the intersection of FM 123 and Highway 1."

Provide the city (or nearest city) and zip code of the site location.

**Section 4. GENERAL CHARACTERISTICS**

**a) Indian Country Lands**

If your site is located on Indian Country Lands, the TCEQ does not have authority to process your application. You must obtain authorization through EPA Region 6, Dallas. Do not submit this form to TCEQ.

**b) Construction activity associated with facility associated with exploration, development, or production of oil, gas, or geothermal resources**

If your activity is associated with oil and gas exploration, development, or production, you may be under jurisdiction of the Railroad Commission of Texas (RRC) and may need to obtain authorization from EPA Region 6.

Construction activities associated with a facility related to oil, gas or geothermal resources may include the construction of a well site; treatment or storage facility; underground hydrocarbon or natural gas storage facility; reclamation plant; gas processing facility; compressor station; terminal facility where crude oil is stored prior to refining and at which refined products are stored solely for use at the facility; a



carbon dioxide geologic storage facility; and a gathering, transmission, or distribution pipeline that will transport crude oil or natural gas, including natural gas liquids, prior to refining of such oil or the use of the natural gas in any manufacturing process or as a residential or industrial fuel.

Where required by federal law, discharges of stormwater associated with construction activities under the RRC's jurisdiction must be authorized by the EPA and the RRC, as applicable. Activities under RRC jurisdiction include construction of a facility that, when completed, would be associated with the exploration, development, or production of oil or gas or geothermal resources, such as a well site; treatment or storage facility; underground hydrocarbon or natural gas storage facility; reclamation plant; gas processing facility; compressor station; terminal facility where crude oil is stored prior to refining and at which refined products are stored solely for use at the facility; a carbon dioxide geologic storage facility under the jurisdiction of the RRC; and a gathering, transmission, or distribution pipeline that will transport crude oil or natural gas, including natural gas liquids, prior to refining of such oil or the use of the natural gas in any manufacturing process or as a residential or industrial fuel. The RRC also has jurisdiction over stormwater from land disturbance associated with a site survey that is conducted prior to construction of a facility that would be regulated by the RRC. Under 33 U.S.C. § 1342(l)(2) and § 1362(24), EPA cannot require a permit for discharges of stormwater from field activities or operations associated with {oil and gas} exploration, production, processing, or treatment operations, or transmission facilities, including activities necessary to prepare a site for drilling and for the movement and placement of drilling equipment, whether or not such field activities or operations may be considered to be construction activities unless the discharge is contaminated by contact with any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of the facility. Under § 3.8 of this title (relating to Water Protection), the RRC prohibits operators from causing or allowing pollution of surface or subsurface water. Operators are encouraged to implement and maintain best management practices (BMPs) to minimize discharges of pollutants, including sediment, in stormwater during construction activities to help ensure protection of surface water quality during storm events.

For more information about the jurisdictions of the RRC and the TCEQ, read the Memorandum of Understanding (MOU) between the RRC and TCEQ at 16 Texas Administrative Code, Part 1, Chapter 3, Rule 3.30, by entering the following link into an internet browser:

[http://texreg.sos.state.tx.us/public/readtac\\$ext.TacPage?sl=R&app=9&p\\_dir=&p\\_rloc=&p\\_tloc=&p\\_ploc=&pg=1&p\\_tac=&ti=16&pt=1&ch=3&rl=30](http://texreg.sos.state.tx.us/public/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=16&pt=1&ch=3&rl=30) or contact the TCEQ Stormwater Team at 512-239-4671 for additional information.

**c) Primary Standard Industrial Classification (SIC) Code**

Provide the SIC Code that best describes the construction activity being conducted at this site.

Common SIC Codes related to construction activities include:

- 1521 - Construction of Single Family Homes
- 1522 - Construction of Residential Buildings Other than Single Family Homes
- 1541 - Construction of Industrial Buildings and Warehouses



- 1542 - Construction of Non-residential Buildings, other than Industrial Buildings and Warehouses
- 1611 - Highway and Street Construction, except Highway Construction
- 1622 - Bridge, Tunnel, and Elevated Highway Construction
- 1623 - Water, Sewer, Pipeline and Communications, and Power Line Construction

For help with SIC Codes, enter the following link into your internet browser: <http://www.osha.gov/pls/imis/sicsearch.html> or you can contact the TCEQ Small Business and Local Government Assistance Section at 800-447-2827 for assistance.

**d) Secondary SIC Code**

Secondary SIC Code(s) may be provided. Leave this blank if not applicable. For help with SIC Codes, enter the following link into your internet browser: <http://www.osha.gov/pls/imis/sicsearch.html> or you can contact the TCEQ Small Business and Environmental Assistance Section at 800-447-2827 for assistance.

**e) Total Number of Acres Disturbed**

Provide the approximate number of acres that the construction site will disturb. Construction activities that disturb less than one acre, unless they are part of a larger common plan that disturbs more than one acre, do not require permit coverage. Construction activities that disturb between one and five acres, unless they are part of a common plan that disturbs more than five acres, do not require submission of an NOI. Therefore, the estimated area of land disturbed should not be less than five, unless the project is part of a larger common plan that disturbs five or more acres. Disturbed means any clearing, grading, excavating, or other similar activities.

If you have any questions about this item, please contact the stormwater technical staff by phone at 512-239-4671 or by email at [swgp@tceq.texas.gov](mailto:swgp@tceq.texas.gov).

**f) Common Plan of Development**

Construction activities that disturb less than five acres do not require submission of an NOI unless they are part of a common plan of development or for sale where the area disturbed is five or more acres. Therefore, the estimated area of land disturbed should not be less than five, unless the project is part of a larger common plan that disturbs five or more acres. Disturbed means any clearing, grading, excavating, or other similar activities.

For more information on what a common plan of development is, refer to the definition of "Common Plan of Development" in the Definitions section of the general permit or enter the following link into your internet browser:

[www.tceq.texas.gov/permitting/stormwater/common\\_plan\\_of\\_development\\_steps.html](http://www.tceq.texas.gov/permitting/stormwater/common_plan_of_development_steps.html)

For further information, go to the TCEQ stormwater construction webpage enter the following link into your internet browser: [www.tceq.texas.gov/goto/construction](http://www.tceq.texas.gov/goto/construction) and search for "Additional Guidance and Quick Links". If you have any further questions about the Common Plan of Development you can contact the TCEQ Stormwater Team at 512-239-4671 or the TCEQ Small Business and Environmental Assistance at 800-447-2827.



**g) Estimated Start Date of the Project**

This is the date that any construction activity or construction support activity is initiated at the site. If renewing the permit provide the original start date of when construction activity for this project began.

**h) Estimated End Date of the Project**

This is the date that any construction activity or construction support activity will end and final stabilization will be achieved at the site.

**i) Will concrete truck washout be performed at the site?**

Indicate if you expect that operators of concrete trucks will washout concrete trucks at the construction site.

**j) Identify the water body(s) receiving stormwater runoff**

The stormwater may be discharged directly to a receiving stream or through a MS4 from your site. It eventually reaches a receiving water body such as a local stream or lake, possibly via a drainage ditch. You must provide the name of the water body that receives the discharge from the site (a local stream or lake).

If your site has more than one outfall you need to include the name of the first water body for each outfall, if they are different.

**k) Identify the segment number(s) of the classified water body(s)**

Identify the classified segment number(s) receiving a discharge directly or indirectly. Enter the following link into your internet browser to find the segment number of the classified water body where stormwater will flow from the site:

[www.tceq.texas.gov/waterquality/monitoring/viewer.html](http://www.tceq.texas.gov/waterquality/monitoring/viewer.html) or by contacting the TCEQ Water Quality Division at (512) 239-4671 for assistance.

You may also find the segment number in TCEQ publication GI-316 by entering the following link into your internet browser: [www.tceq.texas.gov/publications/gi/gi-316](http://www.tceq.texas.gov/publications/gi/gi-316) or by contacting the TCEQ Water Quality Division at (512) 239-4671 for assistance.

If the discharge is into an unclassified receiving water and then crosses state lines prior to entering a classified segment, select the appropriate watershed:

- 0100 (Canadian River Basin)
- 0200 (Red River Basin)
- 0300 (Sulfur River Basin)
- 0400 (Cypress Creek Basin)
- 0500 (Sabine River Basin)

Call the Water Quality Assessments section at 512-239-4671 for further assistance.

**l) Discharge into MS4 – Identify the MS4 Operator**

The discharge may initially be into a municipal separate storm sewer system (MS4). If the stormwater discharge is into an MS4, provide the name of the entity that operates the MS4 where the stormwater discharges. An MS4 operator is often a city, town, county, or utility district, but possibly can be another form of government. Please note that the Construction General Permit requires the Operator to supply the MS4 with a



copy of the NOI submitted to TCEQ. For assistance, you may call the technical staff at 512-239-4671.

**m) Discharges to the Edwards Aquifer Recharge Zone and Certification**

The general permit requires the approved Contributing Zone Plan or Water Pollution Abatement Plan to be included or referenced as a part of the Stormwater Pollution Prevention Plan.

See maps on the TCEQ website to determine if the site is located within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer by entering the following link into an internet browser:

[www.tceq.texas.gov/field/eapp/viewer.html](http://www.tceq.texas.gov/field/eapp/viewer.html) or by contacting the TCEQ Water Quality Division at 512-239-4671 for assistance.

If the discharge or potential discharge is within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer, a site-specific authorization approved by the Executive Director under the Edwards Aquifer Protection Program (30 TAC Chapter 213) is required before construction can begin.

For questions regarding the Edwards Aquifer Protection Program, contact the appropriate TCEQ Regional Office. For projects in Hays, Travis and Williamson Counties: Austin Regional Office, 12100 Park 35 Circle, Austin, TX 78753, 512-339-2929. For Projects in Bexar, Comal, Kinney, Medina and Uvalde Counties: TCEQ San Antonio Regional Office, 14250 Judson Rd., San Antonio, TX 78233-4480, 210-490-3096.

**Section 5. NOI CERTIFICATION**

**Note: Failure to indicate Yes to all of the certification items may result in denial of coverage under the general permit.**

**a) Certification of Understanding the Terms and Conditions of Construction General Permit (TXR150000)**

Provisional coverage under the Construction General Permit (TXR150000) begins 7 days after the completed paper NOI is postmarked for delivery to the TCEQ. Electronic applications submitted through ePermits have immediate provisional coverage. You must obtain a copy and read the Construction General Permit before submitting your application. You may view and print the Construction General Permit for which you are seeking coverage at the TCEQ web site by entering the following link into an internet browser: [www.tceq.texas.gov/goto/construction](http://www.tceq.texas.gov/goto/construction) or you may contact the TCEQ Stormwater processing Center at 512-239-3700 for assistance.

**b) Certification of Legal Name**

The full legal name of the applicant as authorized to do business in Texas is required. The name must be provided exactly as filed with the Texas Secretary of State (SOS), or on other legal documents forming the entity, that is filed in the county where doing business. You may contact the SOS at 512-463 5555, for more information related to filing in Texas.

**c) Understanding of Notice of Termination**

A permittee shall terminate coverage under the Construction General Permit through the submittal of a NOT when the operator of the facility changes, final stabilization has



been reached, the discharge becomes authorized under an individual permit, or the construction activity never began at this site.

**d) Certification of Stormwater Pollution Prevention Plan**

The SWP3 identifies the areas and activities that could produce contaminated runoff at your site and then tells how you will ensure that this contamination is mitigated. For example, in describing your mitigation measures, your site's plan might identify the devices that collect and filter stormwater, tell how those devices are to be maintained, and tell how frequently that maintenance is to be carried out. You must develop this plan in accordance with the TCEQ general permit requirements. This plan must be developed and implemented before you complete this NOI. The SWP3 must be available for a TCEQ investigator to review on request.

**Section 6. APPLICANT CERTIFICATION SIGNATURE**

The certification must bear an original signature of a person meeting the signatory requirements specified under 30 Texas Administrative Code (TAC) §305.44.

**If you are a corporation:**

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(1) (see below). According to this code provision, any corporate representative may sign an NOI or similar form so long as the authority to sign such a document has been delegated to that person in accordance with corporate procedures. By signing the NOI or similar form, you are certifying that such authority has been delegated to you. The TCEQ may request documentation evidencing such authority.

**If you are a municipality or other government entity:**

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(3) (see below). According to this code provision, only a ranking elected official or principal executive officer may sign an NOI or similar form. Persons such as the City Mayor or County Commissioner will be considered ranking elected officials. In order to identify the principal executive officer of your government entity, it may be beneficial to consult your city charter, county or city ordinances, or the Texas statute(s) under which your government entity was formed. An NOI or similar document that is signed by a government official who is not a ranking elected official or principal executive officer does not conform to §305.44(a)(3). The signatory requirement may not be delegated to a government representative other than those identified in the regulation. By signing the NOI or similar form, you are certifying that you are either a ranking elected official or principal executive officer as required by the administrative code. Documentation demonstrating your position as a ranking elected official or principal executive officer may be requested by the TCEQ.

If you have any questions or need additional information concerning the signatory requirements discussed above, please contact the TCEQ's Environmental Law Division at 512-239-0600.



**§305.44. Signatories to Applications**

(a) All applications shall be signed as follows.

(1) For a corporation, the application shall be signed by a responsible corporate officer. For purposes of this paragraph, a responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the

corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit or post-closure order applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

(2) For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.

(3) For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or a ranking elected official. For purposes of this paragraph, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., regional administrator of the EPA).



# Texas Commission on Environmental Quality General Permit Payment Submittal Form

**Use this form to submit your Application Fee only if you are mailing your payment.**

## Instructions:

- Complete items 1 through 5 below:
- Staple your check in the space provided at the bottom of this document.
- *Do not mail this form with your NOI form*
- *Do not mail this form to the same address as your NOI.*

## Mail this form and your check to either of the following:

### *By Regular U.S. Mail*

Texas Commission on Environmental Quality  
Financial Administration Division  
Cashier's Office, MC-214  
P.O. Box 13088  
Austin, TX 78711-3088

### *By Overnight or Express Mail*

Texas Commission on Environmental Quality  
Financial Administration Division  
Cashier's Office, MC-214  
12100 Park 35 Circle  
Austin, TX 78753

**Fee Code: GPA General Permit: TXR150000**

1. Check or Money Order No:

2. Amount of Check/Money Order:

3. Date of Check or Money Order:

4. Name on Check or Money Order:

5. NOI Information:

If the check is for more than one NOI, list each Project or Site (RE) Name and Physical Address exactly as provided on the NOI. **Do not submit a copy of the NOI with this form, as it could cause duplicate permit application entries!**

If there is not enough space on the form to list all of the projects or sites the authorization will cover, then attach a list of the additional sites.

Project/Site (RE) Name:

Project/Site (RE) Physical Address:

**Staple the check or money order to this form in this space.**



## Section V

Agent Authorization Form (TCEQ-0599)



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

I Brandon Cooper,  
Print Name  
Division President,  
Title - Owner/President/Other  
of Toll Southwest LLC,  
Corporation/Partnership/Entity Name  
have authorized Steven Buffum,  
Print Name of Agent/Engineer  
of Costello 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:

[Signature]  
Applicant's Signature

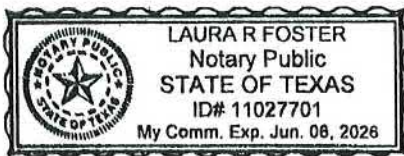
4/24/23  
Date

THE STATE OF Texas §

County of Williamson §

BEFORE ME, the undersigned authority, on this day personally appeared Brandon Looper 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 24 day of April, 2023



[Signature]  
NOTARY PUBLIC

Laura Foster  
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 6/6/2026



Section VI

Application Fee Form (TCEQ-0574)



# Application Fee Form

## Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Wildspring, Phase 1

Regulated Entity Location: CR 175 & CR 177, Leander TX 78641

Name of Customer: Toll Bros., Inc.

Contact Person: Adrienne Donatucci

Phone: 412-780-2312

Customer Reference Number (if issued): CN 602840076

Regulated Entity Reference Number (if issued): RN N/A

### Austin Regional Office (3373)

☐ Hays

☐ Travis

☒ Williamson

### San Antonio Regional Office (3362)

☐ Bexar

☐ Medina

☐ Uvalde

☐ Comal

☐ Kinney

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

☒ Austin Regional Office

☐ San Antonio Regional Office

☐ Mailed to: TCEQ - Cashier

☐ Overnight Delivery to: TCEQ - Cashier

Revenues Section

Mail Code 214

P.O. Box 13088

Austin, TX 78711-3088

12100 Park 35 Circle

Building A, 3rd Floor

Austin, TX 78753

(512)239-0357

### Site Location (Check All That Apply):

☐ Recharge Zone

☒ Contributing Zone

☐ Transition Zone

<b>Type of Plan</b>	<b>Size</b>	<b>Fee Due</b>
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	55.14 Acres	\$ 6,500
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	\$
Sewage Collection System	L.F.	\$
Lift Stations without sewer lines	Acres	\$
Underground or Aboveground Storage Tank Facility	Tanks	\$
Piping System(s)(only)	Each	\$
Exception	Each	\$
Extension of Time	Each	\$

Signature: \_\_\_\_\_





Date: 3/24/23

## 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



## Section VII

Core Data Form (TCEQ-10400)





TCEQ Use Only

# TCEQ Core Data Form

For detailed instructions regarding completion of 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 (if issued)</b>	<a href="#">Follow this link to search for CN or RN numbers in Central Registry**</a>	<b>3. Regulated Entity Reference Number (if issued)</b>
CN 602840076		RN N/A

## SECTION II: Customer Information

<b>4. General Customer Information</b>		<b>5. Effective Date for Customer Information Updates</b> (mm/dd/yyyy)		2/16/2006	
<input type="checkbox"/> New Customer		<input checked="" 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)					
<b>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).</b>					
<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>	
Toll Southwest LLC					
<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)	
0801775669		32050842304		47-2582910	
<b>11. Type of Customer:</b>		<input checked="" type="checkbox"/> Corporation		<input type="checkbox"/> Individual	
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Other		<input type="checkbox"/> Sole Proprietorship		Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited	
<b>12. Number of Employees</b>		<input type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input checked="" type="checkbox"/> 501 and higher		<b>13. Independently Owned and Operated?</b>	
				<input type="checkbox"/> Yes <input checked="" 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"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> Voluntary Cleanup Applicant <input type="checkbox"/> Other:					
<b>15. Mailing Address:</b>					
1320 Arrow Point Drive, Suite 401					
City: Cedar Park State: TX ZIP: 78613 ZIP + 4:					
<b>16. Country Mailing Information</b> (if outside USA)				<b>17. E-Mail Address</b> (if applicable)	
				adonatucci@tollbrothers.com	
<b>18. Telephone Number</b>		<b>19. Extension or Code</b>		<b>20. Fax Number</b> (if applicable)	
( 412 ) 780-2312				( ) -	

## SECTION III: Regulated Entity Information

<b>21. General Regulated Entity Information</b> (If 'New Regulated Entity' is selected below this form should be accompanied by a permit application)	
<input checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information	
<b>The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC).</b>	
<b>22. Regulated Entity Name</b> (Enter name of the site where the regulated action is taking place.)	
Wildspring Phase 1	



23. Street Address of the Regulated Entity: (No PO Boxes)							
	City	Leander	State	TX	ZIP	78641	ZIP + 4
24. County	Williamson						

**Enter Physical Location Description if no street address is provided.**

25. Description to Physical Location:	Northwest of intersection of CR 175 and CR 177						
26. Nearest City				State		Nearest ZIP Code	
Leander				TX		78641	
27. Latitude (N) In Decimal:		28. Longitude (W) In Decimal:					
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds		
30	34	36.14	97	47	11.18		
29. Primary SIC Code (4 digits)		30. Secondary SIC Code (4 digits)		31. Primary NAICS Code (5 or 6 digits)		32. Secondary NAICS Code (5 or 6 digits)	
1521		N/A		236115		N/A	
33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)							
Residential Construction and Home sales, including land development.							
34. Mailing Address:							
		City		State		ZIP	
35. E-Mail Address:							
36. Telephone Number		37. Extension or Code		38. Fax Number (if applicable)			
( ) -				( ) -			

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


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

#### **SECTION IV: Preparer Information**

40. Name:	Steven Buffum	41. Title:	Engineer
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
( 512 ) 646-3463		( ) -	sbuffum@costelloinc.com

#### **SECTION V: Authorized Signature**

**46.** By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Costello Inc	Job Title:	Partner / Project Manager
Name (In Print):	Steven Buffum	Phone:	( 512 ) 646- 3463
Signature:		Date:	20230324