

CONTRIBUTING ZONE PLAN

FOR

WOODLAND ESTATES

IN

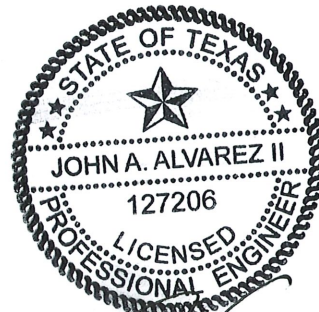
LEANDER, TEXAS

PREPARED FOR

LEANDER LAND HOLDINGS I LLC

1001 CR 280

LEANDER, TX 78641



Handwritten signature and date: 5-22-23



QUIDDITY
ENGINEERING

3100 Alvin Devane Boulevard, Suite 150

Austin, Texas 78741

Tel: 512.441.9493

Fax: 512.445.2286

MAY 2023



3100 Alvin Devane Blvd, Suite 150
Austin, Texas 78741
Tel: 512.441.9493
www.jonescarter.com

May 23, 2023

Water Section Manager
Texas Commission on Environmental Quality
Region 11 Office
12100 Park 35 Circle, Bldg A, Rm 179
Austin, Texas 78753

Re: Contributing Zone Plan
Woodlands Estates
Leander, TX 78641

To whom it may concern:

We are pleased to submit this Contributing Zone Plan Application on behalf of Leander Land Holdings I LLC for your consideration. Please find enclosed the following items for your review:

1. Edwards Aquifer Application Cover Page (20705)
2. Contributing Zone Plan Application with Attachments A – Q (10257)
3. Construction Plans (Attachment M of CZP Application)
4. Temporary Stormwater Section (TCEQ-0602)
5. Notice of Intent (NOI)
6. Agent Authorization Form (0599)
7. Application Fee Form (0574)
8. Application Fee Check
9. TCEQ Core Data Form (10400)

If you have any questions or require additional information, please contact me at (512) 441-9493.

Sincerely,

John A. Alvarez, P.E.

**CONTRIBUTING ZONE PLAN
FOR
WOODLAND ESTATES**

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Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

Technical Review

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.
2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be

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

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

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: Woodland Estates				2. Regulated Entity No.: N/A					
3. Customer Name: Leander Land Holdings I LLC				4. Customer No.: N/A					
5. Project Type: (Please circle/check one)	<input checked="" type="radio"/> New	Modification		Extension		Exception			
6. Plan Type: (Please circle/check one)	<input type="checkbox"/> WPAP	<input checked="" type="checkbox"/> CZP	<input type="checkbox"/> SCS	<input type="checkbox"/> UST	<input type="checkbox"/> AST	<input type="checkbox"/> EXP	<input type="checkbox"/> EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: (Please circle/check one)	<input checked="" type="radio"/> Residential		Non-residential			8. Site (acres):		119.962	
9. Application Fee:	\$8,500		10. Permanent BMP(s):			N/A			
11. SCS (Linear Ft.):			12. AST/UST (No. Tanks):			N/A			
13. County:	Williamson		14. Watershed:			Turkey Creek- 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

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)	<input type="checkbox"/> Edwards Aquifer Authority <input type="checkbox"/> Barton Springs/ Edwards Aquifer <input type="checkbox"/> Hays Trinity <input type="checkbox"/> Plum Creek	<input type="checkbox"/> Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	<input type="checkbox"/> Austin <input type="checkbox"/> Buda <input type="checkbox"/> Dripping Springs <input type="checkbox"/> Kyle <input type="checkbox"/> Mountain City <input type="checkbox"/> San Marcos <input type="checkbox"/> Wimberley <input type="checkbox"/> Woodcreek	<input type="checkbox"/> Austin <input type="checkbox"/> Bee Cave <input type="checkbox"/> Pflugerville <input type="checkbox"/> Rollingwood <input type="checkbox"/> Round Rock <input type="checkbox"/> Sunset Valley <input type="checkbox"/> West Lake Hills	<input type="checkbox"/> Austin <input type="checkbox"/> Cedar Park <input type="checkbox"/> Florence <input type="checkbox"/> Georgetown <input type="checkbox"/> Jerrell <input checked="" type="checkbox"/> Leander <input type="checkbox"/> Liberty Hill <input type="checkbox"/> Pflugerville <input type="checkbox"/> Round Rock

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

John A. Alvarez, P.E.

Print Name of Customer/Authorized Agent

05/23/2023

Signature of Customer/Authorized Agent

Date

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

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

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.

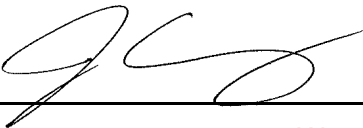
Signature

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: John A. Alvarez

Date: 05/23/2023

Signature of Customer/Agent:



Regulated Entity Name: Woodland Estates

Project Information

1. County: Williamson
2. Stream Basin: South Fork San Gabriel River, South Bushy Creek, Big Sandy Creek
3. Groundwater Conservation District (if applicable): N/A
4. Customer (Applicant):

Contact Person: Travis Janik

Entity: Leander Land Holdings I LLC

Mailing Address: 101 Parklane Blvd Suite 102

City, State: Sugarland, Texas

Telephone: 281-912-3364

Email Address: travis@ashtongraydev.com

Zip: 77478

Fax: _____

5. Agent/Representative (If any):

Contact Person: John A. Alvarez, P.E.

Entity: Quiddity Engineering

Mailing Address: 3100 Alvin Devane Blvd. Suite 150

City, State: Austin, TX

Zip: 77471

Telephone: 512-441-9493

Fax: _____

Email Address: jalvarez@quiddity.com

6. Project Location:

- The project site is located inside the city limits of Leander, Texas
- 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.

The project site is located at the northwest corner of CR280 and Lakeline Boulevard. It is bounded by Leander Estates subdivision to the west, CR 280 to the north, and undeveloped tracts to the east and south.

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: 86
- Residential: # of Living Unit Equivalents: _____
- Commercial
- Industrial
- Other: _____

13. Total project area (size of site): 119.962 Acres

Total disturbed area: _____ Acres

14. Estimated projected population: _____

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

Table 1 - Impervious Cover

<i>Impervious Cover of Proposed Project</i>	<i>Sq. Ft.</i>	<i>Sq. Ft./Acre</i>	<i>Acres</i>
Structures/Rooftops	370600	÷ 43,560 =	8.06
Parking	-	÷ 43,560 =	-
Other paved surfaces	279571.84	÷ 43,560 =	10.44
Total Impervious Cover	650171.84	÷ 43,560 =	18.50

Total Impervious Cover 18.50 ÷ Total Acreage 119.962 X 100 = 15.42 % 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 _____ (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

<i>AST Number</i>	<i>Size (Gallons)</i>	<i>Substance to be Stored</i>	<i>Tank Material</i>
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" = As noted on plans
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): FEMA, Firm No. 48491C04335F
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

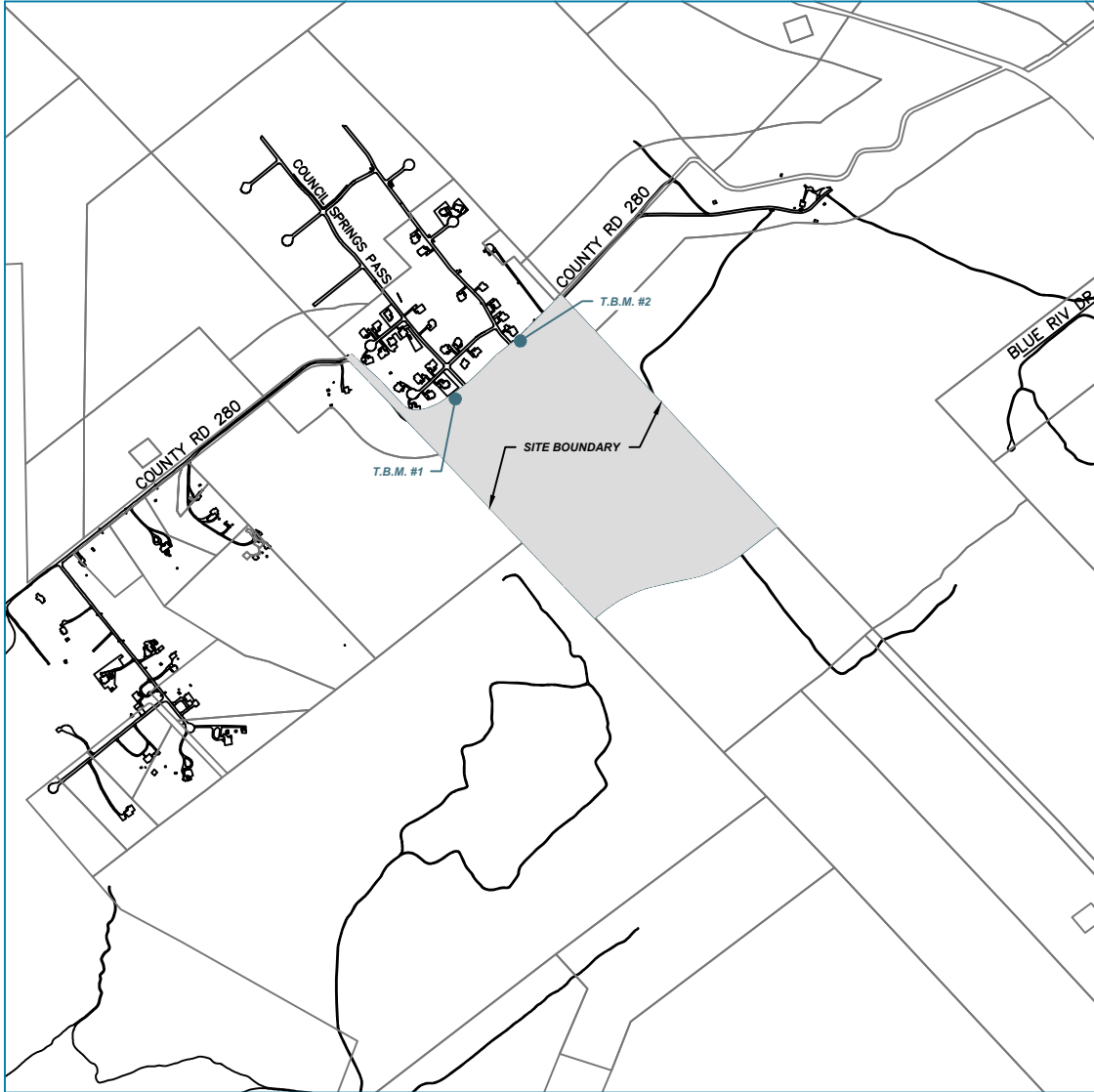
Responsibility for Maintenance of Permanent BMPs and Measures after Construction is Complete.

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.



VICINITY MAP — 1"=2,000'

Woodland Estates Subdivision
 SE CORNER OF CR 280 AND LAKELINE BLVD.
 Leander, TX

SCALE: 1"=2,000'	DGN. BY: ELC
DATE: 01-04-2022	DWN. BY: ELC
JOB NO. 16759-0013-01	DWG. NO. -
SUBMITTED: -	SURV. BY: -
	F.B. NO. -



QUIDDITY

Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
 3100 Alvin Devane Boulevard, Suite 150 • Austin, TX 78741 • 512.441.9493

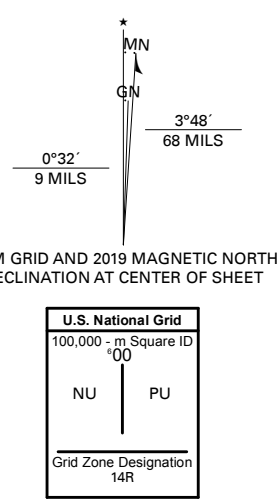
SHEET NO.
 1
 OF 1



Produced by the United States Geological Survey

North American Datum of 1983 (NAD83) World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid/Universal Transverse Mercator, Zone 14R. This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Table with 2 columns: Feature Name and Date. Includes Imagery (2016), Roads (2015), Names (2018), Hydrography (2018), Contours (2004), Boundaries (2017), and Wetlands (1982).



CONTOUR INTERVAL 20 FEET NORTH AMERICAN VERTICAL DATUM OF 1988. This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011. A metadata file associated with this product is draft version 0.6.18



ADJOINING QUADRANGLES table with 3 rows and 3 columns. The central cell (4,4) is highlighted in red.

ROAD CLASSIFICATION table with 3 columns: Road Type, Symbol, and Name. Includes Expressway, Secondary Hwy, Ramp, Interstate Route, Local Connector, Local Road, 4WD, US Route, and State Route.



CZP – ATTACHMENT C

Project Narrative

The scope and projected land use of the Woodlands Estates project entails the construction of 102 lots consisting of 86 proposed rural single-family one-acre lots, 8 landscape lots, 3 detention lots, and 3 parkland lots, paving for 3 public streets, and detention facilities for 119.962 acres. The site is located at the south of CR280 and west of Bagdad Road, within the Leander City limits and lies within Williamson County. The tract is owned by Leander Land Holdings I, LLC with deed No.2021061459. The site is currently undeveloped with some existing fencing and overhead electric line to be removed. The project has a Single-Family Rural zoning (SFR-2A).

This project is located in the Turkey Creek- Brushy Creek watershed and the South Brushy Creek- Brushy Creek sub watershed. It is located within the Edwards Aquifer Contributing Zone by TCEQ. According to FEMA, the site lies outside the 0.2% annual chance floodplain. The site is not in the mapped floodplain, but two FEMA streams intersect the property – Unnamed Tributary to North Fork of Brush Creek Tributary 1. The offsite area to the west is the Leander Estates subdivision, County Road 280 to the north, and undeveloped tracts to the east and south.

The existing conditions generally consist of natural slopes ranging from approximately 0-3%. The highest point of the site is located at the northwest end of the property at elevation +/-1109 feet above mean sea level (MSL) . The lowest point on the site is located at the eastern side of the property at elevation +/- 1054 feet above MSL. Surface elevations are between 1050 and 1100 feet above MSL. Majority of the site is covered by prairie grass with Live Oak and other tree varieties throughout the site. 71% of the trees will be protected and remain on site and be maintained in their natural state. The existing drainage currently has offsite flows draining through the site to an unnamed tributary to the north and downstream of the project site. Other existing flows drain to an unnamed tributary east and to the North Fork of Brushy Creek Tributary 1.

Most of the runoff within the site will be conveyed through a combination of sheet flow and drainage swales and be captured in a parkland and drainage area. Site drainage will be to the southeast toward the North Fork of Brushy Creek. The site is made up of 9 drainage areas as seen on page 70 of this report and sheet 43q of the plan set. Water basins are proposed in 4 of the 5 basins with the last basin flowing offsite. Vegetative filter strips will be placed on the edge of the drainage basin to filter the runoff that flows to this area. There are no steep slopes on the site.

Water from the 3 detention ponds will discharge into two unnamed tributaries to the North Fork of Brushy Creek. Water will enter the sediment forebay before entering the main pool, after which it will be discharged. No permanent best management practices, such as water quality ponds, are being proposed because less than 20% impervious cover is being proposed for this site.

The total proposed project site (119.962 acres) will increase the impervious cover inside the property boundary from 0% to 15.42% based on the proposed building and paving layout. The total structures and rooftops area is 454,750 ft²; and the total impervious cover area for paving is 351,159 ft², which yields a total of 805,909 ft² or 18.50 acres of impervious cover for all of Woodland Estates.

The site will be designed to the current TCEQ RG-348, (*Technical Guidance Manual for Complying with the Edwards Aquifer Rules, July 2005*).

CZP - ATTACHMENT D

Factors Affecting Surface Water Quality

Site Development Criteria:

The site will be used for a single-family development. The proposed development will increase the impervious cover of the project area from 0.325 AC to 18.50 AC which will increase the levels of TSS in the storm runoff. Rock rip rap or concrete outfall aprons will be designed to reduce runoff velocities resulting in settlement of suspended solids and minimizing scouring conditions.

Construction Stage:

Clearing will disturb areas and create the potential for pollutants to runoff from rainfall. Temporary BMP's will be maintained throughout construction and will include measures such as stabilized construction entrances, silt fencing, rock berms, and other measures.

Vehicular Traffic

Mud, fine particles, and fluids may be dropped from vehicular traffic as well as other fluids from traffic.

Landscape and Property Maintenance

Pesticides or herbicides used for landscape maintenance may not be applied at a proper rate and could leak into groundwater or runoff into surface drains. Fine particles may be washed from driveway surfaces into roadways and drains. A maintenance plan will be implemented for all temporary BMPs.

CZP - ATTACHMENT E

Volume and Character of Stormwater

The stormwater runoff calculations included in this section were based on the SCS Method using HEC-HMS modeling in conjunction with drainage criteria established by the City of Austin, as described in their Drainage Criteria Manual. Curve numbers were based off Table 2-2a of *Technical Release 55: Urban Hydrology for Small Watersheds (revised June 1986)* published by the United States Department of Agriculture (USDA). Curve numbers are based on the hydrologic soil group of the study area as well as the impervious cover of the site. The National Resources Conservation Service (NRCS) web soil survey for this site shows all of the site to be a hydrologic soil group "D", which has a very slow infiltration rate and high runoff potential. The existing site was assumed to have an average curve number of 67.9 with 0.96% impervious cover. For the purposes of quantifying the volume of stormwater, the proposed site has an average curve number of 67.8 with 15.42% impervious cover for the entire site.

The Existing and Proposed Drainage Area Maps, on sheets 42 and 43 of the plan set, for the proposed site are included in this submittal on page 69 and 70. They show the drainage areas and flow patterns within the project. The drainage area map sheets also show the pre- and post-construction runoff rates at the analysis point including the offsite runoff flow paths, as well as a table summarizing the components of the HEC-HMS model for both the existing and proposed conditions.

On-site impervious cover areas include paving for local streets, and residential lots within the project area. These areas are intermixed between landscaped areas and natural drainage ways. The runoff generated from this project is typical in quality to that generated from grass areas, roadways, and typical building rooftops.

CZP – Attachment F

ATTACHMENT F- Suitability Letter From Authorized Agent

J. Terron Evertson, PE, DR, CFM

May 15, 2023

RE: Greatwood South Subdivision – AW0134 AW0134 – Cochran, C. Sur., ACRES
119.932

The above referenced property is located within the Edwards Aquifer Contributing Zone.

Based on the surrounding subdivisions and the soil survey for Williamson County and planning material received, this office is able to determine that the soil and site conditions of this lot is suitable to allow the use of on-site sewage facilities (OSSF). It should be noted that this office has not actually studied the physical properties of this site. Site specific conditions such as OSSF setbacks, recharge features, drainage, soil conditions, etc..., will need taken into account in planning any OSSF.

These OSSF's will have to be designed by a professional engineer or a registered sanitarian. An Edwards Aquifer protection plan shall be approved by the appropriate TCEQ regional office before an authorization to construct an OSSF may be issued. The owner will be required to inform each prospective buyer, lessee or renter of the following in writing:

- That an authorization to construct shall be required before an OSSF can be constructed in the subdivision;
- That a notice of approval shall be required for the operation of an OSSF;
- Whether an application for a water pollution abatement plan as defined in Chapter 213 has been made, whether it has been approved and if any restrictions or conditions have been placed on the approval.

If this office can be of further assistance, please do not hesitate to call.

Sincerely,



Casey Rodenbaugh, OS 34247
Williamson County - OSSF

CZP - ATTACHMENT G THROUGH L

ATTACHMENT G- Alternate Secondary Containment Methods

Attachment G is not applicable to this project.

ATTACHMENT H- AST Containment Structure Drawings

Attachment H is not applicable to this project.

ATTACHMENT I- 20% or Less Impervious Cover Waiver

The proposed site is a single family and will not be used for multi-family residential developments, schools, or small business sites.

ATTACHMENT J- BMPs for Upgradient Stormwater

Upgradient stormwater is running through a channel in the site from either natural or treated areas upstream. Any future development at the development at the upstream should be treated based on TCEQ rules. Existing runoff from upgradient areas are assumed to be undeveloped.

ATTACHMENT K- BMPs for On-site Stormwater

Permanent BMPs or measures are not required to prevent the pollution of surface water or groundwater that originates on-site or flows off the site, including pollution from contaminated stormwater runoff, due to the amount of impervious cover on site totaling less than 20%.

ATTACHMENT L- BMPs for Surface Streams

Attachment L is not applicable to this project.

CZP - ATTACHMENT M

ATTACHMENT M- CONSTRUCTION PLANS

WOODLAND ESTATES SUBDIVISION PHASE 1 & 2 PUBLIC IMPROVEMENT CONSTRUCTION PLANS FLOODPLAIN DEVELOPMENT PLAN LEANDER, TEXAS PICP-23-0054

DATE OF SUBMITTAL: 03/15/2023

DEVELOPER AND OWNER:
ASHTON GRAY DEVELOPMENT
101 PARKLANE BLVD SUITE 102
SUGARLAND, TEXAS 77478
(281) 912-3364
ATTN: TRAVIS JANIK

ENGINEER:
QUIDDITY ENGINEERING
3100 ALVIN DEVANE BLVD., SUITE 150
AUSTIN, TEXAS 78741
(512) 441-9493
ATTN: JOHN A. ALVAREZ, P.E.

LEGAL DESCRIPTION:

PHASE ONE: BEING A 66.78-ACRE TRACT OF LAND SITUATED IN THE CHARLES COCHRAN SURVEY, ABSTRACT NO. 134 WILLIAMSON COUNTY, TEXAS, BEING A PORTION OF A CALLED 119.932-ACRE TRACT OF LAND AS DESCRIBED IN A SPECIAL WARRANTY DEED TO LEANDER LAND HOLDINGS I, LLC IN DOCUMENT NO. 2021061459 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS.

PHASE TWO: BEING A 53.19-ACRE TRACT OF LAND SITUATED IN THE CHARLES COCHRAN SURVEY, ABSTRACT NO. 134 WILLIAMSON COUNTY, TEXAS, BEING A PORTION OF A CALLED 119.932-ACRE TRACT OF LAND AS DESCRIBED IN A SPECIAL WARRANTY DEED TO LEANDER LAND HOLDINGS I, LLC IN DOCUMENT NO. 2021061459 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS.

SURVEYOR:
QUIDDITY ENGINEERING
3100 ALVIN DEVANE BLVD., SUITE 150
AUSTIN, TEXAS 78741
(512) 441-9493
ATTN: REX HACKETT, RPLS

ZONING: SFR-2-A

GENERAL LOCATION DESCRIPTION:

PROJECT NUMBER: PICP-23-0054

APPROVED BY:

Robin M. Griffin, AICP, Executive Director of Development Services
City of Leander, Texas

Emily Truman, P.E., CFM, City Engineer
City of Leander, Texas

Gina Ellison, P.E., Public Works Director
City of Leander, Texas

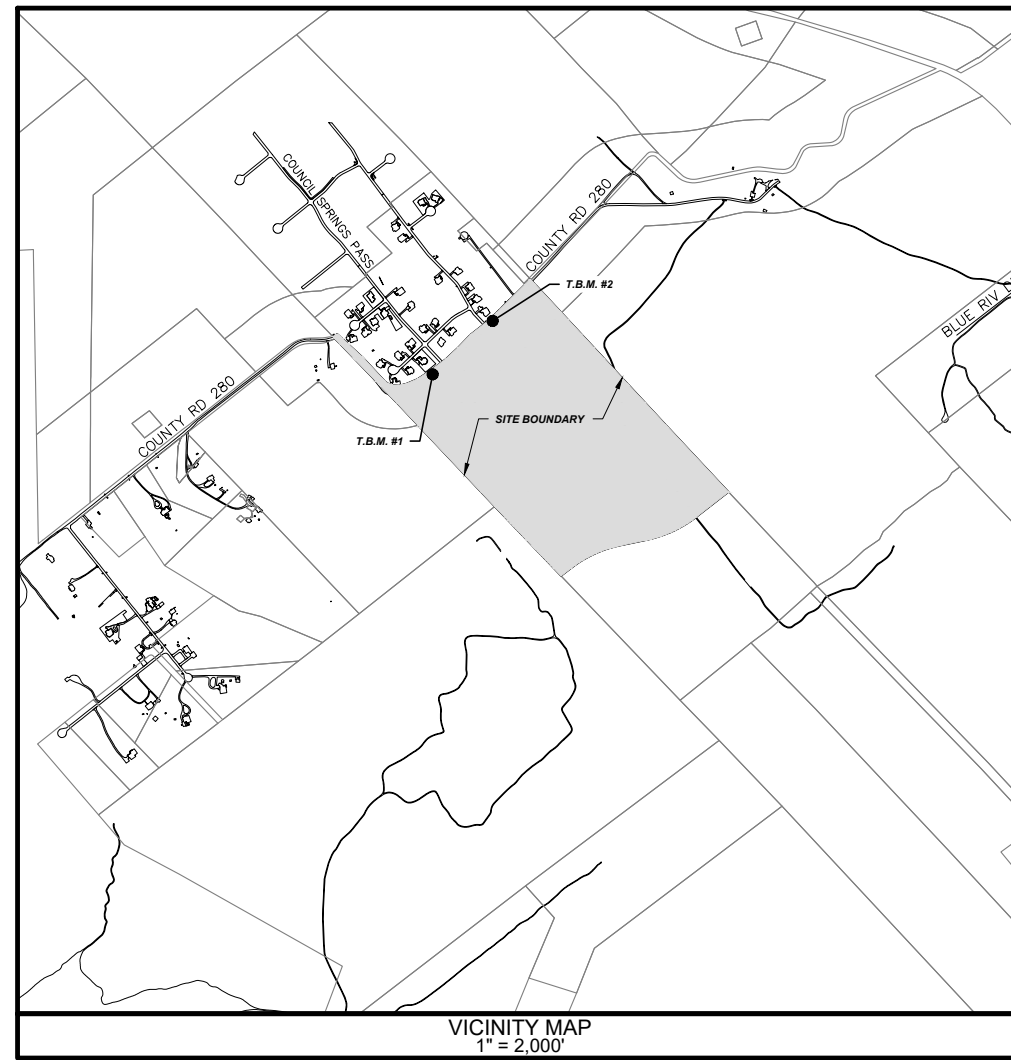
Mark Tummons, CRPP, Director of Parks and Recreation
City of Leander, Texas

Chief Joshua Davis, Fire Marshal
City of Leander, Texas

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).

GENERAL PLAN NOTES:

- ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAIN WITH THE REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, CITY OF LEANDER MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.
- WATERSHED STATUS: THIS PROJECT IS LOCATED IN A PORTION OF SOUTH FORK SAN GABRIEL RIVER WATERSHED, SOUTH BUSHY CREEK (BUSHY CREEK) WATERSHED, AND BIG SANDY CREEK WATERSHED.
- THIS SITE IS LOCATED WITHIN THE EDWARDS AQUIFER CONTRIBUTING ZONE.
- ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) NO. 48491C04735F, REVISED DATE 12/20/2019, THE SUBJECT PROPERTY IS IN ZONE X (UNSHADED), DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. THE SURVEYOR MAKES NO REPRESENTATION AS TO THE ACCURACY OF SAID FIRM OR THAT IT IS THE MOST CURRENT PUBLISHED FLOOD MAP.
- THE LOCATION OF ALL EXISTING UTILITIES ON THESE PLANS ARE BASED UPON RECORD INFORMATION ONLY AND SHOULD BE FIELD VERIFIED BEFORE COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL CONTACT THE AUSTIN AREA "ONE CALL" SYSTEM AT (800) 344-8377, THE OWNER OF EACH INDIVIDUAL UTILITY FOR ASSISTANCE IN FIELD LOCATING EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
- FIRE FLOW DEMAND = 1,000 GPM FOR 1 HOUR - BASED ON ONE-FAMILY DWELLINGS, LESS THAN 4,000 SQUARE FEET.
- LIMITS OF CONSTRUCTION = 13.8 AC.
- THE HOMEOWNERS ASSOCIATION IS REQUIRED TO MOW AND MAINTAIN LANDSCAPING IN THE OPEN CHANNELS, DETENTION AND WATER QUALITY AREAS.
- THE HOA SHALL OWN AND MAINTAIN DRAINAGE AND WATER QUALITY IMPROVEMENTS CONTAINED IN OPEN CHANNELS, DETENTION AND WATER QUALITY AREAS.
- THE CITY OWNS AND MAINTAINS ALL THE INFRASTRUCTURE CONSTRUCTED UNDER PICP-23-0054 CONSTRUCTION PLANS INCLUDING WATER, WASTEWATER, STORM/DRAINAGE, SIDEWALK, PAVEMENTS, STREET SIGNS AND STREETLIGHT IMPROVEMENTS.
- SEWER SERVICE FOR THIS SUBDIVISION WILL BE PROVIDED BY ON-SITE-SEWAGE FACILITIES.



JOHN A. ALVAREZ, P.E.

PLAN INDEX

#	SHEET TITLE	#	SHEET TITLE
GENERAL	BEGIN STA END STA	STORM DRAINAGE	BEGIN STA END STA
1	COVER SHEET	42	PRE-DEVELOPMENT DRAINAGE AREA MAP
2	GENERAL NOTES	43	POST-DEVELOPMENT DRAINAGE AREA MAP
3	PRELIMINARY PLAT	44	POST-DEVELOPMENT SUB-DRAINAGE AREA MAP
4	FINAL PLAT (1 OF 3)	45	OVERALL GRADING AND DRAINAGE PLAN
5	FINAL PLAT (2 OF 3)	46	GRADING AND DRAINAGE PLAN A
6	FINAL PLAT (3 OF 3)	47	GRADING AND DRAINAGE PLAN B
7	APPROVED PHASING PLAN	48	DRAINAGE CALCULATIONS
8	EXISTING CONDITIONS AND DEMOLITION PLAN A	49	CHANNEL NO. 1 0+00 8+00
9	EXISTING CONDITIONS AND DEMOLITION PLAN B	50	CHANNEL NO. 1 8+00 15+00
10	TREE PROTECTION PLAN	51	CHANNEL NO. 1 15+00 24+80
11	TREE LIST 1 OF 3	52	CHANNEL NO. 1 CROSS-SECTIONS
12	TREE LIST 2 OF 3	53	STORM DRAIN CULVERTS (1 OF 3)
13	TREE LIST 3 OF 3	54	STORM DRAIN CULVERTS (2 OF 3)
14	EROSION CONTROL PLAN A	55	STORM DRAIN CULVERTS (3 OF 3)
15	EROSION CONTROL PLAN B	56	POND NO. 1
16	WATER DISTRIBUTION OVERALL	57	POND NO. 2
17	WATER DISTRIBUTION PLAN A	58	POND NO. 3
18	WATER DISTRIBUTION PLAN B		
			PARK AND PAVEMENT MARKINGS
		59	PARK PLAN
		60	SIDEWALK AND MARKINGS PLAN A
		61	SIDEWALK AND MARKINGS PLAN B
		62	PARKLAND TRAIL IMPROVEMENT PLAN
		63	FLOODPLAIN DEVELOPMENT PLAN
		#	SHEET TITLE
			STANDARD DETAILS
		64	EROSION CONTROL DETAILS (1 OF 2)
		65	EROSION CONTROL DETAILS (2 OF 2)
		66	WATERLINE DETAILS (1 OF 2)
		67	WATERLINE DETAILS (2 OF 2)
		68	STREET & SIGNAGE DETAILS (1 OF 2)
		69	STREET & SIGNAGE DETAILS (2 OF 2)
		70	STORM DRAIN DETAILS
		71	BOX CULVERT DETAILS
		72	METAL BEAM GUARD FENCING
		73	TXDOT TRAFFIC CONTROL DETAILS
			LANDSCAPE
		LP 100	LANDSCAPE AND IRRIGATION NOTES
		LP 101	LANDSCAPE PLAN
		LP 901	LANDSCAPE DETAILS
			STREETS (PUBLIC)
		30	OVERALL STREET LAYOUT
		31	GREATWOOD TRAIL 0+00 9+00
		32	GREATWOOD TRAIL 9+00 18+00
		33	GREATWOOD TRAIL 18+00 24+40
		34	GREATWOOD TRAIL 24+40 31+68
		35	COUNCIL SPRINGS PASS 0+00 9+40
		36	COUNCIL SPRINGS PASS 9+40 19+00
		37	COUNCIL SPRINGS PASS 19+00 28+10
		38	HEARTWOOD HOLLOW 0+00 9+40
		39	HEARTWOOD HOLLOW 9+40 18+40
		40	SAN GABRIEL PARKWAY 2+40 4+40
		41	N. LAKELINE BLVD. 9+40 11+40

REVISIONS/CORRECTIONS

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

BENCHMARK NOTE:
T.B.M. #1
CUT "SQUARE" IN CONC. 179' SW OF COUNCIL SPRINGS PASS ALONG C.R. 280 (NAD 83 DATUM)
N 10.190,706.62
E 3,990,482.52
ELEV: 1091.62 (NAVD 88 DATUM)
T.B.M. #2
CUT "SQUARE" IN CONC. 172' NE OF GREATWOOD TRAIL ALONG C.R. 280 (NAD 83 DATUM)
N 10.191,088.63
E 3,991,244.93
ELEV: 1072.14 (NAVD 88 DATUM)

DRAWING ISSUANCE DATE: 03/15/2023

PREPARED BY
QUIDDITY
Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
3100 Alvin Devane Boulevard, Suite 150 • Austin, TX 78741 • 512.441.9493
JOB NUMBER 16759-0013-00

TEXAS ONE CALL SYSTEM
1-800-245-4545
CALL BEFORE YOU. TEXAS ONE CALL PARTICIPANTS REQUEST 72 HOURS NOTICE BEFORE YOU DIG, DRILL, OR BLAST

DGN. BY: FR	DATE: DECEMBER 7, 2021	SHEET NO. 1
DWN. BY: SLH	JOB NO. 16378-0001-00	OF 79

A B C D E F

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
WATER DISTRIBUTION SYSTEM - GENERAL CONSTRUCTION NOTES

- 1. This water distribution system must be constructed in accordance with the current Texas Commission on Environmental Quality (TCEQ) Rules and Regulations for Public Water Systems 30 Texas Administrative Code (TAC) Chapter 290 Subchapter D. When conflicts are noted with local standards, the more stringent requirement shall be applied. At a minimum, construction for public water systems must always meet TCEQ's "Rules and Regulations for Public Water Systems."
- 2. All newly installed pipes and related products must conform to American National Standards Institute (ANSI)/NSF International Standard 61 and must be certified by an organization accredited by ANSI [§290.44(a)(1)].
- 3. Plastic pipe for use in public water systems must bear the NSF International Seal of Approval (NSF-PW) and have an ASTM design pressure rating of at least 150 psi or a standard dimension ratio of 26 or less [§290.44(a)(2)].
- 4. No pipe which has been used for any purpose other than the conveyance of drinking water shall be accepted or relocated for use in any public drinking water supply [§290.44(a)(3)].
- 5. At water line crossings of wastewater mains shall be perpendicular [§290.44(a)(4)(B)].
- 6. Water transmission and distribution lines shall be installed in accordance with the manufacturer's instructions. However, the top of the water line must be located below the frost line and in no case shall the top of the water line be less than 24 inches below ground surface [§290.44(a)(4)].
- 7. The maximum allowable lead content of pipes, pipe fittings, plumbing fixtures, and fixtures is 0.25 percent [§290.44(a)(5)].
- 8. The contractor shall install appropriate air release devices with vent openings to the atmosphere covered with 16-mesh or finer, corrosion resistant screening material or an acceptable equivalent [§290.44(a)(1)].
- 9. The contractor shall not place the pipe in water or where it can be flooded with water or sewage during its storage or installation [§290.44(f)(1)].
- 10. When waterlines are laid under any flowing or intermittent stream or semi-permanent body of water the waterline shall be installed in a separate wateright pipe encasement. Valves must be provided on each side of the crossing with facilities to allow the underwater portion of the water to be isolated and tested [§290.44(f)(2)].
- 11. Pursuant to 30 TAC §290.44(a)(5), the hydrostatic leakage rate shall not exceed the amount allowed or recommended by the most current AWWA formulas for PVC pipe, cast iron and ductile iron pipe. Include the formula in the notes on the plans.
 - o The hydrostatic leakage rate for polyvinyl chloride (PVC) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in American Water Works Association (AWWA) C-605 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;
$$Q = LD(P)^0.5148,000$$
Where:
Q = the quantity of makeup water in gallons per hour,
L = the length of the pipe section being tested, in feet,
D = the nominal diameter of the pipe in inches, and
P = the average test pressure during the hydrostatic test in pounds per square inch (psi).
 - o The hydrostatic leakage rate for ductile iron (DI) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in American Water Works Association (AWWA) C-600 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;
$$L = SQD(P)^0.5148,000$$
Where:
L = the quantity of makeup water in gallons per hour,
S = the length of the pipe section being tested, in feet,
D = the nominal diameter of the pipe in inches, and
P = the average test pressure during the hydrostatic test in pounds per square inch (psi).
- 12. The contractor shall maintain a minimum separation distance in all directions of nine feet from the proposed waterline and wastewater collection facilities including manholes. If this distance cannot be maintained, the contractor must immediately notify the project engineer for further direction. Separation distances, installation methods, and materials utilized must meet §290.44(k)(1)-(4).
- 13. The separation distance from a potable waterline to a wastewater main or lateral manhole or cleanout shall be a minimum of nine feet. Where the nine-foot separation distance cannot be achieved, the potable waterline shall be encased in a joint of at least 150 psi pressure class pipe at least 18 feet long and two nominal sizes larger than the new conveyance. The space around the carrier pipe shall be supported at two-foot intervals with spacers or be filled to the top with washed sand. The encasement pipe shall be centered on the crossing and both ends sealed with cement grout or manufactured sealant [§290.44(a)(5)].
- 14. Fire hydrants shall not be installed within nine feet vertically or horizontally of any wastewater line, wastewater lateral, or wastewater service line regardless of construction [§290.44(a)(6)].
- 15. Suction mains to pumping equipment shall not cross wastewater mains, wastewater laterals, or wastewater service lines. Raw water supply lines shall not be installed within five feet of any tile or concrete wastewater main, wastewater lateral, or wastewater service line [§290.44(k)(7)].
- 16. Waterlines shall not be installed closer than ten feet to septic tank drainfields [§290.44(a)(8)].
- 17. The contractor shall disinfect the new waterlines in accordance with AWWA Standard C-651-14 or most recent, then flush and sample the lines before being placed into service. Samples shall be collected for microbiological analysis to check the effectiveness of the disinfection procedure which shall be repeated if contamination persists. A minimum of one sample for each 1,000 feet of completed waterline will be required at or at the next available sampling point beyond 1,000 feet as designated by the design engineer [§290.44(a)(3)].
- 18. Decommissioning of disjecting water shall be in strict accordance with current AWWA Standard C-655-09 or most recent.

TCEQ WATER/WASTEWATER LINE SEPARATION NOTES

- 1. New Waterline Installation - Parallel Lines
When new potable water distribution lines are constructed, they shall be no closer than nine feet in all directions to wastewater collection facilities. All separation distances shall be measured from the outside surface of each of the respective pipes.
- 2. New Waterline Installation - Crossing Lines
Where a new potable waterline crosses a non-pressurized rated wastewater main or lateral, one segment of waterline pipe shall be centered over the wastewater main or lateral such that the joints of the waterline are equidistant and at least nine feet horizontally from the centerline of the wastewater main or lateral. The potable waterline shall be at least two feet above the wastewater main or lateral. Whenever possible, the crossing shall be centered between the joints of the wastewater main or lateral. If the existing wastewater main or lateral is disturbed or shows signs of leaking, it shall be replaced for at least 9 feet in both directions (18 feet total) with at least 150 psi pressure rated pipe.

Where a new potable waterline crosses an existing, pressurized rated wastewater main or lateral, one segment of the waterline pipe shall be centered over the wastewater main or lateral such that the joints of the waterline pipe are equidistant and at least nine feet horizontally from the centerline of the wastewater main or lateral. The potable waterline shall be at least six inches above the wastewater main or lateral, wherever possible, the crossing shall be centered between the joints of the wastewater main or lateral. If the existing wastewater main or lateral is disturbed or shows signs of leaking, it shall be replaced for at least 9 feet in both directions (18 feet total) with at least 150 psi pressure rated pipe.

SPECIAL NOTES

- 1. Manhole frames, covers, and water valves will be raised to finished pavement grade at the owner's expense by a qualified contractor. All utility adjustments shall be completed prior to final paving construction.
- 2. All collector and arterial streets shall have automatic screed control on asphalt concrete pavement construction, placed as per item 350-6 of the City of Austin Standard Specifications.
- 3. At intersections which have valley drainage, the crowns of the intersecting streets will culminate in a distance of 40' from the intersecting curb line unless otherwise noted. Inlets on the intersecting street shall not be constructed within 40 feet of the valley gutter.
- 4. 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.
- 5. Prior to final acceptance of a street name signs conforming to county standards shall be installed by developer.
- 6. When using lime stabilization of subgrade, it shall be placed in slurry form.
- 7. If applicable, a license agreement for landscaping maintenance and irrigation in street right-of-way shall be executed by the developer with the City of Leander prior to final acceptance of the roadway system for maintenance.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CONTRIBUTING ZONE PLAN GENERAL CONSTRUCTION NOTES

- 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 approved letter on file.
- 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 manufacturer's specifications. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control to the site situation. This shall include any disturbed areas that have not 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 off-site.
- 8. All excavated materials that will be stored onsite must have proper E&S controls.
- 9. If portions of the site will have a cease in construction activity lasting longer than 14 days, see TCEQ-0562A (Rev. July 15, 2015) Page 2 of 2 for stabilization in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21st day, stabilization measures of 2 is not required. If rough conditions or inclement weather prevent activity by the 14th day, stabilization measures shall be initiated as soon as possible.
- 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 structures), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;
 - B. any change in the nature or character of the regulated activity from that which was originally approved;
 - C. any change that would significantly impact the ability to prevent pollution of the Edwards Aquifer; or
 - D. any development of land previously identified as undeveloped in the approved contributing zone plan.

Austin Regional Office 1210 Park 35 Circle, BLD A Austin, Texas 78755-1906 Phone (512) 339-2929 Fax (512) 339-3795	San Antonio Regional Office 14250 Junction Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4239
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TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL NOTES

- 1. The contractor shall install erosion/sedimentation controls and tree/natural area protective fencing prior to any site preparation work (clearing, grubbing or excavation).
- 2. The placement of erosion/sedimentation controls shall be in accordance with the approved erosion and sedimentation control plan.
- 3. The placement of tree/natural area protective fencing shall be in accordance with the City of Leander Standards Notes for tree and natural area protection and the approved grading/tree and natural area plan.
- 4. A pre-construction conference shall be held on-site with the contractor, design engineer/permit applicant, and City of Leander inspector after installation of erosion/sedimentation controls and tree/natural area protection measures and prior to beginning any site preparation work. The contractor shall notify all parties at least three days prior to the meeting date.
 - 5. Any major variation in materials or locations of controls require a revision and must be approved by the reviewing engineer, environmental specialist, or City of Leander as appropriate. Major revisions must be approved by City of Leander. Minor changes to be made as field revisions to the erosion and sedimentation control plan may be required by the environmental inspector during the course of construction to correct control inadequacies.
 - 6. The contractor is required to inspect the controls and fences at weekly intervals and after significant rainfall events to ensure that they are functioning properly. 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.
 - 7. Prior to final acceptance by City of Leander, haul roads and fences shall be constructed for temporary contractor access. Silt removal. Accumulated sediment removed from the waterway and the area restored to the original grade and revegetated. All land clearing debris shall be disposed of in approved silt disposal sites.
 - 8. All work must stop is a void in the rock substrate is discovered which is one square foot in total area, blows are from within the substrate and/or consistently reveals water during any rain event. At this time it is the responsibility of the project manager to immediately contact a City of Leander Environmental Inspector for further investigation.

PERMANENT EROSION CONTROLS:

See Erosion Control Details And Notes Sheets for re-vegetation of site.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) GENERAL NOTES

- 1. All construction activities disturbing one acre and greater must obtain storm water discharge authorization from the Texas Commission on Environmental Quality (TCEQ), through compliance with TCEQ's General Permit #TXR0150000. The primary contractor site operator(s) (PCSO) must prepare and implement a SWPPP throughout construction which includes the erosion and sediment control (ESC) plan and other best management practices (BMPs) specified in these plans approved by Williamson County.
- 2. The SWPPP must be written by an individual with either a PE license or CPESC certification.
- 3. Only an individual with a CPESC, CESSWI, CISEC certification or PE license may complete a stormwater inspection in Williamson County.
- 4. Small construction activities disturbing between one and five acres shall post a TCEQ Construction Site Notice (CSN) on site prior to commencing construction. Large construction activities disturbing five acres or greater shall submit a Notice of Intent (NOI) to TCEQ and post the NOI on site at least seven (7) days prior to beginning construction. Notices posted must be maintained throughout construction.
- 5. The City of Leander or operator of the Small Municipal Separate Storm Sewer System (MS4) receiving storm water discharges from this project, under TCEQ MS4 Permit #TXR040149. Upon request by the City of Leander, the PCSO shall provide a copy of the NOI and CSN; the SWPPP; and regularly provide copies of the SWPPP inspection reports, updated weekly, or bi-weekly after every rain event 0.5 inches or greater.
- 6. The PSCO must revise the SWPPP whenever changing site conditions, or a change in design, construction, operation, or maintenance has a significant effect on the discharge of pollutants not previously addressed; or when results of inspections by site operators, City of Leander, TCEQ, or other local agency authorized to approve ESC plans indicate the SWPPP is proving ineffective in eliminating or significantly minimizing pollutants in discharges from the site.
- 7. Temporary or permanent erosion control and stabilization measures must be initiated as soon as practicable, and as specified on the plans, in portions of the site where construction activities have temporary or permanently ceased. These measures must be initiated no later than 14 days after cessation, unless construction activities will resume within 21 days in the area.
- 8. Upon final stabilization of the entire site, including completion of all stabilization requirements of the approved plans and permit as verified by Travis County, the PSCO shall submit a Notice of Termination (NOT) to TCEQ.

GENERAL NOTE

- 1. All construction shall be in accordance with the City of Austin Specifications.
- 2. Design procedures are in compliance with City of Leander Subdivision Code.
- 3. Cast concrete survey markers shall be placed in concrete in permanent, accessible locations at the time of construction. The location of the markers shall be indicated on the construction plans.
- 4. Limits of construction shall be contained within the extent of the easements established for this project unless otherwise noted.
- 5. Class 1, Type A, joint mesh fabric or equivalent to be installed on all slopes greater than 3:1 and side slopes of water quality ponds. Class 2, Type F, flexible channel liner or equivalent to be installed along the bottom and sides of drainage swales or diversion berms.
- 6. Contractor is responsible for establishing and maintaining site drainage at all times at no additional cost to the Owner whether by grading or pumping.
- 7. Contractor is responsible for all areas disturbed during construction including area outside I.O.C. These areas are to be re-vegetated or mulched, and these areas are to be determined by the engineer or his representative.
- 8. All new landscapes (lawns) (residential and residential) are required to have a minimum of six inches (6") of soil depth in areas planted with turfgrass. This six-inch (6") minimum soil depth will consist of 75 percent soil blended with 25 percent compost. The soil/compost blend shall be incorporated into the top two inches of the native soil. The six-inch (6") depth requirement does not apply to the area between the drip line and trunk of existing trees, shrub beds or wide-spread areas. Areas with existing native vegetation that remain undisturbed shall be exempt from the soil depth provision, provided that native soil and vegetation in such area is ferred during construction and protected from disturbance and compaction during the construction process.

GRADING NOTES

- 1. Areas that are to receive fill will be stripped to a depth of 8". Strippings shall be stock piled and then spread evenly on surface of fill areas.
- 2. Fill shall be placed in maximum loose lifts of eight inches (8") or less and compacted to 95% of maximum density at optimum to +3% moisture content as determined by TxDOT TEX-114-E.
- 3. Must show unstable areas appear during the course of grading, the contractor shall remove unstable material as directed by the engineer. The contractor shall replace this with a suitable material compacted as required above (no separate pay).
- 4. All existing drainage swales in fill areas shall be cleaned and mucked of any vegetation, and then filled as shown with excavation material in maximum 8" loose lifts, and compacted to 95% proctor density per TxDOT TEX-114-E.

SANITARY SEWER CONSTRUCTION NOTES

- 1. Maintain 12-inch minimum clearance between all sanitary sewers, storm sewers and culverts unless otherwise noted.
- 2. All sewer lines shall be air-leaked in accordance with the contract specifications.
- 3. For all PVC pipe, use a manhole waterstop gasket and clamp assembly at manhole connections (no separate pay).
- 4. Manhole rims are to be set at elevations shown on the plans initially. After paving and grading is completed, rims are to be adjusted to four (4) to six (6) inches above final grade and back-dressed with art to provide drainage away from the manhole.

SHORING AND TRENCH SAFETY

- 1. Contractor shall include cost of shoring in bid price for trench safety.
- 2. Contractor is responsible for providing adequate trench safety and shoring systems in accordance with O.S.H.A. regulations.
- 3. Trench safety boxes shall not be placed in the pipe zone.
- 4. Contractor shall comply with O.S.H.A. regulations and Texas safety and health concerning trench safety systems.

SOILS MANAGEMENT AND DISPOSAL NOTES

Temporary holding sites as necessary to stockpile excavated soils, embedment material, and/or piping and appurtenances may be located within the limits of construction as shown on the plans.

- 5. All spots materials shall be disposed of by the Contractor at an approved spoil disposal site. The Contractor shall be responsible for locating and securing a permit for the site, and shall notify the Owner and/or Engineer at least forty-eight (48) hours prior to disposal of any spots material.

CITY OF LEANDER NOTES

Revised March 27, 2023

Any changes to these notes should be clouded on the plan set.

- CITY CONTACTS:
ENGINEERING MAIN LINE: 512-528-2721
PLANNING DEPARTMENT: 512-528-2750
PUBLIC WORKS MAIN LINE: 512-259-2640
STORMWATER INSPECTIONS: 512-289-0055
UTILITIES MAIN LINE: 512-259-1142
UTILITIES ON-CALL: 512-496-4790

GENERAL NOTES

- 1. CONTRACTOR SHALL HAVE AN APPROVED SET OF PLANS WITH APPROVED REVISIONS ON SITE AT ALL TIMES. FAILURE TO HAVE APPROVED PLANS ON SITE MAY RESULT IN ISSUANCE OF WORK STOPPAGES.
- 2. CONTACT 811 SYSTEM FOR EXISTING WATER AND WASTEWATER LOCATIONS 48 HOURS PRIOR TO CONSTRUCTION.
 - a. REFRESH ALL LOCATES BEFORE 14 DAYS - LOCATE REFRESH REQUESTS MUST INCLUDE A COPY OF YOUR 811 TICKET, TEXAS PEXLINE DAMAGE PREVENTION LAWS REQUIRE THAT A LOCATE REFRESH REQUEST BE SUBMITTED BEFORE 14 DAYS, OR IF LOCATION MARKERS ARE NO LONGER VISIBLE.
 - b. REPORT PIPELINE DAMAGE IMMEDIATELY - IF YOUWitness OR EXPERIENCE PIPING EXCAVATION DAMAGE, PLEASE CONTACT THE CITY OF LEANDER BY PHONE AT 512-259-2640
- 3. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR 48 HOURS BEFORE:
 - a. BEGINNING EACH PHASE OF CONSTRUCTION, CONTACT ASSIGNED CITY INSPECTOR.
 - b. ANY TESTING, CONTRACTOR SHALL PROVIDE UTILITY TESTING FOR ALL INFRASTRUCTURES TO BE ACCEPTED AND MAINTAINED BY THE CITY OF LEANDER AFTER COMPLETION.
 - c. PROFILING AROUND 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.
 - d. CONNECTING TO THE EXISTING WATER LINES.
 - e. THE INSTALLATION OF ANY DRAINAGE FACILITY WITHIN A DRAINAGE EASEMENT OR STREET ROW, THE METHOD OF PLACEMENT AND CONNECTION OF BACKFILL IN THE CITY'S ROW MUST BE APPROVED PRIOR TO THE START OF BACKFILL OPERATIONS.
- 4. ALL RESPONSIBILITY FOR THE ACCURACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY MUST RELY ON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.
- 5. EXCESS SOIL SHALL BE REMOVED AT THE CONTRACTOR'S EXPENSE. NOTIFY THE CITY OF LEANDER IF THE DISPOSAL SITE IS INSIDE THE CITY'S JURISDICTIONAL BOUNDARIES.
- 6. BURNING IS PROHIBITED.
- 7. NO WORK IS TO BE PERFORMED BETWEEN THE HOURS OF 9:00 P.M. AND 7:00 A.M. ON WEEKENDS. THE CITY INSPECTOR RESERVES THE RIGHT TO REQUIRE THE CONTRACTOR TO UNCOVER ALL WORK PERFORMED WITHOUT INSPECTION.
- 8. CONTACT THE CITY INSPECTOR 4 DAYS PRIOR TO WORK FOR APPROVAL TO SCHEDULE ANY INSPECTIONS ON WEEKENDS OR CITY HOLIDAYS.
- 9. NO BEARING IS ALLOWED.
- 10. 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. ALL CHANGES AND REVISIONS SHALL USE REVISION CLOUDS TO HIGHLIGHT ALL REVISIONS AND CHANGES WITH EACH SUBMITTAL. REVISION TRINGLE MARKERS AND NUMBERS SHALL BE USED TO MARK REVISIONS. ALL CLOUDS AND TRIANGLE MARKERS FROM PREVIOUS REVISIONS MUST BE REMOVED. REVISION INFORMATION SHALL BE UPDATED ON COVER SHEET AND AFFECTS ALL SHEET BLOCKS.
- 11. THE CONTRACTOR AND ENGINEER SHALL KEEP ACCURATE RECORDS OF ALL CONSTRUCTION THAT DEVIATES FROM THE PLANS. THE ENGINEER SHALL FURNISH THE CITY OF LEANDER.
- 12. ACCEPTANCE "RECORD DRAWINGS" FOLLOWING THE COMPLETION OF ALL CONSTRUCTION. THESE "RECORD DRAWINGS" SHALL MEET THE SATISFACTION OF THE ENGINEERING DEPARTMENTS PRIOR TO FINAL ACCEPTANCE.
- 13. THE CONTRACTOR WILL REIMBURSE THE CITY FOR ALL REPAIR AND/OR COST INCURRED AS A RESULT OF ANY DAMAGE TO ANY PUBLIC INFRASTRUCTURE WITHIN CITY EASEMENT OR PUBLIC RIGHT-OF-WAY, REGARDLESS OF THESE PLANS.
- 14. WHEN CONSTRUCTION IS BEING CARRIED OUT WITHIN EASEMENTS, THE CONTRACTOR SHALL DEFINE 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 OF RECORD AND CITY.
- 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 THE PROPERTY OWNER.
- 16. INFORMATION SHALL BE UPDATED ON COVER SHEET AND AFFECTS ALL SHEET BLOCKS.
- 17. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPISHED 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, 12033 LA PODADA DR. SUITE 3775, AUSTIN, TEXAS 78752-3682.
- 18. ALL MANHOLE FRAMES, COVERS AND WATER VALVE/WATER BOXES MUST BE ADJUSTED TO FINISHED GRADE AT THE OWNER'S EXPENSE BY THE CONTRACTOR FOR CITY CONSTRUCTION INSPECTOR INSPECTION. ALL UTILITY ADJUSTMENTS SHALL BE COMPLETED PRIOR TO FINAL PAVING. CONTRACTOR SHALL BACKFILL AROUND MANHOLES AND VALVE BOXES WITH CLASS A CONCRETE.
- 19. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS PROJECT WHERE NOT SPECIFICALLY COVERED IN THE PROJECT SPECIFICATIONS SHALL CONFORM TO ALL CITY OF LEANDER DETAILS AND CITY OF AUSTIN STANDARD SPECIFICATIONS.
- 20. PROJECT SPECIFICATIONS TAKE PRECEDENCE OVER PLANS AND SPECIAL CONDITIONS GOVERN OVER TECHNICAL SPECIFICATIONS.
- 21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
- 22. 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.
- 23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ROADS AND DRIVES ADJACENT TO AND NEAR THE SITE FREE FROM SOIL, SEDIMENT AND DEBRIS. CONTRACTOR WILL REMOVE SOLID, SEDIMENT OR DEBRIS FROM ANY AREA OR VEGETATION OF WATER, ONLY SHEETING AND SILENT FENCING WILL BE ALLOWED. THE CONTRACTOR WILL BE RESPONSIBLE FOR DUST CONTROL FROM THE SITE. THE CONTRACTOR SHALL KEEP THE SITE AREA CLEAN AND MAINTAINED AT ALL TIMES, TO THE SATISFACTION OF THE CITY. THE SUBDIVISION (OR SITE) WILL NOT BE ACCEPTED (OR CERTIFICATE OF OCCUPANCY ISSUED) UNTIL THE SITE HAS BEEN COMPLETED TO THE SATISFACTION OF THE CITY.
- 24. TRENDS IN EXISTING ROW SHOULD BE PROTECTED DR NOTED IN THE PLANS TO BE REMOVED.

CONSTRUCTION SEQUENCE NOTES

NOTE: BELOW IS GENERAL SEQUENCE OF CONSTRUCTION. THE ENGINEER OF RECORD SHALL UPDATE BELOW WITH NOTES SPECIFIC TO THE PROJECT.

- 1. REACH OUT TO THE CITY FOR PRE-CONSTRUCTION MEETING AND CONSTRUCTION PERMIT.

- 2. SET UP E/S CONTROLS AND TREE PROTECTION AND REACH OUT TO CITY FOR INSPECTION.
- 3. SET UP TEMPORARY TRAFFIC CONTROLS.
- 4. CONSTRUCT THE DRAINAGE PONDS AND STORM WATER FEATURES.
- 5. START UTILITY, ROAD, GRADING, FRENCHES UTILITY AND ALL NECESSARY INFRASTRUCTURE CONSTRUCTION. (NOTE: PLEASE UPDATE AS PER THE PROJECT)
- 6. REQUEST FINAL WALKTHROUGH AND CONDUCT WALKTHROUGH WITH ENGINEER OF RECORD AND CITY DEPARTMENT.
- 7. ENGINEER OF RECORD IS RESPONSIBLE TO PREPARE AND SUBMIT CLOSURE DOCUMENTS FOR PROJECT CLOSURE.

EROSION CONTROL NOTES

- 8. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO ENSURE THAT THEY ARE FUNCTIONING PROPERLY. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES AND SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.
- 9. THE TEMPORARY SLOPS DISPOSAL SITE IS TO BE SHOWN IN THE EROSION CONTROL MAP.
- 10. ANY ON-SITE SPILLS SHOULD BE REMOVED PRIOR TO ACCEPTANCE UNLESS SPECIFICALLY SHOWN ON THE PLANS. THE DEPTH OF SOIL SHALL NOT EXCEED 10 FEET IN ANY AREA.
- 11. 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. TOPSOIL AND COMPOST BLEND SHALL CONSIST OF 75% TOPSOIL AND 25% COMPOST.
- 12. SEEDING FOR REESTABLISHING VEGETATION SHALL COMPLY WITH THE AUSTIN GREEN GUIDE OR WILLIAMSON COUNTY'S PROTOCOL FOR SUSTAINABLE ROADSIDES (SPEC 164-WOODS SEEDING FOR EROSION CONTROL). RESEEDING VARIETIES OF BERBERIS SHALL NOT BE USED.
- 13. STABILIZED CONSTRUCTION ENTRANCE IS REQUIRED AT ALL POINTS WHERE CONSTRUCTION TRAFFIC IS EXTING THE PROJECT ONTO EXISTING PAVEMENT. LINEAR CONSTRUCTION PRODUCTS MAY REQUIRE SPECIAL CONSIDERATION. ROADWAYS SHALL REMAIN CLEAR OF SILT AND MUD.
- 14. TEMPORARY STOP SIGNS SHOULD BE INSTALLED AT ALL CONSTRUCTION ENTRIES WHERE A STOP CONDITION DOES NOT ALREADY EXIST.
- 15. 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.

WATER AND WASTEWATER NOTES

- 1. ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SANITATION FOUNDATION (ANSI/NSF) STANDARD 61 AND MUST BE IDENTIFIED BY AND ORGANIZATION ACCREDITED BY ANS.
- 2. 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

- 3. OPEN UTILITIES SHALL NOT BE PERMITTED ACROSS THE EXISTING PAVED SURFACES. WATER AND WASTEWATER LINES ACROSS THE EXISTING PAVED SURFACES SHALL BE BORED AND INSTALLED IN STEEL ENCASMENT PIPES. BELL RESTRAINTS SHALL BE PROVIDED AT JOINTS.
- 4. INTERIOR SURFACES OF ALL DUCTILE IRON POTABLE OR RECLAIMED WATER PIPE SHALL BE CEMENT-MORTAR LINED AND SEAL COATED AS REQUIRED BY AWWA C104.
- 5. SAND, AS DESCRIBED IN AUSTIN SPECIFICATION ITEM S10 PIPE, SHALL NOT BE USED AS BEDDING FOR WATER AND WASTEWATER LINES. ACCEPTABLE BEDDING MATERIALS ARE PIPE BEDDING STONE, REA GRAVEL AND IN LEVEL OF SAND. BEDDING SHALL BE 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
12/10/80/20/20/40/80/100
6. DENSITY TESTING FOR TRENCH BACKFILLS SHALL BE DONE IN MAXIMUM 12" LIFTS.

WATER

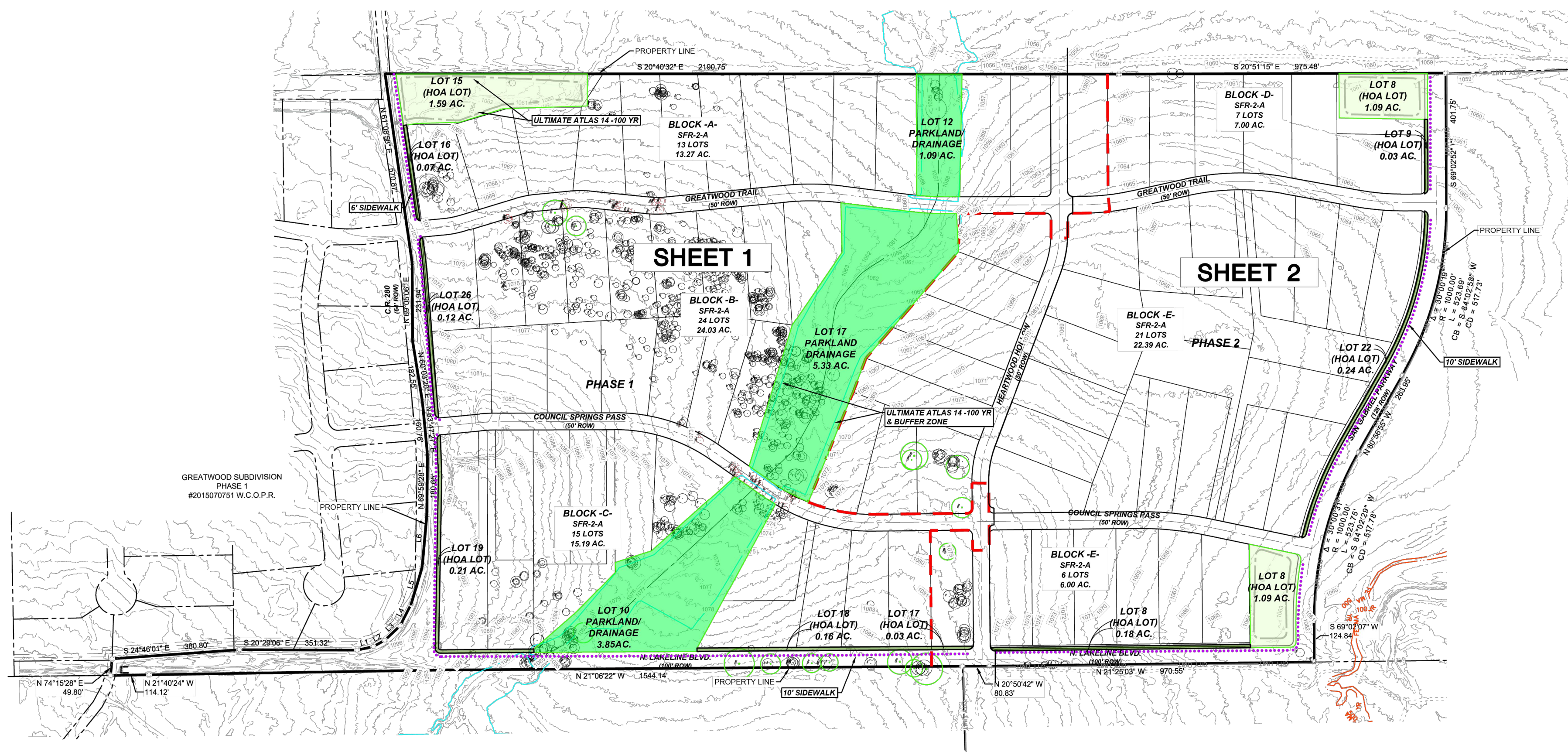
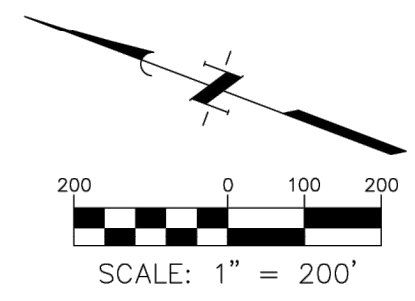
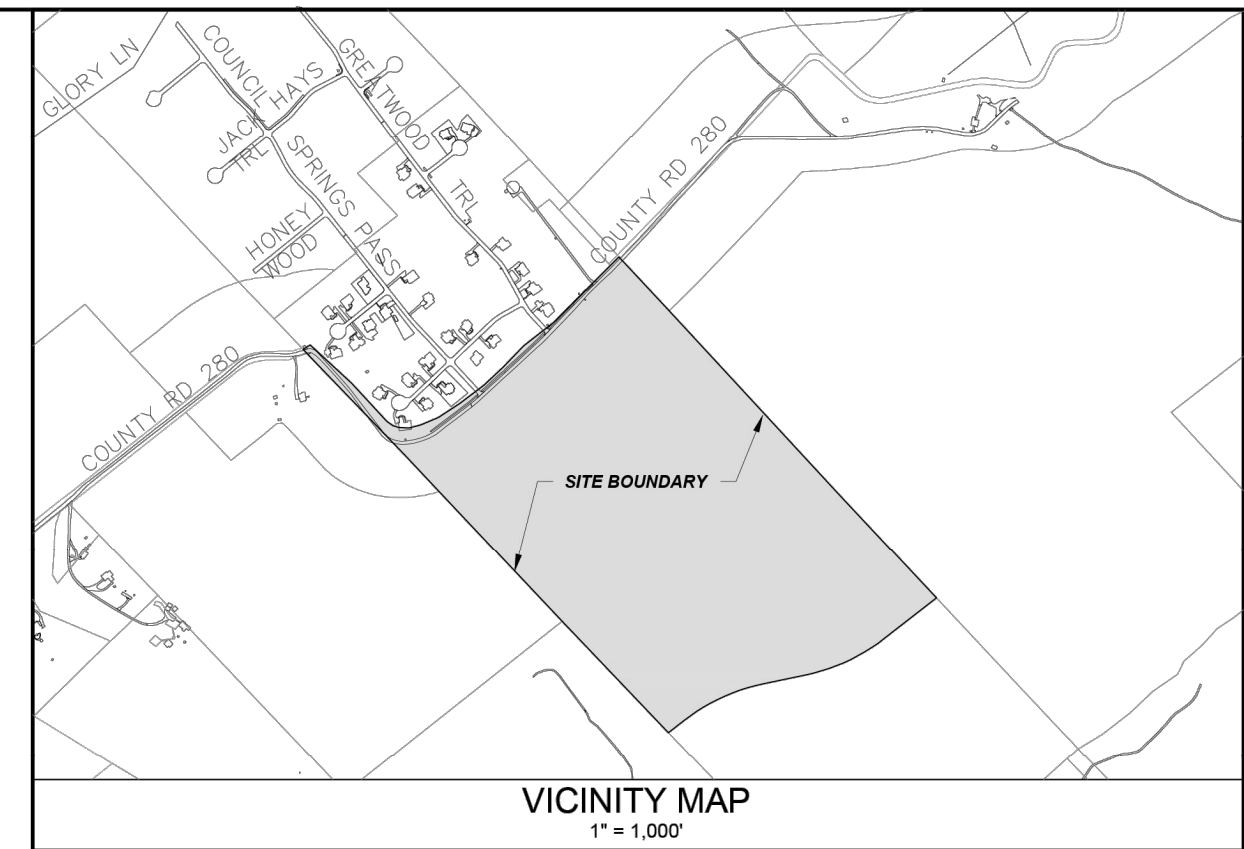
- 1. SAMPLING TAPS SHALL BE BROUGHT UP TO 3 FEET ABOVE GRADE AND SHALL BE EASILY ACCESSIBLE FOR CITY PERSONNEL. AT THE CONTRACTOR'S REQUEST, AND IN HIS PRESENCE, SAMPLES FOR BACTERIOLOGICAL TESTING WILL BE COLLECTED BY THE CITY OF LEANDER NOT LESS THAN 24 HOURS AFTER THE TREATED LINE HAS BEEN FLOUSED OF THE CONCENTRATED CHLORINE SOLUTION AND CHANGED WITH WATER APPROVED BY TxDOT TEX-114-E.
- 2. CITY PERSONNEL WILL OPERATE OR AUTHORIZE THE CONTRACTOR TO OPEN ALL WATER VALVES THAT WILL PASS THROUGH THE CITY'S POTABLE WATER. THE CONTRACTOR MAY BE FINED \$500 OR MORE, INCLUDING ADDITIONAL THEFT OF WATER FINES, IF A WATER VALVE IS OPERATED IN AN UNAUTHORIZED MANNER, REGARDLESS OF WHO OPERATED THE VALVE.
- 3. 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 AFTER COORDINATING WITH CITY CONSTRUCTION INSPECTORS AND INFORMING AFFECTED PROPRIETIES.
- 4. PRESSURE TAPS OR HOT TAP SHALL BE IN ACCORDANCE WITH CITY OF LEANDER STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL PERFORM ALL EXCAVATION 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 SHALL NOT BE PERMITTED UNLESS MADE BY THE USE OF AN APPROVED FULL-CIRCLE GASKETED TAPPING SLEEVE. ALL TAPS SHALL BE MADE UNDER AIR AND UNDER ALL TAPS SHALL MAINTAIN A MINIMUM OF 24 HOURS PRIOR TO THE BRANCH BEING PLACED INTO SERVICE. THRUST BLOCKS SHALL BE INSPECTED PRIOR TO BACKFILL.
- 5. 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.
- 6. THRUST BLOCKS 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 BLOCKS AND RESTRAINTS.
- 7. ALL DEAD END WATER MAINS SHALL HAVE "FIRE HYDRANT ASSEMBLY" OR "BLOW-OFF VALVE AND THRUST BLOCK" OR "BLOW-OFF VALVE AND THRUST RESTRAINTS". THRUST RESTRAINTS SHALL BE INSTALLED ON THE MINIMUM LAST THREE PIPE LENGTHS (STANDARD 20' LAYING LENGTH). ADDITIONAL THRUST RESTRAINTS MAY BE REQUIRED BASED ON THE MANUFACTURER'S RECOMMENDATION AND/OR ENGINEER'S DESIGN.
- 8. PIPE MATERIAL FOR PUBLIC WATER MAINS SHALL BE PVC (AWWA C900 OR 814 MIN. 305 PSI PRESSURE RATING). WATER SERVICES (2" OR LESS) SHALL BE POLYETHYLENE TUBING (BLACK, 200PSI, AND SDR-9). COPPER PIPES AND FITTINGS ARE NOT ALLOWED IN THE PUBLIC RIGHT-OF-WAY. ALL PLASTIC PIPES FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NATIONAL SANITATION FOUNDATION SEAL OF APPROVAL (NSF-PWF).
- 9. ALL FIRE HYDRANT LEADS SHALL BE DUCTILE IRON PIPE (AWWA C115/C153 PRESSURE CLASS 350).
- 10. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED WITH MINIMUM 8-MIL POLYETHYLENE.
- 11. LINE FLUSHING OR ANY ACTIVITY USING A LARGE QUANTITY OF WATER MUST BE COORDINATED WITH THE PUBLIC WORKS DEPARTMENT.
- 12. ALL WATER METER BOXES SHALL BE:
 - a. SINGLE, 1" METER AND BELOW DFW3F-12-1CA, OR EQUAL.
 - b. DUAL, 1" METERS AND BELOW DFW3F-12-1CA, OR EQUAL.
 - c. 1.5" SINGLE METER DFW5C-14-1CA, OR EQUAL.
 - d. 2" SINGLE METER DFW173F-12-1CA, OR EQUAL.
- 13. ALL WATER VALVE COVERS ARE TO BE PAINTED BLUE.

WASTEWATER

- 1. CURVILINEAR WASTEWATER DESIGN LAYOUT IS NOT PERMITTED.
- 2. MANHOLE TESTING SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS.
- 3. MANHOLES SHALL BE COATED PER CITY OF AUSTIN SPL. VMS 511 (REVISED 4/05 OR GRAPHICAL). PENETRATIONS TO EXISTING WASTEWATER MANHOLES REQUIRE THE CONTRACTOR TO RECOAT THE ENTIRE MANHOLE IN ACCORDANCE WITH CITY OF AUSTIN STANDARD SPECIFICATIONS SECTION NO. 506.5.
- 4. RECLAIMED AND RECYCLED WATER LINE SHALL BE CONSTRUCTED OF "PURPLE PIPE." ALL RECLAIMED AND RECYCLED WATER VALVE COVERS SHALL BE SQUARE AND PAINTED PURPLE.
- 5. FORCE MAIN PIPES NEED TO HAVE SWEEPING WYES FOR JOINTS.

STREET AND DRAINAGE NOTES

- 1. THE CITY OF LEANDER HAS NOT REVIEWED THESE PLANS FOR COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA). IT IS THE RESPONSIBILITY OF THE OWNER TO PROVIDE COMPLIANCE WITH ALL LEGISLATION RELATED TO ACCESSIBILITY WITHIN THE LIMITS OF CONSTRUCTION SHOWN IN THESE PLANS. ALL SIDEWALKS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT AND TEXAS ACCESSIBILITY STANDARDS.
- 2. 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.
- 3. 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.
- 4. DEPTH OF COVER FOR ALL CROSSINGS UNDER PAVEMENT, INCLUDING GAS, ELECTRIC, TELEPHONE, CABLE TV, ETC., SHALL BE A MINIMUM OF 36" BELOW SUBGRADE.
- 5. STREET RIGHT-OF-WAY SHALL BE GRADED AT A SLOPE OF 1% PER FOOT TOWARD THE CURB UNLESS OTHERWISE INDICATED.
- 6. ALL DRAINAGE PIPE IN PUBLIC RIGHT OF WAY OR EASEMENTS SHALL BE REINFORCED CONCRETE PIPE MINIMUM CLASS II OF TONGUE AND GROOVE OR IRON JOINT DESIGN. CORRUGATED METAL PIPE IS NOT ALLOWED IN PUBLIC RIGHT OR WAY OR EASEMENTS.
- 7. THE CONTRACTOR MUST PROVIDE A PNEUMATIC TRUCK PER "FOOT" SPEE FOR PROOF ROLLING.
- 8. ALL STRIPING, WITH THE EXCEPTION OF STOP BARS, CROSS WALKS, WORDS AND ARROWS, IS TO BE TYPE "H" (WATER BASED), STOP BARS, CROSS WALKS, WORDS AND ARROWS REQUIRE TYPE I THERMOPLASTIC.
- 9. A STOP BAR SHALL BE PLACED AT ALL STOP SIGN LOCATIONS.
- 10. 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 APPROVED CONSTRUCTION PLANS.
- 11. GEOTECHNICAL INVESTIGATION INFORMATION AND PAVEMENT RECOMMENDATIONS WERE PROVIDED BY __ PAVEMENT RECOMMENDATIONS ARE AS FOLLOWS:
 - a. PROVIDE RECOMMENDATIONS.
 - b. A TRAFFIC CONTROL PLAN, IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CITY OF AUSTIN TRANSPORTATION CRITERIA MANUAL, CITY OF LEANDER STANDARD DETAILS AND TEXAS DEPARTMENT OF TRANSPORTATION CRITERIA, SHALL BE SUBMITTED TO THE CITY OF LEANDER FOR REVIEW AND APPROVAL PRIOR TO ANY PARTIAL OR COMPLETE ROADWAY CLOSURES. TRAFFIC CONTROL PLANS MUST BE SITE SPECIFIC AND SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
 - 12. ALL LANE CLOSURES SHALL OCCUR ONLY BETWEEN THE HOURS OF 9 AM AND 4 PM UNLESS OTHERWISE NOTED ON THE PLANS. ANY NIGHT TIME LANE CLOSURES REQUIRE APPROVAL OF THE CITY ENGINEER AND SHALL OCCUR BETWEEN THE HOURS OF 9 PM AND 6 AM. LANE CLOSURES OBSERVED BY THE CITY DURING PEAK HOURS OF 6 AM TO 9 AM OR 4 PM TO 8 PM WILL BE SUBJECT TO A FINE AND/OR SUBSEQUENT ISSUANCE OF WORK STOPPAGE.
 - 13. TEMPORARY ROCK CRUSHING IS NOT ALLOWED. ALL SOURCES OF FLEXIBLE BASE MATERIAL ARE REQUIRED TO BE APPROVED BY THE CITY. PRIOR TO BASE PLACEMENT ALL CURRENT TRIAXIAL TEST REPORTS FOR PROPOSED STOCK PILES OF SOIL TO BE SUBMITTED TO THE CITY CONSTRUCTION INSPECTOR FOR REVIEW AND APPROVAL.
 - 14. AT ROAD INTERSECTIONS THAT HAVE A VALLEY GUTTER, THE C



STREET TABLE	
NAME	LENGTH(LF)
COUNCIL SPRINGS PASS	2,729
GREATWOOD TRAIL	3,098
HEARTWOOD HOLLOW	1,787
TOTAL	7,614

PARKLAND TABLE		
LOT	BLK/PHS	SIZE(AC)
12	A/1	1.09
17	B/1	5.33
10	C/1	3.85
TOTAL		10.26

- NOTES:**
- NO LOTS THAT ADJOIN LAKELINE BLVD WILL HAVE ACCESS TO LAKELINE BLVD.
 - GEOMETRIC DESIGNS FOR THE ROADWAYS WILL BE REVIEWED DURING THE CONSTRUCTION PLAN PHASE.
 - SINGLE FAMILY RESIDENTIAL CORNER LOTS ON UNEQUAL CLASS STREETS SHOULD ONLY HAVE ACCESS TO THE STREET WITH THE LOWER CLASSIFICATION. ACCESS TO THE HIGH CLASSIFICATION STREET (SAN GABRIEL PARKWAY, NORTH LAKELINE BOULEVARD, AND C.R. 280) IS PROHIBITED.
 - ALL EXISTING EASEMENTS OF RECORD AS FOUND ON THE TITLE POLICY PROVIDED BY STEWART TITLE GUARANTY COMPANY ISSUED MARCH 16, 2021 HAVE BEEN SHOWN OR NOTED HERON.

**GREATWOOD SOUTH
OVERALL PRELIMINARY
PLAN
CITY OF LEANDER
10/25/2022**

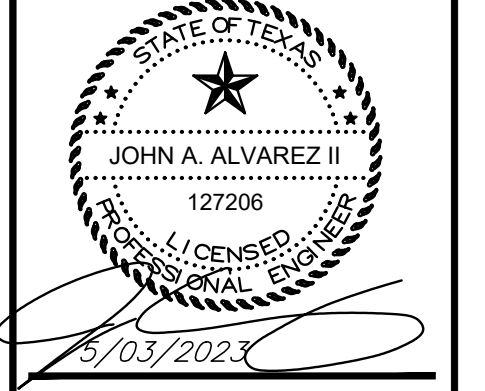
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AUSTIN, TEXAS
5 OF 19

No.	Date	REVISIONS

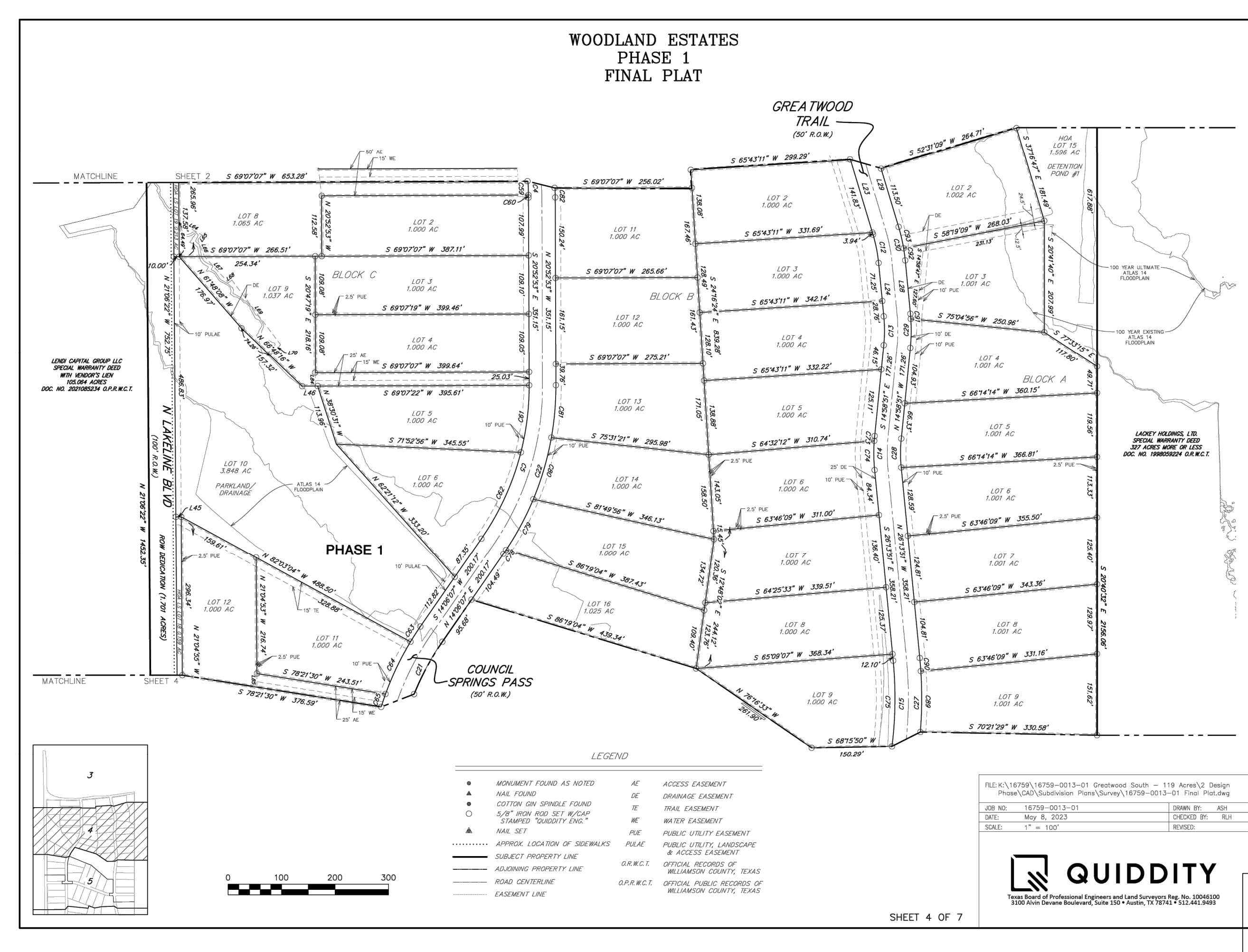
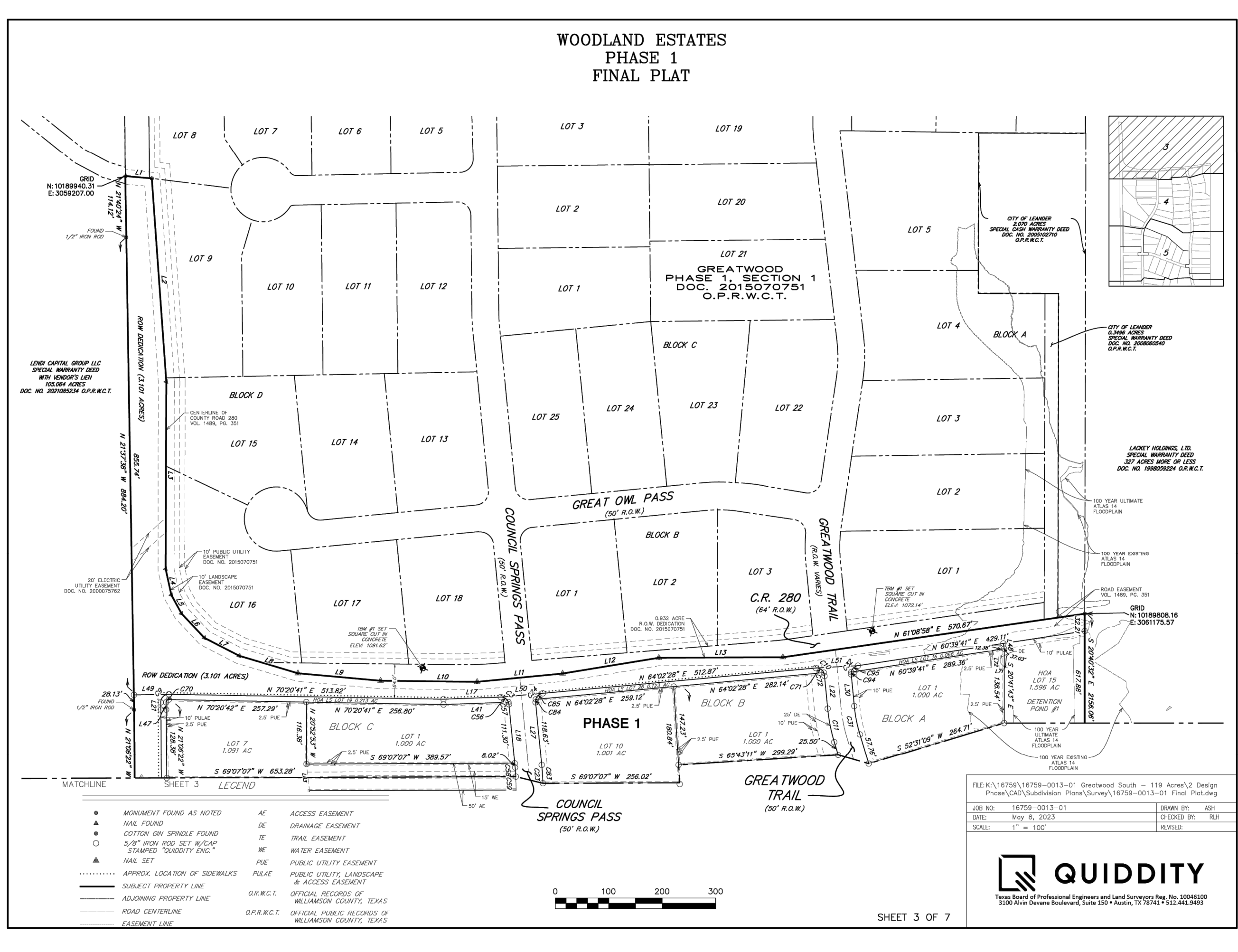
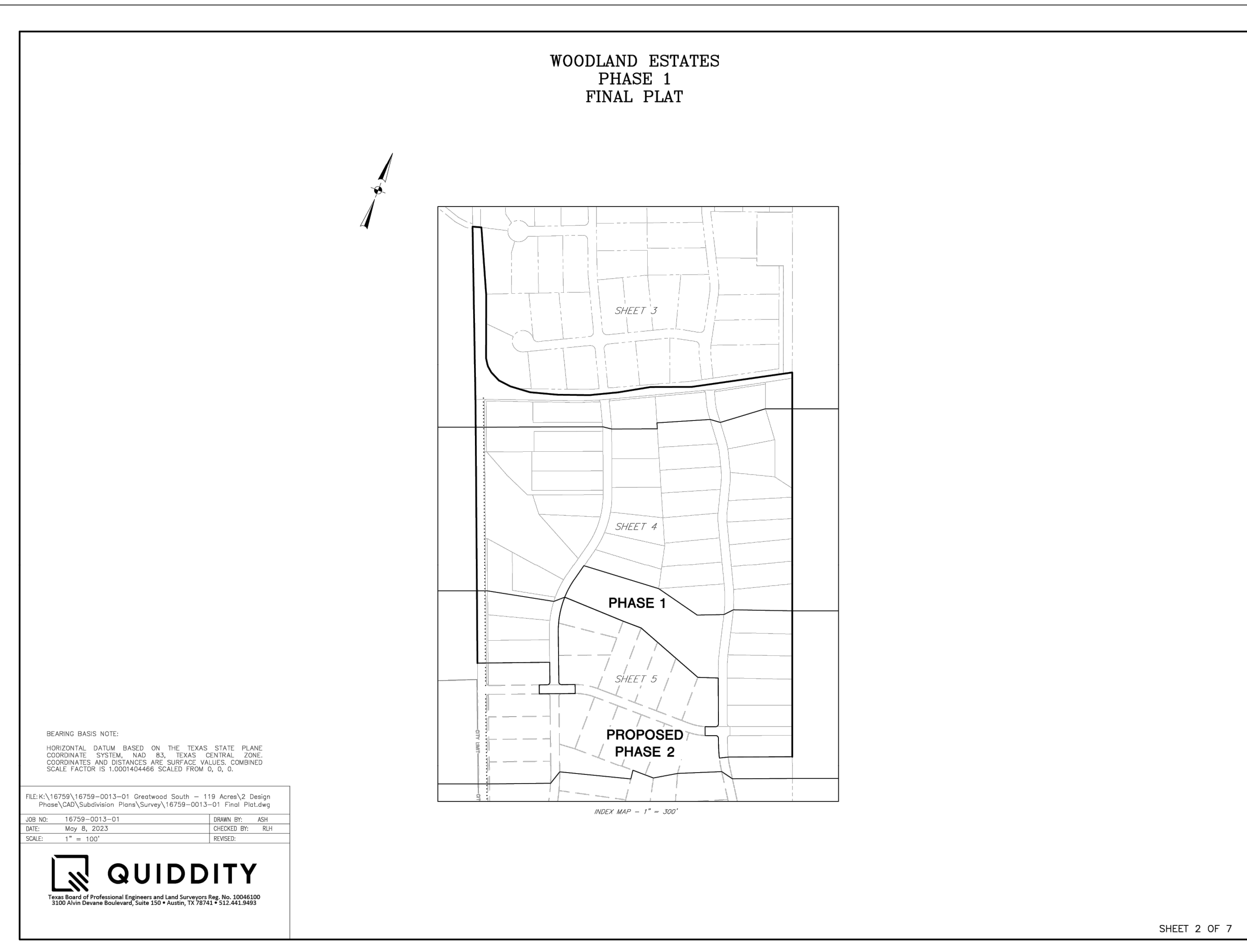
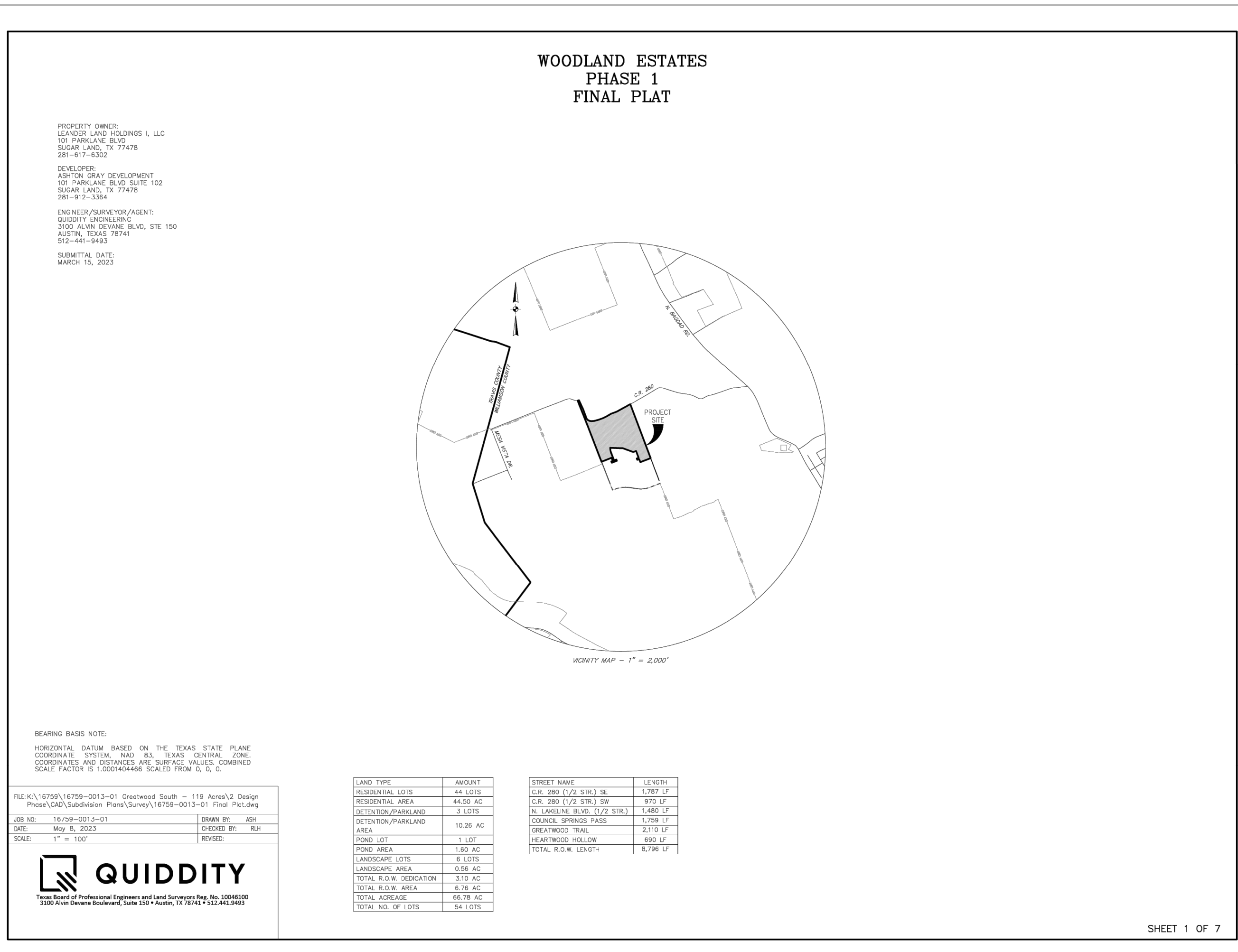
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 State of Professional Engineers and Land Surveyors Reg. No. F-23290
 3100 Alvin Devane Boulevard, Suite 150 • Austin, TX 78741 • 512.441.9493

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 CHECKED BY: JA
 DRAWN BY: JDE

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Public Improvement Construction Plans
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2
PRELIMINARY PLAT



No.	Date	REVISIONS

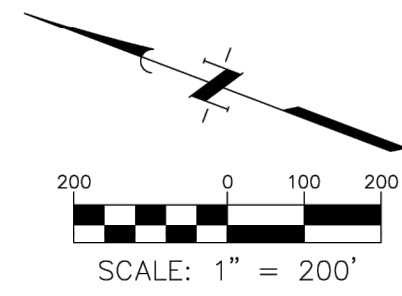
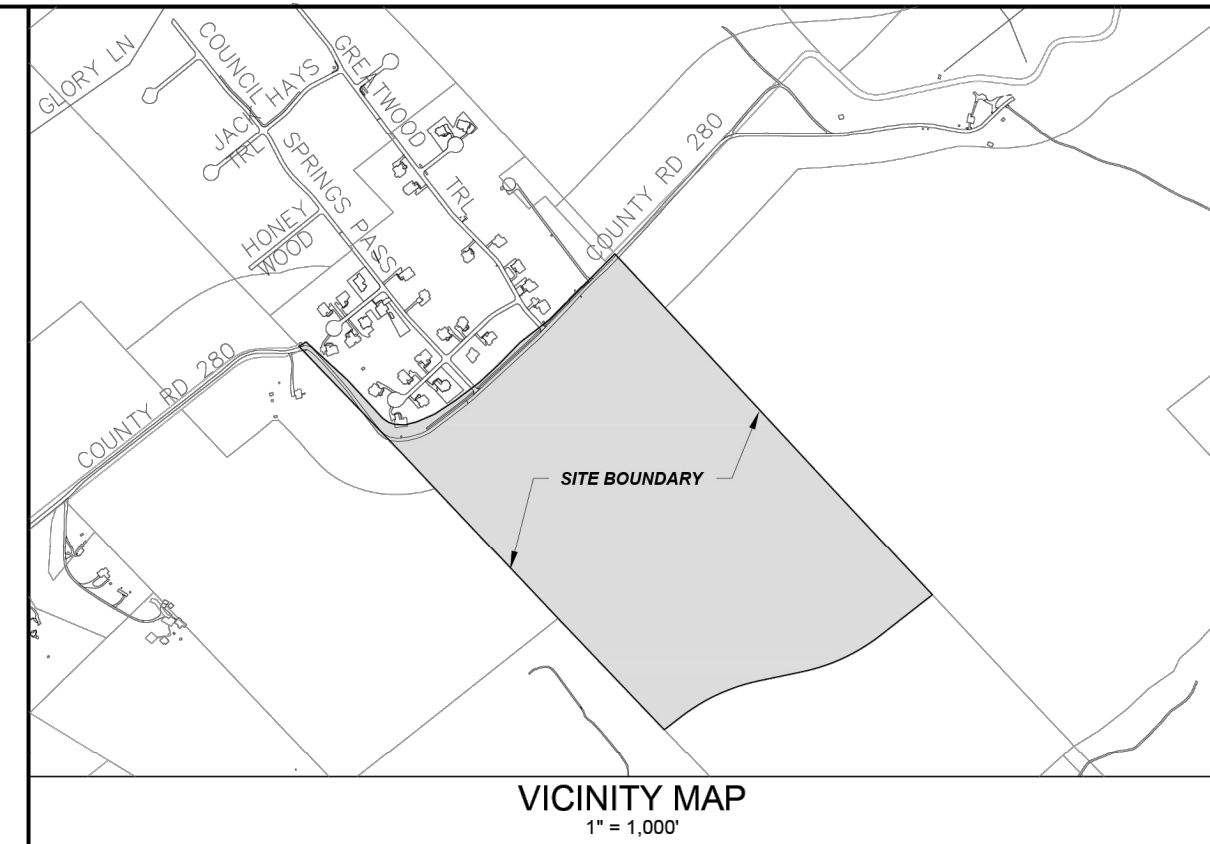
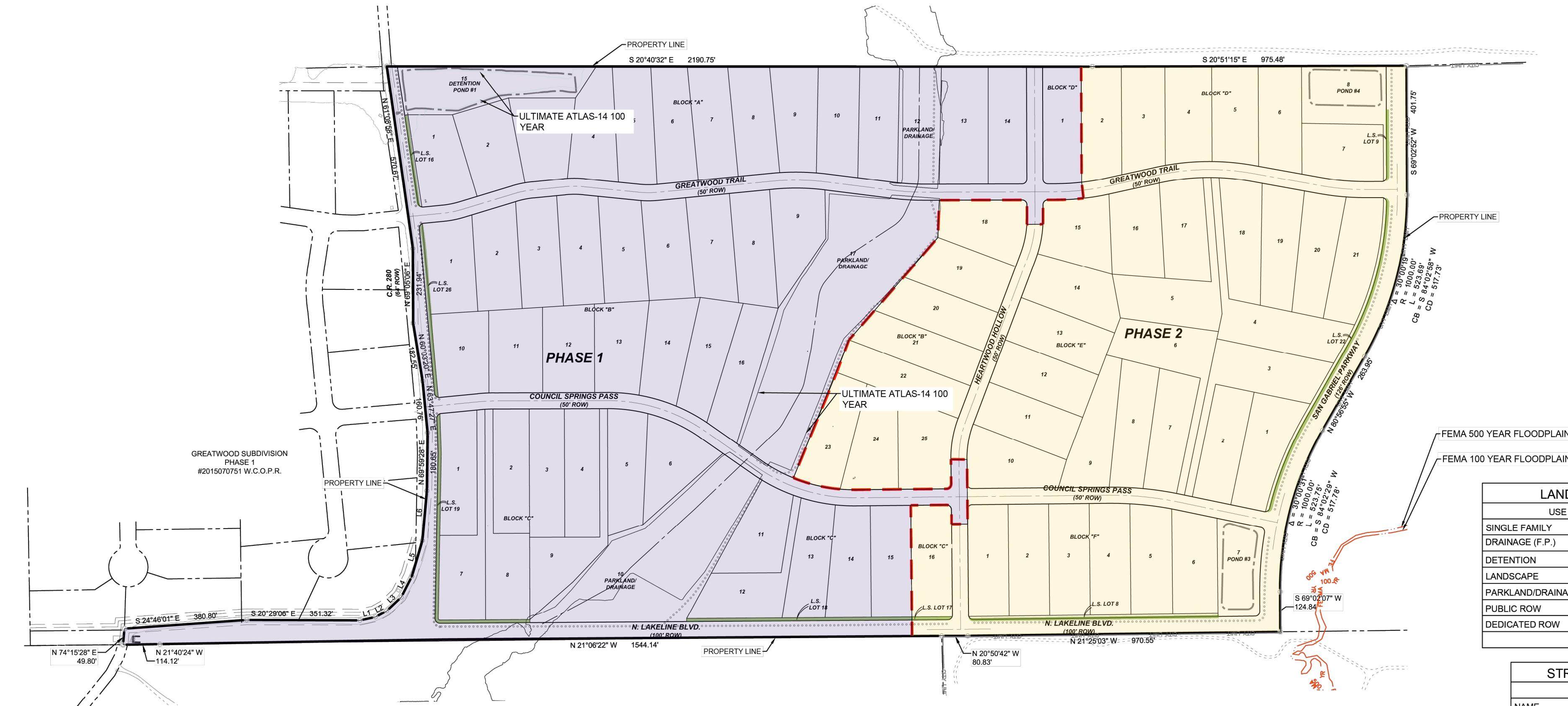
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Public Improvement Construction Plans
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2
FINAL PLAT (1 OF 3)



PROPOSED LEGEND

	PHASE 1
	PHASE 2
	PHASE LINE

NOTES:
 1. PHASES SHALL INCLUDE ALL REQUIRED INFRASTRUCTURE AND DRAINAGE FACILITIES TO SUPPORT THE PHASE WITHOUT THE DEVELOPMENT OF THE ENTIRE SUBDIVISION, AND INFRASTRUCTURE FOR EACH PHASE FULLY SERVE EACH PHASE.

PHASING PLAN

PHASE	LOTS/LUE'S	COMPLETED
PHASE 1	44 LOTS	2023
PHASE 2	42 LOTS	2024

LAND USE TABLE PHASE 1

USE	LOTS	SIZE (AC.)
SINGLE FAMILY	44	44.48
DRAINAGE (F.P.)		0.00
DETENTION	1	1.59
LANDSCAPE	4	0.42
PARKLAND/DRAINAGE	3	10.26
PUBLIC ROW		5.23
DEDICATED ROW		4.79
TOTALS	52	66.77

LAND USE TABLE PHASE 2

USE	LOTS	SIZE (AC.)
SINGLE FAMILY	42	43.41
DRAINAGE (F.P.)		0.00
DETENTION	2	1.90
LANDSCAPE	4	0.48
PARKLAND/DRAINAGE	0	0.00
PUBLIC ROW		3.51
DEDICATED ROW		3.89
TOTALS	48	53.20

STREET TABLE PHASE 1

PUBLIC STREETS	
NAME	LENGTH(LF)
COUNCIL SPRINGS PASS	1,759
GREATWOOD TRAIL	2,110
HEARTWOOD HOLLOW	690
TOTAL	4,559

STREET TABLE PHASE 2

PUBLIC STREETS	
NAME	LENGTH(LF)
COUNCIL SPRINGS PASS	970
GREATWOOD TRAIL	988
HEARTWOOD HOLLOW	1,097
TOTAL	3,055

**GREATWOOD SOUTH
 PHASING PLAN
 CITY OF LEANDER
 10/25/2022**

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No.	Date	REVISIONS

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 3100 Alvin Devane Boulevard, Suite 150 • Austin, TX 78741 • 512.441.9493

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SUBMITTAL DATE: 03/15/2023
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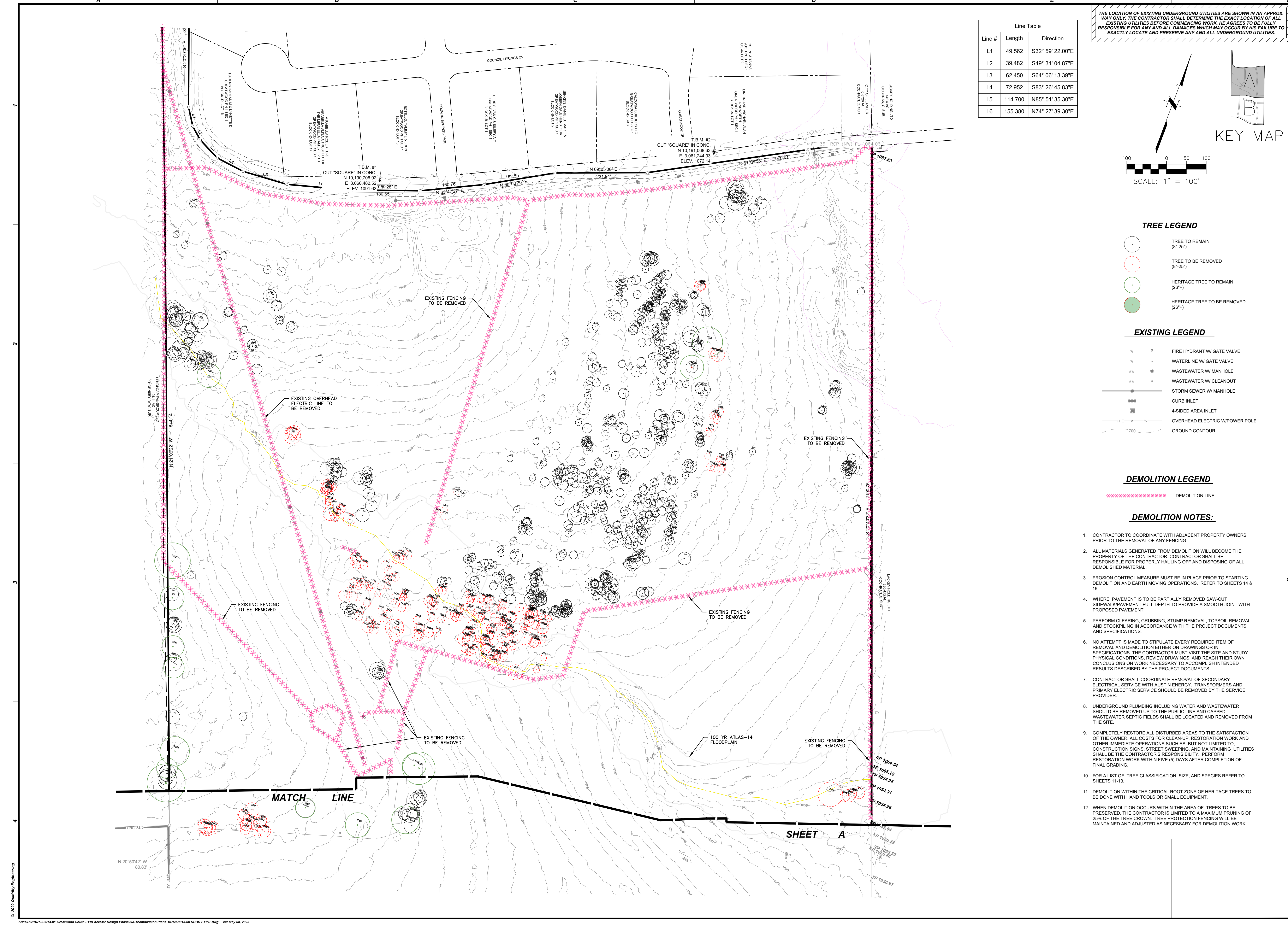


Public Improvement Construction Plans
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2

APPROVED PHASING PLAN

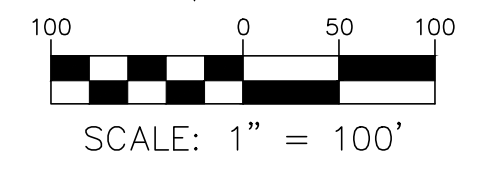
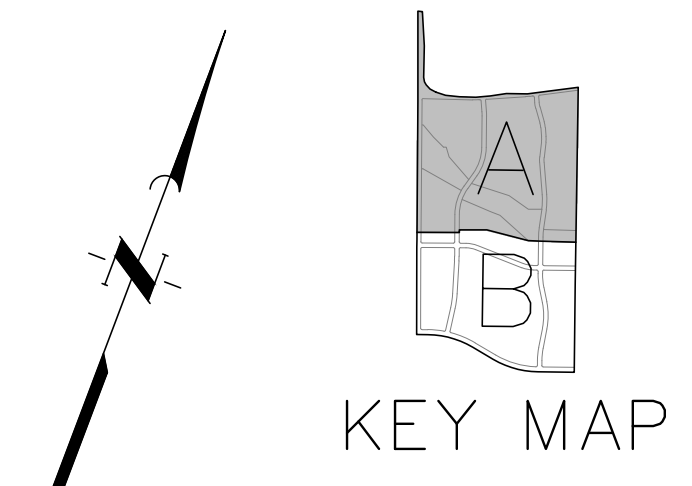
SHEET NO. **7**
 OF 79

PICP-23-0054



Line #	Length	Direction
L1	49.562	S32° 59' 22.00"E
L2	39.482	S49° 31' 04.87"E
L3	62.450	S64° 06' 13.39"E
L4	72.952	S83° 26' 45.83"E
L5	114.700	N85° 51' 35.30"E
L6	155.380	N74° 27' 39.30"E

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROX. 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



TREE LEGEND

- TREE TO REMAIN (8'-25')
- TREE TO BE REMOVED (8'-25')
- HERITAGE TREE TO REMAIN (26'+)
- HERITAGE TREE TO BE REMOVED (26'+)

EXISTING LEGEND

- FIRE HYDRANT W/ GATE VALVE
- WATERLINE W/ GATE VALVE
- WASTEWATER W/ MANHOLE
- WASTEWATER W/ CLEANOUT
- STORM SEWER W/ MANHOLE
- CURB INLET
- 4-SIDED AREA INLET
- OVERHEAD ELECTRIC W/ POWER POLE
- GROUND CONTOUR

DEMOLITION LEGEND

- DEMOLITION LINE

DEMOLITION NOTES:

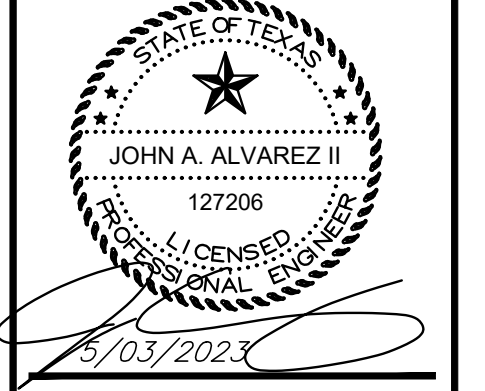
1. CONTRACTOR TO COORDINATE WITH ADJACENT PROPERTY OWNERS PRIOR TO THE REMOVAL OF ANY FENCING.
2. ALL MATERIALS GENERATED FROM DEMOLITION WILL BECOME THE PROPERTY OF THE CONTRACTOR. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY HAULING OFF AND DISPOSING OF ALL DEMOLISHED MATERIAL.
3. EROSION CONTROL MEASURE MUST BE IN PLACE PRIOR TO STARTING DEMOLITION AND EARTH MOVING OPERATIONS. REFER TO SHEETS 14 & 15.
4. WHERE PAVEMENT IS TO BE PARTIALLY REMOVED SAW-CUT SIDEWALK PAVEMENT FULL DEPTH TO PROVIDE A SMOOTH JOINT WITH PROPOSED PAVEMENT.
5. PERFORM CLEARING, GRUBBING, STUMP REMOVAL, TOPSOIL REMOVAL AND STOCKPILING IN ACCORDANCE WITH THE PROJECT DOCUMENTS AND SPECIFICATIONS.
6. NO ATTEMPT IS MADE TO STIPULATE EVERY REQUIRED ITEM OF REMOVAL AND DEMOLITION EITHER ON DRAWINGS OR IN SPECIFICATIONS. THE CONTRACTOR MUST VISIT THE SITE AND STUDY PHYSICAL CONDITIONS, REVIEW DRAWINGS, AND REACH THEIR OWN CONCLUSIONS ON WORK NECESSARY TO ACCOMPLISH INTENDED RESULTS DESCRIBED BY THE PROJECT DOCUMENTS.
7. CONTRACTOR SHALL COORDINATE REMOVAL OF SECONDARY ELECTRICAL SERVICE WITH AUSTIN ENERGY. TRANSFORMERS AND PRIMARY ELECTRIC SERVICE SHOULD BE REMOVED BY THE SERVICE PROVIDER.
8. UNDERGROUND PLUMBING INCLUDING WATER AND WASTEWATER SHOULD BE REMOVED UP TO THE PUBLIC LINE AND CAPPED. WASTEWATER SEPTIC FIELDS SHALL BE LOCATED AND REMOVED FROM THE SITE.
9. COMPLETELY RESTORE ALL DISTURBED AREAS TO THE SATISFACTION OF THE OWNER. ALL COSTS FOR CLEANUP, RESTORATION WORK AND OTHER IMMEDIATE OPERATIONS SUCH AS, BUT NOT LIMITED TO, CONSTRUCTION SIGNS, STREET SWEEPING, AND MAINTAINING UTILITIES SHALL BE THE CONTRACTOR'S RESPONSIBILITY. PERFORM RESTORATION WORK WITHIN FIVE (5) DAYS AFTER COMPLETION OF FINAL GRADING.
10. FOR A LIST OF TREE CLASSIFICATION, SIZE, AND SPECIES REFER TO SHEETS 11-13.
11. DEMOLITION WITHIN THE CRITICAL ROOT ZONE OF HERITAGE TREES TO BE DONE WITH HAND TOOLS OR SMALL EQUIPMENT.
12. WHEN DEMOLITION OCCURS WITHIN THE AREA OF TREES TO BE PRESERVED, THE CONTRACTOR IS LIMITED TO A MAXIMUM PRUNING OF 25% OF THE TREE CROWN. TREE PROTECTION FENCING WILL BE MAINTAINED AND ADJUSTED AS NECESSARY FOR DEMOLITION WORK.

No.	Date	REVISIONS

QUIDDITY
 A Division of Professional Engineering and Land Surveyors, Inc. No. 6-24250
 3100 Alamo Boulevard, Suite 150 • Austin, TX 78741 • 512.441.5495

SCALE: AS SHOWN
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 CHECKED BY: JA
 DRAWN BY: JDE

SUBMITTAL DATE: 03/15/2023
 JOB NO.: 16759-0013-00



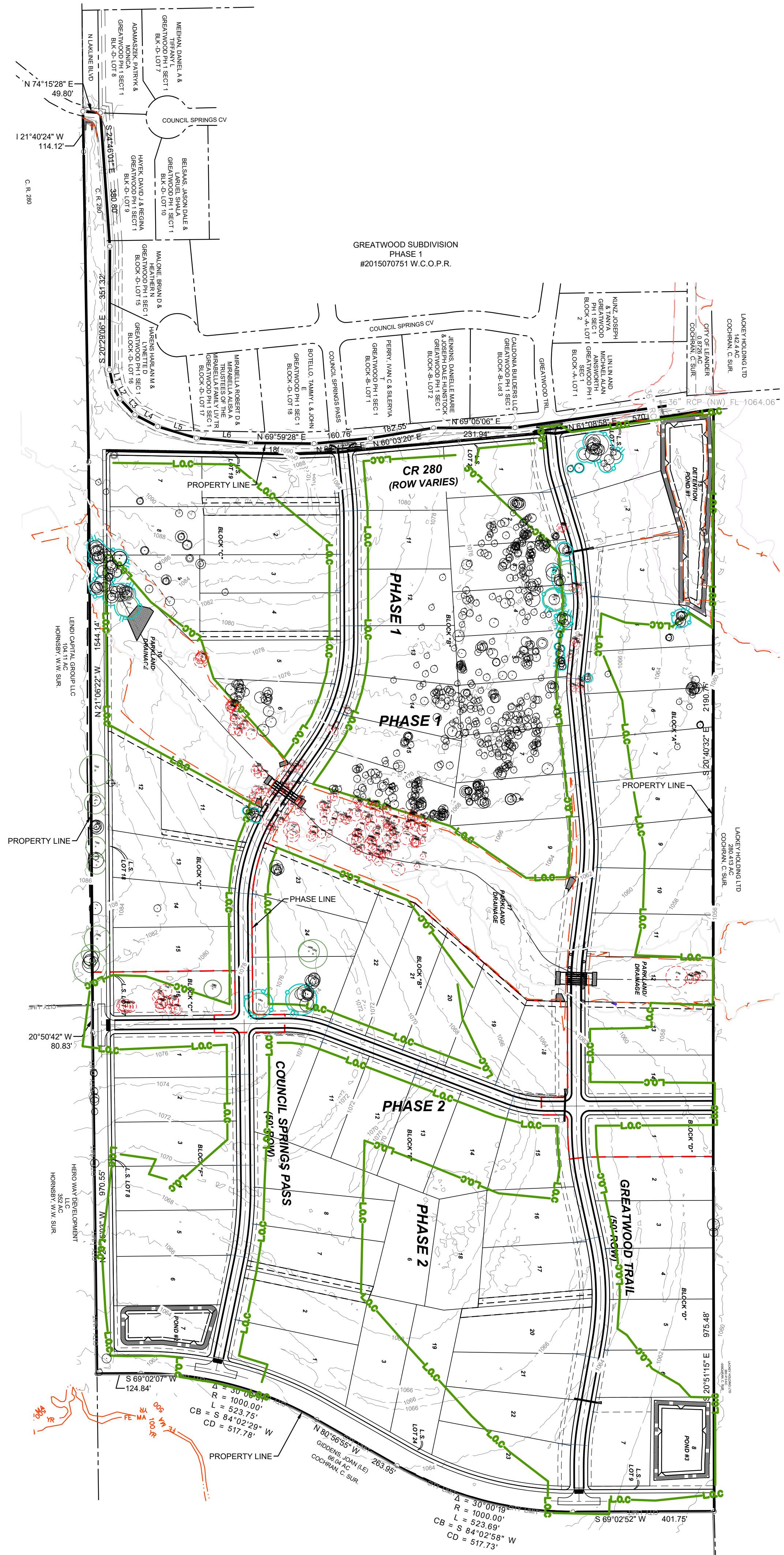
Public Improvement Construction Plans

WOODLAND ESTATES SUBDIVISION PHASE 1 & 2

EXISTING CONDITIONS AND DEMOLITION PLAN A

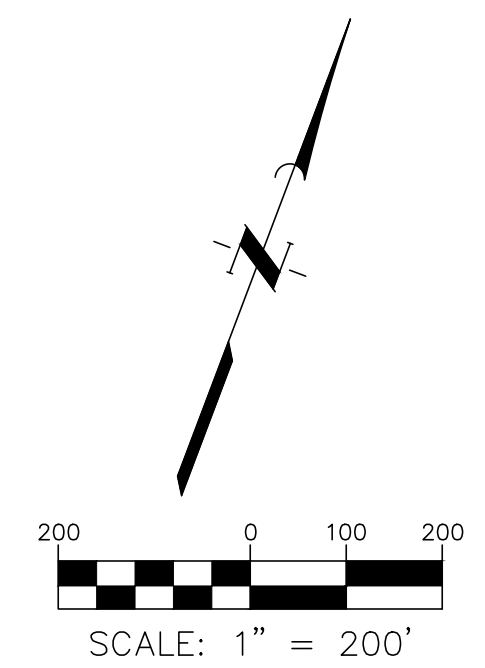
SHEET NO. **8** OF **79**

PICP-23-0054



THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE MANNER. 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

TREE SURVEY DATE: SEPTEMBER 30, 2021



TREE LEGEND

- TREE TO REMAIN (8"-25")
- TREE TO BE REMOVED (8"-25")
- HERITAGE TREE TO REMAIN (26"+)
- HERITAGE TREE TO BE REMOVED (26"+)
- PROPERTY BOUNDARY
- PHASE LINE
- L.O.C. LIMITS OF CONSTRUCTION
- TREE PROTECTION

ALL PHASES- TREE CALIPER INCHES

TREE SIZE (in caliper inches)	TOTAL INCHES	SAVED INCHES	SAVED INCHES %	REMOVED INCHES	REMOVED INCHES %
8" to 18"	9312	6636	71%	2676	29%
>18" to 26"	640	492	77%	148	23%
SUBTOTAL 8" to 26"	9952	7128	72%	2824	28%
>26"	351	289	82%	62	18%
TOTALS	10303	7417	72%	2886	28%

ALL PHASES- NUMBER OF TREES

TREE SIZE (in caliper inches)	TOTAL TREES	SAVED TREES	SAVED TREES %	REMOVED TREES	REMOVED TREES %
8" to 18"	933	666	71%	267	29%
>18" to 26"	36	25	69%	11	31%
SUBTOTAL 8" to 26"	969	691	71%	278	29%
>26"	14	11	79%	3	21%
TOTALS	983	702	71%	281	29%

PHASE 1- TREE CALIPER INCHES

TREE SIZE (in caliper inches)	TOTAL INCHES	SAVED INCHES	SAVED INCHES %	REMOVED INCHES	REMOVED INCHES %
8" to 18"	9279	6622	71%	2657	29%
>18" to 26"	634	490	77%	144	23%
SUBTOTAL 8" to 26"	9913	7112	72%	2801	28%
>26"	347	286	82%	61	18%
TOTALS	10260	7398	72%	2862	28%

PHASE 1- NUMBER OF TREES

TREE SIZE (in caliper inches)	TOTAL TREES	SAVED TREES	SAVED TREES %	REMOVED TREES	REMOVED TREES %
8" to 18"	900	652	72%	248	28%
>18" to 26"	30	23	77%	7	23%
SUBTOTAL 8" to 26"	930	675	73%	255	27%
>26"	10	8	80%	2	20%
TOTALS	940	683	73%	257	27%

PHASE 2- TREE CALIPER INCHES

TREE SIZE (in caliper inches)	TOTAL INCHES	SAVED INCHES	SAVED INCHES %	REMOVED INCHES	REMOVED INCHES %
8" to 18"	488	203	42%	285	58%
>18" to 26"	133	44	33%	89	67%
SUBTOTAL 8" to 26"	621	247	40%	374	60%
>26"	137	106	77%	31	23%
TOTALS	758	353	47%	405	53%

PHASE 2- NUMBER OF TREES

TREE SIZE (in caliper inches)	TOTAL TREES	SAVED TREES	SAVED TREES %	REMOVED TREES	REMOVED TREES %
8" to 18"	33	14	42%	19	58%
>18" to 26"	6	2	33%	4	67%
SUBTOTAL 8" to 26"	39	16	41%	23	59%
>26"	4	3	75%	1	25%
TOTALS	43	19	44%	24	56%

MITIGATION TABLE- PROTECTED AND HERITAGE TREES

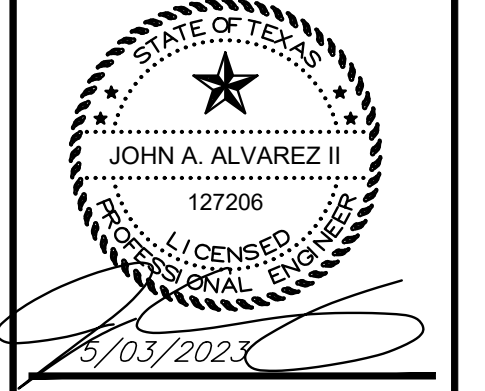
TREE SIZE (in caliper inches)	REMOVED (total in)	1:1 Replacement	2:1 Replacement	3:1 Replacement	Fees
>8" to 26"	3175	0	0	0	\$ -
>26" Heritage	92	0	0	0	\$ -
TOTALS	3175	0	0	0	\$ -

No.	Date	REVISIONS

QUIDDITY
 Public Improvement Construction Plans
 3100 Avenida Boulevard, Suite 150 • Austin, TX 78741 • 512.441.5499

DESIGNED BY: FR
 CHECKED BY: JA
 DRAWN BY: JDE

SCALE: AS SHOWN
 SUBMITTAL DATE: 03/15/2023
 JOB NO.: 16759-0013-00



Public Improvement Construction Plans
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2

TREE PROTECTION PLAN

SHEET NO. **10**
 OF 79

PICP-23-0054

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE MANNER 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTE: IN THE EVENT OF A CONFLICT WITH TREE REMOVAL/PRESERVATION CALL OUTS ON PLAN SHEET(S) VERSUS TREE REMOVAL/PRESERVATION MATRIX, THE TREE REMOVAL/PRESERVATION MATRIX SHALL APPLY. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY WITH CITY STAFF SHOULD ANY INCONSISTENCY EXIST WITHIN AN APPROVED PLAN SET. NO IN-FIELD CHANGES ARE MADE TO APPROVED PLANS, NO EXCEPTIONS.

TREE LOG						TREE LOG						TREE LOG						TREE LOG						TREE LOG										
TREE NUMBER	TYPE	CALIPERER INCH	REMOVED	PROTECTED	HERITAGE	REASON FOR REMOVAL	TREE NUMBER	TYPE	CALIPERER INCH	REMOVED	PROTECTED	HERITAGE	REASON FOR REMOVAL	TREE NUMBER	TYPE	CALIPERER INCH	REMOVED	PROTECTED	HERITAGE	REASON FOR REMOVAL	TREE NUMBER	TYPE	CALIPERER INCH	REMOVED	PROTECTED	HERITAGE	REASON FOR REMOVAL	TREE NUMBER	TYPE	CALIPERER INCH	REMOVED	PROTECTED	HERITAGE	REASON FOR REMOVAL
1219	Live Oak	11					1269	Live Oak	17	Y				1347	Live Oak	14					1410	Live Oak	14					1474	Live Oak	9	Y			
1220	Live Oak	11					1270	Live Oak	17					1348	Live Oak	16					1411	Live Oak	9					1475	Live Oak	14	Y			
1220A	Live Oak	8					1271	Live Oak	18					1349	Live Oak	14					1412	Live Oak	10					1476	Live Oak	8	Y			
1221	Live Oak	8					1271A	Live Oak	17					1350	Live Oak	18	Y				1413	Live Oak	15					1479	Live Oak	8				
1222	Live Oak	8					1272	Live Oak	10					1351	Live Oak	17	Y				1414	Live Oak	18	Y				1480	Live Oak	12				
1223	Live Oak	10					1273	Live Oak	20		20			1352	Live Oak	15	Y				1415	Live Oak	18	Y				1481	Live Oak	16				
1223A	Live Oak	8					1274	Live Oak	23		23			1352A	Live Oak	14	Y				1416	Live Oak	23	Y		23		1482	Live Oak	19			19	
1224	Live Oak	10					1275	Live Oak	13					1355	Live Oak	17	Y				1417	Live Oak	12					1485	Live Oak	23			23	
1225	Live Oak	17					1276	Live Oak	20		20			1356	Live Oak	15	Y				1418	Live Oak	10					1486	Live Oak	14				
1225A	Live Oak	10					1277	Live Oak	19		19			1357	Live Oak	16	Y				1419	Live Oak	8					1487	Live Oak	16				
1225B	Live Oak	8					1278	Live Oak	15					1358	Live Oak	14	Y				1420	Live Oak	8	Y				1488	Live Oak	14				
1226	Live Oak	14					1279	Live Oak	19		19			1359	Live Oak	14	Y				1420A	Live Oak	8	Y				1489	Live Oak	15				
1226A	Live Oak	12					1280	Live Oak	10					1360	Live Oak	16	Y				1421	Live Oak	9	Y				1490	Live Oak	30				
1227	Live Oak	11					1281	Live Oak	17					1361	Live Oak	16	Y				1422	Live Oak	11	Y				1491	Live Oak	19			19	
1227A	Live Oak	8					1282	Live Oak	13					1362	Live Oak	13	Y				1423	Live Oak	10	Y				1491A	Live Oak	15				
1228	Live Oak	14					1283	Live Oak	16	Y				1363	Live Oak	25	Y		25 Y		1424	Cedar/Elm	8	Y				1492	Live Oak	22			22	
1228A	Live Oak	8					1284	Live Oak	17	Y				1363A	Live Oak	24	Y		24		1425	Live Oak	10	Y				1493	Live Oak	12				
1229	Live Oak	41			Y		1285	Live Oak	13	Y				1364	Live Oak	31	Y		Y		1426	Live Oak	8	Y				1494	Live Oak	16				
1230	Live Oak	30			Y		1286	Live Oak	21		21			1365	Live Oak	15	Y				1427	Live Oak	8	Y				1495	Live Oak	9				
1231	Live Oak	16					1286A	Live Oak	20		20			1366	Live Oak	12	Y				1428	Live Oak	10	Y				1496	Live Oak	10				
1232	Live Oak	18					1287	Live Oak	12					1367	Live Oak	15					1429	Live Oak	9	Y				1497	Live Oak	14				
1233	Live Oak	16					1287A	Live Oak	10					1368	Cedar/Elm	17					1430	Live Oak	9	Y			IN ROW	1498	Live Oak	14				
1234	Live Oak	17					1305	Live Oak	9					1369	Live Oak	15	Y				1431	Live Oak	9	Y			IN ROW	1499	Live Oak	8				
1235	Live Oak	13					1306	Live Oak	10					1370	Live Oak	10	Y				1432	Live Oak	12	Y			IN ROW	1500	Live Oak	17				
1236	Live Oak	17					1307	Live Oak	10					1371	Live Oak	10	Y				1433	Live Oak	10	Y			IN ROW	1500A	Live Oak	11				
1236A	Live Oak	15					1308	Live Oak	13					1372	Live Oak	10	Y				1434	Live Oak	11	Y			IN ROW	1501	Live Oak	14				
1236B	Live Oak	13					1309	Live Oak	12					1373	Live Oak	11	Y				1435	Live Oak	10	Y			IN ROW	1502	Live Oak	15				
1236C	Live Oak	12					1310	Live Oak	9					1373A	Live Oak	9	Y				1436	Live Oak	10	Y			IN ROW	1503	Live Oak	19			19	
1237	Live Oak	24			24		1311	Live Oak	12					1374	Live Oak	17	Y				1437	Live Oak	10	Y			IN ROW	1503A	Live Oak	13				
1238	Live Oak	15					1312	Live Oak	13					1375	Cedar/Elm	18	Y				1438	Live Oak	9	Y			IN ROW	1503B	Live Oak	9				
1239	Live Oak	35			Y		1313	Live Oak	9					1376	Live Oak	9	Y				1439	Live Oak	9	Y			IN ROW	1503C	Live Oak	8				
1240	Live Oak	20			20		1314	Live Oak	12					1376A	Live Oak	8	Y				1440	Live Oak	10	Y			IN ROW	1504	Live Oak	12				
1243	Live Oak	9					1315	Live Oak	17					1377	Live Oak	11	Y				1441	Live Oak	9	Y			IN ROW	1505	Live Oak	10				
1244	Live Oak	9					1318	Live Oak	15	Y				1378	Live Oak	8	Y				1442	Live Oak	11					1506	Live Oak	8				
1245	Live Oak	14					1319	Live Oak	15	Y				1378A	Live Oak	8	Y				1443	Live Oak	10					1507	Live Oak	8				
1246	Live Oak	10					1319A	Live Oak	12	Y				1379	Live Oak	11	Y				1443A	Live Oak	10					1508	Live Oak	9				
1246A	Live Oak	8					1320	Live Oak	18	Y				1380	Live Oak	15	Y				1444	Live Oak	10					1509	Live Oak	8				
1247	Live Oak	11					1320A	Live Oak	12	Y				1381	Live Oak	14	Y				1445	Live Oak	11					1510	Live Oak	8				
1248	Live Oak	13					1321	Live Oak	21	Y	21			1381A	Live Oak	13	Y				1446	Live Oak	14					1511	Live Oak	8				
1249	Live Oak	30	Y		Y		1322	Live Oak	45			Y		1381B	Live Oak	11	Y				1447	Live Oak	11					1512	Live Oak	8				
1250	Live Oak	9	Y				1323	Live Oak	9					1382	Live Oak	16	Y				1448	Live Oak	10					1513	Live Oak	9				
1251	Live Oak	14	Y				1324	Live Oak	16					1383	Live Oak	13	Y				1449	Live Oak	8					1514	Live Oak	9				
1252	Live Oak	14	Y				1325	Live Oak	30			Y		1384	Live Oak	13	Y				1450	Live Oak	10					1515	Live Oak	10				
1253	Live Oak	14	Y				1326	Live Oak	13					1385	Live Oak	10					1451	Live Oak	8					1516	Live Oak	9				
1253A	Live Oak	12	Y				1327	Live Oak	16					1386	Live Oak	10					1452	Live Oak	10					1517	Live Oak	9				
1254	Live Oak	21	Y		21		1328	Live Oak	16					1387	Live Oak	11					1453	Live Oak	8					1518	Live Oak	14				
1255	Live Oak	18	Y				1329	Live Oak	20		20			1388	Live Oak	14					1454	Live Oak	10	Y				1519	Live Oak	10				
1256	Live Oak	15	Y				1329A	Live Oak	8					1389	Live Oak	16					1455	Live Oak	9	Y			IN ROW	1520	Live Oak	12				
1257	Live Oak	10	Y				1330	Live Oak	28			Y		1390	Live Oak	12					1456	Live Oak	8	Y			IN ROW	1521	Live Oak	13				
1258	Live Oak	10	Y				1331	Live Oak	9					1391	Live Oak	11					1457	Live Oak	8	Y			IN ROW	1522	Live Oak	10				
1259	Live Oak	11	Y				1332	Live Oak	22		22			1392	Live Oak	12					1458	Live Oak	15	Y				1523	Live Oak	12				
1260	Live Oak	12	Y				1333	Live Oak	26		Y			1393	Live Oak	14					1459	Live Oak	9	Y			IN ROW	1524	Live Oak	8				
1261	Live Oak	18	Y				1334	Live Oak	18					1394	Live Oak	9					1460	Live Oak	8	Y			IN ROW	1525	Live Oak	10				
1261A	Live Oak	11	Y				1335	Live Oak	37		Y			1395	Live Oak	11					1461	Live Oak	9	Y			IN ROW	1526	Live Oak	9				
1261B	Live Oak	11	Y				1336	Live Oak	26		Y			1396	Live Oak	12					1462	Live Oak	8	Y			IN ROW	1527	Live Oak	9				
1262	Live Oak	16	Y				1337	Live Oak	15					1397	Live Oak	16					1463	Live Oak	9	Y			IN ROW	1528	Live Oak	9				
1263	Live Oak	11	Y				1338	Live Oak	21		21			1398	Live Oak	10					1464	Live Oak	8	Y			IN ROW	15						

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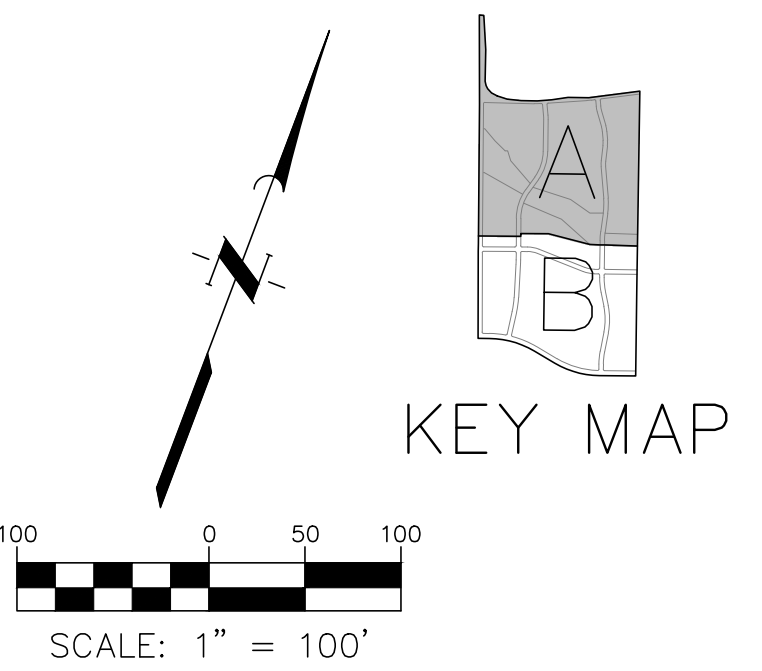
TREE LOG						TREE LOG						TREE LOG						TREE LOG						TREE LOG												
TREE NUMBER	TYPE	CALIPERER INCH	REMOVED	PROTECTED	HERITAGE	REASON FOR REMOVAL	TREE NUMBER	TYPE	CALIPERER INCH	REMOVED	PROTECTED	HERITAGE	REASON FOR REMOVAL	TREE NUMBER	TYPE	CALIPERER INCH	REMOVED	PROTECTED	HERITAGE	REASON FOR REMOVAL	TREE NUMBER	TYPE	CALIPERER INCH	REMOVED	PROTECTED	HERITAGE	REASON FOR REMOVAL	TREE NUMBER	TYPE	CALIPERER INCH	REMOVED	PROTECTED	HERITAGE	REASON FOR REMOVAL		
1539	Live Oak	10					1604	Live Oak	14	Y			IN ROW	1666	Live Oak	8	Y				IN ROW	1727	Live Oak	8					1790	Live Oak	9					
1540	Live Oak	10					1605	Live Oak	8	Y			IN ROW	1667	Live Oak	8						IN ROW	1728	Live Oak	9					1791	Live Oak	9				
1541	Live Oak	8					1606	Live Oak	11	Y			IN ROW	1668	Live Oak	10						IN ROW	1729	Live Oak	11					1792	Live Oak	8				
1542	Live Oak	10					1607	Live Oak	9	Y			IN ROW	1669	Live Oak	12						IN ROW	1730	Live Oak	10					1793	Cedar Elm	8				
1543	Live Oak	8					1608	Live Oak	15					1670	Live Oak	15							1731	Live Oak	9					1796	Cedar Elm	8				
1544	Live Oak	8					1609	Live Oak	13					1671	Live Oak	16							1732	Live Oak	11					1797	Live Oak	8				
1545	Live Oak	10					1609A	Live Oak	9					1672	Live Oak	16							1733	Live Oak	8					1798	Live Oak	9				
1546	Live Oak	8					1610	Live Oak	38			Y		1672A	Live Oak	12							1734	Live Oak	8					1799	Live Oak	11				
1547	Live Oak	8					1611	Live Oak	21			21		1673	Live Oak	8							1735	Live Oak	8					1800	Live Oak	10				
1551	Live Oak	8					1612	Live Oak	20			20		1674	Live Oak	8							1736	Cedar Elm	9					1801	Live Oak	8				
1552	Live Oak	12					1615	Live Oak	17	Y			IN ROW	1675	Live Oak	10						IN ROW	1737	Live Oak	8					1802	Live Oak	8				
1553	Live Oak	8					1615A	Live Oak	10	Y			IN ROW	1676	Live Oak	9	Y					IN ROW	1738	Live Oak	9					1803	Live Oak	8				
1554	Live Oak	9					1616	Live Oak	14	Y			IN ROW	1677	Live Oak	8	Y					IN ROW	1739	Live Oak	11					1804	Live Oak	24		24		
1555	Live Oak	10					1616A	Live Oak	14	Y			IN ROW	1680	Live Oak	8						IN ROW	1740	Live Oak	9					1805	Live Oak	14				
1556	Live Oak	10					1616B	Live Oak	8	Y			IN ROW	1681	Live Oak	9	Y					IN ROW	1741	Live Oak	12					1806	Live Oak	12				
1557	Live Oak	9					1617	Live Oak	10					1682	Live Oak	11	Y					IN ROW	1744	Live Oak	8					1807	Live Oak	8				
1558	Live Oak	10					1618	Live Oak	12					1682A	Live Oak	8	Y					IN ROW	1745	Live Oak	8					1808	Live Oak	13				
1559	Live Oak	11					1619	Live Oak	16					1683	Live Oak	10	Y					IN ROW	1746	Live Oak	9					1809	Live Oak	13				
1560	Live Oak	10					1620	Live Oak	9					1684	Live Oak	8	Y					IN ROW	1747	Live Oak	8					1810	Live Oak	13				
1560A	Live Oak	10					1621	Live Oak	17					1685	Live Oak	8	Y					IN ROW	1748	Live Oak	9					1811	Live Oak	10				
1561	Live Oak	8					1621A	Live Oak	11					1686	Live Oak	10	Y					IN ROW	1748A	Live Oak	8					1812	Live Oak	10				
1562	Live Oak	11					1622	Live Oak	11					1687	Live Oak	8	Y					IN ROW	1749	Live Oak	11					1813	Live Oak	9				
1562A	Live Oak	9					1623	Live Oak	8					1688	Live Oak	9							1750	Live Oak	9					1814	Live Oak	8				
1563	Live Oak	11					1624	Live Oak	9					1689	Live Oak	9							1751	Live Oak	10					1815	Live Oak	11				
1564	Live Oak	8					1625	Live Oak	8					1690	Live Oak	9							1752	Live Oak	14					1816	Live Oak	11				
1565	Live Oak	9					1626	Live Oak	8					1690A	Live Oak	8							1753	Live Oak	8					1817	Live Oak	8				
1566	Live Oak	8					1627	Live Oak	14					1691	Live Oak	9							1754	Live Oak	9					1818	Live Oak	9				
1567	Live Oak	10					1628	Live Oak	8					1691A	Live Oak	8							1755	Live Oak	9					1867	Live Oak	9				
1568	Live Oak	11					1629	Live Oak	8					1692	Live Oak	8							1756	Live Oak	11					1868	Live Oak	8				
1569	Live Oak	8					1630	Live Oak	21			21		1693	Live Oak	10							1757	Live Oak	10					1869	Live Oak	9				
1570	Live Oak	9					1631	Live Oak	8					1693A	Live Oak	8							1758	Live Oak	10					1870	Live Oak	8				
1571	Live Oak	10					1632	Live Oak	13					1694	Live Oak	12							1758A	Live Oak	9					1873	Live Oak	8				
1572	Live Oak	8					1633	Live Oak	8					1695	Cedar Elm	11							1759	Live Oak	8					1874	Live Oak	9				
1573	Live Oak	8					1634	Live Oak	8					1696	Cedar Elm	10							1760	Live Oak	8					1875	Live Oak	8				
1574	Live Oak	8					1635	Live Oak	9					1697	Live Oak	11							1761	Live Oak	9					1875A	Live Oak	8				
1575	Live Oak	9					1636	Live Oak	10					1698	Live Oak	14							1762	Live Oak	8					1876	Live Oak	8	Y			IN ROW
1576	Live Oak	9					1637	Live Oak	14					1699	Live Oak	12							1763	Live Oak	8					1877	Live Oak	10	Y			IN ROW
1577	Live Oak	8					1638	Live Oak	11					1700	Live Oak	12							1764	Live Oak	8					1878	Live Oak	8	Y			IN ROW
1578	Live Oak	9					1639	Live Oak	8					1701	Live Oak	9							1765	Live Oak	8					1879	Live Oak	16				
1579	Live Oak	8					1640	Live Oak	9					1702	Live Oak	9							1766	Live Oak	8					1880	Live Oak	9				
1580	Live Oak	8					1641	Live Oak	8					1703	Live Oak	8							1767	Live Oak	9					1880A	Live Oak	8				
1581	Live Oak	8					1642	Cedar Elm	9					1704	Live Oak	13							1768	Live Oak	9					1881	Live Oak	8				
1582	Live Oak	9					1643	Live Oak	8					1704A	Live Oak	8							1769	Live Oak	10					1882	Live Oak	8				
1583	Live Oak	9					1644	Live Oak	9					1705	Live Oak	8							1770	Live Oak	9					1883	Live Oak	11				
1584	Live Oak	10					1645	Live Oak	9					1706	Live Oak	9							1770A	Live Oak	13					1884	Live Oak	8				
1585	Live Oak	9					1646	Live Oak	10					1707	Live Oak	8							1771	Live Oak	13					1885	Live Oak	15				
1586	Live Oak	9					1647	Live Oak	8					1708	Live Oak	9							1771A	Live Oak	9					1885A	Live Oak	10				
1586A	Live Oak	8					1648	Live Oak	11					1709	Live Oak	10							1772	Live Oak	8					1886	Live Oak	8				
1587	Live Oak	8					1649	Live Oak	9					1710	Live Oak	8							1773	Live Oak	8					1887	Live Oak	13				
1588	Live Oak	11					1650	Live Oak	11					1711	Live Oak	11							1774	Live Oak	9					1888	Live Oak	12				
1589	Live Oak	10					1651	Live Oak	10					1712	Live Oak	14							1775	Live Oak	8					1889	Live Oak	10				
1590	Live Oak	8					1652	Live Oak	8					1713	Live Oak	15							1776	Live Oak	8					1890	Live Oak	9				
1591	Live Oak	12					1653	Live Oak	8					1714	Live Oak	8							1777	Live Oak	10					1891	Live Oak	8				
1592	Live Oak	12					1654	Cedar Elm	13					1715	Live Oak	8							1777A	Cedar Elm	10					1892	Live Oak	8				
1593	Live Oak	8					1655	Live Oak	8					1716	Live Oak	8							1778	Cedar Elm	8					1893	Live Oak	10				
1594	Live Oak	9					1656	Live Oak	8					1717	Live Oak	10							1779	Live Oak	8					1894	Live Oak	10				
1595	Live Oak	9					1657	Live Oak</																												

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1905	Live Oak	8					1966	Cedar Elm	17	Y				2027	Live Oak	11						2086	Live Oak	12				2144	Cedar Elm	9				
1906	Cedar Elm	12					1967	Cedar Elm	9	Y				2028	Live Oak	9							2086A	Live Oak	9			2145	Live Oak	8				
1907	Live Oak	8					1968	Cedar Elm	8	Y				2029	Live Oak	11							2087	Live Oak	8			2146	Live Oak	9				
1908	Live Oak	8					1969	Cedar Elm	12	Y				2030	Live Oak	13							2088	Live Oak	9			2147	Live Oak	9				
1909	Live Oak	8					1970	Cedar Elm	12	Y				2031	Live Oak	9							2089	Live Oak	9			2148	Live Oak	8				
1910	Live Oak	10					1971	Cedar Elm	9	Y				2032	Live Oak	11							2090	Live Oak	16			2149	Live Oak	9				
1911	Cedar Elm	12					1971A	Cedar Elm	9	Y				2032A	Live Oak	10							2091	Live Oak	16			2150	Live Oak	8				
1912	Cedar Elm	8					1972	Live Oak	10	Y				2032B	Live Oak	9							2091A	Live Oak	10			2151	Live Oak	8				
1913	Cedar Elm	12					1973	Live Oak	10	Y				2033	Live Oak	17							2092	Live Oak	14			2152	Live Oak	8				
1914	Live Oak	8					1974	Live Oak	8	Y				2033A	Live Oak	12							2092A	Live Oak	8			2153	Live Oak	8				
1915	Cedar Elm	13					1975	Live Oak	10	Y				2033B	Live Oak	8							2093	Live Oak	13			2154	Live Oak	11				
1915A	Cedar Elm	10					1976	Cedar Elm	9	Y				2034	Live Oak	9							2093A	Live Oak	8			2155	Live Oak	8				
1916	Cedar Elm	12	Y				1977	Cedar Elm	9	Y				2035	Live Oak	13							2094	Live Oak	11			2156	Live Oak	9				
1917	Cedar Elm	9	Y				1978	Cedar Elm	9	Y				2036	Live Oak	8							2095	Live Oak	17			2157	Cedar Elm	8				
1918	Live Oak	10	Y				1979	Cedar Elm	13	Y				2037	Live Oak	11							2096	Live Oak	9			2158	Live Oak	9				
1919	Live Oak	8	Y				1979A	Cedar Elm	8	Y				2038	Live Oak	8							2096A	Live Oak	8			2159	Live Oak	11				
1920	Live Oak	12	Y				1980	Cedar Elm	11	Y				2039	Live Oak	14							2097	Live Oak	12			2160	Live Oak	9				
1921	Live Oak	10	Y				1981	Live Oak	8	Y				2039A	Live Oak	13							2098	Live Oak	11			2161	Live Oak	9				
1922	Cedar Elm	8	Y				1982	Cedar Elm	9	Y				2040	Live Oak	13							2099	Live Oak	9			2162	Live Oak	11				
1923	Cedar Elm	18	Y				1983	Cedar Elm	10	Y				2041	Live Oak	12							2100	Live Oak	8			2163	Live Oak	10				
1924	Live Oak	9	Y				1984	Cedar Elm	11	Y				2042	Cedar Elm	16							2101	Live Oak	8			2166	Cedar Elm	31	Y			
1925	Live Oak	8	Y				1985	Cedar Elm	9	Y				2043	Live Oak	10							2102	Live Oak	13			2167	Cedar Elm	12	Y			
1926	Live Oak	10	Y				1985A	Cedar Elm	9	Y				2044	Live Oak	8							2103	Live Oak	13			2167A	Cedar Elm	12	Y			
1927	Live Oak	10	Y				1986	Cedar Elm	8	Y				2045	Live Oak	17							2104	Live Oak	16			2167B	Cedar Elm	12	Y			
1928	Live Oak	8	Y				1987	Cedar Elm	9	Y				2046	Live Oak	9							2104A	Live Oak	15			2168	Cedar Elm	16	Y			
1929	Live Oak	12	Y				1987A	Cedar Elm	8	Y				2046A	Live Oak	9							2104B	Live Oak	9			2169	Cedar Elm	13	Y			
1930	Live Oak	8	Y				1988	Cedar Elm	8	Y				2047	Live Oak	15							2105	Live Oak	12			2170	Cedar Elm	8	Y			
1931	Cedar Elm	9	Y				1989	Cedar Elm	11	Y				2047A	Live Oak	8							2106	Live Oak	9			2170A	Cedar Elm	8	Y			
1932	Live Oak	9	Y				1990	Cedar Elm	9	Y				2048	Live Oak	13							2107	Live Oak	9			2171	Cedar Elm	14	Y			
1932A	Live Oak	8	Y				1991	Live Oak	19	Y		19		2049	Live Oak	8							2108	Live Oak	8			2172	Live Oak	8				
1933	Live Oak	16	Y				1992	Cedar Elm	8	Y				2050	Cedar Elm	10							2109	Live Oak	10			2173	Live Oak	8				
1934	Live Oak	9	Y				1993	Cedar Elm	9	Y				2051	Cedar Elm	15	Y						2110	Live Oak	8			2174	Live Oak	10				
1935	Live Oak	18	Y				1994	Cedar Elm	12	Y				2052	Cedar Elm	14	Y						2111	Live Oak	9			2174A	Live Oak	9				
1936	Live Oak	13	Y				1995	Cedar Elm	12	Y				2053	Live Oak	9	Y						2112	Live Oak	8			2174B	Live Oak	8				
1937	Live Oak	10	Y				1996	Cedar Elm	12	Y				2054	Live Oak	10	Y						2113	Live Oak	8			2175	Live Oak	8				
1940	Live Oak	10	Y				1997	Cedar Elm	11	Y				2055	Live Oak	8	Y						2114	Live Oak	13			2176	Live Oak	11				
1941	Live Oak	12	Y				1998	Live Oak	10	Y				2056	Cedar Elm	8	Y						2115	Live Oak	10			2177	Live Oak	12				
1941A	Live Oak	12	Y				1999	Cedar Elm	13	Y				2057	Cedar Elm	12	Y						2116	Live Oak	8			2178	Live Oak	10				
1942	Live Oak	15	Y				2000	Live Oak	12	Y				2058	Cedar Elm	15	Y						2117	Live Oak	10			2179	Live Oak	10				
1942A	Live Oak	9	Y				2000A	Live Oak	11	Y				2059	Cedar Elm	13	Y						2118	Live Oak	9			2180	Live Oak	18				
1943	Live Oak	12	Y				2001	Live Oak	12	Y				2060	Live Oak	8	Y						2119	Live Oak	12			2181	Live Oak	10				
1944	Live Oak	11	Y				2002	Cedar Elm	8	Y				2061	Cedar Elm	14	Y						2120	Live Oak	8			2182	Live Oak	12				
1945	Live Oak	9	Y				2003	Cedar Elm	19	Y		19		2062	Live Oak	9	Y						2121	Live Oak	10			2183	Live Oak	15				
1946	Live Oak	10	Y				2004	Cedar Elm	8	Y				2063	Live Oak	10							2122	Live Oak	8			2184	Live Oak	12				
1947	Live Oak	9	Y				2005	Cedar Elm	8	Y				2064	Live Oak	11							2123	Live Oak	10			2185	Live Oak	16				
1947A	Live Oak	9	Y				2006	Live Oak	15					2065	Live Oak	9							2124	Live Oak	8			2186	Live Oak	9				
1948	Live Oak	8	Y				2006A	Live Oak	14					2066	Live Oak	9							2125	Live Oak	8			2187	Live Oak	8				
1949	Live Oak	9	Y				2007	Live Oak	13					2067	Live Oak	11							2126	Live Oak	8			2189	Live Oak	9				
1950	Live Oak	9	Y				2008	Cedar Elm	8					2068	Live Oak	9							2127	Live Oak	9			2189A	Live Oak	8				
1951	Live Oak	8	Y				2009	Cedar Elm	11					2069	Live Oak	8							2128	Live Oak	16			2190	Live Oak	10				
1952	Live Oak	11	Y				2010	Cedar Elm	8					2070	Live Oak	9							2129	Live Oak	9			2191	Live Oak	9				
1953	Live Oak	9	Y				2011	Live Oak	8					2071	Live Oak	8							2129A	Live Oak	8			2192	Live Oak	14				
1954	Live Oak	9	Y				2012	Live Oak	8					2072	Live Oak	8							2130	Live Oak	10			2193	Live Oak	9				
1955	Live Oak	8	Y				2013	Live Oak	8					2073	Live Oak	8							2131	Live Oak	9			2194	Live Oak	13				
1956	Live Oak	10	Y				2014	Live Oak	11					2074	Live Oak	10							2132	Live Oak	8			2194A	Live Oak	11				
1957	Live Oak	8					2017	Live Oak	13					2074A	Live Oak	8							2133	Live Oak	10			2195	Live Oak	13				
1958	Live Oak	8					2018	Live Oak	10					2075	Live Oak	8							2134	Live Oak	11			2196	Live Oak	9				
1958A	Live Oak	8					2019	Live Oak	11					2076	Live Oak	10							2135	Live Oak	9			2197	Live Oak	8				
1959	Live Oak	9					2020	Live Oak	9					2077	Live Oak	8							2136	Cedar Elm	8			2198	Live Oak	8				
1960	Gum Bume	8		</																														

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE MANNER 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



TREE LEGEND

- TREE TO REMAIN (8'-25')
- TREE TO BE REMOVED (8'-25')
- HERITAGE TREE TO REMAIN (26'+)
- HERITAGE TREE TO BE REMOVED (26'+)

SEE TREE PROTECTION PLAN SHEET 10

EROSION LEGEND

- LIMITS OF CONSTRUCTION
- SILT FENCE
- INLET PROTECTION
- ROCK BERM
- TREE PROTECTION
- POND BERM
- STABILIZED CONSTRUCTION ENTRANCE
- CONSTRUCTION STAGING AREA
- TEMPORARY SPOILS AREA
- ROCK RIP-RAP
- FLOW DIRECTION
- CREEK CENTERLINE
- ATLAS-14 100 YR FLOODPLAIN

NOTE:

1. THE CITY OF LEANDER ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD OR MODIFY EROSION/SEDIMENT CONTROLS ON SITE THROUGHOUT THE DURATION OF THE PROJECT.
2. REFER TO EROSION CONTROL STANDARD DETAILS SHEET 64.

REVISIONS
No. Date

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Public Improvement Construction Plans
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2



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CHECKED BY: JA
DRAWN BY: JDE
SCALE: AS SHOWN
SUBMITTAL DATE: 03/15/2023
JOB NO.: 16759-0013-00



WOODLAND ESTATES SUBDIVISION PHASE 1 & 2

EROSION CONTROL PLAN A

SHEET NO.

14

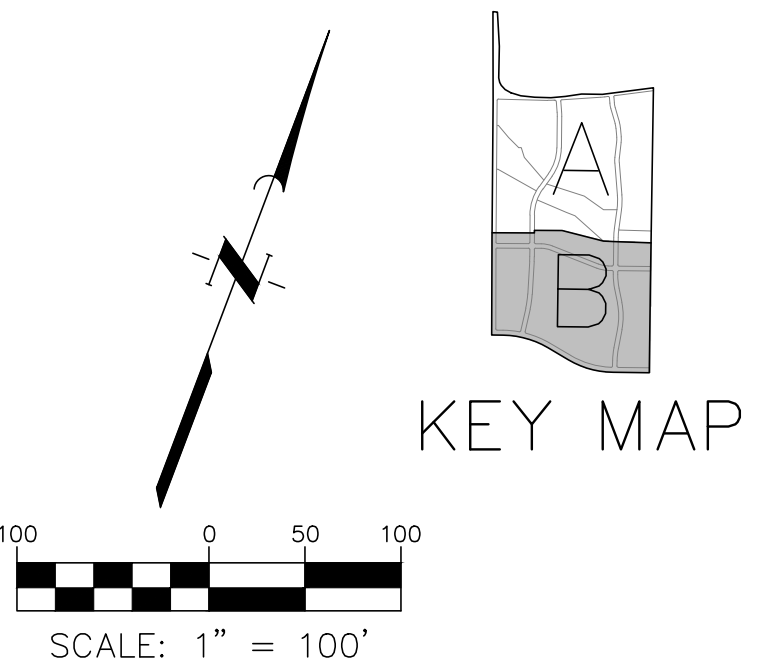
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TREE LEGEND

- TREE TO REMAIN (8'-25')
- TREE TO BE REMOVED (8'-25')
- HERITAGE TREE TO REMAIN (26'+)
- HERITAGE TREE TO BE REMOVED (26'+)

SEE TREE PROTECTION PLAN SHEET 10

EROSION LEGEND

- L.O.C. LIMITS OF CONSTRUCTION
- SILT FENCE
- INLET PROTECTION
- ROCK BERM
- TREE PROTECTION
- POND BERM
- STABILIZED CONSTRUCTION ENTRANCE
- CONSTRUCTION STAGING AREA
- TEMPORARY SPOILS AREA
- ROCK RIP-RAP
- FLOW DIRECTION
- CREEK CENTERLINE
- ATLAS-14 100 YR FLOODPLAIN

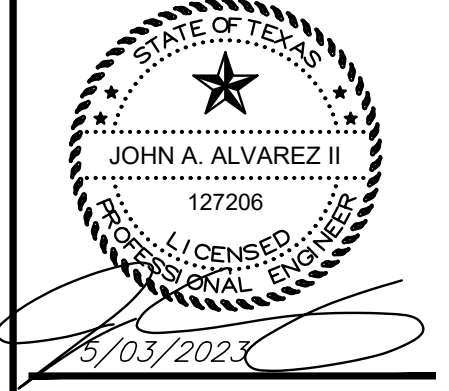
NOTE:

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2. REFER TO EROSION CONTROL STANDARD DETAILS SHEET 64.

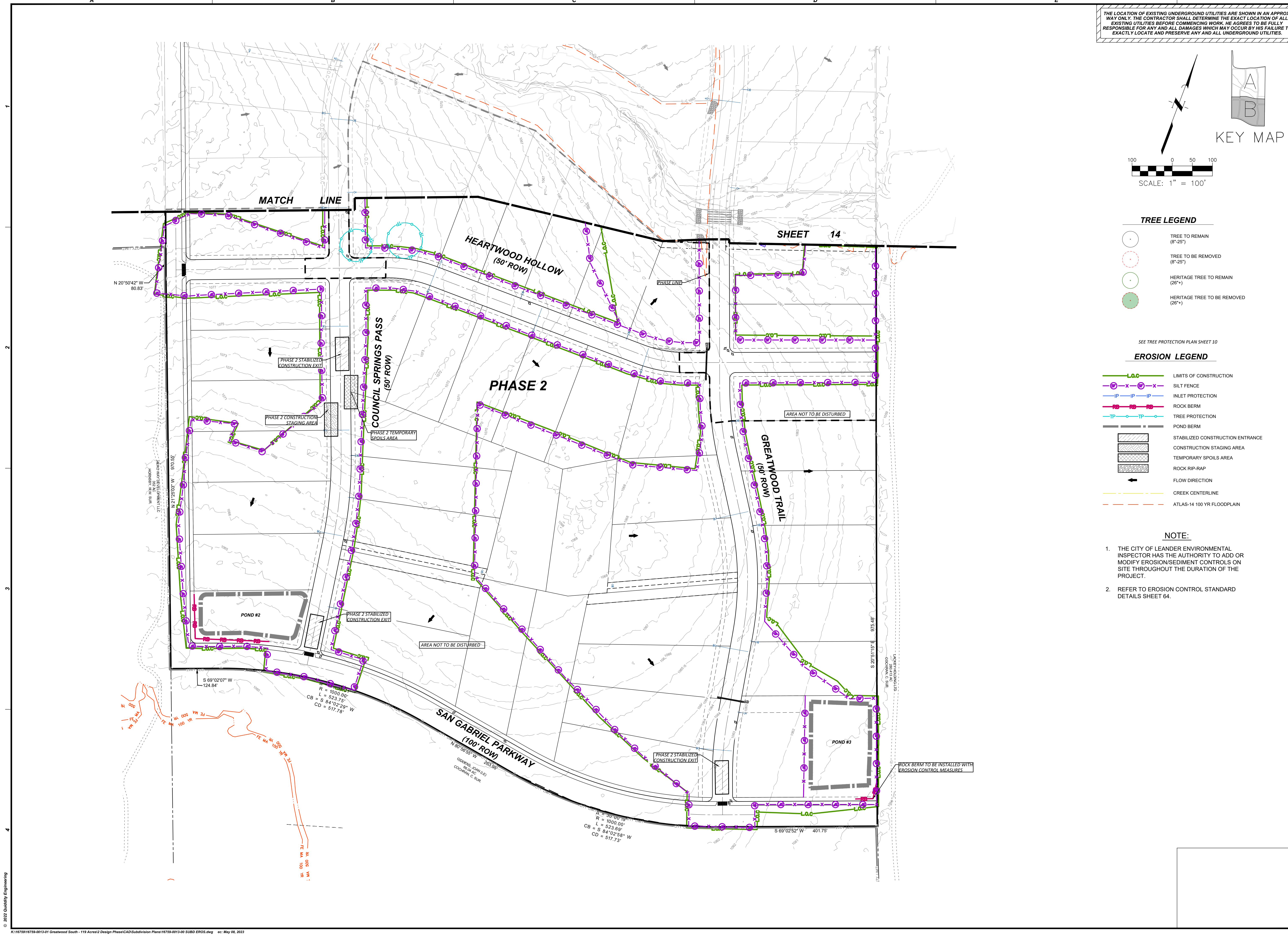
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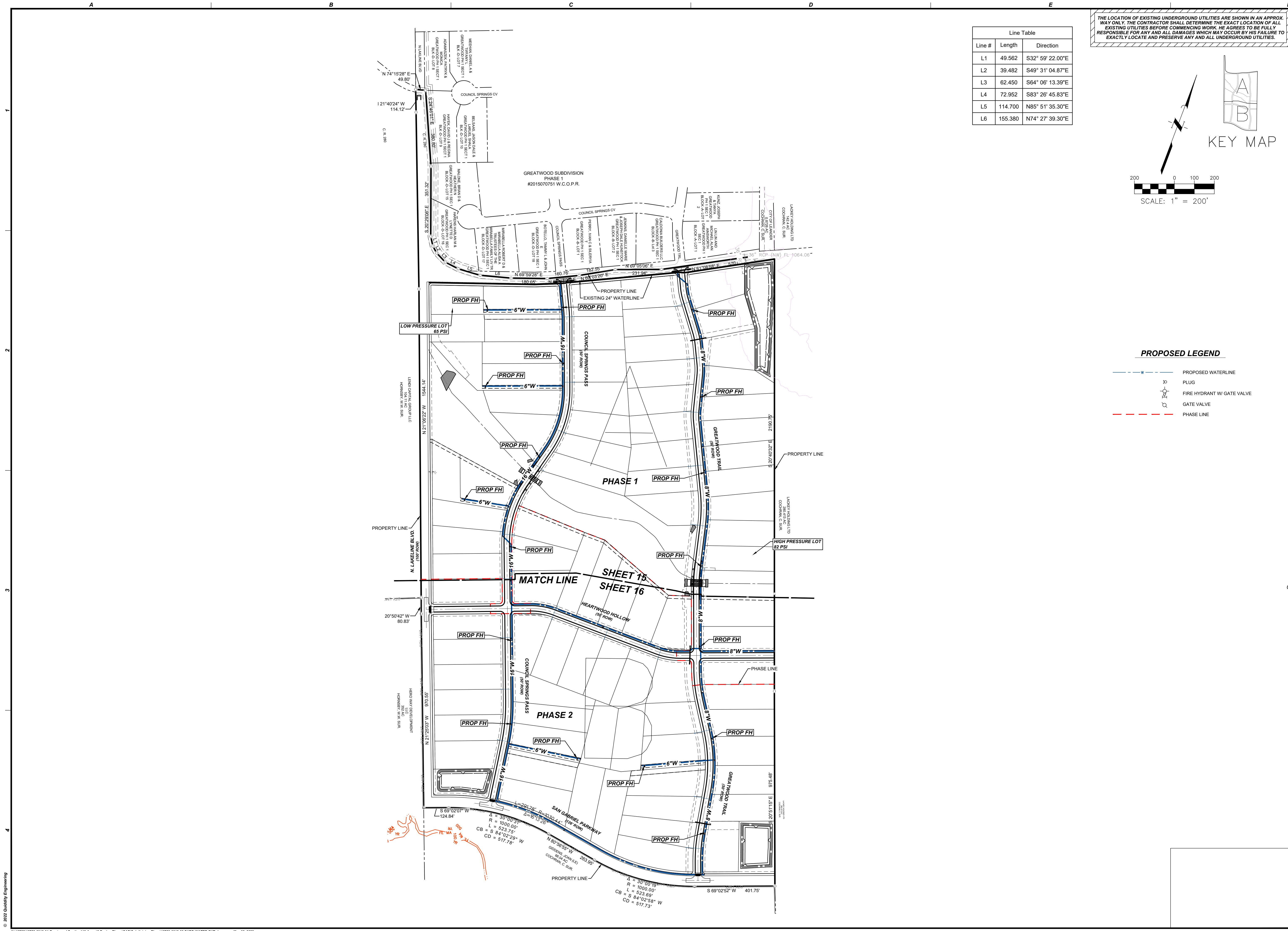
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Public Improvement Construction Plans
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2
EROSION CONTROL PLAN B

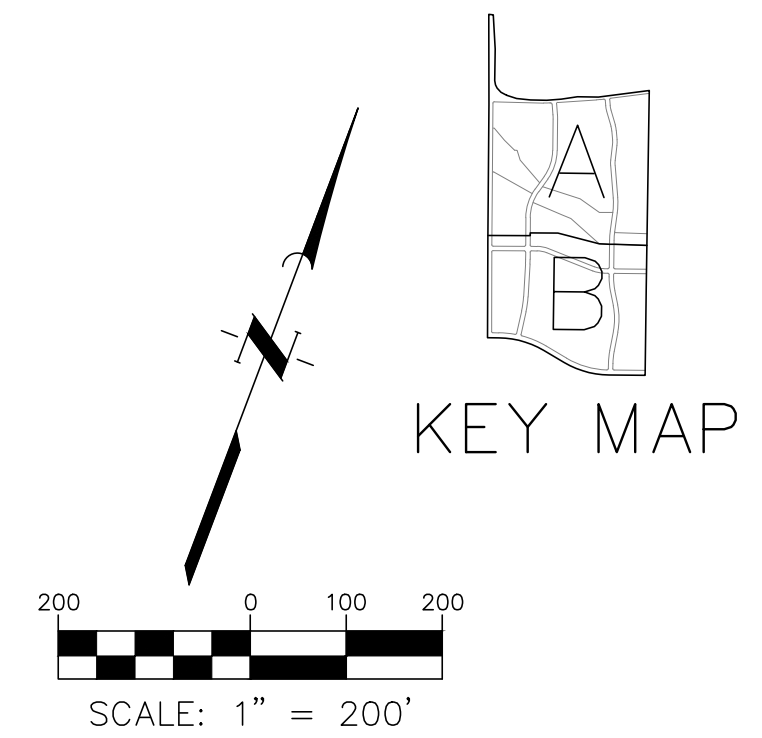


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Line #	Length	Direction
L1	49.562	S32° 59' 22.00"E
L2	39.482	S49° 31' 04.87"E
L3	62.450	S64° 06' 13.39"E
L4	72.952	S83° 26' 45.83"E
L5	114.700	N85° 51' 35.30"E
L6	155.380	N74° 27' 39.30"E

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROX. 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



PROPOSED LEGEND

- PROPOSED WATERLINE
- PLUG
- FIRE HYDRANT W/ GATE VALVE
- GATE VALVE
- PHASE LINE

No.	Date	REVISIONS

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 Woodland Estates Subdivision Phase 1 & 2
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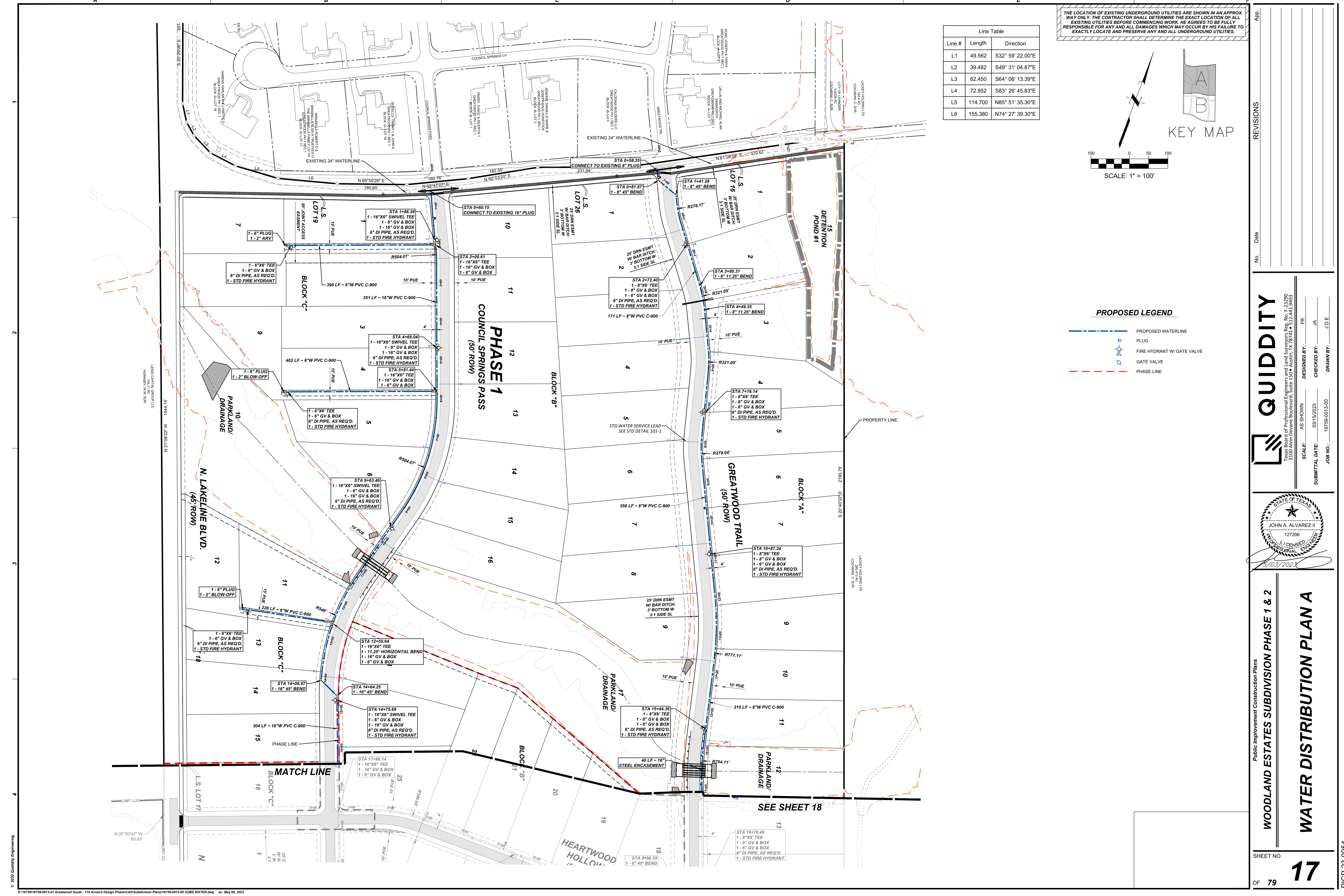
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Public Improvement Construction Plans
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2
WATER DISTRIBUTION OVERALL

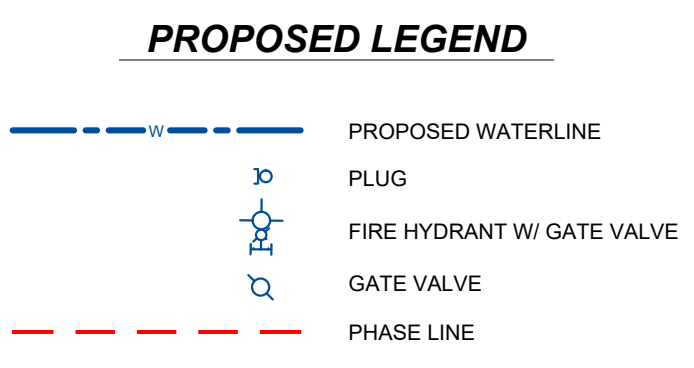
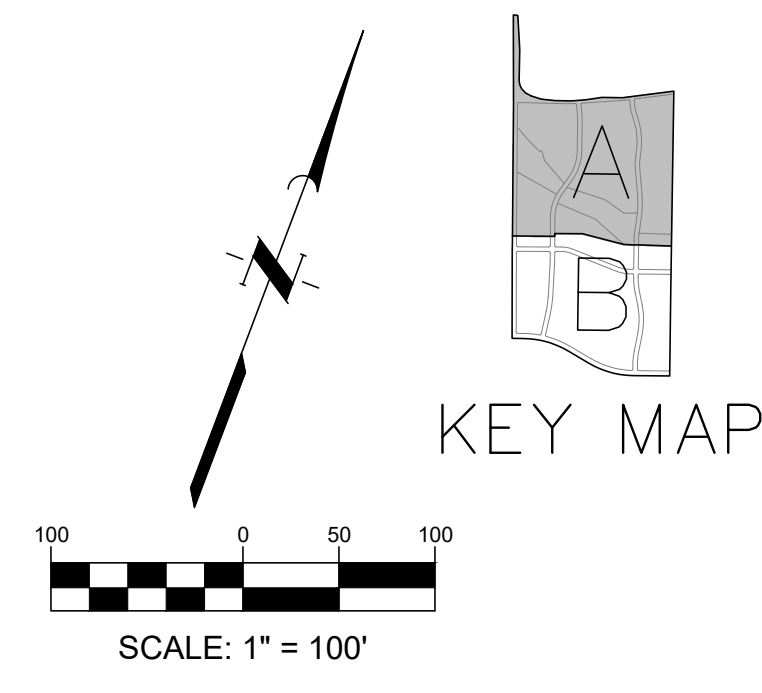
SHEET NO. **16**
 OF 79

PCP-23-0054



Line #	Length	Direction
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L2	39.482	S49° 31' 04.87"E
L3	62.450	S64° 06' 13.39"E
L4	72.952	S83° 26' 45.83"E
L5	114.700	N85° 51' 35.30"E
L6	155.380	N74° 27' 39.30"E

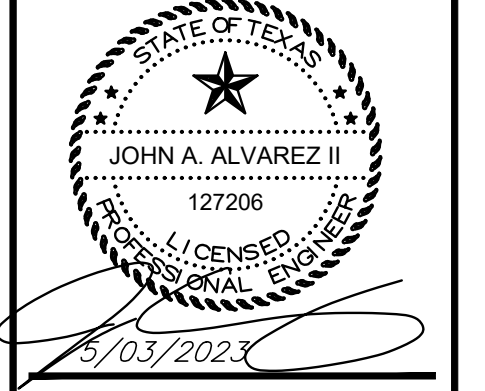
THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROX. WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE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



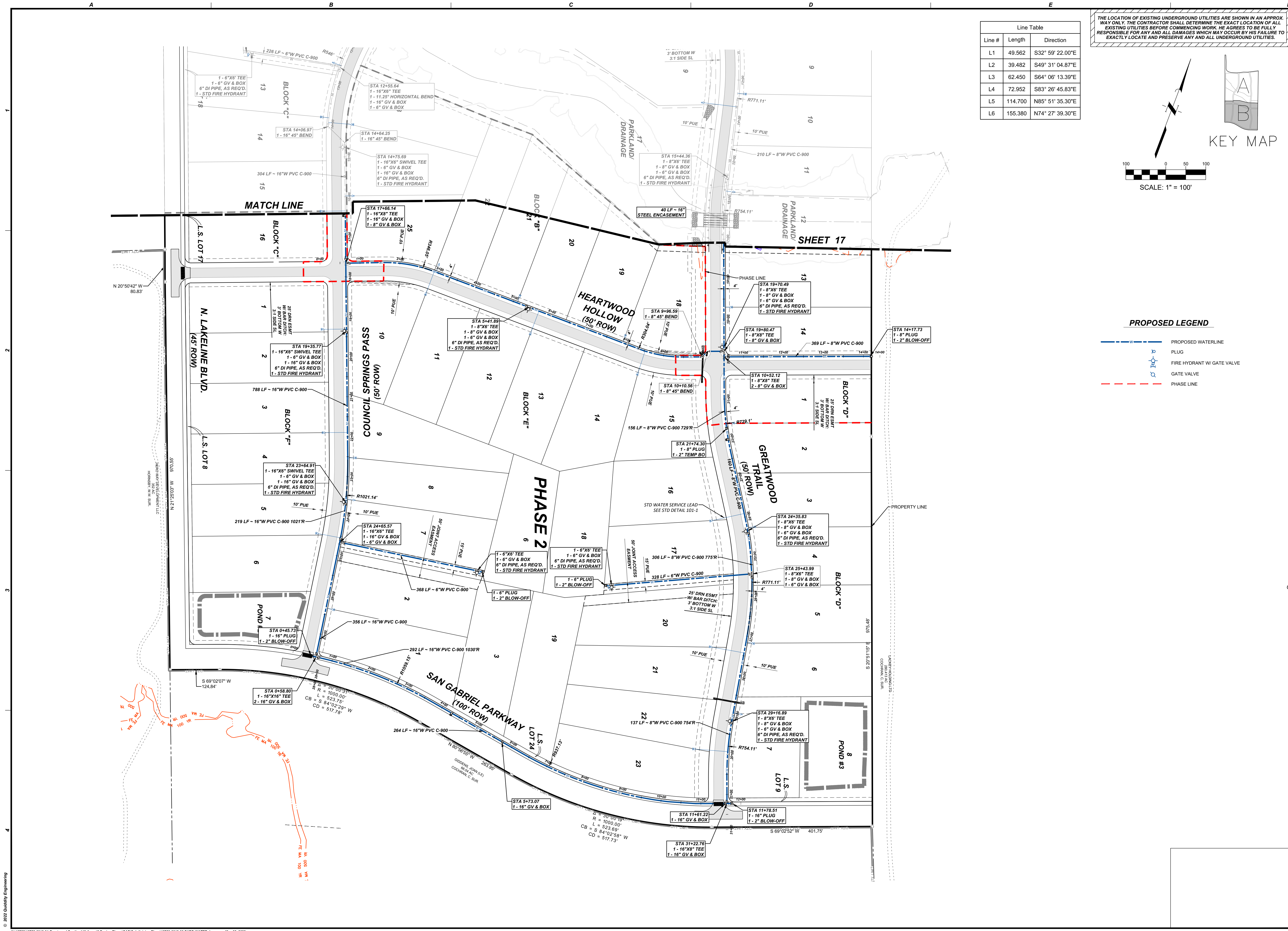
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 State of Professional Engineers and Land Surveyors, No. 6 29250
 License No. 127206
 JOHN A. ALVAREZ II
 LICENSED PROFESSIONAL ENGINEER
 5/03/2023

SCALE: AS SHOWN
 DESIGNED BY: FR
 CHECKED BY: JA
 DRAWN BY: JDE
 SUBMITTAL DATE: 03/15/2023
 JOB NO.: 16759-0013-00

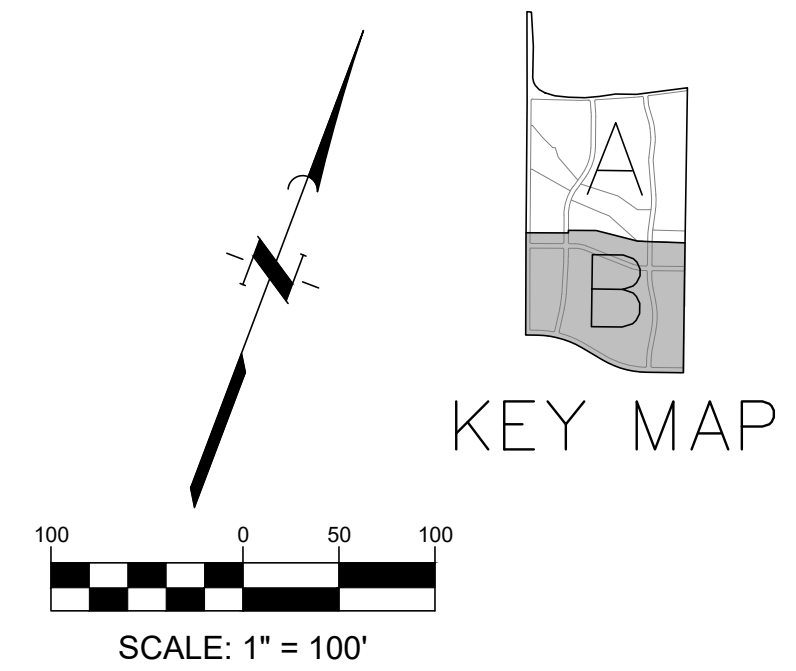


Public Improvement Construction Plans
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2
WATER DISTRIBUTION PLAN A
 SHEET NO. **17**
 OF 79
 PICP-23-0054



Line #	Length	Direction
L1	49.562	S32° 59' 22.00\"/>
L2	39.482	S49° 31' 04.87\"/>
L3	62.450	S64° 06' 13.39\"/>
L4	72.952	S83° 26' 45.83\"/>
L5	114.700	N85° 51' 35.30\"/>
L6	155.380	N74° 27' 39.30\"/>

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PROPOSED LEGEND

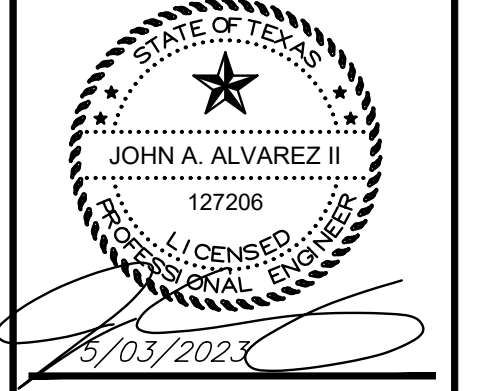
- PROPOSED WATERLINE
- PLUG
- FIRE HYDRANT W/ GATE VALVE
- GATE VALVE
- PHASE LINE

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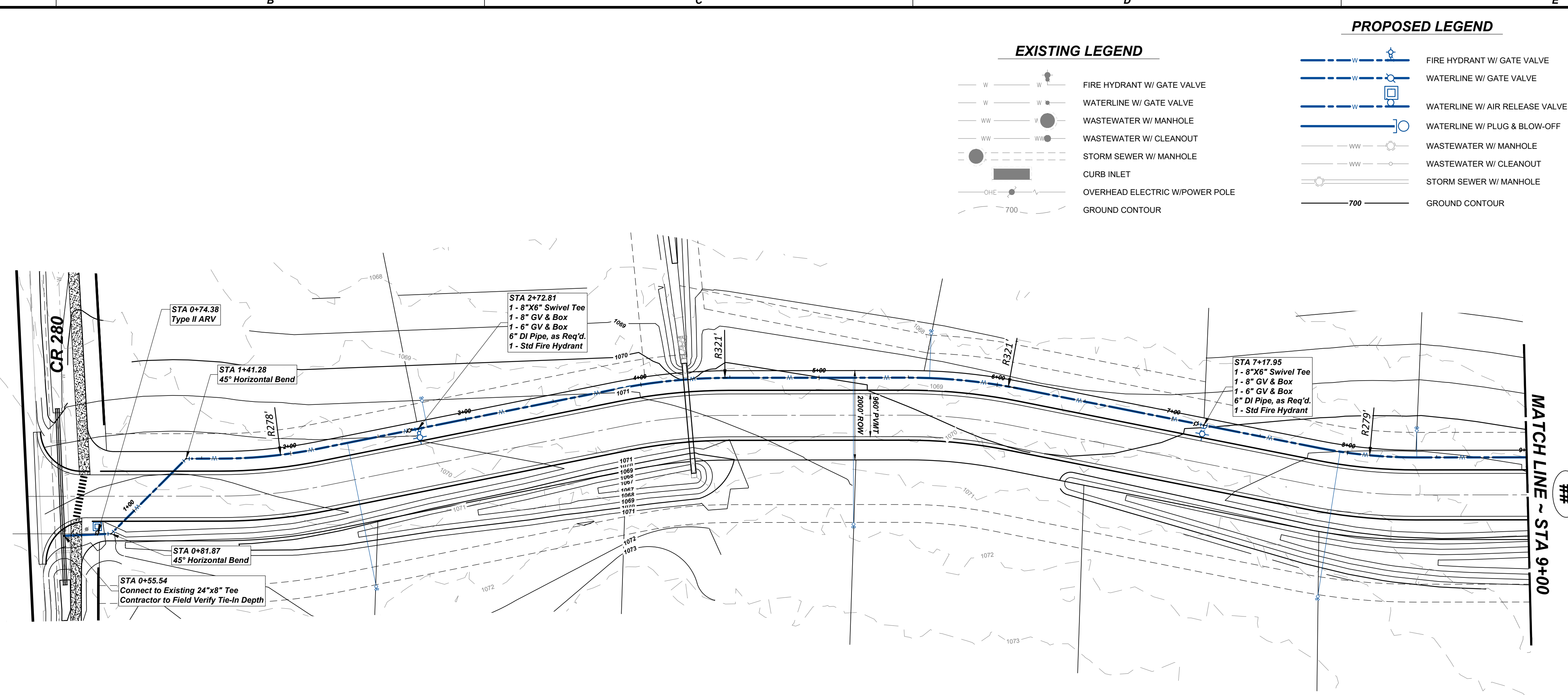
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WOODLAND ESTATES SUBDIVISION PHASE 1 & 2
WATER DISTRIBUTION PLAN B

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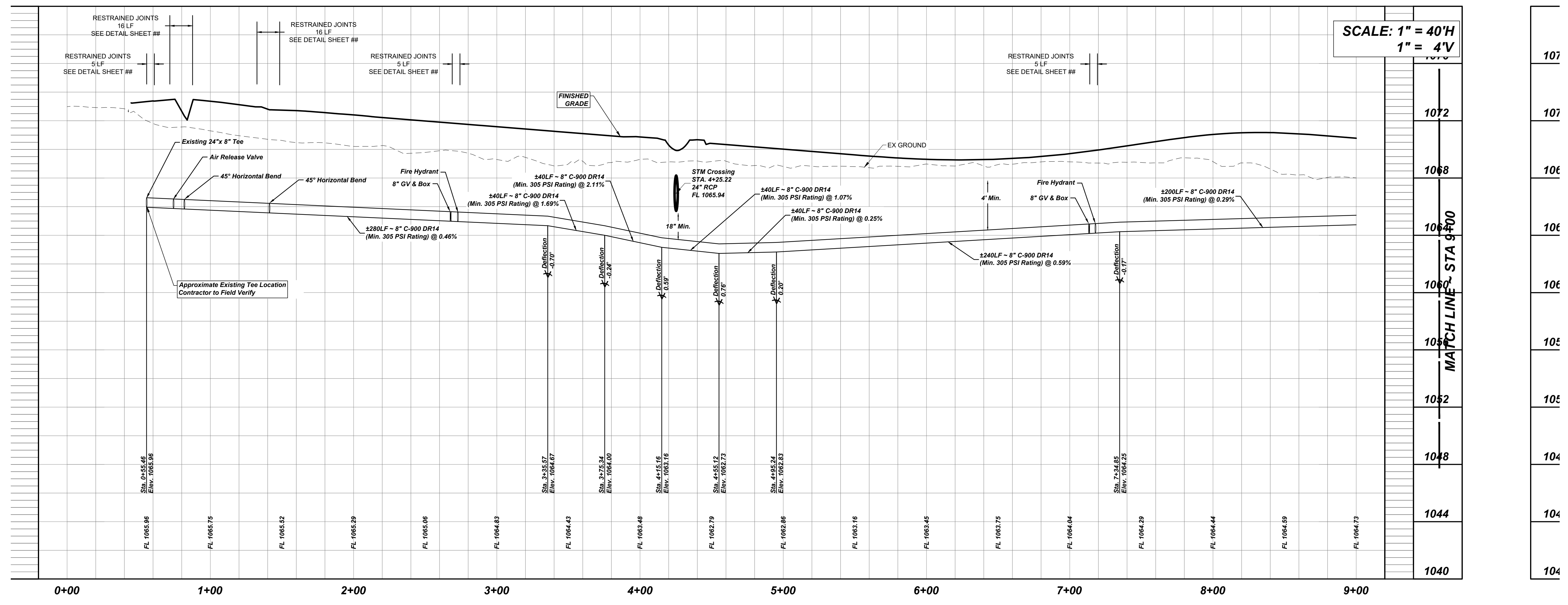


- EXISTING LEGEND**
- W - FIRE HYDRANT W/ GATE VALVE
 - W - WATERLINE W/ GATE VALVE
 - WW - WASTEWATER W/ MANHOLE
 - WW - WASTEWATER W/ CLEANOUT
 - SW - STORM SEWER W/ MANHOLE
 - CI - CURB INLET
 - OE - OVERHEAD ELECTRIC W/POW ER POLE
 - 700 - GROUND CONTOUR
- PROPOSED LEGEND**
- W - FIRE HYDRANT W/ GATE VALVE
 - W - WATERLINE W/ GATE VALVE
 - W - WATERLINE W/ AIR RELEASE VALVE
 - W - WATERLINE W/ PLUG & BLOW-OFF
 - WW - WASTEWATER W/ MANHOLE
 - WW - WASTEWATER W/ CLEANOUT
 - SW - STORM SEWER W/ MANHOLE
 - 700 - GROUND CONTOUR

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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

SCALE: 1" = 40'

WATERLINE PROFILE - GREATWOOD TRAIL



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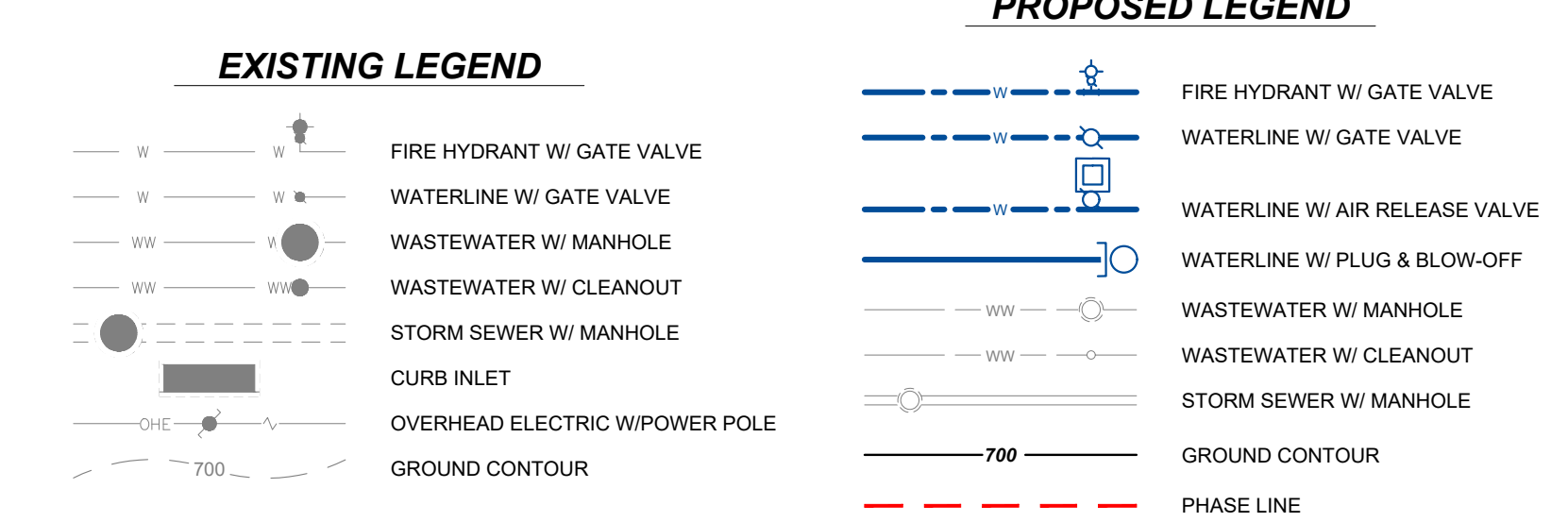
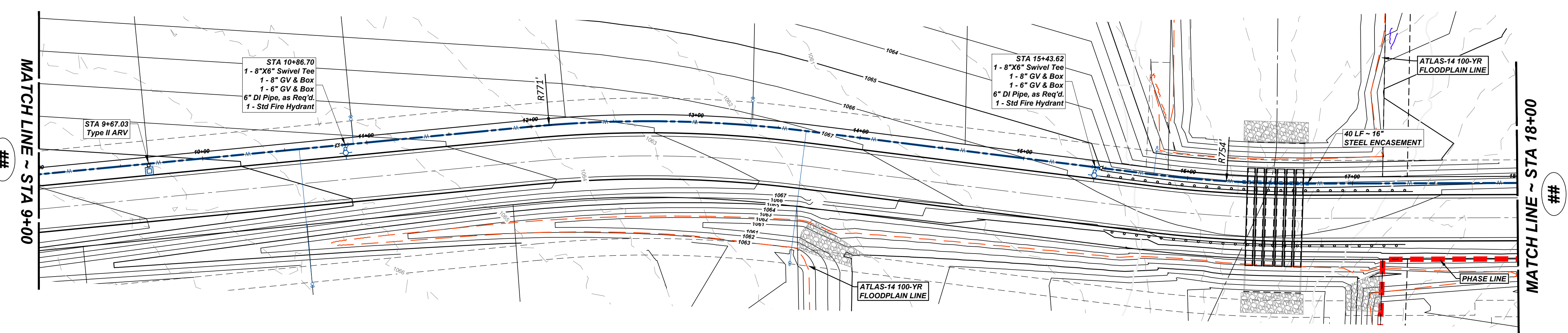
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 SUBMITTAL DATE: 6/14/2022
 JOB NO.: 17232-0001-01
 DRAWN BY: JDE

STATE OF TEXAS
 JOHN A. ALVAREZ II
 127206
 LICENSED PROFESSIONAL ENGINEER
 5/03/2023

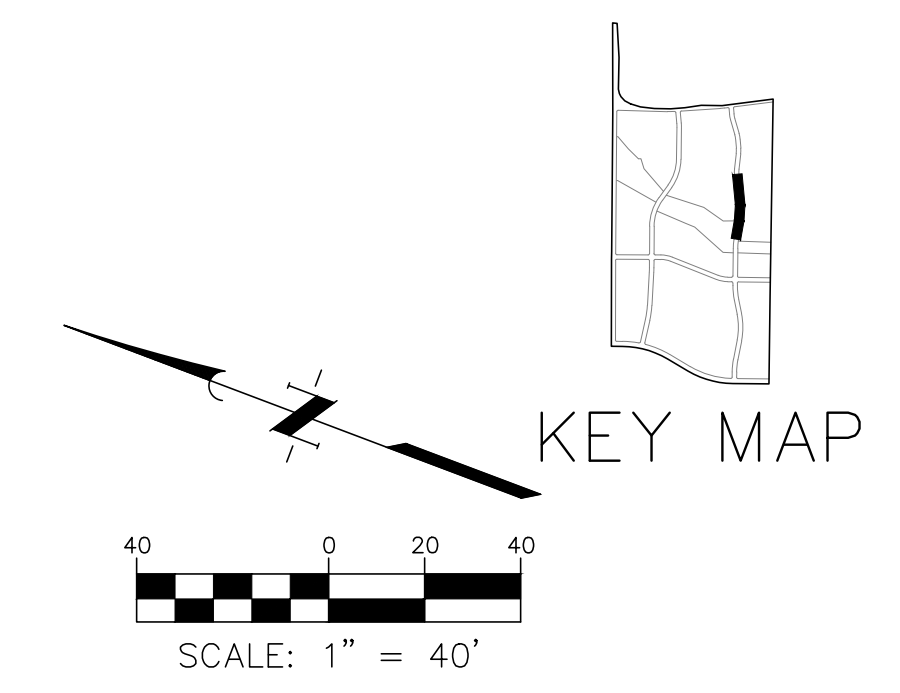
CONSTRUCTION PLANS
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 PLAN AND PROFILE
WATER - GREATWOOD TRAIL
 STA 0+00 TO STA 9+00

SHEET NO. **19**
 OF 79

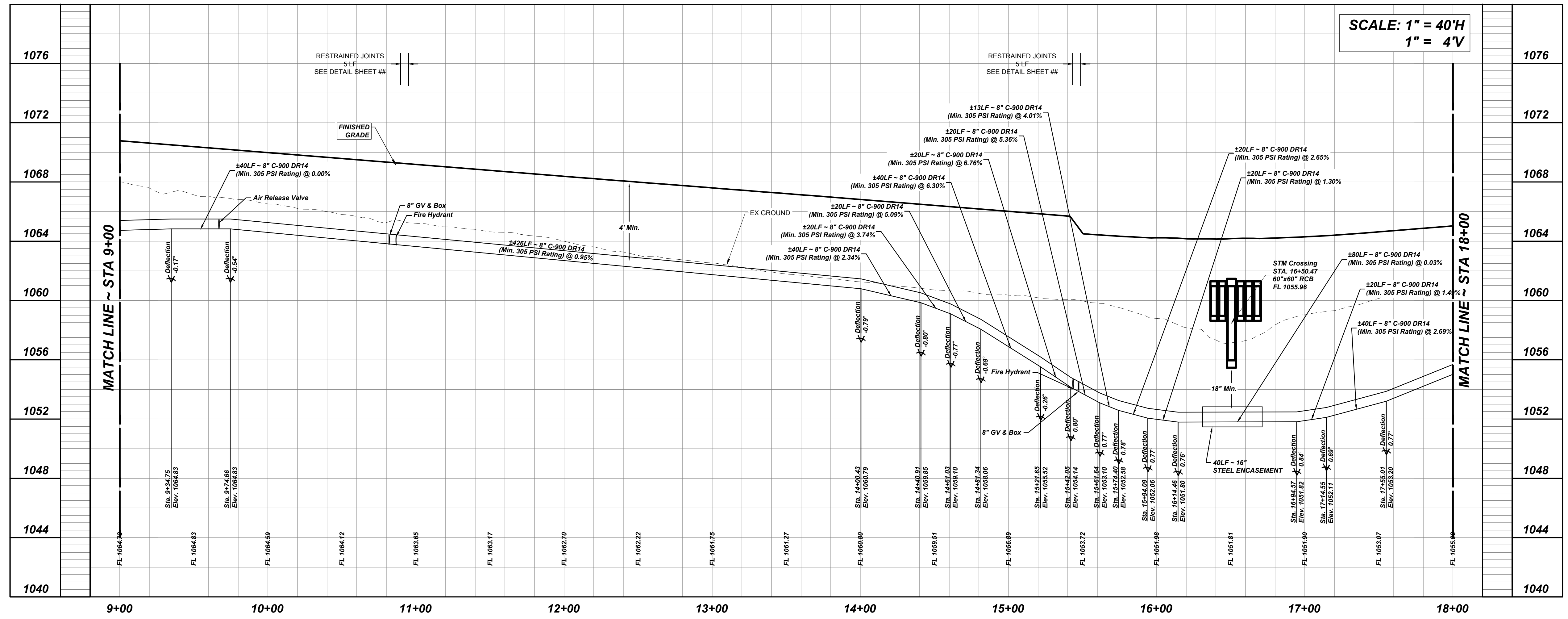
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WATERLINE PROFILE - GREATWOOD TRAIL

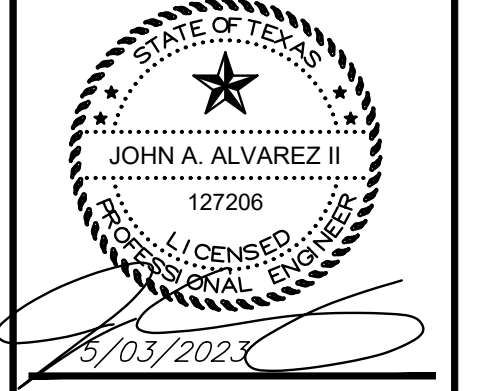


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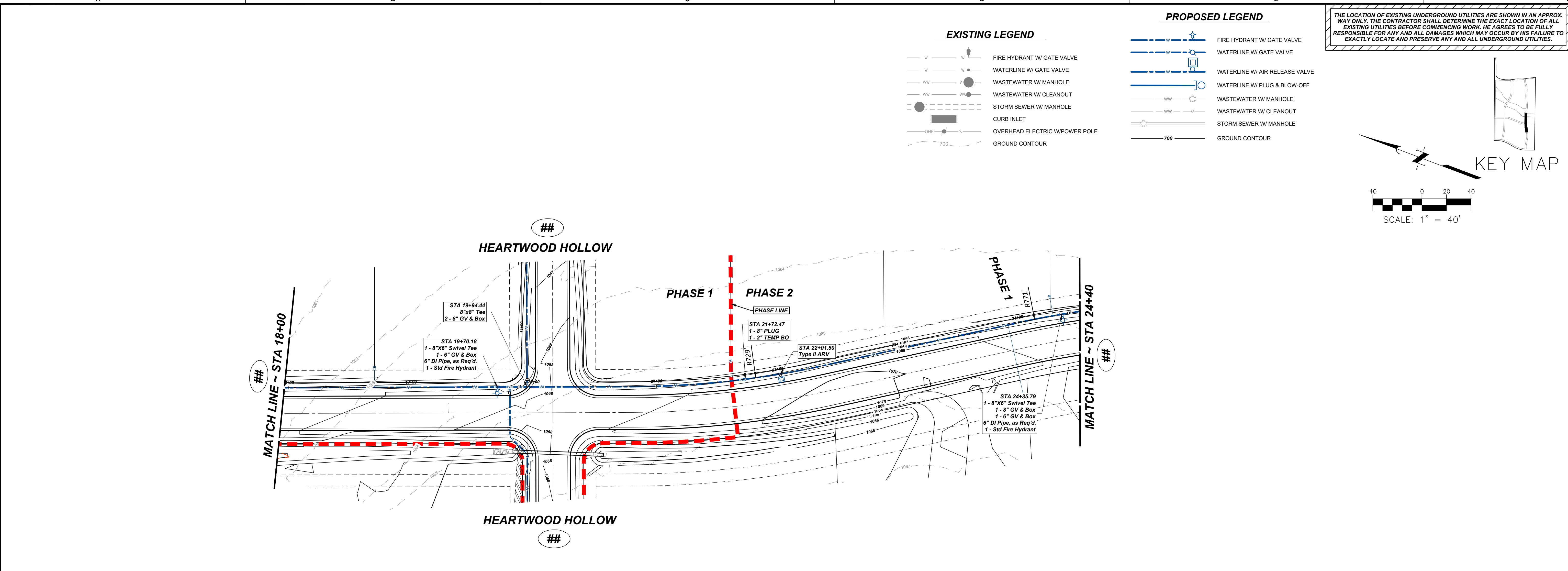


CONSTRUCTION PLANS
 LEANDER ESTATES SUBDIVISION
 PLAN AND PROFILE
WATER - GREATWOOD TRAIL
 STA 9+00 TO STA 18+00

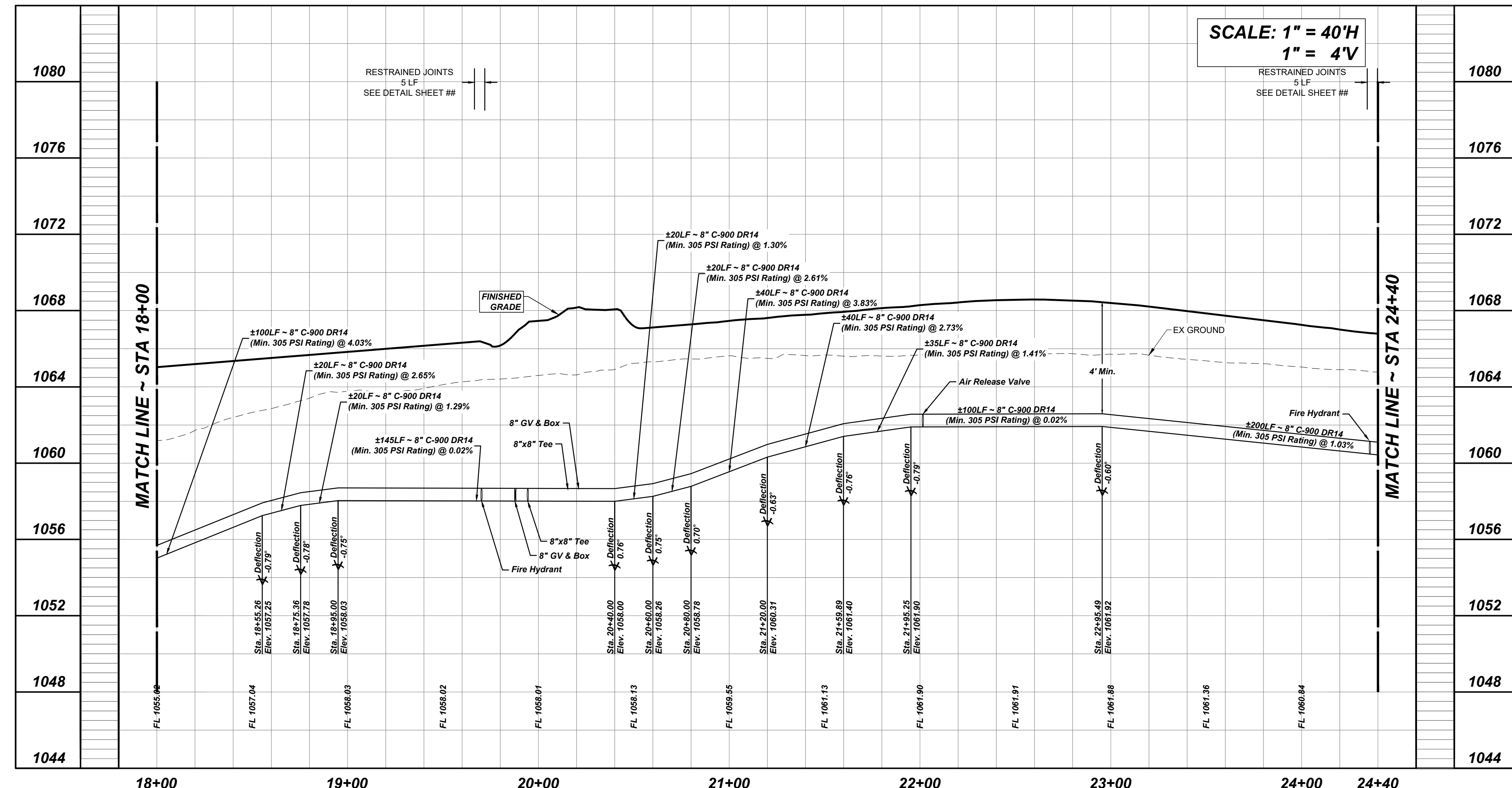
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1
2
3
4



WATERLINE PROFILE - GREATWOOD TRAIL



EXISTING LEGEND

- W - FIRE HYDRANT W/ GATE VALVE
- W - WATERLINE W/ GATE VALVE
- WW - WASTEWATER W/ MANHOLE
- WW - WASTEWATER W/ CLEANOUT
- SW - STORM SEWER W/ MANHOLE
- CI - CURB INLET
- OE - OVERHEAD ELECTRIC WIPOWER POLE
- 700 - GROUND CONTOUR

PROPOSED LEGEND

- W - FIRE HYDRANT W/ GATE VALVE
- W - WATERLINE W/ GATE VALVE
- W - WATERLINE W/ AIR RELEASE VALVE
- W - WATERLINE W/ PLUG & BLOW-OFF
- WW - WASTEWATER W/ MANHOLE
- WW - WASTEWATER W/ CLEANOUT
- SW - STORM SEWER W/ MANHOLE
- 700 - GROUND CONTOUR

KEY MAP

SCALE: 1" = 40'

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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

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JOB NO.: 17232-0001-01

STATE OF TEXAS
JOHN A. ALVAREZ II
127206
LICENSED PROFESSIONAL ENGINEER
5/03/2023

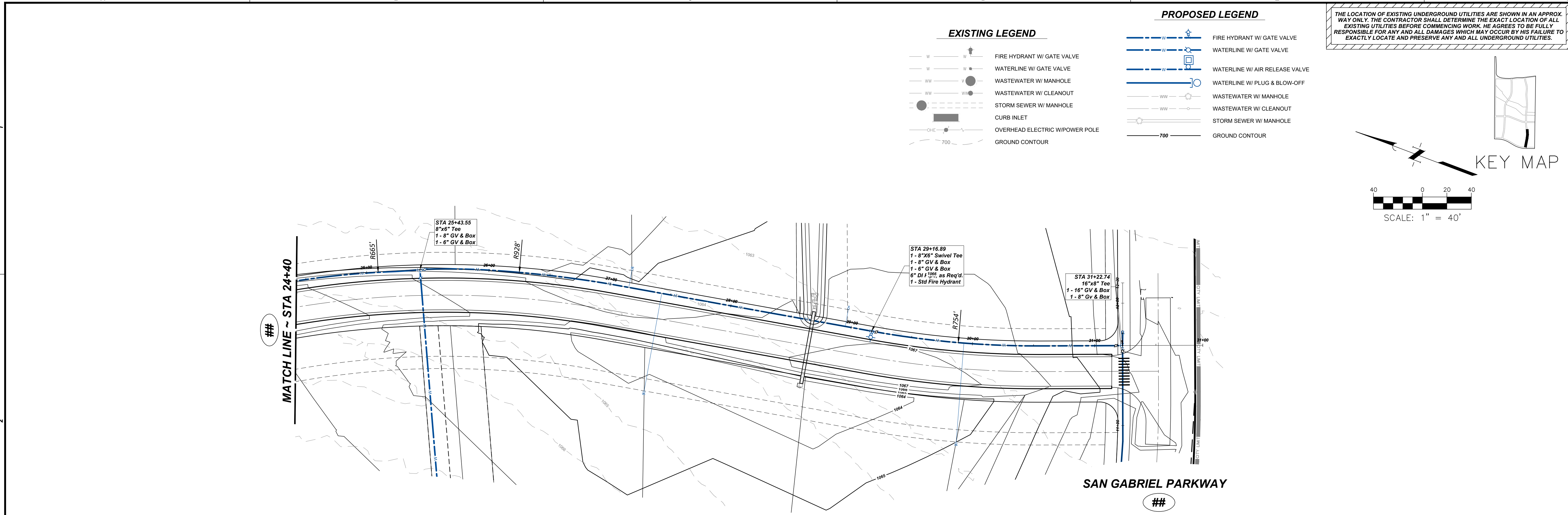
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LEANDER ESTATES SUBDIVISION
PLAN AND PROFILE
WATER - GREATWOOD TRAIL
STA 18+00 TO STA 24+40

SHEET NO. **21**
OF 79

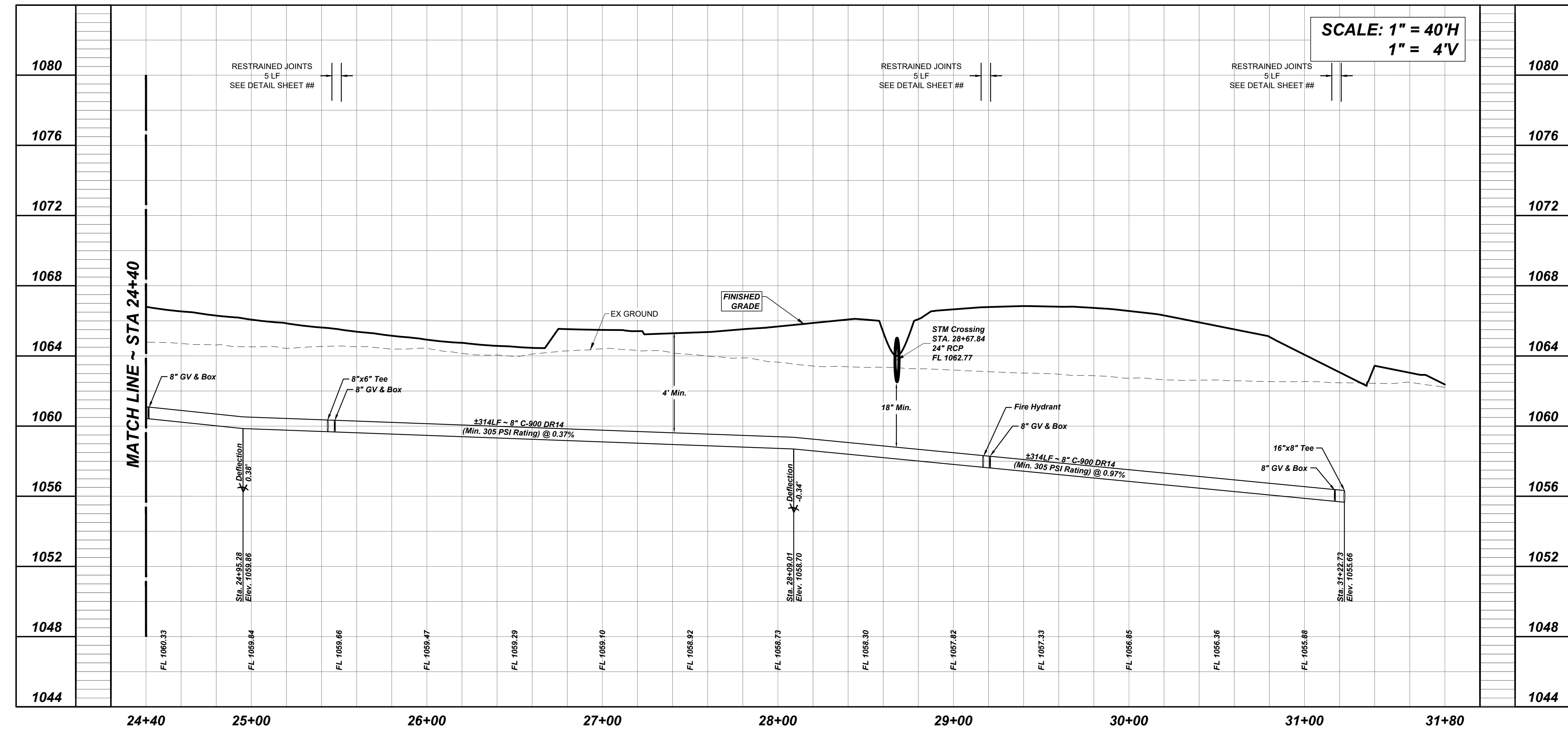
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4



WATERLINE PROFILE - GREATWOOD TRAIL



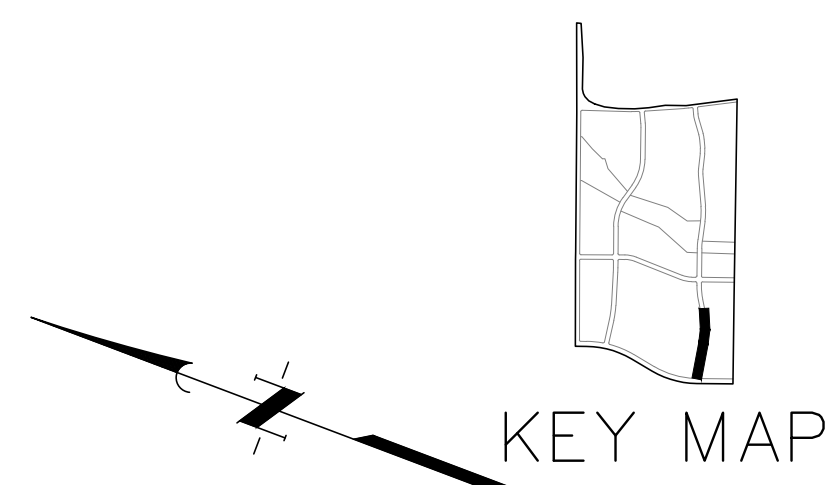
PROPOSED LEGEND

- FIRE HYDRANT W/ GATE VALVE
- WATERLINE W/ GATE VALVE
- WATERLINE W/ AIR RELEASE VALVE
- WATERLINE W/ PLUG & BLOW-OFF
- WASTEWATER W/ MANHOLE
- WASTEWATER W/ CLEANOUT
- STORM SEWER W/ MANHOLE
- GROUND CONTOUR

EXISTING LEGEND

- FIRE HYDRANT W/ GATE VALVE
- WATERLINE W/ GATE VALVE
- WASTEWATER W/ MANHOLE
- WASTEWATER W/ CLEANOUT
- STORM SEWER W/ MANHOLE
- CURB INLET
- OVERHEAD ELECTRIC W/ POWER POLE
- GROUND CONTOUR

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 DESIGNED BY: FR
 CHECKED BY: JA
 DRAWN BY: JDE

SUBMITTAL DATE: 6/14/2022
 JOB NO.: 17232-0001-01

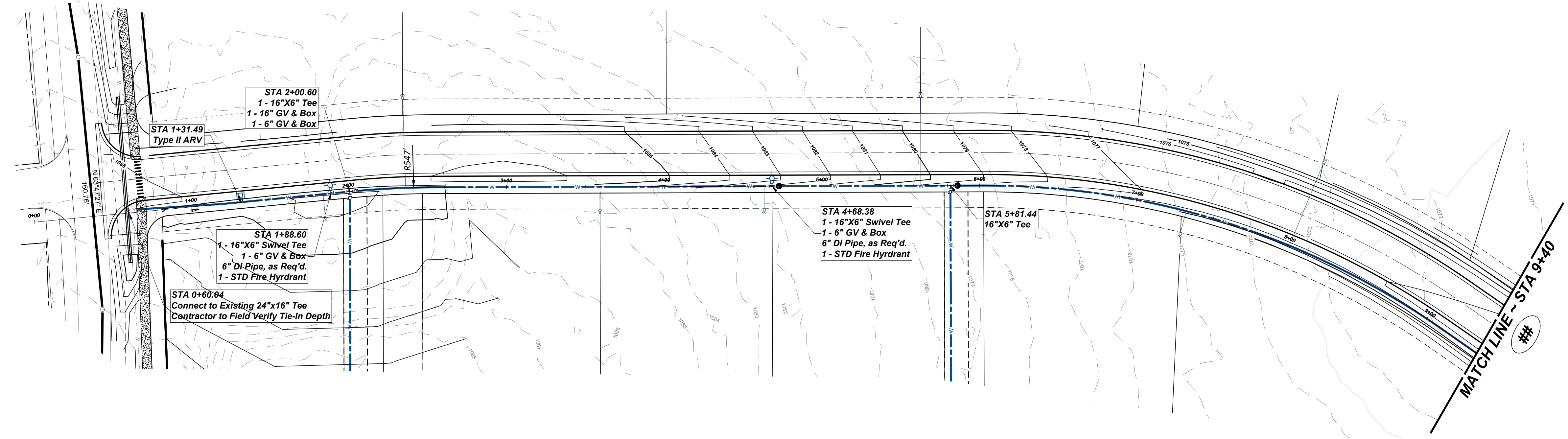


CONSTRUCTION PLANS
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 PLAN AND PROFILE
WATER - GREATWOOD TRAIL
 STA 24+40 TO STA 31+80

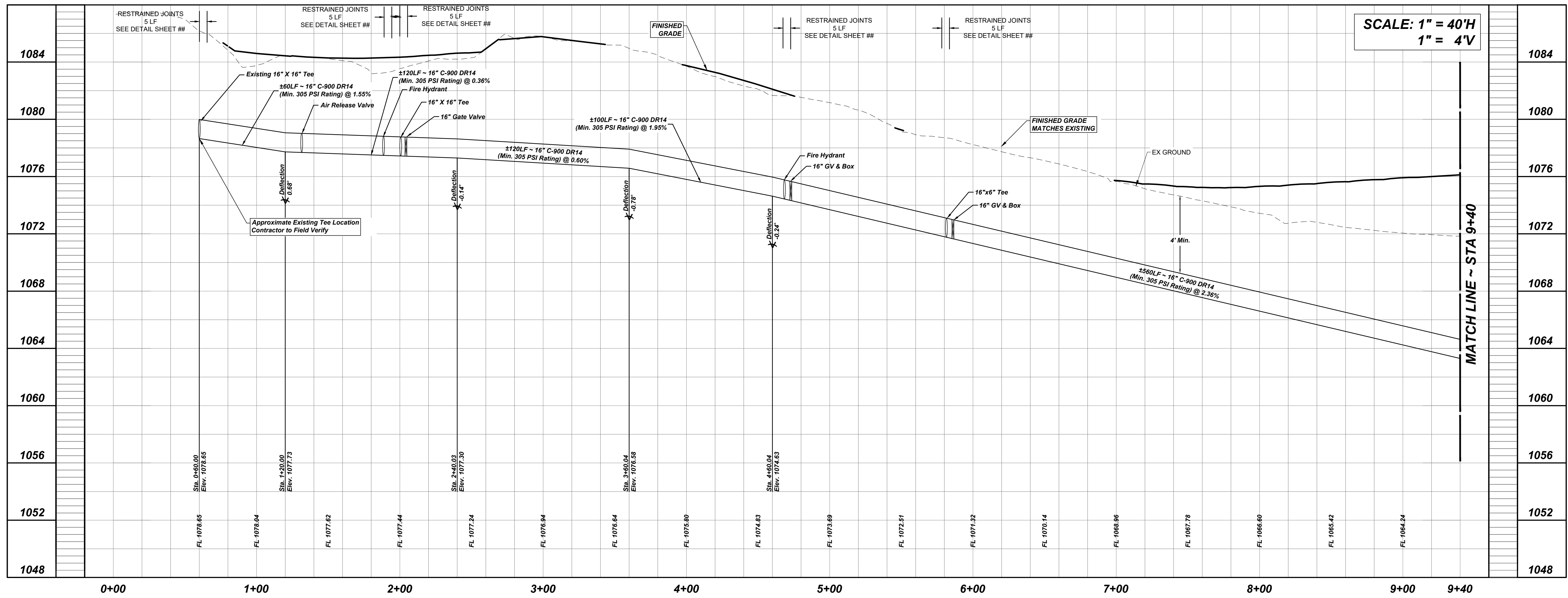
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- EXISTING LEGEND**
- W W FIRE HYDRANT W/ GATE VALVE
 - W W WATERLINE W/ GATE VALVE
 - W W WASTEWATER W/ MANHOLE
 - W W WASTEWATER W/ CLEANOUT
 - SS STORM SEWER W/ MANHOLE
 - CI CURB INLET
 - OE OVERHEAD ELECTRIC W/POWER POLE
 - 700 GROUND CONTOUR
- PROPOSED LEGEND**
- W W FIRE HYDRANT W/ GATE VALVE
 - W W WATERLINE W/ GATE VALVE
 - W W WATERLINE W/ AIR RELEASE VALVE
 - W W WATERLINE W/ PLUG & BLOW-OFF
 - W W WASTEWATER W/ MANHOLE
 - W W WASTEWATER W/ CLEANOUT
 - SS STORM SEWER W/ MANHOLE
 - 700 GROUND CONTOUR
 - PHASE LINE



WATERLINE PROFILE - COUNCIL SPRINGS PASS



REVISIONS

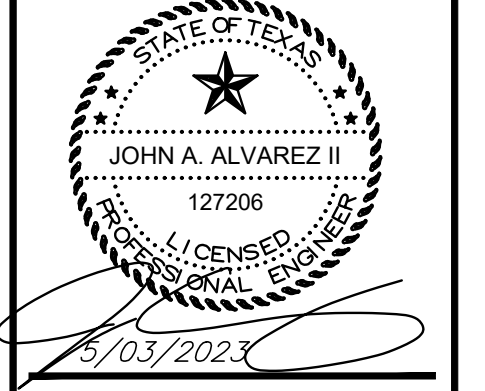
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QUIDDITY

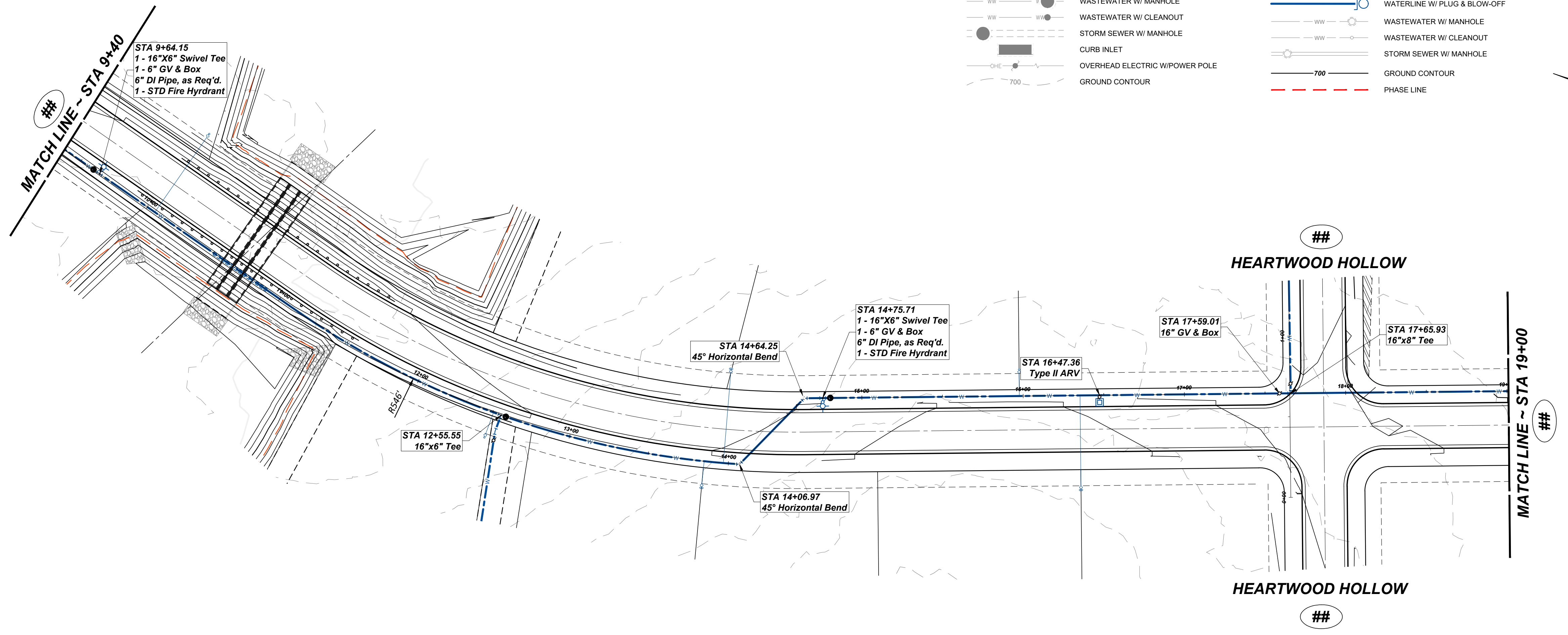
Professional Engineer License No. 62920
 3100 Avenue of the Americas, Suite 1500, Houston, TX 77010-1500, USA
 281.441.5493

DESIGNED BY: FR
 CHECKED BY: JA
 DRAWN BY: JDE

SCALE: AS SHOWN
 SUBMITTAL DATE: 6/14/2022
 JOB NO.: 17232-0001-01



CONSTRUCTION PLANS
LEANDER ESTATES SUBDIVISION
 PLAN AND PROFILE
WATER - COUNCIL SPRINGS PASS
 STA 0+00 TO STA 9+40



EXISTING LEGEND

- W - FIRE HYDRANT W/ GATE VALVE
- W - WATERLINE W/ GATE VALVE
- WW - WASTEWATER W/ MANHOLE
- WW - WASTEWATER W/ CLEANOUT
- SW - STORM SEWER W/ MANHOLE
- CI - CURB INLET
- OHE - OVERHEAD ELECTRIC WIPOWER POLE
- GC - GROUND CONTOUR

PROPOSED LEGEND

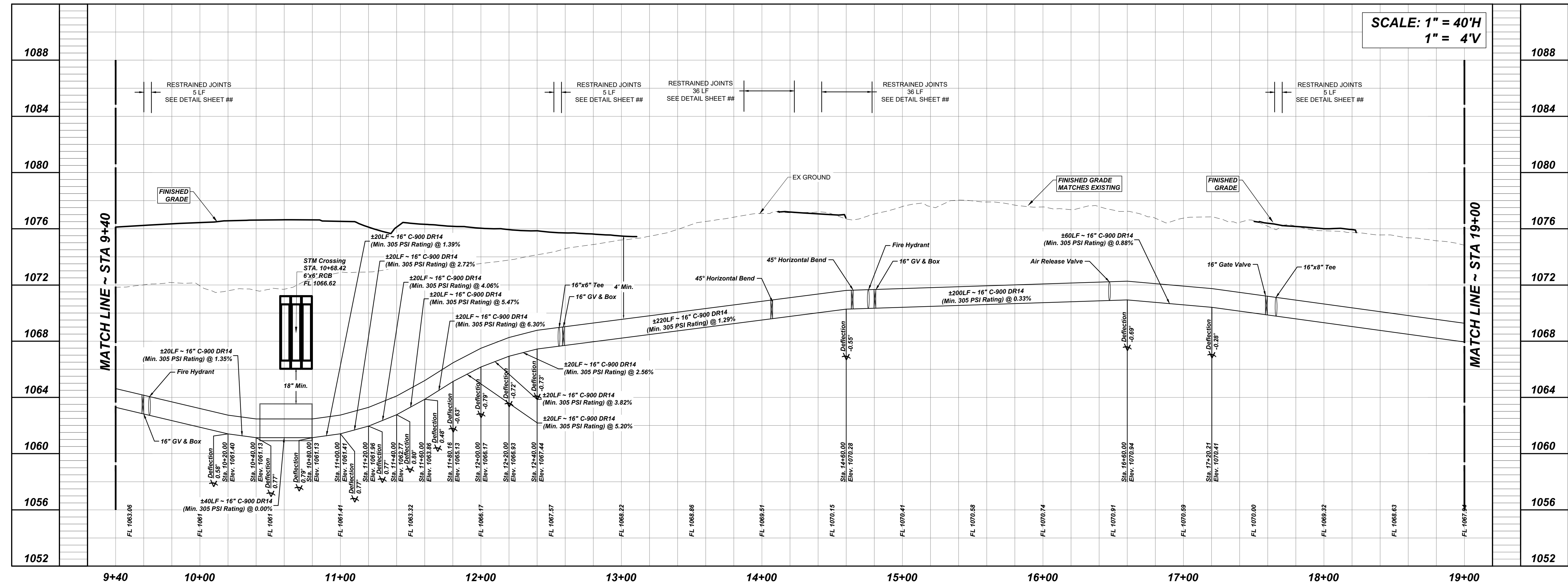
- W - FIRE HYDRANT W/ GATE VALVE
- W - WATERLINE W/ GATE VALVE
- W - WATERLINE W/ AIR RELEASE VALVE
- W - WATERLINE W/ PLUG & BLOW-OFF
- WW - WASTEWATER W/ MANHOLE
- WW - WASTEWATER W/ CLEANOUT
- SW - STORM SEWER W/ MANHOLE
- GC - GROUND CONTOUR
- PL - PHASE LINE

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KEY MAP

SCALE: 1" = 40'

WATERLINE PROFILE - COUNCIL SPRINGS PASS



REVISIONS

No. Date

QUIDDITY

Professional Engineer License No. 127206
 State of Texas
 JOHN A. ALVAREZ II
 LICENSED PROFESSIONAL ENGINEER

DESIGNED BY: FR
 CHECKED BY: JA
 DRAWN BY: JDE

SCALE: AS SHOWN
 SUBMITTAL DATE: 6/14/2022
 JOB NO.: 17232-0001-01

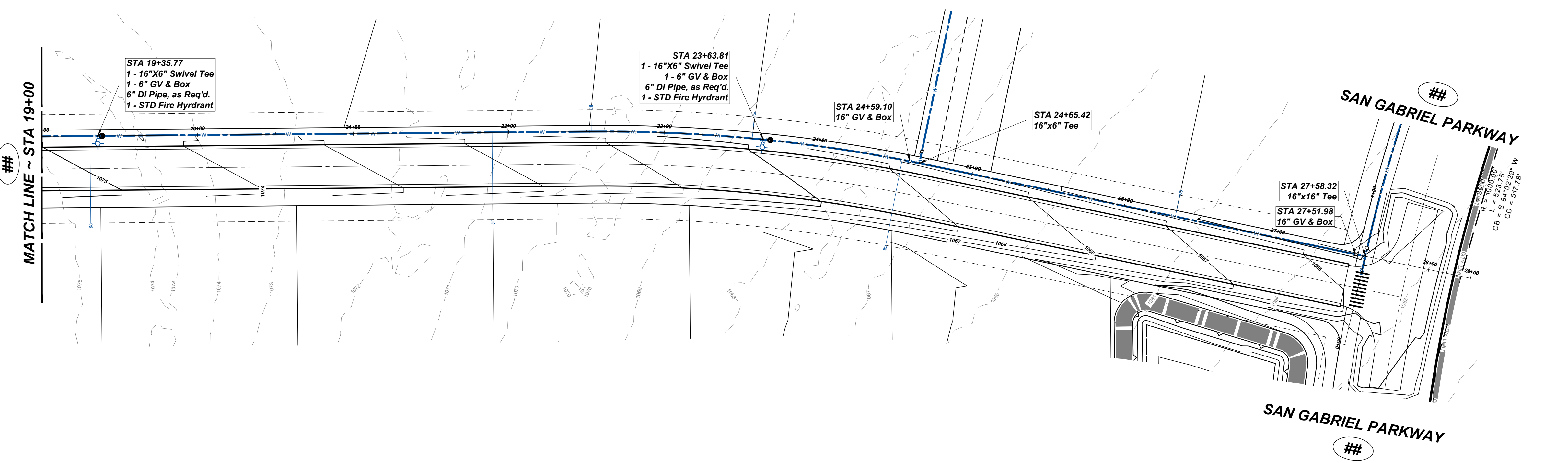
CONSTRUCTION PLANS
 LEANDER ESTATES SUBDIVISION
 PLAN AND PROFILE
WATER - COUNCIL SPRINGS PASS
 STA 9+40 TO STA 19+00

SHEET NO. **24**
 OF 79

21-PP-013

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K:\16759\16759-0013-01 Greatwood South - 119 Acres\2 Design Phase\CAD\Subdivision Plans\16759-0013-00 SUBD WTR-B.dwg oc: May 08, 2022

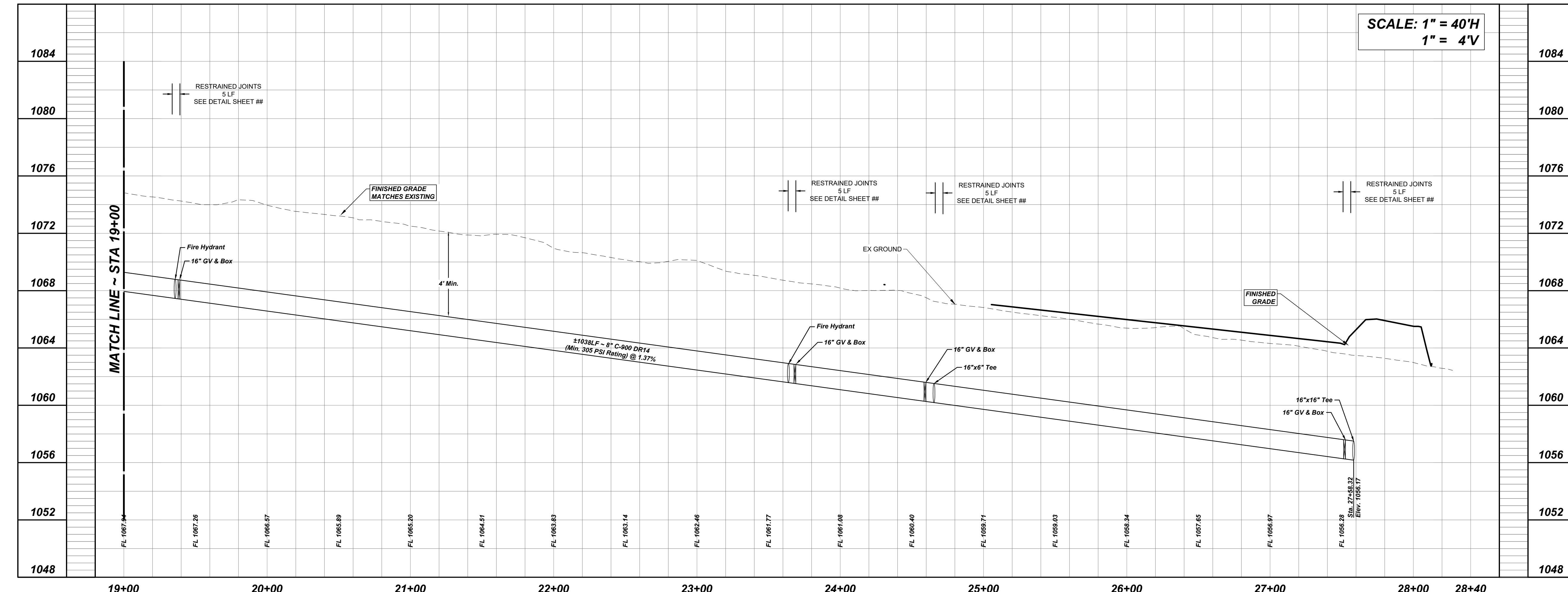


- EXISTING LEGEND**
- WIRE SYMBOL: FIRE HYDRANT W/ GATE VALVE
 - WIRE SYMBOL: WATERLINE W/ GATE VALVE
 - WIRE SYMBOL: WASTEWATER W/ MANHOLE
 - WIRE SYMBOL: WASTEWATER W/ CLEANOUT
 - WIRE SYMBOL: STORM SEWER W/ MANHOLE
 - WIRE SYMBOL: CURB INLET
 - WIRE SYMBOL: OVERHEAD ELECTRIC W/POWER POLE
 - WIRE SYMBOL: GROUND CONTOUR
- PROPOSED LEGEND**
- WIRE SYMBOL: FIRE HYDRANT W/ GATE VALVE
 - WIRE SYMBOL: WATERLINE W/ GATE VALVE
 - WIRE SYMBOL: WATERLINE W/ AIR RELEASE VALVE
 - WIRE SYMBOL: WATERLINE W/ PLUG & BLOW-OFF
 - WIRE SYMBOL: WASTEWATER W/ MANHOLE
 - WIRE SYMBOL: WASTEWATER W/ CLEANOUT
 - WIRE SYMBOL: STORM SEWER W/ MANHOLE
 - WIRE SYMBOL: GROUND CONTOUR
 - WIRE SYMBOL: PHASE LINE

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SCALE: 1" = 40'

WATERLINE PROFILE - COUNCIL SPRINGS PASS



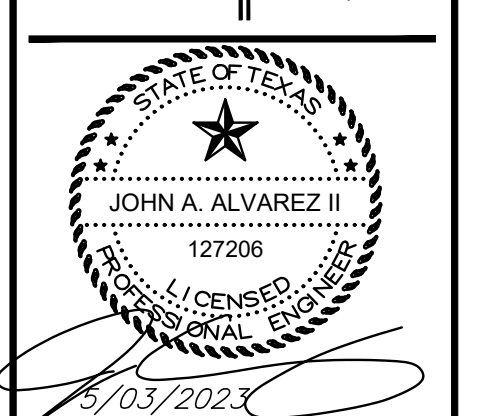
REVISIONS

No.	Date

QUIDDITY

Professional Engineer License No. 23250
 3100 Alvin Avenue, Suite 150 • Houston, TX 77021 • 281.441.9490

SCALE: AS SHOWN
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 CHECKED BY: JA
 SUBMITTAL DATE: 6/14/2022
 JOB NO.: 17232-0001-01
 DRAWN BY: JDE



CONSTRUCTION PLANS
 LEANDER ESTATES SUBDIVISION
 PLAN AND PROFILE
WATER - COUNCIL SPRINGS PASS
 STA 19+00 TO STA 28+40

SHEET NO. **25**
 OF 79

21-PP-013

COUNCIL SPRINGS PASS

COUNCIL SPRINGS PASS

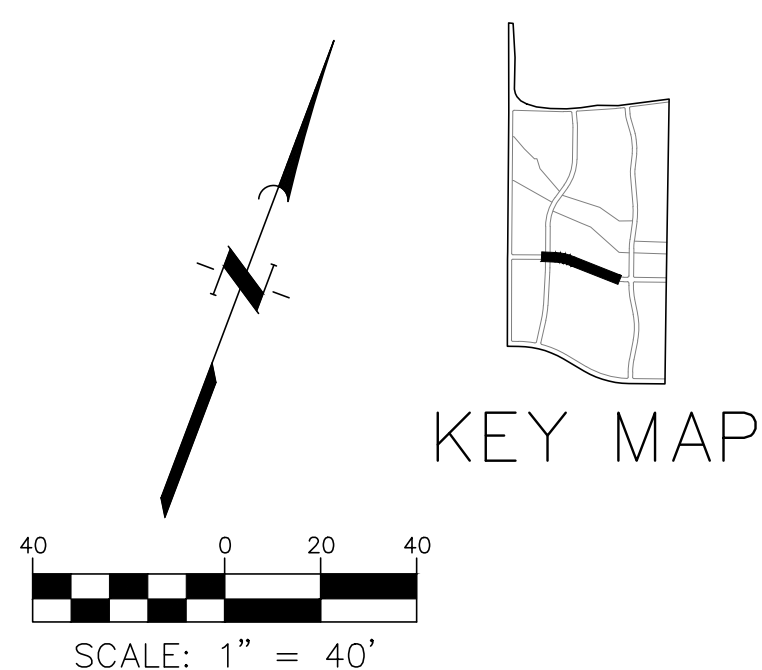
EXISTING LEGEND

- W FIRE HYDRANT W/ GATE VALVE
- W WATERLINE W/ GATE VALVE
- WW WASTEWATER W/ MANHOLE
- WH WASTEWATER W/ CLEANOUT
- SS STORM SEWER W/ MANHOLE
- CI CURB INLET
- OE OVERHEAD ELECTRIC WIPOWER POLE
- 700 GROUND CONTOUR

PROPOSED LEGEND

- W FIRE HYDRANT W/ GATE VALVE
- W WATERLINE W/ GATE VALVE
- W WATERLINE W/ AIR RELEASE VALVE
- W WATERLINE W/ PLUG & BLOW-OFF
- WW WASTEWATER W/ MANHOLE
- WW WASTEWATER W/ CLEANOUT
- SS STORM SEWER W/ MANHOLE
- 700 GROUND CONTOUR

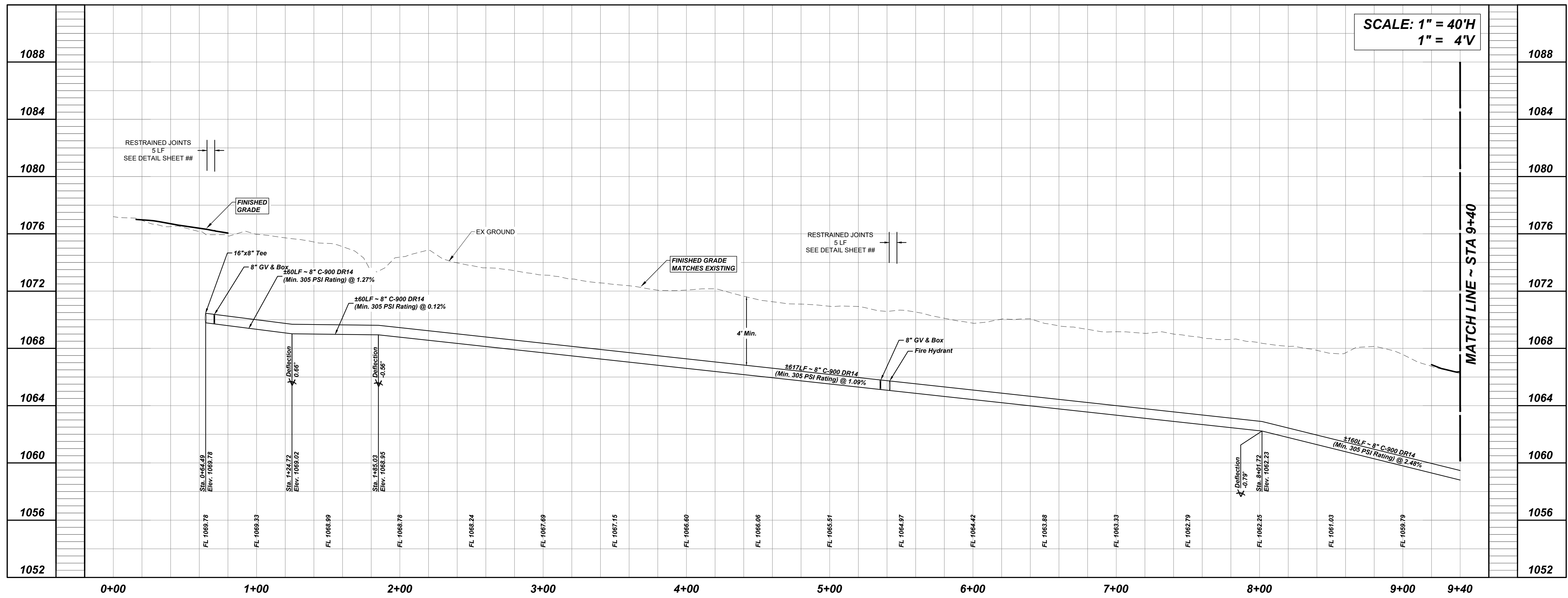
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SCALE: 1" = 40'

STA 5+41.02
1 - 8"X6" Swivel Tee
1 - 8" GV & Box
1 - 6" GV & Box
6" DI Pipe, as Req'd.
1 - STD Fire Hydrant

WATERLINE PROFILE - HEARTWOOD HOLLOW



REVISIONS

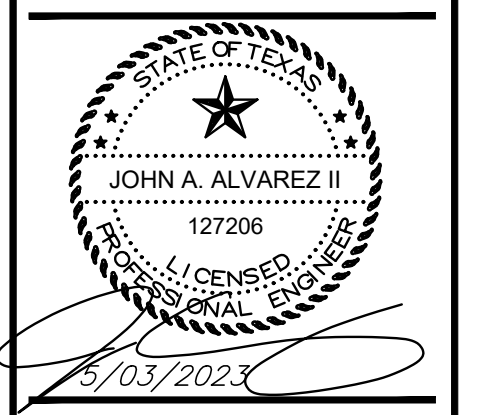
No.	Date

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JOB NO.: 17232-0001-01



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LEANDER ESTATES SUBDIVISION
PLAN AND PROFILE
WATER - HEARTWOOD HOLLOW
STA 0+00 TO STA 9+40

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K:\16759\16759-0013-01 Greatwood South - 119 Acres\2 Design Phase\CAD\Subdivision Plans\16759-0013-00 SUBD WTR-C.dwg oc: May 08, 2022

A B C D E F

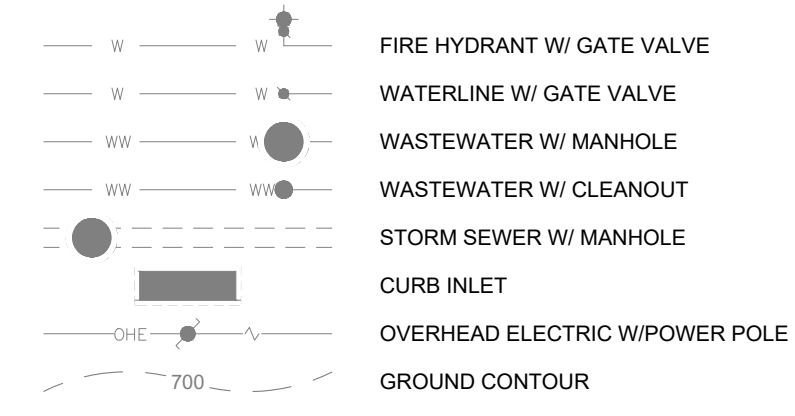
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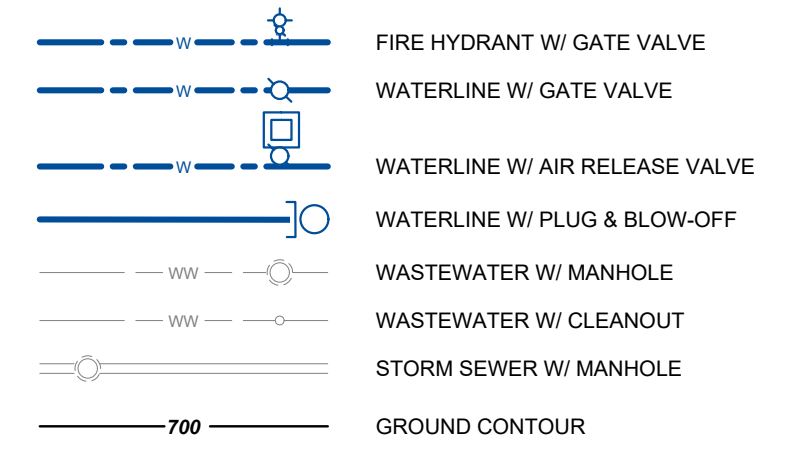
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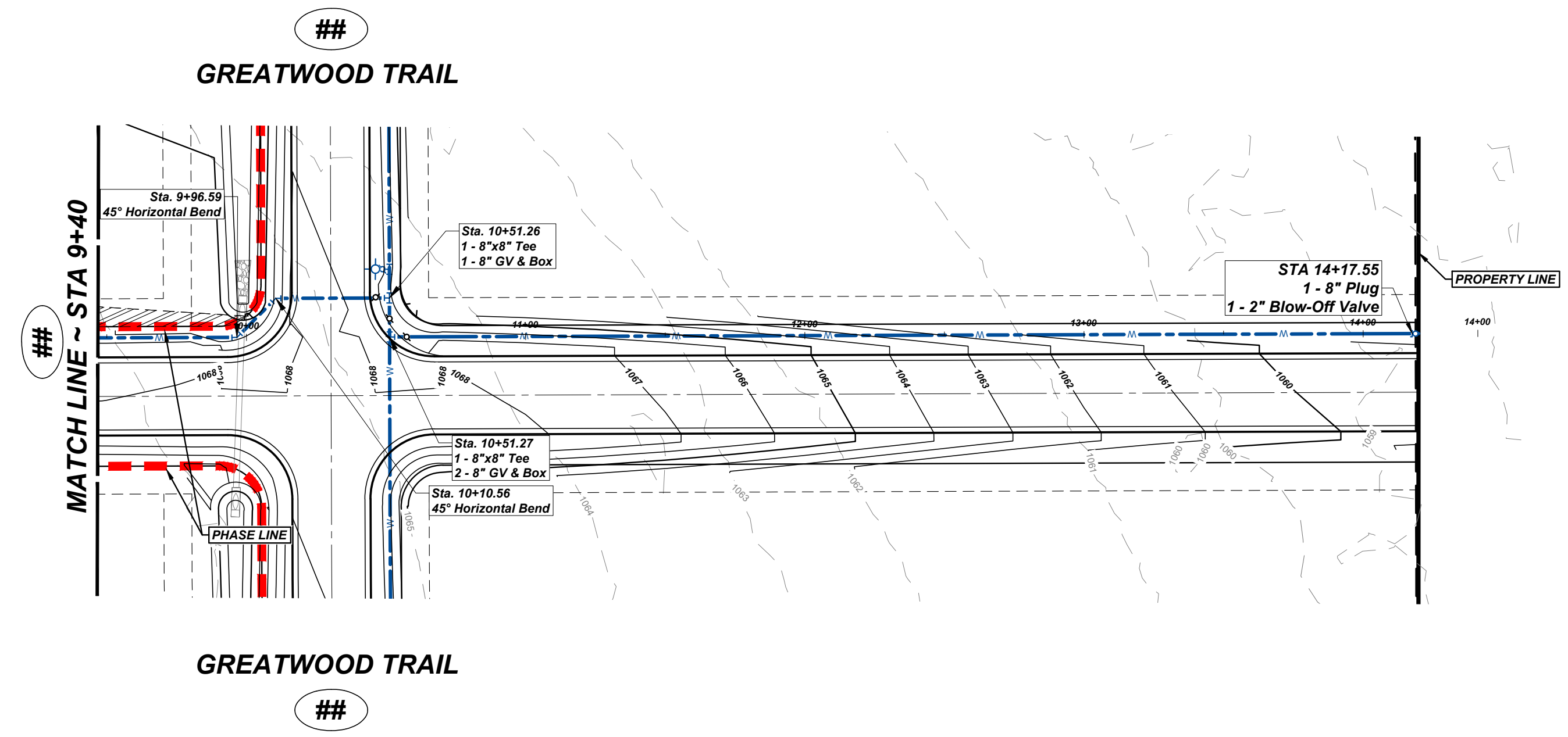
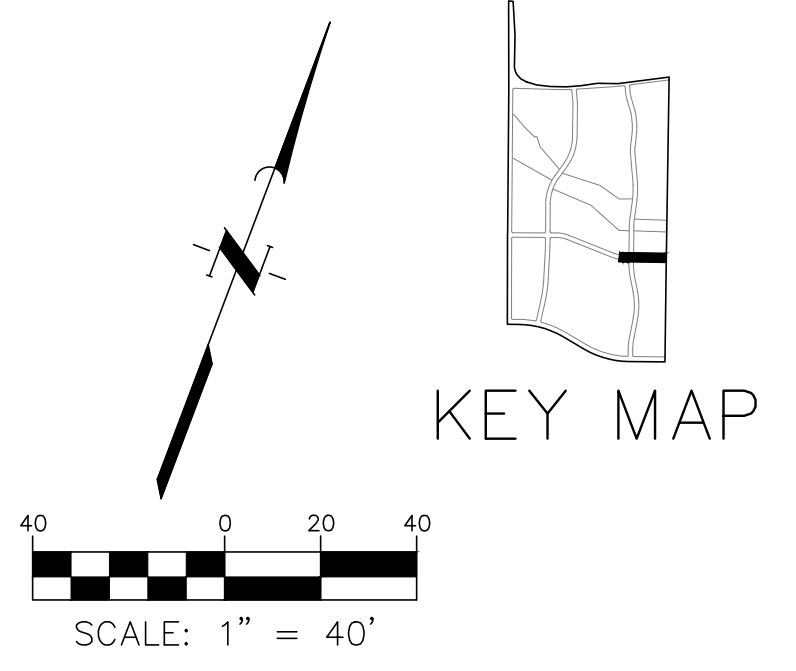
EXISTING LEGEND



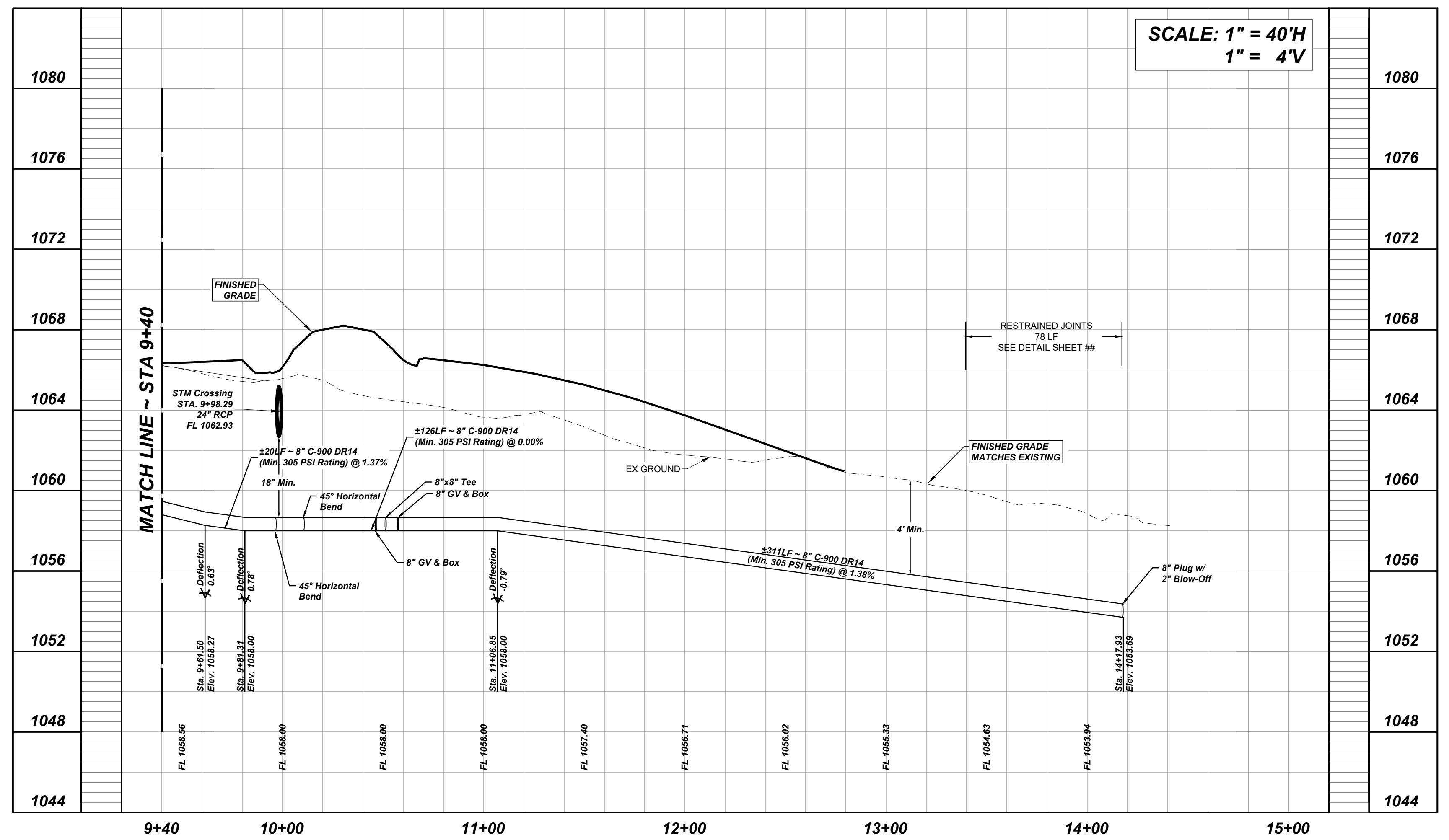
PROPOSED LEGEND



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WATERLINE PROFILE - HEARTWOOD HOLLOW



REVISIONS

No.	Date	Description

QUIDDITY

Professional Engineer License No. 629250
 3100 Alvin Express Boulevard, Suite 150 • Houston, TX 77021 • 281.241.5493

SCALE: AS SHOWN
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 CHECKED BY: JA
 DRAWN BY: JDE

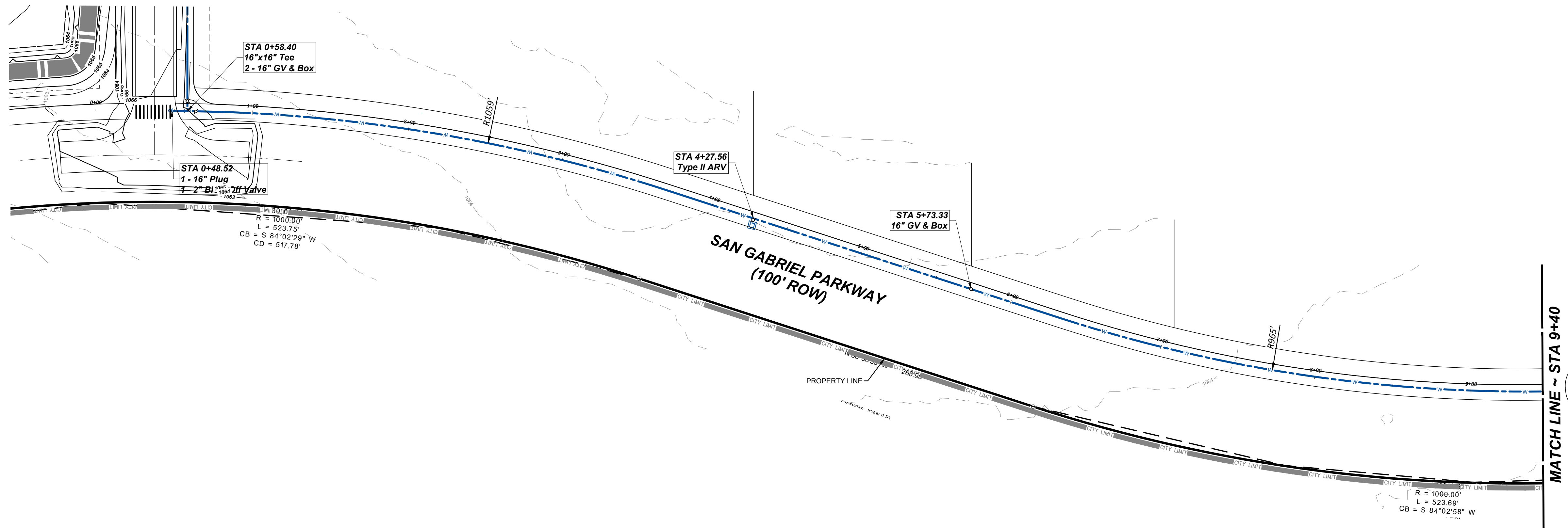
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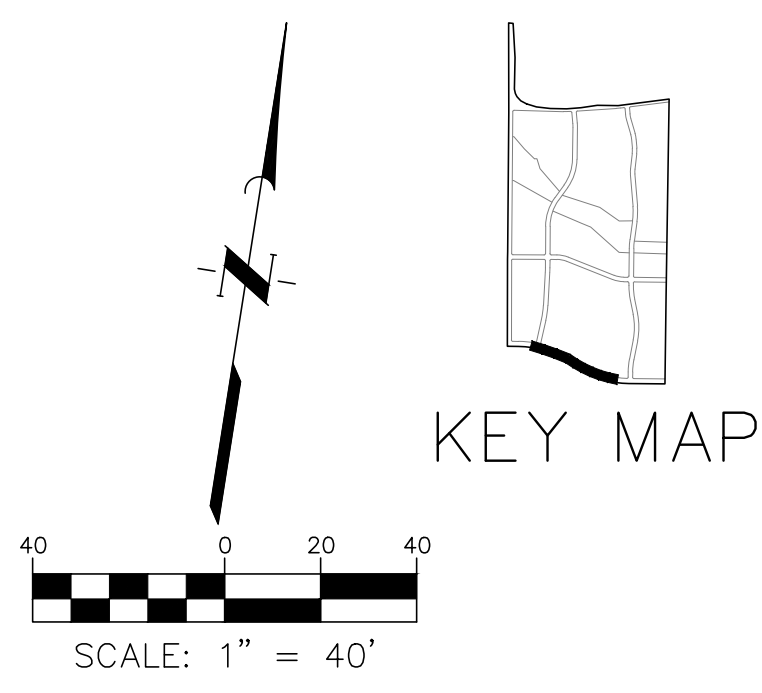
CONSTRUCTION PLANS
LEANDER ESTATES SUBDIVISION
 PLAN AND PROFILE
WATER - HEARTWOOD HOLLOW
 STA 9+40 TO STA 18+80

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 K:\1675916759-0013-01 Greatwood South - 119 Acres\2 Design Phase\CAD\Subdivision Plans\16759-0013-00 SUBD WTR-C.dwg oc: May 08, 2022

COUNCIL SPRINGS PASS



THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROX. 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



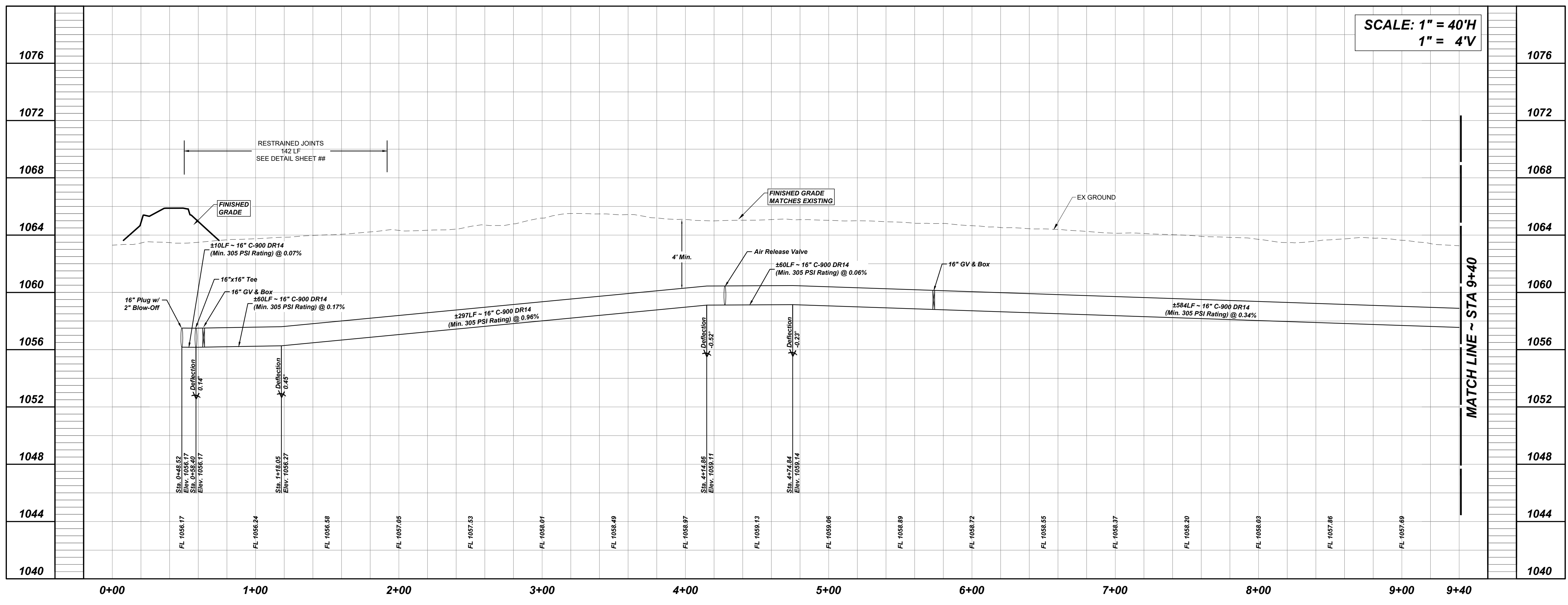
EXISTING LEGEND

- W — W — FIRE HYDRANT W/ GATE VALVE
- W — W — WATERLINE W/ GATE VALVE
- W — W — WASTEWATER W/ MANHOLE
- WW — W — WASTEWATER W/ CLEANOUT
- S — S — STORM SEWER W/ MANHOLE
- C — C — CURB INLET
- O — E — OVERHEAD ELECTRIC W/ POWER POLE
- 700 — GROUND CONTOUR

PROPOSED LEGEND

- W — W — FIRE HYDRANT W/ GATE VALVE
- W — W — WATERLINE W/ GATE VALVE
- W — W — WATERLINE W/ AIR RELEASE VALVE
- W — W — WATERLINE W/ PLUG & BLOW-OFF
- WW — W — WASTEWATER W/ MANHOLE
- WW — W — WASTEWATER W/ CLEANOUT
- S — S — STORM SEWER W/ MANHOLE
- 700 — GROUND CONTOUR
- — — PHASE LINE

WATERLINE PROFILE - SAN GABRIEL PARKWAY



SCALE: 1" = 40'H
1" = 4'V

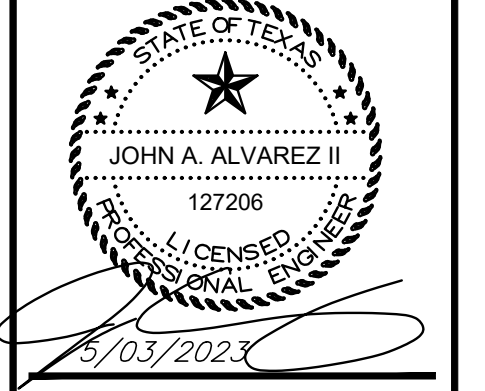
REVISIONS

No.	Date	Description

QUIDDITY

Professional Engineer License No. 29250
3100 Avenue of the Americas, Suite 1500 • Houston, TX 77021 • 281.241.5499

SCALE: AS SHOWN
DESIGNED BY: FR
CHECKED BY: JA
SUBMITTAL DATE: 6/14/2022
JOB NO.: 17232-0001-01
DRAWN BY: JDE

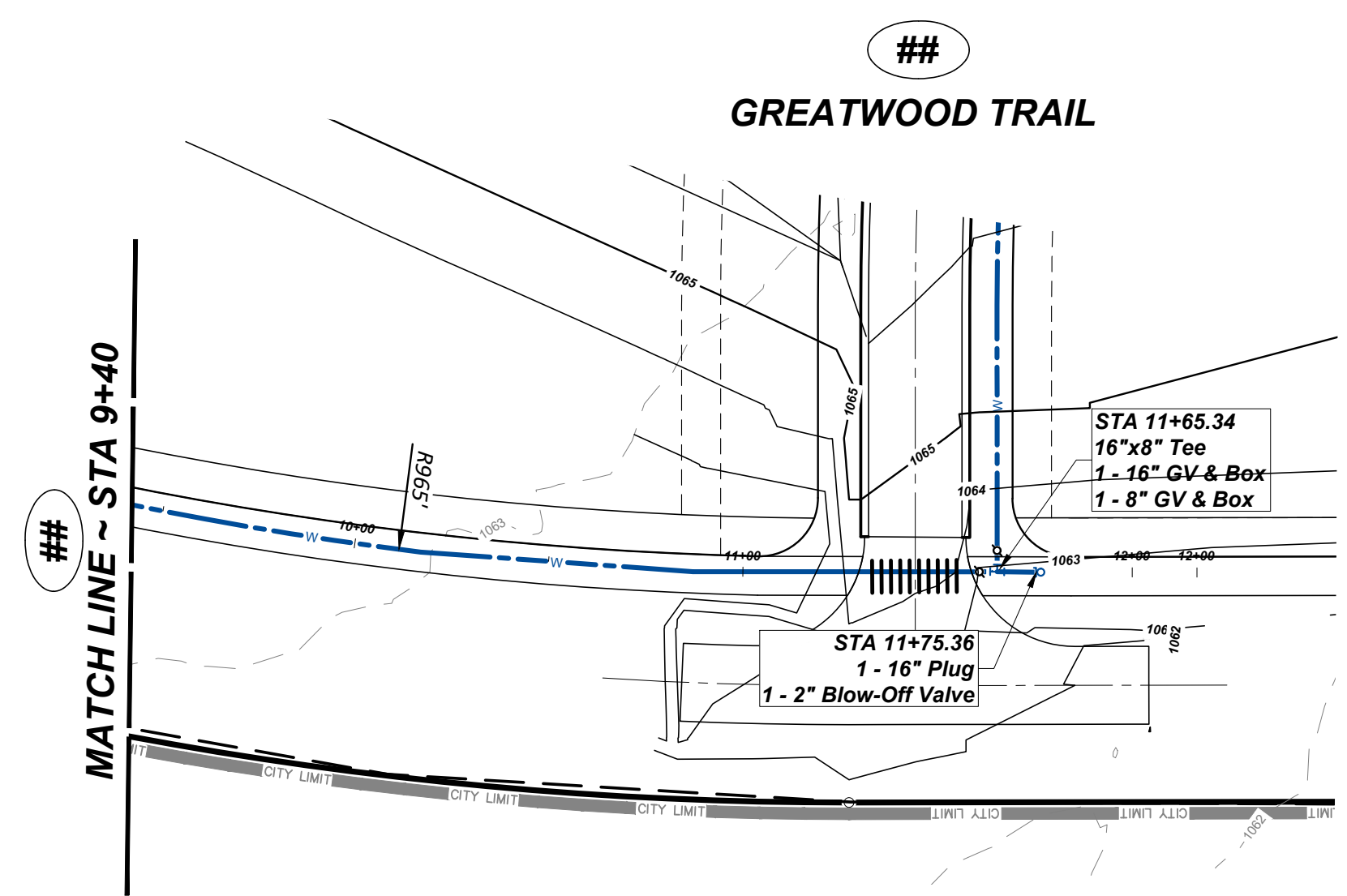
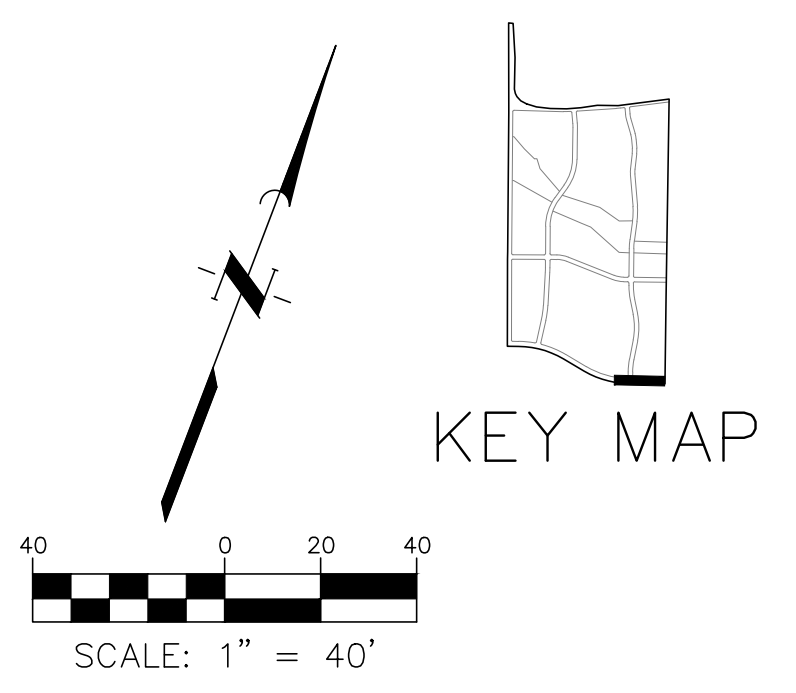


CONSTRUCTION PLANS
LEANDER ESTATES SUBDIVISION
PLAN AND PROFILE
WATER - SAN GABRIEL PARKWAY
STA 0+00 TO STA 9+40

SHEET NO. **28**
OF 79

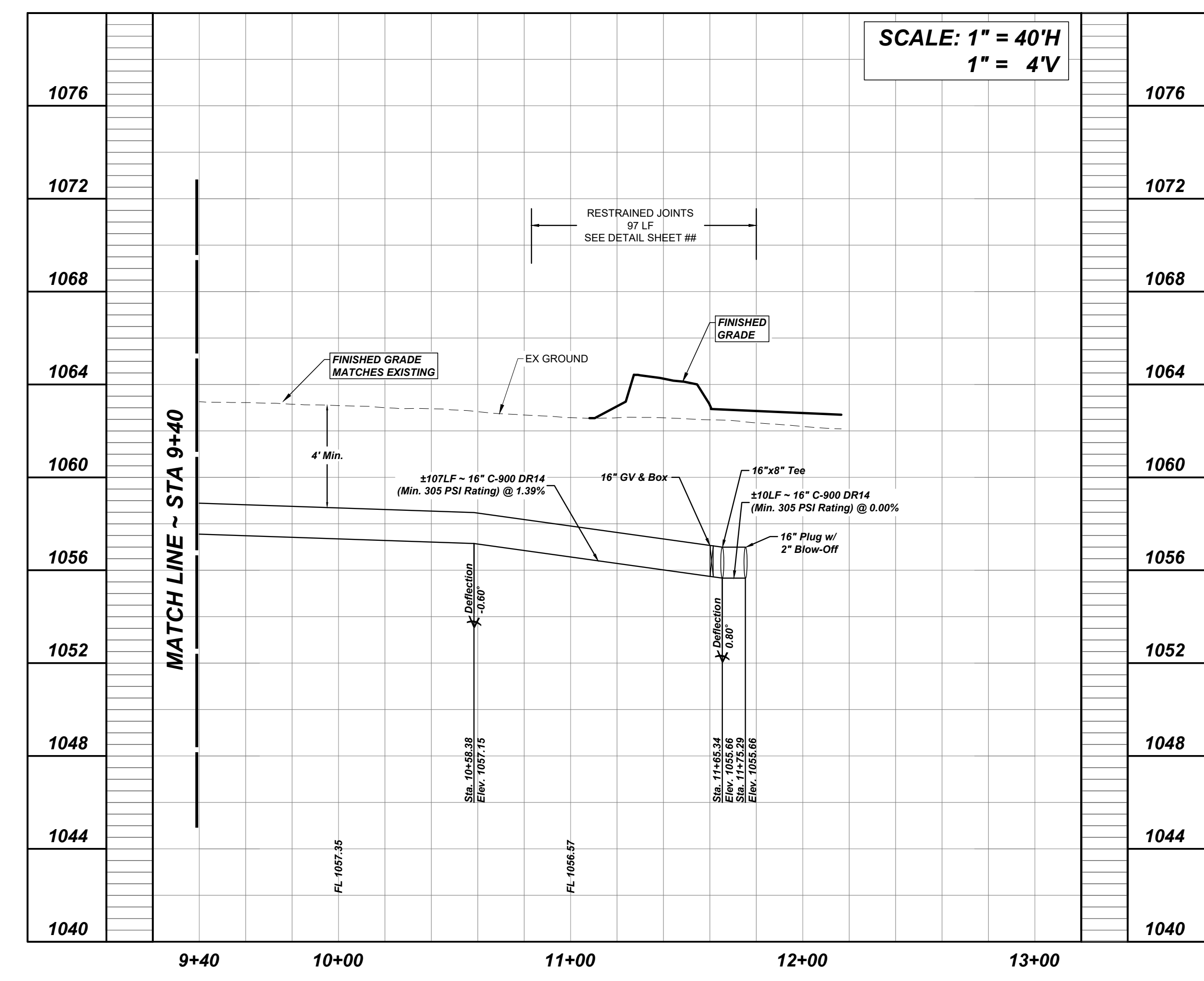
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- EXISTING LEGEND**
- W — FIRE HYDRANT W/ GATE VALVE
 - W — WATERLINE W/ GATE VALVE
 - WW — WASTEWATER W/ MANHOLE
 - WW — WASTEWATER W/ CLEANOUT
 - S — STORM SEWER W/ MANHOLE
 - C — CURB INLET
 - OHE — OVERHEAD ELECTRIC W/POWER POLE
 - 700 — GROUND CONTOUR
- PROPOSED LEGEND**
- W — FIRE HYDRANT W/ GATE VALVE
 - W — WATERLINE W/ GATE VALVE
 - W — WATERLINE W/ AIR RELEASE VALVE
 - W — WATERLINE W/ PLUG & BLOW-OFF
 - WW — WASTEWATER W/ MANHOLE
 - WW — WASTEWATER W/ CLEANOUT
 - S — STORM SEWER W/ MANHOLE
 - 700 — GROUND CONTOUR
 - — PHASE LINE

WATERLINE PROFILE - SAN GABRIEL PARKWAY



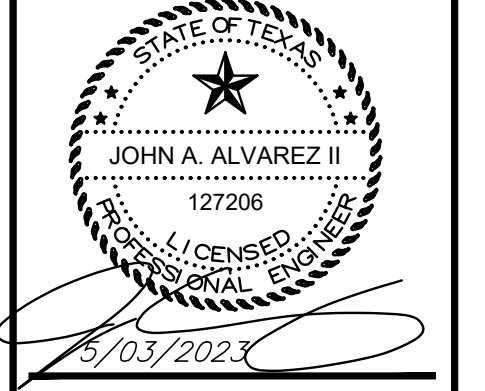
REVISIONS

No.	Date

QUIDDITY

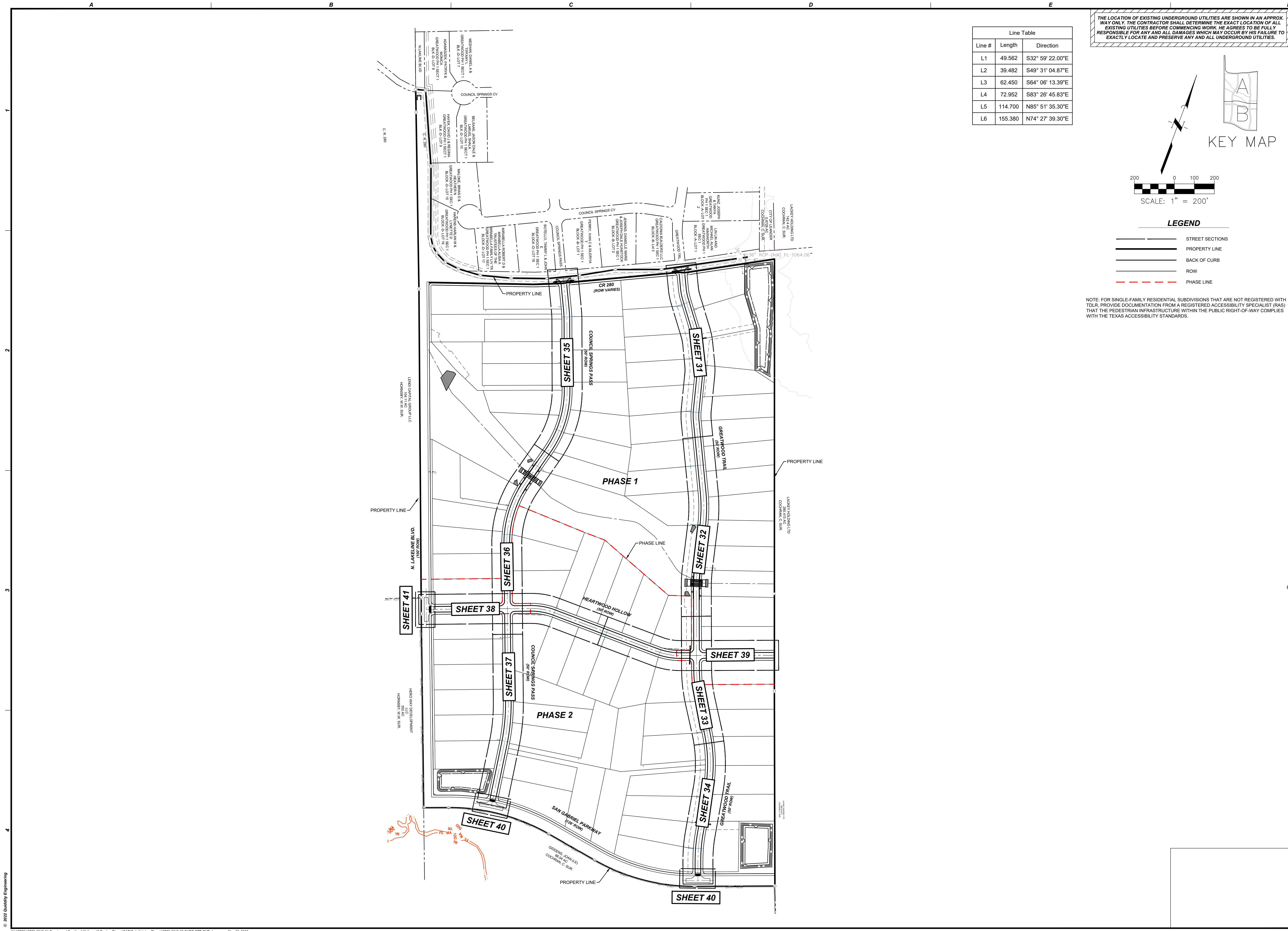
Professional Engineer License No. 24950
 3100 Alvin Express Boulevard, Suite 150 • Houston, TX 77054 • 281.241.5493

SCALE: AS SHOWN DESIGNED BY: FR CHECKED BY: JA DRAWN BY: JDE
 SUBMITTAL DATE: 6/14/2022 JOB NO.: 17232-0001-01



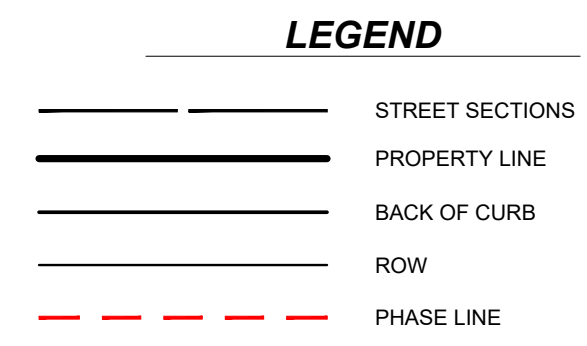
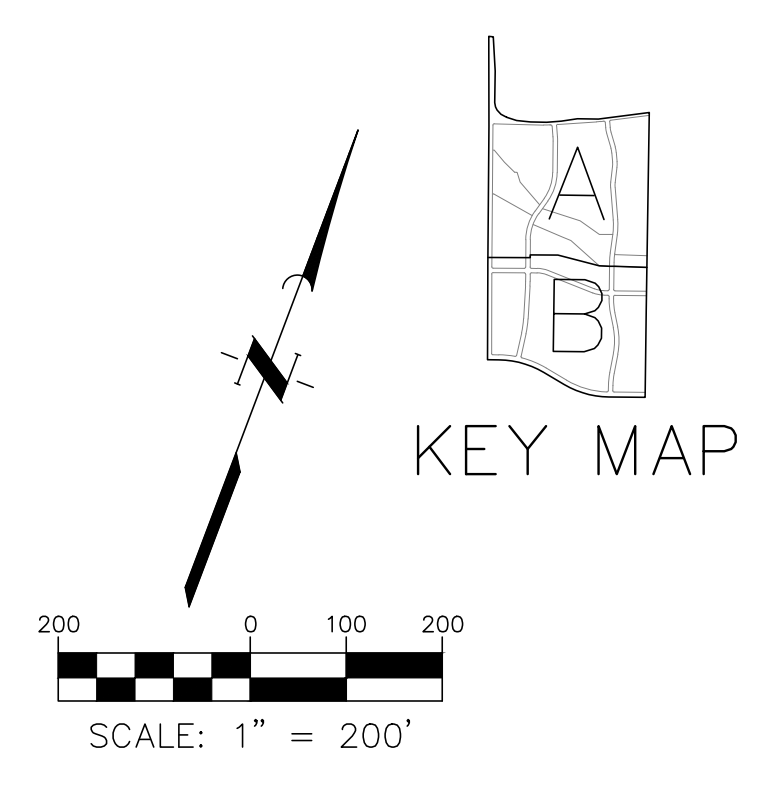
CONSTRUCTION PLANS
LEANDER ESTATES SUBDIVISION
 PLAN AND PROFILE
WATER - SAN GABRIEL PARKWAY
 STA 9+40 TO STA 18+80

SHEET NO. **29**
 OF 79



Line #	Length	Direction
L1	49.562	S32° 59' 22.00"E
L2	39.482	S49° 31' 04.87"E
L3	62.450	S64° 06' 13.39"E
L4	72.952	S83° 26' 45.83"E
L5	114.700	N85° 51' 35.30"E
L6	155.380	N74° 27' 39.30"E

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NOTE: FOR SINGLE-FAMILY RESIDENTIAL SUBDIVISIONS THAT ARE NOT REGISTERED WITH TDR, PROVIDE DOCUMENTATION FROM A REGISTERED ACCESSIBILITY SPECIALIST (RAS) THAT THE PEDESTRIAN INFRASTRUCTURE WITHIN THE PUBLIC RIGHT-OF-WAY COMPLIES WITH THE TEXAS ACCESSIBILITY STANDARDS.

App. _____

No. _____ Date _____

REVISIONS

QUIDDITY

Professional Engineer, State of Texas, License No. 62925
 3100 Avenue of the Americas, Suite 1500 • Houston, TX 77010 • 281.441.5493

SCALE: AS SHOWN DESIGNED BY: FR CHECKED BY: JA DRAWN BY: JDE
 SUBMITTAL DATE: 03/15/2023 JOB NO.: 16759-0013-00



Public Improvement Construction Plans

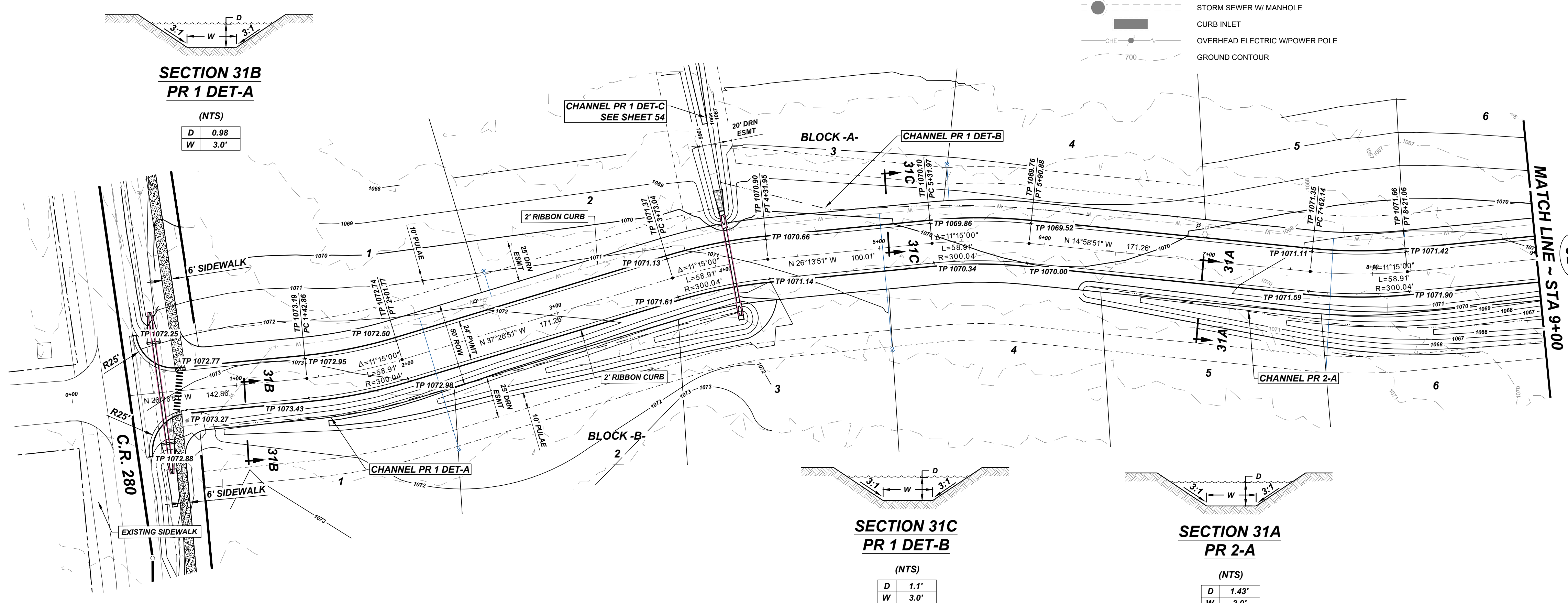
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2

OVERALL STREET LAYOUT

SHEET NO. **30**

OF 79

PCIP-23-0054



TREE LEGEND		EXISTING LEGEND		PROPOSED LEGEND	
	TREE TO REMAIN (8'-25')		FIRE HYDRANT W/ GATE VALVE		FIRE HYDRANT W/ GATE VALVE
	HERITAGE TREE TO REMAIN (26'+)		WATERLINE W/ GATE VALVE		WATERLINE W/ GATE VALVE
			WASTEWATER W/ MANHOLE		WASTEWATER W/ MANHOLE
			WASTEWATER W/ CLEANOUT		WASTEWATER W/ CLEANOUT
			STORM SEWER W/ MANHOLE		STORM SEWER W/ MANHOLE
			CURB INLET		CURB INLET
			OVERHEAD ELECTRIC WIPOWER POLE		OVERHEAD ELECTRIC WIPOWER POLE
			GROUND CONTOUR		GROUND CONTOUR

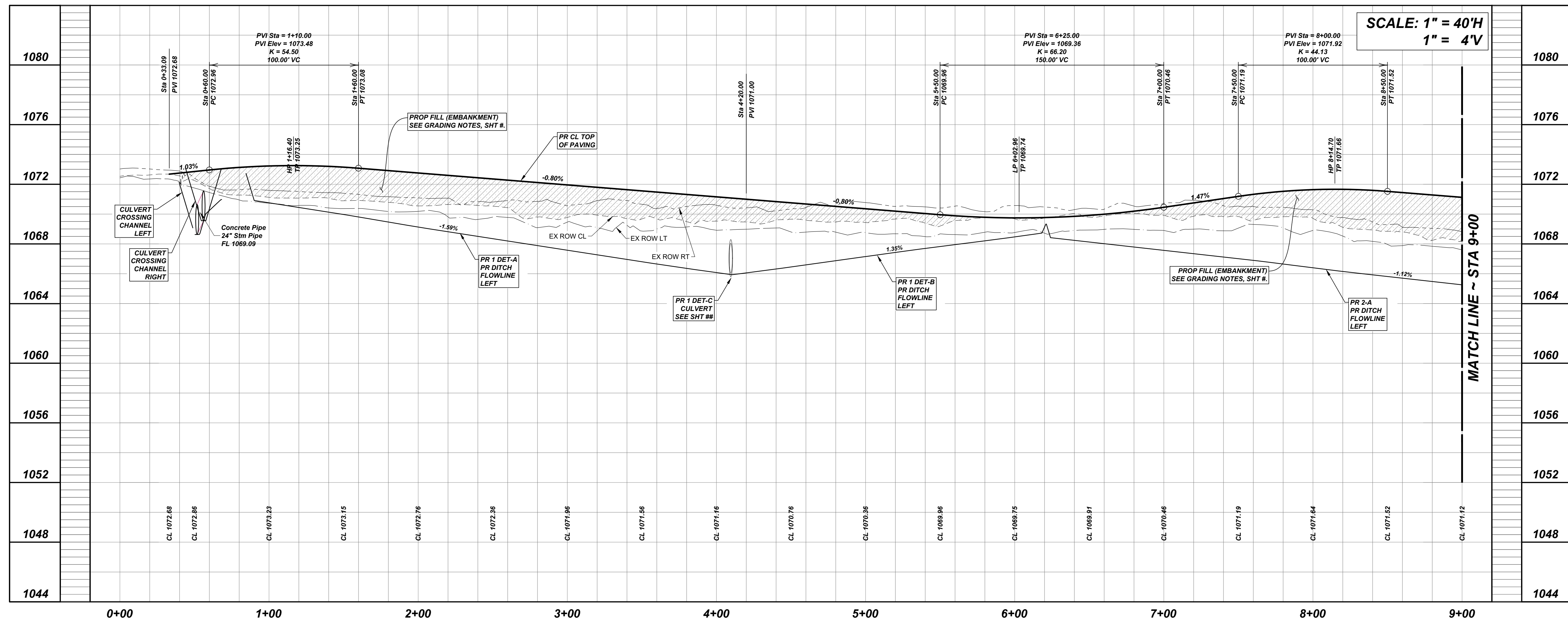
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SCALE: 1" = 40'

KEY MAP

SECTION 31B PR 1 DET-A (NTS)		SECTION 31C PR 1 DET-B (NTS)		SECTION 31A PR 2-A (NTS)	
D	0.98	D	1.1'	D	1.43'
W	3.0'	W	3.0'	W	3.0'

GREATWOOD TRAIL



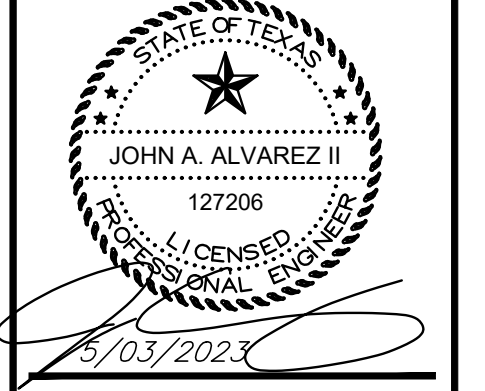
SCALE: 1" = 40'H
1" = 4'V

No.	Date	REVISIONS

QUIDDITY
Professional Engineering and Surveying
3100 Alvin Boulevard, Suite 150 • Austin, TX 78741 • 512.441.9499

SCALE: AS SHOWN
DESIGNED BY: FR
CHECKED BY: JA
DRAWN BY: JDE

SUBMITTAL DATE: 03/15/2023
JOB NO.: 16759-0013-00



Public Improvement Construction Plans

WOODLAND ESTATES SUBDIVISION PHASE 1 & 2

PLAN AND PROFILE

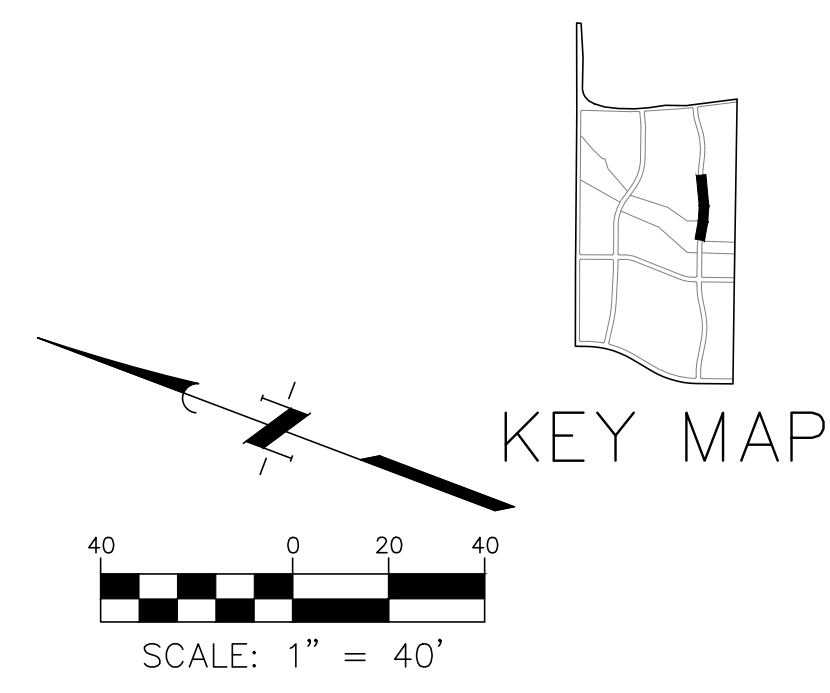
GREATWOOD TRAIL

STA 0+00 TO STA 9+00

A B C D E F

TREE LEGEND		EXISTING LEGEND		PROPOSED LEGEND	
	TREE TO REMAIN (8"-25")		FIRE HYDRANT W/ GATE VALVE		FIRE HYDRANT W/ GATE VALVE
	HERITAGE TREE TO REMAIN (26"+)		WATERLINE W/ GATE VALVE		WATERLINE W/ GATE VALVE
			WASTEWATER W/ MANHOLE		WASTEWATER W/ GATE VALVE
			WASTEWATER W/ CLEANOUT		GROUND CONTOUR
			STORM SEWER W/ MANHOLE		
			CURB INLET		
			OVERHEAD ELECTRIC W/ POWER POLE		
			GROUND CONTOUR		

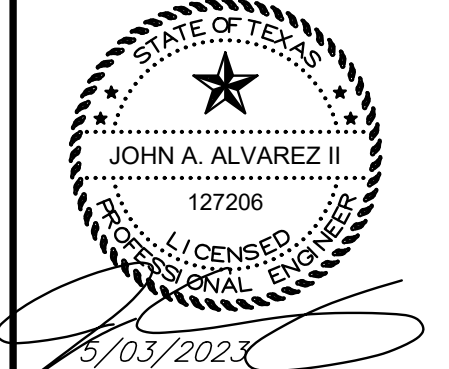
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No.	Date	REVISIONS

QUIDDITY
 A Division of Professional Engineering and Land Surveyors, Inc.
 3100 Alvin Evans Boulevard, Suite 150 • Austin, TX 78741 • 512.441.9499

SCALE: AS SHOWN
 DESIGNED BY: FR
 CHECKED BY: JA
 SUBMITTAL DATE: 6/14/2022
 JOB NO.: 17232-0001-01
 DRAWN BY: JDE

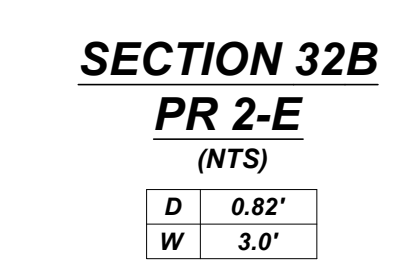
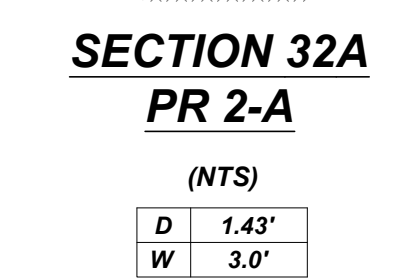
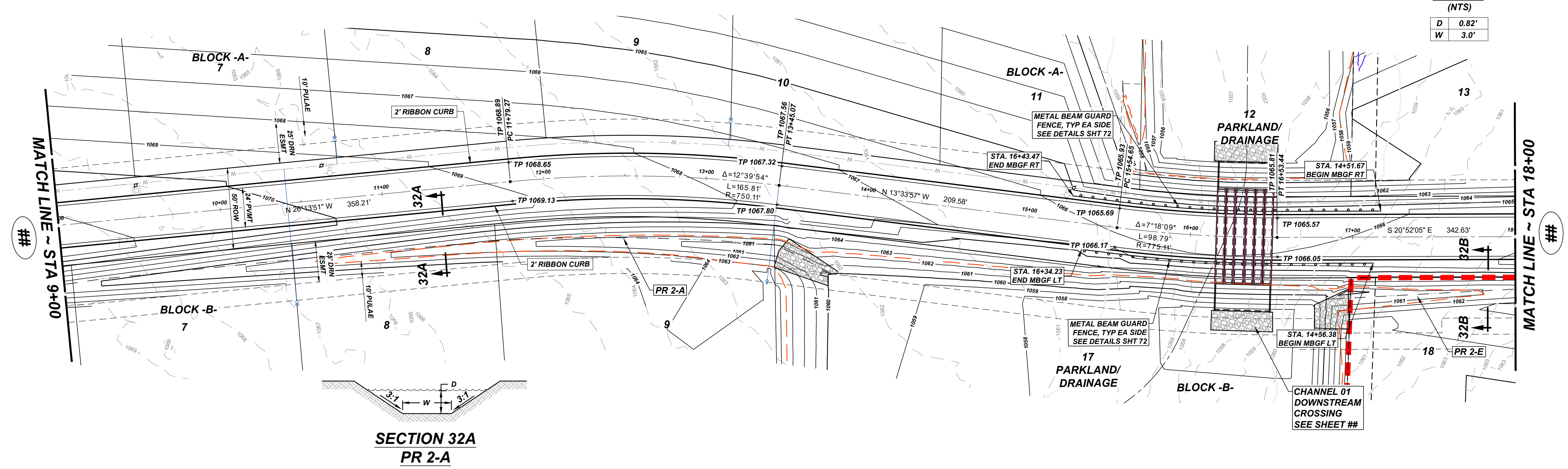


5/03/2023

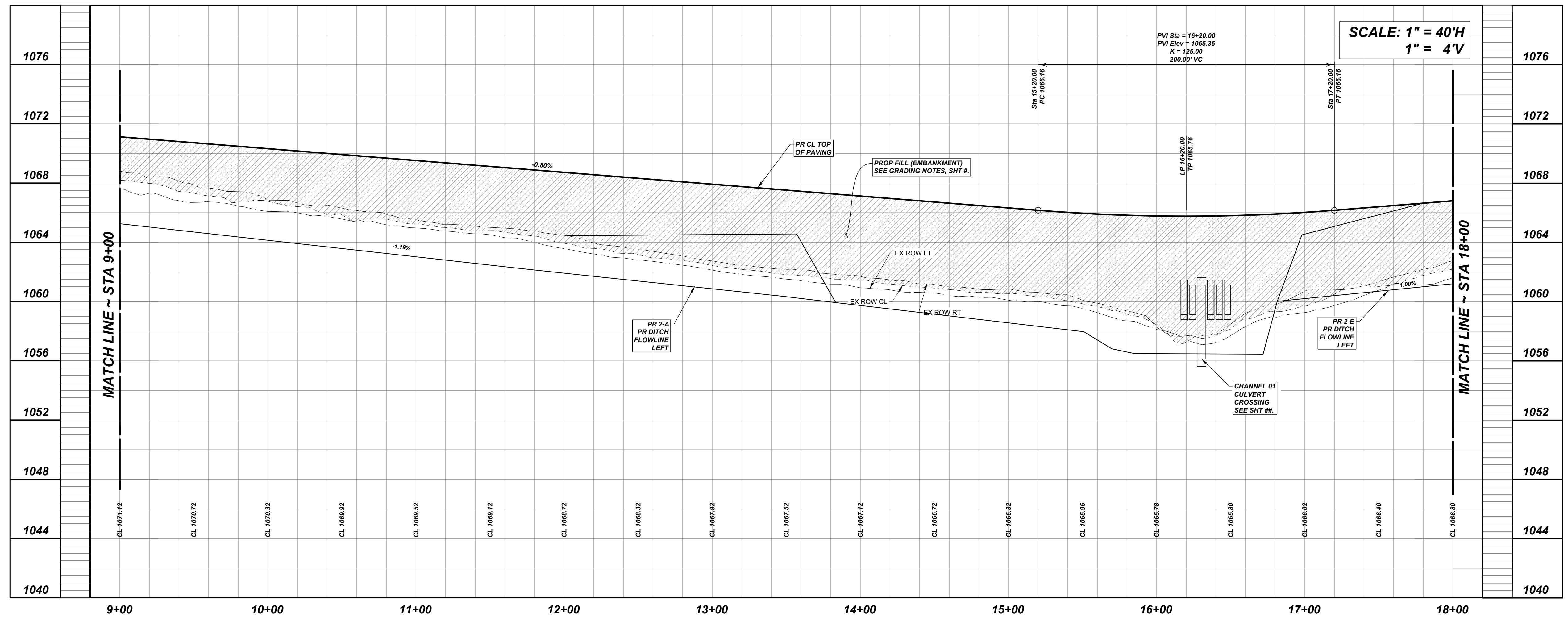
CONSTRUCTION PLANS
LEANDER ESTATES SUBDIVISION
 PLAN AND PROFILE
GREATWOOD TRAIL
 STA 9+00 TO STA 18+00

SHEET NO. **32**
 OF 79

Z1-PP-013



GREATWOOD TRAIL



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1
2
3
4

TREE LEGEND

- TREE TO REMAIN (8'-25')
- HERITAGE TREE TO REMAIN (26'+)

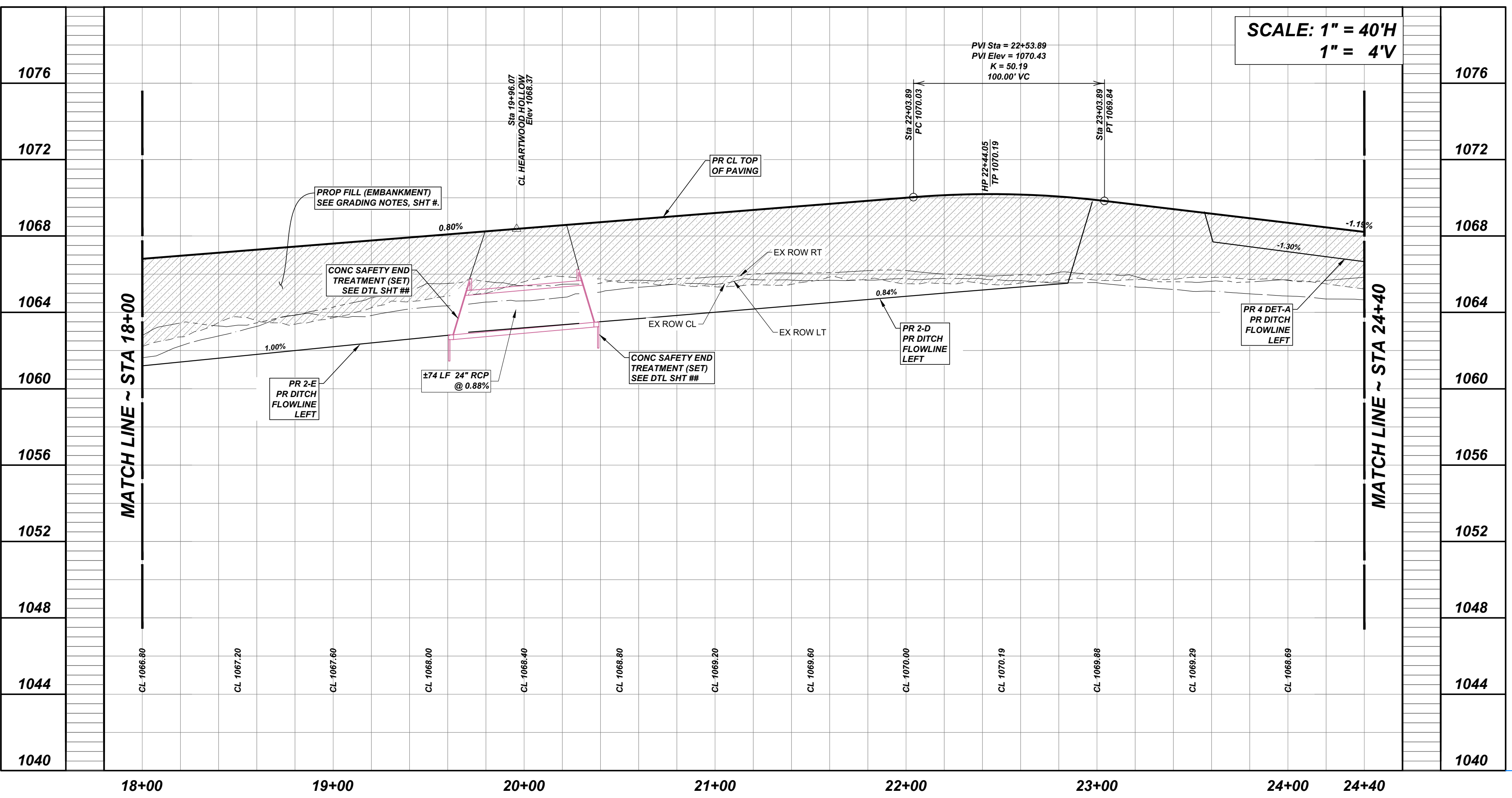
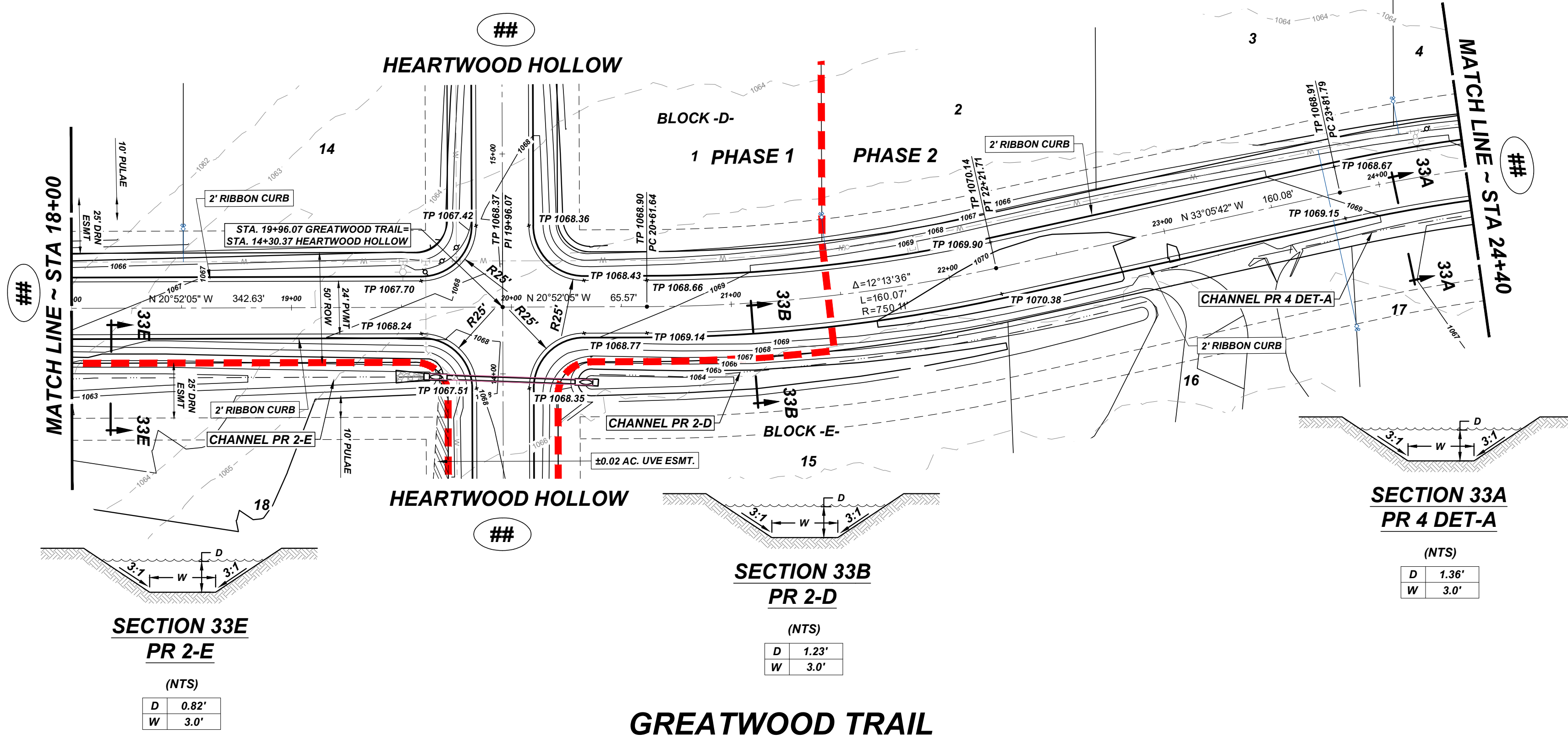
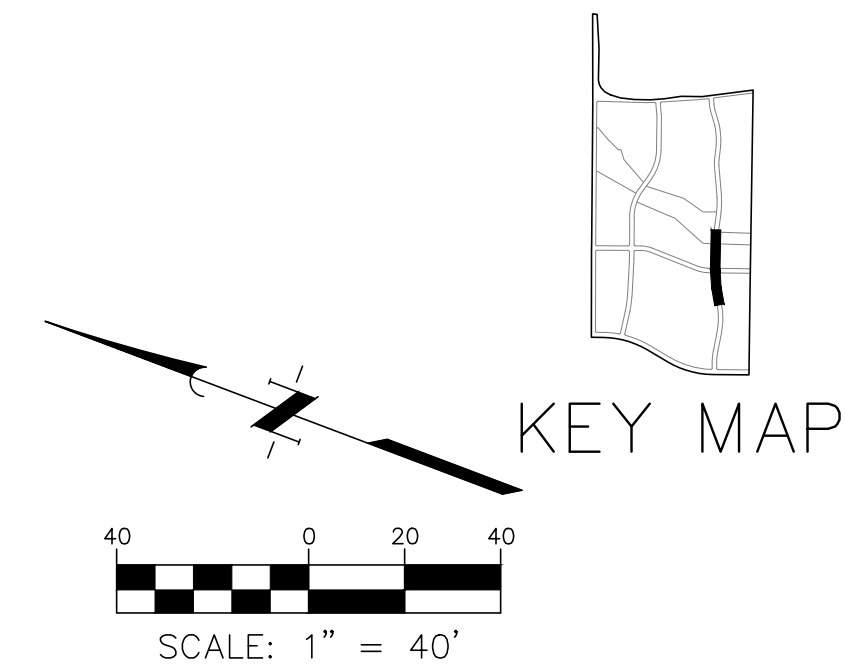
EXISTING LEGEND

- FIRE HYDRANT W/ GATE VALVE
- WATERLINE W/ GATE VALVE
- WASTEWATER W/ MANHOLE
- WASTEWATER W/ CLEANOUT
- STORM SEWER W/ MANHOLE
- CURB INLET
- OVERHEAD ELECTRIC W/ POWER POLE
- GROUND CONTOUR

PROPOSED LEGEND

- FIRE HYDRANT W/ GATE VALVE
- WATERLINE W/ GATE VALVE
- GROUND CONTOUR

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROX. 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



REVISIONS

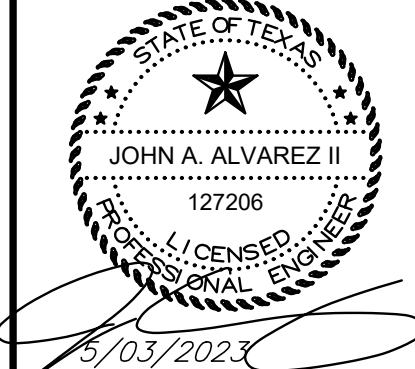
App. No. Date

QUIDDITY

Professional Engineer License No. 127206
 3100 Alvin Express Boulevard, Suite 150 • Austin, TX 78741 • 512.441.5499

SCALE: AS SHOWN
 DESIGNED BY: FR
 CHECKED BY: JA
 DRAWN BY: JDE

SUBMITTAL DATE: 6/14/2022
 JOB NO.: 17232-0001-01



CONSTRUCTION PLANS

LEANDER ESTATES SUBDIVISION

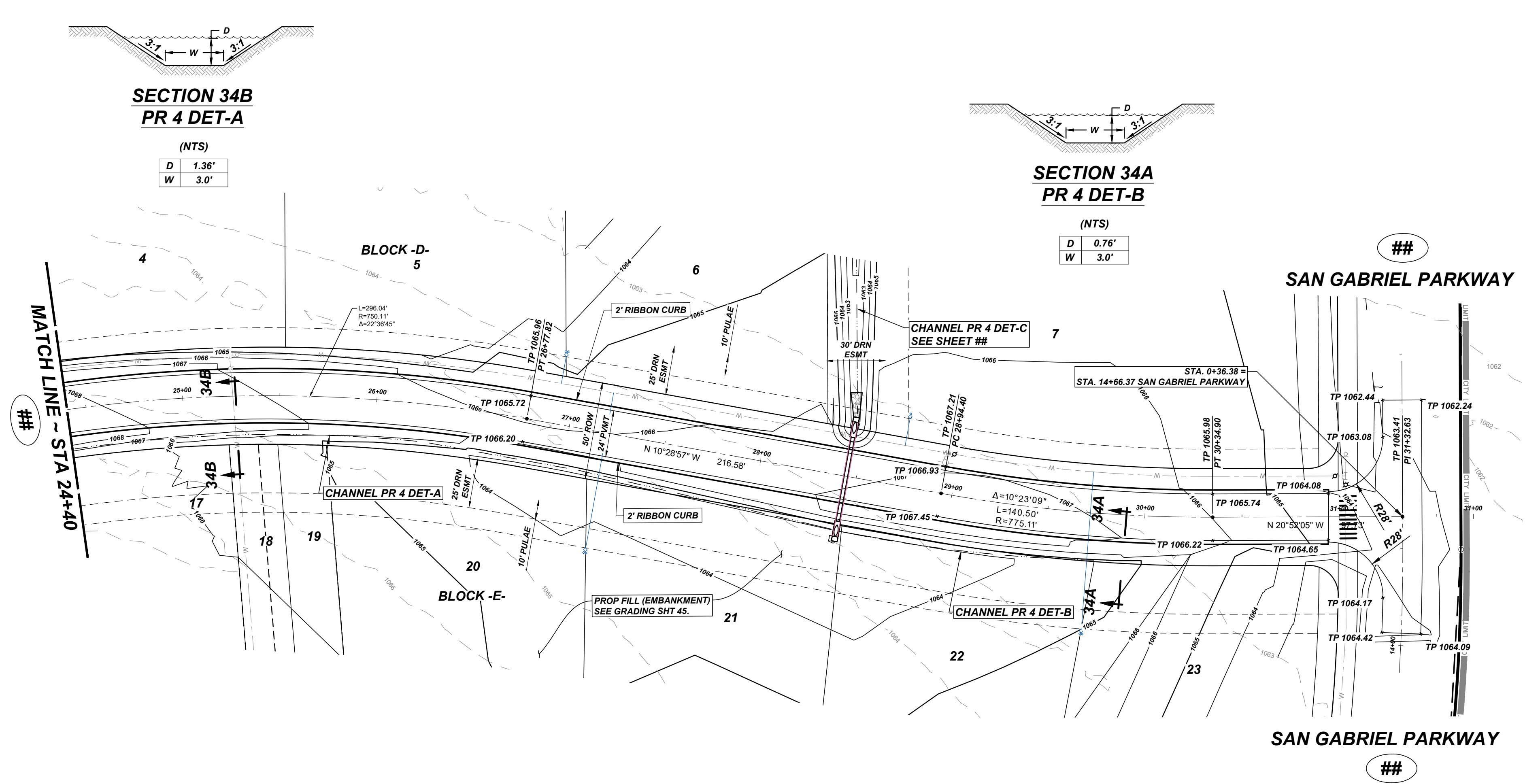
PLAN AND PROFILE

GREATWOOD TRAIL

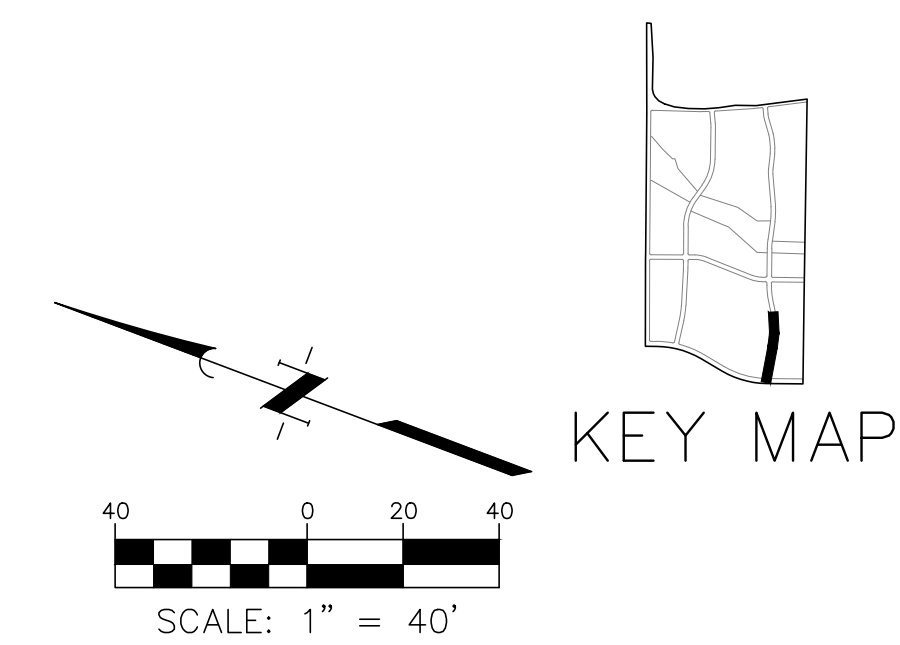
STA 18+00 TO STA 24+40

SHEET NO. **33**

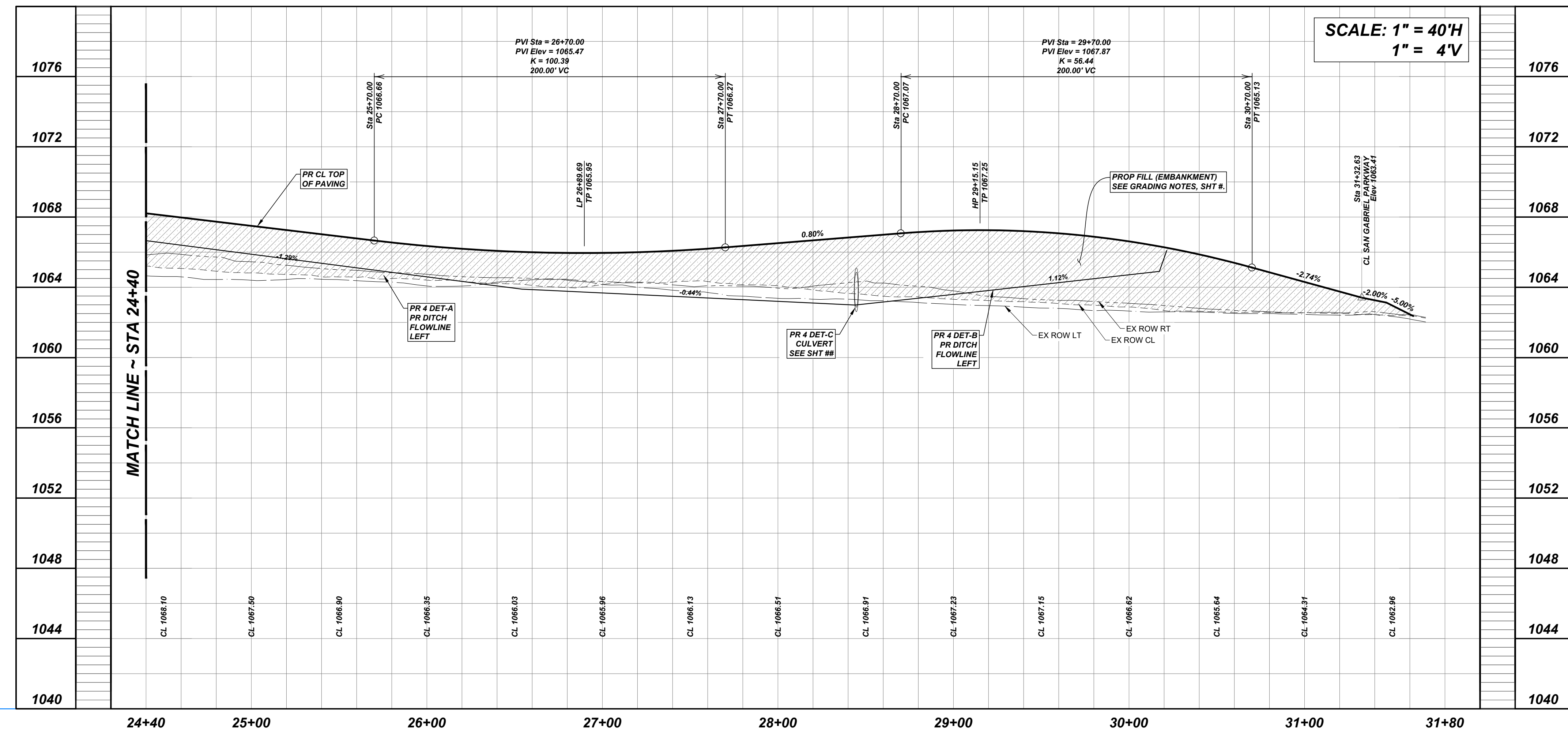
OF 79



THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROX. 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



- EXISTING LEGEND**
- W W FIRE HYDRANT W/ GATE VALVE
 - W W WATERLINE W/ GATE VALVE
 - W W WASTEWATER W/ MANHOLE
 - W W WASTEWATER W/ CLEANOUT
 - W W STORM SEWER W/ MANHOLE
 - W W CURB INLET
 - W W OVERHEAD ELECTRIC W/ POWER POLE
 - 700 GROUND CONTOUR
- PROPOSED LEGEND**
- W W FIRE HYDRANT W/ GATE VALVE
 - W W WATERLINE W/ GATE VALVE
 - 700 GROUND CONTOUR
- TREE LEGEND**
- TREE TO REMAIN (8"-25")
 - HERITAGE TREE TO REMAIN (26"+)



App. _____

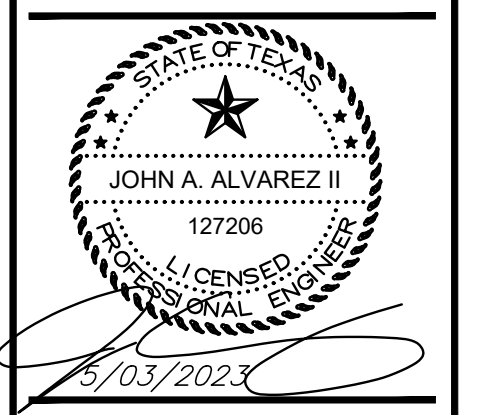
No. _____ Date _____

REVISIONS

QUIDDITY

Professional Engineering and Land Surveying Firm, No. 62920
 3100 Alvin Avenue, Suite 150 • Austin, TX 78741 • 512.441.9499

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 SUBMITTAL DATE: 6/14/2022 JOB NO.: 17232-0001-01



CONSTRUCTION PLANS

LEANDER ESTATES SUBDIVISION

PLAN AND PROFILE

GREATWOOD TRAIL

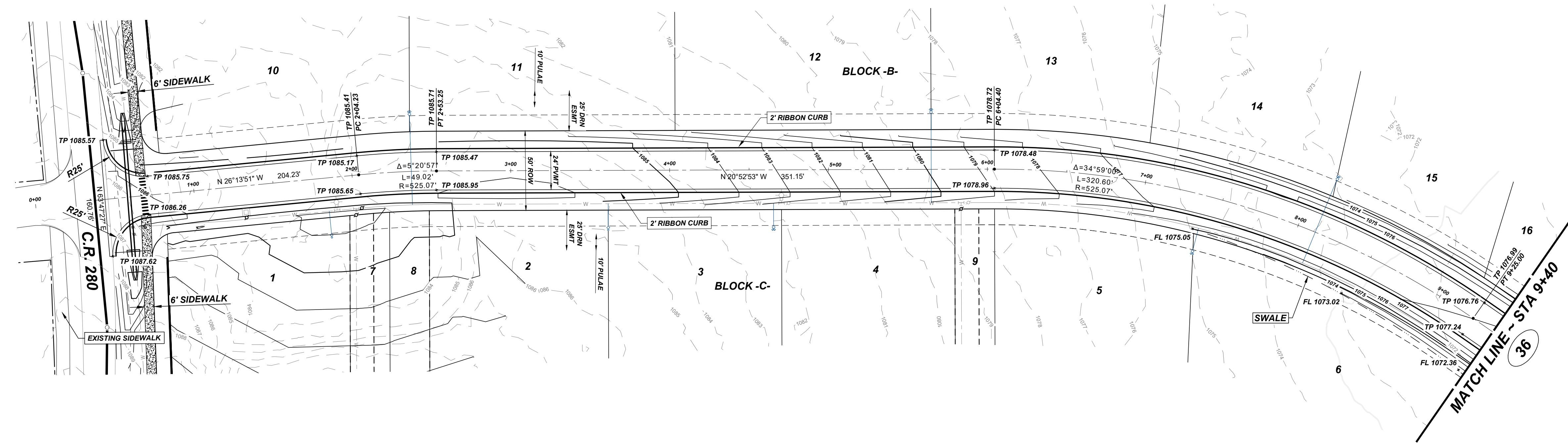
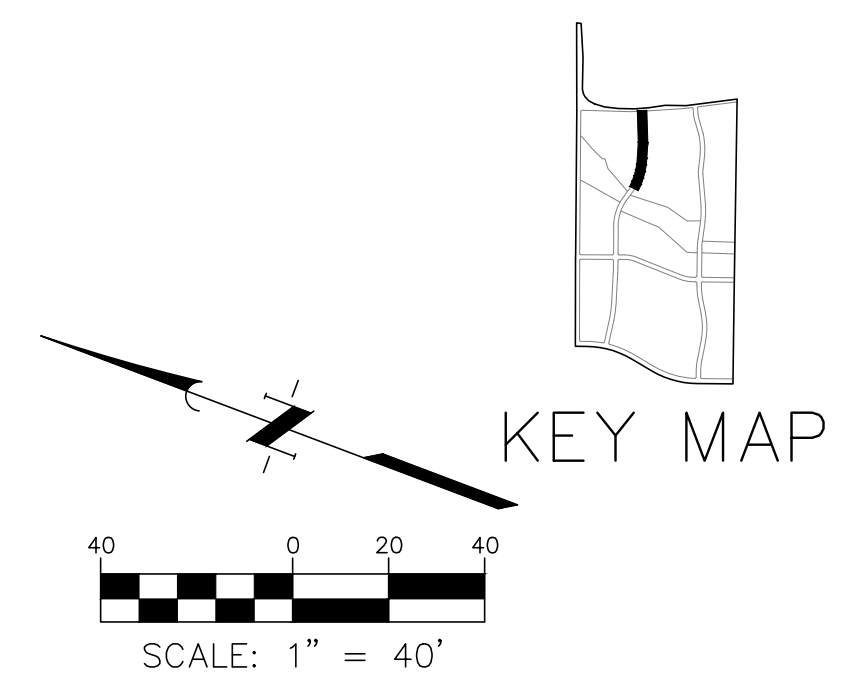
STA 24+40 TO STA 31+68

SHEET NO. **34**

OF 79

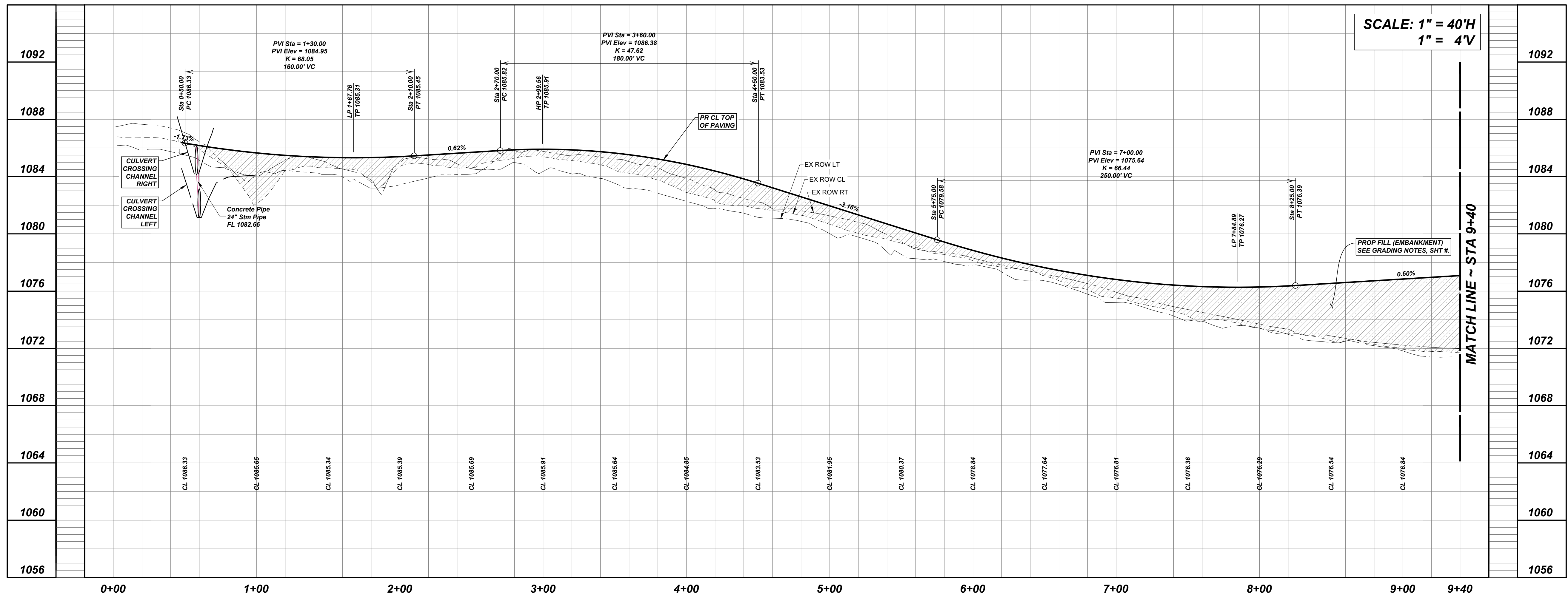
Z1-PP-013

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE MANNER 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



- EXISTING LEGEND**
- W-W FIRE HYDRANT W/ GATE VALVE
 - W-W WATERLINE W/ GATE VALVE
 - W-W WASTEWATER W/ MANHOLE
 - W-W WASTEWATER W/ CLEANOUT
 - STORM SEWER W/ MANHOLE
 - CURB INLET
 - OVERHEAD ELECTRIC W/ POWER POLE
 - 700 GROUND CONTOUR
- PROPOSED LEGEND**
- W-W FIRE HYDRANT W/ GATE VALVE
 - W-W WATERLINE W/ GATE VALVE
 - W-W WASTEWATER W/ MANHOLE
 - W-W WASTEWATER W/ CLEANOUT
 - STORM SEWER W/ MANHOLE
 - CURB INLET
 - OVERHEAD ELECTRIC W/ POWER POLE
 - 700 GROUND CONTOUR
- TREE LEGEND**
- TREE TO REMAIN (8"-25")
 - HERITAGE TREE TO REMAIN (26"+)

COUNCIL SPRINGS PASS



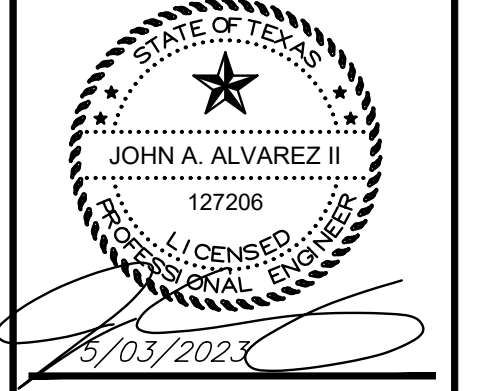
REVISIONS

No.	Date

QUIDDITY

Professional Engineer, State of Texas, License No. 24920
 3100 Alvin Express Boulevard, Suite 150 • Houston, TX 77021 • 281.241.1499

SCALE: AS SHOWN DESIGNED BY: FR CHECKED BY: JA DRAWN BY: JDE
 SUBMITTAL DATE: 03/15/2023 JOB NO.: 16759-0013-00



Public Improvement Construction Plans

WOODLAND ESTATES SUBDIVISION PHASE 1 & 2

PLAN AND PROFILE

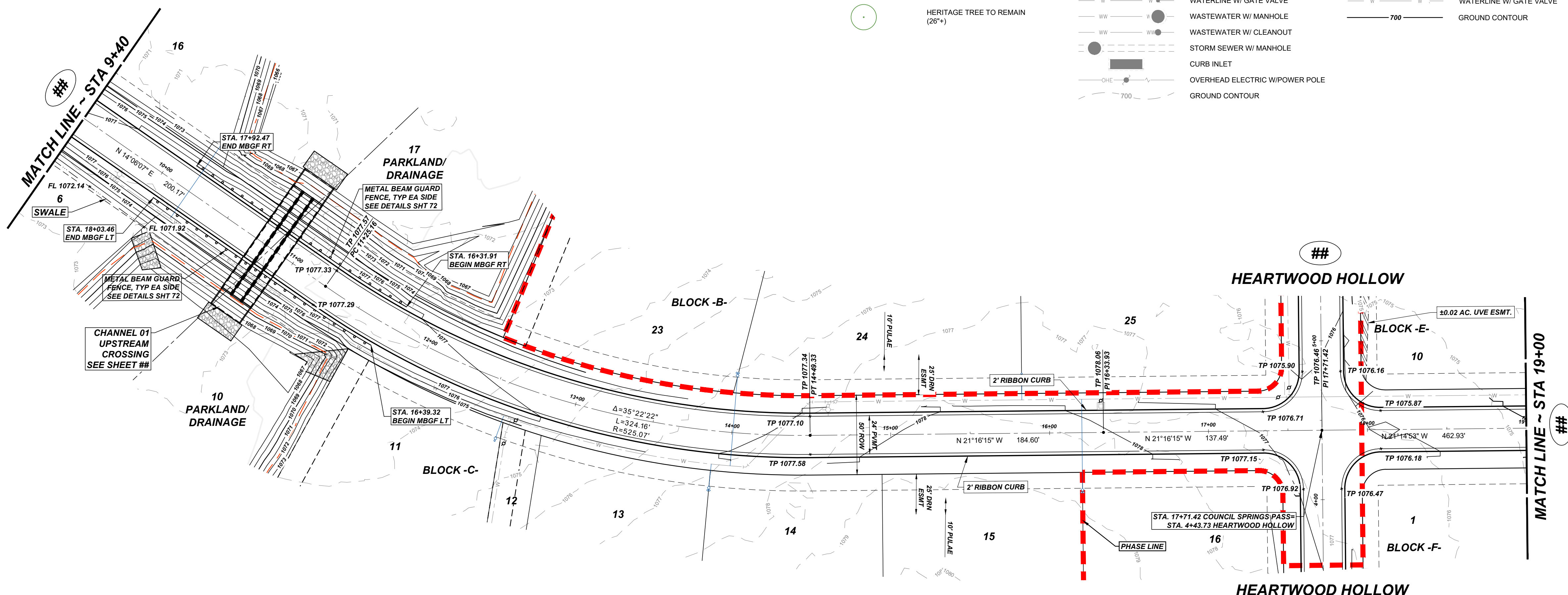
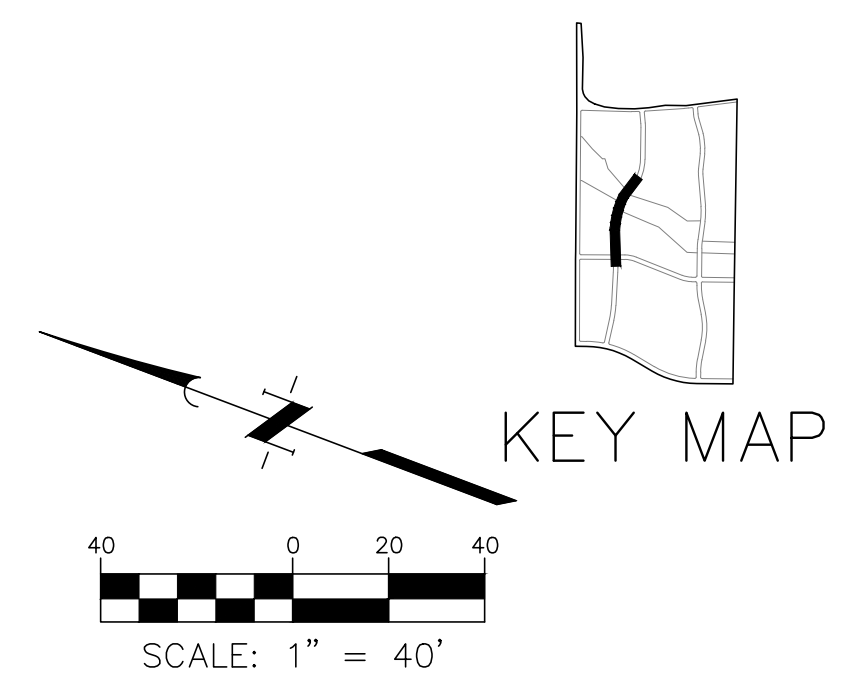
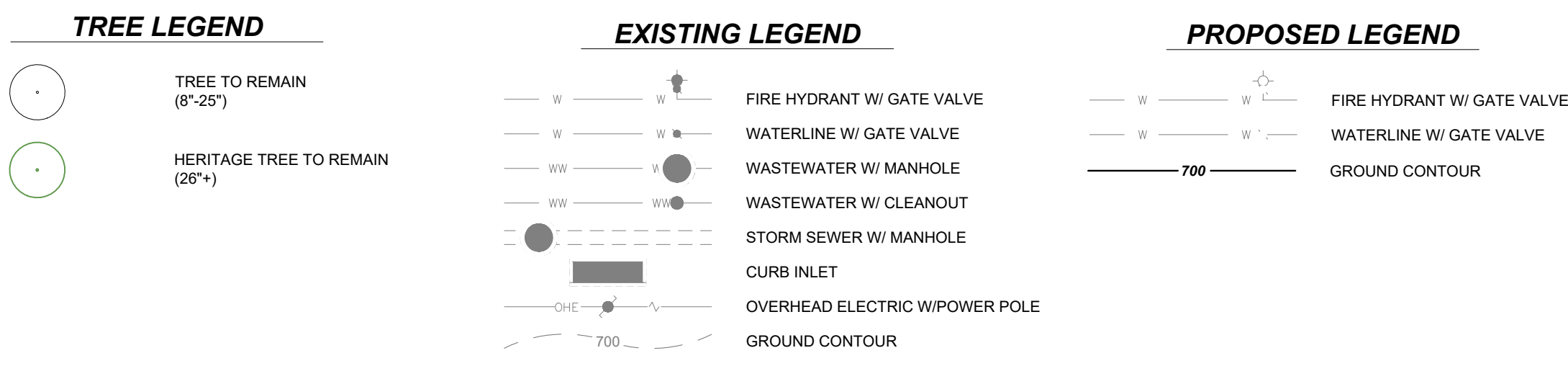
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STA 0+00 TO STA 9+40

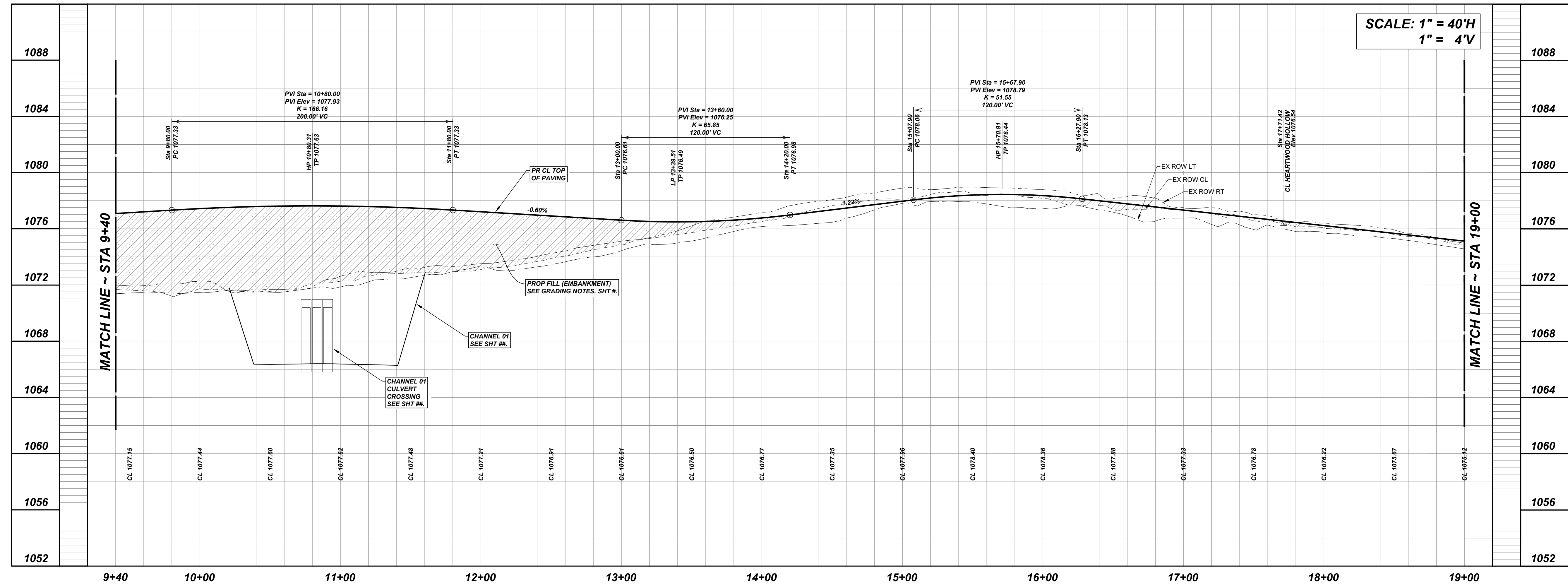
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K:\16759\16759-0013-01 Greatwood South - 119 Acres\2 Design Phase\CAD\Subdivision Plans\16759-0013-00 SUBD STR-B.dwg ec: May 08, 2023

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROX. 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



COUNCIL SPRINGS PASS



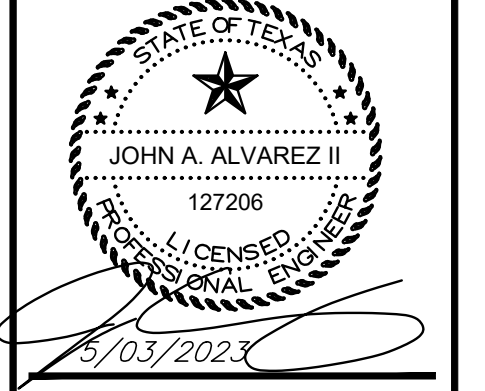
REVISIONS

No.	Date	Description

QUIDDITY

Professional Engineer, State of Texas, License No. 23920
 3100 Avenue of the Americas, Suite 1500 • Houston, TX 77010 • P: 281.441.5493

SCALE: AS SHOWN DESIGNED BY: FR CHECKED BY: JA DRAWN BY: JDE
 SUBMITTAL DATE: 6/14/2022 JOB NO.: 17232-0001-01



CONSTRUCTION PLANS

LEANDER ESTATES SUBDIVISION

PLAN AND PROFILE

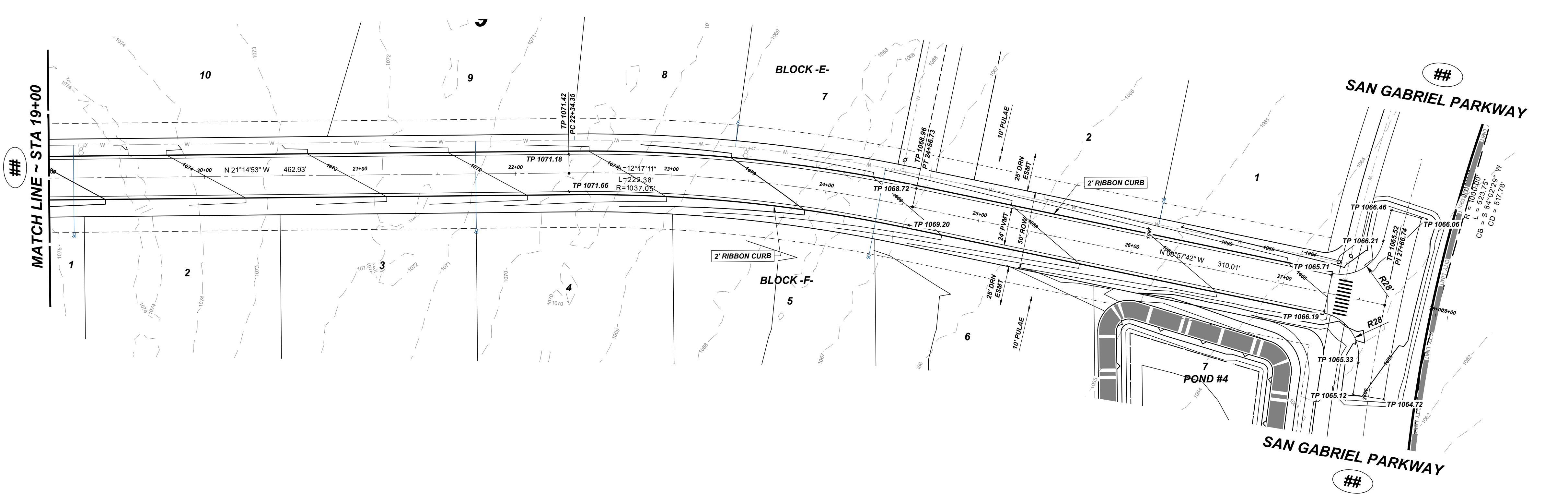
COUNCIL SPRINGS PASS

STA 9+40 TO STA 19+00

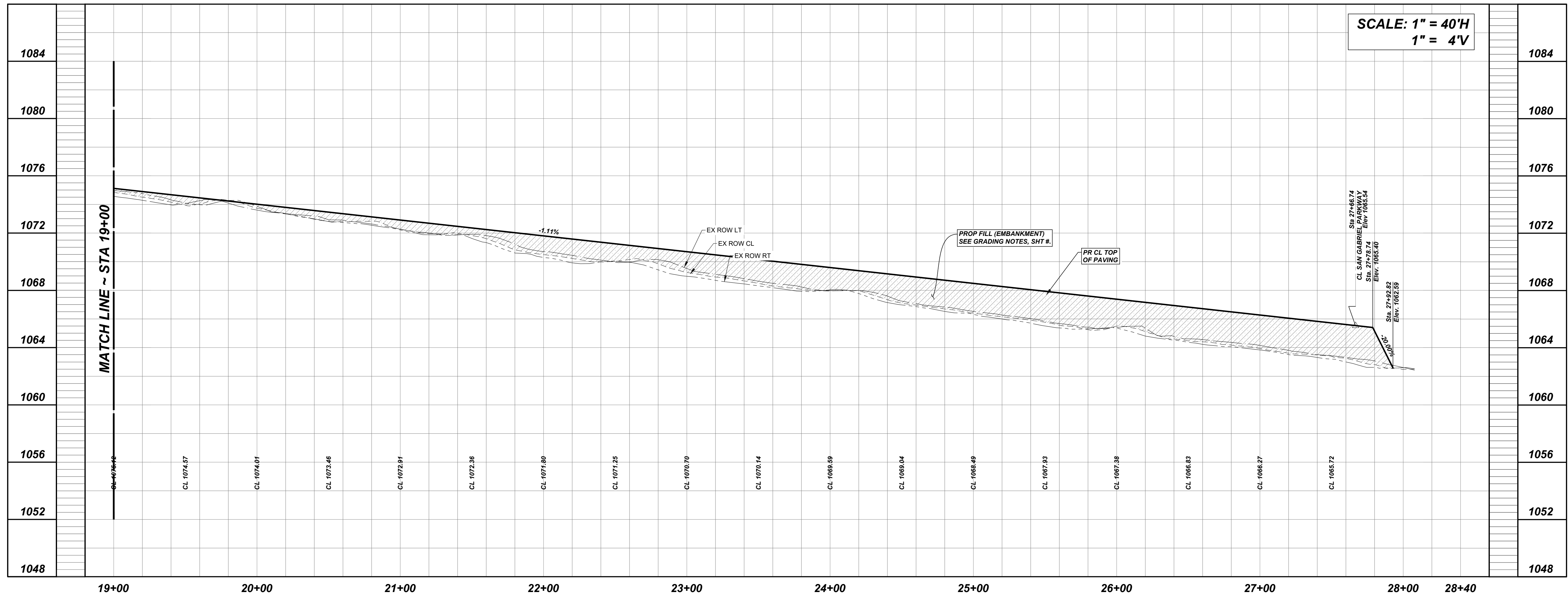
SHEET NO. **36**

OF 79

21-PP-013



COUNCIL SPRINGS PASS



THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE MANNER. 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

REVISIONS

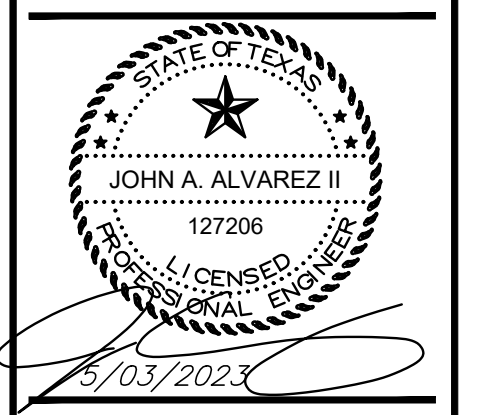
No.	Date	Description

QUIDDITY

Professional Engineering and Surveying
3100 Avenue of the Americas, Suite 1500 • Austin, TX 78705 • P: 512.441.5499

SCALE: AS SHOWN
DESIGNED BY: FR
CHECKED BY: JA
DRAWN BY: JDE

SUBMITTAL DATE: 6/14/2022
JOB NO.: 17232-0001-01



CONSTRUCTION PLANS

LEANDER ESTATES SUBDIVISION

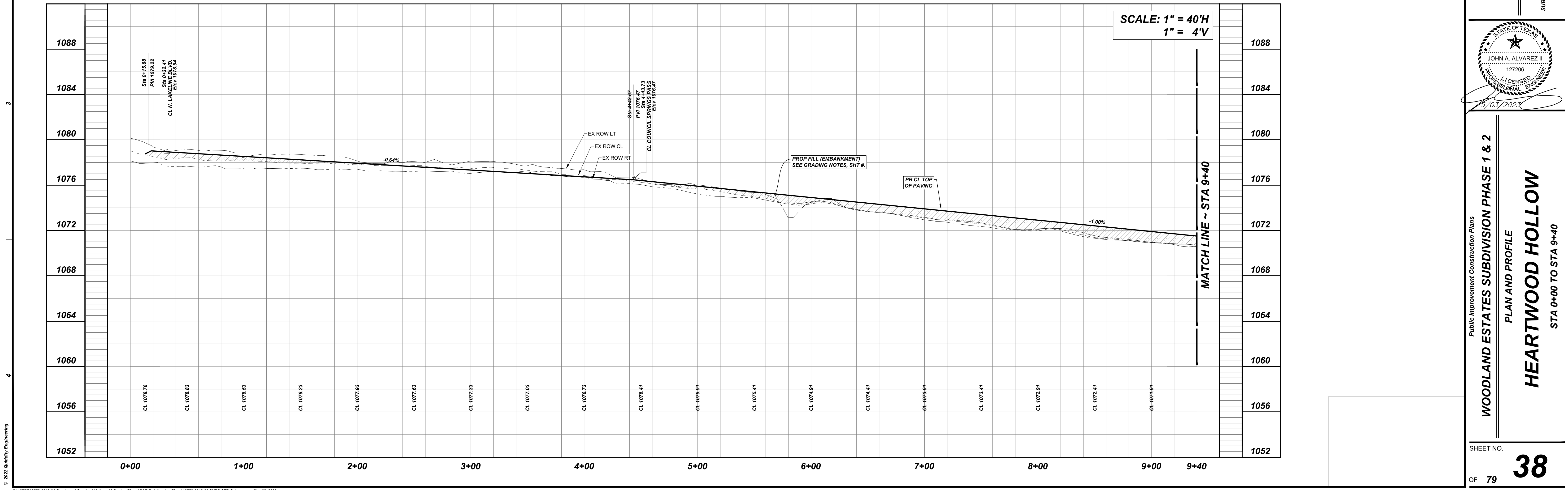
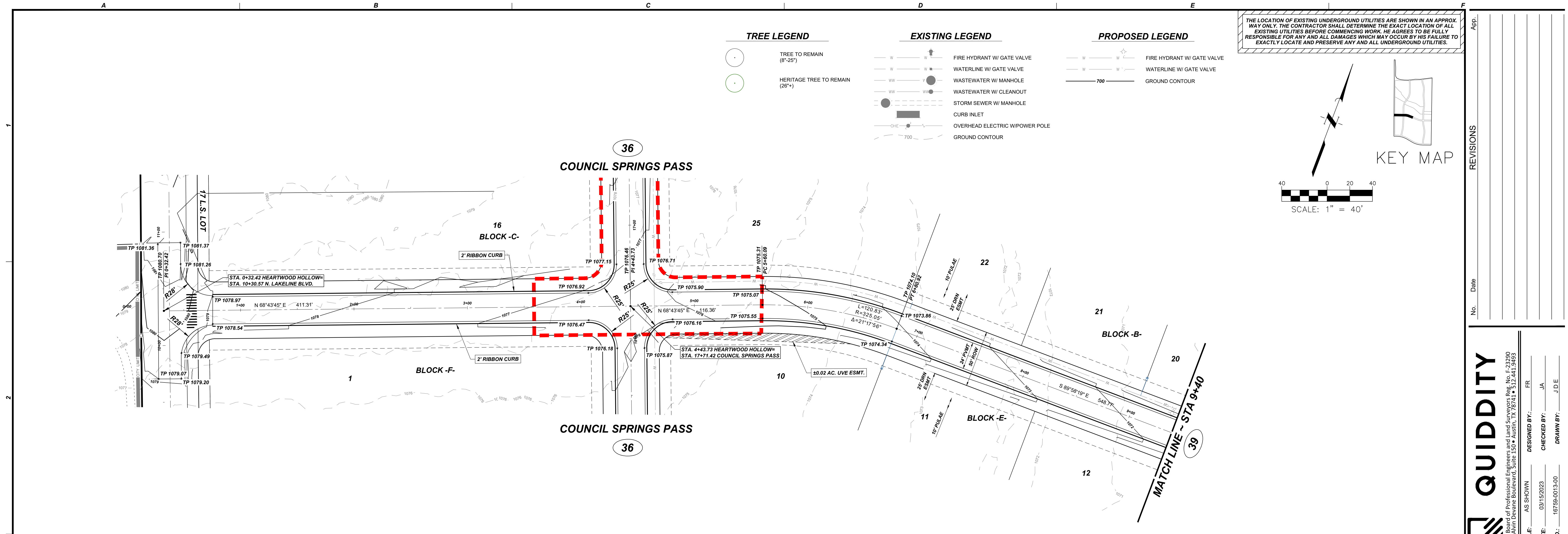
PLAN AND PROFILE

COUNCIL SPRINGS PASS

STA 19+00 TO STA 28+10

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K:\16759\16759-0013-01 Greatwood South - 119 Acres\2 Design Phase\CAD\Subdivision Plans\16759-0013-00 SUBD STR-B.dwg ec: May 08, 2023



App. _____

No. _____ Date _____

QUIDDITY

Professional Engineer, State of Texas, License No. 24950
3100 Avenue of the Americas, Suite 1500, Houston, TX 77010-1500, Tel: 713.441.9499

SCALE: AS SHOWN DESIGNED BY: FR CHECKED BY: JA DRAWN BY: JDE
SUBMITTAL DATE: 03/15/2023 JOB NO.: 16759-0013-00

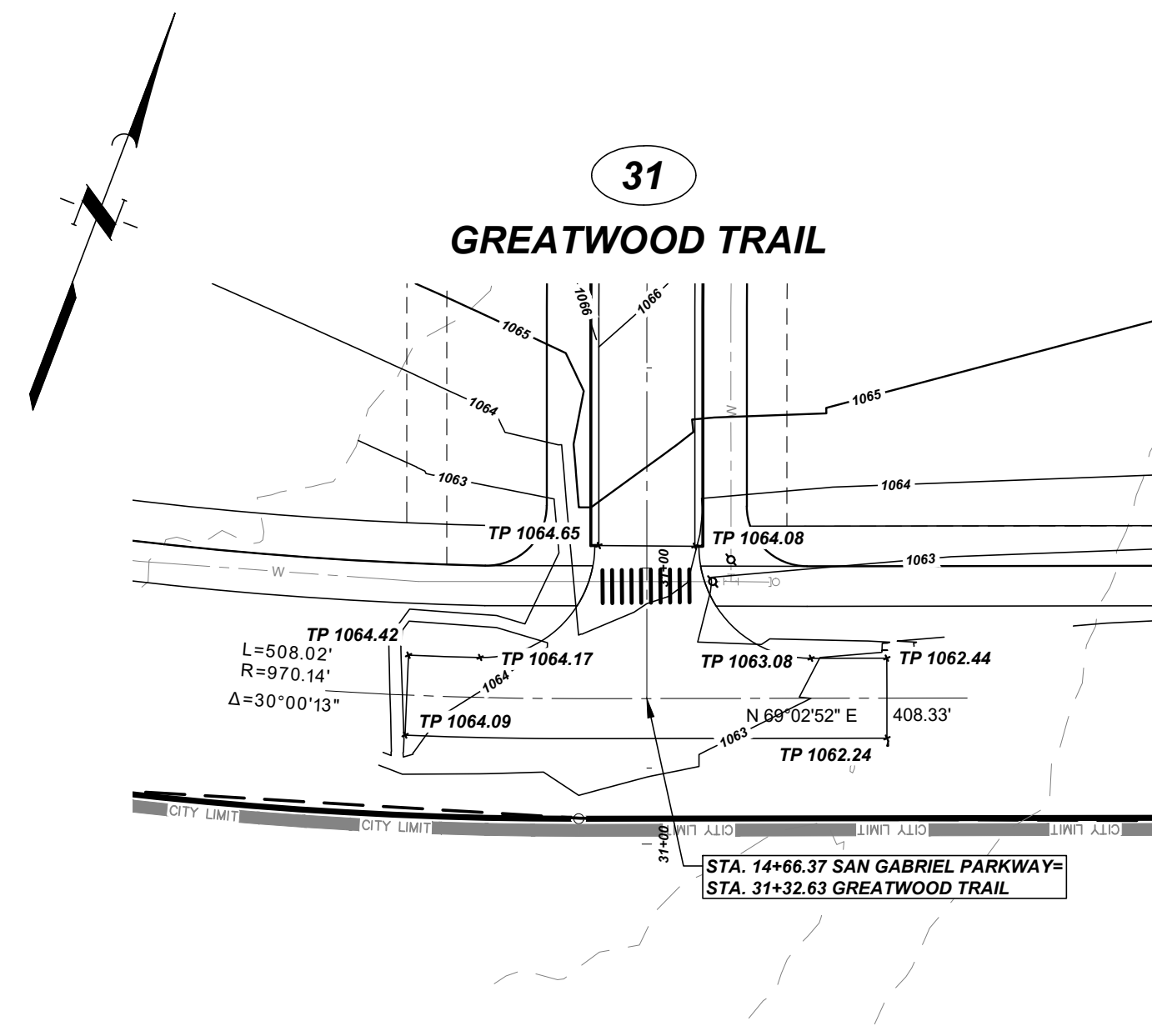
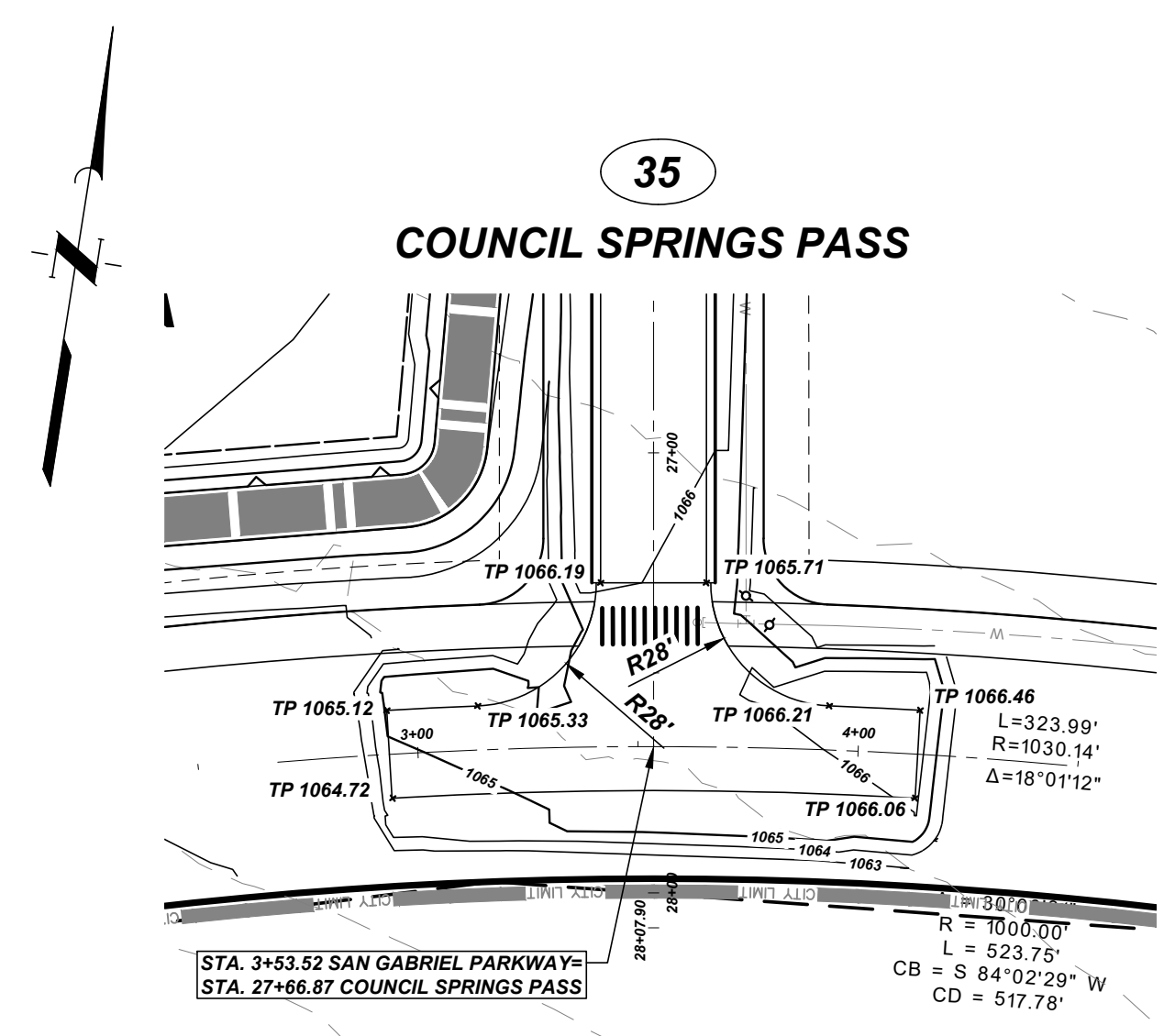
STATE OF TEXAS
JOHN A. ALVAREZ II
127206
Professional Engineer
03/03/2023

Public Improvement Construction Plans
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2
PLAN AND PROFILE
HEARTWOOD HOLLOW
STA 0+00 TO STA 9+40

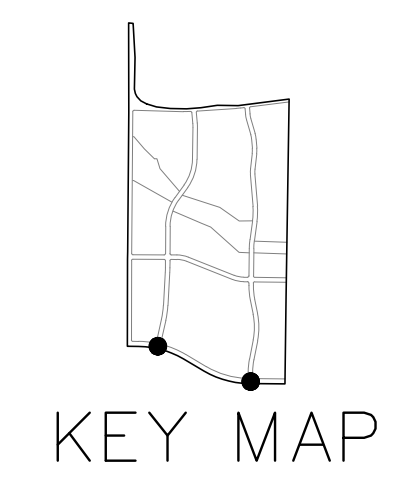
SHEET NO. **38**
OF 79

PCIP-23-0054

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THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE MANNER 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



EXISTING LEGEND

- W — W — FIRE HYDRANT W/ GATE VALVE
- W — W — WATERLINE W/ GATE VALVE
- W — W — WASTEWATER W/ MANHOLE
- W — W — WASTEWATER W/ CLEANOUT
- W — W — STORM SEWER W/ MANHOLE
- W — W — CURB INLET
- W — W — OVERHEAD ELECTRIC W/POWER POLE
- 700 — GROUND CONTOUR

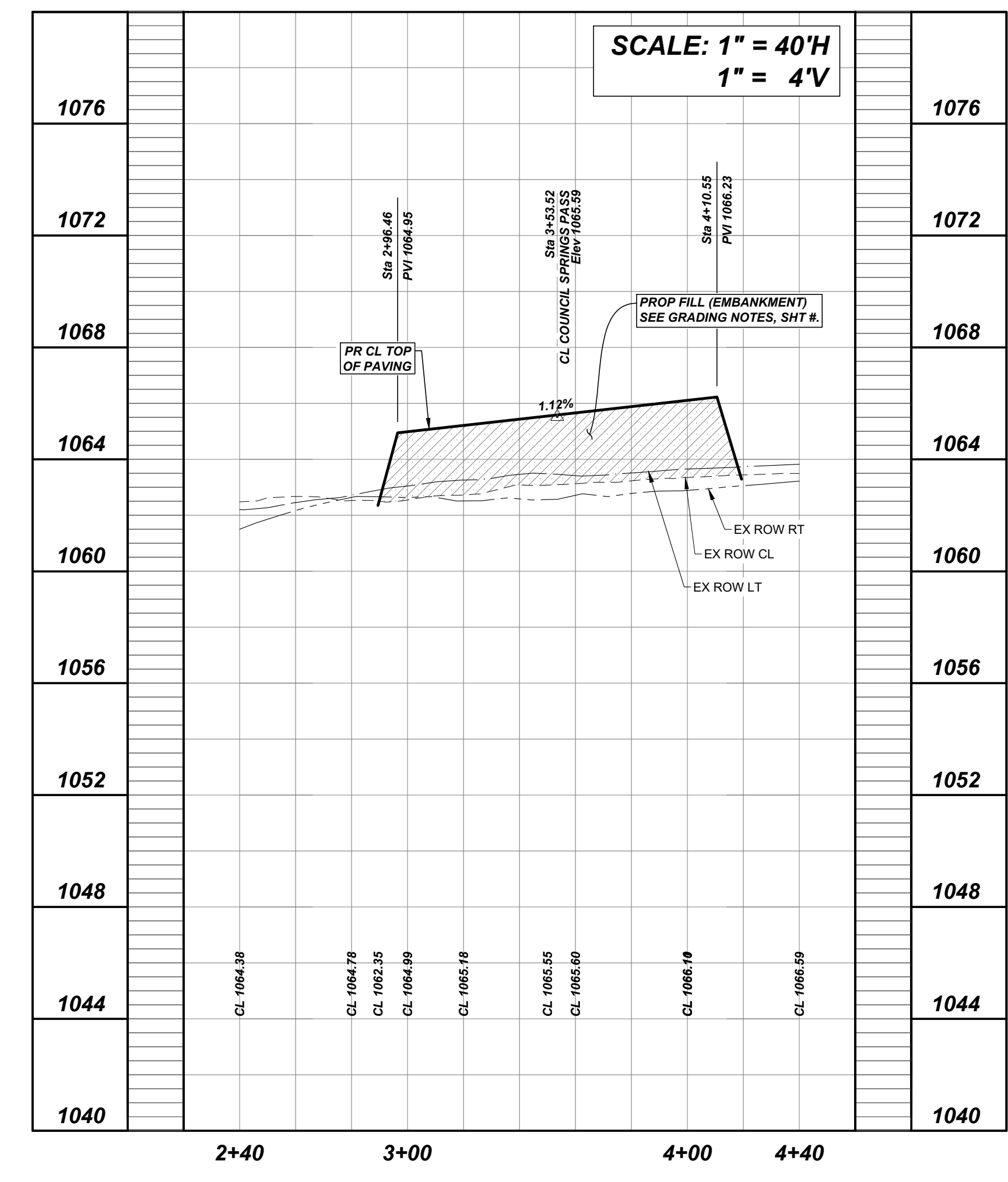
PROPOSED LEGEND

- W — W — FIRE HYDRANT W/ GATE VALVE
- W — W — WATERLINE W/ GATE VALVE
- 700 — GROUND CONTOUR

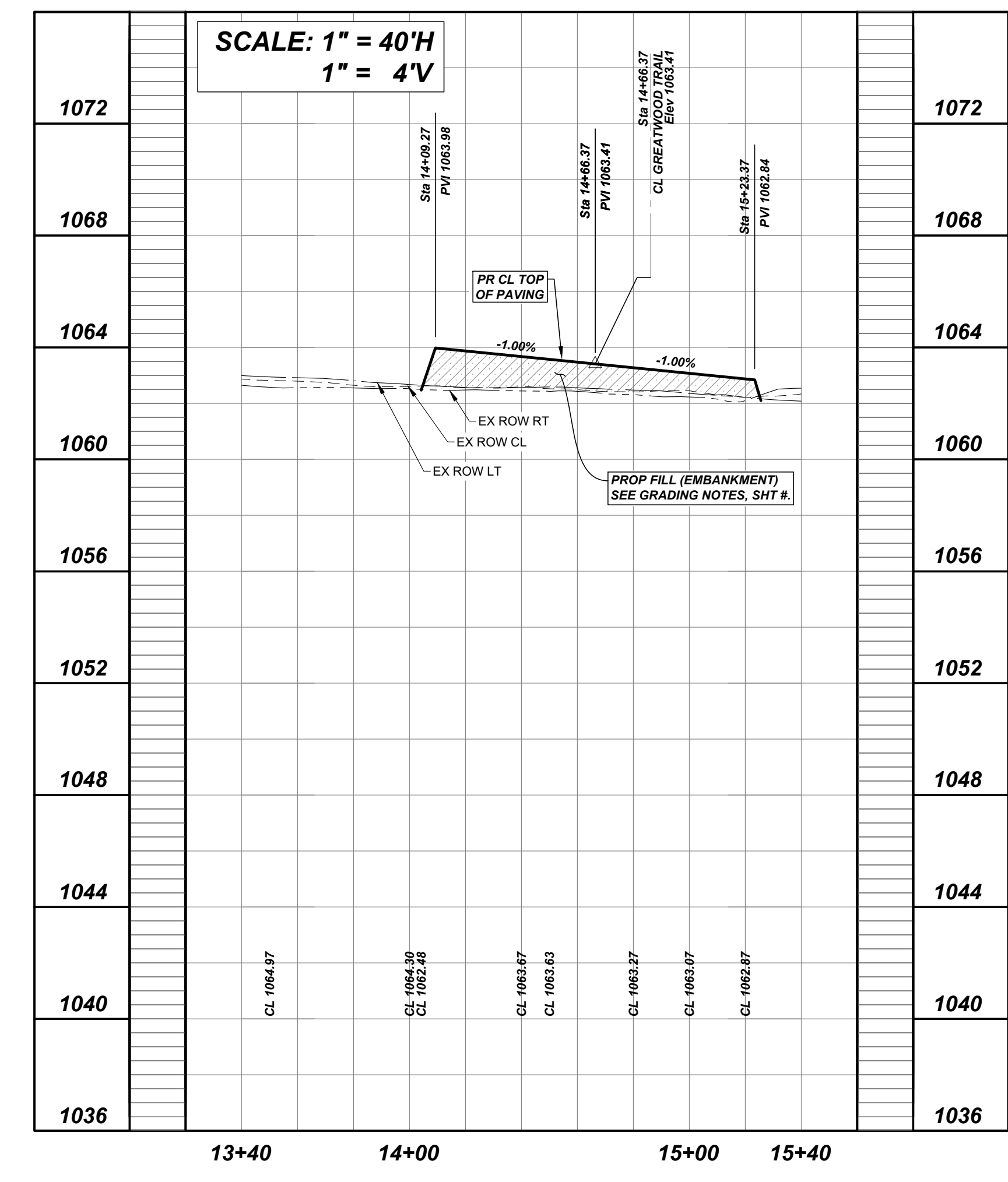
TREE LEGEND

- TREE TO REMAIN (8'-25')
- HERITAGE TREE TO REMAIN (26'+)

SAN GABRIEL PARKWAY



SAN GABRIEL PARKWAY



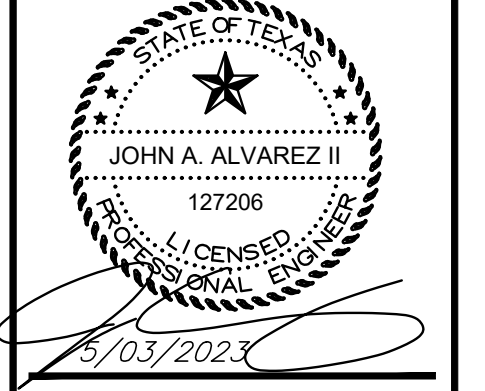
REVISIONS

No.	Date

QUIDDITY

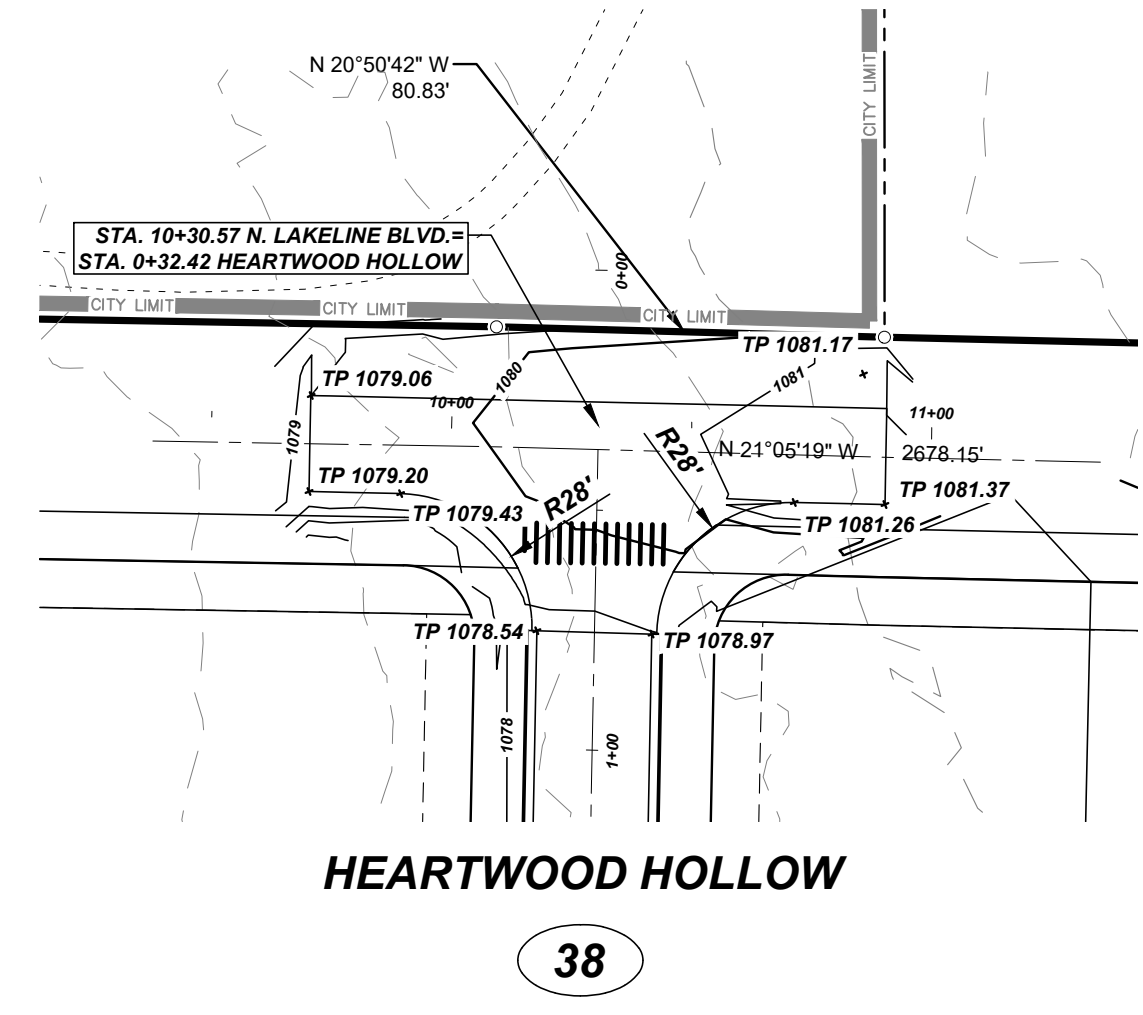
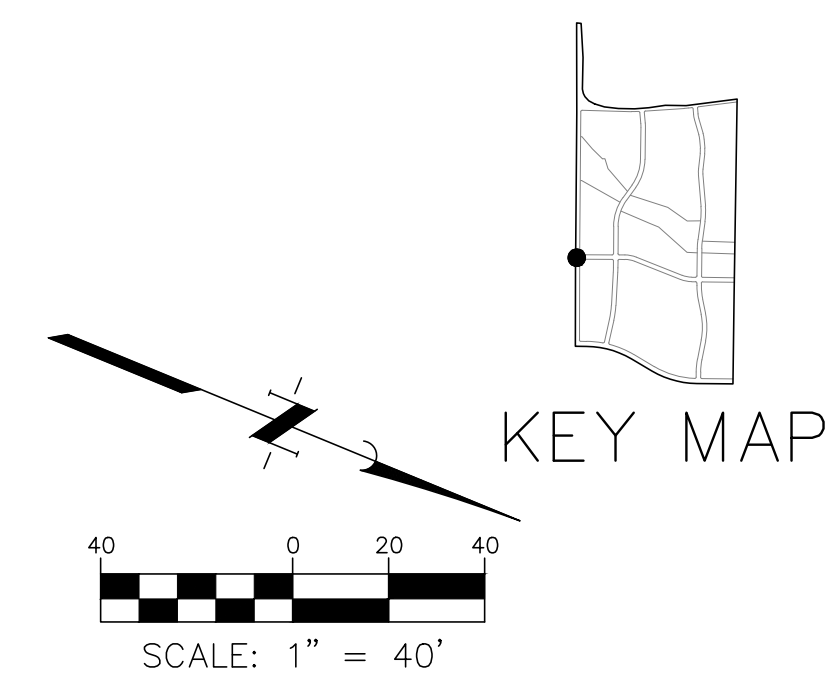
Professional Engineer License No. 24929
 State of Texas
 3100 Avenue of the Americas, Suite 1500 • Houston, TX 77019 • 713.241.5499

SCALE: AS SHOWN DESIGNED BY: FR CHECKED BY: JA DRAWN BY: JDE
 SUBMITTAL DATE: 03/15/2023 JOB NO.: 16755-0013-00



Public Improvement Construction Plans
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2
 PLAN AND PROFILE
SAN GABRIEL PARKWAY
 STA 2+40 TO STA 4+40
 STA 13+40 TO STA 15+40

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE MANNER. 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



HEARTWOOD HOLLOW

38

EXISTING LEGEND

- FIRE HYDRANT W/ GATE VALVE
- WATERLINE W/ GATE VALVE
- WASTEWATER W/ MANHOLE
- WASTEWATER W/ CLEANOUT
- STORM SEWER W/ MANHOLE
- CURB INLET
- OVERHEAD ELECTRIC W/ POWER POLE
- GROUND CONTOUR

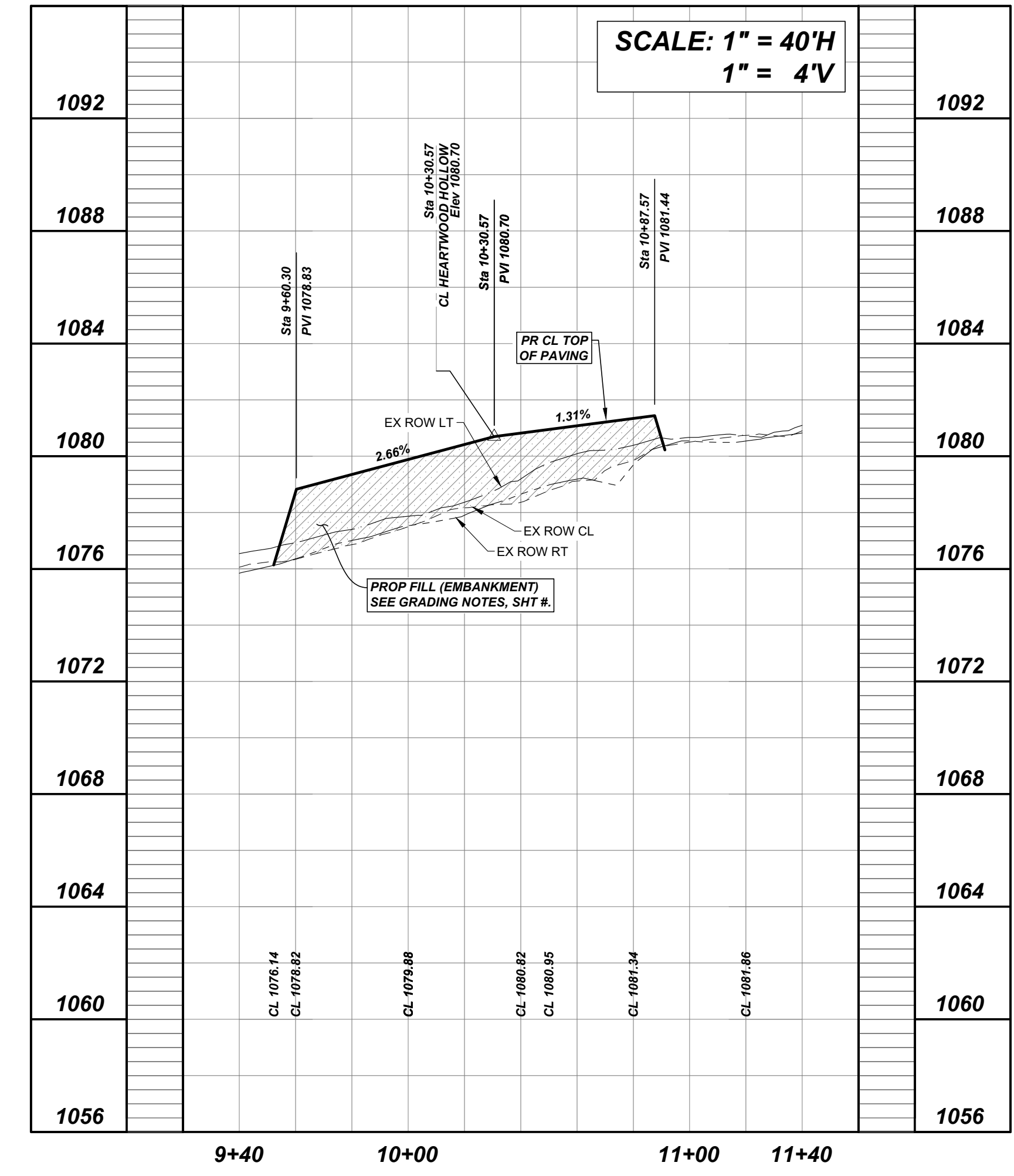
PROPOSED LEGEND

- FIRE HYDRANT W/ GATE VALVE
- WATERLINE W/ GATE VALVE
- GROUND CONTOUR

TREE LEGEND

- TREE TO REMAIN (8'-25')
- HERITAGE TREE TO REMAIN (26'+)

N. LAKELINE BLVD.



SCALE: 1" = 40'H
1" = 4'V

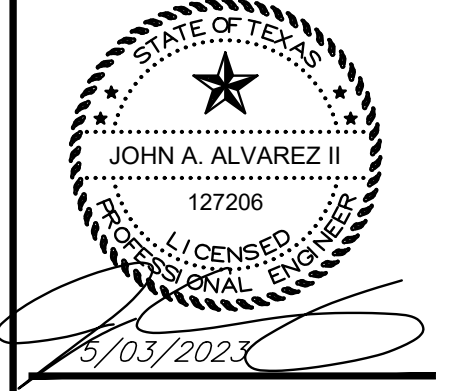
REVISIONS

No.	Date	App.

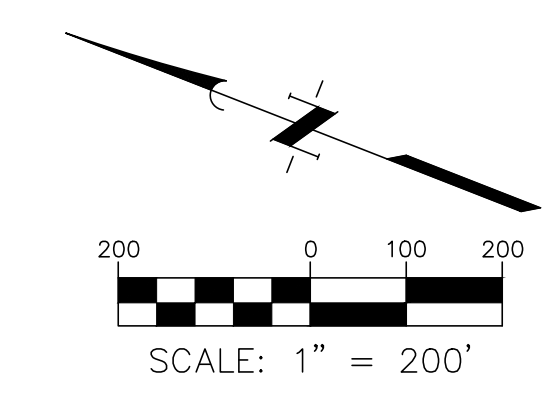
QUIDDITY

Professional Engineer, State of Texas, License No. 62925
3100 Avenue of the Americas, Suite 1500 • Houston, TX 77010 • P: 281.441.5493

SCALE: AS SHOWN DESIGNED BY: FR CHECKED BY: JA DRAWN BY: JDE
SUBMITTAL DATE: 03/15/2023 JOB NO.: 16755-0013-00

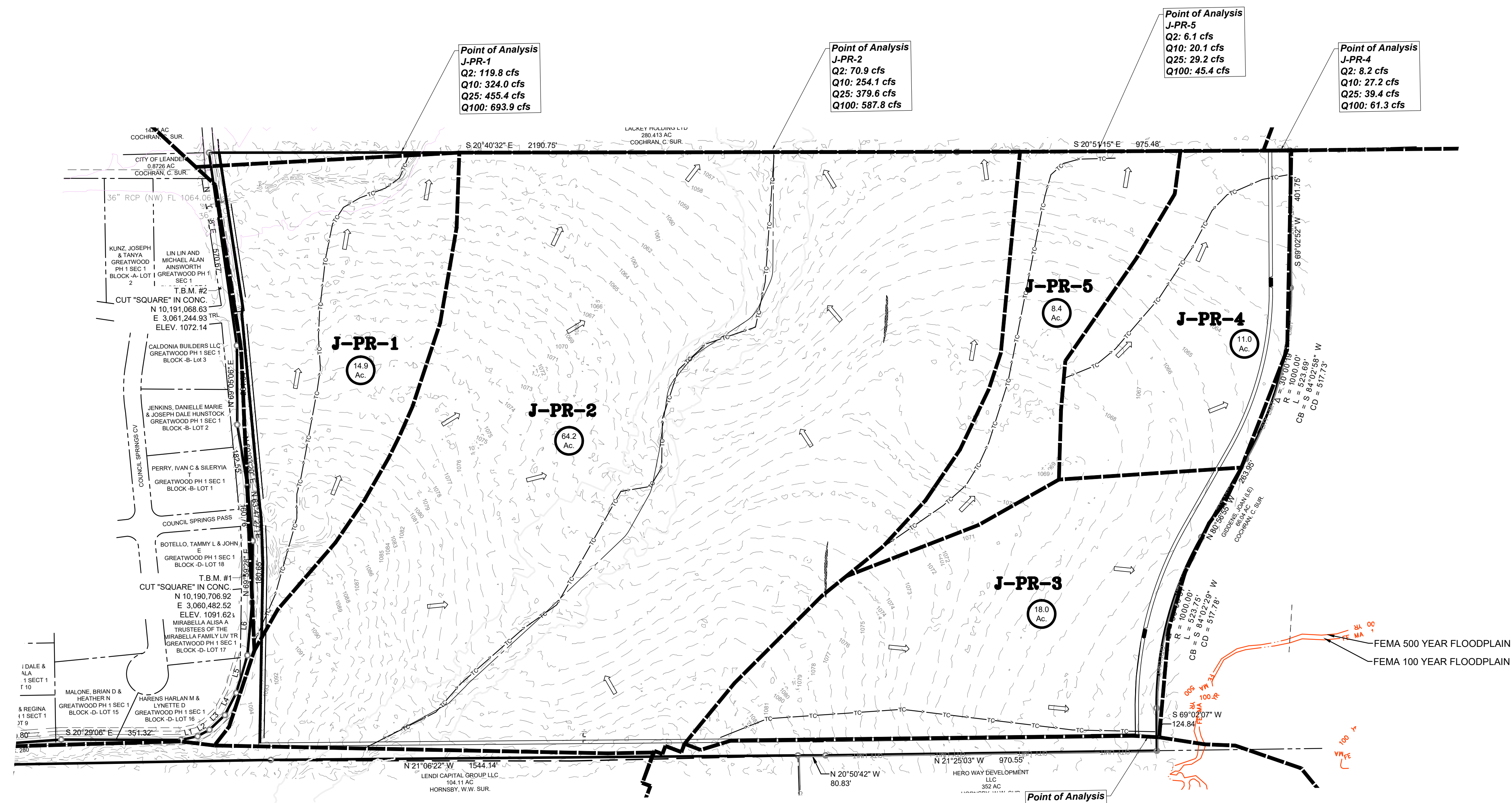


Public Improvement Construction Plans
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2
PLAN AND PROFILE
N. LAKELINE BLVD.
STA 9+40 TO STA 11+40



LEGEND

- PROPERTY BOUNDARY
- DRAINAGE AREA
- TO --- TIME OF CONCENTRATION
- (59.57) DRAINAGE AREA (ACRES)
- DRAINAGE AREA NUMBER



Sub-basin ID	Sheet Flow				Shallow Concentrated Flow				Open Channel Flow			TOTAL			
	L _{sh} Length (ft)	S _{sh} Slope (ft/ft)	P ₂ (in)	n _{sh} Mannings n-value	t _{sh} T _t (hr)	L _{sc} Length (ft)	S _{sc} Slope (ft/ft)	K	t _{sc} T _t (hr)	L _{ch} Length (ft)	Velocity (ft/s)	T _t (hr)	Total T _c (hr)	Total T _L (min)	Lag T _L (min)
Existing (Offsite)															
NFBC_060_OFF_E.1	100	0.005	3.92	0.240	0.37	2,751	0.013	16.13	0.42	708	8.0	0.02	0.82	48.9	29.4
NFBC_060_OFF_E.2	100	0.024	3.92	0.240	0.20	1,299	0.020	16.13	0.16	1,184	5.0	0.07	0.42	25.5	15.3
NFBC_060_OFF_E.3	100	0.006	3.92	0.240	0.35	1,310	0.020	16.13	0.16	3,187	2.2	0.40	0.90	54.2	32.5
NFBC_060_OFF_N	100	0.004	3.92	0.240	0.37	1,159	0.011	16.13	0.19	2,651	6.7	0.11	0.68	40.5	24.3
NFBC_060_OFF_W	100	0.004	3.92	0.240	0.37	1,353	0.010	16.13	0.23	1,342	3.4	0.11	0.71	42.6	25.6
NFBC_50.1	100	0.012	3.92	0.240	0.27	2,862	0.016	16.13	0.39	1,329	3.6	0.10	0.76	45.5	27.3
NFBC_50.2	100	0.004	3.92	0.240	0.37	1,591	0.019	16.13	0.20	1,865	3.2	0.16	0.73	44.0	26.4
NFBC_50.3	100	0.011	3.92	0.240	0.28	1,015	0.016	16.13	0.14	3,512	1.9	0.51	0.93	55.7	33.4
Existing (Onsite)															
PR_1	100	0.008	3.92	0.400	0.46	1,092	0.027	16.13	0.12	208		0.01	0.58	34.9	20.9
PR_2	100	0.019	3.92	0.400	0.33	386	0.025	16.13	0.04	2,078		0.17	0.54	32.5	19.5
PR_3	100	0.015	3.92	0.240	0.24	1,329	0.017	16.13	0.18			0.00	0.42	25.2	15.1
PR_4	100	0.006	3.92	0.240	0.34	806	0.009	16.13	0.14			0.00	0.49	29.2	17.5
PR_5	100	0.013	3.92	0.240	0.25	1,347	0.008	16.13	0.26			0.00	0.51	30.6	18.4
Proposed (Onsite)															
PR_1	100	0.025	3.92	0.400	0.30	268	0.024	16.13	0.03			0.00	0.33	19.5	11.7
PR_1_DET	100	0.015	3.92	0.400	0.36	762	0.028	16.13	0.08	390		0.02	0.46	27.6	16.6
PR_2	100	0.019	3.92	0.400	0.33	369	0.026	16.13	0.04	1,603		0.11	0.48	28.9	17.3
PR_2b	100	0.022	3.92	0.240	0.21	1,048	0.008	16.13	0.20			0.00	0.41	24.5	14.7
PR_3	100	0.021	3.92	0.240	0.21	1,210	0.013	16.13	0.19			0.00	0.40	23.8	14.3
PR_3_DET	100	0.015	3.92	0.240	0.24	1,271	0.015	16.13	0.18			0.00	0.42	25.4	15.2
PR_4	100	0.012	3.92	0.240	0.26	493	0.009	16.13	0.09			0.00	0.36	21.3	12.8
PR_4_DET	100	0.013	3.92	0.240	0.25	1,299	0.007	16.13	0.27	245		0.02	0.54	32.6	19.6
PR_5	100	0.010	3.92	0.240	0.28	332	0.008	16.13	0.06			0.00	0.35	20.8	12.5

Basin	Total Area (Acre)	Impervious (%)	Calibrated Composite CN	Tlag (MIN)	Q100 (cfs)	Q25 (cfs)	Q10 (cfs)	Q2 (cfs)
PR_1	15.2	1.5343	65.7468	20.9	72.8	45.6	30.7	8.3
PR_2	63.7	0.1445	66.8816	19.5	321.8	202.9	137.4	38.0
PR_3	18.0	0.0000	68.6553	15.1	107.2	68.8	47.4	14.1
PR_4	11.0	0.0000	69.0000	17.5	61.3	39.4	27.2	8.2
PR_5	8.4	0.0000	69.0000	18.4	45.4	29.2	20.1	6.1
NFBC_060_OFF_N	130.2	23.0247	65.4620	24.3	622.3	410.7	293.7	111.5
NFBC_060_OFF_W	86.3	0.8705	67.0159	25.6	378.3	238.5	161.8	45.6

Basin	Q100 (cfs)	Q25 (cfs)	Q10 (cfs)	Q2 (cfs)
J-PR_1	693.9	455.4	324.0	119.8
J-PR_2	587.8	379.6	254.1	70.9
J-PR_3	107.2	68.8	47.4	14.1
J-PR_4	61.3	39.4	27.2	8.2
J-PR_5	45.4	29.2	20.1	6.1

REVISIONS

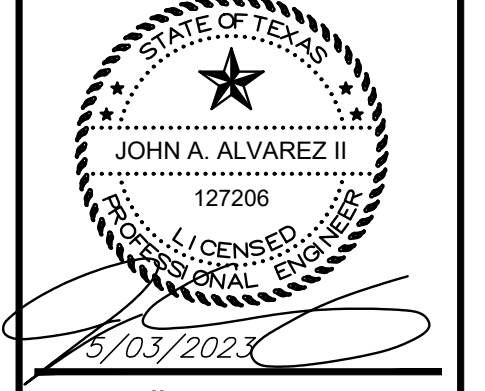
No.	Date	Description

QUIDDITY

Texas Board of Professional Engineers and Land Surveyors Reg. No. F-23290
 5100 Alvin Devine Boulevard, Suite 1307 Alvin, TX 77611-3124-12493

DESIGNED BY: FR
 CHECKED BY: JA
 DRAWN BY: JDE

SCALE: AS SHOWN
 SUBMITTAL DATE: 03/15/2023
 JOB NO.: 16759-001300



Public Improvement Construction Plans

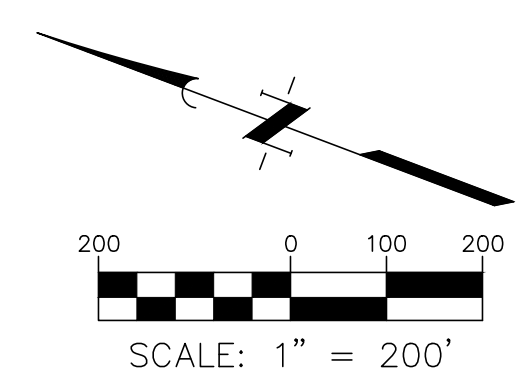
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2

PRE-DEVELOPMENT DRAINAGE AREA MAP

SHEET NO. **42**

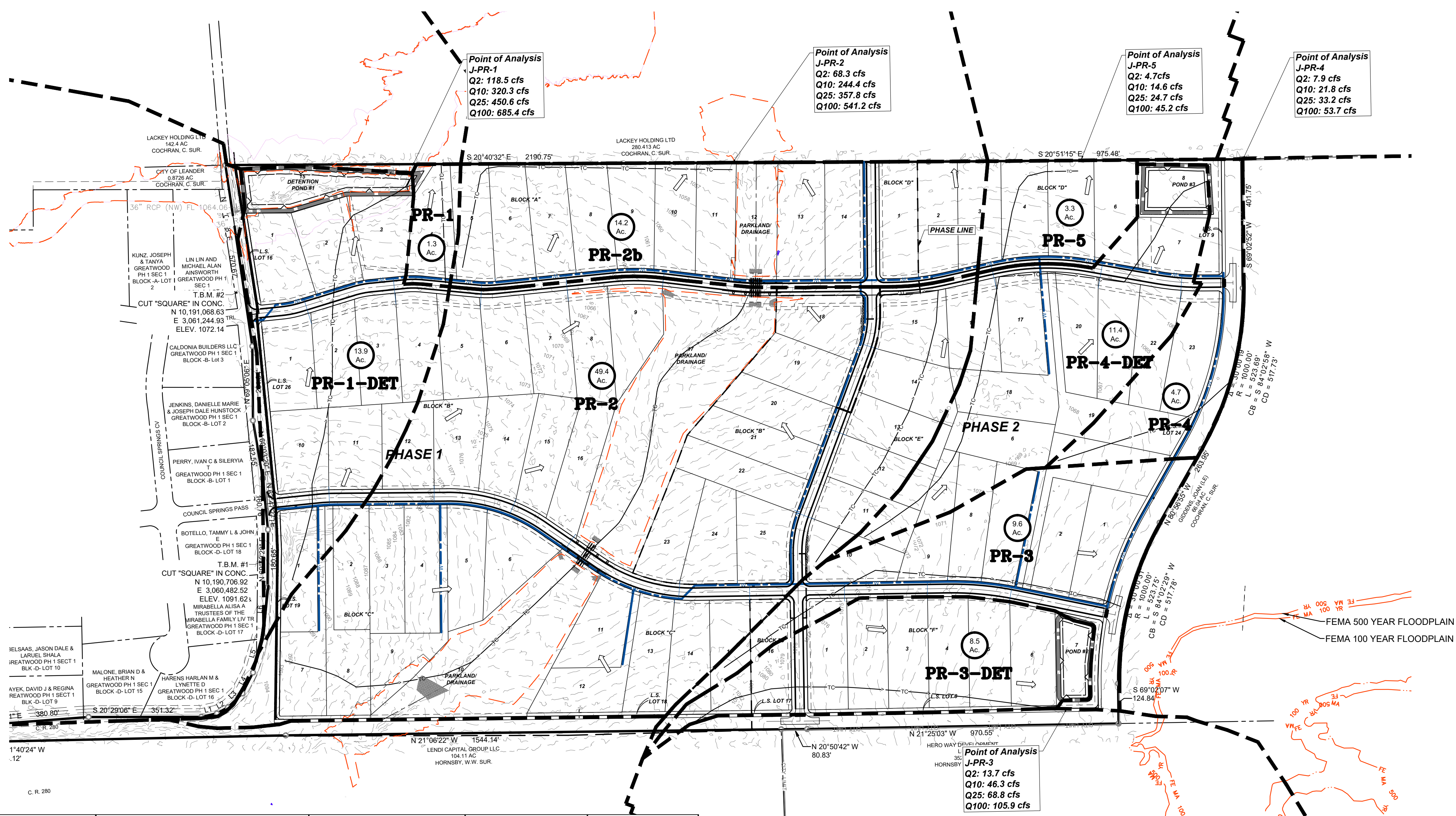
OF 79

PIC-23-0054



LEGEND

- PROPERTY BOUNDARY
- - - DRAINAGE AREA
- DRAINAGE AREA (ACRES)
- PHASE LINE



Sub-basin ID	Sheet Flow					Shallow Concentrated Flow					Open Channel Flow					TOTAL		
	L _{sh} Length (ft)	S _{sh} Slope (ft/ft)	P ₂ (in)	n _{sl} Mannings n-value	t _{sh} T _r (hr)	L _{sc} Length (ft)	S _{sc} Slope (ft/ft)	K	t _{sc} T _r (hr)	L _{ch} Length (ft)	V _{ch} Velocity (ft/s)	t _{ch} T _r (hr)	Total T _c (hr)	Total T _c (min)	Lag T _L (min)			
Existing (Offsite)																		
NFBC_060_OFF_E.1	100	0.005	3.92	0.240	0.37	2,751	0.013	16.13	0.42	708	8.0	0.02	0.82	48.9	29.4			
NFBC_060_OFF_E.2	100	0.024	3.92	0.240	0.20	1,299	0.020	16.13	0.16	1,184	5.0	0.07	0.42	25.5	15.3			
NFBC_060_OFF_E.3	100	0.006	3.92	0.240	0.35	1,310	0.020	16.13	0.16	3,187	2.2	0.40	0.90	54.2	32.5			
NFBC_060_OFF_N	100	0.004	3.92	0.240	0.37	1,159	0.011	16.13	0.19	2,651	6.7	0.11	0.68	40.5	24.3			
NFBC_060_OFF_W	100	0.004	3.92	0.240	0.37	1,353	0.010	16.13	0.23	1,342	3.4	0.11	0.71	42.6	25.6			
NFBC_50.1	100	0.012	3.92	0.240	0.27	2,862	0.016	16.13	0.39	1,329	3.6	0.10	0.76	45.5	27.3			
NFBC_50.2	100	0.004	3.92	0.240	0.37	1,591	0.019	16.13	0.20	1,865	3.2	0.16	0.73	44.0	26.4			
NFBC_50.3	100	0.011	3.92	0.240	0.28	1,015	0.016	16.13	0.14	3,512	1.9	0.51	0.93	55.7	33.4			
Existing (Onsite)																		
PR_1	100	0.008	3.92	0.400	0.46	1,092	0.027	16.13	0.12	208		0.01	0.58	34.9	20.9			
PR_2	100	0.019	3.92	0.400	0.33	386	0.025	16.13	0.04	2,078		0.17	0.54	32.5	19.5			
PR_3	100	0.015	3.92	0.240	0.24	1,329	0.017	16.13	0.18			0.00	0.42	25.2	15.1			
PR_4	100	0.006	3.92	0.240	0.34	806	0.009	16.13	0.14			0.00	0.49	29.2	17.5			
PR_5	100	0.013	3.92	0.240	0.25	1,347	0.008	16.13	0.26			0.00	0.51	30.6	18.4			
Proposed (Onsite)																		
PR_1	100	0.025	3.92	0.400	0.30	268	0.024	16.13	0.03			0.00	0.33	19.5	11.7			
PR_1_DET	100	0.015	3.92	0.400	0.36	762	0.028	16.13	0.08	390		0.02	0.46	27.6	16.6			
PR_2	100	0.019	3.92	0.400	0.33	369	0.026	16.13	0.04	1,603		0.11	0.48	28.9	17.3			
PR_2b	100	0.022	3.92	0.240	0.21	1,048	0.008	16.13	0.20			0.00	0.41	24.5	14.7			
PR_3	100	0.021	3.92	0.240	0.21	1,210	0.013	16.13	0.19			0.00	0.40	23.8	14.3			
PR_3_DET	100	0.015	3.92	0.240	0.24	1,271	0.015	16.13	0.18			0.00	0.42	25.4	15.2			
PR_4	100	0.012	3.92	0.240	0.26	493	0.009	16.13	0.09			0.00	0.36	21.3	12.8			
PR_4_DET	100	0.013	3.92	0.240	0.25	1,299	0.007	16.13	0.27	245		0.02	0.54	32.6	19.6			
PR_5	100	0.010	3.92	0.240	0.28	332	0.008	16.13	0.06			0.00	0.35	20.8	12.5			

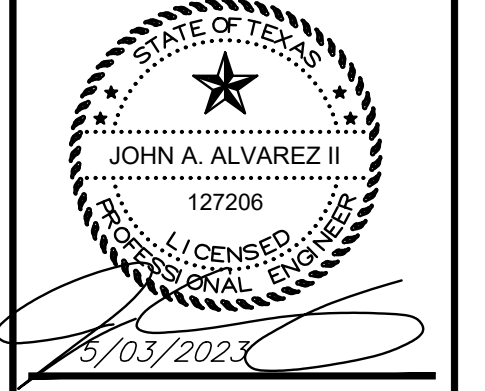
Basin	Total Area (Acre)	Impervious (%)	Calibrated Composite CN	Tlag (MIN)	Q100 (cfs)	Q25 (cfs)	Q10 (cfs)	Q2 (cfs)
PR_1	1.6	19.9850	65.8496	11.7	10.8	7.1	5.1	1.9
PR_1_DET	12.9	20.0318	65.8354	16.6	75.1	49.5	35.3	13.0
PR_2	49.7	20.0000	66.4655	17.3	285.6	188.6	134.8	50.1
PR_2b	14.6	20.0000	68.1597	14.7	93.3	62.3	45.0	17.2
PR_3	9.8	20.0000	68.7101	14.3	63.8	42.8	30.9	11.9
PR_3_DET	8.2	19.5071	68.5893	15.2	51.5	34.5	24.9	9.5
PR_4	5.0	20.0000	69.0000	12.8	34.7	23.3	16.9	6.5
PR_4_DET	10.8	20.0000	69.0000	19.6	60.1	40.3	29.1	11.3
PR_5	3.6	20.0000	69.0000	12.5	24.7	16.6	12.0	4.7
NFBC_060_OFF_N	130.2	23.0247	65.4620	24.3	622.3	410.7	293.7	111.5
NFBC_060_OFF_W	86.3	0.8705	67.0159	25.6	378.3	238.5	161.8	45.6

Basin	Q100 (cfs)	Q25 (cfs)	Q10 (cfs)	Q2 (cfs)
J_PR_1	685.4	450.6	320.3	118.5
J_PR_2	541.1	357.9	244.4	68.3
J_PR_3	105.9	68.8	46.3	13.7
J_PR_4	53.7	33.2	21.8	7.9
J_PR_5	45.3	25.3	15.5	4.7

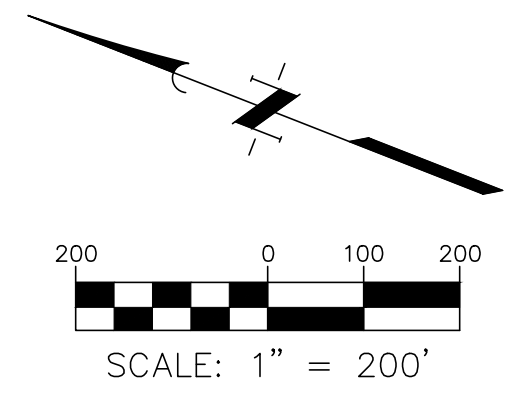
Basin	EXISTING		PROPOSED		EXISTING		PROPOSED	
	Q100 (cfs)	Q25 (cfs)	Q10 (cfs)	Q2 (cfs)	Q100 (cfs)	Q25 (cfs)	Q10 (cfs)	Q2 (cfs)
J_PR_1	683.9	454.4	324.0	119.8	685.4	450.6	320.3	118.5
J_PR_2	587.8	379.6	254.1	70.9	541.1	357.9	244.4	68.3
J_PR_3	107.2	68.8	47.4	14.1	105.9	68.8	46.3	13.7
J_PR_4	61.3	39.4	27.2	8.2	53.7	33.2	21.8	7.9
J_PR_5	45.4	25.3	20.1	6.1	45.3	25.3	15.5	4.7

No.	Date	REVISIONS

QUIDDITY
 3100 Alvin Avenue, Suite 100 • Austin, TX 78741 • 512.441.9499
 DESIGNED BY: FR
 CHECKED BY: JA
 DRAWN BY: JDE
 SCALE: AS SHOWN
 SUBMITTAL DATE: 03/15/2023
 JOB NO.: 16759-0013-00



Public Improvement Construction Plans
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2
POST-DEVELOPMENT DRAINAGE AREA MAP
 SHEET NO. **43**
 OF 79
 P1CP-23-0054

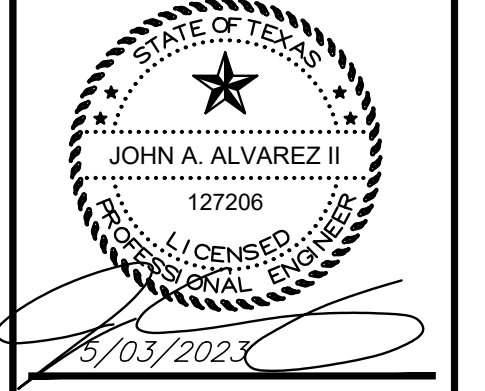


- PROPERTY BOUNDARY
- DRAINAGE AREA
- TIME OF CONCENTRATION
- DRAINAGE AREA (ACRES)

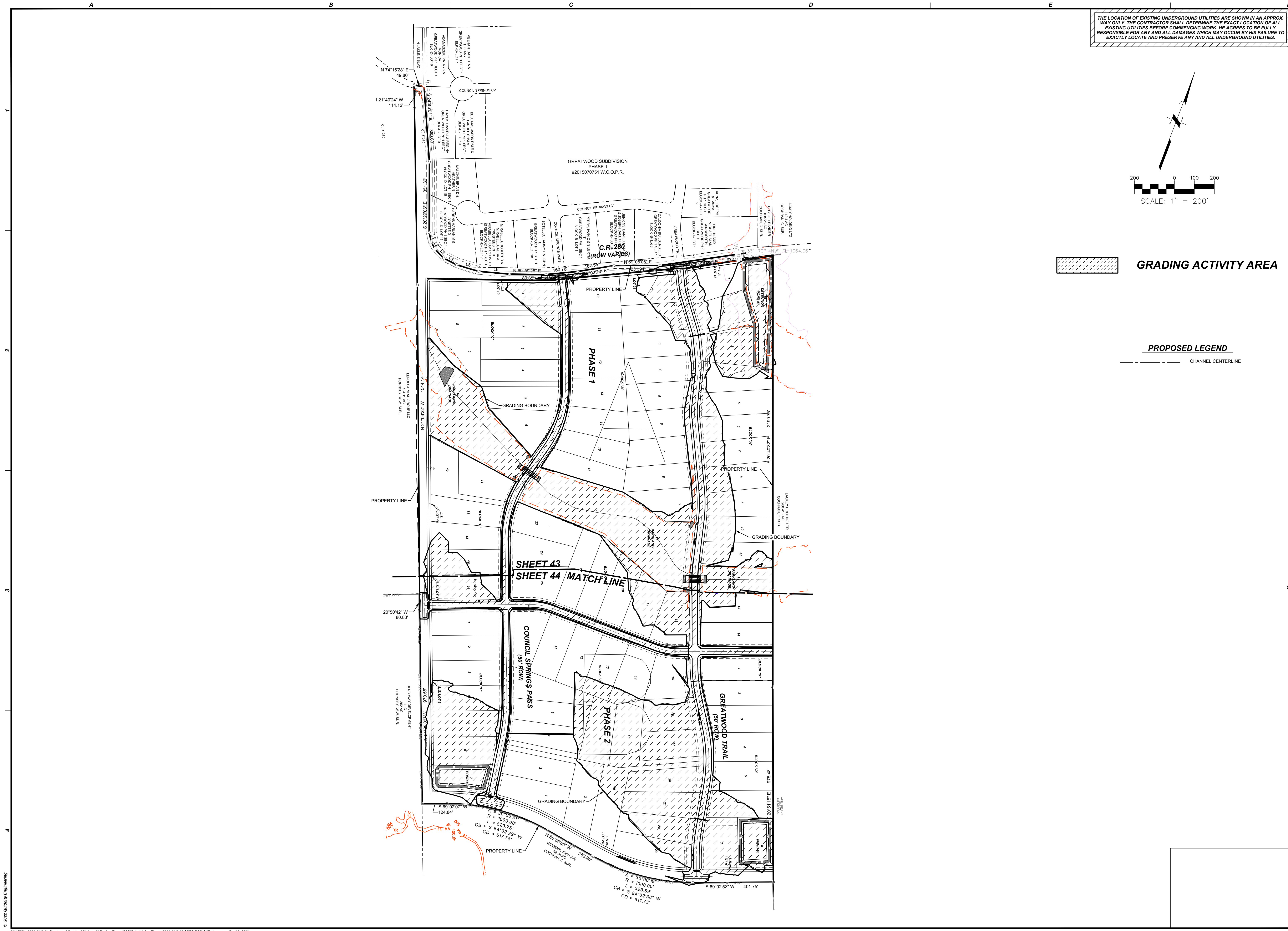
No.	Date	REVISIONS

QUIDDITY
 3100 Alvin Boulevard, Suite 150 • Austin, TX 78721 • 512.441.9499

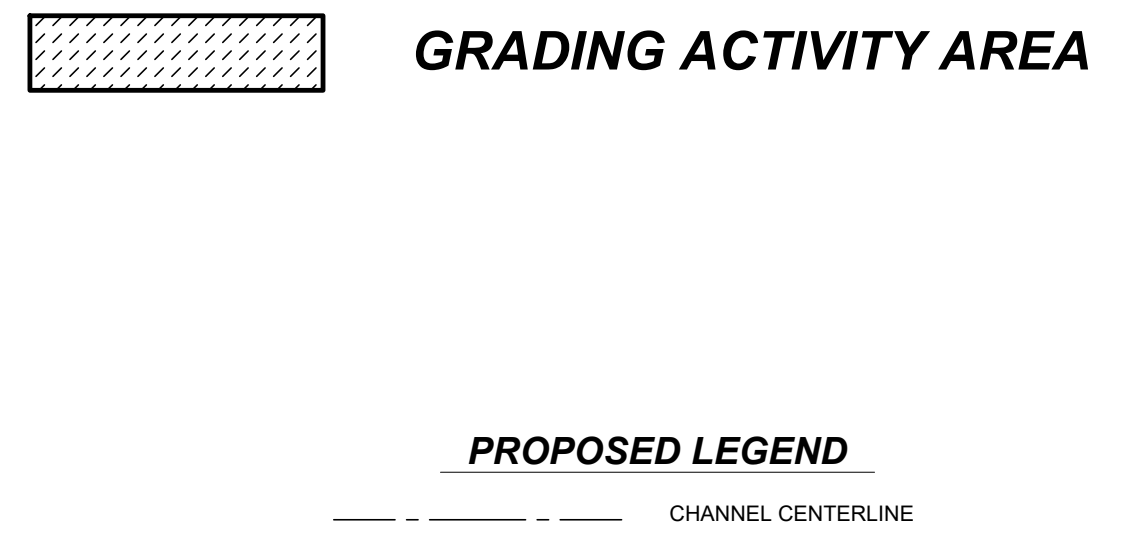
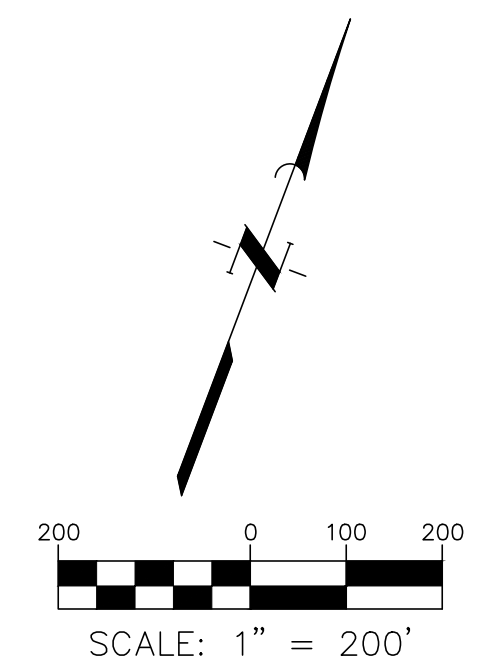
SCALE: AS SHOWN DESIGNED BY: FR CHECKED BY: JA DRAWN BY: JDE
 SUBMITTAL DATE: 03/15/2023 JOB NO.: 16759-0013-00



Public Improvement Construction Plans
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2
POST-DEVELOPMENT
SUB-DRAINAGE AREA MAP



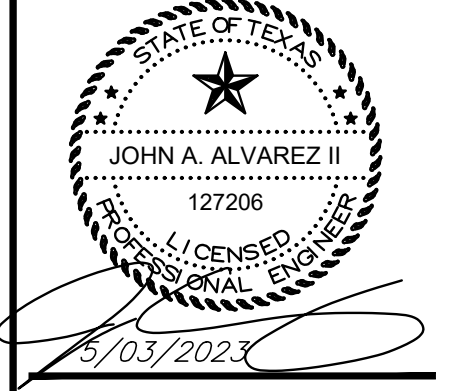
THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE MANNER. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE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



No.	Date	REVISIONS

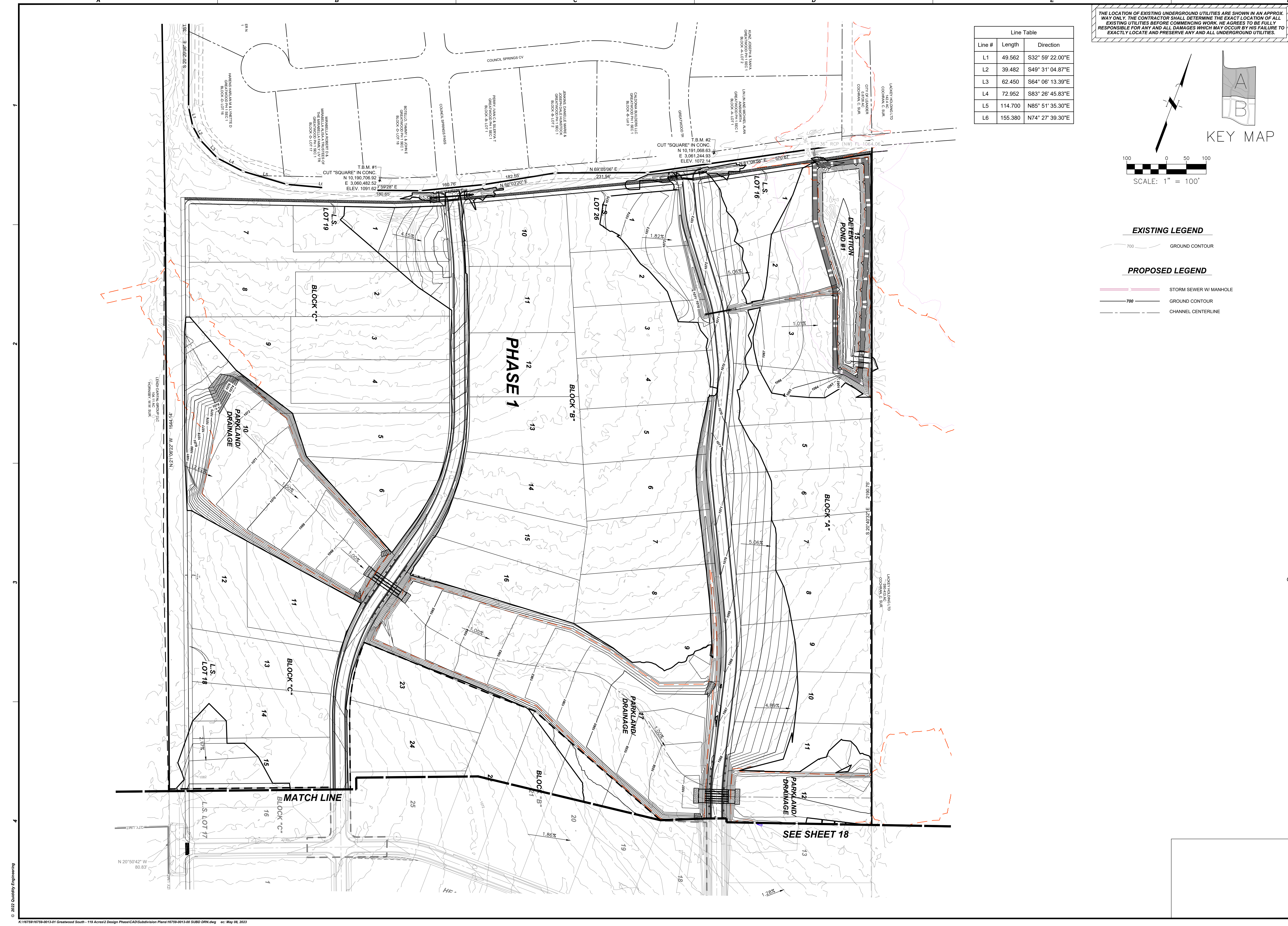
QUIDDITY
 A Division of Professional Engineering and Land Surveyors, Inc. No. 6-59250
 3100 Alvin Express Boulevard, Suite 1500 • Houston, TX 77024 • 281.241.5493

SCALE: AS SHOWN DESIGNED BY: FR CHECKED BY: JA DRAWN BY: JDE
 SUBMITTAL DATE: 03/15/2023 JOB NO.: 16759-0013-00



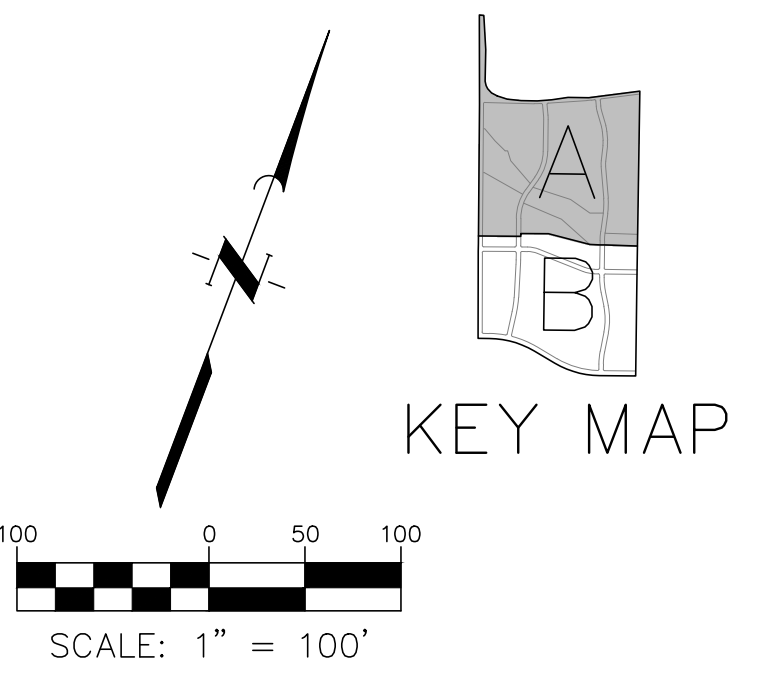
Public Improvement Construction Plans
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2
OVERALL GRADING AND DRAINAGE PLAN

© 2022 Quiddity Engineering
 K:\16759\16759-0013-01 Greatwood South - 119 Acres\2 Design Phase\CAD\Subdivision Plans\16759-0013-00 SUBD DRN OVR.dwg ec: May 08, 2023



Line #	Length	Direction
L1	49.562	S32° 59' 22.00"E
L2	39.482	S49° 31' 04.87"E
L3	62.450	S64° 06' 13.39"E
L4	72.952	S83° 26' 45.83"E
L5	114.700	N85° 51' 35.30"E
L6	155.380	N74° 27' 39.30"E

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROX. 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



- EXISTING LEGEND**
- 700 GROUND CONTOUR
- PROPOSED LEGEND**
- STORM SEWER W/ MANHOLE
 - 700 GROUND CONTOUR
 - CHANNEL CENTERLINE

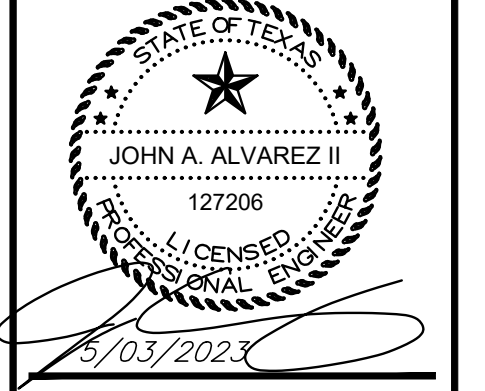
No.	Date	REVISIONS

QUIDDITY

Professional Engineer
 3100 Alvin Springs Boulevard, Suite 150 • Austin, TX 78741 • 512.441.5493

SCALE: AS SHOWN
 DESIGNED BY: FR
 CHECKED BY: JA
 DRAWN BY: JDE

SUBMITTAL DATE: 03/15/2023
 JOB NO.: 16759-0013-00



Public Improvement Construction Plans

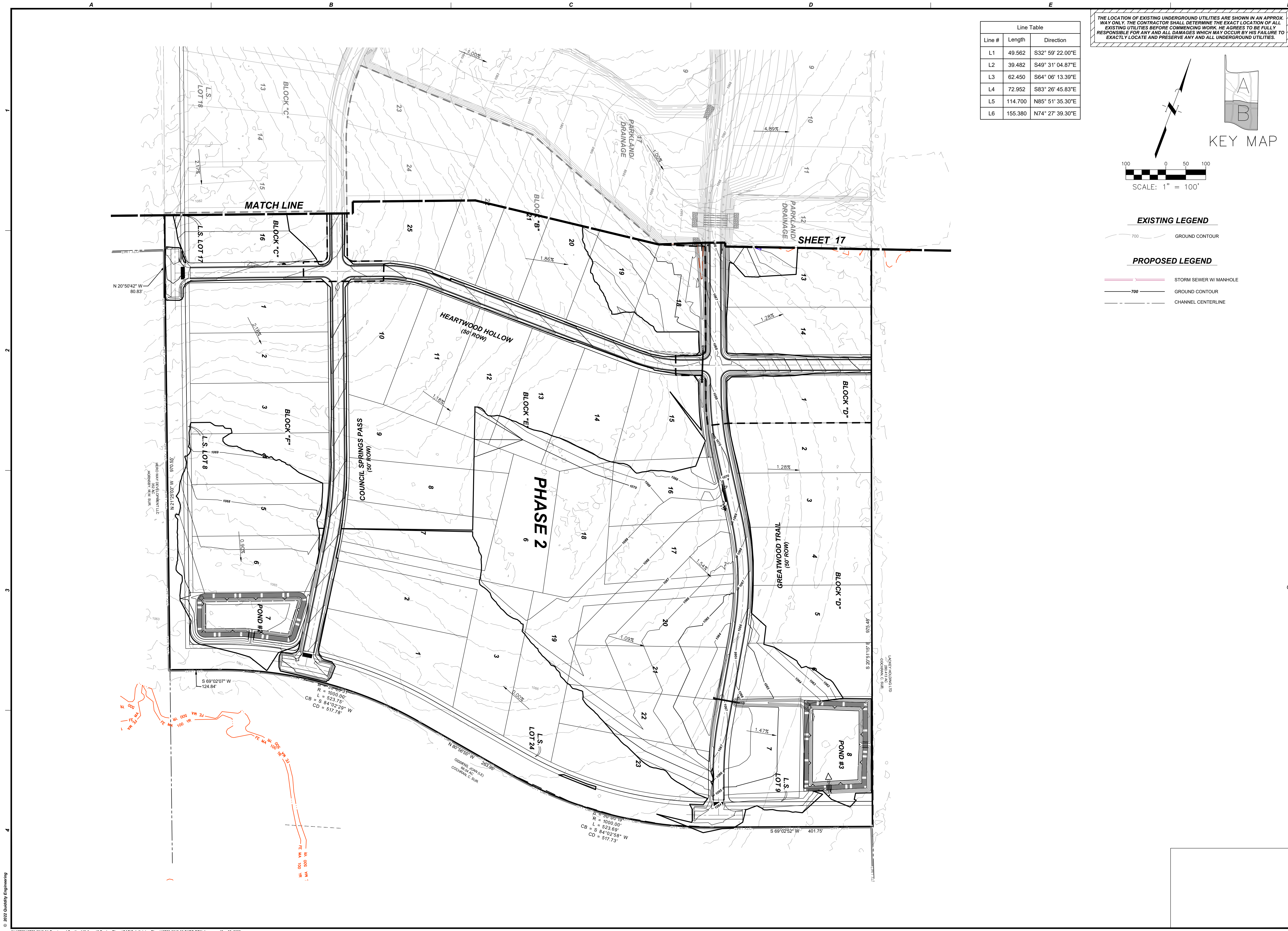
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2

GRADING AND DRAINAGE PLAN A

SHEET NO. **46**

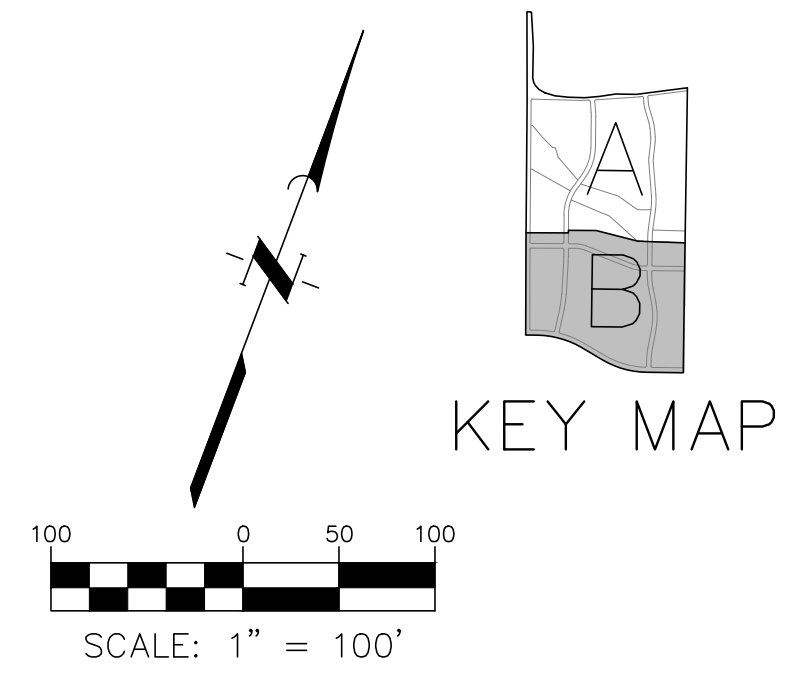
OF 79

PICP-23-0054



Line #	Length	Direction
L1	49.562	S32° 59' 22.00"E
L2	39.482	S49° 31' 04.87"E
L3	62.450	S64° 06' 13.39"E
L4	72.952	S83° 26' 45.83"E
L5	114.700	N85° 51' 35.30"E
L6	155.380	N74° 27' 39.30"E

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE MANNER 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



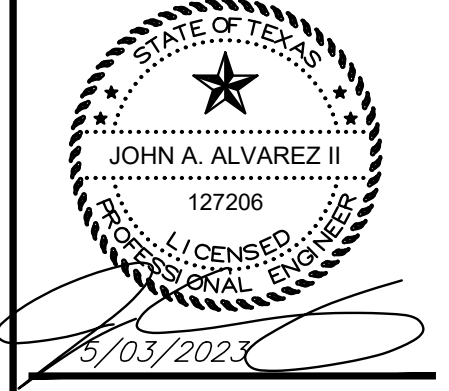
- EXISTING LEGEND**
- 700 GROUND CONTOUR
- PROPOSED LEGEND**
- STORM SEWER W/ MANHOLE
 - 700 GROUND CONTOUR
 - CHANNEL CENTERLINE

No.	Date	REVISIONS

QUIDDITY
 Public Improvement Construction Plans
 3100 Alvin Springs Boulevard, Suite 150 • Austin, TX 78723 • 512.441.5493

SCALE: AS SHOWN
 DESIGNED BY: FR
 CHECKED BY: JA
 DRAWN BY: JDE

SUBMITTAL DATE: 03/15/2023
 JOB NO.: 16755-0013-00



WOODLAND ESTATES SUBDIVISION PHASE 1 & 2
GRADING AND DRAINAGE PLAN B

SHEET NO. **47**
 OF 79

PICP-23-0054

25-YEAR																				
Job #	16759-0013-01																			
System:	Intensity "I" = a/(t+b)^c																			
By:	ELC	Date:	11/09/22	a ₂₅ =	89															
Rev:	FR	Date:		b ₂₅ =	10.16															
Chk by:		Date:		c ₂₅ =	0.759															
File Name:	K:\16759\16759-0013-01 Greatwood South - 119 Acres\2 Design Phase\Analysis\Storm Calcs																			
POST-DEVELOPMENT STORM RUNOFF										ROADSIDE DITCH DESIGN										
Drainage	DA	Channel/	Total	Time	Intensity	Q ₂₅	Mannings	Length	Channel	Side	MIN	Normal	Velocity	Specific	Top					
CHANNEL		Outfall	Area	Conc.	Runoff	"I"			Bottom Width	Slope	Grade	Depth	Head	Energy	Width	TOB				
No.	From	To	(acres)	(min)	"C"	(in/hr)	(cfs)	"n"	(ft.)	(ft.)	(H:V)	(ft./ft.)	(fps)	(ft.)	(ft.)	(ft.)				
PR 1 DET- A	PR 1 DET-A	CHANNEL PR 1 DET-A	3.61	26.44	0.47	5.79	9.81	0.045	183.94	3.00	3:1	0.0154	2.60	0.85	7.47	5.00				
PR 1 DET- B	PR 1 DET-B	CHANNEL PR 1 DET-B	4.37	33.69	0.53	5.05	11.79	0.045	418.00	3.00	3:1	0.0100	2.34	1.00	8.47	5.00				
CHANNEL PR 1 DET-C	CHANNEL PR 1 DET-A CHANNEL PR 1 DET-B	CHANNEL CHANNEL PR 1 DET- C	7.98	36.67	0.51	4.80	19.36	0.045	316.42	3.00	3:1	0.0100	2.67	1.20	9.96	5.00				
CHANNEL PR 2-A	PR 2-A	CHANNEL CHANNEL PR- A	6.20	24.48	0.53	6.04	19.84	0.045	670.3	3.00	3:1	0.0117	2.84	1.10	9.76	5.50				
PR 2- D	PR 2-D	CHANNEL PR 2-D	5.19	26.06	0.49	5.84	14.71	0.045	305.80	3.00	3:1	0.0119	2.64	1.00	8.83	7.30				
PR 2- E	PR 2-E	CHANNEL PR 2-E	1.82	19.12	0.61	6.86	7.66	0.045	322.12	3.00	3:1	0.0221	2.76	0.60	6.58	7.30				
CHANNEL PR 2-E	CHANNEL PR 2-D CHANNEL PR 2-E	CHANNEL CHANNEL PR- E	7.01	27.99	0.52	5.61	20.41			3.00	3:1	0.0221	3.62	1.00	8.88	7.30				
PR 4 DET- A	PR 4 DET-A	CHANNEL PR 4 DET-A	7.3	32.56	0.49	5.15	18.47	0.045	507.59	3.00	3:1	0.0132	2.92	1.10	9.36	3.50				
PR 4 DET- B	PR 4 DET-B	CHANNEL PR 4 DET-B	1.81	24.20	0.50	6.07	5.55	0.045	249.80	3.00	3:1	0.0120	2.02	0.60	6.55	3.50				
CHANNEL PR 4 DET- C	CHANNEL PR 4 DET-A CHANNEL PR 4 DET-B	CHANNEL CHANNEL PR 4 DET- C	9.11	35.46	0.49	4.90	22.05	0.045	220.36	3.00	3:1	0.0100	2.76	1.20	10.41	3.50				

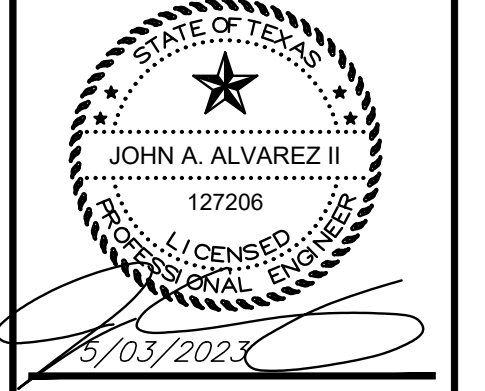
100- YEAR																				
Job #	16759-0013-01																			
System:	Intensity "I" = a/(t+b)^c																			
By:	ELC	Date:	11/09/22	a ₁₀₀ =	106															
Rev:	FR	Date:		b ₁₀₀ =	9.46															
Chk by:		Date:		c ₁₀₀ =	0.732															
File Name:	K:\16759\16759-0013-01 Greatwood South - 119 Acres\2 Design Phase\Analysis\Storm Calcs																			
POST-DEVELOPMENT STORM RUNOFF										ROADSIDE DITCH DESIGN										
Drainage	DA	Channel/	Total	Time	Intensity	Q ₁₀₀	Mannings	Length	Channel	Side	Min	Normal	Velocity	Specific	Top	Freeboard	TOB			
CHANNEL		Outfall	Area	Conc.	Runoff	"I"			Bottom Width	Slope	Grade	Depth	Head	Energy	Width					
No.	From	To	(acres)	(min)	"C"	(in/hr)	(cfs)	"n"	(ft.)	(ft.)	(H:V)	(ft./ft.)	(fps)	(ft.)	(ft.)	(ft.)	(ft.)			
PR 1 DET- A	PR 1 DET-A	CHANNEL PR 1 DET-A	3.61	26.44	0.47	7.71	13.06	0.045	183.94	3.00	3:1	0.0154	2.80	0.90	8.12	4.10	5.00			
PR 1 DET- B	PR 1 DET-B	CHANNEL PR 1 DET-B	4.37	33.69	0.53	6.74	15.74	0.045	418.00	3.00	3:1	0.01	2.52	1.00	9.27	4.00	5.00			
CHANNEL PR 1 DET-C	CHANNEL PR 1 DET-A CHANNEL PR 1 DET-B	CHANNEL CHANNEL PR 1 DET- C	7.98	36.45	0.51	6.44	25.95	0.045	316.42	3.00	3:1	0.01	2.88	1.30	10.97	3.70	5.00			
CHANNEL PR 2-A	PR 2-A	CHANNEL CHANNEL PR- A	6.2	24.48	0.53	8.03	26.39	0.045	670.3	3.00	3:1	0.0117	3.05	1.30	10.70	4.20	5.50			
PR 2- D	PR 2-D	CHANNEL PR 2-D	5.19	26.06	0.49	7.77	19.59	0.045	305.80	3.00	3:1	0.0119	2.67	1.10	9.66	6.20	7.30			
PR 2- E	PR 2-E	CHANNEL PR 2-E	1.82	19.12	0.61	9.11	10.18	0.045	322.12	3.00	3:1	0.0221	2.23	0.70	7.11	6.60	7.30			
CHANNEL PR 2-E	CHANNEL PR 1 DET-D CHANNEL PR 1 DET-E	CHANNEL CHANNEL PR- E	7.01	27.97	0.52	7.48	27.20	0.045		3.00	3:1	0.0221	3.89	1.10	9.72	6.20	7.30			
PR 4 DET- A	PR 4 DET-A	CHANNEL PR 4 DET-A	7.3	32.56	0.49	6.87	24.64	0.045	507.59	3.00	3:1	0.0132	3.14	1.20	10.27	2.30	3.50			
PR 4 DET- B	PR 4 DET-B	CHANNEL PR 4 DET-B	1.81	24.20	0.50	8.08	7.38	0.045	249.80	3.00	3:1	0.012	2.19	0.70	7.09	2.80	3.50			
CHANNEL PR 4 DET- C	CHANNEL PR 4 DET-A CHANNEL PR 4 DET-B	CHANNEL CHANNEL PR 4 DET- C	9.11	35.25	0.49	6.56	29.54	0.045	220.36	3.00	3:1	0.01	2.97	1.40	11.46	2.10	3.50			

App.	
REVISIONS	
No.	Date

QUIDDITY
 State of Texas Professional Engineer License No. 127206
 3100 Alvin Drive, Suite 150 • Houston, TX 77054 • 281.441.9493

SCALE: AS SHOWN
 SUBMITTAL DATE: 03/15/2023
 JOB NO.: 16759-0013-00

DESIGNED BY: FR
 CHECKED BY: JA
 DRAWN BY: JDE

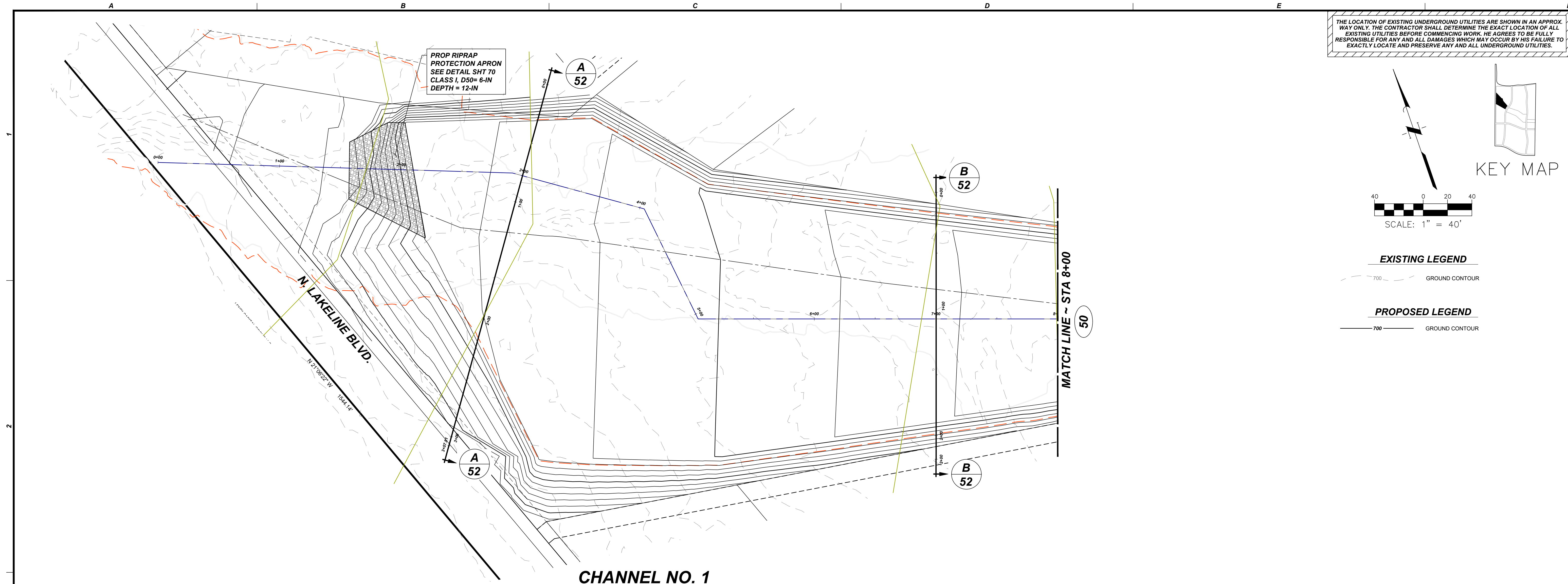


Public Improvement Construction Plans
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2

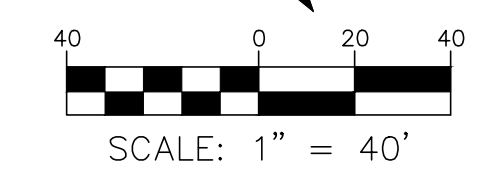
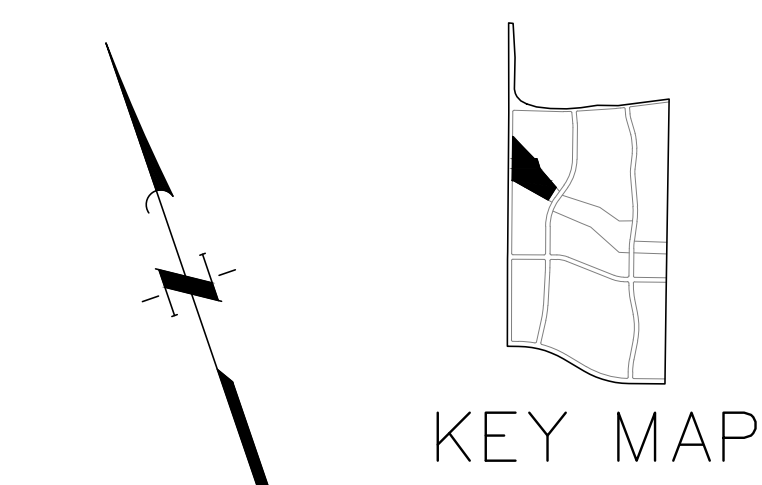
DRAINAGE CALCULATIONS

SHEET NO. **48**
 OF 79

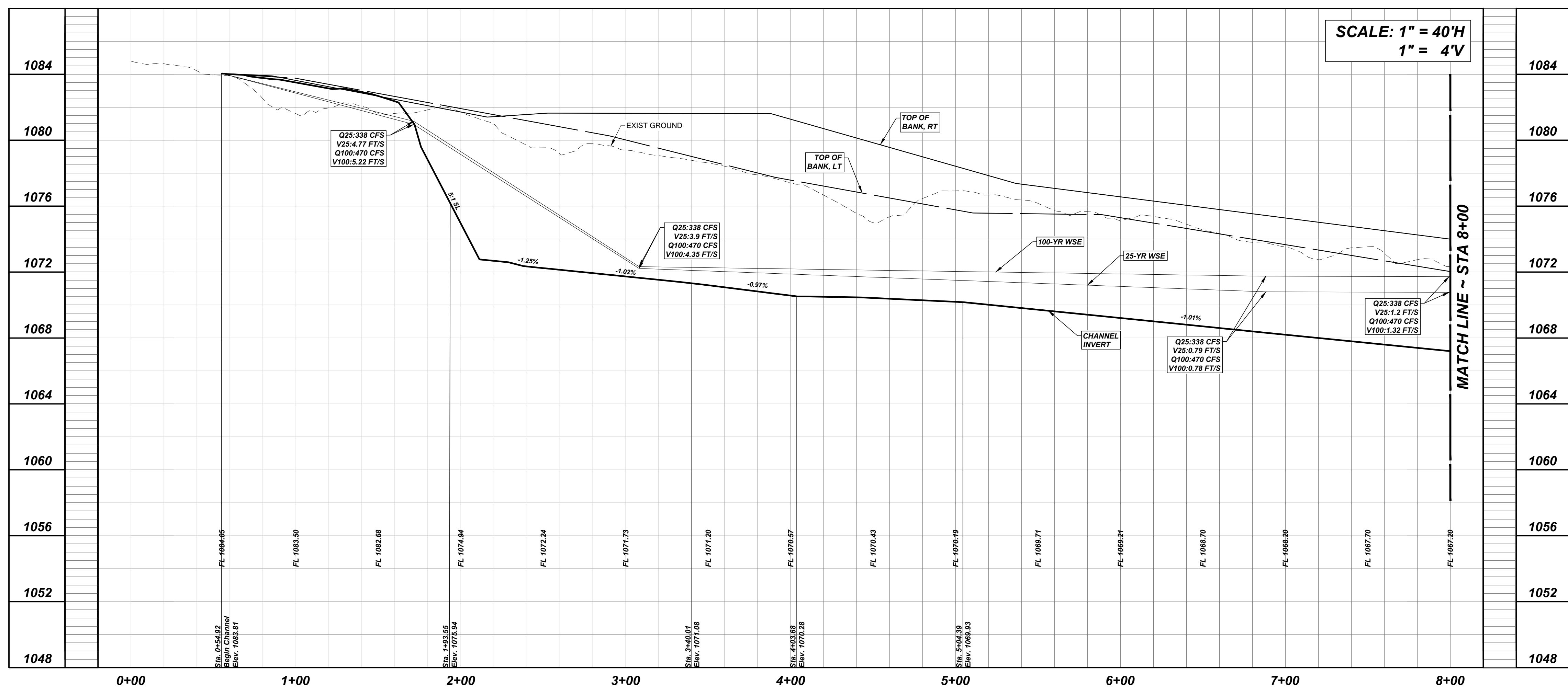
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THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROX. WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY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



- EXISTING LEGEND**
- 700 --- GROUND CONTOUR
- PROPOSED LEGEND**
- 700 --- GROUND CONTOUR



REVISIONS

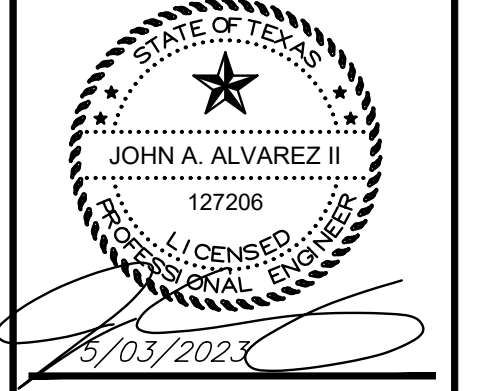
No.	Date	Description

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CHECKED BY: JA
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SUBMITTAL DATE: 03/15/2023
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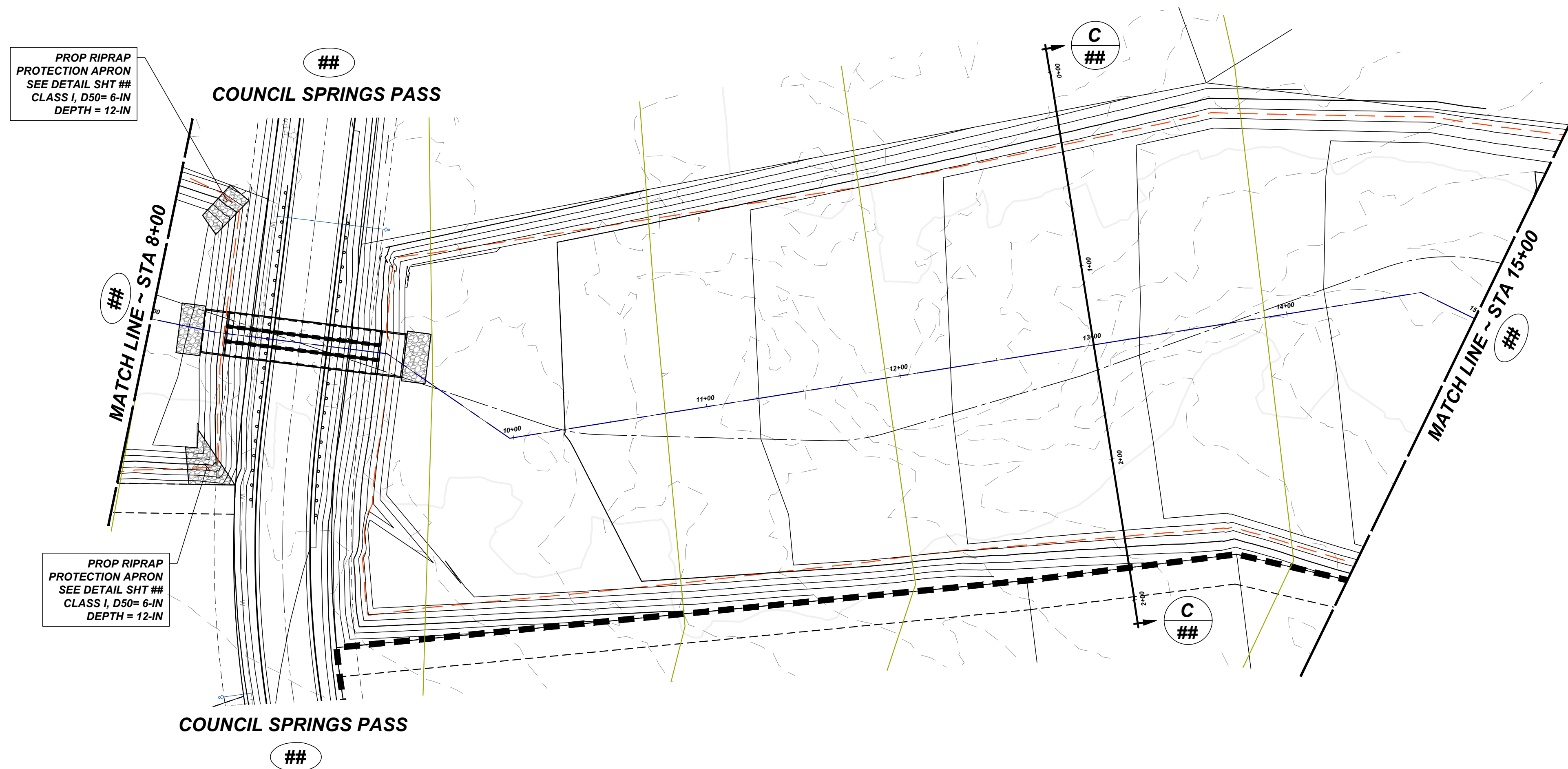
Public Improvement Construction Plans

WOODLAND ESTATES SUBDIVISION PHASE 1 & 2

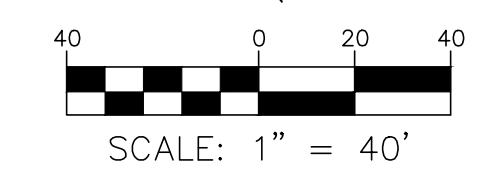
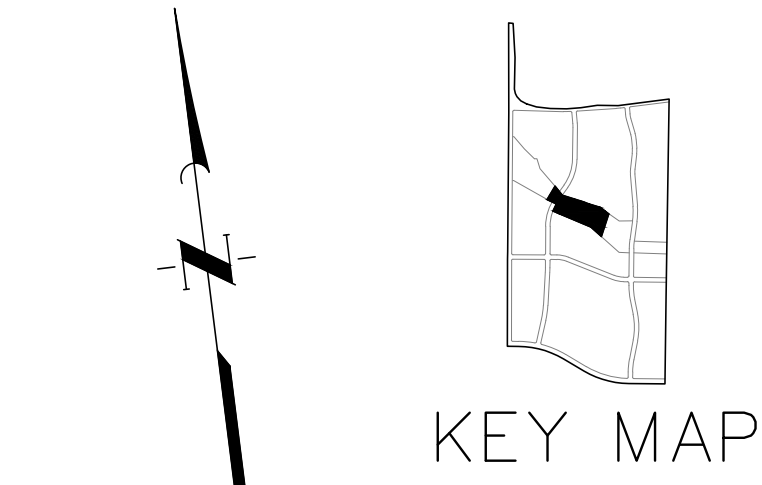
PLAN AND PROFILE

CHANNEL NO. 1

STA 0+00 TO STA 8+00

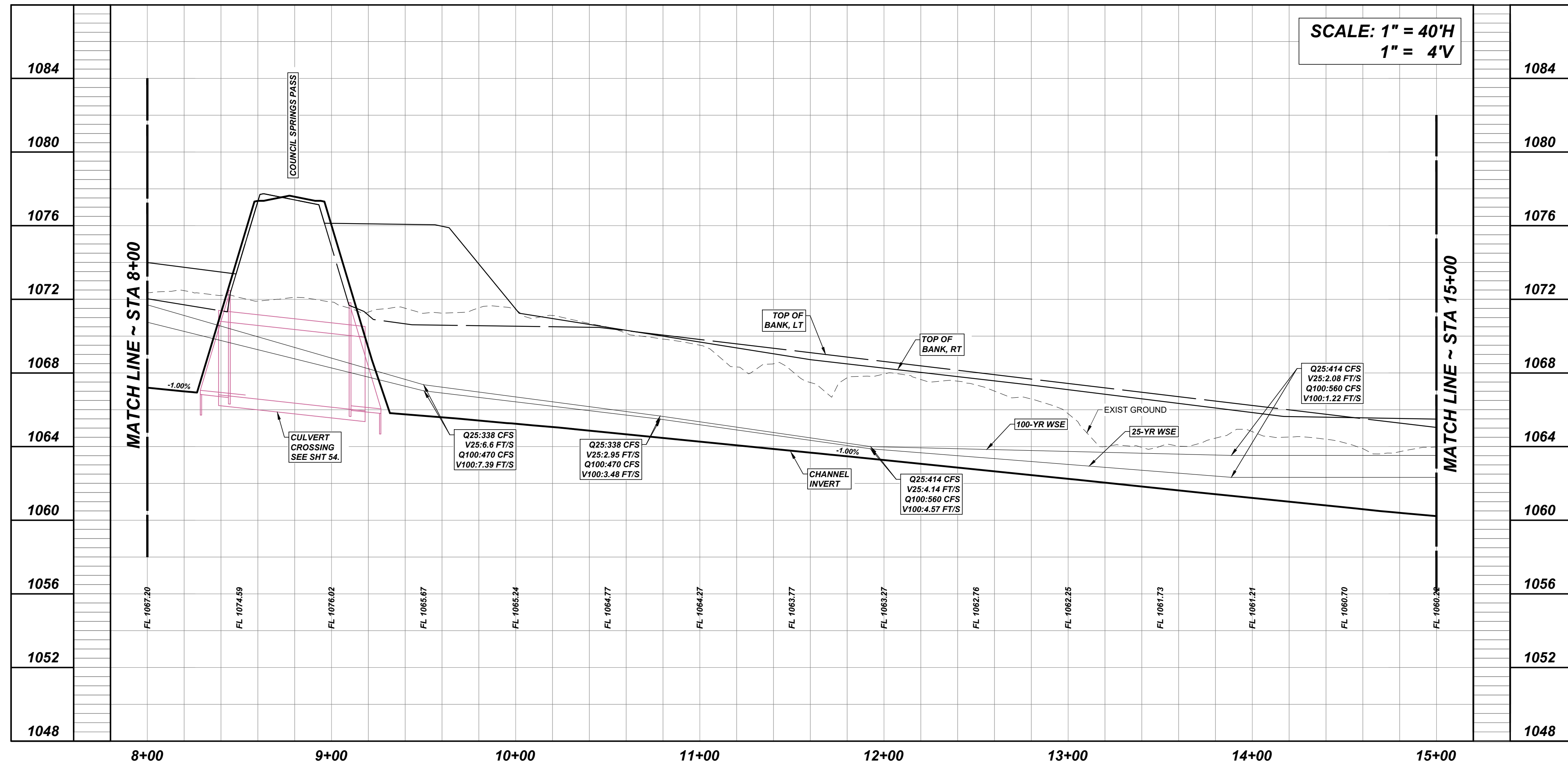


THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROX. WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE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



- EXISTING LEGEND**
- 700 GROUND CONTOUR
- PROPOSED LEGEND**
- FIRE HYDRANT W/ GATE VALVE
 - WATERLINE W/ GATE VALVE
 - 700 GROUND CONTOUR

CHANNEL NO. 1



App. _____

No. _____ Date _____

REVISIONS

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SCALE: AS SHOWN

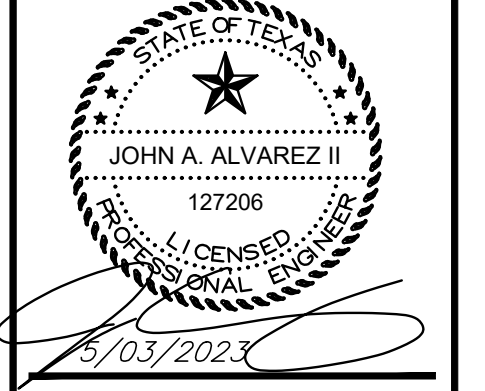
DESIGNED BY: FR

CHECKED BY: JA

SUBMITTAL DATE: 6/14/2022

JOB NO.: 17232-0001-01

DRAWN BY: JDE



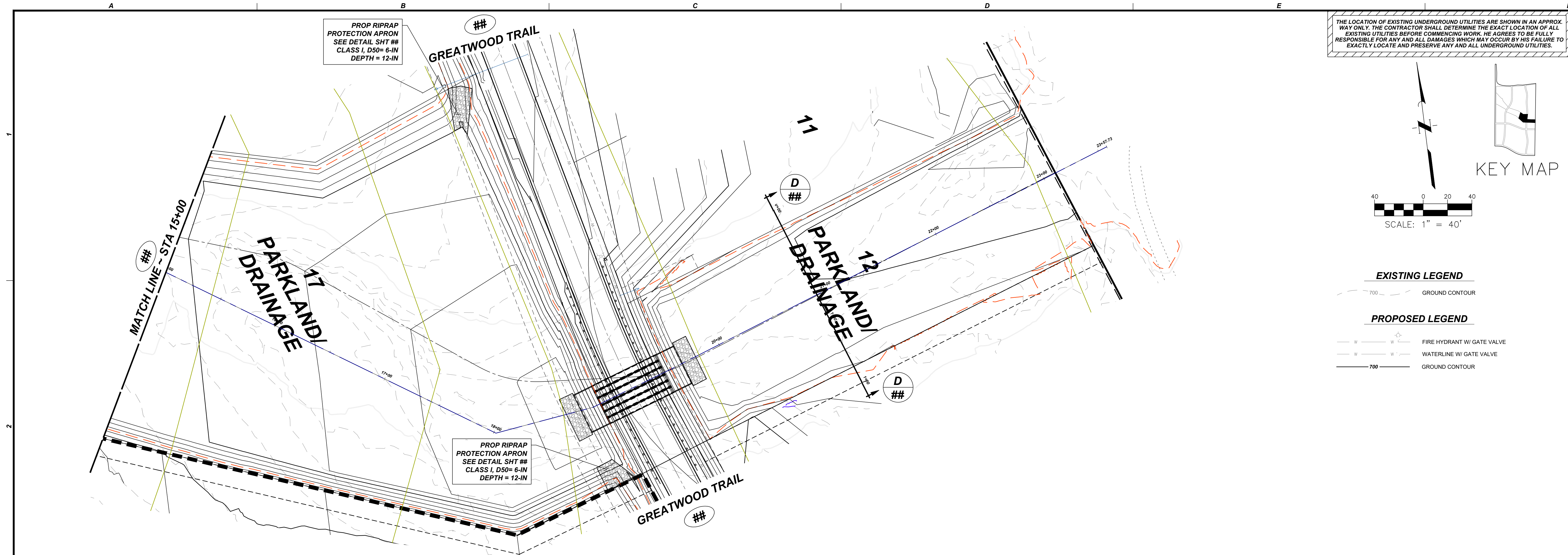
CONSTRUCTION PLANS

LEANDER ESTATES SUBDIVISION

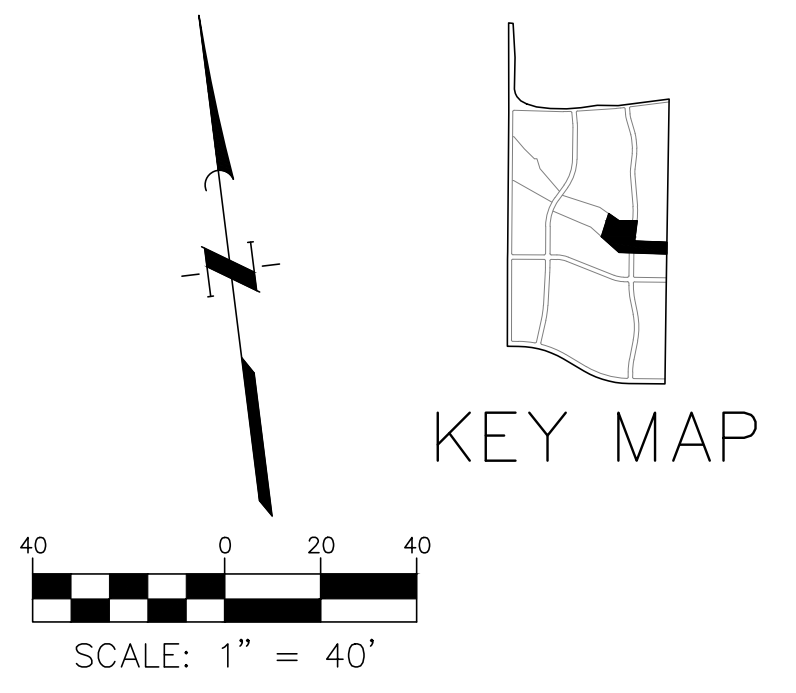
PLAN AND PROFILE

CHANNEL NO. 1

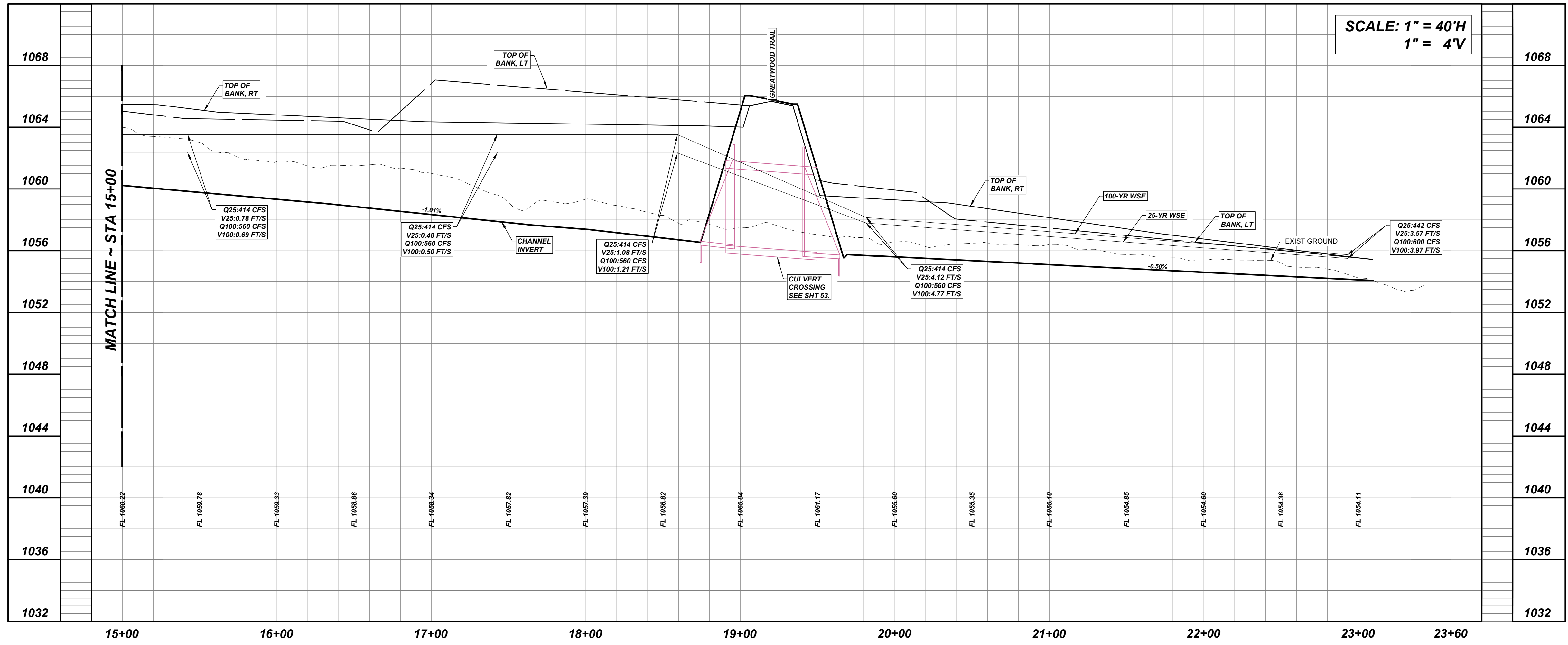
STA 8+00 TO STA 15+00



THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROX. 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



- EXISTING LEGEND**
- 700 GROUND CONTOUR
- PROPOSED LEGEND**
- W W FIRE HYDRANT W/ GATE VALVE
 - W W WATERLINE W/ GATE VALVE
 - 700 GROUND CONTOUR



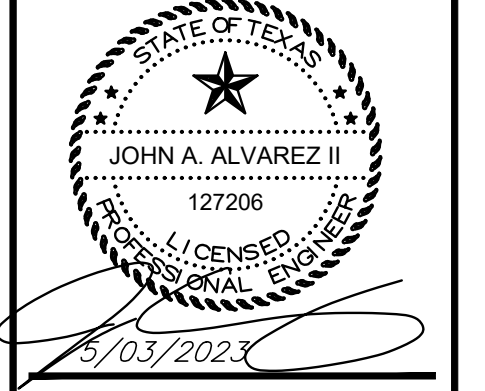
REVISIONS

No.	Date	Description

QUIDDITY

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JOB NO.: 17232-0001-01
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CONSTRUCTION PLANS

LEADER ESTATES SUBDIVISION

PLAN AND PROFILE

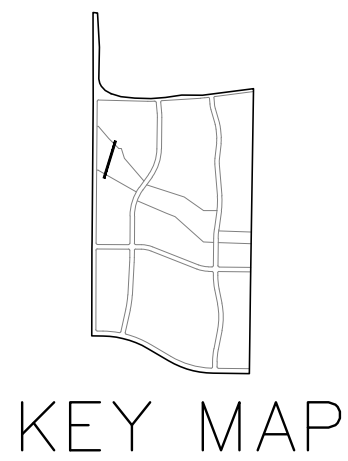
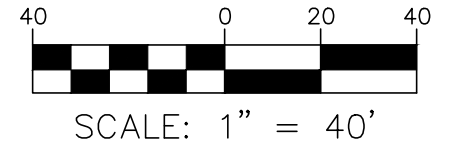
CHANNEL NO. 1

STA 15+00 TO STA 24+80

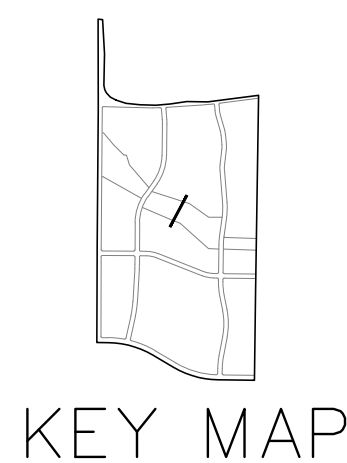
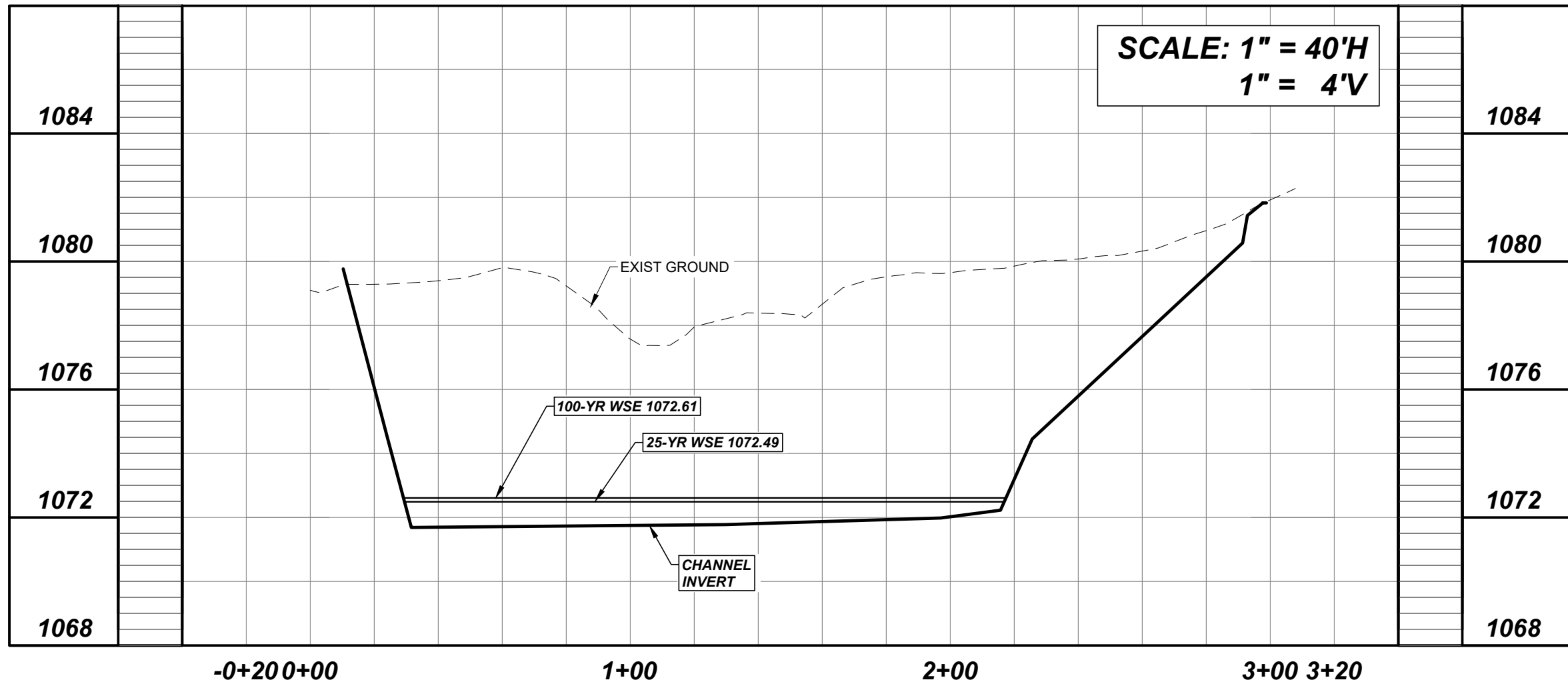
SHEET NO. **51**

OF 79

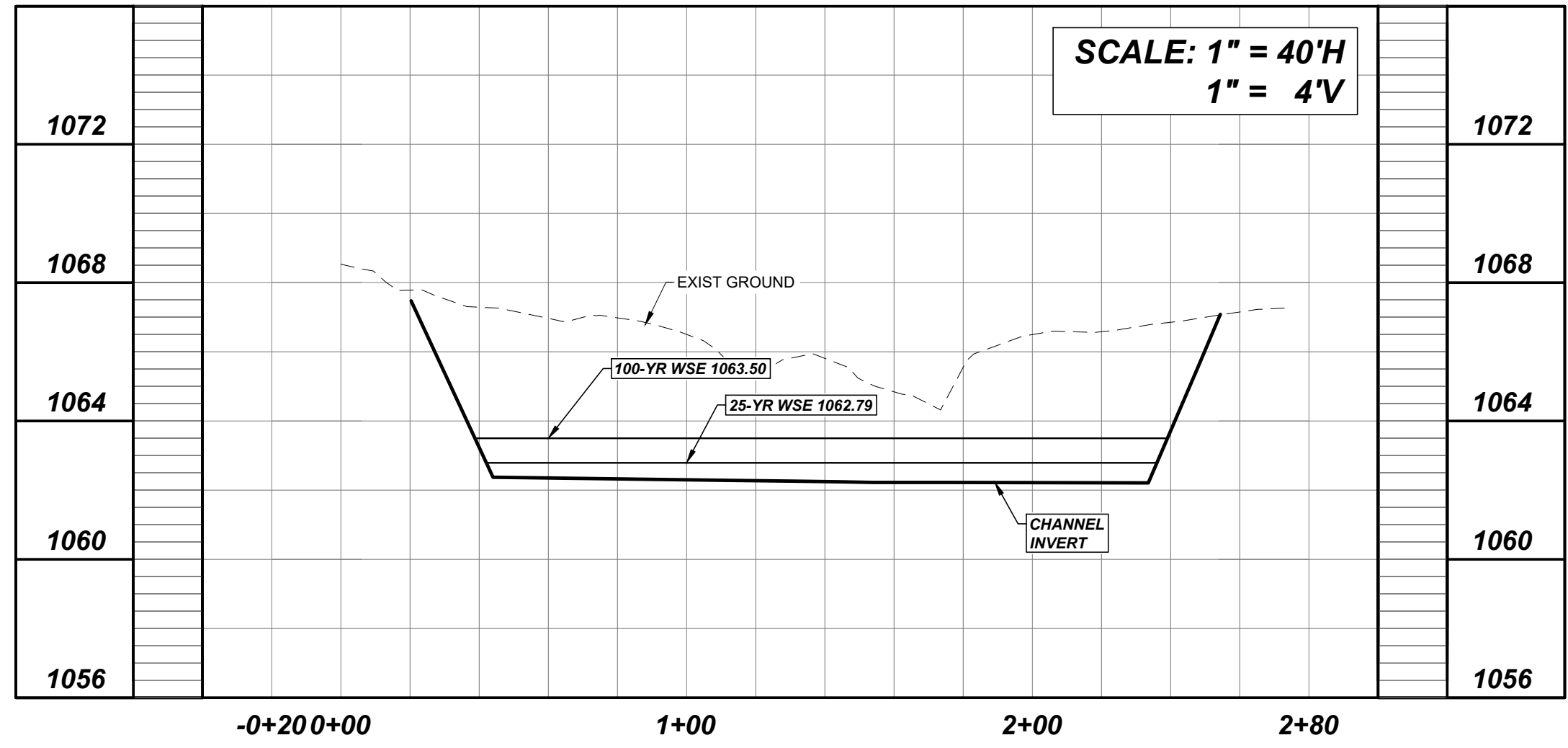
THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE MANNER. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE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



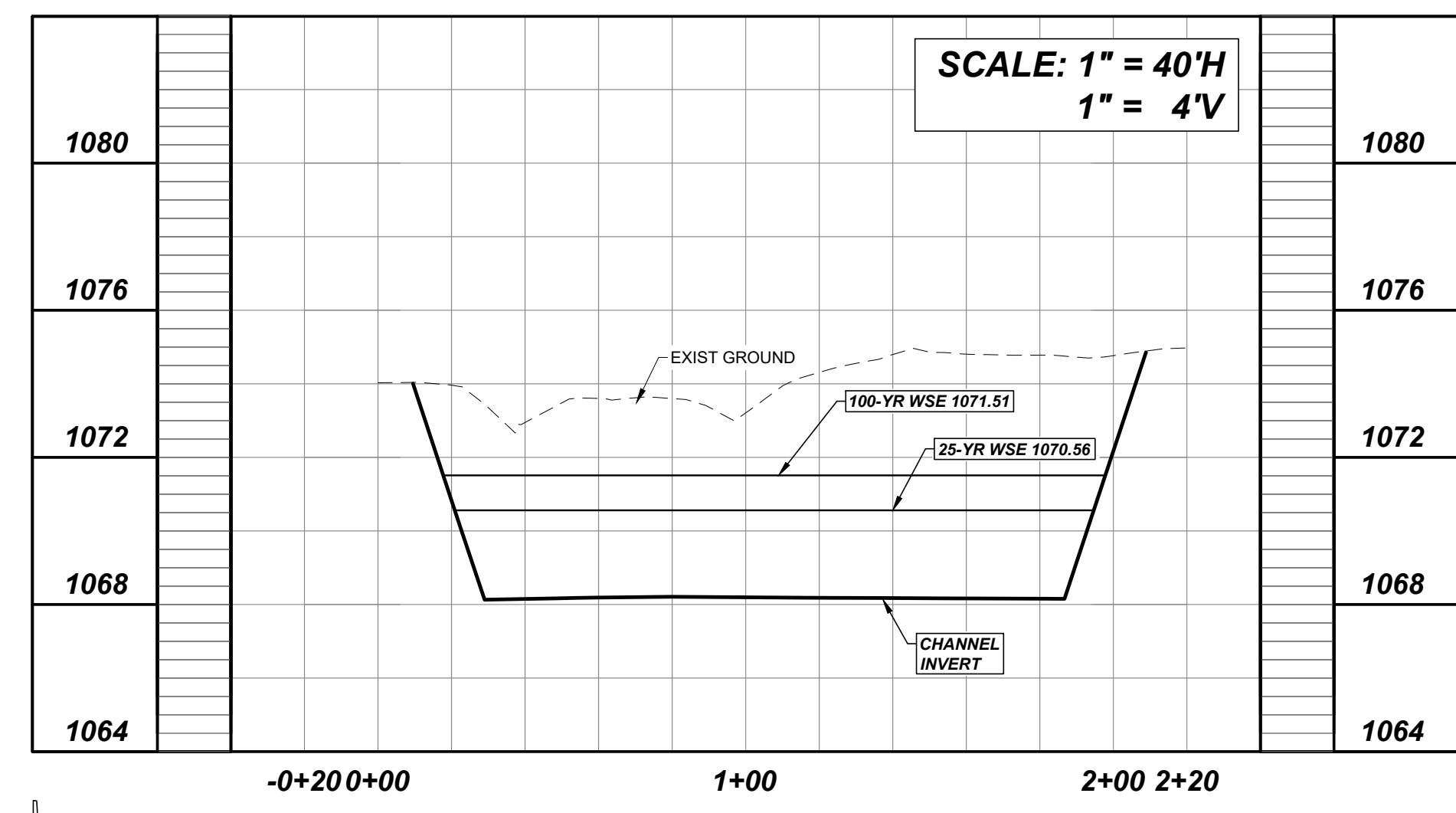
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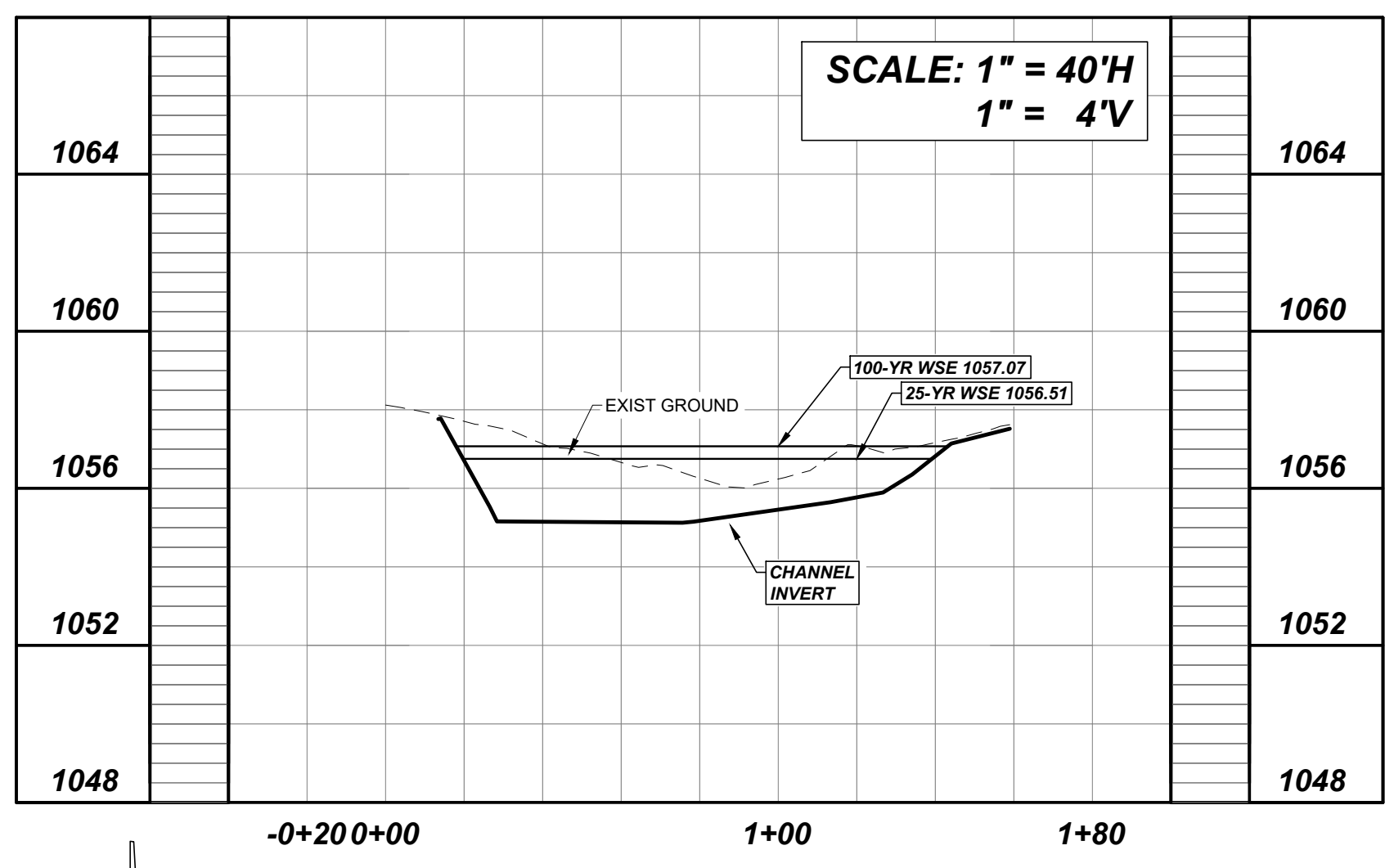
CHANNEL NO. 1 SECT. C-C



CHANNEL NO. 1 SECT. B-B

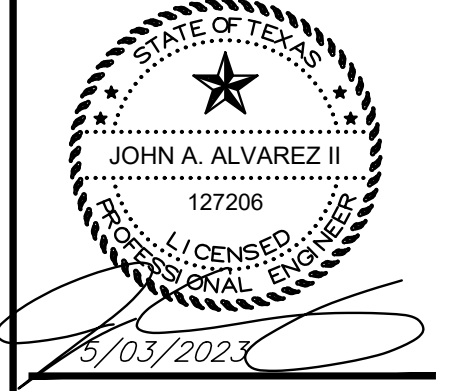


CHANNEL NO. 1 SECT. D-D



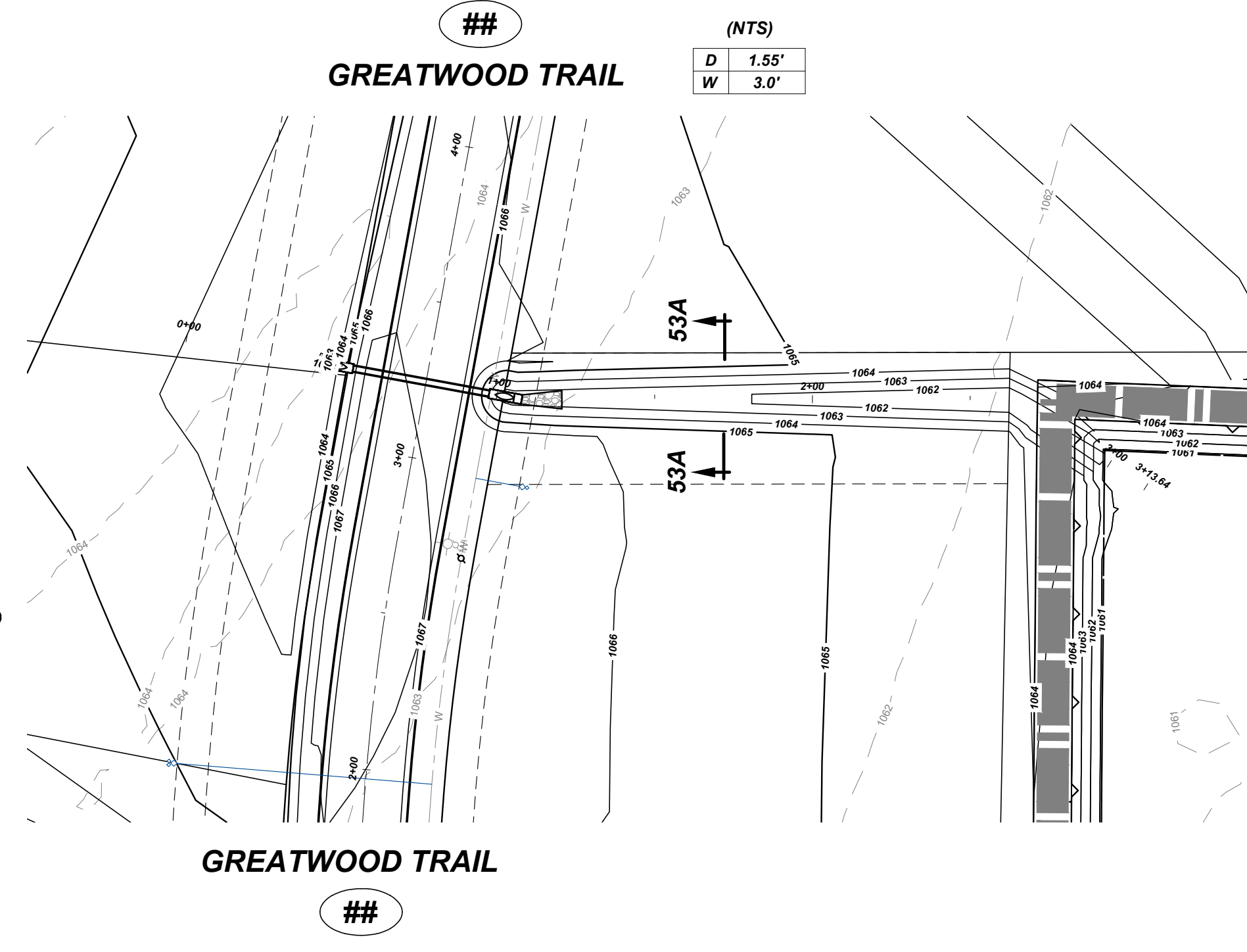
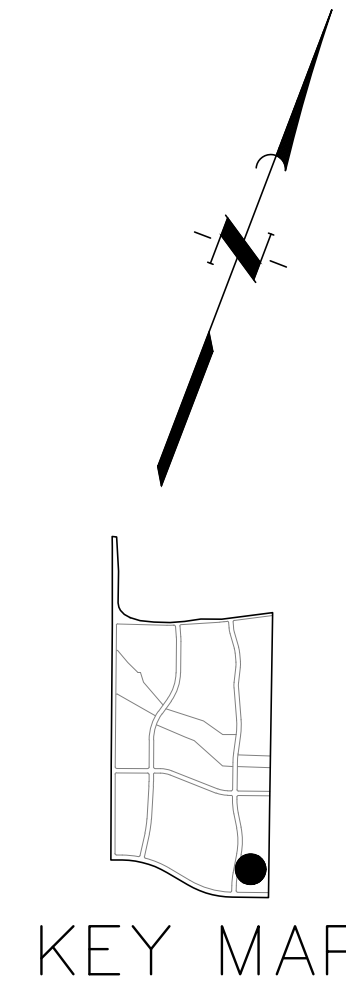
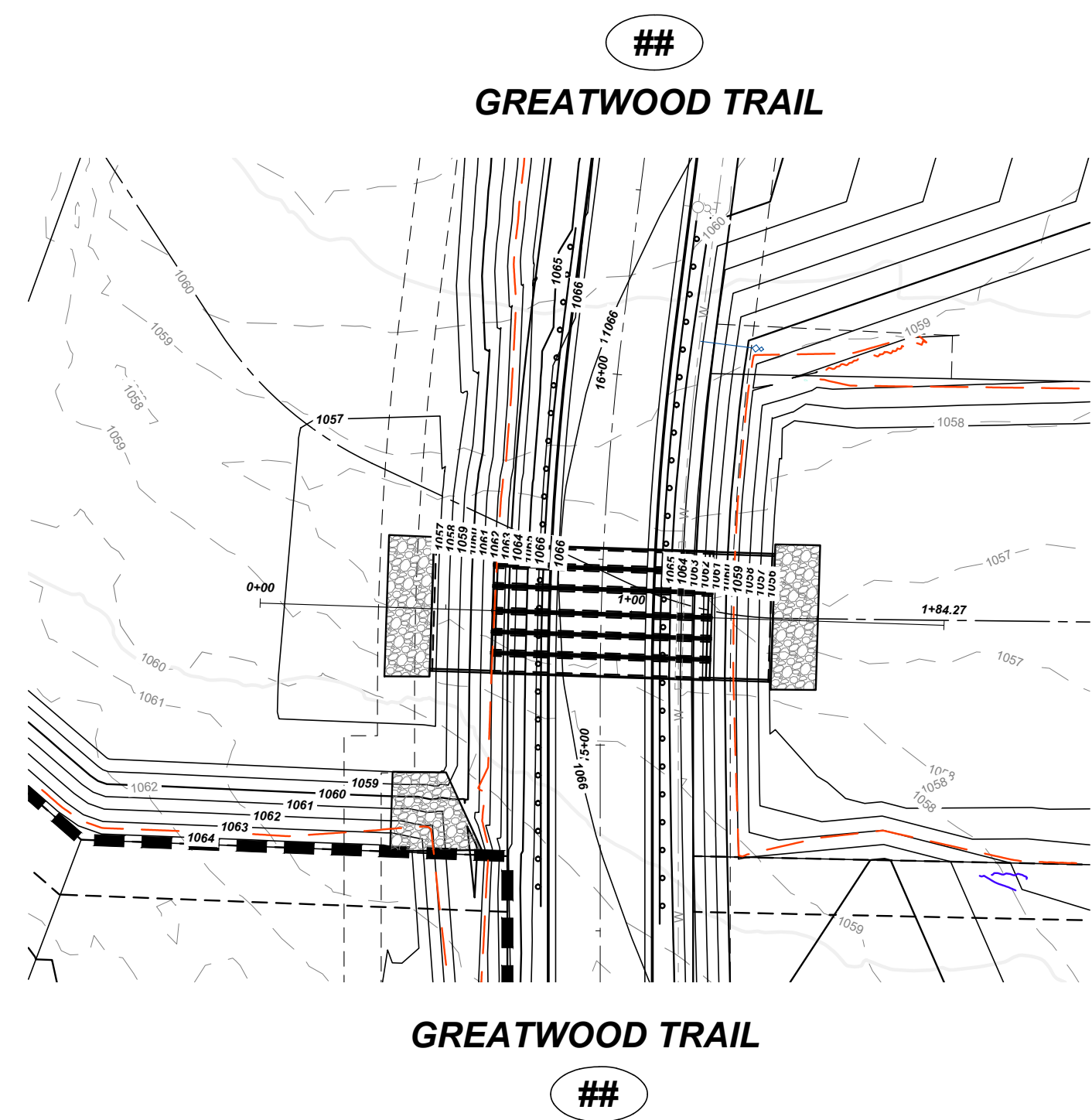
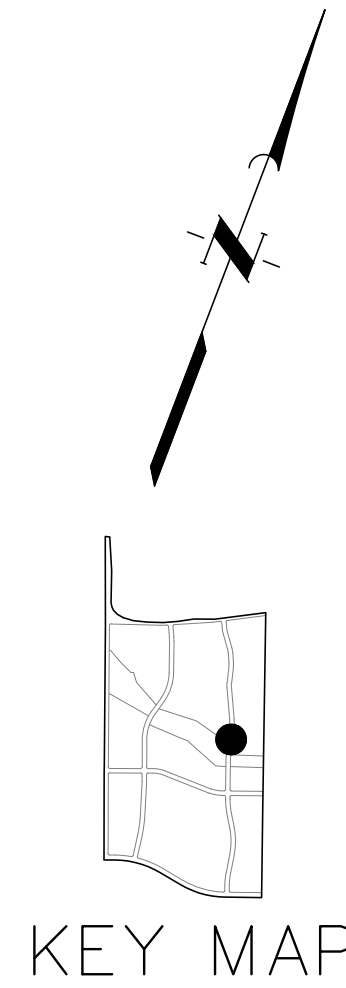
REVISIONS
No. Date

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Professional Engineering and Surveying
3100 Alvin Avenue, Suite 150 • Austin, TX 78721 • 512.441.5450
SCALE: AS SHOWN
DESIGNED BY: FR
CHECKED BY: JA
DRAWN BY: JDE
SUBMITTAL DATE: 6/14/2022
JOB NO.: 17232-0001-01



CONSTRUCTION PLANS
LEANDER ESTATES SUBDIVISION
CHANNEL NO. 1
CROSS-SECTIONS

SHEET NO. **52**
OF 79



**SECTION 53A
PR 4 DET-C**

(NTS)
D 1.55'
W 3.0'

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROX. 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



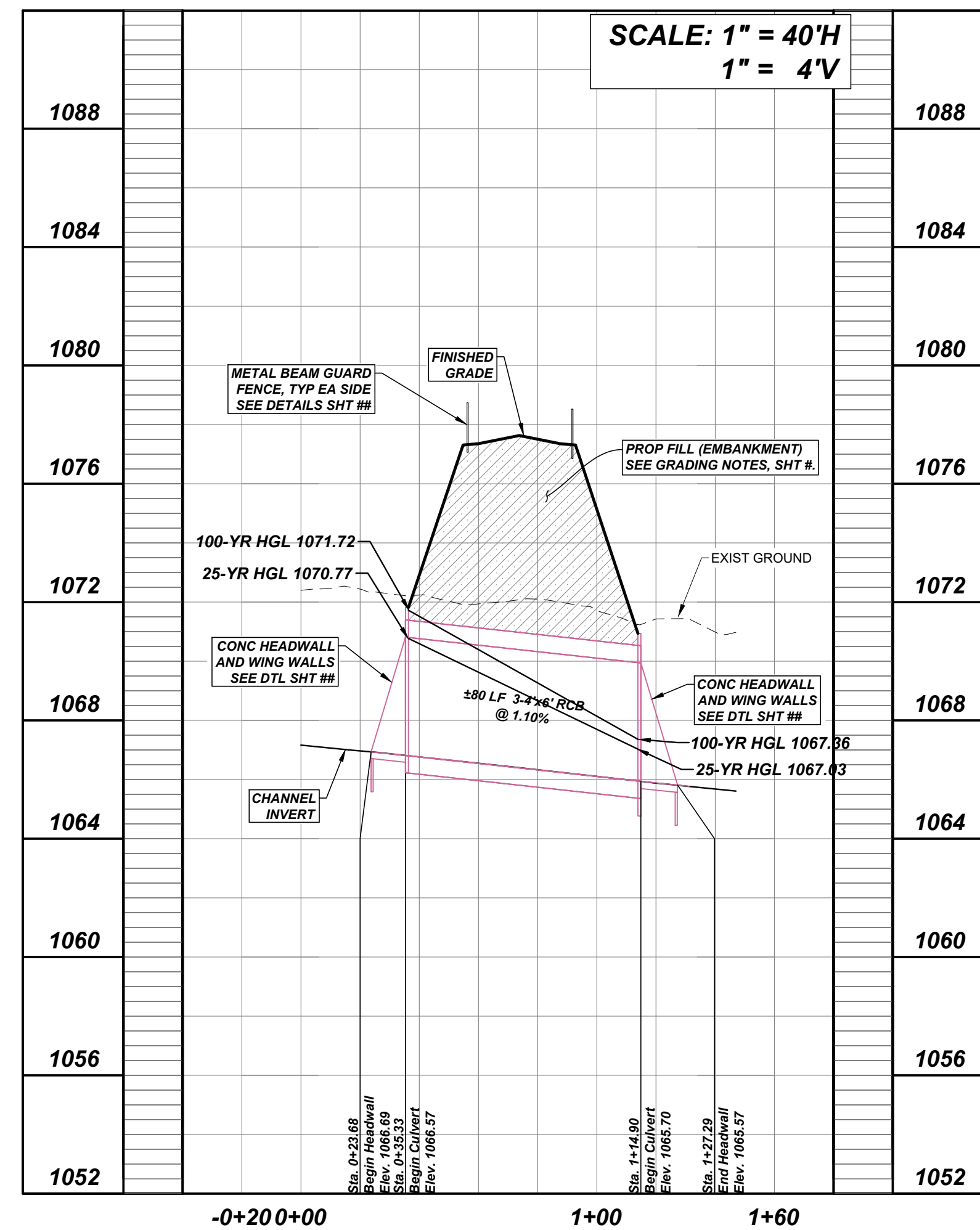
EXISTING LEGEND

- FIRE HYDRANT W/ GATE VALVE
- WATERLINE W/ GATE VALVE
- WASTEWATER W/ MANHOLE
- WASTEWATER W/ CLEANOUT
- STORM SEWER W/ MANHOLE
- CURB INLET
- OVERHEAD ELECTRIC W/ POLE
- GROUND CONTOUR

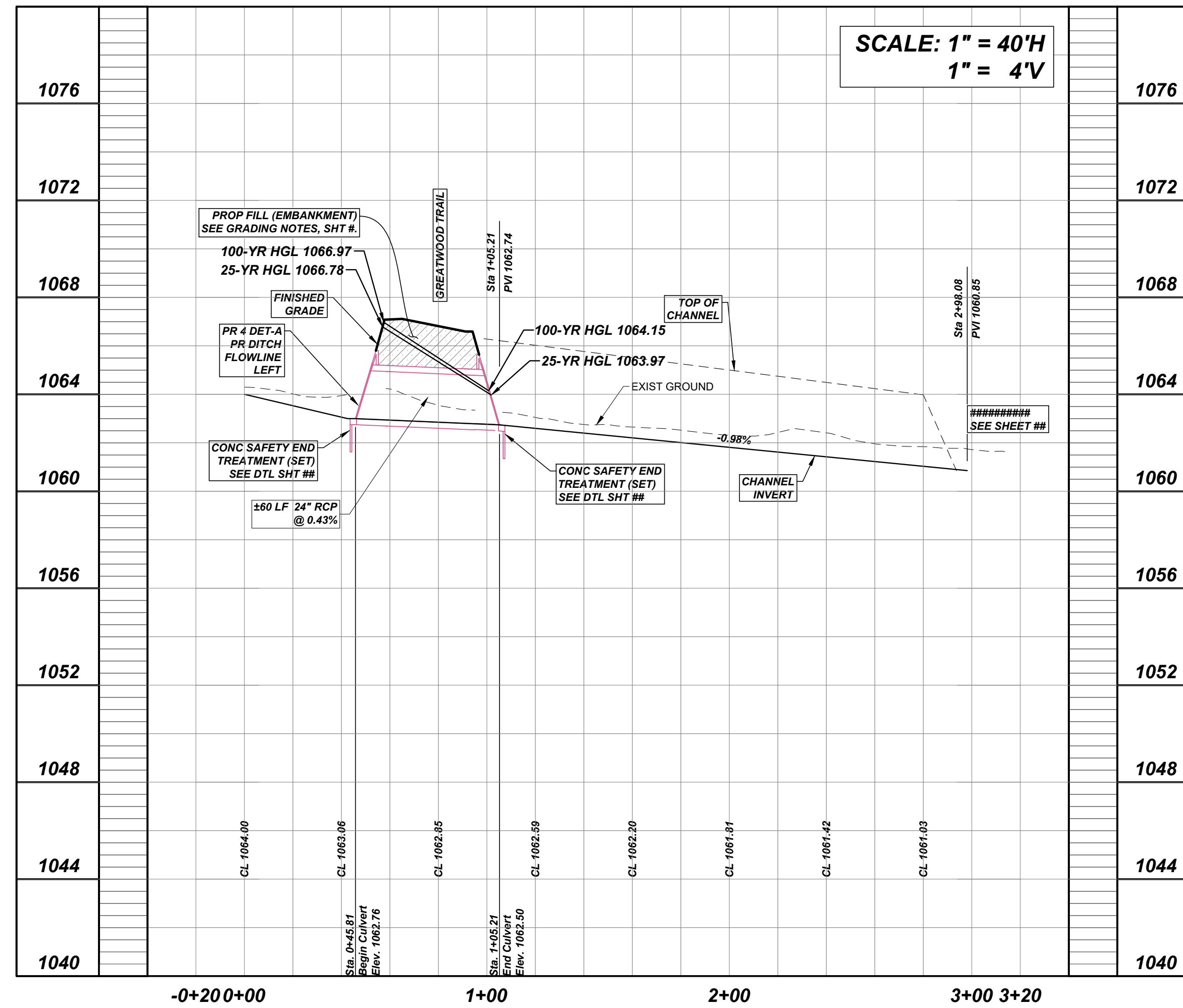
PROPOSED LEGEND

- FIRE HYDRANT W/ GATE VALVE
- WATERLINE W/ GATE VALVE
- GROUND CONTOUR

Channel 01 Upstream Crossing



PR 4 DET-C

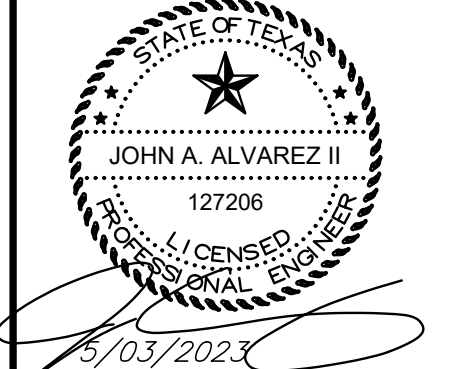


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SUBMITTAL DATE: 6/14/2022
JOB NO.: 17232-0001-01



CONSTRUCTION PLANS
LEANDER ESTATES SUBDIVISION
PLAN AND PROFILE
STORM DRAIN CULVERTS
(1 OF 3)

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROX. 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



EXISTING LEGEND

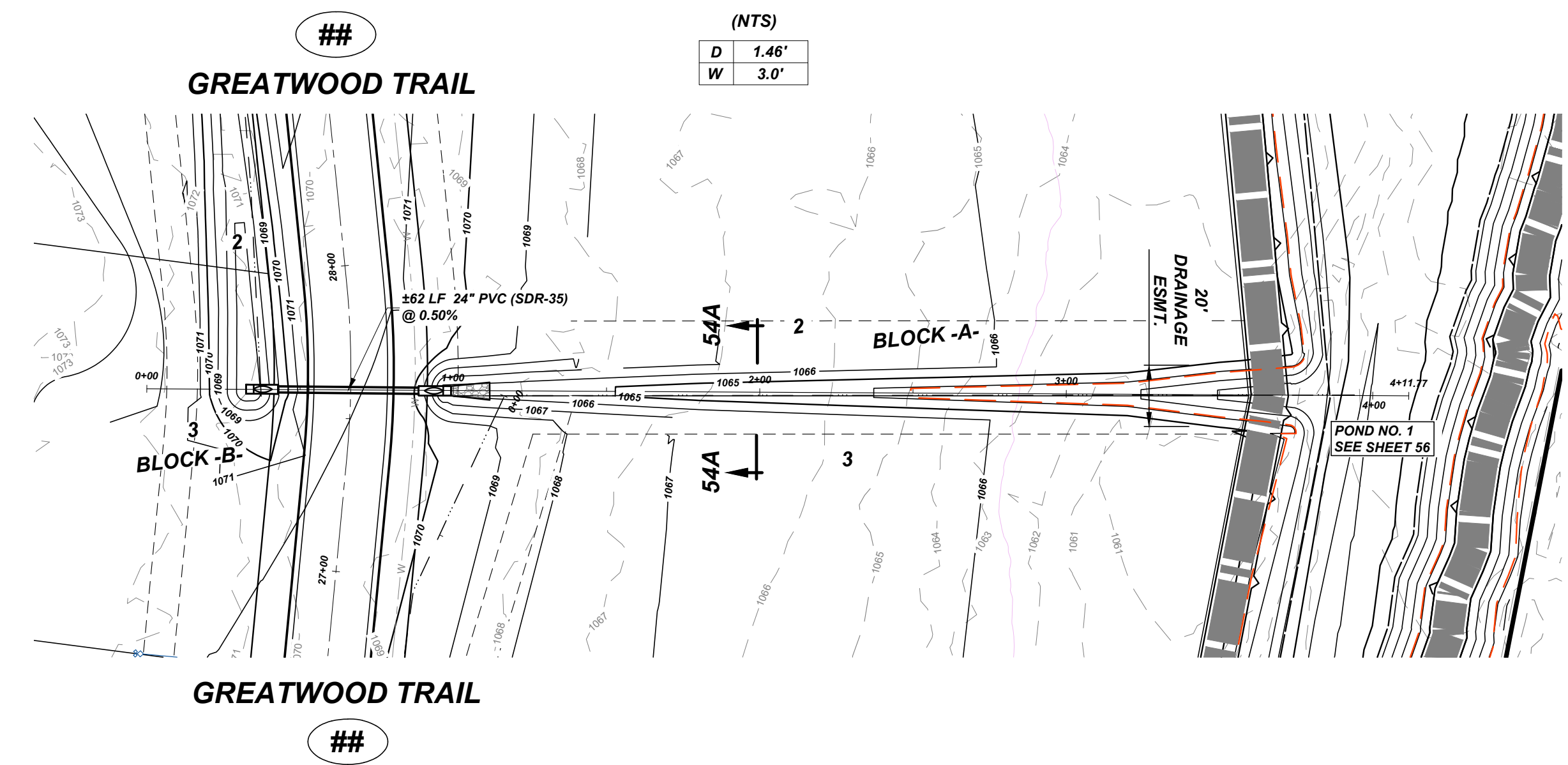
- W W FIRE HYDRANT W/ GATE VALVE
- W W WATERLINE W/ GATE VALVE
- WW W WASTEWATER W/ MANHOLE
- WW W WASTEWATER W/ CLEANOUT
- SSW S STORM SEWER W/ MANHOLE
- CI C CURB INLET
- OHE O OVERHEAD ELECTRIC W/POLE
- 700 GROUND CONTOUR

PROPOSED LEGEND

- W W FIRE HYDRANT W/ GATE VALVE
- W W WATERLINE W/ GATE VALVE
- 700 GROUND CONTOUR

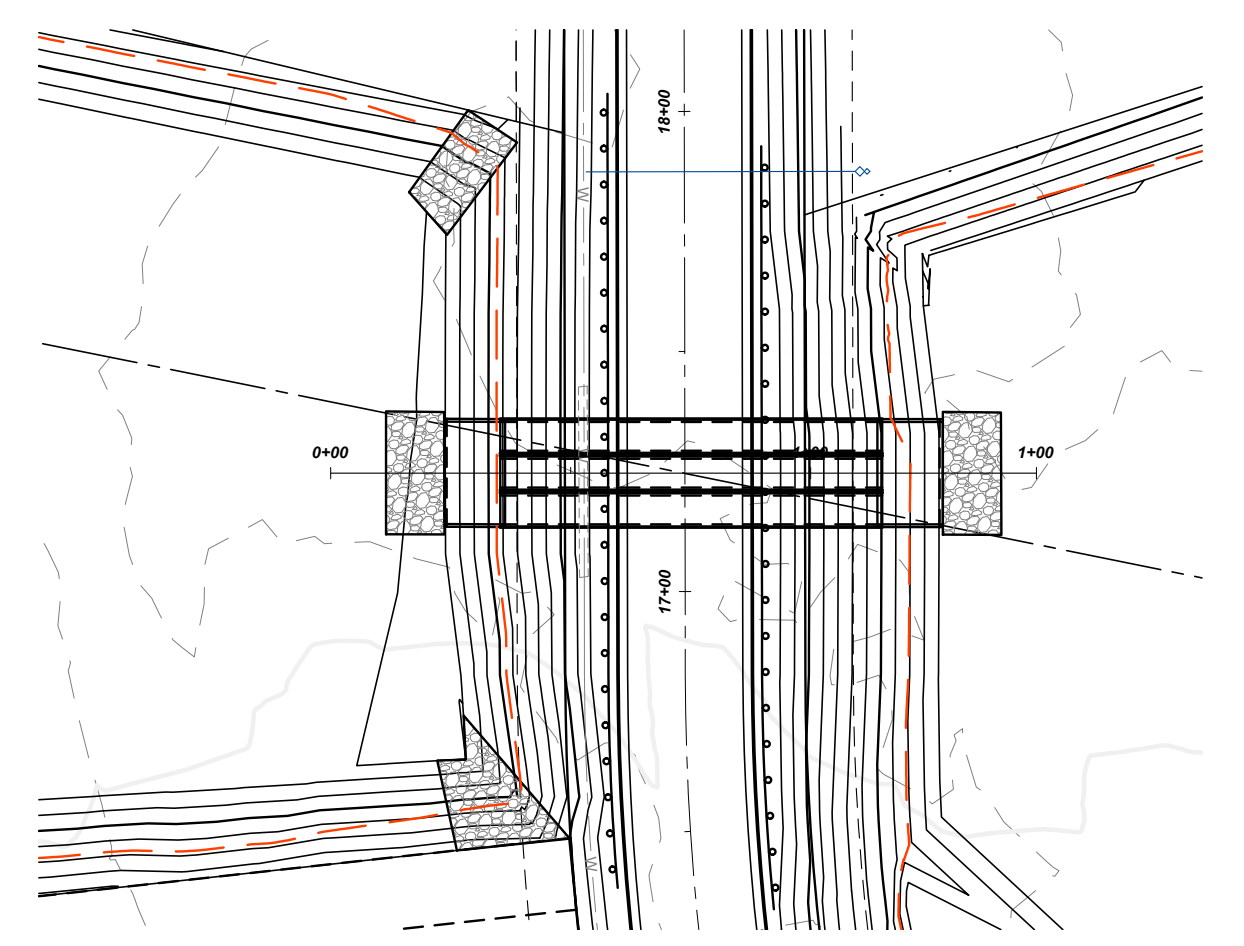
**SECTION 54A
PR 1 DET-C**

(NTS)
D 1.46'
W 3.0'



KEY MAP

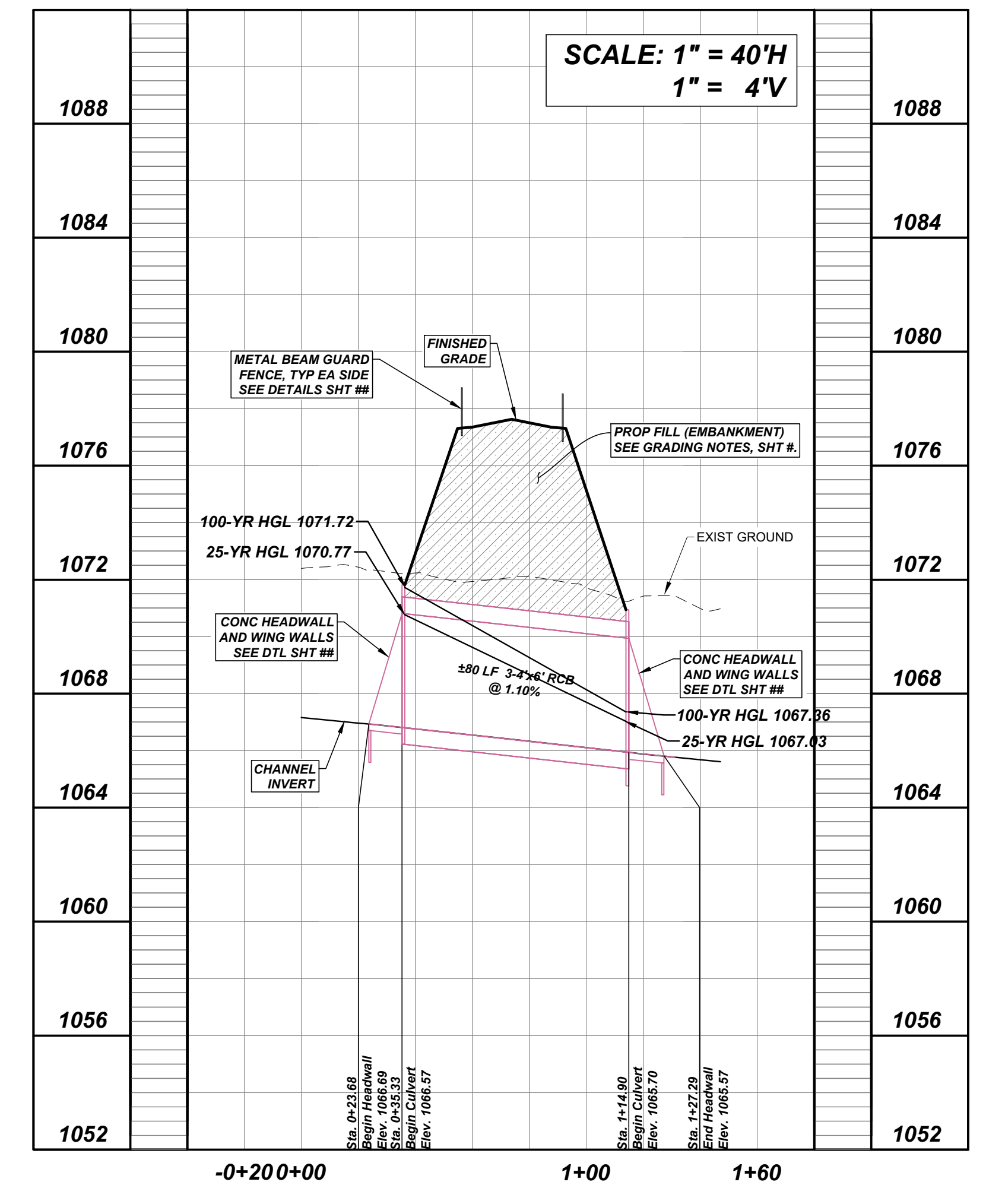
COUNCIL SPRINGS PASS



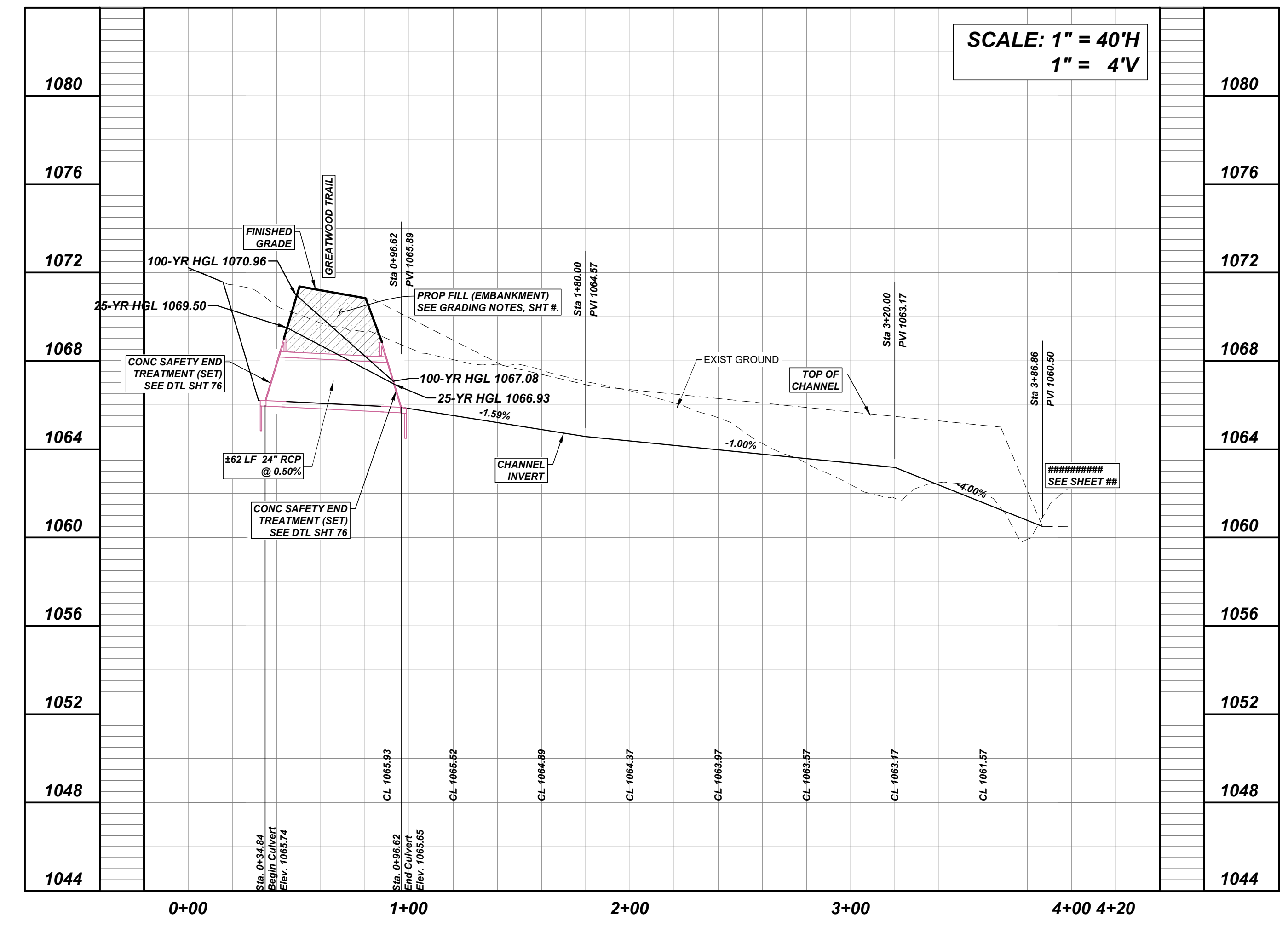
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KEY MAP

Channel 01 Upstream Crossing



PR 1 DET-C

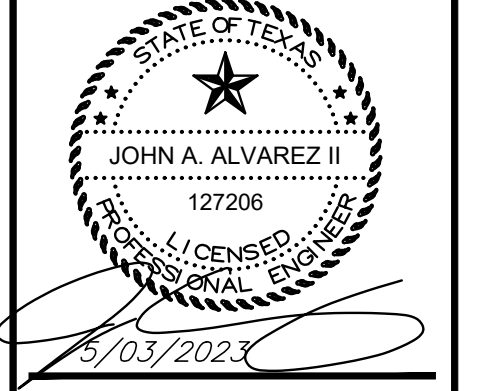


No.	Date	REVISIONS

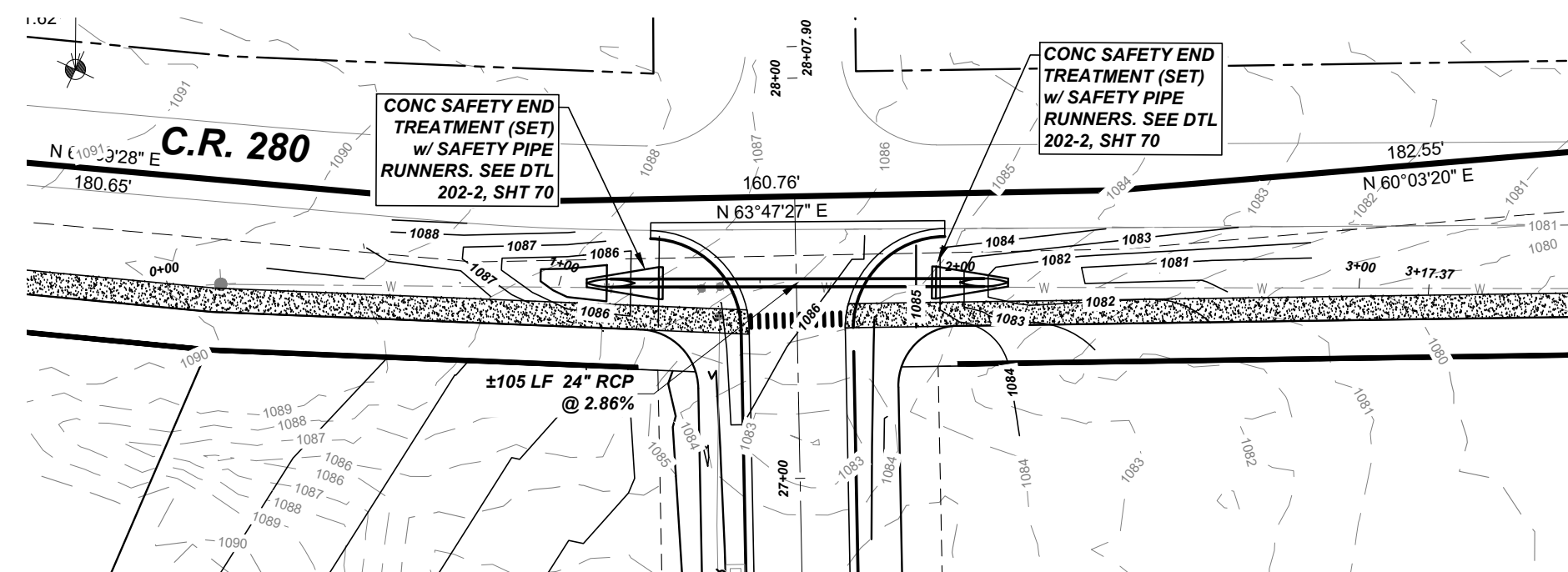
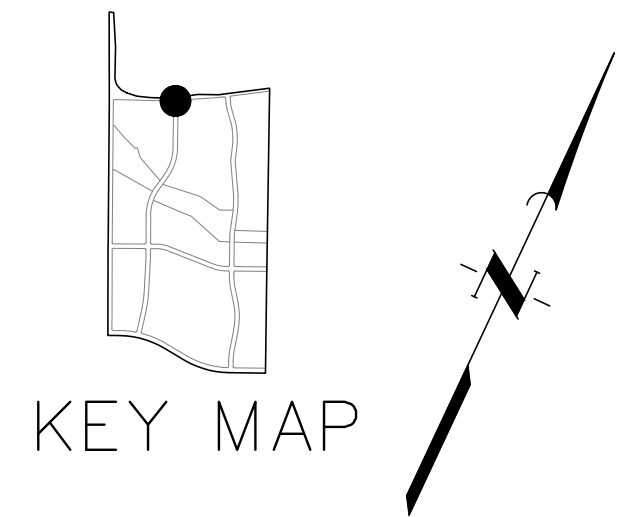
QUIDDITY
 A Professional Engineering and Surveying Firm
 3100 Alvin Avenue, Suite 150 • Austin, TX 78721 • 512.441.5493

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 CHECKED BY: JA
 DRAWN BY: JDE

SUBMITTAL DATE: 6/14/2022
 JOB NO.: 17232-0001-01

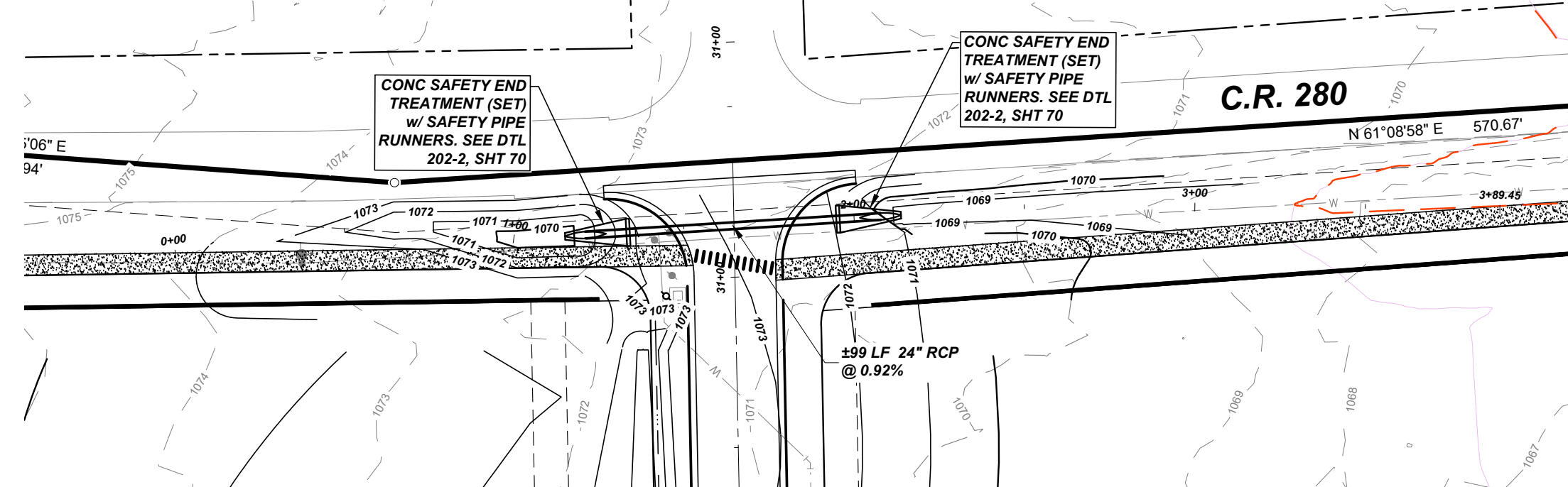
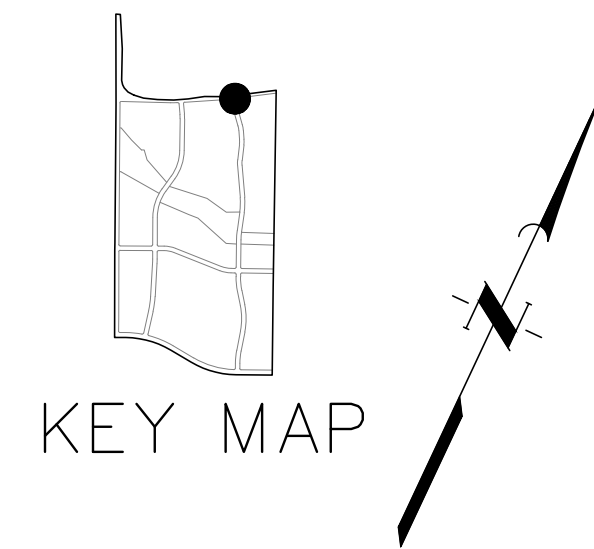


CONSTRUCTION PLANS
LEANDER ESTATES SUBDIVISION
 PLAN AND PROFILE
STORM DRAIN CULVERTS
 (2 OF 3)



COUNCIL SPRINGS PASS

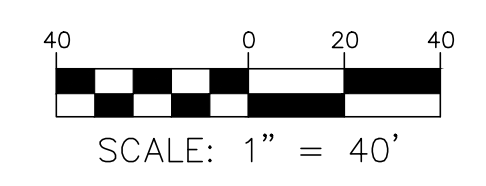
##



GREATWOOD TRAIL

##

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROX. 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



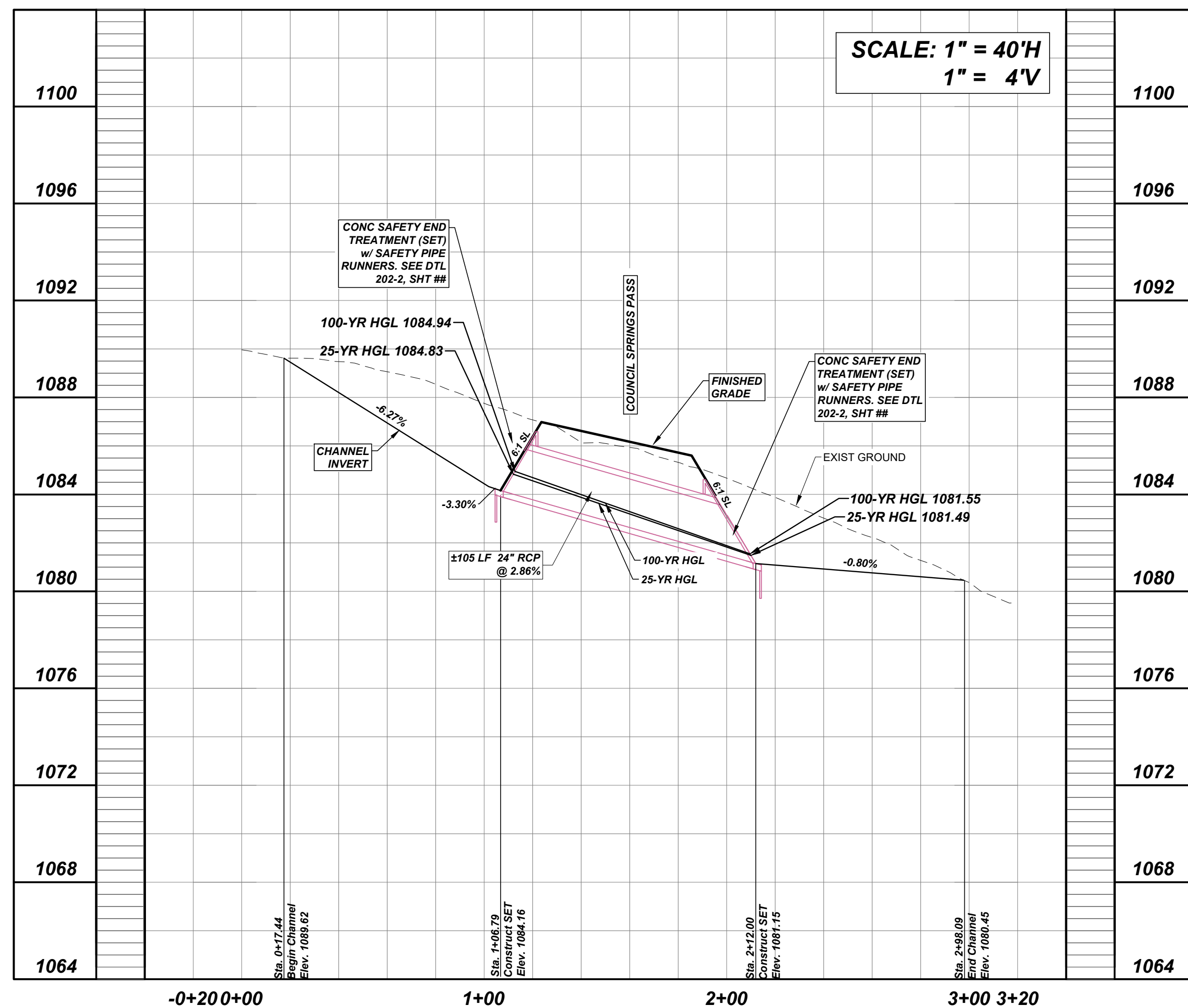
EXISTING LEGEND

- W W FIRE HYDRANT W/ GATE VALVE
- W W WATERLINE W/ GATE VALVE
- W W WASTEWATER W/ MANHOLE
- W W WASTEWATER W/ CLEANOUT
- W W STORM SEWER W/ MANHOLE
- W W CURB INLET
- W W OVERHEAD ELECTRIC W/POLE
- W W GROUND CONTOUR

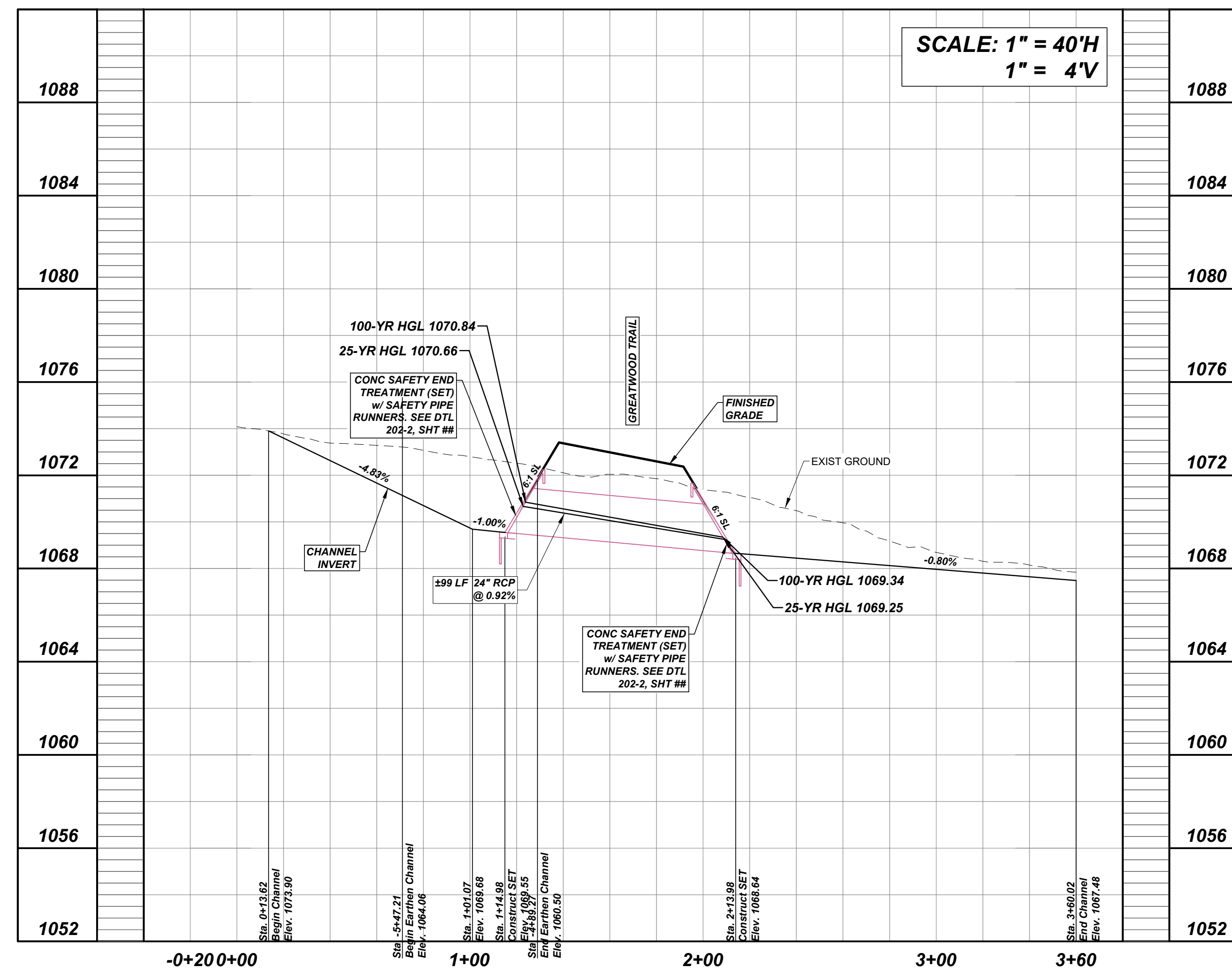
PROPOSED LEGEND

- W W FIRE HYDRANT W/ GATE VALVE
- W W WATERLINE W/ GATE VALVE
- W W GROUND CONTOUR

CULVERT CROSSING - COUNCIL SPRINGS PASS



CULVERT CROSSING - GREATWOOD TRAIL



REVISIONS

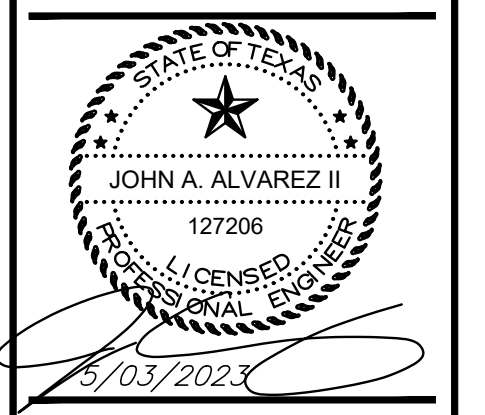
No.	Date

QUIDDITY

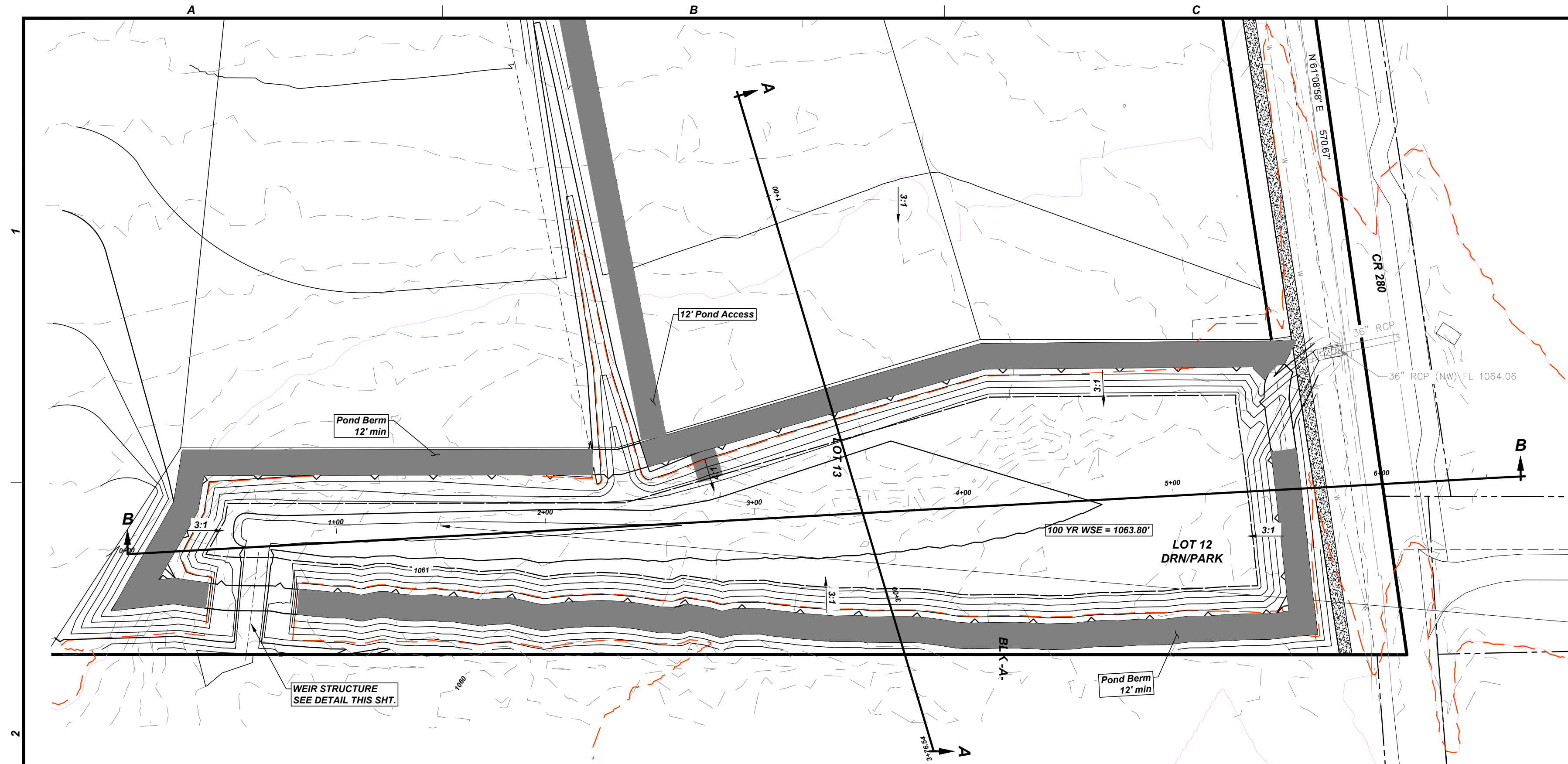
Professional Engineer License No. 6 29250
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SCALE: AS SHOWN
DESIGNED BY: FR
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DRAWN BY: JDE

SUBMITTAL DATE: 6/14/2022
JOB NO.: 17232-0001-01



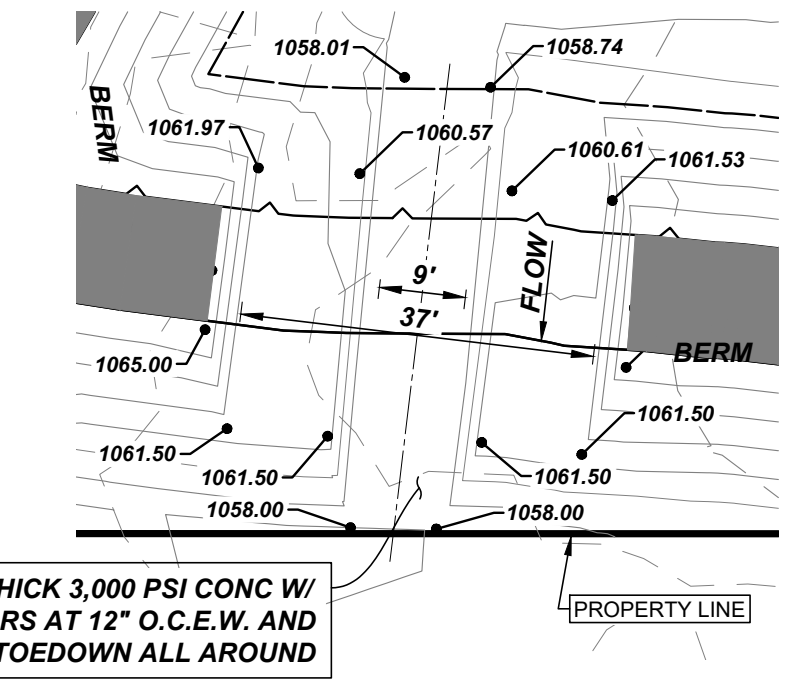
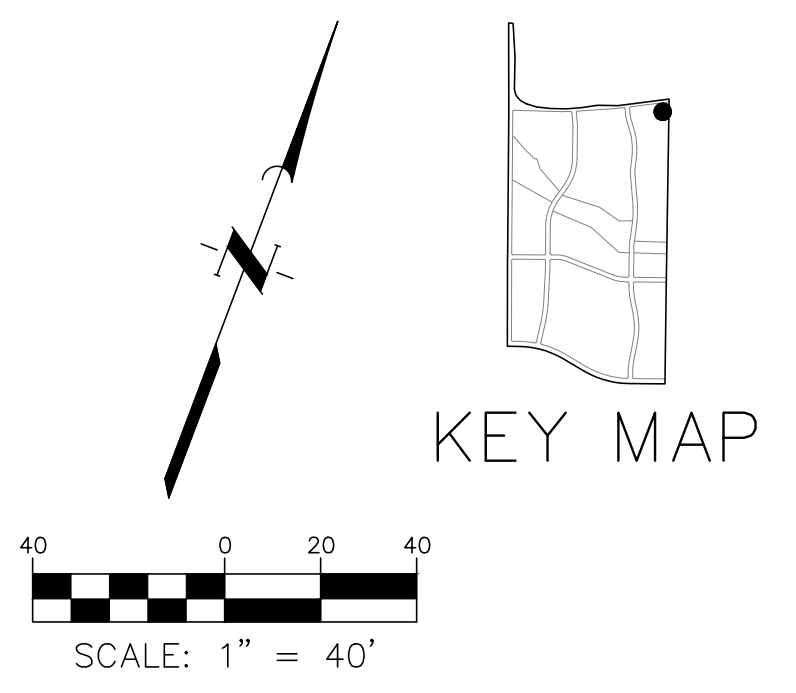
CONSTRUCTION PLANS
LEANDER ESTATES SUBDIVISION
PLAN AND PROFILE
STORM DRAIN CULVERTS
(3 OF 3)



POND 1

	WSE FEET	STORAGE ACRE- FEET	DISCHARGE CFS
2 YEAR	1060.60	0.40	117.74
10 YEAR	1062.40	1.60	317.90
25 YEAR	1063.00	2.10	447.00
100 YEAR	1063.80	2.90	679.90

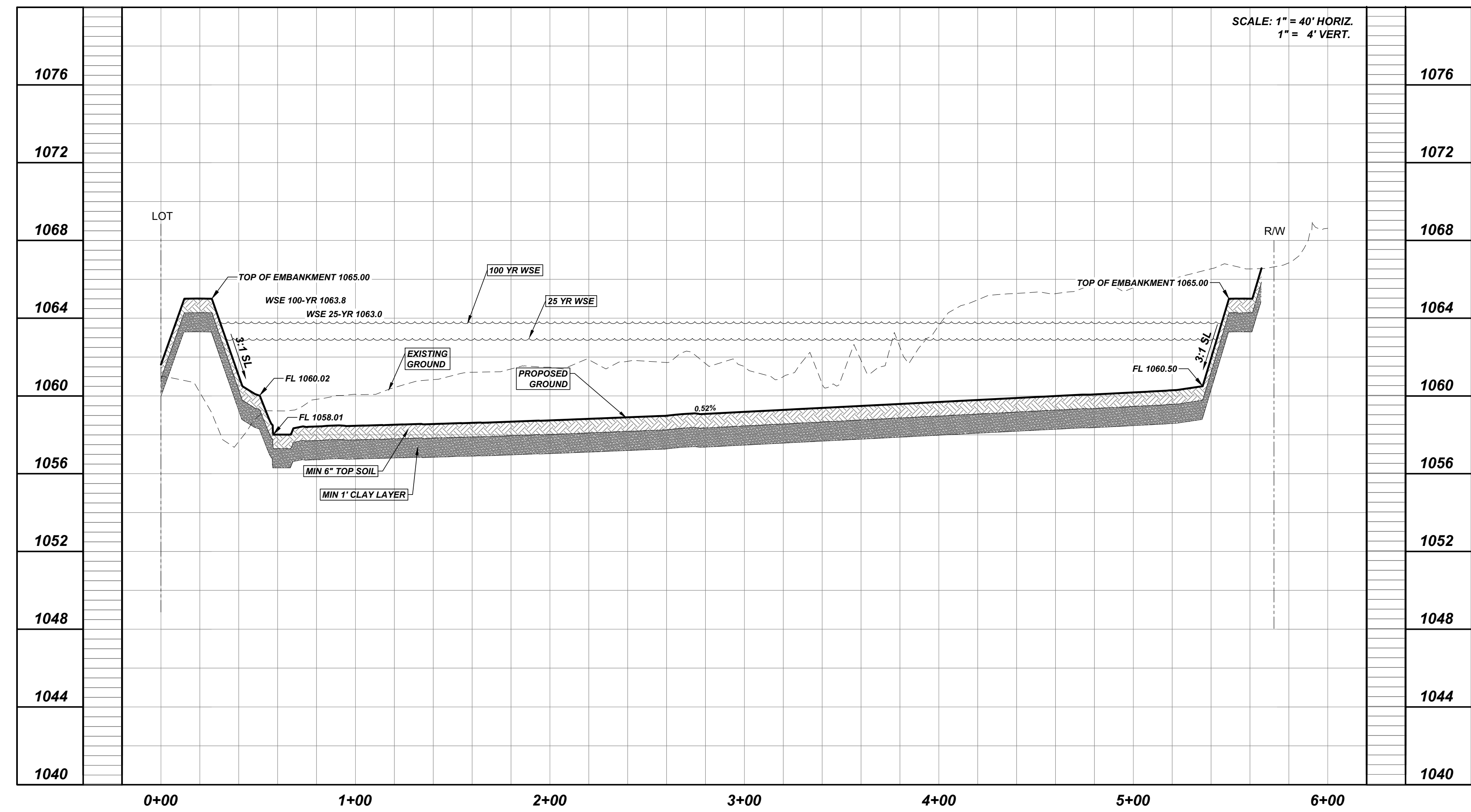
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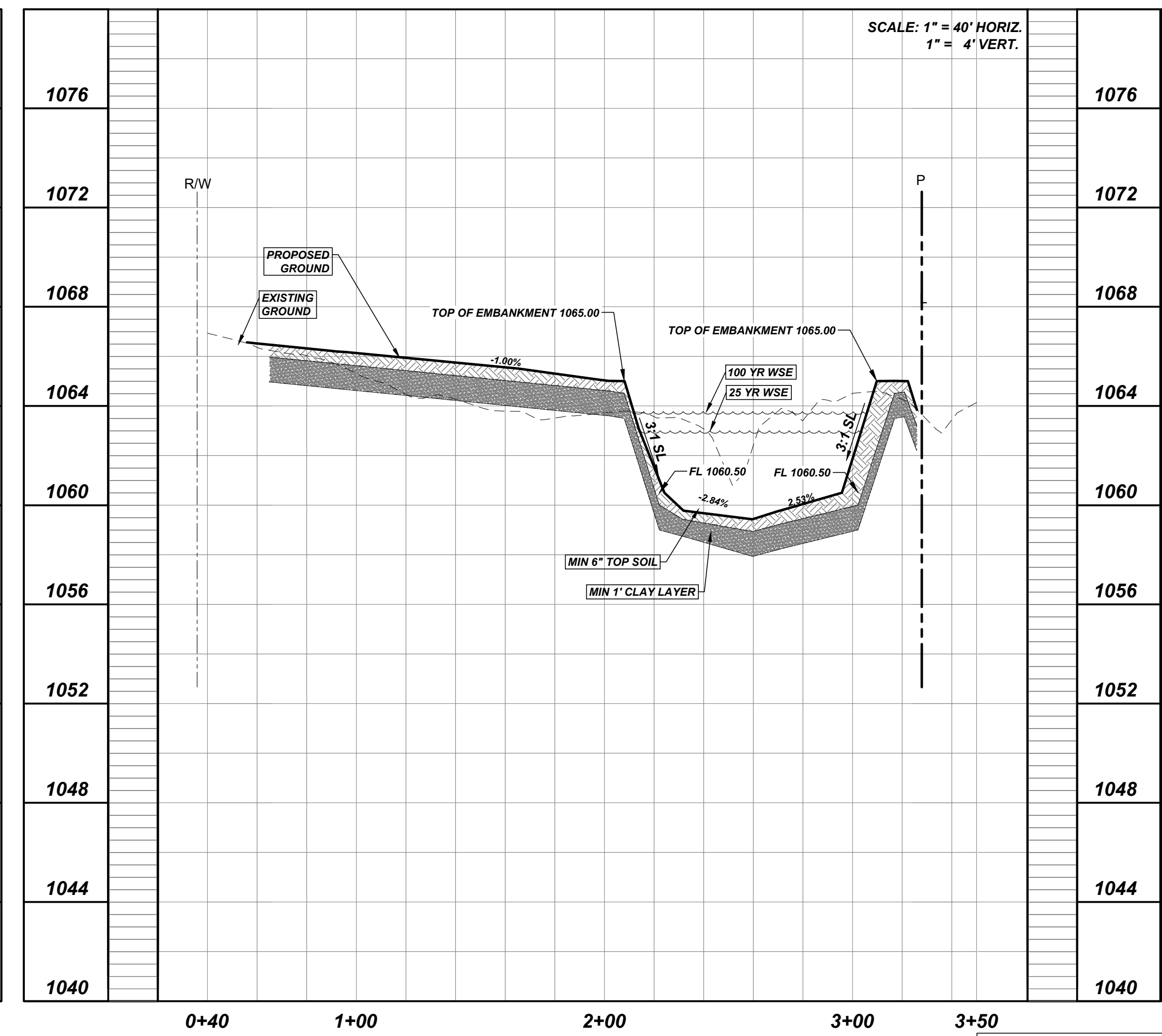
OUTFALL WEIR
SCALE 1" = 20'

- EXISTING LEGEND**
- W W FIRE HYDRANT W/ GATE VALVE
 - W W WATERLINE W/ GATE VALVE
 - W W WASTEWATER W/ MANHOLE
 - W W WASTEWATER W/ CLEANOUT
 - W W STORM SEWER W/ MANHOLE
 - W CURB INLET
 - W OVERHEAD ELECTRIC WI/POWER POLE
 - 700 GROUND CONTOUR
- PROPOSED LEGEND**
- W W FIRE HYDRANT W/ GATE VALVE
 - W W WATERLINE W/ GATE VALVE
 - 700 GROUND CONTOUR
 - W W STORM SEWER W/ MANHOLE

POND 1 SECTION B-B



POND 1 SECTION A-A



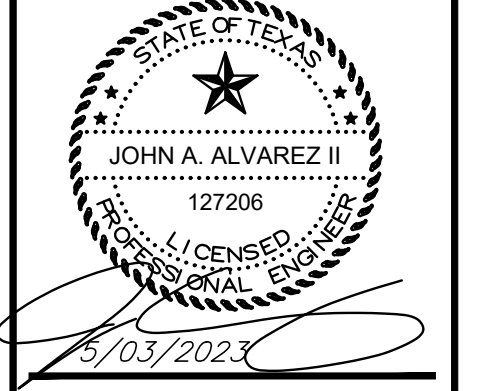
REVISIONS

No.	Date	Description

QUIDDITY
Professional Engineering and Land Surveying
3100 Avenue of the Americas, Suite 1500 • Houston, TX 77010 • P.O. Box 24119493
Tel: 713.441.5493 • Fax: 713.441.5495

SCALE: AS SHOWN
DESIGNED BY: FR
CHECKED BY: JA
DRAWN BY: JDE

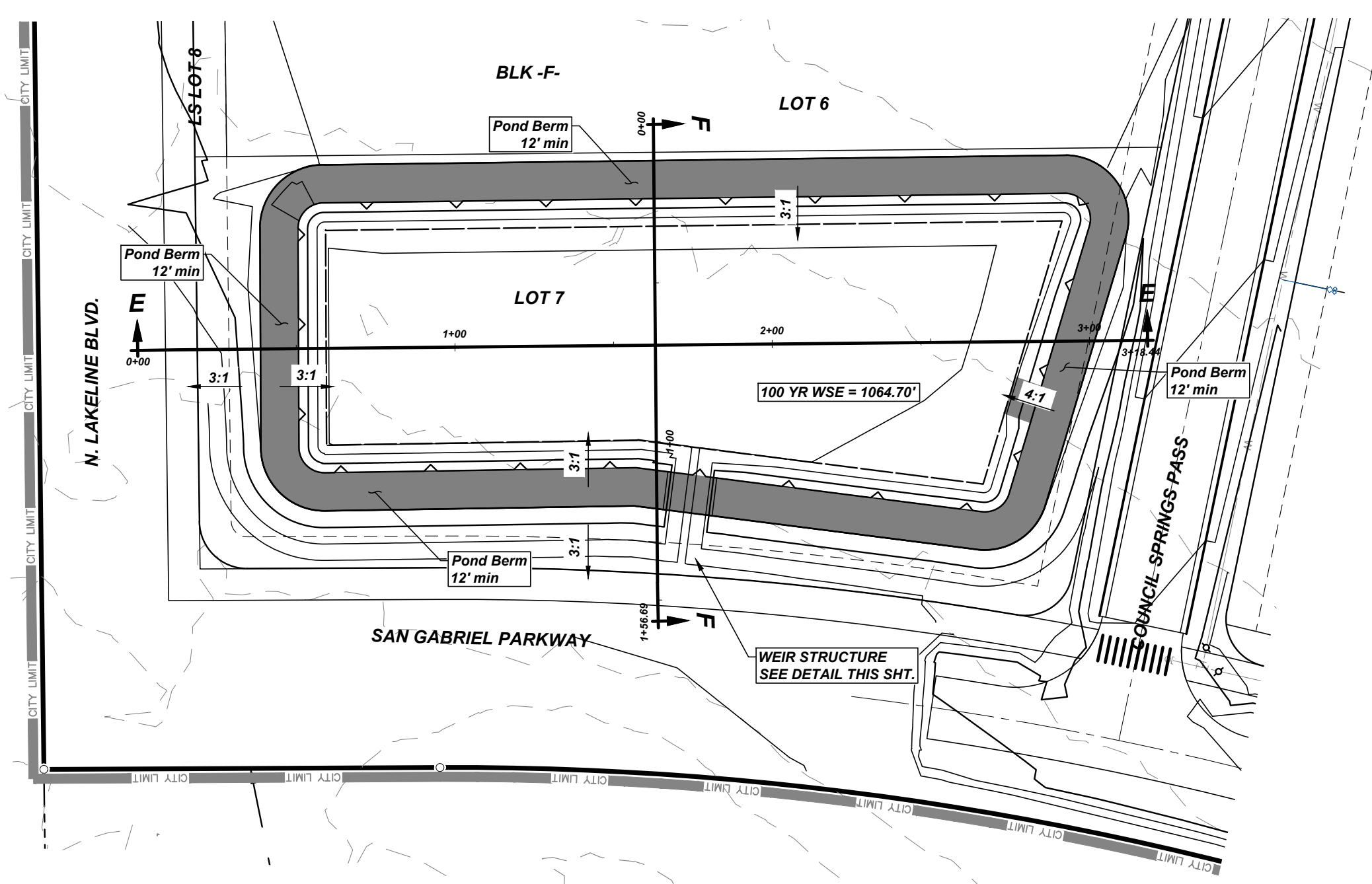
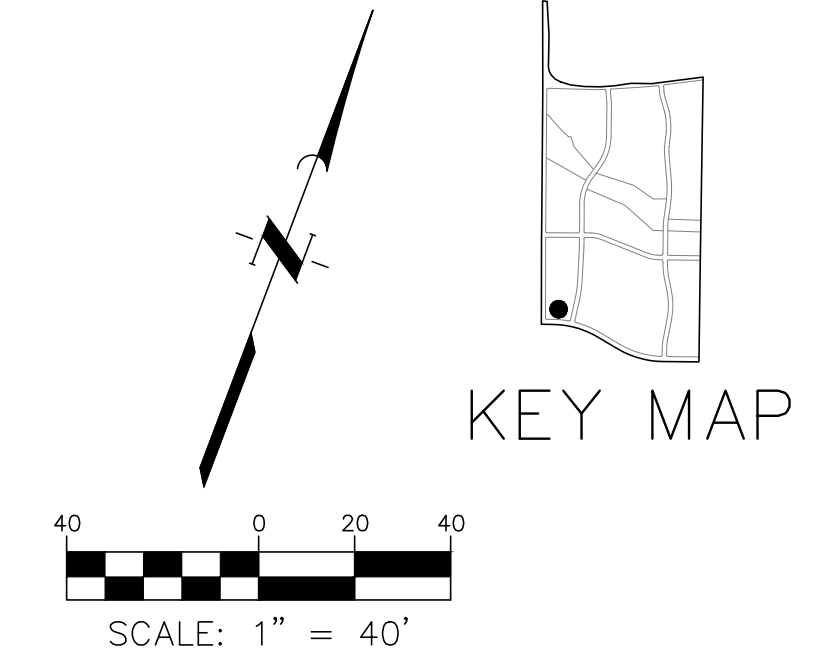
SUBMITTAL DATE: 6/14/2022
JOB NO.: 17232-0001-01



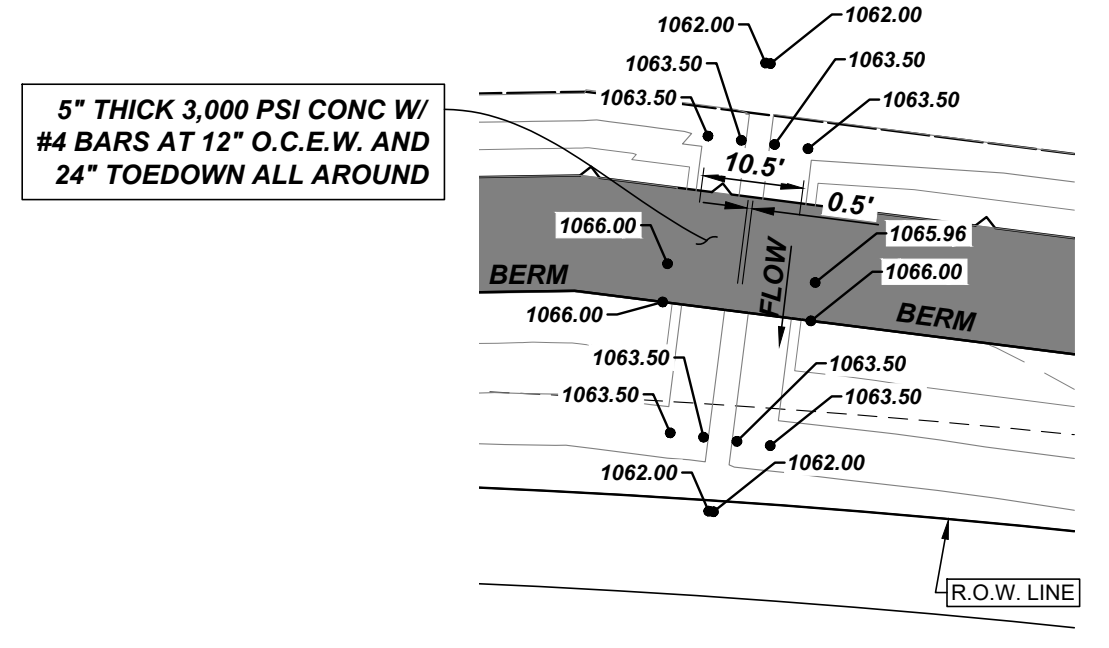
CONSTRUCTION PLANS
LEADER ESTATES SUBDIVISION
PLAN AND PROFILE
POND NO. 1

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROX. 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

POND 2			
	WSE FEET	STORAGE ACRE-FEET	DISCHARGE CFS
2 YEAR	1063.60	0.30	3.90
10 YEAR	1064.10	0.50	19.70
25 YEAR	1064.40	0.60	29.60
100 YEAR	1064.70	0.80	46.20

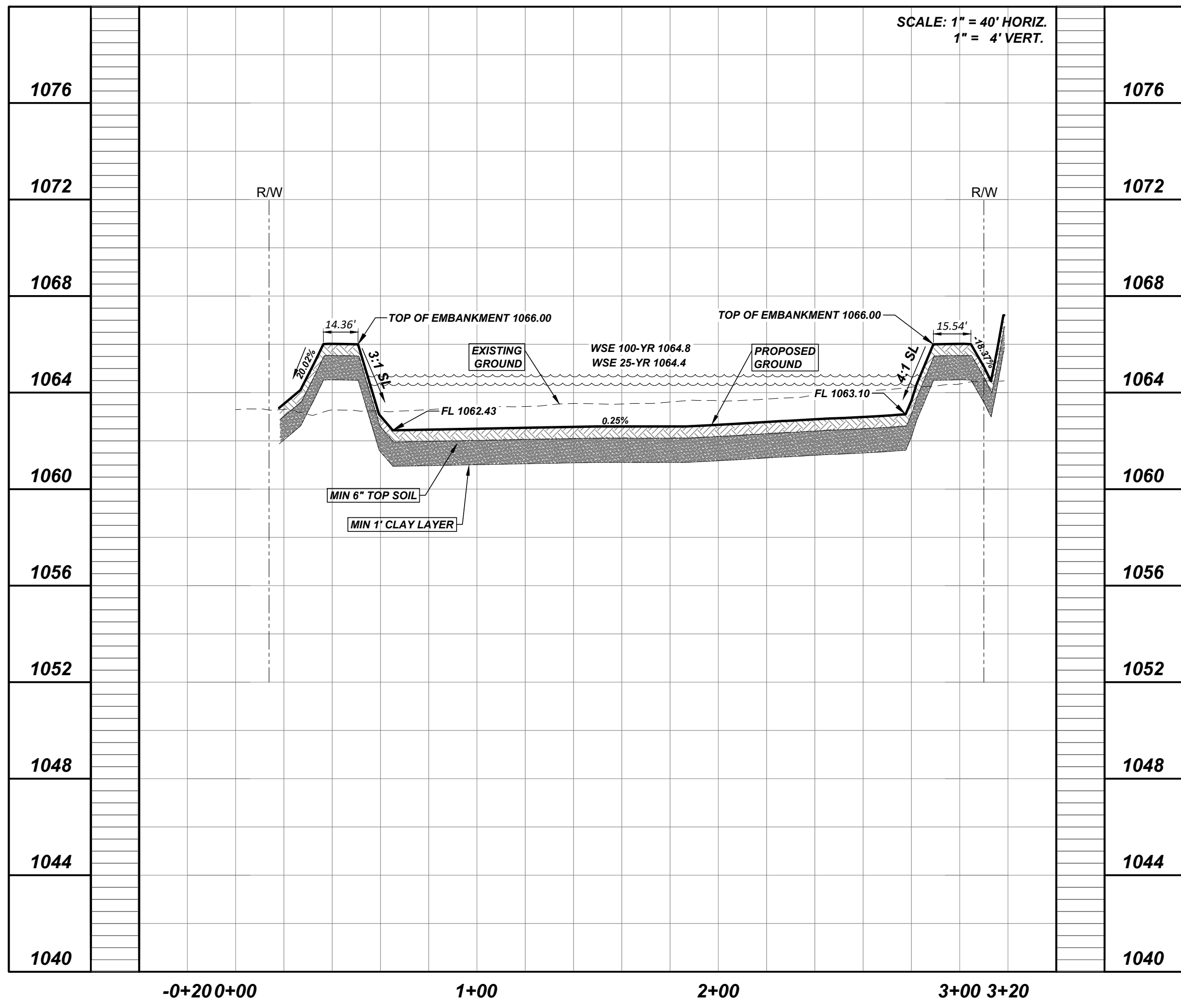


POND NO. 2 PLAN VIEW
SCALE 1" = 40'

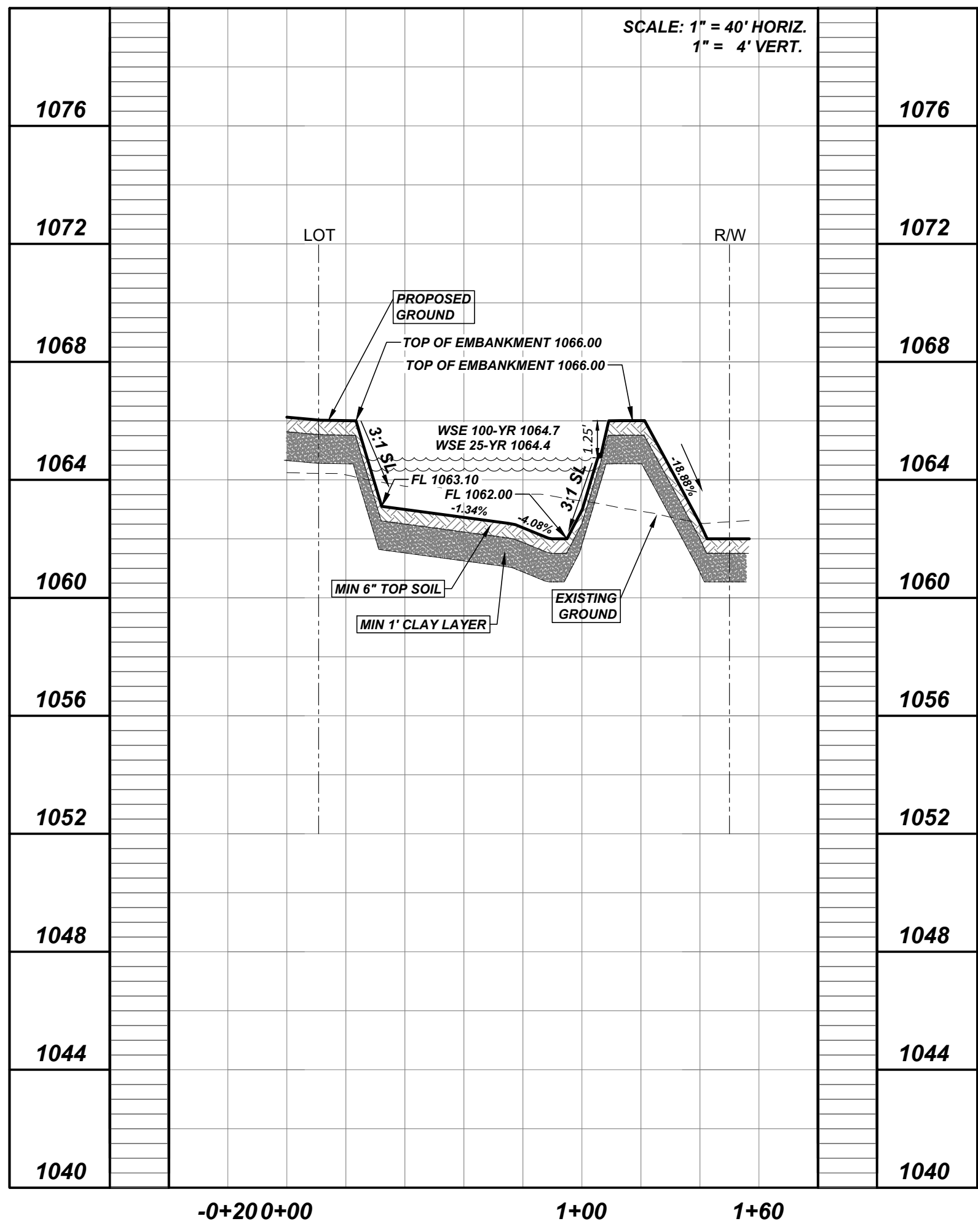


OUTFALL WEIR
SCALE 1" = 20'

POND 2 SECTION E-E



POND 2 SECTION F-F



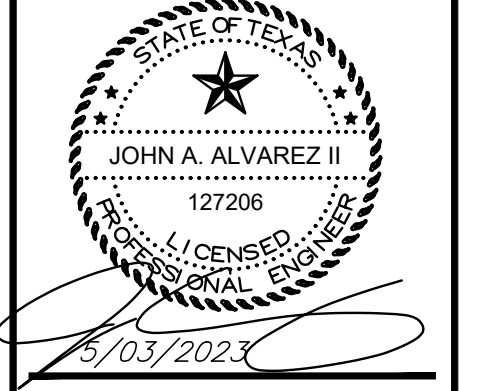
- EXISTING LEGEND**
- FIRE HYDRANT W/ GATE VALVE
 - WATERLINE W/ GATE VALVE
 - WASTEWATER W/ MANHOLE
 - WASTEWATER W/ CLEANOUT
 - STORM SEWER W/ MANHOLE
 - CURB INLET
 - OVERHEAD ELECTRIC W/ POLE
 - GROUND CONTOUR
- PROPOSED LEGEND**
- FIRE HYDRANT W/ GATE VALVE
 - WATERLINE W/ GATE VALVE
 - GROUND CONTOUR
 - STORM SEWER W/ MANHOLE
 - CURB INLET
 - GRATE INLET

No.	Date	App.

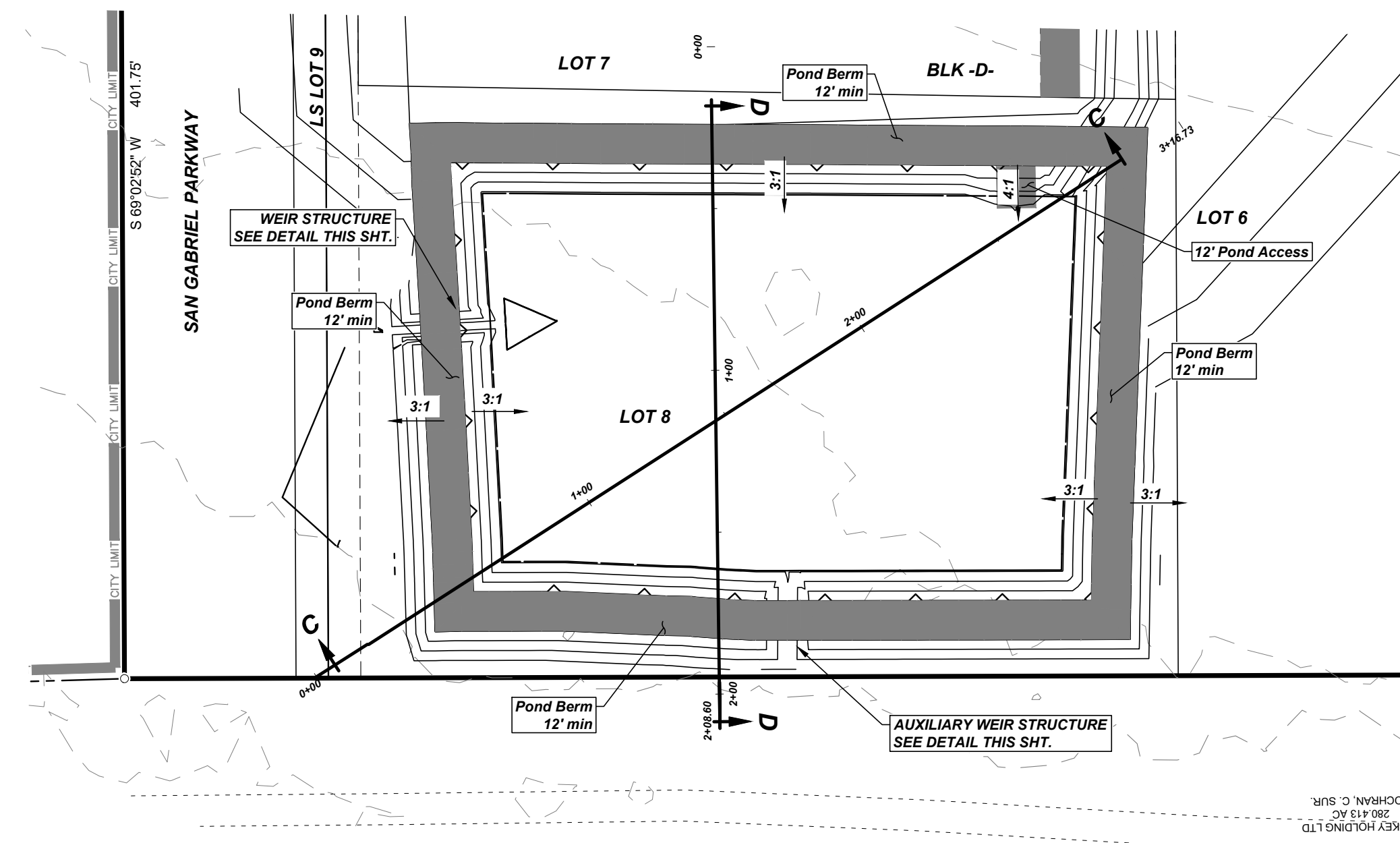
QUIDDITY
 3100 Alamo Boulevard, Suite 150 • Austin, TX 78721 • 512.441.9499
 State of Texas Professional Engineer License No. 62929
 State of Texas Professional Land Surveyor License No. 124415493

SCALE: AS SHOWN
 DESIGNED BY: FR
 CHECKED BY: JA
 DRAWN BY: JDE

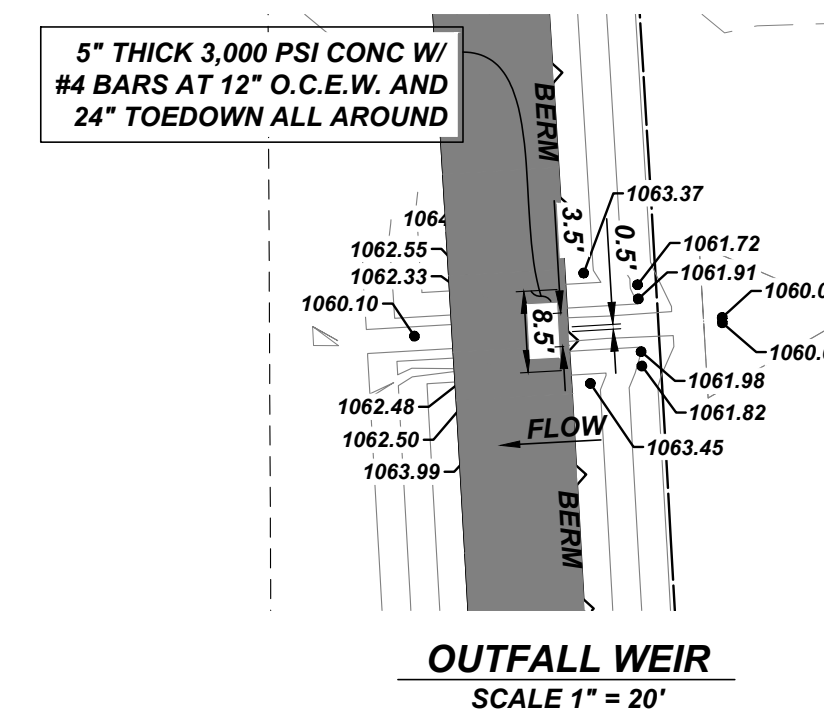
SUBMITTAL DATE: 6/14/2022
 JOB NO.: 17232-0001-01



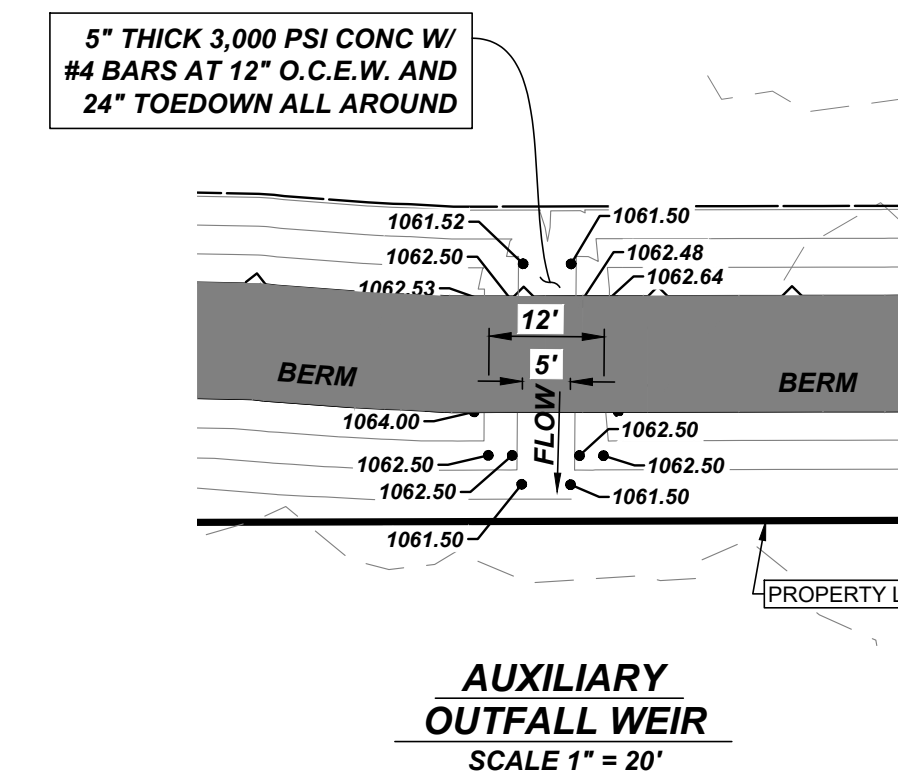
CONSTRUCTION PLANS
LEANDER ESTATES SUBDIVISION
 PLAN AND PROFILE
POND NO. 2



POND NO. 3 PLAN VIEW
SCALE 1" = 40'



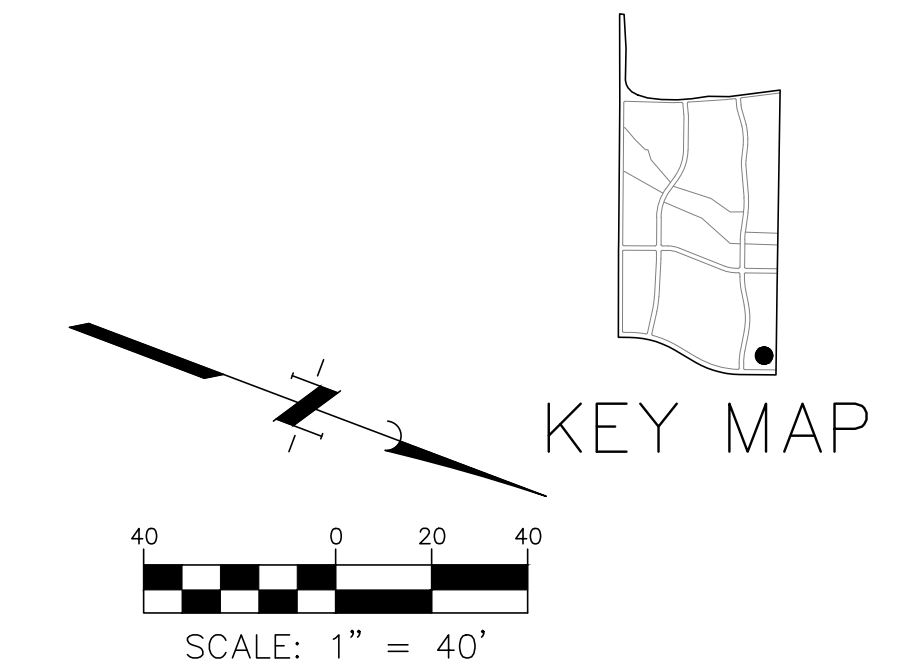
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SCALE 1" = 20'



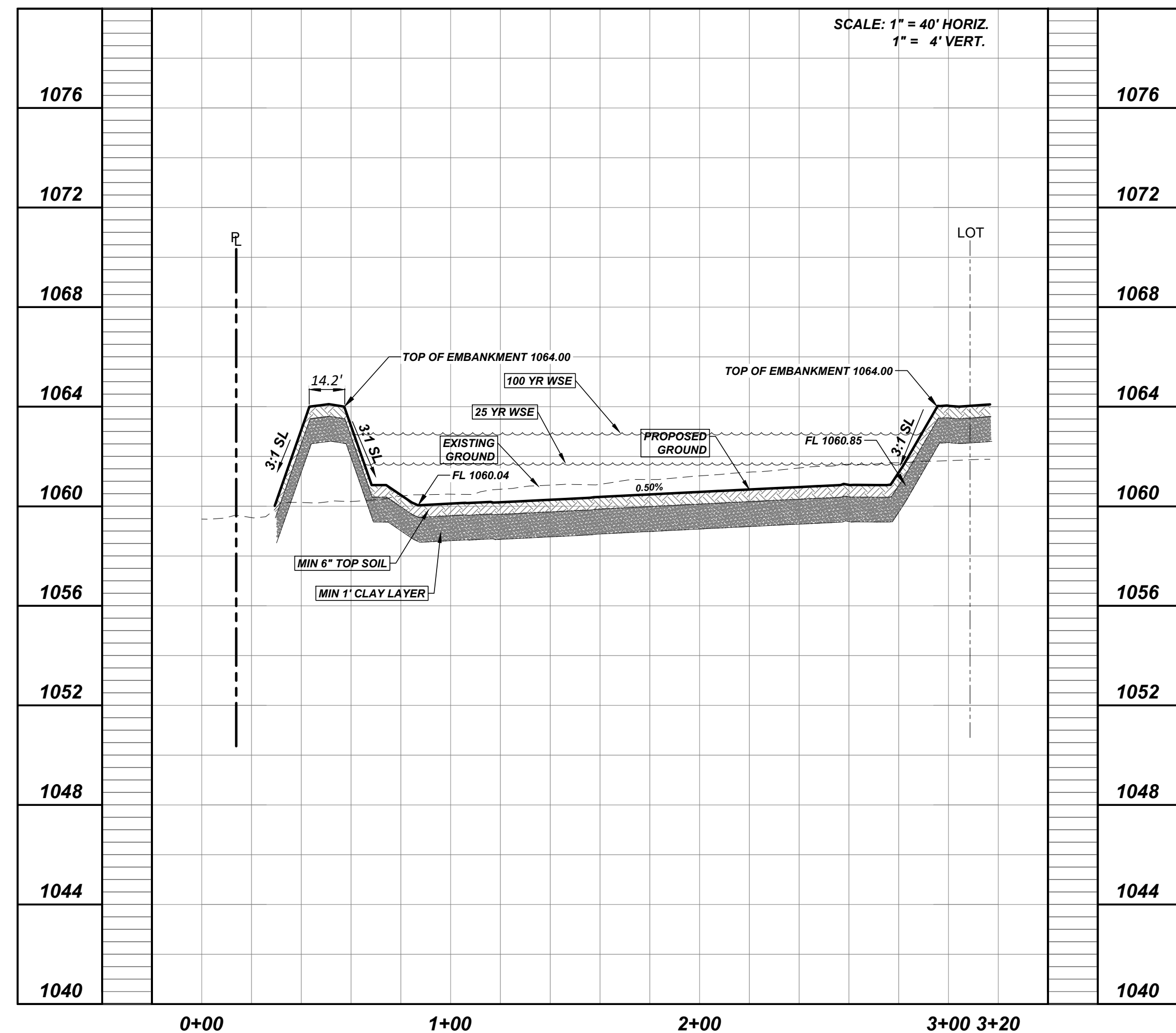
AUXILIARY OUTFALL WEIR
SCALE 1" = 20'

POND 3			
	WSE FEET	STORAGE ACRE- FEET	DISCHARGE CFS
2 YEAR	1061.57	0.40	4.20
10 YEAR	1062.25	0.80	21.40
25 YEAR	1062.56	1.00	33.80
100 YEAR	1062.87	1.10	55.30

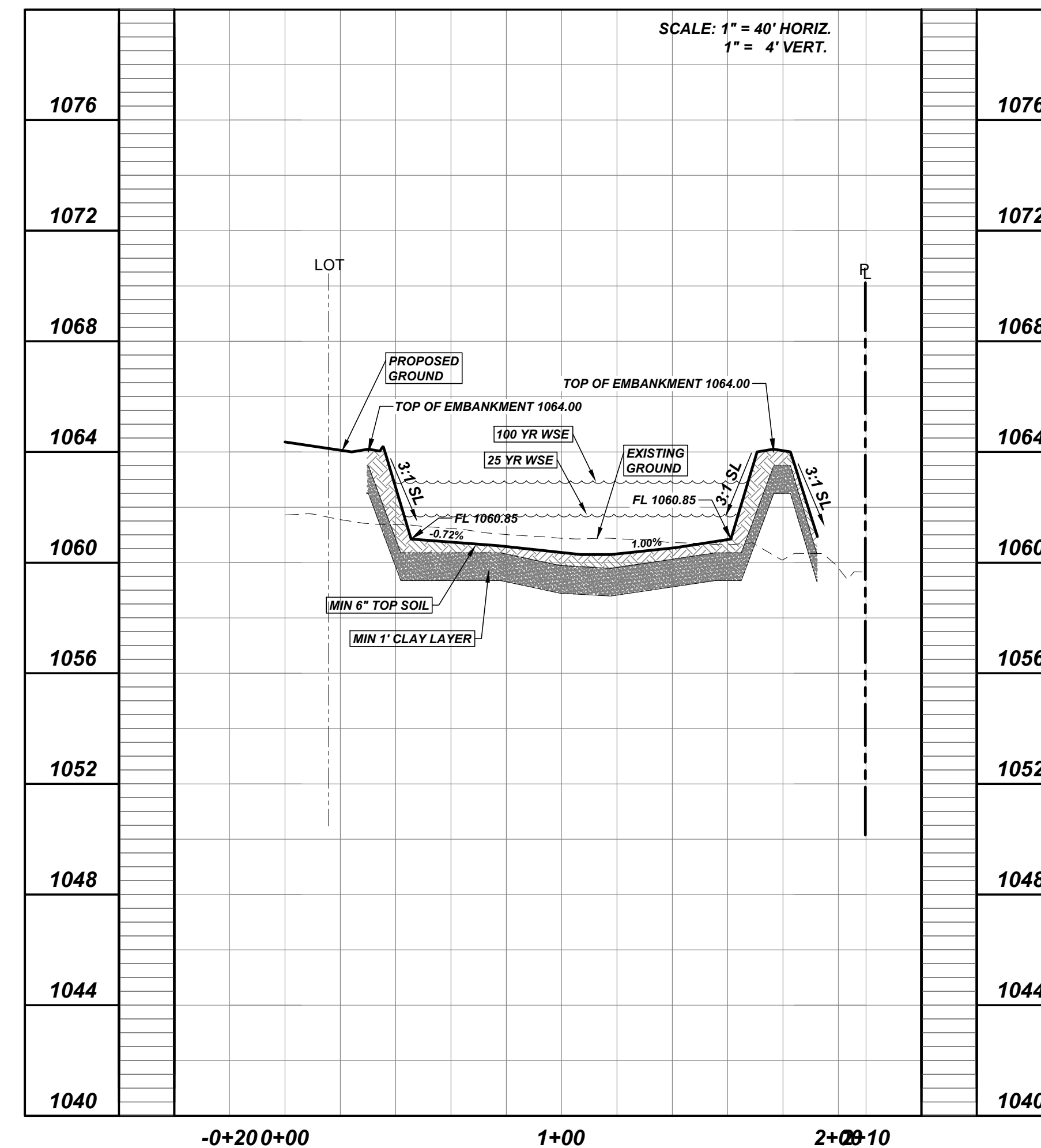
THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROX. WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE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



POND 3 SECTION C-C



POND 3 SECTION D-D



EXISTING LEGEND

- FIRE HYDRANT W/ GATE VALVE
- WATERLINE W/ GATE VALVE
- WASTEWATER W/ MANHOLE
- WASTEWATER W/ CLEANOUT
- STORM SEWER W/ MANHOLE
- CURB INLET
- OVERHEAD ELECTRIC W/ POLE
- GROUND CONTOUR

PROPOSED LEGEND

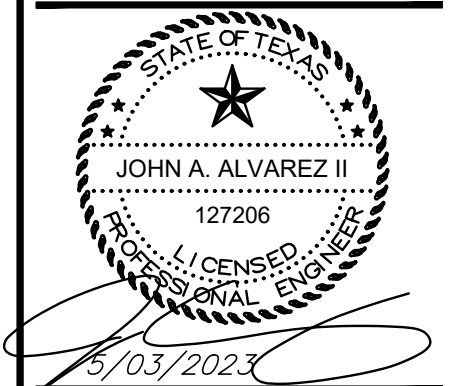
- FIRE HYDRANT W/ GATE VALVE
- WATERLINE W/ GATE VALVE
- GROUND CONTOUR
- STORM SEWER W/ MANHOLE
- CURB INLET
- GRATE INLET

No. Date

QUIDDITY



11100 North Loop West, Suite 150 • Houston, TX 77024 • 281.441.9499
 3100 Alvin Road, Suite 150 • Houston, TX 77024 • 281.441.9499
 SCALE: AS SHOWN
 DESIGNED BY: FR
 CHECKED BY: JA
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 SUBMITTAL DATE: 6/14/2022
 JOB NO.: 17232-0001-01



CONSTRUCTION PLANS
LEANDER ESTATES SUBDIVISION
 PLAN AND PROFILE
POND NO. 3

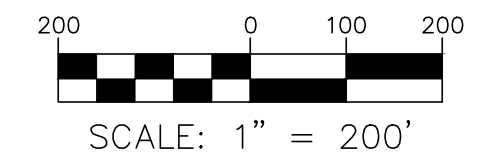
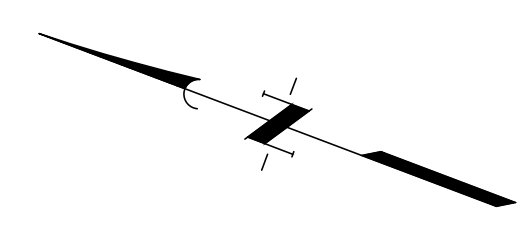
SHEET NO.

58

OF 79

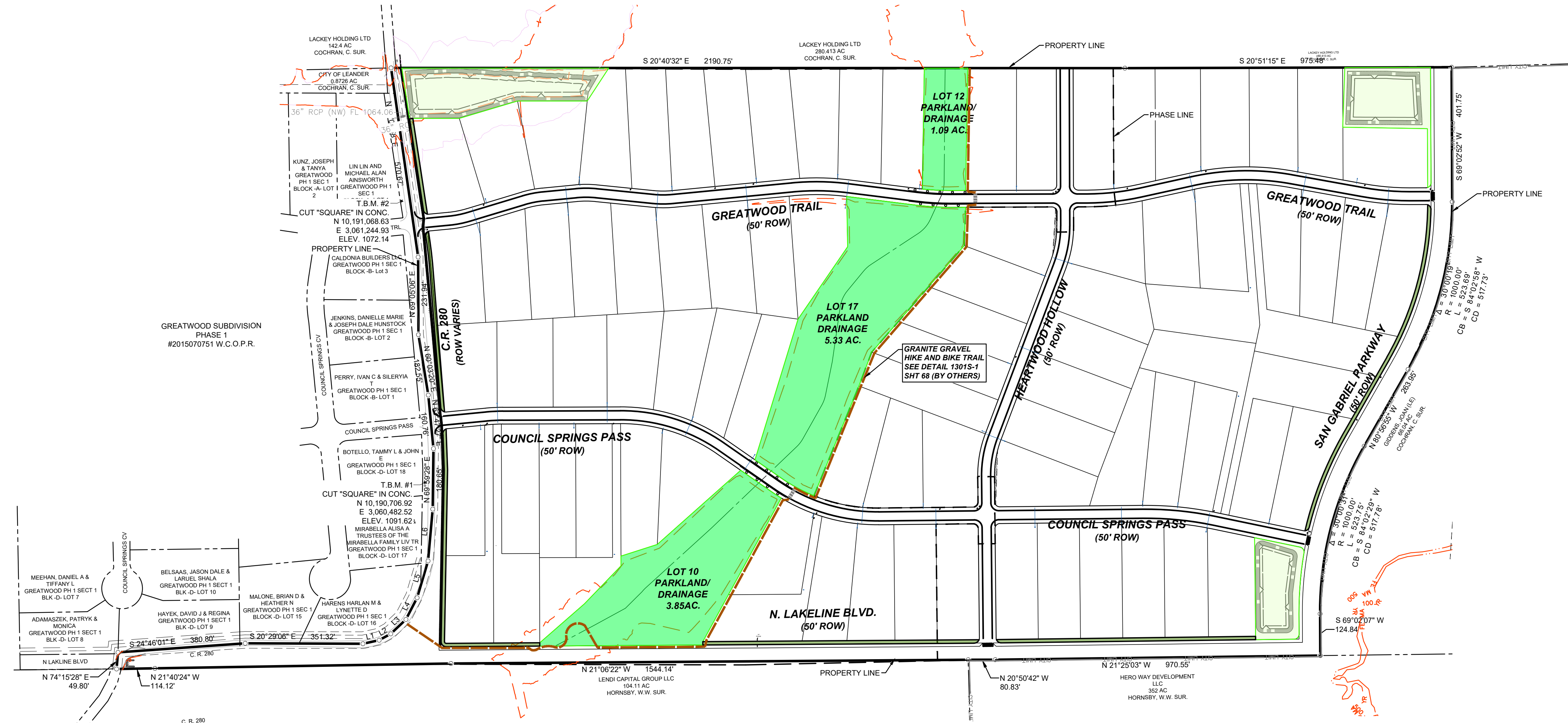
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THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE MANNER. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY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



PROPOSED LEGEND

- DRAINAGE/RETENTION
- PARKLAND/DRAINAGE
- LANDSCAPE
- PARK TRAIL (SCHEMATIC)



PARKLAND TABLE	
LOT	SIZE(AC)
12	1.089
17	5.327
10	3.848
TOTAL	10.26

GREATWOOD SHOUTH PARKLAND DEDICATION WORKSHEET							
Recreation							
Phase	Units	Parkland Required Ac.	Parkland Proposed Ac.	Improvement Fee Required	Proposed Improvements	Land in Lieu Ac.	Land in Lieu Fee
1	85	2.975	10.26	\$ 34,000.00	None	3.82	\$ 43,657.14

Parkland proposed is to be a public park. Maintenance and operation responsibilities shall be the responsibility of City of Leander.

No detention/retention/water quality ponds are to be constructed within the park lots.

No portion of this site is within the 100 year floodplain according to FEMA map No. 48491C0435F for Williamson County, Texas Dated December 20, 2019.

Developer proposed 3.82 acres more parkland than required. Therefore, the recreation improvement fee will be waived since the value of the surplus parkland (3.82 Acres / (3.5 Acres x100 Dwelling Units) x \$400/Dwelling Unit = \$43,657.14) exceeds the improvement fee.

REVISIONS
No. Date

QUIDDITY
Public Improvement Construction Plans
3100 Avenue Boulevard, Suite 150 • Austin, TX 78724 • 512.441.9499



WOODLAND ESTATES SUBDIVISION PHASE 1 & 2

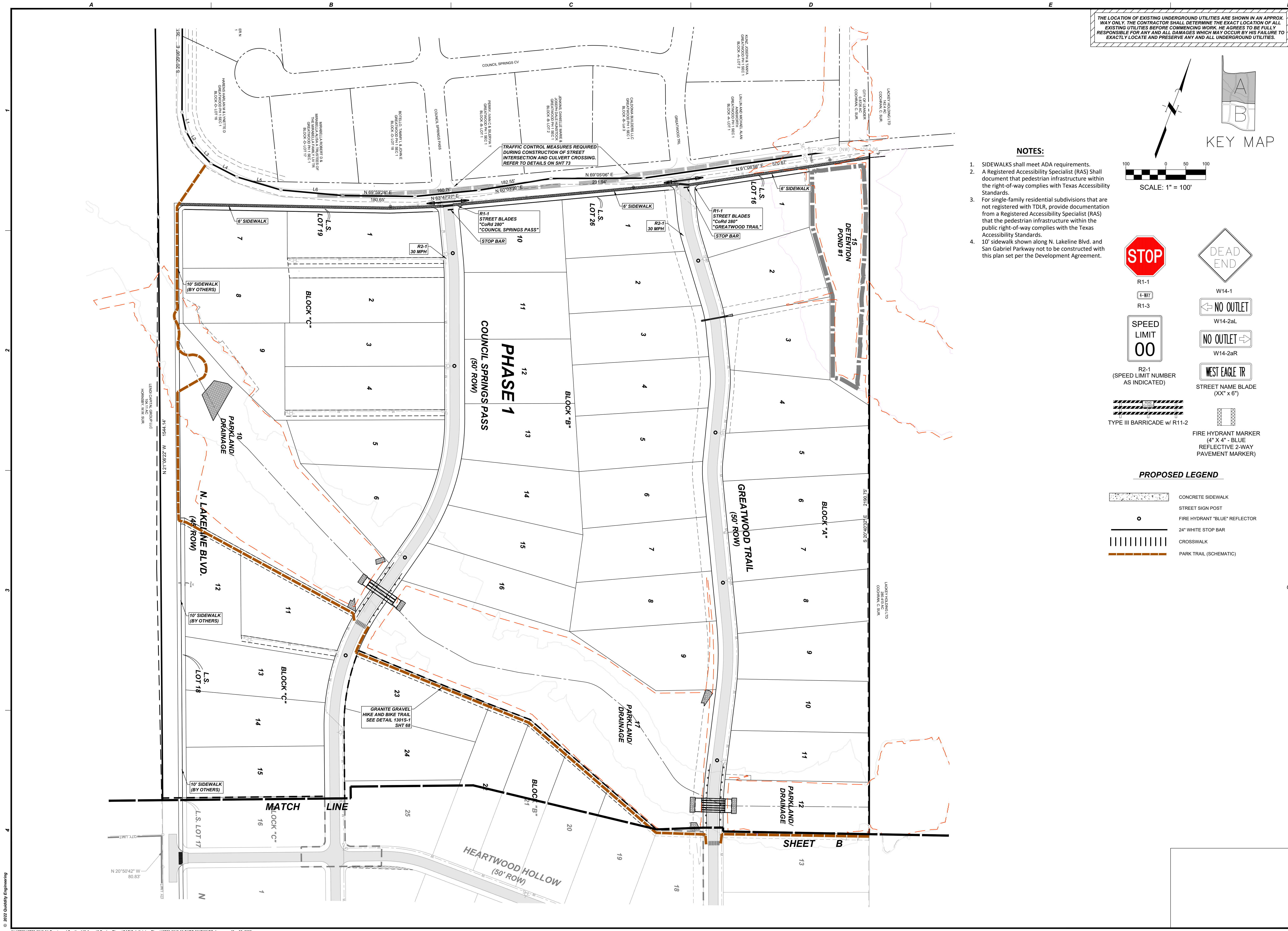
PARK PLAN

SHEET NO.

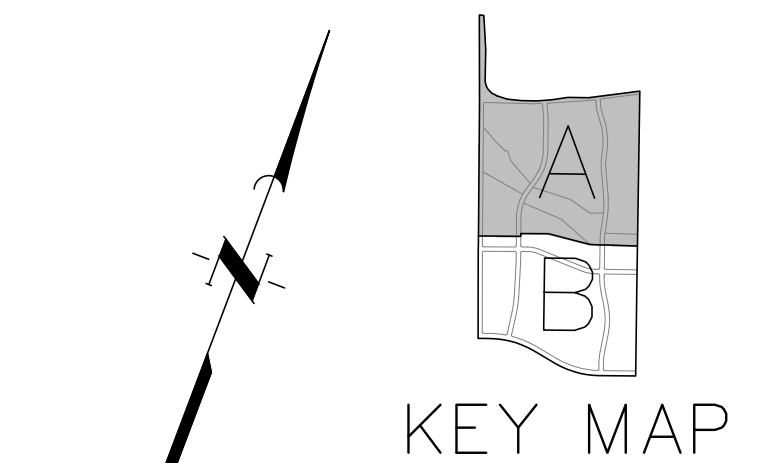
59

OF 79

PICP-23-0054

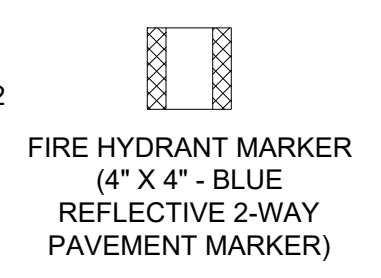
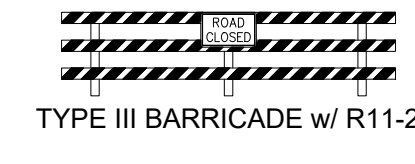
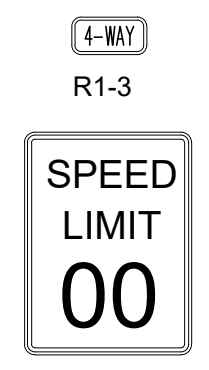


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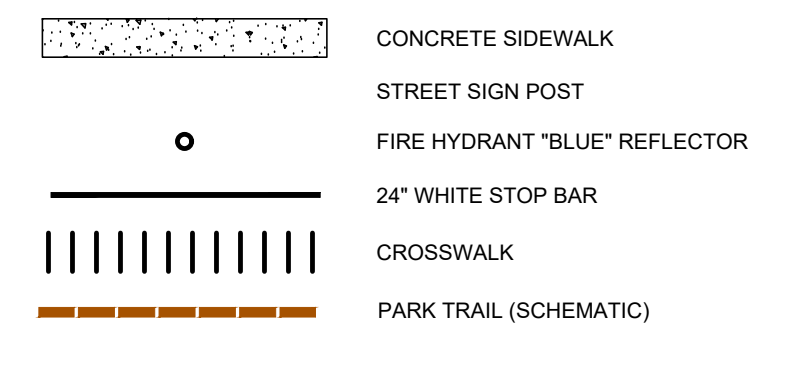


NOTES:

1. SIDEWALKS shall meet ADA requirements.
2. A Registered Accessibility Specialist (RAS) shall document that pedestrian infrastructure within the right-of-way complies with Texas Accessibility Standards.
3. For single-family residential subdivisions that are not registered with TDLR, provide documentation from a Registered Accessibility Specialist (RAS) that the pedestrian infrastructure within the public right-of-way complies with the Texas Accessibility Standards.
4. 10' sidewalk shown along N. Lakeline Blvd. and San Gabriel Parkway not to be constructed with this plan set per the Development Agreement.



PROPOSED LEGEND



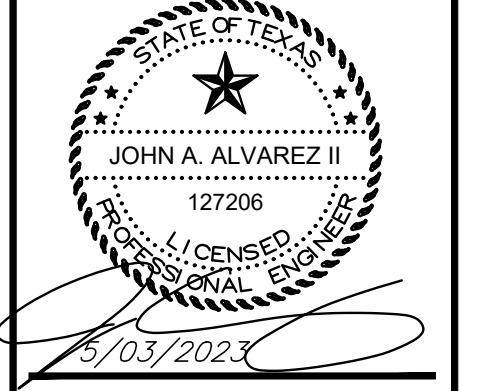
No.	Date	REVISIONS

QUIDDITY
Public Improvement Construction Plans

3100 Avenue of the Americas, Suite 1500 • Austin, TX 78701 • 512.441.1499

SCALE: AS SHOWN
DESIGNED BY: FR
CHECKED BY: JA
DRAWN BY: JDE

SUBMITTAL DATE: 03/15/2023
JOB NO.: 16759-0013-00

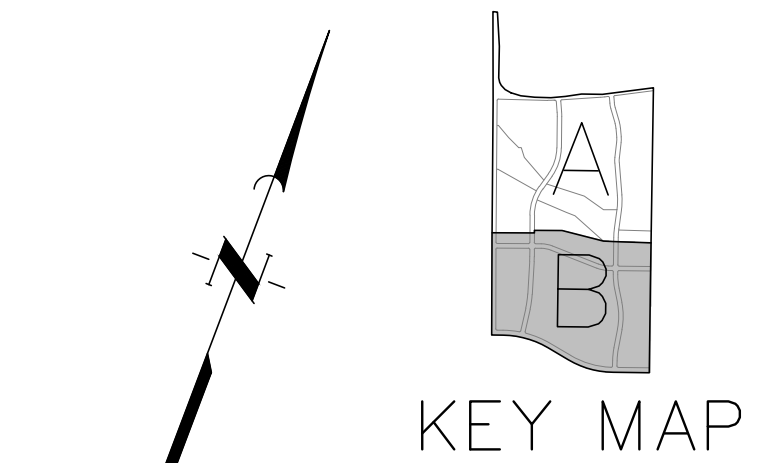


WOODLAND ESTATES SUBDIVISION PHASE 1 & 2
PUBLIC IMPROVEMENT CONSTRUCTION PLANS
SIDEWALK AND MARKINGS
PLAN A

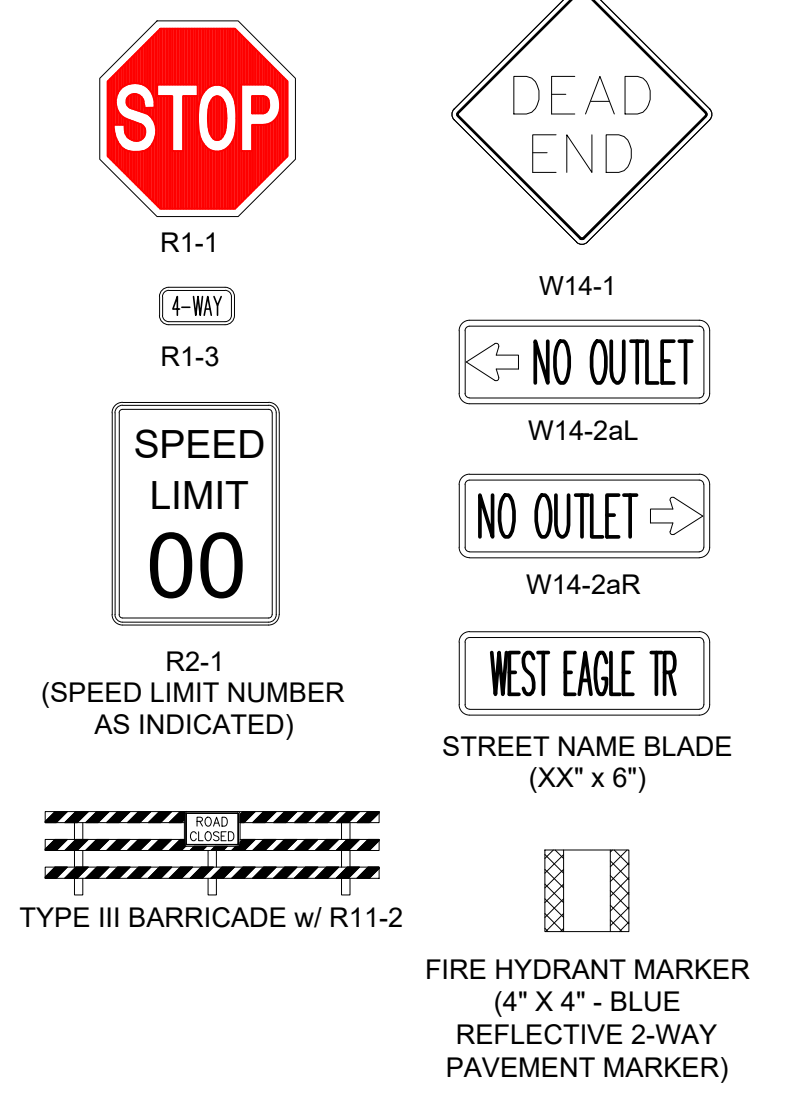
SHEET NO. **60**
OF 79

PICP-23-0054

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE MANNER 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



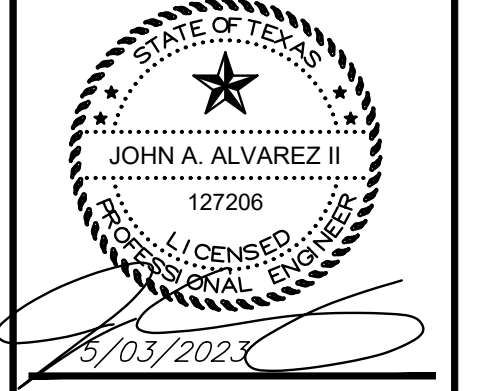
- NOTES:**
- SIDEWALKS shall meet ADA requirements.
 - A Registered Accessibility Specialist (RAS) shall document that pedestrian infrastructure within the right-of-way complies with Texas Accessibility Standards.



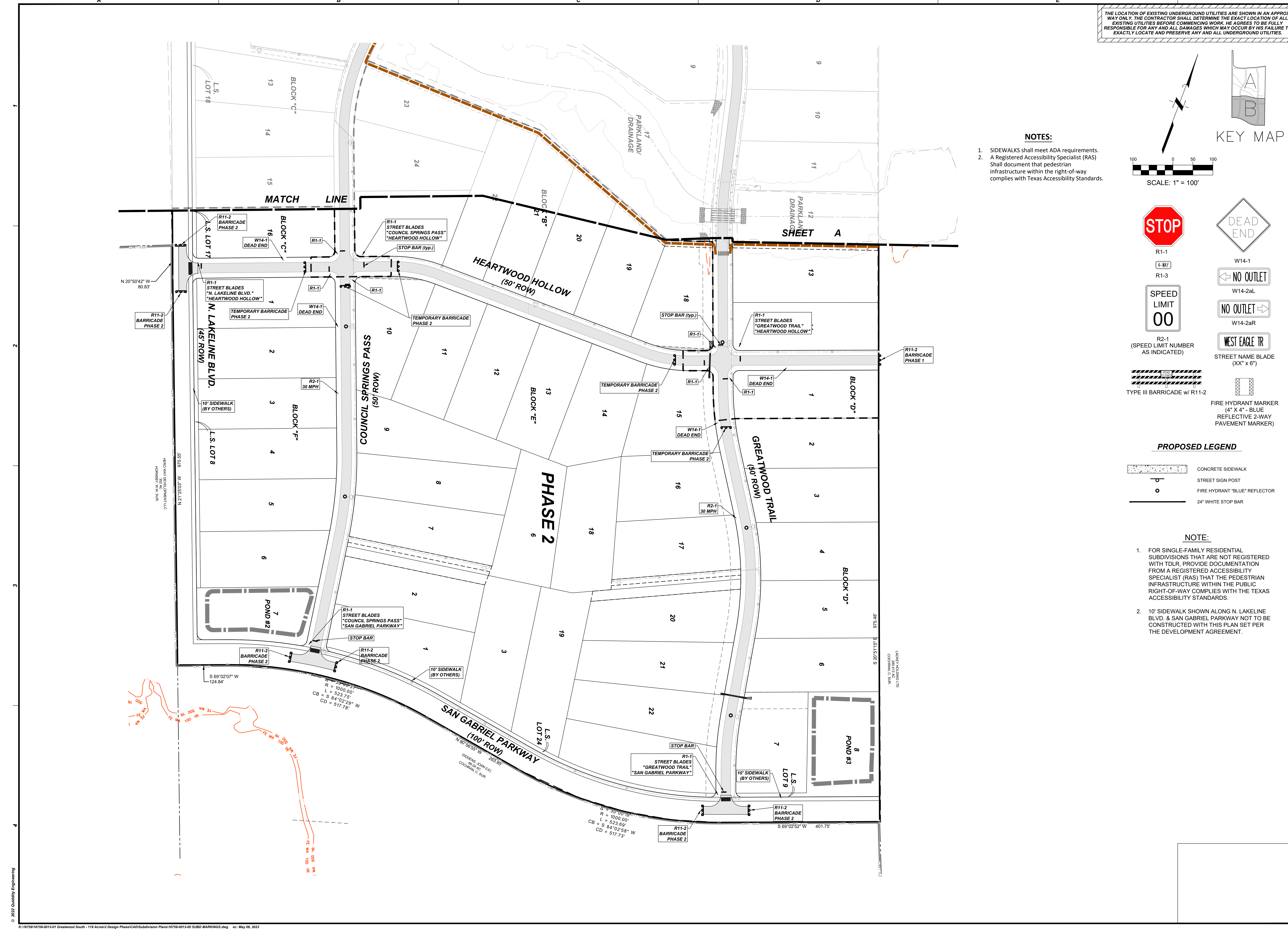
- NOTE:**
- FOR SINGLE-FAMILY RESIDENTIAL SUBDIVISIONS THAT ARE NOT REGISTERED WITH TDLR, PROVIDE DOCUMENTATION FROM A REGISTERED ACCESSIBILITY SPECIALIST (RAS) THAT THE PEDESTRIAN INFRASTRUCTURE WITHIN THE PUBLIC RIGHT-OF-WAY COMPLIES WITH THE TEXAS ACCESSIBILITY STANDARDS.
 - 10' SIDEWALK SHOWN ALONG N. LAKELINE BLVD. & SAN GABRIEL PARKWAY NOT TO BE CONSTRUCTED WITH THIS PLAN SET PER THE DEVELOPMENT AGREEMENT.

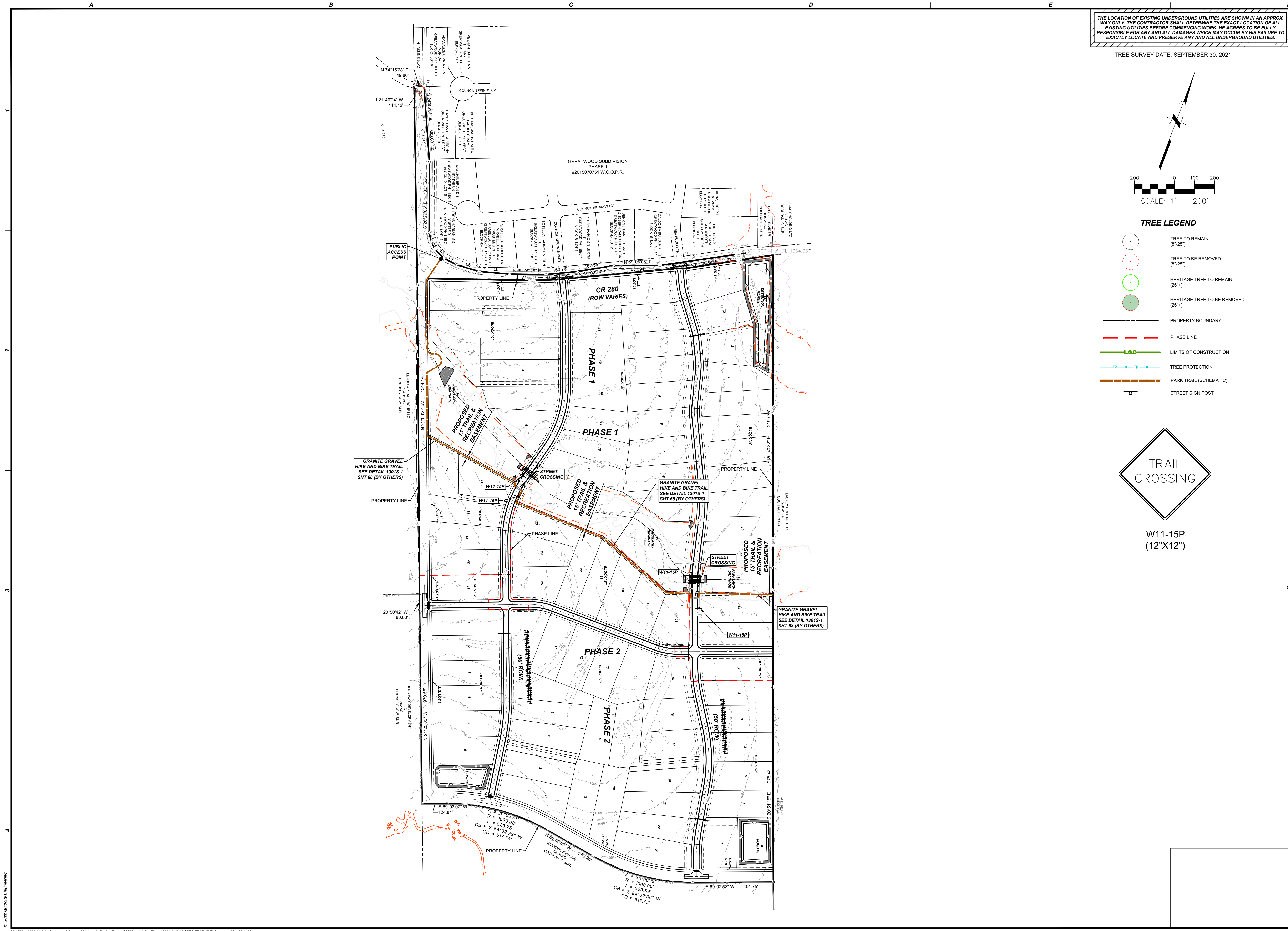
No.	Date	REVISIONS

QUIDDITY
 Public Improvement Construction Plans
 3100 Avenue of the Americas, Suite 1500 • Houston, TX 77024 • P: 281.241.5493
 F: 281.241.5495
 SCALE: AS SHOWN
 DESIGNED BY: FR
 CHECKED BY: JA
 DRAWN BY: JDE
 SUBMITTAL DATE: 03/15/2023
 JOB NO.: 16755-0013-00



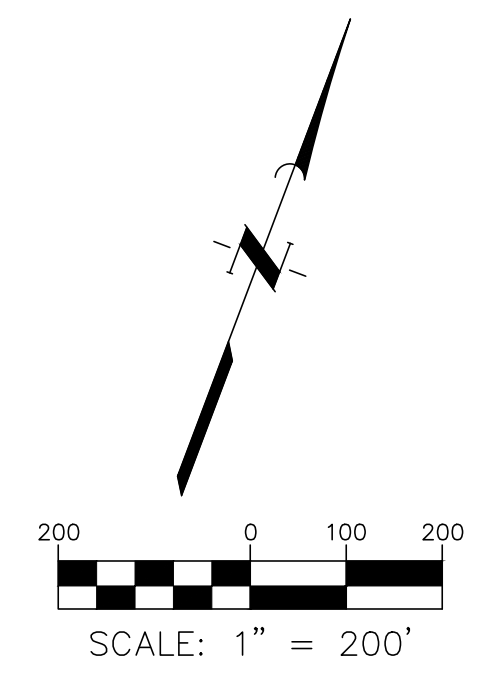
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2
SIDEWALK AND MARKINGS
PLAN B





THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE MANNER. 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

TREE SURVEY DATE: SEPTEMBER 30, 2021



TREE LEGEND

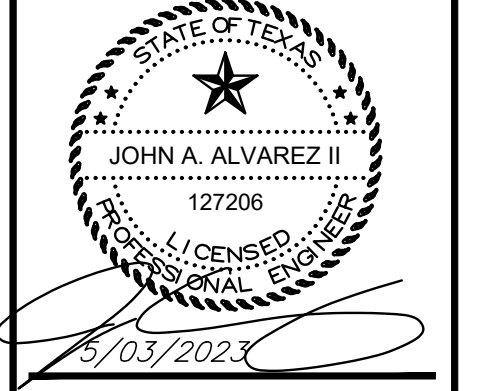
- TREE TO REMAIN (8'-25')
- TREE TO BE REMOVED (8'-25')
- HERITAGE TREE TO REMAIN (26'+)
- HERITAGE TREE TO BE REMOVED (26'+)
- PROPERTY BOUNDARY
- PHASE LINE
- LIMITS OF CONSTRUCTION
- TREE PROTECTION
- PARK TRAIL (SCHEMATIC)
- STREET SIGN POST



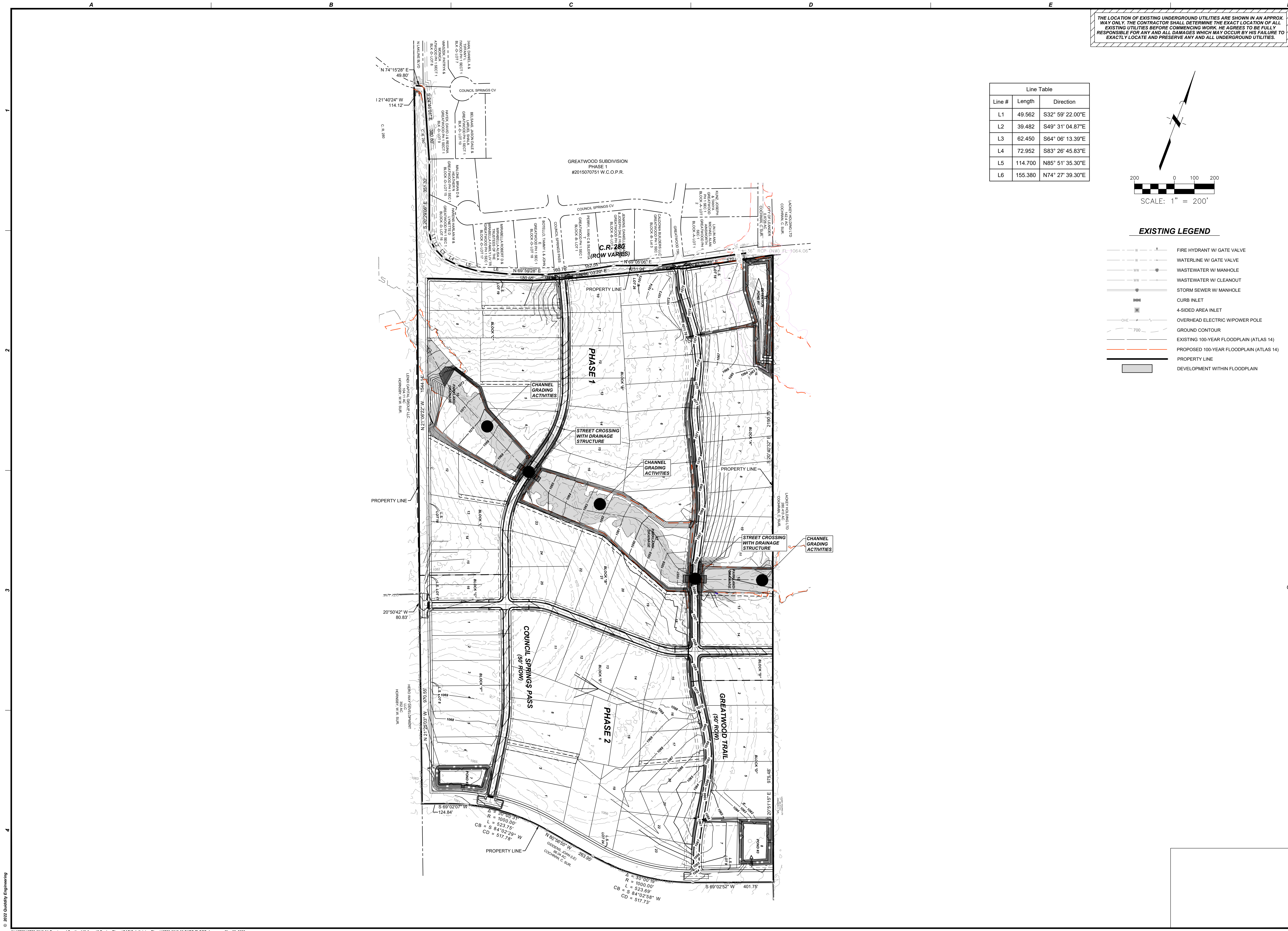
W11-15P
(12"X12")

No.	Date	REVISIONS

QUIDDITY
 Public Improvement Construction Plans
 3100 Alvin Express Boulevard, Suite 150 • Houston, TX 77054 • 281.441.5493
 SCALE: AS SHOWN DESIGNED BY: FR CHECKED BY: JA DRAWN BY: JDE
 SUBMITTAL DATE: 03/15/2023 JOB NO.: 16759-0013-00

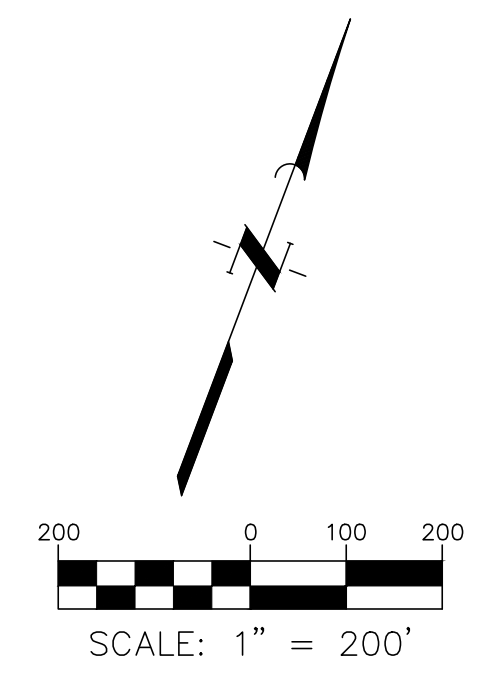


WOODLAND ESTATES SUBDIVISION PHASE 1 & 2
PARKLAND TRAIL IMPROVEMENT PLAN
 SHEET NO. **62**
 OF 79
 Public Improvement Construction Plans



THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROX. 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 MAY OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

Line #	Length	Direction
L1	49.562	S32° 59' 22.00"E
L2	39.482	S49° 31' 04.87"E
L3	62.450	S64° 06' 13.39"E
L4	72.952	S83° 26' 45.83"E
L5	114.700	N85° 51' 35.30"E
L6	155.380	N74° 27' 39.30"E



- EXISTING LEGEND**
- FIRE HYDRANT W/ GATE VALVE
 - WATERLINE W/ GATE VALVE
 - WASTEWATER W/ MANHOLE
 - WASTEWATER W/ CLEANOUT
 - STORM SEWER W/ MANHOLE
 - CURB INLET
 - 4-SIDED AREA INLET
 - OVERHEAD ELECTRIC W/ POWER POLE
 - GROUND CONTOUR
 - EXISTING 100-YEAR FLOODPLAIN (ATLAS 14)
 - PROPOSED 100-YEAR FLOODPLAIN (ATLAS 14)
 - PROPERTY LINE
 - DEVELOPMENT WITHIN FLOODPLAIN

No.	Date	REVISIONS

QUIDDITY
 State of Texas Professional Engineer License No. 62920
 3100 Alvin Express Boulevard, Suite 150 • Alvin, TX 77611 • 409.441.5499

SCALE: AS SHOWN DESIGNED BY: FR CHECKED BY: JA DRAWN BY: JDE
 SUBMITTAL DATE: 03/15/2023 JOB NO.: 16759-0013-00



Public Improvement Construction Plans
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2
FLOODPLAIN DEVELOPMENT
PLAN

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 K:\16759\16759-0013-01 Greatwood South - 119 Acres\2 Design Phase\CAD\Subdivision Plans\16759-0013-00 SUBD FLOOD.dwg ec: May 08, 2023

SPECIAL PROVISION
164-WC-001
SEEDING FOR EROSION CONTROL

For this project, Item 164, "Seeding for Erosion Control," of the Standard Specifications, is hereby voided and replaced in its entirety with the clauses and requirements below.

PART 1 - GENERAL

1.1 DESCRIPTION
Provide and install native grass seedling as shown in the plans or as directed.

1.2 RELATED ITEMS
A. Item 164-WC-001 "Compost"
B. Item 164-WC-001 "Vegetative Watering"
C. Item 164-WC-001 "Topsoil"
D. Item 654 "Aluminum Signs"
E. Item 644 "Small Roadside Sign Supports and Assemblies"

1.3 REFERENCES
A. Federal Seed Act
B. Texas Seed Law

1.4 MEASUREMENT
This item will be measured by the square yard, by the acre, or by the pound.

1.5 PAYMENT
A. The work performed and the materials furnished in accordance with the seeding item and measured as provided under "Measurement" will be paid for at the unit price bid for "Seeding for Erosion Control." This price is full compensation for furnishing materials, including seed, mowing, labor, equipment, maintenance, tools, supplies, and incidentals.
B. When hemic acid or MycoApply Endo are specified on the plans as a pay item, the work performed and the material furnished will be paid for at the unit price bid for "Hemic Acid" or "MycoApply Endo" at the application rates specified. This price is full compensation for furnishing materials, labor, equipment, water, tools, supplies, and incidentals.

1.6 QUALITY CONTROL SUBMITTALS
A. Submit seeding product data, including plant tags and seed certification for native grass seed mix for approval.
B. Submit seed planting equipment, manufacturer and data for approval.
C. Submit product data and sample for sign in accordance with Item 264-1.
D. Submit hemic acid and MycoApply Endo product data and supplier's information for approval.

PART 2 - PRODUCTS

2.1 Native Grass Seed
Provide seed as shown in the plans or as directed, using Tables 1-11 to determine the appropriate seed mix and rates, and meeting the requirements of the Federal Seed Act and Texas Seed Law, including the testing and labeling for pure live seed (PLS- Purty and Germination). Minimum purity shall be 90%. The seed test to be conducted by the State Seed Laboratory, and a seed test report shall be submitted in accordance with 1.6, "Quality Control Submittals." Each type (mix) of seed must be tested by the supplier and labeled on unopened bags or containers, unless otherwise approved by the Owner's representative. Do not blend the seed mixes on site. Use within twelve (12) months from the date of analysis. When Buffalograss is specified, use seed treated with KN03 (potassium nitrate) to overcome dormancy.

164-WC 001-1 02-2012

Parts A and B of the seed mix tables are the primary seed mixes for application. In the event that a species in Part A or B of the mix is not seasonally available, coordinate with the seed supplier to designate substitute species and quantities in the mix using Part C of the tables. Substitutions will only be allowed at the discretion of the County.

Seeds must be stored in a dry, well-ventilated location away from contaminants. Seed storage humidity level should be lower than 70%. Store any unused seed in a water resistant container. If seed will be stored longer than one (1) year, the optimal temperature range would be 40-60°F.

During transit (from storage to seeding), seed should be protected from dramatic temperature fluctuations day after day; temperatures cannot exceed 100°F at any time. Seed must remain dry and protected from sun exposure. The transit period may not exceed one (1) day.

Obtain native grass seed from any three of the approved providers:
1. Native American Seed, Junction TX, 1-800-734-0043
2. Wildseed Farms, Fredericksburg, TX, 1-800-848-0078
3. Douglas W. King Company, San Antonio, TX, 1-488-357-3137

Table 1: Type 1 - Standard Tall Native Grass Seed Mix For Edwards' Plateau and Blackland Prairie Eco-Regions

Species	Common Name	lbs per acre
Cassia (Chamaecrista)	Partridge Pea	5.00
Centaurea americana	American Basketflower	5.00
Cercopis tinctoria	Plains Coreopsis	2.00
Desmanthus illinoensis	Illinois Broomrape	3.75
Engelmannia pinnatifida	Engelmann Daisy	9.00
Erigeron phillyria	Indian Blanket	7.50
Helianthus maximiliani	Maximilian Sunflower	2.00
Ipomopsis rubra	Standing Cypress	3.00
Monarda citriodora	Lemon Mint	1.50
Oenothera speciosa	Pink Evening Primrose	0.25
Rudbeckia hirta	Black-eyed Susan	0.50
Thalassiparus filiformis	Greenhead	2.00
		41.75

164-WC 001-2 02-2012

Table 2: Type 2 - Standard Tall Native Grass Seed Mix For Post Oak Savannah Eco-Region

Species	Common Name	lbs per acre
Bouteloua curtipendula	Sideoats Grass	14.00
Bouteloua gracilis	Blue Grass	15.00
Buchloe dactyloides	Buffalograss	6.00
Elymus canadensis	Canada Wildrye	10.00
Lepochloa alba	Green Springtop	4.00
Panicum virgatum	Switchgrass (Upland variety)	2.00
Schizanthus scoparium	Little Bluestem	4.00
Sorghastrum nutans	Indian Grass	3.00
		58.00

Part C: Replacement Species and/or Species added for Increased Diversity

Species	Common Name	lbs per acre
Andropogon gerardii	Big Bluestem	4.00
Argemone albiflora	White Prickly Poppy	2.00
Brodiaea inopurpurea	Silver Bluestem	1.00
Bouteloua rigidistria	Texas Green Grass	2.70
Callitriche inopurpurea	Amma Winceop	1.00
Castilleja indivisa	Indian Paintbrush	0.15
Dalea candida (Pteromalus candida)	White Prairie Clover	1.00
Erigeron phillyria	Indian Blanket	7.50
Erigeron phillyria	Indian Blanket	7.50
Oenothera missouriensis	Missouri Primrose	0.50
Oenothera speciosa	Pink Evening Primrose	0.25
Salvia sericea	Mealy Blue Sage	1.50
Simula calva	Bush Sunflower	1.25
Tridax flavus	Purpletop Grass	2.25
"Midway Mix" (Native American Seed)	Grasses 1'-2' tall	2.50

Source: Lady Bird Johnson Wildflower Center, 2010

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Table 3: Type 3 - Riparian Native Grass Seed Mix For Edwards' Plateau, Blackland Prairie and Post Oak Savannah Eco-Regions

Species	Common Name	lbs per acre
Bouteloua curtipendula	Sideoats Grass	14.00
Bouteloua gracilis	Blue Grass	15.00
Buchloe dactyloides	Buffalograss	6.00
Elymus canadensis	Canada Wildrye	10.00
Lepochloa alba	Green Springtop	4.00
Panicum virgatum	Switchgrass (Upland variety)	2.00
Schizanthus scoparium	Little Bluestem	4.00
Sorghastrum nutans	Indian Grass	3.00
		58.00

Part C: Replacement Species and/or Species added for Increased Diversity

Species	Common Name	lbs per acre
Andropogon gerardii	Big Bluestem	4.00
Andropogon glaucus	Rufty Bluestem Grass	1.00
Andropogon scoparius	Indigo Grass	1.50
Chamaecrista nictitans	Obnoxious Plant	0.50
Phytolacca americana (S. canadensis)	Tall Goldenrod	0.75
Salvia sericea	Mealy Blue Sage	1.50
Simula calva	Bush Sunflower	1.25
Tridax flavus	Purpletop Grass	2.25
"Midway Mix" (Native American Seed)	Grasses 1'-2' tall	2.50

Source: Lady Bird Johnson Wildflower Center, 2010

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Table 4: Type 4 - Cool Season Native Grass Seed Mix For Edwards' Plateau, Blackland Prairie and Post Oak Savannah Eco-Regions

Species	Common Name	lbs per acre
Bouteloua curtipendula	Sideoats Grass	14.00
Bouteloua gracilis	Blue Grass	15.00
Buchloe dactyloides	Buffalograss	6.00
Elymus canadensis	Canada Wildrye	10.00
Lepochloa alba	Green Springtop	4.00
Panicum virgatum	Switchgrass (Upland variety)	2.00
Schizanthus scoparium	Little Bluestem	4.00
Sorghastrum nutans	Indian Grass	3.00
		58.00

Part C: Replacement Species and/or Species added for Increased Diversity

Species	Common Name	lbs per acre
Andropogon gerardii	Big Bluestem	4.00
Andropogon glaucus	Rufty Bluestem Grass	1.00
Andropogon scoparius	Indigo Grass	1.50
Chamaecrista nictitans	Obnoxious Plant	0.50
Phytolacca americana (S. canadensis)	Tall Goldenrod	0.75
Salvia sericea	Mealy Blue Sage	1.50
Simula calva	Bush Sunflower	1.25
Tridax flavus	Purpletop Grass	2.25
"Midway Mix" (Native American Seed)	Grasses 1'-2' tall	2.50

Source: Lady Bird Johnson Wildflower Center, 2010

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Table 5: Type 5 - Spring Native Grass Seed Mix For Edwards' Plateau and Blackland Prairie Eco-Regions

Species	Common Name	lbs per acre
Bouteloua curtipendula	Sideoats Grass	14.00
Bouteloua gracilis	Blue Grass	15.00
Buchloe dactyloides	Buffalograss	6.00
Elymus canadensis	Canada Wildrye	10.00
Lepochloa alba	Green Springtop	4.00
Panicum virgatum	Switchgrass (Upland variety)	2.00
Schizanthus scoparium	Little Bluestem (native)	4.00
Sorghastrum nutans	Indian Grass	3.00
		58.00

Source: Lady Bird Johnson Wildflower Center, 2009

Table 6: Type 6 - Spring Native Grass Seed Mix For Post Oak Savannah Eco-Region

Species	Common Name	lbs per acre
Bouteloua curtipendula	Sideoats Grass	14.00
Bouteloua gracilis	Blue Grass	15.00
Buchloe dactyloides	Buffalograss	6.00
Elymus canadensis	Canada Wildrye	10.00
Lepochloa alba	Green Springtop	4.00
Panicum virgatum	Switchgrass (Upland variety)	2.00
Schizanthus scoparium	Little Bluestem (native)	4.00
Sorghastrum nutans	Indian Grass	3.00
		58.00

Source: Lady Bird Johnson Wildflower Center, 2009

Table 7: Type 7 - Standard Short Native Grass Seed Mix For Edwards' Plateau and Blackland Prairie Eco-Regions

Species	Common Name	lbs per acre
Cassia (Chamaecrista)	Partridge Pea	5.00
Centaurea americana	American Basketflower	5.00
Cercopis tinctoria	Plains Coreopsis	2.00
Desmanthus illinoensis	Illinois Broomrape	3.75
Engelmannia pinnatifida	Engelmann Daisy	9.00
Erigeron phillyria	Indian Blanket	7.50
Helianthus maximiliani	Maximilian Sunflower	2.00
Ipomopsis rubra	Standing Cypress	3.00
Monarda citriodora	Lemon Mint	1.50
Oenothera speciosa	Pink Evening Primrose	0.25
Rudbeckia hirta	Black-eyed Susan	0.50
Thalassiparus filiformis	Greenhead	1.50
		38.00

Part C: Replacement Species and/or Species added for Increased Diversity

Species	Common Name	lbs per acre
Bouteloua curtipendula	Sideoats Grass	21.00
Bouteloua gracilis	Blue Grass	15.00
Buchloe dactyloides	Buffalograss	50.00
Elymus canadensis	Prairie Wildrye	10.00
Erigeron phillyria	Seed Lovage	116.5

Source: Lady Bird Johnson Wildflower Center, 2010

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Table 8: Type 8 - Standard Short Native Grass Seed Mix For Post Oak Savannah Eco-Region

Species	Common Name	lbs per acre
Cassia (Chamaecrista)	Partridge Pea	5.00
Centaurea americana	American Basketflower	5.00
Cercopis tinctoria	Plains Coreopsis	2.00
Desmanthus illinoensis	Illinois Broomrape	3.75
Engelmannia pinnatifida	Engelmann Daisy	9.00
Erigeron phillyria	Indian Blanket	7.50
Helianthus maximiliani	Maximilian Sunflower	2.00
Ipomopsis rubra	Standing Cypress	3.00
Monarda citriodora	Lemon Mint	1.50
Oenothera speciosa	Pink Evening Primrose	0.25
Rudbeckia hirta	Black-eyed Susan	0.50
Thalassiparus filiformis	Greenhead	2.00
		39.50

Part B: Grasses

Species	Common Name	lbs per acre
Bouteloua curtipendula	Sideoats Grass	14.00
Bouteloua gracilis	Blue Grass	15.00
Buchloe dactyloides	Buffalograss	6.00
Elymus canadensis	Canada Wildrye	10.00
Schizanthus scoparium	Little Bluestem (Native)	4.00
		53.00

Part C: Replacement Species and/or Species added for Increased Diversity

Species	Common Name	lbs per acre
Argemone albiflora	White Prickly Poppy	2.50
Bouteloua rigidistria	Texas Green Grass	2.75
Callitriche inopurpurea	Amma Winceop	1.00
Castilleja indivisa	Indian Paintbrush	0.15
Erigeron phillyria	Indian Blanket	7.50
Erigeron phillyria	Indian Blanket	7.50
Oenothera missouriensis	Missouri Primrose	0.50
Oenothera speciosa	Pink Evening Primrose	0.25
Salvia sericea	Mealy Blue Sage	1.50
Simula calva	Bush Sunflower	1.25
"Midway Mix" (Native American Seed)	Grasses 1'-2' tall	2.50

Source: Lady Bird Johnson Wildflower Center, 2010

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Table 9: Type 9 - Bare Patch Repair Mix For Edwards' Plateau, Blackland Prairie and Post Oak Savannah Eco-Regions

Species	Common Name	lbs per acre
Bouteloua curtipendula	Sideoats Grass	25.00
Bouteloua gracilis	Blue Grass	10.00
Lepochloa alba	Green Springtop	10.00
		45.00

Source: Lady Bird Johnson Wildflower Center, 2009

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3.2 CONSTRUCTION

- Remove all invasive species.
 - Invasive weeds, either living plants or weed seed, shall be minimized at the site using appropriate herbicide application and/or weed-free soil amendments. Mow, herbicide, or apply herbicides as needed to control unwanted vegetation as directed.
 - Soil should not be tilled until compacted soil. Shovel or break the surface of the soil with a flexible tire one (1) to two (2) inches deep in the area to be seeded.
 - Apply specified compost and/or topsoil to the seeding surface (Refer to plans for required depth).
 - Hemic Acid concentrate shall be mixed with clean, fresh water prior to application. Apply hemic acid and water mixture to all areas to receive any type of native grass seeding at the rate of one (1) gallon of hemic acid concentrate per acre (or 16 Teaspoons per square yard).
 - MycoApply Endo shall be mixed with de-chlorinated, clean, fresh water prior to application. The water MUST be de-chlorinated, or the flag in the MycoApply Endo will die. Apply MycoApply Endo mixture to all areas to receive any type of native grass seeding at the rate of 10 lbs. per acre (or 0.0136 ounces per square yard).
 - The hemic acid and the MycoApply Endo can be mixed together with de-chlorinated water and applied to areas to receive any native grass seeding at the same time. The water MUST be de-chlorinated or the flag in the MycoApply Endo will die.
 - Seed area in accordance with the plans or as directed, with regard to installation specification below.
- Installation
Apply the entire specified amount of seed to the area to be seeded. Application rates should be set to allow at least two complete passes over seeding area or the area is completely and evenly covered. Lightly rake compost and/or topsoil to ensure good seed contact. Seeds should not be buried a depth over 1".
- Broadcast Seeding
All areas shown to be seeded in the plans must be broadcast unless otherwise directed by the Engineer. Broadcast seed using hand or mechanical distribution in a uniform manner. Coordinate the application rate setting with the Owner's Representative prior to application. Apply seed on the surface of compost or topsoil. The method should be roll-pull, or rolled, before and after seeding to ensure seed contact with the soil. Roll the seeding area along slope contours. Wind speed should be between 15 mph or less during seeding. Up to one-third of the seed may remain on top of the soil surface.
- No-Till Drill Seeding
No-till drill seeding should only be used when directed by the Engineer. Use a no-till drill to reduce the risk of erosion and loss of seed. Ensure the drill opening size is adequate to allow free movement of full range of seed sizes being planted. Coordinate the application rate setting with the Owner's Representative prior to application. Plant seed parallel to the contour of the slope.
- Pre-mixing Seed with Compost (CMT and ECC)
Apply uniform dry mixture of seed and compost pneumatically only as directed by the Engineer in areas shown in the plans to a depth not to exceed two (2) inches. Pre-mixing the seed with compost will aid in a uniform application of seed.
- Seeding Schedule
1. The preferred time to seed is from September 21 to November 7 to take advantage of winter rains.
2. Native Grass Seeding Schedule:

Table 10: Type 1, 2, 3, 4 and 5 Seeding Schedule

Seeding Dates	Seeding Schedule		
	Winter Seeding	Spring Seeding	Summer Seeding
Nov. 8 - Feb. 14	Nov. 15 - June 15	June 16 - Sept. 30	
Grass Type	Type 1 Type 2 Type 3 Type 4 Type 5	Type 5 or 6	NO SEEDING
Supplemental Grass	Standard Native Grass Mix	Spring Mix	Apply Erosion Control Compost (ECC)
	PLUS	PLUS (Only if Directed)	PLUS
	Table 4	Apply the Table 1-5 Type 2-5 Wildflower Seed Mix in the next Fall Seeding Time Period	Apply the Table 1-5 Standard Native Grass Mix in the Fall Seeding Time Period

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D. Vegetative Watering
Provide vegetative watering to seeded areas above on the plan immediately after seed installation for healthy vegetative establishment, in accordance with Item 168-WC-001, "Vegetative Watering" or as directed.

E. No Mow Signs
At final acceptance, post signs at locations indicated on the plans or as directed to prevent mowing of established native grass areas.

3.3 MAINTENANCE

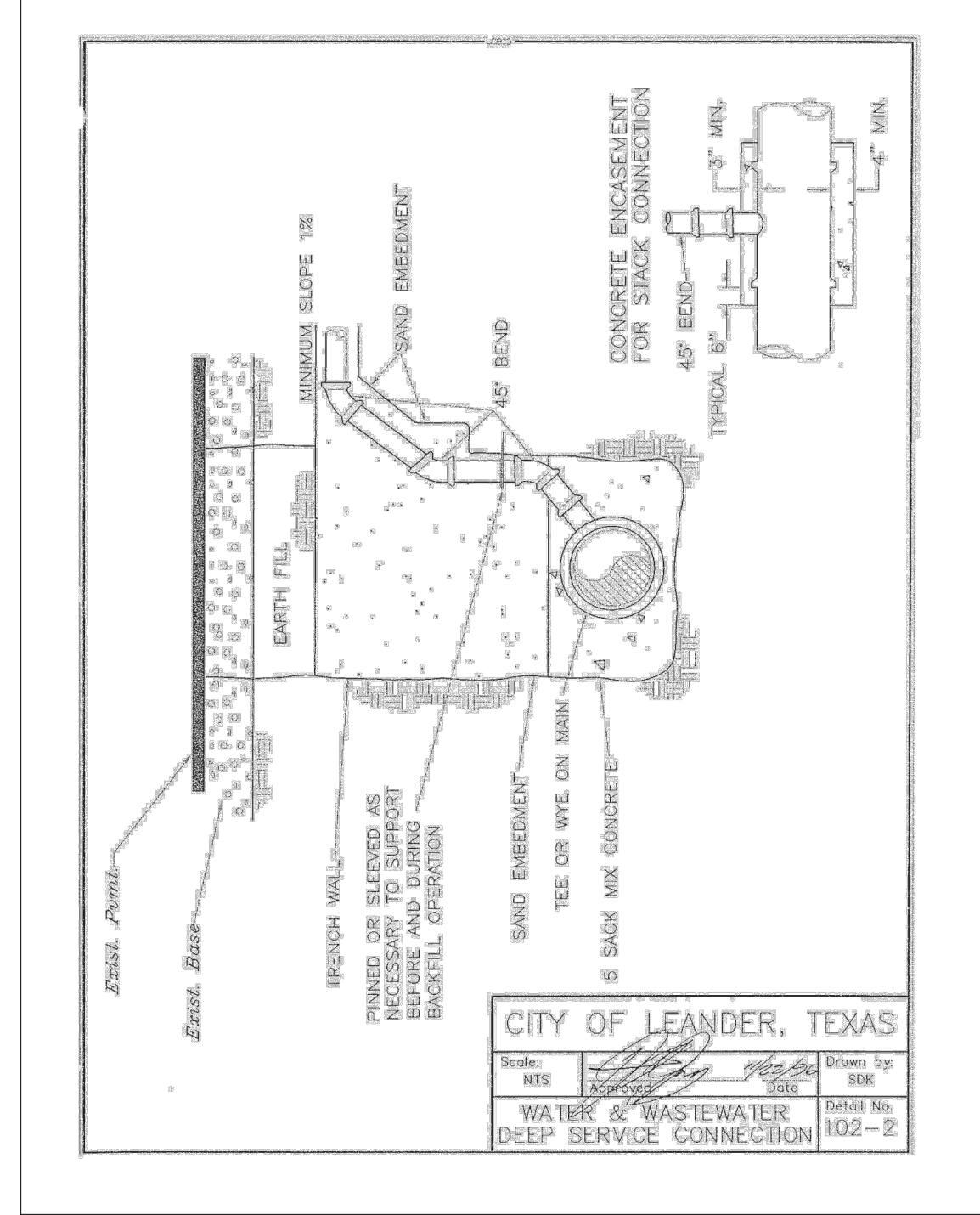
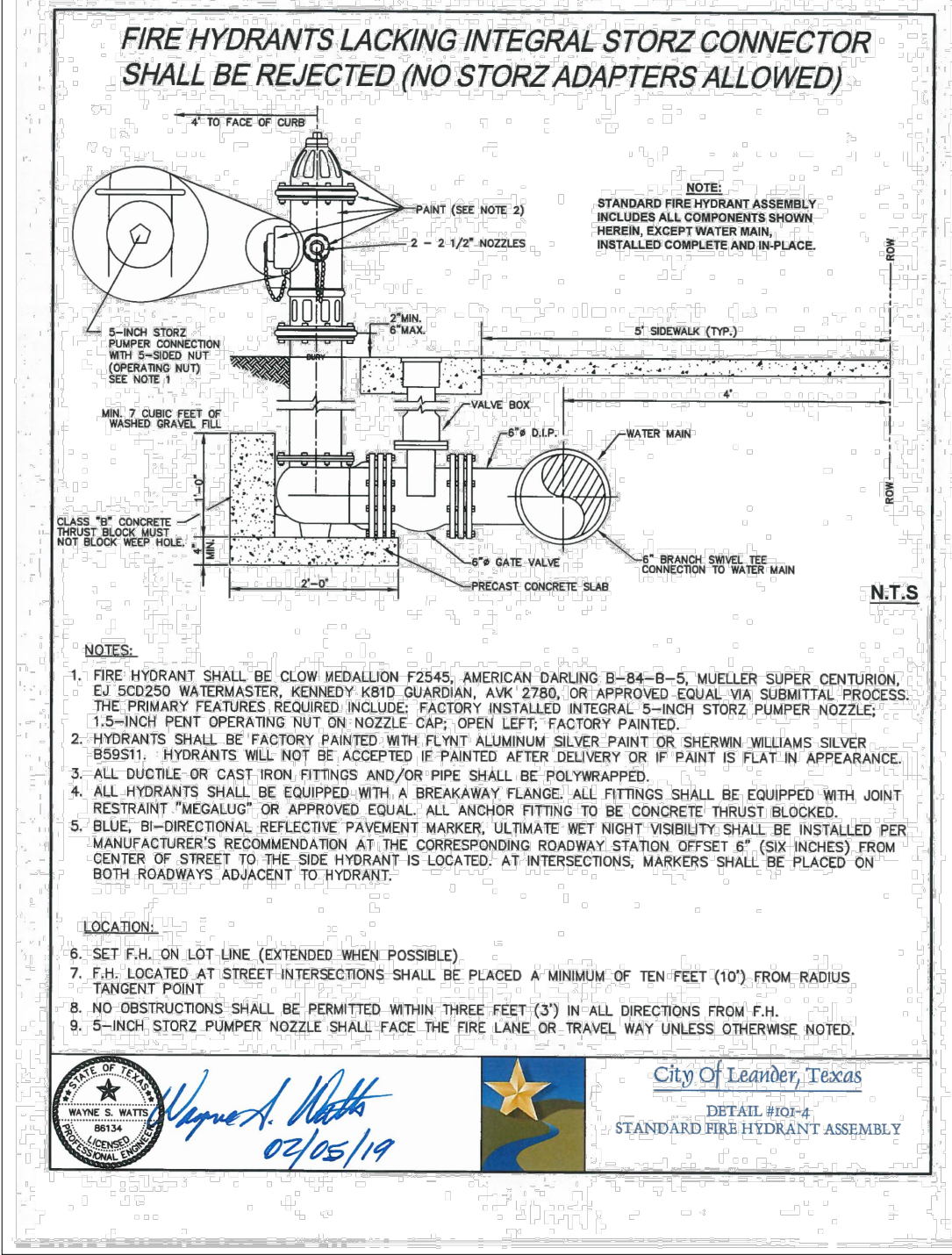
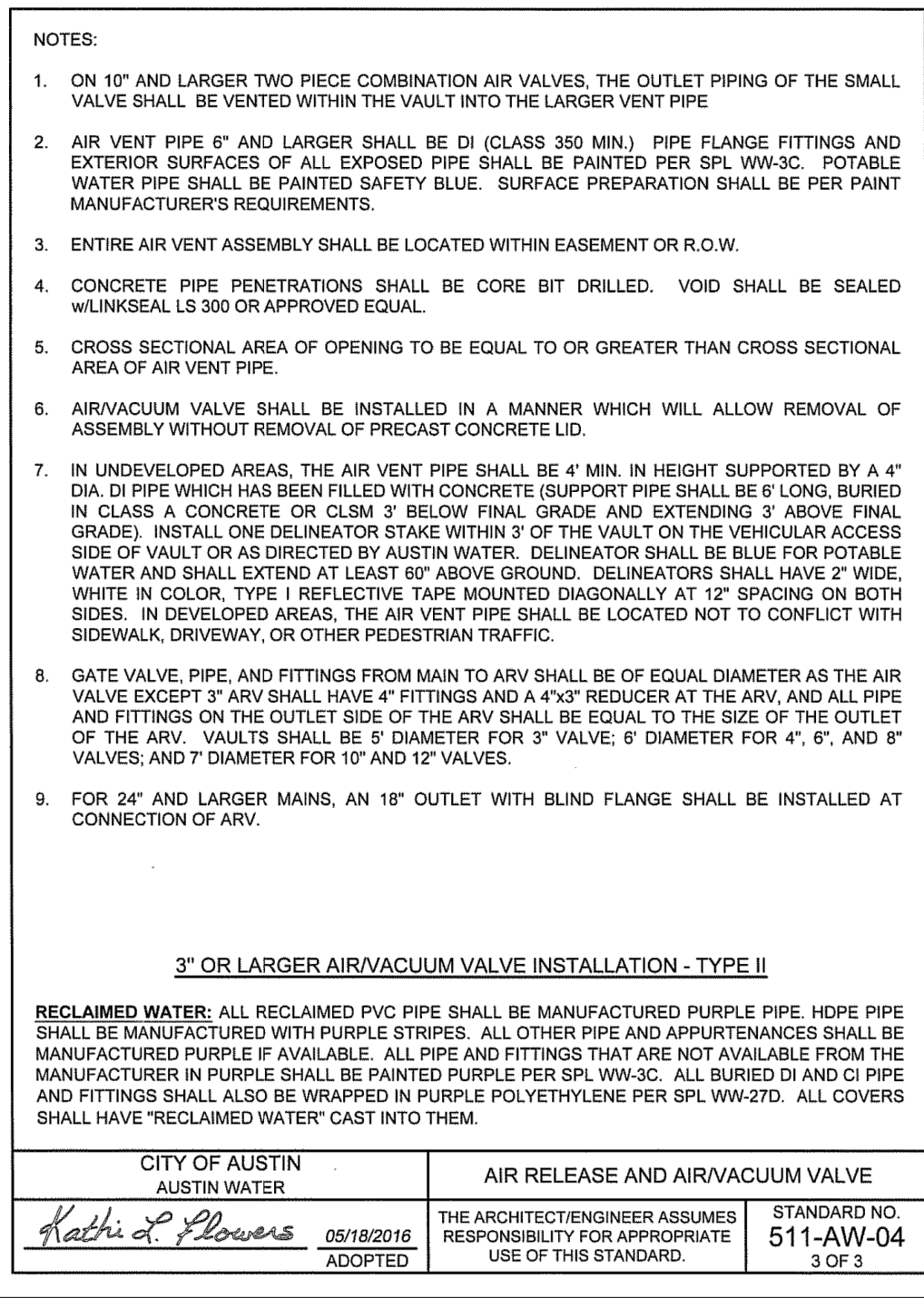
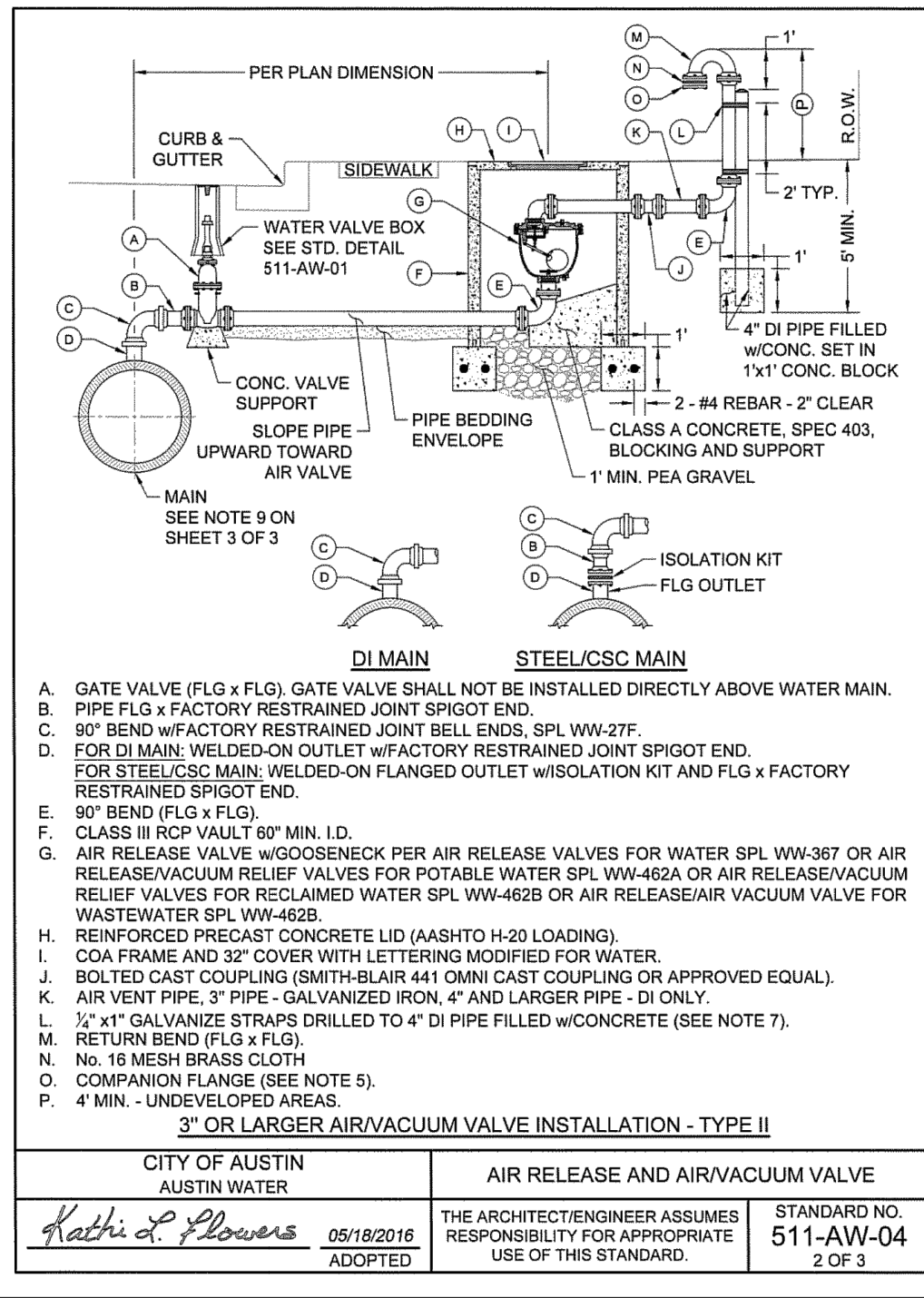
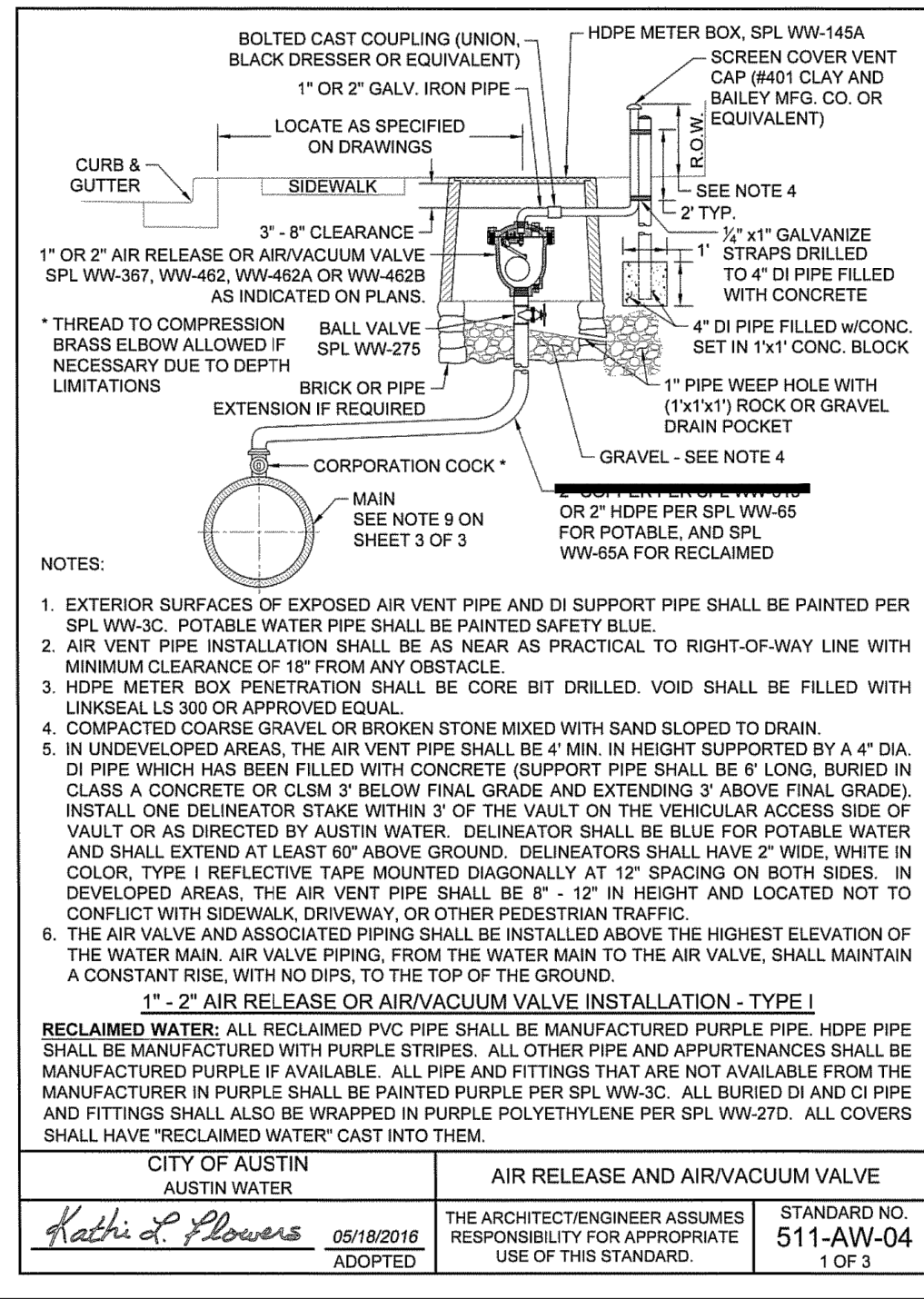
- Requirements
1. Maintain the native grass areas during and after construction until the certificate of completion is issued.
2. Maintain the erosion control (ECC) of the seeding time table in the summer period. Seed the specified grass mix when the fall seeding period begins.
3. Maintain native grass areas to establish vigorous growth and plant establishment of native grass mix. Establish an overall vegetative cover of 70-80% minimum with no single bare area larger than 100 SF. Areas should have at least 30% of species diversity and be four (4) to six (6) inches in height.
4. Watering of the native grass seed shall be in accordance with Item 168-WC-001, "Vegetative Watering".
5. Potted signs should be repaired or replaced immediately if found to be damaged or missing.
- Schedule
1. Inspect the grass areas weekly and within 24 hours after each rain event of one half inch (1/2") or more. Restore eroded areas to finished grade and reseed.
2. Re-seed areas that have not established if grass cover is less than 80% of coverage (TCEQ, 2006).
3. Inspect seeded areas every two weeks during establishment phase to check for invasive species, refer to Invasive Species Control.

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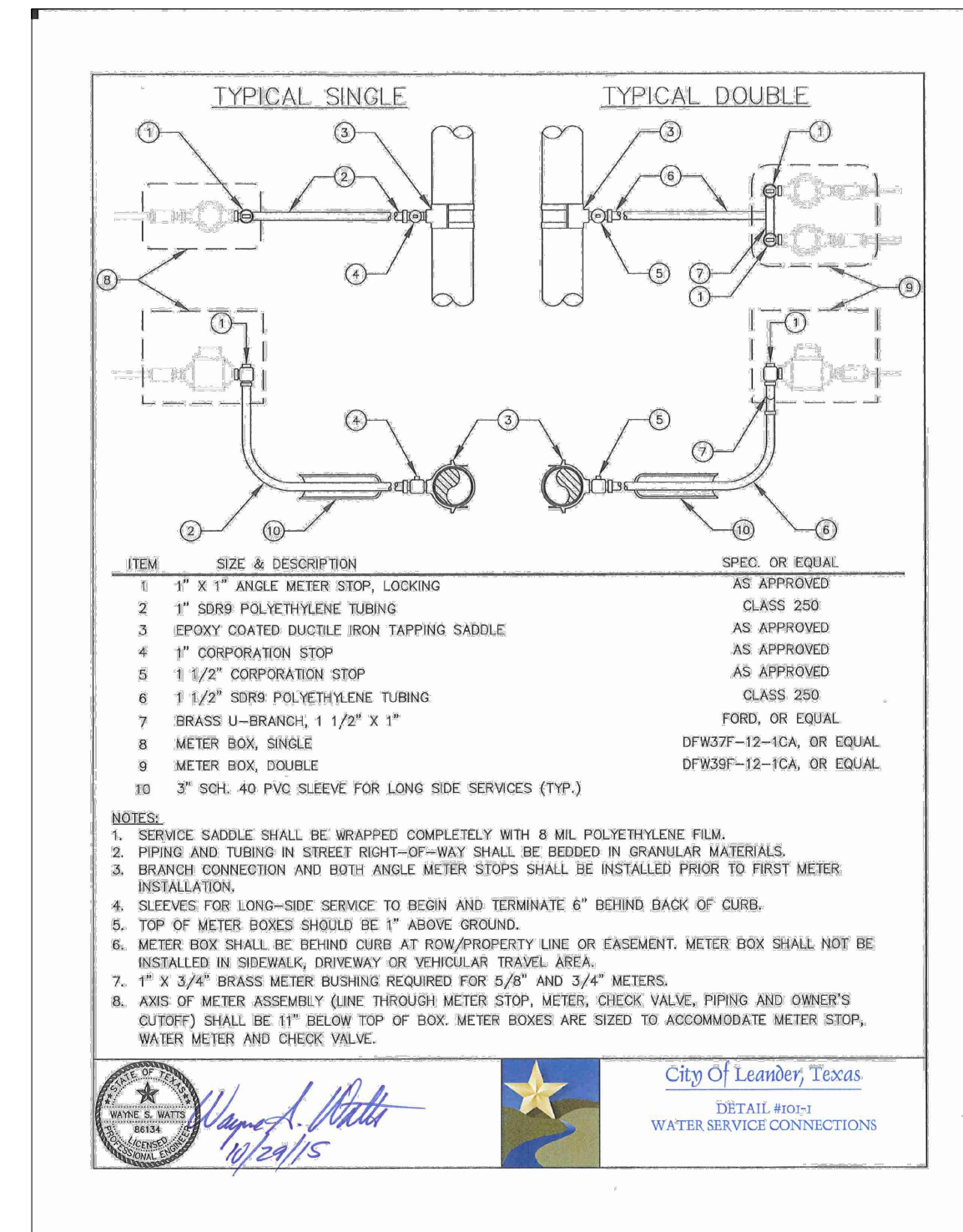
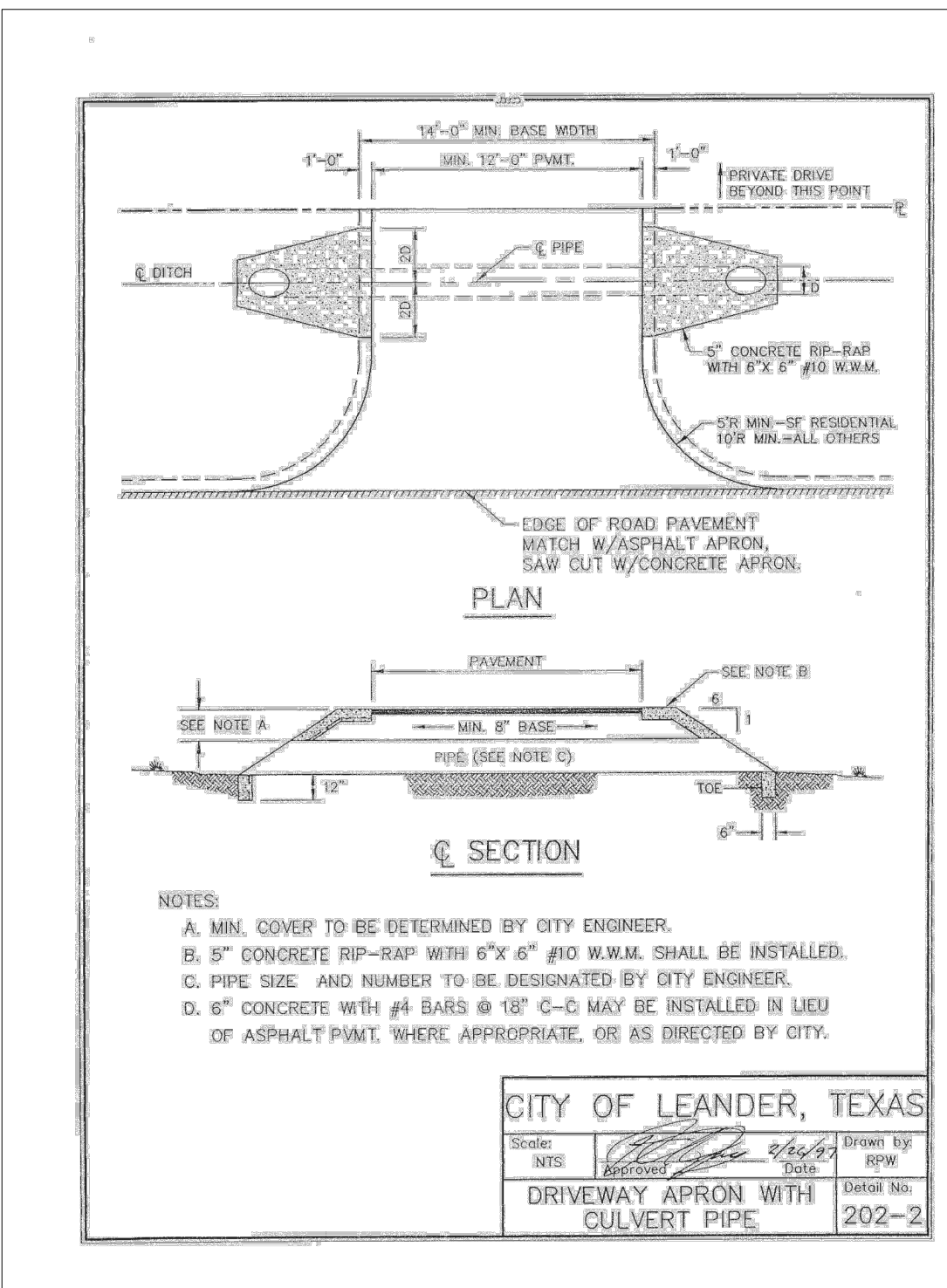
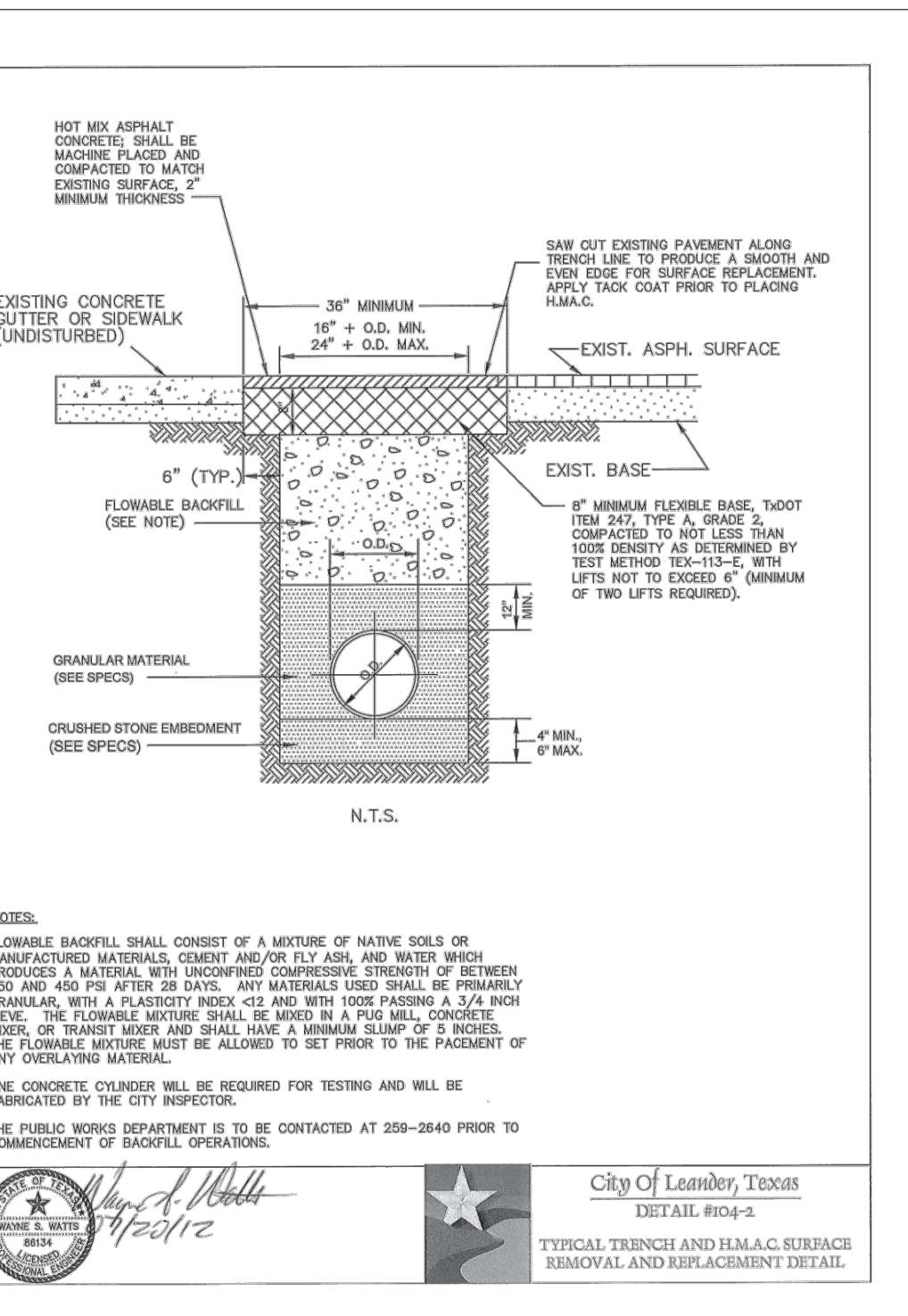
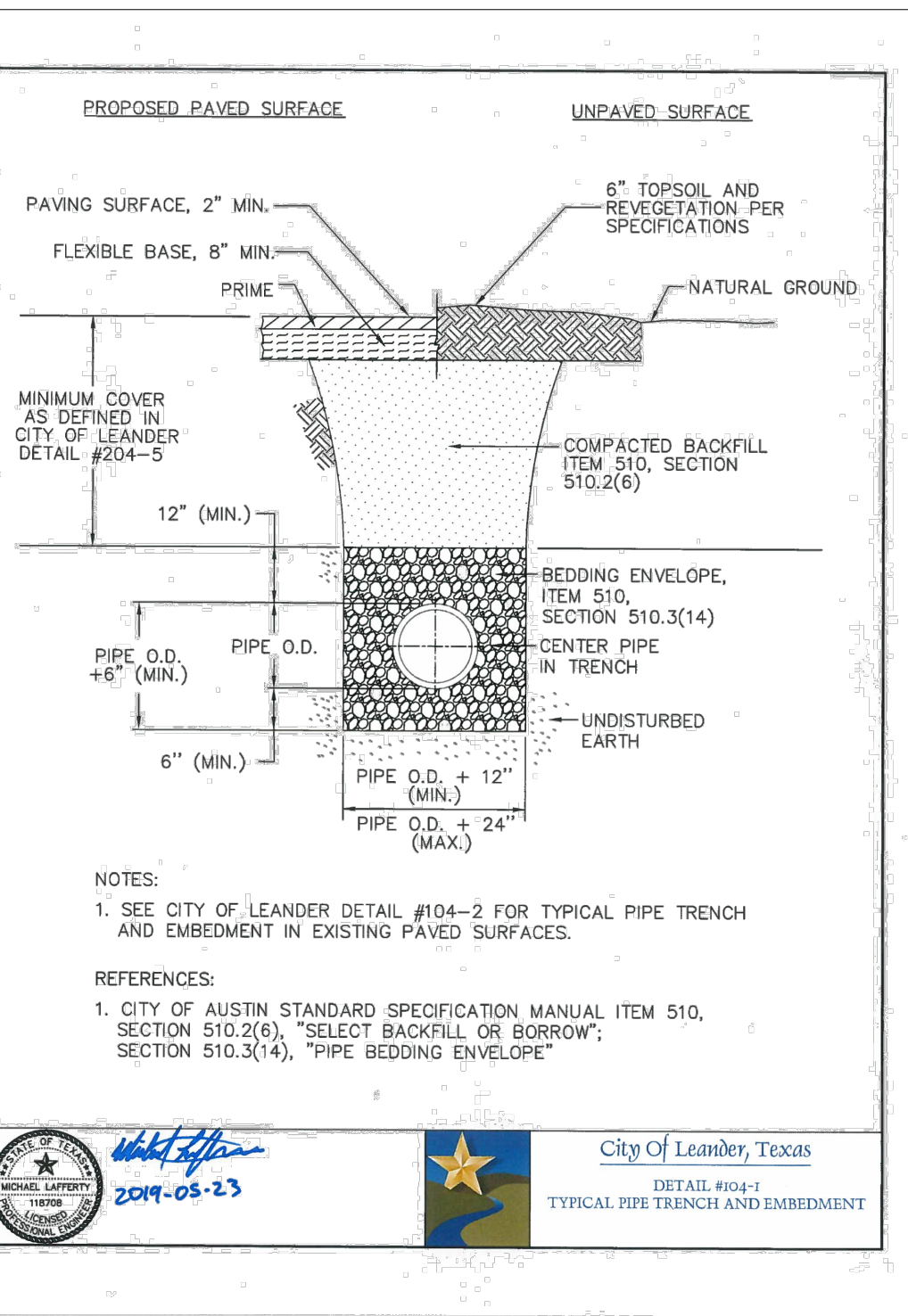
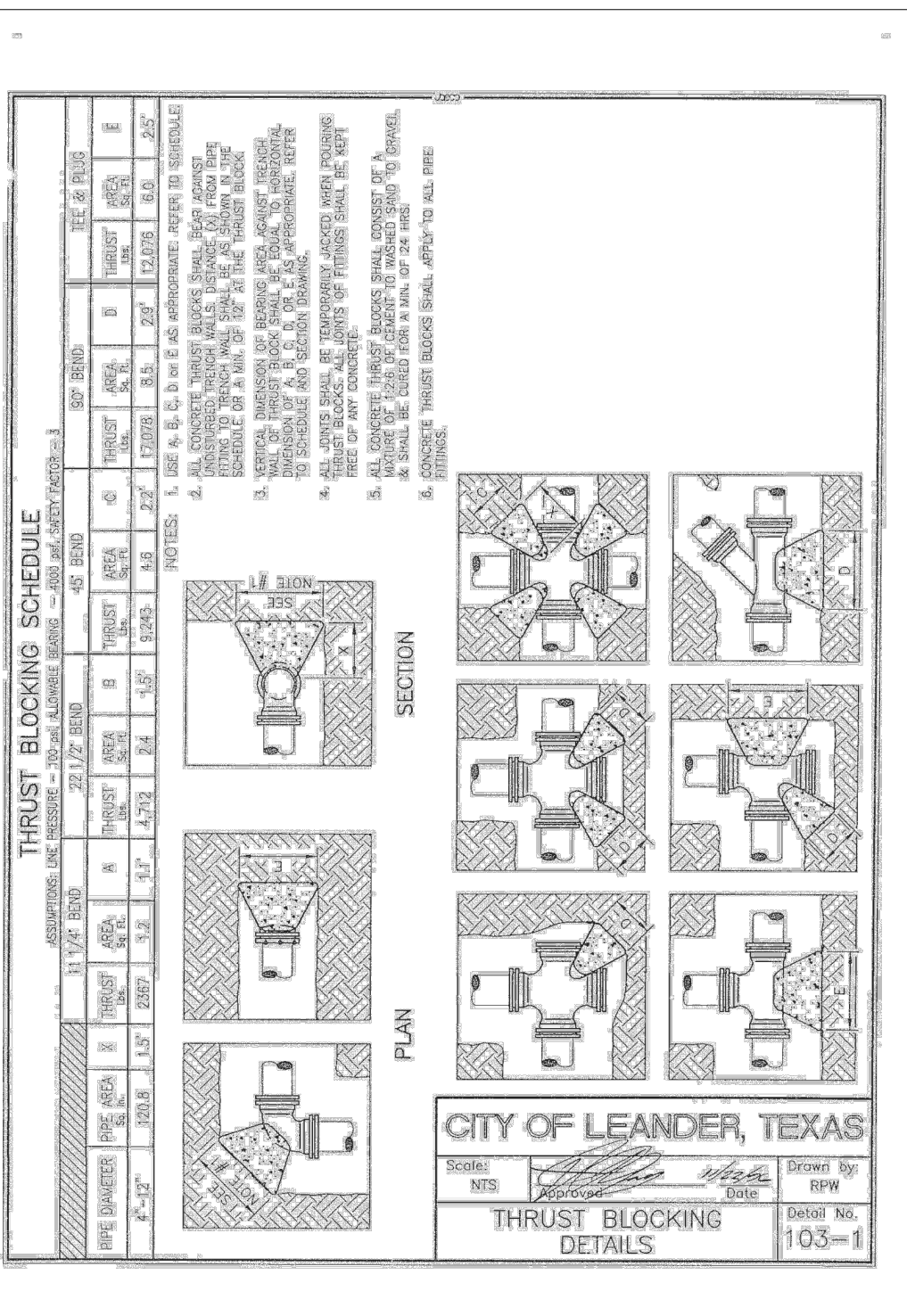
Table 11: Type 3 Seeding Schedule

Seeding Dates	Seeding Schedule		
	Winter Seeding	Spring Seeding	Summer Seeding
Nov. 1 - Feb. 14	Feb. 15 - June 15	June 16 - Sept. 30	
Grass Type	Type 3	Type 3	NO SEEDING
Supplemental Grass	Riparian Native Grass Seed Mix	Riparian Native Grass Seed Mix	Apply Erosion Control Compost (ECC)
	PLUS	PLUS	PLUS
	Type 4	Apply the Table 1-5 Riparian Native Grass Seed Mix in the Fall Seeding Time Period	

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Note: Per City of Leander request, the copper option has been removed from standard detail.

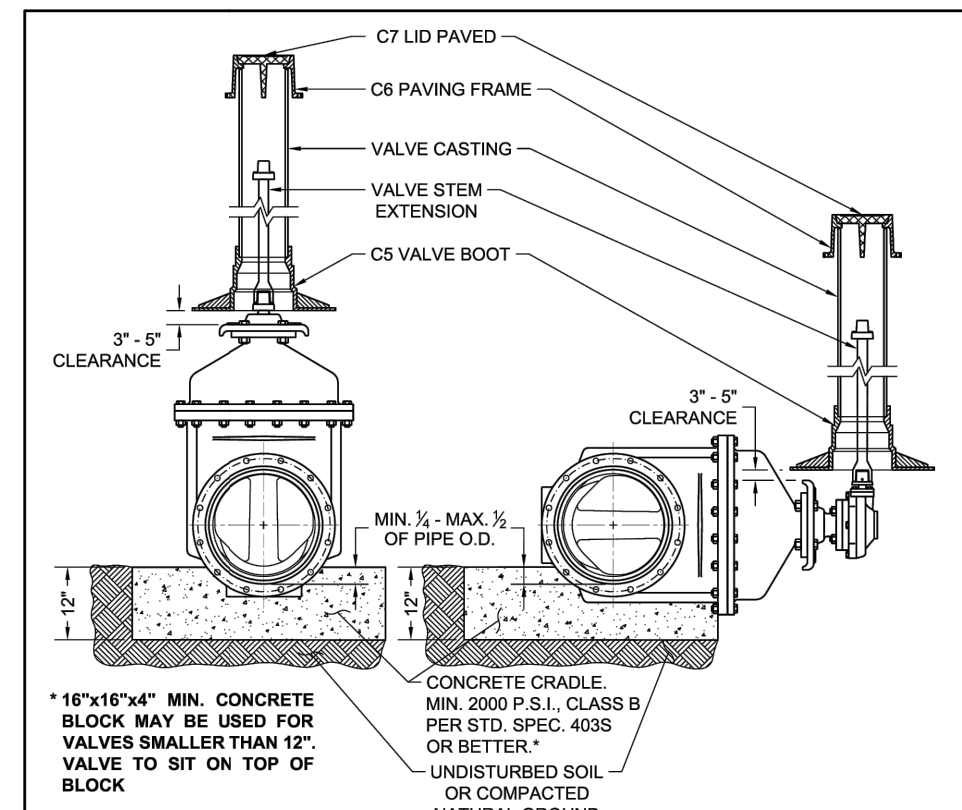


No.	Date	REVISIONS

QUIDDITY
 State of Professional Engineer License No. 24293
 3100 Avenue Boulevard, Suite 100 - Austin, TX 78741-1499
 Scale: AS SHOWN DESIGNED BY: JA CHECKED BY: JDE DRAWN BY: JDE
 SUBMITTAL DATE: 03/15/2023 JOB NO.: 16759-0013-00



Public Improvement Construction Plans
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2
WATERLINE DETAILS (1 OF 2)



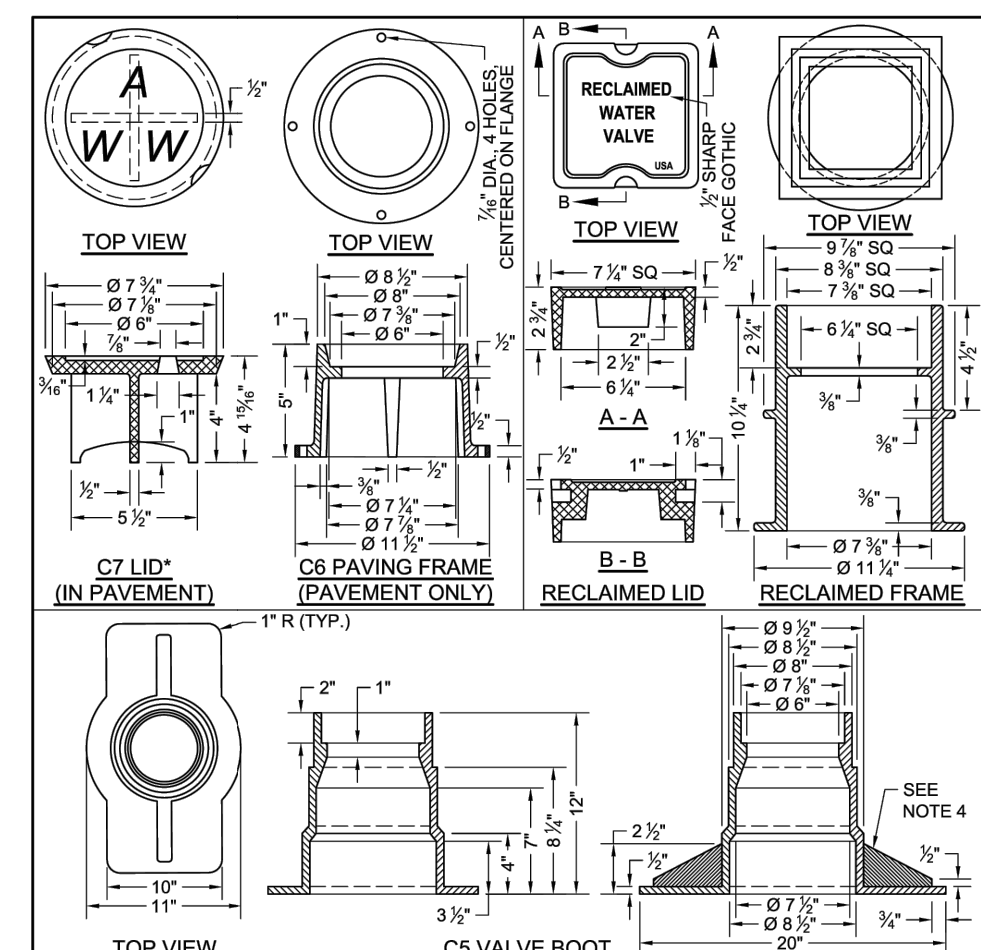
VERTICAL VALVE

NOTES:

- WELD SOCKET 2 1/2" x 2" DEEP TO 1" SCH. 40 CARBON STEEL ROUND STEM EXTENSION, FITTED ON OPERATING NUT, (SCH. 40 FOR LENGTHS OVER 10')
- VALVE CASTING SHALL BE 8" DR PIPE WITH BELL OR COLLAR CENTERED OVER VALVE BOOT.
- NUT AT TOP OF VALVE EXTENSION ROD SHALL BE SQUARE 2" LONG WELDED TO TOP OF ROD.
- VALVE STEM EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 7' DEEP FROM FINISHED GRADE. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 12" AND 18" FROM FINISHED GRADE.

RECLAIMED WATER: ALL RECLAIMED PVC PIPE SHALL BE MANUFACTURED PURPLE PIPE. HOPE 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 WY-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27. ALL COVERS SHALL HAVE "RECLAIMED WATER" CAST INTO THEM.

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 1 OF 4



HORIZONTAL VALVE

ONLY TO BE USED WHEN CALLED OUT ON THE DRAWINGS

NOTES:

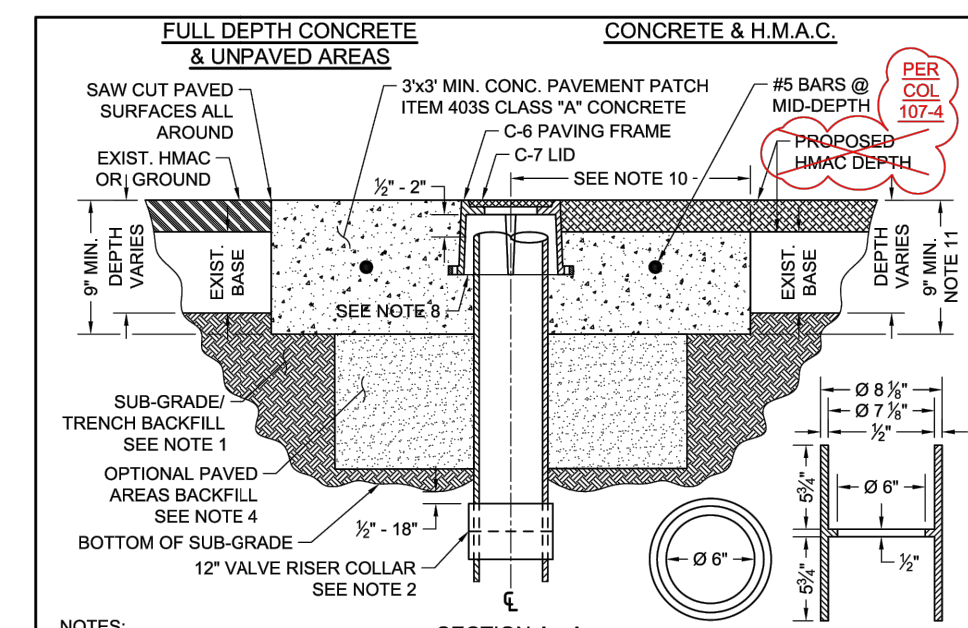
- MATERIAL SHALL BE GRAY CAST IRON, ASTM A48, GRADE 30B.
- THE MANUFACTURER'S IDENTIFICATION AND CASTING NUMBER, AND THE COUNTRY WHERE CAST, SHALL BE DISTINCTLY CAST ONTO EACH LID, FRAME, COLLAR AND BASE.
- DRAFT AND SHRINKAGE ALLOWANCE SHALL BE IN ACCORDANCE WITH NORMAL FOUNDRY PRACTICE.
- CASTING FINISH BY MANUFACTURER SHALL INCLUDE REMOVAL OF FIRS AND FLASHING, AND PAINT WITH BLACK ASPHALT COATING.

WEIGHTS:

C7 LID: 13 LBS
RECLAIMED LID: 15 LBS
C6 FRAME: 23 LBS
RECLAIMED FRAME: 33 LBS
C5 BASE: 78 LBS

* LETTERING SHALL BE 1/2" x 2" POK BAR SLOTS REQUIRED

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 2 OF 4

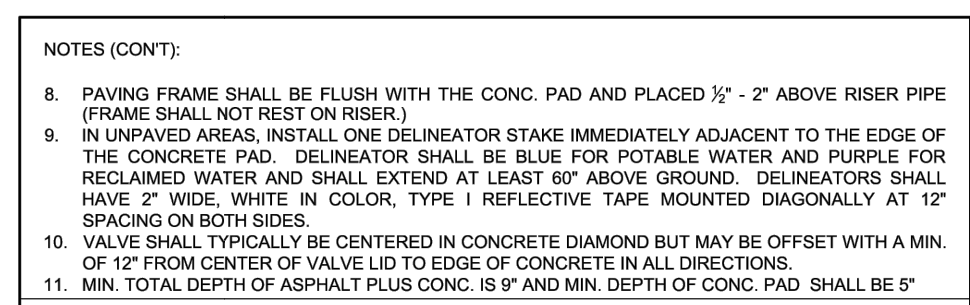


CONCRETE & H.M.C.

NOTES:

- SUB-GRADE/TRENCH BACKFILL SHALL BE COMPACTED AS PER ITEM 2015, SUB-GRADE PREPARATION.
- TO ADJUST VALVE CASTINGS TO FINAL GRADE, REMOVE RISER PIPE BELOW SUB-GRADE AND INSTALL APPROPRIATE LENGTH OF NEW RISER PIPE TO ACHIEVE FINAL GRADE. CONNECT THE TWO PIECES OF RISER PIPE WITH A 6" COLLAR MIN. 12" LENGTH APPROXIMATELY CENTERED ON THE JOINT WITH THE TOP OF SLEEVE LOCATED 1/2" - 18" BELOW SUB-GRADE. THE INSIDE 1"IP OF COLLAR TO BE PAINTED WITH FLUORESCENT WHITE PAINT OR COVERED WITH FLUORESCENT WHITE TAPE. ALTERNATE: FOR OPTIONAL SINGLE PIECE RISER INSTALLATION SEE SHEET 4 OF 4.
- CLEAN VALVE BOX OF ALL DEBRIS DOWN TO THE NUT OF THE VALVE. NUT SHALL OPERATE WITH NO OBSTRUCTION.
- WHERE CASTINGS TO BE REMOVED REQUIRES EXCAVATION GREATER THAN 20" DEEP. CONTRACTOR MAY ELECT TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL (SPEC. ITEM 4026) IN LIEU OF COMPACTED BACKFILL.
- REINFORCING STEEL SHALL MEET SPEC. ITEM 4068.7
- NO MORE THAN 2 SECTIONS OF PIPE SHALL BE USED FROM VALVE TO FINAL GRADE.
- BELL AND SPIGOT IS ACCEPTABLE FOR DEPTH OVER 18".

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 3 OF 4



OPTIONAL ONE PIECE VALVE CASTING INSTALLATION

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 I 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"

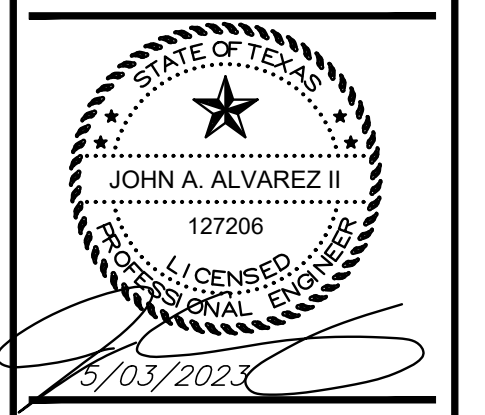
CITY OF AUSTIN AUSTIN WATER		TYPICAL GATE VALVE 4" - 16"	
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App.	
REVISIONS	
No.	Date

QUIDDITY

Professional Engineer, State of Texas, No. 62920
3100 Avenue of the Americas, Suite 1500 • Austin, TX 78701 • 512.441.5450

SCALE: AS SHOWN
DESIGNED BY: FR
SUBMITTAL DATE: 03/15/2023
CHECKED BY: JA
JOB NO.: 16755-0013-00
DRAWN BY: JDE



Public Improvement Construction Plans

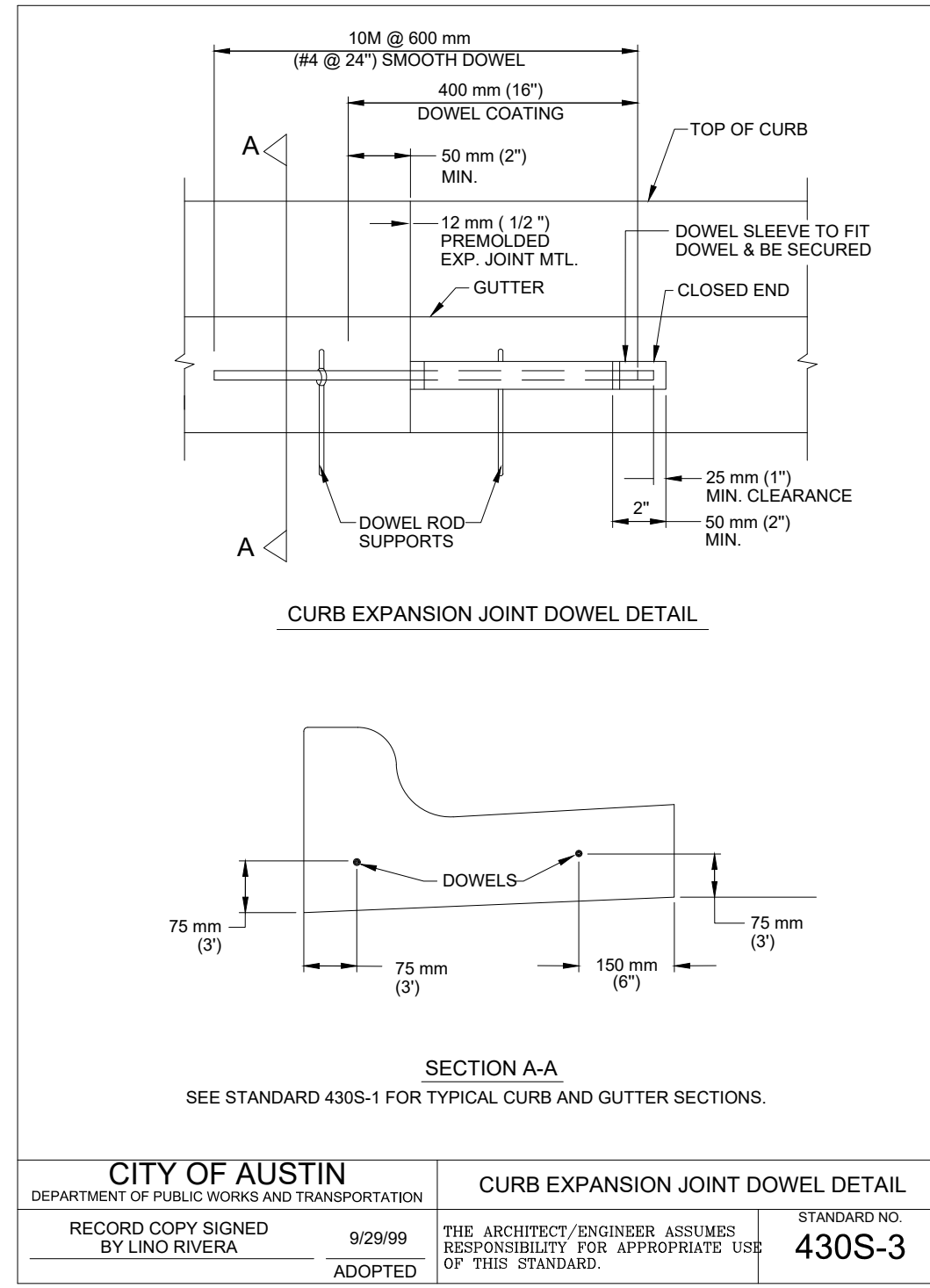
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2

WATERLINE DETAILS (2 OF 2)

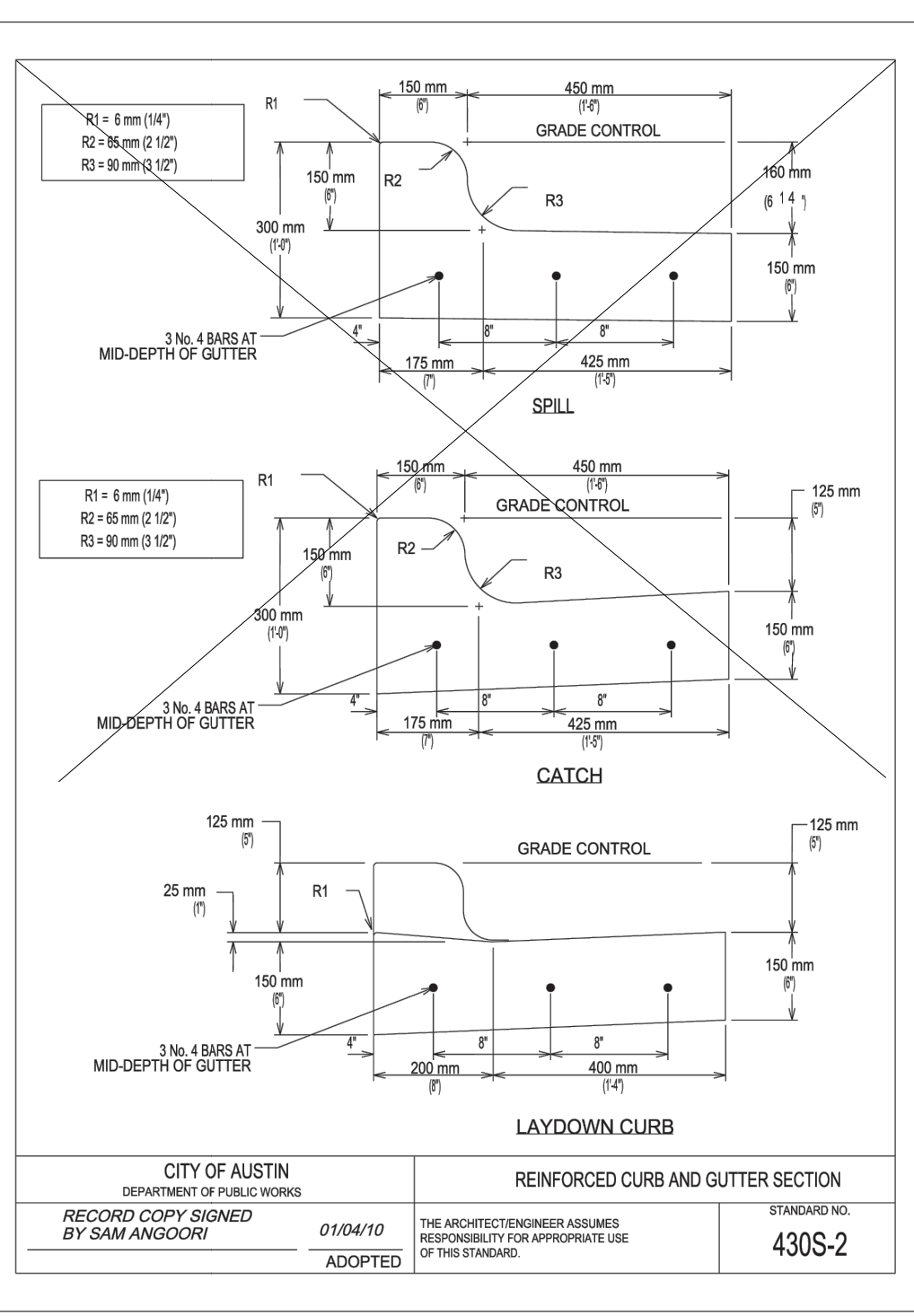
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OF 79

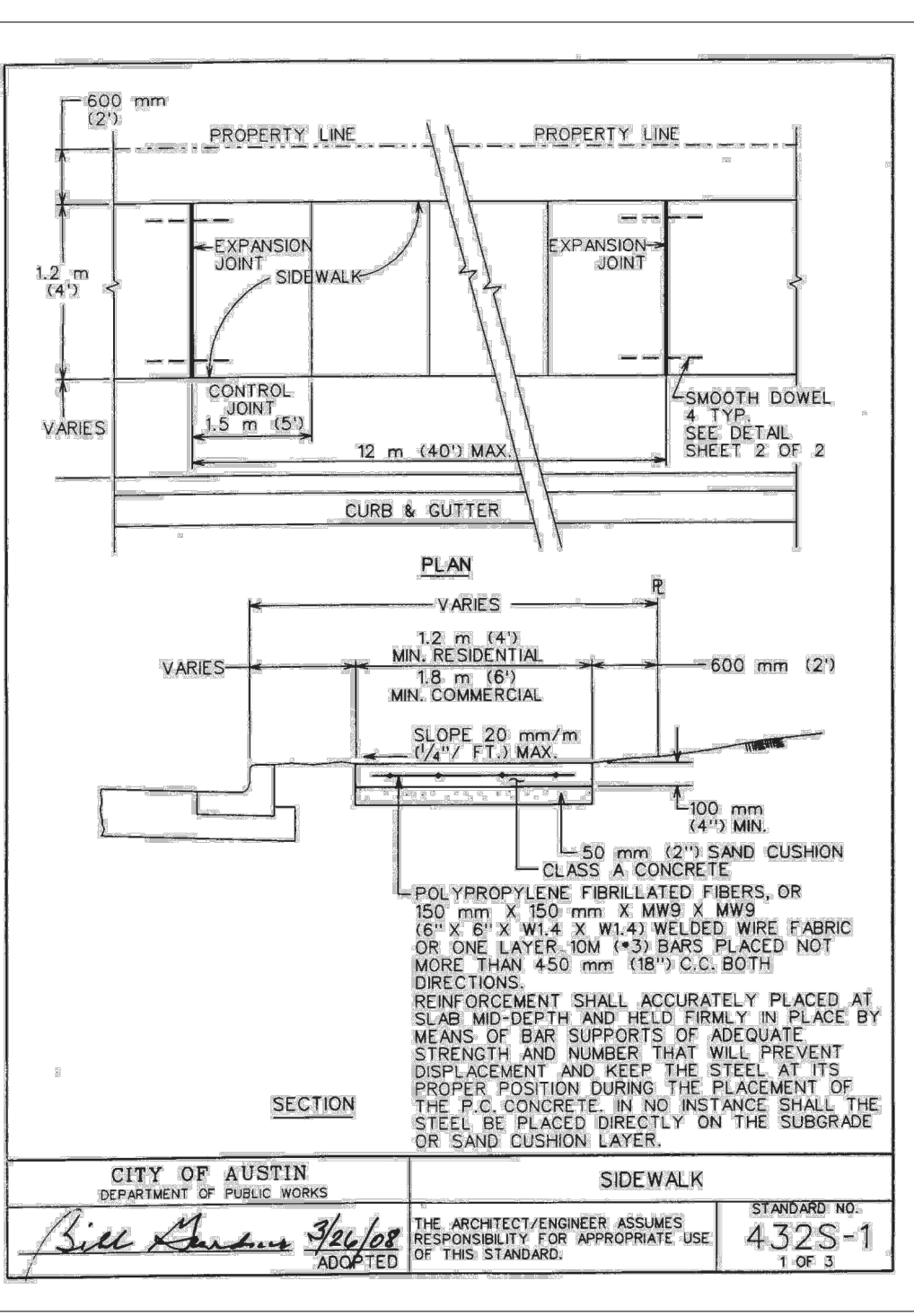
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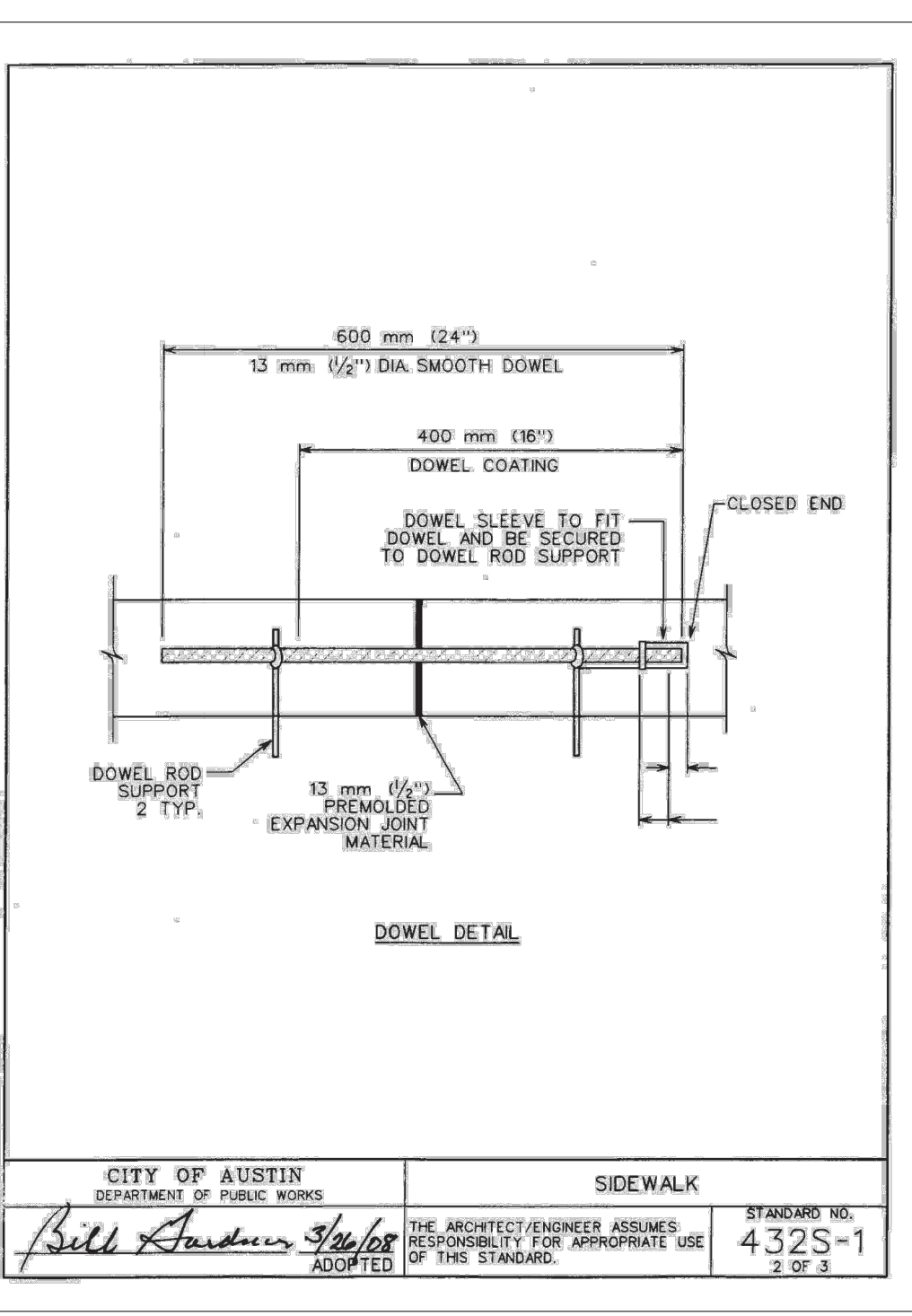
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION		CURB EXPANSION JOINT DOWEL DETAIL	
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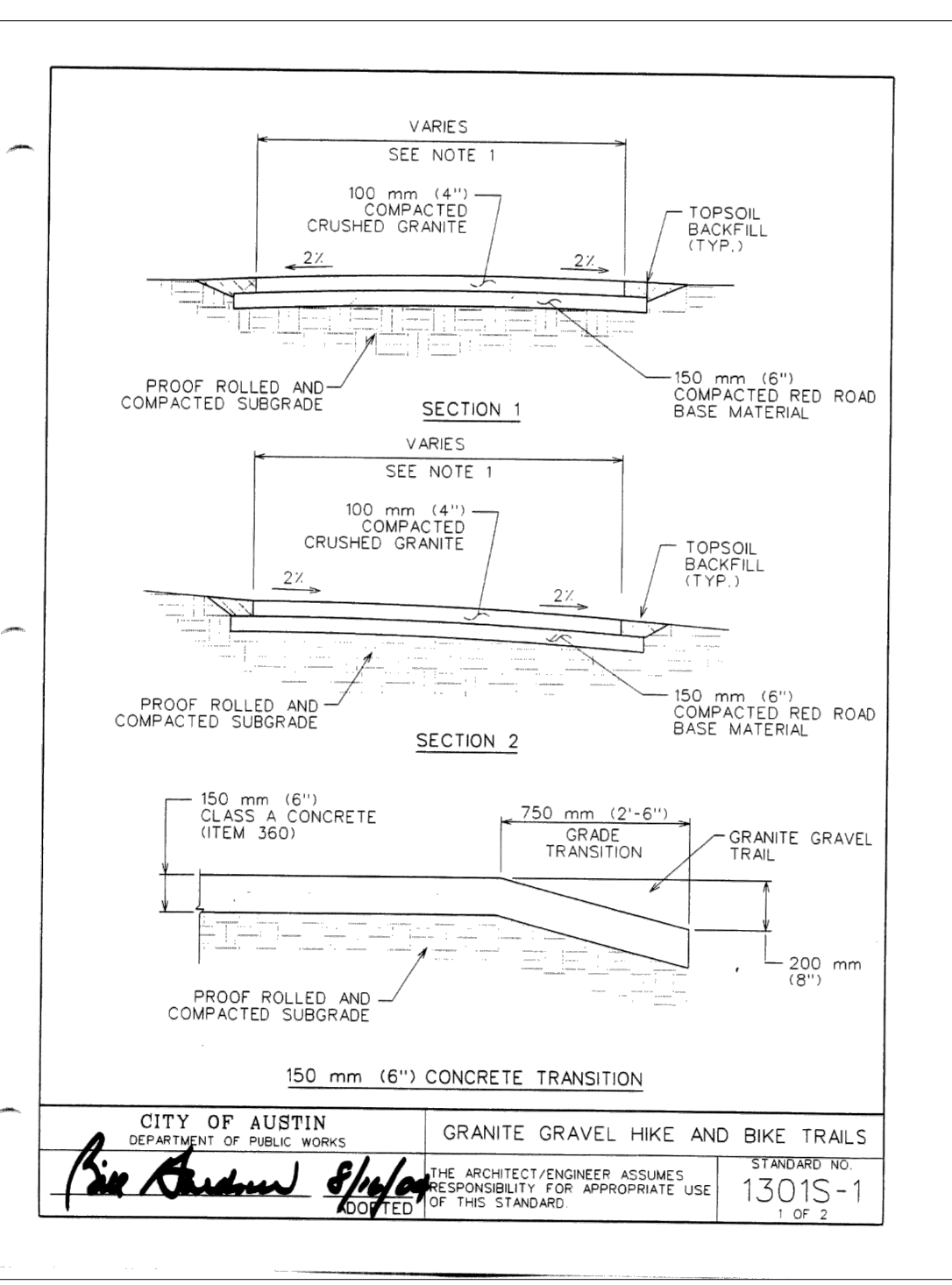
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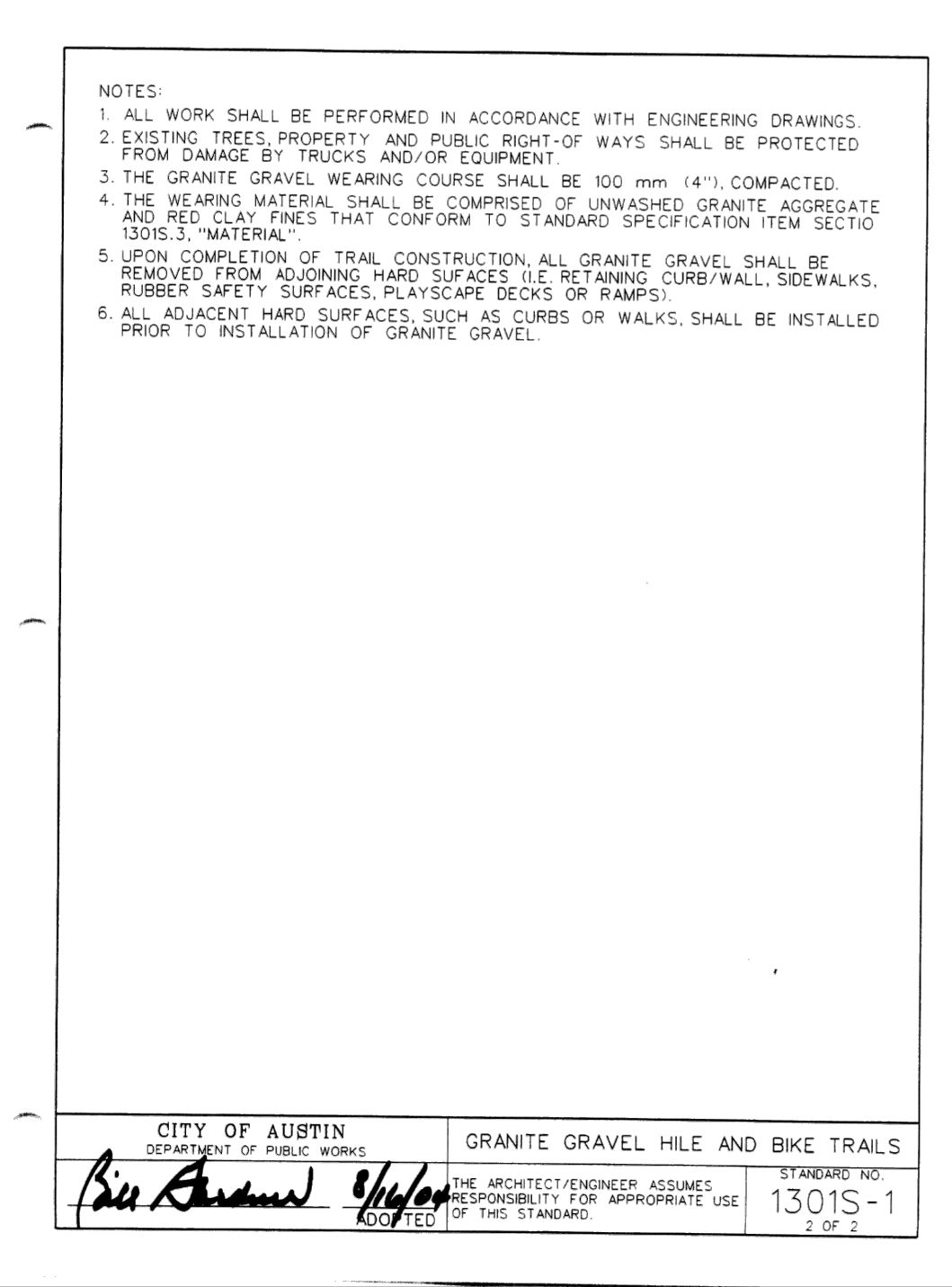
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RECORD COPY SIGNED BY Bill Anderson	3/16/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-1 1 OF 3



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		DOWEL DETAIL	
RECORD COPY SIGNED BY Bill Anderson	3/16/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-1 2 OF 3



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		GRANITE GRAVEL HIKE AND BIKE TRAILS	
RECORD COPY SIGNED BY Bill Anderson	3/16/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 1301S-1 2 OF 3



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		CONCRETE HEADER CURB	
RECORD COPY SIGNED BY Bill Anderson	3/16/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 1301S-1 2 OF 3

NOTES:

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ENGINEERING DRAWINGS.
- EXISTING TREES, PROPERTY AND PUBLIC RIGHT-OF-WAYS SHALL BE PROTECTED FROM DAMAGE BY TRUCKS AND/OR EQUIPMENT.
- THE GRANITE GRAVEL WEARING COURSE SHALL BE 100 mm (4"), COMPACTED.
- THE WEARING MATERIAL SHALL BE COMPOSED OF UNWASHED GRANITE AGGREGATE AND RED CLAY FINES THAT CONFORM TO STANDARD SPECIFICATION ITEM SECTION 300S.3 MATERIAL.
- UPON COMPLETION OF TRAIL CONSTRUCTION, ALL GRANITE GRAVEL SHALL BE REMOVED FROM ADJACENT HARD SURFACES (I.E. RETAINING CURB/WALL, SIDEWALKS, RUBBER SAFETY SURFACES, PLAYSAFETY DECKS OR RAMPS).
- ALL ADJACENT HARD SURFACES SUCH AS CURBS OR WALKS, SHALL BE INSTALLED PRIOR TO INSTALLATION OF GRANITE GRAVEL.

NOTE:
All construction shall be in accordance with current Texas Department of Transportation (TXDOT) Specifications.

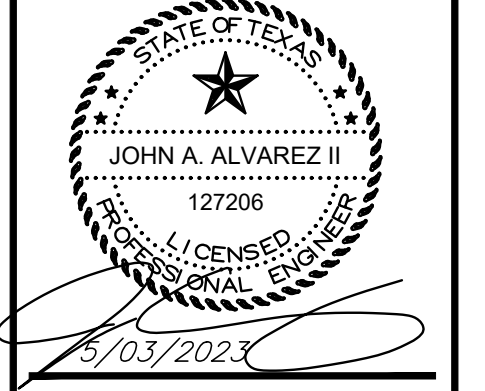
CONCRETE HEADER CURB
N.T.S.

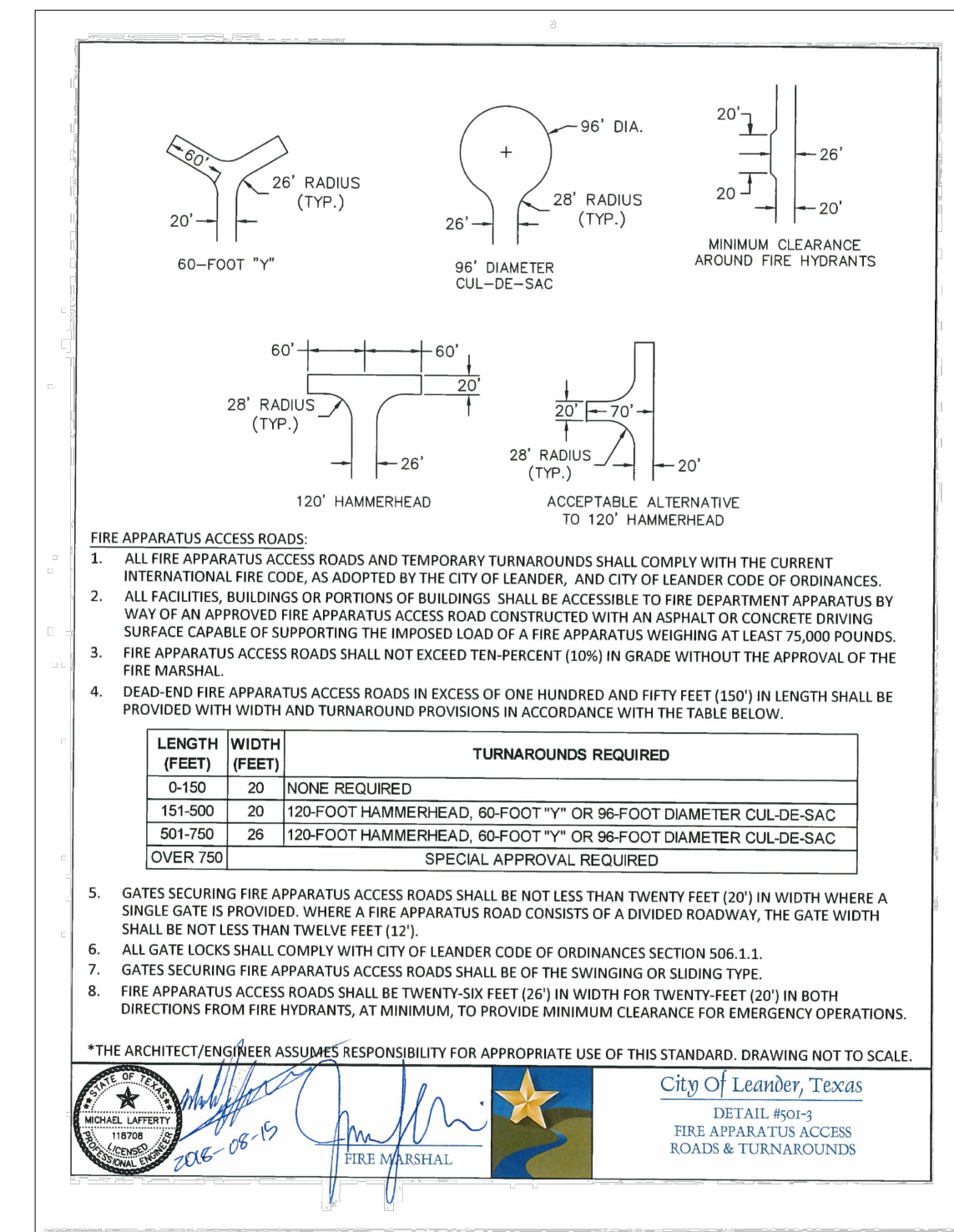
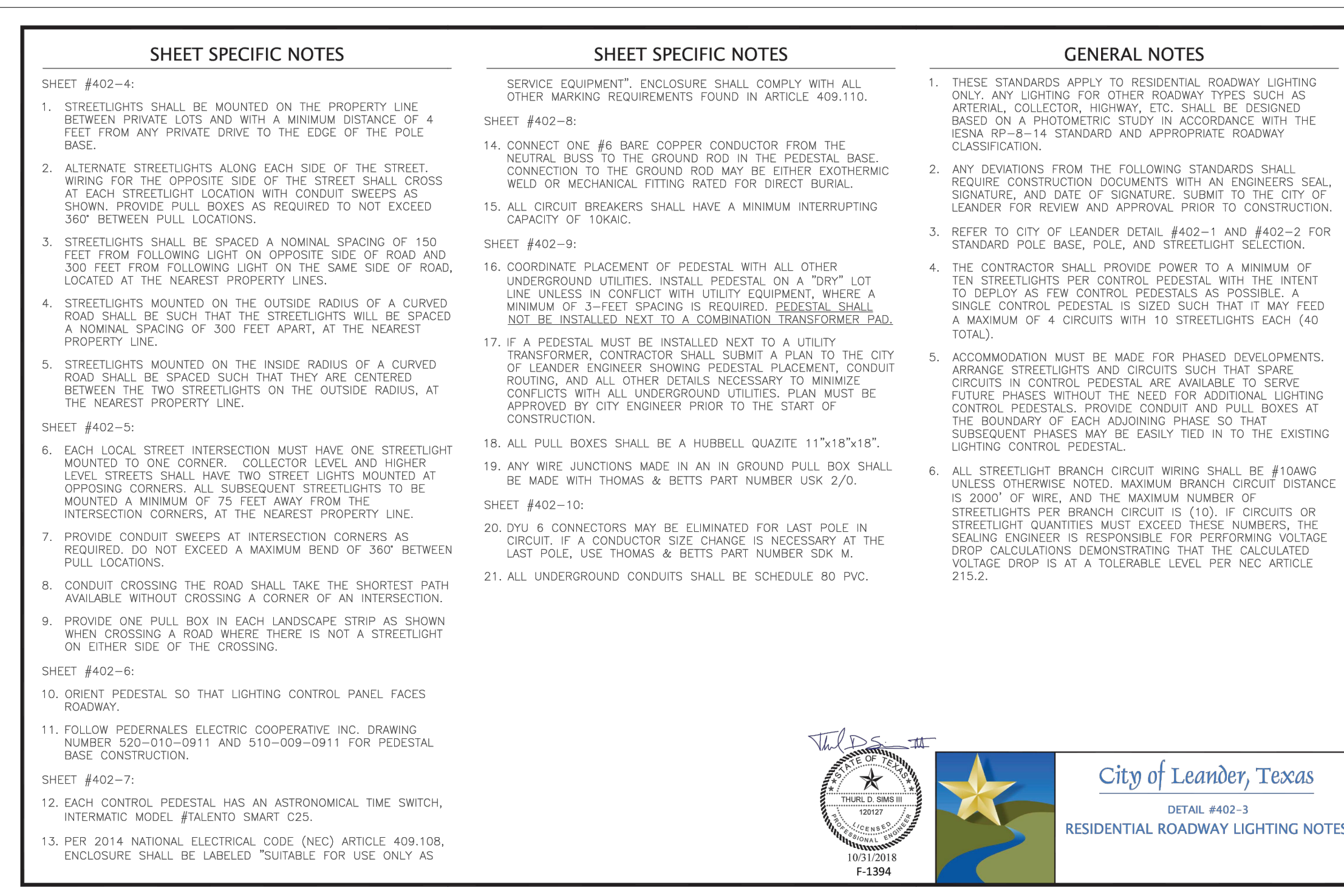
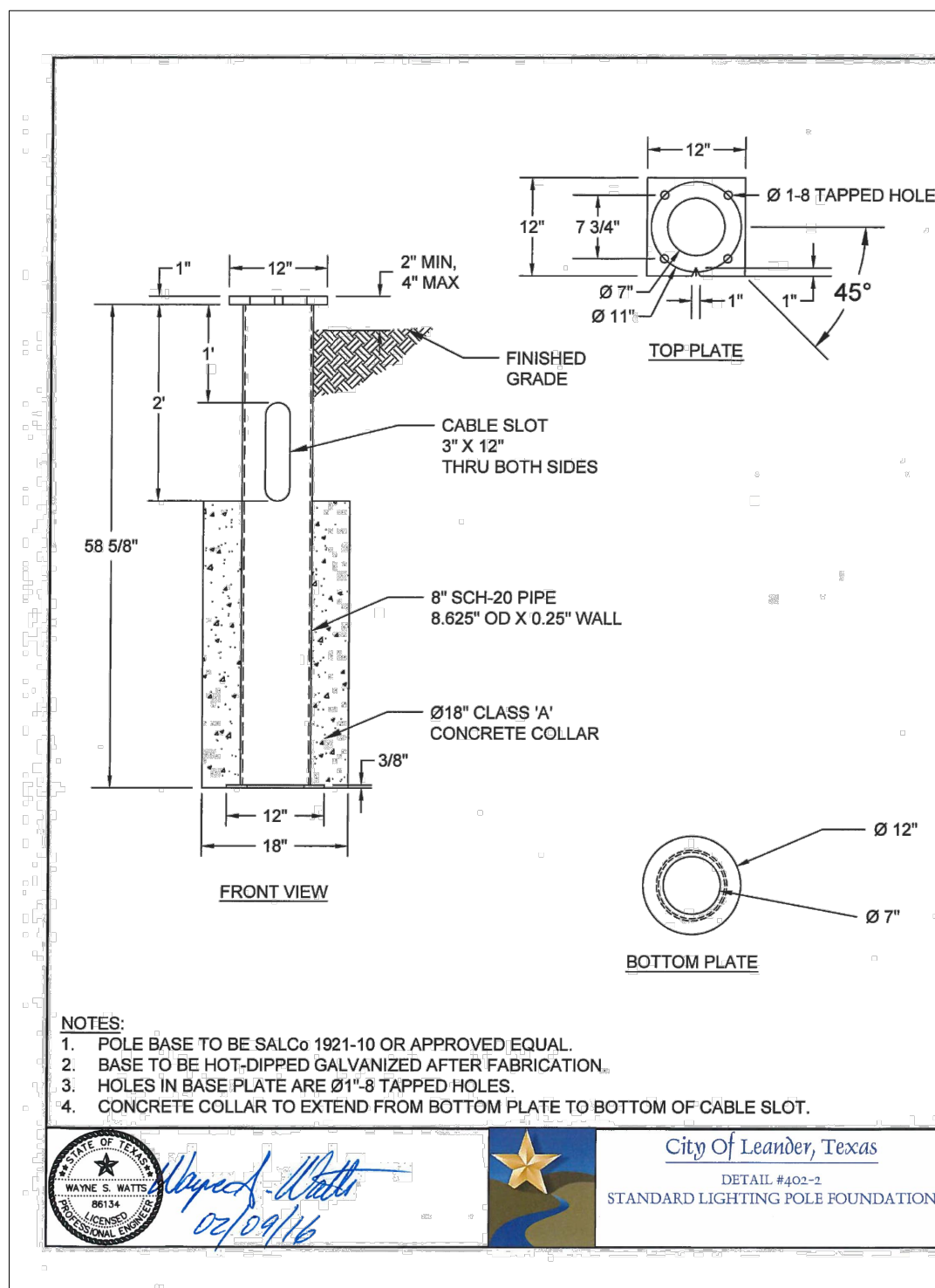
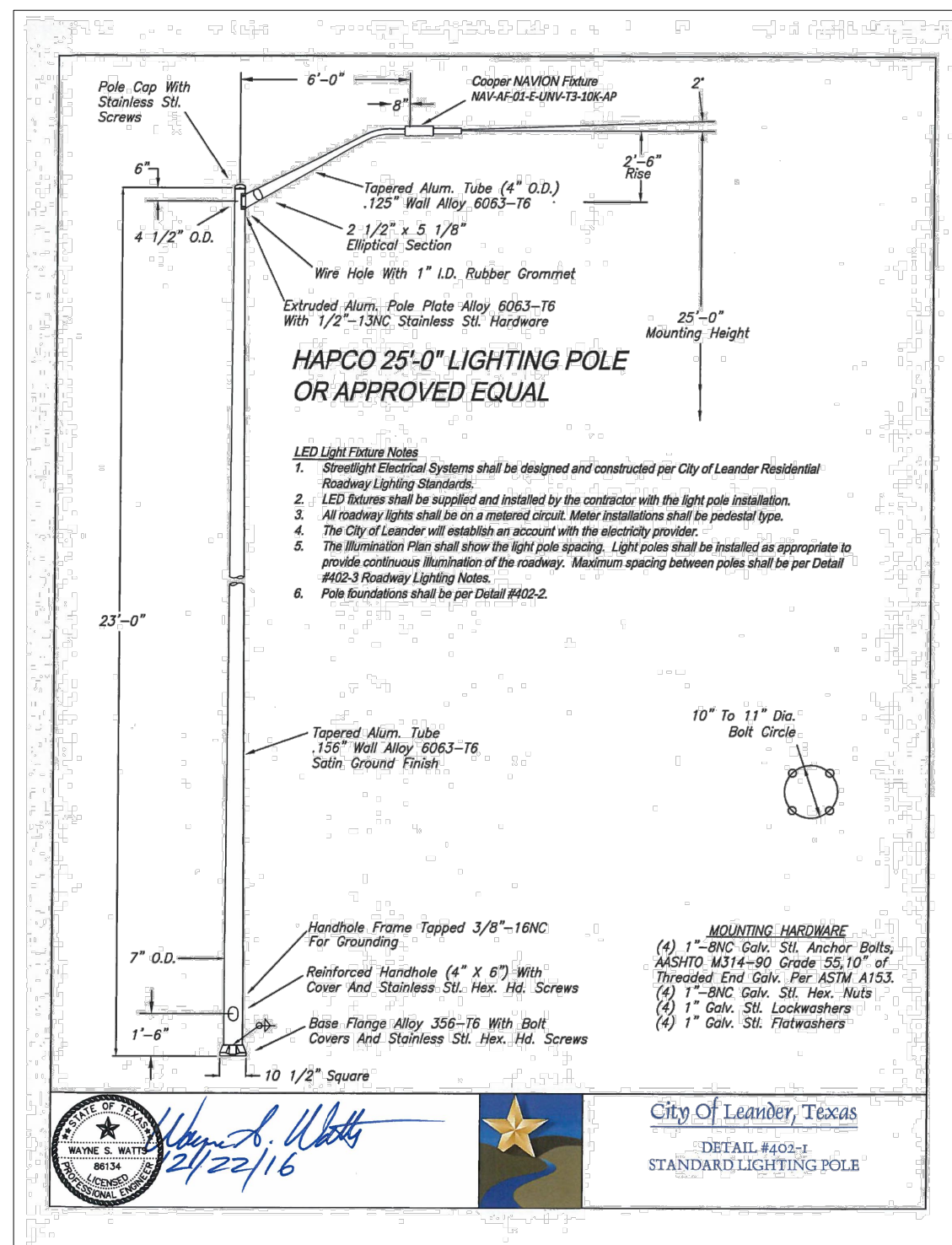
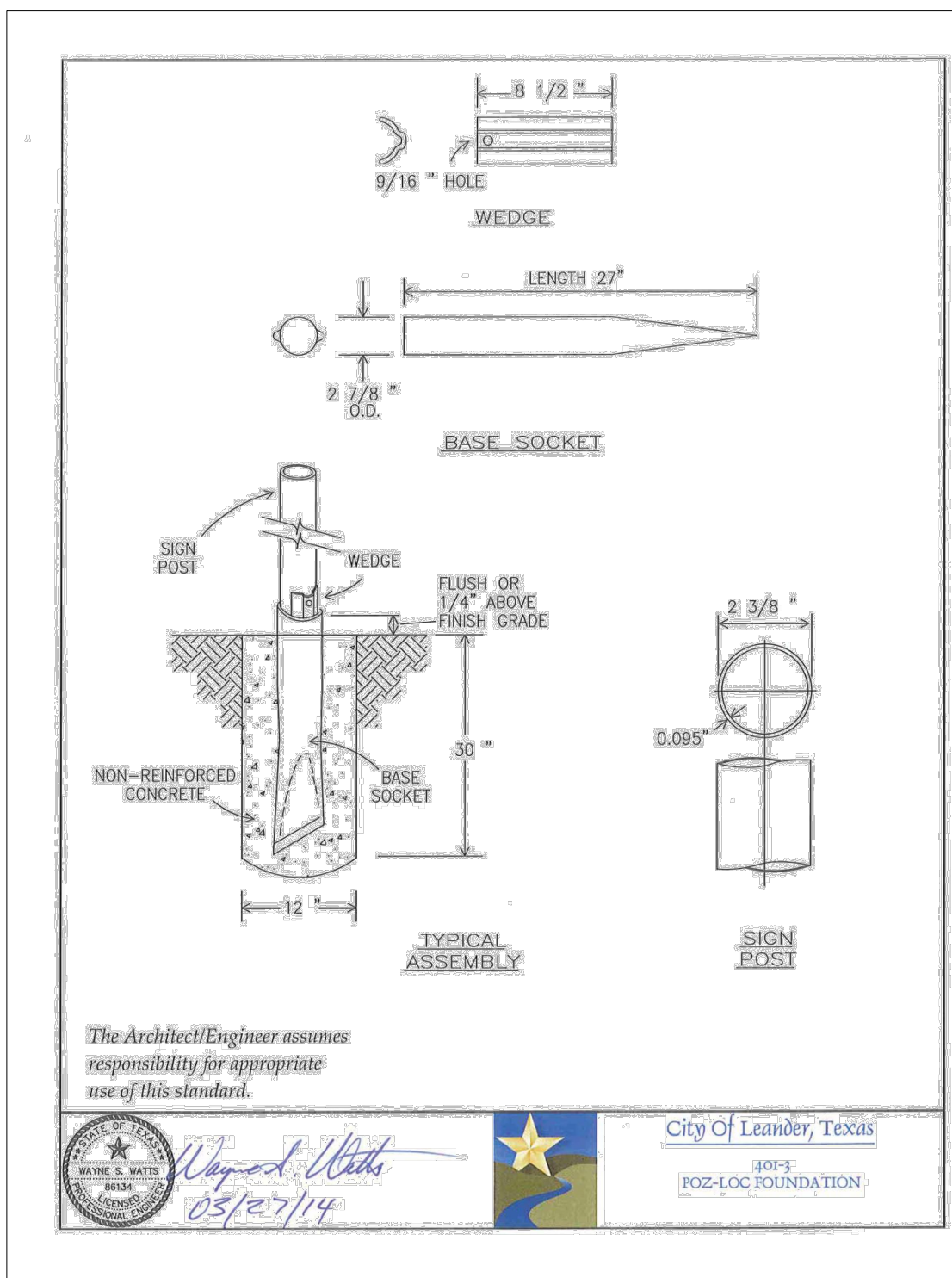
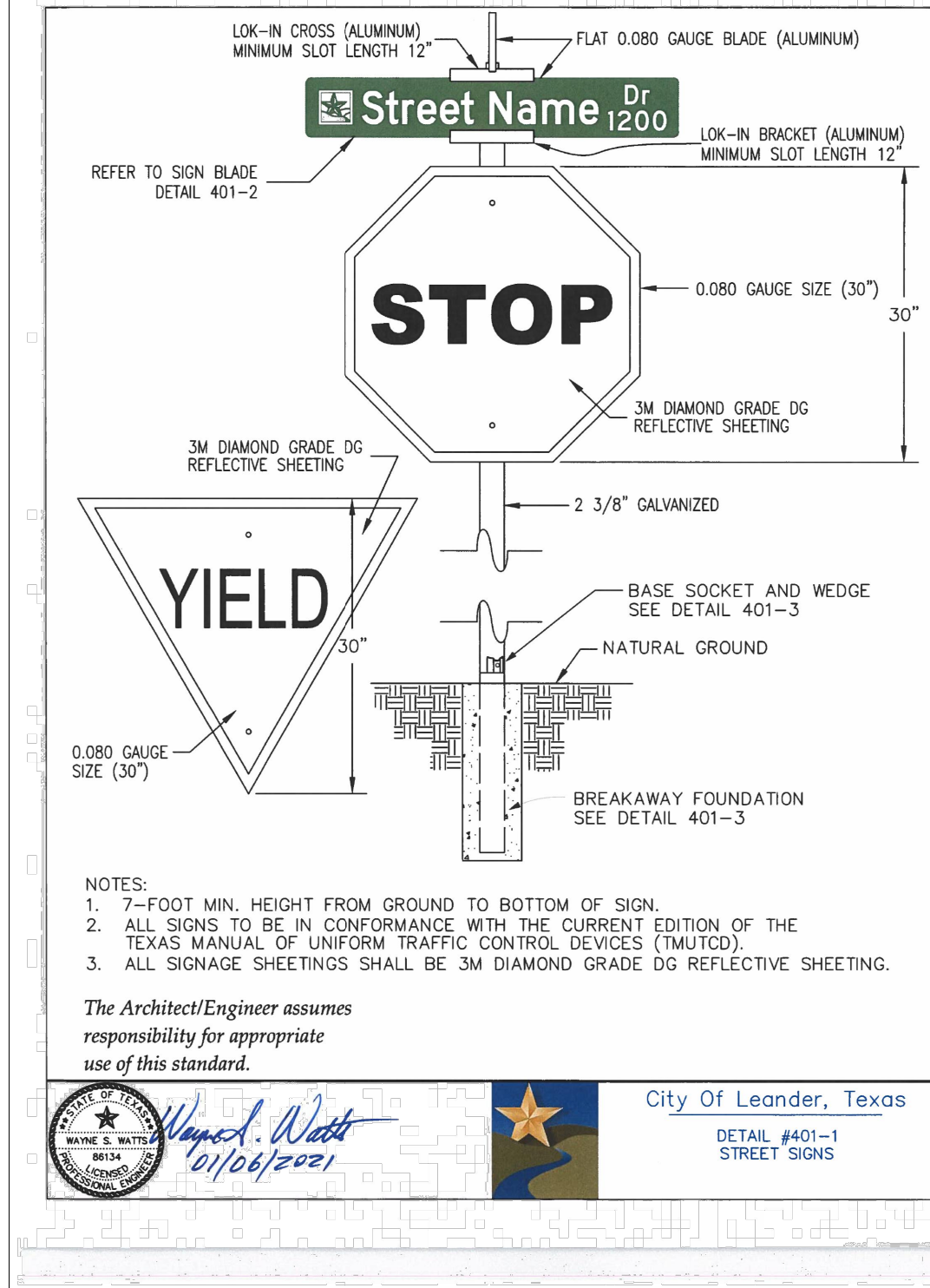
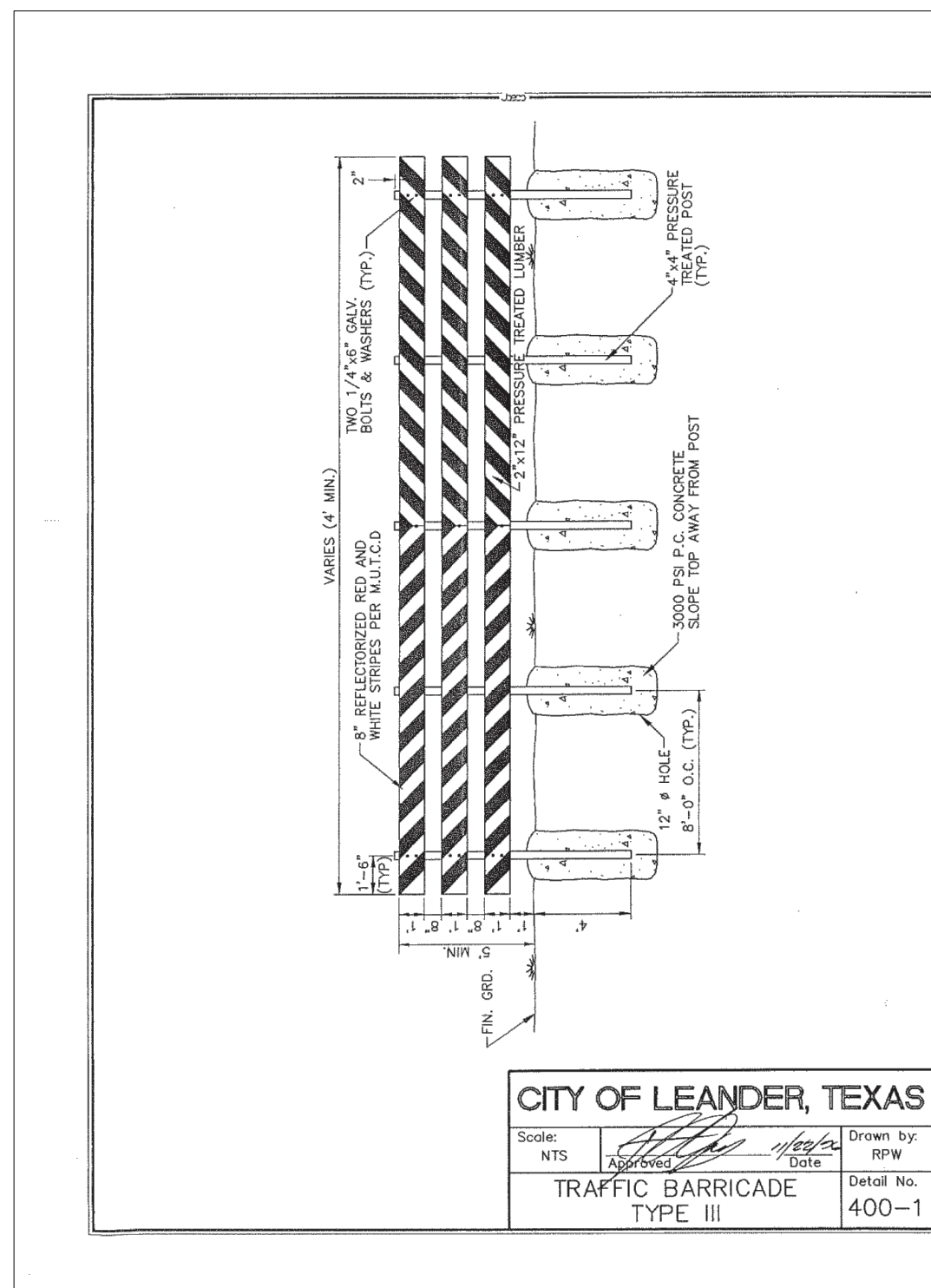
No.	Date	REVISIONS

QUIDDITY
Public Improvement Construction Plans
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2
STREET & SIGNAGE DETAILS
(1 OF 2)

DESIGNED BY: FR
CHECKED BY: JA
DRAWN BY: JDE

SCALE: AS SHOWN
SUBMITTAL DATE: 03/15/2023
JOB NO.: 16755-0013-00





Public Improvement Construction Plans

WOODLAND ESTATES SUBDIVISION PHASE 1 & 2

STREET & SIGNAGE DETAILS (2 OF 2)

REVISIONS

No. Date

App.

DESIGNED BY: JA

CHECKED BY: JDE

DRAWN BY: JDE

SCALE: AS SHOWN

SUBMITTAL DATE: 03/15/2023

JOB NO.: 16759-0013-00

QUIDDITY

Professional Engineer License No. 62490

3100 Avenue Boulevard, Suite 1300, Austin, TX 78741 • 512.441.9499

STATE OF TEXAS

REGISTERED PROFESSIONAL ENGINEER

JOHN A. ALVAREZ II

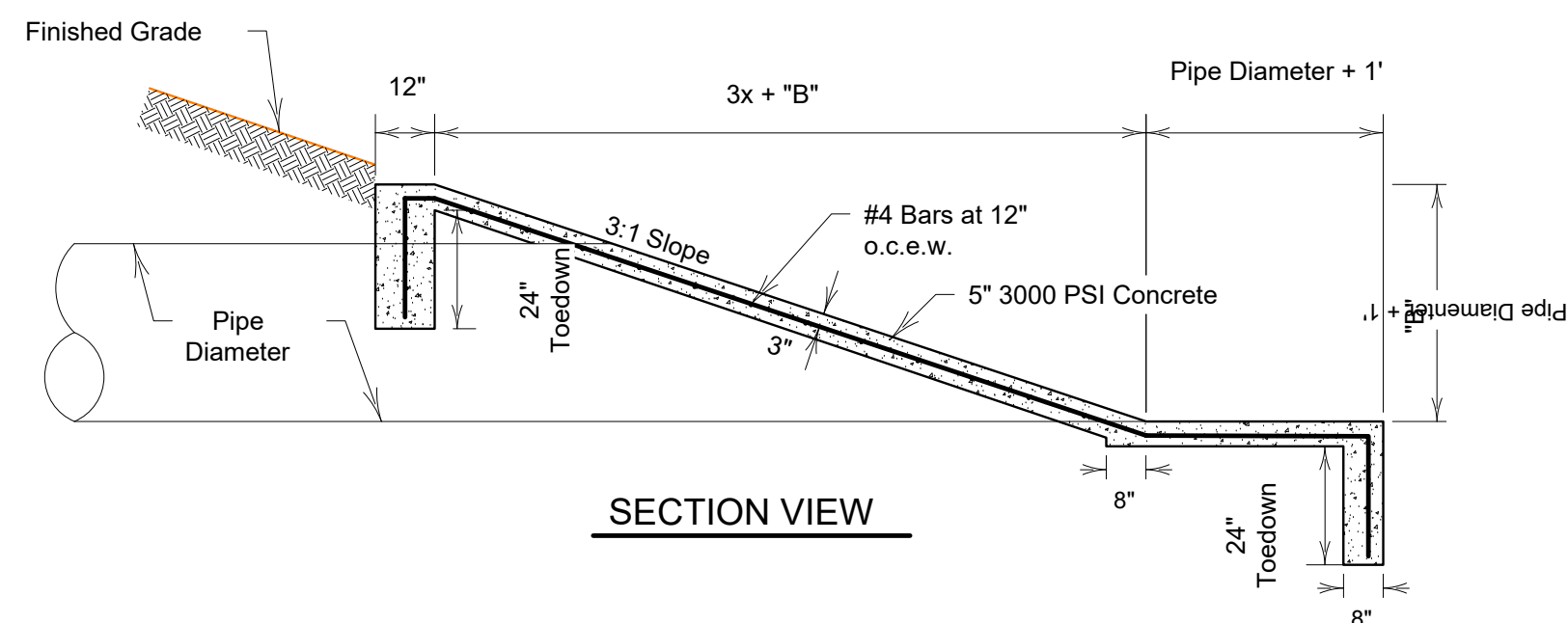
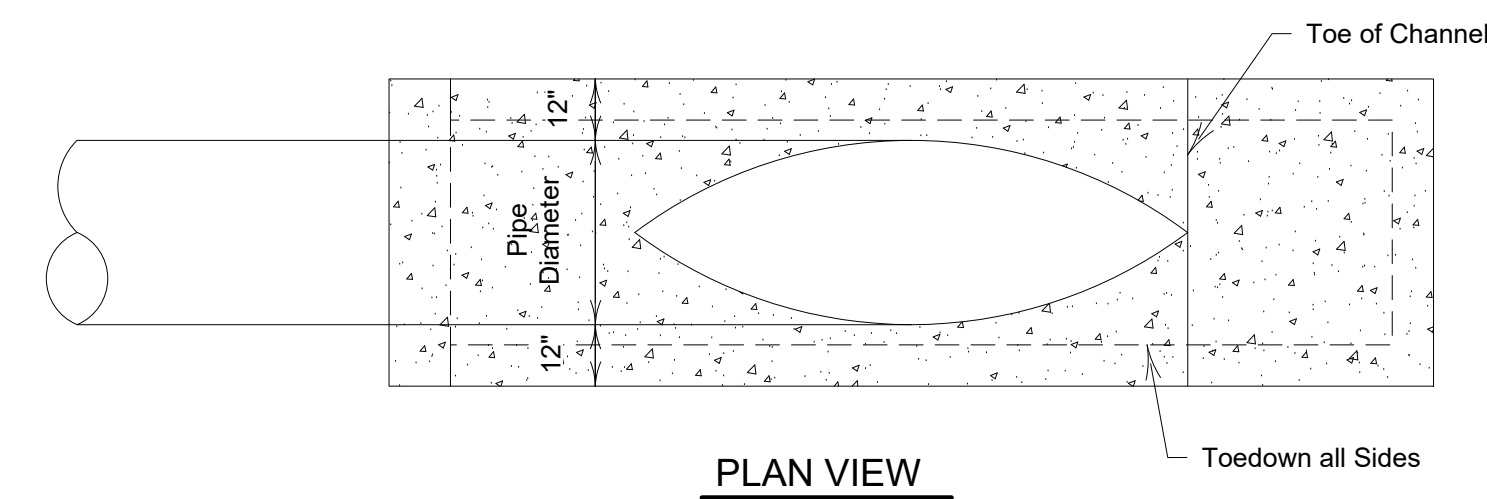
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03/03/2023

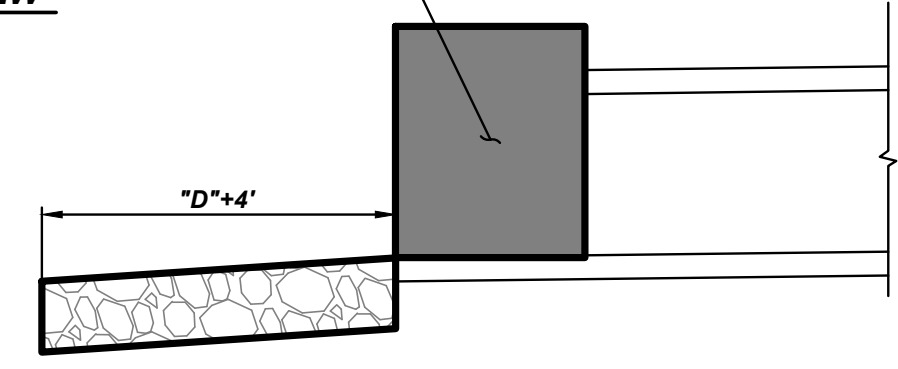
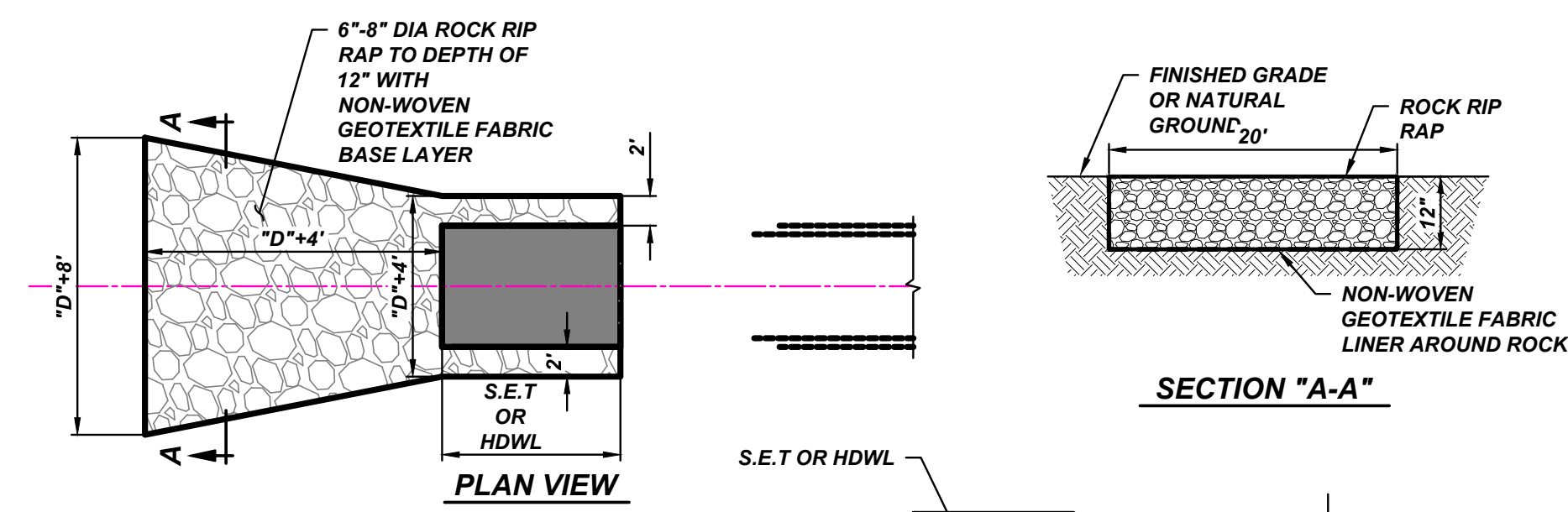
SHEET NO. 69

OF 79

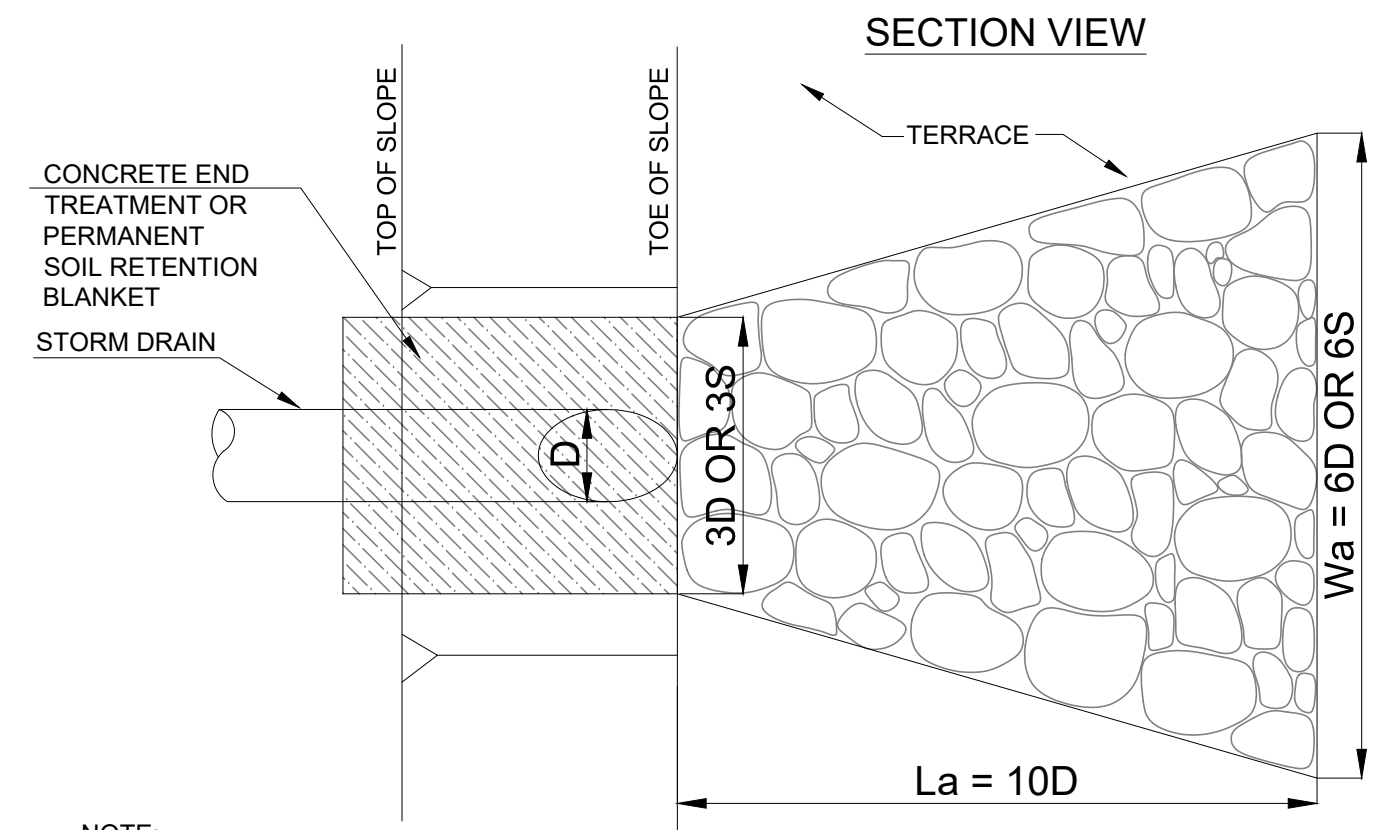
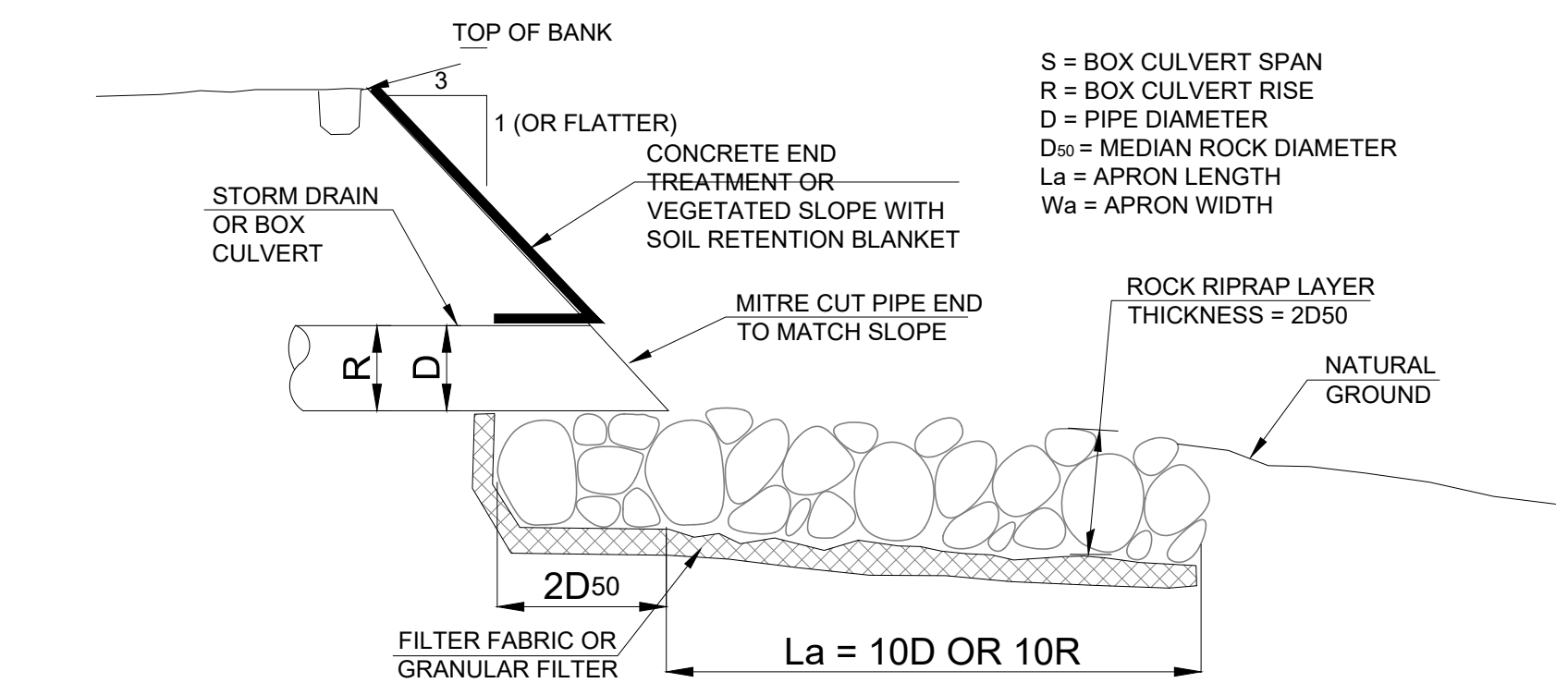
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3:1 CONCRETE END TREATMENT
NOT TO SCALE



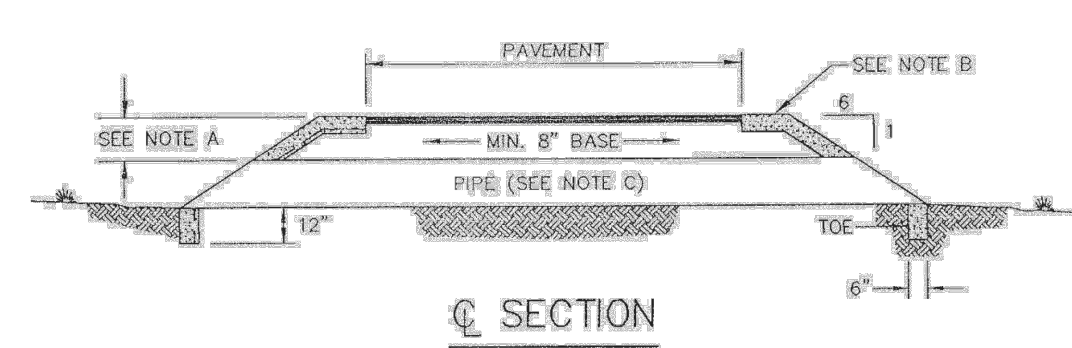
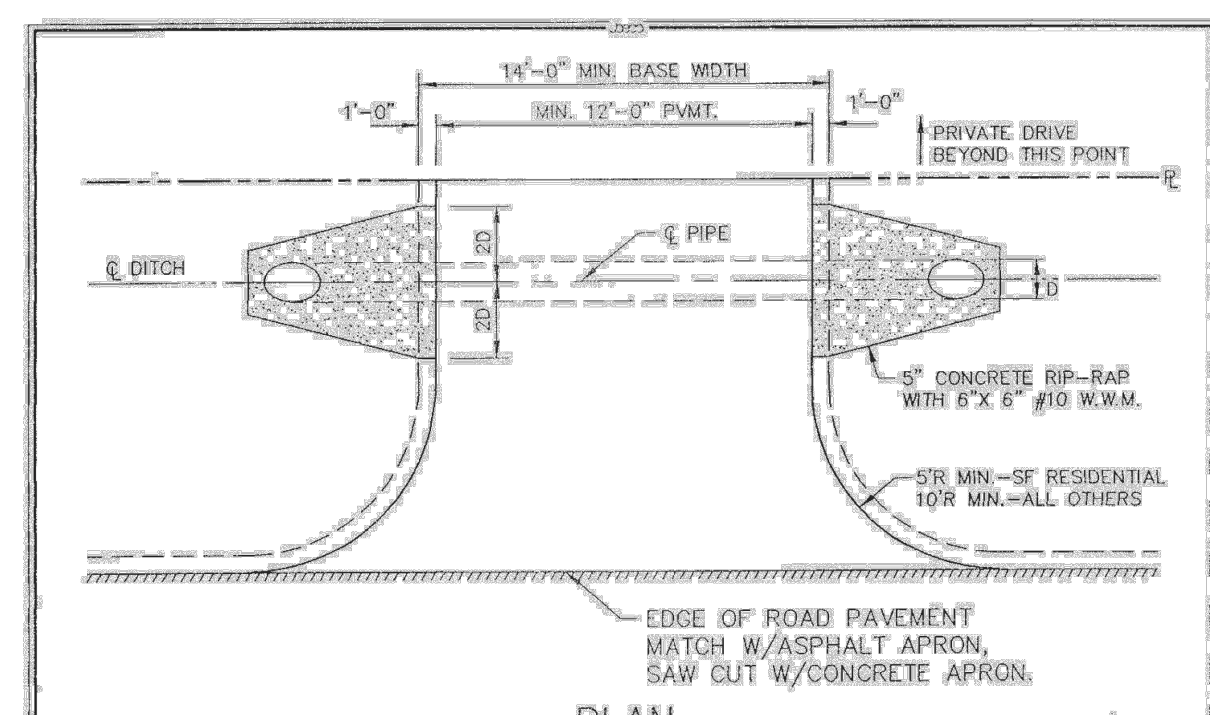
ROCK RIP RAP
NOT TO SCALE



NOTE:
GEOTEXTILE FILTER FABRIC SHALL MEET THE REQUIREMENTS AS SPECIFIED BY THE GEOTECHNICAL ENGINEER.

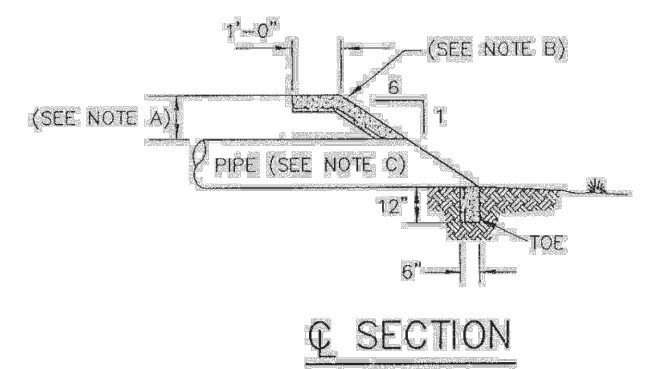
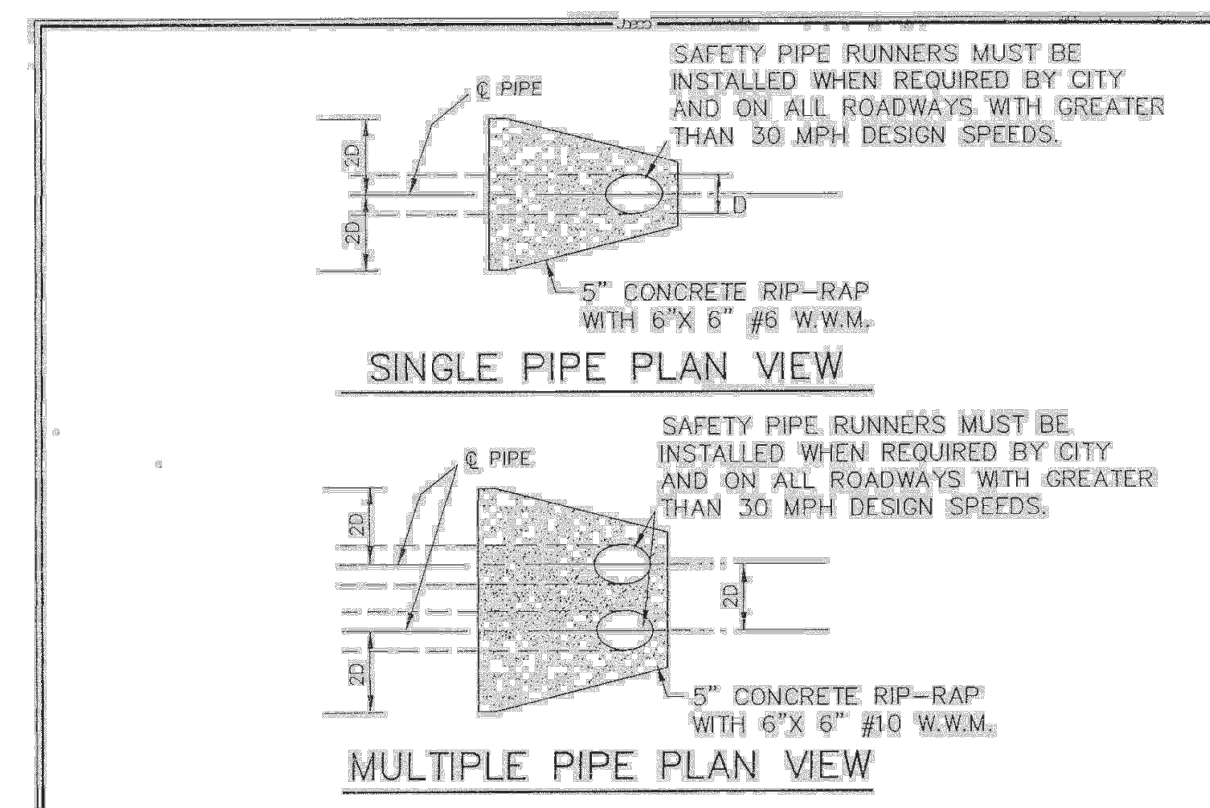
Rock Riprap Class by Median Particle Diameter (D50)	D15 (in)		D50 (in)		D85 (in)		D100 (in)
	Min	Max	Min	Max	Min	Max	Max
I	6	3.7	5.2	5.7	6.9	7.8	12
II	9	5.5	7.8	8.5	10.5	11.5	18
III	12	7.3	10.5	11.0	14.0	15.5	24
IV	15	9.2	13.0	14.5	17.5	19.5	30
V	18	11.0	15.5	17.0	20.5	22.5	36
VI	21	13.0	18.5	20.0	24.0	27.5	42
VII	24	14.5	21.0	23.0	27.5	31.0	48
VIII	30	18.5	26.0	28.5	34.5	39.0	60
IX	36	22.0	31.5	34.0	41.5	47.0	72
X	42	25.5	36.5	40.0	48.5	54.5	84

ROCK RIP RAP PROTECTION
NOT TO SCALE



NOTES:
A. MIN. COVER TO BE DETERMINED BY CITY ENGINEER.
B. 5" CONCRETE RIP-RAP WITH 6"X 6" #10 W.W.M. SHALL BE INSTALLED.
C. PIPE SIZE AND NUMBER TO BE DESIGNATED BY CITY ENGINEER.
D. 5" CONCRETE WITH #4 BARS @ 18" C-C MAY BE INSTALLED IN LIEU OF ASPHALT PAVT. WHERE APPROPRIATE, OR AS DIRECTED BY CITY.

CITY OF LEANDER, TEXAS
Scale: NTS
Date: 7/10/23
Drawn by: RPM
Detail No: 202-2



NOTES:
A. MIN. COVER TO BE DETERMINED BY CITY ENGINEER.
B. 5" CONCRETE RIP-RAP WITH 6"X 6" #10 W.W.M. SHALL BE INSTALLED.
C. PIPE SIZE AND NUMBER TO BE DESIGNATED BY CITY ENGINEER.

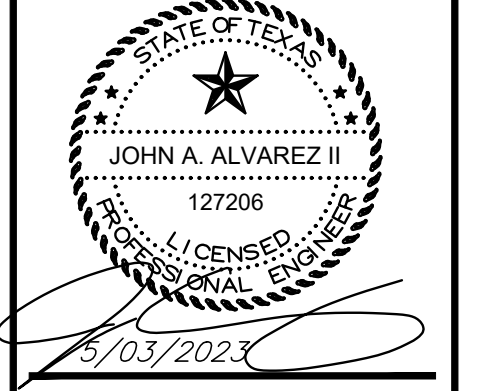
CITY OF LEANDER, TEXAS
Scale: NTS
Date: 7/10/23
Drawn by: RPM
Detail No: 202-3

No.	Date	REVISIONS

QUIDDITY
Professional Engineering and Surveying
3100 North Loop West, Suite 150 • Houston, TX 77018 • 281.441.5499

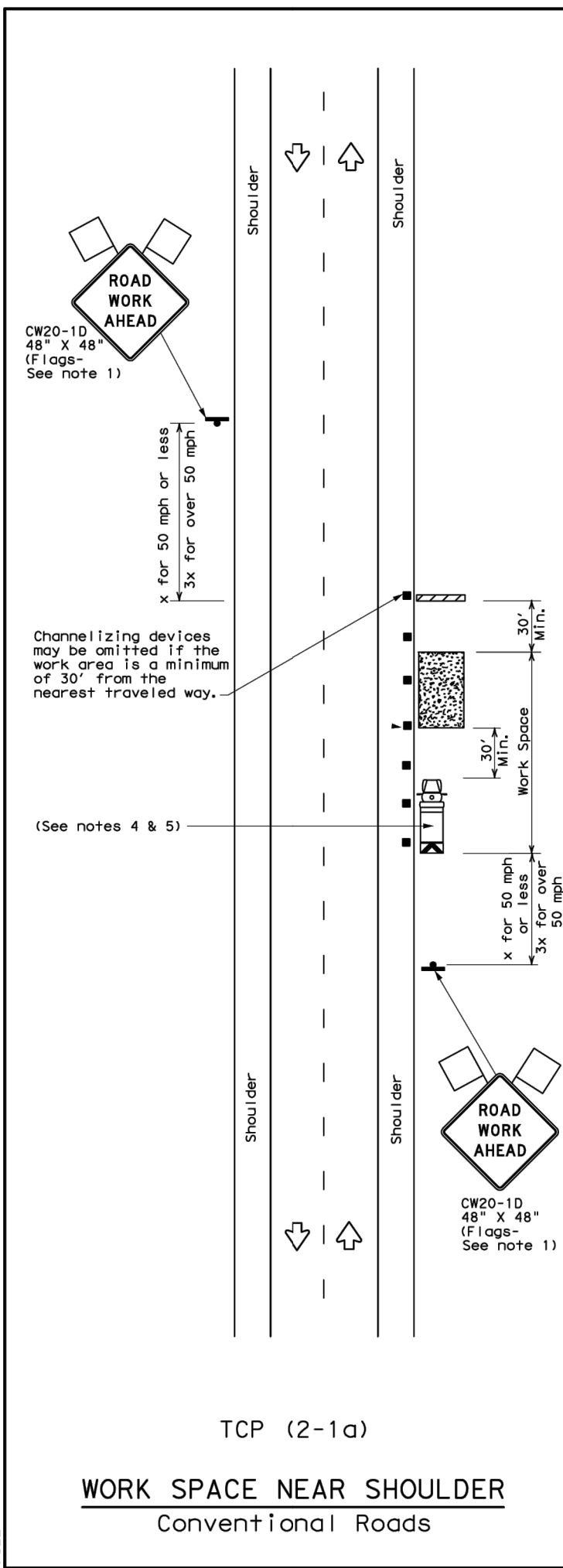
DESIGNED BY: FR
CHECKED BY: JA
DRAWN BY: JDE

SCALE: AS SHOWN
SUBMITTAL DATE: 03/15/2023
JOB NO.: 16759-0013-00

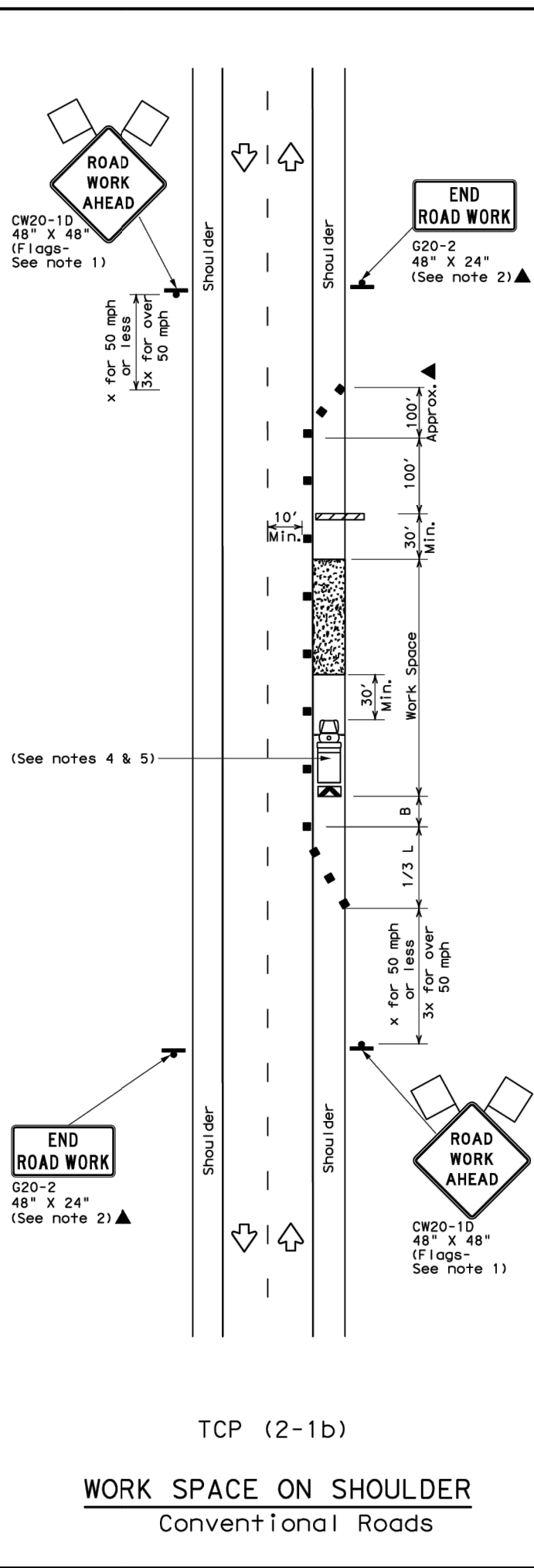


Public Improvement Construction Plans
WOODLAND ESTATES SUBDIVISION PHASE 1 & 2
STORM DRAIN DETAILS

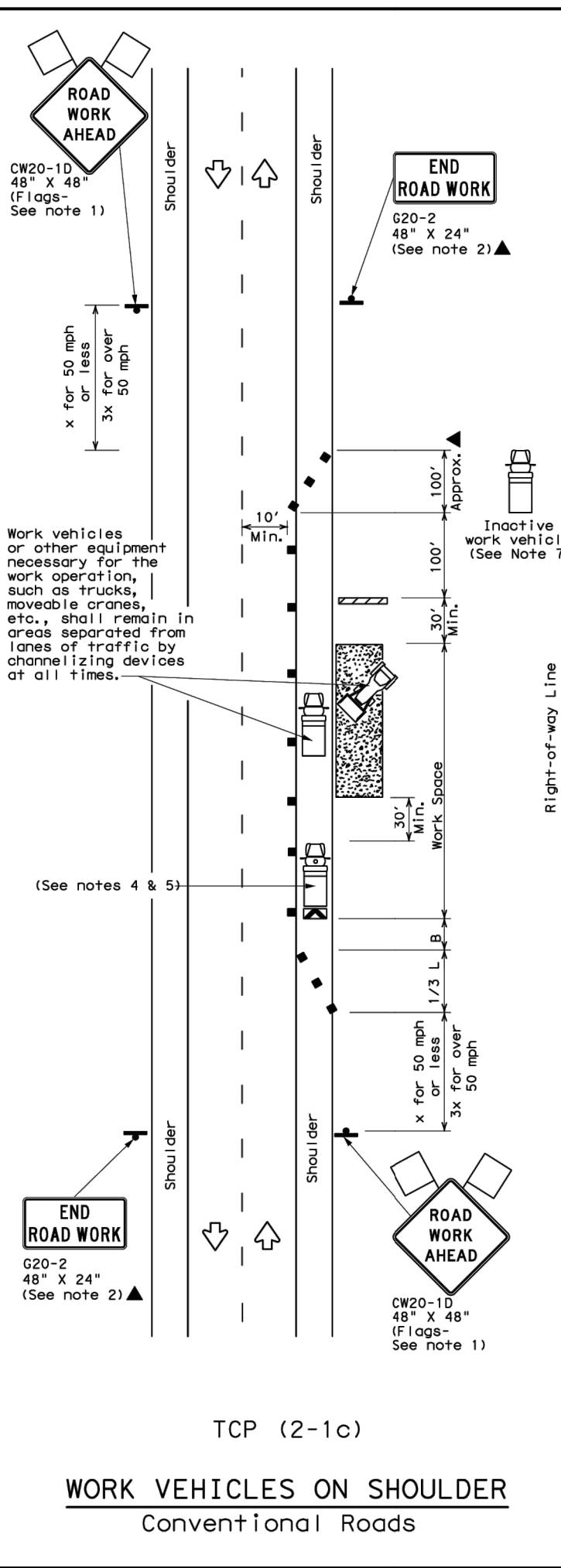
DATE: FILE:
 The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by the State of Texas for the use of this standard for any purpose other than that intended.



TCP (2-1a)
 WORK SPACE NEAR SHOULDER
 Conventional Roads



TCP (2-1b)
 WORK SPACE ON SHOULDER
 Conventional Roads



TCP (2-1c)
 WORK VEHICLES ON SHOULDER
 Conventional Roads

LEGEND

Type 3 Barricade	Channelizing Devices
Heavy Work Vehicle	Truck Mounted Attenuator (TMA)
Trailer Mounted Flashing Arrow Board	Portable Changeable Message Sign (PCMS)
Sign	Traffic Flow
Flag	Flagger

Posted Speed (MPH)	Formula	Minimum Desirable Taper Lengths (ft)	Suggested Maximum Spacing of Channelizing Devices (ft)	Minimum Sign Spacing (ft)	Suggested Stopping Distance (ft)
30	L = WS	150' 165' 180'	30' 60'	90'	90'
35	L = WS	205' 225' 245'	35' 70'	120'	120'
40	L = WS	265' 295' 320'	40' 80'	240'	155'
45	L = WS	450' 495' 540'	45' 90'	320'	195'
50	L = WS	500' 550' 600'	50' 100'	400'	240'
55	L = WS	600' 660' 720'	60' 120'	600'	295'
60	L = WS	650' 715' 780'	65' 130'	700'	350'
65	L = WS	700' 770' 840'	70' 140'	800'	410'
70	L = WS	750' 825' 900'	75' 150'	900'	475'
75	L = WS				540'

TYPICAL USAGE

MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
✓	✓	✓	✓	✓

GENERAL NOTES

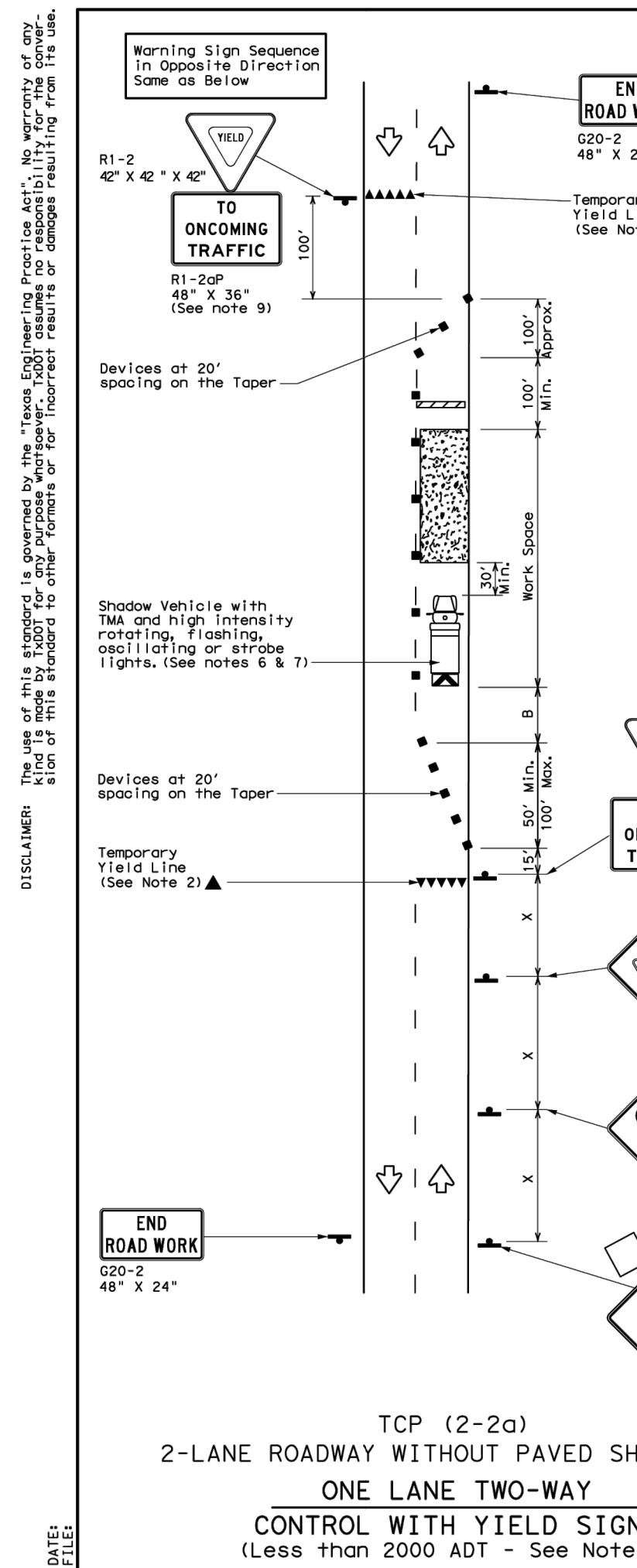
- Flags attached to signs where shown, are REQUIRED.
- All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated in the plans, or for routine maintenance work, when approved by the Engineer.
- Stoolpiled material should be placed a minimum of 30 feet from nearest traveled way.
- Shadow Vehicle with TMA and high intensity rotating, flashing, oscillating or strobe lights. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
- Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.
- See TCP (2-1) for shoulder work on divided highways, expressways and freeways.
- Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
- CPW-4 "BE PREPARED TO STOP" signs may be used in place of CPW-10 "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

For construction or maintenance contract work, specific project requirements for shadow vehicles can be found in the project GENERAL NOTES for Item 502, Barricades, Signs and Traffic Handling.

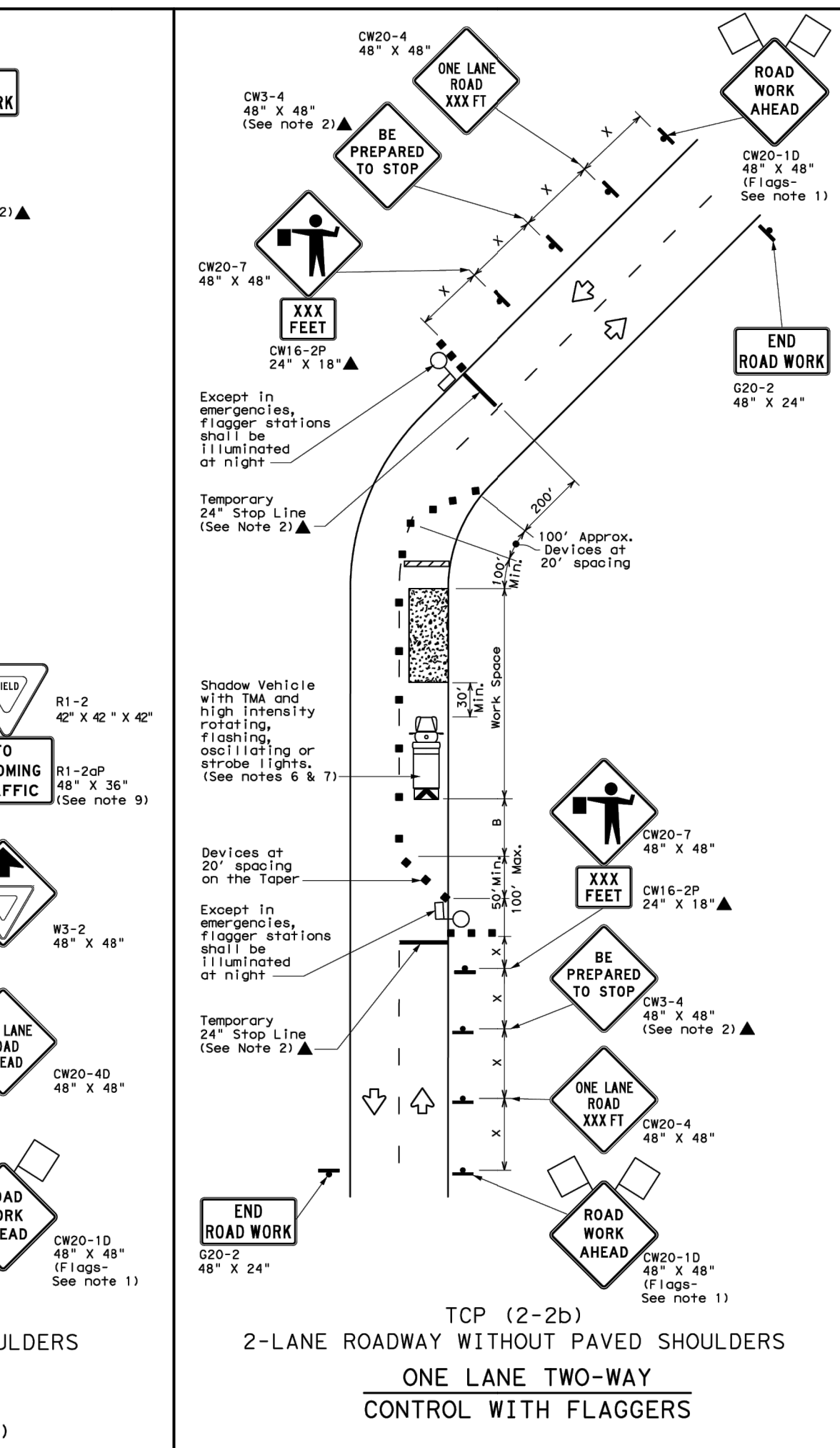
Texas Department of Transportation
 Traffic Operations Division

**TRAFFIC CONTROL PLAN
 CONVENTIONAL ROAD
 SHOULDER WORK**

12/01	December 1985	REVISED	ON ROAD	ON ROAD	ON ROAD	ON ROAD
2-94	2-12	REVISED	CON	SECT	JOB	ROADWAY
8-95	1-98	REVISED	DIST	COUNTY	SHEET NO.	
4-98						
12/01						



TCP (2-2a)
 2-LANE ROADWAY WITHOUT PAVED SHOULDERS
 ONE LANE TWO-WAY
 CONTROL WITH YIELD SIGNS
 (Less than 2000 ADT - See Note 9)



TCP (2-2b)
 2-LANE ROADWAY WITHOUT PAVED SHOULDERS
 ONE LANE TWO-WAY
 CONTROL WITH FLAGGERS

LEGEND

Type 3 Barricade	Channelizing Devices
Heavy Work Vehicle	Truck Mounted Attenuator (TMA)
Trailer Mounted Flashing Arrow Board	Portable Changeable Message Sign (PCMS)
Sign	Traffic Flow
Flag	Flagger

Posted Speed (MPH)	Formula	Minimum Desirable Taper Lengths (ft)	Suggested Maximum Spacing of Channelizing Devices (ft)	Minimum Sign Spacing (ft)	Suggested Stopping Distance (ft)
30	L = WS	150' 165' 180'	30' 60'	90'	200'
35	L = WS	205' 225' 245'	35' 70'	120'	250'
40	L = WS	265' 295' 320'	40' 80'	240'	305'
45	L = WS	450' 495' 540'	45' 90'	320'	360'
50	L = WS	500' 550' 600'	50' 100'	400'	425'
55	L = WS	600' 660' 720'	60' 120'	600'	495'
60	L = WS	650' 715' 780'	65' 130'	700'	570'
65	L = WS	700' 770' 840'	70' 140'	800'	645'
70	L = WS	750' 825' 900'	75' 150'	900'	730'
75	L = WS				820'

TYPICAL USAGE

MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
✓	✓	✓	✓	✓

GENERAL NOTES

- Flags attached to signs where shown, are REQUIRED.
- All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
- The CPW-4 "BE PREPARED TO STOP" sign may be installed after the CPW-4 "ONE LANE ROAD XXX FT" sign, but proper sign spacing shall be maintained.
- Flaggers should use two-way radios or other methods of communication to control traffic.
- Length of work space should be based on the ability of flaggers to communicate.
- A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
- Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.

TCP (2-2a)
 8. The R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work space should be no longer than one half city block. In rural areas, roadways with less than 2000 ADT, work space should be no longer than 400 feet.

TCP (2-2b)
 10. Channelizing devices on the center line may be omitted when a pilot car is leading traffic and approved by the Engineer.

11. If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain stopping sight distance to the flagger and a queue of stopped vehicles. (See table above).

12. Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.

For construction or maintenance contract work, specific project requirements for shadow vehicles can be found in the project GENERAL NOTES for Item 502, Barricades, Signs and Traffic Handling.

Texas Department of Transportation
 Traffic Operations Division

**TRAFFIC CONTROL PLAN
 ONE-LANE TWO-WAY
 TRAFFIC CONTROL**

12/01	December 1985	REVISED	ON ROAD	ON ROAD	ON ROAD	ON ROAD
8-95	2-12	REVISED	CON	SECT	JOB	ROADWAY
4-98			DIST	COUNTY	SHEET NO.	
3-03						
12/01						

App. _____

REVISIONS

No.	Date

QUIDDITY

Professional Engineer License No. 67920
 3100 Avenue Boulevard, Suite 150 • Austin, TX 78751 • 512.441.9490

SCALE: AS SHOWN
 SUBMITTAL DATE: 03/15/2023
 JOB NO.: 16759-0013-00

DESIGNED BY: FR
 CHECKED BY: JA
 DRAWN BY: JDE



Public Improvement Construction Plans

WOODLAND ESTATES SUBDIVISION PHASE 1 & 2

**TXDOT TRAFFIC CONTROL
 DETAILS**

CZP - ATTACHMENT N THROUGH P

ATTACHMENT N- Inspection, Maintenance, Repair, and Retrofit Plan

Attachment N is not applicable to this project.

ATTACHMENT O- Pilot-Scale Field Testing Plan

Attachment O is not applicable to this project.

ATTACHMENT P- Measures for Minimizing Surface Stream Contamination

Attachment P is not applicable to this project.

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.

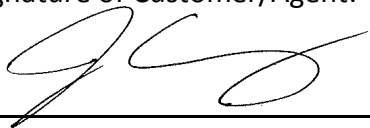
Signature

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: John A. Alvarez, P.E.

Date: 5/23/2023

Signature of Customer/Agent:



Regulated Entity Name: Woodlands Estates

Project Information

Potential Sources of Contamination

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

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

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

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

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

- Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.
- Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.
- Fuels and hazardous substances will not be stored on the site.
- 2. **Attachment A - Spill Response Actions.** A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.
- 3. Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.
- 4. **Attachment B - Potential Sources of Contamination.** A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

Sequence of Construction

- 5. **Attachment C - Sequence of Major Activities.** A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.
 - For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.
 - For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.
- 6. Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: _____

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.

Temporary Stormwater Section – Attachments A-F

ATTACHMENT A- Spill Response Actions

In the case of a spill of hydrocarbons or hazardous substances, the spill will be contained through containment means. No temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity are being proposed.

ATTACHMENT B- Potential Sources of Contamination

Activities or processes which may affect water quality include construction activities that may result in contamination of water. A description of these activities are outlined in Attachment C below.

ATTACHMENT C- Sequence of Major Activities

Major activities that will be proposed

- i) Install temporary erosion and sedimentation controls and tree protection fencing (ac)
- ii) Rough grading of streets and ponds
- iii) Install underground utilities, including water lines, and other on-site drainage facilities
- iv) Regrade streets to subgrade
- v) Install curb and gutter and lay base material and asphalt for paving
- vi) Complete all underground installations within the right-of-way
- vii) Complete final lot grading and restoration of pond.
- viii) Complete permanent erosion control and stabilize all disturbed areas through the restoration of site vegetation.
- ix) Complete permanent erosion control and stabilize all disturbed areas through the restoration.
- x) Perform final site clean up
- xi) Remove all temporary erosion controls

ATTACHMENT D Temporary Best Management Practices and Measures

Temporary best management practices will prevent pollution of surface water, groundwater, and stormwater. Temporary best management practices include tree protection, use of a stabilized construction exit, and use of silt fence.

ATTACHMENT E- Request to Temporarily Seal a Feature

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

ATTACHMENT F- Structural Practices

Attachment F is not applicable to this project. No structural practices will be used to divert flows.

Temporary Stormwater Section – Attachment G

ATTACHMENT G- Drainage Area Map

Temporary Stormwater Section – Attachments H-I

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

Attachment H is not applicable for this project. There are no temporary sediment pond or basins being proposed for this project.

ATTACHMENT I- Inspection and Maintenance for BMPs

Attachment I is not applicable for this project. There are no BMPs that require a plan for inspection and maintenance.

Temporary Stormwater Section – Attachment J

ATTACHMENT J- Schedule of Interim and Permanent Soil Stabilization Practices.

This project shall be substantially completed within 180 days from the date of the Notice to Proceed. The sequence of major activities will be as follows:

1. Install all temporary erosion and sedimentation controls and tree protection fencing
2. Maintain and inspect erosion controls
3. Rough grade streets and water quality/wet pond
4. Install underground utilities, including storm sewers, water lines and other on-site drainage facilities
5. Regrade streets to subgrade
6. Install curb and gutter and lay base material and asphalt for paving
7. Complete all underground installations within the right-of-way
8. Complete final lot grading and restoration of wet pond
9. Complete permanent erosion control and stabilize all disturbed areas through the restoration of site vegetation
10. Perform final site cleanup
11. Remove all temporary erosion controls



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 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:
 - Name printed on Check:
- If payment was made via ePay, provide the following:
 - Voucher Number:
 - A copy of the payment voucher is attached to this paper NOI form.

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

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

(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.)

Woodland Estates Subdivision Phases 1 & 2

c) What is the contact information for the Operator (Responsible Authority)?

Prefix (Mr. Ms. Miss): Mr.

First and Last Name: Sudharsan Vembutty Suffix:

Title: Manager Credentials:

Phone Number: 281-912-3364 Fax Number:

E-mail:

Mailing Address: 101 Parklane Blvd Suite 102

City, State, and Zip Code: Sugarland, TX 77478

Mailing Information if outside USA:

Territory:

Country Code: Postal Code:

d) Indicate the type of customer:

- Individual Federal Government
- Limited Partnership County Government
- General Partnership State Government
- Trust City Government
- Sole Proprietorship (D.B.A.) Other Government
- Corporation Other:
- Estate

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: [REDACTED]

Federal Tax ID: 86-2218372 [REDACTED]

Texas Secretary of State Charter (filing) Number: [REDACTED]

DUNS Number (if known): [REDACTED]

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. [REDACTED]

First and Last Name: John Alvarez [REDACTED] Suffix: [REDACTED]

Title: Project Manager [REDACTED] Credential: P.E. [REDACTED]

Organization Name: Quiddity Engineering [REDACTED]

Phone Number: 512-441-9493 [REDACTED] Fax Number: [REDACTED]

E-mail: jalvarez@quiddity.com

Mailing Address: 3100 Alvin Devane Blvd. #150

Internal Routing (Mail Code, Etc.): [REDACTED]

City, State, and Zip Code: Austin, TX 78741 [REDACTED]

Mailing information if outside USA:

Territory: [REDACTED]

Country Code: [REDACTED] Postal Code: [REDACTED]

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 [REDACTED]

(Refer to Section 3.a) of the Instructions)

- b) Name of project or site (the name known by the community where it's located):
Woodland Estates Subdivision Phases 1 & 2
- c) In your own words, briefly describe the type of construction occurring at the regulated site (residential, industrial, commercial, or other):
construction of a residential subdivision of 86 lots
- d) County or Counties (if located in more than one): Williamson
- e) Latitude: Longitude:
- 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: 1001 CR 280

City, State, and Zip Code: Leander, TX 78641

Section B:

Location Description:

City (or city nearest to) where the site is located:

Zip Code where the site is located:

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?
- d) What is the Secondary SIC Code(s), if applicable?
- e) What is the total number of acres to be disturbed? 119.962
- 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? 6/26/2023

h) What is the estimated end date of the project? 2/9/2024

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? Unnamed tributaries to North Fork of Brushy Creek

k) What is the segment number(s) of the classified water body(ies) that the discharge will eventually reach?

l) Is the discharge into a Municipal Separate Storm Sewer System (MS4)?

Yes No

If Yes, provide the name of the MS4 operator:

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: Sudharsan Venkatty

Operator Signatory Title: 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: 5/11/2023

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

I Sudharsan Vembatty
Print Name

Manager
Title - Owner/President/Other

of Leander Land Holdings I LLC
Corporation/Partnership/Entity Name

have authorized John A. Alvarez, P.E.
Print Name of Agent/Engineer

of Quiddity Engineering
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:

AS
Applicant's Signature

5
Date

THE STATE OF Texas §

County of Fort Bend §

BEFORE ME, the undersigned authority, on this day personally appeared Sudhanshu Venkatesh 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 11 day of May, 2023.



AS
NOTARY PUBLIC
Alex Stalen
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 5/16/2026

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Woodland Estates

Regulated Entity Location: 1001 CR 280 Leander, TX

Name of Customer: Leander Land Holdings I LLC

Contact Person: Travis Janik

Phone: 2819123364

Customer Reference Number (if issued):CN _____

Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

Hays

Travis

Williamson

San Antonio Regional Office (3362)

Bexar

Medina

Uvalde

Comal

Kinney

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

Austin Regional Office

San Antonio Regional Office

Mailed to: TCEQ - Cashier

Overnight Delivery to: TCEQ - Cashier

Revenues Section

Mail Code 214

P.O. Box 13088

Austin, TX 78711-3088

12100 Park 35 Circle

Building A, 3rd Floor

Austin, TX 78753

(512)239-0357

Site Location (Check All That Apply):

Recharge Zone

Contributing Zone

Transition Zone

<i>Type of Plan</i>	<i>Size</i>	<i>Fee Due</i>
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	119.926 Acres	\$ 8,000
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: 6/8/2023

Application Fee Schedule

Texas Commission on Environmental Quality

Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

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

Extension of Time Requests

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



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

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

SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)	
<input checked="" type="checkbox"/> New Customer		<input type="checkbox"/> Update to Customer Information	
<input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)		<input type="checkbox"/> Change in Regulated Entity Ownership	
The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).			
6. Customer Legal Name (If an individual, print last name first: eg: Doe, John)		If new Customer, enter previous Customer below:	
Leander Land Holdings I, LLC			
7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number (if applicable)
0803943519	32077899998	86-2218372	
11. Type of Customer:	<input type="checkbox"/> Corporation	<input type="checkbox"/> Individual	Partnership: <input type="checkbox"/> General <input checked="" type="checkbox"/> Limited
Government: <input type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Other	<input type="checkbox"/> Sole Proprietorship	<input type="checkbox"/> Other:	
12. Number of Employees		13. Independently Owned and Operated?	
<input checked="" type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher		<input type="checkbox"/> Yes <input type="checkbox"/> No	
14. Customer Role (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:			
15. Mailing Address:	101 Parklane Blvd Suite 102		
	City	Sugarland	State TX ZIP 77478 ZIP + 4
16. Country Mailing Information (if outside USA)		17. E-Mail Address (if applicable)	
18. Telephone Number	19. Extension or Code	20. Fax Number (if applicable)	
(281)912-3364		() -	

SECTION III: Regulated Entity Information

21. General Regulated Entity Information (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	
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).	
22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.)	
Woodland Estates Subdivision Phase 1 & 2	

23. Street Address of the Regulated Entity: <i>(No PO Boxes)</i>	1001 County Road 280						
	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:	South of CR 280 and West of N Bagdad Rd							
26. Nearest City	Leander			State	TX	Nearest ZIP Code		78641
27. Latitude (N) In Decimal:	30.593840			28. Longitude (W) In Decimal:	-97.903790			
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds			
30	35	37.824	97	54	13.644			
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			236115					
33. What is the Primary Business of this entity? <i>(Do not repeat the SIC or NAICS description.)</i>								
Residential								
34. Mailing Address:	101 Parklane Blvd. Suite 102							
	City	Sugarland	State	TX	ZIP	78641	ZIP + 4	
35. E-Mail Address:								
36. Telephone Number			37. Extension or Code			38. Fax Number <i>(if applicable)</i>		
(281)912 3364						() -		

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.

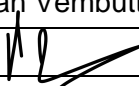
<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input checked="" type="checkbox"/> Edwards Aquifer	<input type="checkbox"/> Emissions Inventory Air	<input type="checkbox"/> Industrial Hazardous Waste
<input type="checkbox"/> Municipal Solid Waste	<input type="checkbox"/> New Source 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:	John A. Alvarez, P.E.	41. Title:	Project Manager
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(512)441- 9493		() -	jalvarez@quiddity.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:	Leander Land Holdings I, LLC	Job Title:	Manager
Name <i>(In Print)</i> :	Sudharsan Vembutty	Phone:	(281)912 3364
Signature:		Date:	6/8/2023