Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

- 1. <u>Edwards Aquifer applications</u> must be deemed administratively complete before a technical review can begin. To be considered administratively complete, the application must contain completed forms and attachments, provide the requested information, and meet all the site plan requirements. The submitted application and plan sheets should be final plans. Please submit one full-size set of plan sheets with the original application, and half-size sets with the additional copies.
 - To ensure that all applicable documents are included in the application, the program has developed tools to guide you and web pages to provide all forms, checklists, and guidance. Please visit the below website for assistance: http://www.tceq.texas.gov/field/eapp.
- 2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.
- 3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.
- 4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.
 - An appointment should be made to resubmit the application. The application is re-examined to ensure all deficiencies are resolved. The application will only be deemed administratively complete when all administrative deficiencies are addressed.
- 5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.
- 6. If the geologic assessment was completed before October 1, 2004 and the site contains "possibly sensitive" features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

Technical Review

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

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

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: Bar W Ranch West Phase 9				2. Regulated Entity No.:					
3. Customer Name: Continental Homes of Texas, LP				4. Customer No.: 601213523					
5. Project Type: (Please circle/check one) New Modification			Extension		Exception				
6. Plan Type: (Please circle/check one)	WPAP CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures	
7. Land Use: (Please circle/check one)	Residential	Non-r	Non-residential 8.3			8. Sit	te (acres): 56.701		
9. Application Fee	\$6500.00	10. P	10. Permanent BMP(s):			s):	Pond F (built with Phase 3)		
11. SCS (Linear Ft.):		12. A	12. AST/UST (No. Tanks):			ıks):			
13. County:	Williamson	14. W	14. Watershed:				South Fork San Gabriel		

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.)	_	_	_1_		
Region (1 req.)	_	_	_1_		
County(ies)			_1_		
Groundwater Conservation District(s)	Edwards Aquifer AuthorityBarton Springs/ Edwards AquiferHays TrinityPlum Creek	Barton Springs/ Edwards Aquifer	NA		
City(ies) Jurisdiction	AustinBudaDripping SpringsKyleMountain CitySan MarcosWimberleyWoodcreek	AustinBee CavePflugervilleRollingwoodRound RockSunset ValleyWest Lake Hills	AustinCedar ParkFlorenceGeorgetownJerrell _1_LeanderLiberty HillPflugervilleRound Rock		

San Antonio Region						
County:	Bexar	Comal	Kinney	Medina	Uvalde	
Original (1 req.)	_	_	_	_	_	
Region (1 req.)	_	_		_	_	
County(ies)		_	_		_	
Groundwater Conservation District(s)	Edwards Aquifer Authority Trinity-Glen Rose	Edwards Aquifer Authority	Kinney	EAA Medina	EAA Uvalde	
City(ies) Jurisdiction	Castle HillsFair Oaks RanchHelotesHill Country VillageHollywood ParkSan Antonio (SAWS)Shavano Park	BulverdeFair Oaks RanchGarden RidgeNew BraunfelsSchertz	NA	San Antonio ETJ (SAWS)	NA	

I certify that to the best of my knowledge, that the apparent application is hereby submitted to TCEQ for administration and the submitted to TCEQ for admin	
Lee A. Whited	
Print Name of Customer/Authorized Agent	
In La lund	8-17-23
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):	Payable to TCEQ (Y/N):		
Core Data Form Complete (Y/N):	Check: Signed (Y/N):		
Core Data Form Incomplete Nos.:	Less than 90 days old (Y/N):		

BAR W RANCH WEST PHASE 9

CONTRIBUTING ZONE PLAN

Prepared For:

Mr. John Sparrow

Continental Homes of Texas, LP 10700 Pecan Park Blvd., Suite 400 Austin, TX 78750



Prepared By:

CARLSON, BRIGANCE & DOERING, INC.

5501 West William Cannon Drive Austin, Texas 78749 (512) 280-5160

CBD No. 5475 August 2023

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^{*}Edwards Aguifer Application Cover Page

^{*}Check Payable to TCEQ

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: Lee A. Whited

Date: August 17, 2023

Signature of Customer/Agent:

Regulated Entity Name: Bar W Ranch West Phase 9

Project Information

1. County: Williamson

2. Stream Basin: South Fork San Gabriel

3. Groundwater Conservation District (if applicable):

Customer (Applicant):

Contact Person: John Sparrow

Entity: Continental Homes of Texas, LP

Mailing Address: 10700 Pecan Park Blvd., Suite 400

Email Address: JASparrow@drhorton.com

4.	Agent/Representative (If any):	
	Contact Person: <u>Lee A. Whited</u> Entity: <u>Carlson, Brigance, & Doering, Inc.</u> Mailing Address: <u>5501 West William Cannon Drive</u> City, State: <u>Austin, TX</u> Telephone: <u>512-280-5160</u> Email Address: <u>Lee@cbdeng.com</u>	Zip: <u>78749</u> Fax: <u>512-280-5165</u>
5.	Project Location:	
	 ☐ The project site is located inside the city limits ☐ The project site is located outside the city limit jurisdiction) of Leander ☐ The project site is not located within any city's 	s but inside the ETJ (extra-territorial
7.	The location of the project site is described below provided so that the TCEQ's Regional staff can boundaries for a field investigation.	•
	Approximately 4,111 ft southwest of the inters W Ranch Boulevard. Lat. 30.613183° Long.	•
8.	Attachment A - Road Map. A road map showin project site is attached. The map clearly shows	_
9.	Attachment B - USGS Quadrangle Map. A copy Quadrangle Map (Scale: 1" = 2000') is attached	
	✓ Project site boundaries.✓ USGS Quadrangle Name(s).	
10	Attachment C - Project Narrative. A detailed not project is attached. The project description is c 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: 78 Residential: # of Living Unit Equivalents: Commercial Industrial Other: 6
13. Total project area (size of site): <u>56.701</u> Ac
Total disturbed area: 23.53 Acres
14. Estimated projected population: <u>273</u>

Table 1 - Impervious Cover

below:

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	278,000	÷ 43,560 =	6.382
Parking	0	÷ 43,560 =	0
Other paved surfaces	157,060	÷ 43,560 =	3.606
Total Impervious Cover	435,060	÷ 43,560 =	9.988

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

Total Impervious Cover $9.988 \div$ Total Acreage 56.701 X 100 = 17.62% 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. $L \times W =Ft^2 \div 43,560 Ft^2/Acre =acres.$
21. Pavement Area:
Length of pavement area:feet. Width of pavement area:feet. L x W =Ft^2 \div 43,560 Ft ² /Acre =acres. Pavement areaacres \div R.O.W. areaacres x 100 =% 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. M 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 City of Leander (name) Treatment Plant. The treatment facility is: X 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. MN/A

Table 2 - Tanks and Substance Storage

27. Tanks and substance stored:

AST Number	Size (Gallons)	Substance to be Stored	Tank Material
1			
2			
3			

AST NUMBER	Size (Guii	Ulis)	3	otorea		Tarik Material	
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.							
for providin	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 dimension	ons and capacity of	containme	nt structi	ure(s):			
Table 3 - Second	lary Containment	:					
Length (L)(Ft.)	Width(W)(Ft.)	Height	(H)(Ft.)	L x W x H = (I	Ft3)	Gallons	
					То	otal: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 							

Substance to be

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. \square The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = <u>100</u> '.
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# 48491C-0455F Williamson County, TX, dated December 20, 2019.
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 ensure 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 permanentBMPs 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 ensure 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.
	The executive director may waive the requirement for other permanent BMPs for multifamily residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.
	 Attachment I - 20% or Less Impervious Cover Waiver. The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached. ✓ The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover. ✓ The site will not be used for multi-family residential developments, schools, or small business sites.
52.	Attachment J - BMPs for Upgradient Stormwater.
	 A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached. No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached. Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.
53.	Attachment K - BMPs for On-site Stormwater.
	A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is attached. Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.

54. Attachment L - BMPs for Surface Streams. A description of the BMPs and measures that prevent pollutants from entering surface streams is attached.
□ N/A
55. Attachment M - Construction Plans. Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. Construction plans for the proposed permanent BMPs and measures are attached and include: Design calculations, TCEQ Construction Notes, all proposed structural plans and specifications, and appropriate details.
□ N/A
56. Attachment N - Inspection, Maintenance, Repair and Retrofit Plan. A site and BMP specific plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan fulfills all of the following:
Prepared and certified by the engineer designing the permanent BMPs and measures
 ✓ Signed by the owner or responsible party ✓ Outlines specific procedures for documenting inspections, maintenance, repairs, and, if necessary, retrofit. ✓ Contains a discussion of record keeping procedures
□ N/A
57. Attachment O - Pilot-Scale Field Testing Plan. Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.
≥ N/A
58. Attachment P - Measures for Minimizing Surface Stream Contamination. A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that result in water quality degradation.
□ N/A
Responsibility for Maintenance of Permanent BMPs and Measures after Construction is Complete.
59. The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an

- owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.
- 60. A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

Administrative Information

- 61. Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions.
- 62. Any modification of this Contributing Zone Plan may require TCEQ review and Executive Director approval prior to construction, and may require submission of a revised application, with appropriate fees.
- 63. The site description, controls, maintenance, and inspection requirements for the storm water pollution prevention plan (SWPPP) developed under the EPA NPDES general permits for stormwater discharges have been submitted to fulfill paragraphs 30 TAC §213.24(1-5) of the technical report. All requirements of 30 TAC §213.24(1-5) have been met by the SWPPP document.
 - The Temporary Stormwater Section (TCEQ-0602) is included with the application.

ATTACHMENT 'A'



LOCATION MAP N.T.S.



CONTRIBUTING ZONE APPLICATION Attachment "C" PROJECT NARRATIVE

1.0 GENERAL

Bar W Ranch West Phase 9 is a proposed single family detached development located within the overall Bar W Ranch Concept Plan. This tract is located within the Leander Municipal Utility District # 1 and inside the City of Leander's ETJ. This project is composed of 56.701 acres of land which includes street right of way, 78 residential lots and 1 HOA/MUD/PARKLAND/D.E./P.U.E./W.Q.E. lot. This project is subject to the Amended and Restated Agreement Regarding Consent to Creation of Leander Municipal Utility Districts No. 1, 2, and 3 And Development of The Bar W Ranch (Consent Agreement).

2.0 ACCESS\TRANSPORTATION

Access to this project shall be taken from Gold Dust Trail, Marlin Spike Drive, and Buntline Hitch Drive (Built with Bar W Ranch West Phase 3) which is connected to existing Bar W Ranch Boulevard. The roads in this subdivision will be constructed to City of Leander requirements per the Consent Agreement. Five-foot (5') sidewalks are proposed on both sides of all streets. The roadways will be dedicated to Williamson County for maintenance.

3.0 IMPERVIOUS COVER

Impervious cover for this section will come from houses, driveways, sidewalks, and streets. There is a total of 32.356 acres of impervious cover that will be treated by Existing Wet Pond F, Built with Phase 3. 20.424 acres impervious cover will come from Bar W Ranch West Phase 9. No previous development exists within the property boundary, except for improvements from Phase 3, and there is no demolition proposed. No offsite impervious cover drains through the site except those areas planned as part of the development that is treated by Existing Wet Pond F.

4.0 WATER QUALITY

The drainage from Bar W Ranch Phase 9 will be routed to the Existing Wet Pond (Pond F) built with Phase 3. Bar W Ranch Phase 9, Bar W Ranch Phase 3, A portion of Bar W Ranch Boulevard, and A portion of Bar W Ranch Phase 1 Section 2. This project (and all Bar W Ranch West projects) shall not increase the water surface elevation in the San Gabriel River for the 2, 10, 25- and 100-year storm events. Therefore, the ponds in Bar W Ranch West are not required to, nor do they provide, peak flow attenuation.

5.0 WATER AND WASTEWATER

This Project will connect to three 8" water lines stubbed from Phase 3 in Gold Dust Trail, Marlin Spike Drive, and Buntline Hitch. The water system will be looped internally within the subdivision.

The wastewater service for this project will connect to an existing 12" wastewater line,

built with phase 3, in the phase 9 right of way. This existing wastewater line leads to the Bar W Ranch Lift Station, which will then pump the effluent to the Liberty Hill Wastewater Treatment Facility. Internal gravity wastewater lines will be sized to accommodate the development of Bar W Ranch West Phase 9.

6.0 TREE PRESERVATION

Preservation of existing trees and mitigation for tree removal will comply with the Consent Agreement. There are numerous Ash Juniper trees on site with a few oak trees.

7.0 RIPARIAN CORRIDOR

Per the Consent Agreement, Bar W Ranch will average the riparian corridor setbacks to provide at least as much setback as is strictly required by the City Ordinance. Phase 9 does not encroach into any Riparian Corridor areas.

8.0 FLOODPLAIN

A portion of this tract is within the designated flood hazard area as shown the federal emergency management agency (FEMA) flood insurance rate map #48491C0455F, Williamson County, Texas dated December 20, 2019.

9.0 PARKLAND DEDICATION

This project will comply with the City of Leander parkland dedication requirements and the Consent Agreement.

10.0 CERTIFICATION

I hereby certify that this Plan complies with the Consent Agreement and applicable codes and ordinances for the City of Leander and TCEQ, and the information contained here on is true and correct to the best of my knowledge.

Lee A. Whited, P.E. #102471

Senior Project Manager

CARLSON, BRIGANCE, & DOERING, INC. F-3791

5501 West William Cannon Dr., Austin, Texas 78749

LEE A. WHITED

102471

CARLSON, BRIGANCE & DOERING, INC. ID# F3791

ATTACHMENT "D"

Factors contributing to the contamination of surface and groundwater are generated from man-made pollutants such as pet waste, pesticides, fertilizers, illegal trash dumping, and automotive fluids.

ATTACHMENT "E"

Volume and Character of Stormwater Runoff:

This project will produce a peak runoff to Pond F (designed and built with Phase 3) of 123.1 CFS. The runoff leaving the site will be in compliance with the Texas Commission on Environmental Quality Regulations. Runoff from the development shall be routed to the water quality wet pond, Pond F, in this phase via streets, channel, and storm sewer. The water quality wet pond, built with Phase 3, shall have a 93% removal rate, by TCEQ Standards, and designed to meet TCEQ Standard Specifications for TSS load removal. Peak flows are increased from those of existing conditions by the addition of impervious cover comprising of proposed single-family homes, proposed roadways and proposed sidewalks. The proposed site shall be comprised of approximately 17.62% impervious cover. Prior to development, no impervious cover existed on-site. The runoff coefficient for existing conditions is 0.36 and the runoff coefficient for proposed conditions is 0.64.

ATTACHMENT "J"

Under proposed conditions, there are no areas flowing across the site upgradient of the site, except those portions of Bar W Ranch Phase 3, Phase 1, and Phase 2 that is planned to drain to the Proposed Wet Pond F (designed and to built with Phase 3). All other offsite areas are diverted away and around Phase 9 by previous phases. For that reason, the Water Quality Pond F does not include additional capacity for offsite runoff.

ATTACHMENT "K"

Site area is equal to approximately 56.701 acres. All storm water will be routed via lot and right-of-way grading, curbs and gutters, and storm drains to the water quality Wet Pond F (designed and built with Bar W Ranch West Phase 3), which shall treat all contaminated stormwater runoff from the site to acceptable TCEQ standards. This project will not increase the water surface elevation in the San Gabriel River for the 2, 10, 25- and 100-year storm events. For that reason, no detention is required or proposed. The water quality controls were designed using TCEQ Technical Guidance Manual RG-348.

ATTACHMENT "L"

Pond F (designed and built with Phase 3) shall mitigate pollutants from site runoff to a degree adequate to meet TCEQ standards. Discharge into surface streams shall not occur until removal of the required total suspended solids (TSS) mass has been achieved. Further, the ponds shall include a layer of clay liner to prevent contamination of groundwater.

Under proposed to be built conditions, 0.81 acres of the Bar W Ranch West Phase 9 site impervious cover shall be left uncontrolled. Phase 3 has 0.00 acres of impervious cover uncontrolled. Bar W Ranch Boulevard in Phase 2 (built with phase 3 and future north) will have 0.05 acres of impervious cover uncontrolled. Bar W Ranch Phase 1 Section 2 will have 0.114 acres of impervious cover uncontrolled. These uncontrolled areas are downslope of Pond F or have topographical constraints. The uncontrolled areas shall drain directly into the Tributary 2 leading to the San Gabriel River and Directly into the San Gabriel River. Further, per standard TCEQ assumptions, wet basin BMPs remove TSS with a 93% efficiency which exceeds the TCEQ standard minimum load reduction and will over treat to account for uncontrolled impervious cover. More than 80% of TSS will be removed for future, existing, and proposed areas treated by Pond F. Please see the Water Quality Design section of this application for calculations showing the adequate sizing of the BMP. There are no features within the project site, and none are affected by the project.

ATTACHMENT "M"

CONSTRUCTION PLANS

Sheet List Table

Sheet Number Sheet Title COVER SHEET GENERAL NOTES (1 OF 2) GENERAL NOTES (2 OF 2) WC SR SPECIFICATION FINAL PLAT (1&2 OF6) FINAL PLAT (3&4 OF 6) FINAL PLAT (5&6 OF 6) PRELIMINARY PLAT (100 SCALE) EROSION CONTROL PLAN EROSION CONTROL DETAILS TREE PLAN & TREE LIST OVERALL STREETS GOLD DUST TRAIL (0+00 TO END) POGONIP PLACE (0+00 TO END) MARLIN SPIKE (0+00 TO 3+50) MARLIN SPIKE (3+50 TO END) BANDITO BLUFF PASS (0+00 TO 5+00) BANDITO BLUFF PASS (5+00 TO 9+00) BANDITO BLUFF PASS (9+00 TO 12+50) BUNTLINE HITCH DRIVE (12+50 TO 17+00) BUNTLINE HITCH DRIVE (17+00 TO END) OVERALL DRAINAGE PLAN DRAINAGE PLAN DRAINAGE CALCULATION REFERENCE ONLY-POND F (PHASE 3) REFERENCE ONLY - POND F SECTIONS (PHASE 3 REFERENCE ONLY-POND F DETAILS (PHASE 3) REFERENCE ONLY- POND F (PHASE 3) OVERALL STORM STORM SEWER LN F (0+00 TO END) STORM SEWER LN G (0+00 TO END) STORM SEWER LATERAL LINE (1 OF 2) STORM SEWER LATERAL LINES (2 OF 2) STORM SEWER LN A (0+00-10+00) (REFERENCE) RECALCULATED STORM SEWER LN B (0+00-to 8+00) (REFERENCE ONLY) OVERALL WATER DISTRIBUTION PLAN WATER LINES A & C (0+00 TO END) WATER LINE B (0+00 TO 9+00) WATER LINE B (9+00 TO END) WATER LINE D (0+00 TO END) OVERALL WASTEWATER COLLECTION PLAN WASTEWATER LINE B (0+00.00 TO 6+24.40) WASTEWATER LINE C (0+00.00 TO 5+34.31) WASTEWATER LINE D & E (0+00.00 TO END) EX WASTEWATER LINE A (0+00 TO 8+00) REFERENCE EX WASTEWATER LINE A (8+00 TO 16+00) REFERENCE OVERALL GRADING PLAN GRADING PLAN (SHEET 1 OF 2) GRADING PLAN (SHEET 2 OF 2) GRADING DETAILS STRIPING AND SIGNAGE LIGHTING PLAN WATER & WASTEWATER DETAILS (1 OF 4) WATER & WASTEWATER DETAILS (2 OF 4) WATER & WASTEWATER DETAILS (3 OF 4) WATER & WASTEWATER DETAILS (4 OF 4) STANDARD CONSTRUCTION DETAILS (1 OF 5) STANDARD CONSTRUCTION DETAILS (2 OF 5) STANDARD CONSTRUCTION DETAILS (3 OF 5) STANDARD CONSTRUCTION DETAILS (4 OF 5) STANDARD CONSTRUCTION DETAILS (5 OF 5) 62 STREET LIGHTING E1.0 63 STREET LIGHTING E1.1 STREET LIGHTING E2.0 STREET LIGHTING E5.0 STREET LIGHTING E4.0 STREET LIGHTING E5.0 STREET LIGHTING E5.1 STREET LIGHTING E5.2 STREET LIGHTING E5.3 LANDSCAPE PLANS L1 LANDSCAPE PLANS L2

NO.	REVISION DESCRIPTION	REVIEWED BY:	DATE
	REVISIONS AF	ND CORRECTIONS	1

BAR W RANCH PHASE 9

STREET, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

LEANDER MUD NUMBER 3 CITY OF LEANDER PROJECT NUMBER: PICP-23-0086

SUBMITTAL DATE 6/28/2022



LOCATION MAP

SCALE: 1" = 2,000'

LEGAL DESCRIPTION:

BEING ALL OF THAT CERTAIN 53.236 ACRE TRACT OR PARCEL OF LAND, OUT OF AND A PART OF THE HENRY GARMES SURVEY, ABSTRACT NUMBER 269, AND THE WILLIAM H. MONROE SURVEY, ABSTRACT NUMBER 453, BOTH SITUATED IN WILLIAMSON COUNTY, TEXAS, SAID TRACT OF LAND BEING MORE PARTICULARLY DESCRIBED AS BEING A PORTION OF A CALLED 972.33 ACRE TRACT OF LAND CONVEYED TO HOWARD BARKLEY WEDEMEYER IN VOLUME 343, PAGE 553 OF THE DEED RECORDS OF WILLIAMSON COUNTY, TEXAS (D.R.W.C.TX.), BEING ALL OF A CALLED 0.505 ACRE TRACT OF LAND CONVEYED TO CONTINENTAL HOMES OF TEXAS, L.P. IN DOCUMENT NUMBER 2021052680 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS (O.P.R.W.C.TX.), SAME BEING ALL OF A CALLED 51.087 ACRE TRACT OF LAND, AND A PORTION OF A CALLED 37.246 ACRE TRACT OF LAND BOTH CONVEYED TO CONTINENTAL HOMES OF TEXAS, L.P. IN DOCUMENT NUMBER 2021052679 (O.P.R.W.C.TX.), SAID 53.236 ACRE TRACT OF LAND BEING MORE FULLY DESCRIBED BY METES AND BOUNDS

NOTES:

- 1. A PORTION OF THIS TRACT IS WITHIN THE DESIGNATED FLOOD HAZARD AREA AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP #48491C0455 F WILLIAMSON COUNTY, TEXAS DATED DECEMBER 20, 2019.
- 2. THIS TRACT IS IN THE EDWARDS AQUIFER CONTRIBUTING ZONE AND EDWARDS AQUIFER CONTRIBUTING ZONE.
- 3. DEVELOPMENT OF THIS TRACT IS SUBJECT TO THE AMENDED AND RESTATED AGREEMENT REGARDING CONSENT OF CREATION OF MUNICIPAL UTILITY DISTRICTS 1, 2, AND 3 AND DEVELOPMENT OF THE "WEDEMEYER RANCH" AS AMENDED (CONSENT AGREEMENT); DOC #20150089728.
- 4. ALL STREETS WILL BE DEDICATED TO WILLIAMSON COUNTY. ALL HOA/PARKLAND LOTS WILL BE DEDICATED TO THE HOA, INCLUDING DRAINAGE IMPROVEMENTS.

OWNER / DEVELOPER: ADIB KHOURY D.R. HORTON 10700 PECAN PARK BLVD. STE. 400 AUSTIN, TEXAS 78750 PHONE: (512)-533-1468

ENGINEER AND SURVEYOR: CARLSON, BRIGANCE & DOERING, INC. 5501 WILLIAM CANNON DRIVE AUSTIN, TEXAS 78749 PHONE: (512) 280-5160

SUBMITTED BY:

8-15-23 CARLSON, BRIGANCE & DOERING, INC. DATE

APPROVED BY:

EMILY TRUMAN, P.E., CFM, CITY ENGINEER CITY OF LEANDER, TEXAS

APPROVED BY:

ROBIN M. GRIFFIN, AICP, EXECUTIVE DIRECTOR OF DEVELOPMENT SERVICES, CITY OF LEANDER, TEXAS

DATE

DATE

DATE

DATE

APPROVED BY:

GINA ELLISON, P.E., PUBLIC WORKS DIRECTOR CITY OF LEANDER, TEXAS DATE

APPROVED BY:

MARK TUMMONS, CPRP, DIRECTOR OF PARKS AND RECREATION

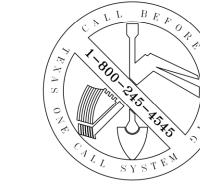
APPROVED BY:

CHIEF JOSHUA DAVIS, FIRE MARSHALL

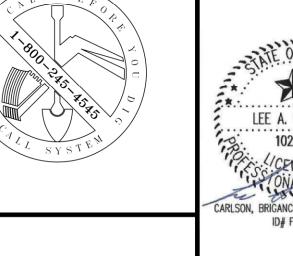
REVIEWED BY:

ON BEHALF OF LEANDER MUD NO. 1

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



BAR W RANCH LIFT STATION PHASE 2 IMPROVEMENTS ARE REQUIRED TO BE CONSTRUCTED BEFORE BAR W RANCH PHASE 9 PUBLIC IMPROVEMENTS CAN BE CLOSED-OUT AND ACCEPTED BY THE CITY OF LEANDER.



PICP-23-0086

OF 61

8-15-23 会 102471

LEE A. WHITED

JUNE 2023 OB NUMBER 5475

HEET

REVISED March 27, 2023

CITY CONTACTS: ENGINEERING MAIN LINE: 512-528-2721 PLANNING DEPARTMENT: 512-528-2750 PUBLIC WORKS MAIN LINE: 512-259-2640 STORMWATER INSPECTIONS: 512-285-0055 UTILITIES MAIN LINE: 512-259-1142

UTILITIES ON-CALL: 512-690-4760

1. CONTRACTORS 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 STOPPAGE. 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 PIPELINE 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 YOU WITNESS OR EXPERIENCE PIPELINE 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 QUALITY TESTING FOR ALL INFRASTRUCTURES TO BE ACCEPTED AND MAINTAINED BY THE CITY OF LEANDER AFTER COMPLETION. c. PROOF ROLLING SUB-GRADE AND EVERY LIFT OF ROADWAY EMBANKMENT, IN-PLACE DENSITY TESTING OF EVERY BASE COURSE, AND ASPHALT CORES. ALL OF THIS TESTING MUST BE WITNESSED

BY A CITY OF LEANDER REPRESENTATIVE. 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 COMPACTION OF BACKFILL IN THE CITY'S ROW MUST BE APPROVED PRIOR TO THE START OF BACKFILL OPERATIONS.

4. ALL RESPONSIBILITILY 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. OR 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 BLASTING 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 TRIANGLE 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 AFFECTED PLAN SHEET TITLE BLOCK.

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 ACCURATE "RECORD DRAWINGS" FOLLOWING THE COMPLETION OF ALL CONSTRUCTION. THESE "RECORD DRAWINGS" SHALL MEET THE SATISFACTION OF THE ENGINEERING DEPARTMENTS PRIOR TO FINAL ACCEPTANCE.

12. 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.

13. WHEN CONSTRUCTION IS BEING CARRIED OUT WITHIN EASEMENTS, THE CONTRACTOR SHALL CONFINE HIS WORK TO WITHIN THE PERMANENT AND TEMPORARY EASEMENTS. PRIOR TO ACCEPTANCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TRASH AND DEBRIS WITHIN THE PERMANENT EASEMENTS. CLEANUP SHALL BE TO THE SATISFACTION OF THE ENGINEER OF RECORD AND CITY. 14. 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.

15. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA). OSHA STANDARDS MAY BE PURCHASED FROM THE GOVERNMENT PRINTING OFFICE: INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, 1033 LA POSADA DR. SUITE 375, AUSTIN, TEXAS 78752-3832.

16. ALL MANHOLE FRAMES/COVERS AND WATER VALVE/METER BOXES MUST BE ADJUSTED TO FINISHED GRADE AT THE OWNER'S EXPENSE BY THE CONTRACTOR FOR CITY CONSTRUCTION INSPECTOR INSPECTION, ALL LITILITY ADJUSTMENTS SHALL BE COMPLETED PRIOR TO FINAL PAVING, CONTRACTOR SHALL BACKFILL AROUND MANHOLES AND VALVE BOXES WITH CLASS A CONCRETE.

17. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT WHERE NOT SPECIFICALLY COVERED IN THE PROJECT SPECIFICATIONS SHALL CONFORM TO ALL CITY OF LEANDER DETAILS AND CITY OF AUSTIN STANDARD SPECIFICATIONS.

18. PROJECT SPECIFICATIONS TAKE PRECEDENCE OVER PLANS AND SPECIAL CONDITIONS GOVERN OVER TECHNICAL SPECIFICATIONS.

19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND

ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT

20. 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. 21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ROADS AND DRIVES ADJACENT TO AND NEAR

THE SITE FREE FROM SOIL, SEDIMENT AND DEBRIS. CONTRACTOR WILL NOT REMOVE SOIL, SEDIMENT OR DEBRIS FROM ANY AREA OR VEHICLE BY MEANS OF WATER. ONLY SHOVELING AND SWEEPING WILL BE ALLOWED. 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 CLEANED TO THE SATISIFACTION OF THE CITY.

22. TREES IN EXISTING ROW SHOULD BE PROTECTED OR 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, FRANCHISE 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

7. ENGINEER OF RECORD IS RESPONSIBLE TO PREPARE AND SUBMIT CLOSEOUT DOCUMENTS FOR PROJECT CLOSEOUT.

EROSION CONTROL NOTES

1. 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.

2. THE TEMPORARY SPOILS DISPOSAL SITE IS TO BE SHOWN IN THE EROSION CONTROL MAP. 3. ANY ON-SITE SPOILS DISPOSAL SHALL BE REMOVED PRIOR TO ACCEPTANCE UNLESS SPECIFICALLY

SHOWN ON THE PLANS. THE DEPTH OF SPOIL SHALL NOT EXCEED 10 FEET IN AN AREA. 4. ALL AREAS DISTURBED OR EXPOSED DURING CONSTRUCTION SHALL BE RESTORED WITH A MINIMUM OF 6 INCHES OF TOPSOIL AND COMPOST BLEND. TOPSOIL ON SINGLE FAMILY LOTS MAY BE INSTALLED WITH HOME CONSTRUCTION. THE TOPSOIL AND COMPOST BLEND SHALL CONSIST OF 75% TOPSOIL AND 25% COMPOST.

5. SEEDING FOR REESTABLISHING VEGETATION SHALL COMPLY WITH THE AUSTIN GROW GREEN GUIDE OR WILLIAMSON COUNTY'S PROTOCOL FOR SUSTAINABLE ROADSIDES (SPEC 164--WC001 SEEDING FOR EROSION CONTROL). RESEEDING VARIETIES OF BERMUDA SHALL NOT BE USED

6. STABILIZED CONSTRUCTION ENTRANCE IS REQUIRED AT ALL POINTS WHERE CONSTRUCTION TRAFFIC IS EXITING THE PROJECT ONTO EXISTING PAVEMENT. LINEAR CONSTRUCTION PROJECTS MAY REQUIRE SPECIAL CONSIDERATION. ROADWAYS SHALL REMAIN CLEAR OF SILT AND MUD.

7. TEMPORARY STOP SIGNS SHOULD BE INSTALLED AT ALL CONSTRUCTION ENTRANCES WHERE A STOP CONDITION DOES NOT ALREADY EXIST.

8. 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

WATER AND WASTEWATER NOTES

WATER AND WASTEWATER GENERAL 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 CERTIFIED BY AND ORGANIZATION ACCREDITED BY ANSI. 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

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

SIEVE SIZE PERCENT RETAINED BY WEIGHT 1/2" 3/8" 0-240-85 95 - 100

6. DENSITY TESTING FOR TRENCH BACKFILL SHALL BE DONE IN MAXIMUM 12" LIFTS.

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

2. CITY PERSONNEL WILL OPERATE OR AUTHORIZE THE CONTRACTOR TO OPERATE 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 PROPERTIES.

4. PRESSURE TAPS OR HOT TAPS 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. CONCRETE THRUST BLOCKS SHALL BE PLACED BEHIND AND UNDER ALL TAP SLEEVES 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). ADDITIONALL THRUST RESTRAINTS MAY BE REQUIRED BASED UPON THE MANUFACTURERS RECOMMENDATION AND/OR ENGINEER'S DESIGN.

8. PIPE MATERIAL FOR PUBLIC WATER MAINS SHALL BE PVC (AWWA C900-DR14 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-PW).

9. ALL FIRE HYDRANT LEADS SHALL BE DUCTILE IRON PIPE (AWWA C115/C151 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 DFW37F-12-1CA, OR EQUAL b. DUAL, 1" METERS AND BELOW DFW39F-12-1CA, OR EQUAL

c. 1.5" SINGLE METER DFW65C-14-1CA, OR EQUAL

d. 2" SINGLE METER DFW1730F-12-1CA, OR EQUAL 13. ALL WATER VALVE COVERS ARE TO BE PAINTED BLUE.

WASTEWATER

1. CURVILINEAR WASTEWATER DESIGN LAYOUT IS NOT PERMITTED.

2. MANDREL 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 WW-511 (RAVEN 405 OR SPRAYWALL). PENETRATIONS TO EXISTING WASTEWATER MANHOLES REQUIRE THE CONTRACTOR TO RECOAT THE ENTIRE MANHOLE IN ACCORDANCE WITH CITY OF AUSTIN STANDARD SPECIFICATIONS SECTION NO.

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 LEGISTATION RELATED TO ACCESSIBLITY WITHIN THE LIMITS OF CONSTRUCTION SHOWN IN THESE PLANS. ALL SIDEWALKS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT AND TEXAS ACCESSIBILITY

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 1/4" 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 III OF TONGUE AND GROOVE OR O-RING JOINT DESIGN. CORRUGATED METAL PIPE IS NOT ALLOWED IN PUBLIC RIGHT OR WAY OR EASEMENTS. 7. THE CONTRACTOR MUST PROVIDE A PNEUMATIC TRUCK PER TXDOT SPEC FOR PROOF ROLLING. 8. ALL STRIPING, WITH THE EXCEPTION OF STOP BARS, CROSS WALKS, WORDS AND ARROWS, IS TO BE

TYPE II (WATER BASED). STOP BARS, CROSS WALKS, WORDS AND ARROWS REQUIRE TYPE I THERMOPLASTIC. 9. MANHOLE FRAMES, COVERS, VALVES, CLEAN-OUTS, ETC. SHALL BE RAISED TO GRADE PRIOR TO FINAL PAVEMENT CONSTRUCTION.

10. A STOP BAR SHALL BE PLACED AT ALL STOP SIGN LOCATIONS. 11. 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. 12. GEOTECHNICAL INVESTIGATION INFORMATION AND PAVEMENT RECOMMENDATIONS WERE PROVIDED BY MLA LAB. PAVEMENT RECOMMENDATIONS ARE AS FOLLOWS: a. PROVIDE RECOMMENDATIONS.

STREET	CLASSIFICATION	НМАС	CRUSHED LIMESTONE BASE	LIME STABILIZATION
*BAR W RANCH BLVD. *STAMP IRON AVENUE BOVINE PASS BRONC BUSTER WAY FLANK SKIRT DRIVE CROWNED EAGLE PASS RANNY COVE MARCH HARE TRACE	NEIGHBORHOOD COLLECTOR RESIDENTIAL COLLECTOR LOCAL LOCAL LOCAL LOCAL LOCAL LOCAL	2 INCHES	13 INCHES 12 INCHES 8 INCHES 8 INCHES 8 INCHES 8 INCHES 8 INCHES 8 INCHES	N/A N/A N/A N/A N/A N/A N/A

13. A TRAFFIC CONTROL PLAN, IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CITY OF AUSTIN TRANSPORATION 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.

14. 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 8 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.

15. 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 ARE TO BE SUBMITTED TO THE CITY CONSTRUCTION INSPECTOR FOR REVIEW AND APPROVAL 16. AT ROAD INTERSECTIONS THAT HAVE A VALLEY GUTTER, THE CROWN TO THE INTERSECTING ROAD

WILL BE CULMINATED AT A DISTANCE OF 40 FEET FROM THE INTERSECTING CURB LINE UNLESS OTHERWISE NOTED.

17. NO PONDING OF WATER SHALL BE ALLOWED TO COLLECT ON OR NEAR THE INTERSECTION OF PRIVATE DRIVEWAYS AND PUBLIC STREETS. RECONSTRUCTION OF THE DRIVEWAY APPROACH SHALL BE AT THE CONTRACTOR'S EXPENSE. 18. ALL DRIVEWAY APPROACHES SHALL HAVE A UNIFORM TWO PERCENT SLOPE WITHIN THE PUBLIC RIGHT

OF WAY UNLESS APPROVED IN WRITING BY THE ENGINEERING DEPARTMENT. 19. IMPROVEMENTS THAT INCLUDE RECONSTRUCTION OF AN EXISTING TYPE II DRIVEWAY SHALL BE DONE IN A MANNER WHICH RETAINS OPERATIONS OF NOT LESS THAN HALF OF THE DRVIEWAY TO REMAIN OPEN AT ALL TIMES. FULL CLOSURE OF SUCH DRIVEWAY CAN BE CONSIDERED WITH WRITTEN AUTHORIZATION OBTAINED BY THE CONTRACTOR FROM ALL PROPERTY OWNERS AND ACCESS EASEMENT RIGHT HOLDERS ALLOWING THE FULL CLOSURE OF THE DRIVEWAY.

20. CONTRACTOR MUST CLEAR FIVE (5) FEET BEYOND ALL PUBLIC RIGHT OF WAY TO PREVENT FUTURE VEGETATIVE GROWTH INTO THE SIDEWALK AREAS.

21. SLOPE OF NATURAL GROUND ADJACENT TO THE PUBLIC RIGHT OF WAY SHALL NOT EXCEED 3:1 SLOPE. IF A 3:1 SLOPE IS NOT POSSIBLE, SLOPE PROTECTION OR RETAINING WALL MUST BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO FINAL ACCEPTANCE.

22. THERE SHALL BE NO WATER, WASTEWATER OR DRAINAGE APPURTENANCES, INCLUDING BUT NOT LIMITED TO VALVES, FITTINGS, METERS, CLEAN-OUTS, MANHOLES, OR VAULTS IN ANY DRIVEWAY, SIDEWALK, TRAFFIC OR PEDESTRIAN AREA.

23. PUBLIC SIDEWALKS SHALL NOT USE CURB INLETS AS PARTIAL WALKING SURFACE. SIDEWALKS SHALL NOT USE TRAFFIC CONTROL BOXES, METERS, CHECK VALVE VAULTS, COMMUNICATION VAULTS, OR OTHER BURIED OR PARTIALLY BURIED INFRASTRUCTURE AS A VEHICULAR OR PEDESTRIAN SURFACE. 24. ALL WET UTILITIES SHALL BE INSTALLED AND ALL DENSITIES MUST HAVE PASSED INSPECTION(S)

PRIOR TO THE INSTALLATION OF DRY UTILITIES. 25. DRY UTILITIES SHALL BE INSTALLED AFTER SUBGRADE IS CUT AND BEFORE THE FIRST COURSE OF BASE. NO TRENCHING COMPACTED BASE. IF NECESSARY DRY UTILITIES INSTALLED AFTER FIRST

COURSE BASE SHALL BE BORED ACROSS THE FULL WIDTH OF THE PUBLIC RIGHT-OF-WAY. 26. A MINIMUM OF SEVEN (7) DAYS OF CURE TIME IS REQUIRED FOR HMAC PRIOR TO THE INTRODUCTION OF VEHICULAR TRAFFIC TO ALL STREETS.

TRENCH SAFETY NOTES

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

GRADING NOTES

1. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF THIS PROJECT. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER. 2. THE CONTRACTOR SHALL CONSTRUCT EARTHEN EMBANKMENTS WITH SLOPES NO STEEPER THAN 3:1

AND COMPACT SOIL TO 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD SPECIFICATIONS. 3. AREAS OF SOIL DISTURBANCE ARE LIMITED TO GRADING AND IMPROVEMENTS SHOWN. ALL OTHER

BENCHMARK NOTES

ELEV: 1033.45'

1. [PROVIDE LOCATION DESCRIPTION] BENCHMARK:

AREAS WILL NOT BE DISTURBED.

MAG NAIL SET N: 10202397.27 E: 3083317.02 ELEV: 1031.58 NAD 83. NAVD88. GEOID O TEXAS STATE PLANE CENTRAL ZONE

SQUARE CUT IN CONCRETE WITH PUNCH N: 10202666.29 3082977.25.02

NAD 83, NAVD88, GEOID 03, TEXAS STATE PLANE CENTRAL ZONE

<u>NOTE:</u>

CONTRACTOR IS TO AVOID INSTALLATION OF IRRIGATION, PLANTINGS, SILT FENCE, ETC. IN THE BASE OVERBUILD.

5' SIDEWALK (TYP.

LOCAL RESIDENTIAL LIP OF GUTTER TO LIP OF GUTTER 6" PARABOLIC CROWN STANDARD CURB & GUTTER (TYP.) CONSTRUCTION INDEX: A HOT MIX ASPHALTIC CONCRETE - 2" MINIMUM. B PRIME COAT. © FLEXIBLE BASE.

(D) COMPACTED SUBGRADE. (LIME STABILIZED WHEN REQUIRED)

(E) BASE COURSE TO EXTEND 18 INCHES MINIMUM FOR SOILS WITH PI OF 20 OR LESS, 3 FEET FOR ALL OTHER SOILS.

(F) 2% TYPICAL UNLESS OTHERWISE INDICATED ON THE GRADING PLAN. @ ALL UNPAVED AREAS WITHIN THE LIMITS OF CONSTRUCTION, SHALL BE SODDED OR SEEDED AS INDICATED.

H FOR MINIMUM PAVEMENT SECTION, SEE GEOTECHNICAL ENGINEER'S RECOMMENDATION, BASED ON THE DACS TRANSPORTATION CRITERIA MANUAL (SECTION 3.2.1.)

WEST NOTES \forall \simeq $|S_{\perp}| \leq |S_{\perp}|$

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8-15-23 水 LEE A. WHITED 102471 CARLSON, BRIGANCE & DOERING, INC.

JUNE 2023 OB NUMBER 5475

PICP-23-0086

HEET OF 61

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 APPROVAL LETTER ON SITE.
- 3. NO HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE.
- 4. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
- 5. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC.
- 6. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.
- 7. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.
- 8. ALL EXCAVATED MATERIAL THAT WILL BE STORED ON SITE MUST HAVE PROPER E&S CONTROLS.
- 9. IF PORTIONS OF THE SITE WILL HAVE A CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.

UPON

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- 10. THE FOLLOWING RECORDS SHOULD BE MAINTAINED AND MADE AVAILABLE TO THE REQUEST:
 - -THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR,
 - -THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR

A PORTION OF THE SITE, AND

-THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.

- 11. THE HOLDER OF ANY APPROVED CZP MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:
 - A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY BEST MANAGEMENT PRACTICES (BMPS) OR STRUCTURE(S), INCLUDING BUT NOT LIMITED TO TEMPORARY OR PERMANENT PONDS, DAMS, BERMS, SILT FENCES, AND DIVERSIONARY STRUCTURES,
 - B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM WHICH WAS ORIGINALLY APPROVED.
 - C. ANY CHANGE THAT WOULD SIGNIFICANTLY IMPACT THE ABILITY TO

ACTIO

POLLUTION OF THE EDWARDS AQUIFER, OR

D. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE APPROVED CONTRIBUTING ZONE PLAN.

AUSTIN REGIONAL OFFICE 12100 PARK 35 CIRCLE, BUILDING A AUSTIN, TEXAS 78753-1808 PHONE (512) 339-2929 FAX (512) 339-3795

SAN ANTONIO REGIONAL OFFICE 14250 JUDSON ROAD SAN ANTONIO, TEXAS 78233-4480 PHONE (210) 490-3096 FAX (210) 545-4329

LEE A. WHITED

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CARLSON, BRIGANCE & DOERING, INC.

DATE

JUNE 2023

JUNE 2023

JOB NUMBER

PICP-23-0086

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B4.1 A PRECONSTRUCTION MEETING SHALL BE SCHEDULED PRIOR TO THE START OF CONSTRUCTION. THE DESIGN ENGINEER, OWNER, CONTRACTOR, SUBCONTRACTORS, AND COUNTY ENGINEER SHALL ATTEND THIS MEETING. ALL ROADS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AS APPROVED BY THE COUNTY ENGINEER AND IN ACCORDANCE WITH THE SPECIFICATIONS FOUND IN THE CURRENT VERSION OF THE "TEXAS DEPARTMENT OF TRANSPORTATION MANUAL STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES" UNLESS OTHERWISE STATED ON THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER.

|B4.2 ALL MATERIALS SHALL BE SAMPLED AND TESTED BY AN INDEPENDENT TESTING LABORATORY IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY ENGINEER. THE OWNER SHALL PAY FOR ALL TESTING SERVICES AND SHALL FURNISH THE COUNTY ENGINEER WITH CERTIFIED COPIES OF THESE TEST RESULTS. THE COUNTY ENGINEER MUST APPROVE THE TEST RESULTS PRIOR TO CONSTRUCTING THE NEXT COURSE OF THE ROADWAY STRUCTURE. ANY MATERIAL WHICH DOES NOT MEET THE MINIMUM REQUIRED TEST SPECIFICATIONS SHALL BE REMOVED AND RECOMPACTED OR REPLACED UNLESS ALTERNATIVE REMEDIAL ACTION IS APPROVED IN WRITING FROM THE COUNTY ENGINEER.

B4.3 EXCEPT FOR ELECTRICAL LINES, ALL UNDERGROUND NONFERROUS UTILITIES WITHIN A RIGHT-OF-WAY OR EASEMENT MUST BE ACCOMPANIED BY FERROUS METAL LINES TO AID IN TRACING THE LOCATION OF SAID UTILITIES THROUGH THE USE OF A METAL DETECTOR.

B4.4 ALL PROPOSED PAVEMENTS (FLEXIBLE AND RIGID) ARE TO BE SPECIFIED IN THE GEOTECH REPORT. THE GEOTECH REPORT IS TO BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER. PAVEMENT DESIGNS SHALL FOLLOW THE BELOW COUNTY REQUIREMENTS BASED UPON SOIL CONDITIONS FROM SAMPLES TAKEN ALONG THE PROPOSED ROADWAYS. TEST BORINGS SHALL BE PLACED AT A MAXIMUM SPACING OF 500 FEET OR OTHER SAMPLING FREQUENCY APPROVED BY THE COUNTY ENGINEER BASED ON RECOMMENDATIONS PROVIDED BY THE GEOTECHNICAL ENGINEER. BORINGS SHALL BE TO A DEPTH OF TEN FT OR, IF SOLID ROCK IS ENCOUNTERED, ONE FT | WILLIAMSON COUNTY, TEXAS - SUBDIVISION REGULATIONS PAGE 38

BELOW NON-FRACTURED ROCK OR 3 FT BELOW FRACTURED ROCK. THE PAVEMENT DESIGN MUST MEET AT LEAST THE MINIMUM OF ONE OF THE APPROVED COUNTY DESIGNS AND PROVIDED IN THE GEOTECHNICAL REPORT FOR REVIEW AND APPROVAL PRIOR TO THE REVIEW AND APPROVAL OF THE CONSTRUCTION PLANS. IN ADDITION TO THE BASIS OF THE PAVEMENT DESIGN, THE SOILS REPORT SHALL CONTAIN THE RESULTS OF SAMPLED AND TESTED SUBGRADE FOR PLASTICITY INDEX

34.5 Flexible Pavemen	t Designs based on Ro	adway Classificati	ion	
Minimum Local Roadway (Urban) Flexible Pavement design				
Plasticity Index	PI <20	PI 20-35	PI 35-55	Material Requirements
Soil Classification	Clayey Sand	Lean Clay	Fat Clay	
HMA Surface	2"	2"	2"	TxDOT Item 340 D- GR HMA PG 70-22 SAC B (1)
Prime Coat or One Course Underseal	AEP or TxDOT Item 316 (4)			
Flexible Base	12"	12"	14"	TxDOT Item 247 FLBS TY A GR 5(2)
Lime treated Subgrade	8"	8"	TxDOT Item 260 (3)	
Notes:	1) See Appendix B7 for material requirements for HMA. 2) See Appendix B6 for additional Flexible Base specifications. 3) Pellitized lime is not allowed. Use hydrated lime or lime slurry. Confirm sulfates are not present in soil. 4) For PI >55 additional pavement structure is necessary and shall be reviewed and approved by the			

34.6 Rigid Pavement Designs based on Roadway Classification Local Roadway

(Urban/ Rural) Rigid Pavement design				
Plasticity Index	PI <20	PI 20- 35	PI 35- 55	Material Requirements
Soll Classification	Clayey Sand	Lean Clay	Fat Clay	
CRCP	6"	6"	8"	TxDOT Item 421 – Class P Concrete CRCP (1)- 13, Continuously Reinforced Concrete Pavement, One layer steel bar placement
HMA Bond Breaker	1"	1"	1"	TxDOT Item D- GR HMA TY D or TY F PG 64-22
Flexible Base	6"	8"	8"	TxDOT Item 247 FLBS TY A GR 4(2)
Lime treated Subgrade	8"	TxDOT Item 260 (3)		
Notes:	1) See Appendix B7 for material requirements for CRCP 2) See Appendix B6 for additional Cement Treated Base specifications 3) Pellitized lime is not allowed. Use hydrated lime or lime slurry. Confirm sulfates are not present in soil. 4) For PI > 55 additional pavement structure is necessary and shall be reviewed and approved by the County Engineer			

Minimum Collector Roadway (Urban) Flexible Pavement design				
Plasticity Index	PI <20	PI 20-35	PI 35-55	Material Requirements
Soil Classification	Clayey Sand	Lean Clay	Fat Clay	
HMA Surface	2"	2"	2"	TxDOT Item 340 D- GR HMA PG 70-22 SAC B (1)
Prime Coat or One Course Underseal	AEP or TxDOT Item 316 (4)			
Flexible Base	14"	14"	16"	TxDOT Item 247 FLBS TY A GR 5(2)
Lime treated Subgrade	8"	8"	TxDOT Item 260 (3)	
Notes:	1) See Appendix B7 for material requirements for HMA. 2) See Appendix B6 for additional Flexible Base specifications. 3) Pellitized lime is not allowed. Use hydrated lime or lime slurry. Confirm sulfates are not present in soil. 4) For PI >55 additional pavement structure is necessary and shall be reviewed and approved by the			

Williamson County, Texas - Subdivision Regulations Page 39 Minimum Arterial

Roadway (Urban)

County Engineer.

Flexible Pavement design				
Plasticity Index	PI <20	PI 20-35	PI 35-55	Material Requirements
Soil Classification	Clayey Sand	Lean Clay	Fat Clay	
HMA Surface	2"	2"	2"	TxDOT Item 340 D- GR HMA PG 70-22 SAC B (1)
Prime Coat or One Course Underseal	AEP or TxDOT Item 316 (4)			
Flexible Base	20"	20"	22"	TxDOT Item 247 FLBS TY A GR 5(2)
Lime treated Subgrade	8"	10"	TxDOT Item 260 (3)	
Notes:	1) See Appendix B7 for material requirements for HMA. 2) See Appendix B6 for additional Flexible Base specifications. 3) Pellitized lime is not allowed. Use hydrated lime or lime slurry. Confirm sulfates are not present in soil. 4) For PI >55 additional pavement structure is necessary and shall be reviewed and approved by the County Engineer. 5) See appendix B7 for requirements on asphalt and aggregate.			

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Collector Roadway (Urban/ Rural) Rigid Pavement design					
Plasticity Index	PI <20	PI 20- 35	PI 35-		

Rigid Pavement design				
Plasticity Index	PI <20	PI 20- 35	PI 35- 55	Material Requirements
Soil Classification	Clayey Sand	Lean Clay	Fat Clay	
CRCP	6"	6"	8"	TxDOT Item 421 – Class P Concrete CRCP (1)- 13, Continuously Reinforced Concrete Pavement, One layer steel bar placement
HMA Bond Breaker	1"	1"	1"	TxDOT Item D- GR HMA TY D or TY F PG 64-22
Flexible Base	8"	10"	10"	TxDOT Item 247 FLBS TY A GR 4(2)
Lime treated Subgrade	8"	TxDOT Item 260 (3)		
Notes:	1) See Appendix B7 for material requirements for CRCP 2) See Appendix B6 for additional Cement Treated Base specifications 3) Pellitized lime is not allowed. Use hydrated lime or lime slurry. Confirm sulfates are not present in soil. 4) For PI >55 additional pavement structure is necessary and shall be reviewed and approved by the County Engineer			

Arterial Roadway (Urban/ Rural) Rigid Pavement design				
Plasticity Index	PI <20	PI 20- 35	PI 35- 55	Material Requirements
Soil Classification	Clayey Sand	Lean Clay	Fat Clay	·
CRCP	11"	11"	11"	TxDOT Item 421 – Class P Concrete CRCP (1)- 13, Continuously Reinforced Concrete Pavement, One layer steel bar placement
HMA Bond Breaker	1"	1"	1"	TxDOT Item D- GR HMA TY D or TY F PG 64-22
Flexible Base	12"	12"	12"	TxDOT Item 247 FLBS TY A GR 4(2)
Lime treated Subgrade	6"	10"	TxDOT Item 260 (3)	
Notes:	1) See Appendix B7 for material requirements for CRCP 2) See Appendix B6 for additional Cement Treated Base specifications 3) Pellitized lime is not allowed. Use hydrated lime or lime slurry. Confirm sulfates are not present in soil. 4) For PI > 55 additional pavement structure is necessary and shall be reviewed and approved by the			

WILLIAMSON COUNTY, TEXAS - SUBDIVISION REGULATIONS PAGE 41

County Engineer

B5 - SUBGRADE

B5.1 THE PREPARATION OF THE SUBGRADE SHALL FOLLOW GOOD ENGINEERING PRACTICES AS DIRECTED BY THE COUNTY ENGINEER IN CONJUNCTION WITH RECOMMENDATIONS OUTLINED IN THE GEOTECHNICAL REPORT. WHEN THE PLASTICITY INDEX (PI) IS GREATER THAN 20, A SUFFICIENT AMOUNT OF LIME SHALL BE ADDED AS DESCRIBED IN ITEM 260 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION UNTIL THE PI IS LESS THAN 20. IF THE ADDITION OF LIME AS DESCRIBED IN ITEM 260 IS NOT FEASIBLE, AN ALTERNATE STABILIZING DESIGN SHALL BE PROPOSED AND SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL. THE SUBGRADE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A DRY DENSITY PER TXDOT ITEM 132. IN ADDITION, PROOF ROLLING MAY BE REQUIRED BY THE COUNTY ENGINEER.

B5.2 IF LIME IS NECESSARY, THEN A SUFFICIENT AMOUNT OF LIME SHALL BE ADDED, AS DESCRIBED IN ITEM 260 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION TO PROPERLY STABILIZE SUBGRADE. THE USE OF HYDRATED LIME OR LIME SLURRY IS APPROVED; HOWEVER, THE USE OF PELLETIZED LIME IS NOT APPROVED.

B5.3 PRIOR TO LIME STABILIZATION, A SULFATE TEST OF IN SITU SOILS SHALL BE PERFORMED BY DEVELOPER TO CONFIRM THE APPROPRIATE MEANS AND METHODS OF STABILIZATION. PROVIDE SULFATE TEST TO COUNTY ENGINEER PRIOR TO STABILIZATION.

B5.4 ANY VARIATION TO THE COUNTY'S STABILIZATION REQUIREMENTS MUST BE APPROVED BY THE COUNTY ENGINEER.

B5.5 THE SUBGRADE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A DRY DENSITY PER TXDOT ITEM 132. IN ADDITION, PROOF ROLLING MAY BE REQUIRED BY THE COUNTY ENGINEER.

B5.6 THE SUBGRADE SHALL BE INSPECTED AND APPROVED BY AN INDEPENDENT TESTING LABORATORY AND A CERTIFIED COPY OF ALL INSPECTION REPORTS FURNISHED TO THE COUNTY ENGINEER. THE COUNTY ENGINEER MUST APPROVE THE REPORT PRIOR TO APPLICATION OF THE BASE MATERIAL. ALL DENSITY TEST REPORTS SHALL INCLUDE A COPY OF THE WORK SHEET SHOWING THE PERCENTAGE OF THE MAXIMUM DRY (PROCTOR) DENSITY. THE NUMBER AND LOCATION OF ALL SUBGRADE TESTS SHALL BE DETERMINED BY THE COUNTY ENGINÉER. WILLIAMSON COUNTY, TEXAS - SUBDIVISION REGULATIONS PAGE 42

B6 - BASE MATERIAL

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

Table B6.1: Gradation Specification for TY A, Grade 4

Master gradation sieve size	Cumulative % Retained
2 1/2"	-
1 3/4"	0
7/8"	10% - 35%
3/8"	30% - 65%
#4	45% - 75%
#40	70% - 90%
#200	87% - 95%

B6.2 EACH LAYER OF BASE COURSE SHALL BE TESTED FOR IN-PLACE DRY DENSITY AND MEASURED FOR COMPACTED THICKNESS. THE NUMBER AND LOCATION OF ALL BASE TEST SAMPLES SHALL BE DETERMINED BY THE COUNTY

B6.3 THE BASE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A MINIMUM OF 100% OF THE MAXIMUM (PROCTOR) DRY DENSITY OR AS APPROVED BY THE COUNTY ENGINEER UPON RECOMMENDATION BY THE TESTING _ABORATORY. THE MAXIMUM LIFT SHALL NOT EXCEED SIX INCHES. THE BASE MUST BE INSPECTED AND APPROVED BY AN INDEPENDENT TESTING LABORATORY AND A CERTIFIED COPY OF THE TEST RESULTS FURNISHED TO THE COUNTY ENGINEER FOR APPROVAL. PRIOR TO THE PLACEMENT OF THE FIRST LIFT OF BASE, THE STOCKPILE SHALL BE TESTED FOR THE SPECIFICATIONS FOUND IN ITEM 247 TABLE 1 AND THE RESULT FURNISHED TO THE COUNTY ENGINEER FOR APPROVAL.

B7 - BITUMINOUS PAVEMENT

B7.1 URBAN ROADS REQUIRE A MINIMUM 2 INCH WEARING SURFACE OF HMAC TYPE D. THE MIX SHALL BE FROM A TXDOT CERTIFIED PLANT AND THE MIX DESIGN SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF THE MATERIAL.

B7.2 IF PROVIDING MIXTURE TYPE C OR D, USE PERFORMANCE GRADE (PG) BINDER 70-22. PROVIDE PG BINDER THAT DOES NOT CONTAIN RECYCLED ENGINE OIL BOTTOMS (REOBS) OR POLY PHOSPHORIC ACID (PPA). RECYCLED ASPHALT PAVEMENT (RAP) IS NOT PERMITTED FOR USE AS A COMPONENT OF THE HMACP. THE CONTRACTOR IS ALSO NOT PERMITTED THE USE RECYCLED ASPHALT SHINGLES (RAS) AS A COMPONENT OF THE

B7.3 IF PROVIDING MIXTURE TYPE B, USE PG BINDER 64-22. PROVIDE PG BINDERS THAT DO NOT CONTAIN REOBS OR PPA. FOR SUBSURFACE COURSE TYPE B, THE USE OF TWENTY PERCENT (20%) RAP IS PERMITTED IN THE MIX DESIGN. THE CONTRACTOR IS NOT PERMITTED TO USE RAS AS A COMPONENT OF THE HMACP. WILLIAMSON COUNTY, TEXAS - SUBDIVISION REGULATIONS PAGE 43

B7.4 TARGET LABORATORY MOLDED DENSITY IS 96.5% FOR ALL MIXTURES WITHOUT RAP AND WHEN USING A TEXAS GYRATORY COMPACTOR (TGC) FOR DESIGNING THE MIXTURE. WHEN USING SUPERPAVE GYRATORY COMPACTOR (SGC) TO DESIGN MIXTURES, SUBMIT THE SGC MIX DESIGN TO THE ENGINEER FOR APPROVAL.

B7.5 All mixtures must meet the Hamburg requirement as stated in the table below.

High-Temperature Binder Grade	Test Method	Hamburg Wheel Test Requirements*
Minimum # of Passes @ 0.5" Rut Depth, Tested @122°F		
PG 64 or lower	Tex-242-F	7,000
PG 70	Tex-242-F	15,000
PG 76 or higher	Tex-242-F	20,000

THE COUNTY ENGINEER MAY ACCEPT HAMBURG WHEEL TEST RESULTS FOR PRODUCTION AND PLACEMENT IF NO MORE THAN 10F THE 5 MOST RECENT TESTS IS BELOW THE SPECIFIED NUMBER OF PASSES AND THE \mid FAILING TEST IS NO MORE THAN 2,000 PASSES BELOW THE SPECIFIED NUMBER OF PASSES.

B7.6 SUBMIT ANY PROPOSED ADJUSTMENTS OR CHANGES TO A JOB MIX FORMULA TO THE COUNTY ENGINEER BEFORE PRODUCTION OF THE NEW JOB MIX FORMULA.

B7.7 UNLESS OTHERWISE APPROVED, PROVIDE TYPE B MIXTURES THAT HAVE NO LESS THAN 4.5% ASPHALT BINDER, AND TY C AND D MIXTURES WITH NO LESS THAN 4.7% BINDER. B7.8 FOR MIXTURE DESIGN VERIFICATION, PROVIDE THE ENGINEER WITH TWO 5-GALLON BUCKETS OF EACH AGGREGATE

STOCKPILE TO BE USED ON THE PROJECT AND THREE GALLONS OF EACH PG BINDER TO BE USED ON THE PROJECT. ALSO PROVIDE SUFFICIENT QUANTITIES OF ANY OTHER ADDITIVES THAT WILL BE USED IN THE HMA MIXTURE. THIS MUST BE DONE PRIOR TO APPROVAL OF THE MIX DESIGN, UNLESS ALREADY PERFORMED WITHIN A ONE-YEAR TIME

B7.9 PRIOR TO ALLOWING PRODUCTION OF THE TRIAL BATCH, THE ENGINEER WILL USE THE MATERIALS PROVIDED BY THE CONTRACTOR TO PERFORM THE FOLLOWING TESTS TO VERIFY THE HMA MIXTURE DESIGN.

- 1. INDIRECT TENSILE TEST IN ACCORDANCE WITH TEX-226-F 2. HAMBURG WHEEL TEST IN ACCORDANCE WITH TEX-242-F
- 3. OVERLAY TEST IN ACCORDANCE WITH TEX-248-F
- 4. CANTABRO TEST IN ACCORDANCE WITH TEX-245-F

FOR MIXTURES DESIGNED WITH A TEXAS GYRATORY COMPACTOR (TGC), THE ENGINEER MAY REQUIRE THAT THE TARGET LABORATORY MOLDED DENSITY BE RAISED TO NO MORE THAN 97.5% OR MAY LOWER THE DESIGN NUMBER OF GYRATIONS TO NO LESS THAN 35 FOR MIXTURES DESIGNED WITH AN SGC IF ANY OF THE FOLLOWING CONDITIONS EXIST.

- 1. THE INDIRECT TENSILE TEST RESULTS IN A VALUE GREATER THAN 200 PSI 2. THE HAMBURG WHEEL TEST RESULTS IN A VALUE LESS THAN 3.0 MM
- 3. THE OVERLAY TEST RESULTS IN A VALUE LESS THAN 100 CYCLES
- 4. THE CANTABRO TEST RESULTS IN A VALUE OF MORE THAN 20% LOSS

IN LIEU OF, OR IN ADDITION TO EVALUATING THE MIXTURE DESIGN PRIOR TO ALLOWING A TRIAL BATCH TO BE PRODUCED, THE ENGINEER MAY ALSO EVALUATE THE MIXTURE PRODUCED DURING THE TRIAL BATCH FOR COMPLIANCE WITH THE 4 TESTS LISTED ABOVE.

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B7.10 CONTRACTOR'S QUALITY CONTROL (CQC) TEST REPORTS SHALL BE SUBMITTED TO THE COUNTY ENGINEER ON A DAILY BASIS. AS A MINIMUM, DAILY CQC TESTING ON THE PRODUCED MIX SHALL INCLUDE: SIEVE ANALYSIS TEX-200-F, ASPHALT CONTENT TEX-236-F, HVEEM STABILITY TEX-208-F, LABORATORY COMPACTED DENSITY TEX-207-F, AND MAXIMUM SPECIFIC GRAVITY TEX-227-F. THE NUMBER AND LOCATION OF ALL HMAC TESTS SHALL BE DETERMINED BY THE COUNTY ENGINEER WITH A MINIMUM OF THREE, 6-INCH DIAMETER FIELD CORES SECURED AND TESTED BY THE CONTRACTOR FROM EACH DAY'S PAVING. EACH HMAC COURSE SHALL BE TESTED FOR IN-PLACE DENSITY, BITUMINOUS CONTENT AND AGGREGATE GRADATION, AND SHALL BE MEASURED FOR COMPACTED THICKNESS. THE NUMBER AND LOCATION OF ALL HMAC TEST SAMPLES SHALL BE DETERMINED BY THE COUNTY ENGINEER.

B7.11 RURAL ROADS MAY USE EITHER THE SPECIFICATIONS FOUND IN SECTION B7.1 OR A TWO-COURSE SURFACE IN ACCORDANCE WITH ITEM 316, TREATMENT WEARING SURFACE, OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. THE TYPE AND RATE OF ASPHALT AND AGGREGATE SHALL BE INDICATED ON THE PLANS AS A BASIS OF ESTIMATE AND SHALL BE DETERMINED AT THE PRECONSTRUCTION CONFERENCE. AGGREGATE USED IN THE MIX SHALL BE ON THE TXDOT QUALITY MONITORING SCHEDULE. AGGREGATE SHALL BE TYPE B GRADE 4. GRADATION TESTS SHALL BE REQUIRED FOR EACH 300 CUBIC YARDS OF MATERIAL PLACED WITH A MINIMUM OF TWO TESTS PER EACH GRADE PER EACH PROJECT. TEST RESULTS SHALL BE REVIEWED BY THE COUNTY ENGINEER PRIOR TO APPLICATION OF THE MATERIAL.

B8 - CONCRETE PAVEMENT

B9.2

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

B9 - Concrete - General

Unless otherwise specified, concrete shall be in accordance with Item 421 of the current edition of the TxDOT Standard Specifications for Construction and be placed in accordance with the

applicable item. All concrete shall be tested for compressive strength. One set of three concrete test cylinders shall

BE MOLDED FOR EVERY 50 CUBIC YARDS OF CONCRETE PLACED FOR EACH CLASS OF CONCRETE PER DAY, OR AT ANY OTHER INTERVAL AS DETERMINED BY THE COUNTY ENGINEER. A SLUMP TEST SHALL BE REQUIRED WITH EACH SET OF TEST CYLINDERS. ONE CYLINDER SHALL BE TESTED FOR COMPRESSIVE STRENGTH AT AN AGE OF SEVEN DAYS AND THE REMAINING TWO CYLINDERS SHALL BE TESTED AT 28 DAYS OF AGE

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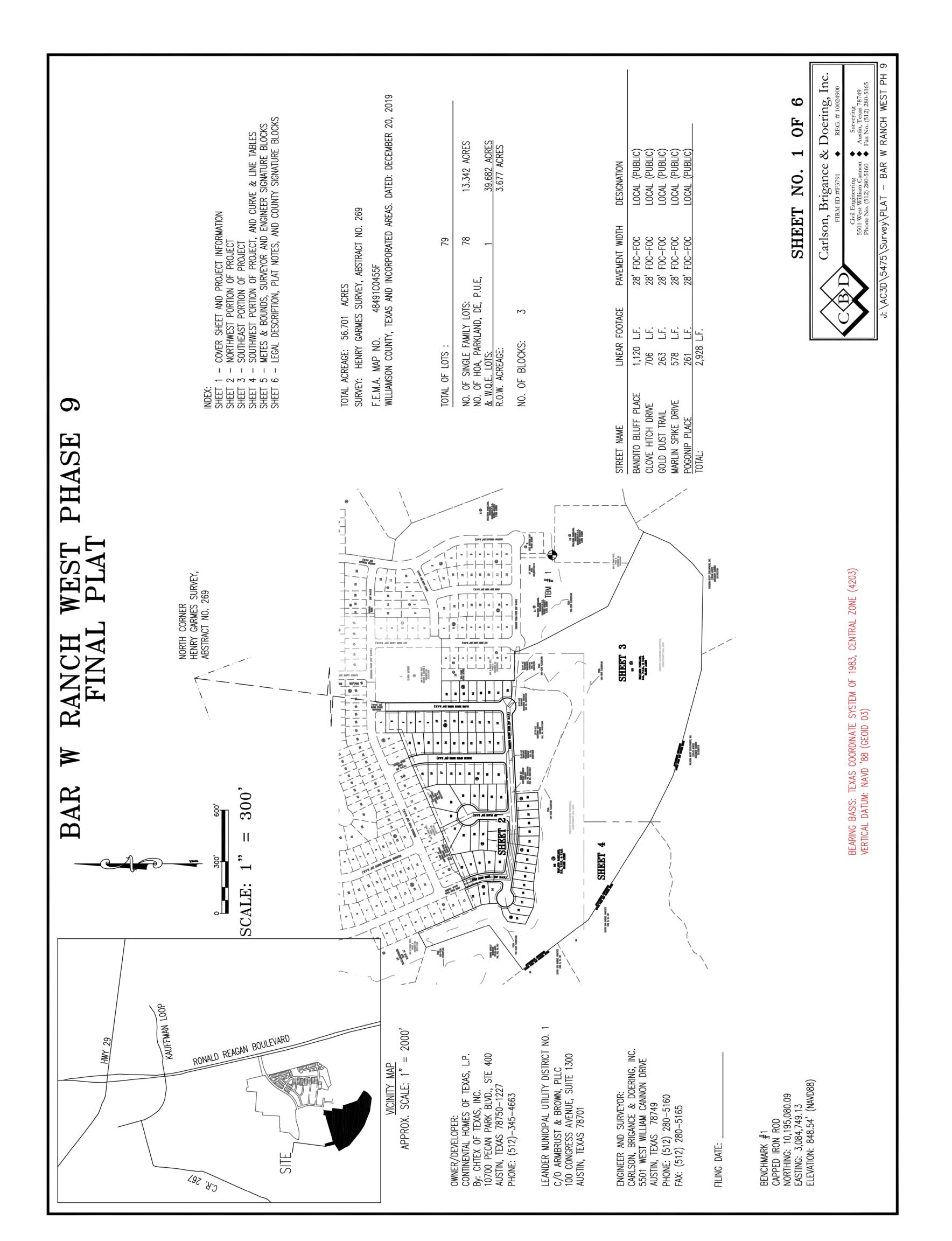
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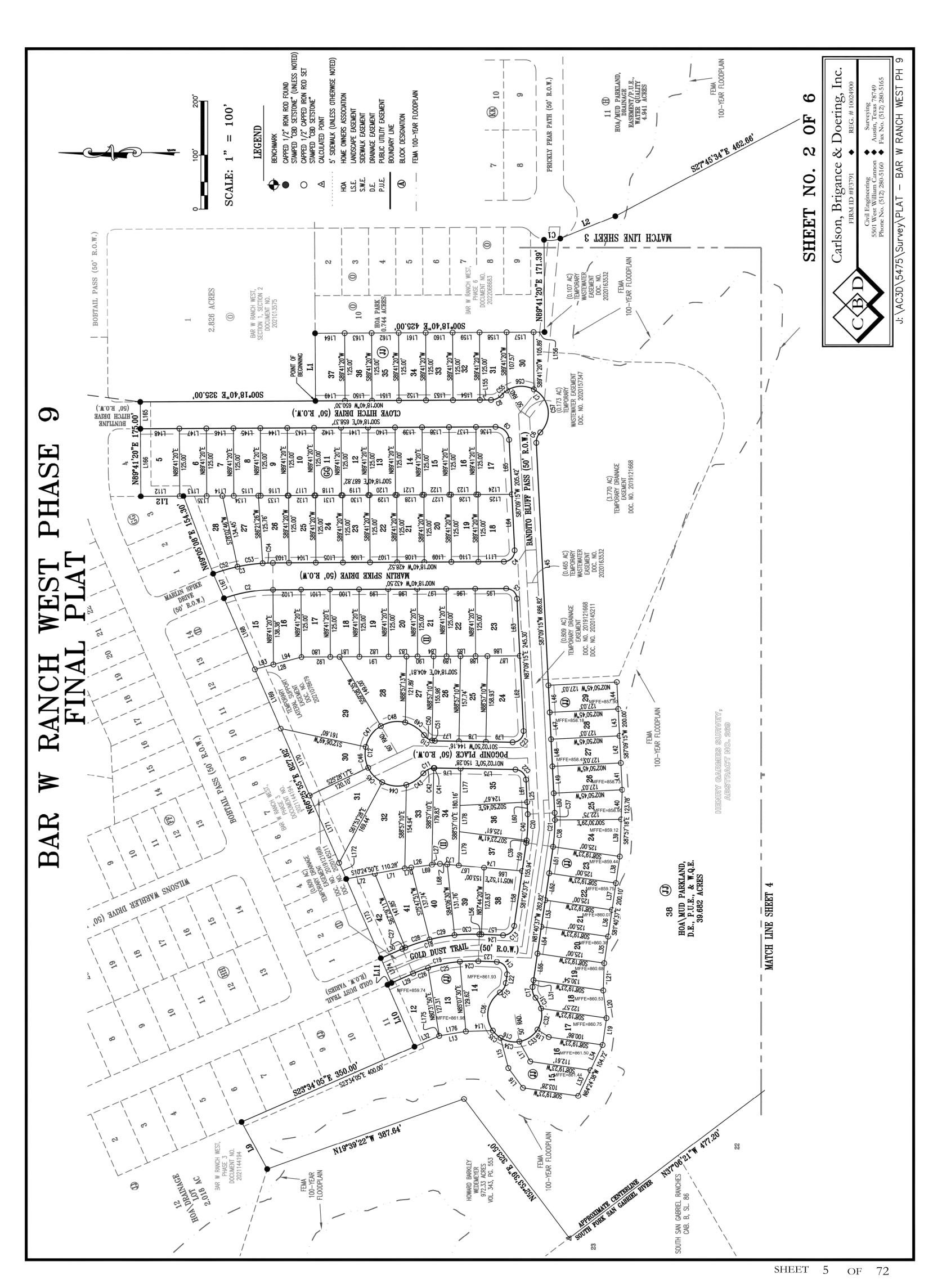
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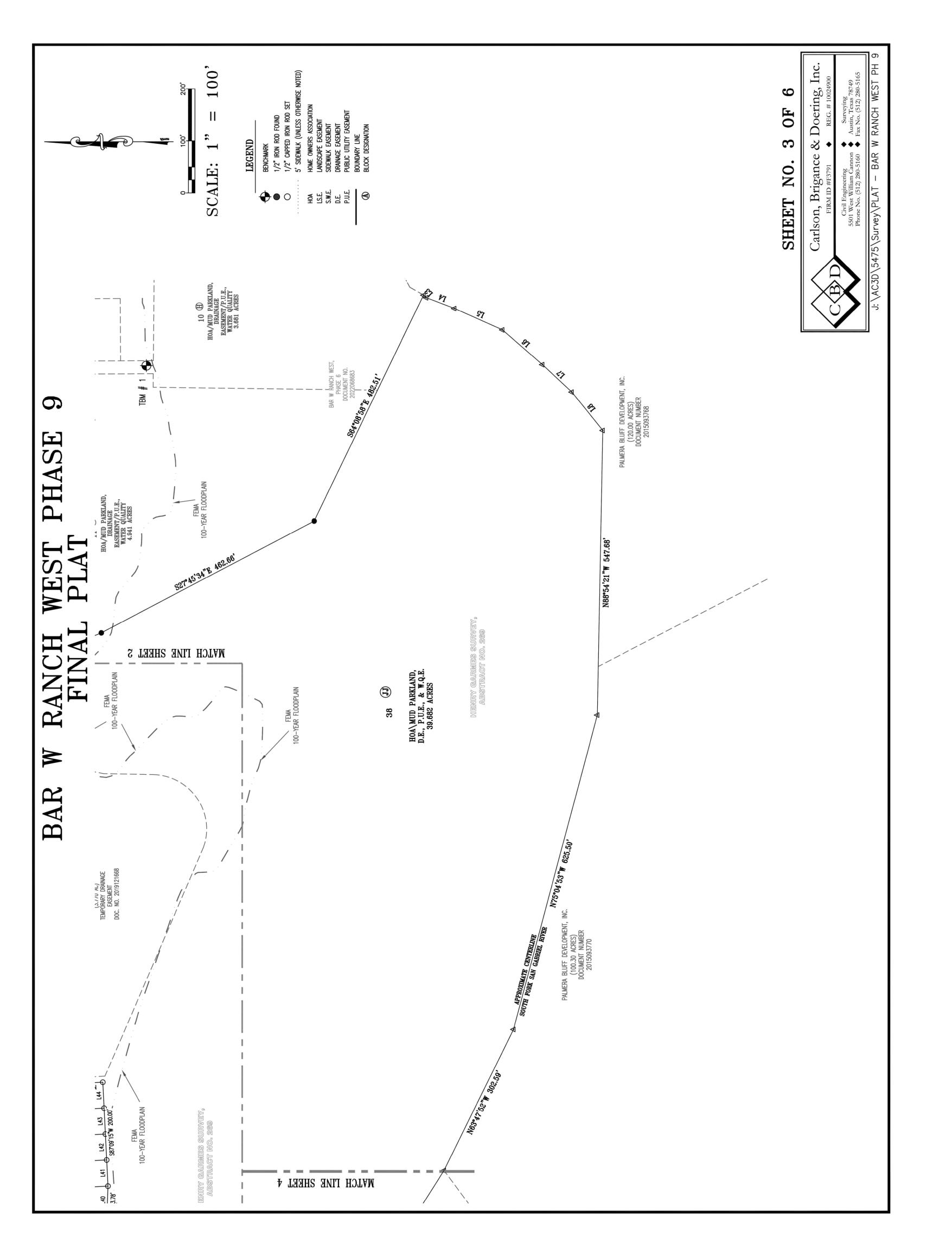
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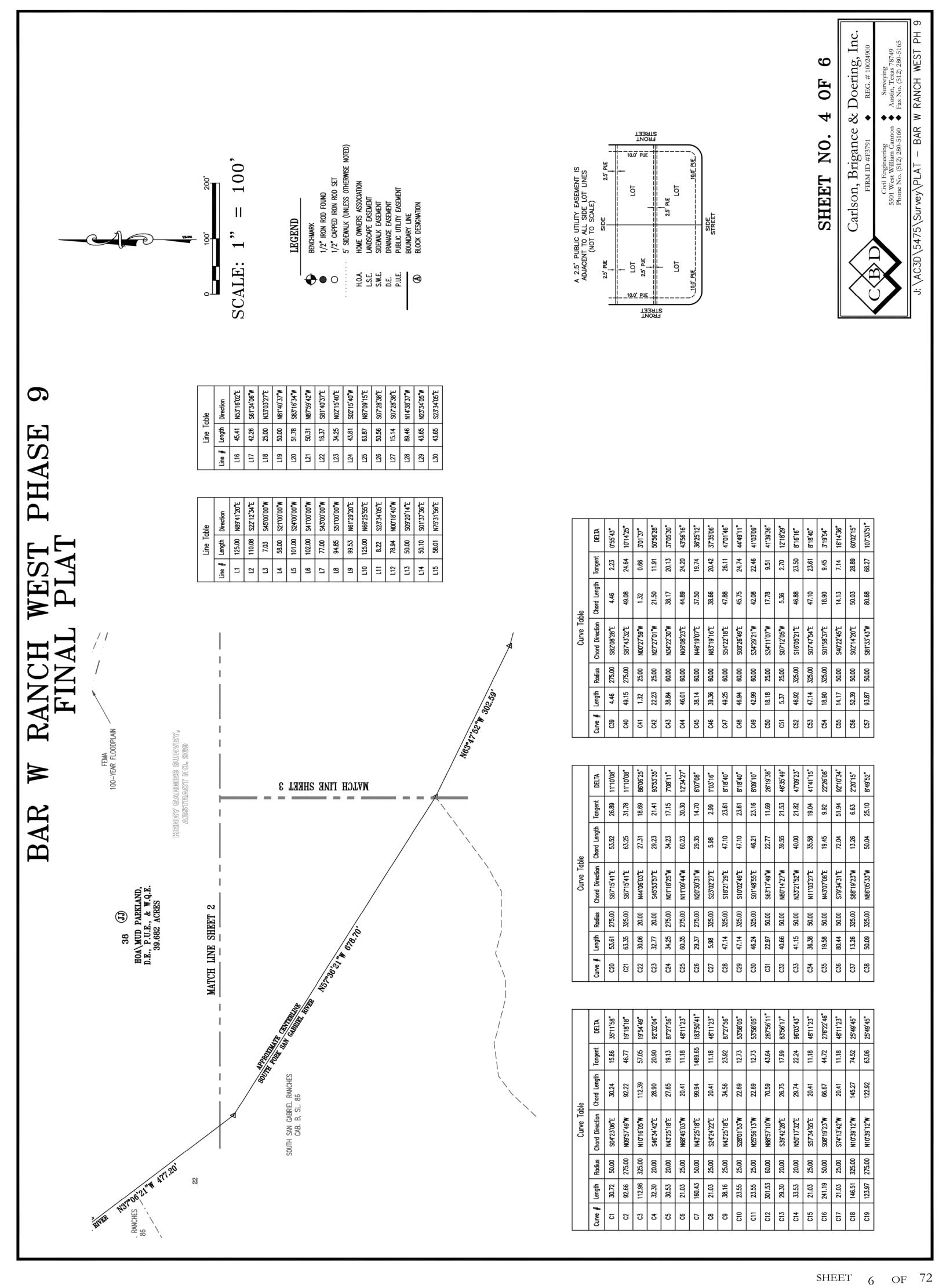
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PHASE RANCH FINAI

, ABSTRACT NUMBER 269, IN WILLIAMSON COUNTY, TEXAS, BEING CONIN VOLUME 343, PAGE 553, DEED RECORDS, WILLIAMSON COUNTY, RDED IN DOCUMENT NUMBER 2019109126, OFFICIAL PUBLIC RECORDS METES AND BOUNDS BEING ALL OF THAT CERTAIN 56.701 ACRE TRACT OR PARCEL OF LAND SITUATED IN THE HENRY GARMES SURVEY, OF A CALLED 972.33 ACRE TRACT OF LAND CONVEYED TO HOWARD BARKLEY WEDEMEYER BY DEED RECORDED CALLED 3.770 ACRE TRACT OF LAND CONVEYED TO LEANDER MUNICIPAL UTILITY DISTRICT NO. 1 BY DEED RECORTEXAS, SAID 56.701 ACRE OF LAND BEING MORE FULLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT A 1/2 INCH IRON ROD WITH CAP STAMPED "CBD SETSTONE" FOUND AT THE SOUTHWEST CORNER OF LOT 1, BLOCK O, BAR W RANCH WEST PHASE 1, SECTION 2, A SUBDIVISION DOCUMENT NUMBER 2021013575, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, FOR AN ANGLE POINT ON THE EAST LINE AND POINT OF BEGINNING OF THE HEREIN DESCRIBED TRACT THENCE, N89*41'20"E, OVER AND ACROSS SAID 972.33 ACRE TRACT OF LAND AND WITH THE SOUTH LINE OF SAID LOT 1, BLOCK O, A DISTANCE OF 125.00 FEET TO A 1/2 INCH IRON RECORDS STAMPED "CBD SETSTONE" FOUND AT THE NORTHWEST CORNER OF LOT 10, BLOCK O, BAR W RANCH WEST PHASE 6, A SUBDIVISION RECORDED IN DOCUMENT NUMBER 2022068683, OF RECORDS, WILLIAMSON COUNTY, TEXAS,

SAID 972.33 ACRE TRACT OF LAND AND WITH THE WEST LINE OF SAID BAR W RANCH WEST PHASE 6, THE FOLLOWING SIX (6) COU

1) SOC'18'40"E, A DISTANCE OF 425.00 FEET TO A 1/2 INCH IRON ROD WITH CAP STAMPED "CBD SETSTONE" FOUND AT THE SOUTHWEST CORNER, OF SAID LOT 10,

2) N89'41'20"E, A DISTANCE OF 171.39 FEET TO A 1/2 INCH IRON ROD WITH CAP STAMPED "CBD SETSTONE" FOUND FOR CORNER, BEING AT THE BEGINNING OF A CURVE TO THE LIST HAVING A RADIUS OF 50.00 FEET, AN ARC LENGTH OF 30.72 FEET, AND A CHORD THAT BEARS SO4'23'06"E, A DISTANCE OF 30.24 FEET TO WITH CAP STAMPED "CBD SETSTONE" FOUND FOR CORNER,
4) S22'12'34"E, A DISTANCE OF 462.67 FEET TO A 1/2 INCH IRON ROD WITH CAP STAMPED "CBD SETSTONE" FOUND FOR CORNER, AND
5) S27'45'34"E, A DISTANCE OF 482.51 FEET TO A 1/2 INCH IRON ROD WITH CAP STAMPED "CBD SETSTONE" FOUND FOR CORNER, AND
6) S64'08'58"E, A DISTANCE OF 482.51 FEET TO A CALCULATED POINT ON THE APPROXIMATE CENTERLINE OF THE SOUTH FORK OF THE SAN GABRIEL RIVER AT THE SOUTHERNMOS BLOCK H, SAID BAR W RANCH WEST PHASE 6, BEING ON THE NORTH LINE OF A CALLED 120.00 ACRE TRACT OF LAND CONVEYED TO PALMERA BLUFF DEVELOPMENT, INC. I DOCUMENT NUMBER 2015093768, OFFICIAL PUBLIC RECORDS, WILLAMSON COUNTY, TEXAS, SAME BEING THE SOUTH LINE OF SAID 972.33 ACRE TRACT OF LAND.

HEREIN DESCRIBED TRACT OF LAND.

THENCE WITH THE SOUTH LINE OF SAUD 972.33 ACRE TRACT OF LAND, WITH THE NORTH LINE OF SAUD 120.00 ACRE TRACT OF LAND, WITH THE NORTH LINE OF SAUD 120.00 ACRES) CONVEYED TO PALALERA BLUFA DEVELOPMENT, INC. BY DEED RECORDED IN DOCUMENT NUMBER 2015:093770, OFFICIAL PUBLIC RECORDS, WILLAMSON COUNTY, TEXAS, AND WITH THE APPROXIMATE CENTERLINE OF SAUD SOUT FORWAY OF THE SAN GABREL RIVER, THE FOLLOWING ELECHN (1) COUNTESS. NUMBERED 1 THROUGH 11,

1) SASTONOOW, A DISTANCE OF 7.03 FEET TO A CALCULATED POINT FOR CORNER,

2) SEXTONOOW, A DISTANCE OF 7.00 FEET TO A CALCULATED POINT FOR CORNER,

3) SCAYONOOW, A DISTANCE OF 101.00 FEET TO A CALCULATED POINT FOR CORNER,

4) SATTONOOW, A DISTANCE OF 77.00 FEET TO A CALCULATED POINT FOR CORNER,

5) SASTONOOW, A DISTANCE OF 94.85 FEET TO A CALCULATED POINT FOR CORNER,

6) SASTONOOW, A DISTANCE OF 94.85 FEET TO A CALCULATED POINT FOR CORNER,

7) NABS-42.7", A DISTANCE OF 58.259 FEET TO A CALCULATED POINT FOR CORNER,

9) NGT-47.52", A DISTANCE OF 58.259 FEET TO A CALCULATED POINT FOR CORNER,

10) NST-36.21", A DISTANCE OF 678.70 FEET TO A CALCULATED POINT FOR CORNER,

11) NST-06.21", A DISTANCE OF 678.70 FEET TO A CALCULATED POINT FOR CORNER,

10) NST-36.21", A DISTANCE OF 678.70 FEET TO A CALCULATED POINT FOR CORNER,

11) NST-06.21", A DISTANCE OF 678.70 FEET TO A CALCULATED POINT FOR CORNER,

10) NST-36.21", A DISTANCE OF 678.70 FEET TO A CALCULATED POINT FOR CORNER,

11) NST-06.21", A DISTANCE OF 678.70 FEET TO A CALCULATED POINT FOR CORNER,

11) NST-06.21", A DISTANCE OF 678.70 FEET TO A CALCULATED POINT FOR CORNER,

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11) NST-06.21", A DISTANCE OF 678.70 FEET TO A CALCULATED FOR TOWNOOR FOR THE NORTH

NG TWO (2) COU

ACT OF 1) N52'53'39"E, A DISTANCE OF 323.50 FEET TO A 1/2 INCH IRON ROD WITH CAP STAMPED "CBD SETSTONE" SET FOR CORNER, AND
2) N19'39'22"W, A DISTANCE OF 387.64 FEET TO A 1/2 INCH IRON ROD WITH CAP STAMPED "CBD SETSTONE" FOUND ON THE SOUTH LINE OF LOT 12, BLOCK JJ, BAR W RAI SUBDIVISION RECORDED IN DOCUMENT NUMBER 2021144194, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, FOR THE NORTHWEST CORNER OF THE HEREIN DESCRIBED TR

PHASE 3, SAID BAR SOUTH LINE OF TRACT OF LAND, AND WITH THE THENCE, CONTINUING OVER AND ACROSS SAID 972.33 ACRE NUMBERED 1 THROUGH 8,

1) N61'29'20"E, A DISTANCE OF 99.53 FEET TO A 1/2 INCH IRON ROD WITH CAP STAMPED "CBD SETSTONE" FOUND FOR CORNER,
3) N66'25'55"E, A DISTANCE OF 350.00 FEET TO A 1/2 INCH IRON ROD WITH CAP STAMPED "CBD SETSTONE" FOUND ON THE WEST RIGHT—OF—WAY LINE OF GOLD DUST TRAIL (R. THE SOUTHEAST CORNER OF LOT 11, BLOCK JJ, SAID BAR W RANCH WEST PHASE 3,
4) S22'34'05"E, A DISTANCE OF 82.2 FEET TO A 1/2 INCH IRON ROD WITH CAP STAMPED "CBD SETSTONE" FOUND AT THE WEST TERMINUS OF SAID GOLD DUST TRAIL,
5) N66'25'55"E, A DISTANCE OF 827.82 FEET TO A 1/2 INCH IRON ROD WITH CAP STAMPED "CBD SETSTONE" FOUND AT THE EAST TERMINUS OF WARLIN SPIKE DRIVE (50' SOUTHWEST CORNER OF LOT 1, BLOCK 66, SAID BAR W RANCH WEST PHASE 3,
6) N69'05'08"E, A DISTANCE OF 154.30 FEET TO A 1/2 INCH IRON ROD WITH CAP STAMPED "CBD SETSTONE" FOUND AT THE SOUTHEAST CORNER OF LOT 3, BLOCK 66, SAID BAR 3,

J. NOC'18'40"W, WITH THE EAST LINE OF SAID LOT 3, BLOCK GG, A DISTANCE OF 78.94 FEET TO A 1/2 INCH IRON ROD WITH CAP STAMPED "CBD SETSTONE" FOUND AT THE SOUTH 4, BLOCK GG, SAID BAR W RANCH WEST PHASE 3, AND 8) NB9'41'20"E, A DISTANCE OF 175.00 FEET TO A 1/2 INCH IRON ROD WITH CAP STAMPED "CBD SETSTONE" FOUND AT THE EAST TERMINUS OF BUNTLINE HITCH DRIVE (50' R.O.W. LINE OF THE AFORESAID LOT 1, BLOCK O, FOR THE NORTHEAST CORNER OF THE HEREIN DESCRIBED TRACT OF LAND, THEN WEST LINE OF SAID LOT 1, BLOCK O, AND OVER AND ACROSS SAID 972.33 ACRE TRACT OF LAND, A DISTANCE OF 325.00 FEET TO THE POI CONTAINING 56.701 ACRES OF LAND.

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A. WHITED, P.E., AM AUTHORIZED UNDER THE LAWS OF ORMS WITH THE APPLICABLE ORDINANCES OF THE CITY I, LEE PLAT CONF

JOHN DAVID KIPP, R.P.L.S., AM AUTHORIZED UNDER ED THIS PLAT FROM AN ACTUAL AND ACCURATE ON UNDER MY PERSONAL SUPERVISION, IN ACCORDANC ON TITLE POLICY GF # 1023106, WITH AN EFFECTIVE STATE OF



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${ m PHASE}$ WEST PLAT RANCH FINAL NOTES: 1) THE RESIDENTIAL LOTS IN THIS SUBDIVISION ARE WHOLLY CONTAINED WITHIN THE EXTRA TERRITORIAL JURISDICTION OF THE CITY OF LEADER, TEXAS. 2) A 10 FUBLIC UNITY ESSENEIN WILL BE EDDICATED AJACACHTA LOTS AND A 2.57 PUBLIC UTILITY ESSENEIN WILL BE DEDICATED AJACACHTA LOTS AND A 2.57 PUBLIC UTILITY ESSENEIN WILL BE DEDICATED DATA LIN OF RESIDENTIAL LOTS, AND A 10 WINE PULLE, LANDSCAPE, AND PERDISTRAM ACCESSES ASSENEIN WILL BE DEDICATED ON ALL NON RESIDENTIAL LOTS AND A 2.57 PUBLIC UTILITY ESSENEIN WILL BE DEDICATED DATA LIN OF LEADER WILL BE DEDICATED AJACACHTA LOTS AND A 1.2. AND SACREMENT WILL BE DEDICATED ON THE BALL WASHINGTON TO THE BUILDINK SETBACK LINES AS DEPICTED IN THE AMENDED AND RESTARTED AGREEMENT RECARDING CONSENT TO CREATION OF LEADER MUNICIPAL UTILITY DISTRICTS NO. 1, 2, AND 3, AND EDGLOPMENT OF THE BAR WARKH CONSENT AGREEMENT RECARDING CONSENT TO CREATION OF LEADER MUNICIPAL UTILITY DISTRICTS NO. 1, 2, AND 3, AND EDGLOPMENT OF THE BAR WARKH CONSENT AGREEMENT RECARDING CONSENT TO CREATION OF LEADER MUNICIPAL ADDITS, SIDEMALS ON WATERS AND THE INSTINCT A SEDENTIAL CONSENT AGREEMENT SECRET IS CONSENT AGREEMENT SECRET SO WASHE SOURCE AND SECRET REQUIRED WHEN THE AJACANNAS OF THE SOURT SWA RECEIVED WASHE SOURCE TO CANADATE OF THE SOURT SWA RECEIVED WASHE SOURCE TO THE SIDE OF BANDING SIDE OF WASHE SOURCE AND SECRET SO CONSENT FOR THE SOUR SWA RECEIVED WASHE SOURCE AND SECRET SO CONSENT FOR THE SOUR SWA RECEIVED WASHE SOURCE AND SECRET SOURCE SEGNET SOURCE AND SOURCE ADDITION IS NOT NECESSARY FOR THIS DEPENDENCY SOURCE AND SOURCE ADDITION IS NOT NECESSARY FOR THE LEADIER WILL BE CONSENT SWERED SOURCE ADDITION AND WASTERNIER OLD THE STRUCTURES SECRET AND SOURCE SEGNET SOURCE SOURCE SOURCE AND SOURCE SOURCE SOURCE SOURCE TO CAMPILANCE WITH THE AMENDADE WILL SECRET AND SOURCE SOURCE SOURCE TO CAMPILANCE WITH THE AMENDED BAD BEESTAND SHEED SHOW OF AN INTERSECTION OF AN INTERSECTION OF AN INTERSECTION OF AN INTERSECTION OF AND SOURCE TO COMPLIANCE WITH THE AMENDATE WILL SWAND SHEED SHOW SOURCES SEGNET SH \triangleright BAR

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COUNTY OF WII BEFORE ME, T SECRETARY, ON TO BE THE PE 15) THE HOA AND MUD WILL OWN AND MANTAN THE FOLLOWING LOT: LOT 38, BLOCK JJ.

16) THE HOA BRAWS ARE RECORDED IN THE OFFICIAL PUBLIC RECORDED OF WILLAMSCON COUNTY, TEXAS UNDER DOCUMENT NUMBER 2015101121.

16) THE HOA BRAWS ARE RECORDED IN THE OFFICIAL PUBLIC RECORDED OF WILLAMSCON COUNTY, TEXAS UNDER DOCUMENT NUMBER 2015101121.

17) THE MUD ACCEPTS AND MANTANIS DRAINAGES AND WARTEN LOUGHED FOR CHANNELS, DETENTION AND WARTER QUALITY AREAS.

17) THE MUD ACCEPTS AND MANTANIS DRAINAGES AND WARTER QUALITY PRESENT OF THE SHET (10') INTO THE LANDSCAPE LOT 38, BLOCK JJ.

17) THE MUD ACCEPTS AND MANTANIS DRAINAGES AND WARTER QUALITY PRESENT OF THE SHET (10') INTO THE LANDSCAPE LOT 38, BLOCK JJ.

18) ORWAMANIAL REES FOR SHADE TREE PRE SHADE TREE OF AND MANTANIED.

19) THE ALL STEEP OF SHADE TREE MY BE SUBSTITUTED FOW UP TO FIFTY PERCENT OF THE SHADE TREES IF DESIRED. A SYL-FOOT PRIVACY FENCE, BUT NO HIGHER THAN THREE FEET WITHIN TWENTY FIRE FEET OF AN INTERSECTION STREET, SHALL BE CONSTRUCTED WITH THE SUBDIVISION MANDOVALANI'S AT THE COMMON OFT THE PLANDSCAPE LOT AND THE SUBSTITUTED FOW UP TO FIFTY PERCENT OF THE SHADE TREES IF CONCRETE MASONEY JUST, OR OTHER SMALLAR MATERIAL, APPROVED BY THE DIRECTOR OF PLANDSCAPE LOT SK REQUIRED TO BE CANDOTED FOR THE LANDSCAPE LOT SK REQUIRED TO BE MANTANIED BY A PRIVACY FENCE SAJACKENT TO COLLECTORS. ALL COLLUMNS ARE REQUIRED TO HAVE CONCRETE FOOTINGS. THE LANDSCAPE LOT SK REQUIRED TO BE MANTANIED BY A PRIVACY FENCE SAJACKENT TO CONTRY ROAD RIGHT-OF-ANY INCLUDING, BOTH OF THE AND SCAPE AND SCAP

NOTARY PUBLIC

Approved this the ___ By the county clerk (

JOHN COSGROVE, PLANNING AND ZI CITY OF LEANDER

STATE OF TEXA

NOTE—LEANDER MUNICIPAL UTILITY DISTRICT NO. 1, AS THE OWNER OF 3.770 ACRES OF LAND INCLUDED IN THIS SUBDIVISION AND DEDICATED AS LOT 38, BLOCK JU "HOA/MUD LOT AND RIGHT—OF—WAY" BY THIS PLAT, HEREBY JOINS IN THIS PLAT FOR THE SOLE PURPOSE OF CONSENTING TO THE PLAT, AND CERTIFYING THERE ARE NO LIENHOLDERS ON THE LAND.

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BY DEPUTY
NANCY E. RIST
COUNTY COUR

SIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED AND MINICIPAL UTILITY DISTRICT NO. 1, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING AND HE ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESS A STATED.

E, THE UNDERSION OF LEANDER MITTOF WRITING, PACITY THEREIN

SHEET

BOARD OF DIRECTORS

Carlson,

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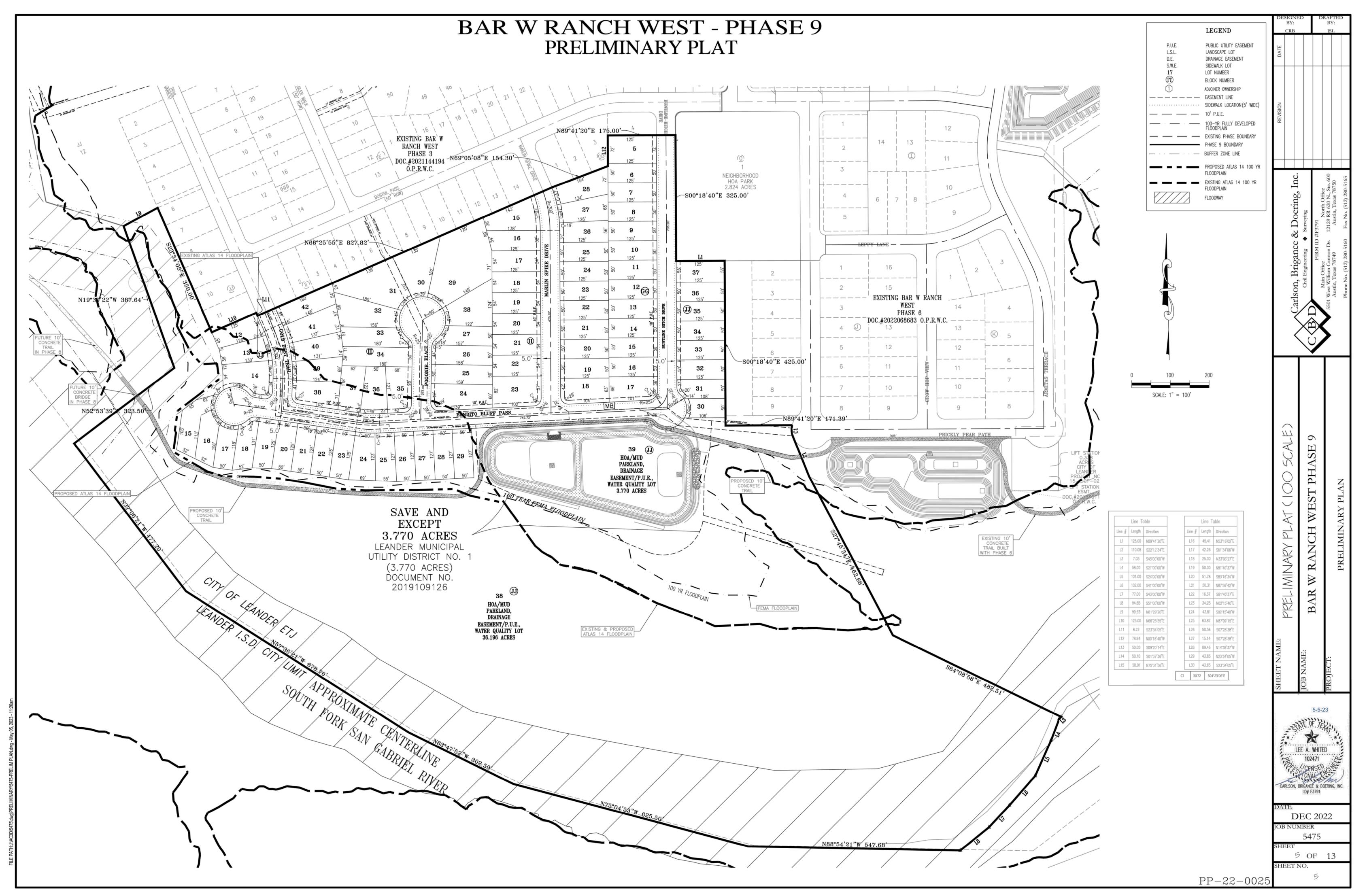
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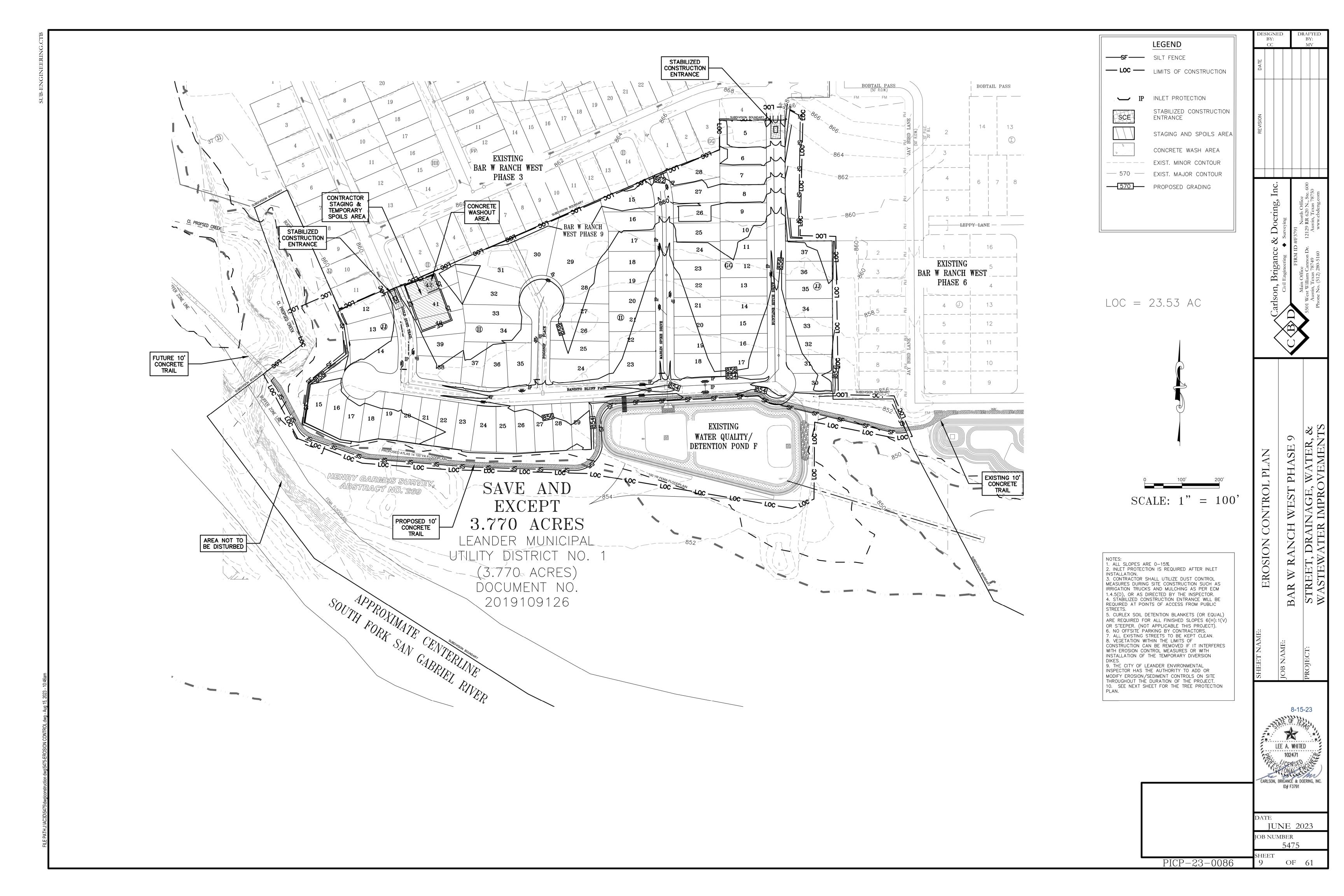
WILLIAMSON COUNTY, TEXAS NOTARY PUBLIC IN AND FOR

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OFFICE,

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- 2. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE ENVIRONMENTAL CRITERIA MANUAL AND THE APPROVED FROSION AND SEDIMENTATION CONTROL PLAN. THE ESC PLAN SHALL BE CONSULTED AND USED AS THE BASIS FOR A TPDES REQUIRED SWPPP. IF A SWPPP IS REQUIRED, IT SHALL BE AVAILABLE FOR REVIEW BY THE CITY OF LEANDER INSPECTOR AT ALL TIMES DURING CONSTRUCTION, INCLUDING AT THE PRE-CONSTRUCTION MEETING.
- 3. THE PLACEMENT OF TREE/NATURAL AREA PROTECTIVE FENCING SHALL BE IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD NOTES FOR TREE AND NATURAL AREA PROTECTION AND THE APPROVED GRADING/TREE AND NATURAL
- 4. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD ON-SITE WITH THE CONTRACTOR, DESIGN ENGINEER/PERMIT APPLICANT AND ENVIRONMENTAL INSPECTOR AFTER INSTALLATION OF THE EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTION MEASURES AND PRIOR TO BEGINNING ANY SITE PREPARATION WORK. THE OWNER OR OWNER'S REPRESENTATIVE SHALL NOTIFY THE PLANNING DEPARTMENT, (512) 528-2763, AT LEAST THREE DAYS PRIOR TO THE MEETING DATE. COA APPROVED ESC PLAN AND TPDES SWPPP (IF REQUIRED) SHOULD BE REVIEWED BY COA EV INSPECTOR
- 5. ANY MAJOR VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS WILL REQUIRE A REVISION AND MUST BE APPROVED BY THE REVIEWING ENGINEER, ENVIRONMENTAL SPECIALIST OR CITY ARBORIST AS APPROPRIATE. MAJOR REVISIONS MUST BE APPROVED BY THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT. 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 PROVIDE A CERTIFIED INSPECTOR WITH EITHER A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC), CERTIFIED EROSION, SEDIMENT AND STORMWATER-INSPECTOR (CESSWI) OR CERTIFIED INSPECTOR OF SEDIMENTATION AND EROSION CONTROLS (CISEC) CERTIFICATION TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE 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 THE CITY, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, 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 SPOIL DISPOSAL
- 8. ALL WORK MUST STOP IF A VOID IN THE ROCK SUBSTRATE IS DISCOVERED WHICH IS; ONE SQUARE FOOT IN TOTAL AREA; BLOWS AIR FROM WITHIN THE SUBSTRATE AND/OR CONSISTENTLY RECEIVES WATER DURING ANY RAIN EVENT AT THIS TIME IT IS THE RESPONSIBILITY OF THE PROJECT MANAGER TO IMMEDIATELY CONTACT A CITY OF LEANDER INSPECTOR FOR FURTHER
- 9. TEMPORARY AND PERMANENT EROSION CONTROL:
- ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW.
- A. ALL DISTURBED AREAS TO BE REVEGETATED ARE REQUIRED TO PLACE A MINIMUM OF SIX (6) INCHES OF TOPSOIL [SEE STANDARD SPECIFICATION ITEM NO. 601S.3(A)]. DO NOT ADD TOPSOIL WITHIN THE CRITICAL ROOT ZONE OF EXISTING TREES. THE TOPSOIL SHALL BE COMPOSED OF 4 PARTS OF SOIL MIXED WITH 1 PART COMPOST, BY VOLUME. THE COMPOST SHALL MEET THE DEFINITION OF COMPOST AS DEFINED BY TXDOT SPECIFICATION ITEM 161. THE SOIL SHALL BE LOCALLY AVAILABLE NATIVE SOIL THAT MEETS THE FOLLOWING SPECIFICATIONS:
- SHALL BE FREE OF TRASH, WEEDS, DELETERIOUS MATERIALS, ROCKS, AND DEBRIS.
- 100% SHALL PASS THROUGH A 1.5-INCH (38-MM) SCREEN.
- SOIL TO BE A LOAMY MATERIAL THAT MEETS THE REQUIREMENTS OF THE TABLE BELOW IN ACCORDANCE WITH THE USDA TEXTURAL TRIANGLE. SOIL KNOWN LOCALLY AS "RED DEATH" IS NOT AN ALLOWABLE SOIL. TEXTURAL COMPOSITION SHALL MEET THE FOLLOWING

TEXTURAL CLASS	MINIMUM	MAXIMUM
CLAY	5%	50%
SILT	10%	50%
SAND	15%	67%

- AN OWNER/ENGINEER MAY PROPOSE USE OF ONSITE SALVAGED TOPSOIL WHICH DOES NOT MEET THE SOIL TEXTURE CLASS REQUIRED ABOVE BY PROVIDING A SOIL ANALYSIS AND A WRITTEN STATEMENT FROM A QUALIFIED PROFESSIONAL IN SOILS, LANDSCAPE ARCHITECTURE, OR AGRONOMY INDICATING THE ONSITE TOPSOIL WILL PROVIDE AN EQUIVALENT GROWTH MEDIA AND SPECIFYING WHAT, IF ANY, SOIL AMENDMENTS ARE REQUIRED.

- SOIL AMENDMENTS SHALL BE WORKED INTO THE EXISTING ONSITE TOPSOIL WITH A DISC OR TILLER TO CREATE A WELL-BLENDED

TOPSOIL SALVAGED FROM THE EXISTING SITE MAY OFTEN BE USED, BUT IT SHOULD MEET THE SAME STANDARDS AS SET FORTH IN THESE STANDARDS. THE VEGETATIVE STABILIZATION OF AREAS DISTURBED BY CONSTRUCTION SHALL BE AS FOLLOWS:

TEMPORARY VEGETATIVE STABILIZATION:

- 1. FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH COOL SEASON COVER CROPS (WHEAT AT 0.5 POUNDS PER 1000 SF. OATS AT 0.5 POUNDS PER 1000 SF, CEREAL RYE GRAIN AT 0.5 POUNDS PER 1000 SF) WITH A TOTAL RATE OF 1.5 POUNDS PER 1000 SF. COOL SEASON COVER CROPS ARE NOT PERMANENT EROSION
- 2. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 1 POUNDS PER 1000 SF.
- A. FERTILIZER SHALL BE WATER SOLUBLE WITH AN ANALYSIS OF 15-15-15 TO BE APPLIED ONCE AT PLANTING AND ONCE DURING THE PERIOD OF ESTABLISHMENT AT A RATE OF 1/2 POUND PER 1000 SF. ABLE 1: HYDROMULCHING FOR TEMPORARY VEGETATIVE STABILIZATION
- C. TEMPORARY EROSION CONTROL SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1 1/2 INCHES HIGH WITH 95% COVERAGE,
- D. WHEN REQUIRED, NATIVE GRASS SEEDING SHALL COMPLY WITH REQUIREMENTS OF THE CITY OF LEANDER ENVIRONMENTAL CRITERIA MANUAL.

PROVIDED NO BARE SPOTS LARGER THAN 16 SQUARE FEET EXIST

B. HYDROMULCH SHALL COMPLY WITH TABLE1, BELOW.

PERMANENT VEGETATIVE STABILIZATION:

- 1. FROM SEPTEMBER 15 TO MARCH 1. SEEDING IS CONSIDERED TO BE TEMPORARY STABILIZATION ONLY. IF COOL SEASON COVER CROPS EXIST WHERE PERMANENT VEGETATIVE STABILIZATION IS DESIRED, THE GRASSES SHALL BE MOWED TO A HEIGHT OF LESS THAN ONE-HALF (1/2) INCH AND THE AREA SHALL BE RE-SEEDED IN ACCORDANCE WITH 2. BELOW.
- 2. FROM MARCH 2 TO SEPTEMBER 14. SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 1 POUND PER 1000 SF WITH A PURITY OF 95% WITH 85% GERMINATION. BERMUDA GRASS IS A WARM SEASON GRASS AND IS CONSIDERED PERMANENT EROSION CONTROL.

EROSION CONTROL NOTES - 1 - APPENDIX P - CONTINUED...

A. FERTILIZER SHALL BE A WATER SOLUBLE WITH AN ANALYSIS OF 15-15-15 TO BE APPLIED ONCE AT PLANTING AND ONCE DURING THE PERIOD OF ESTABLISHMENT AT A RATE OF 1/2 POUND PER 1000 SF.

B. HYDROMULCH SHALL COMPLY WITH TABLE 2, BELOW.

- C. THE PLANTED AREA SHALL BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF SIX INCHES. THE IRRIGATION SHALL OCCUR AT DAILY INTERVALS (MINIMUM) DURING THE FIRST TWO MONTHS. RAINFALL OCCURRENCES OF 1/2 INCH OR MORE SHALL POSTPONE THE WATERING SCHEDULE FOR ONE WEEK.
- D. PERMANENT EROSION CONTROL SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 11/2 INCHES HIGH WITH 95% COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 16 SQUARE FEET EXIST.
- E. WHEN REQUIRED, NATIVE GRASS SEEDING SHALL COMPLY WITH REQUIREMENTS OF THE CITY OF LEANDER ENVIRONMENTAL CRITERIA MANUA TABLE 2: HYDROMULCHING FOR PERMANENT VEGETATIVE STABILIZATION

MATERIAL	DESCRIPTION	LONGEVITY	TYPICAL APPLICATIONS	APPLICATION RATES
BONDED FIBER MATRIX (BFM)	80% ORGANIC DEFIBRATED FIBERS 10% TACKIFIER	6 MONTHS	ON SLOPES UP TO 2:1 AND EROSIVE SOIL CONDITIONS	2500 TO 4000 lbs PER ACRE (SEE MANUFACTURERS RECOMMENDATIONS)
FIBER REINFORCED MATRIX (FRM)	65% ORGANIC DEFIBRATED FIBERS 25% REINFORCING FIBERS OR LESS 10% TACKIFIER	UP TO 12 MONTHS	ON SLOPES UP TO 1:1 AND EROSIVE SOIL CONDITIONS	3000 TO 4500 lbs PER ACRE (SEE MANUFACTURERS RECOMMENDATIONS)

10. DEVELOPER INFORMATION:

EQUIPMENT:

- ADDRESS 10700 PECAN PARK BLVD. STE. 400 AUSTIN TX 78750 OWNER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS:
- CARLSON, BRIGANCE AND DOERING, INC. CIVIL ENGINEERING & SURVEYING
- PHONE NO. (512) 280-5160; FAX NO. (512) 280-5165 PERSON OR FIRM RESPONSIBLE FOR EROSION/SEDIMENTATION CONTROL
- LEE A. WHITED, P.E. (512) 280-5160 _PHONE #_.
- PERSON OR FIRM RESPONSIBLE FOR TREE/NATURAL AREA PROTECTION MAINTENANCE: LEE A. WHITED, P.E.
- (512) 280-5160 ___PHONE #___. 11. THE CONTRACTOR SHALL NOT DISPOSE OF SURPLUS EXCAVATED MATERIAL
- FROM THE SITE WITHOUT NOTIFYING THE PLANNING DEPARTMENT AT 528-2763 AT LEAST 48 HOURS PRIOR WITH THE LOCATION AND A COPY OF THE PERMIT ISSUED TO RECEIVE THE MATERIAL.

APPENDIX P-2- CITY OF LEANDER STANDARD NOTES FOR TREE AND NATURAL PROTECTION

- 1. ALL TREES AND NATURAL AREAS SHOWN ON PLAN TO BE PRESERVED SHALL BE PROTECTED DURING CONSTRUCTION WITH TEMPORARY FENCING.
- 2. PROTECTIVE FENCES SHALL BE ERECTED ACCORDING TO CITY OF LEANDER STANDARDS FOR TREE PROTECTION.
- 3. PROTECTIVE FENCES SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING), AND SHALL BE
- MAINTAINED THROUGHOUT ALL PHASES OF THE CONSTRUCTION PROJECT. 4. EROSION AND SEDIMENTATION CONTROL BARRIERS SHALL BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILD-UP WITHIN
- 5. PROTECTIVE FENCES SHALL SURROUND THE TREES OR GROUP OF TREES, AND WILL BE LOCATED AT THE OUTERMOST LIMIT OF BRANCHES (DRIP LINE), FOR NATURAL AREAS, PROTECTIVE FENCES SHALL FOLLOW THE LIMIT OF
- CONSTRUCTION LINE, IN ORDER TO PREVENT THE FOLLOWING: (A) SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR
- TRAFFIC OR STORAGE OF EQUIPMENT OR MATERIALS; (B) ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 6 INCHES CUT OR FILL), OR TRENCHING NOT REVIEWED AN AUTHORIZED BY
- (C) WOUNDS TO EXPOSED ROOTS, TRUNK OR LIMBS BY MECHANICAL
- (D) OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING, AND FIRES.
- 6. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIP LINES MAY BE PERMITTED IN THE FOLLOWING CASES:
- (A) WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT, ERECT THE FENCE APPROXIMATELY 2 TO 4 FEET BEYOND THE AREA DISTURBED;
- (B) WHERE PERMEABLE PAVING IS TO BE INSTALLED WITHIN A TREE'S DRIP LINE. ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA (PRIOR TO SITE GRADING SO THAT THIS AREA IS GRADED SEPARATELY PRIOR TO PAVING INSTALLATION TO MINIMIZED ROOT DAMAGE);
- (C) WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE TO ALLOW 6 TO 10 FEET OF WORK SPACE BETWEEN THE FENCE AND THE BUILDING;
- SPECIAL NOTE: FOR THE PROTECTION OF NATURAL AREAS, NO EXCEPTIONS TO INSTALLING FENCES AT THE LIMIT OF CONSTRUCTION LINE WILL BE PERMITTED.
- 7. WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN A FENCE BEING CLOSER THAN 4 FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF 8 FT (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE REDUCED FENCING PROVIDED.
- 8. TREES APPROVED FOR REMOVAL SHALL BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
- 9. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON POSSIBLE, IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
- 10. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUCKS TRUNKS AS POSSIBLE.
- 11. NO LANDSCAPE TOPSOIL DRESSING GREATER THAN 4 INCHES SHALL BE PERMITTED WITHIN THE DRIP LINE OF TREES. NO SOIL IS PERMITTED ON THE ROOT FLARE OF
- 12. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.)
- 13. ALL FINISHED PRUNING SHALL BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS FOR THE INDUSTRY (REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES AVAILABLE ON REQUEST FROM THE CITY ARBORIST.)
- 14. DEVIATIONS FROM THE ABOVE NOTES MAY BE CONSIDERED ORDINANCE VIOLATIONS IF THERE IS SUBSTANTIAL NONCOMPLIANCE OR IF TREE SUSTAINS DAMAGE AS A

MATERIAL	DESCRIPTION	LONGEVITY	TYPICAL APPLICATIONS	APPLICATION RATES
100% OR ANY BLEND OF WOOD, CELLULOSE, STRAW, AND/OR COTTON PLANT MATERIAL (EXCEPT NO MULCH SHALL EXCEED 30% PAPER)	70% OR GREATER WOOD/STRAW 30% OR LESS PAPER OR NATURAL FIBERS	0-3 MONTHS	MODERATE SLOPES; FROM FLAT TO 3:1	1500 TO 2000 lbs PER ACRE

APPENDIX O - CITY OF LEANDER STANDARD NOTES FOR LANDSCAPING AND IRRIGATION

IRRIGATION NOTES

AUTOMATIC IRRIGATION SYSTEMS SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS. THESE REQUIREMENTS SHALL BE NOTED ON THE SITE DEVELOPMENT PERMIT AND SHALL BE IMPLEMENTED

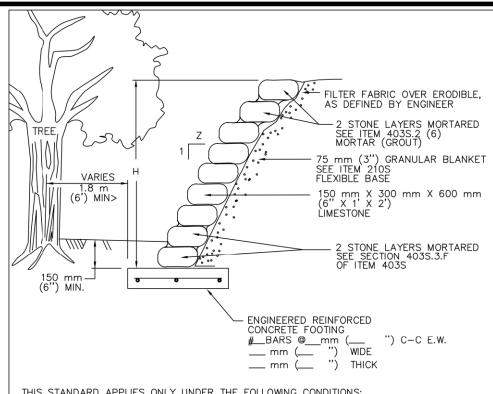
AS PART OF THE LANDSCAPE INSPECTION:

- 1. A NEW COMMERCIAL AND MULTI-FAMILY IRRIGATION SYSTEM MUST BE DESIGNED AND INSTALLED A) THERE IS NOT DIRECT OVER SPRAY ONTO NON-IRRIGATED AREAS;
- THE SYSTEM DOES NOT INCLUDE SPRAY IRRIGATION ON AREAS LESS THAN SIX (6) FEET WIDE (SUCH AS MEDIANS, BUFFER STRIPS, AND PARKING LOT ISLANDS) ABOVE-GROUND IRRIGATION EMISSION DEVICES ARE SET BACK AT LEAST SIX (6) INCHES
- ROM IMPERVIOUS SURFACES;

DIFFERENCES MAY CAUSE LOW HEAD DRAINAGE

- D) THE IRRIGATION SYSTEM HAS A MASTER VALVE: CIRCUIT REMOTE CONTROL VALVES HAVE ADJUSTABLE FLOW CONTROLS; SERVICEABLE IN-HEAD CHECK VALVES ARE ADJACENT TO PAVED AREAS WHERE ELEVATION
- G) THE IRRIGATION SYSTEM HAS A CITY- APPROVED WEATHER BASED CONTROLLER; AN AUTOMATIC RAIN SHUT-OFF DEVICE SHUTS OFF THE IRRIGATION SYSTEM AUTOMATICALLY AFTER NOT MORE THAN A ONE-HALF INCH (1/2") RAINFALL;) ZONE VALVES AND CIRCUITS ARE SEPARATED BASED ON PLANT WATER REQUIREMENTS;
- AN IRRIGATION EMISSION DEVICE (SUCH AS SPRAY, ROTOR, OR DRIP EMITTER) DOES NOT EXCEED THE MANUFACTURER'S RECOMMENDED OPERATING PRESSURE; AND (K) NO COMPONENT OF THE IRRIGATION SYSTEM DEVIATES FROM THE MANUFACTURER'S RECOMMENDED USE OF THE PRODUCT.
- 2. THE MAXIMUM SPACING BETWEEN SPRAY OR ROTARY SPRINKLER HEADS MUST NOT EXCEED THE RADIUS OF THROW OF THE HEAD UNLESS MANUFACTURER OF THE SPRINKLER HEAD SPECIFICALLY RECOMMENDS A GREATER SPACING. THE RADIUS OF THROW IS DETERMINED BY REFERENCE TO THE MANUFACTURER'S SPECIFICATIONS FOR A SPECIFIC NOZZLE AT A SPECIFIC OPERATING PRESSURE.
- 3. THE IRRIGATION INSTALLER SHALL DEVELOP AND PROVIDE AN AS-BUILT DESIGN PLAN AND WATER BUDGET TO THE CITY AT THE TIME THE FINAL PLUMBING INSPECTION IS PERFORMED. THE WATER BUDGET SHALL INCLUDE: (A) A CHART CONTAINING ZONE NUMBERS, PRECIPITATION RATE, AND GALLONS PER MINUTE; AND THE LOCATION OF THE EMERGENCY IRRIGATION SYSTEM SHUT-OFF VALVE. A LAMINATED COPY
- 4. THE IRRIGATION INSTALLER SHALL PROVIDE A REPORT TO THE CITY CERTIFYING COMPLIANCE WITH SUBSECTION 1 WHEN THE FINAL PLUMBING INSPECTION IS PERFORMED BY THE CITY.

OF THE WATER BUDGET SHALL BE PERMANENTLY INSTALLED INSIDE THE IRRIGATION CONTROLLER

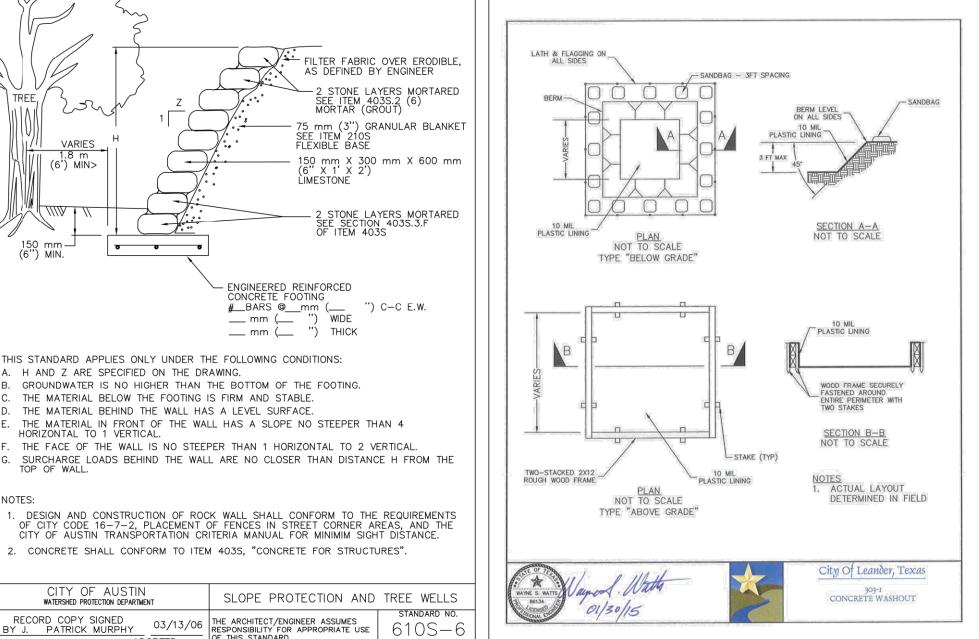


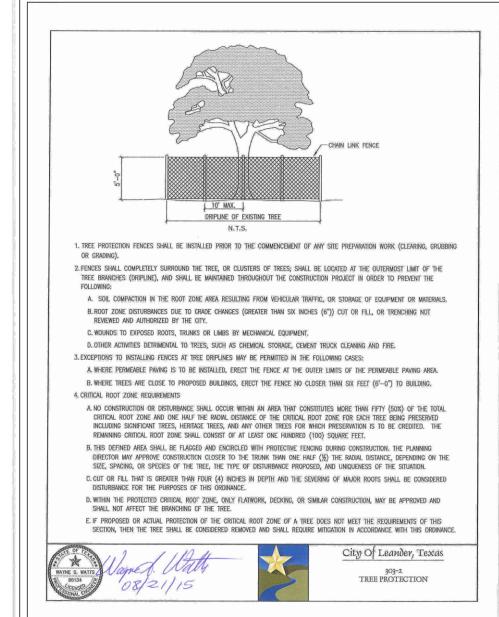
THIS STANDARD APPLIES ONLY UNDER THE FOLLOWING CONDITIONS: A. H AND Z ARE SPECIFIED ON THE DRAWING. B. GROUNDWATER IS NO HIGHER THAN THE BOTTOM OF THE FOOTING.

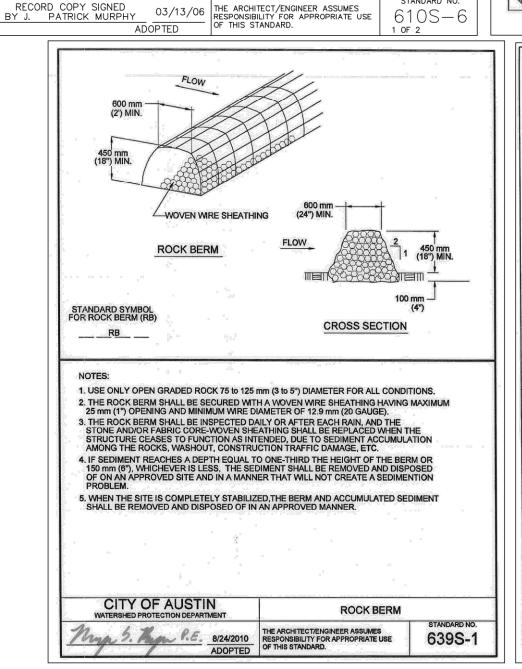
. THE MATERIAL BELOW THE FOOTING IS FIRM AND STABLE. . THE MATERIAL BEHIND THE WALL HAS A LEVEL SURFACE. THE MATERIAL IN FRONT OF THE WALL HAS A SLOPE NO STEEPER THAN 4 HORIZONTAL TO 1 VERTICAL.

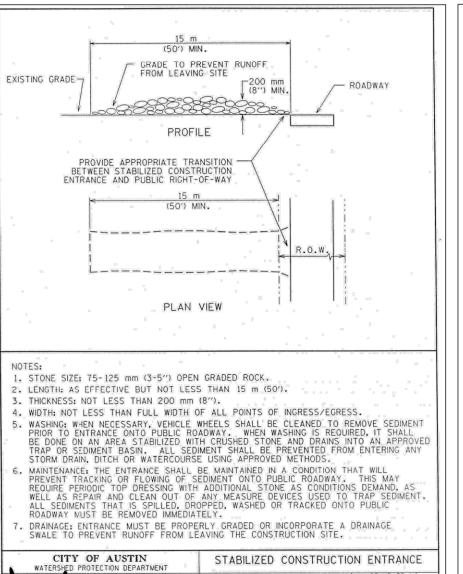
THE FACE OF THE WALL IS NO STEEPER THAN 1 HORIZONTAL TO 2 VERTICAL.

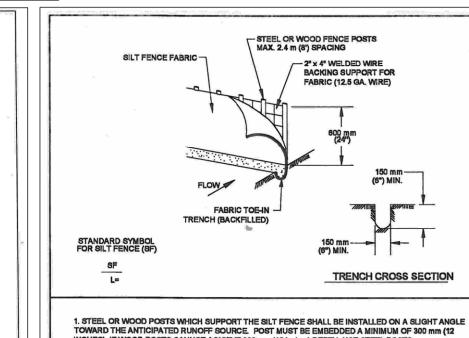
. DESIGN AND CONSTRUCTION OF ROCK WALL SHALL CONFORM TO THE REQUIREMENTS OF CITY CODE 16-7-2, PLACEMENT OF FENCES IN STREET CORNER AREAS, AND THE CITY OF AUSTIN TRANSPORTATION CRITERIA MANUAL FOR MINIMIM SIGHT DISTANCE. CONCRETE SHALL CONFORM TO ITEM 403S, "CONCRETE FOR STRUCTURES".











INCHES). IF WOOD POSTS CANNOT ACHIEVE 300 mm (12 Inches) DEPTH, USE STEEL POSTS. 2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. THE TRENCH MUST BE A MINIMUM OF 150 mm (6 Inches) DEEP AND 160 mm (6 Inches) WIDE TO ALLOW OR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED 4. SILT FENCE FABRIC SHOULD BE SECURELY FASTENED TO EACH STEEL OR WOOD SUPPORT POST OR 5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTY AS NEEDED.

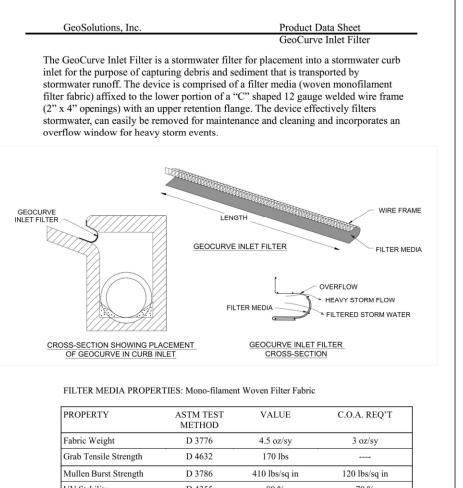
SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6 Inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

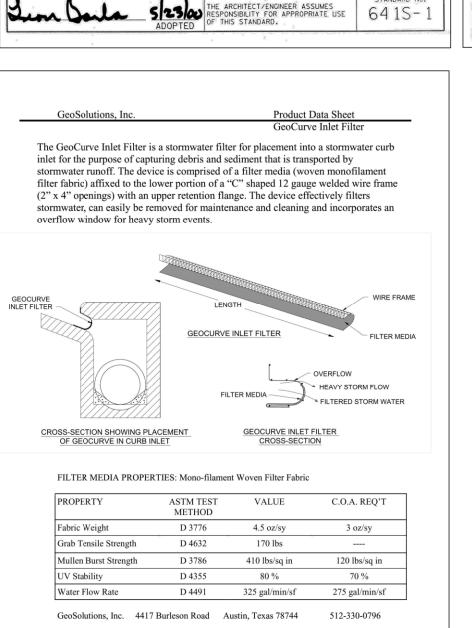
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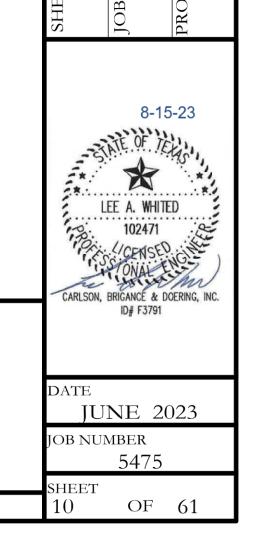
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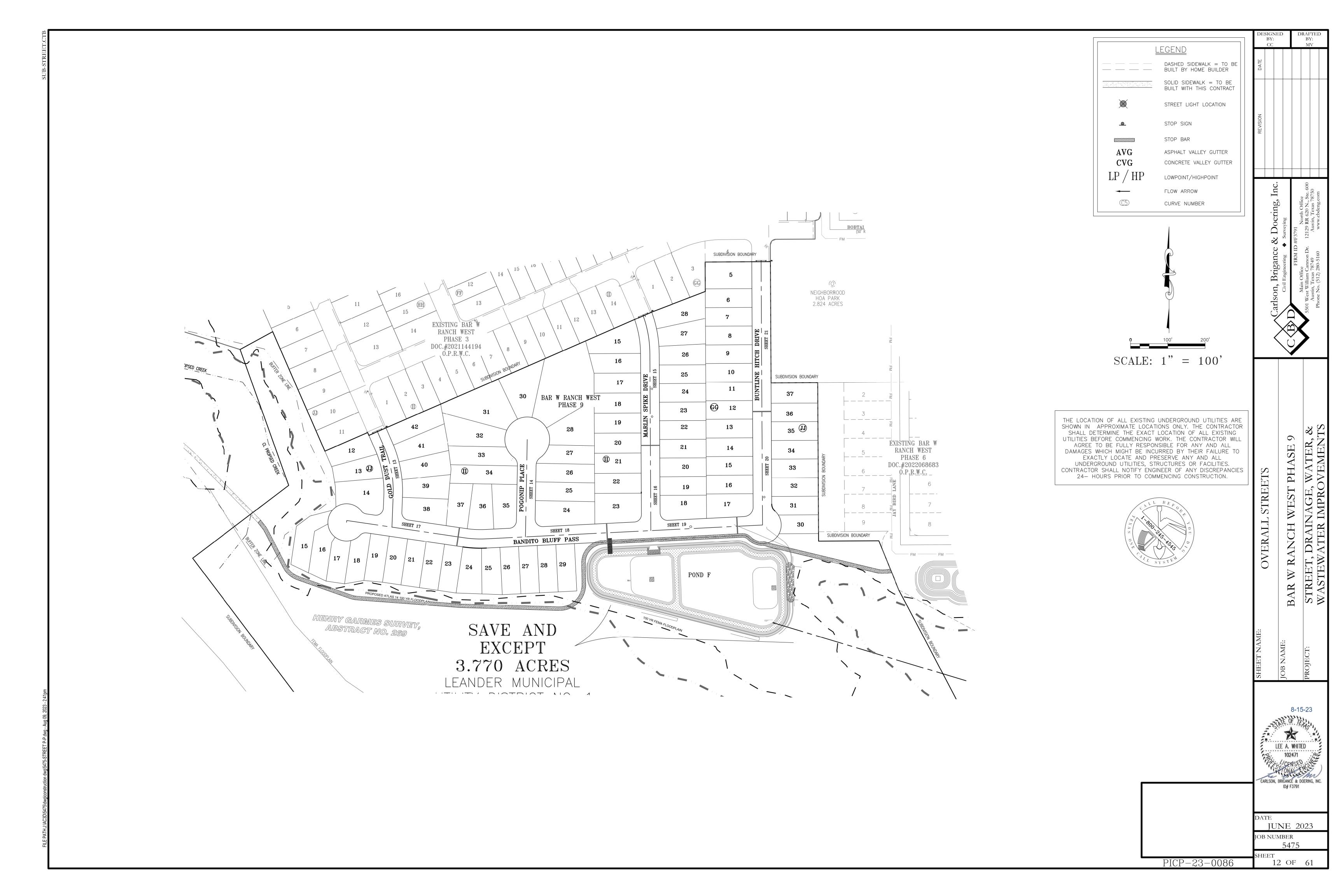
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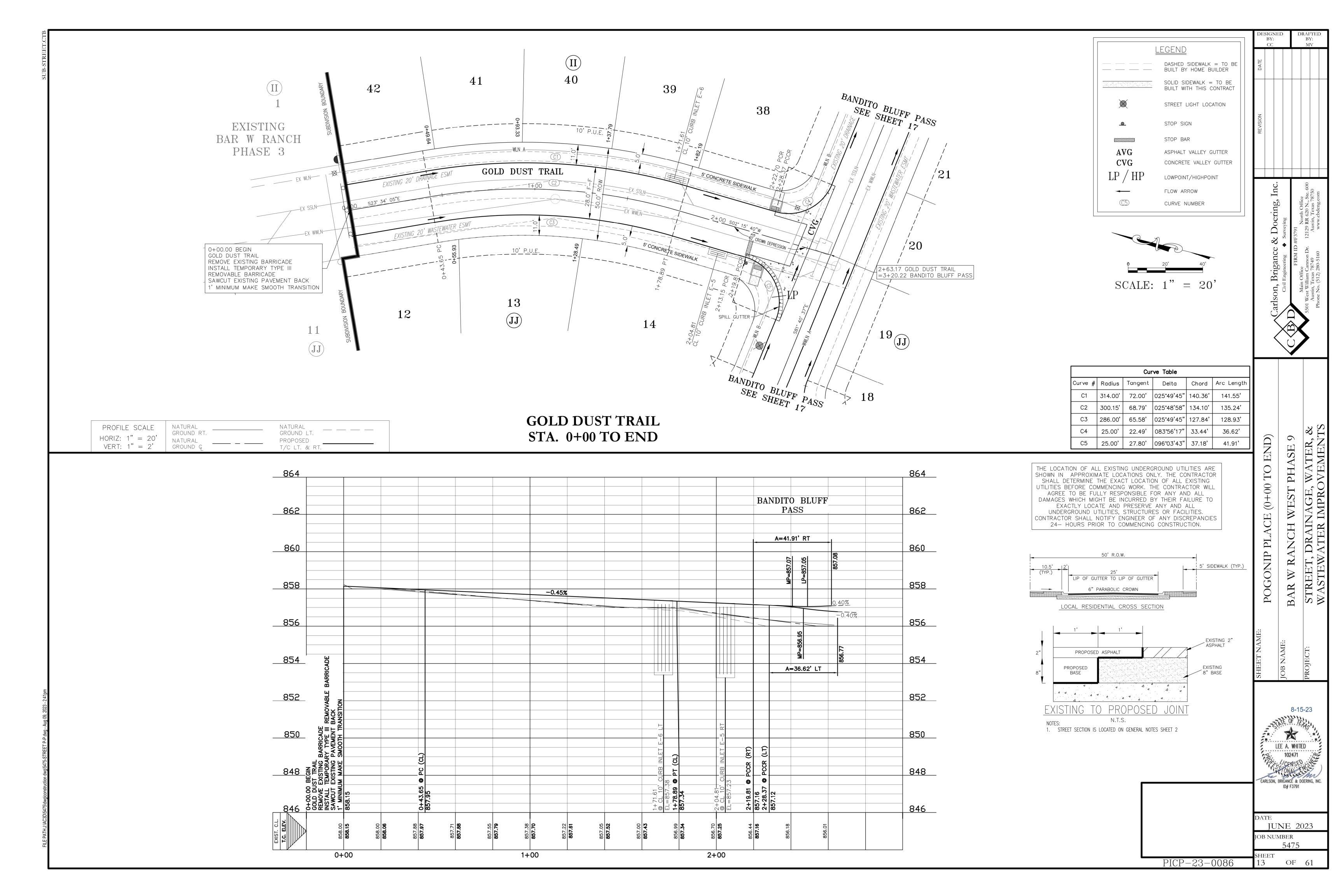
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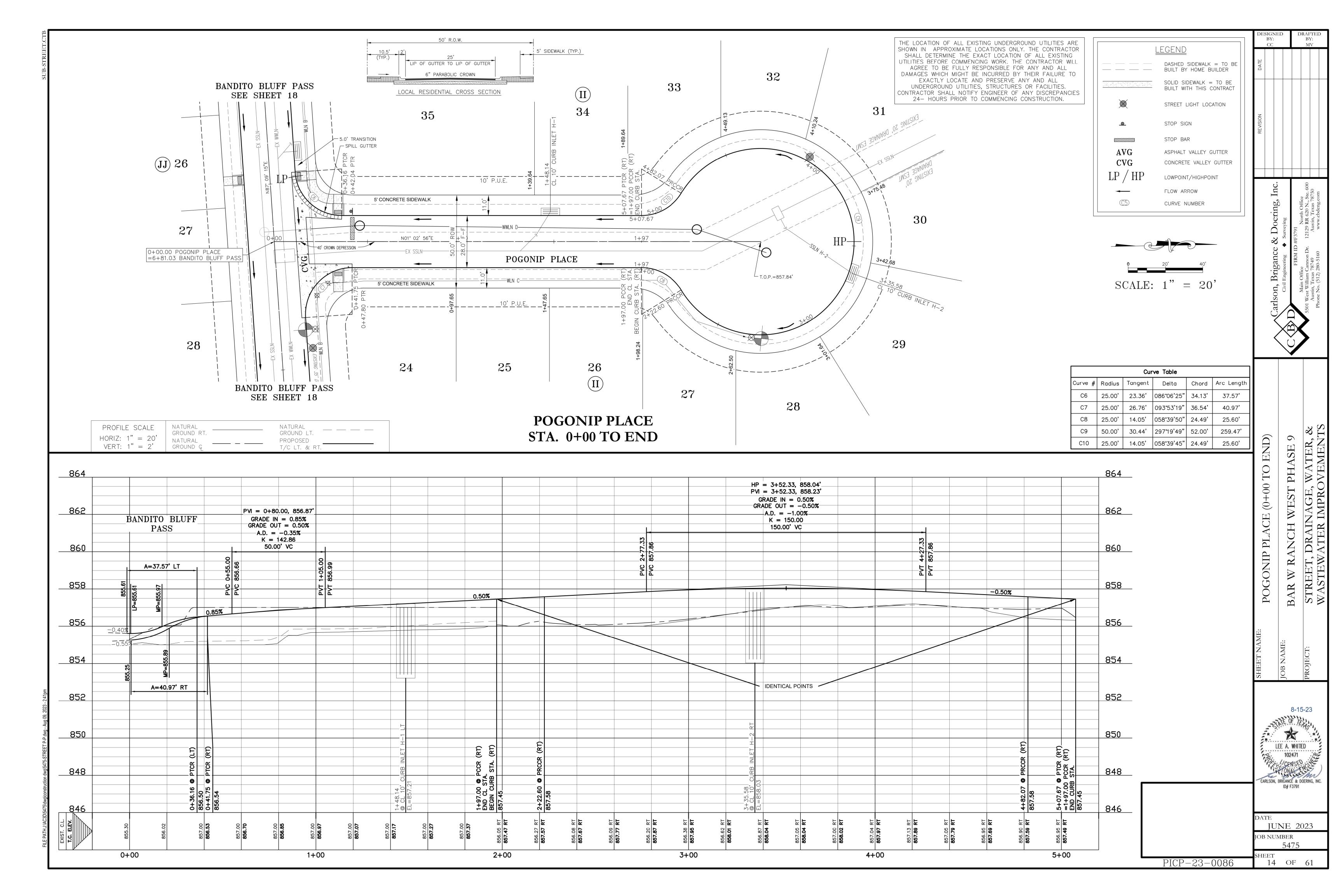
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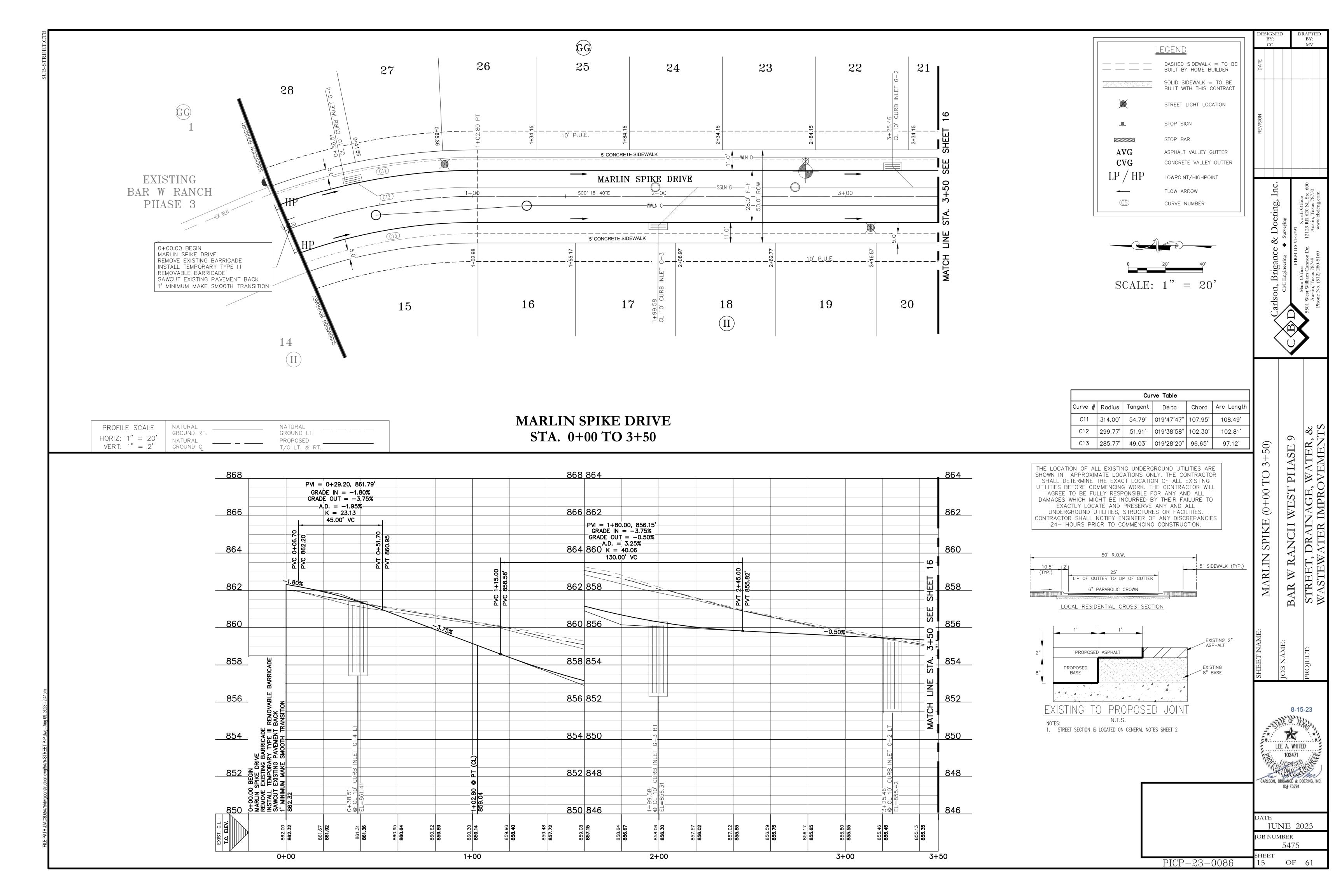
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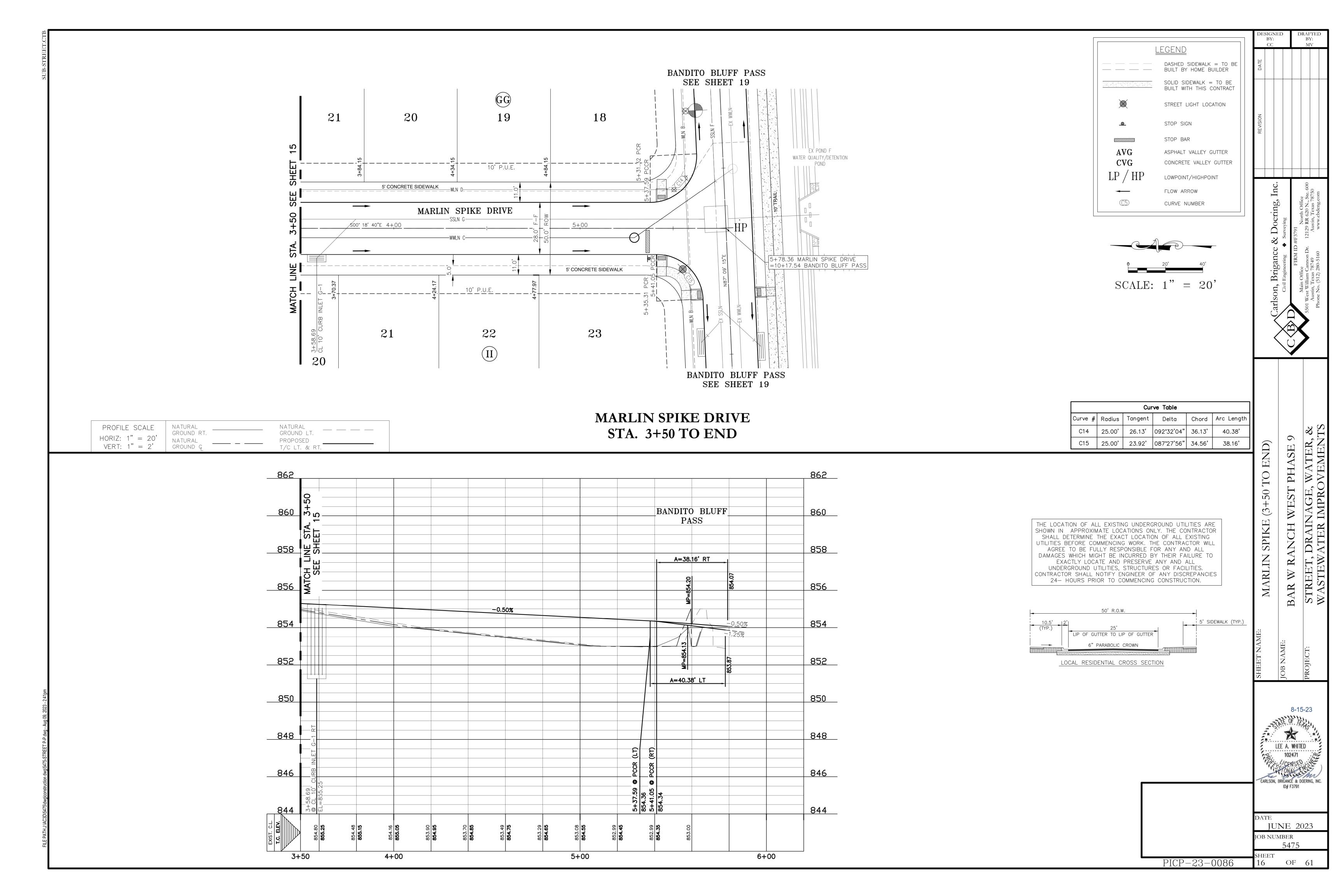


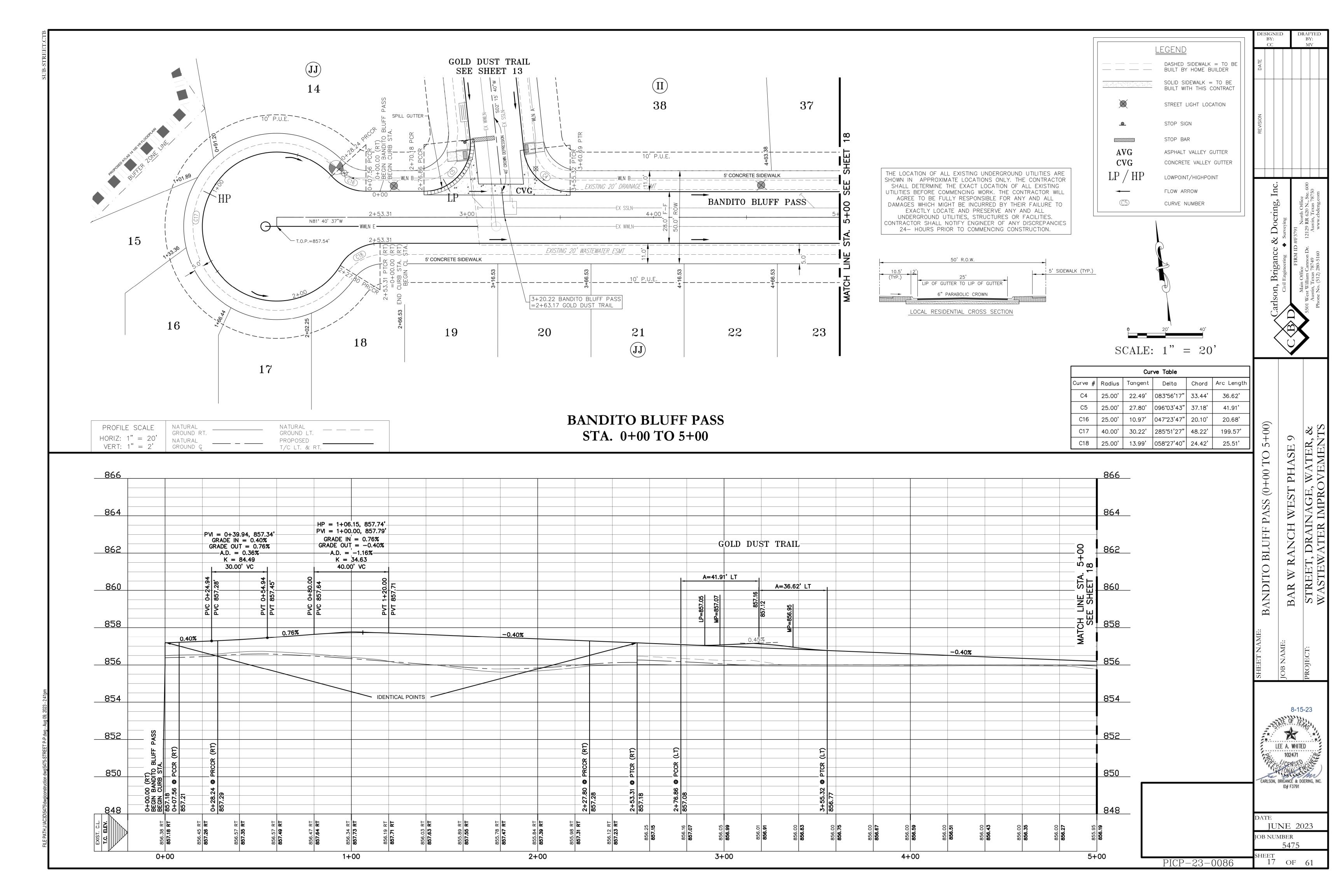


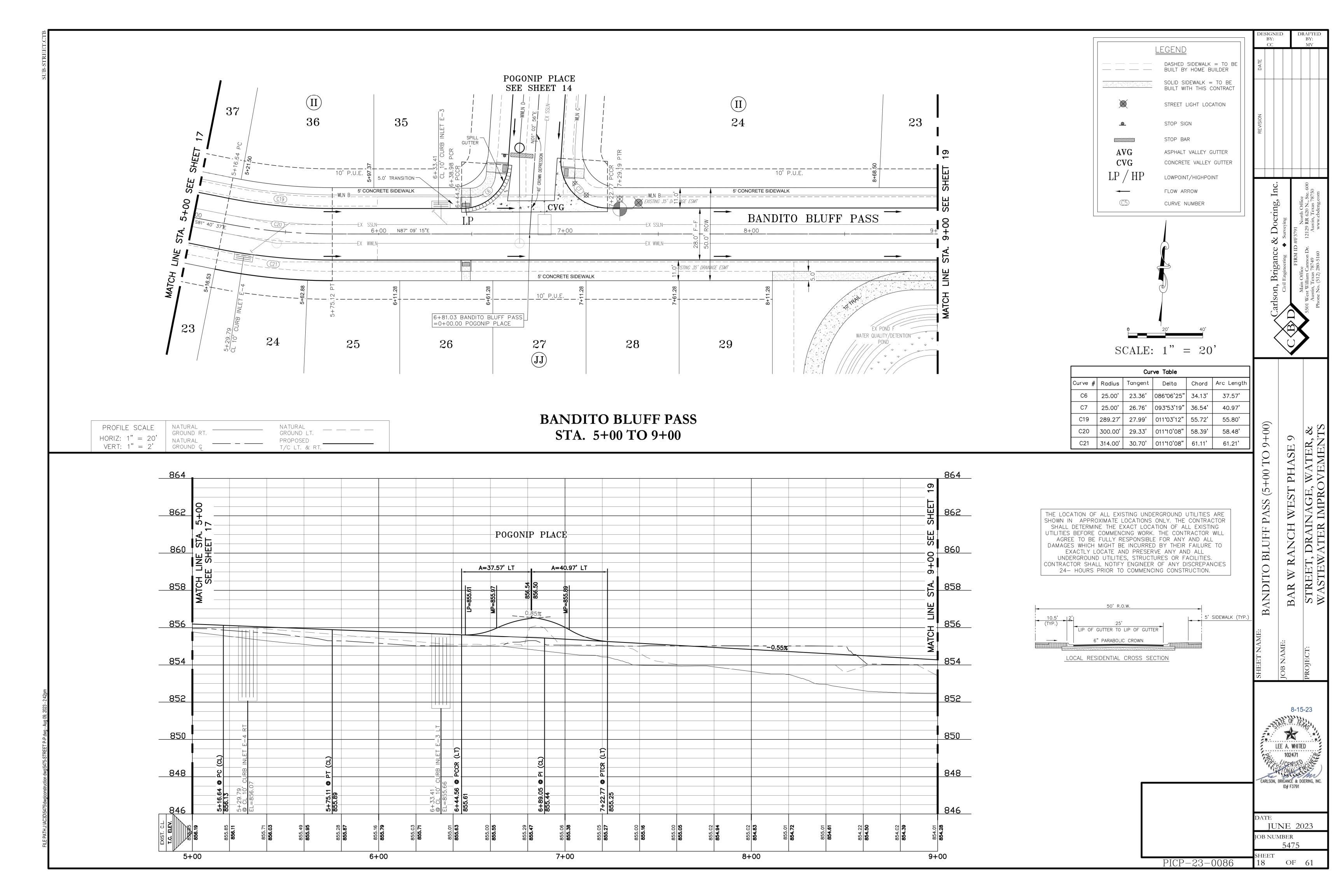


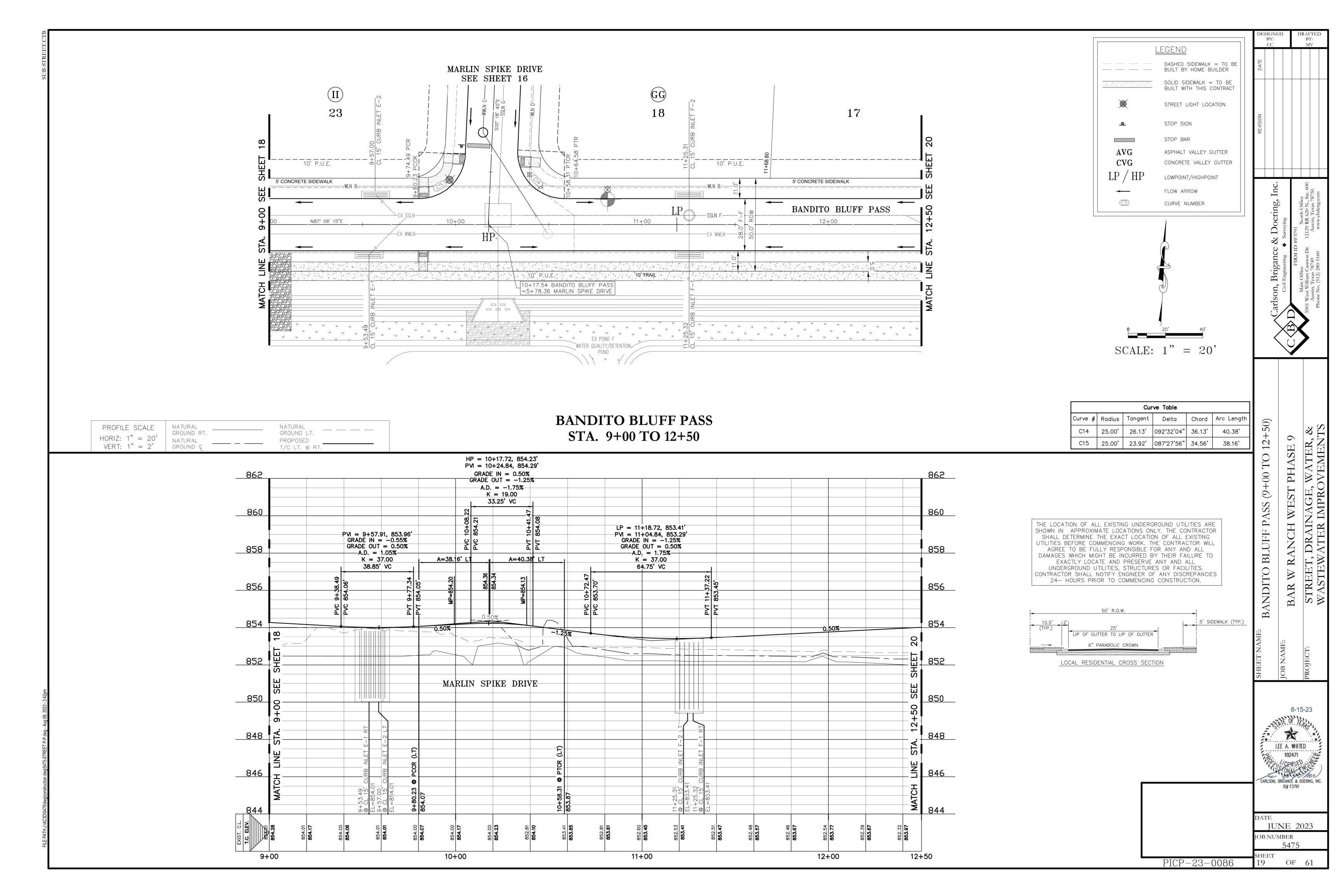


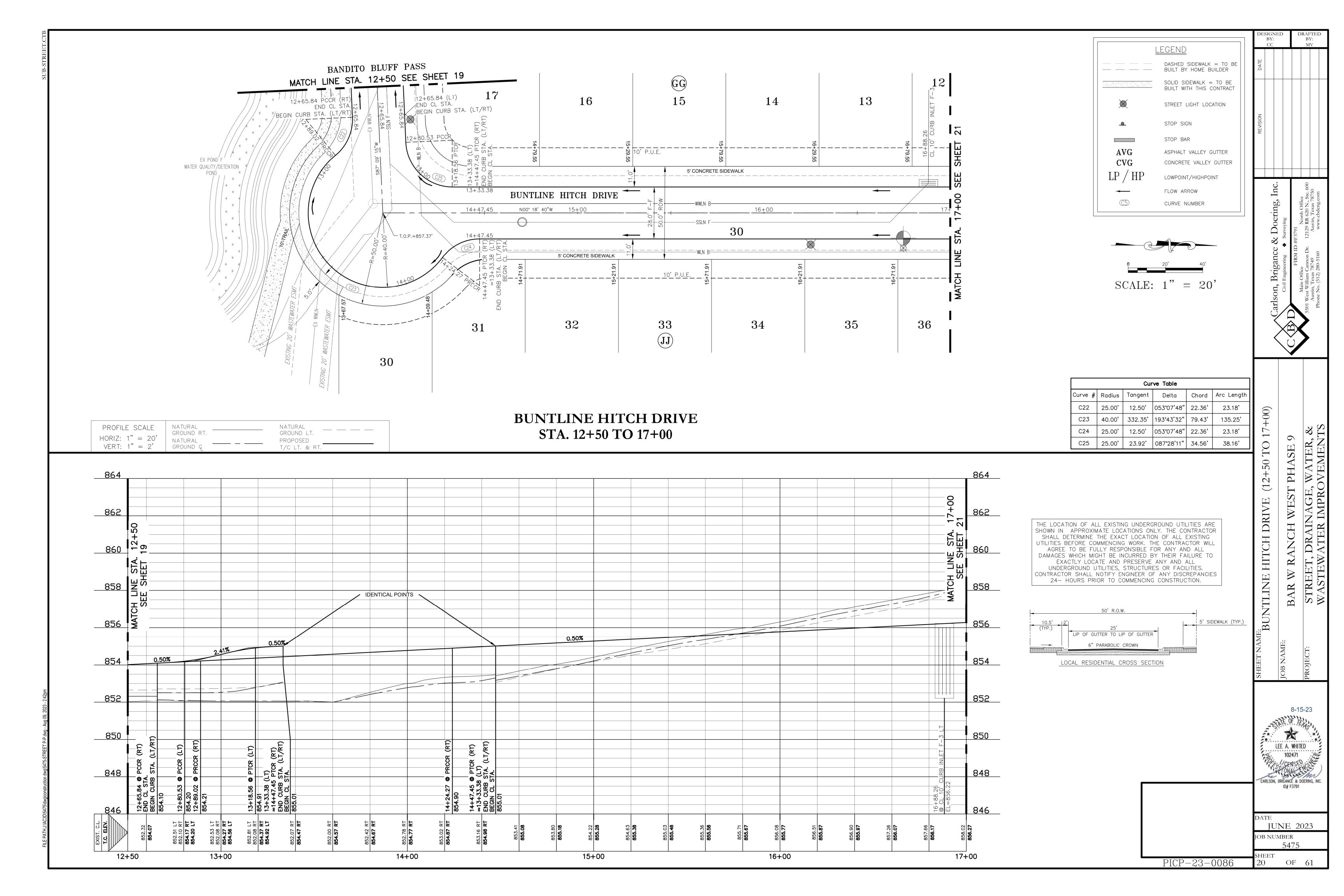


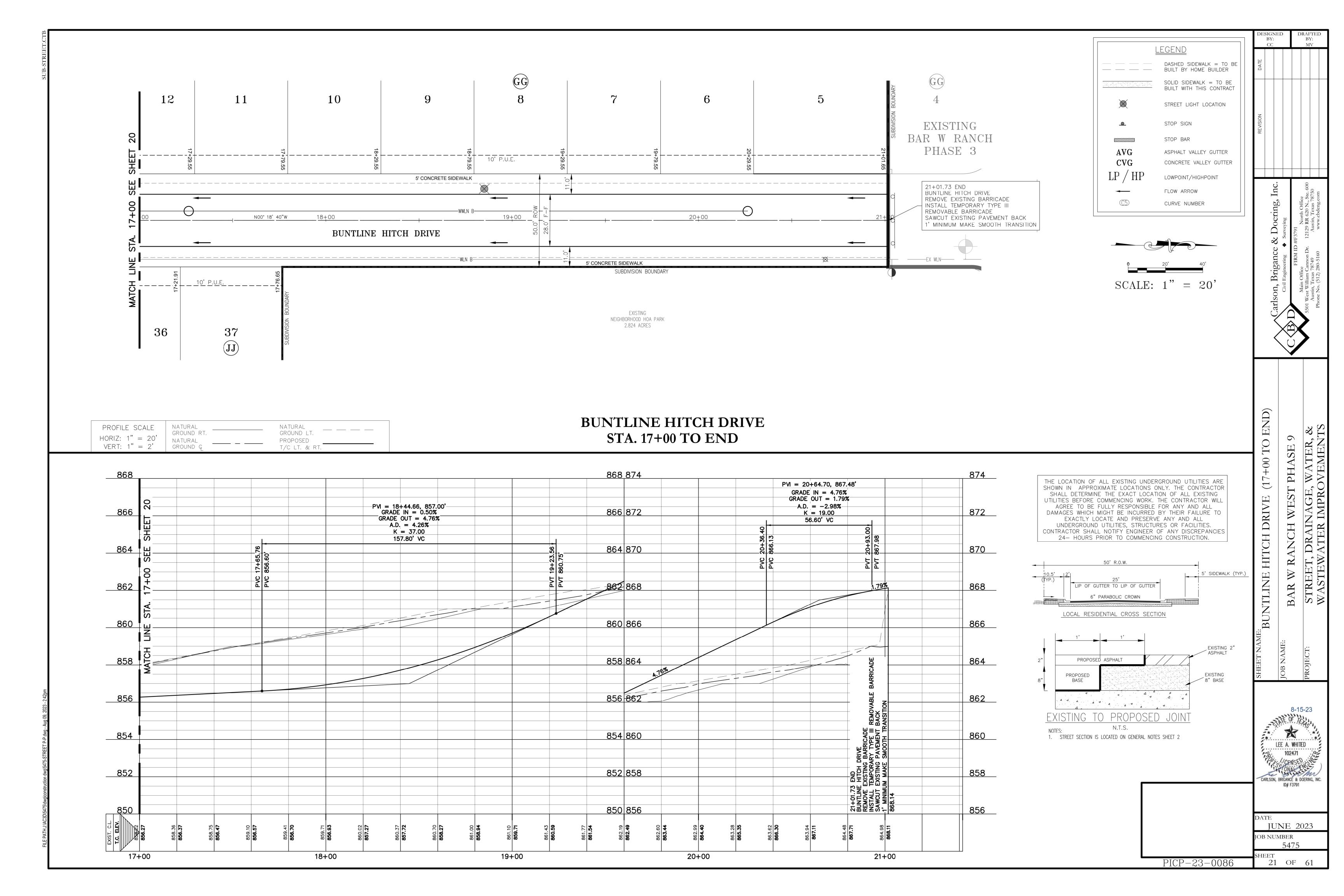


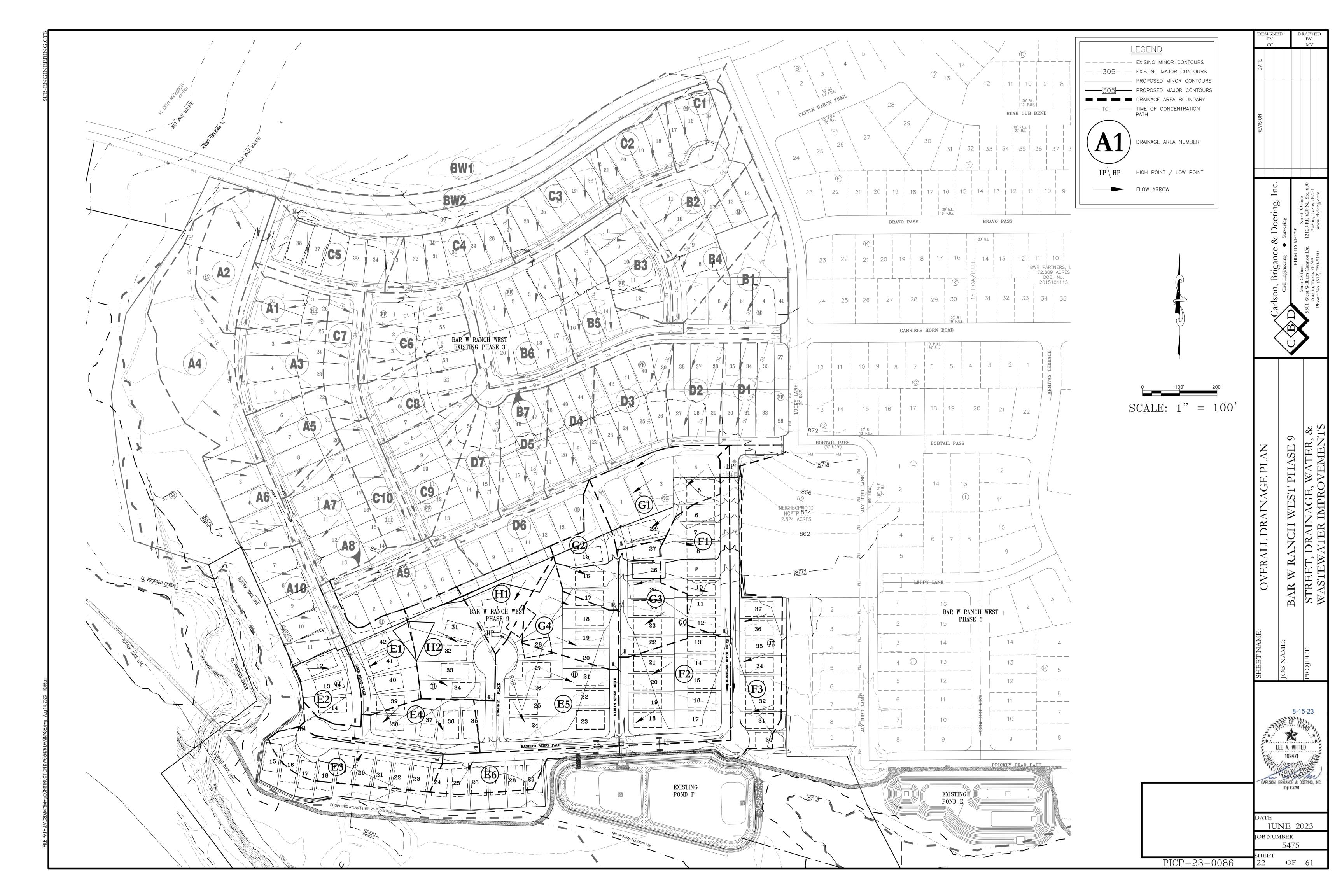


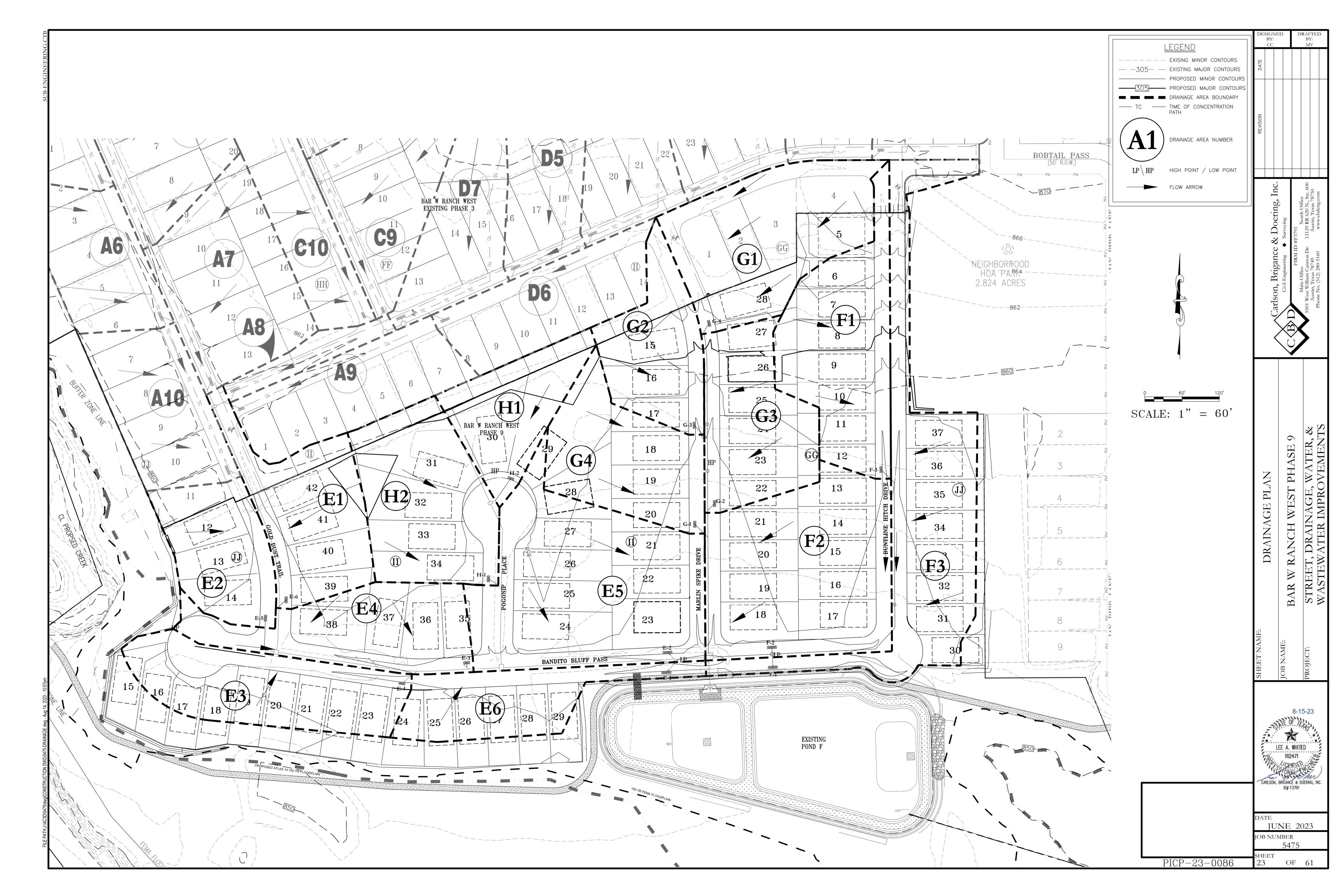












DRAINAGE AREA CALCULATIONS

Area	Area	T_{C}	Perv.	Imperv.	С	С	I ₂₅	I ₁₀₀	Q ₂₅	Q ₁₀₀
No.	(Acre)	(Min.)	(%)	(%)	25	100	ln/Hr	In/Hr	CFS	CFS
A1	0.62	13	19	81	0.75	0.84	8.31	11.13	3.9	5.7
A2	1.61	13	87	13	0.37	0.44	8.31	11.12	4.9	7.9
A3	1.11	14	52	48	0.56	0.64	7.93	10.63	4.9	7.5
A4	1.73	14	92	8	0.34	0.41	7.96	10.66	4.6	7.5
A5	0.99	15	50	50	0.57	0.65	7.92	10.61	4.5	6.8
A6	0.88	15	51	49	0.57	0.65	7.89	10.57	3.9	6.0
Α7	1.35	15	56	44	0.54	0.62	7.91	10.60	5.8	8.9
A8	0.26	8	48	52	0.59	0.67	9.92	13.25	1.5	2.3
A9	0.99	15	53	47	0.56	0.64	7.85	10.52	4.4	6.7
A10	0.94	15	50	50	0.57	0.65	7.83	10.49	4.2	6.4
B1	1.30	14	62	38	0.51	0.59	8.01	10.72	5.3	8.2
B2	1.22	14	61	39	0.51	0.59	8.02	10.74	5.0	7.8
В3	0.98	15	53	47	0.56	0.63	7.73	10.35	4.2	6.4
B4	1.19	15	65	35	0.49	0.57	7.81	10.47	4.6	7.1
B5	0.98	14	52	48	0.56	0.64	8.07	10.81	4.4	6.8
В6	1.84	16	53	47	0.56	0.63	7.69	10.31	7.9	12.0
В7	0.70	9	47	53	0.59	0.67	9.48	12.67	3.9	6.0
C1	0.63	13	62	38	0.50	0.58	8.28	11.08	2.6	4.0
C2	0.78	14	53	47	0.56	0.64	8.02	10.74	3.5	5.3
C3	1.00	13	50	50	0.58	0.66	8.25	11.04	4.8	7.2
C4	1.13	13	53	47	0.56	0.64	8.18	10.95	5.2	7.9
C5	1.25	15	63	37	0.50	0.58	7.87	10.54	4.9	7.6
C6	1.21	14	54	46	0.55	0.63	8.13	10.89	5.5	8.3
C7	0.70	11	52	48	0.61	0.69	8.91	11.91	3.8	5.8
C8	1.14	15	54	46	0.55	0.63	7.92	10.61	5.0	7.6
C9	1.13	15	55	45	0.55	0.63	7.79	10.43	4.8	7.4
C10	0.73	8	52	48	0.56	0.64	9.89	13.21	4.1	6.2
D1	0.84	10	54	46	0.61	0.69	9.05	12.10	4.6	7.0
D2	0.91	11	54	46	0.61	0.69	8.99	12.02	4.9	7.5
D3	1.28	12	54	46	0.61	0.68	8.54	11.43	6.6	10.1
D4	0.94	11	54	46	0.61	0.69	8.95	11.97	5.1	7.8
D5	0.90	11	54	46	0.61	0.69	8.82	11.80	4.8	7.3
D6	0.95	13	53	47	0.61	0.69	8.26	11.05	4.8	7.3
D7	0.92	12	54	46	0.61	0.68	8.73	11.68	4.9	7.4
E1	1.03	14	53	47	0.56	0.63	8.12	10.87	4.6	7.1
E2	0.78	14	53	47	0.56	0.64	7.99	10.70	3.5	5.3
E3	1.13	15	54	46	0.55	0.63	7.90	10.78	4.9	7.6
E4	1.06	13	53	47	0.56	0.64	8.24	11.02	4.9	7.5
E5	2.13	15	53	47	0.56	0.64	7.81	10.47	9.3	14.2
E6	0.80	16	52	48	0.57	0.64	7.64	10.23	3.5	5.3
F1	1.29	13	52	48	0.56	0.64	8.24	11.03	6.0	9.1
F2	1.85	15	52	48	0.56	0.64	7.78	10.43	8.1	12.4
F3	1.85	18	54	46	0.55	0.63	7.18	9.64	7.4	11.3
G1	1.44	14	53	47	0.56	0.64	8.10	10.85	6.5	10.0
G2	0.80	13	52	48	0.57	0.65	8.28	11.08	3.8	5.7
G2 G3	1.00	14	53	47	0.56	0.63	8.15	10.91	4.5	6.9
G3 G4	1.00	14	54	46	0.55	0.63	8.10	10.91	4.6	7.0
H1	0.74	13	55	45	0.55	0.62	8.28	11.08	3.3	5.1
H2	1.22	14	50	50	0.58	0.66	8.00	10.72	5.6	8.6
BW1	2.31	18	83	17	0.39	0.46	7.18	9.63	6.5	10.3
BW2	2.70	17	84	16	0.47	0.54	7.45	9.99	9.4	14.5

DRAINAGE AREAS COMBINED CALCULATIONS

		T	T				
AREAS	T _C	C ₂₅ *A	C ₁₀₀ *A	I 25	I 100	Q ₂₅	Q ₁₀₀
COMBINED	(Min.)			In/Hr		CFS	
BW1-BW2	18	2.16	2.52	7.18	9.63	15.5	
BW1-BW2, A1	18	2.62	3.04	7.18	9.63	18.8	29.3
BW1-BW2, A1-A2	18	3.21	3.75	7.18	9.63	23.0	36.1
BW1-BW2, A1-A3	18	3.83	4.46	7.18	9.63	27.5	42.9
BW1-BW2, A1-A4	18	4.41	5.16	7.18	9.63	31.7	49.7
BW1-BW2, A1-A5	18	4.98	5.80	7.18	9.63	35.7	55.9
BW1-BW2, A1-A6	18	5.47	6.37	7.18	9.63	39.3	61.4
BW1-BW2, A1-A7	18	6.21	7.21	7.18	9.63	44.5	69.4
BW1-BW2, A1-A8	18	6.36	7.38	7.18	9.63	45.6	71.1
BW1-BW2, A1-A9	18	6.91	8.02	7.18	9.63	49.6	77.2
BW1-BW2, A1-A10	19	7.45	8.63	7.00	9.39	52.2	81.1
BW1-BW2, A1-A10, E1	19	8.02	9.29	7.00	9.39	56.2	87.2
BW1-BW2, A1-A10, E1-E2	19	8.46	9.78	7.00	9.39	59.2	91.9
BW1-BW2, A1-A10, E1-E3	19	9.09	10.50	7.00	9.39	63.6	98.6
BW1-BW2, A1-A10, E1-E3	19	9.68	11.18		9.39	67.7	105.0
BVV 1-BVVZ, A 1-A 10, E 1-E4	19	9.00	11.10	7.00			
0.4.00		0.75	0.00	15.14		0.0	0.0
C1-C2	14	0.75	0.86	8.02		6.0	9.2
C1-C3	14	1.33	1.52	8.02		10.6	16.3
C1-C4	14	1.96	2.24	8.02		15.7	24.0
C1-C5	15	2.58	2.96	7.87		20.3	31.2
C1-C6	15	3.25	3.73	7.87		25.6	39.3
C1-C7	15	3.68	4.21	7.87		29.0	44.4
C1-C8	15	4.31	4.93	7.87	10.54	33.9	52.0
				15.14	20.19	0.0	0.0
B2-B3	15	1.17	1.35	7.73	10.35	9.1	13.9
B2-B4	15	1.76	2.02	7.73	10.35	13.6	20.9
B1-B4	15	2.42	2.78	7.73		18.7	28.8
B1-B5	15	2.97	3.41	7.73		22.9	35.3
				15.14		0.0	0.0
B6-B7	16	1.44	1.64		10.31	11.0	16.9
50 51	10	1	1.01		20.19		0.0
B1-B7	16	4.40	5.05		10.31	33.9	52.1
B 1-B1	10	4.40	3.03		20.19	0.0	0.0
D4 D7 C4 C0	16	8.72	0.00		10.31		102.9
B1-B7, C1-C8	16		9.98				
B1-B7, C1-C9	16	9.33		7.69			110.2
B1-B7, C1-C10	16	9.74	11.16	7.69			115.0
	- 111			15.14		0.0	0.0
D1-D2	11	1.06	1.20	8.99		9.5	14.4
D1-D3	12	1.84	2.08	8.54		15.7	23.8
D1-D4	12	2.41	2.73	8.54	11.43	20.6	31.2
D1-D5	12	2.96	3.34	8.54	11.43	25.3	38.2
D1-D6	13	3.54	4.00	8.26	11.05	29.2	44.2
				15.14	20.19	0.0	0.0
B1-B7, C1-C10, D1-D7	16	13.84	15.79	7.69	10.31	106.5	162.8
B1-B7, C1-C10, D1-D7, H1	16	14.25	16.25	7.69	10.31	109.6	167.5
B1-B7, C1-C10, D1-D7, H1-H2	16	14.95	17.06	7.69		115.0	
				15.14		0.0	0.0
BW1-BW2, A1-A10, B1-B7, C1-C10, D1-D7, E1-E4, H1-H2	19	24.63	28.23	7.00	9.39		265.2
BW1-BW2, A1-A10, B1-B7, C1-C10, D1-D7, E1-E4, H1-H2, E5	19	25.82	29.59	7.00	9.39	180.7	
BW1-BW2, A1-A10, B1-B7, C1-C10, D1-D7, E1-E5, H1-H2, E6	19	26.28	30.11	7.00	9.39	183.9	
511 1 5112, 11 1 1 10, 51-51, 51-510, 51-51, E1-E5, 111-112,E0	10	20.20	00.11	15.14		0.0	0.0
		1		15.14		0.0	0.0
E4 E0	45	4 77	0.04		20.19	0.0	0.0
F1-F2	15	1.77	2.01	7.78		13.7	21.0
F1-F3	18	2.79	3.19	7.18		20.0	30.7
				15.14		0.0	0.0
G1-G2	14	1.26	1.44	8.10		10.2	15.6
	4.4	1.81	2.07	8.10	10.85	14.7	22.5
G1-G3	14	1.01					
G1-G3 G1-G4	14	2.38	2.72		10.84	19.3	29.5
						19.3 0.0	29.5

NOTE:

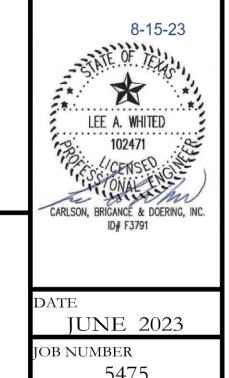
- ALL INLETS ARE CURB OPENING INLETS
- L.P. INLET ARE SUMP INLET

25 YEAR DRAINAGE INLET CALCULATIONS

INLET	DRAINAGE	Q	Q SPILL	Q PASS	Q ADD	Q DRAINAGE AREA + Q ADD	Q	INLET	Sı	PAVEMENT		D	L	Qs	Qw	E0	Se	Lt	E	Qi	Comments	Errors?
NUMBER	AREA NO.	(CFS)	(CFS)	(CFS)	(CFS)	(CFS)	REQUIRED (CFS)	TYPE	FT/FT	WIDTH (ft)	PONDED WIDTH (FT)	DEPTH AT CURB (ft)	INLET LENGTH (FT)	PVMT (cfs)	GUTTER(cfs)	Q _w /Q _{total}	EQUV. SLOPE (ft/ft)	100% INTERCEPT LENGTH	1	INLET CAPACITY (cf:	s)	
E-6	E1	4.60	0.00	0.00	0.00	4.60	4.60	10' INLET	0.0045	28	11.37	N/A	10	2.95	1.65	0.36	0.067	13.61	0.91	4.18		
E-5	E2	3.50	0.00	0.00	0.00	3.50	3.50	10' INLET	0.0045	28	9.20	N/A	10	2.08	1.42	0.41	0.073	11.52	0.97	3.41		
E-4	E3	4.90	0.00	0.00	0.00	4.90	4.90	10' INLET	0.0045	28	12.28	N/A	10	3.19	1.71	0.35	0.066	14.15	0.89	4.36		
E-3	E4	4.90	0.00	0.00	0.00	4.90	4.90	10' INLET	0.0045	28	12.28	N/A	10	3.19	1.71	0.35	0.066	14.15	0.89	4.36		
E-2	E5	9.30	0.00	0.00	2.40	11.70	11.70	L.P. INLET	0.005	28	N/A	0.407	15	N/A	N/A	N/A	N/A	N/A	N/A	11.70		
E-1	E6	3.50	0.00	0.00	0.00	3.50	3.50	L.P. INLET	0.005	28	N/A	0.182	15	N/A	N/A	N/A	N/A	N/A	N/A	3.50		
F-3	F1	6.00	0.00	2.20	0.00	6.00	3.80	10' INLET	0.026	28	6.09	N/A	10	3.17	2.83	0.47	0.082	22.86	0.64	3.87	PASS TO INLET F-2	
F-2	F2	8.10	0.00	0.00	4.00	12.10	12.10	L.P. INLET	0.0088	28	N/A	0.417	15	N/A	N/A	N/A	N/A	N/A	N/A	12.10		
F-1	F3	7.40	0.00	0.00	0.00	7.40	7.40	L.P. INLET	0.01	28	N/A	0.300	15	N/A	N/A	N/A	N/A	N/A	N/A	7.40		
G-4	G1	6.50	0.00	2.30	0.00	6.50	4.20	10' INLET	0.018	28	6.95	N/A	10	3.77	2.73	0.42	0.075	22.32	0.66	4.27	PASS TO INLET G-2	
G-3	G2	3.80	0.00	1.00	0.00	3.80	2.80	10' INLET	0.04	28	4.86	N/A	10	1.40	2.40	0.63	0.103	18.73	0.75	2.84	PASS TO INLET G-1	
G-2	G3	4.50	0.00	1.80	2.20	6.70	4.90	10' INLET	0.008	28	9.50	N/A	10	4.39	2.31	0.35	0.065	19.26	0.73	4.91	PASS TO INLET F-2	
G-1	G4	4.60	0.00	1.40	1.00	5.60	4.20	10' INLET	0.011	28	7.89	N/A	10	3.35	2.25	0.40	0.073	18.43	0.76	4.23	PASS TO INLET E-2	
H-2	H1	3.30	0.00	0.10	0.00	3.30	3.20	10' INLET	0.005	40	8.37	N/A	10	1.89	1.41	0.43	0.076	11.35	0.98	3.23	PASS TO INLET E-2	
H-1	H2	5.60	0.00	0.90	0.00	5.60	4.70	10' INLET	0.005	40	10.12	N/A	10	3.71	1.89	0.34	0.064	15.68	0.84	4.70	PASS TO INLET E-2	

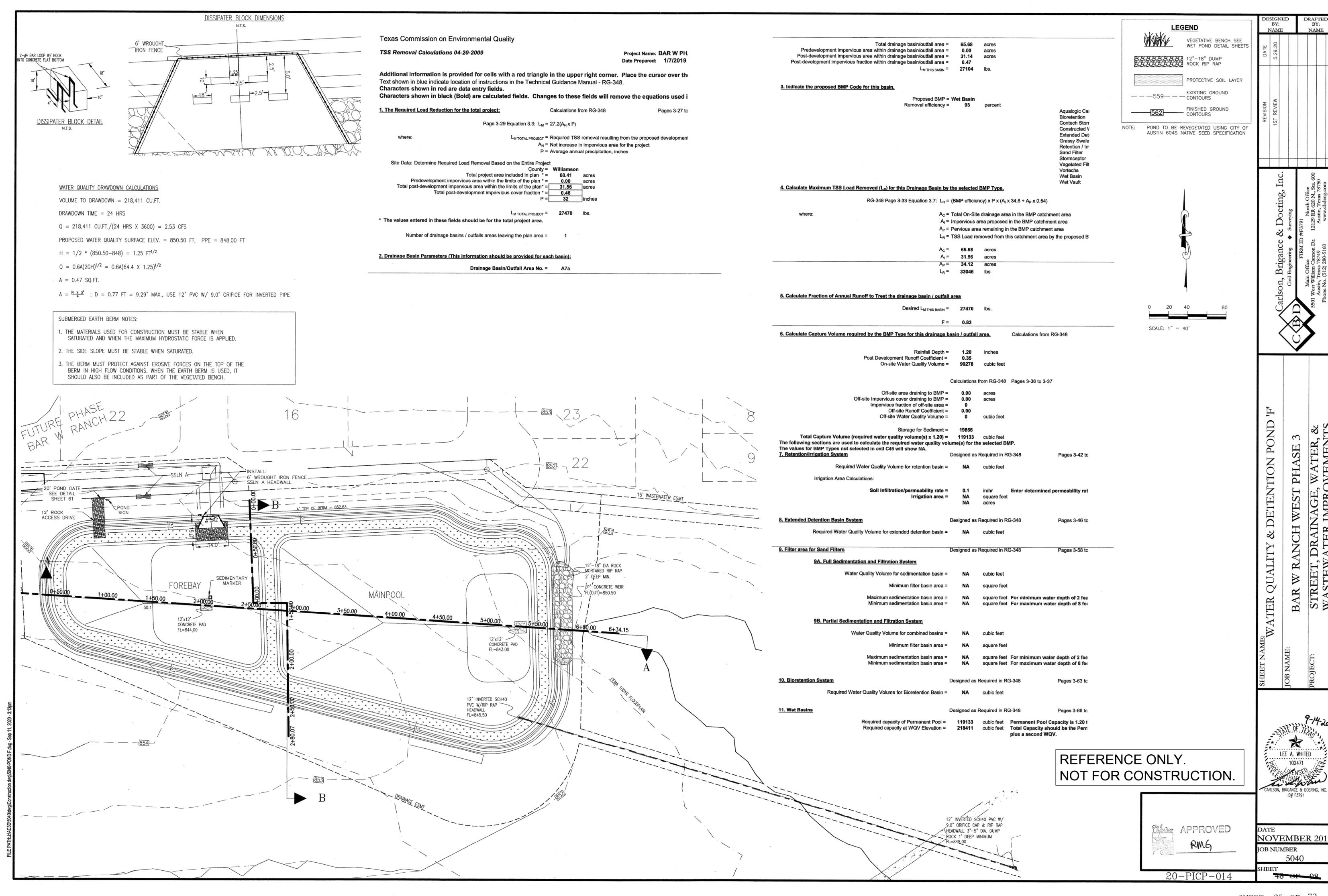
100 YEAR DRAINAGE INLET CALCULATIONS

INLET	DRAINAGE	Q	Q SPILL	Q PASS	Q ADD	Q DRAINAGE AREA + Q ADD	Q	INLET	Sı	PAVEMENT	D	L	Qs	Qw	E0	Se	Lt	E	Qi	Comments	Errors?
NUMBER	AREA NO.	(CFS)	(CFS)	(CFS)	(CFS)	(CFS)	REQUIRED (CFS)	TYPE	FT/FT	WIDTH (ft) WIDTH			PVMT (cfs)	GUTTER(cfs)	Q _w /Q _{tota}	EQUV. SLOPE (ft/ft)	100% INTERCEPT LENGTH		INLET CAPACITY (cfs)		
E-6	E1	7.10	2.00	0.00	0.00	7.10	5.10	10' INLET	0.0045	28 13.3	N/A	10	5.00	2.10	0.30	0.059	17.68	0.78	5.52	SPILL TO INLET E-5	
E-5	E2	5.30	2.20	0.00	2.00	7.30	5.10	10' INLET	0.0045	28 13.3	N/A	10	5.17	2.13	0.29	0.058	17.98	0.77	5.61	SPILL TO INLET E-3	
E-4	E3	7.60	2.50	0.00	0.00	7.60	5.10	10' INLET	0.0045	28 13.3	N/A	10	5.42	2.18	0.29	0.058	18.41	0.76	5.74	SPILL TO INLET E-3	
E-3	E4	7.50	7.10	0.00	4.70	12.20	5.10	10' INLET	0.0045	28 13.3	N/A	10	9.36	2.84	0.23	0.051	24.31	0.61	7.50	SPILL TO INLET E-1	
E-2	E5	14.20	0.00	0.00	5.00	19.20	19.20	L.P. INLET	0.005	28 N/A	0.593	15	N/A	N/A	N/A	N/A	N/A	N/A	19.20		
E-1	E6	5.30	0.00	0.00	7.10	12.40	12.40	L.P. INLET	0.005	28 N/A	0.423	15	N/A	N/A	N/A	N/A	N/A	N/A	12.40		
F-3	FI	9.10	0.00	4.40	0.00	9.10	4.70	10' INLET	0.026	28 6.72	N/A	10	5.53	3.57	0.39	0.071	29.57	0.52	4.77	PASS TO INLET F-2	
F-2	F2	12.40	0.00	0.00	10.60	23.00	23.00	L.P. INLET	0.0088	28 N/A	0.684	15	N/A	N/A	N/A	N/A	N/A	N/A	23.00		
F-1	F3	11.30	0.00	0.00	0.00	11.30	11.30	L.P. INLET	0.01	28 N/A	0.398	15	N/A	N/A	N/A	N/A	N/A	N/A	11.30		
G-4	G1	10.00	0.00	4.70	0.00	10.00	5.30	10' INLET	0.018	28 7.83	N/A	10	6.54	3.46	0.35	0.065	29.04	0.53	5.32	PASS TO INLET G-2	
G-3	G2	5.70	0.00	2.20	0.00	5.70	3.50	10' INLET	0.04	28 5.34	N/A	10	2.67	3.03	0.53	0.090	24.12	0.62	3.53	PASS TO INLET F-2	
G-2	G3	6.90	4.80	0.20	4.70	11.60	6.60	10' INLET	0.008	28 12.4	N/A	10	8.46	3.14	0.27	0.055	26.75	0.57	6.61	SPILL TO INLET G-1/PASS TO INLET F-2	
G-1	G4	7.00	3.80	1.70	4.80	11.80	6.30	10' INLET	0.011	28 10.1	N/A	10	8.40	3.40	0.29	0.058	28.93	0.53	6.30	PASS TO INLET E-2/SPILL TO INLET F-2	
H-2	H1	5.10	0.00	0.70	0.00	5.10	4.40	10' INLET	0.005	40 9.78	N/A	10	3.31	1.79	0.35	0.066	14.81	0.87	4.43	PASS TO INLET E-2	
H-1	H2	8.60	0.00	2.60	0.00	8.60	6.00	10' INLET	0.005	40 11.5	B N/A	10	6.21	2.39	0.28	0.056	20.27	0.71	6.07	PASS TO INLET E-2	



OF 61

PICP-23-0086



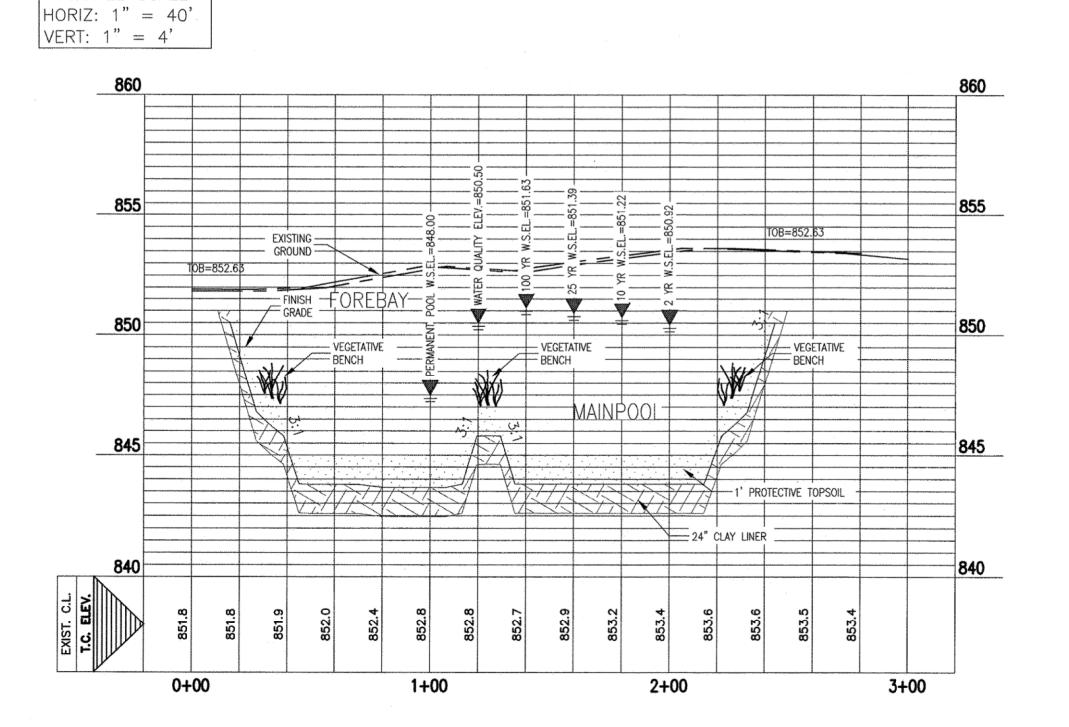
PROFILE SCALE HORIZ: 1" = 40' VERT: 1" = 4' EXISTING ____ VEGETATIVE BENCH VEGETATIVE BENCH _____MAINT. PAD _____ ELEV.=843.00' ___ 1' PROTECTIVE TOPSOIL 24" CLAY LINER -0+00 1+00 2+00 3+00

POND SECTION A-A

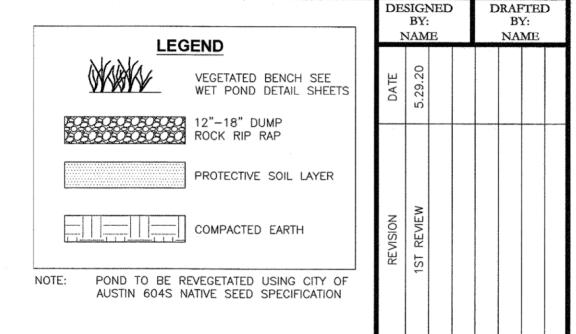
4+00

5+00

6+00



POND SECTION B-B



WQV

TART ELEV= 844	AREA	AVG.AREA	VOLUME	TOTAL VOLUME
ELEV.	(FT^2)	(FT^2)	(FT^3)	(FT^3)
844	144.00		0.00	0
		6363.50		
845	12583.00		6363.50	6364
		17026.00		8122
846	21469.00		17026.00	23390
		22370.00		
847	23271.00		22370.00	45760

ART ELEV= 843	AREA	AVG.AREA	VOLUME	TOTAL VOLUME
ELEV.	(FT^2)	(FT^2)	(FT^3)	(FT^3)
843	144.00		0.00	0
		3540.50		
844	6937.00		3540.50	3541
		25263.00		
845	43589.00		25263.00	28804
		44827.50		
846	46066.00		44827.50	73631
		47332.50		
847	48599.00		47332.50	120964

TART ELEV= 847	AREA	AVG.AREA	VOLUME	TOTAL VOLUME
ELEV.	(FT^2)	(FT^2)	(FT^3)	(FT^3)
847	71870.00		0.00	.0
		86315.00		
848	86315.00		86315.00	86315

			total volu	me permanent pool =	25303
NATER QUAL	ITY STORAG	E			
TART ELEV=	848	AREA	AVG.AREA	VOLUME	TOTAL VOLUME
ELEV.		(FT^2)	(FT^2)	(FT^3)	(FT^3)
848		86315		0.00	.0
			88265.50		
849		90216		88265,50	88266
			92194.50		
850		94173		92194.50	180460
WQV=	850.50		96179.50		184417
851		98186		96179.50	188374
			total WQ	Volume =	44141

BAR W RANCH WEST PHASE POND "F" W.S.E.	
2yr	850.92
10yr	851.22
25yr	851.39
100yr	851.63

REFERENCE ONLY. NOT FOR CONSTRUCTION.

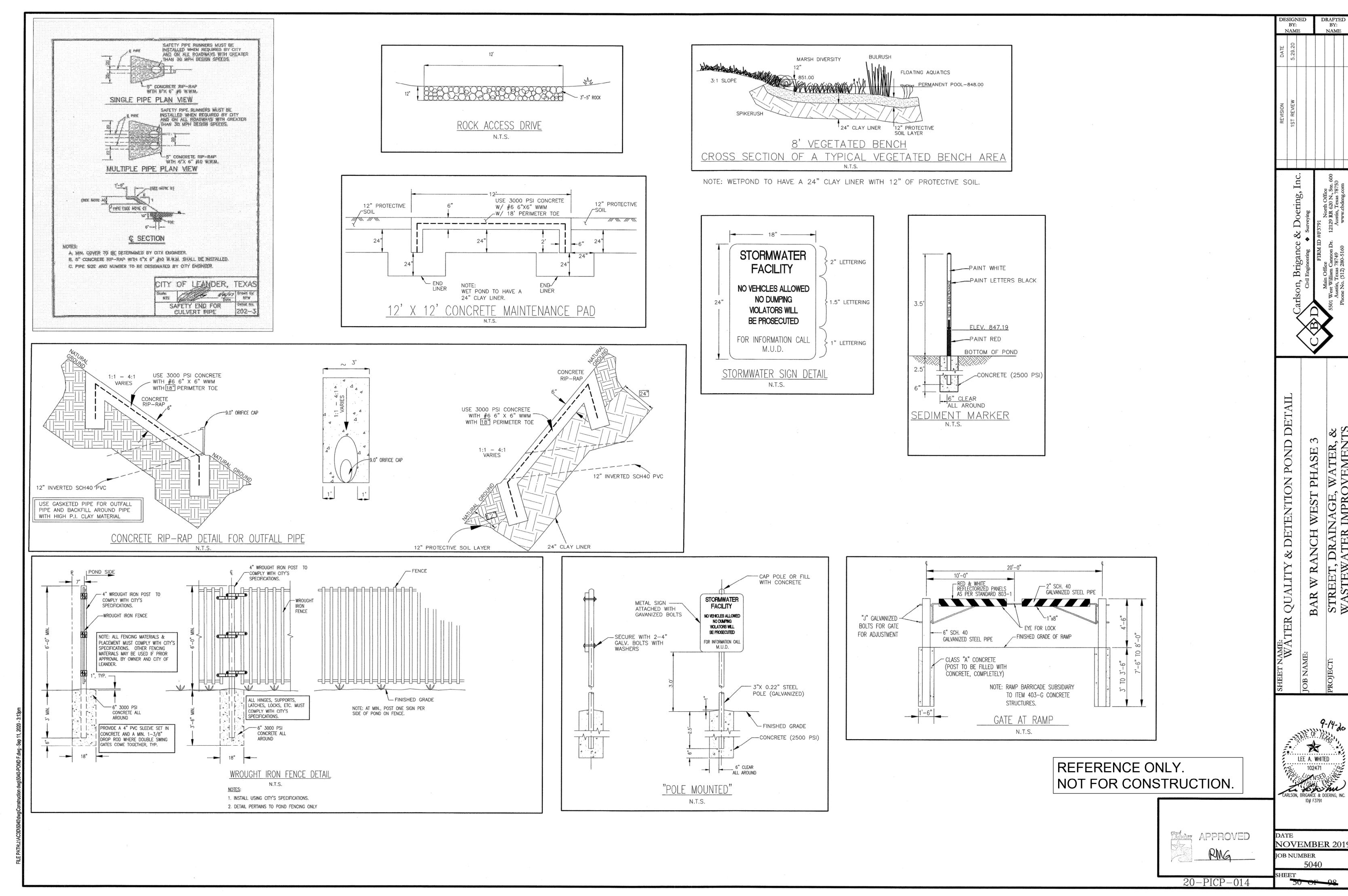


NOVEMBER 2019 5040

ND 'F' SECTIONS

SHEET 26 OF 72

PROFILE SCALE



STANDARD NOTES

BASIN LINER (WET POND TO HAVE 24" CLAY LINER)

Impermeable liner must be clay. Clay liners shall meet the following specifications:

WET POND LINER RECOMMENDATION

- A. SELECTION OF FILL MATERIAL SHOULD BE GUIDED BY THE FOLLOWING CRITERIA**:
 - MINIMUM PLASTICITY INDEX: >30
 - MINIMUM LIQUID LIMIT: >50
 - MINIMUM PASSING #200 SIEVE: >60%
 - NO STONES LARGER THAN 1"
- FREE OF ORGANIC MATERIAL AND DEBRIS, SUCH AS LIMBS, BARKS, LEAVES, ETC.
- COMPACTION SHOULD BE 95 PERCENT OF MAXIMUM LABORATORY DENSITY DETERMINED IN ACCORDANCE WITH AMERICAN SOCIETY OF TESTING MATERIALS, METHOD ASTM D 698, USING A COMPACTIVE EFFORT OF 7.16 FT.LBS/CU.IN.
- C. PLACEMENT SHOULD BE IN LIFTS NOT EXCEEDING EIGHT INCHES AFTER COMPACTION. EACH COMPACTED LIFT SHOULD BE INSPECTED AND TESTED FOR DENSITY COMPLIANCE BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING THE NEXT LIFT. THE COMPACTED FILL MOISTURE CONTENT SHALL FALL WITHIN A RANGE BETWEEN OPTIMUM AND 4 PERCENT ABOVE OPTIMUM MOISTURE CONTENT DURING COMPACTION.
- TESTING AND QUALIFICATION OF RAW FILL MATERIAL, PLACEMENT, AND COMPACTION SHALL BE PERFORMED BY THE GEOTECHNICAL ENGINEER. A 110 LB. SAMPLE OF PROPOSED FILL MATERIAL SHOULD BE SUBMITTED TO GEOTECHNICAL ENGINEER FOR APPROVAL AND FOR DETERMINATION OF MOISTURE-DENSITY RELATIONSHIP, IN ADVANCE OF FILLING AND COMPACTION OPERATIONS TO PERMIT INSPECTION AND TESTING AS FILL IS PLACED. NOT LESS THAN ON FIELD DENSITY TEST PER 2000 SQ. FT. OR MINIMUM OF 3 PER LIFT IS REQUIRED. (CALL 873-8208 EXT. 1220 FOR INSPECTION COORDINATION.)
- A. DEVIATIONS FROM THE ABOVE CRITERIA MAY BE PERMITTED ONLY UPON APPROVAL OF THE GEOTECHNICAL ENGINEER ON AN INDIVIDUAL BASIS.

- Microbial Initiation A substantial portion of the pollutant removal in wet ponds is due to biological processes. Bacteria in the pond substrate remove nutrients through a process of denitrification. These microbial processes require an organic food source, such as decaying plant litter. Because it is the supply of organic carbon that determines nutrient removal - more than uptake by living plants - denitrification can be expected to continue even during cold-weather plant dormancy. In mature ponds with abundant vegetation, aquatic plants supply the necessary litter layer and aerobic zone for microbial activity. However, since new ponds lack a sufficient source of organic matter, an appropriate amount of carbon (straw, hay, leaf clippings, soil, and other non-woody material) shall be installed during construction. After the pond liner is in place, yet prior to allowing the pond to be filled, spread the plant litter evenly on the sides of the pond (below the permanent pool level). Treat the entire shallow water bench in this manner, and all pond slopes (ranging from 3:1 to 10:1). The minimum required amount of plant litter is 45 pounds per 1,000 square feet of slope. When using coastal hay, this requirement can be expressed as 1.5 bales at 30 lb./bale. Ensure that the plant litter will not float by attaching the litter to the slopes (with staples or other appropriate methods). Cover a minimum of 40% of the slope surface area.
- Integrated Pest Management As with any landscape, there is a need for pest management in wet ponds. To the extent possible, these criteria are designed to minimize the potential for pests within a wet pond.

Algae - High nutrient loads in wet ponds may cause algae blooms to occur. Pungent odor is often associated with these algae blooms. However, treating with an algaecide is not recommended because blooms are usually short lived and are considered desirable for nutrient removal. The use of submergents and floating-leafed aquatics can reduce the extent of alga blooms by reducing nutrient loads and shading the water.

Wildlife - Wildlife such as nutria and deer are occasionally a pest of wet ponds in the Austin area. Evaluation of the potential of such wildlife inhabiting or being attracted to the proposed pond site is required. When there is a potential for such activity, fencing or similar exclusionary method must be provided.

Mosquito Control - Mosquitoes are problematic in urban areas. There is the potential for standing water in wet ponds to become ideal breeding localities. The wet pond should be stocked with the local native fish species Gambusia affinis to serve as a biological control for mosquitoes. Gambusia provide effective control for mosquitoes, eliminating the need for chemical control. Gambusia should be stocked at the initial density of 200 individuals per surface acre.

Domestic Waterfowl - Domestic waterfowl, including geese and swans can destroy vegetation and increase pollutant loading in wet pond systems. In addition, waterfowl can become nuisances to property owners near the pond. For these reasons, domestic waterfowl should not be introduced into these systems.

be introduced into a wet pond. 3. Water - After the pond liner is completed, the basin must fill up with water within a reasonable time period,

Carp and Goldfish - Carp and goldfish are bottom-feeders that can cause turbidity and other problems. They should not

Aeration and Recirculation Unit (optional) - Privately maintained wet ponds may include some type of aeration device (such as a fountain) which could enhance the dissolved oxygen concentration. Increased dissolved oxygen prevents the

preferably within one week. Safety concerns and pond liner integrity concerns must be properly addressed during pond

Make-up Water - A nearby source for make-up (supplemental) water is recommended as a way to maintain an adequate permanent pool level should the level drop to a severe drought. This could include a well, a hose bibb, or a nearby fire hydrant. Demonstrate that the quality of the make-up water is in compliance with all applicable regulations and will not harm the pond biology.

4. Soil Liner Material Minimum Physical Requirements (SEE LINER REQUIREMENTS ABOVE)

pand from becoming anaerobic, hence minimizing problems with odor from bacterial decomposition.

Soil Liner Material Minimum Physical Requirements Cont.

In order to determine that the proposed soil is suitable for use as liner material, permeability tests must be conducted on samples compacted under the above-listed compactive-effort test procedures. These soils shall be prepared and tested as

a. There should be no constructed liners parallel to side slopes with greater than a 3:1 slope angle (3 horizontal to 1 vertical) due to both the inherent lack of stability of the compaction equipment on these steep slopes as-well-as the compaction inefficiency. It should be realized that soil liners constructed parallel to side slopes have inherent construction problems because the full compactive force of the compaction equipment is not perpendicular to the slope. The eccentric weight of the equipment (tendency to slide down the slope) may shear the upper portion of the lift under compaction near its surface. The overall uniformity of the processing and compacting effort on a slope is usually of lower quality than on an essentially-flat section. Accordingly, the large-scale hydraulic conductivity tests performed on a primarily-horizontal test pad will not be representative of the probable worst-case liner-construction conditions where sloped liners are involved. b. A keyway for constructed sidewalls is required unless alternate construction procedures have prior written approval by the executive director. The constructed keyway at the toe of the sidewall may be eliminated for those sidewalls constructed on a slope angle of 3:1 or flatter; those constructed with the floor as one unit(monolithically); or sidewalls placed in horizontal lifts a minimum of 10 ft. in width and having the first six inch lift of the sidewall completely bonded with the top of the

c. Placement of constructed liners (clay-type material) should be in accordance with the following: 1. All surface areas should be properly scarified a minimum of six inches and prepared to receive the liner.

2. The top of each lift should be roughened to a shallow depth prior to the placement of the next lift of soil for

3. No loose lift should be thicker than the pads of the compactor so that complete bonding with the top of the previous lift is achieved.

4. Equipment and safety limitations prohibit finished grades with slopes greater than 3:1 if the liner is constructed parallel to the surface. For an excavated wall with steeper than 3:1 side slopes, the sidewall liner must be constructed in successive horizontal lifts.

5. The top surface of the completed soil liner must be proof rolled with a smooth-wheel roller, prior to final liner-thickness surveying when placement of a geomembrane liner is required. 6. It is recommended that the surface of a soil liner be proof rolled when construction is shut down for more than 24

hours to mitigate the effects of desiccation. It is further recommended that it be done on a routine basis during the summer months at the end of each day's liner construction.

2.3.2 Constructed Soil Liners

These constructed liners include those of over-excavated and recompacted in situ soils and soils from a borrow source. For additional specific information on bentonite-amended soils see Section 2.5.

Clod and Rock Size

The maximum clod size of the compacted liner soils shall be approximately one inch in diameter but in all cases soil clods shall be reduced to the smallest size necessary to achieve the coefficient of permeability reported by the testing laboratory and to destroy any macrostructure evidence after the compaction of the clods under density-controlled conditions. (§330.205(g), MSWR) The liner soil material shall contain no rocks or stones larger than one inch in diameter or that total more than 10% by weight. (§330.205(h), MSWR). One-hundred percent of the material used in the soil liner must pass the 1-inch screen. The final lift for composite liners should not contain any rocks or any other materials that can cause damage to the FML.

2 It is strongly recommended that the tamping feet have a face area not less than seven nor more than ten square inches. Self-propelled rollers with tamping feet surface areas greater than 10 but less than 30 square inches can be utilized provided the feet have tapered heads that add to the compactive effort.

16 Compactive Effort (Soils Compaction)

All constructed soil liners must be compacted with a pad/tamping-foot (preferable) or prongfoot roller (330.205(g), MSWR) No other type of equipment is suitable for the compaction of constructed soil liners.

2 The lift thickness shall be controlled so that there is total penetration through the loose lift under compaction into the top of the previously compacted lift; therefore, the compacted lift thickness must not be greater than the pad or prong length. This is necessary to achieve adequate bonding between lifts and reduce seepage pathways. Adequate cleaning devices must be in place and maintained on the compaction roller so that the prongs or pad feet do not become cloqued with clay soils to the point that they cannot achieve full penetration during initial compaction. The footed roller is necessary to

achieve bonding and to reduce the individual clods and achieve a blending of the soil matrix through its kneading action. In addition to the kneading action, weight of the compaction equipment is important. When using ASTM Test Method D 698(Standard Proctor) density, the minimum weight of the compactor should be 1500 pounds per linear foot of drum length, and a minimum of eight passes is recommended for the compaction process. Compaction equipment that develops of compactive effort equal to ASTM D 1557 (Modified Proctor)

will result in greater compaction, lower coefficient of permeability due to decreased void space, and a lower optimum moisture content necessary to achieve the maximum dry density. This lower optimum moisture content may help in controlling the desiccation cracking of highly plastic clays frequently used for liner soil. Adequate compaction cannot be achieved by track-type (bulldozer) or pneumatic compactors. Bulldozers are by the nature of their weight distribution designed to "float" on the surface, resulting in greatly diminished compaction by track contact and therefore should not be used to compact liner soils. In addition, the use of tracks or rubber tires for compaction does not allow the kneading action required to reduce and blend soil clods as is realized by pad- footed rollers.

Compaction Equipment The compaction of soil liners must be with appropriate equipment.

Pad/tamping-foot rollers, or

2. Prong-foot (sheepsfoot) rollers

The following equipment types are examples of that which is not permitted or appropriate for the compaction of soil liners.

 Bulldozer 2. Rubber-tired (pneumatic) rollers

3. Flat-wheel rollers

4. Rubber-tired scrapers or belly dumps 2.3.2.5 Soil Plasticity

Quality control of the soil plasticity should be closely adhered to and maintained during material selection for liner construction. Testing of the Atterbera limits and gradation should be continually checked so that any changes in either physical property can be detected and additional appropriate laboratory testing performed. Any time the LL or PI changes b more than 10 points, a new compaction series should be run in the laboratory to determine the maximum dry density. optimum moisture, and the laboratory coefficient of permeability. To adequately determine the variability of the soil used for liner construction, it is strongly recommended that all liner soil borrow sources be thoroughly tested prior to use to establish their Atterberg limits and compaction parameters. This may require drilling auger holes at the borrow source to retrieve adequate samples to determine these factors. Due to the high shrink/swell and desiccation cracking characteristic of highly-plastic clays, the PI of clay liner soils should be greater than 30.

18 Quality Assurance and Testing Frequency for Soil Liners

Each in situ or constructed liner sidewall and floor area developed as a separate segment (non-monolithically) must be considered as separately evaluated areas independent of each other for the purpose of calculating dimensions to determine the required number of samples. Those sidewall and floor areas constructed or excavated as a bowl (monolithically) may be added together for the determination of their testing frequency and locations. All holes dug or created during any sampling and/or testing shall be backfilled with a mixture of at least 20% bentonite-enriched liner soil and compacted by hand tamping or filled with an appropriate bentonite grout.

> REFERENCE ONLY. NOT FOR CONSTRUCTION.



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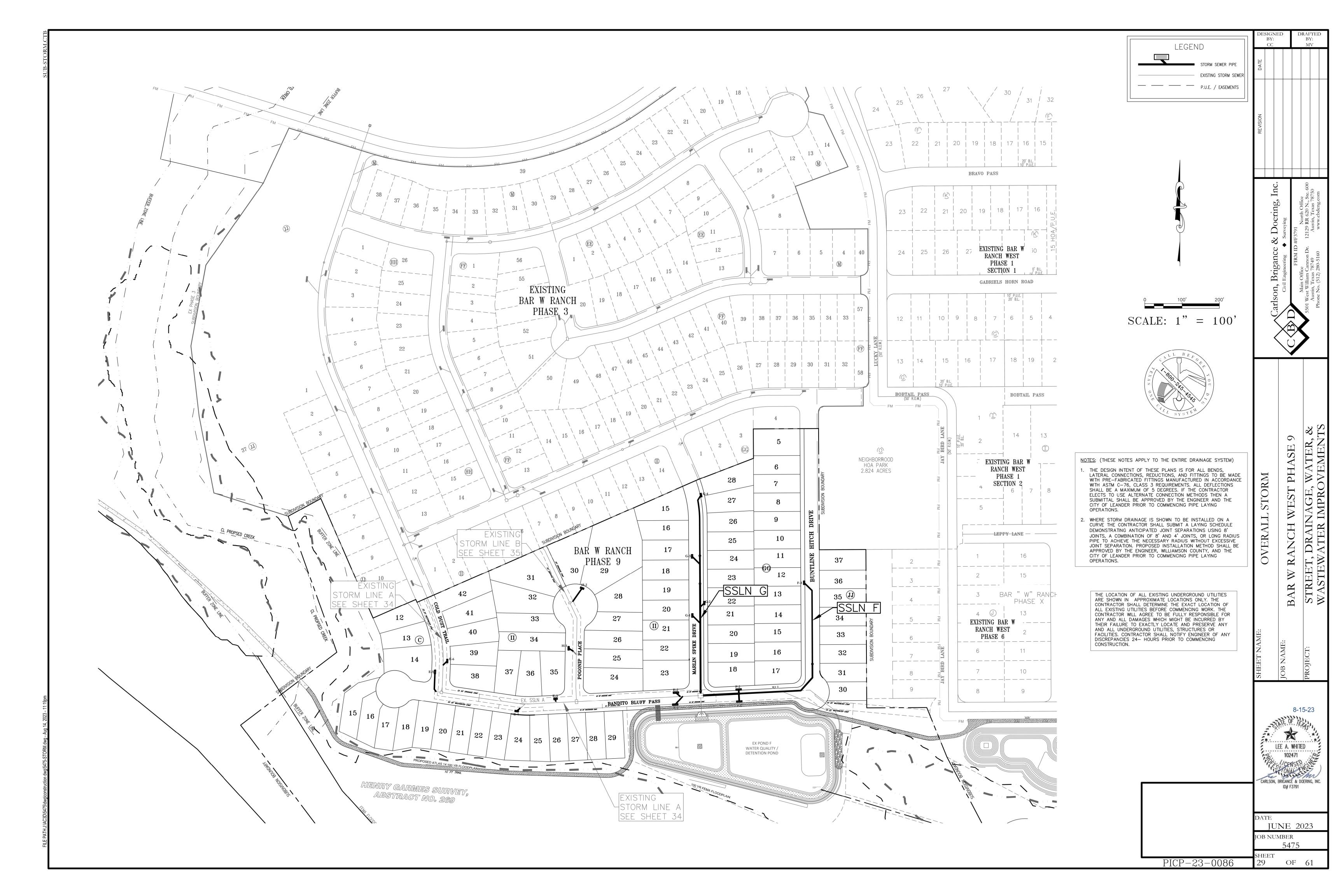
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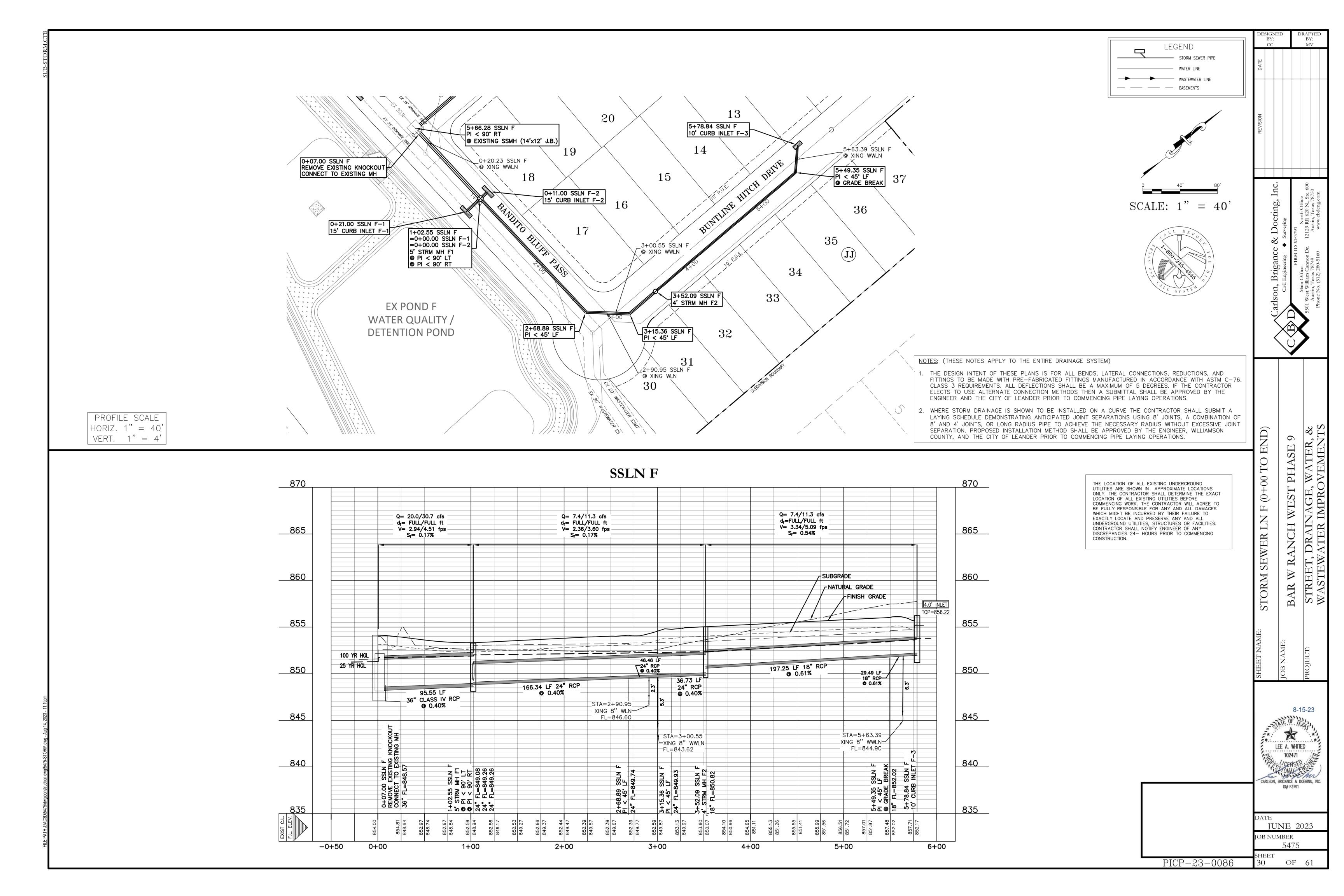
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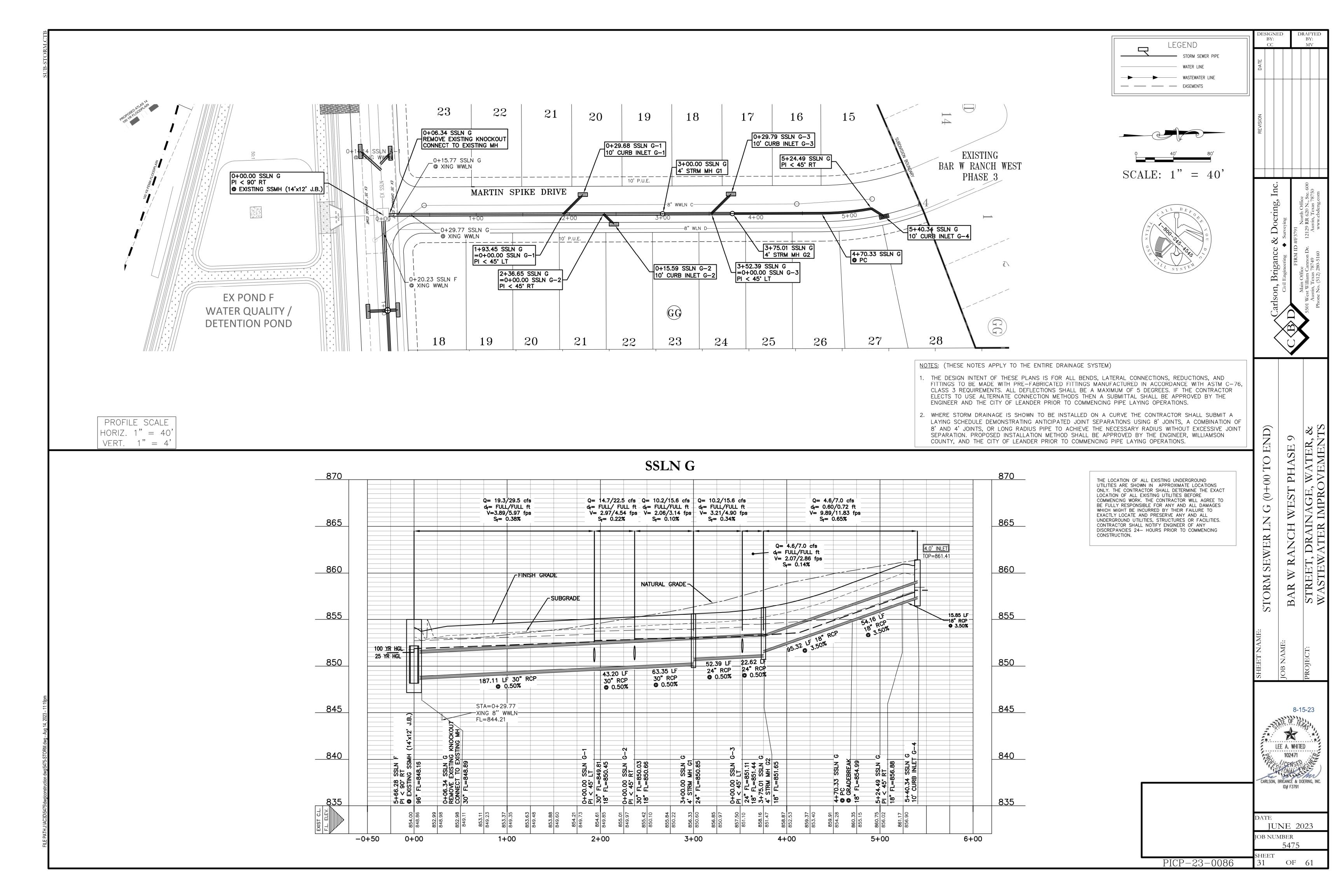
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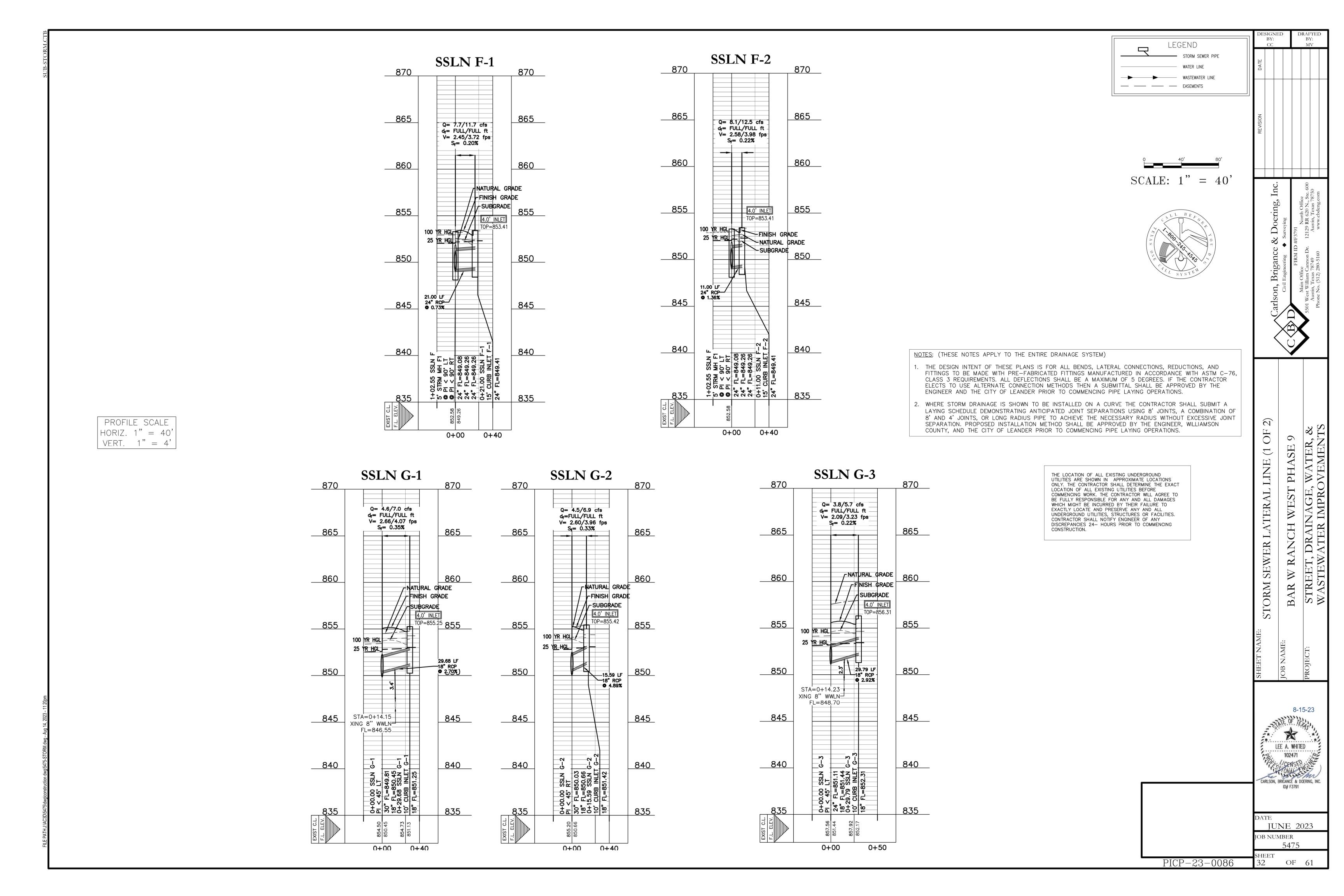
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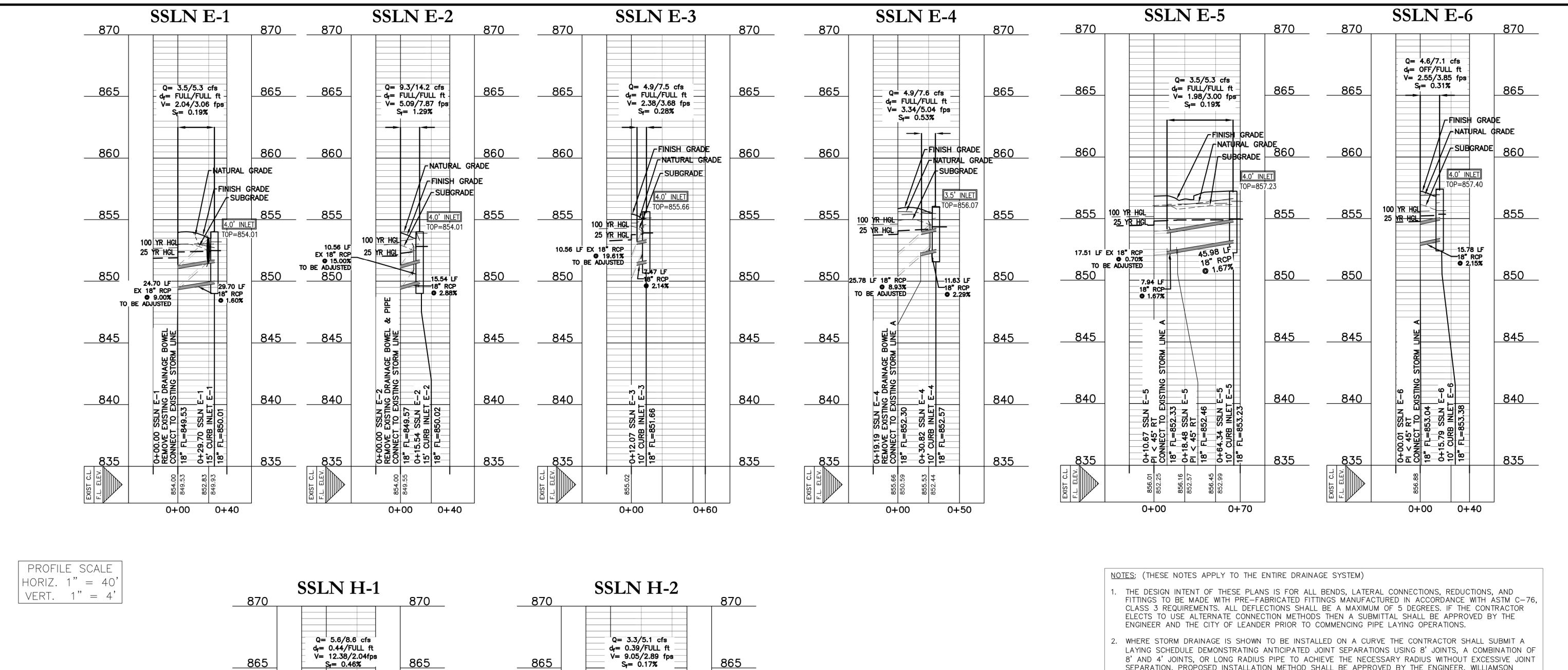
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- SUBGRADE

___860

<u>855</u>

<u>845</u>

___840

100 YR HGL

25 YR HGL

0+00

-NATURAL GRADE

FINISH GRADE 860

TOP=858.03

855

850

845

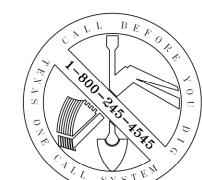
840

835

0+62

8' AND 4' JOINTS, OR LONG RADIUS PIPE TO ACHIEVE THE NECESSARY RADIUS WITHOUT EXCESSIVE JOINT SEPARATION. PROPOSED INSTALLATION METHOD SHALL BE APPROVED BY THE ENGINEER, WILLIAMSON COUNTY, AND THE CITY OF LEANDER PRIOR TO COMMENCING PIPE LAYING OPERATIONS.

> THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24- HOURS PRIOR TO COMMENCING



8-15-23 LEE A. WHITED 102471 CARLSON, BRIGANCE & DOERING, INC.

OF

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STORM SEWER LATERAL LIN

BAR W RANCH WEST PHASE 9
STREET, DRAINAGE, WATER, &
WASTEWATER IMPROVEMENTS

JUNE 2023 OB NUMBER 5475

PICP-23-0086

HEET OF 61

 $S_{f} = 0.46\%$

___860

<u>855</u>

TO BE CONNECTED TO

<u>850</u>

<u>845</u>

___840

12.14 LF EX 18" RCP_

9 −17.30%

25 YR HGL

0+00

0+40

-SUBGRADE

FINISH GRADE

18" RCP

□ 0 −1.60%

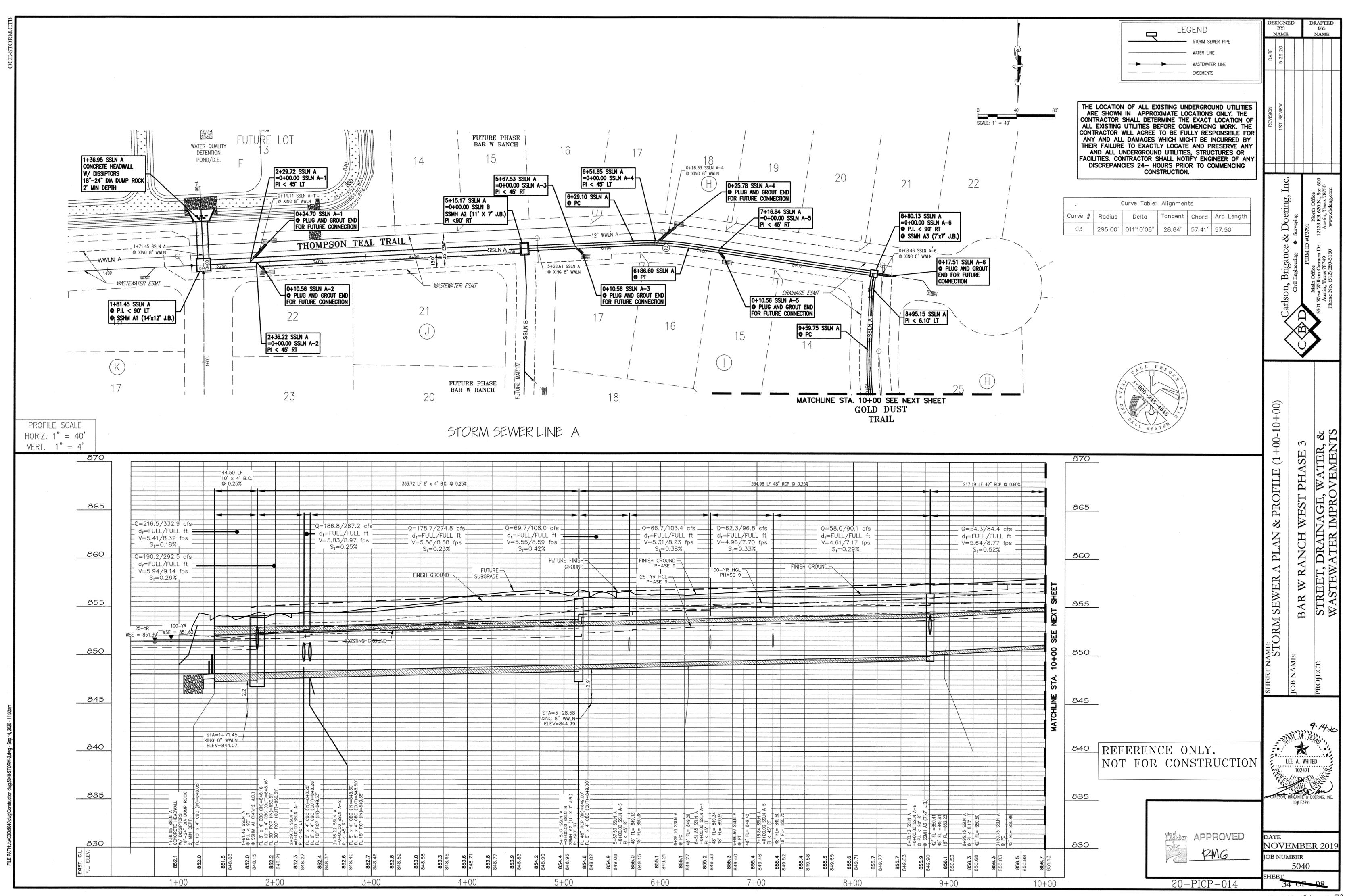
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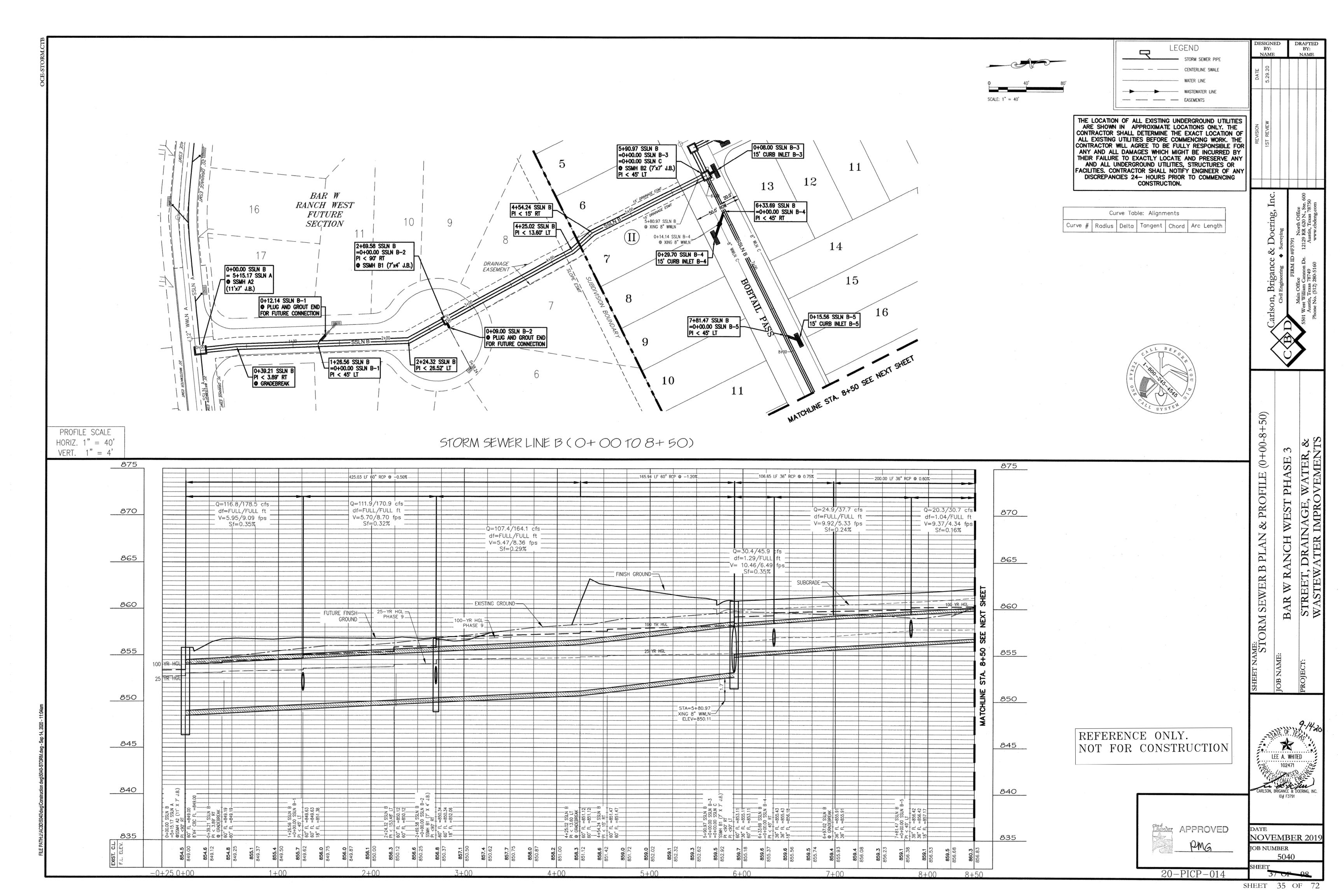
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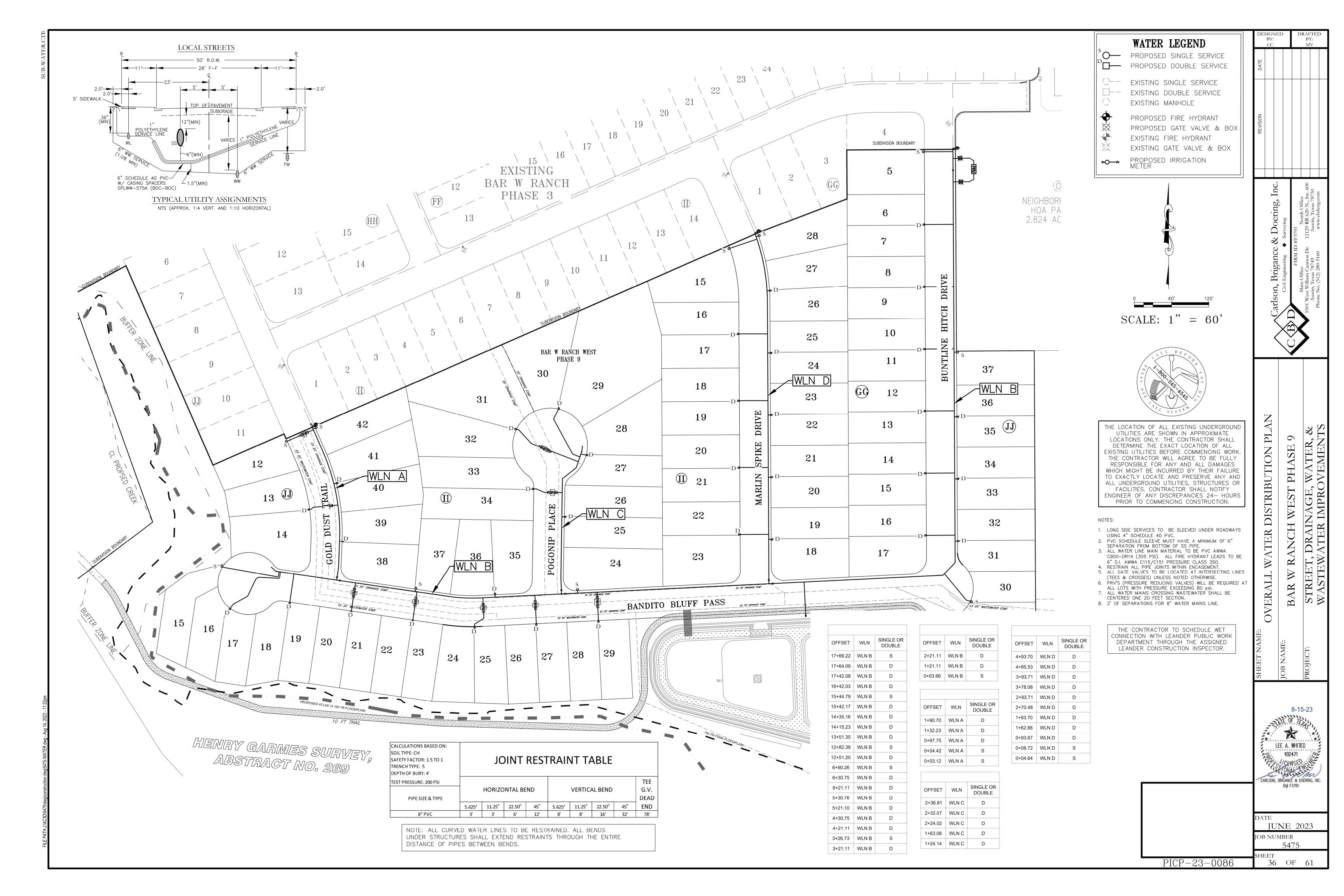
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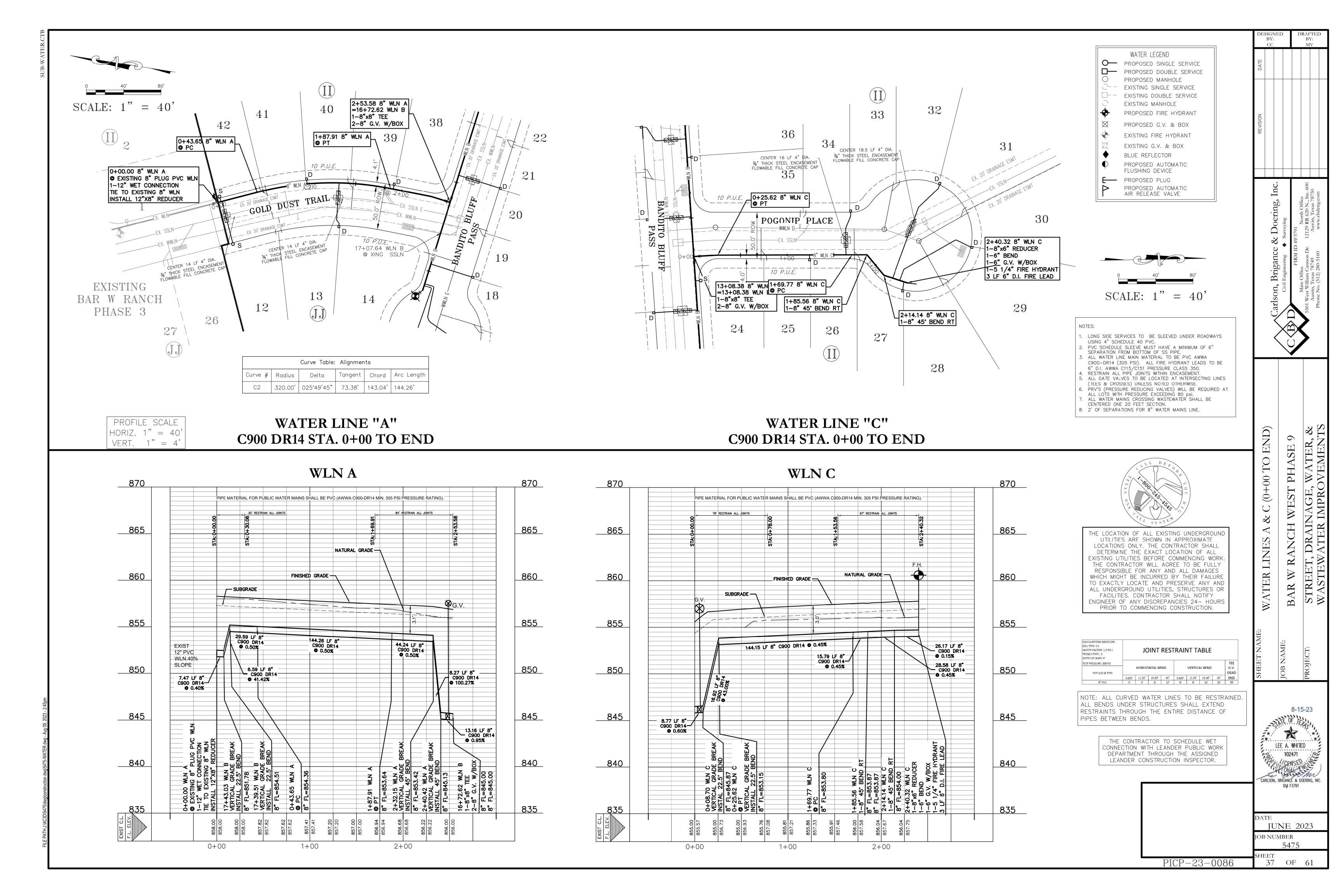
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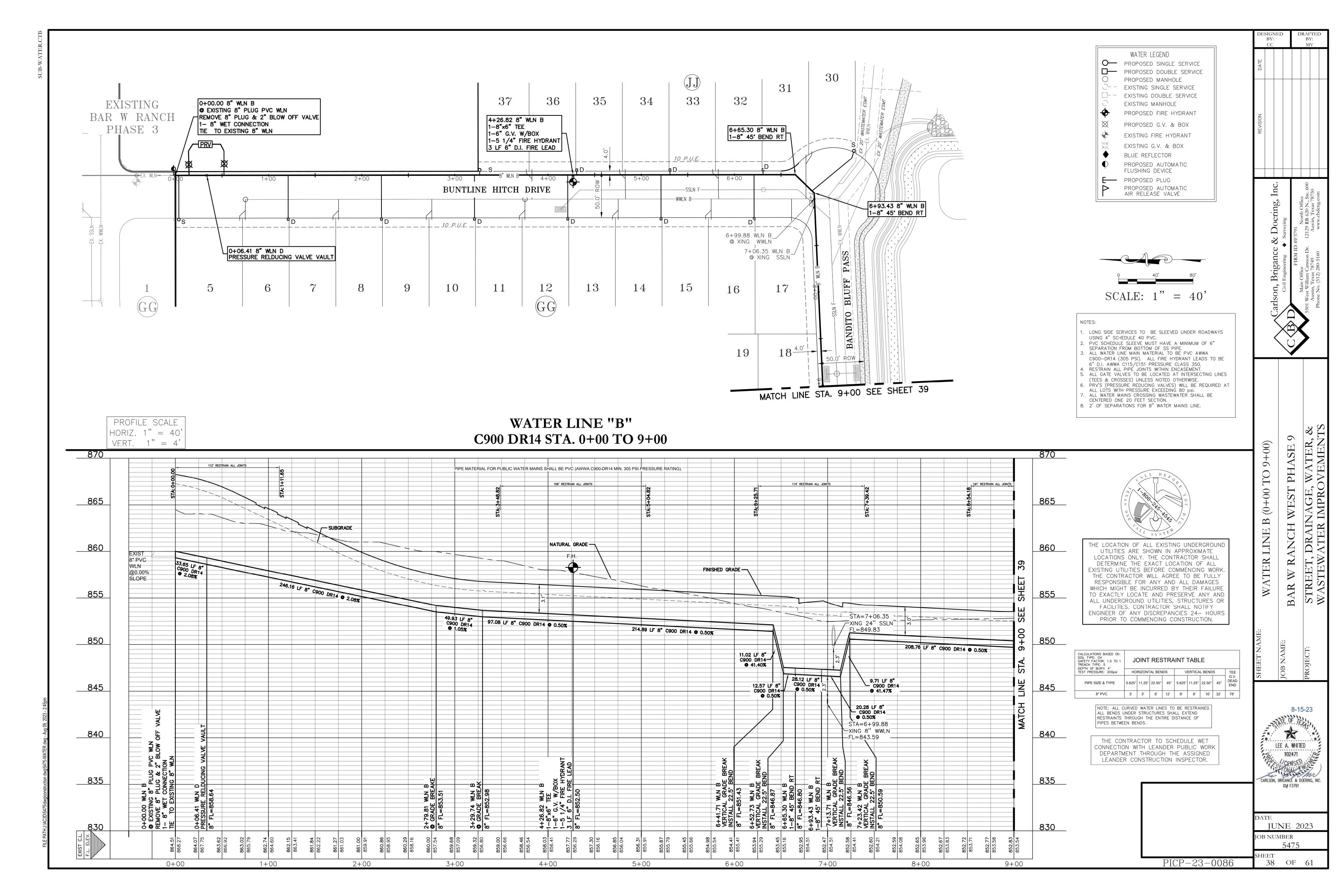
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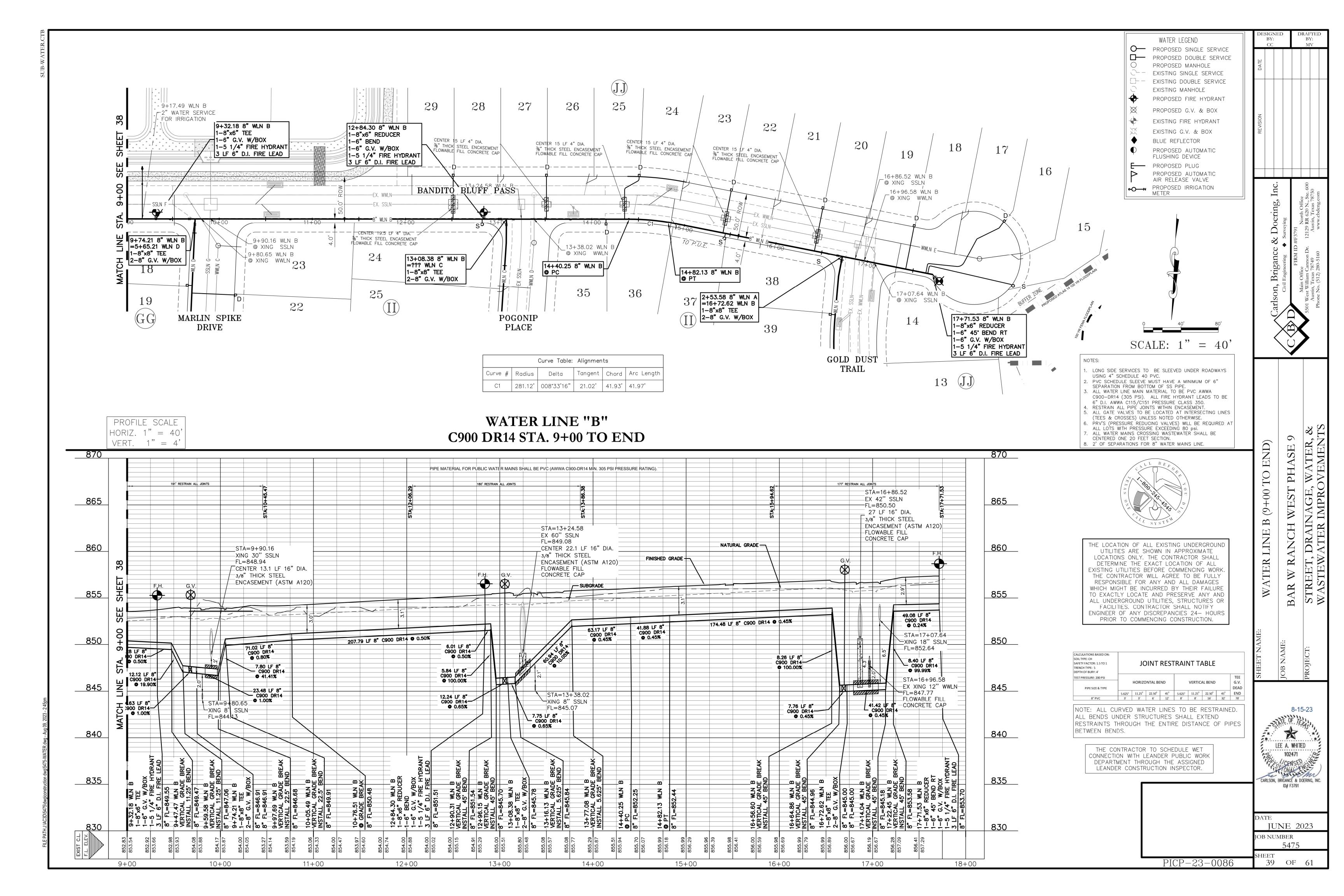


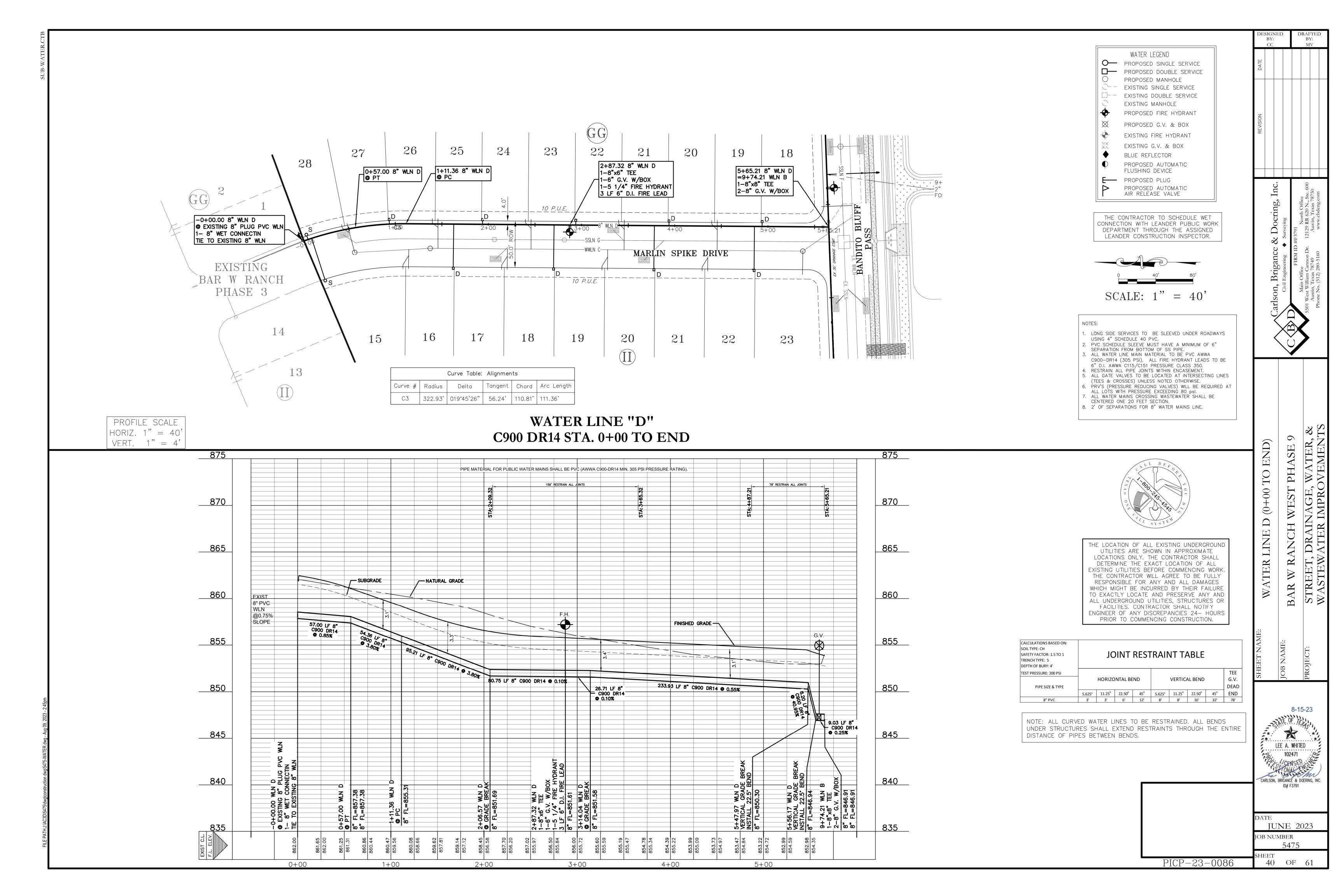


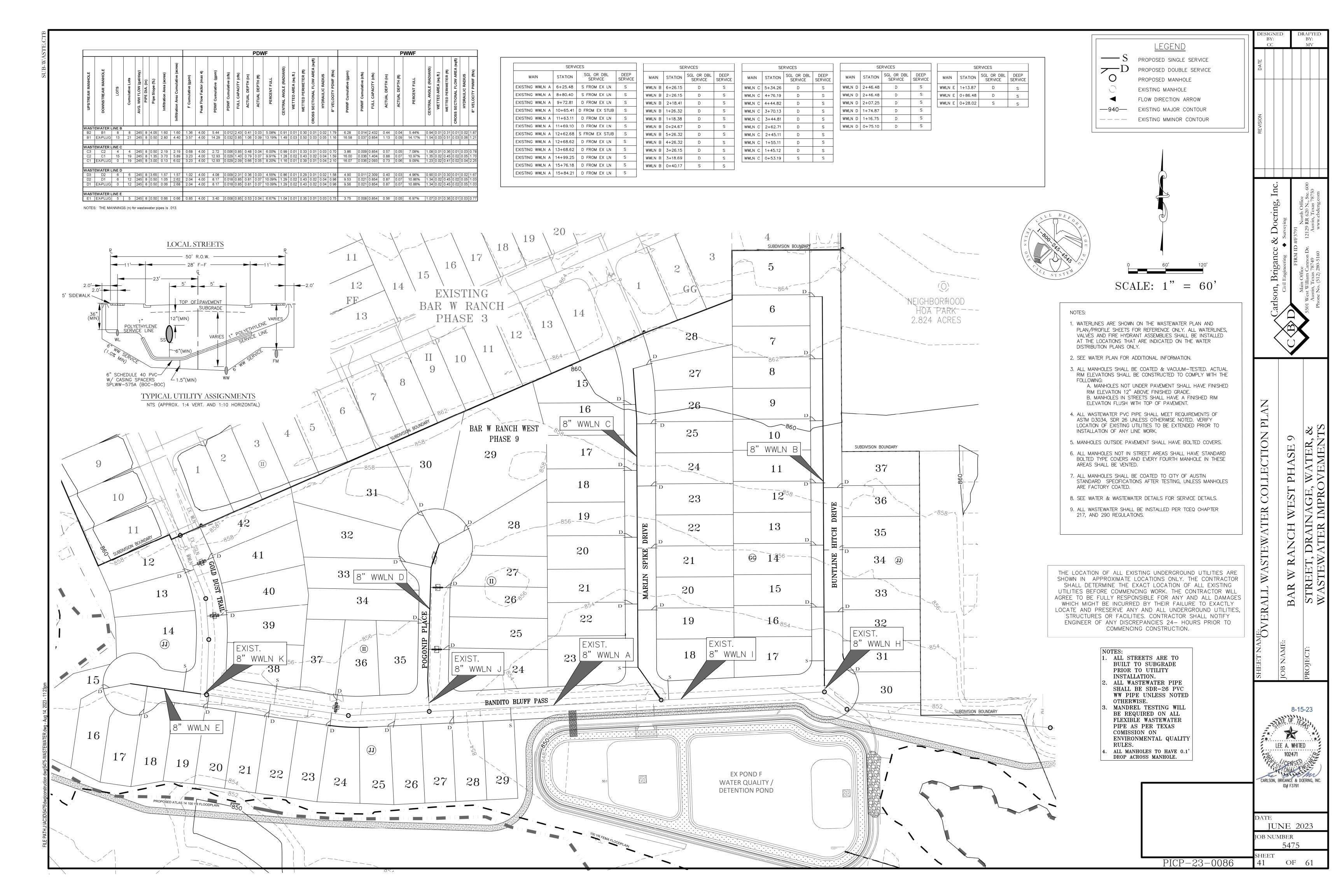


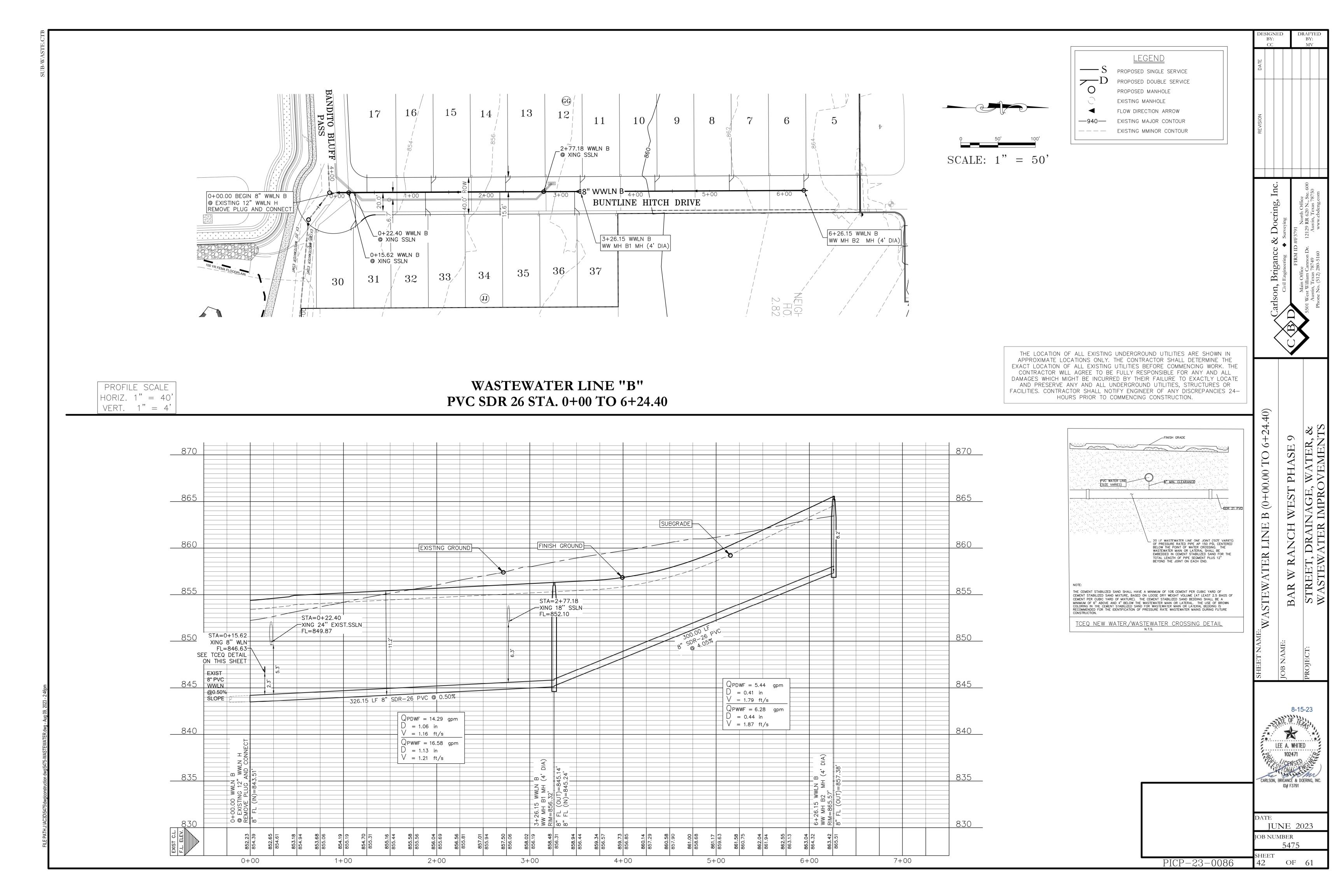


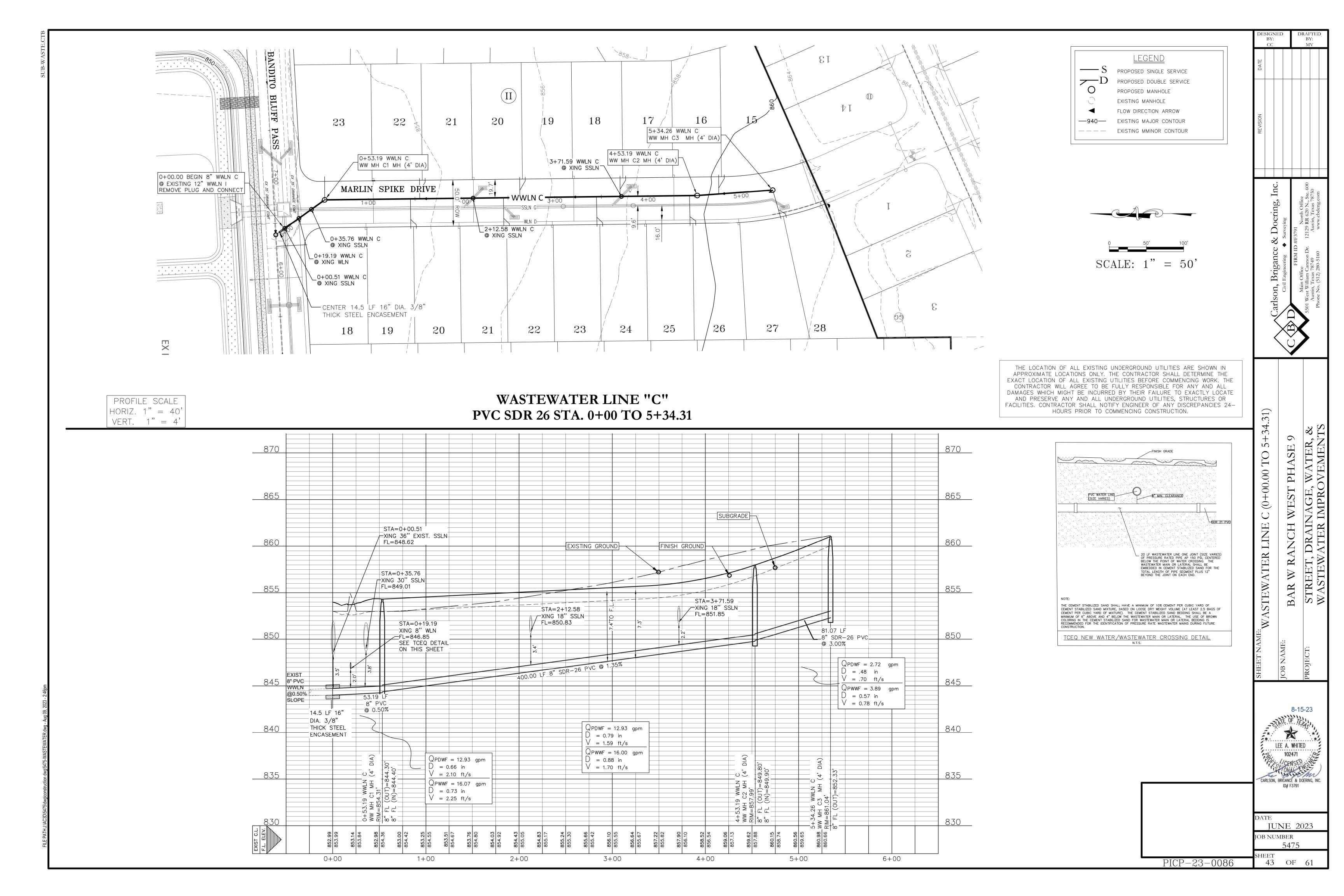


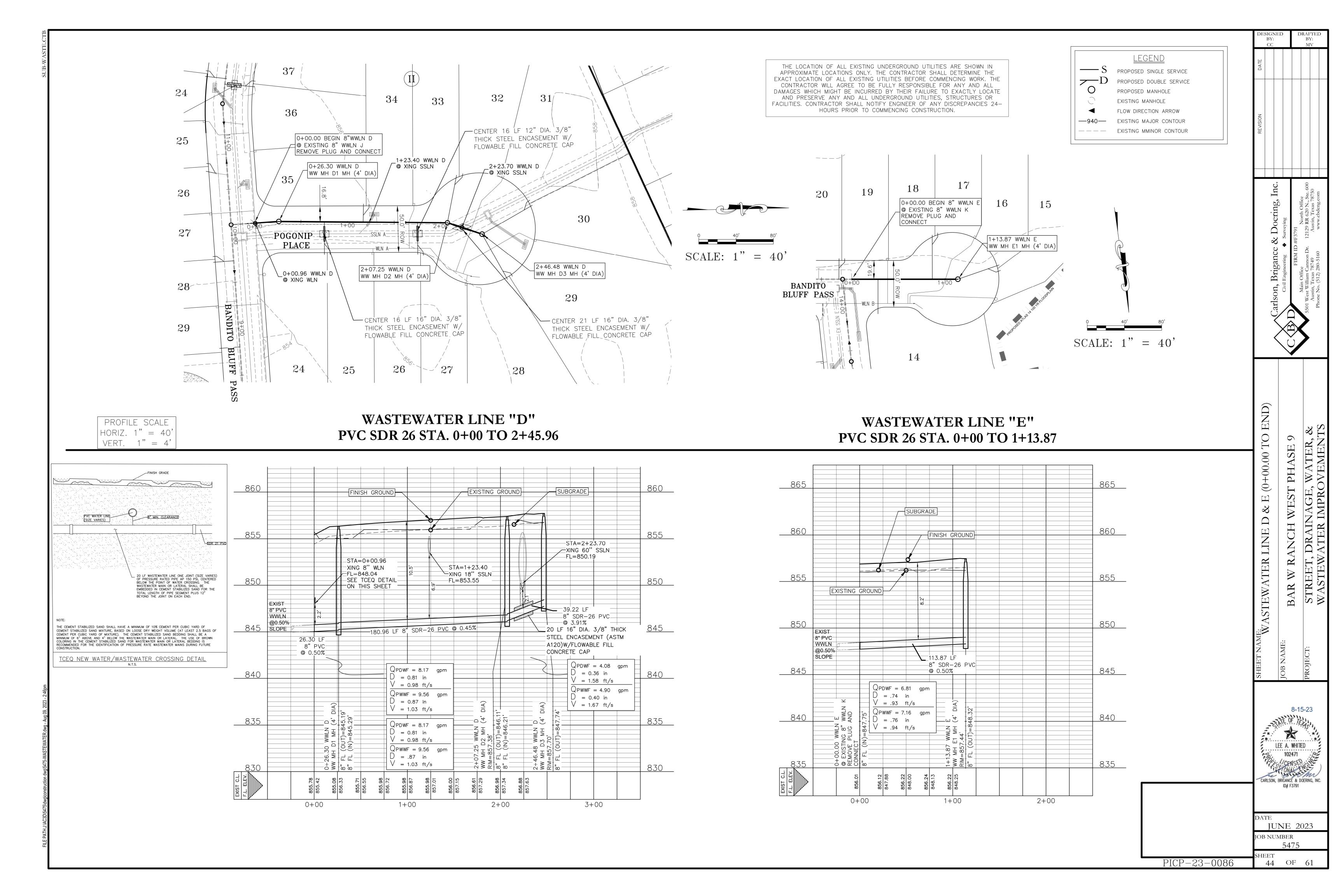


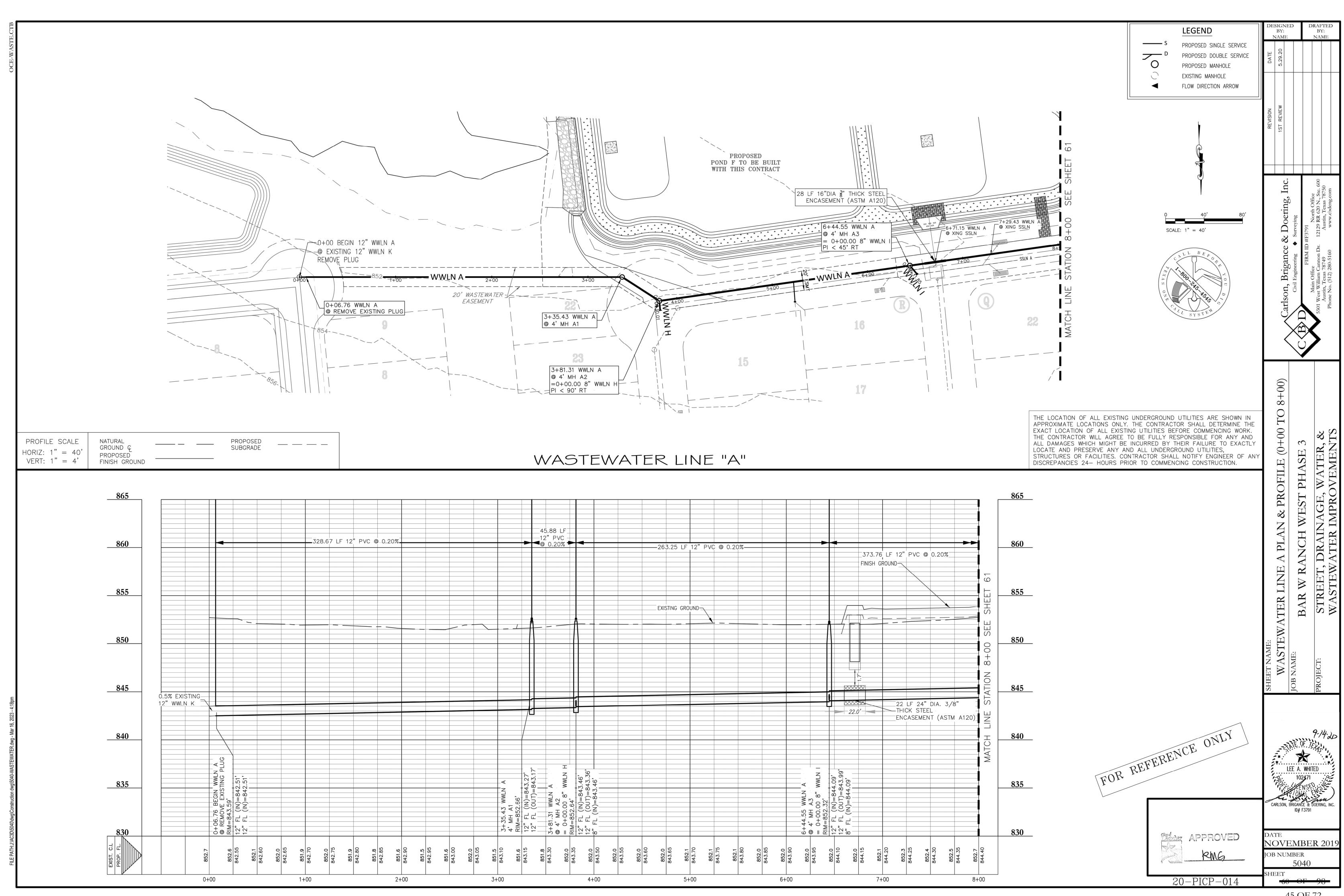


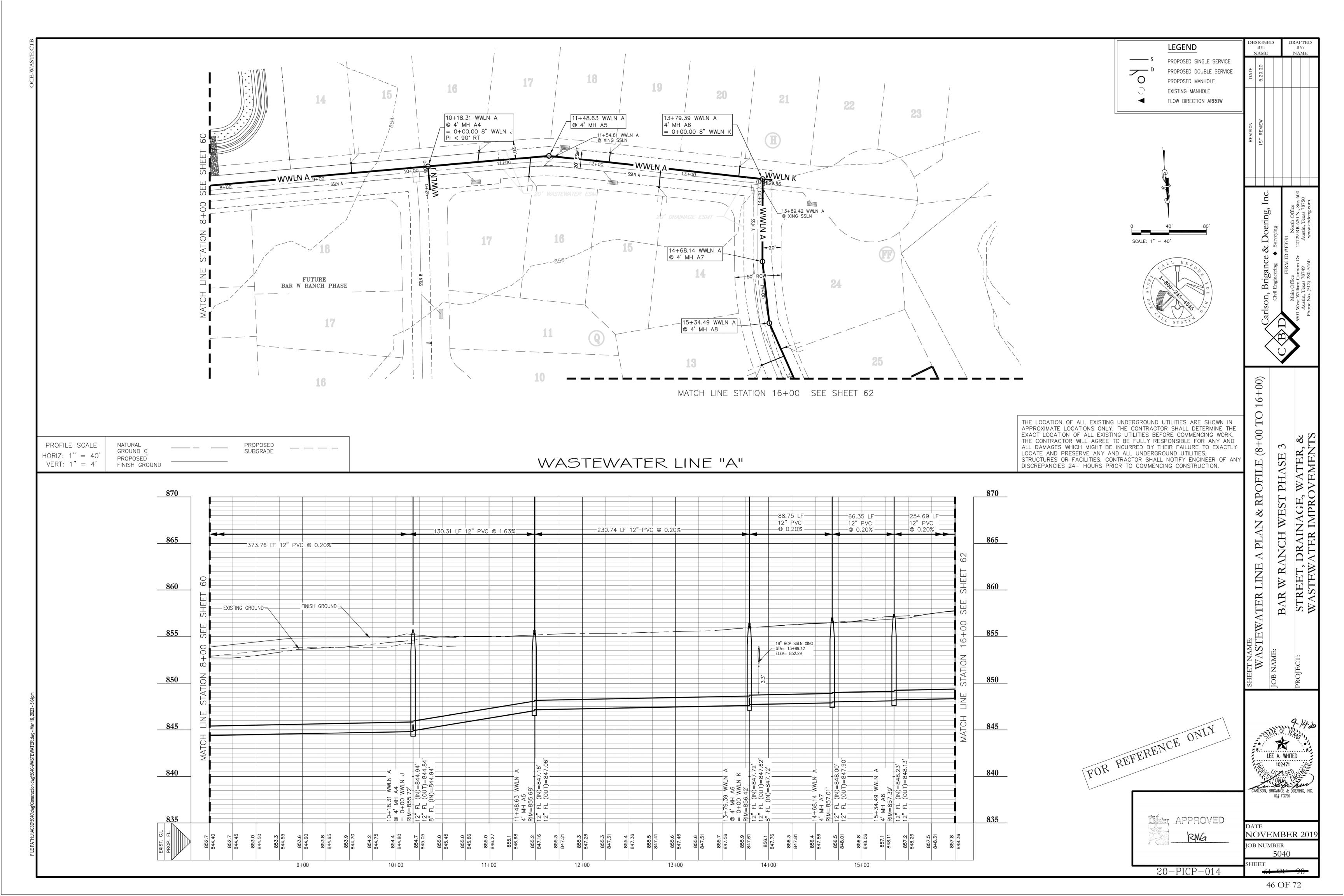


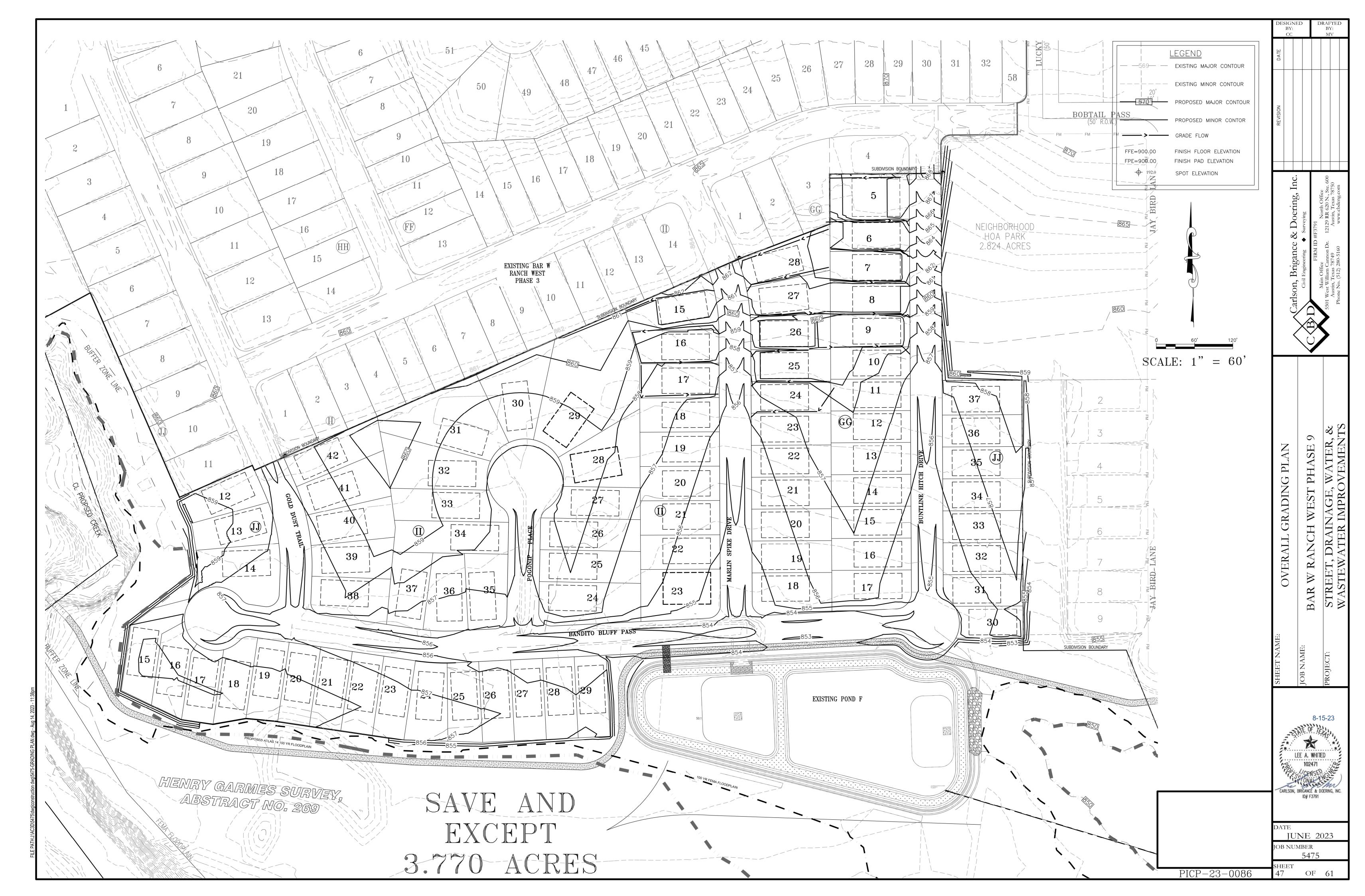


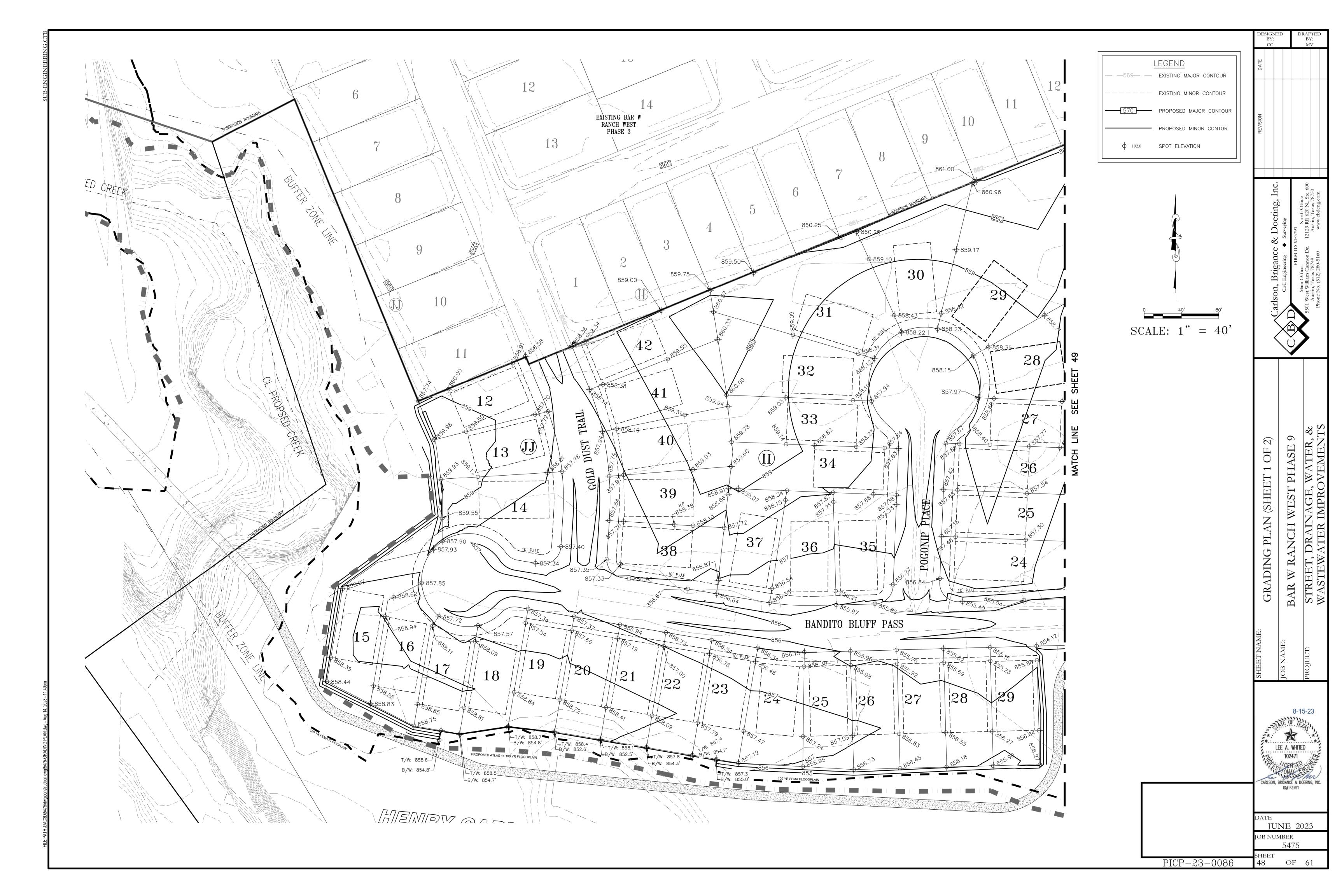


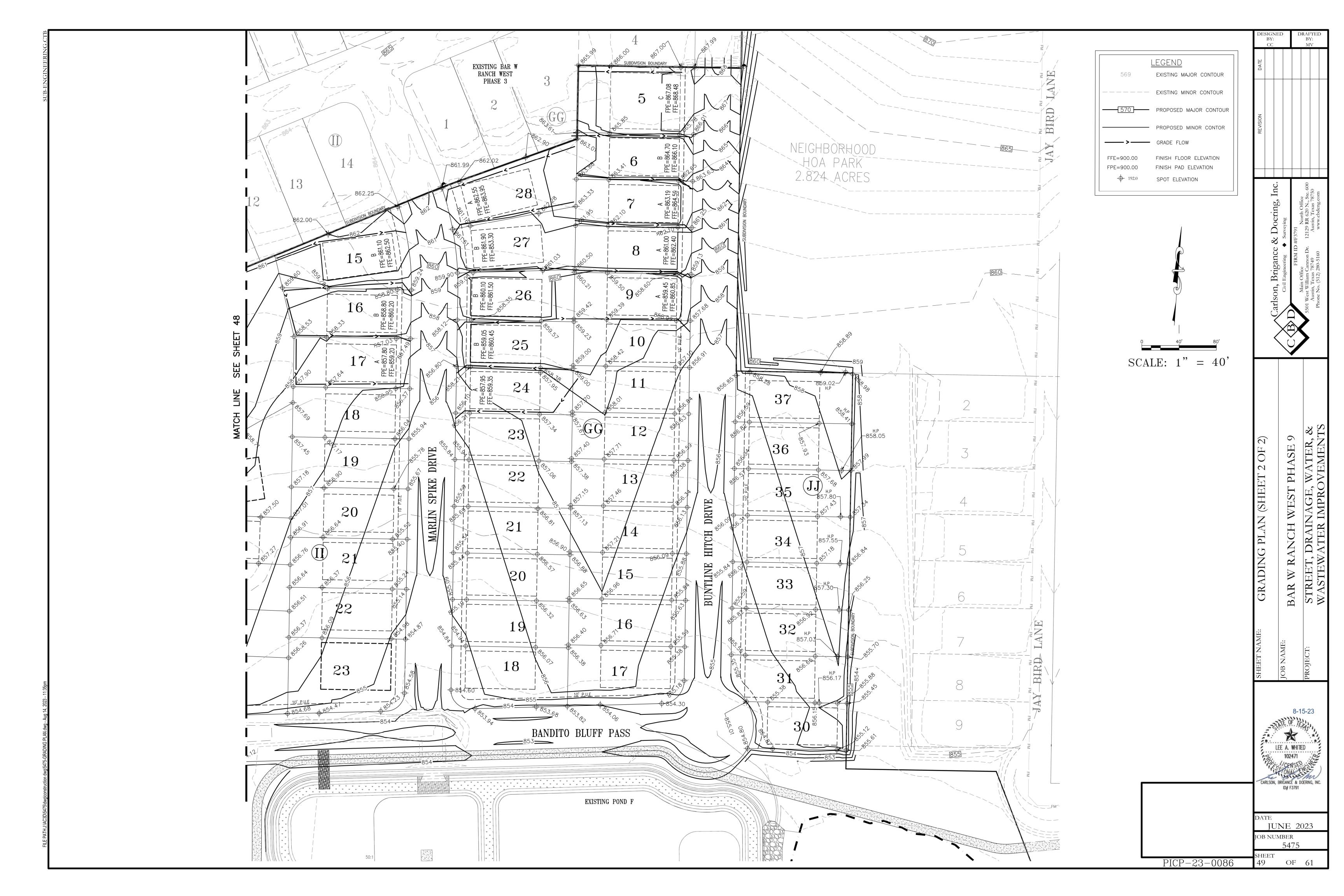


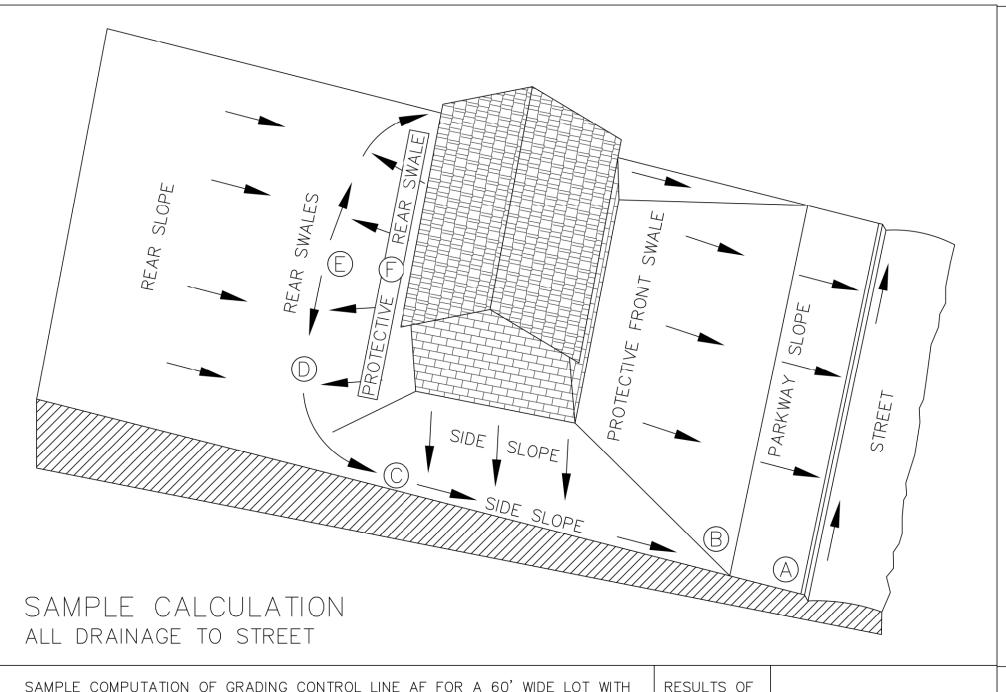






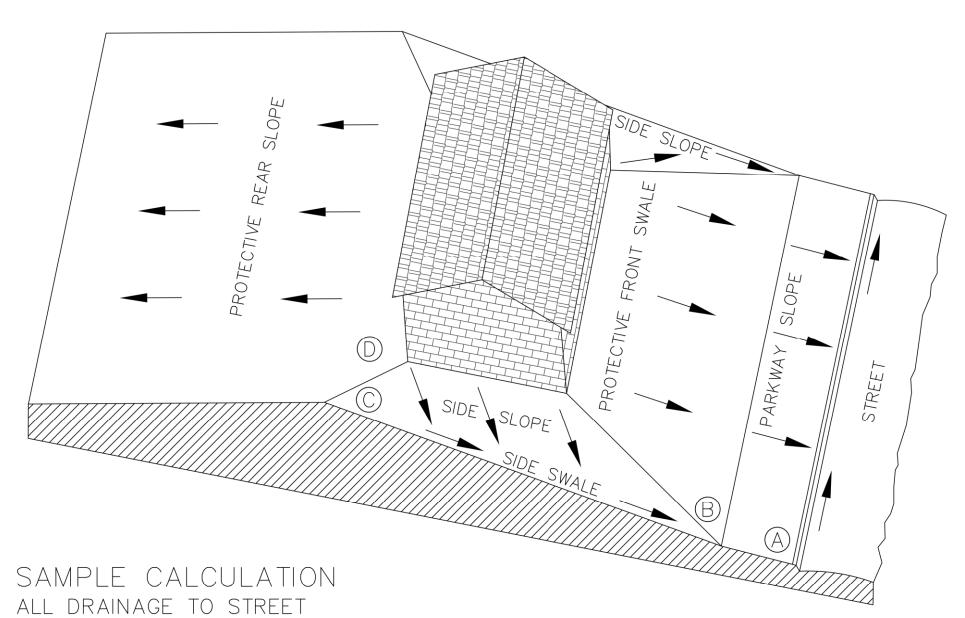




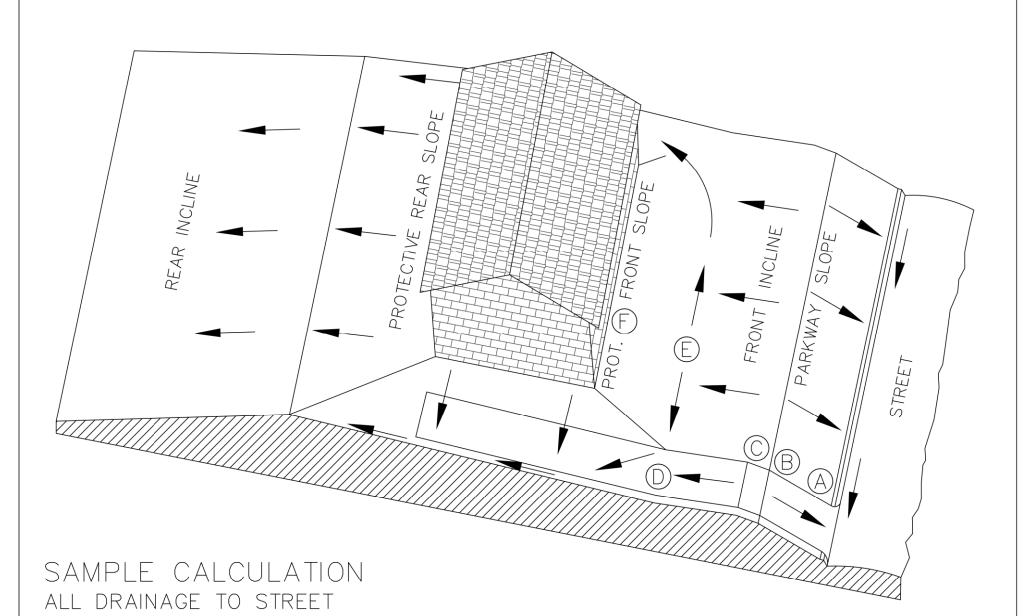


	COMPUTATION OF GRADING CONTROL LINE AF FOR A 60' WIDE UILDING LINE, 0.5% STREET, WITH 60' BUILDING DEPTH AND 2%			RESULTS OF 1% SWALES	
А	CURB-TOP ON LOT LINE EXTENSION AT HIGH LOT CORNER				OALOU ATIONO
ĀB	PARKWAY SLOPE: 15' GRASS AND WALK AT 1/4"/FT. (2%)	4"	(0.3')	2" (0.2')	<u>CALCULATIONS</u> FOR 2% SWALES
BC	SIDE SWALE: 85' GRASS AT 1/4"/FT. (2%)	21"	(1.8')	11" (0.9')	$15 \times 0.25' = 3\frac{3}{4}"$
CD	SWALE TURN WITH 10' RADIUS:16' GRASS AT 1/4"/FT. (2%)	4"	(0.3')	2" (0.2')	$85 \times 0.25' = 21\frac{3}{4}"$ $16 \times 0.25' = 4"$
DE**	REAR SWALE: 13' GRASS AT 1/4"/FT. (2%)	3"	(0.3')	2" (0.2')	$16 \times 0.25 = 4$ $13 \times 0.25' = 3\frac{3}{4}''$
EF *	PROTECTIVE REAR SLOPE UP FROM HIGH POINT OF SWALES	3"	(0.3')	3" (0.3')	$10 \times 0.25' = 2\frac{1}{2}"$
SUB-TO	TAL AF FROM CURB TOP TO GROUND AT REAL BLDG WALL	35"	(3.0')	20" (1.7')	34 ³ / ₄ "
MINIMUM	RISE FROM CURB TOP TO SLAB FLOOR: 35" + 8"	43"	(3.6')	28" (2.3')	CALCULATIONS USE 0.25" PER FOOT GRADIENT FOR A
MINIMUM	RISE FOR WOOD FLOOR USING 8" JOISTS: 35" + 9"	54"	(4.5')	39" (3.3')	2% SWALE.
			05		

* WHERE THERE IS A HIGH BANK NEARBY OR A LONG SLOPE TOWARD HOUSE, A MINIMUM 6" PROTECTIVE SLOPE IS REQUIRED. ** LENGTH $\overline{DE} = [1/2(LOT WIDTH - (2x SWALE TURN RADIUS))] - [LOT WIDTH x (STREET GRADIENT x SWALE GRADIENT)]$



	COMPUTATION OF GRADING CONTROL LINE AF FOR A 60' WIDE JILDING LINE, 0.5% STREET, WITH 60' BUILDING DEPTH AND 2%					
А	CURB-TOP ON LOT LINE EXTENSION AT HIGH LOT CORNER					<u>CALCULATIONS</u> FOR 2% SWALES
ĀB	PARKWAY SLOPE: 15' GRASS AND WALK AT 1/4"/FT. (2%)	4"	(0.3')	2"	(0.2')	$15 \times 0.25' = 3\frac{3}{4}"$
BC	SIDE SWALE: 85' GRASS AT 1/4"/FT. (2%)	21"	(1.8')	11"	(0.9')	$85 \times 0.25' = 21\frac{3}{4}"$
CD ∗	PROTECTIVE SIDE SLOPE @ REAR BLDG. WALL EXTENSION	3"	(0.3')	3"	(0.3')	$6 \times 0.25' = 1\frac{1}{2}"$
SUB-TOT	TAL AD FROM CURB TOP TO GROUND AT REAL BLDG WALL	16"	(1.4')	26½"		
	RISE FROM CURB TOP TO SLAB FLOOR: 27" + 8" RISE FOR WOOD FLOOR USING 8" JOISTS: 35" + 9"		(2.9') (3.8')		(2.0') (2.9')	CALCULATIONS USE 0.25" PER FOOT GRADIENT FOR A 2% SWALE.
* WHERE	THERE IS A HIGH BANK NEARBY OR A LONG SLOPE TOWARD	HOU	SE, A MI	l Inimum	6" PRO1	I TECTIVE SLOPE IS REQUIRED.



	COMPUTATION OF GRADING CONTROL LINE AF FOR A 60' WILDING LINE, 13.5% DRIVEWAY, AND 16' FRONT SWALE DE A				LTS OF WALES	CALCULATIONS	FOR SWALES
А	CURB-TOP HIGH SIDE OF DRIVE NEAR LOW LOT CORNER					15 x 0.25'	$= 3\frac{3}{4}$ "
ĀB	PARKWAY SLOPE: 15' GRASS AND WALK AT 1/4"/FT. (2%)	4"	(0.3')	2"	(0.2')	0 x 0.25'	= 0"
BC	DRIVEWAY GRADE CHANGE: 4' VERTICAL CURVE FROM UP-	0"	(0.0')	0"	(0.0')	-11 x 1.625'	$= -17\frac{3}{4}$ "
	GRADE DRIVE IN STREET TO DOWN-GRADE DRIVE ON LOT					16 x 0.25'	= 4"
CD	DRIVEWAY DOWN-GRADE TO POINT 10 FEET OUT FROM -	-18"	(-1.5')	-18"	(-1.5')	10 × 0.25'	$= 2\frac{1}{2}$ "
	FRONT OF BULIDING: -11' AT 15"/FT (13.5%)						$-7\frac{1}{2}$ "
DE	FRONT SWALE: 16' GRASS AT 1/4"/FT. (2%)	4"	(0.3')	2"	(0.2')		
ĒF*	PROT. FRONT SLOPE UP FROM HIGH POINT OF SWALES	3"	(0.3')	3"	(0.3')	CALCULATION:	
SUB-TO	TAL AF FROM CURB TOP TO GROUND AT FRONT BLDG WALL	-7 "	(-1.0')	-11"	(1.3')	USE 0.25" PER FOOT GRA A 2% SWALE.	DIENT FOR
MINIMUM	RISE FROM CURB TOP TO SLAB FLOOR: -7" + 8"	1"	(-0.3')	-3"	(0.7')	USE 1.625" PE GRADIENT FOR	
MINIMUM	RISE FOR WOOD FLOOR USING 8" JOISTS: -7 " + 19"	12"	(-0.6')	8"	(0.3')	SWALE.	

LOT TYPE (A)

LOT TYPE (B)

* WHERE THERE IS A HIGH BANK NEARBY OR A LONG SLOPE TOWARD HOUSE, A MINIMUM 6" PROTECTIVE SLOPE IS REQUIRED.

GENERAL SPECIFICATIONS FOR SITE PREPARATION

THIS ITEM SHALL CONSIST OF ALL CLEARING AND PREPARATION OF LAND TO BE FILLED, FILLING OF THE LAND, SPREADING, COMPACTION TESTING AND INSPECTION OF THE LAND, SPREADING OF THE CUT AND FILL AREAS TO CONFORM WITH THE LINES, GRADES, AND SLOPES AS SHOWN ON THE APPROVED PLANS.

SCARIFYING THE AREA TO BE FILLED ALL ORGANIC MATTER SHALL BE REMOVED FROM THE SURFACE UPON WHICH THE FILL IS TO BE PLACED, AND SURFACE SHALL BE DISKED OR SCARIFIED TO A MINIMUM DEPTH OF SIX INCHES (6"), ALL SURFACE RUTS OR OTHER UNEVEN FEATURES WILL BE LEVELED PRIOR TO FIELD DENSITY TESTING.

COMPACTING THE AREA TO BE FILLED

FOLLOWING THE CLEARING AND DISKING OR SCARIFYING OF THE FILL AREA, IT SHALL BE BLADED UNTIL IT IS UNIFORM AND FREE FROM LARGE CLODS. THE AREA SHALL BE BROUGHT TO ADEQUATE MOISTURE CONTENT AND COMPACTED (TYPICALLY) TO NOT LESS THAN NINETY PERCENT (90%) OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT ASTM D 1557 COMPACTION PROCEDURE, OR 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE THD-TEX-113-E COMPACTION PROCEDURE. ALL AREAS EXCEEDING (6") SIX INCHES IN DEPTH, MUST MEET WITH FHA/HUD HANDBOOK 4140.30 SPECIFICATIONS FOR LAND DEVELOPMENTS ON CONTROLLED EARTHWORK, DATASHEET 79G.

THE MATERIALS USED SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES, SUCH AS TREES, BRUSH AND RUBBISH.

DEPTH AND MIXING OF FILL LAYERS

THE SELECTED FILL MATERIAL SHALL BE PLACED IN LEVEL, UNIFORM LAYERS WHICH, WHEN COMPACTED, SHALL HAVE A DENSITY CONFORMING TO THE STIPULATED ABOVE. EACH LAYER SHALL BE THOROUGHLY MIXED DURING THE SPREADING TO ENSURE UNIFORMITY OF MATERIAL IN EACH LAYER. COMPACTED LAYER THICKNESS MAY VARY DEPENDING ON THE COMPACTION EQUIPMENT OF THE DEMONSTRATED CAPABILITY.

WHEN FILL MATERIAL INCLUDES ROCK, THE MAXIMUM ROCK SIZE SHALL BE AS APPROVED BY THE GEOTECHNICAL ENGINEER. NO LARGE ROCKS SHALL BE ALLOWED TO NEST AND ALL VOIDS MUST BE FILLED WITH SMALL STONES OR SOIL AND ADEQUATELY COMPACTED.

COMPACTION EQUIPMENT SHALL BE CAPABLE OF COMPACTING THE FILL TO THE SPECIFIED DENSITY. COMPACTION SHALL BE ACCOMPLISHED WHILE THE FILL MATERIAL IS AT OR NEAR THE APPROPRIATE MOISTURE CONTENT. COMPACTION OF EACH LAYER SHALL BE CONTINUOUS OVER THE ENTIRE STRUCTURAL AREA (BENEATH PROPOSED STRUCTURES).

COMPACTION OF SLOPES THE FACES OF FILL SLOPES SHALL BE COMPACTION OF THE SLOPE FACE MAY BE DONE PROGRESSIVELY IN INCREMENTS OF THREE TO FIVE FEET (3' TO 5') IN FILL HEIGHT AS THIS FILL PROGRESSES OR AFTER THE FILL HAS BEEN BROUGHT TO ITS TOTAL HEIGHT.

FIELD DENSITY TESTS SHALL BE PERFORMED ON ALL LAYERS OF FILL WHEN THE FILL IS BEING PLACED AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE MAXIMUM FILL HEIGHT BETWEEN DENSITY TESTING SHALL BE TWELVE INCHES (12"). ALL TESTING SHALL BE REQUESTED BY THE CONTRACTOR TO MEET THE CONTRACTOR'S CONSTRUCTION SCHEDULE. NOTIFICATION BY THE CONTRACTOR TO CONDUCT TESTS SHALL BE AT LEAST THE DAY BEFORE. THIS NOTIFICATION SHALL INCLUDE THE FILL AREA LOCATION (LOT AND BLOCK), THE LIFT OR HEIGHT OF FILL AND APPROXIMATED DESIRED TIME OF TESTING. WHEN THESE TEST INDICATE THAT THE DENSITY OF ANY LAYER OF FILL OR PORTION THEREOF IS BELOW THE REQUIRED DENSITY, THE PARTICULAR LAYER OR PORTION SHALL BE REWORKED AND RETESTED AT THE EXPENSE OF THE CONTRACTOR UNLESS THE CONTRACTOR CAN SHOW EVIDENCE THAT CIRCUMSTANCES BEYOND HIS CONTROL REQUIRED THE RETESTING. GENERALLY, THE SPECIFIC TESTING WILL BE AS FOLLOWS AND CONDUCTED BY A GEO-TECHNICAL ENGINEER OR STAFF.

1. THE LAND TO BE FILLED (PREPARED SUBGRADE) SHALL BE PREPARED AND TESTED AT A FREQUENCY AS DETERMINED BY THE GEOTECHNICAL ENGINEER. 2. THE FIRST LIFT OF COMPACTED FILL (GENERALLY 8-12 IN.) SHALL BE TESTED AS DETERMINED BY THE GEOTECHNICAL ENGINEER. ANY AREAS SUPPORTING THE PROPOSED STRUCTURES REQUIRING FILL SHALL BE TESTED FOR DENSITY COMPLIANCE.

FILLS SHALL BE TESTED AT A MAXIMUM OF EACH TWELVE INCHES (12") OF FILL. TEST RESULTS WILL BE PROVIDED BY THE FIELD TECHNICIAN TO THE CONTRACTOR WHEN POSSIBLE: HOWEVER, ALL TEST RESULTS ARE TO BE REVIEWED BY THE GEOTECHNICAL ENGINEER FOR COMPLIANCE. THE ENGINEER WILL NOTIFY THE CONTRACTOR OF ALL TEST RESULTS. CUT/FILL LOTS

AREAS INVOLVING CUT ON THE PORTION AND FILL ON ANOTHER PORTION OF A SPECIFIC LOT SHALL BE PREPARED TO A MINIMUM DEPTH OF 6 IN., AND WILL BE THE SAME MATERIAL CLASSIFICATION AT THE SAME COMPACTION AND MOISTURE CONTENT. FIELD DENSITY TESTS SHALL BE REQUIRED ON EACH CUT/FILL LOT FOR THE PURPOSE OF DETERMINING UNIFORMITY OF THE AREA SUPPORTING THE PROPOSED STRUCTURES.

HUD 79-G REQUIREMENT FOR FILL MATERIAL OF 6 INCHES AND MORE WILL BE CONDUCTED. ALL CUT AREAS WILL ALSO MEET THE REQUIREMENTS FOR HUD 79-G. AFTER SITE GRADING IS COMPLETED, GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CONTRACTOR AND OWNER A 79-G LETTER.

DRAINAGE NOTE FINISHED FLOOR ELEVATIONS

THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORMWATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO STORMWATER CONVEYANCE STRUCTURES MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE A PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE GARAGE.

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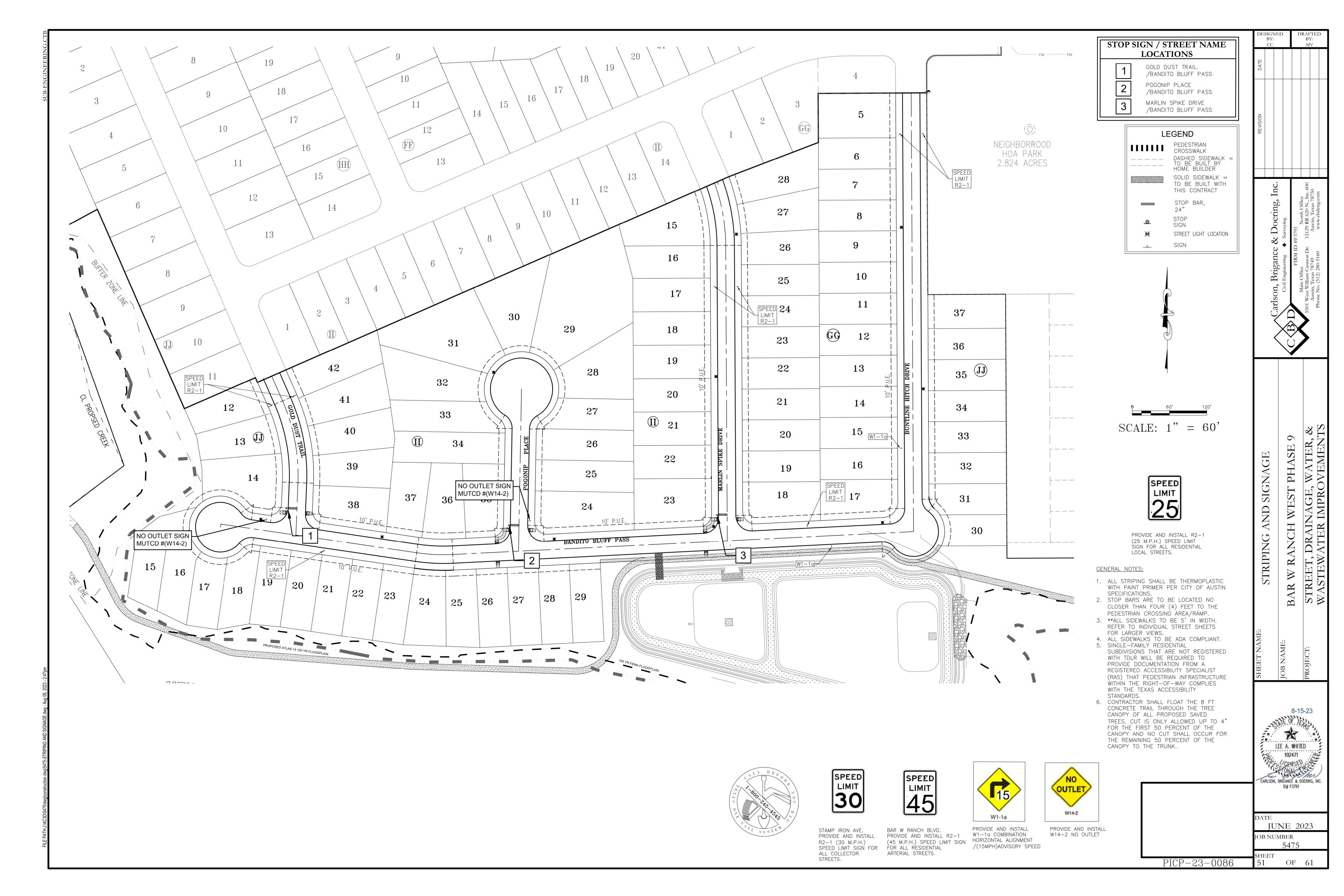
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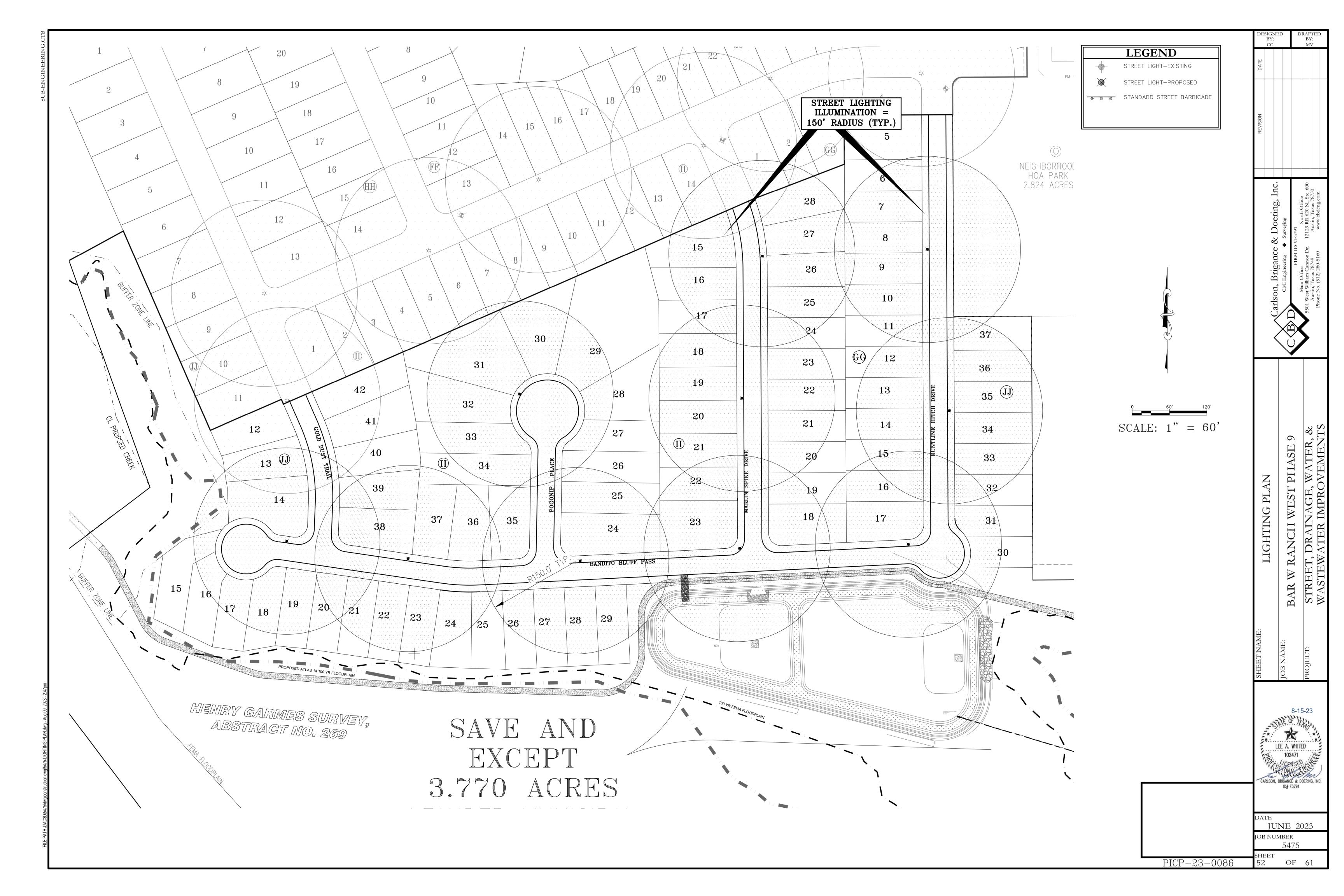
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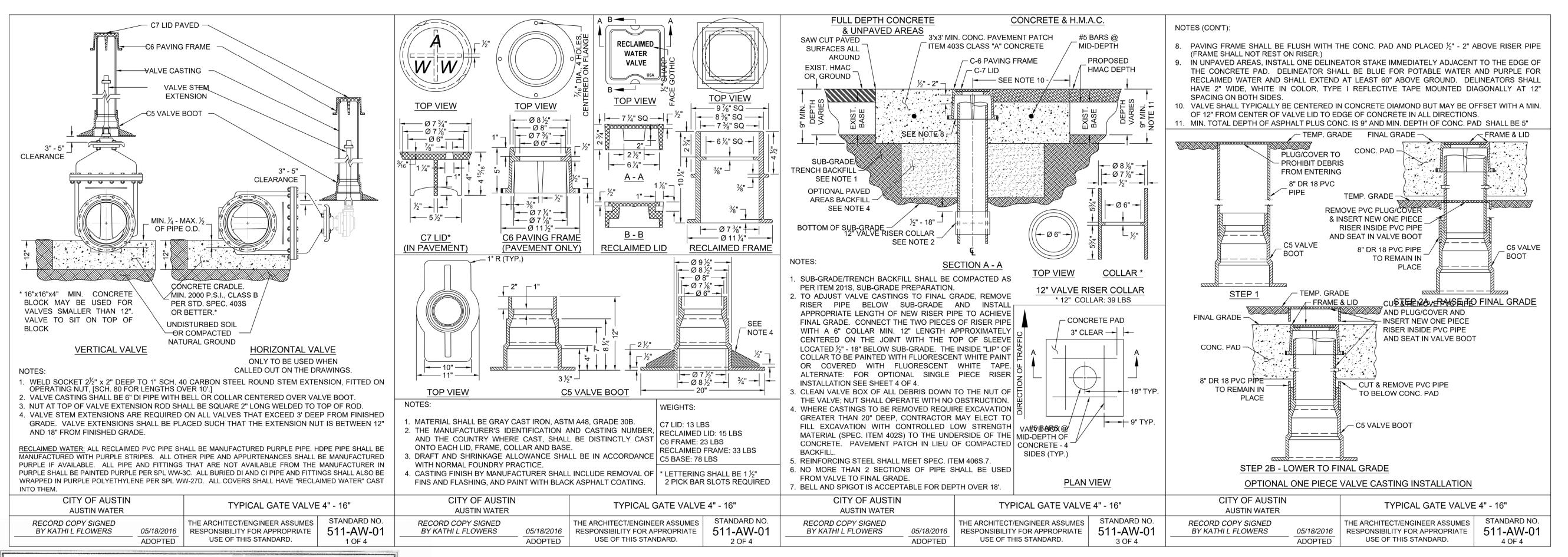
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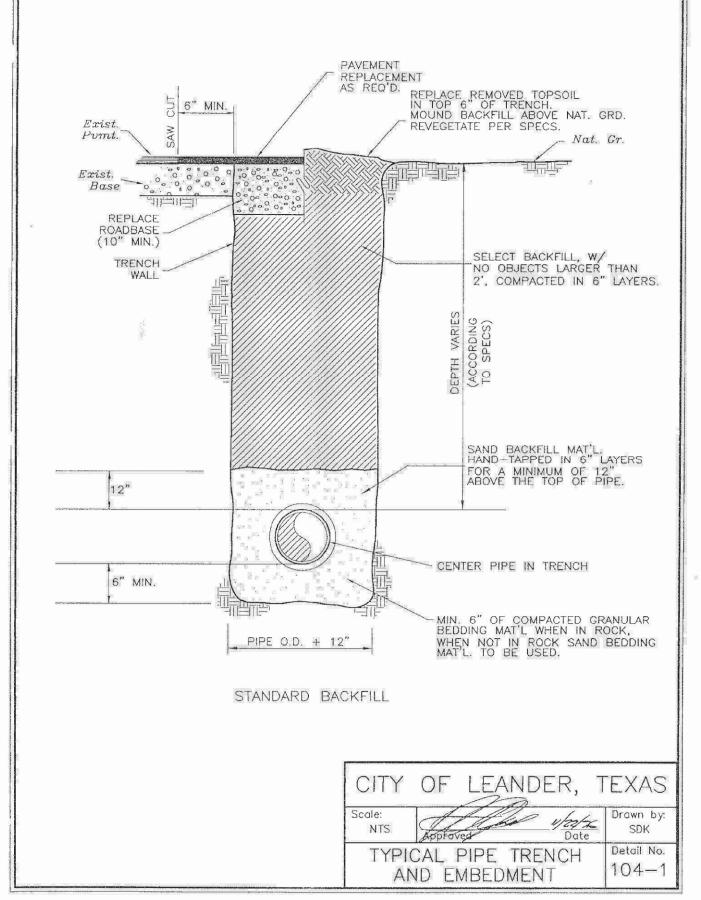
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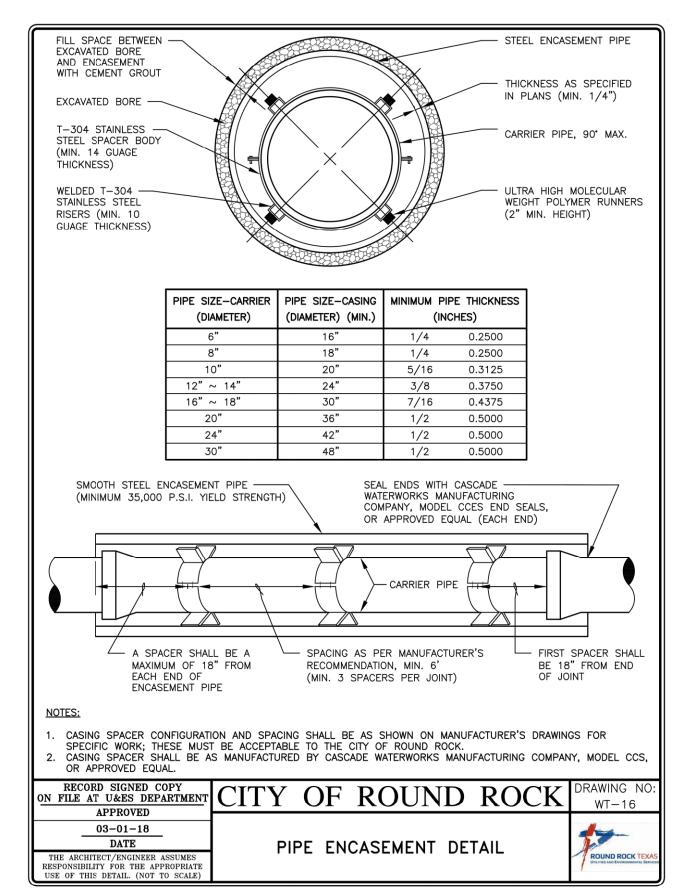
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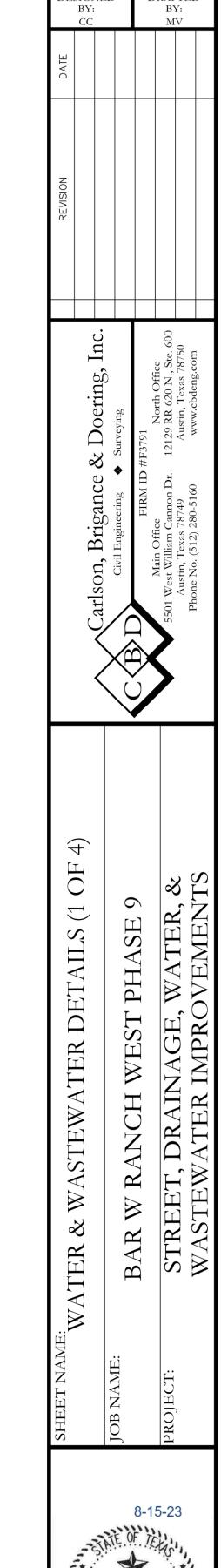












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CARLSON, BRIGANCE & DOERING, INC. ID# F3791

DATE

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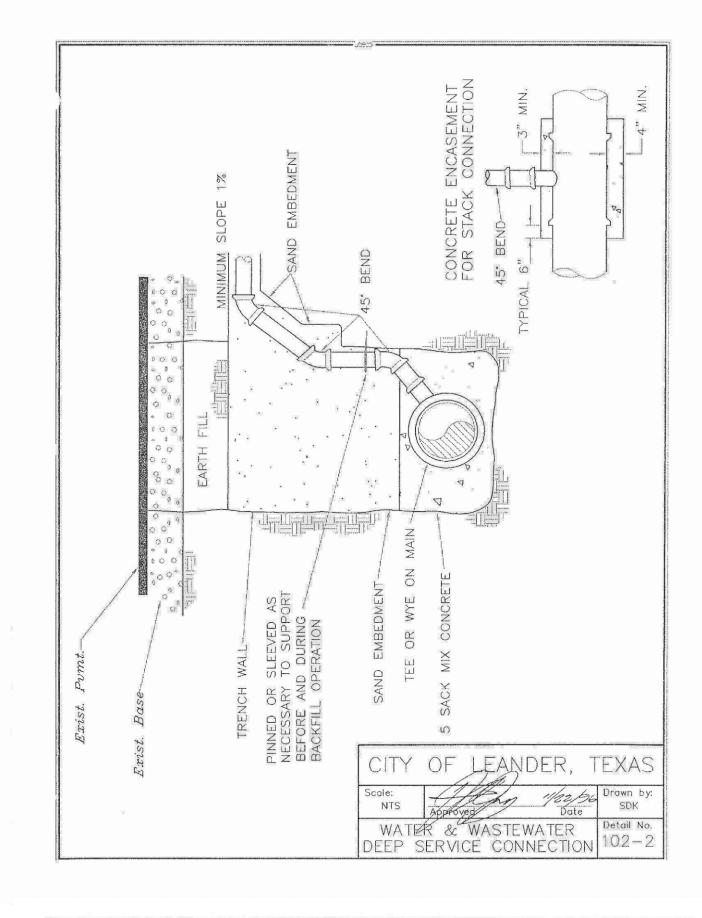
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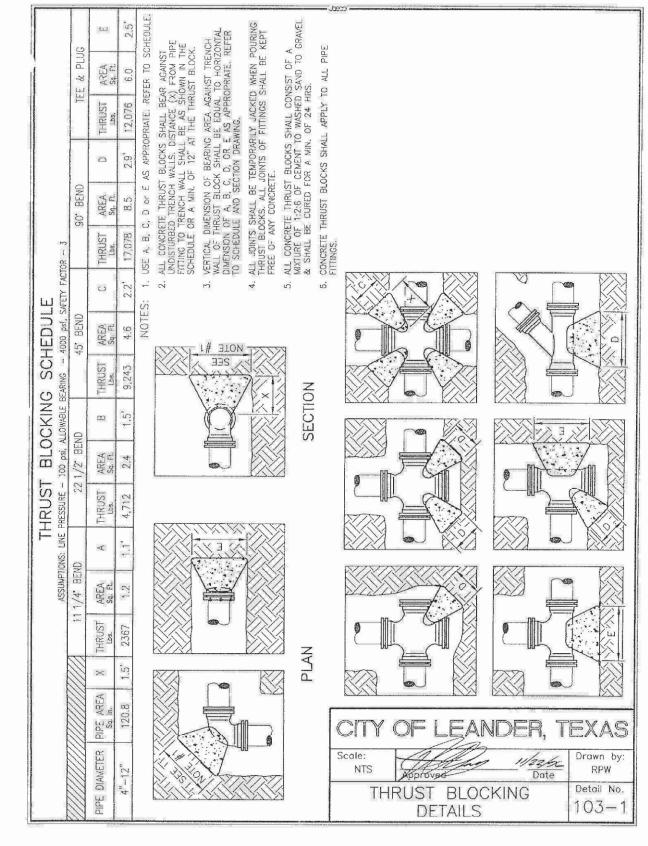
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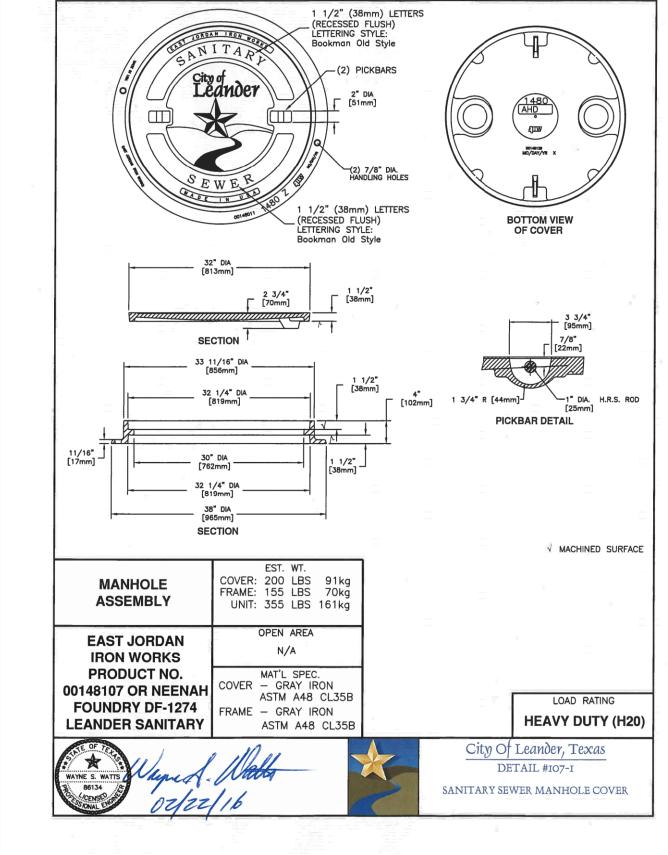
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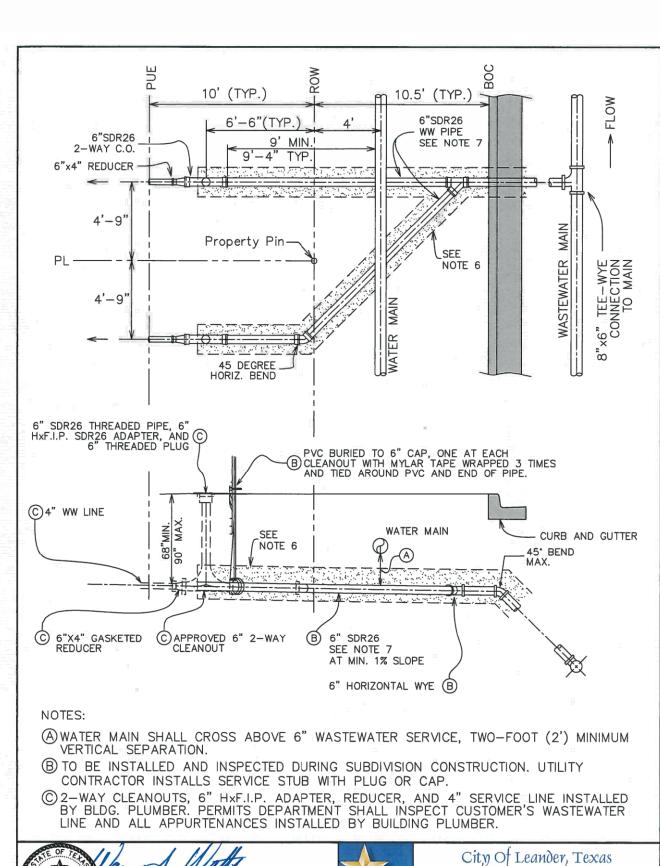
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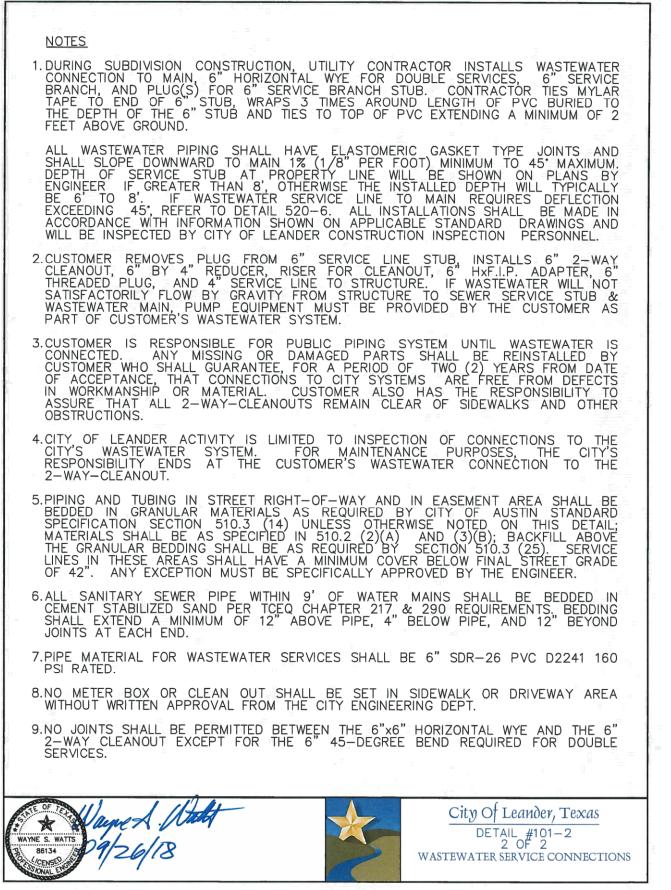


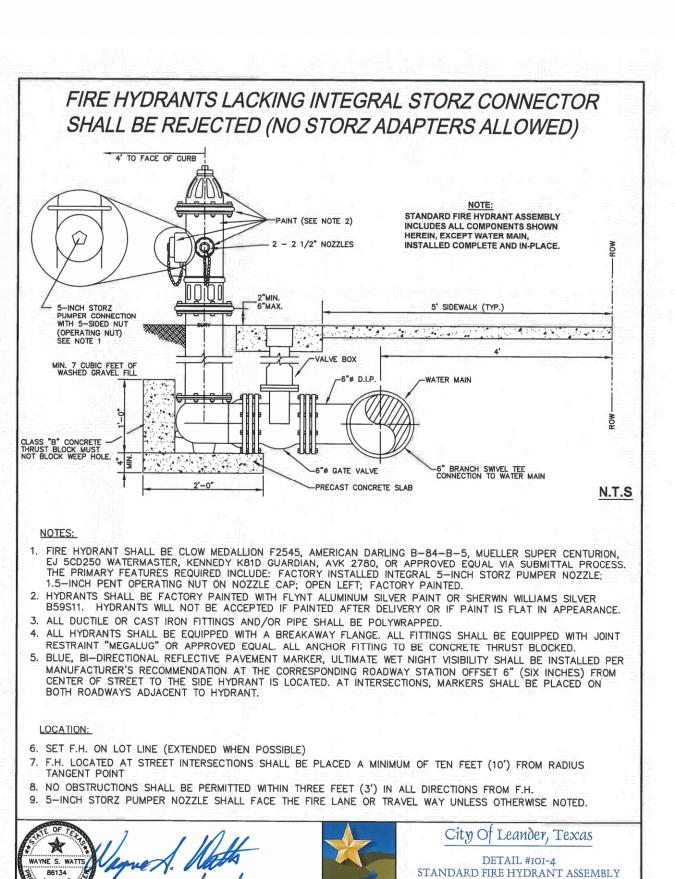


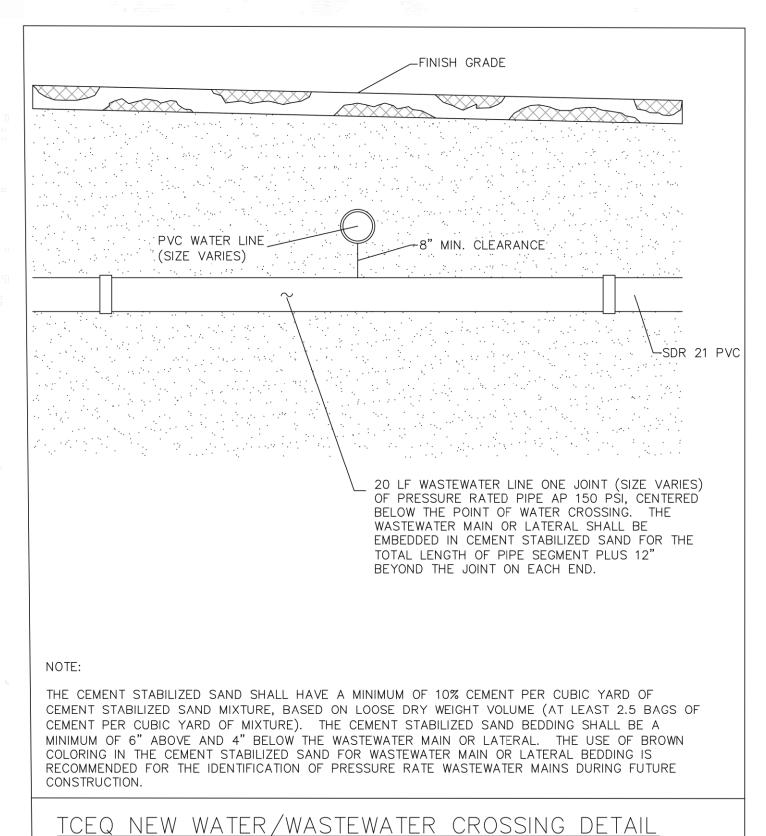




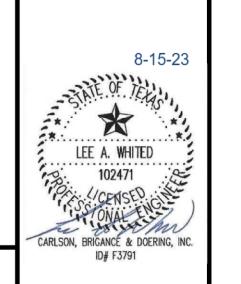
DETAIL_#101-2 WASTEWATER SERVICE CONNECTIONS







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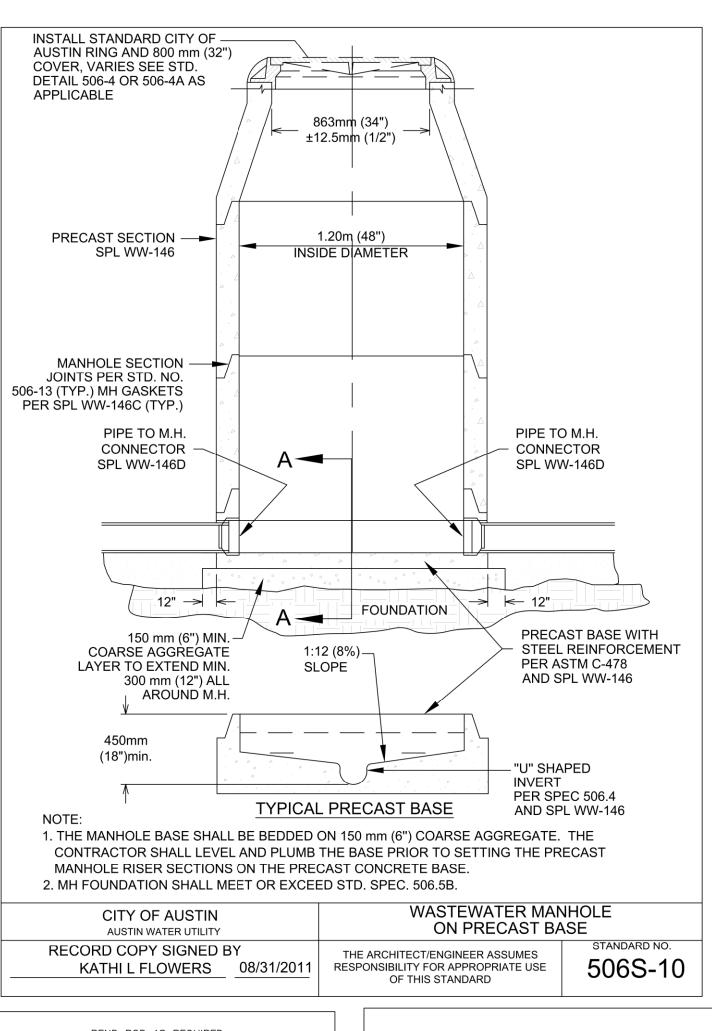
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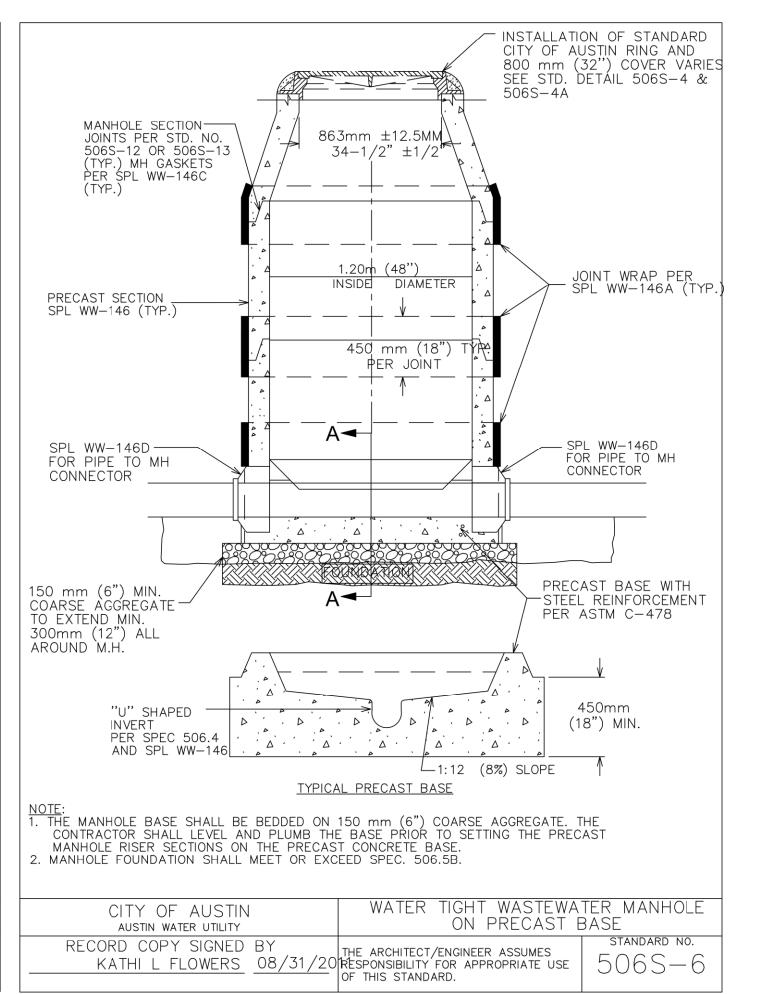
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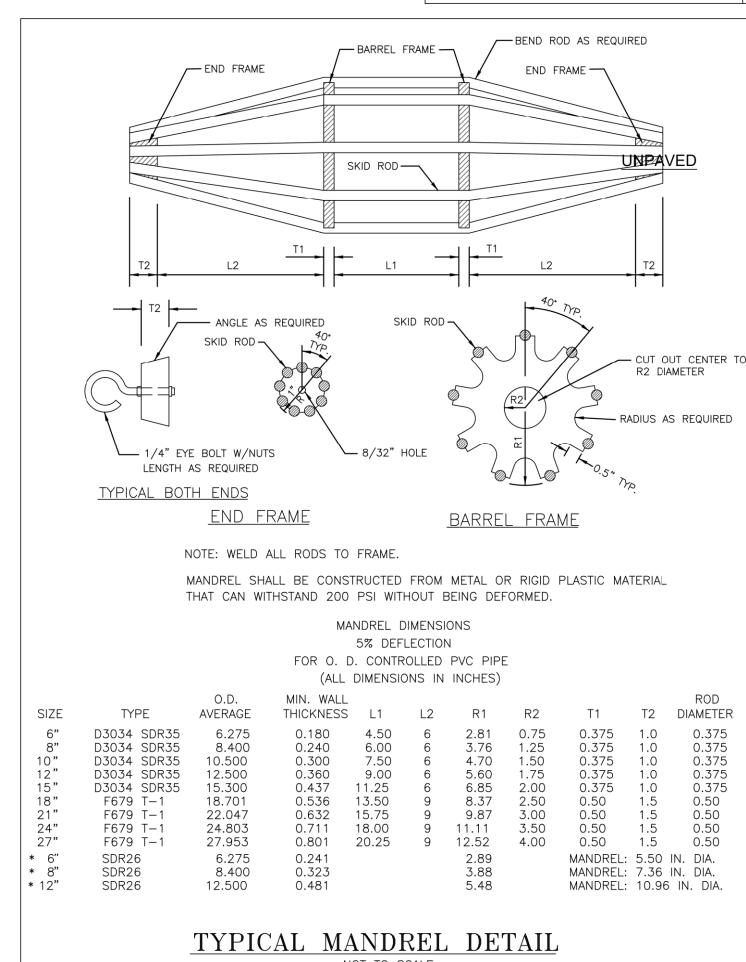
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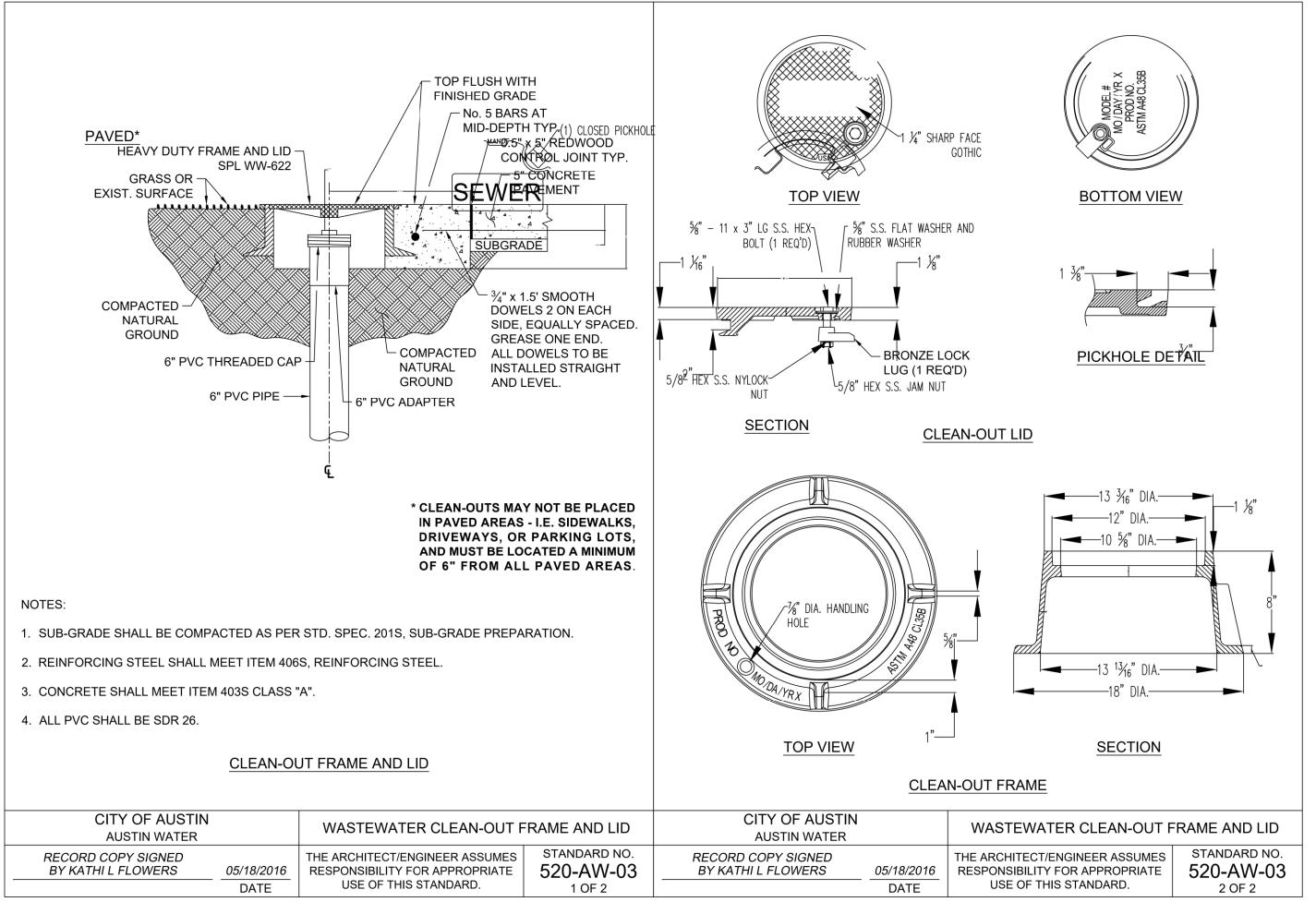
HEET 54 OF 61

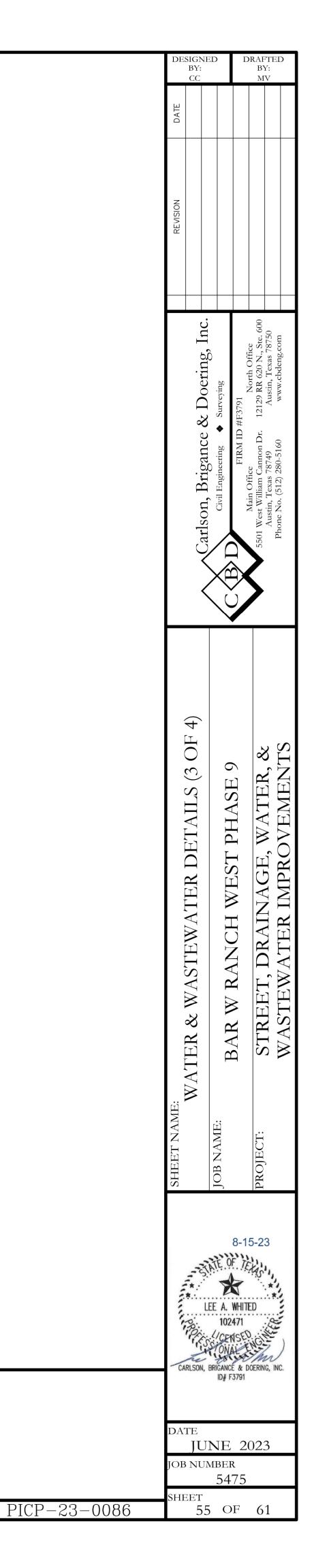


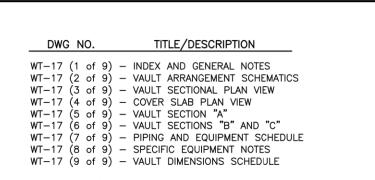




SEE SHEET NO. 2 FOR MANDREL NOTES.







ALL NINE (9) PRV DRAWINGS SHALL BE INCLUDED ON THE CONSTRUCTION PLANS.

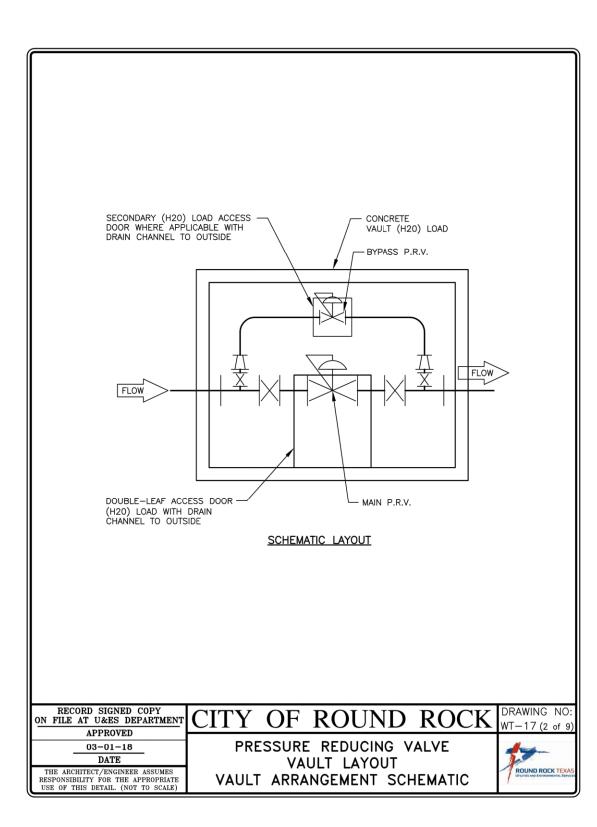
- A. THE VALVE SIZE AND LAYOUT SCHEME SHALL BE DETERMINED BY THE OWNER; APPROVAL WILL BE BY THE UTILITIES DEPARTMENT. PLANS MUST BE PREPARED, SEALED AND SIGNED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TEXAS. . THE VAULT PIPING LAYOUT SHALL BE SHOWN IN DETAIL WT-17 (2 OF 9)
- THE CONTRACTOR SHALL PROVIDE SUBMITTALS FOR APPROVAL BY THE OWNER FOR ALL VAULT, PIPING, EQUIPMENT AND MATERIALS PRIOR TO ANY CONSTRUCTION. D. FIELD VERIFY THE DEPTH OF THE ADJACENT PIPING TO BE CONNECTED TO AND ADJUST THE
- VERTICAL DIMENSIONS OF THE VAULT AS REQUIRED.
 E. FIELD VERIFY THE MATERIAL AND PRESSURE CLASS OF THE ADJACENT PIPING TO BE DNNECTED TO AND PROVIDE APPROPRIATE PIPE CONNECTION FITTINGS AS REQUIRED F. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF ANY EXISTING UTILITIES, STRUCTURES AND EQUIPMENT WHICH PERTAIN TO
- AND/OR AFFECT THE CONSTRUCTION OF THE VAULT.
- G. ANY EXISTING UTILITIES, PAVEMENT, FENCING, CURBS, SIDEWALKS, STRUCTURES, ETC., THAT ARE DAMAGED OR REMOVED SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR.

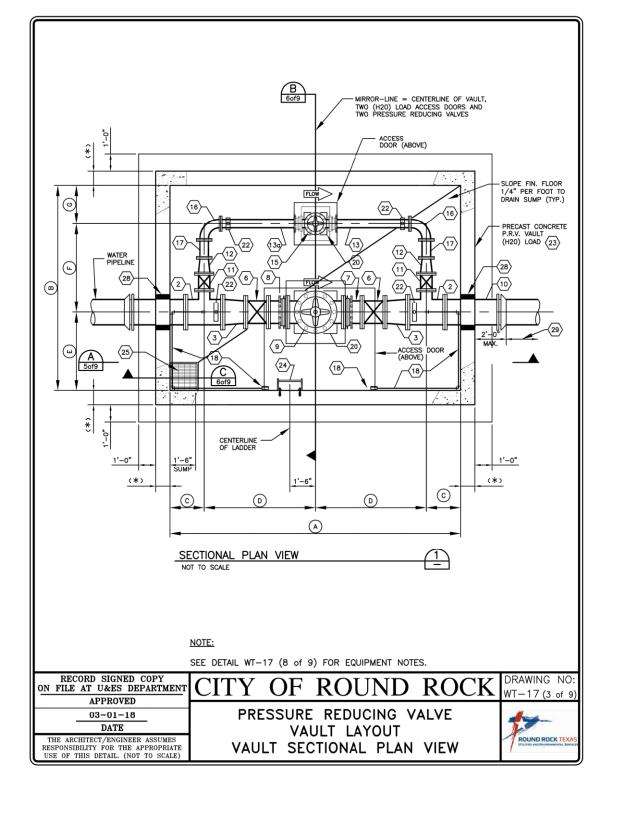
 H. THE LOCATION AND ORIENTATION OF THE VAULT SHALL BE APPROVED BY THE OWNER PRIOR TO CONSTRUCTION.
- DIMENSIONS AND ELEVATIONS SHOWN WITH AN ASTERISK (*) SHALL BE DETERMINED AND/OR VERIFIED AFTER FINAL EQUIPMENT SELECTION AND LOCATION HAVE BEEN MADE.

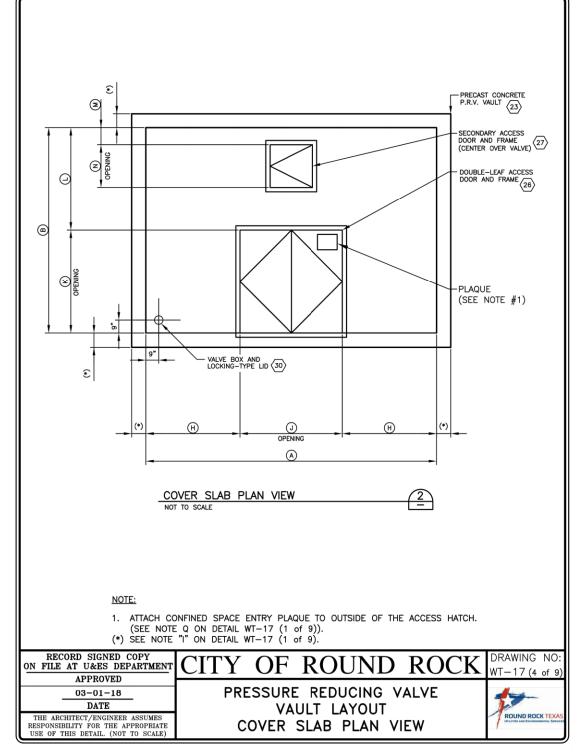
 J. VERIFY ALL PIPING DIMENSIONS AND ELEVATIONS FOR EQUIPMENT AND PIPING MATERIALS ACTUALLY FURNISHED FOR THIS PROJECT.
- K. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE REVEGETATED TO A MINIMUM OF PRE-CONSTRUCTION CONDITIONS. L. ALL SITE AND VAULT PIPING SHALL BE DUCTILE IRON PIPE (D.I.P.) WITH BITUMINOUS COATING AND CEMENT LINING.M. ALL BURIED PIPING SHALL BE POLYWRAPPED, AND SHALL ALSO HAVE RESTRAINED JOINTS
- INSTALLED TO A MINIMUM DISTANCE OUTSIDE OF THE VAULT WALL AS SHOWN FOR NOTE NO. "29" ON DETAIL WT-17 (7 of 9).
- N. ALL BURIED PIPING SHALL BE INSTALLED WITH 4-FEET MINIMUM COVER. O. THE CONTRACTOR SHALL PROVIDE COUPLINGS, EXPANSION JOINTS AND THRUST RESTRAINTS AS
- REQUIRED FOR ALL PIPING.
 P. ALL VALVES, FITTINGS AND PIPE NOT DESIGNATED OTHERWISE SHALL BE EPOXY LINED AND SHALL BE NATIONAL SANITATION FOUNDATION (NSF) STANDARD 61 CERTIFIED.

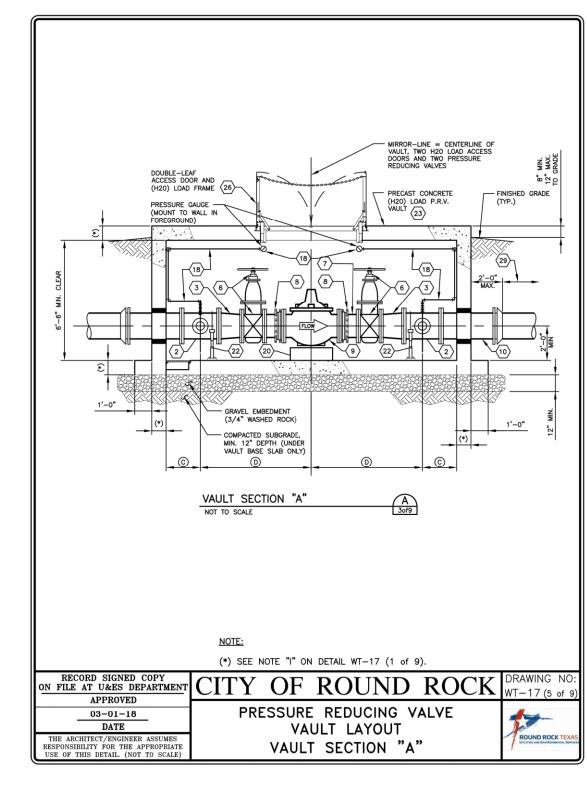
 Q. CONFINED SPACE ENTRY PLAQUE REQUIRED ON OUTSIDE OF ACCESS HATCH.

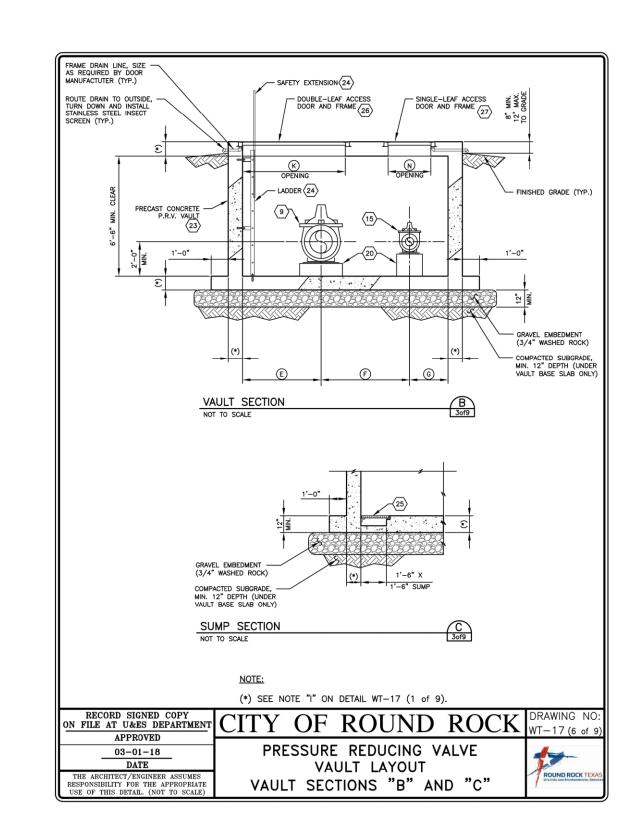
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY	OF	ROUNI	ROCK	DRAWING NO:
APPROVED		O1	1100111		WI-1/(1 of 9)
03-01-18	PRE	SSURE	REDUCING	VALVE	
DATE		V۵	ULT LAYOUT	•	1
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)	IND		D GENERAL		ROUND ROCK TEXAS UTILITIES AND ENVIRONMENTAL SERVICE

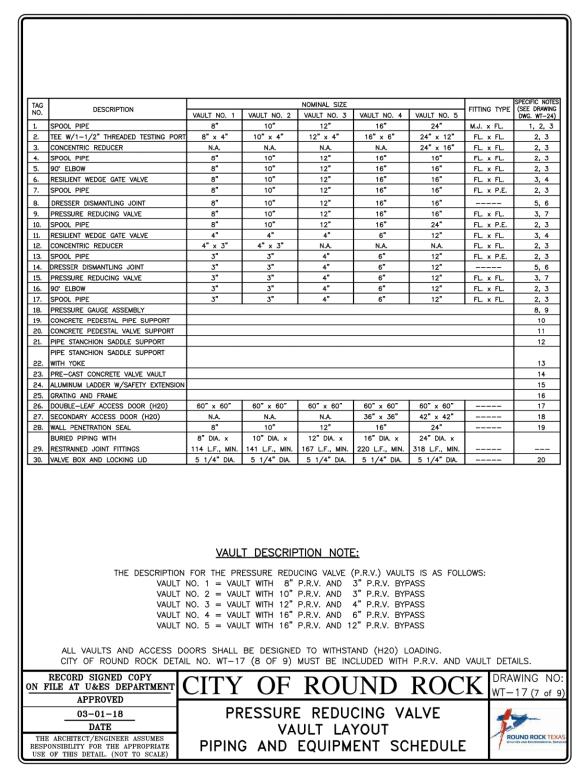










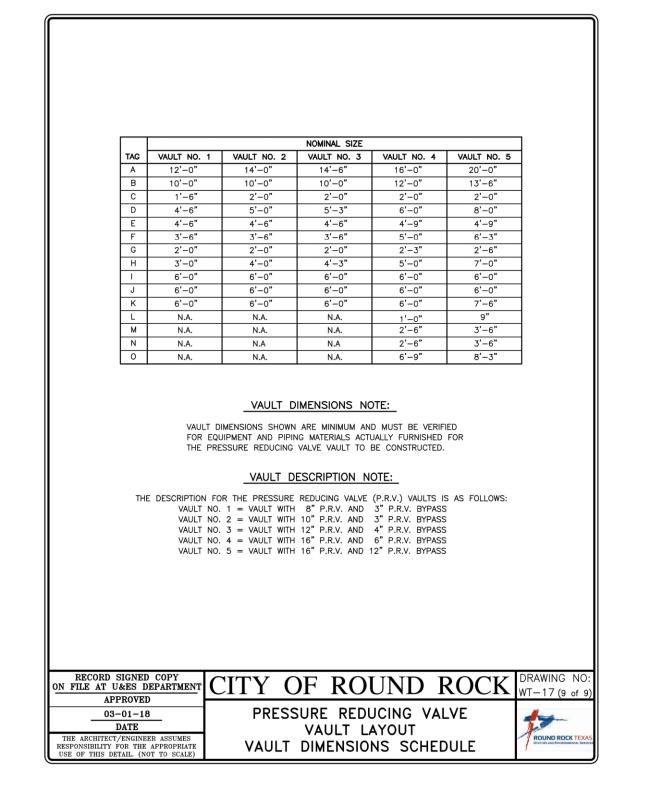


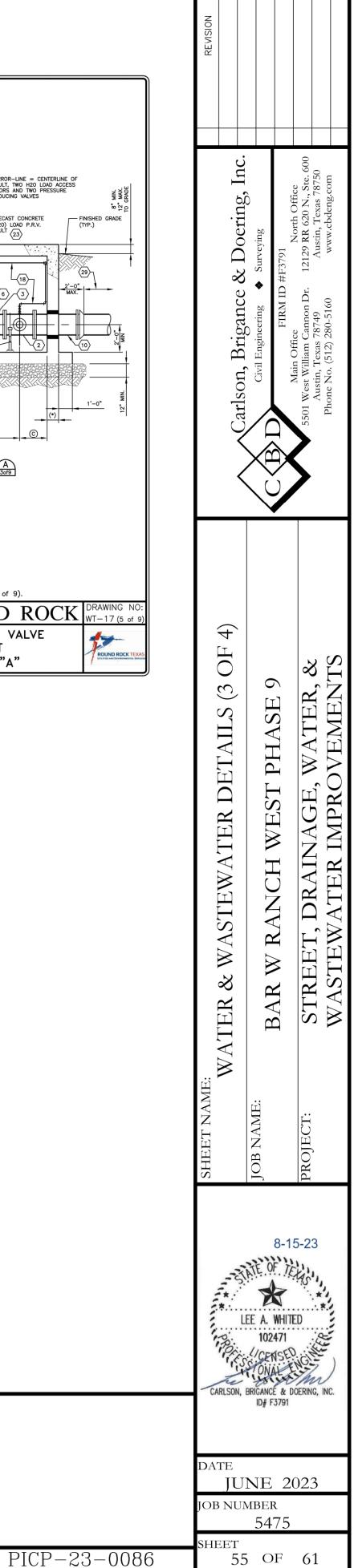
5. 200 P.S.I. WORKING PRESSURE MININUM. 6. FULLY PESTRAINED (EBAM IRON SALES INC. SERIES 2100 MEGAFLANGE, OR APPROVED EQUAL). 7. GLOBE—STYLE, FULL—PORT WITH STEM INDICATOR AND 4 1/2", OIL FILLED, GUAGES ON THE INLET AND UTLET PORTS. (WATTS ACV 115, CLA-VAL, OR APPROVED EQUAL). SEE NOTE 21 FOR REQUIRED LAYING LENGTHS. 8. PRESSURE GAUGE ASSEMBLY TO INCLUDE 1" DIAMETER THREADED TAP; 1/2" X 1" BUSHING; 1/2" QUARTER—TURN BALL VALVE; AND STAINLESS STEEL 316 GAUGE WITH 4 1/2" DIAL, OIL FILLED, 0—166 P.S.I. RANGE, AND 1/2" GAUGE CONNECTION; INSTALLED WITH 1/2" COPPER PIPING ROUTED ALONG WALL TO WITHIN 6" OF TOP OF VAULT, WITH GAUGE MOUNTED IN A LOCATION THAT IS READABLE BY OPENING THE ACCESS DOOR. COGNEDITOR: INSTALLED WITH 1/2" COPPER PIPING ROUTED ALONG WALL TO WITHIN 6" OF TOP OF VAULT, WITH GAUGE MOUNTED IN A LOCATION THAT IS READABLE BY OPENING THE ACCESS DOOR. CORDINATE INSTALLATION WITH 11/2" COPPER PIPING ROUTED ALONG WALL TO WITHIN 6" OF TOP OF VAULT, WITH GAUGE MOUNTED IN A LOCATION THAT IS READABLE BY OPENING THE ACCESS DOOR. CORDINATE INSTALLATION WITH 11/2" COPPER PIPING ROUTED ALONG WALL SACIES, WITH A 1/4" HICK ONCRETE PEDESTAL (WIDTH 10 BE PIPE O.D. PLUS 10" EACH SIDE), WITH 3/4" THICK CONCRETE PEDESTAL (WIDTH 10 BE PIPE O.D. PLUS 10" EACH SIDE), WITH 3/4" THICK X 6" WIDE STAINLESS TO BE EMBEDDED INTO SLAB TO A DEPTH RECOMMENDED BY EPOXY SYSTEM MANUFACTURER?. 11. CONCRETE PEDESTAL VALVE SUPPORT; HORIZONTAL CONCRETE REINFORCING SHALL BE NO. 5 VERTICAL REBBAS AND NO. 4 HORIZONTAL HOOPS PLACED AT 8" ON—CENTERS (ALL VERTICAL BASES TO BE EMBEDDED INTO SLAB TO A DEPTH RECOMMENDED BY THE VALVE MANUFACTURER. 11. CONCRETE PEDESTAL VALVE SUPPORT; HORIZONTAL CONCRETE EDIMENSIONS AND ANCHOR BOLT SIZE, LENGTH AND LOCATIONS TO BE DETERMINED BY THE VALVE MANUFACTURER. 11. CONCRETE PEDESTAL VALVE SUPPORT; HORIZONTAL CONCRETE ENDMENSIONS AND ANCHOR BOLT SIZE, LENGTH AND LOCATIONS TO BE DETERMINED BY THE VALVE MANUFACTURER. 12. PIPE STRANCHION SADDLE SUPPORT; HORIZONTAL CONCRETE TO INFORMATION AND AND ANCHOR SIZE AND	6. 7.	FULLY RESTRAINED (EBAA IRON SALES INC. SERIES 2100 MEGAFLANGE, OR APPROVED EQUAL). GLOBE-STYLE, FULL-PORT WITH STEM INDICATOR AND 4 1/2", OIL FILLED, GUAGES ON THE INLET AN
17. GLOBE—STYLE, FULL—PORT WITH STEM INDICATOR AND 4 1/2", OIL FILLED, GUAGES ON THE INLET AND OUTLET PORTS. (WATTS ACV 115, CLA—VAL, OR APPROVED EQUAL). SEE NOTE 21 FOR REQUIRED LAYING LENGTHS. 18. PRESSURE GAUGE ASSEMBLY TO INCLUDE 1" DIAMETER THREADED TAP; 1/2" X 1" BUSHING; 1/2" OUARTER—TURN BALL VALVE; AND STAINLESS STEEL 316 GAUGE WITH 4 1/2" DIAL, OIL FILLED, OHE P.S.I. RANGE, AND 1/2" GAUGE CONNECTION; INSTALLED WITH 1/2" COPPER PIPING ROUTED ALONG WALL TO WITHIN 6" OF TOP OF VAULT, WITH GAUGE MOUNTED IN A LOCATION THAT IS READABLE BY OPENING THE ACCESS DOOR. COORDINATE INSTALLATION WITH THE OWNER'S REPRESENTATIVE. 9. SUPPORT COPPER TUBING WITH PIPE STRAP AND 3/8" EXPANSION ANCHORS, INSTALLED AT MAXIMUM 3—FEET O.C. EQUAL SPACING (ANVIL INTERNATIONAL INCORPORATED FIG. 262, OR APPROVED EQUAL). 10. CONCRETE PEDESTAL PIPE SUPPORT WITH STEEL STRAP, MINIMUM 10" THICK CONCRETE PEDESTAL (WIDTH TO BE PIPE O.D. PLUS 10" EACH SIDE), WITH 3/4" THICK X 6" WIDE STAINLESS STEEL STRAP AND TWO 1 1/4" DUMETER ANCHOR BOLTS. CONCRETE REINFORCING SHALL BE NO. 5 VERTICAL REBARS AND NO. 4 HORIZONTAL HOOPS PLACED AT 8" ON—CENTERS (ALL VERTICAL BARS TO BE EMBEDDED INTO SLAB TO A DEPTH RECOMMENDED BY EPOXY SYSTEM MANUFACTURER. 10. CONCRETE PEDESTAL VALVE SUPPORT; HORIZONTAL CONCRETE DIMENSIONS AND ANCHOR BOLT SIZE, LENGTH AND LOCATIONS TO BE DETERMINED BY THE VALVE MANUFACTURER TO FIT THE VALVE MOUNTING BASE SUPPLIED WITH THE VALVE. VERIFY ALL DIMENSIONS WITH THE VALVE MANUFACTURER TO FIT THE VALVE MOUNTING BASE SUPPLIED WITH THE VALVE. VERIFY ALL DIMENSIONS WITH THE VALVE MANUFACTURER TO FIT THE VALVE MANUFACTURER TO FIT THE VALVE MANUFACTURER TO FIT THE VALVE MANUFACTURER. 18. PIPE STANCHION SADDLE SUPPORT WITH YOKE (ANVI. INTERNATIONAL, INC., FIG. 258 AND FIG. 62, OR APPROVED EQUAL). 19. PIPE STANCHION SADDLE SUPPORT WITH YOKE (ANVI. INTERNATIONAL, INC., FIG. 258 AND FIG. 62, OR APPROVED EQUAL). 10. PIPE STANCHION SADDLE SUPPORT WITH YOKE (ANVI. INTERNATIONAL, INC., FIG. 259 AND FIG. 62, OR APPROVED EQUAL). 11. PIPE S	7.	GLOBE-STYLE, FULL-PORT WITH STEM INDICATOR AND 4 1/2", OIL FILLED, GUAGES ON THE INLET AN
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9. SUPPORT COPPER TUBING WITH PIPE STRAP AND 3/8" EXPANSION ANCHORS, INSTALLED AT MAXIMUM 3-FEET O.C. EQUAL SPACING (ANNIL INTERNATIONAL INCORPORATED FIG. 262, OR APPROVED EQUAL). 10. CONCRETE PEDESTAL PIPE SUPPORT WITH STEEL STRAP; MINIMUM 10" THICK CONCRETE PEDESTAL (WIDTH TO BE PIPE O.D. PLUS 10" EACH SIDE), WITH 3/4" THICK X 6" WIDE STAINLESS STEEL STRAP AND TWO 1 1/4" DIAMETER ANCHOR BOLTS. CONCRETE REINFORCING SHALL BE NO. 5 VERTICAL. REBARS AND NO. 4 HORIZONTAL HOOPS PLACED AT 8" ON-CENTERS (ALL VERTICAL BARS TO BE EMBEDDED INTO SLAB TO A DEPTH RECOMMENDED BY EDRYY SYSTEM MANUFACTURER. 11. CONCRETE PEDESTAL VALVE SUPPORT; HORIZONTAL CONCRETE DIMENSIONS AND ANCHOR BOLT SIZE, LENGTH AND LOCATIONS TO BE DETERNINED BY THE VALVE MANUFACTURER TO TIT THE VALVE MOUNTING BASE SUPPLIED WITH THE VALVE. VERIFY ALL DIMENSIONS WITH THE VALVE MANUFACTURER. 12. ENGETH AND LOCATIONS OF BE DETERNINED BY THE VALVE MANUFACTURER TO TIT THE VALVE MOUNTING BASE SUPPLIED WITH THE VALVE. VERIFY ALL DIMENSIONS WITH THE VALVE MANUFACTURER. 13. PIPE STANCHION SADDLE SUPPORT (ANVIL INTERNATIONAL, INC., FIG. 258 AND FIG. 62, OR APPROVED EQUAL) WITH EXPANSION ANCHORS AS RECOMMENDED BY SUPPORT MANUFACTURER. 14. PRECAST CONCRETE VALUEL INSTALLED ON TOP OF CRUSHED ROCK BED. DUE TO THE CONSTRAINTS OF THE CONSTRUCTION, THE CONTRACTOR MAY ELECT TO PROVIDE A CAST-IN-PLACE CONCRETE VAULT. IN EITHER CASSE, SCALED AND SIGNED DRAWINGS BY A REGISTERED PROFESSIONAL ENGINEER IN THE STAT OF TEXAS MUST BE SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION. THE VAULT SHALL BE MINIMUM 4000 P.S.I. 28-DAY COMPRESSION STRENGTH CONCRETE WITH GRADE 60 REINFORCING STEEL DESIGNE FOR AASHTO H-20 WHEEL LOAD AND GROUNDWATER AT 0-FET BELOW FINISHED GRADE. (CONCRETE PRODUCTS INCORPORATED, OR APPROVAL PRIOR TO INSTALLATION. THE VAULT SHALL BE MINIMUM 4000 P.S.I. 28-DAY COMPRESSION STRENGTH CONCRETE WITH GRADE 60 REINFORCING STEEL DESIGNE FOR AASHTO H-20 WHEEL LOAD AND GROUNDWATER AT 0-FET BELOW FINISHED GRADE. (CONCRETE PRODUCTS INCORPORATED, OR APPROVED EQUAL). 15.		
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24"-48.00". RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT CITY OF ROUND ROCK WT-17 (8 of OF DATE OA-01-18 VAULT LAYOUT CITY OF ROUND VALVE CITY OF ROUND ROCK WT-17 (8 of	21.	
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THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE SPECIFIC EQUIPMENT NOTES ROUND ROCKT		DATE VAULT LAYOUT
RESPONSIBILITY FOR THE APPROPRIATE SPECIFIC EQUIPMENT NUTES		
USE OF THIS DETAIL, (NOT TO SCALE)		PONSIBILITY FOR THE APPROPRIATE SPECIFIC EQUIPMENT NOTES OF THIS DETAIL. (NOT TO SCALE)
	2.51	

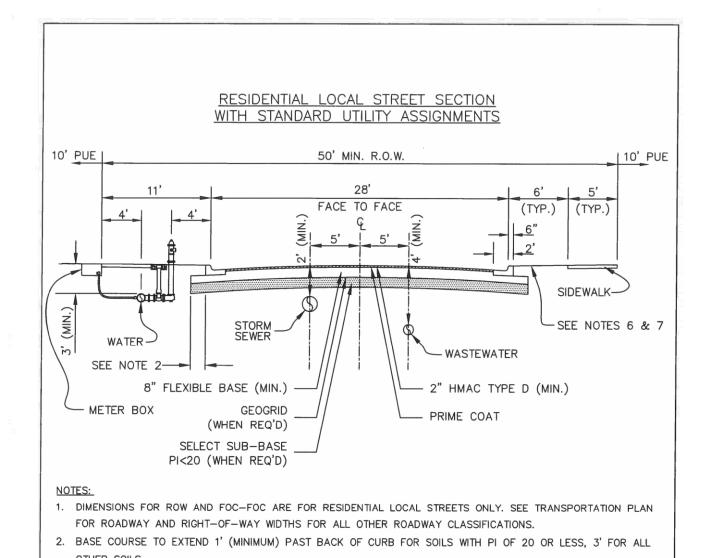
. NON-RISING STEM WITH HANDWHEEL OPERATOR, A.W.W.A. C509 (CLOW, MUELLER, OR APPROVED

FULLY RESTRAINED JOINT FITTING.

. DUCTILE IRON PIPE. . 200 P.S.I. WORKING PRESSURE MINIMUM.







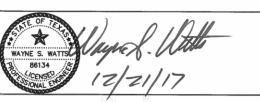
OTHER SOILS. 3. PAVEMENT STRUCTURAL SECTION SHALL, IN NO CASE, BE LESS THAN THE VALUES SHOWN ABOVE. 4. GEOTECHNICAL ENGINEER SHALL PROVIDE A PAVEMENT DESIGN TO DETERMINE THE NEED FOR ADDITIONAL ASPHALT THICKNESS, BASE THICKNESS, SUB-BASE AND GEOGRID BASED UPON ON-SITE SOIL CONDITIONS AND

5. SIDEWALK TO HAVE MAXIMUM 2% CROSS SLOPE.

6. SLOPE FROM BACK OF CURB TO RIGHT-OF-WAY SHALL BE 2% UNLESS OTHERWISE INDICATED ON THE GRADING 7. STREET TREES, WHERE REQUIRED, SHALL BE PLACED BETWEEN SIDEWALK AND BACK OF CURB. SEE DETAIL 204-4

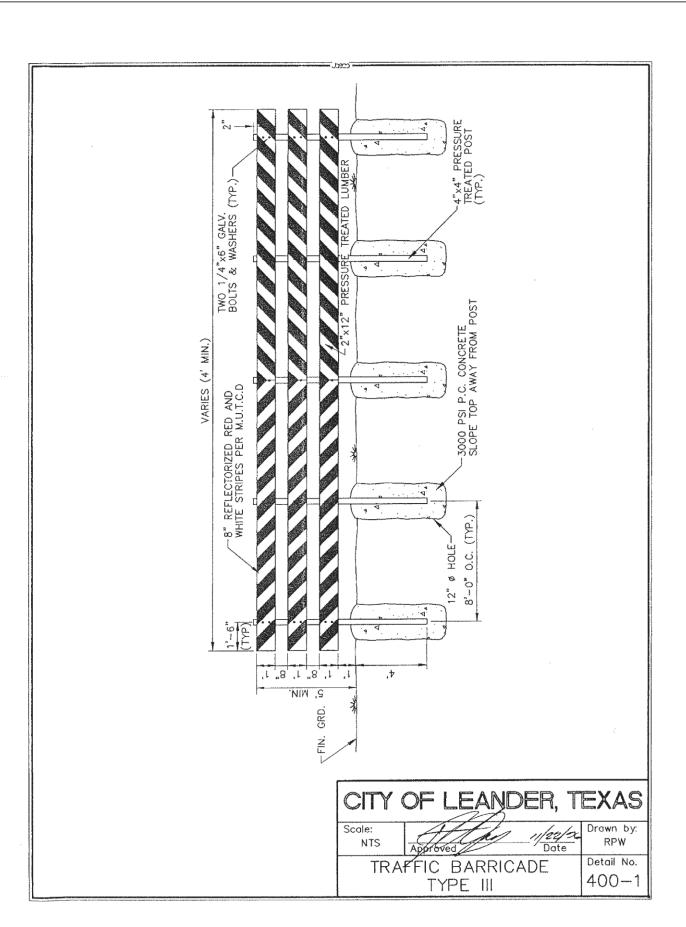
8. METER BOXES AND SEWER SERVICE STUBS SHALL BE PLACED IN THE PUBLIC UTILITY EASEMENT ABUTTING THE *THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. DRAWING NOT TO

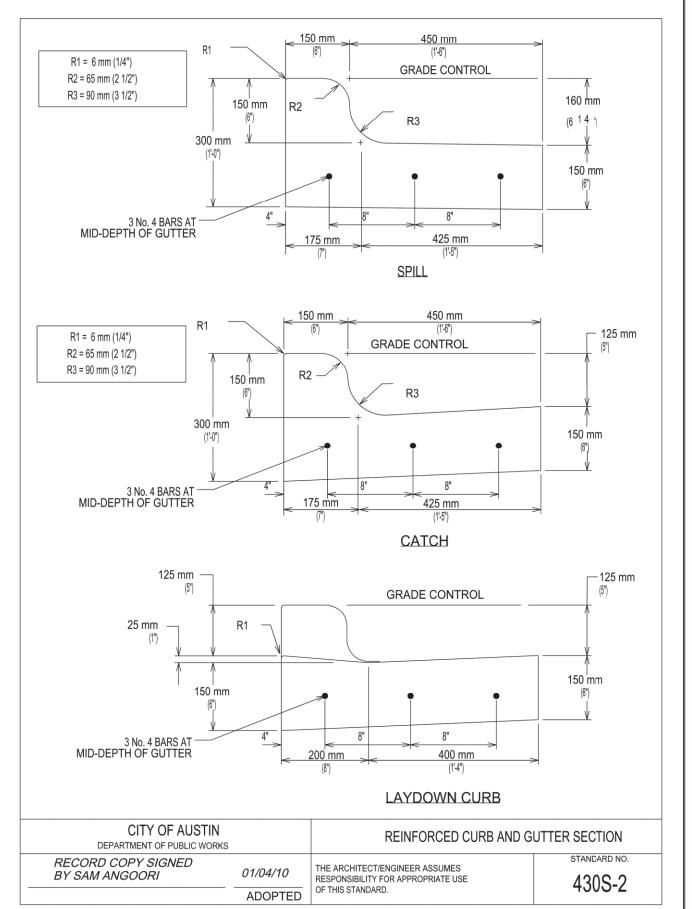
City Of Leander, Texas

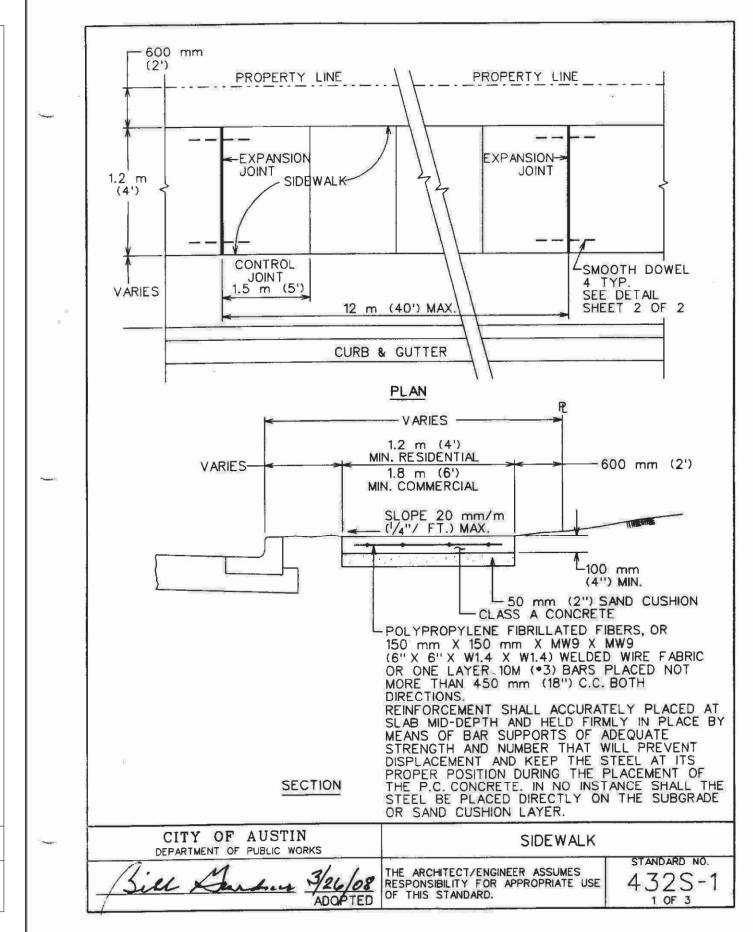


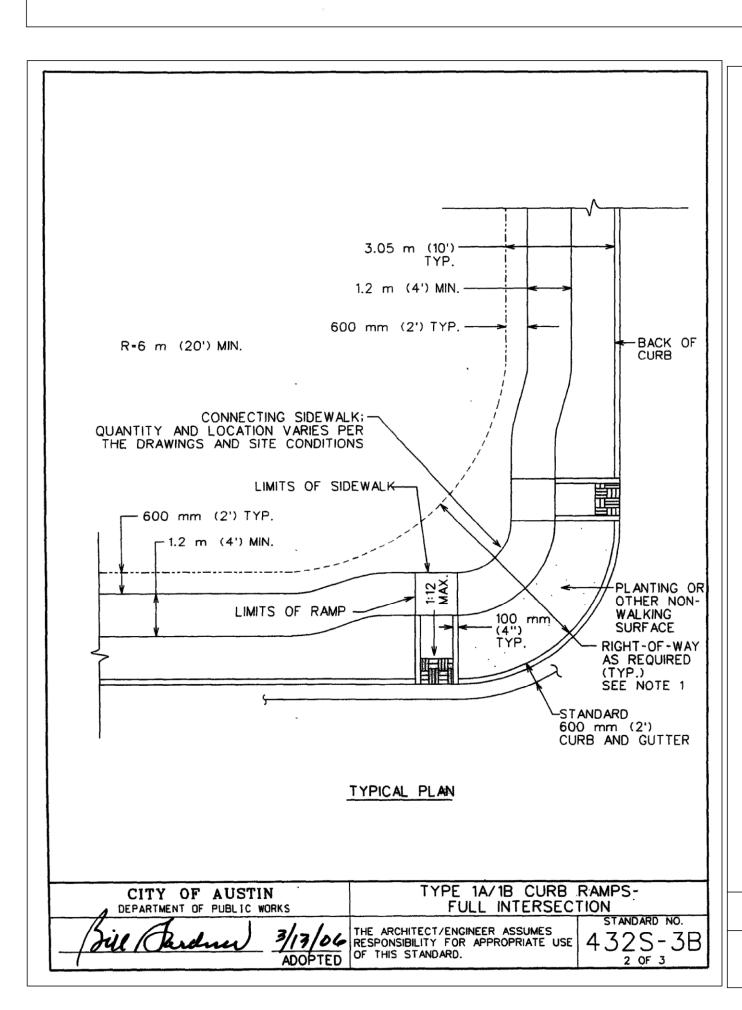


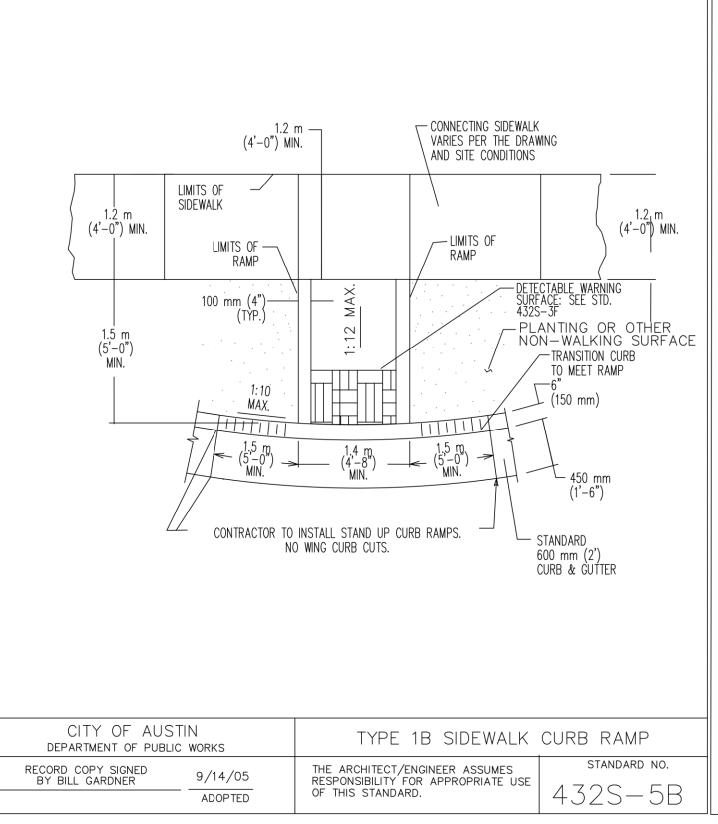
DETAIL #204-3 RESIDENTIAL LOCAL STREET SECTION TITH STANDARD UTILITY ASSIGNMENT

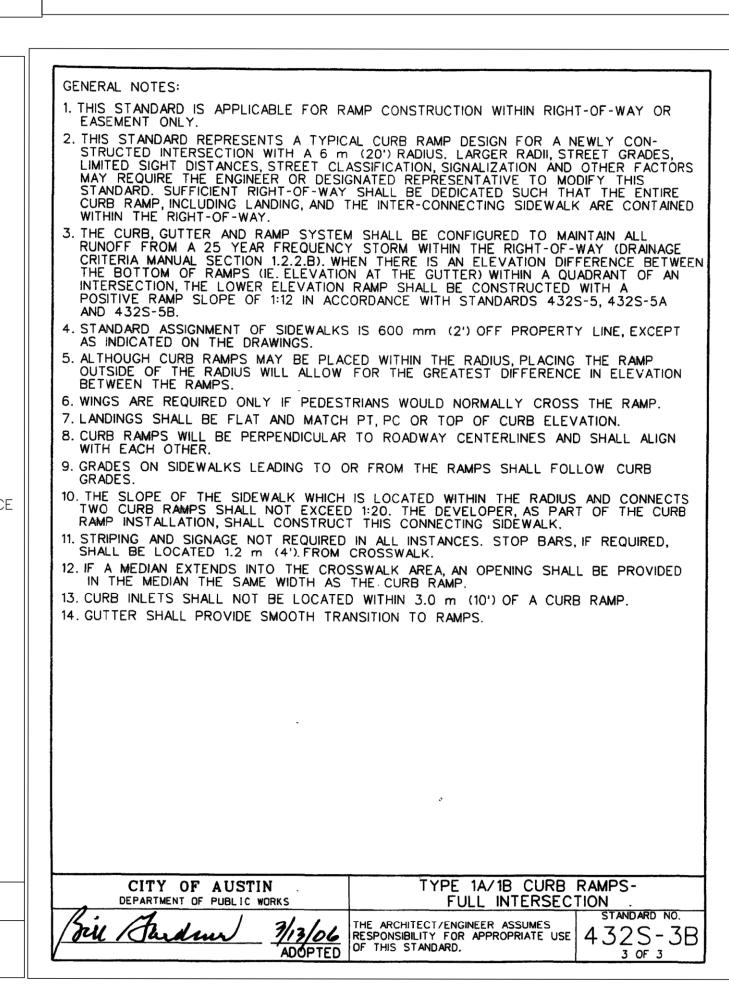


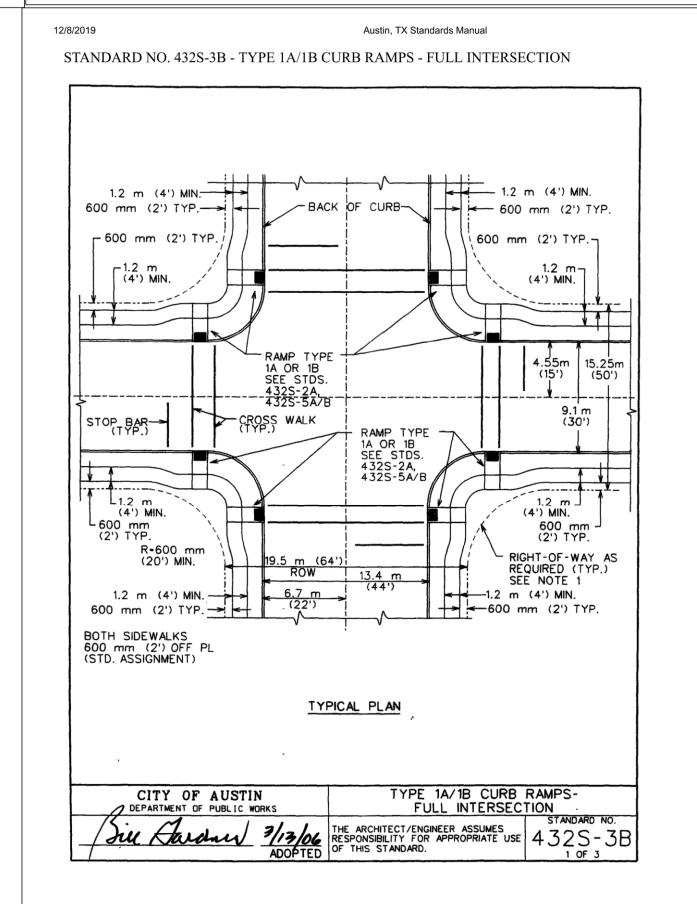












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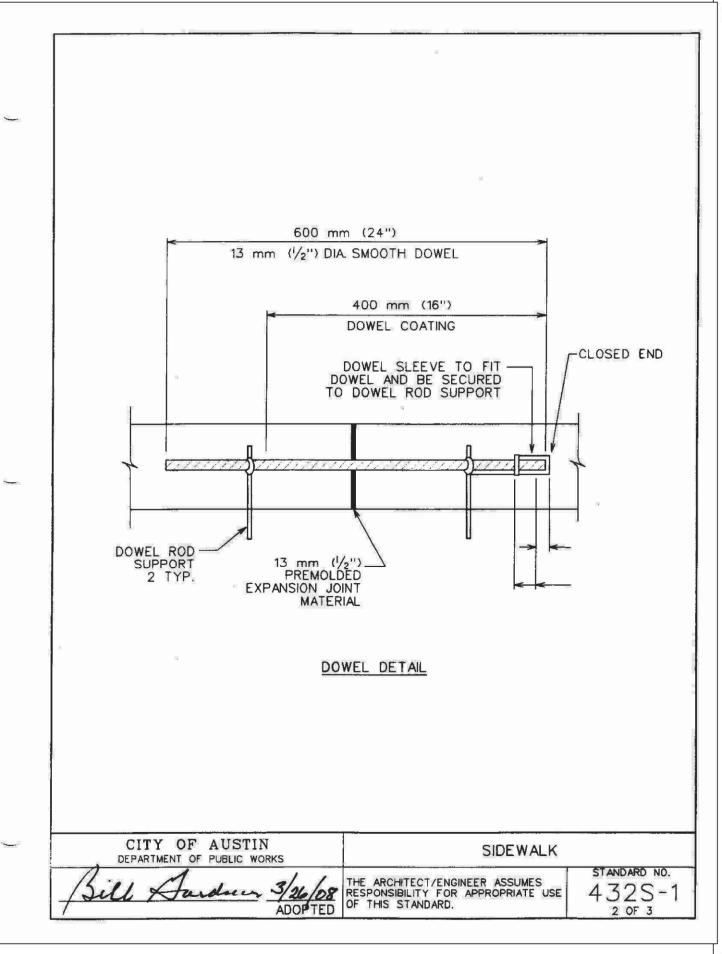
LEE A. WHITED 102471 CARLSON, BRIGANCE & DOERING, INC. ID# F3791

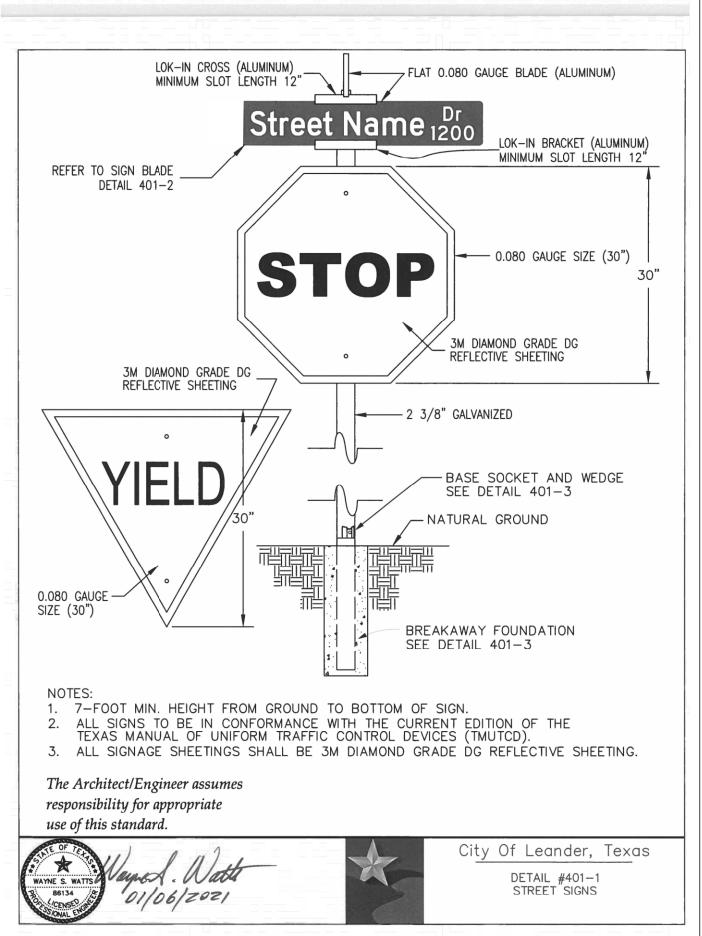
JUNE 2023 OB NUMBER 5475

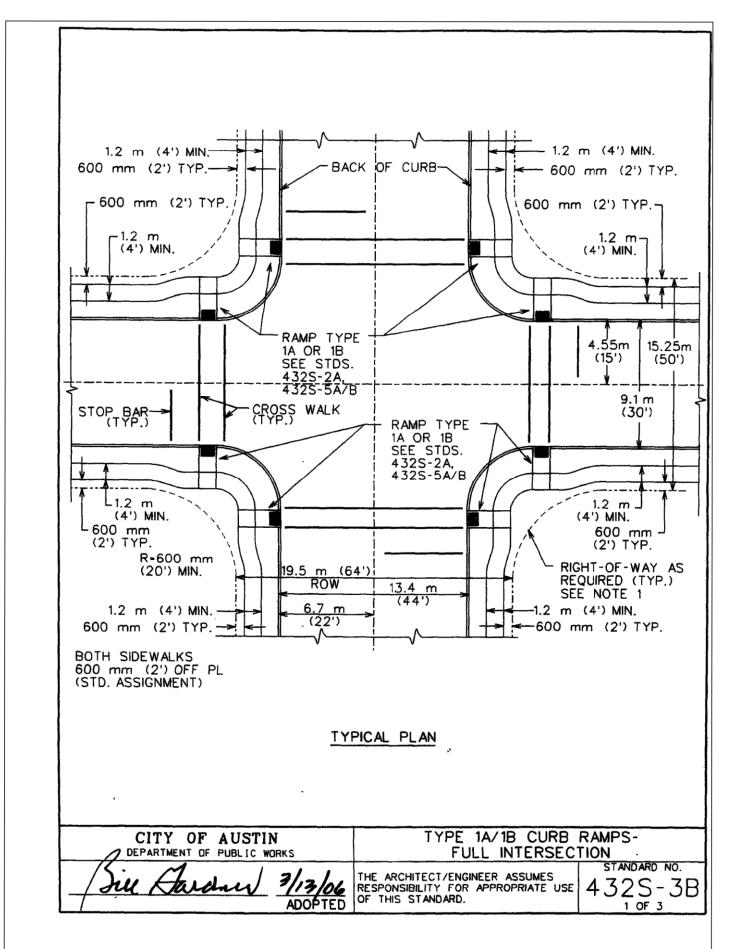
HEET 57 OF 61

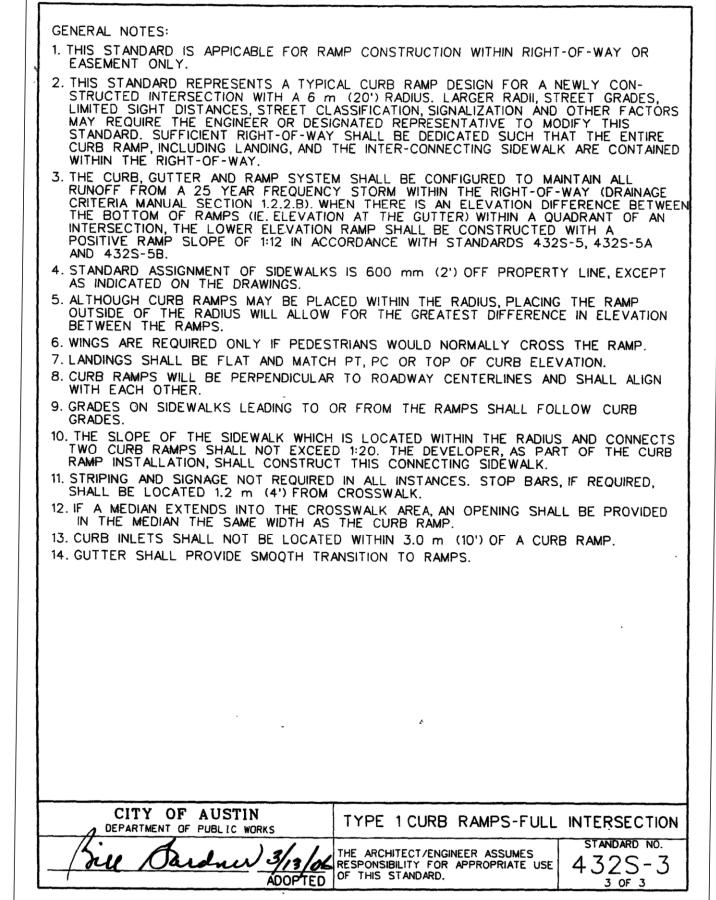
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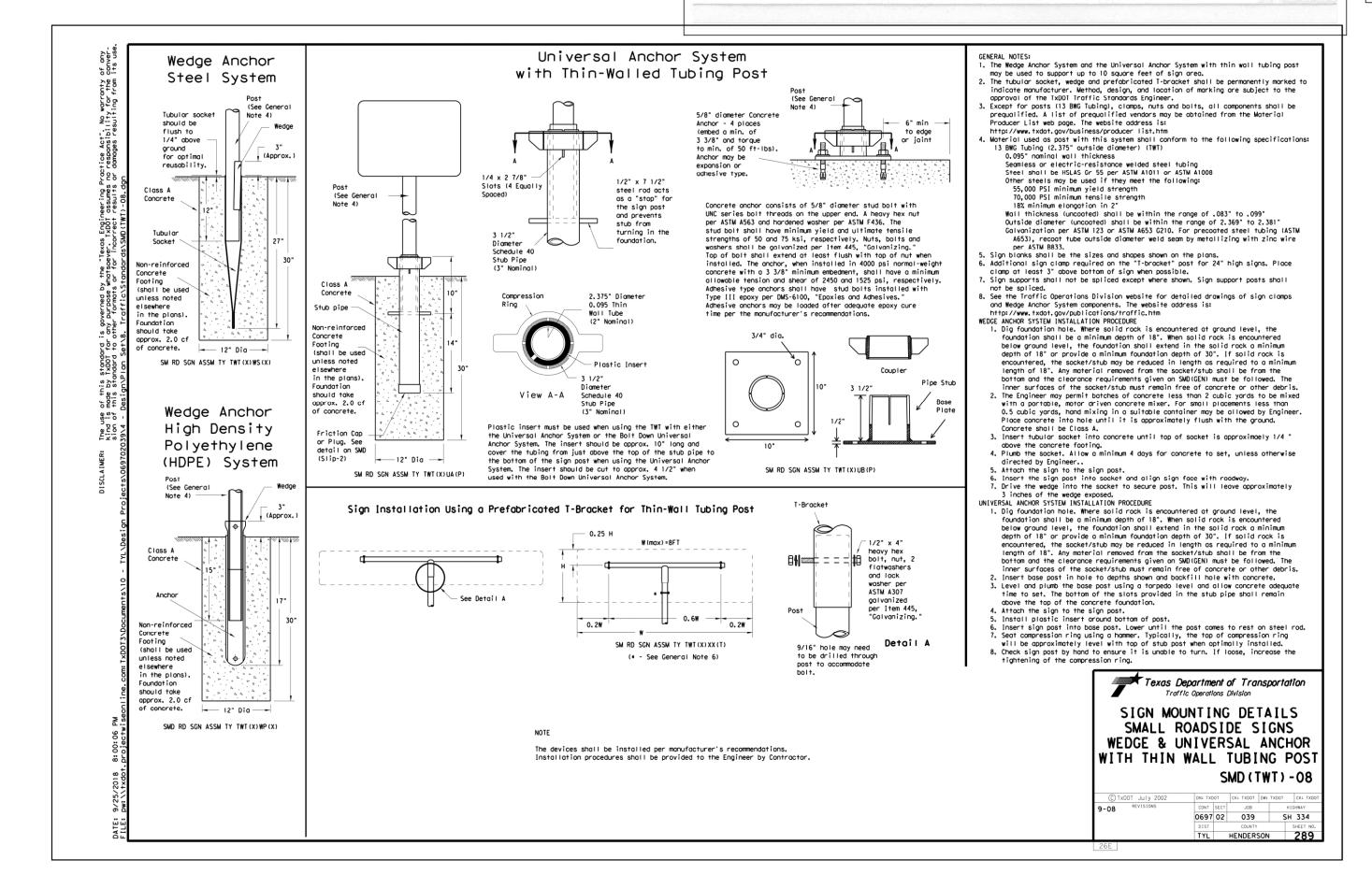
1/3













ADDITIONAL WILCO STREET NAME SIGN NOTES:

1. THE SIGNS SHALL BE WHITE LETTERS ON A GREEN **BACKGROUND IN ACCORDANCE** WITH TMUTCD (TABLE A 2.A.3)

2. WILLIAMSON COUNTY ROAD & BRIDGE UTILIZES STANDARD 2-3/8" STEEL PIPE AND THE WEDGE ANCHOR STEEL SYSTEM SIGN MOUNTING DETAIL (TXDOT DETAIL SMD (TWT) -08

3. PER THE TxMUTCD, THERE SHALL BE A MINIMUM OF 2 FEET BETWEEN THE FACE OF STANDARD CURB AND THE INSIDE EDGE OF SIGNS OR WHERE STANDARD CURB OS NOT PRESENT THERE SHALL BE A MINIMUM OF 7 FEET FROM THE EDGE OD THE TRAVEL WAY TO THE INSIDE EDGE.

> 8-15-23 LEE A. WHITED 102471 CARLSON, BRIGANCE & DOERING, INC.

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TAIL

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CONSTRUCTION

NDARD

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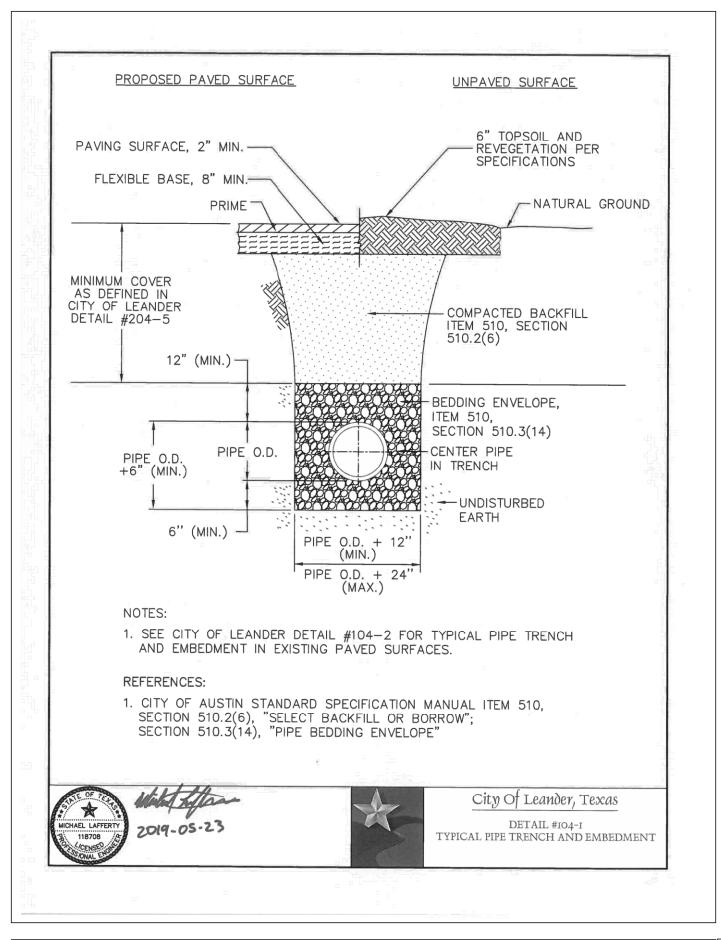
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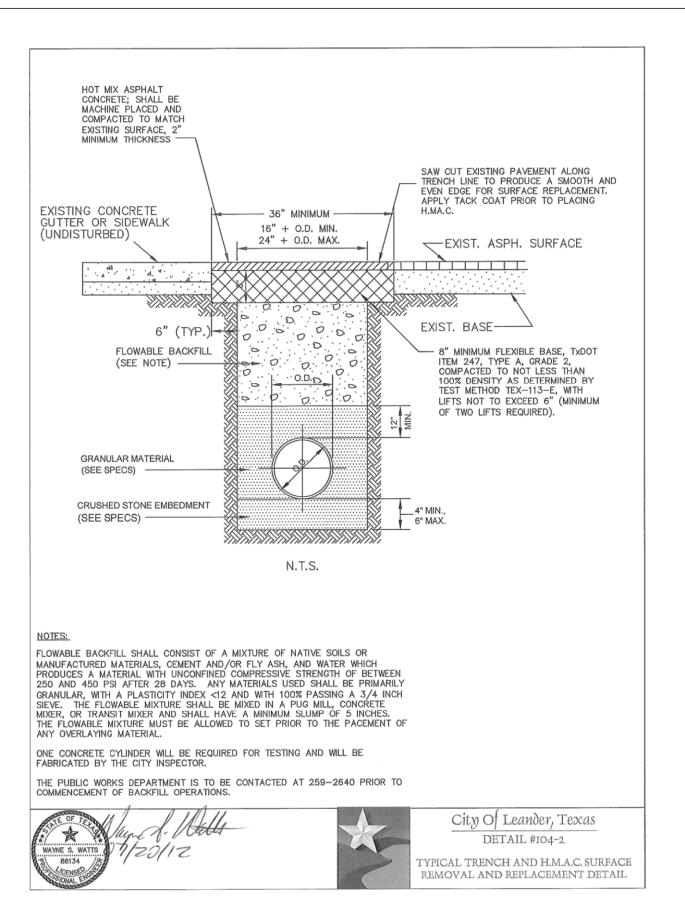
WEST

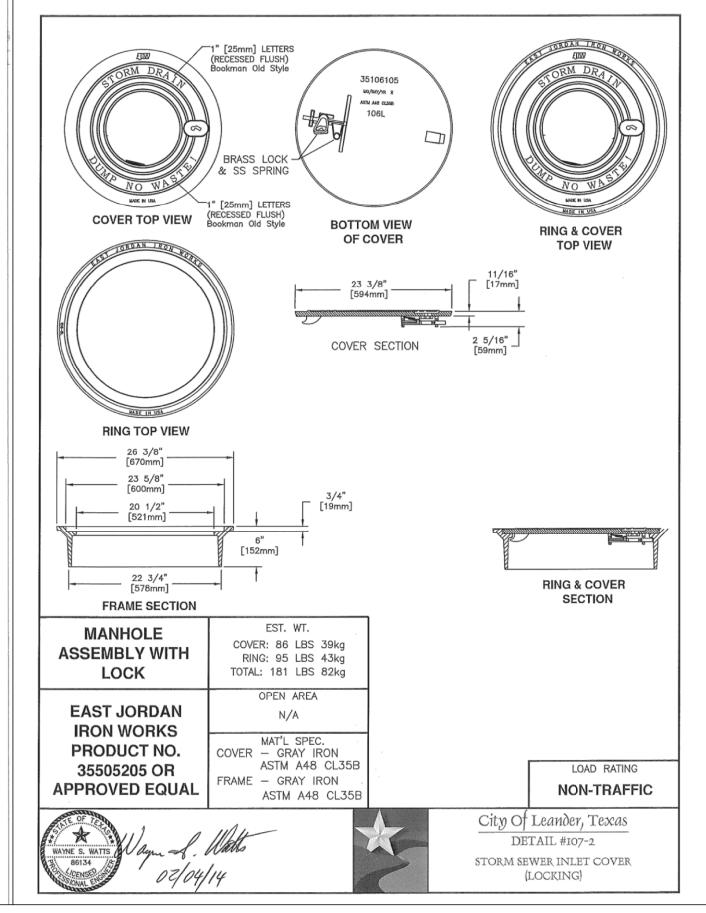
BAR

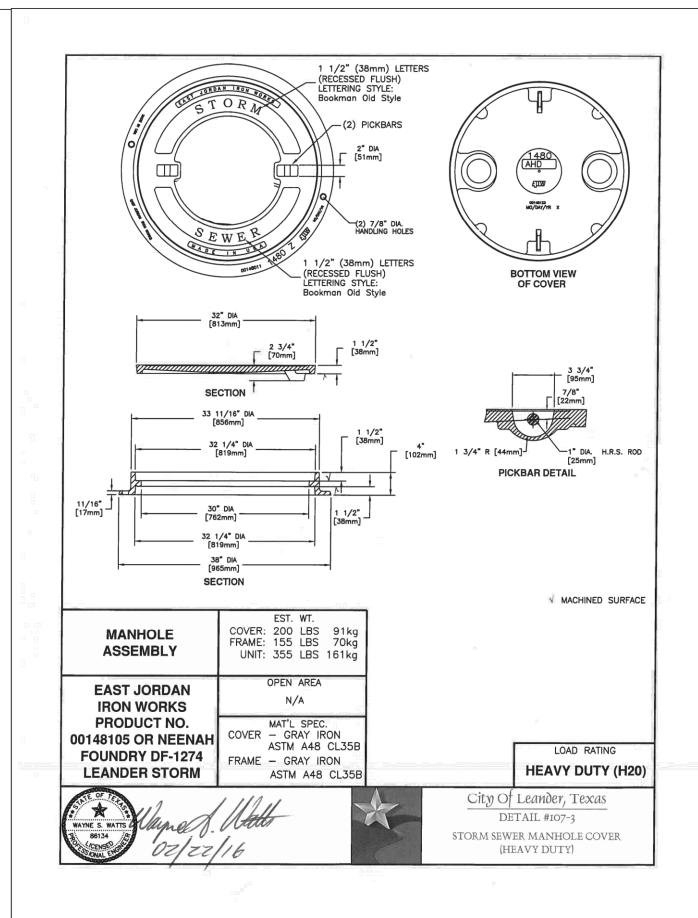
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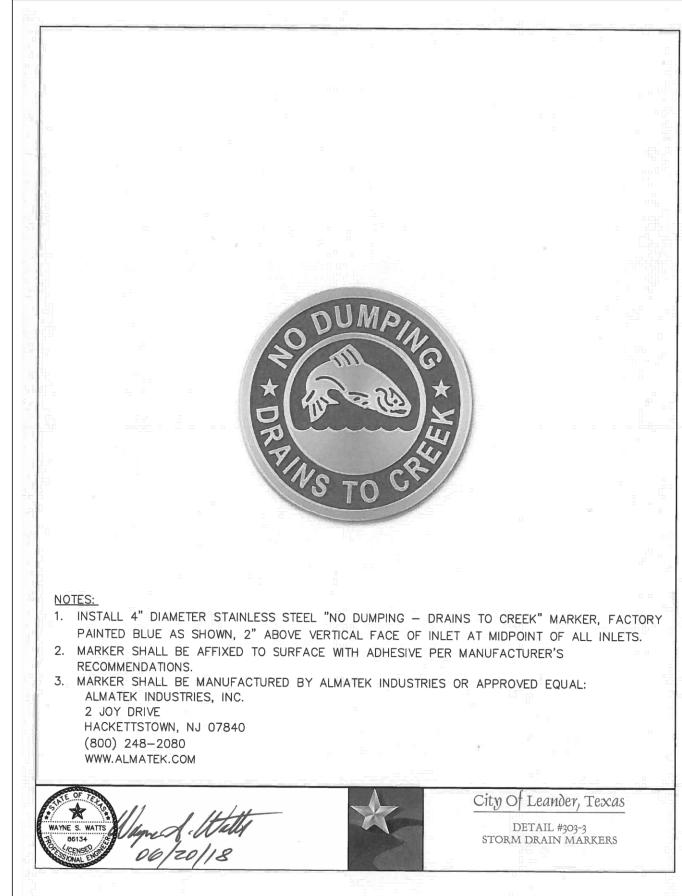
58 OF 61

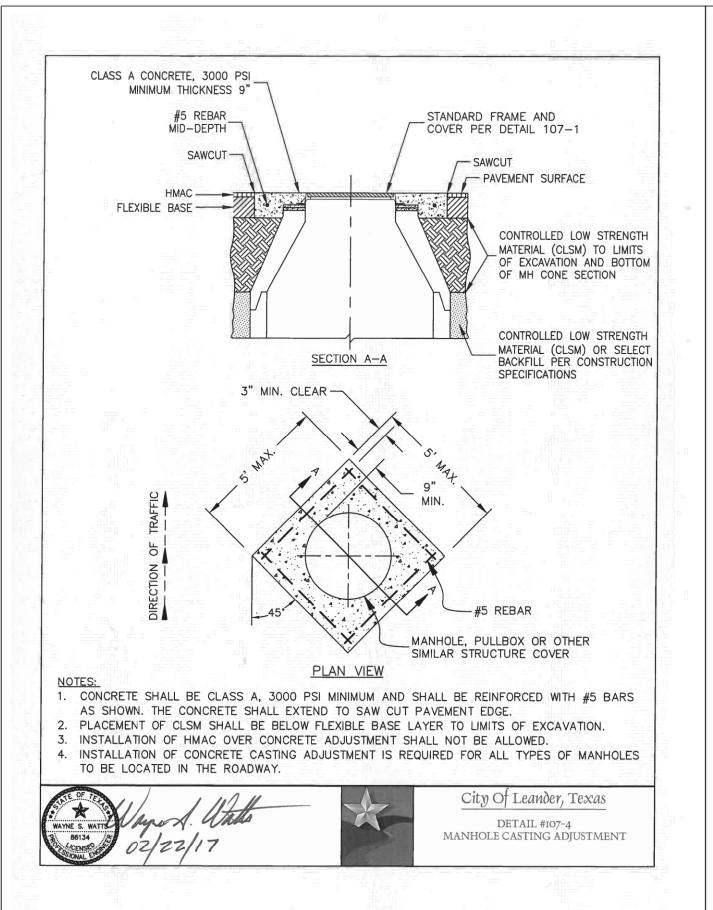


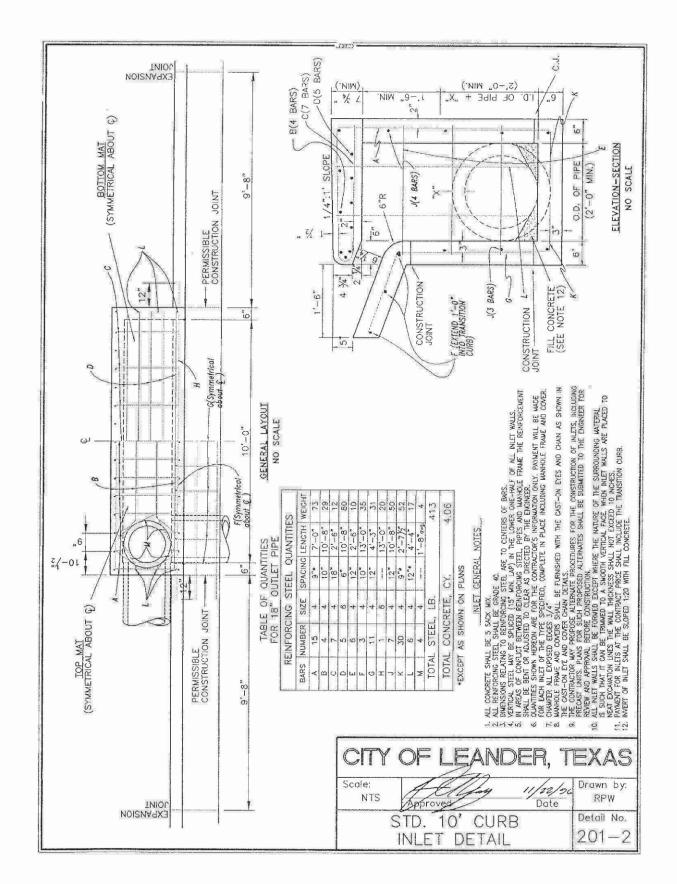


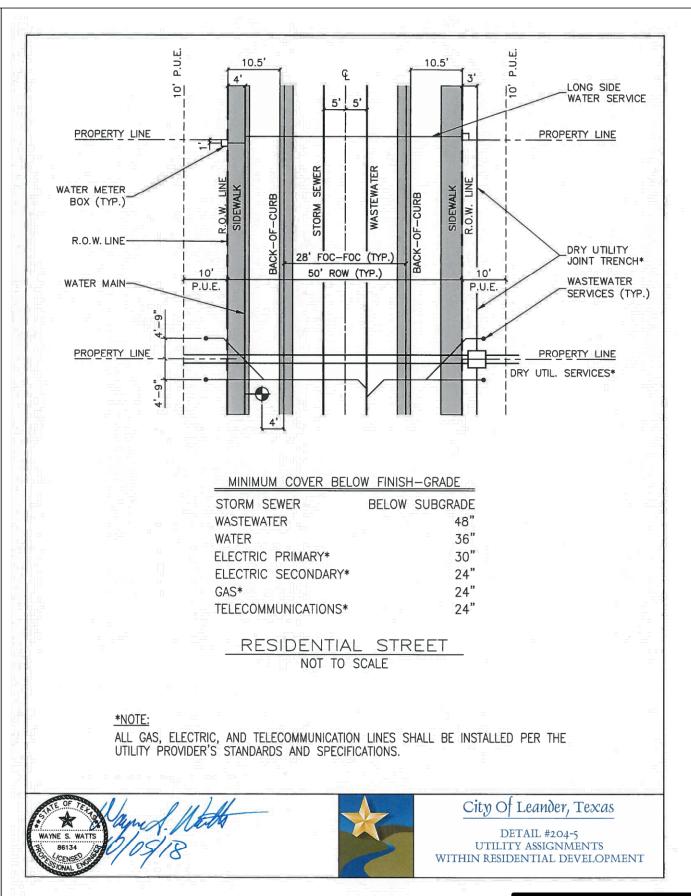


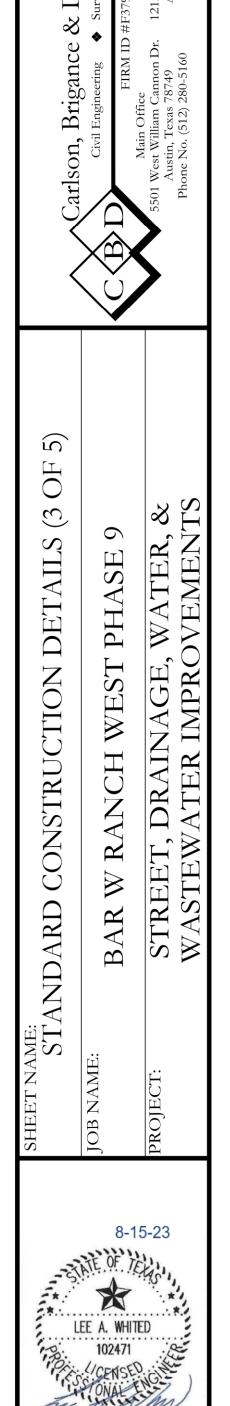












CARLSON, BRIGANCE & DOERING, INC.

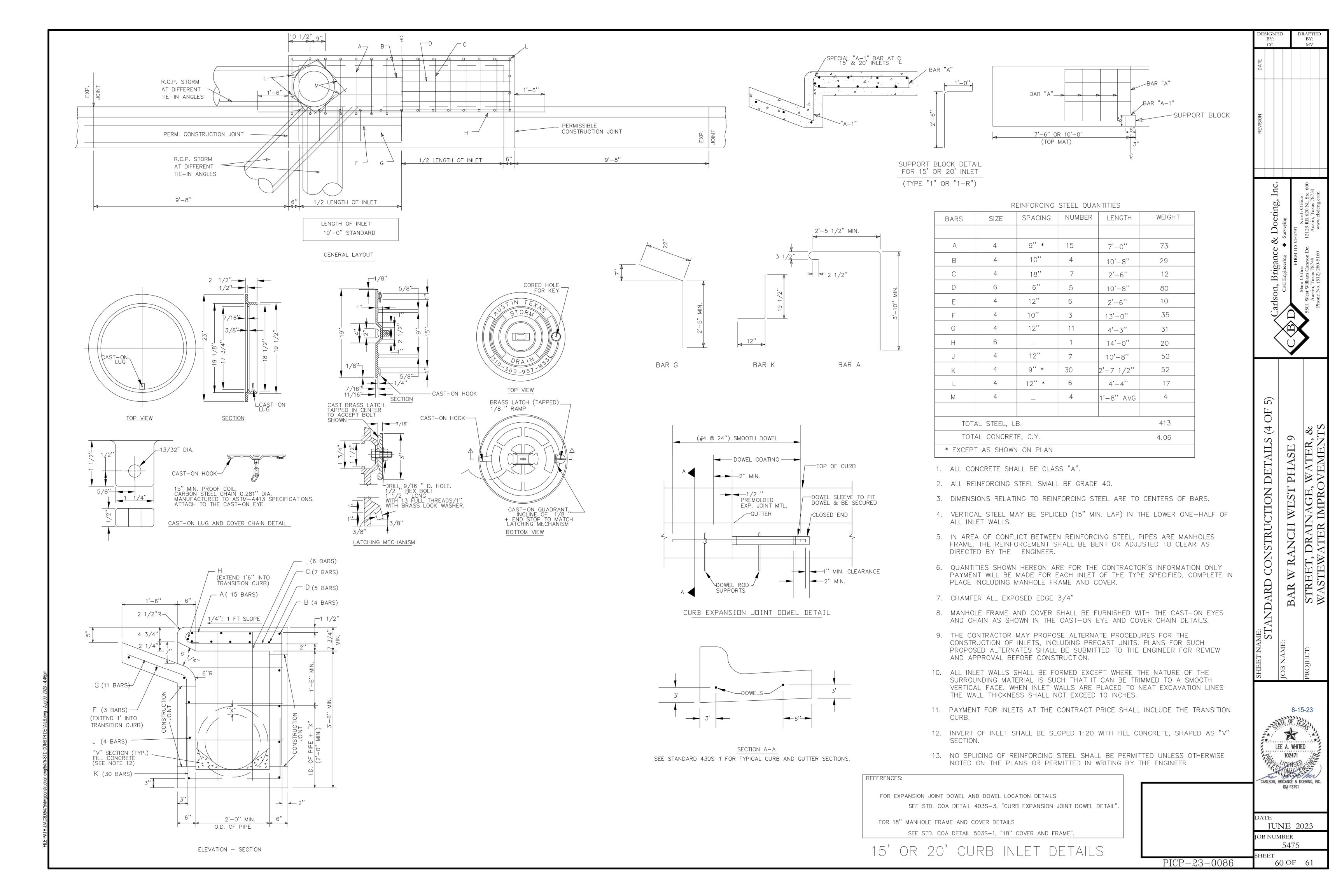
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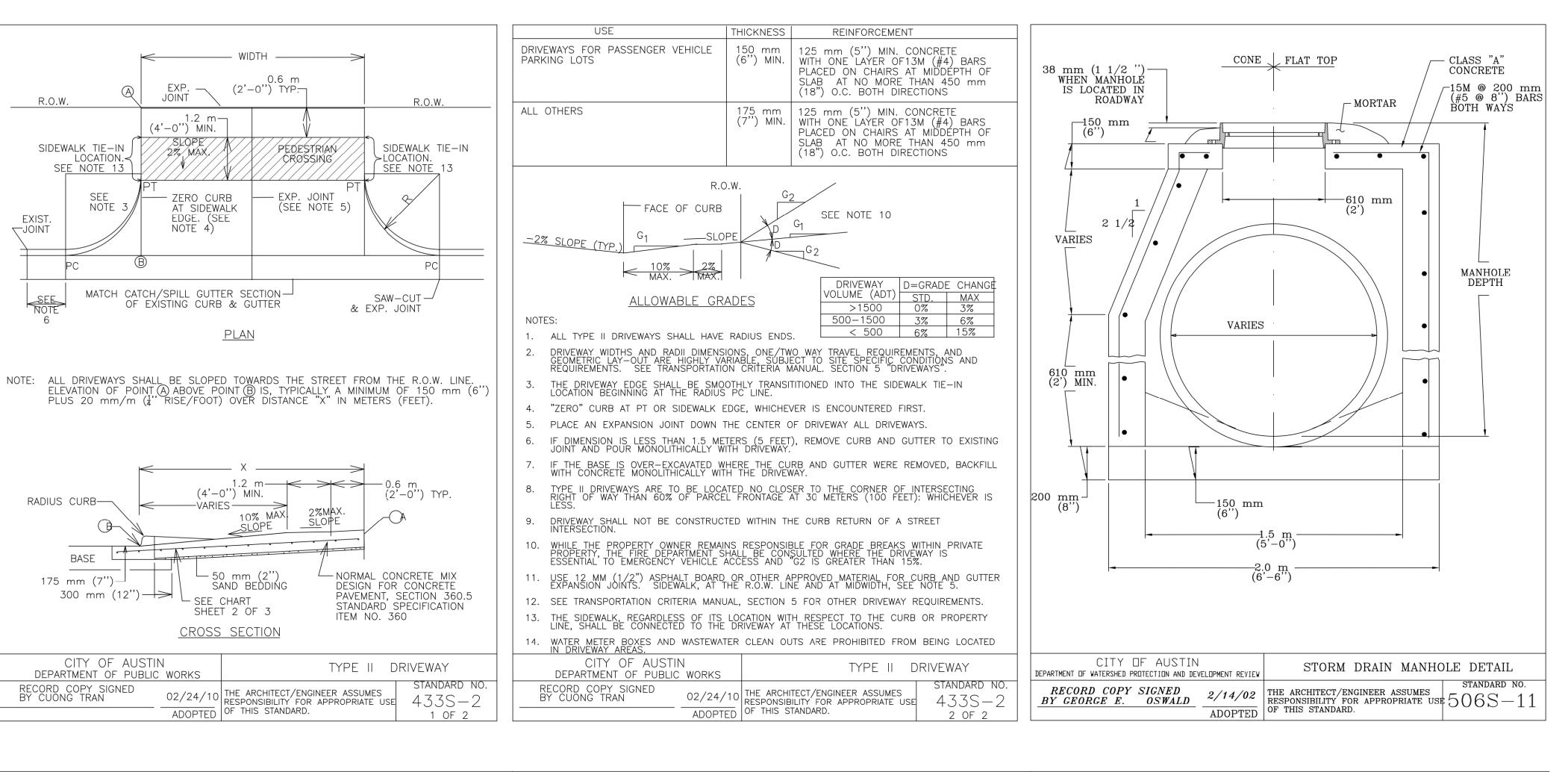
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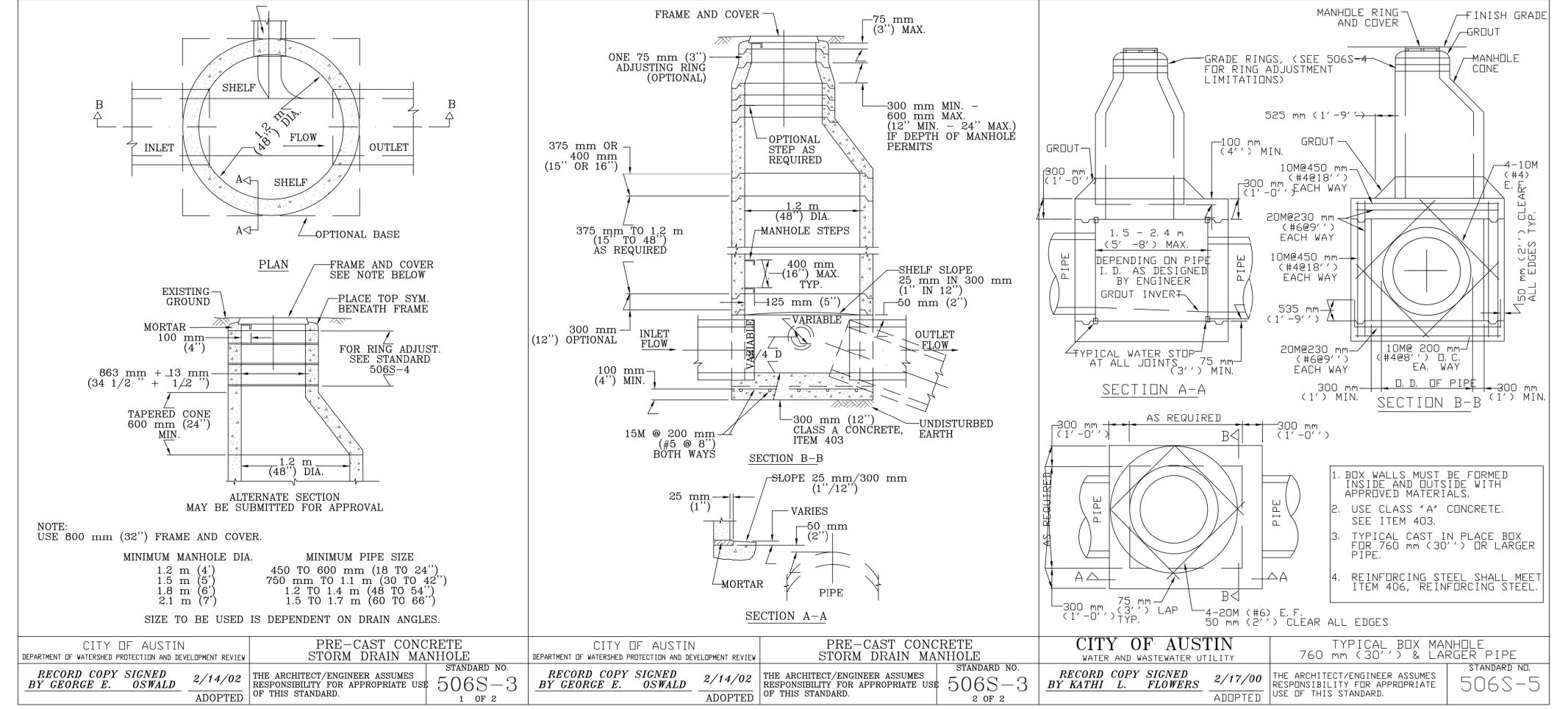
59 OF 61

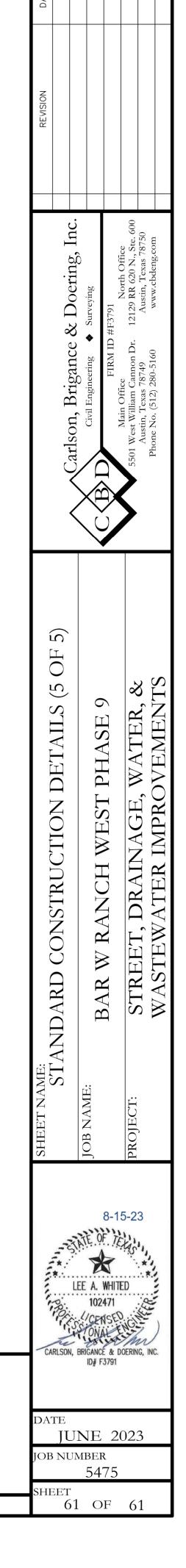
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 Θ 2 POLE, 3 WIRE, 125V. SINGLE RECEPTACLE \rightarrow 2 POLE, 3 WIRE, 125V. DUPLEX RECEPTACLE, MOUNT 18" AFF. UON

2 POLE, 3 WIRE, 125V. DUPLEX ARC FAULT RECEPTACLE 2 POLE, 3 WIRE, 125V. ISOLATED GROUND, ORANGE DUPLEX RECEPTACLE

2 POLE, 3 WIRE, 125V. WEATHERPROOF DUPLEX RECEPTACLE 2 POLE, 3 WIRE, 125V. QUADRUPLEX RECEPTACLE

2 POLE, 3 WIRE, 125V. DEDICATED DUPLEX RECEPTACLE SINGLE RECEPTACLE: 50A, 250V, 1ø, HUBBELL #9367 NEMA 6-50R

SINGLE RECEPTACLE: 50A, 120V, 1ø, HUBBELL #9360 NEMA 5-50R TWIST LOCK RECEPTACLE: 20A, 120V, 1ø, HUBBELL #2310 NEMA L5-20R TWIST LOCK RECEPTACLE: 20A, 120V, 1ø, HUBBELL #2310 NEMA L5-20R TWIST LOCK RECEPTACLE: 30A, 250V, 1ø, HUBBELL #2620 NEMA L6-30R

TWIST LOCK RECEPTACLE: 20A, 250V, 1ø, HUBBELL #2320 NEMA L6-20R SPECIAL PURPOSE RECEPTACLE

SINGLE FLOOR RECEPTACLE QUADRUPLEX FLOOR RECEPTACLE DUPLEX FLOOR RECEPTACLE POWER POLE OR TELEPOWER POLE

CONDUIT & WIRING

<u>SYMBOL</u> <u>DESCRIPTION</u> HOME RUN W/HOT, NEUTRAL AND GROUND

HOME RUN W/ 2 HOT AND GROUND HOME RUN W/ 3 HOT AND GROUND HOME RUN W/ 2 HOT, NEUTRAL AND GROUND

HOME RUN W/ 3 HOT, NEUTRAL AND GROUND

UNDERGROUND GROUND -UG--UE-UNDERGROUND ELECTRIC — 0E — OVERHEAD ELECTRIC

— UT — UNDERGROUND TELEPHONE THERMAL WELD GROUND CONNECTION

MECHANICAL GROUND CONNECTION

DISTRIBUTION & CONTROLS

<u>SYMBOL</u> <u>DESCRIPTION</u> PANELBOARD

TRANSFORMER DISCONNECT SWITCH (AMPERAGE/POLES/FUSE SIZE/NEMA)

COMBINATION MAGNETIC STARTER (AMPERAGE/POLES/TRIP/STARTER SIZE/NEMA)

MAGNETIC STARTER (AMPERAGE/POLES/TRIP/STARTER SIZE/NEMA) MOTOR RATED SWITCH WITH THERMAL OVERLOADS

JUNCTION BOX JUNCTION BOX, 28VDC JUNCTION BOX, 400HZ

PUSH-BUTTON EQUIPMENT CONNECTION

PC PHOTO ELECTRIC CONTROL С CONTACTOR

TC TIME CLOCK MS MOTION DETECTOR, IR=INFRARED

OCCUPANCY SENSOR

CONTROL PANEL POWER FACTOR CAPACITOR VFD VARIABLE FREQUENCY DRIVE

DS

COMMUNICATIONS

<u>SYMBOL</u> **DESCRIPTION**

> TELEPHONE OUTLET WALL MOUNTED TELEPHONE OUTLET FLOOR MOUNTED COMBINATION DATA AND TELEPHONE OUTLET DATA OUTLET WALL MOUNTED DATA OUTLET FLOOR MOUNTED SPEAKER CEILING MOUNTED

SPEAKER WALL MOUNTED MICROPHONE \bigcirc MICROPHONE FLOOR OUTLET

VOLUME CONTROL INTERCOM OUTLET TELEPHONE BACKBOARD **LIGHTING**

<u>SYMBOL</u> <u>DESCRIPTION</u> EXISTING 2X4 FIXTURE TO REMAIN AND BE RE-USED REMOVE AND RELOCATE 2X4 FIXTURE, REFER TO LIGHTING PLAN FOR RELOCATED FIXTURES.

0 NEW 2X4 LIGHTING FIXTURE

RELOCATED 2X4 LIGHTING FIXTURE HATCH INDICATES NON SWITCHED/EMERGENCY BATTERY PACK FIXTURE.

0 1X4 LIGHTING FIXTURE STRIP LIGHT SURFACE MOUNTED LIGHTING FIXTURE

WALL MOUNTED LIGHTING FIXTURE RECESSED LIGHTING FIXTURE RECESSED WALL WASH LIGHTING FIXTURE EMERGENCY LIGHTING FIXTURE W/2 HEADS SINGLE FACE CEILING-MOUNTED EXIT SIGN

SINGLE FACE WALL-MOUNTED EXIT SIGN DOUBLE-FACE CEILING-MOUNTED EXIT SIGN ARROWS AS INDICATED ON PLAN

DOUBLE-FACE WALL-MOUNTED EXIT SIGN ARROWS AS INDICATED ON

SINGLE POLE, SINGLE THROW SWITCH, MOUNT 48" AFF. UON DOUBLE POLE, SINGLE THROW SWITCH, MOUNT 48" AFF. UON SINGLE POLE, DOUBLE THROW 3-WAY SWITCH, MOUNT 48" AFF. UON DOUBLE POLE, DOUBLE THROW 4-WAY SWITCH, MOUNT 48" AFF. UON

\$FS FAN SPEED CONTROL RHEOSTAT, MOUNT 48" AFF. UON KEY OPERATED SWITCH, MOUNT 48" AFF. UON

SINGLE POLE, SINGLE THROW SWITCH W/PILOT LIGHT, MOUNT 48" AFF. INTERVAL TIMER SWITCH, MOUNT 48" AFF. UON DIMMER SWITCH, 6=600W, 10=1000W, 15=1500W, 20=2000W, MOUNT

\$os OCCUPANCY SENSOR SWITCH, MOUNT 48" AFF. UON

LC LIGHTING CONTACTOR

FIRE ALARM

DESCRIPTION <u>SYMBOL</u>

FIRE ALARM PULL STATION FIRE ALARM AUDIO/VISUAL FIRE ALARM VISUAL

FIRE ALARM BELL AND FLASHING LIGHT FK FIRE ALARM AUDIO/VISUAL CEILING MOUNT FIRE ALARM HORN

SMOKE DETECTOR DUCT SMOKE DETECTOR 120V SMOKE DETECTOR HEAT DETECTOR **FACP** FIRE ALARM CONTROL PANEL FIRE ALARM ANNUNCIATOR

MAG MAGNETIC DOOR HOLDER FIRE SMOKE DAMPER

SPRINKLER SYSTEM WATER FLOW SWITCH SPRINKLER SYSTEM TAMPER SWITCH

SPECIAL SYSTEMS

<u>SYMBOL</u> **DESCRIPTION** ∇ tv TELEVISION OUTLET TELEVISION FLOOR OUTLET

CAMERA MONITOR OUTLET CLOCK WALL MOUNTED CLOCK RECEPTACLE

MASTER CLOCK AND PROGRAM CONTROL OUTLET **BELL** \square / BUZZER

(T) THERMOSTAT PRS PRESET RECALL STATION

ESD ELECTROSTATIC DISCHARGE GROUND KP ELECTRONIC KEY PAD DB ELECTRONIC REMOTE DOOR BELL

CR ELECTRONIC CARD READER \square CLOSED CIRCUIT SECURITY CAMERA (10) MOTOR, 10 HORSEPOWER SHOWN

DATA OUTLET FURNITURE WHIP JUNCTION BOX FURNITURE WHIP ABBREVIATIONS (CONT'D)

AMPERES OR TRIP AMPERES MECHANICAL CONTRACTOR **ABOVE** MAIN CIRCUIT BREAKER ALTERNATING CURRENT MOTOR CONTROL CENTER ACT ABOVE COUNTER TOP MCP MOTOR CIRCUIT PROTECTOR MINIMUM AIR CONDITIONING MAIN LUGS ONLY AUSTIN ENERGY MAIN SWITCH BOARD ABOVE FINISHED FLOOR MTD MOUNTED ABOVE FINISHED GRADE MOUNTING SYMMETRICAL AMPS INTERRUPTING CAPACITY MULTI-RATIO CURRENT TRANSFORMER AMERICAN WIRE GAGE AWG MERCURY VAPOR A/R AS REQUIRED NORMALLY CLOSED NATIONAL ELECTRICAL CODE NEMA NATIONAL ELECTRICAL MANUFACTURERS BUILDING ASSOCIATION CONDUIT NEUTRAL CAB CARINFT NOT IN THIS CONTRACT **CAPACITOR** NORMALLY OPEN CIRCUIT BREAKER CB NTS NOT TO SCALE CKT CIRCUIT ON CENTER CURRENT LIMITING **OVERHEAD** COA CITY OF AUSTIN OVERLOAD CONN CONNECT OR CONNECTION PHASE CONT'D CONTINUED POLE CONTR CONTRACTOR PUBLIC ADDRESS CPT CONTROL POWER TRANSFORMER PHOTOELECTRIC CURRENT TRANSFORMER PENDANT PANELBOARD DBL DOUBLE PRESSURE REDUCING VALVE DIMENSION POLYVINYL CHLORIDE PVC DISC SW DISCONNECT SWITCH RELOCATED DIRECT CURRENT RECEPTACLE REQ'D REQUIRED ELECTRICAL CONTRACTOR **REQ'MTS** REQUIREMENTS EXHAUST FAN RGC RIGID GALVANIZED STEEL CONDUIT **ELEC** ELECTRICAL ROOM **EMERGENCY** RIGID METALLIC CONDUIT ELECTRICAL METALLIC TUBING ROW **ENCL** ENCLOSURE RIGHT OF WAY SCH SCHEDULE **EQUIP EQUIPMENT** SERVICE ENTRANCE ELECTRIC WATER COOLER SHEET FULL LOAD AMPS SURFACE MOUNT FLEX FLEXIBLE CONDUIT SOLID NEUTRAL SOLENOID OPERATED VALVE GENERAL CONTRACTOR GALV **SPACE** SPACES(S) ONLY (NO BREAKER OR DEVICE) GALVANIZED GEN **GENERATOR SPARE** SPARE BREAKER OR DEVICE GFCI GROUND FAULT CIRCUIT INTERRUPTER SPD SURGE PROTECTIVE DEVICE GFI GROUND FAULT INTERRUPTER SPECS CONTRACT SPECIFICATIONS GND GROUND STAINLESS STEEL HARDWARE HDG HOT DIPPED GALVANIZED SWBD SWITCHBOARD HAND-OFF-AUTO SWGR SWITCH GEAR HORSEPOWER HPS TELEPHONE BACKBOARD HIGH PRESSURE SODIUM TELEPHONE TERMINAL BOARD HTR **HEATER** UNDERGROUND ELECTRIC INTERMEDIATE METAL CONDUIT UNDERWRITERS LABORATORIES INST INSTRUMENT UON UNLESS OTHERWISE NOTED JUNCTION BOX UNDERGROUND TELEPHONE **KCMIL** THOUSAND CIRCULAR MILLS VOLTS **VOLT AMPERES** ΚV KILOVOLTS KILOVOLT AMPERES WATTS **KILOWATT** WITH KILOWATT HOURS WATER HEATER LIGHTNING ARRESTOR WEATHER PROOF



LINE TO LINE

LTG

MANUF

LINE TO NEUTRAL

MANUFACTURER

LIGHT OR LIGHTING

ABBREVIATIONS

CONDUIT AND WIRING LEGEND
EXISTING TO REMAIN
——————————————————————————————————————
——————————————————————————————————————
OE OE OE OE OVERHEAD ELECTRICAL

TRANSFORMER

TRANSMITTER

TRANSFER SWITCH

SOFT DRAWN BARE COPPER

XFR SW

XMTR

S.D. BARE CU.

GENERAL ELECTRICAL NOTES

- 1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, ALL CITY, COUNTY, AND STATE REGULATIONS, NFPA, ANSI, UL, IEEE, AND THE LOCAL CODE AUTHORITY HAVING JURISDICTION. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS AND INSPECTIONS.
- 2. ALL ELECTRICIANS SHALL BE LICENSED BY THE APPROPRIATE CITY, STATE, OR LOCAL CODE AUTHORITY HAVING JURISDICTION.
- 3. THE ELECTRICAL CONTRACTOR SHALL FOLLOW ALL OSHA AND OWNER SAFETY RULES AS REQUIRED TO WORK ON THIS SITE.
- 4. ALL INSTALLATIONS SHALL BE DONE IN A NEAT AND WORKMAN LIKE MANNER.
- ALL POWER OUTAGES SHALL BE PERFORMED DURING NON-BUSINESS HOURS. COORDINATE ALL POWER OUTAGES WITH THE OWNER. NOTIFY THE OWNER IN WRITING 10 DAYS PRIOR TO SCHEDULING ANY POWER OUTAGES.
- 6. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL TEMPORARY ELECTRICAL POWER AND LIGHTING REQUIRED FOR THIS PROJECT.
- 7. THE DEMOLITION DRAWINGS (IF APPLICABLE) ARE DIAGRAMMATIC IN NATURE. THE ELECTRICAL CONTRACTOR SHALL BE THOROUGHLY FAMILIAR WITH THE PROJECT SCOPE OF WORK PRIOR TO SUBMITTING THEIR BID.
- 8. THE ELECTRICAL CONTRACTOR SHALL VERIFY THE ELECTRICAL REQUIREMENTS OF ALL OWNER PROVIDED EQUIPMENT AND SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
- 9. ALL WORK SHOWN ON DRAWINGS IS NEW UNLESS OTHERWISE NOTED.
- 10. ALL GROUNDING SHALL BE PER NEC AND LOCAL CODES.
- 11. ALL ELECTRICAL CONSTRUCTION ON THE PROJECT SHALL CONFORM TO THE NEC AND ALL OTHER AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED AND PAY ALL FEES.
- 12. ALL WIRING SHALL BE FREE OF SHORTS AND GROUNDS. NO CIRCUIT WIRING SHALL BE LOADED BEYOND THE PERMITTED AMPACITIES ALLOWED BY THE NEC. ALL WIRE SIZES ARE FOR COPPER.
- 13. CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO SUBMITTING BID.
- 14. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND MATERIALS NECESSARY TO MAKE A COMPLETE AND WORKABLE JOB INCLUDING FINAL HOOK-UP OF ALL EQUIPMENT.
- 15. FIRE STOP SHALL BE PROVIDED AT ALL LOCATIONS WHERE ELECTRICAL EQUIPMENT OR SYSTEMS PENETRATE FIRE RATED WALLS. SEE ARCHITECTURAL PLANS FOR RATED WALL LOCATIONS. CONTROL WIRING TO MECHANICAL EQUIPMENT IS NOT SHOWN ON
- 16. RISER AND ONE-LINE DIAGRAMS ARE MEANT TO SHOW ONLY VERTICAL AND ELECTRICAL RELATIONSHIPS AND THEREFORE MAY NOT INCLUDE ALL REQUIRED EQUIPMENT, DEVICES AND ACCESSORIES.
- 17. EQUIPMENT INTERRUPTING CAPACITIES SPECIFIED IN THE CONTRACT DOCUMENTS ARE BASED UPON EQUIPMENT CHARACTERISTICS AND IMPEDANCES SHOWN ON THE DRAWINGS. IF ACTUAL INSTALLED EQUIPMENT DEVIATES FROM THESE CHARACTERISTICS OR HAS LOWER IMPEDANCES THE CONTRACTOR SHALL INCREASE THE INTERRUPTING CAPACITIES OF ALL ITEMS ON THE LOAD SIDE OF THE DEVIANT EQUIPMENT IN DIRECT PROPORTION TO THE CHANGED CHARACTERISTICS. INTERRUPTING CAPACITIES SHALL NOT BE REDUCED TO VALUES LESS THAN THOSE REQUIRED BY THE CONTRACT DOCUMENTS.
- 18. EQUIPMENT SIZES ARE AS DESIGNED. CIRCUIT BREAKERS. CONDUIT. MOTOR STARTERS. DISCONNECT SWITCHES, PLUG-IN'S, ETC., SHALL BE ADJUSTED TO THE EQUIPMENT SUBMITTED AND APPROVED FOR INSTALLATION ON THIS PROJECT.
- 19. REFER TO ARCHITECTURAL OR CIVIL DRAWINGS FOR SITE INFORMATION.
- 20. LIGHT FIXTURE MOUNTING HEIGHTS ARE MEASURED BETWEEN THE FLOOR AND THE BOTTOM OF THE FIXTURE.

ELECTRICAL DRAWING INDEX

- E1.0 ELECTRICAL NOTES, SYMBOLS & ABBREVIATIONS
- E1.1 ELECTRICAL SPECIFICATIONS
- E2.0 ELECTRICAL SITE LIGHTING PLAN
- E3.0 SITE LIGHTING PHOTOMETRICS PLAN
- E4.0 ELECTRICAL SCHEDULES AND DETAILS E5.0 RESIDENTIAL ROADWAY LIGHTING STANDARDS
- E5.1 RESIDENTIAL ROADWAY LIGHTING STANDARDS
- E5.2 RESIDENTIAL ROADWAY LIGHTING STANDARDS
- E5.3 RESIDENTIAL ROADWAY LIGHTING STANDARDS

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ELECTRICAL NOTES, SYMBOLS & **ABBREVIATIONS**

ELECTRICAL SPECIFICATIONS

PART 1 – GENERAL

1.01 WORK INCLUDED

A. ELECTRICAL SYSTEMS - ALL WORK SHALL BE PERFORMED PER BUILDING SPECIFICATIONS.

1.02 RELATED WORK

- A. THE WORK COVERED BY THIS SPECIFICATION CONSISTS OF FURNISHING ALL LABOR, SUPPLIES AND MATERIALS, SHOP DRAWINGS AND A LIST OF MAKE AND CATALOG NUMBERS OF ALL EQUIPMENT AND MATERIALS TO BE INSTALLED AND PERFORMING ALL OPERATIONS, INCLUDING INSTALLATION OF LIGHTING FIXTURES, ELECTRICAL EQUIPMENT, CUTTING AND PATCHING, COORDINATION WITH OTHER TRADES ON THE JOB, ETC. NECESSARY FOR THE INSTALLATION OF COMPLETE ELECTRICAL SYSTEMS AS SHOWN ON THE DRAWINGS AND HEREINAFTER SPECIFIED. THESE SPECIFICATIONS SUPPLEMENT THE GENERAL CONDITIONS AND SPECIFICATIONS.
- EXAMINATION OF SITE: THE CONTRACTOR SHALL THOROUGHLY EXAMINE SITE AND SATISFY HIMSELF AS TO THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. THE CONTRACTOR SHALL VERIFY AT THE SITE ALL MEASUREMENTS AFFECTING HIS WORK AND SHALL BE RESPONSIBLE FOR THE CORRECTNESS OF THE SAME. NO EXTRA COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR EXPENSES DUE TO HIS NEGLECT TO EXAMINE OR FAILURE TO DISCOVER CONDITIONS WHICH AFFECT HIS WORK. NO EXTRA COMPENSATION WILL BE ALLOWED ON ACCOUNT OF DIFFERENCES BETWEEN ACTUAL DIMENSIONS AND THOSE INDICATED ON THE DRAWINGS.
- C. THE AGREEMENT FORMS, GENERAL CONDITIONS AND SUPPLEMENTARY CONDITIONS OF THE SPECIFICATIONS SHALL APPLY TO THE WORK SPECIFIED IN DIVISION 26.

1.03 DEFINITION

- A. "WIRING": WIRE OR CABLE, INSTALLED IN RACEWAY WITH ALL REQUIRED BOXES, FITTINGS, CONNECTORS AND ACCESSORIES, COMPLETELY INSTALLED.
- B. "FEEDER": WIRING TO ANY DEVICE OR EQUIPMENT IN WHICH NUMBER SIX AWG COPPER (#6 CU) OR LARGER CONDUCTORS ARE USED.
- C. "POWER WIRING": WIRING TO ANY DEVICE OR EQUIPMENT SERVED BY A MULTI-POLE BREAKER.

1.04 QUALITY ASSURANCE

- A. CODES: COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) AND ANY OTHER AUTHORITIES HAVING JURISDICTION OVER THE WORK.
- PERMITS AND INSPECTIONS: PROVIDE ALL PERMITS REQUIRED AND OBTAIN FINAL INSPECTION AND APPROVAL FROM THE INSPECTION DEPARTMENT HAVING JURISDICTION.
- C. WHERE DIFFERENT SECTIONS OF ANY APPLICABLE CODES SPECIFY DIFFERENT MATERIALS, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE SHALL GOVERN.
- STANDARDS FOR MATERIAL AND WORKMANSHIP: USE MATERIALS THAT ARE NEW AND LISTED AND LABELED BY UNDERWRITERS LABORATORIES (UL) AS CONFORMING TO ITS STANDARDS, WHERE SUCH A STANDARD HAS BEEN ESTABLISHED FOR THE PARTICULAR TYPE OF MATERIAL IN QUESTION. EXECUTE WORK IN A WORKMAN LIKE MANNER, TO PRESENT A NEAT AND MECHANICAL APPEARANCE WHEN COMPLETED.

1.05 SUBSTITUTION OF MATERIALS

- A. NO SUBSTITUTION OF MATERIAL IS ALLOWED WITHOUT WRITTEN PRIOR AUTHORIZATION FROM THE ENGINEER AND OWNER. DETERMINATION OF WHAT IS CONSIDERED EQUAL IS AT THE SOLE DISCRETION OF THE ENGINEER AND OWNER.
- B. INCLUDE SUFFICIENT DESCRIPTIVE INFORMATION, INCLUDING MANUFACTURER'S PUBLISHED DATA TO ESTABLISH CONTRACT COMPLIANCE. SUBMIT SAMPLES IF REQUESTED BY ARCHITECT/ENGINEER.

1.06 DRAWINGS AND SPECIFICATIONS

A. THE WIRING LAYOUTS ARE SCHEMATIC AND DO NOT NECESSARILY SHOW THE EXACT LOCATION OF RACEWAYS, OUTLETS, ETC. REFER TO THE ARCHITECTURAL DRAWINGS FOR ACTUAL DIMENSIONS. FIT WORK TO CONFORM TO THE DETAILS OF BUILDING CONSTRUCTION. COORDINATE ALL WORK TO ASSURE PROPER CLEARANCE.

1.07 AS-BUILT DRAWINGS

- A. AS WORK PROGRESSES, RECORD ON ONE (1) SET OF ELECTRICAL PRINTS ALL CHANGES AND DEVIATIONS FROM THE CONTRACT DOCUMENTS IN SIZE, LOCATIONS AND TYPES OF ALL MATERIALS AND EQUIPMENT. RECORD FINAL LOCATION OF OUTLETS, SWITCHES, STARTERS, UNDERGROUND AND EXPOSED CONDUITS, ETC. TO INDICATE THE FINAL INSTALLATION. MAKE SUFFICIENT MEASUREMENTS TO LOCATE ALL EQUIPMENT AND CONDUITS. PROVIDE AS-BUILT DRAWINGS.
- THE CONTRACTOR SHALL PREPARE A TYPED PANEL DIRECTORY FOR EACH PANEL UTILIZED FOR THIS PROJECT. THIS DIRECTORY SHALL IDENTIFY THE CIRCUIT NUMBER, DEVICES SERVED, AND LOCATION OF DEVICES BY ROOM NUMBER. HE SHALL FILE THEM WITH THE BUILDING MANAGER WHEN THE WORK IS COMPLETE.

1.08 MAINTENANCE DATA

A. FURNISH AND DELIVER TO THE ARCHITECT/ENGINEER TWO (2) COMPLETE COPIES OF ALL DATA PREPARED BY MANUFACTURERS, DETAILING OPERATION AND MAINTENANCE INSTRUCTION FOR ALL EQUIPMENT.

1.09 PENETRATIONS, CUTTING, AND PATCHING

- A. PERFORM CUTTING AND PATCHING IN ACCORDANCE WITH THE GENERAL AND SUPPLEMENTARY CONDITIONS OF THE CONTRACT.
- B. PROVIDE ALL SLEEVES REQUIRED FOR PROPER INSTALLATION OF WORK INCLUDED IN THIS SECTION.
- C. MAKE ALL PENETRATIONS THROUGH WALLS AT 90 DEGREE ANGLES. SEAL ALL PENETRATIONS AT FIRE AND SMOKE PARTITIONS WITH FIRE SAFING MATERIAL. SEAL ALL PENETRATIONS AT SOUND WALLS WITH SOUNDPROOFING MATERIAL.

1.10 SUBMITTALS

- A. SHOP DRAWINGS AND MATERIAL BROCHURES: FURNISH AN ELECTRONIC SET OF SHOP DRAWINGS AND PRODUCT DATA IN PDF FORMAT TO THE ARCHITECT/ENGINEER ON THE FOLLOWING MATERIALS:
- 1. LIGHTING FIXTURES
- 2. RACEWAYS

CONDUCTORS

4. PANELBOARDS

1.11 COOPERATION

THE CONTRACTOR SHALL SCHEDULE HIS WORK, AND IN EVERY WAY POSSIBLE, COOPERATE WITH ALL OTHER TRADES IN THE JOB TO AVOID DELAYS, INTERFERENCES AND UNNECESSARY WORK. HE SHALL COOPERATE WITH THEM IN PROVIDING FOR THE INSTALLATION OF THIS WORK AND COORDINATE WITH WORK OF OTHER TRADES TO ASSURE PROPER CLEARANCE OF PIPING, DUCTWORK, CONDUIT, ETC. WHEN SUCH IS

1.12 WIRING WORKMANSHIP

- A. RUN WIRING IN ALL BRANCH CIRCUIT PANELBOARDS AND TERMINAL CABINETS PARALLEL OR AT RIGHT ANGLES TO THE SIDES OR TOP OF THE EQUIPMENT HOUSING.
- B. GROUP AND HARNESS CONDUCTORS TOGETHER USING LOCKING TYPE CABLE TIES. CABLE TIES: AS MANUFACTURED BY THE PANDUIT CORPORATION OR THOMAS AND BETTS.

1.13 STORAGE MATERIALS

A. KEEP THE BUILDING AND PREMISES CLEAN AND CLEAR OF SCRAP MATERIALS AT ALL TIMES. STORE MATERIALS AND EQUIPMENT IN DESIGNATED STORAGE AREAS.

1.14 ORDERING OF MATERIALS

A. ORDER MATERIALS AND EQUIPMENT SO AS NOT TO JEOPARDIZE PROGRESS OF CONSTRUCTION OR COMPLETION DATE.

1.15 SAFETY PRECAUTIONS AND PROGRAMS

A. IT SHALL BE THE DUTY AND RESPONSIBILITY OF THE CONTRACTOR AND ALL OF ITS SUBCONTRACTORS TO BE FAMILIAR AND COMPLY WITH ALL REQUIREMENTS OF PUBLIC LAW 91-96, 29 U.S.C. SECS. 651 ET. SEQ., THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 (OSHA), AND ALL AMENDMENTS THERETO AND TO ENFORCE AND COMPLY WITH ALL OF THE PROVISIONS OF THIS ACT. IN ADDITION, ON PROJECTS IN WHICH TRENCH EXCAVATION WILL EXCEED A DEPTH OF FIVE FEET (5'), THE CONTRACTOR AND ALL OF ITS SUBCONTRACTORS SHALL COMPLY WITH ALL REQUIREMENTS OF 29 C.F.R., SECS. 1926.652 AND 1926.653, OSHA SAFETY AND HEALTH STANDARDS.

1.16 WARRANTY

A. GUARANTEE ALL WORK UNDER THIS SECTION FOR WORKMANSHIP, LABOR AND MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE.

PART 2 - PRODUCTS AND EXECUTION

2.01 CONDUIT

- EXCEPT AS OTHERWISE NOTED, SPECIFIED OR REQUIRED, INSTALL ALL WIRES USED IN THIS PROJECT IN ELECTRICAL METALLIC TUBING AS HEREINAFTER SPECIFIED. (METAL CLAD CABLE MAY BE INSTALLED IN LIEU OF CONDUIT AS STATED BELOW)
- INSTALL CONDUITS CONTINUOUS FROM OUTLET TO OUTLET, FROM OUTLET TO CABINET, JUNCTION BOX AND PULL BOX. SECURE CONDUITS TO ALL BOXES, ETC., IN SUCH A MANNER THAT EACH SYSTEM WILL BE ELECTRICALLY CONTINUOUS FROM SERVICE TO ALL OUTLETS. TERMINATE ALL CONDUIT RUNS FROM CABINETS AND JUNCTION BOXES IN APPROVED OUTLET BOXES. INSTALL CONDUITS AS HIGH AS POSSIBLE UP AGAINST STRUCTURE ABOVE. AVOID ROUTING CONFLICTS WITH HVAC EQUIPMENT/DUCTWORK, SANITARY WASTE, VENT PIPING, AND DOMESTIC WATER PIPING.
- C. INSTALL A NYLON PULL WIRE (200 LB. TEST) AND TIE ENDS IN ALL CONDUIT LINES LEFT EMPTY FOR FUTURE USE.
- D. TRAPPED OR INACCESSIBLE JUNCTION BOXES, OUTLETS, ETC. ARE NOT ALLOWED.
- E. GENERALLY, CONCEAL ALL CONDUITS UNLESS OTHERWISE DIRECTED OR INDICATED ON THE DRAWINGS.
- F. NO BENDS PERMITTED WITH A RADIUS LESS THAN SIX (6) TIMES THE DIAMETER OF THE CONDUIT.
- G. PROVIDE JUNCTION BOXES OR PULL BOXES TO AVOID EXCESSIVE RUNS OR TOO MANY BENDS BETWEEN OUTLETS.
- H. INCREASE CONDUIT SIZES SHOWN ON THE PLANS AS REQUIRED FACILITATING PULLING OF CONDUCTORS.
- RUN ALL CONDUITS PARALLEL TO OR AT RIGHT ANGLES TO THE BUILDING WALLS AND SUPPORT FROM WALLS OR CEILINGS AT INTERVALS REQUIRED BY CODE WITH APPROVED CLAMPS OR HANGERS.
- J. INSTALL APPROVED APPLETON, CROUSE HINDS, OR O.Z. MANUFACTURING CO. EXPANSION FITTINGS IN ALL EMT RUNS WHICH PASS THROUGH EXPANSION JOINTS IN THE BUILDING. OTHER METHODS TO PROVIDE FOR THIS EXPANSION MUST BE APPROVED BY THE ARCHITECT/ENGINEER.
- K. ALL BELOW GRADE TO BE SCHEDULE 40 PVC.

<u>2.02 WIRING</u>

- A. INSTALL WIRING AS FOLLOWS:
 - FEEDERS AND POWER WIRING: CONDUCTORS IN RIGID GALVANIZED STEEL CONDUIT IMC, OR EMT WHEN INSTALLED IN DRY LOCATION ABOVE GRADE. SCHEDULE 40 PVC WHEN INSTALLED BELOW GRADE.
 - 2. BRANCH CIRCUITS: INSTALL CONDUCTORS IN EMT.
 - 3. INSTALL ALL WIRING IN EMT. USE ONLY UL LISTED LUBRICANTS IN PULLING THE CONDUCTORS.
 - 4. INSTALL CONDUCTORS CONTINUOUS FROM OUTLET TO OUTLET AND FROM OUTLET TO JUNCTION BOX OR PULL BOX. INSTALL SPLICES AND JOINTS CAREFULLY AND SECURELY TO BE MECHANICALLY AND ELECTRICALLY SOLID WITH PRESSURE TYPE CONNECTORS. USE 3M "SCOTCHLOCK" OR IDEAL "WING NUT" OR EQUAL TWIST-ON CONNECTORS FOR #10 AND SMALLER

5. CONNECT CONDUCTORS FOR LIGHTING AND RECEPTACLE CIRCUITS TO THE PANEL AS DETAILED WITH COLOR CODED JACKET. COLOR CODE ALL WIRES WITH THE TYPE, SIZE, MAKE AND VOLTAGE MARKED ON IT. COLOR CODE WIRING WITH THE SAME COLOR BEING USED WITH ITS RESPECTIVE PHASE AS FOLLOWS, UNLESS OTHERWISE REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.

	120/240 VOLT DELTA	120/208 VOLT WYE	480/277 VOLT WYE
PHASE A	RED	RED	BROWN
PHASE B	ORANGE	BLACK	YELLOW
PHASE C	BLACK	BLUE	PURPLE
NEUTRAL	WHITE	WHITE	GRAY
GROUND	GREEN	GREEN	GREEN

6. BRANCH CIRCUIT CONDUCTORS SHALL NOT BE SMALLER THAN NO. 12 AWG. INCREASE THE WIRE SIZES UP ONE (1) SIZE WHEREVER THE RUN DISTANCE EXCEEDS 200 FEET.

7. ALL WIRING AND CABLE INCLUDING FIBER OPTIC, ELECTRICAL, DATA, TELECOMMUNICATIONS, TEMPERATURE CONTROLS, SECURITY, FIRE PROTECTION, ETC. SHALL BE RUN IN ELEC. METALLIC CONDUIT (EMT). WIRING OR CABLES OF ANY TYPE SHALL NOT BE LAID, RUN, DRAPED, OR STRUNG ACROSS CEILING GRID, CEILING TILES, SUSPENSION WIRES, AND SHALL NOT BE INSTALLED WITHIN 12" ABOVE THE SUSPENDED CEILING SYSTEM OR SUPPORT STRUCTURE.

8. ARMORED CABLE/METAL-CLAD CABLE

A. ARMORED CABLE (AC CABLE) AND/OR METAL-CLAD CABLE (MC CABLE) MAY BE INSTALLED IN LIEU OF CONDUIT AND WIRE AS ALLOWED BY THE CODE AND APPROVED BUILDING OWNER STANDARDS FOR:

- 1. BRANCH CIRCUIT WIRING (#10 AND SMALLER).
- 2. INTERCONNECTION OF LIGHTING FIXTURE
- 3. FLEXIBLE CONNECTION TO VIBRATING EQUIPMENT (SMALL EXHAUST FANS, ETC.)
- B. IT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER AND ADEQUATELY SUPPORTED PER THE CODE AND AHJ. ALL HOME RUNS FROM PANELS SHALL BE CONDUIT AND WIRE.

2.03 CONDUCTORS

- A. COPPER OF 98% CONDUCTIVITY.
- B. NO. 10 AND SMALLER: SOLID, TYPE SIMPULL XHHW-2, EXCEPT AS OTHERWISE NOTED.
- C. NO. 8 AND LARGER: STRANDED, TYPE SIMPULL XHHW-2, EXCEPT AS OTHERWISE NOTED.
- D. MINIMUM SIZE CONDUCTORS USED SHALL BE NO. 12 AWG FOR ALL APPLICATIONS EXCEPT WHERE SPECIFICALLY NOTED
- OTHERWISE (A.C. CONTROLS, ETC.). E. USE WIRE AND CABLE FROM ONE (1) MANUFACTURER. DELIVER IN THE ORIGINAL WRAPPING BEARING THE UNDERWRITERS
- LABORATORIES (UL) LABEL.

2.04 OUTLETS

- A. USE GALVANIZED STEEL OR CAST TYPE BOXES AT ALL OUTLETS FOR LIGHTING FIXTURES, WALL SWITCHES, WALL RECEPTACLES,
- B. SECURELY ATTACH OUTLET BOXES FOR FIXTURES AND DEVICES TO THE BUILDING CONSTRUCTION WITH EXPANSION BOLTS.
- C. FLUSH MOUNT ALL OUTLET BOXES, REGARDLESS OF WALL OR CEILING CONSTRUCTION, UNLESS THEY ARE SPECIFICALLY SHOWN AS BEING USED WITH EXPOSED CONDUIT. IF SURFACE MOUNTED, USE CAST TYPE AS SPECIFIED ABOVE. UTILITY BOXES ARE NOT ALLOWED.

2.05 INSTALLATION

- A. INSTALL RACEWAYS EXPOSED. SUPPORT EXPOSED RACEWAYS AT INTERVALS NOT EXCEEDING TEN FEET (10') WITH MACHINE SCREWS FOR METAL CONSTRUCTION AND EXPANSION BOLTS FOR CONCRETE CONSTRUCTION.
- INSTALL THE EDGES OF ALL OUTLET BOXES FLUSH WITH THE SURFACE IN WHICH THEY ARE RECESSED. SCREW ATTACH INTERNAL DEVICES BEFORE ATTACHING COVERPLATE. DO NOT USE COVERPLATES AS A MEANS OF TIGHTENING THE DEVICES IN

2.06 DISCONNECT AND FEEDER SWITCHES

- A. FEEDER SWITCHES AND DISCONNECT SWITCHES: HEAVY DUTY, EXCEPT AS OTHERWISE NOTED. IN DAMP LOCATIONS OR EXPOSED TO THE WEATHER, USE NEMA 3R, RAINTIGHT.
- B. DISCONNECT SWITCHES: FACTORY INSTALLED PROVISION FOR PADLOCKING IN EITHER THE "ON" OR "OFF" POSITION.

A. FUSES: BUSSMANN OR APPROVED EQUAL.

2.08 LABELING

- LABEL ALL PANELS, CONTROL POINTS, SWITCHES, AND MOTORS, AS DIRECTED. IDENTIFY PANELS BY PANEL NUMBER. LABEL SWITCHES, INDICATING THE EQUIPMENT WHICH THEY CONTROL. ALL LABELS SHALL BE ENGRAVED. PANEL DIRECTORIES TO BE TYPED. COORDINATE ALL EQUIPMENT NUMBERING WITH MECHANICAL CONTRACTOR.
- B. INSTALL ARC FLASH HAZARD LABELS ON ALL NEW SWITCHBOARDS, PANELBOARDS, INDUSTRIAL CONTROL PANELS, METER SOCKET ENCLOSURES AND MOTOR CONTROL CENTERS PER NEC 110.16. PANDUIT #PPS0305W2100 OR EQUAL.

2.09 GROUNDING

A. PROVIDE GROUNDING FOR ELECTRICAL SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC)

- A. WHERE WIRING DEVICES ARE FLUSH MOUNTED, INSTALL COVERPLATES TO MATCH BUILDING STANDARDS OR AS SELECTED BY ARCHITECT. 302 S/S LEVITON 84XXX-40 SERIES, NYLON 807XX-(X), OR APPROVED EQUAL.
- B. WHERE WIRING DEVICES ARE SURFACE MOUNTED, INSTALL FORMED STEEL COVERPLATES WITH CADMIUM PLATING.
- C. WHERE WEATHERPROOF/WEATHER-RESISTANT COVERPLATES ARE REQUIRED, MEET UL "WET LOCATION COVER CLOSED" REQUIREMENTS. USE COVERPLATES THAT ARE HINGED AND GASKETED WITH SPRING LOADED CLOSER, LEVITON 4970/WHILE-IN-USE LEVITON M5979-(X), OR
- D. INSTALL FINISHED COVERPLATES ON ALL JUNCTION BOXES, OUTLET BOXES, SECTIONAL SWITCH BOXES, UTILITY BOXES, ETC.
- WHERE MORE THAN ONE (1) DEVICE IS INDICATED AT A LOCATION, MOUNT DEVICES IN COMBINED SECTION GANG BOXES, COVERED BY A

2.11 RECEPTACLES

- A. DUPLEX RECEPTACLES: 20 AMPERE. 125 VOLT. SELF OR AUTOMATIC GROUNDING, COLOR TO MATCH BUILDING STANDARD OR AS SELECTED BY ARCHITECT, LEVITON 5362-(X), LEVITON GFCI 7899-(X), OR APPROVED EQUAL.
- B. SPECIAL MOUNTING HEIGHTS ARE NOTED ON THE ARCHITECTURAL DRAWINGS. UNLESS OTHERWISE INDICATED ON THE ELECTRICAL DRAWINGS, MOUNT DEVICES AT THE FOLLOWING HEIGHTS ABOVE FINISHED FLOOR:
- 1. DUPLEX RECEPTACLE WALL SWITCHES
- 3. VOICE & VOICE/DATA OUTLETS 4. WALL TELEPHONE OUTLETS

2.12 SWITCHES

- A. PROVIDE HEAVY-DUTY, AC, QUIET SWITCHES. THE SWITCHES SHALL BE LEVITON 122X-2(X), 122X-2(X)L, OR APPROVED EQUAL, 120-277 VOLT, 20 AMPERES, SPECIFICATION GRADE. SWITCHES SHALL BE SINGLE POLE, DOUBLE POLE, THREE WAY, FOUR WAY, OR KEY OPERATED AS SCHEDULED ON THE DRAWINGS AND SHALL BE THE SELF GROUNDING TYPE. COLOR SHALL MATCH BUILDING STANDARDS OR BE SELECTED BY ARCHITECT.
- B. PROVIDE OCCUPANT-SENSING DEVICES TO CONTROL SWITCHING PER IEC 505.2.1.1 EXCEPTION 2 AS SCHEDULED ON THE DRAWINGS. USE LEVITON MULTI-TECHNOLOGY WALL SWITCH OCCUPANCY SENSOR #OSSMD-MD-(X), OR APPROVED EQUAL. COLOR SHALL MATCH BUILDING STANDARDS OR BE SELECTED BY ARCHITECT.

2.13 LIGHTING FIXTURES

- A. PROVIDE ALL LIGHTING FIXTURES, AS SCHEDULED ON DRAWINGS, COMPLETE WITH LAMPS AND HARDWARE. INSTALL COMPLETELY WIRED, CONNECTED AND IN OPERATING ORDER.
- B. CONFIRM ALL CEILING CONDITIONS, CLEARANCES AND OPERATING VOLTAGES BEFORE ORDERING LIGHTING FIXTURES.
- C. SUBMIT SHOP DRAWINGS.

2.13.1 LAMPS

INSTALL SCHEDULED LAMPS MANUFACTURED BY GENERAL ELECTRIC, PHILLIPS, OR APPROVED EQUAL.

2.13.2 FIXTURES

- A. PROVIDE LIGHTING FIXTURES WHICH HAVE BEEN TESTED AND CERTIFIED FOR PROPER OPERATION BY THE FIXTURE'S MANUFACTURER.
- B. PROVIDE LIGHTING FIXTURES WITH TRIM COMPATIBLE WITH CEILING OR SURFACE ON OR IN WHICH INSTALLED.
- C. EACH LUMINAIRE SHALL HAVE TWO SUPPORT WIRES INSTALLED, ONE ON EACH END, AT DIAGONAL CORNERS. LUMINAIRES IN FIRE RATED CEILINGS SHALL BE SUPPORTED ON ALL FOUR CORNERS.
- D. SUPPORT AND SECURELY ATTACH WITH GALVANIZED FASTENERS IN A LEVEL POSITION.
- E. INSTALL ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- F. FIRE RATED ASSEMBLIES, COMPLY WITH DETAILS OF LISTED ASSEMBLY

2.14 TEMPORARY POWER

A. PROVIDE TEMPORARY POWER (SMALL TOOL) AND LIGHTING PER OSHA REQUIREMENTS

2.15 FIRE ALARM AND SPECIAL SYSTEMS

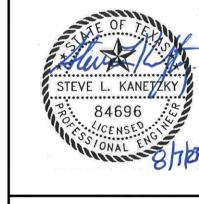
A. FIRE ALARM CONTRACTOR SHALL PROVIDE COMPLETE SHOP DRAWINGS, ROUTING, BATTERY CALCULATIONS AND ALL OTHER SUBMITTALS TO MEET LOCAL AUTHORITY HAVING JURISDICTION (AHJ) REQUIREMENTS. PROVIDE A COMPLETE CODE COMPLIANT WORKING FIRE ALARM SYSTEM.

2.16 LIGHTING CONTROLS

- A. PROVIDE 0-10V LIGHTING CONTROL DEVICES.
- B. DEVICES SHALL BE COMPATIBLE WITH SUBMITTED LED DRIVERS
- C. OCCUPANCY SENSORS, PROVIDE INTEGRAL OCCUPANCY SENSORS WITH DUAL TECHNOLOGY WHERE INDICATED ON PLANS.
- ACCEPTABLE MANUFACTURERS

nLIGHT

- CRESTRON
- WATT STOPPER
- 4. LUTRON DOUGLAS
- WALL-BOX MOUNTED OCCUPANCY SENSORS SHALL PROVIDE INTERNAL CONTACTS FOR AUTOMATIC SWITCHING OF CONNECTED LUMINAIRES AT LINE VOLTAGE, EXCEPT WHERE INDICATED OTHERWISE ON THE PLANS AND ELECTRICAL SCHEMATICS.
- F. CEILING-MOUNTED OCCUPANCY SENSORS AND SELECTED WALL-MOUNTED SENSORS SHALL CONTROL LUMINAIRES THROUGH CONTROL UNITS (I.E., SWITCHING POWER SUPPLIES, SWITCH PACKS, POWER PACKS).
- G. INSTALL OCCUPANCY SENSORS IN THE CORRECT LOCATION AND AIM AS REQUIRED FOR COMPLETE AND PROPER VOLUMETRIC COVERAGE WITHIN THE RANGE OF COVERAGE OF CONTROLLED AREAS PER THE MANUFACTURER'S RECOMMENDATIONS. ROOMS SHALL HAVE 100 PERCENT COVERAGE OF EACH CONTROLLED AREA TO ACCOMMODATE THE OCCUPANCY HABITS OF SINGLE OR MULTIPLE OCCUPANTS WITHIN THE ROOMS. THE LOCATIONS AND QUANTITIES OF SENSORS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE ONLY THE ROOMS WHICH ARE TO BE PROVIDED WITH SENSORS. THE CONTRACTOR SHALL PROVIDE ADDITIONAL SENSORS AS REQUIRED TO PROPERLY AND COMPLETELY COVER THE RESPECTIVE ROOM.





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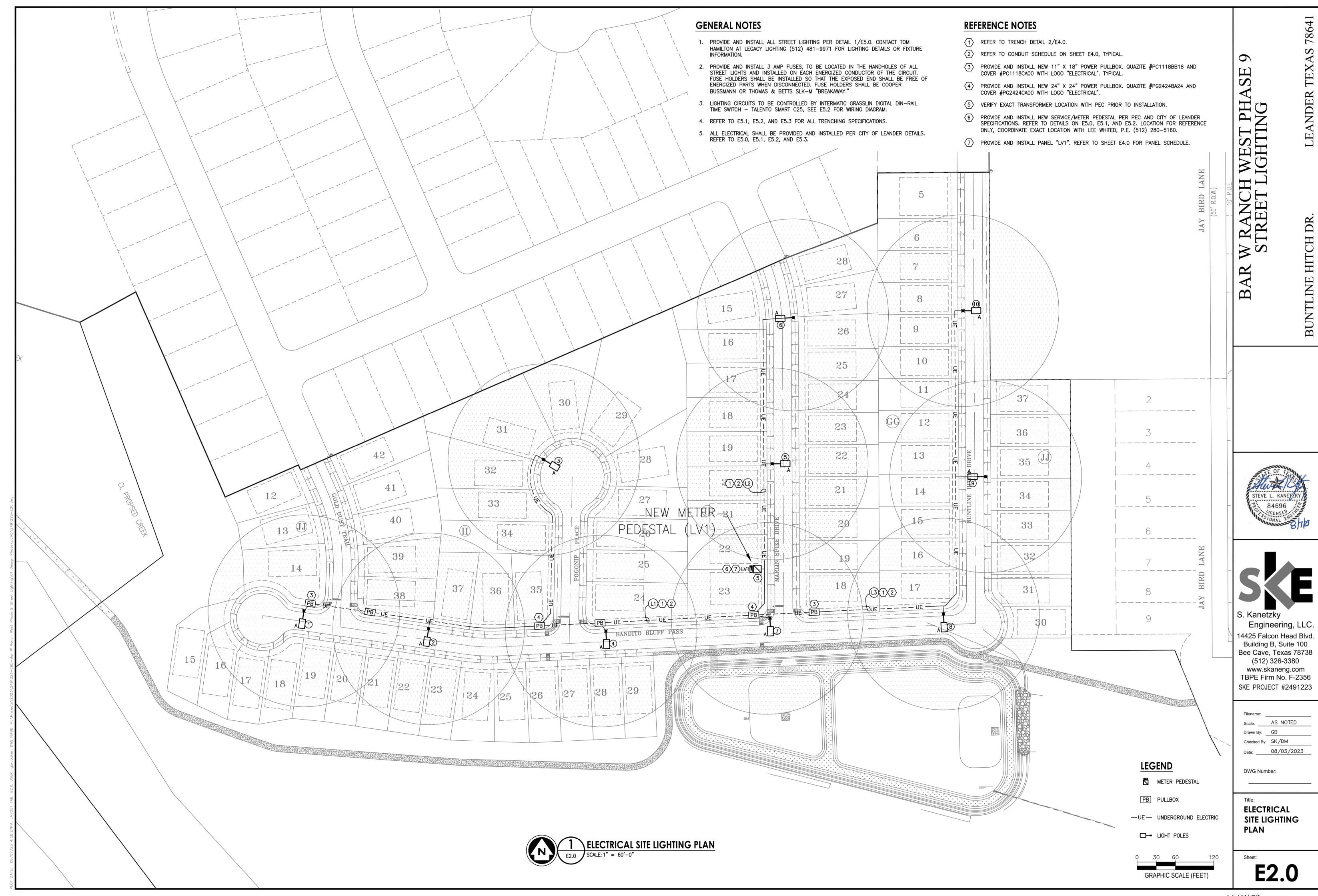
ELECTRICAL SPECIFICATIONS

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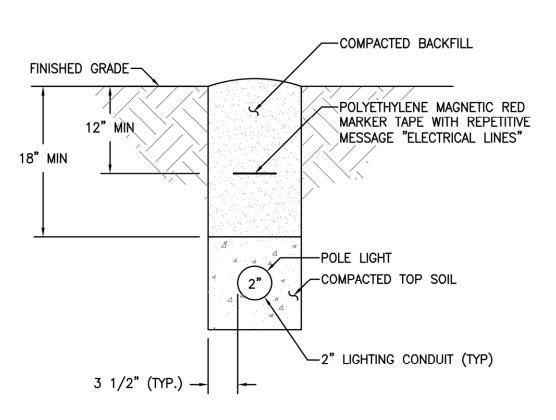


	LIGHTING FIXTURE SCHEDULE										
TYPE	MANUFACTURER	CATALOG NO.	TYPE	LUMENS	COLOR TEMP	FIX. WATTS	VOLTS	MOUNTING	REMARKS		
Α	COOPER LUMARK	NAV-SA1C-740-U-T3-AP-10K	LED	7261	4000	59	240		STANDARD 4000K CCT AND 70 CRI NOMINAL HAPCO 25' POLE W/ 6' ARM		

	PANEL LV1													
AMPS:	40A MCB)	PHASE:	1			MOU	NTING:	SURFACE		
VOLTAGE:	240/120V					WIRE:	3	Į	MINIMUN	AIC R	ATING:	10 KA		
LOCATION:	PEDESTAL									BU	SSING:	COPPER		
FED FROM:	PEC TRANSFORMER										NEMA:	3R		
CKT. NO.	SERVICE DESCRIPTION	WIRE	BKR	POLES	KVA	Α	В	KVA	POLES	BKR	WIRE	SERVICE DE	SCRIPTION	CKT. NO
1	LIGHT POLES 1-4 (L1)	10	20	2	0.1	0.2		0.1	2	20	10	LIGHT POL	.ES 5-6 (L2)	2
3	1				0.1		0.2	0.1						4
5	TIMECLOCK	10	20	1	0.1	0.1		0.0	2	20		FUTURE I	LIGHTING	6
7	LIGHT POLES 7-10 (L3)	10	20	2	0.1		0.1	0.0						8
9	Î.				0.1	0.1		0.0						
					0.0		0.0	0.0						
			PHASE	LOAD II	N KVA:	0.4	0.3							
		PI	HASE L	OAD IN	AMPS:	3	2							

	CONDUIT SCHEDULE								
NO.	CONDUIT	WIRE	GND	LENGTH					
L1	2" PVC SCH 80	2#10 THWN	1#10	1100'					
L2	2" PVC SCH 80	2#10 THWN	1#10	439'					
L3	2" PVC SCH 80	2#10 THWN	1#10	913'					

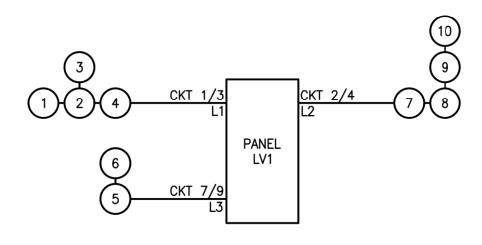
* LENGTHS ARE ESTIMATED



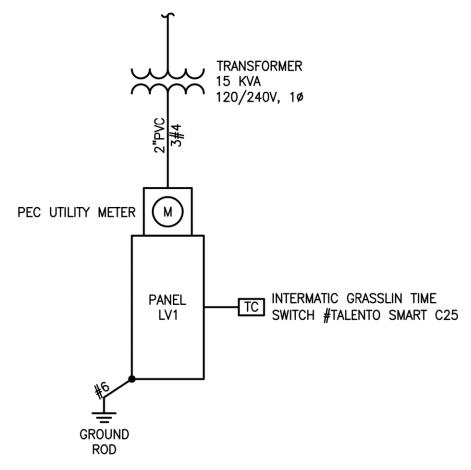
2 DETAIL - TYPICAL TRENCH SECTION
SCALE: NTS

REFERENCE NOTES

- PROVIDE AND INSTALL ALL ELECTRICAL PER CITY OF LEANDER SPECIFICATIONS. REFER TO DETAILS ON E5.0, E5.1, E5.2, AND E5.3.
- REFER TO PANEL SPECIFICATIONS ON SHEET E5.2. PANELS SHALL MEET REQUIREMENTS OF CITY OF LEANDER DETAILS #402-7 AND 402-8.
- REFER TO SHEET E2.0 FOR SITE LIGHTING PLAN SHOWING PHYSICAL LAYOUT.



RISER DIAGRAM - LIGHTS 1-10 3



TYP. ONE-LINE DIAGRAM (1)
SCALE: NTS



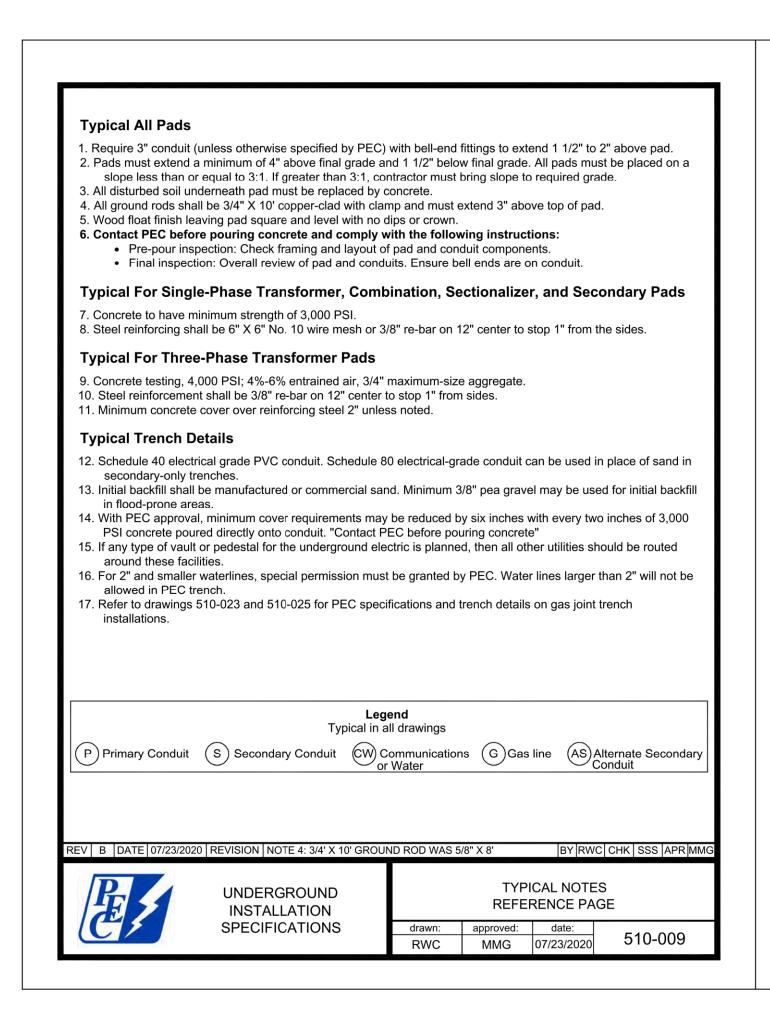
Engineering, LLC. 14425 Falcon Head Blvd. Building B, Suite 100 Bee Cave, Texas 78738 (512) 326-3380 www.skaneng.com TBPE Firm No. F-2356 SKE PROJECT #2491223

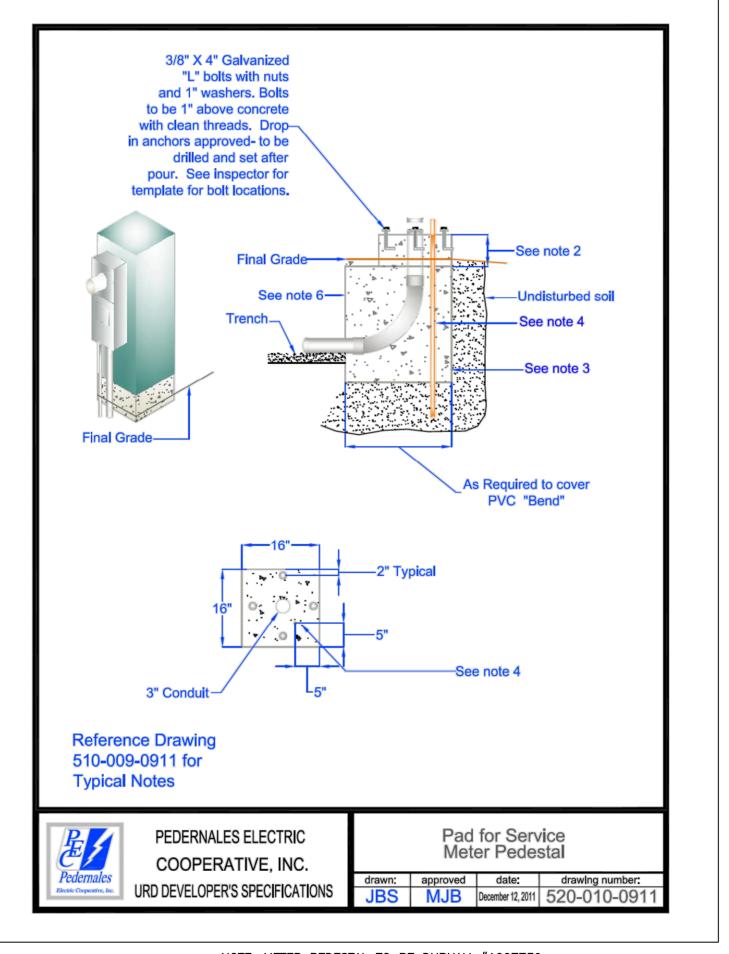
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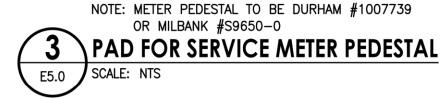
ELECTRICAL SCHEDULES AND DETAILS

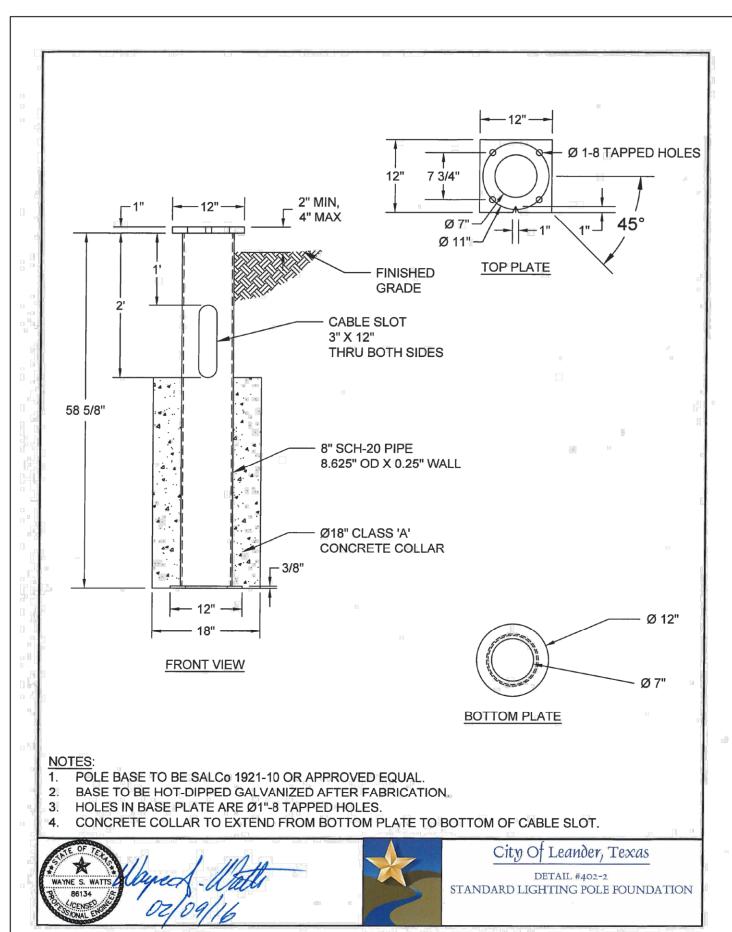
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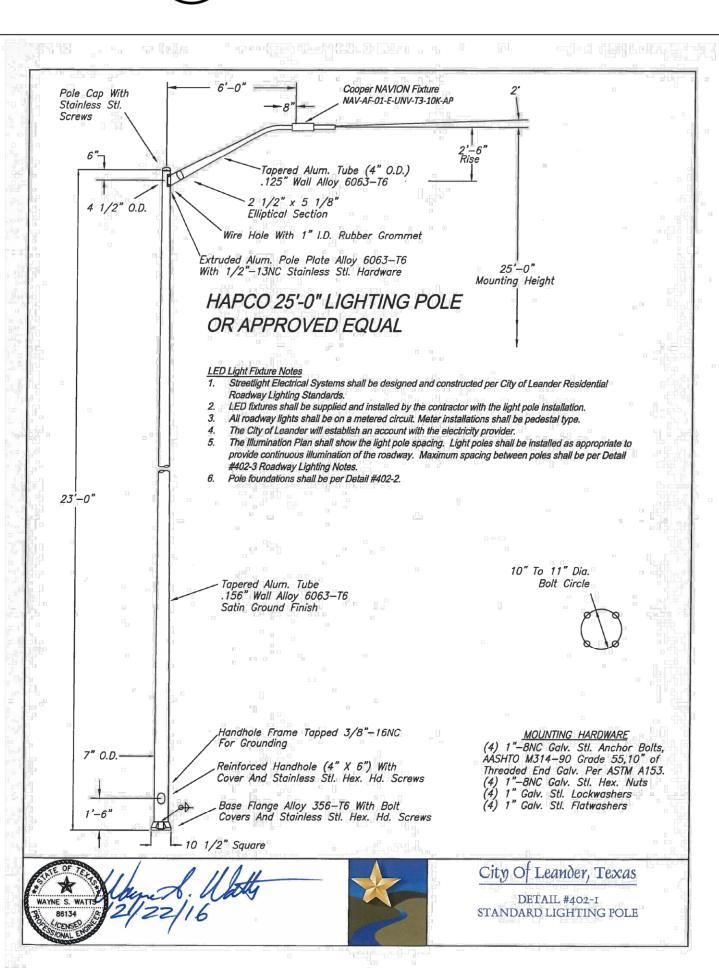
















BAR W RANCH WEST PHASE 9 STREET LIGHTING

STEVE L. KANEYZKY

8 4696

CENSEN

ONAL ENGINEER



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 08/03/2023

DWG Number:

RESIDENTIAL
ROADWAY
LIGHTING
STANDARDS

E5.0

SHEET #402-4:

STREETLIGHTS SHALL BE MOUNTED ON THE PROPERTY LINE BETWEEN PRIVATE LOTS AND WITH A MINIMUM DISTANCE OF 4 FEET FROM ANY PRIVATE DRIVE TO THE EDGE OF THE POLE

- 2. ALTERNATE STREETLIGHTS ALONG EACH SIDE OF THE STREET. WIRING FOR THE OPPOSITE SIDE OF THE STREET SHALL CROSS AT EACH STREETLIGHT LOCATION WITH CONDUIT SWEEPS AS SHOWN. PROVIDE PULL BOXES AS REQUIRED TO NOT EXCEED 360° BETWEEN PULL LOCATIONS.
- STREETLIGHTS SHALL BE SPACED A NOMINAL SPACING OF 150 FEET FROM FOLLOWING LIGHT ON OPPOSITE SIDE OF ROAD AND 300 FEET FROM FOLLOWING LIGHT ON THE SAME SIDE OF ROAD, LOCATED AT THE NEAREST PROPERTY LINES.
- A NOMINAL SPACING OF 300 FEET APART, AT THE NEAREST PROPERTY LINE. STREETLIGHTS MOUNTED ON THE INSIDE RADIUS OF A CURVED ROAD SHALL BE SPACED SUCH THAT THEY ARE CENTERED

STREETLIGHTS MOUNTED ON THE OUTSIDE RADIUS OF A CURVED

ROAD SHALL BE SUCH THAT THE STREETLIGHTS WILL BE SPACED

BETWEEN THE TWO STREETLIGHTS ON THE OUTSIDE RADIUS, AT THE NEAREST PROPERTY LINE.

- 6. EACH LOCAL STREET INTERSECTION MUST HAVE ONE STREETLIGHT MOUNTED TO ONE CORNER. COLLECTOR LEVEL AND HIGHER LEVEL STREETS SHALL HAVE TWO STREET LIGHTS MOUNTED AT OPPOSING CORNERS. ALL SUBSEQUENT STREETLIGHTS TO BE MOUNTED A MINIMUM OF 75 FEET AWAY FROM THE INTERSECTION CORNERS, AT THE NEAREST PROPERTY LINE.
- PROVIDE CONDUIT SWEEPS AT INTERSECTION CORNERS AS REQUIRED. DO NOT EXCEED A MAXIMUM BEND OF 360° BETWEEN PULL LOCATIONS.
- 8. CONDUIT CROSSING THE ROAD SHALL TAKE THE SHORTEST PATH AVAILABLE WITHOUT CROSSING A CORNER OF AN INTERSECTION.
- 9. PROVIDE ONE PULL BOX IN EACH LANDSCAPE STRIP AS SHOWN WHEN CROSSING A ROAD WHERE THERE IS NOT A STREETLIGHT ON EITHER SIDE OF THE CROSSING.

- 10. ORIENT PEDESTAL SO THAT LIGHTING CONTROL PANEL FACES
- 11. FOLLOW PEDERNALES ELECTRIC COOPERATIVE INC. DRAWING NUMBER 520-010-0911 AND 510-009-0911 FOR PEDESTAL BASE CONSTRUCTION.

SHEET #402-7:

- 12. EACH CONTROL PEDESTAL HAS A PHOTOCELL, TORK CATALOG #
- 13. PER 2014 NATIONAL ELECTRICAL CODE (NEC) ARTICLE 409.108, ENCLOSURE SHALL BE LABELED "SUITABLE FOR USE ONLY AS

SHEET SPECIFIC NOTES

SERVICE EQUIPMENT". ENCLOSURE SHALL COMPLY WITH ALL OTHER MARKING REQUIREMENTS FOUND IN ARTICLE 409.110.

SHEET #402-8:

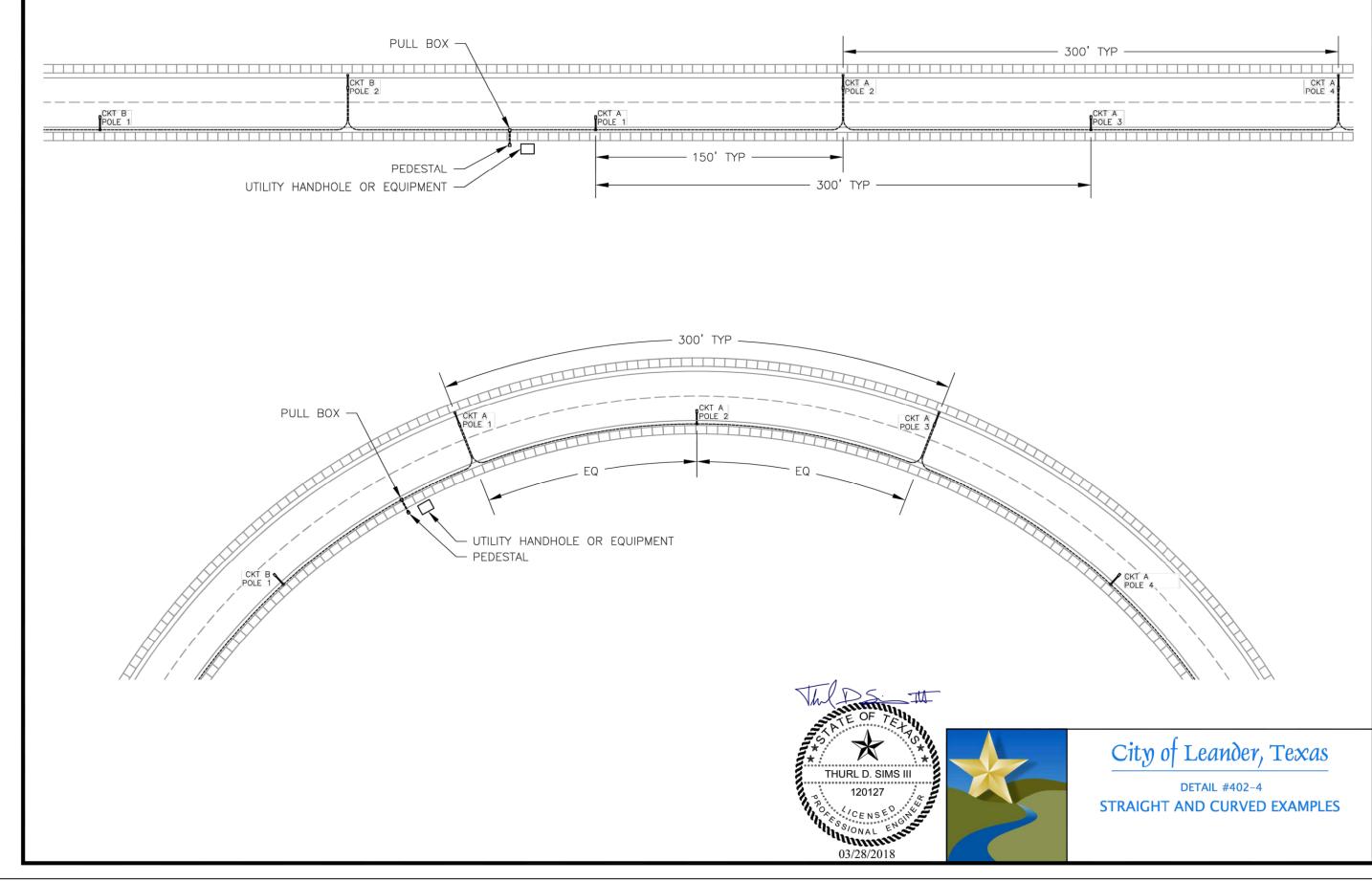
- 14. CONNECT ONE #6 BARE COPPER CONDUCTOR FROM THE NEUTRAL BUSS TO THE GROUND ROD IN THE PEDESTAL BASE. CONNECTION TO THE GROUND ROD MAY BE EITHER EXOTHERMIC WELD OR MECHANICAL FITTING RATED FOR DIRECT BURIAL.
- 15. ALL CIRCUIT BREAKERS SHALL HAVE A MINIMUM INTERRUPTING CAPACITY OF 10KAIC.

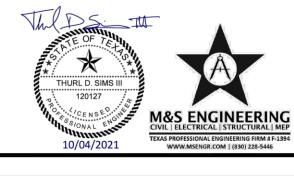
SHEET #402-9:

- 16. COORDINATE PLACEMENT OF PEDESTAL WITH ALL OTHER UNDERGROUND UTILITIES. INSTALL PEDESTAL ON A "DRY" LOT LINE UNLESS IN CONFLICT WITH UTILITY EQUIPMENT, WHERE A MINIMUM OF 3-FEET SPACING IS REQUIRED. PEDESTAL SHALL NOT BE INSTALLED NEXT TO A COMBINATION TRANSFORMER PAD.
- 17. IF A PEDESTAL MUST BE INSTALLED NEXT TO A UTILITY TRANSFORMER, CONTRACTOR SHALL SUBMIT A PLAN TO THE CITY OF LEANDER ENGINEER SHOWING PEDESTAL PLACEMENT, CONDUIT ROUTING, AND ALL OTHER DETAILS NECESSARY TO MINIMIZE CONFLICTS WITH ALL UNDERGROUND UTILITIES. PLAN MUST BE APPROVED BY CITY ENGINEER PRIOR TO THE START OF
- 18. ALL PULL BOXES SHALL BE A HUBBELL QUAZITE 11"x18"x18". 19. ANY WIRE JUNCTIONS MADE IN AN IN GROUND PULL BOX SHALL BE MADE WITH THOMAS & BETTS PART NUMBER USK 2/0.
- SHEET #402-10: 20. DYU 6 CONNECTORS MAY BE ELIMINATED FOR LAST POLE IN CIRCUIT. IF A CONDUCTOR SIZE CHANGE IS NECESSARY AT THE LAST POLE, USE THOMAS & BETTS PART NUMBER SDK M.
- 21. ALL UNDERGROUND CONDUITS SHALL BE SCHEDULE 80 PVC.
- 22. ALL CONNECTORS TO BE INSTALLED WITH A 3 AMP FUSE, NO

GENERAL NOTES

- THESE STANDARDS APPLY TO RESIDENTIAL ROADWAY LIGHTING ONLY. ANY LIGHTING FOR OTHER ROADWAY TYPES SUCH AS ARTERIAL, COLLECTOR, HIGHWAY, ETC. SHALL BE DESIGNED BASED ON A PHOTOMETRIC STUDY IN ACCORDANCE WITH THE IESNA RP-8-14 STANDARD AND APPROPRIATE ROADWAY CLASSIFICATION.
- ANY DEVIATIONS FROM THE FOLLOWING STANDARDS SHALL REQUIRE CONSTRUCTION DOCUMENTS WITH AN ENGINEERS SEAL SIGNATURE, AND DATE OF SIGNATURE. SUBMIT TO THE CITY OF LEANDER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
- 3. REFER TO CITY OF LEANDER DETAIL #402-1 AND #402-2 FOR STANDARD POLE BASE, POLE, AND STREETLIGHT SELECTION.
- 4. THE CONTRACTOR SHALL PROVIDE POWER TO A MINIMUM OF TEN STREETLIGHTS PER CONTROL PEDESTAL WITH THE INTENT TO DEPLOY AS FEW CONTROL PEDESTALS AS POSSIBLE. A SINGLE CONTROL PEDESTAL IS SIZED SUCH THAT IT MAY FEED A MAXIMUM OF 4 CIRCUITS WITH 10 STREETLIGHTS EACH (40
- ACCOMMODATION MUST BE MADE FOR PHASED DEVELOPMENTS. ARRANGE STREETLIGHTS AND CIRCUITS SUCH THAT SPARE CIRCUITS IN CONTROL PEDESTAL ARE AVAILABLE TO SERVE FUTURE PHASES WITHOUT THE NEED FOR ADDITIONAL LIGHTING CONTROL PEDESTALS. PROVIDE CONDUIT AND PULL BOXES AT THE BOUNDARY OF EACH ADJOINING PHASE SO THAT SUBSEQUENT PHASES MAY BE EASILY TIED IN TO THE EXISTING LIGHTING CONTROL PEDESTAL.
- . ALL STREETLIGHT BRANCH CIRCUIT WIRING SHALL BE #10AWG UNLESS OTHERWISE NOTED. MAXIMUM BRANCH CIRCUIT DISTANCE IS 2000' OF WIRE, AND THE MAXIMUM NUMBER OF STREETLIGHTS PER BRANCH CIRCUIT IS (10). IF CIRCUITS OR STREETLIGHT QUANTITIES MUST EXCEED THESE NUMBERS. THE SEALING ENGINEER IS RESPONSIBLE FOR PERFORMING VOLTAGE DROP CALCULATIONS DEMONSTRATING THAT THE CALCULATED VOLTAGE DROP IS AT A TOLERABLE LEVEL PER NEC ARTICLE

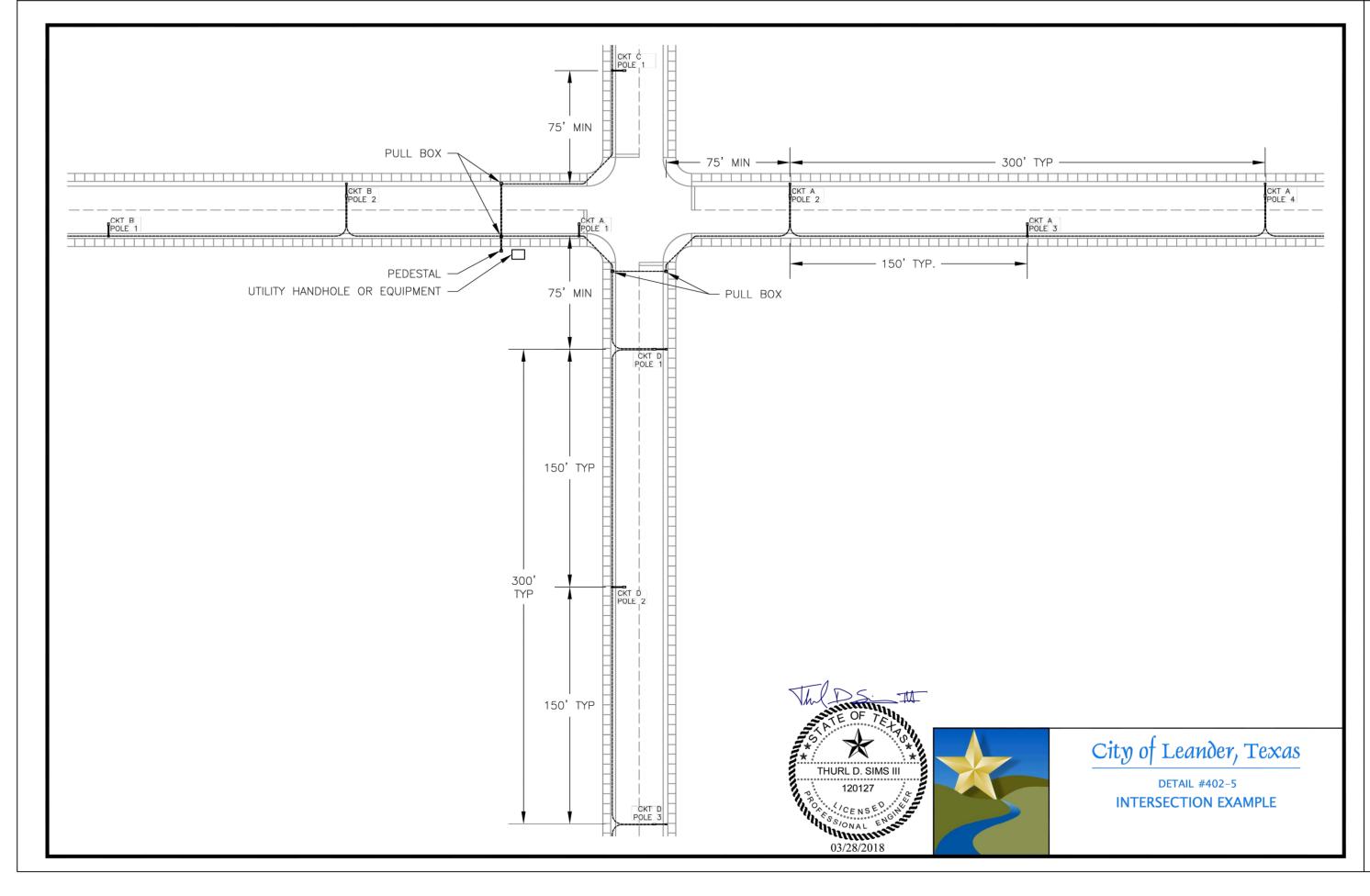


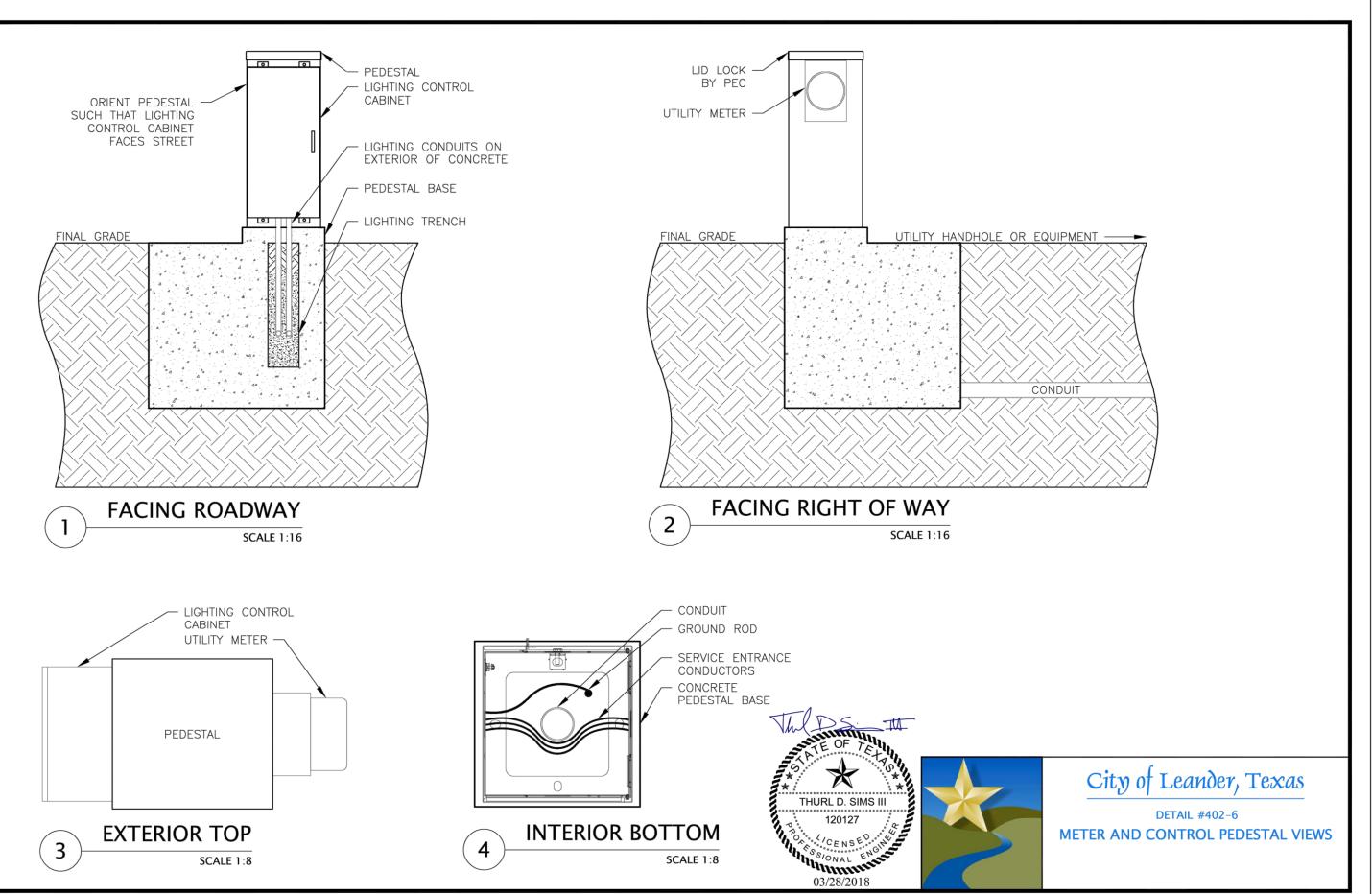




215.2.

City of Leander, Texas **DETAIL** #402-3 RESIDENTIAL ROADWAY LIGHTING NOTES







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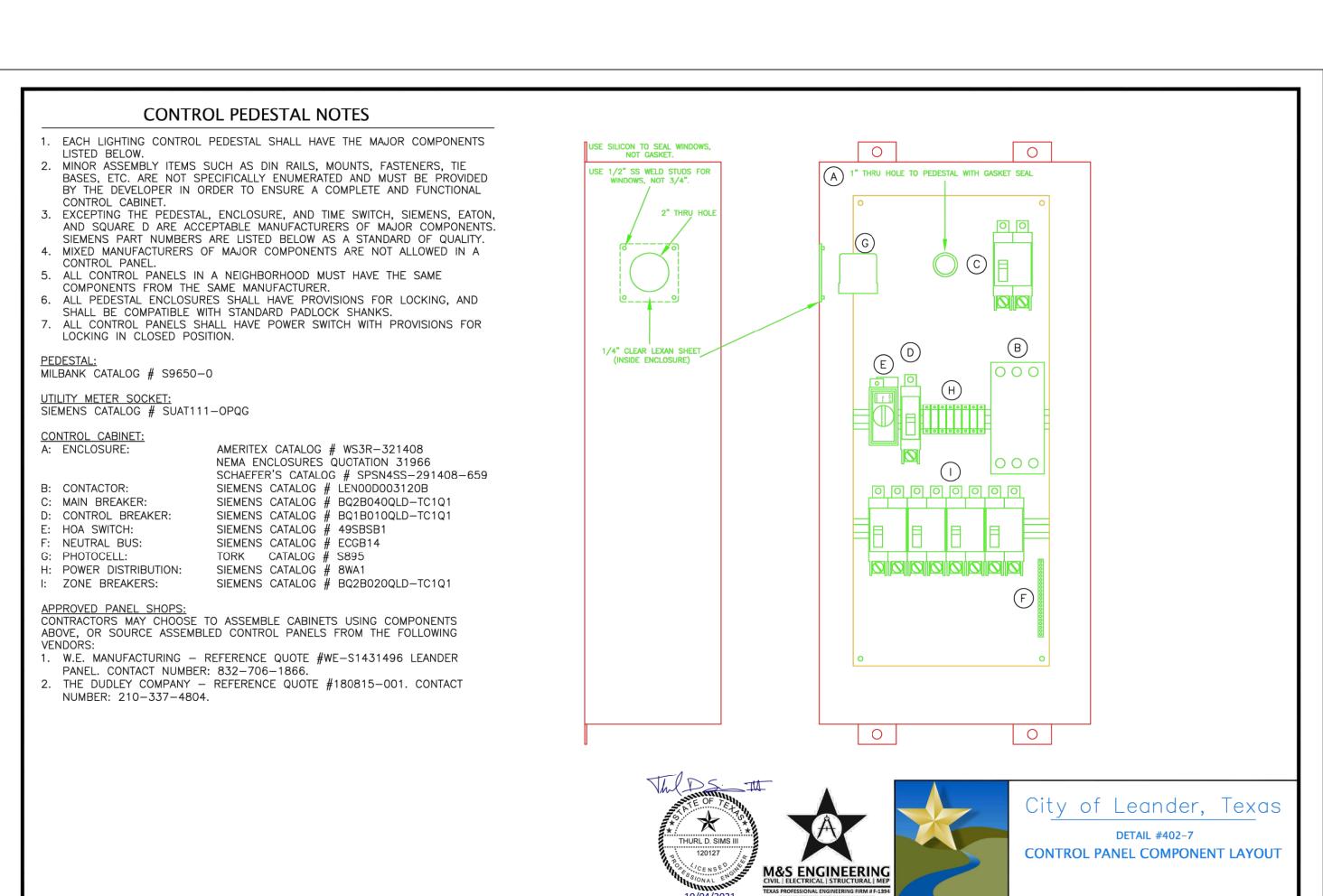
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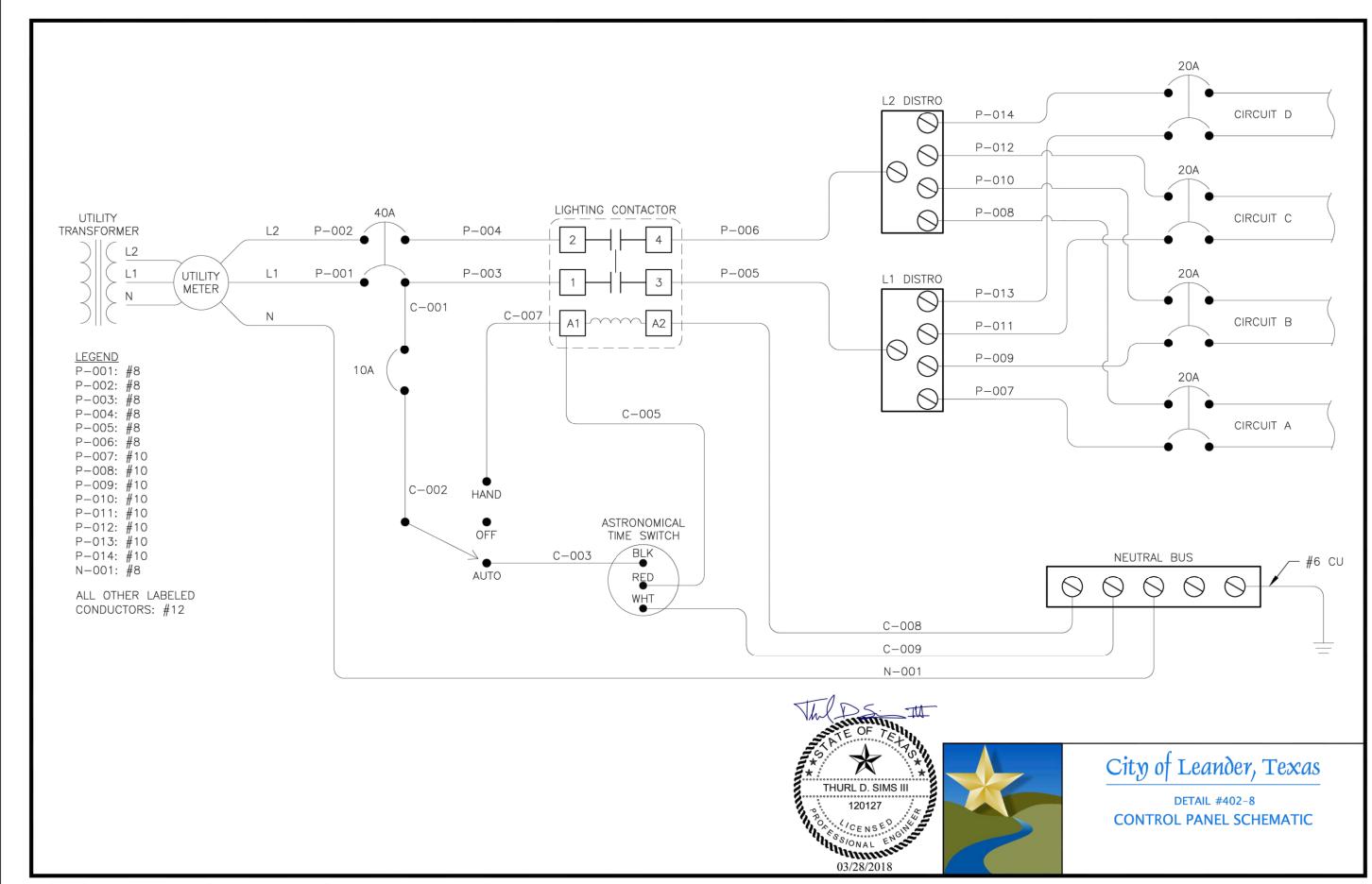
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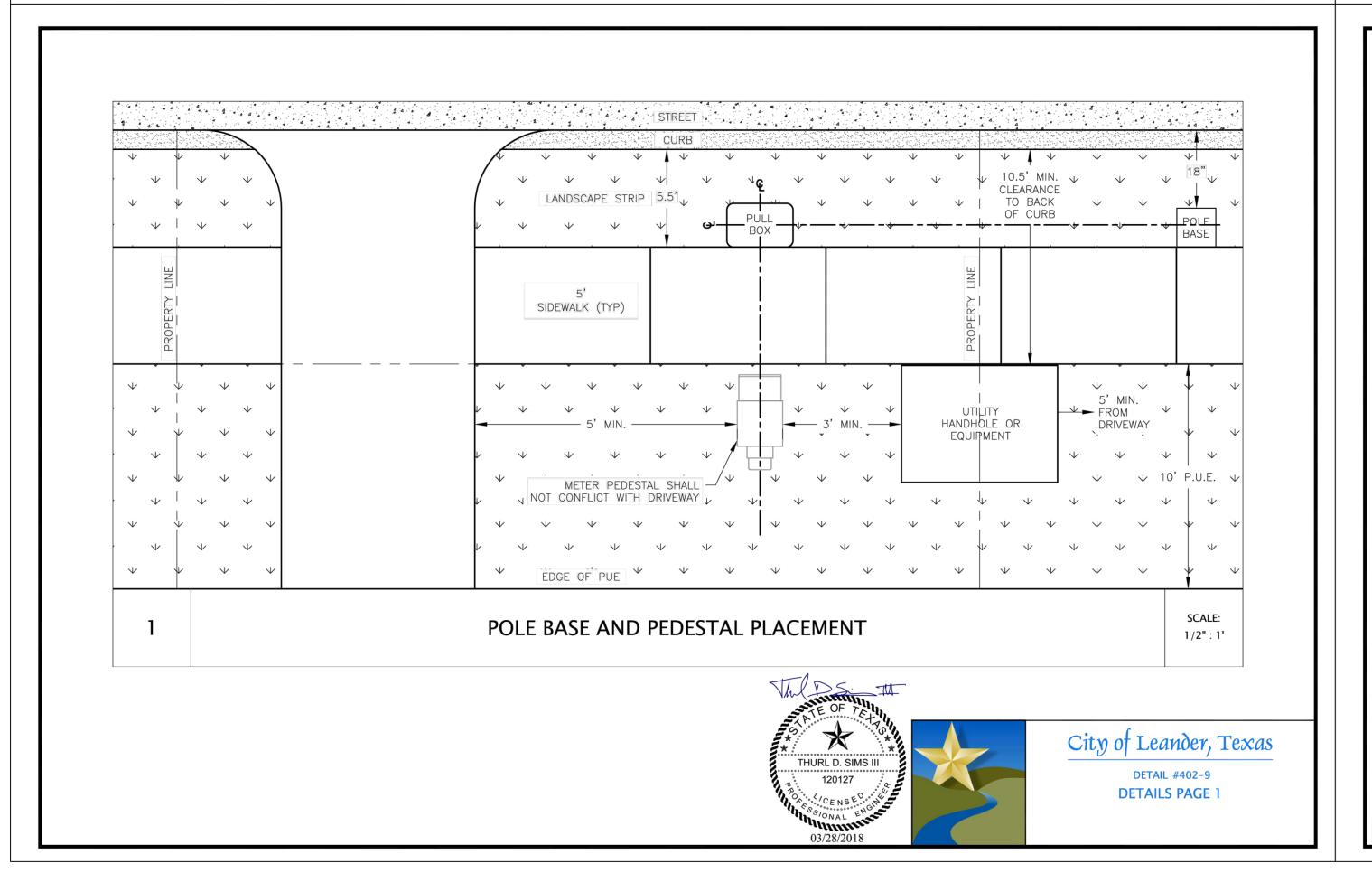
RESIDENTIAL **ROADWAY** LIGHTING

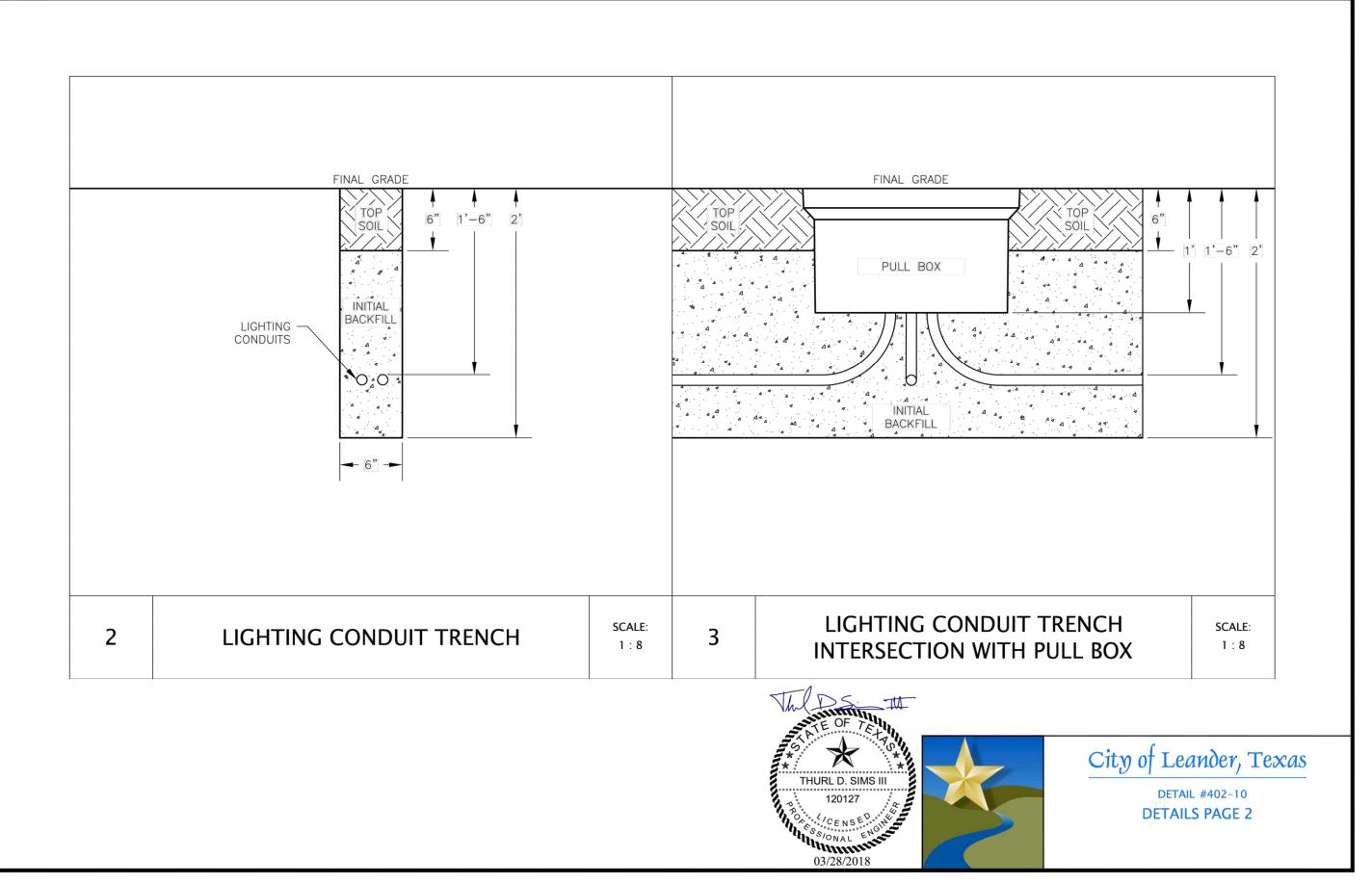
STANDARDS

E5.1













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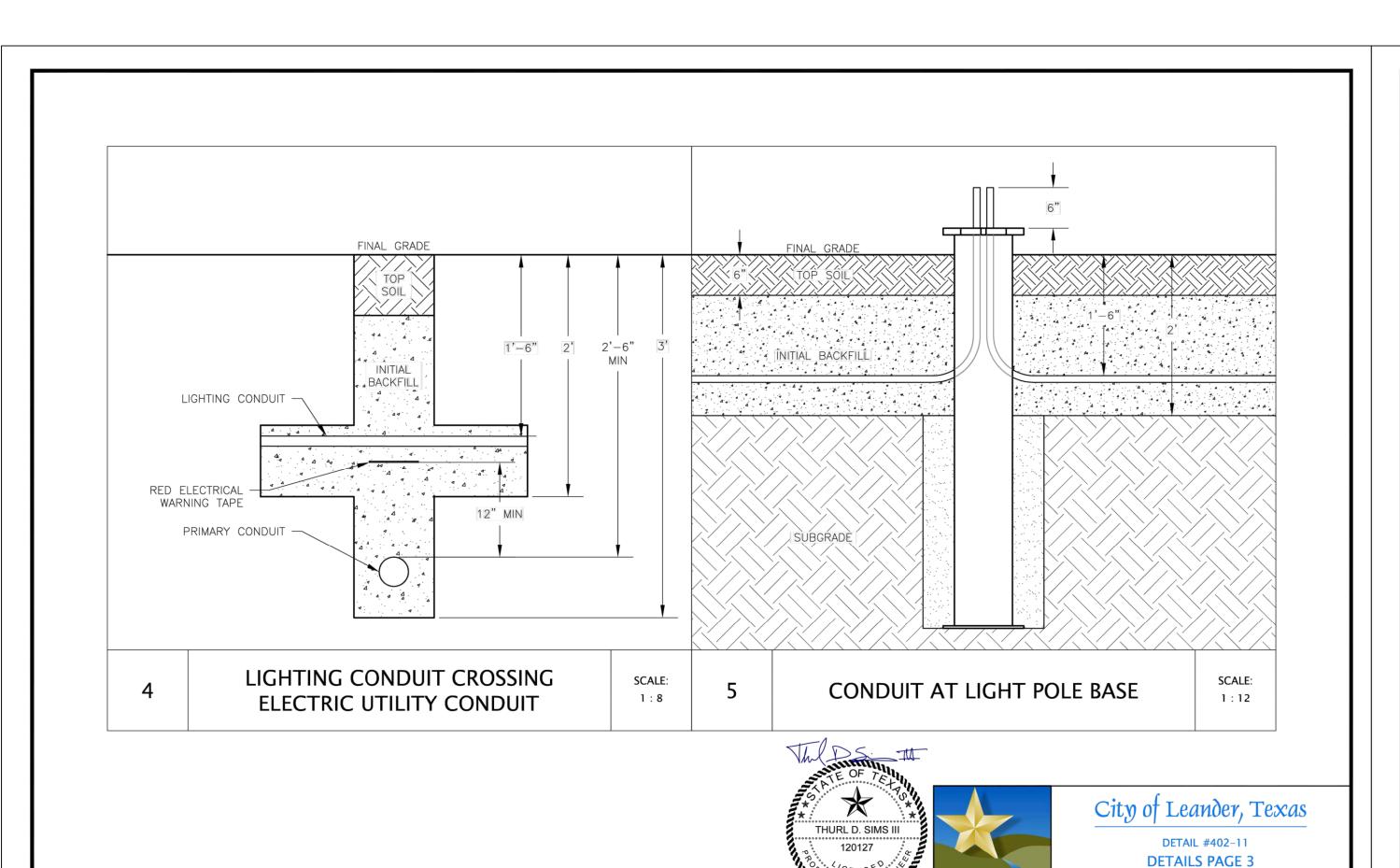
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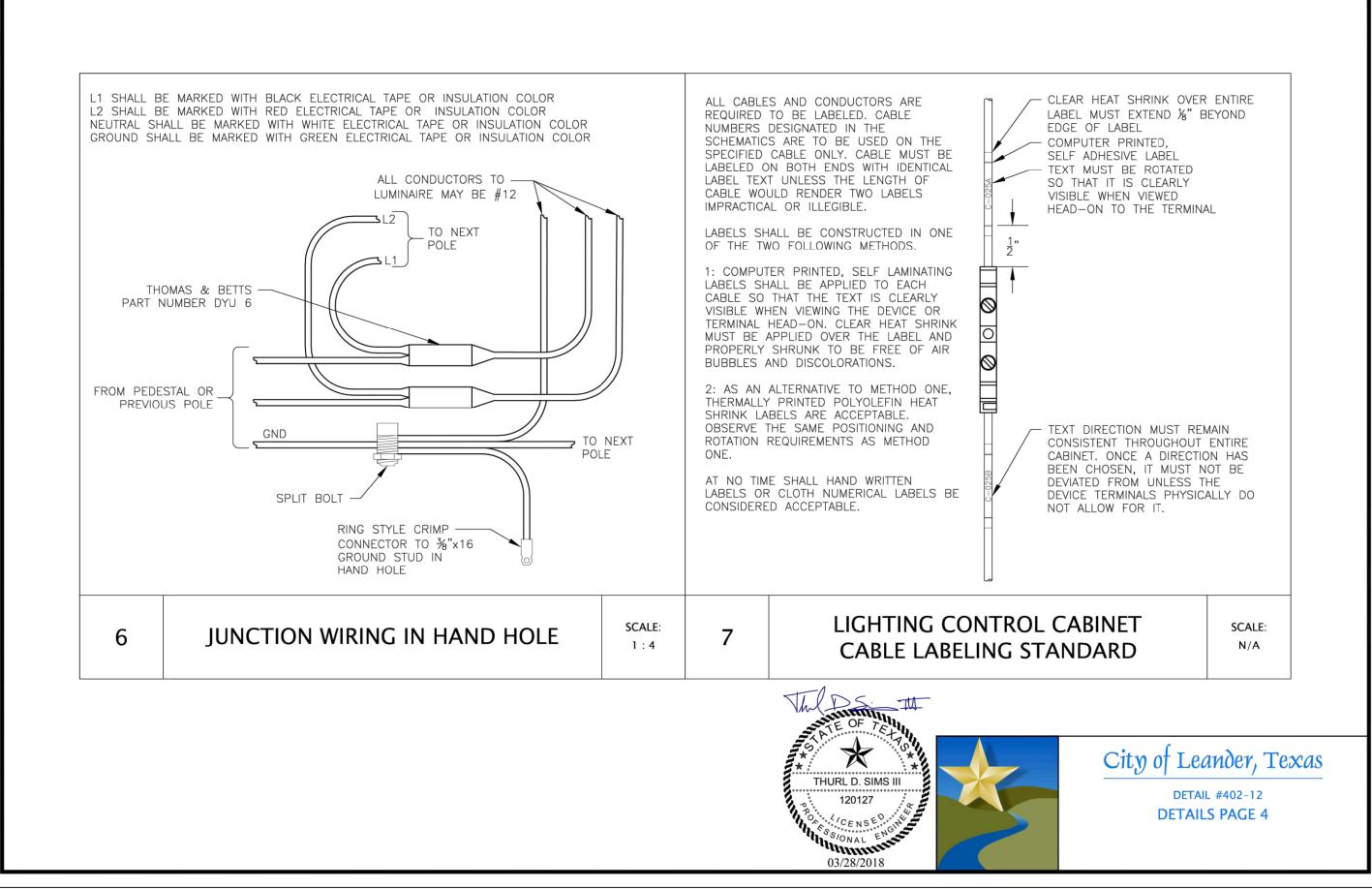
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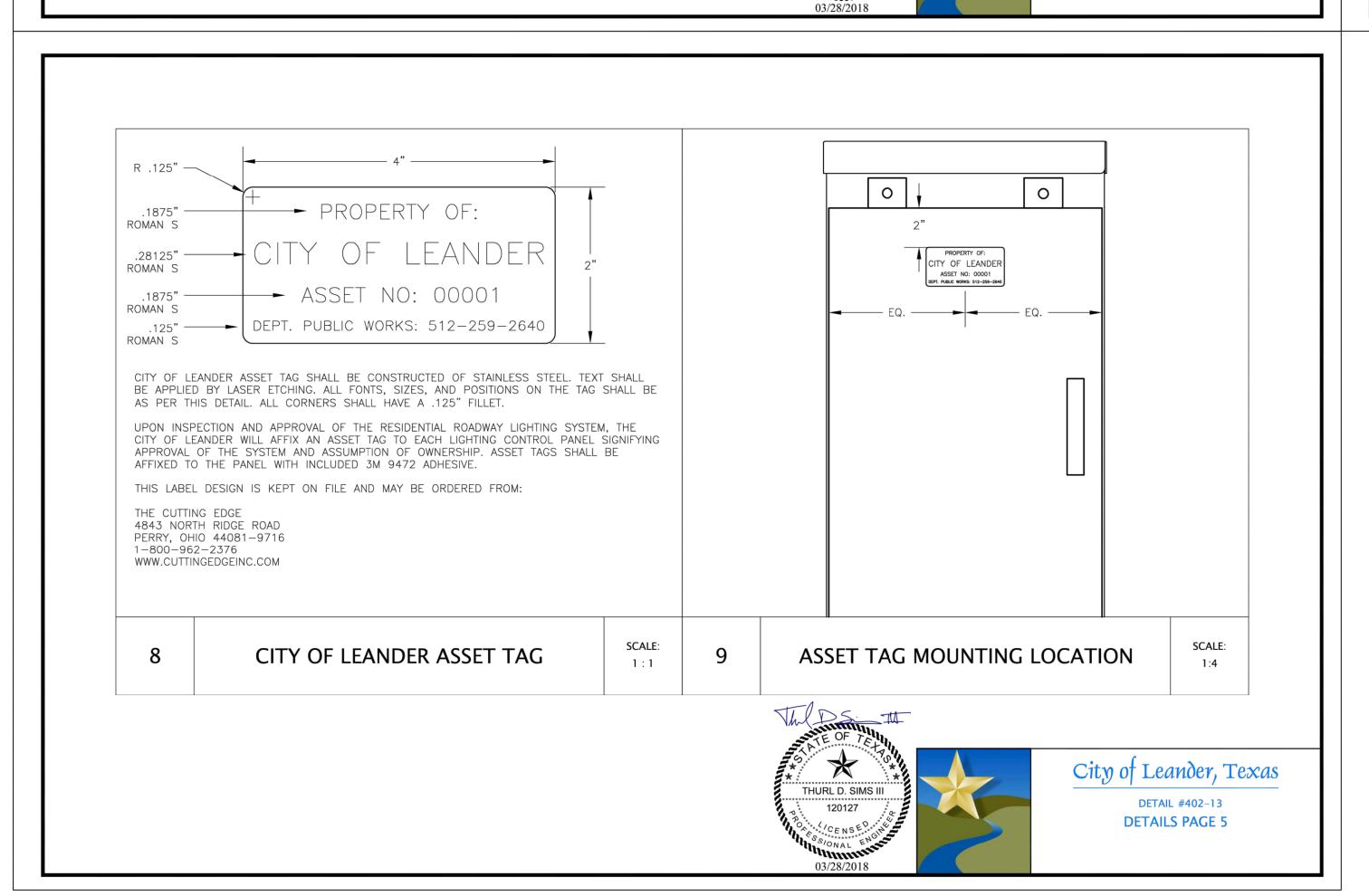
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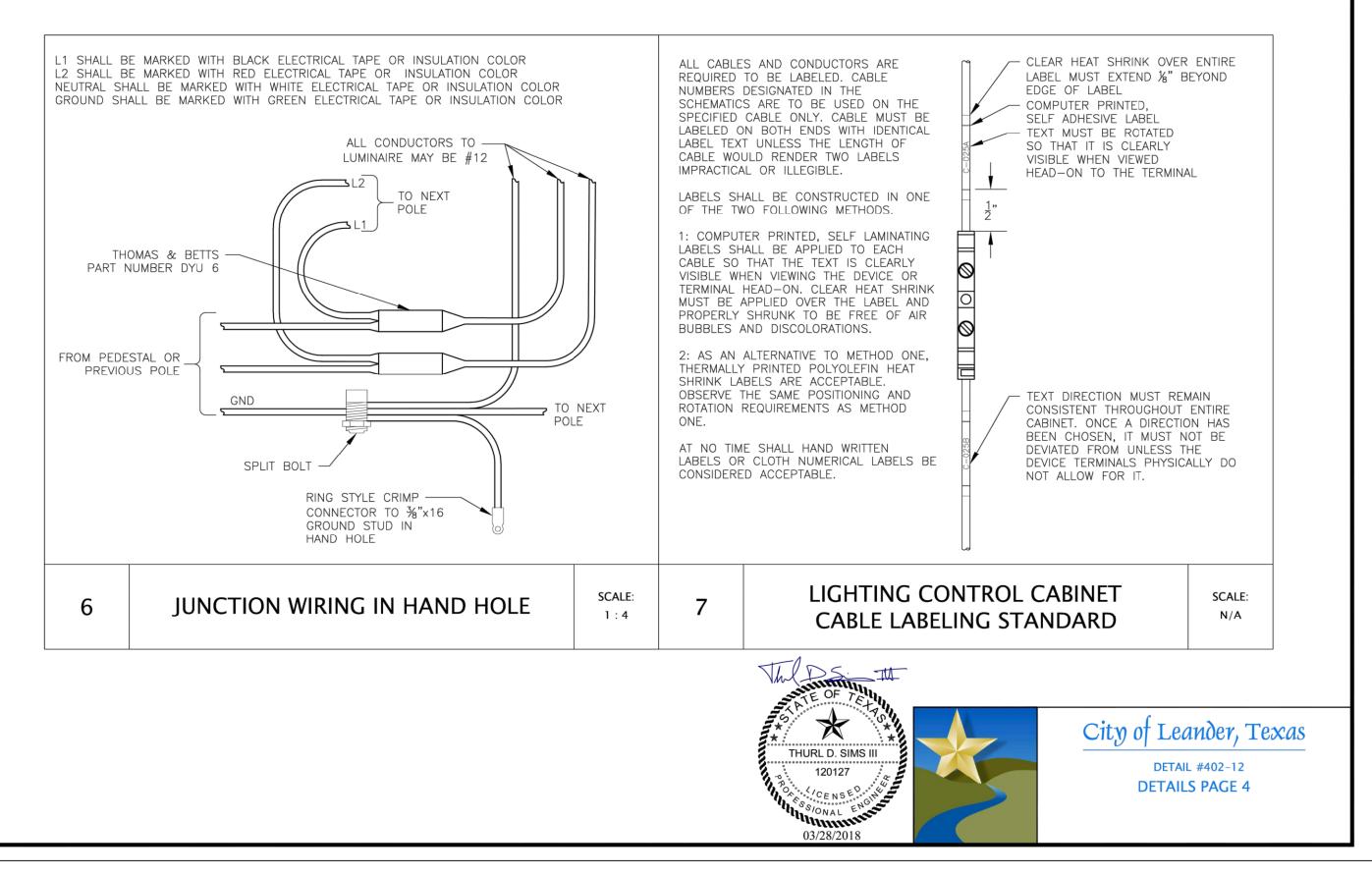
RESIDENTIAL ROADWAY LIGHTING STANDARDS

E5.2









WEST PHAIGHTING

RANCH TREET L



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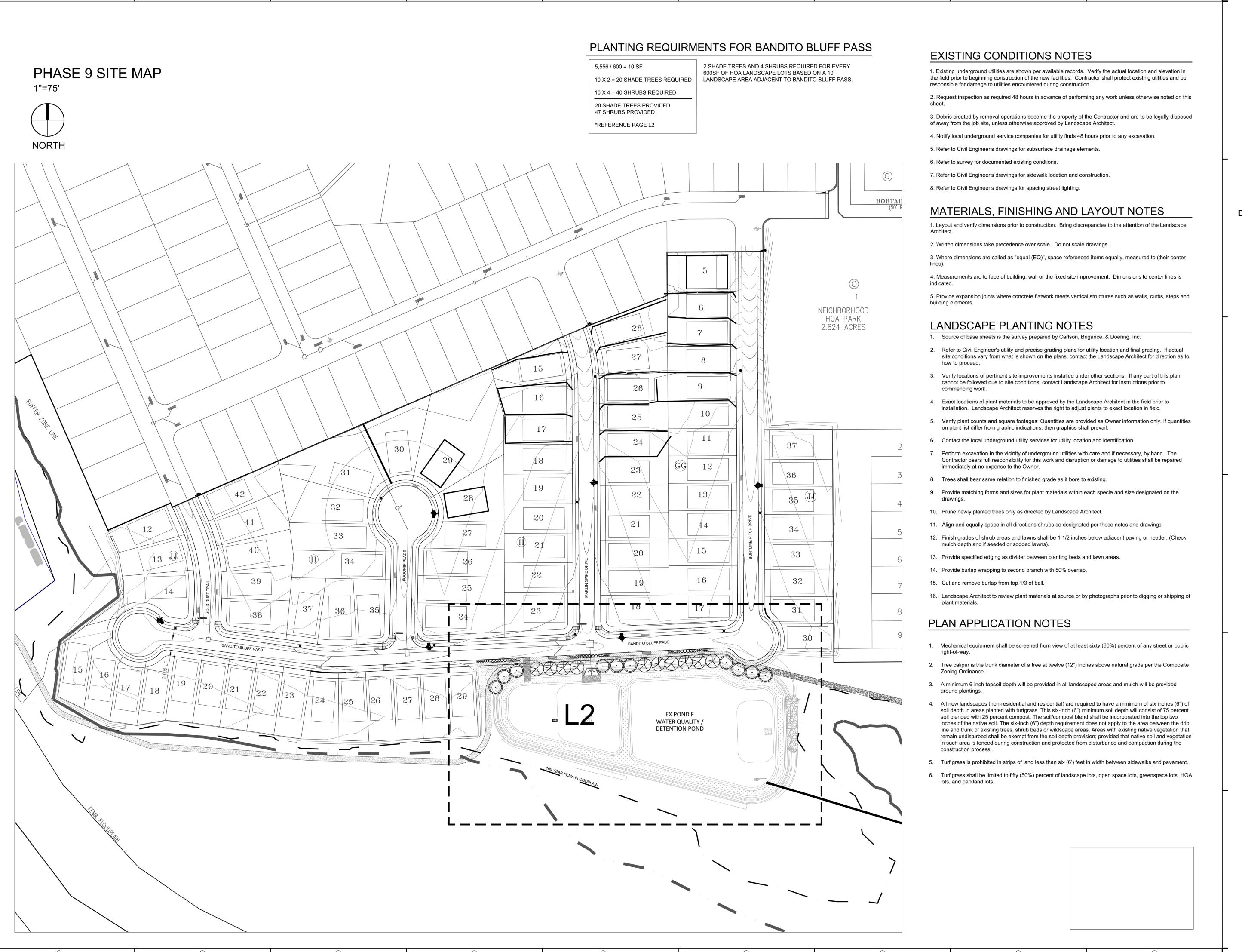
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Date: 08/03/2023

SKE PROJECT #2491223

DWG Number:

RESIDENTIAL **ROADWAY** LIGHTING **STANDARDS**



LANDSCAPE ARCHITECT

2001 Prochnow Road Dripping Springs, TX 78620 Tel: 512.956.0756

OWNER / DEVELOPER
HARRIS & STRAUB
DEVELOPMENT PARTNERS, L.L.C

4408 Spicewood Springs Rd.
Austin, Tx 78759
Tel: (512) 231-1555

W RANCH CAPING PHASE 9

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ISSUE DATE: May 15, 2023
REVISIONS

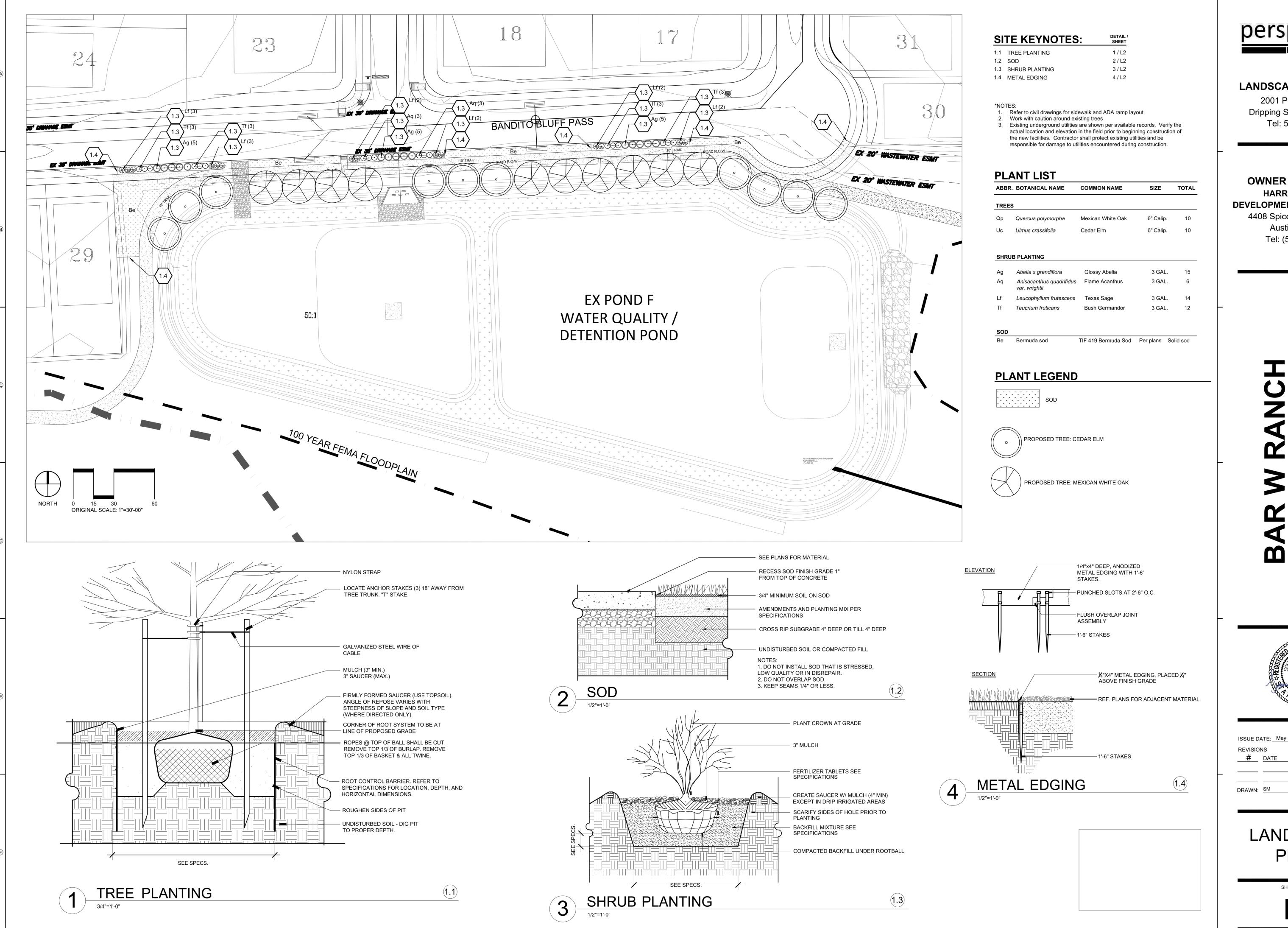
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LANDSCAPE PLANS

SHEET NUMBER

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perspective

LANDSCAPE ARCHITECT

2001 Prochnow Road Dripping Springs, TX 78620 Tel: 512.956.0756

OWNER / DEVELOPER **HARRIS & STRAUB**

4408 Spicewood Springs Rd. Austin, Tx 78759

DEVELOPMENT PARTNERS, L.L.C

0

Tel: (512) 231-1555



ISSUE DATE: May 15, 2023 # DATE DESCRIPTION __ REVIEWED: MM

LANDSCAPE **PLANS**

SHEET NUMBER

ATTACHMENT "N"

OPERATION AND MAINTENANCE PLAN Bar W Ranch West Phase 3

PROJECT DESCRIPTION

Bar W Ranch Phase 3 is a 40.959 acre parcel out of the approved Bar W Ranch West Phase Three approved Preliminary Plan. This plat includes 165 single-family lots and various lots for parkland, landscaping, sidewalks, and easements. Bar W Ranch is located in Western Williamson County, Texas in the City of Leander's City Limits. This property is located in the Brushy Creek Watershed. The project site is in the Edward's Aquifer Contributing Zone.

DEVELOPER CONTACT INFORMATION

Mr. Joe Straub BWR Land Holdings 80, LLC 4408 Spicewood Springs Road Austin, Texas 78759

Developer/Owner Signature

2/4/2020

/BD, Ind F-3701

PEST MANAGEMENT

The following Integrated Pest Management plan for Bar W Ranch Phase 3 will assume that primary pests of concern will be Aphids, Beetles, Beneficial Insects, Caterpillars, Fertilizing Recommendations, Fire Ants, Fleas, Galls, Hiring a Landscape Professional, Landscaping, Lawn Care, Lawn Problems, Mosquito's, Poison Ivy, Pruning, Spider Mites, Product Ratings, Scale, Snails, Stink Bugs, and Weeks. The anticipated pest problems have been derived from the type of pests that typically inhabit subdivisions and developments within local proximity to the project.

Non-toxic and less persistent control products should be employed in controlling pests before more persistent products are considered. More persistent control products should only be used after all other tactics have been employed. It is advisable to utilize a pest control professional, familiar with the IPM approaches, before resorting to highly toxic and persistent chemicals. Regularly scheduled pesticide applications are not considered to be part of the Integrated Pest management.

DETENTION POND

Extended detention basins have moderate to high maintenance requirements, depending on the extent to which future maintenance needs are anticipated during the design stage. Responsibilities for both routine and non-routine maintenance tasks need to be clearly understood and enforced. If regular maintenance and inspections are not undertaken, the basin will not achieve its intended purposes.

There are many factors that may affect the basin's operation and that should be periodically checked. These factors can include mowing, control of pond vegetation, removal of accumulated bottom sediments, removal of debris from all inflow and outflow structures, unclogging of orifice perforations, and the upkeep of all physical structures that are within the detention pond area. One should conduct periodic inspections and after each significant storm. Remove floatables and correct erosion problems in the pond slopes and bottom. Pay particular attention to the outlet control perforations for signs of

ATTACHMENT "N" OPERATION AND MAINTENANCE PLAN Bar W Ranch West Phase 3 (CONTINUED)

DETENTION POND(CONT.)

clogging. If the orifices are clogged, remove sediment and other debris. The generic aspects that must be considered in the maintenance plan for a detention facility are as follows:

INSPECTIONS

Basins should be inspected at least twice a year (once during or immediately following wet weather) to evaluate facility operation. When possible, inspections should be conducted during wet weather to determine if the pond is meeting the target detention times. In particular, the extended detention control device should be regularly inspected for evidence of clogging, or conversely, for too rapid a release. If the design drawdown times are exceeded by more than 24 hours, then repairs should be scheduled immediately. The upper stage pilot channel, if any, and its flow path to the lower stage should be checked for erosion problems. During each inspection, erosion areas inside and downstream of the BMP should be identified and repaired or re-vegetated immediately.

MOWING

The upper stage, side slopes, embankment, and emergency spillway of an extended detention basin must be mowed regularly to discourage woody growth and control weeds. Grass areas in and around basins should be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. When mowing of grass is performed, a mulching mower should be used, or grass clippings should be caught and removed.

DEBRIS AND LITTER REMOVAL

Debris and litter will accumulate near the extended detention control device and should be removed during regular mowing operations and inspections. Particular attention should be paid to floating debris that can eventually clog the control device or riser.

EROSION CONTROL

The pond side slopes, emergency spillway, and embankment all may periodically suffer from slumping and erosion, although this should not occur often if the soils are properly compacted during construction. Regrading and re-vegetation may be required to correct the problems. Similarly, the channel connecting an upper stage with a lower stage may periodically need to be replaced or repaired.

STRUCTURAL REPAIRS AND REPLACEMENT

With each inspection, any damage to the structural elements of the system (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired immediately. These repairs should include patching of cracked concrete, sealing of voids, and removal of vegetation from cracks and joints. The various inlet/outlet and riser works in a basin will eventually deteriorate and must be replaced. Public works experts have estimated that corrugated metal pipe (CMP) has a useful life of about 25 yr, whereas reinforced concrete barrels and risers may last from 50 to 75 yr.

NUISANCE CONTROL

Standing water (not desired in an extended detention basin) or soggy conditions within the lower stage of the basin can create nuisance conditions for nearby residents. Odors, mosquitoes, weeds, and litter are all occasionally perceived to be problems. Most of these problems are generally a sign that regular inspections and maintenance are not being performed (e.g., mowing, debris removal, clearing the outlet control device).

SEDIMENT REMOVAL

When properly designed, dry extended detention basins will accumulate quantities of sediment over time. Sediment accumulation is a serious maintenance concern in extended detention dry ponds for several reasons. First, the sediment gradually reduces available stormwater management storage capacity

ATTACHMENT "N" OPERATION AND MAINTENANCE PLAN Bar W Ranch West Phase 3 (CONTINUED)

SEDIMENT REMOVAL(CONT.)

within the basin. Second, unlike wet extended detention basins (which have a permanent pool to conceal deposited sediments), sediment accumulation can make dry extended detention basins very unsightly. Third, and perhaps most importantly, sediment tends to accumulate around the control device. Sediment deposition increases the risk that the orifice will become clogged, and gradually reduces storage capacity reserved for pollutant removal. Sediment can also be resuspended if allowed to accumulate over time and escape through the hydraulic control to downstream channels and streams. For these reasons, accumulated sediment needs to be removed from the lower stage when sediment buildup fills 20% of the volume of the basin or at least every 10 years.

Wet Basins

A clear requirement for wet basins is that a firm commitment be made to carry out both routine and non-routine maintenance tasks. The nature of the maintenance requirements are outlined below, along with design tips that can help to reduce the maintenance burden (modified from Young et al., 1996).

Routine Maintenance

Mowing

The side-slopes, embankment, and emergency spillway of the basin should be mowed at least twice a year to prevent woody growth and control weeds.

Inspections

Wet basins should be inspected at least twice a year (once during or immediately following wet weather) to evaluate facility operation. When possible, inspections should be conducted during wet weather to determine if the basin is functioning properly. There are many functions and characteristics of these BMPs that should be inspected. The embankment should be checked for subsidence, erosion, leakage, cracking, and tree growth. The condition of the emergency spillway should be checked. The inlet, barrel, and outlet should be inspected for clogging. The adequacy of upstream and downstream channel erosion protection measures should be checked. Stability of the side slopes should be checked. Modifications to the basin structure and contributing watershed should be evaluated. During semi-annual inspections, replace any dead or displaced vegetation. Replanting of various species of wetland vegetation may be required at first, until a viable mix of species is established. Cracks, voids and undermining should be patched/filled to prevent additional structural damage. Trees and root systems should be removed to prevent growth in cracks and joints that can cause structural damage. The inspections should be carried out with as-built pond plans in hand.

Debris and Litter Removal

As part of periodic mowing operations and inspections, debris and litter should be removed from the surface of the basin. Particular attention should be paid to floatable debris around the riser, and the outlet should be checked for possible clogging.

Erosion Control

The basin side slopes, emergency spillway, and embankment all may periodically suffer from slumping and erosion. Corrective measures such as regrading and revegetation may be necessary. Similarly, the riprap protecting the channel near the outlet may need to be repaired or replaced.

Nuisance Control

Most public agencies surveyed indicate that control of insects, weeds, odors, and algae may be needed in some ponds. Nuisance control is probably the most frequent maintenance item demanded by local residents. If the ponds are properly sized and vegetated, these problems should be rare in wet ponds

ATTACHMENT "N" OPERATION AND MAINTENANCE PLAN Bar W Ranch West Phase 3 (CONTINUED)

Nuisance Control (CONT.)

except under extremely dry weather conditions. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.). Biological control of algae and mosquitoes using fish such as fathead minnows is preferable to chemical applications.

Non-routine maintenance

Structural Repairs and Replacement

Eventually, the various inlet/outlet and riser works in the wet basin will deteriorate and must be replaced. Some public works experts have estimated that corrugated metal pipe (CMP) has a useful life of about 25 yr, while concrete barrels and risers may last from 50 to 75 yr. The actual life depends on the type of soil, pH of runoff, and other factors. Polyvinyl chloride (PVC) pipe is a corrosion resistant alternative to metal and concrete pipes. Local experience typically determines which materials are best suited to the site conditions. Leakage or seepage of water through the embankment can be avoided if the embankment has been constructed of impermeable material, has been compacted, and if anti-seep collars are used around the barrel. Correction of any of these design flaws is difficult.

Sediment Removal

Wet ponds will eventually accumulate enough sediment to significantly reduce storage capacity of the permanent pool. As might be expected, the accumulated sediment can reduce both the appearance and pollutant removal performance of the pond. Sediment accumulated in the sediment forebay area should be removed from the facility every two years to prevent accumulation in the permanent pool. Dredging of the permanent pool should occur at least every 20 years, or when accumulation of sediment impairs functioning of the outlet structure.

Harvesting

If vegetation is present on the fringes or in the pond, it can be periodically harvested and the clippings removed to provide export of nutrients and to prevent the basin from filling with decaying organic matter.

CZP APPLICATION

ATTACHMENT "P"

This project utilizes a proposed water quality wet basin (referred to as Pond F) that was designed and built with Bar W Ranch West Phase 3. This wet pond will reduce the sediment pollutant load by 80% or greater, as required by the TCEQ, for proposed and future areas of treatment. The pond outlet structures shall include outfall protection. Outfall protection shall be designed such that flow energy shall dissipate discharge velocities and prevent erosion immediately downstream of the ponds.

II. WATER QUALITY DESIGN

WATER QUALITY METHODOLOGY

Water Quality will be provided by a proposed wet pond (Pond F) built with Bar W Ranch West Phase 3 plans. Total suspended solid (TSS) load removal was determined using TCEQ's Load Removal Calculations. TCEQ- provided spreadsheets detailing these calculations for Pond F are provided below.

There are to be no loads entering this site under proposed conditions. All offsite flows are to be diverted via swales, channels, and storm, except those existing and future areas proposed to be treated by Pond F. The loads leaving the site after development will be reduced by 80% or more per TCEQ regulations.

Impervious Cover was determined based on TCEQ's requirements for residential development as well as any roadway and park areas. These values were plugged into the TCEQ Load Spreadsheet provided.

WATER QUALITY PROPOSED IMPERVIOUS COVER & CALCULATIONS MAP

WQ LOAD REMOVAL CALCULATIONS SUMMARY

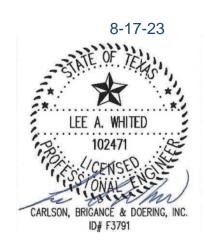
Below is a summary of the load created by the Bar W Ranch West Phase 9 project, Existing Bar W Ranch West Phase 3, a portion of Existing Bar W Ranch West Phase 1 Section 2, Portion of Bar W Ranch Boulevard (Existing and Future), and a breakdown of Pond F treatment. After this summary are the TCEQ load calculation sheets as support for this Summary.

Bar W Ranch West Phase 3 Load Removal Required

Total Developed impervious Cover= 20.424 ac. (Site Area = 40.96 ac.) Total Developed impervious Cover to Pond F=20.424 ac. Total Load Removal Requirement = 17,777 lbs. Loads removed this development=17,777 lbs.

Bar W Ranch West Phase 1 Section 2 Load Removal Required

Total Impervious Cover= 0.354 ac. (Site Area = 1.987 ac.) Total Impervious Cover Uncontrolled = 0.114 ac. Total Impervious Cover to Pond F = 0.24 ac. Total Load Removal Requirement = 308 lbs. Loads removed this development=308 lbs.



Phase 2 Bar W Ranch Blvd. South built with Phase 3 and north future build Load **Removal Required**

Total Impervious Cover= 1.08 ac. + 0.51 ac. = 1.59 ac. (Site Area = 5.013 ac.) Total Impervious Cover Uncontrolled = 0.05 ac.

Total Impervious Cover to Pond F = 1.54 ac.

Total Load Removal Requirement = 1,384 lbs.

Loads removed this development=1,384 lbs.

Bar W Ranch West Phase 9 Load Removal Required

Total Developed impervious Cover= 9.988 ac. (Site Area = 56.698 ac.)

Total Developed impervious Uncontrolled=0.81 ac.

Total Developed impervious Cover to Pond F=9.178 ac.

Total Load Removal Requirement = 8,694 lbs.

Loads removed this development=8,694 lbs.

Pond F Volume Requirements All Future, Existing, and Proposed

Total area to Pond F = 64.502 ac

Total Impervious Cover = 20.424 ac. + 0.354 ac. + 1.59 ac. + 9.988 ac. = 32.356 ac.

Impervious Cover to Pond F= 20.424 ac. + 0.24 ac. + 1.54 ac. + 9.178 ac. = 31.382 ac.

Total Load Removal Required = 17,777 lbs. + 308 lbs. + 1,384 lbs. + 8,694 lbs. = 28,163 lbs.

Permanent Pool Volume Required to remove load = 135,785 FT^3

Permanent Pool Volume Provided = 253,038 FT^3

WQ Volume Capacity Required to remove load = 248,939 FT^3

WQ Volume Capacity Provided = 441,412 FT^3

TSS Removal Calculations 04-20-2009

Project Name: BAR W PHASE 3 BUILT

Date Prepared: 8/9/2023

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

Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.

Characters shown in red are data entry fields.

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

1. The Required Load Reduction for the total project:

Calculations from RG-348

Pages 3-27 to 3-30

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

L_{M TOTAL PROJECT} = Required TSS removal resulting from the proposed development = 80% of increased load where:

 A_N = Net increase in impervious area for the project

P = Average annual precipitation, inches

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

County = Williamson

Total project area included in plan *= 40.96 acres

Predevelopment impervious area within the limits of the plan *= 0.00 acres Total post-development impervious area within the limits of the plan * = 20.42 acres

> Total post-development impervious cover fraction * = 0.50 32 inches

 $L_{M TOTAL PROJECT} =$ 17777 lbs. 8-17-23

TSS Removal Calculations 04-20-2009

Project Name: PHASE 1 SECTION 2 (TREATED BY POND F)

Date Prepared: 8/9/2023

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

Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.

Characters shown in red are data entry fields.

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

1. The Required Load Reduction for the total project:

Calculations from RG-348

Pages 3-27 to 3-30

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

where:

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

A_N = Net increase in impervious area for the project

inches

P = Average annual precipitation, inches

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

County = Williamson

Total project area included in plan * = 1.99 acres

Predevelopment impervious area within the limits of the plan * = 0.00 acres

Total post-development impervious area within the limits of the plan * = 0.35 acres

Total post-development impervious cover fraction * = 0.18

32

L_{M TOTAL PROJECT} = 308 lbs.

8-17-23

LEE A. WHITED

102471

CARLESON BRIGARDS & DOEDING INC.

TSS Removal Calculations 04-20-2009

Project Name: Ph 2-Bar W Ranch Blvd. (south built Ph 3 north future ph)

Date Prepared: 8/9/2023

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

Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.

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1. The Required Load Reduction for the total project:

Calculations from RG-348

Pages 3-27 to 3-30

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

where:

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

A_N = Net increase in impervious area for the project

P = Average annual precipitation, inches

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

County = Williamson
Total project area included in plan * = 5.01 acres
Predevelopment impervious area within the limits of the plan * = 0.00 acres
Total post-development impervious cover fraction * = 1.59 acres
Total post-development impervious cover fraction * = 0.32 per 32 inches

L_{M TOTAL PROJECT} = 1384 lbs.

LEE A. WHITED

102471

CARLSON, BRIGANCE & DOERING, INC.

TSS Removal Calculations 04-20-2009

Project Name: BW RANCH WEST PH 9 and load removal Pond F

Date Prepared: 8/9/2023

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

Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.

Characters shown in red are data entry fields.

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

1. The Required Load Reduction for the total project:

Calculations from RG-348

Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_{M} = 27.2(A_{N} \times P)$

where:

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

A_N = Net increase in impervious area for the project

P = Average annual precipitation, inches

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

County = Williamson

Total project area included in plan * = 56.70 acres

Predevelopment impervious area within the limits of the plan * = 0.00 acres

post-development impervious area within the limits of the plan * = 9.99 acres

Total post-development impervious area within the limits of the plan * = 9.99

Total post-development impervious cover fraction * = 0.18

P = 32 inches

L_{M TOTAL PROJECT} = **8694** lbs.

8-17-23



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

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

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

Drainage Basin/Outfall Area No. = A7a

Total drainage basin/outfall area = 64.50 acres
Predevelopment impervious area within drainage basin/outfall area = 0.00 acres
Post-development impervious area within drainage basin/outfall area = 31.38 acres
Post-development impervious fraction within drainage basin/outfall area = 0.49

 $L_{M THIS BASIN} =$ 27315 lbs.

3. Indicate the proposed BMP Code for this basin.

where:

Proposed BMP = Wet Basin

Removal efficiency = 93 percent

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

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

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

 $A_{\mathbb{C}}$ = Total On-Site drainage area in the BMP catchment area

A_I = Impervious area proposed in the BMP catchment area

A_P = Pervious area remaining in the BMP catchment area

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

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

Desired L_{M THIS BASIN} = 28163 lbs.

F = **0.86**

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

Calculations from RG-348

Pages 3-34 to 3-36

Rainfall Depth = 1.38 inches

Post Development Runoff Coefficient = 0.35

On-site Water Quality Volume = 113154 cubic feet

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

Off-site area draining to BMP = 0.00 acres
Off-site Impervious cover draining to BMP = 0.00 acres

Impervious fraction of off-site area = 0
Off-site Runoff Coefficient = 0.00

Off-site Water Quality Volume = 0 cubic feet

Storage for Sediment = 22631

Total Capture Volume (required water quality volume(s) x 1.20) = 135785 cubic feet
The following sections are used to calculate the required water quality volume(s) for the selected BMP.

The values for BMP Types not selected in cell C45 will show NA.

7. Retention/Irrigation System Designed as Required in RG-348 Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = NA cubic feet

Irrigation Area Calculations:

Soil infiltration/permeability rate = 0.1 in/hr Enter determined permeability rate or assumed value of 0.1

Irrigation area = NA square feet
NA acres

8. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = NA cubic feet

9. Filter area for Sand Filters Designed as Required in RG-348 Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin = NA cubic feet

Minimum filter basin area = NA square feet

Maximum sedimentation basin area = NA square feet For minimum water depth of 2 feet
Minimum sedimentation basin area = NA square feet For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins = NA cubic feet

Minimum filter basin area = NA square feet

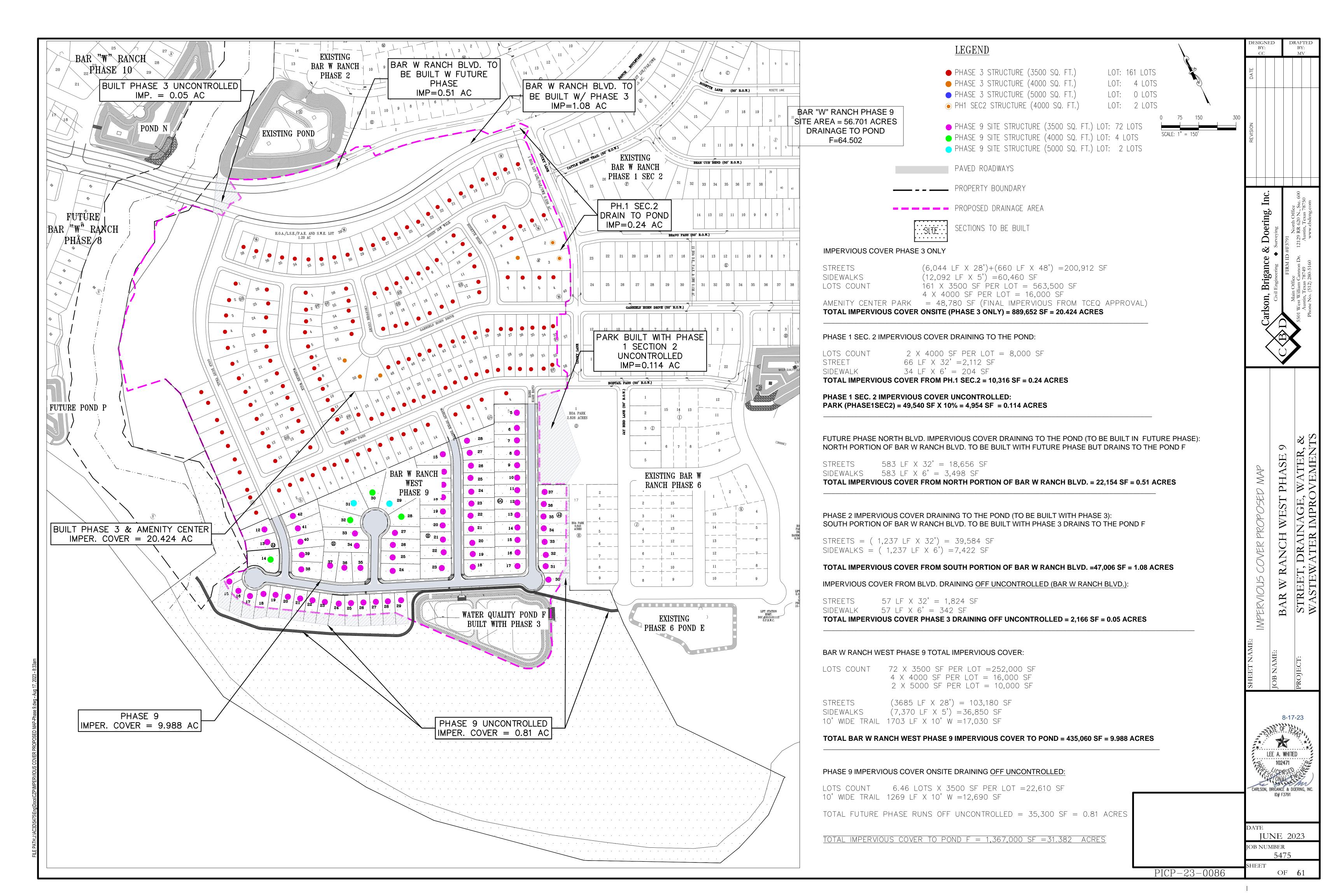
Maximum sedimentation basin area = NA square feet For minimum water depth of 2 feet
Minimum sedimentation basin area = NA square feet For maximum water depth of 8 feet

10. Bioretention System Designed as Required in RG-348 Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin = NA cubic feet

Designed as Required in RG-348 11. Wet Basins Pages 3-66 to 3-71

> Required capacity of Permanent Pool = 135785 cubic feet Permanent Pool Capacity is 1.20 times the WQV Required capacity at WQV Elevation = 248939 Total Capacity should be the Permanent Pool Capacity plus a second WQV. cubic feet



III. Temporary Stormwater (TCEQ-0602)

ATTACHMENT A – Spill Response Actions

ATTACHMENT B – Potential Sources of Contamination

ATTACHMENT C - Sequence of Major Activities

ATTACHMENT D – Temporary Best Management Practices and Measures

ATTACHMENT E - Request to Temporarily Seal a Fracture, if sealing a feature

ATTACHMENT F – Structural Practices

ATTACHMENT G – Drainage Area Map (See Construction Plans)

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

ATTACHMENT I - Inspection and Maintenance for BMPs

ATTACHMENT J – Schedule of Interim and Permanent Soil Stabilization Practices

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: Lee A. Whited

Date: <u>8-17-2023</u>

Signature of Customer/Agent:

Regulated Entity Name: Bar W Ranch West Phase 9

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.

 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 2 gallons will be stored on the site for less than one (1) year.	50

	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.
	Evels 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.
S	equence 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 tobe 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

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.

receive discharges from disturbed areas of the project: South Fork San Gabriel River

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 wat 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 wat groundwater that originates on-site or flows off site, including pollution cause 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 maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction. 	eror d by
8.	The temporary sealing of a naturally-occurring sensitive feature which accepts rector 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 reason and practicable alternative exists for each feature. There will be no temporary sealing of naturally-occurring sensitive features on site. 	nable
9.	Attachment F - Structural Practices. A description of the structural practices that used to divert flows away from exposed soils, to store flows, or to otherwise limit 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:	g
	 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 bused. 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 prot down slope and side slope boundaries of the construction area. There are no areas greater than 10 acres within a common drainage area that 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 disturbage area. 	ect will be

[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 o sediment traps within each disturbed drainage area will be used.
- - -	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
† 1	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.
i (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.
1	f 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).
	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.
	litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

Soil Stabilization Practices

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

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

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

Administrative Information

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

ATTACHMENT "A"

Below is the general procedure to follow in the event of a spill or loss of product resulting in an impact or potential impact to soil, surface water, groundwater or sanitary sewer system.

Notifications:

- 911 (if immediate danger to life or health)
- General Contractor Site Superintendent.
- Environmental Emergency Response Contractor (if necessary).
- For spills that exceed the reportable quantity established per federal and state regulations, also contact the Texas Commission on Environmental Quality (TCEQ) at 800–832–8224 and the National Response Center at 800-424-8802. Reportable quantities are provided behind this Attachment.

Cleanup:

- Impacted soil or used absorbent material shall be picked up and stored in a waterproof, leak proof manner such as on plastic sheeting and covered with plastic sheeting, a drum or roll-off container with a lid or cover that can be secured, or a 5-gallon bucket with a secure lid.
- The Site Superintendent or Emergency Response Coordinator will work with TCEQ to determine the appropriate sampling and disposal protocols for handling impacted soils, absorbent materials, or water.
- Provide proof of sampling and disposal such as laboratory analytical reports and waste manifests to TCEQ.

Follow-up:

- Within 48 hours send a written report to TCEQ describing the cause of the release, the total quantity of material discharged, description of corrective action taken or still in progress to be completed, notifications made, and plans for preventing recurrence.
- Complete any follow-up reports required by the TCEQ or National Response Center within the allowable time frames.
- Submit a copy of documentation of disposal to TCEQ and US EPA at the time of disposal. Also submit a copy of the final uniform hazardous waste manifest "designated facility to generator copy" by the time of environmental closeout.

REPORTABLE QUANTITY TABLE

Rule, statute, or responsible agency	30 TAC 327	30 TAC 327	Texas General Land Office	30 TAC 327	30 TAC 327	30 TAC 327	30 TAC 327	30 TAC 327	30 TAC 327	's' 30 TAC 334.75-81	ያ' <u>30 TAC 327</u>	울 ¹ 30 TAC 327
Reportable quantity	"Final RQ" in Table 302.4 in 40 CFR 302.4 (see attached)	"Final RQ" or 100 lbs, whichever is less	as required by the Texas General Land Office	210 gallons (five barrels)	enough to create a sheen	210 gallons (five barrels)	25 gallons	enough to create a sheen	100 lbs	enough to create a sheen on water	كار 25 gallons or equal to the RQ under 40 CFR 302	100 lbs
Where discharged	onto land	into water	coastal waters	onto land	Directly into water	onto land from an exempt PST facility	onto land, or onto land from a non-exempt PST facility	directly into water	into water	into water	onto land	into water
Kind of spill	Hazardous substance		Any Oil	Crude Oil, Oil that is neither a petroleum product nor used oil		Petroleum Product, used oil			Industrial solid waste or other substances	From petroleum storage tanks, underground or aboveground	From petroleum storage tanks, underground or aboveground	Other substances that may be useful or valuable and are not ordinarily considered to be waste, but will cause pollution if discharged into water in the state

ATTACHMENT "B"

Potential sources of contamination include the leaking of fluids from construction equipment, trash generated by workers and material, sediment transport onto public roadways, from construction equipment, and the use of asphaltic products on the roadways.

ATTACHMENT "C"

The major activities of this project that will result in large areas of soil disturbance are: Sequence of Construction Disturbance

- 1. General contractor to install and maintain erosion controls and tree protection per approved plans. (Disturbance 0 AC.)
- 2. Hold Pre-Construction conference. (Disturbance 0 AC.)
- 3. Rough grade streets. No Development of embankment will be permitted at this time. Once streets are rough cut, the geotechnical engineer is to field verify pavement design is appropriate, and modify recommendations accordingly. (Disturbance 3.68 AC.)
- 4. Install all utilities to be located under the proposed pavement. (Disturbance 0.76 AC.)
- 5. Deliver storm sewer cut sheets to the construction inspection division of DPW. (Disturbance 0 AC.)
- 6. Begin installation of storm sewer lines. Upon Completion, restore as much disturbed area as possible. Particularly channels and large open areas. (Disturbance 0.35 AC.)
- 7. Deliver final grade cut sheets to the construction inspection division of DPW. (**Disturbance 0 AC.**)
- 8. Regrade streets to subgrade. (Disturbance 2.66 AC.)
- 9. Ensure that all underground utility crossings are completed. Lay first course base material on all streets. (Disturbance 0.05 AC.)
- 10. Install curb and gutter. (Disturbance 0.41 AC.)
- 11. Lay final base course on all streets. (Disturbance 1.97 AC.)
- 12. Lay asphalt. (Disturbance 1.97 AC.)
- 13. Complete all underground installations within the R.O.W. (Disturbance 0.65 AC.)

ATTACHMENT "C" (continued)

- 14. Complete permanent erosion controls (including pond) and restoration of site vegetation. (Disturbance 19.85 AC.)
- 15. Final inspection of the project. (Disturbance 0 AC.)
- 16. Remove and dispose of temporary erosion controls. (Disturbance 0.19 AC.)

ATTACHMENT "D"

All temporary BMP's will be installed prior to the beginning of construction and remain in place until revegetation has been completed. These temporary measures will include silt fences, inlet dykes, and stabilized construction entrances. These erosion control devices will prevent transport sediment generated from this site. The erosion control devices proposed with this project allow for the passing of water while retaining any sediment or trash. This will allow for the flow to maintain its natural course to naturally occurring sensitive features.

Sequence of Construction Disturbance

- 1. General contractor to install and maintain erosion controls and tree protection per approved plans. Ensure that concrete wash out area is installed in accordance with the approved plans. (Duration-1 week)
- 2. Hold Pre-Construction conference. (Duration-1 hour)
- 3. Rough grade streets. No Development of embankment will be permitted at this time. Once streets are rough cut, the geotechnical engineer is to field verify pavement design is appropriate, and modify recommendations accordingly. (**Duration- 3 weeks**)
- 4. Install all utilities to be located under the proposed pavement. (Duration- 6 weeks)
- 5. Deliver storm sewer cut sheets to the construction inspection division of DPW. (**Duration-1** day)
- 6. Begin installation of storm sewer lines. Upon Completion, restore as much disturbed area as much as possible. Particularly channels and large open areas. (**Duration- 6 weeks**)
- 7. Deliver final grade cut sheets to the construction's inspection division of DPW. (**Duration-1** day)
- 8. Regrade streets to subgrade. (Duration-4 weeks)
- 9. Insure that all underground utility crossings are completed. Lay first course base material on all streets. (**Duration-4 weeks**)

ATTACHMENT "D" (CONT.)

- 10. Install curb and gutter. (Duration-2 weeks)
- 11. Lay final base course on all streets. (Duration-4 weeks)
- 12. Lay asphalt. (Duration-3 weeks)
- 13. Complete all underground installations within the R.O.W. (Duration-4 weeks)
- 14. Complete permanent erosion control (including pond) and restoration of site vegetation. (Duration-3 weeks)
- 15. Final inspection of the project. (Duration-3 day)
- 16. Remove and dispose of temporary erosion controls. (Duration-1 week)

ATTACHMENT "F"

Practices of diverting runoff around exposed soils will consist of silt fence, which will be utilized to prevent any pollutants from leaving the site. The only runoff aimed at exposed soils will be from the site itself. Below is a list of controls for the site with description.

<u>Stabilized construction entrance</u>: A stabilized construction entrance will be placed at the project boundary at Jaybird Lane, per City of Leander Detail 302-1, provided in the erosion control details sheet. The stabilized construction entrance will help prevent sediment from being transported from the site.

<u>Silt Fence</u>: silt fence shall be installed per City of Austin detail 642S-1, as provided in the erosion control detail sheet. Silt fence shall be installed along the outer perimeter of the downstream portion of the site and the downslope sides of the blocks as shown on the plans. The silt fence will prevent sediment from leaving the site due to disturbed soils during construction. Internal silt fence will reduce sediment draining to the streets under rough cut conditions and final paving.

<u>Inlet Protection:</u> Inlet protection will be installed using a GeoCurve Inlet filter as provided in the detail on the Erosion Control Detail sheet. The inlet filter will prevent any runoff in the street from draining to the water quality pond (Pond N) and causing sediment build up.

<u>Concrete Washout:</u> a concrete washout area will be provided per the City of Leander Detail 303-1 provided in the Erosion Control Detail sheet. The concrete washout area will be provided in the contractor staging area and temporary spoils site. The concrete washout area will prevent concrete slurry from draining into the storm system and washing into the water quality pond.

TEMPORARY STORMWATER SECTION ATTACHMENT "I"

The temporary BMP's will be inspected on a weekly basis for their compliance with TCEQ and City of Leander Criteria. The contractor will be responsible for maintenance of these items. If cited by the City of Leander, the contractor will have 24 hours to bring the delinquent items up to standard. The contractor will keep a record of these items on site in the construction trailer. A Stormwater Pollution Prevention Plan will be filed prior to commencement of construction. Below are maintenance guidelines for proposed temporary BMPs.

Stabilized Construction Entrance Inspection and Maintenance Guidelines:

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

Silt Fence Inspection and Maintenance Guidelines:

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

Inlet Protection Inspection and Maintenance Guidelines:

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

Temporary Onsite Washout area Inspection and Maintenance Guidelines:

Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste. When temporary concrete washout facilities become full or are no longer required for the work, the hardened concrete should be removed and disposed of. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and disposed of when no longer needed. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

TEMPORARY STORMWATER SECTION ATTACHMENT "J"

The project's limits of construction are primarily confined to the existing rights-of-way, easements, and project site. The project will begin with rough cutting of site. The utilities will be installed. The backfill behind the curbs and paving will be completed and within 120 days. The backfill behind the curbs and embankments will be revegetated with hydro mulch mix to be determined by the City of Leander to stabilize the soil. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Where the initiation of stabilization measures by the 14th day after construction activity temporary or permanently cease is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 21 days, temporary stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.

IV. AGENT AUTHORIZATION FORM

Agent Authorization Form

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

1	John Sparrow	7
	Print Name	
ETTOTION OF THE PROPERTY OF TH	Assistant Secretary	
	Title - Owner/President/Other	•
of	Continental Homes of Texas, LP	
	Corporation/Partnership/Entity Name	
have authorized _	Lee A. Whited, P.E. (102471)	
	Print Name of Agent/Engineer	
of	Carlson, Brigance, & Doering, Inc. (512-280-5160)	
	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.

$\alpha \cdot 1$

Applicant's Signature

8/11/23 Date

THE STATE OF 12M §

SIGNATURE PAGE:

County of WILLAMIN §

BEFORE ME, the undersigned authority, on this day personally appeared _____known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this \(\precedet \) day of \(\frac{\precedet \precedet \precedet \precedet \precedet \).

RACHEL BARING
Notary ID #131157861
My Commission Expires
June 30, 2025

NOTARY PUBLIC

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 1.31.25

HOWARD BARKLEY WEDEMEYER 5773 Woodway Dr. #207 Houston, Texas 77057

August 14, 2023

TCEQ- EAPP Region 11 P.O. Box 13087 Austin, Texas 78711

The undersigned ("<u>Owner</u>"), as owner of the property described on the attached <u>Exhibit "A"</u> (the "<u>Property</u>"), hereby authorizes Continental Homes of Texas, LP, a Texas limited partnership ("<u>Applicant</u>"), to act as Owner's agent as to the Property (but not any other property Owner owns) for the limited purposes of signing and submitting applications ("<u>Applications</u>") to the Texas Commission on Environmental Quality (the "<u>TCEQ</u>") for approval of a water pollution abatement plan and any related approvals from the TCEQ required for the Property under the Edwards Aquifer Protection Program (the "<u>Approvals</u>"). Any Applications must provide that Applicant is the applicant thereunder.

Applicant's authority under this letter is limited to Applications for the Approvals. All financial obligations with respect to the Applications or the related Approvals must be satisfied by Applicant, at Applicant's sole expense.

Except as provided above, Applicant has no authority to act on Owner's behalf and this authorization does not create any general agency relationship between Owner and Applicant. Owner will have no liability or obligation to pay any consultant, contractor, the TCEQ, or any other party any fees or expenses incurred by Applicant with respect to the Property or any a Applications submitted by or on behalf of Applicant.

For purposes of facilitating the execution of this letter, an electronic or facsimile signature will be deemed to be an original signature for all purposes.

(The remainder of this page has been intentionally left blank and the signature page follows.)

Thank you,

Howard Barkley Wedemeyer

EXHIBIT "A"

56.701 ACRES HENRY GARMES SURVEY, ABSTRACT NO. 269 WILLIAMSON COUNTY, TEXAS BAR W RANCH WEST PHASE 9

1

METES AND BOUNDS

BEING ALL OF THAT CERTAIN 56.701 ACRE TRACT OR PARCEL OF LAND SITUATED IN THE HENRY GARMES SURVEY, ABSTRACT NUMBER 269, IN WILLIAMSON COUNTY, TEXAS, BEING COMPRISED OF A PORTION OF A CALLED 972.33 ACRE TRACT OF LAND CONVEYED TO HOWARD BARKLEY WEDEMEYER BY DEED RECORDED IN VOLUME 343, PAGE 553, DEED RECORDS, WILLIAMSON COUNTY, TEXAS, AND ALL OF A CALLED 3.770 ACRE TRACT OF LAND CONVEYED TO LEANDER MUNICIPAL UTILITY DISTRICT NO. 1 BY DEED RECORDED IN DOCUMENT NUMBER 2019109126, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, SAID 56.701 ACRE OF LAND BEING MORE FULLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING at a 1/2 inch iron rod with cap stamped "CBD SETSTONE" found at the southwest corner of Lot 1, Block O, Bar W Ranch West Phase 1, Section 2, a subdivision recorded in Document Number 2021013575, Official Public Records, Williamson County, Texas, for an angle point on the east line and **POINT OF BEGINNING** of the herein described tract of land,

THENCE, N89°41'20"E, over and across said 972.33 acre tract of land and with the south line of said Lot 1, Block O, a distance of 125.00 feet to a 1/2 inch iron rod with cap stamped "CBD SETSTONE" found at the northwest corner of Lot 10, Block O, Bar W Ranch West Phase 6, a subdivision recorded in Document Number 2022068683, Official Public Records, Williamson County, Texas,

THENCE, over and across said 972.33 acre tract of land and with the west line of said Bar W Ranch West Phase 6, the following six (6) courses and distances, numbered 1 through 6,

- S00°18'40"E, a distance of 425.00 feet to a 1/2 inch iron rod with cap stamped "CBD SETSTONE" found at the southwest corner of said Lot 10,
- N89°41'20"E, a distance of 171.39 feet to a 1/2 inch iron rod with cap stamped "CBD SETSTONE" found for corner, being at the beginning of a curve to the left,
- 3) along said curve to the left, having a radius of 50.00 feet, an arc length of 30.72 feet, and a chord that bears S04°23'06"E, a distance of 30.24 feet to a 1/2 inch iron rod with cap stamped "CBD SETSTONE" found for corner.
- \$22°12'34"E, a distance of 110.08 feet to a 1/2 inch iron rod with cap stamped "CBD SETSTONE" found for corner,
- S27°45'34"E, a distance of 462.67 feet to a 1/2 inch iron rod with cap stamped "CBD SETSTONE" found for corner, and
- 6) S64°08'58"E, a distance of 482.51 feet to a calculated point on the approximate centerline of the South Fork of the San Gabriel River at the southernmost corner of Lot 10, Block H, said Bar W Ranch West Phase 6, being on the north line of a called 120.00 acre tract of land conveyed to Palmera Bluff Development, Inc. by deed recorded in Document Number 2015093768, Official Public Records, Williamson County, Texas, same being the south line of said 972.33 acre tract of land, for the southeast corner of the herein described tract of land,

THENCE, with the south line of said 972.33 acre tract of land, with the north line of said 120.00 acre tract of land, with the north line of a called 220.30 acre tract of land (SAVE AND EXCEPT 120.00 acres) conveyed to Palmera Bluff Development, Inc. by deed recorded in Document Number 2015093770, Official Public Records, Williamson County, Texas, with the north line of South San Gabriel Ranches, a subdivision recorded in Cabinet B, Slide 86, Plat Records, Williamson County, Texas, and with the approximate centerline of said South Fork of the San Gabriel River, the following eleven (11) courses and distances, numbered 1 through 11,

- 1) S45°00'00"W, a distance of 7.03 feet to a calculated point for corner,
- 2) S21°00'00"W, a distance of 58.00 feet to a calculated point for corner,

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56.701 ACRES HENRY GARMES SURVEY, ABSTRACT NO. 269 WILLIAMSON COUNTY, TEXAS BAR W RANCH WEST PHASE 9

- 3) S24°00'00"W, a distance of 101.00 feet to a calculated point for corner,
- 4) S41°00'00"W, a distance of 102.00 feet to a calculated point for corner,
- 5) S43°00'00"W, a distance of 77.00 feet to a calculated point for corner,
- S51°00'00"W, a distance of 94.85 feet to a calculated point for corner,
- 7) N88°54'21"W, a distance of 547.68 feet to a calculated point for corner,
- 8) N75°04'53"W, a distance of 625.50 feet to a calculated point for corner,
- 9) N63°47'52"W, a distance of 302.59 feet to a calculated point for corner,

10) N57°36'21"W, a distance of 678.70 feet to a calculated point for corner, and

11) N37°06'21"W, a distance of 477.20 feet to a calculated point on the north line of Lot 23, said South San Gabriel Ranches, for the southwest corner of the herein described tract of land,

THENCE, continuing over and across said 972.33 acre tract of land, the following two (2) courses and distances, numbered 1 and 2,

- N52°53'39"E, a distance of 323.50 feet to a 1/2 inch iron rod with cap stamped "CBD SETSTONE" set for corner, and
- 2) N19°39'22"W, a distance of 387.64 feet to a 1/2 inch iron rod with cap stamped "CBD SETSTONE" found on the south line of Lot 12, Block JJ, Bar W Ranch West Phase 3, a subdivision recorded in Document Number 2021144194, Official Public Records, Williamson County, Texas, for the northwest corner of the herein described tract of land,

THENCE, continuing over and across said 972.33 acre tract of land, and with the south line of said Bar W Ranch West Phase 3, the following eight (8) courses and distances, numbered 1 through 8,

- N61°29'20"E, a distance of 99.53 feet to a 1/2 inch iron rod with cap stamped "CBD SETSTONE" found for corner.
- \$23°34'05"E, a distance of 350.00 feet to a 1/2 inch iron rod with cap stamped "CBD SETSTONE" found for corner.
- 3) N66°25'55"E, a distance of 125.00 feet to a 1/2 inch iron rod with cap stamped "CBD SETSTONE" found on the west right-of-way line of Gold Dust Trail (R.O.W. varies), being at the southeast corner of Lot 11, Block JJ, said Bar W Ranch West Phase 3,
- 4) \$23°34'05″E, a distance of 8.22 feet to a 1/2 inch iron rod with cap stamped "CBD SETSTONE" found at the west terminus of said Gold Dust Trail,
- 5) N66°25'55"E, a distance of 827.82 feet to a 1/2 inch iron rod with cap stamped "CBD SETSTONE" found at the east terminus of Marlin Spike Drive (50' R.O.W.), being at the southwest corner of Lot 1, Block GG, said Bar W Ranch West Phase 3,
- 6) N69°05'08"E, a distance of 154.30 feet to a 1/2 inch iron rod with cap stamped "CBD SETSTONE" found at the southeast corner of Lot 3, Block GG, said Bar W Ranch West Phase 3,
- 7) N00°18'40"W, with the east line of said Lot 3, Block GG, a distance of 78.94 feet to a 1/2 inch iron rod with cap stamped "CBD SETSTONE" found at the southwest corner of Lot 4, Block GG, said Bar W Ranch West Phase 3, and
- 8) N89°41'20"E, a distance of 175.00 feet to a 1/2 inch iron rod with cap stamped "CBD SETSTONE" found at the east terminus of Buntline Hitch Drive (50' R.O.W.), being on the west line of the aforesaid Lot 1, Block O, for the northeast corner of the herein described tract of land,

THENCE, S00°18'40"E, with the west line of said Lot 1, Block O, and over and across said 972.33 acre tract of land, a distance of 325.00 feet to the **POINT OF BEGINNING** and containing 56.701 acres of land.

Surveyed by:

JOHN DAVID KIPP, R.P.L.S. NO. 5844 Carlson, Brigance and Doering, Inc.

Reg. # 10024900

5501 West William Cannon

Austin, TX 78749

Ph: 512-280-5160 Fax: 512-280-5165

jkipp@cbdeng.com

BEARING BASIS - TEXAS COORDINATE SYSTEM OF 1983, CENTRAL ZONE (4203)

John D Kipp 08/10/2023

V. APPLICATION FEE FORM

Application Fee Form

Texas Commission on Environmental Quality							
Name of Proposed Regulated Entity: Bar W Ranch West Phase 9							
Regulated Entity Location: Leander, TX (Williamson County)							
Name of Customer: Continental Homes of Texas, LP							
Contact Person: John Sparrow Phone: 512-533-1468							
Customer Reference Number (if issue	d):CN <u>601213523</u>						
Regulated Entity Reference Number (if issued):RN	_					
Austin Regional Office (3373)							
Hays	Travis	⊠w	/illiamson				
San Antonio Regional Office (3362)							
Bexar	Medina	□uv	valde				
Comal	Kinney						
Application fees must be paid by chec		or money order inaval	nle to the Teyas				
Commission on Environmental Qualit							
form must be submitted with your fe		· · · · · · · · · · · · · · · · · · ·					
Austin Regional Office		an Antonio Regional C					
Mailed to: TCEQ - Cashier		vernight Delivery to: TCEQ - Cashier					
Revenues Section	-	.2100 Park 35 Circle	roza cusinei				
Mail Code 214		Building A, 3rd Floor					
P.O. Box 13088		ustin, TX 78753					
Austin, TX 78711-3088		512)239-0357					
Site Location (Check All That Apply):	•	•					
Recharge Zone	Contributing Zone	□Transi	ition Zone				
		Size	Fee Due				
Type of Plan Water Pollution Abatement Plan, Cont	tributing 7000	3126	ree Due				
Plan: One Single Family Residential Dw		Acres	\$				
Water Pollution Abatement Plan, Cont		710103	Υ				
Plan: Multiple Single Family Residentia	_	56.701 Acres	\$ 6,500.00				
Water Pollution Abatement Plan, Cont							
Plan: Non-residential	Acres	\$					
Sewage Collection System		L.F.	\$				
Lift Stations without sewer lines		Acres	\$				
Underground or Aboveground Storage	Tanks	\$					
Piping System(s)(only)		Each	\$				
Exception		Each	\$				
Extension of Time	Each	\$					

Signature:

Date: 8/16/23

1 of 2

Application Fee Schedule

Texas Commission on Environmental Quality

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	Fee
Exception Request	\$500

Extension of Time Requests

Project	Fee
Extension of Time Request	\$150



TCEQ Core Data Form

TCEQ Use Only

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175. SECTION I: General Information

		IION			_	 	 -		
ſ	 _		_	$\overline{}$	$\overline{}$	 	 	 	

New Permit, Registration or Author	•				,	the p	rogram applic	ation.))	
Renewal (Core Data Form should be submitted with the renewal form)										
Customer Reference Number (if issued) Follow this lin			u this link to	coarch	3. Re	Regulated Entity Reference Number (if issued)				
CN 601213523		for C	for CN or RN numbers in Central Registry**		RN					
SECTION II: Customer Informat	ion	CEI	ili ai Keyi	<u>su y</u>						
4. General Customer Information	5. Effective D	ate for	Customer I	nformatio	n Upda	ites (i	mm/dd/yyyy)		02/11/2020	
New Customer Update to Customer Information Change in Regulated Entity Ownership Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)										
The Customer Name submitted	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 fi	rst: e.g.	.: Doe, John)		If ne	w Cus	stomer, enter p	oreviou	s Customer below:	
Continental Homes of Texas, LP										
7. TX SOS/CPA Filing Number 0009022810	8. TX State T	ax ID (11 digits)			edera 27919	I Tax ID (9 digits 904	s)	10. DUNS Number (if applicable)	
11. Type of Customer: Corporat	tion		Individ	lual		Par	tnership: 🔲 G	General [X Limited	
Government: City County Federal	State Other		Sole F	roprietor	ship		Other:			
12. Number of Employees 図0-20	<u>251-500</u>	5	01 and high	er		ndep Yes	endently Own 🔀 I		d Operated?	
14. Customer Role (Proposed or Actual)	- as it relates to th	e Regu	lated Entity lis	sted on th	is form.	Please	e check one of	the follo	owing:	
Owner Oper	ator onsible Party	[⊠ Owner & □ Voluntar	•		cant	Othe	er:		
10700 Pecan Park Blv	/d., Suite 400									
15. Mailing Address:										
City Austin		Sta	ate TX	Z	ZIP 7	7875	0	Z	ZIP + 4	
16. Country Mailing Information (if outside	USA)		•	17. E-N	/lail Add	dress	(if applicable)	•	·	
				JASpa	rrow@)drho	orton.com			
18. Telephone Number		19. Ext	tension or C	ode			20. Fax Nun	nber (it	f applicable)	
(512) 533 - 1468						() -				
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)										
New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information										
The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC).										
22. Regulated Entity Name (Enter name of	of the site where th	ne regul	lated action is	taking pla	ace.)	_		_		
Bar W Ranch West Phase 9										

TCEQ-10400 (04/15)

23. Street Address of the	End of Gold Dust Trail south of Bar W Ranch Boulevard.											
Regulated Entity:												
(No PO Boxes)	City	Leander		State	TX	ZIF	,	786	11		ZIP + 4	
24. County	Willia	amson		•	•					'		
		Enter Physical	Loca	tion Description	if no stree	t addr	ess is p	rovide	d.			
25. Description to Physical Location:		Austin: TX-1 Loop Nan Blvd, left on Bar										on Ronald
26. Nearest City State Nearest ZIP Code												
Leander TX 78641										641		
27. Latitude (N) In Decima	al:	30.613183			28. Lo	ongitu	de (W)	In D	ecimal:	-97.	.831361	
Degrees	Minute	S	Seco	onds	Degree	es			Minutes		Seconds	3
30	36		47.4	46	-97				49		52.90	
29. Primary SIC Code (4 dig	ts)	30. Secondary SIC	Cod	e (4 digits)	31. Prima (5 or 6 digits	-	ICS Cod	de		Secor or 6 dig	ndary NAIC gits)	S Code
1542		1794			237110				23	8910		
33. What is the Primary Bus	siness	of this entity? (Do n	ot repe	eat the SIC or NAIC	S description	.)						
Single Family Subdivis	ion											
24 Mailina	Cont	nental Homes of Te	xas, l	_P								
34. Mailing Address:	1070	0 Pecan Park Blvd.,	ite 400									
7.1337.533.	City	Austin		State	TX	X ZIP		78750		ZIP + 4		
35. E-Mail Address:	•	JASparrow@drhor	ton.c	om						·		•
36. Telepho	ne Nur	mber		37. Extension		38. Fax Number (if applicable)						
(512)	533 - 1	468						()	-		
39. TCEQ Programs and ID Num Form instructions for additional gui		eck all Programs and writ	te in th	e permits/registration	on numbers th	nat will b	be affecte	d by the	updates su	ubmitte	d on this forn	n. See the Core Data
☐ Dam Safety	1	Districts		Edwards Aquifer			Emissions Inventory Air				Industrial	Hazardous Waste
☐ Municipal Solid Waste		lew Source Review	Air	OSSF			Petroleum Storage Tank			ık [☐ PWS	
Sludge		Storm Water		☐ Title V Air			Tires			[Used (Dil
	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Waste Water		Wastewater	Agriculture	9 🗆] Water	r Right	S	[Other:	
SECTION IV: Preparer	Inforn	nation										
40. Name: Lee A. Whited						41	. Title:	P.E.				
42. Telephone Number	43. Ext./Code 44. Fax Number 45. E-Mail Address											
(512)280-5160	() - lee@cbdeng.com											
SECTION V: Authoriz		•										
46. By my signature below, I ce	rtify, to	the best of my knowled	dge, tl	nat the informatio	n provided i	n this f	form is tru	ue and	complete,	and th	hat I have s	ignature 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:	Carlson, Brigance and Doering, Inc.	Job Title:	P.E.
Name(In Print):	Lee A. Whited	Phone:	(512)280-5160
Signature:		Date:	8-17-23

TCEQ-10400 (04/15) Page 2 of 2 **VII**. Bar W Ranch Phase 3 & Phase 3 Amenity Center CZP Approval Letter

Jon Niermann, *Chairman*Emily Lindley, *Commissioner*Bobby Janecka, *Commissioner*Toby Baker, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 24, 2020

Mr. Joe Straub BWR Land Holdings 80, LLC 4408 Spicewood Springs Road Austin, Texas 78759

Re: Edwards Aquifer, Williamson County

NAME OF PROJECT: Bar W Ranch West Phase 3; South of Bar W Ranch Blvd and Gold Dust Trl, and State Hwy 29; Leander, Texas

TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer

Edwards Aquifer Protection Program ID No. 11002056; Regulated Entity No. RN108926536

Dear Mr. Straub:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP Application for the above-referenced project submitted to the Austin Regional Office by Carlson, Brigance, & Doering, Inc. on behalf of BWR Land Holdings 80, LLC on May 29, 2020. Final review of the CZP was completed after additional material was received on July 10, 2020 and July 20, 2020. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.

PROJECT DESCRIPTION

The proposed residential project will have an area of approximately 40.96 acres. It will include single-family homes, streets, sidewalks, drives, parks, utilities, and associated appurtenances. The impervious cover will be 21.56 acres (53 percent). Project wastewater will be disposed of by conveyance to the existing Liberty Hill Wastewater Treatment Plant.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, wet basin (Pond F), designed using the TCEQ technical guidance document, <u>Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices</u> (2005), will be constructed to treat stormwater runoff for this phase (Phase 3), a portion of Phase 1 Section 2, a portion of Phase 2, and impervious cover from a future phase. The required total suspended solids (TSS) treatment for this project is 18,766 pounds of TSS generated from the 21.56 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

SPECIAL CONDITIONS

- I. All permanent pollution abatement measures shall be operational prior to occupancy of the facility.
- II. All sediment and/or media removed from the water quality basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

STANDARD CONDITIONS

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

Prior to Commencement of Construction:

- 4. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.
- 5. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
- 6. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.
- 7. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and

Mr. Joe Straub Page 3 July 24, 2020

the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

- 8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
- 9. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. 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).
- 10. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
- 11. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
- 12. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.
- 13. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 5, above.

After Completion of Construction:

- 14. Owners of permanent BMPs and measures must ensure that the 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 Austin Regional Office within 30 days of site completion.
- 15. The applicant shall be 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. A copy of the transfer of responsibility must be filed with the executive director through the Austin Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

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- 16. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
- 17. A Contributing Zone Plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
 - 18. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

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

Sincerely,

Robert Sadlier, Section Manager Edwards Aquifer Protection Program

Texas Commission on Environmental Quality

RCS/jcs

Enclosure: Change in Responsibility for Maintenance of Permanent BMPs, Form TCEO-10263

Change in Responsibility for Maintenance on Permanent Best Management Practices and Measures

The applicant is no longer responsible for maintaining the permanent best management practice (BMP) and other measures. The project information and the new entity responsible for maintenance is listed below.

Customer:			
Regulated Entity Name:			
Site Address:			
City, Texas, Zip:			
County:			
Approval Letter Date:			- 2
BMPs for the project:			
New Responsible Party:			
Name of contact:			
Mailing Address:			
City, State:			Zip:
Telephone:		FAX:	
Signature of New Responsible Party	Date		

I acknowledge and understand that I am assuming full responsibility for maintaining all permanent best management practices and measures approved by the TCEQ for the site, until another entity assumes such obligations in writing or ownership is transferred.

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

Jon Niermann, *Chairman*Emily Lindley, *Commissioner*Bobby Janecka, *Commissioner*Toby Baker, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 29, 2022

Mr. John Sparrow Continental Homes of Texas, LP 10700 Pecan Park Blvd., Suite 400 Austin, Texas 78750

Re: Edwards Aquifer, Williamson County

NAME OF PROJECT: Bar W Ranch Amenity Center; Located at 2117 Gold Dust Trail; Leander,

Texas

TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer

Regulated Entity No. RN111450706; Additional ID No. 11002964

Dear Mr. Sparrow:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP for the above-referenced project submitted to the Austin Regional Office by Carlson, Brigance & Doering, Inc. on behalf of Continental Homes of Texas, LP on March 1, 2022. Final review of the CZP was completed after additional material was received on April 19, 2022. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed, and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aguifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.

PROJECT DESCRIPTION

The project is on a 3.79-acre site with 1.12 acres (29.55 percent) of proposed impervious cover. The project proposes construction of a swimming pool, deck, sidewalks, and pavilions along with associated parking. Project wastewater will be disposed of by conveyance to the existing Liberty Hill Wastewater Treatment Plant owned and operated by the City of Liberty Hill.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, an existing wet basin (Pond F) (11002056), designed using the TCEQ technical guidance document, <u>Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005)</u>, will be utilized to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 975 pounds of TSS generated from the 1.12 acres of impervious cover. The approved measure meets the required 80 percent removal of the increased load in TSS caused by the project.

SPECIAL CONDITION

I. All sediment and/or media removed from the existing wet basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

STANDARD CONDITIONS

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

Prior to Commencement of Construction:

- 4. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.
- 5. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
- 6. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.
- 7. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges

Mr. John Sparrow April 29, 2022 Page 3

from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

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Mr. John Sparrow April 29, 2022 Page 4

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

Sincerely,

Lillian Butler, Section Manager

Lillian Butler

Edwards Aquifer Protection Program

Texas Commission on Environmental Quality

LIB/dpm

Enclosure: Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Ms. Joann A. Eagle, P.E., Carlson, Brigance & Doering, Inc.