WATER POLLUTION ABATEMENT PLAN MODIFICATION

COLONY AT COLE SPRINGS PHASE 1 COLE SPRINGS RD AND OLD BLACK COLONY RD BUDA, HAYS COUNTY, TEXAS

Prepared For:

M/I HOMES OF AUSTIN, LLC

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Prepared By:

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Firm No. 928 KHA Project No. 067783115

June 11, 2024



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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 will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited**.
- 4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

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

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

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

- If the technical review has begun your application can be denied/withdrawn, your fees will be forfeited, and the plan will have to be resubmitted.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

If the application is denied/withdrawn, the resubmitted application will be subject to the administrative and technical review processes and will be treated as a new application.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

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

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

1. Regulated Entity Name: Colony at Cole Springs Phase 1				2. Re	egulate	ed Entity No.: 111401139			
3. Customer Name: M/I Homes of Austin, LLC Meritage Homes of Texas, LLC		4. Customer No.: 604305250, 603298068							
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 Clarificatio	Optional Enhanced Measures
7. Land Use: (Please circle/check one)	Resider	<u>ıtial</u>	Non-residential		8. Site (acres):		e (acres):	29.43	
9. Application Fee:	\$4,000		10. Permanent B		MP(s): Batch Deten		Batch Deten	tion Pond	
11. SCS (Linear Ft.):	N/A		12. AST/UST (No.			. Tanks): N/A			
13. County:	Hays		14. Watershed:			Onion Creek			

Application Distribution

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

http://www.tceq.texas.gov/assets/public/compliance/field_ops/eapp/EAPP%2oGWCD%2omap.pdf

For more detailed boundaries, please contact the conservation district directly.

Austin Region						
Hays	Travis	Williamson				
X	_	_				
_ <u>X</u> _		_				
_ <u>X</u> _		_				
Edwards Aquifer Authority _X_Barton Springs/ Edwards AquiferHays TrinityPlum Creek	Barton Springs/ Edwards Aquifer	NA				
Austin _X_BudaDripping SpringsKyleMountain CitySan MarcosWimberleyWoodcreek	AustinBee CavePflugervilleRollingwoodRound RockSunset ValleyWest Lake Hills	AustinCedar ParkFlorenceGeorgetownJerrellLeanderLiberty HillPflugerville Round Rock				
	Hays X X X Edwards Aquifer Authority X Barton Springs/ Edwards Aquifer Hays Trinity Plum Creek Austin X Buda Dripping Springs Kyle Mountain City San Marcos Wimberley	Hays _X				

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 appl hereby submitted to TCEQ for administrative review ar	
Alejandro E. Granados Rico, P.E.	
Print Name of Customer/Authorized Agent	
Alejandro E. Granda lier	6/11/2024
Signature of Customer/Authorized Agent	Date

FOR TCEQ INTERNAL USE ONLY				
Date(s)Reviewed:	Date Administratively Complete:			
Received From:	Correct Number of Copies:			
Received By:	Distribution Date:			
EAPP File Number:	Complex:			
Admin. Review(s) (No.):	No. AR Rounds:			
Delinquent Fees (Y/N):	Review Time Spent:			
Lat./Long. Verified:	SOS Customer Verification:			
Agent Authorization Complete/Notarized (Y/N):	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):			



SECTION 1: GENERAL INFORMATION

General Information Form

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Alejandro E. Granados Rico, P.E. Date: June 11, 2024 Signature of Customer/Agent: Alejandro E. Granda Rico Project Information 1. Regulated Entity Name: Colony at Cole Springs Phase 1 2. County: Hays 3. Stream Basin: Onion Creek 4. Groundwater Conservation District (If applicable): N/A 5. Edwards Aquifer Zone: | Recharge Zone Transition Zone 6. Plan Type: $oxed{oxed}$ WPAP **Exception Request SCS** Modification **AST**

7.	Customer (Applicant):	
	Contact Person: Kyle Kriegel Entity: M/I Homes of Austin, LLC Mailing Address: 7600 N. Capital of Texas Hwy.; Blo City, State: Austin, TX Telephone: 512-770-8524 Email Address: kkriegel@mihomes.com	dg. C, Suite 250 Zip: <u>78731</u> Fax: <u>N/A</u>
	Contact Person: <u>Brandon Hammann</u> Entity: <u>Meritage Homes of Texas, LLC</u> Mailing Address: <u>12301 Research Blvd, Suite 400</u>	
	City, State: <u>Austin, TX</u> Telephone: <u>512-610-4816</u>	Zip: <u>78759</u> Fax: <u>N/A</u>
	Email Address: <u>brandon.hammann@meritagehom</u>	<u>es.com</u>
8.	Agent/Representative (If any): Contact Person: Alejandro E. Granados Rico, P.E.	
	Entity: Kimley-Horn Mailing Address: 501 S. Austin Ave, Suite 1310 City, State: Georgetown, Texas Telephone: 512-520-0768 Email Address: alex.granados@kimley-horn.com	Zip: <u>78626</u> Fax: <u>N/A</u>
9.	Project Location:	
	 The project site is located inside the city limits The project site is located outside the city limit jurisdiction) of The project site is not located within any city's 	s but inside the ETJ (extra-territorial
10.	The location of the project site is described bel detail and clarity so that the TCEQ's Regional st boundaries for a field investigation. Intersection: Rd	taff can easily locate the project and site
11.	Attachment A – Road Map. A road map showing project site is attached. The project location are the map.	_
12.	Attachment B - USGS / Edwards Recharge Zon USGS Quadrangle Map (Scale: 1" = 2000') of th The map(s) clearly show:	
	Project site boundaries.USGS Quadrangle Name(s).	

	Boundaries of the Recharge Zone (and Transition Zone, if applicable). Drainage path from the project site to the boundary of the Recharge Zone.
13. 🔀	The TCEQ must be able to inspect the project site or the application will be returned. Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment.
	Survey staking will be completed by this date: <u>TBD</u>
14. 🔀	Attachment C – Project Description. Attached at the end of this form is a detailed narrative description of the proposed project. The project description is consistent throughout the application and contains, at a minimum, the following details:
	 Area of the site ✓ Offsite areas ✓ Impervious cover ✓ Permanent BMP(s) ✓ Proposed site use ✓ Site history ✓ Previous development ✓ Area(s) to be demolished
15. Ex	kisting project site conditions are noted below:
	 □ Existing commercial site □ Existing industrial site □ Existing residential site □ Existing paved and/or unpaved roads □ Undeveloped (Cleared) □ Undeveloped (Undisturbed/Uncleared) □ Other:
Pro	hibited Activities
16. 🔀	I am aware that the following activities are prohibited on the Recharge Zone and are not proposed for this project:
	(1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);
	(2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;
	(3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;
	(4) The use of sewage holding tanks as parts of organized collection systems; and
	(5) New municipal solid waste landfill facilities required to meet and comply with Type I

standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types

of Municipal Solid Waste Facilities).

(6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading. 17. I am aware that the following activities are prohibited on the Transition Zone and are not proposed for this project: (1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control); (2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and (3) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title. Administrative Information 18. The fee for the plan(s) is based on: For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur. For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines. For a UST Facility Plan or Modification or an AST Facility Plan or Modification, the total number of tanks or piping systems. A request for an exception to any substantive portion of the regulations related to the protection of water quality. A request for an extension to a previously approved plan. 19. Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's: TCEQ cashier \bowtie Austin Regional Office (for projects in Hays, Travis, and Williamson Counties) San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and **Uvalde Counties**) 20. Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and

county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional

21. No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the Executive Director.

TCEQ-0587 (Rev. 02-11-15)

office.



Road Map



DIRECTIONS FROM TCEQ HEADQUARTERS TO PROJECT SITE

- 1. HEAD SOUTH ON PARK 35 CIRCLE, TURNING RIGHT ONTO S IH-35 FRONTAGE ROAD
- 2. USE LEFT LANE TO TAKE RAMP ONTO IH-35 AND CONTINUE SOUTH
- 3. TAKE EXIT 221 TOWARD MAIN STREET AND CONTINUE SOUTH ON S IH-35 FRONTAGE ROAD
- 4. SLIGHT RIGHT TOWARD MAIN ST/OLD NORTH LOOP 4
- 5. TURN RIGHT ONTO FM 967/LIVE OAK ST
- 6. TURN LEFT ONTO COLE SPRINGS RD
- 7. TURN RIGHT ONTO OLD BLACK COLONY RD
- B. CONTINUE PAST ANTIOCH COLONY PARK FOR 0,2 MILES
- 9. SITE IS LOCATED ON THE LEFT



SHEET

EX A

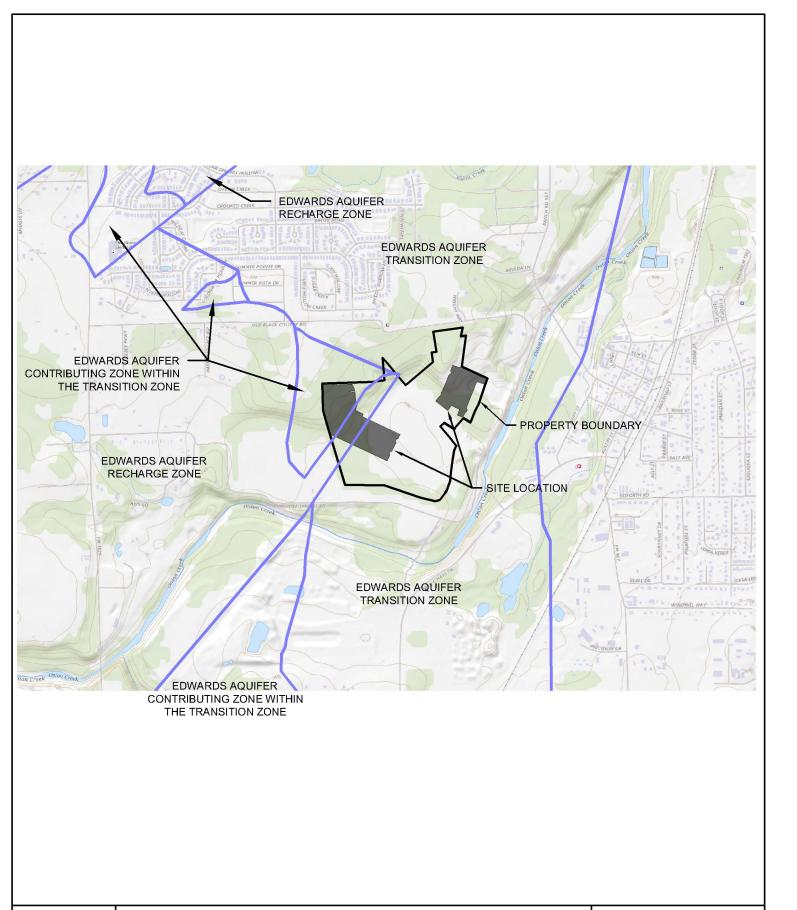
COLONY AT COLE SPRINGS PH 2

Kimley » Horn

Buda, Texas April 2024 501 S. AUSTIN AVE, SUITE 1310 GEORGETOWN, TX 78626 PHONE: (512) 520-0768



USGS/Edwards Recharge Zone Map



SHEET

EX B

Buda, Texas April 2024

COLONY AT COLE SPRINGS PH 2

Kimley»Horn 501 S. AUSTIN AVE, SUITE 1310 GEORGETOWN, TX 78626 PHONE: (512) 520-0768



Introduction

The subject site that is located in the Edwards aquifer recharge zone and contributing zone within the transition zone totals 29.43 acres and is a largely undeveloped lot located on Cole Springs Rd and Old Black Colony Rd and within the Full Purpose city limits of the City of Buda. The subject property is part of a larger development, Colony at Cole Springs, which encompasses ±178 acres and will comprise of residential single-family. This modification adds 18.62 acres from Phase 2 to the previously approved 10.81 acres from Phase 1 to total 29.43 acres of development in the Edward's aquifer recharge zone and contributing zone within the transition zone.

A portion of Phase 2 is located in the Federal Emergency Management Agency's 100-year floodplain according to FIRM 48209C0280F, dated September 2, 2005. The site is located within the Edwards Aquifer Recharge Zone and the Edwards Aquifer Contributing Zone within the Transition Zone. Note that no area in within the Recharge Zone or Contributing Zone within the Recharge Zone lies within the FEMA 100-year floodplain.

Current Tract Conditions

Legal Description

The legal description is described as 117.43 acres of land in the Hiram Cummings Survey, Phillips J. Allen Survey, A-1 & S.V.R. Eggleston Survey Abstract No. 5 City of Buda, Hays, County, Texas.

Land Use

The lot is zoned as a PUD following regulations for R-3 and F4 zonings, the site resides within the Full Purpose city limits of the City of Buda in Hays County, Texas.

Existing Drainage Conditions

Under existing conditions, the site generally flows from West to East. The site is part of two watersheds, with both discharging into onion creek along the eastern property boundary. This flow is then carried off the property to the North.

Proposed Development

The proposed Colony at Cole Springs Phase 2 includes construction of 179 lots of single-family residential development. Water and wastewater lines will be designed according to City of Buda specifications and connect to City of Buda utility services. Access to the site will be through two proposed driveways along FM 967 and Jack C. Hays Rd. The overall subdivision project encompasses 181.90 acres and proposes 68.61 acres (37.69%) of total impervious cover. Stormwater in Phase 2 will be treated according to TCEQ requirements through two (2) existing on site Batch Detention Ponds. The flow will be discharged east of the site and then into Onion Creek. A timing study was performed, and it was determined detention has a negative impact, therefore a detention waiver was approved.

For the purposes of this Water Pollution Abatement Plan, the project area will be defined by the 29.43 acres of the site located in Phases 1 and 2 that are within the Edwards Aquifer Recharge Zone and Contributing Zone within the Transition Zone that flows to the Recharge Zone, with 12.26 acres of impervious cover [3.92 previously approved, and an additional 8.34 with this modification] (which includes a total of 100 single family lots, 1 water tower lot, and other associated impervious cover) within this project area.



Drainage and Water Quality Analysis

Floodplain Information

A portion of Phase 2 is located in the Federal Emergency Management Agency's 100-year floodplain according to FIRM 48209C0280F, dated September 2, 2005. The site is located within the Edwards Aquifer Recharge Zone and the Edwards Aquifer Contributing Zone within the Transition Zone. No portion of the area within the Recharge and Contributing Zone within the Transition Zone lies within the 100-year floodplain.

On-Site Drainage

The proposed Phase 2 site will convey runoff through an underground storm pipe system into two (2) existing on site Batch detention ponds (Pond 2 and Pond 3). The water quality ponds were sized for treatment, but no detention ponds are being proposed with an approved Detention Waiver Request. Drainage area maps and calculations are included in the construction set included in the Exhibits Section.

Off-Site Drainage

Under existing conditions, 353.33 acres of offsite water enters the site from the West. The off-site drainage will be intercepted via trap channels on the western and northern boundaries of the site and will be conveyed around/through the property and be discharged into Onion Creek floodplain on the Southeast and east side of the property.

Detention and Water Quality

Water Quality Best Management Practices (BMP) for Colony at Cole Springs Phase 2 will address the water quality requirements for the ultimate area disturbed. Phase 2 will include drainage to two (2) Batch Detention Ponds: Pond 2 and Pond 3, that are existing and approved in Phase 1. Pond 1, another batch detention pond will be constructed in a later phase as part of overall water quality for the entire subdivision. All of the area in Phase 2 within the recharge and contributing zone within the transition zone will be routed to Pond 2. Offsite drainage has no impervious cover and is remaining in its natural state; therefore no treatment will be provided for these areas. These drainage areas are to meet all water quality requirements per TCEQ requirements. See Permanent Stormwater Section – Attachment C for a breakdown on TSS calculations, along with a map showing the designated area for this modification.

For the purpose of this Water Pollution Abatement Plan, water quality for the areas of the project within the Edwards Aquifer Recharge Zone and Edwards Aquifer Contributing Zone within the Transition Zone will be provided solely by existing Pond 2. There will be no area in Phase 2 within the Edwards Aquifer Recharge Zone and Edwards Aquifer Contributing Zone within the Transition Zone that will drain to existing Pond 3.

No detention ponds are proposed as it would negatively impact the timing. The detention waiver study has been provided for reference.

Erosion and Sedimentation Controls

Temporary erosion and sedimentation controls during construction are proposed on the Erosion Control Plan and include silt fences, inlet protection, construction staging area, concrete washout, rock berm, and a stabilized construction entrance designed to City of Austin criteria. The land disturbed during construction, including the staging and stockpile areas, will drain into the proposed on-site storm sewer system where it will be conveyed to the proposed water quality ponds located on-site. The water quality ponds will discharge onto proposed rock rip rap and eventually into Onion Creek.



SECTION 2: MODIFICATION OF A PREVIOUSLY APPROVED PLAN

Modification of a Previously Approved Plan

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Transition Zone and Relating to 30 TAC 213.4(j), Effective June 1, 1999

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

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

Signature

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

Print Name of Customer/Agent: Alex Granados

Date: <u>6/11/2024</u>

Signature of Customer/Agent:

Alejandro E. Granda lies

Project Information

2. Attachment A: Original Approval Letter and Approved Modification Letters. A copy of the original approval letter and copies of any modification approval letters are attached.

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

WPAP Modification	Approved Project	Proposed Modification
Summary		
Acres	<u>10.81</u>	29.43
Type of Development	Single Family Residential	Single Family Residential
Number of Residential	<u>32</u>	<u>100</u>
Lots		
Impervious Cover (acres)	3.92	<u>12.26</u>
Impervious Cover (%	<u>36.26%</u>	41.66%
Permanent BMPs	Batch Detention Pond	Batch Detention Pond
Other	N/A	<u>N/A</u>
SCS Modification	Approved Project	Proposed Modification
Summary		
Linear Feet	<u>N/A</u>	N/A
Pipe Diameter	N/A	<u>N/A</u>
Other	<u>N/A</u>	N/A

AST Modification	Approved Project	Proposed Modification		
Summary				
Number of ASTs	<u>N/A</u>	<u>N/A</u>		
Volume of ASTs	<u>N/A</u>	<u>N/A</u>		
Other	<u>N/A</u>	<u>N/A</u>		
UST Modification	Approved Project	Proposed Modification		
Summary		,		
Number of USTs	<u>N/A</u>	<u>N/A</u>		
Volume of USTs	<u>N/A</u>	<u>N/A</u>		
Other	<u>N/A</u>	<u>N/A</u>		
the nature of the propose	of Proposed Modification. A deta d modification is attached. It discu pdifications, and how this proposed	isses what was approved,		
the existing site developmed modification is attached. modification is required e The approved construction any subsequent modification document that the approved construction illustrates that the site The approved construction illustrates that the site The approved construction Attachment C illustrates The approved construction of t	te Plan of the Approved Project. As ite plan detailing the changes polisewhere. It is in approval letters are included proval has not expired. It is was constructed as approved. It is was constructed as approved. It is was not commenced and has been a was not commenced and has been a was not constructed as approved. It is not commenced and has not expired. It is not commenced and has not expired. It is not commenced and has not expired.	e time this application for roposed in the submitted ginal approval letter and ed as Attachment A to a completed. Attachment C an completed. Attachment C been completed. Eructed as approved. been completed.		
 7.				
8. Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate region office.				

ORIGINAL APPROVAL LETTERS AND APPROVED MODIFICATION LETTERS

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

May 13, 2022

Mr. William Peckman M/I Homes of Austin, LLC 7600 N. Capital of Texas Hwy, Suite 250 Austin, TX 78731-1245

Mr. Elliot Jones Meritage Homes of Texas, LLC 8920 Business Park Drive, Suite 350 Austin. TX 78759

Re: Edwards Aquifer, Hays County

NAME OF PROJECT: Colony at Cole Springs Phase 1; Located 1.25 Miles from FM 1626 on Cole Springs Rd; Buda, Texas

TYPE OF PLAN: Request for Approval of a Water Pollution Abatement Plan (WPAP) and an Organized Sewage Collection System (SCS); 30 Texas Administrative Code (TAC) Chapter 213 & 217 Edwards Aquifer

Edwards Aquifer Protection Program ID Nos. 11002864 (WPAP) and 11002865 (SCS); Regulated Entity No. RN111401139

Dear Mr. Peckman and Mr. Jones:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP and SCS applications for the above-referenced project submitted to the Austin Regional Office by Kimley-Horn and Associates, Inc. on behalf of M/I Homes of Austin, LLC and Meritage Homes of Texas, LLC on January 06, 2022. Final review of the WPAP and SCS applications was completed after additional material was received on April 8, 2022, April 28, 2022, and May 6. 2022. As presented to the TCEO, 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 and Chapter 217. 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

WPAP DESCRIPTON

The proposed residential project will have an area of approximately 11.09 acres. It includes 33 single family residences, drives, utilities, and associated appurtenances. The impervious cover will be 4.06 acres (36.61 percent).

SCS DESCRIPTION

The proposed SCS will provide disposal service for single-family residences. The 2,088 linear feet gravity SCS system will consist of 1,518 linear feet of 8-inch diameter PVC SDR-26 pipe that meets ASTM-D3034 standards, 570 linear feet 6-inch diameter PVC SDR-26 pipe that meets ASTM-D3034 standards.

The system will be connected to an existing City of Buda wastewater line for conveyance to the existing City of Buda Wastewater Treatment Plant for treatment and disposal. The project is located within the City of Buda and will conform to all applicable codes, ordinances, and requirements of the City of Buda.

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, two (2) partial sedimentation filtration ponds (Pond 2 & Pond 3), designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 3,644 pounds of TSS generated from the 4.06 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

Pond 2 and Pond 3 are sized for future development and are designed to remove 10,053 pounds of TSS (Pond 2 treats 36,604 pounds, Pond 3 treats 15,493 pounds) to treat stormwater runoff from a maximum of 58.04 acres of impervious cover (Pond 2 treats 40.78 acres, Pond 3 treats 17.26 acres).

GEOLOGY

According to the Geologic Assessment (GA) included with the application, the site is underlain by the Georgetown Limestone, Del Rio Clay, and Buda Limestone Formations. No sensitive features were identified on site. The site is located partially within Edwards Aquifer contributing zone within the transition zone, partially within Edwards Aquifer recharge zone and partially within Edwards Aquifer transition zone. The TCEQ site assessment conducted on March 17, 2022, revealed the site to be generally in accordance with the description included in the GA.

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 basins during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

Mr. William Peckman & Mr. Elliot Jones Page 3 May 13, 2022

III. All wastewater collection and conveyance infrastructure shall be operational prior to any occupancy of the houses and prior to any wastewater flow being introduced into the sewage collection system.

STANDARD CONDITIONS

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

Prior to Commencement of Construction:

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

Mr. William Peckman & Mr. Elliot Jones Page 4 May 13, 2022

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

During Construction:

- 10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213 and Chapter 217, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
- 11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
- 12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the Austin Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
- 13. All water wells including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
- 14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
- 15. Discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices.
- 16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
- 17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.
- 18. No part of the system shall be used as a holding tank for a pump-and-haul operation.

Mr. William Peckman & Mr. Elliot Jones Page 5 May 13, 2022

After Completion of Construction:

- 19. 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.
- 20. 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 Austin Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.
- 21. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
- 22. Certification by a Texas Licensed Professional Engineer of the testing of sewage collection systems required by 30 TAC Chapter 213 and Chapter 217 shall be submitted to the Austin Regional Office within 30 days of test completion and prior to the new sewage collection system being put into service. The certification should include the project name as it appeared on the approved application, the program ID number, and two copies of a site plan sheet(s) indicating the wastewater lines that were tested and are being certified as complying with the appropriate regulations.
 - Every five years after the initial certification, the sewage collection system shall be retested. Any lines that fail the test must be repaired and retested. Certification that the system continues to meet the requirements of 30 TAC Chapter 213 and Chapter 217 shall be submitted to the Austin Regional Office. The certification should include the project name as it appeared on the approved application, the program ID number and two copies of a site plan sheet(s) indicating the wastewater lines that were tested and are being certified as complying with the appropriate regulations. Should any test result fail to meet passing test criteria, and then subsequently pass testing, the result(s) and an explanation of what repair, adjustment, or other means were taken to facilitate a subsequent passing result shall be provided.
- 23. If ownership of this organized sewage collection system is legally transferred (e.g., developer to city or Municipal Utility District), the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
- 24. 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.
- 25. An Edwards Aquifer protection plan approval or extension will expire, and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

Mr. William Peckman & Mr. Elliot Jones Page 6 May 13, 2022

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 Bob Castro, P.E. of the Edwards Aquifer Protection Program of the Austin Regional Office at (512) 339-2929.

Sincerely,

Lillian Butler, Section Manager

Edwards Aquifer Protection Program

Texas Commission on Environmental Quality

LIB/rbc

Enclosures: Deed Recordation Affidavit, Form TCEQ-0625

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

CC: Mr. William Buzzelli, P.E., Kimley-Horn and Associates, Inc.

Jon Niermann, *Chairman*Emily Lindley, *Commissioner*Bobby Janecka, *Commissioner*Kelly Keel, *Interim Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 4, 2023

Mr. William Peckman M/I Homes of Austin, LLC 7600 N Capital of Texas HWY, Suite 250 Austin, Texas 78731

Re: Modification of an approved Water Pollution Abatement Plan (WPAP)

Colony At Cole Springs Phase 1; Located 1.25 Mi from FM 1626 on Cole Springs Rd.;

Buda, Hays County, Texas

Edwards Aquifer Protection Program ID: 11003702, Regulated Entity No. RN111401139

Dear Mr. Peckman:

The Texas Commission on Environmental Quality (TCEQ) has completed its review on the application for the above-referenced project submitted to the Edwards Aquifer Protection Program (EAPP) by Kimley-Horn and Associates, Inc. on behalf of the applicant, M/I Homes of Austin, LLC, on September 5, 2023. Final review of the application was completed after additional material was received on November 30, 2023.

As presented to the TCEQ, the application was prepared in general compliance with the requirements of 30 Texas Administrative Codes (TAC) Chapter §213. The permanent best management practices (BMPs) and measures represented in the application were prepared by a Texas licensed professional engineer (PE). All construction plans and design information were sealed, signed, and dated by a Texas licensed PE. Therefore, the application for the construction of the proposed project and methods to protect the Edwards Aquifer are **approved**, subject to applicable state rules and the conditions in this letter.

This approval expires two 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 officially requested. This approval or extension will expire, and no extension will be granted if more than 50 percent of the project has not been completed within ten years from the date of 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 in accordance with 30 TAC §50.139.

BACKGROUND

The proposed Colony at Cole Springs subdivision project encompasses 182.02 acres and approximately 68.61 acres of impervious cover. A WPAP was approved for a portion of this site in a TCEO letter dated May 13, 2023 (EAPP ID No. 11002864).

PROJECT DESCRIPTION

The proposed residential project will have a total area of approximately 10.81 acres located within the Edwards Aquifer recharge zone and contributing within the transition zone. The project will include 32 single family residential lots, realignment of Old Clack Colony Rd. realignment of bridge construction of Cole Springs Road. The modification will include the change of the approved PBMPs from partial sedimentation filtration basins to batch detention basins as well as a reduction of lots from the original approval. The impervious cover will be 3.92 acres (36 percent). Project wastewater will be disposed of by conveyance to the existing City of Buda 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, two batch detention basins (Pond 2 and Pond 3), designed using the TCEQ technical guidance, *RG-348, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices,* will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 3,519 pounds of TSS generated from the 3.92 acres of impervious cover. The approved permanent BMPs and measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The permanent BMPS shall be operational prior to occupancy or use of the proposed project. Inspection, maintenance, repair, and retrofit of the permanent BMPs shall be in accordance with the approved application.

GEOLOGY

According to the Geologic Assessment (GA) included with the application, the surficial units of the site are the Buda Limestone and Del Rio Clay. No sensitive geologic features were identified in the GA. The site assessment conducted on November 15, 2023, by TCEQ staff determined the site to be generally as described by the GA.

SPECIAL CONDITIONS

I. This modification is subject to all the special and standard conditions listed in the approval letter(s) dated May 13, 2022.

STANDARD CONDITIONS

- 1. The plan holder (applicant) must comply with all provisions of 30 TAC Chapter §213 and all technical specifications in the approved plan. The plan holder should also acquire and comply with additional and separate approvals, permits, registrations or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, Dam Safety, Underground Injection Control) as required based on the specifics of the plan.
- 2. In addition to the rules of the Commission, the plan holder must also comply with state and local ordinances and regulations providing for the protection of water quality as applicable.

Prior to Commencement of Construction:

3. Within 60 days of receiving written approval of an Edwards Aquifer protection plan, the plan holder must submit to the EAPP proof of recordation of notice in the county deed records, with the volume and page number(s) of the county record. A description of the

Mr. William Peckman Page 3 December 4, 2023

property boundaries shall be included in the deed recordation in the county deed records. TCEQ form, Deed Recordation Affidavit (TCEQ-0625), may be used.

- 4. The plan holder of any approved Edwards Aquifer protection plan must notify the EAPP and obtain approval from the executive director prior to initiating any modification to the activities described in the referenced application following the date of the approval.
- 5. The plan holder must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the EAPP no later than 48 hours prior to commencement of the regulated activity. Notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person.
- 6. Temporary erosion and sedimentation (E&S) controls as described in the referenced application, 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. 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.
- 7. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring or gravel. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation.

During Construction:

- 8. This approval does not authorize the installation of temporary or permanent aboveground storage tanks on this project that will have a total storage capacity of five hundred gallons or more of static hydrocarbons or hazardous substances without prior approval of an Aboveground Storage Tank facility application.
- 9. If any sensitive feature is encountered during construction, replacement, or rehabilitation on this project, all regulated activities must be **immediately** suspended near it and notification must be made to TCEQ EAPP staff. Temporary BMPs must be installed and maintained to protect the feature from pollution and contamination. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality.
- 10. All water wells, including injection, dewatering, and monitoring wells shall be identified in the geologic assessment and must be in compliance with the requirements of the Texas Department of Licensing and Regulation 16 TAC Chapter §76 and all other locally applicable rules, as appropriate.
- 11. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
- 12. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge must be filtered through appropriately selected BMPs.

Mr. William Peckman Page 4 December 4, 2023

- 13. 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.
- 14. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

- 15. Owners of permanent BMPs and temporary measures must ensure that the BMPs and measures are constructed and function as designed. A Texas licensed PE must certify in writing that the **permanent** BMPs or measures were constructed as designed. The certification letter must be submitted to the EAPP within 30 days of site completion.
- 16. 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 or the ownership of the property is transferred to the entity. A copy of the transfer of responsibility must be filed with the executive director through the EAPP within 30 days of the transfer. TCEQ form, Change in Responsibility for Maintenance on Permanent BMPs and Measures (TCEQ-10263), may be used.

The holder of the approved Edwards Aquifer protection plan is responsible for compliance with Chapter §213 and any condition of the approved plan through all phases of plan implementation. Failure to comply with any condition within this approval letter is a violation of Chapter §213 and is subject to administrative rule or orders and penalties as provided under §213.10 of this title (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. Upon legal transfer of this property, the new owner is required to comply with all terms of the approved Edwards Aquifer protection plan.

This action is taken as 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 at 512-339-2929.

Sincerely,

Lillian Butler, Section Manager

Edwards Aquifer Protection Program

Texas Commission on Environmental Quality

LIB/bmy

cc: Mr. Alex Granados, P.E., Kimley-Horn and Associates, Inc.

NARRATIVE OF PROPOSED MODIFICATION

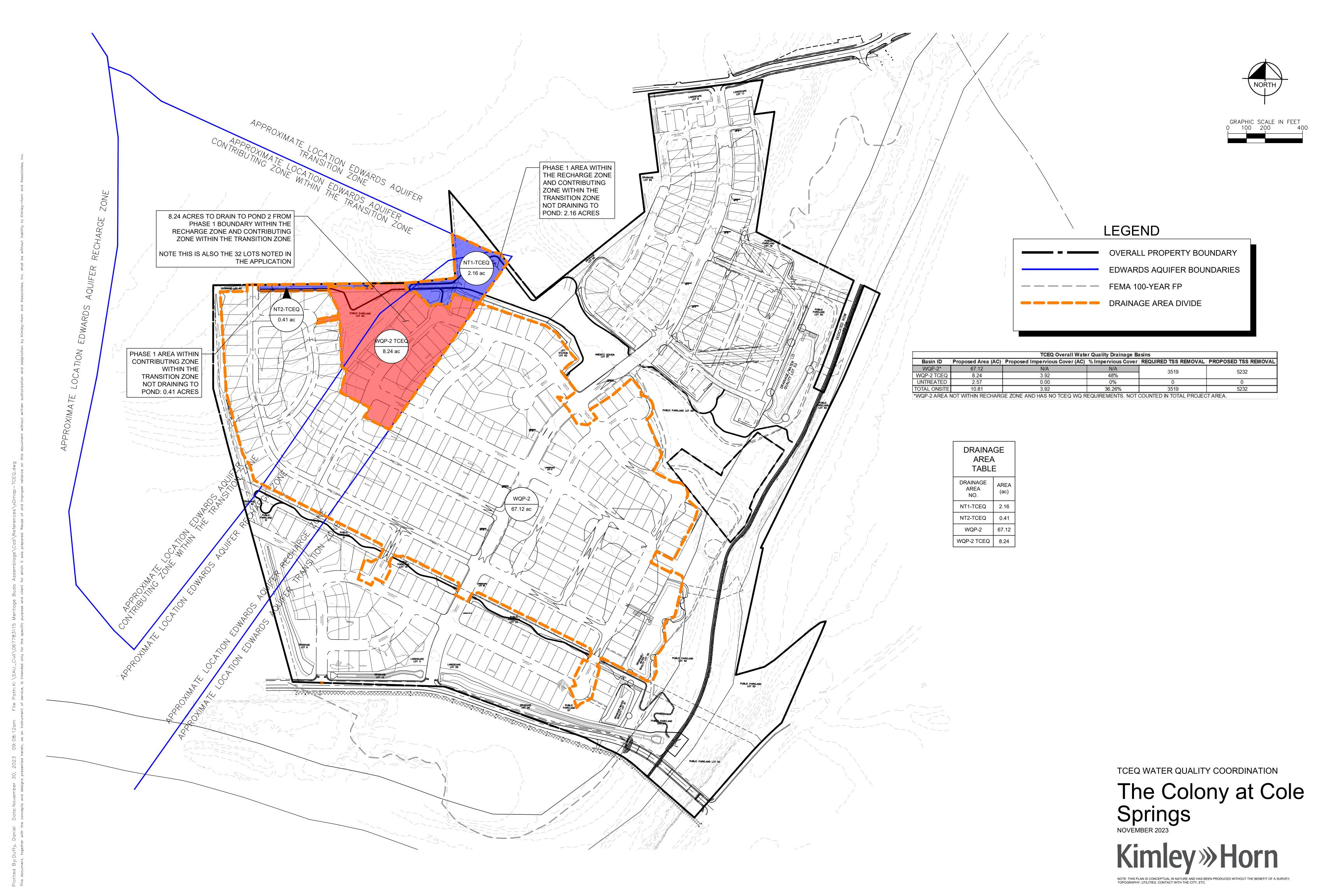
The Colony Phase 2 is a portion of a larger single-family development, The Colony at Cole Springs, which encompasses approximately 178 acres. The approved Phase 1 encompasses approximately 113 acres of onsite single-family residential development. The subject property is located near the intersection of Old Black Colony Road and Cole Springs Road, in the City of Buda, Texas and exists currently as undeveloped rangeland. The scope of the project consists of the following civil improvements: roadway, water, wastewater, drainage improvements and storm sewer. A portion of the site lies within Edwards Aquifer Recharge Zone and Contributing Zone within the Transition Zone and within the 100-year floodplain as defined by Federal Emergency Management Agency Federal Insurance Rate Map # 48209C0280F, dated September 2, 2005.

A Water Pollution Abatement Plan (EAPP ID No. 11002864) was approved on May 13, 2022. The plan approved the construction of roadway improvements and associated infrastructure to construct 33 single-family lots, drives, streets, sidewalks, utilities, water quality facilities, and associated appurtenances on the 11.09-acre tract of land with a total of 4.06 acres of impervious cover.

A second Water Pollution Abatement Plan (EAPP ID No. 11003702) was approved on December 4, 2023. This modification was associated with the change of the PBMPs from partial sedimentation filtration basins to batch detention basins and the reduction of lots from the original. The plan approved the construction of roadway improvements and associated infrastructure to construct 32 single-family lots, drives, streets, sidewalks, utilities, water quality facilities, and associated appurtenances on the 10.81-acre tract of land with a total of 3.92 acres of impervious cover.

The current proposed modification to the previously approved Water Pollution Abatement Plan is the addition of the Colony Phase 2. Just as the previous WPAPs, the project area will be defined as the area within the Edward's Aquifer Recharge Zone and the area that drains from the area within the Edward's Aquifer Contributing Zone within the Transition Zone onto the Recharge Zone. Colony Phase 2 includes 68 single-family lots on a total area of 18.62 acres. The addition of these lots will increase the area from 10.81 acres to a total of 29.43 acres. The additional impervious cover associated with the Colony Phase 2 is 8.34 acres. The addition of these lots will increase the overall impervious cover area from 3.92 acres to 12.26 acres. This modification does not propose any additional offsite impervious cover.

CURRENT SITE PLAN OF THE APPROVED PROJECT



PLAN SUBMITTAL/REVIEW LOG

1ST SUBMITTAL TO CITY 1ST SUBMITTAL TO CITY
STRESUBMITTAL TO CITY
COMPLETENESS RESUBMITTAL TO CITY
2ND RESUBMITTAL TO CITY
3RD RESUBMITTAL TO CITY
4TH RESUBMITTAL TO CITY
THE DESUBMITTAL TO CITY 10/08/2021 10/08/2021 03/31/2022 06/06/2022 08/12/2022 5TH RESUBMITTAL TO CITY 7TH RESUBMITTAL TO CITY

A PORTION OF PHASE 1 OF THE DEVELOPMENT IS LOCATED WITHIN A REGULATORY FEMA SPECIAL FLOOD HAZARD AREA, OR THE 100-YEAR FLOODPLAIN. FIRM PANEL NO.

RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA

RELEASE OF HIS APPLICATION DOES NOT CONSTITUTE A VENIFICATION OF ALL DAT PROGMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HISHER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.

ALL PORTIONS OF THIS SITE ARE OVER THE EDWARDS AQUIFER RECHARGE ZONE. RANSITION ZONE OR THE CONTRIBUTING ZONE WITHIN THE TRANSITION ZONE CONTRACTOR SHALL CONTACT INFRAMARK (O&M MANAGER) AT 14050 SUMMIT DRIVE CONTRACTOR SHALL CONTACT INFRAMARK (OSM MANAGER) AT 14695 SUMMIT DRIVE; SUITE 113A, AUSTIN, TX 78726 (512-246-0499) AND MUFFEE ENGINEERING COMPANY AT 512-327-9204, AT LEAST (3) DAYS PRIOR TO BEGINNING CONSTRUCTION OF PROPOSED IMPROVEMENTS OR MAKING ANY CONNECTION TO THE EXISTING WASTEWATER COLLECTION AND STORM DRAINAGE SYSTEM. FAILURE TO SUCCESSFULLY PROVIDE NOTICE OF WORK MAY RESULT IN RE-EXCAVATION AND/OR REMOVAL OF INSTALLED

ALL PROPOSED ELEVATIONS (SPOT GRADES AND CONTOURS) ARE TO FUTURE TOP ACL PROPOSED ELEVATIONS (SPIT GRADES AND CONTOXIS) ARE TO PLORE FOR OF GROUND AND PAVEMENT, CONTRACTOR TO CONSTRUCT ROADWAYS AND R.O.W. TO FINAL TOP OF PAVEMENT, CURB, AND GROUND ELEVATIONS PER THESE PLANS. CONTRACTOR TO VERIFY EXISTING TOP OF SUBGRADE ELEVATIONS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER IMMEDIATELY IF ANY DISCREPANCIES.

7. ALL WASTEWATER SERVICES TO BE EXTENDED 5' BEYOND THE PROPOSED 10' UTILITY

9. SEE T&J RSUBDIVISION REPLAT (2021-14) AND OVERLOOK REPLAT (2021-15) FOR OLD 10. PHASE 1 OF THE COLONY AT COLE SPRINGS MEETS THE REQUIREMENTS OF THE 11. HOA/MUD SHALL BE RESPONSIBLE FOR MAINTENANCE OF WATER QUALITY PONDS

5. THERE ARE TREES GREATER THAN 8" CALIPER WITHIN PHASE 1 OF THE

8. ENTIRE SITE IS LOCATED WITHIN BUDA CITY LIMITS AND BUDA ETJ

48209CO280F, HAYS COUNTY, TEXAS AND INCORPORATED AREAS (DATED

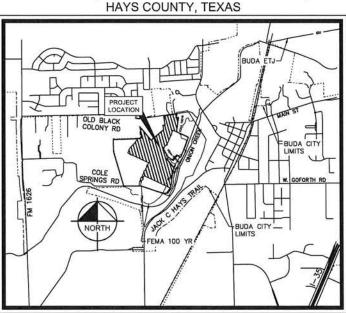
GENERAL PLAN NOTES:

CIVIL CONSTRUCTION PLANS PAVING, GRADING & UTILITIES

THE COLONY AT COLE SPRINGS PHASE 1

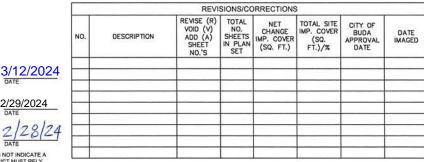
CITY OF BUDA, HAYS COUNTY, TEXAS **BUDA MUD NO.1**

177.75 ACRES, HIRAM CUMMINGS SURVEY, A-108, PHILLIPS J. ALLEN SURVEY, A-1 & S.V.R. EGGLESTON SURVEY, A-5 IN



JANUARY 2024

VICINITY MAP



	01 1111 = 11	92	PROPOSED OVERALL DRAINAGE MAP	189	SANITARY SEWER PLAN AND PROFILE - L
	Sheet List Table	93	PROPOSED INLET DRAINAGE MAP (SHEET 1 OF 8)	190	SANITARY SEWER PLAN AND PROFILE - L
Sheet		94	PROPOSED INLET DRAINAGE MAP (SHEET 2 OF 8)	191	SANITARY SEWER PLAN AND PROFILE - L
Number	Sheet Title	95	PROPOSED INLET DRAINAGE MAP (SHEET 3 OF 8) PROPOSED INLET DRAINAGE MAP (SHEET 4 OF 8)	192	SANITARY SEWER PLAN AND PROFILE - L
		96	PROPOSED INLET DRAINAGE MAP (SHEET 4 OF 8) PROPOSED INLET DRAINAGE MAP (SHEET 5 OF 8)	193	SANITARY SEWER PLAN AND PROFILE - L
1	COVER SHEET	97	PROPOSED INLET DRAINAGE MAP (SHEET 5 OF 8) PROPOSED INLET DRAINAGE MAP (SHEET 6 OF 8)	194	SANITARY SEWER PLAN AND PROFILE - L SANITARY SEWER PLAN AND PROFILE - L
2	GENERAL NOTES (SHEET 1 OF 2)	99	PROPOSED INLET DRAINAGE MAP (SHEET 7 OF 8)	196	SANITARY SEWER PLAN AND PROFILE -
3	GENERAL NOTES (SHEET 2 OF 2)		PROPOSED INLET DRAINAGE MAP (SHEET 8 OF 8)		
4	PRELIMINARY PLAT (SHEET 1 OF 7)	100	PROPOSED INLET CALCULATIONS (1 OF 4)	197	SANITARY SEWER PLAN AND PROFILE - L SANITARY SEWER PLAN AND PROFILE - L
5	PRELIMINARY PLAT (SHEET 2 OF 7) PRELIMINARY PLAT (SHEET 3 OF 7)	102	PROPOSED INLET CALCULATIONS (1 OF 4)	199	SANITARY SEWER PLAN AND PROFILE -
6	PRELIMINARY PLAT (SHEET 3 OF 7) PRELIMINARY PLAT (SHEET 4 OF 7)	103	PROPOSED INLET CALCULATIONS (2 OF 4)	200	SANITARY SEWER PLAN AND PROFILE -
8	PRELIMINARY PLAT (SHEET 5 OF 7)	104	PROPOSED INLET CALCULATIONS (4 OF 4)	201	SANITARY SEWER PLAN AND PROFILE -
9	PRELIMINARY PLAT (SHEET 5 OF 7) PRELIMINARY PLAT (SHEET 5 OF 7)	105	OVERALL STORM PLAN (1 OF 4)	202	SANITARY SEWER PLAN AND PROFILE
	PRELIMINARY PLAT (SHEET 7 OF 7)	106	OVERALL STORM PLAN (2 OF 4)	203	SANITARY SEWER PLAN AND PROFILE
10	PHASING PLAN	107	OVERALL STORM PLAN (3 OF 4)	204	SANITARY SEWER PLAN AND PROFILE -
12	TRAFFIC CONTROL PLAN - DETOUR LAYOUT	108	OVERALL STORM PLAN (4 OF 4)	205	SANITARY SEWER PLAN AND PROFILE -
13	PARKLAND HOA HATCHING	109	STORM DRAIN PLAN & PROFILE - SD LINE A (1 OF 2)	206	SANITARY SEWER PLAN AND PROFILE -
14	EXISTING CONDITIONS OVERALL	110	STORM DRAIN PLAN & PROFILE - SD LINE A (2 OF 2) & PEC 1	207	SANITARY SEWER PLAN AND PROFILE -
15	EXISTING CONDITIONS (SHEET 1 OF 3)	111	STORM DRAIN PLAN & PROFILE - SD LINE B (1 OF 2)	208	SANITARY SEWER PLAN AND PROFILE -
16	EXISTING CONDITIONS (SHEET 2 OF 3)	112	STORM DRAIN PLAN & PROFILE - SD LINE B (2 OF 2)	209	SANITARY SEWER MANHOLE INVERT DE
17	EXISTING CONDITIONS (SHEET 3 OF 3)	113	STORM DRAIN PLAN & PROFILE - SO LINE C (1 OF 2)	210	STREET LIGHT, SIGNING, & SIDEWALK P.
18	TREE TABLE (SHEET 1 OF 2)	114	STORM DRAIN PLAN & PROFILE - SO LINE C (2 OF 2)	211	STREET LIGHT, SIGNING, & SIDEWALK PL
19	TREE TABLE (SHEET 2 OF 2)	115	STORM DRAIN PLAN & PROFILE - SO LINE D & E	212	STREET LIGHT, SIGNING, & SIDEWALK PL
20	3 IN 8 IN. TREE MITIGATION	116	STORM DRAIN PLAN & PROFILE - SO LINE F & G	213	PAVING DETAILS (1 OF 3)
21	8 IN 20 IN. TREE MITIGATION	117	STORM DRAIN PLAN & PROFILE - SD LINE H	214	PAVING DETAILS (2 OF 3)
22	8 IN 20 IN. TREES TO BE REMOVED TABLE	118	STORM DRAIN PLAN & PROFILE - SO LINE I & K	215	PAVING DETAILS (3 OF 3)
23	20 IN 30 IN. + TREE MITIGATION	119	STORM DRAIN PLAN & PROFILE - SO LINE L & O	216	UTILITY CROSSING DETAILS (SHEET 1 OF
24	REQUIRED AND PROVIDED TREE MITIGATION	120	STORM DRAIN PLAN & PROFILE - SD LINE P & Q	217	UTILITY CROSSING DETAILS (SHEET 2 OF
25	EROSION & SEDIMENTATION CONTROL PLAN (1 OF 3)	121	STORM DRAIN PLAN & PROFILE - SD LINE R, S & DD	218	EROSION CONTROL DETAILS
26	EROSION & SEDIMENTATION CONTROL PLAN (2 OF 3)	122	STORM DRAIN PLAN & PROFILE - SD LINE T, U & V	219	DRAINAGE DETAIL (1 OF 4)
27	EROSION & SEDIMENTATION CONTROL PLAN (3 OF 3)	123	STORM DRAIN PLAN & PROFILE - SD LINE W & Y	220	DRAINAGE DETAIL (2 OF 4)
28	OVERALL GRADING PLAN	124	STORM DRAIN PLAN & PROFILE - SD LINE Z & AA	221	DRAINAGE DETAIL (3 OF 4)
29	GRADING PLAN (1 OF 12)	125	STORM DRAIN PLAN & PROFILE - SD LINE CC & GG	222	DRAINAGE DETAIL (4 OF 4)
30	GRADING PLAN (2 OF 12)	126	STORM DRAIN PLAN & PROFILE - SD LINE II & KK	223	WATER QUALITY DETAILS
31	GRADING PLAN (3 OF 12)	127	STORM DRAIN PLAN & PROFILE - SD LINE JJ	224	POND DETAILS
32	GRADING PLAN (4 OF 12)	128	STORM LATERAL PLAN & PROFILE - A0 A1 A2 & A3	225	UTILITY DETAIL (1 OF 2)
33	GRADING PLAN (5 OF 12)	129	STORM LATERAL PLAN & PROFILE - A4 A5 A6 & A7	226	UTILITY DETAIL (2 OF 2)
34	GRADING PLAN (6 OF 12)	130	STORM LATERAL PLAN & PROFILE - 80 81 82 & 83	D1	RETAINING WALL NOTES & DETAILS
35	GRADING PLAN (7 OF 12)	131	STORM LATERAL PLAN & PROFILE - 84 85 86 & 87	D2	RETAINING WALL NOTES & DETAILS
36	GRADING PLAN (8 OF 12)	132	STORM LATERAL PLAN & PROFILE - 88 89 810 & 811	S1	CONCRETE HEADWALL
37	GRADING PLAN (9 OF 12)	133	STORM LATERAL PLAN & PROFILE - B12 & B13	FP-1.0	LANDSCAPE IMPROVEMENT PLANS
38	GRADING PLAN (10 OF 12)	134	STORM LATERAL PLAN & PROFILE - C1 C2 C3 & C4	LO-1	LANDSCAPE IMPROVEMENT PLANS
39	GRADING PLAN (11 OF 12)	135	STORM LATERAL PLAN & PROFILE - C5 C6 & C7	LP-N1	LANDSCAPE IMPROVEMENT PLANS
40	GRADING PLAN (12 OF 12)	136	STORM LATERAL PLAN & PROFILE - C8 & C9	LP-N2	LANDSCAPE IMPROVEMENT PLANS
41	OVERALL SLOPE MAP	137	STORM LATERAL PLAN & PROFILE - D7 D8 D9 & E1	LP-1.0	LANDSCAPE IMPROVEMENT PLANS
42	IMPERVIOUS COVER SLOPE MAP	139	STORM LATERAL PLAN & PROFILE - G4 G5 G6 & G7 STORM LATERAL PLAN & PROFILE - H1 H2 H3 & H4	LP-1.1	LANDSCAPE IMPROVEMENT PLANS
43	PROPOSED SLOPE MAP			LP-2.0	LANDSCAPE IMPROVEMENT PLANS
44	OVERALL PHASE 1 STREET LAYOUT CLARISSA ST - PLAN & PROFILE (1 OF 4)	140	STORM LATERAL PLAN & PROFILE - H5 & H6 STORM LATERAL PLAN & PROFILE - L3 L4 & L5	LP-3.0	LANDSCAPE IMPROVEMENT PLANS
45	CLARISSA ST - PLAN & PROFILE (1 OF 4) CLARISSA ST - PLAN & PROFILE (2 OF 4)	142	STORM LATERAL PLAN & PROFILE - 01 & P1	Constant Constant	reproductive of the second second second second
45	CLARISSA ST - PLAN & PROFILE (2 OF 4) CLARISSA ST - PLAN & PROFILE (3 OF 4)	143	STORM LATERAL PLAN & PROFILE - 01 Q2 & Q3		
47	CLARISSA ST - PLAN & PROFILE (3 OF 4) CLARISSA ST - PLAN & PROFILE (4 OF 4)	144	STORM LATERAL PLAN & PROFILE - Q4 & Q5	l .	
48	CALLAHAN LOOP (1 OF 2) - PLAN & PROFILE	145	STORM LATERAL PLAN & PROFILE - S1 & T1	I	
50	CALLAHAN LOOP (1 OF 2) - PLAN & PROFILE	146	STORM LATERAL PLAN & PROFILE - U1 U2 & V1	l	
51	ANTIOCH COLONY DR PLAN & PROFILE	147	STORM LATERAL PLAN & PROFILE - WI W2 & W3	l	
52	WADING CREEK ST. & CHAMP AVE. (1 OF 2) - PLAN & PROFILE	148	STORM LATERAL PLAN & PROFILE - W4 & W5	I	
53	CHAMP AVE. (2 OF 2) - PLAN & PROFILE	149	STORM LATERAL PLAN & PROFILE - Y2 Z1 Z2 & AA1	l	
54	REVADA AVE. (1 OF 2) - PLAN & PROFILE	150	STORM LATERAL PLAN & PROFILE - DD1 II1 II2 & KK1	l	
55	REVADA AVE. (2 OF 2) & LELAND AVE PLAN & PROFILE	151	POND 3 PLAN	l	
56	GEORGE HARPER ST. (1 OF 2) - PLAN & PROFILE	152	POND 3 - CUTFALL STRUCTURE & PROFILES	I	
57	GEORGE HARPER ST. (2 OF 2) - PLAN & PROFILE	153	POND 2 PLAN	l	000
58	ANTIOCH CHURCH DR. (1 OF 3) - PLAN & PROFILE	154	POND 2 - OUTFALL STRUCTURE & PROFILES	I	COYE
59	ANTIOCH CHURCH DR. (2 OF 3) - PLAN & PROFILE	155	POND CALCULATIONS (SHEET 1 of 2)	I	74411
60	ANTIOCH CHURCH DR. (3 OF 3) & GEORGE SMITH RD PLAN &	156	POND CALCULATIONS (SHEET 2 OF 2)	I	
	PROFILE	157	UTILITY PLAN (SHEET 1 OF 4)	I	
61	MAGGIE REVADA ST. & PINKY VARNER CT PLAN & PROFILES	158	UTILITY PLAN (SHEET 2 OF 4)		
62	KAVANAUGH WAY & FIRE ACCESS DRIVE - PLAN & PROFILES	159	UTILITY PLAN (SHEET 3 OF 4)	1	Know what's below.
63	ALLEY C (1 OF 3) - PLAN & PROFILE	160	UTILITY PLAN (SHEET 4 OF 4)	I	Call before you dig.
64	ALLEY C (2 OF 3) - PLAN & PROFILE	161	WATER PLAN AND PROFILE - LINE B (1 OF 4)	1	Can before you dig.
65	ALLEY C (3 OF 3) - PLAN & PROFILE	162	WATER PLAN AND PROFILE - LINE B (2 OF 4)		
66	ALLEY F - PLAN & PROFILE	163	WATER PLAN AND PROFILE - LINE B (3 OF 4)		N///////
67	ALLEY G & H - PLAN & PROFILE	164	WATER PLAN AND PROFILE - LINE B (4 OF 4)		MANANAM
68	ALLEY I & J - PLAN & PROFILE	165	WATER PLAN AND PROFILE - LINE D		WARNING: CONTRACTOR IS TO
	OVERALL TRAIL PLAN	166	WATER PLAN AND PROFILE - LINE E (1 OF 2)		VERIFY PRESENCE AND EXACT
69			Manager and the same and the sa		LOCATION OF ALL UTILITIES
70	12 MAIN TRAIL - PLAN	167	WATER PLAN AND PROFILE - LINE E (2 OF 2)		DRIOR TO CONSTRUCTION
70	6 TRAIL A - PLAN	168	WATER PLAN AND PROFILE - LINE F	l	PRIOR TO CONSTRUCTION.
70 71 72	6 TRAIL A - PLAN 6 TRAIL B & C - PLAN	168 169	WATER PLAN AND PROFILE - LINE F WATER PLAN AND PROFILE - LINE H (1 OF 2)		PRIOR TO CONSTRUCTION.
70 71 72 73	6' TRAIL A - PLAN 6' TRAIL B & C - PLAN 6' TRAIL D - PLAN	168 169 170	WATER PLAN AND PROFILE - LINE F WATER PLAN AND PROFILE - LINE H (1 OF 2) WATER PLAN AND PROFILE - LINE H (2 OF 2)		PRIOR TO CONSTRUCTION.
70 71 72	6 TRAIL A - PLAN 6 TRAIL B & C - PLAN	168 169	WATER PLAN AND PROFILE - LINE F WATER PLAN AND PROFILE - LINE H (1 OF 2)		PRIOR TO CONSTRUCTION.

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OVER

- PHASE

COLONY 出

SHEET NUMBER 1

PERMIT NUMBER: 2021-737

"REVIEW OF THE PLANS BY THE DISTRICT IS LIMITED TO WATER, WASTEWATER AND DRAINAGE AND DOES NOT INDICATE A

2/29/2024 DATE

MI HOMES OF AUSTIN, LLC 7600 N. CAPITAL OF TEXAS HIGHWAY BUILDING C, SUITE #250 AUSTIN, TEXAS 78731 TEL: (512) 770-8503

OWNER/DEVELOPER

CONTACT: ROYCE RIPPY

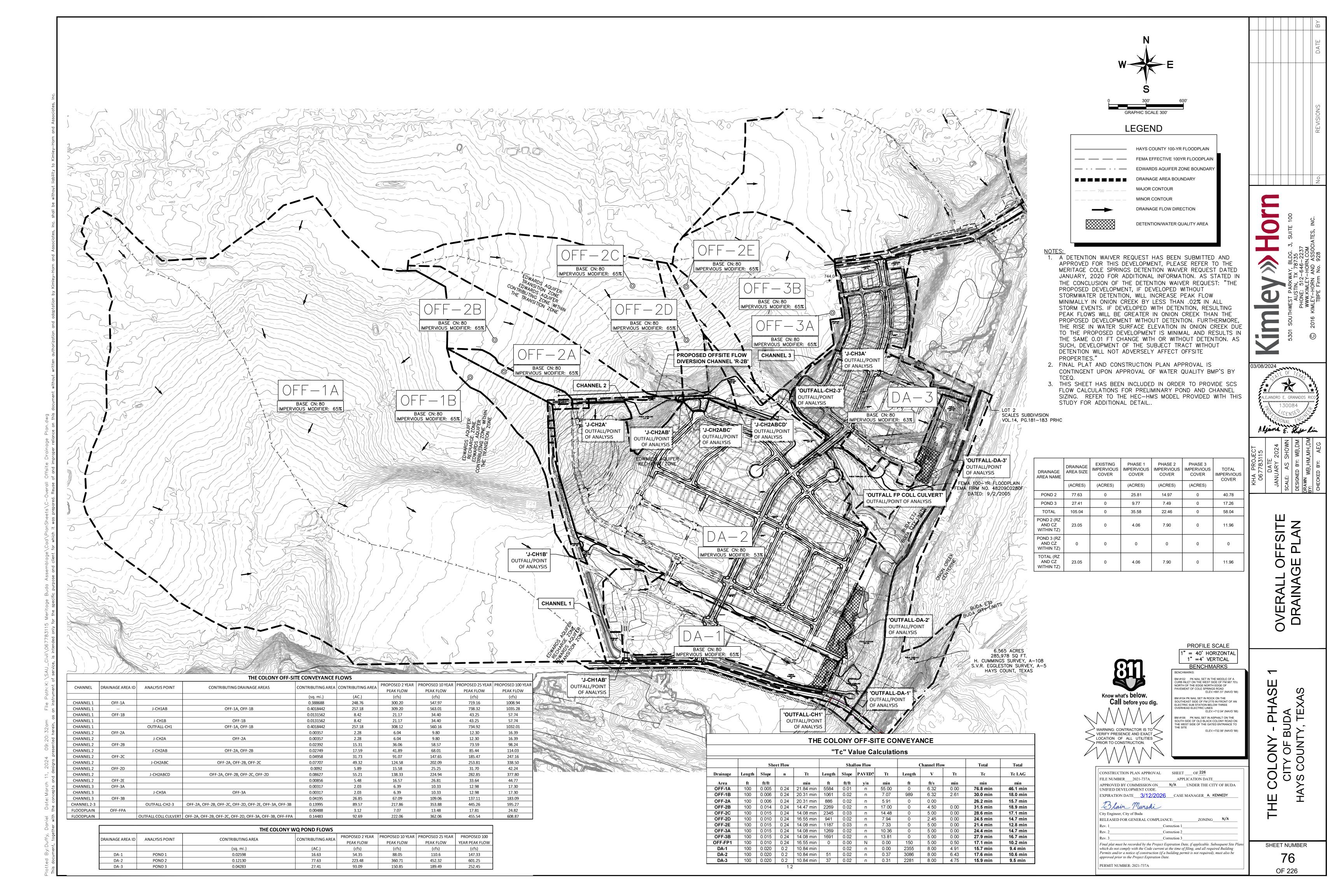
MERITAGE HOMES BLDG 4 SUITE 400 AUSTIN, TX 78759 TEL: (512) 610-4816 CONTACT: BRANDON HAMMANN

CONTACT: ALEJANDRO E. GRANADOS RICOŢ₽.®

SURVEYOR

REGISTERED PROFESSIONAL LAND SURVEYOR NO. 6330 601 NW LOOP 410 SAN ANTONIO, TEXAS 78216

GREG.MOSIER@KIMLEY-HORN.COM



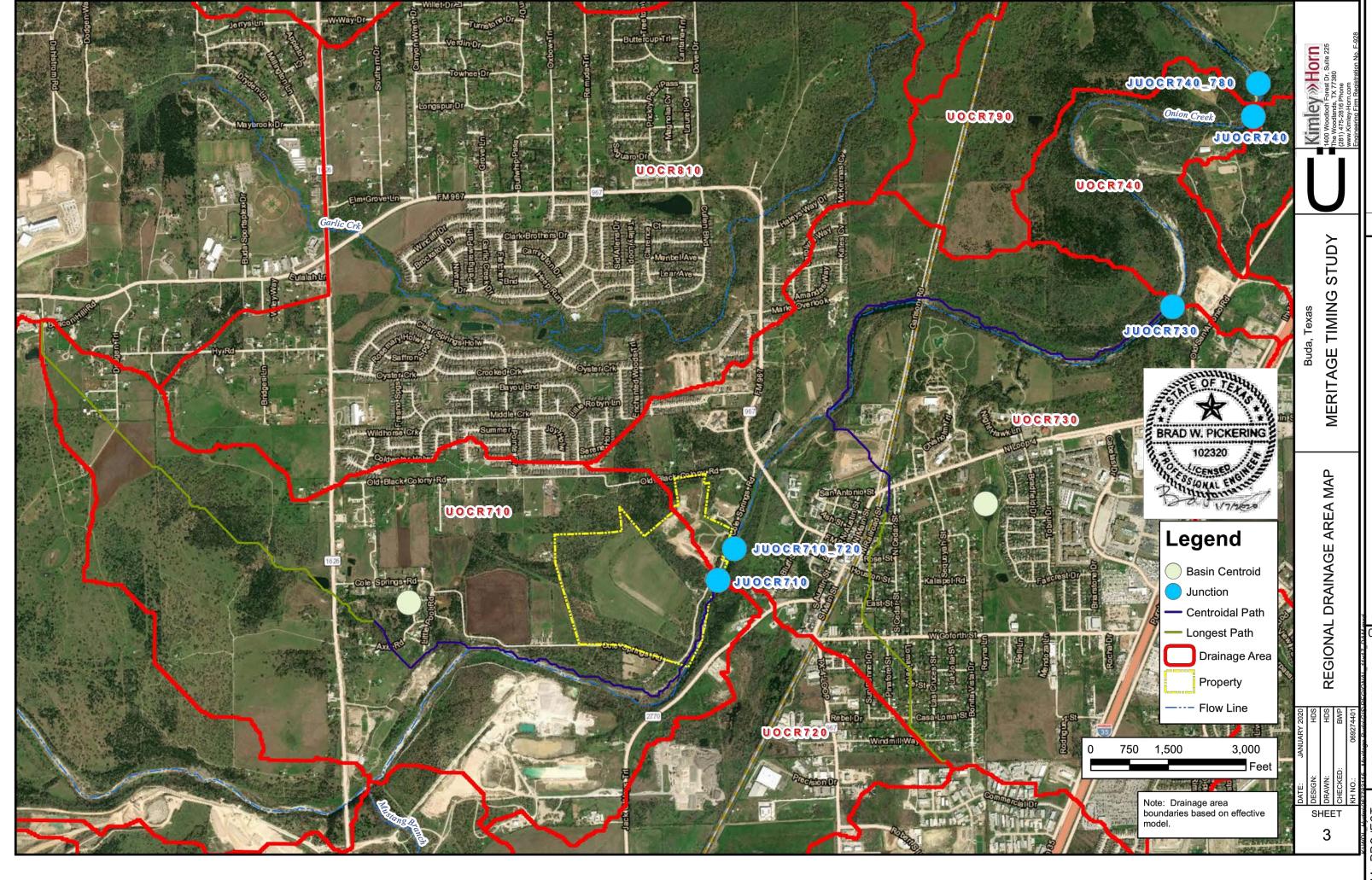
LAG TIME CALCULATIONS

				Lag	Time (On		Effective	Hydraulic	Model)				
'1		T'	- 14- 14 1		T		h "R-710"	1			П		
xSec	Dist	DAG V/-I	2 YR Veloc			10 YR Velo			25 YR Veloc			100YR Velo	
Station	(ft)	(fps)	Avg. Vel. (fps)	Time (sec)	RAS Vel. (fps)	Avg. Vel. (fps)	Time (sec)	(fps)	Avg. Vel. (fps)	Time (sec)	RAS Vel. (fps)	Avg. Vel. (fps)	Time (sec
168897		2.90		_	5.07		_	6.23			8.11		
167934	963	3.05	3.0	324	6.29	5.7	170	7.44	6.8	141	9.37	8.7	110
Total La	g (sec)		324			170			141			110	
Total La	g (min)		5.4			2.8			2.3			1.8	
					J.								
		71			10	Reac	h "R-730"						
167494		2.97			6.39			7.62			9.91	-	
166980	514	2.70	2.8	181	6.12	6.3	82	7.28	7.5	69	7.6	8.8	59
166507 166042	473 465	2.93 2.11	2.8 2.5	168 185	5.44 5	5.8 5.2	82 89	6.64	7.0 6.5	68 72	7.48 7.38	7.5 7.4	63 63
165718	324	2.11	2.5	127	5.82	5.4	60	7.22	6.8	48	8.47	7.4	41
165544	174	3.49	3.2	54	7.22	6.5	27	9.24	8.2	21	11.04	9.8	18
165324	220	2.33	2.9	76	4.89	6.1	36	6.35	7.8	28	7.95	9.5	23
165038	286	2.91	2.6	109	4.44	4.7	61	5.54	5.9	48	6.31	7.1	40
164471	567	3.06	3.0	190	6.5	5.5	104	6.86	6.2	91	7.69	7.0	81
163604	867	3.68	3.4	257	6.06	6.3	138	7.22	7.0	123	7.96	7.8	111
162747	857	3.20	3.4	249	6.36	6.2	138	7.71	7.5	115	8.33	8.1	105
162169	578	2.97	3.1	187	6.81	6.6	88	8.07	7.9	73	8.86	8.6	67
161507	662	3.01	3.0	221	6.44	6.6	100	8.01	8.0	82	10.02	9.4	70
160720 160585	787 135	2.89	3.0 3.4	267 39	7.67	7.1 7.6	112 18	9.46	8.7 9.0	90 15	11.54	10.8 10.7	73 13
160510	75	3.97 1.80	2.9	26	7.43 5.09	6.3	12	8.49 6.57	7.5	10	9.91 8.28	9.1	8
160503	73	1.98	1.9	4	5.37	5.2	1	6.97	6.8	1	8.81	8.5	1
160495	8	2.23	2.1	4	5.63	5.5	1	7.31	7.1	1	9.38	9.1	1
160389	106	2.65	2.4	43	6.18	5.9	18	7.82	7.6	14	9.97	9.7	11
160204	185	2.40	2.5	73	5.09	5.6	33	6.5	7.2	26	8.34	9.2	20
159660	544	2.87	2.6	206	4.65	4.9	112	5.87	6.2	88	7.51	7.9	69
158858	802	2.47	2.7	300	5.69	5.2	155	7.04	6.5	124	8.52	8.0	100
157942	916	3.34	2.9	315	6.28	6.0	153	7.53	7.3	126	8.73	8.6	106
157072	870	2.59	3.0	293	5.35	5.8	150	6.64	7.1	123	7.84	8.3	105
156278	794	3.90	3.2	245	7.05	6.2	128	8.51	7.6	105	9.85	8.8	90
155567 155173	711 394	4.64 4.24	4.3 4.4	167 89	8.03 7.94	7.5 8.0	94 49	9.75 9.54	9.1 9.6	78 41	11.68 11.33	10.8 11.5	66 34
1551/3	112	2.89	3.6	31	5.95	6.9	16	7.19	8.4	13	8.53	9.9	11
155011	50	3.56	3.2	16	6.38	6.2	8	7.19	7.3	7	8.71	8.6	6
Total La	ıg (sec)		4124			2065			1701			1454	
Total La	, ,		68.7			34.4			28.3			24.2	

LOCAL DRAINAGE AREA MAP



REGIONAL DRAINAGE AREA MAP



PEAK FLOW RESULTS

			2YR					10YR		
Junction	REVEX Peak	PROP Peak	DETPROP Peak	PROP - REVEX	DETPROP - REVEX	REVEX Peak	PROP Peak	DETPROP Peak	PROP - REVEX	DETPROP - REVE
	(cfs)	(cfs)	(cfs)	FROFFREVEX	DETITION - KEVEX	(cfs)	(cfs)	(cfs)	FROFFREVEX	DETITION - NEVE
UOCR710_PROJECT	13	134	134	122	122	233	379	379	145	145
710 DETENTION			12					223		
JUOCR710	2542	2542	2549	0	7	22230	22232	22232	2	2
JUOCR710 720	2549	2549	2556	0	7	22296	22297	22298	1	2
UOCR730_PROJECT	3	27	27	24	24	62	93	93	31	31
730_DETENTION			3					60		
JUOCR730	2531	2531	2539	0	8	22462	22464	22464	2	2
JUOCR740	2525	2525	2533	0	8	22479	22481	22482	2	3
JUOCR740 780	2525	2525	2533	0	8	22593	22595	22596	2	3
JUOCR790	2516	2516	2524	0	8	22635	22637	22637	2	2
JUOCR790 820	2540	2541	2549	1	9	22958	22960	22960	2	2
JUOCR790 830	2540	2540	2548	0	8	22981	22982	22983	1	2
JUOCR840	2537	2537	2545	0	8	23004	23005	23006	1	2
UONION CREEK	3116	3116	3124	0	8	26065	26066	26067	1	2
			25YR			1		100YR		
Junction	REVEX Peak	PROP Peak	DETPROP Peak	PRODUCED SECURIORS		REVEX Peak	PROP Peak	DETPROP Peak	AND DESCRIPTION OF THE PERSON OF	property and a second
	(cfs)	(cfs)	(cfs)	PROP - REVEX	DETPROP - REVEX	(cfs)	(cfs)	(cfs)	PROP - REVEX	DETPROP - REVE
UOCR710 PROJECT	411	546	546	135	135	659	794	794	135	135
710 DETENTION										
			409					658		
JUOCR710	41812	 41813	409 41814	 1			 80019	658 80018		 1
JUOCR710 JUOCR710 720				1 1						1 1
200000000000000000000000000000000000000	41812	41813	41814	1	2	 80017	80019	80018	2	1
JUOCR710 720	41812 41908	41813 41909	41814 41909	1	2	80017 80138	80019 80140	80018 80139	2 2	1 1
JUOCR710 720 UOCR730 PROJECT	41812 41908 106	41813 41909 107	41814 41909 107	1 1 1	2 1 1	80017 80138 165	80019 80140 152	80018 80139 152	2 2 -13	1 1 -13
JUOCR710 720 UOCR730 PROJECT 730 DETENTION	41812 41908 106 42112	41813 41909 107 42113	41814 41909 107 101 42113	1 1 1	2 1 1	80017 80138 165 80255	80019 80140 152 80256	80018 80139 152 152	2 2 -13	1 1 -13
JUOCR710 720 UOCR730 PROJECT 730 DETENTION JUOCR730	41812 41908 106 	41813 41909 107 	41814 41909 107 101	1 1 1 	2 1 1	80017 80138 165	80019 80140 152 	80018 80139 152 152 80255	2 2 -13 	1 1 -13 0
JUOCR710 720 UOCR730 PROJECT 730 DETENTION JUOCR730 JUOCR740	41812 41908 106 42112 42128	41813 41909 107 42113 42129	41814 41909 107 101 42113 42129	1 1 1 	2 1 1	80017 80138 165 80255 80266	80019 80140 152 80256 80267	80018 80139 152 152 80255 80266	2 2 -13 1	1 1 -13 0
JUOCR710 720 UOCR730 PROJECT 730 DETENTION JUOCR730 JUOCR740 JUOCR740 780	41812 41908 106 42112 42128 42298	41813 41909 107 42113 42129 42299	41814 41909 107 101 42113 42129 42299	1 1 1 	2 1 1	80017 80138 165 80255 80266 80497	80019 80140 152 80256 80267 80499	80018 80139 152 152 80255 80266 80497	2 2 -13 1 1 2	1 1 -13 0 0
JUOCR710 720 UOCR730 PROJECT 730 DETENTION JUOCR730 JUOCR740 JUOCR740 780 JUOCR790	41812 41908 106 42112 42128 42298 42349	41813 41909 107 42113 42129 42299 42350	41814 41909 107 101 42113 42129 42299 42350	1 1 1 1 1 1 1	2 1 1 1 1 1 1 1	80017 80138 165 80255 80266 80497 80563	80019 80140 152 80256 80267 80499 80564	80018 80139 152 152 80255 80266 80497 80563	2 2 -13 1 1 2	1 1 -13 0 0 0
JUOCR710 720 UOCR730 PROJECT 730 DETENTION JUOCR730 JUOCR740 JUOCR740 780 JUOCR790 JUOCR790 820	41812 41908 106 42112 42128 42298 42349 42817	41813 41909 107 42113 42129 42299 42350 42818	41814 41909 107 101 42113 42129 42299 42350 42819	1 1 1 1 1 1 1 1	2 1 1 1 1 1 1 1	80017 80138 165 80255 80266 80497 80563 81198	80019 80140 152 80256 80267 80499 80564 81199	80018 80139 152 152 80255 80266 80497 80563 81198	2 2 -13 1 1 2 1	1 1 -13 0 0 0 0

NOTES:

1) FLOW INFORMATION PER APPROVED MERITAGE COLE SPRINGS DETENTION WAIVER REQUEST DATED JANUARY, 2020.



PERMIT NUMBER: 2021-737A

BENCHMARKS BENCHMARKS: BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 967 70'± NORTH OF THE EDGE NORTH EDGE OF PAVEMENT OF COLE SPRINGS ROAD ELEV.=691.51' (NAVD '88) BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES ELEV.=712.04' (NAVD '88) BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE

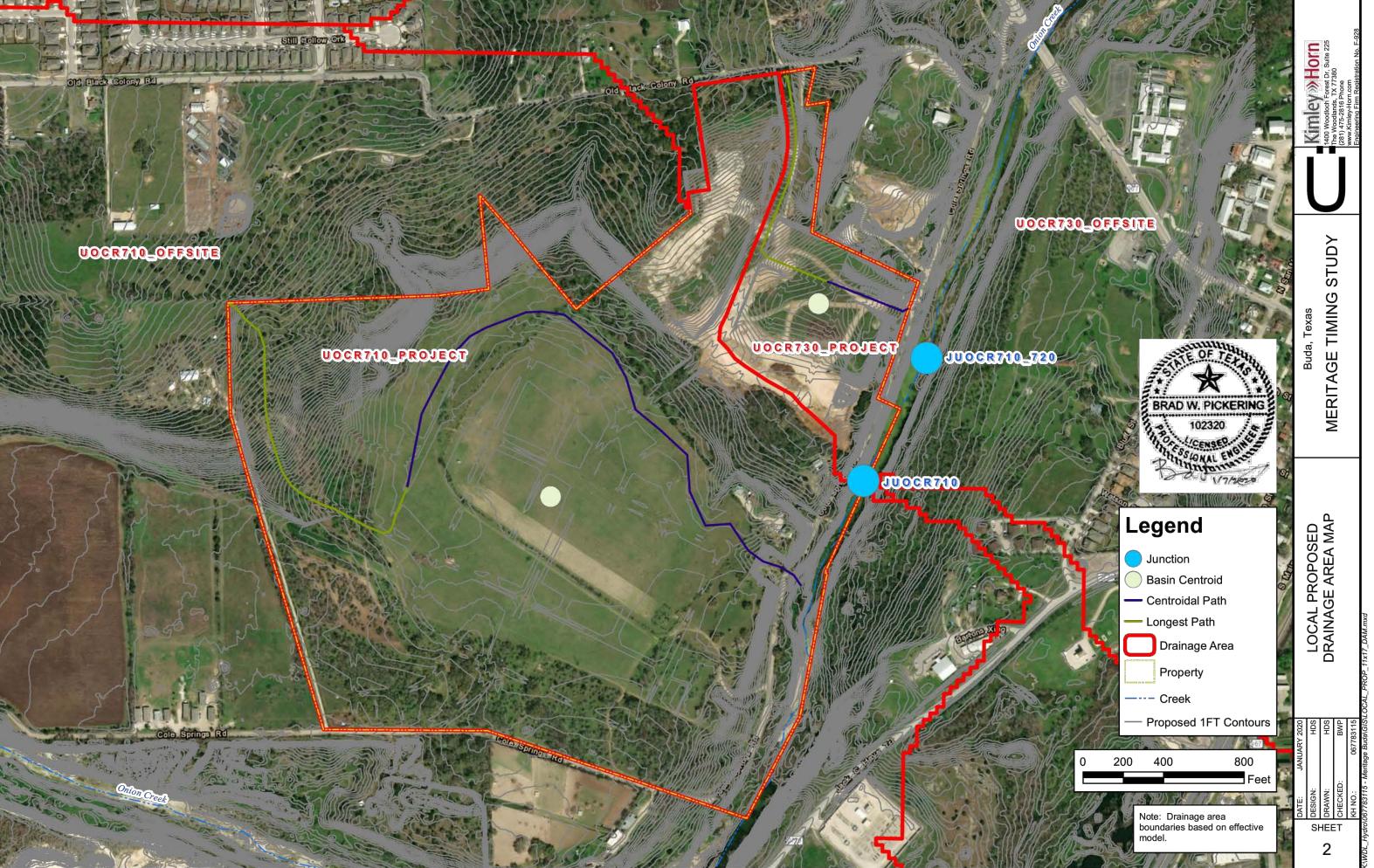
ELEV.=732.56' (NAVD '88)

CONSTRUCTION PLAN APPROVAL SHEET ___ OF 226 | FILE NUMBER____2021-737A_____ ___APPLICATION DATE_ APPROVED BY COMMISSION ON N/A UNDER THE CITY OF BUDA UNIFIED DEVELOPMENT CODE. EXPIRATION DATE 3/12/2026 CASE MANAGER A. KENNEDY Blair Murski City Engineer, City of Buda RELEASED FOR GENERAL COMPLIANCE:__

Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

SHEET NUMBER OF 226

DRAINA A MAP



SUBBASIN				LOSSES						TRANSI	FORM		1 1	
JODDAOIN				SCS CURVE	NUMBER							IYDROG	RAPH	
										Standar	d Lag (hr) = t _P		
										t _P = C _T (I	_*L _{CA}).3			
										Peaking	Coefficie	ent = C _P		
										C _T = Ba	sin Chara	acteristic		
Basin	Subbasin	Ar	ea		Initial Abstr	actions (in)		CN	Impervious	Ст	L	L _{CA}	tp	C _P
		(mi ²)	(ac)	2YR	10YR	25YR	100YR		%		(mi)	(mi)	(hr)	
OnionBasin	UOCR710	2.528	1618	2.0	1.9	1.5	0.5	82	15.0	0.61	3.57	1.80	1.07	0.75
REVEX	UOCR710_PROJECT	0.228	146	2.0	1.9	1.5	0.5	82	0.0	0.61	0.95	0.66	0.53	0.75
REVEX	UOCR710_OFFSITE	2.300	1472	2.0	1.9	1.5	0.5	82	16.5	0.61	3.57	1.80	1.07	0.75
PROP	UOCR710_PROJECT	0.235	150	2.0	1.9	1.5	0.5	82	44.0	0.51	0.98	0.61	0.44	0.75
PROP	UOCR710 OFFSITE	2.300	1472	2.0	1.9	1.5	0.5	82	16.5	0.61	3.57	1.80	1.07	0.75
OnionBasin	UOCR730	3.414	2185	2.0	1.9	1.5	0.5	82	20.0	0.65	3.35	2.27	1.20	0.75
REVEX	UOCR730_PROJECT	0.038	24	2.0	1.9	1.5	0.5	82	0.0	0.65	0.32	0.12	0.24	0.75
REVEX	UOCR730_OFFSITE	3.376	2161	2.0	1.9	1.5	0.5	82	20.2	0.65	3.35	2.27	1.20	0.75
PROP	UOCR730_PROJECT	0.031	20	2.0	1.9	1.5	0.5	82	44.0	0.55	0.32	0.11	0.20	0.75
PROP	UOCR730_OFFSITE	3.376	2161	2.0	1.9	1.5	0.5	82	20.2	0.65	3.35	2.27	1.20	0.75

LAG TIME CALCULATIONS

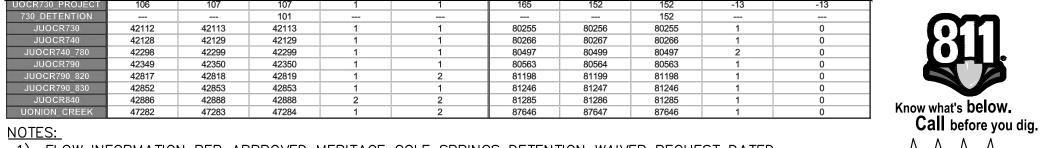
				Lag	Time (On		Effective	Hydraulic	Wodel)				
		-				Reac	h "R-710"	1					
xSec	Dist		2 YR Veloc			10 YR Velo			25 YR Velo			100YR Velo	
Station	(ft)	RAS Vel. (fps)	Avg. Vel. (fps)	Time (sec)	RAS Vel. (fps)	Avg. Vel. (fps)	Time (sec)	RAS Vel. (fps)	Avg. Vel. (fps)	Time (sec)	RAS Vel. (fps)	Avg. Vel. (fps)	Tim (se
168897		2.90			5.07			6.23	_		8.11		_
167934	963	3.05	3.0	324	6.29	5.7	170	7.44	6.8	141	9.37	8.7	11
Total La	a (sec)		324		1	170			141			110	
Total La	· /		5.4			2.8			2.3			1.8	
- 25		2000		Y.		Read	h "R-730"	6 3		63		00	
167494		2.97			6.39			7.62			9.91		_
166980	514	2.70	2.8	181	6.12	6.3	82	7.28	7.5	69	7.6	8.8	59
166507	473	2.93	2.8	168	5.44	5.8	82	6.64	7.0	68	7.48	7.5	63
166042	465	2.11	2.5	185	5	5.2	89	6.3	6.5	72	7.38	7.4	63
165718	324	2.98	2.5	127	5.82	5.4	60	7.22	6.8	48	8.47	7.9	4
165544	174	3.49	3.2	54	7.22	6.5	27	9.24	8.2	21	11.04	9.8	18
165324	220	2.33	2.9	76	4.89	6.1	36	6.35	7.8	28	7.95	9.5	23
165038	286	2.91	2.6	109	4.44	4.7	61	5.54	5.9	48	6.31	7.1	40
164471	567	3.06	3.0	190	6.5	5.5	104	6.86	6.2	91	7.69	7.0	8
163604	867	3.68	3.4	257	6.06	6.3	138	7.22	7.0	123	7.96	7.8	11
162747	857	3.20	3.4	249	6.36	6.2	138	7.71	7.5	115	8.33	8.1	10
162169	578	2.97	3.1	187	6.81	6.6	88	8.07	7.9	73	8.86	8.6	6
161507	662	3.01	3.0	221	6.44	6.6	100	8.01	8.0	82	10.02	9.4	70
160720	787	2.89	3.0	267	7.67	7.1	112	9.46	8.7	90	11.54	10.8	73
160585	135	3.97	3.4	39	7.43	7.6	18	8.49	9.0	15	9.91	10.7	1:
160510	75	1.80	2.9	26	5.09	6.3	12	6.57	7.5	10	8.28	9.1	8
160503	7 8	1.98	1.9 2.1	4	5.37	5.2 5.5	1	6.97	6.8 7.1	1	8.81	8.5 9.1	1
160495 160389	106	2.23	2.1	43	5.63 6.18	5.5	18	7.31 7.82	7.1	14	9.38 9.97	9.1	1.
160389	185	2.65	2.4	73	5.09	5.9	33	6.5	7.0	26	9.97 8.34	9.7	20
159660	544	2.40	2.6	206	4.65	4.9	112	5.87	6.2	88	7.51	7.9	69
158858	802	2.47	2.7	300	5.69	5.2	155	7.04	6.5	124	8.52	8.0	10
157942	916	3.34	2.9	315	6.28	6.0	153	7.53	7.3	126	8.73	8.6	10
157072	870	2.59	3.0	293	5.35	5.8	150	6.64	7.1	123	7.84	8.3	10
156278	794	3.90	3.2	245	7.05	6.2	128	8.51	7.6	105	9.85	8.8	90
155567	711	4.64	4.3	167	8.03	7.5	94	9.75	9.1	78	11.68	10.8	60
155173	394	4.24	4.4	89	7.94	8.0	49	9.54	9.6	41	11.33	11.5	34
155061	112	2.89	3.6	31	5.95	6.9	16	7.19	8.4	13	8.53	9.9	1
155011	50	3.56	3.2	16	6.38	6.2	8	7.49	7.3	7	8.71	8.6	6
Total La	ıg (sec)		4124			2065			1701			1454	
Total La	g (min)		68.7			34.4			28.3			24.2	

PEAK FLOW RESULTS

			2YR					10YR		
Junction	REVEX Peak (cfs)	PROP Peak (cfs)	DETPROP Peak (cfs)	PROP - REVEX	DETPROP - REVEX	REVEX Peak (cfs)	PROP Peak (cfs)	DETPROP Peak (cfs)	PROP - REVEX	DETPROP - REVE
UOCR710_PROJECT	13	134	134	122	122	233	379	379	145	145
710_DETENTION			12					223		
JUOCR/10	2542	2542	2549	0	7	22230	22232	22232	2	2
JUOCR710 720	2549	2549	2556	0	7	22296	22297	22298	1	2
UOCR730_PROJECT	3	27	27	24	24	62	93	93	31	31
730_DETENTION			3					60		
JUOCR730	2531	2531	2539	0	8	22462	22464	22464	2	2
JUOCR740	2525	2525	2533	0	8	22479	22481	22482	2	3
JUOCR740_780	2525	2525	2533	0	8	22593	22595	22596	2	3
JUOCR790	2516	2516	2524	0	8	22635	22637	22637	2	2
JUOCR790_820	2540	2541	2549	1	9	22958	22960	22960	2	2
JUOCR790_830	2540	2540	2548	0	8	22981	22982	22983	1	2
JUOCR840	2537	2537	2545	0	8	23004	23005	23006	1	2
UONION_CREEK	3116	3116	3124	0	8	26065	26066	26067	1	2
		8.	25YR				•	100YR		
Junction	REVEX Peak	PROP Peak	DETPROP Peak	PROP - REVEX	DETPROP - REVEX	REVEX Peak	PROP Peak	DETPROP Peak	PROP - REVEX	DETPROP - REVI
	(cfs)	(cfs)	(cfs)	FROF-REVEX	DETEROF - REVEX	(cfs)	(cfs)	(cfs)	FROF - KEVEX	DETFROF - REVI
UOCR710_PROJECT	411	546	546	135	135	659	794	794	135	135
710 DETENTION			409					658		
JUOCR710	41812	41813	41814	1	2	80017	80019	80018	2	1
JUOCR710 720	41908	41909	41909	1	1	80138	80140	80139	2	1
UOCR730_PROJECT	106	107	107	1	1	165	152	152	-13	-13
730_DETENTION			101					152		
JUOCR730	42112	42113	42113	1	1	80255	80256	80255	1	0
JUOCR740	42128	42129	42129	1	1	80266	80267	80266	1	0
JUOCR740_780	42298	42299	42299	1	1	80497	80499	80497	2	0
JUOCR790	42349	42350	42350	1	1	80563	80564	80563	1	0
JUOCR790_820	42817	42818	42819	1	2	81198	81199	81198	1	0
JUOCR790_830	42852	42853	42853	1	1	81246	81247	81246	1	0
JUOCR840	42886	42888	42888	2	2	81285	81286	81285	1	0

NOTES:

1) FLOW INFORMATION PER APPROVED MERITAGE COLE SPRINGS DETENTION WAIVER REQUEST DATED JANUARY, 2020.



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

BENCHMARKS
BENCHMARKS: BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 967 70'± NORTH OF THE EDGE NORTH EDGE OF PAVEMENT OF COLE SPRINGS ROAD ELEV.=691.51' (NAVD '88)

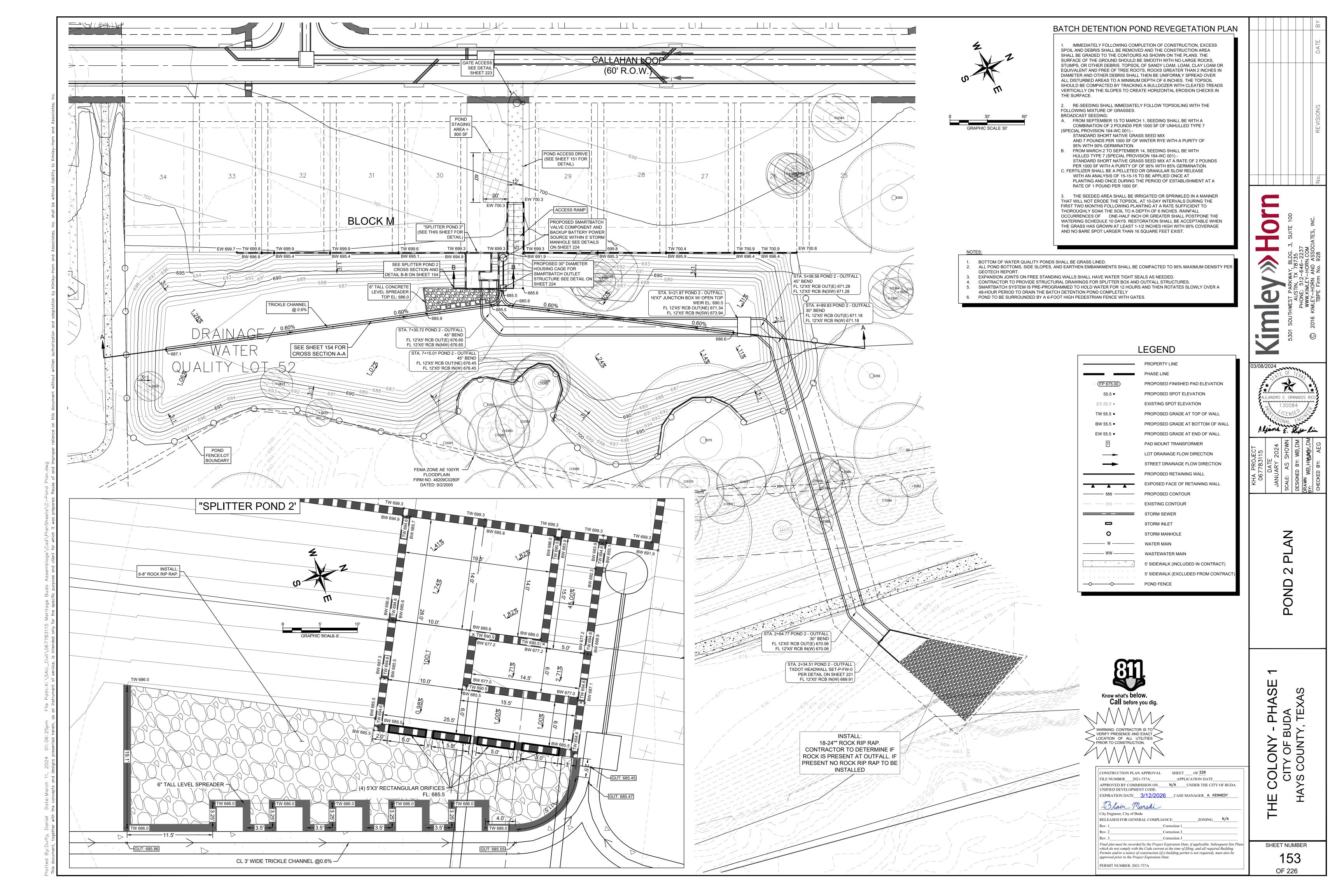
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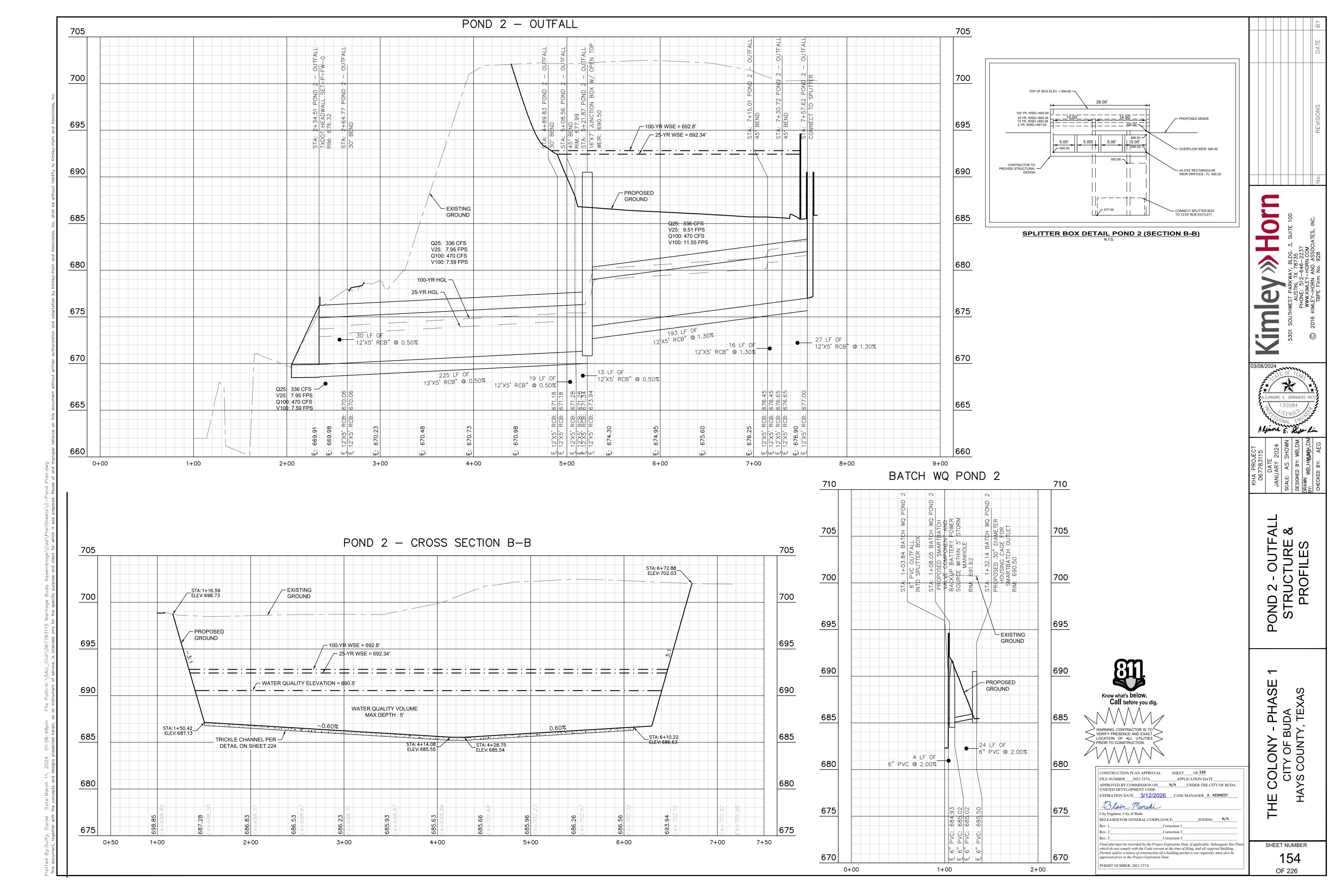
CONSTRUCTION PL	AN APPROVAL SHEET OF 226
FILE NUMBER2	021-737AAPPLICATION DATE
	MMISSION ON N/A UNDER THE CITY OF BUDA
UNIFIED DEVELOPN	
EXPIRATION DATE_	3/12/2026 CASE MANAGER A. KENNEDY
	Murski
City Engineer, City of	
RELEASED FOR GEN	NERAL COMPLIANCE: ZONING N/A
Rev. 1	Correction 1
Rev. 2	Correction 2
Rev. 3	Correction 3
Final plat must be recor	rded by the Project Expiration Date, if applicable. Subsequent Site I ith the Code current at the time of filing, and all required Building

HAYS COUNTY, TEX SHEET NUMBER

PROPOSED OVERALL DRAINAGE MAP

92 OF 226





					TCE	Q REQUI	REMENT
Texas Cor	nmission on Environmental Quality						Те
SS Remov	val Calculations 09/14/2017			Proiect Name:	Colony at 0	Cole Springs PI	H 1 TS
OO Nemov	ur Guisdiduciio 60/14/2011			Date Prepared:		Joie Opinigs i i	
ext shown in	nformation is provided for cells with a red triang in blue indicate location of instructions in the Technica shown in red are data entry fields.	al Guidance	Manual - R	G-348.			Ad Te) Ch
naracters	shown in black (Bold) are calculated fields. Ch	anges to th	ese fields	will remove the e	equations us	sed in the sprea	
. The Require	ed Load Reduction for the total project:	Calculations fr	om RG-348		Pages 3-27 to	3-30	1. T
	Page 3-29 Equation 3.3: L _M =	27.2(A _N x P)					
where:	L _M TOTAL PROJECT =	Required TSS	removal resu	Iting from the propose	d development	= 80% of increased	load
	A _N =	Net increase in	n impervious	area for the project			
		Average annua	al precipitation	n, inches			
Site Data:	Determine Required Load Removal Based on the Entire Proje County =						
Pr	Total project area included in plan * = redevelopment impervious area within the limits of the plan * =		acres acres				
	st-development impervious area within the limits of the plan* = Total post-development impervious cover fraction * =	3.92 0.36	acres	(PHASE 1 WITHIN R	Z AND CZ WIT	HIN TZ)	
	P =	33	inches				
	LM TOTAL PROJECT =	3519	lbs.				
The values	entered in these fields should be for the total project are						* TI
Num	ber of drainage basins / outfalls areas leaving the plan area =	2					
INUIT	so, or drainage basins / outlans areas leaving the plan area =	_					
. Drainage Br	asin Parameters (This information should be provided for	r each basin)					2. D
. Pramage Da							<u> </u>
	Drainage Basin/Outfall Area No. =						
Predev	Total drainage basin/outfall area = elopment impervious area within drainage basin/outfall area =		acres acres	WQP-2 (67.12 AC) +	WQP-2 TCEQ	(8.24 AC)	
Post-dev	elopment impervious area within drainage basin/outfall area =	3.92	acres	(PHASE 1 WITHIN R	Z AND CZ WIT	HIN TZ)	
1 ost-develo	L _{M THIS BASIN} =	3519	lbs.				
. Indicate the	proposed BMP Code for this basin.						
	Proposed BMP =	Extended De	lention				
	Removal efficiency =		percent		Aqualogic Car	ridge Filter	
					Bioretention		
					Contech Storn Constructed V		
					Extended Dete Grassy Swale		
					Retention / Irrig		
					Stormceptor		
					Vegetated Filte Vortechs	er Strips	
					Wet Basin Wet Vault		
. Calculate M	aximum TSS Load Removed (L _R) for this Drainage Basin	by the select	ted BMP Typ	e.			
	RG-348 Page 3-33 Equation 3.7: L _R =	(BMP efficience	y) x P x (A ₁ x	(34.6 + A _P x 0.54)			
where:	A _C =	Total On-Site	drainage area	in the BMP catchme	nt area		
377777	A ₁ =	Impervious are	a proposed ir	n the BMP catchment	area		
	200101			the BMP catchment a s catchment area by t	25-0-2-1	MP	
				and by t	Freboood D	A(5)	
	A _C = A _I =		acres acres				
	A _P =	71.44	acres				
	L _R =	5232	lbs				
Calculate Fi	raction of Annual Runoff to Treat the drainage basin / ou	tfall area					
	Desired L _{M THIS BASIN} =	5232	lbs.				
	F =	1.00					
0.1					040		
Calculate Ca	apture Volume required by the BMP Type for this draina	ge basin / out	tall area.	Calculations from RG	i-348	Pages 3-34 to 3-36	i
	Rainfall Depth =	4.00	inches				
	Post Development Runoff Coefficient = On-site Water Quality Volume =	0.08	cubic feet				
	On-Site vvaler Quality volume -	55520	SUNIO ICCL				
		Calculations fr	om 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				
							1
	Impervious fraction of off-site area = Off-site Runoff Coefficient =	0.00					
	Impervious fraction of off-site area =	0.00	cubic feet				
Total Cor	Impervious fraction of off-site area = Off-site Runoff Coefficient =	0.00 0 17265	cubic feet				

Chas Col	nmission on Environmental Quality					
TOO D	10 Louistia na 00 /4 4 /20 4 7			Desired Heat	Coloniati	Colo Conin no Di
SS Remov	ral Calculations 09/14/2017			Project Name: Date Prepared:		Cole Springs Ph
				Date Flepaleu.	11/30/2023	
dditional i	nformation is provided for cells with a red triang	le in the un	ner right	corner Place the	CUITSOT OVE	r the cell
	n blue indicate location of instructions in the Technica				cursor ove	T the cent
	shown in red are data entry fields.	ai Guidance	Iviariuai - IX	U-040.		
naracters	shown in black (Bold) are calculated fields. Cha	anges to th	ese neias	will remove the e	quations u	sed in the sprea
. The Require	ed Load Reduction for the total project:	Calculations fr	om RG-348		Pages 3-27 to	3-30
	Page 3-29 Equation 3.3: L _M =	27.2(A _N x P)				
where:	L _{M TOTAL PROJECT} =	Required TSS	removal resu	Ilting from the propose	d development	= 80% of increased
	A _N =	Net increase i	n impervious	area for the project		
	P =	Average annua	al precipitatio	n, inches		
Site Data:	Determine Required Load Removal Based on the Entire Proje					
	County =	Hays				
	Total project area included in plan * =	10.81	acres			
	redevelopment impervious area within the limits of the plan * =	0.00	acres	/DUIA 0 E / MATERIA D	7 4 1 1 5 6 7 1 4 1 7	
Total pos	st-development impervious area within the limits of the plan* =	3.92	acres	(PHASE 1 WITHIN R	Z AND CZ WIT	HIN TZ)
	Total post-development impervious cover fraction * =	0.36				
	P =	33	inches			
	Tomasses approximate	3519	lbs.			
	L _M TOTAL PROJECT =		IDS.			
The values	entered in these fields should be for the total project area	а.				
Num	ber of drainage basins / outfalls areas leaving the plan area =	2				
. Drainage Ba	asin Parameters (This information should be provided for	each basin):				
	Drainage Basin/Outfall Area No. =	UNTREATED	•			
	Diamage Basim Gadan Alea No.	CHINERIES				
	Total drainage basin/outfall area =	2.57	acres	NT1 TCEQ (2.16 AC)	+ NT2 TCEO	0.41 AC)
Predev	elopment impervious area within drainage basin/outfall area =	0.00	acres			
	elopment impervious area within drainage basin/outfall area =	0.00	acres	(PHASE 1 WITHIN R	Z AND CZ WIT	HIN TZ)
	opment impervious fraction within drainage basin/outfall area =	0.00	and the state of t			1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (
	L _M THIS BASIN =	0	lbs.			

Basin ID	Proposed Area (AC)	Proposed Impervious Cover (AC)	% Impervious Cover	REQUIRED TSS REMOVAL	PROPOSED TSS REMOVA
WQP-2*	67.12	N/A	N/A	3519	5232
WQP-2 TCEQ	8.24	3.92	48%	35 19	5232
UNTREATED	2.57	0.00	0%	0	0
TOTAL ONSITE	10.81	3.92	36.26%	3519	5232

POND 2 CALCULATIONS

Level Spreader Calcs DS (Outlet Pond 2
Crest Elevation (ft., msl.)	690.5
25 yr. Flow (cfs.)	336.00
Weir Coefficient	3
Provided Length (ft.)	118
Actual HGL (ft.)	691.47
Velocity (fps)	2.95

100-YR Overflow Spillway P	ond 2
Crest Elevation (ft., msl.)	690.5
100 yr. Flow (cfs.)	470.24
Weir Coefficient	3
Provided Length (ft.)	45
Maximum Water Surface Elevation (ft.)	692.80

25-YR Orifice Sizing Pond 2						
rest Elevation (ft., msl.)	690.5					
5 yr. Flow (cfs.)	336.00					
Prifice Coefficient	0.6					
Prifice Height	3					
Prifice Area (sqft.)	56.98					
Prifice Minimum Width (ft.)	19.00					

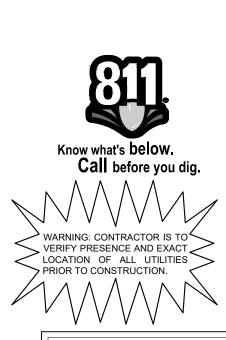
POND 3 CALCULATIONS

Level Spreader Calc	s Pond 3
Crest Elevation (ft., msl.)	687
25 yr. Flow (cfs.)	166.00
Weir Coefficient	3
Provided Length (ft.)	59
Actual HGL (ft.)	687.96
Velocity (fps)	2.94

100-YR Overflow Spillway Pond 3						
Crest Elevation (ft., msl.)	691					
25 yr. Flow (cfs.)	222.00					
Weir Coefficient	3					
Provided Length (ft.)	32					
Actual HGL (ft.)	692.75					

25-YR Orifice Sizing Pond 3					
Crest Elevation (ft., msl.)	686.5				
25 yr. Flow (cfs.)	166.00				
Orifice Coefficient	0.6				
Orifice Height	2				
Orifice Area (sqft.)	14.70				
Orifice Width (ft.)	7.40				

Stage-Storage								
levation (Ft.)	Area (Sq. Ft.)		Cumulative Volume (Sq. ft.)					
		Filtration						
685.5	83		0					
		1373						
686	5409		1373					
		17656.5						
687	29904		19030					
		33108						
688	36312	2	52138					
		38004						
689	39696		90142					
		41417						
690	43138		131559					
		22005						
690.5	44883	WQE	153564					
		22879						
691	46634		176443					
		48364						
692	50094		224807					
		51806						
693	53517		276613					
694	56889		276613					
	:	58947	1.0					
695	61005		335560					
		62410						
696	63815		397970					
		WQ Volume	153564					
		Total Volume	397970					



BENCHMARKS:

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 967 70'± NORTH OF THE EDGE OF PAVEMENT OF COLE SPRINGS ROAD ELEV.=691.51' (NAVD '88)

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES ELEV.=712.04' (NAVD '88)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE ELEV.=732.56' (NAVD '88)

CONSTRUCTION PLA	AN APPROVAL SHEET	OF 226
FILE NUMBER20	021-737AAPPLIC	CATION DATE
APPROVED BY COM UNIFIED DEVELOPM	IMISSION ON N/A U MENT CODE.	UNDER THE CITY OF BUDA
EXPIRATION DATE_	3/12/2026 CASE MA	ANAGER A. KENNEDY
Blair 1	Murski	
City Engineer, City of l	Buda	
RELEASED FOR GEN	NERAL COMPLIANCE:	ZONINGN/A
Rev. 1	Correction 1	
Rev. 2	Correction 2	
Rev. 3	Correction 3	
	rded by the Project Expiration Date, th the Code current at the time of fil	ing, and all required Building
Permits and/or a notice approved prior to the Pa		i is noi requirea), musi aiso be

THE COLONY
THE COLONY
SHEET NUMBER
156

OF 226

POND CALCULATIONS (SHEET 2 OF 2)



SECTION 3: GEOLOGIC ASSESSMENT



GEOLOGIC ASSESSMENT FOR THE 123.67-ACRE COLONY AT COLE SPRINGS TRACT

Hays County, Texas

December 2019

Submitted to:

M/I Homes 6801 N. Capital of Texas Highway Lakewood II, Suite 100 Austin, Texas 78731

Prepared by:

aci Group, LLC 1001 Mopac Circle Austin, Texas 78746 TBPG Firm License No. 50260

aci project #: 22-19-100

Geologic Assessment

Texas Commission on Environmental Quality

For Regulated Activities on The Edwards Aquifer Recharge/transition Zones and Relating to 30 TAC §213.5(b)(3), Effective June 1, 1999

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

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

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Pri	nt Name of Geologist: <u>Mark T. Adams</u>	Telephone: <u>(512) 347-9000</u>
Dat	e: <u>November 26, 2019</u>	Fax: <u>(512) 306-0974</u>
•	oresenting: <u>aci Group LLC TSAG License No. 5026</u> istration number)	60 (Name of Company and TBPG or TBPE
_	GEOLOGY No. 1835 GEOLOGY No. 1835 GENSE GEOLOGY No. 1835 GENSE GEOLOGY No. 1835	
Pr	roject Information	
1.	Date(s) Geologic Assessment was performed: \underline{N}	ovember 12, 13 & 18, 2019
2.	Type of Project:	
3.		☐ AST ☐ UST
	 ☐ Recharge Zone ☐ Transition Zone ☐ Contributing Zone within the Transition Zon 	e

4.			ologic Assessmen Table) is attached.		ed Geologic Assessment Table
	Hydrologi 55, Apper	ic Soil Grondix A, Soict site, sho	ups* (Urban Hydra il Conservation Selow ow each soil type of iltration	ology for Small W rvice, 1986). If the on the site Geolog	e below and uses the SCS ratersheds, Technical Release No. ere is more than one soil type on gic Map or a separate soils map. Group Definitions (Abbreviated)
	Soil Name ee soils table	Group*	Thickness(feet)		Soils having a high infiltration rate when thoroughly wetted. Soils having a moderate infiltration rate when thoroughly
	(pg. 12)				wetted. Soils having a slow infiltration rate when thoroughly wetted. Soils having a very slow infiltration rate when thoroughly wetted.
6.	members top of the	, and thicl	knesses is attache phic column. Oth	d. The outcroppin	column showing formations, ig unit, if present, should be at the most unit should be at the top of
7.	including potential	any featu for fluid n	res identified in th	ne Geologic Assess	of the site specific geology sment Table, a discussion of the stratigraphy, structure(s), and
8.	_		e Geologic Map(s Plan. The minimu		gic Map must be the same scale as D'
	Site Geol	ogic Map S	n Scale: 1" = <u>200</u> ' Scale: 1" = <u>200</u> ' e (if more than 1 s	oil type): 1" = <u>500</u>	<u>'</u> '
9.	Method of co	ollecting p	ositional data:		
			System (GPS) tech lease describe me		ection:
10	. 🔀 The proje	ct site and	d boundaries are c	learly shown and	labeled on the Site Geologic Map.
11	. 🔀 Surface go	eologic un	its are shown and	labeled on the Si	te Geologic Map.

12. 🔀	Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.
	Geologic or manmade features were not discovered on the project site during the field investigation.
13. 🔀	The Recharge Zone boundary is shown and labeled, if appropriate.
	known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If plicable, the information must agree with Item No. 20 of the WPAP Application Section.
	There are 2 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.) The wells are not in use and have been properly abandoned. The wells are not in use and will be properly abandoned. The wells are in use and comply with 16 TAC Chapter 76. There are no wells or test holes of any kind known to exist on the project site.
Adn	ninistrative I nformation
15. 🔀	Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.



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	INVESTIGATION METHODS SUMMARY OF FINDINGS RECOMMENDATIONS LIST OF ATTACHMENTS Achment A – Geologic Assessment Table Achment B – Stratigraphic Column Achment C – Site Geology Achment D – Site Maps Achment E – Historical Aerial Photographs



December 3, 2019

Geologic Assessment for the Colony at Cole Springs Tract located in Hays County, Texas

1.0 INTRODUCTION

The purpose of this assessment is to identify karst or non-karst features and their recharge potential. This report complies with the requirements of Title 30, Texas Administrative Code (TAC) Chapter 213 relating to the protection of the Edwards aquifer recharge zone.

The Colony at Cole Springs Tract hereafter referred to as the subject area or site, is located approximately 0.5 mile southeast from the intersection of Cole Springs Road and Old Black Colony Road in the City of Buda Extraterritorial Jurisdiction (ETJ), Hays County, Texas (Attachment D, Figure 1).

2.0 PROJECT INFORMATION

Pedestrian investigations of the subject area were performed on November 12th, 13th, and 18th, 2019 by Luke Rome, P.G., and Kara Posso, G.I.T., Eric Brown, Ben Ruthven, and Mark Adams, P.G. with **aci consulting**.

This report is intended to satisfy the requirements for a Geologic Assessment, which shall be included as a component of a Water Pollution Abatement Plan (WPAP) and Sewage Collection System (SCS). The proposed site use is for a single-family, residential development. The scope of the report consists of a site reconnaissance, field survey, and review of existing data and reports. Features identified during the field survey were ranked utilizing the Texas Commission on Environmental Quality (TCEQ) matrix for Edwards aquifer recharge zone features. The ranking of the features will determine their viability as "sensitive" features.

According to Edwards aquifer zone maps, the subject area is within the Edwards aquifer Recharge Zone, Transition Zone, and Transition Zone within the Contributing Zone (TCEQ 2005).



3.0 INVESTIGATION METHODS

The following investigation methods and activities were used to develop this report:

- Review of existing files and literature to determine the regional geology and any known caves associated with the project area;
- Review of past geological field reports, cave studies, and correspondence regarding the existing geologic features on the project area, if available;
- Site reconnaissance by a registered professional geologist to identify and examine caves, recharge features, and other significant geological structures;
- Evaluation of collected field data and a ranking of features using the TCEQ Ranking Table 0585 for the Edwards Aquifer Recharge Zone; and
- Review of historic aerial photographs to determine if there are any structural features present, and to determine any past disturbances on the subject property.

4.0 SUMMARY OF FINDINGS

This report documents the findings of a geologic assessment conducted by **aci consulting** personnel on November 12th, 13th, and 18th, 2019. Nine features (non-karst and manmade features in bedrock) were initially noted on the site. No sensitive karst features were identified within the subject area. Six of the nine features are manmade features in bedrock and should be brought to the attention of the engineer. The remaining three features were classified as other and are not a product of dissolution or karst processes and do not have a direct connection to the Edwards aquifer. Based on the field findings, it appears that the thin sliver of recharge zone that extends onto the subject area as shown on TCEQ maps is likely miss-mapped.

5.0 RECOMMENDATIONS

aci consulting recommends that the six manmade features in bedrock (CS-01, CS-04, CS-05, CS-06, CS-07, and CS-08) be brought to the attention of the engineer.



6.0 REFERENCES

- Hauwert, N., et. al. 2002. Geologic Map of the Barton Springs Segment of the Edwards Aquifer. Barton Springs Edwards Aquifer Conservation District and the United States Geologic Survey. Austin, Texas.
- (SCS) Soil Conservation Survey. 1983. Soil Survey of Hays County, Texas. United States Department of Agriculture. Texas Agriculture Experiment Station.
- Small, T.A.; J.A. Hanson; and N.M. Hauwert. 1996. Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Outcrop, (Barton Springs Segment) Northeastern Hays and Southwestern Travis Counties, Texas. U.S. Geological Survey Water Resources Investigations Report 96-4306.
- (TCEQ) Texas Commission on Environmental Quality. 2004. Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones. October 1, 2004. Austin, Texas.
- (TCEQ) Texas Commission on Environmental Quality. 2005. "Edwards Aquifer Protection Program, Chapter 213 Rules Recharge Zone, Transition Zone, Contributing Zone, and Contributing Zone within the Transition Zone." Map. Digital data. September 1, 2005. Austin, Texas.
- (TWDB) Texas Water Development Board. 2019. Water Data Interactive Groundwater Data Viewer. Accessed on November 11, 2019. Available at: http://www2.twdb.texas.gov/apps/waterdatainteractive/groundwaterdataviewer
- (USDA NRCS) U.S. Department of Agriculture Natural Resources Conservation Service. 2019. WebSoilSurvey.com. Soil Survey Area: Hays County, Texas. Date accessed: November 11, 2019.



ATTACHMENT A Geologic Assessment Table

GEOL	GEOLOGIC ASSESSMENT TABLE PROJECT NAME: Colony at Cole Springs																			
	LOCATIO	ON				FEAT	URE	CHAR	ACTER	IST	CS				EVAL	.UA1	ΓΙΟΝ	PHY	SICAI	L SETTING
1A	1B *	1C*	2A	2B	3		4		5	5A	6	7	8A	8B	9		10	1	1	12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMI	ENSIONS (F	EET)	TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENS	SITIVITY		ENT AREA RES)	TOPOGRAPHY
						Х	Υ	Z		10						<40	<u>>40</u>	<1.6	<u>>1.6</u>	
CS-01	30.079596	-97.858919	MB	30	Kbu/Kdr/Kgt	-	-	-	-	-	-	-	X/N	10	40		Х	Χ		Hillside
CS-02	30.081277	-97.860138	0	5	Kdr (Kbu)	1.5	0.7	1.5	-	-	-	-	O,F,C	15	20	Х		Χ		Drainage
CS-03	30.082607	-97.857384	0	5	Kgt	2	2	2.75	-	-	-	-	O,F	5	10	Χ		Χ		Hillside
CS-04	30.079589	-97.857979	MB	30	Kbu/Kdr/Kgt	0.25	0.25	-	-	-	-	-	X/N	10	40		Χ	Χ		Hillside
CS-05	30.076847	-97.855193	MB	30	Kbu	-	-	-	-	١	•	-	X/N	10	40		Χ	Χ		Hillside
CS-06	30.077728	-97.856127	MB	30	Kbu	0.08	0.08	-	-		-	-	X/N	10	40		Х	Χ		Hillside
CS-07	30.078152	-97.852964	MB	30	Kbu	3	3	-	-		-	-	X/N	10	40		Χ	Χ		Hillside
CS-08	30.078029	-97.85343	MB	30	Kbu	-	-	-	-		-	-	X/N	10	40		Χ	Χ		Hillside
CS-09	30.078671	-97.852727	0	5	Kbu	1.7	0.7	3.5	-	•		-	O,F,C	10	15	Χ		Χ		Hillside
			_																	
			•																	

* DATUM: NAD 1983 State Plane 4203

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

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

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

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field.

My signature certifies that I am qualified as a geologist as defined by 20 ACC Chapter 213.

Date 12/3/2019

Date 12/3/2019

Sheet __1__ of __1___

TCEQ-0585-Table (Rev. 10-01-04)



ATTACHMENT B Stratigraphic Column



Colony at Cole Springs Tract, Hays County

Group	Formation	Thickness (Small et al., 1996)	
Washita Group	Buda Limestone	40-50 feet	
Washita Group	Del Rio Clay	50-60 feet	
Washita Group	Georgetown Limestone**	40-60 feet	

**Note: the Georgetown Limestone was not identified onsite.



ATTACHMENT C Site Geology



The following includes a description of the site stratigraphy, geologic structure related to the Edwards aquifer, and karstic characteristics. Also included in this section is a review of historic aerials for presence of geologic changes or changes to manmade features in bedrock, the soil table, and a short feature summary. The final portion of this attachment contains full feature descriptions and photos.

Stratigraphy

Kbu – Buda Limestone

Small et al. describes Buda Limestone as "40 to 50 ft of dense, variably nodular, sublithographic or "porcelaneous" limestone; and light-gray to buff mudstone, commonly containing calcispheres and tiny calcite-filled fractures."

Kdr – Del Rio Clay

The Del Rio Clay is described by Small as "50 to 60 ft thick and is a dark blue-green to yellow-brown, variably gypsiferous clay, commonly containing pecten-type fossil clams and an abundance of the fossil oyster Ilymatogyra arietina, formerly Exogyra arietina (Roemer). These fossil oysters are known locally as "rams horns."

Kgt – Georgetown Limestone (Not identified onsite

The Georgetown Limestone is described as "40 ft in the south to about 60 ft in the north. The lithology of the Georgetown Formation generally consists of gray to light-tan, marly, fossiliferous limestone, usually containing ammonites, oyster-like clams, and the brachiopod Waconella wacoensis, formerly Kingena wacoensis (Roemer)."

Structure

According to Small et al (1996), the subject area is underlain by Kbu, Kdr, and Kgt, however, Kgt was not obserThere are two mapped normal faults that intersect the subject area at 30°-35° (Hauwert et. al. 2002). Locally, the dominant structural trend of the area is 35°, as evidenced by the mapped fault patterns (**Attachment D, Figure 2**). Thus, all features that have a trend ranging from 20° to 50° are considered on trend and will be awarded an additional 10 points in the Geologic Assessment Table.

The geologic strata associated with the Edwards aquifer include the Georgetown Formations overlying the Edwards Limestone Group. These rocks are underlain by the Walnut Formation, which has members including the Whitestone Member, Keys Valley Marl Member, the Cedar Park Member, the Bee Cave Member and the Bull Creek

aci Project No.: 22-19-100



Member. The Glen Rose Formation, another marine limestone stratum, is located below the Walnut Formation. On site, the Edwards Aquifer Recharge Zone corresponds to the Georgetown Formation.

Karstic Characteristics

In limestone terrains, karst is expressed by erratically developed cavernous porosity and the manifestations of sinkholes, voids, and erratic surface drainage. Karst landscapes are typical of the Edwards Limestone, occurring across a vast region of Central Texas, west of the Balcones Escarpment, and these processes are critical to understanding the Edwards aquifer within its various segments. The features produced by karst processes (voids, holes, and solution layers) eventually provide conduits for surface water runoff and "point recharge" for the Edwards aquifer. The identification and protection of these features in established recharge areas is critical to maintaining groundwater quality and species habitat. The TCEQ require protective strategies within these areas to maintain quantity and quality of recharge prior to, during, and upon completion of construction activities.

Review of Historic Aerials

Aerial photographs were reviewed for the site 1951, 1958, 1967, 1973, 1981, 1995, 2004, 2008, 2014, 2018. It was determined that ranching and agricultural activities occurred on the site with an associated rural residence since the first aerial image dated 1951 (**Attachment E**). There is a "Refined Liquid Product" buried pipeline crossing the site that appears to have been installed prior to the 1951 aerial. It is unclear whether this pipeline is still in service. Additional information regarding the pipeline in A**ttachment F**. The 1973 aerial show the first appearance of an aerial easement (transmission line) crossing the site. The 2008 aerial shows the first appearance of a quarry to the northeast of the site.

aci Project No.: 22-19-100



Soil Table

Soil Name	Group	Thickness (feet)
DeB—Denton silty clay, 1 to 3 percent slopes	D	6.66
ErG—Eckrant-Rock outcrop association, 8 to 30 percent slopes	D	6.66
GrC—Gruene clay, 1 to 5 percent slopes	D	6.66
KrB—Krum clay, 1 to 3 percent slopes	С	6.66
Or—Orif soils, moist, 0 to 3 percent slopes, frequently flooded	A	6.66
RUD—Rumple-Comfort, rubbly association, 1 to 8 percent	D	4.92
slopes		
SeB—Seawillow clay loam, 1 to 3 percent slopes	В	5.16

Feature Summary

Nine features were identified during site investigations and are detailed below, and shown on Figure 3 in Attachment D.

Soils discussed on the Geologic Assessment Form are delineated in **Attachment D, Figure 4.**

aci Project No.: 22-19-100



GPS: 30.079596, -97.858919

CS-01 is a manmade feature in bedrock that crosses the Buda Limestone, Del Rio Clay, and Georgetown Limestone Formations. The feature is a petroleum pipeline registered to Sunoco Pipeline, L.P. (P-5 # 829627). The pipeline permit information is presented in Attachment F. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive to call the attention of the project engineer.



Photo of CS-01.



GPS: 30.081277, -97.860138

CS-02 is an "other natural bedrock feature" and is present on a bank within a drainage. The geology is mapped as the Del Rio Clay Formation but was field confirmed as the Buda Limestone Formation. The feature is 1.5 feet wide by 0.7 feet tall, extending laterally 1.5 feet into the east bank of the drainage. Infill material consists of exposed limestone, rock cobbles, loose leaf litter, soils, and clay with desiccation cracks. The catchment area is less than 1.6 acres. Based on Figure 1 of the TCEQ Instructions to Geologists, the probability of rapid infiltration is designated as low (15 pts). This feature is not a sensitive recharge feature.

Recommendation: None, no action required.



Photo of CS-02.



GPS: 30.082607, -97.857384

CS-03 is an "other natural bedrock feature" and is present on a hillside in the Del Rio Clay Formation. This is likely an animal burrow due to the presence of soil mounding surrounding the feature. The dimensions are 2 feet by 2 feet, extending down and laterally 2.5 feet. Infill material consists of loose leaf litter, roots and dark soils. The catchment area is less than 1.6 acres. Based on Instructions to Geologists Figure 1, the probability of rapid infiltration is designated as low (5 pts). This feature is not a sensitive recharge feature.

Recommendation: None, no action required.



Photo of CS-03.



GPS: 30.079589, -97.857979

CS-04 represents a buried 3-inch waterline with a series of water spigots (manmade features in bedrock) that protrude approximately 1-2 feet above the surface. The locations of the spigots were located throughout the property and fall within each of the three mapped geological formations on site. Based on conversations with the ranch hand, the waterline and spigots are directly connected to the water well, CS-05, and are found primarily along the open pasture and the fenced areas along the west portion of the subject area. The depth of the waterline is unknown. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive and call the attention of the project engineer.



Photo of CS-04



GPS: 30.076847, -97.855193

CS-05 is a manmade feature in bedrock and is present on a hillside in the Buda Limestone Formation. The feature is a well and pumphouse with unknown dimensions. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive and call the attention of the project engineer.



Photo of CS-05.



GPS: 30.077728, -97.856127

CS-06 is a manmade feature in bedrock and is present on a hillside in the Buda Limestone Formation. There were two waterline spigots in the vicinity that had a 1-inch diameter each and an unknown depth. These waterlines are likely connected to the well designated as CS-05. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive and call the attention of the project engineer.



Photo of CS-06.



GPS: 30.078152, -97.852964

CS-07 is a manmade feature in bedrock and is present on a hillside in the Buda Limestone Formation. The feature was found proximal to a collapsed rural residence and is likely the relict access for a below ground septic system. The dimensions are approximately 3 feet by 3 feet with an unknown depth. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive and call the attention of the project engineer.



Photo of CS-07.



GPS: 30.078029, -97.85343

CS-08 is a manmade feature in bedrock and is present on a hillside in the Buda Limestone Formation. The feature is a well and pumphouse with unknown dimensions. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive and call the attention of the project engineer.



Photo of CS-08.



GPS: 30.078671, -97.852727

CS-09 is a "other natural bedrock feature" and is present on a hillside outcrop in the Buda Limestone Formation. While the outcrop constituents are consistent with the Buda Limestone, the structure suggests an alluvial concretionary deposit rather than bedrock. The feature dimensions are 1.7 feet by 0.7 feet, extending laterally into the outcrop for 3.5 feet. Infill material consists of rock cobbles, loose leaf litter, and soil. The catchment area is less than 1.6 acres. Based on Instructions to Geologists Figure 1, the probability of rapid infiltration is designated as low (10 pts). This feature is not a sensitive recharge feature.

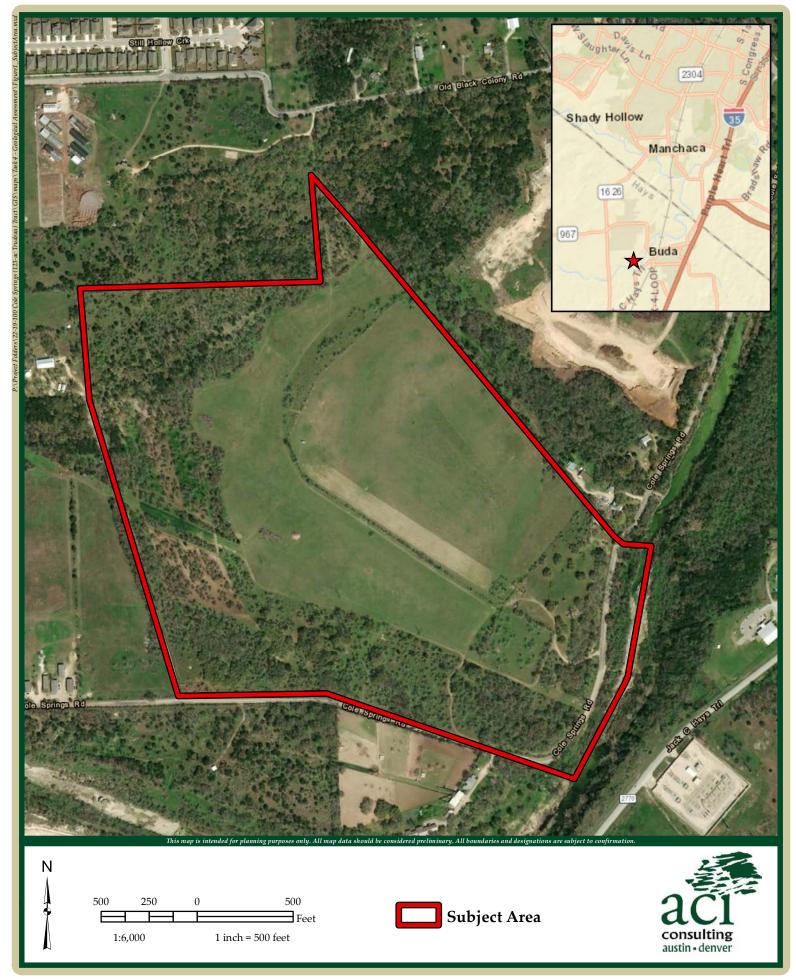
Recommendation: None, no action required.



Photo of CS-09.

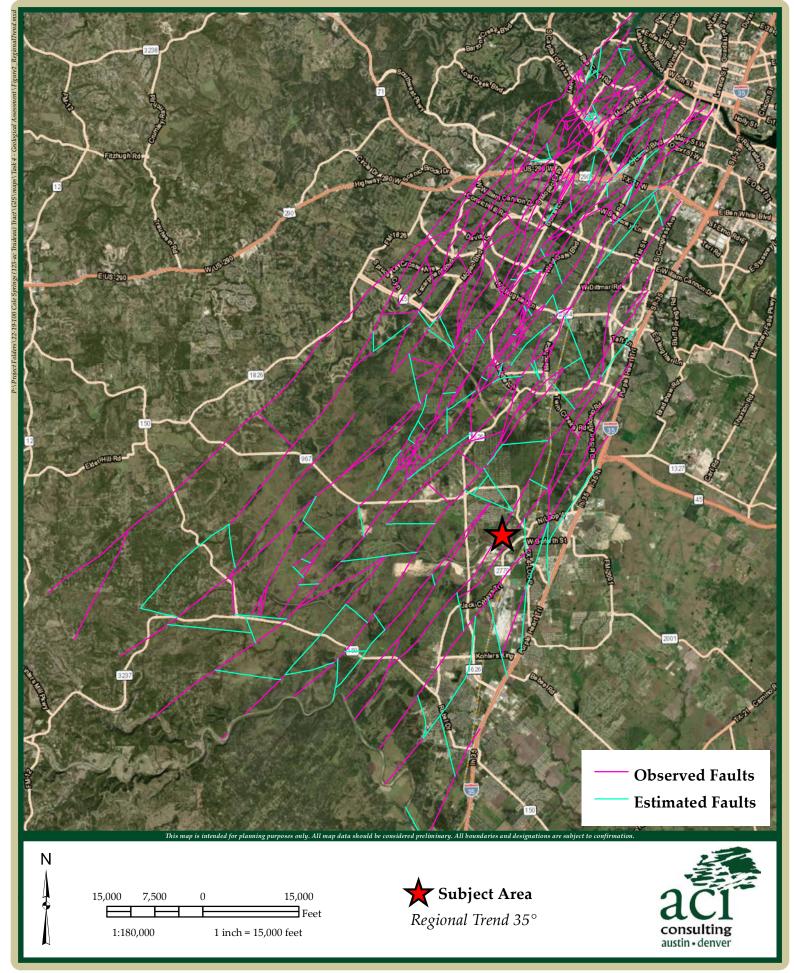


ATTACHMENT D Site Maps

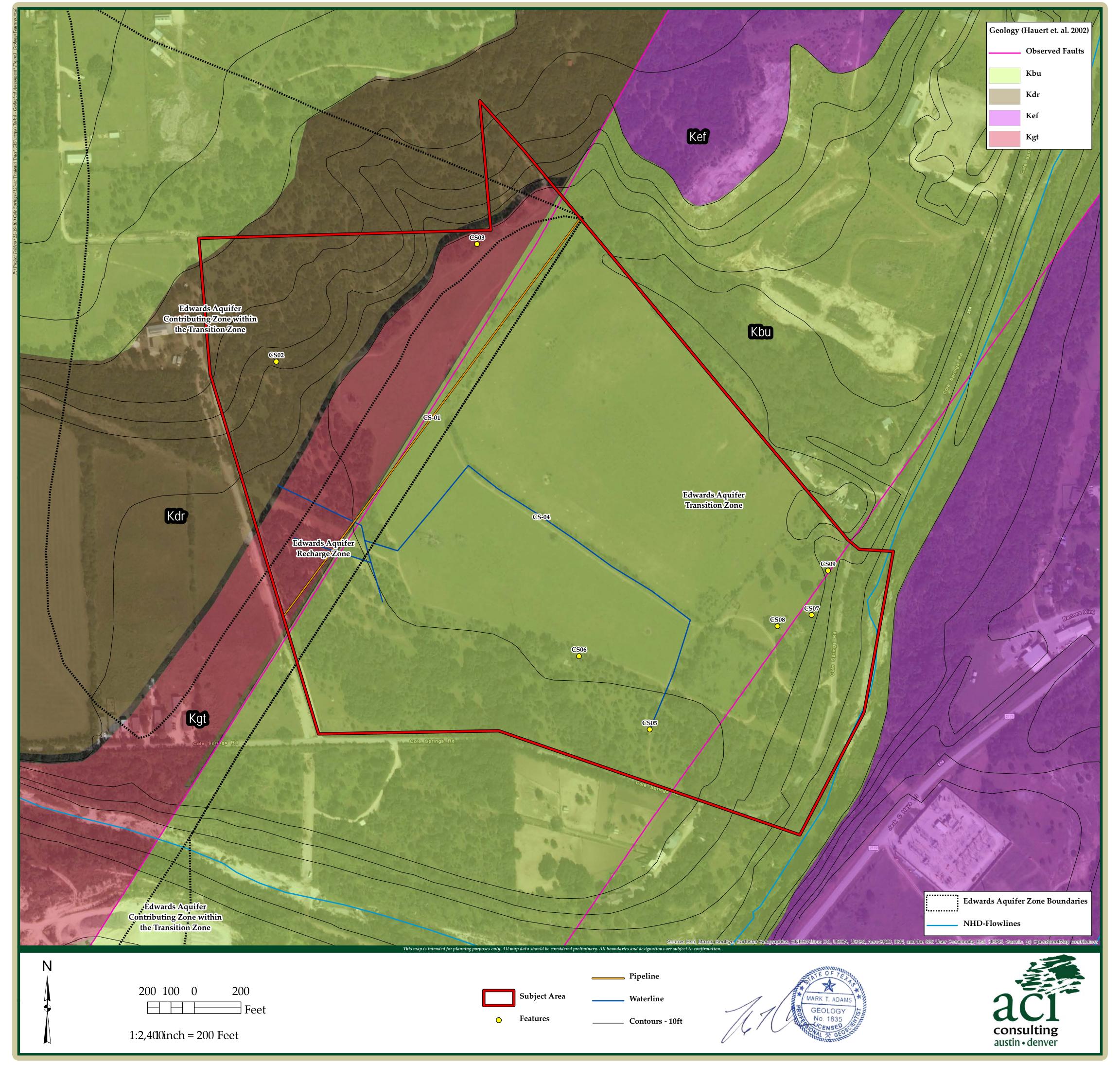


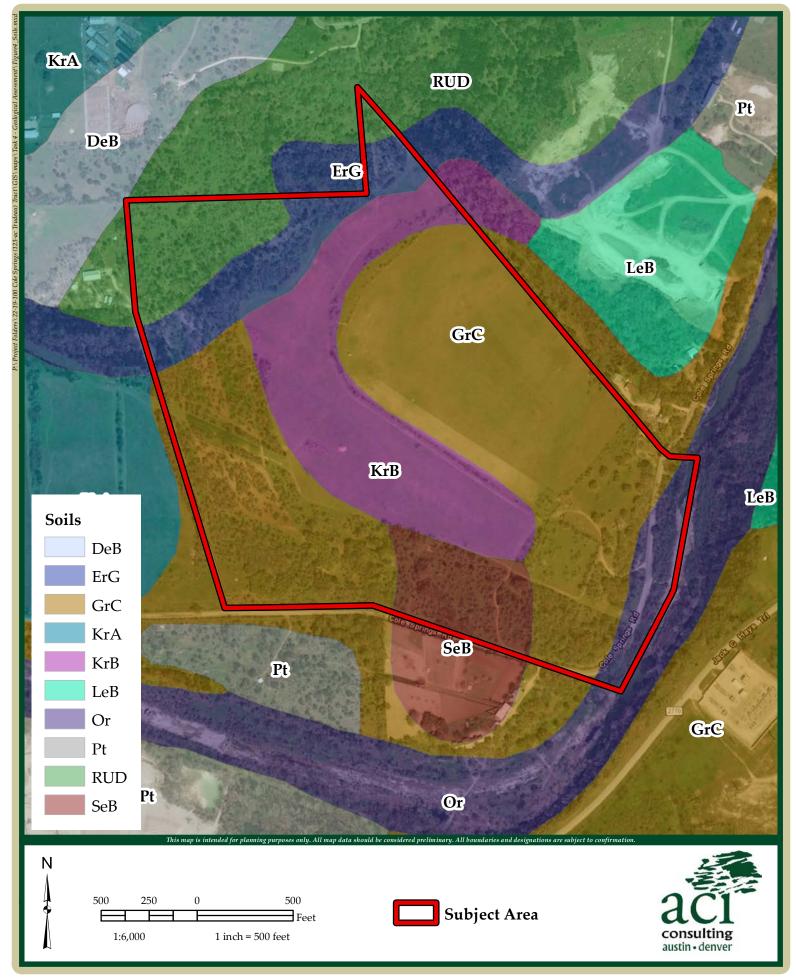
Colony at Cole Springs
Figure 1: Site Location Map

aci Project No.: 22-19-100 (22-15-013J)



Colony at Cole Springs Figure 2: Regional Trend Map





Colony at Cole Springs

aci Project No.: 22-19-100 (22-15-013J)

Figure 4: Soils December 2019



ATTACHMENT E Historical Aerial Photographs

Prepared for:

ACI CONSULTING 1001 Mopac Circle Austin TX 78746



Historical | Cole Springs Road tract Aerial Hays County, TX Photographs

PO #: 22-15-03J

ES-131419

Thursday, June 27, 2019



Date: 2018 Source: TNRIS

Feet 0 250 500 1,000





Date: 2014 Source: USDA

Feet 0 250 500 1,000

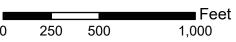




Source: USDA











Source: USGS





Source: USGS







Source: USGS







Source: USDA





AERIAL SOURCE DEFINITIONS

Acronym	Agency
NASA	National Aeronautics & Space Administration
AMS	Army Mapping Service
ASCS	Agricultural Stabilization & Conservation Service
SCS	Soil Conservation Service
ISGS	Illinois State Geological Survey
Fairchild	Fairchild Aerial Surveys
TXDOT	Texas Department of Transportation
BLM	Bureau of Land Management
USAF	United States Air Force
USCOE	United States Corps of Engineers
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WALLACE	Wallace-Zingery Aerial Surveys
TNRIS	Texas Natural Resources Information System

HISTORICAL AERIA	AL PHOTOGRAPHS
ES-131419	June 27, 2019



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ATTACHMENT F Petroleum Pipeline Information

DATABASE CHANGES

Form PS-74 rev 7-04

TRANSFER FROM PERMIT 06566 TO PERMIT Safety Eval#_____ Prepared by _____Permit # 07899 Change date 1/4/10 print date 1/4/10 1) COMPANY: No Changes ___ Change Company ___ Change Status to Inactive Add New Company COID STATUS COMPANY NAME CURRENT 1791 CHEVRON PIPE LINE COMPANY NEW 6139 Α SUNOCO PIPELINE L.P. 2) UNIT: When adding a new unit, include the contact person and complete address. L Chg. Co. ID Chg Name of Unit Transfer to Another Unit No Chgs. Contact Person_____Title_____Phone (__) -* Address UNIT ID UNIT NAME CO ID CURRENT 17949 CHEVRON PL/REG 4 1791 CHG/NEW 18250 SUNOCO PL LP/BEAUMONT 6139 3) SYSTEM: Change of: Unit ID Name Status County ☐ Miles ☐ T-4 Permit Split System(s) Out $\bigcap_{\mathbf{A}^{\mathtt{CTIVE}} \mathbf{J}^{\mathtt{URIS}}} \mathtt{S}^{\mathtt{SSTYPE}}$ Add New System(s) ☐ Merge System(s) SYSTEM UNIT SYSTEM NAME Α T-4COUNTY CURRENT 450873 17949 HEARNE-AUSTIN PRODUCT Α J 6566 Milam CHG/NEW 7899 Robertson OPERATOR NAME CHANGE, PERMIT CHANGE: Reason Travis IDLE SYSTEM TRANSFERRING FROM CHEVRON PERMIT 06566 CANCELED Williamson AND MERGED INTO EXISTING SUNOCO PERMIT 07899. 71.4 mi CURRENT CHG/NEW Reason CURRENT CHG/NEW Reason CURRENT CHG/NEW Reason CURRENT CHG/NEW Reason

Program Manager Review

Date

RAILROAD COMMISSION OF TEXAS SAFETY DIVISION PERMIT SECTION

PERMIT TO OPERATE PIPELINE

Austin, Texas, December 23, 2009

SUNOCO PIPELINE L.P. ATTN DAVID BORN ONE FLUOR DANIEL DR BLDG A 3 SUGAR LAND TX 77478

Permit No. 06566 FLUID TRANSPORTED

Crude: Condensate:

Crude FWS: Gas FWS:

Gas

Products XXX REF PROD/IDLE

Other

This is to certify that SUNOCO PIPELINE L.P. has complied with 16 TAC Sec. 3.70 of the Commission Rules and Regulations governing pipelines in accordance with the Natural Resources Code Sec. 81.051 and is granted this permit by the Commission to operate the following line or lines located at:

MILAM

ROBERTSON TRAVIS

WILLIAMSON

PERMIT AMENDED TO REFLECT OPERATOR CHANGE FROM CHEVRON PIPE LINE COMPANY, THEN PERMIT CANCELED AND MERGED INTO SUNOCO PIPELINE L.P. EXISTING PERMIT 07899. (ALSO OWNER CHANGE FROM TEXACO PIPELINE COMPANY TO SAME AS CURRENT OPERATOR.)

This permit is valid until the operating ownership of such line or system changes, or until extensions or other physical changes are made in the line or system. (See Instructions on Form T-4.)

LROAD COMMISSION OF TEXAS

APPLICATION FOR PERMIT TO OPERATE A PIPELINE TRANSTEXAS

(See 16 TAC 3.70)

DEC 2 2 2009

(8/06)

FORM T-4

Railroad Commission of Texas Gas Services Division License & Permits Section

Fax (866) 619-8702

E-mail

kdborn@sunocologistics.com

The Railroad Commission does not discriminate on the basis of race, color, national origin, sex, religion, age, or disability in employment or the provision of services. TDD/TDY (512) 463-7284

as Services Division	
icense & Permits Section	SAFETY DIVISION Permit No.: 06
ORGANIZATI	ION INFORMATION AUSTIN, TEXAS
Operator (Applicant) (See Instruction 1)	Address
Sunoco Pipeline L.P.	One Fluor Daniel Dr. Bldg. A Level 3, Sugar Land TX 77478
P5# <u>829627</u>	— One ridor Damer Dr. Bidg. A Lever 3, Sugar Land 1 & 11476
2. Does the above named operator own pipeline? XYes	No If "No", give name and address of owner.
3. Does the above named operator conduct or control the economic operations of If "No", give name, address and P-5# of economic operator. (See Instruction 2)	
	P5#
PIPELINE	INFORMATION
 Mark appropriate block for each of the following questions: a) Are the pipelines covered under this permitInterstate b) Fluid transported: 	X_Intrastate
CrudeCondensateGas (*) _X _ Pro	oducts (*)Full Gas Well StreamFull Oil Well StreamOther (*)
* Specify <u>G</u>	Gasoline, Diesel, Jet A
. — — — -	concentration? ppm
 d) Pipeline classification: If answer to (b) is other than natural gas, will the pipeline be opera 	ated as X_a common carrier or asa private line? (Ch. 111, Texas Natural Resources Code)
If answer to (b) is natural gas, will the pipeline be operated as a	gas utility or as aprivate line? (Texas Utilities Code)
NOTE: A natural gas pipeline permit will not specify whether the Gas Utility Audit Section will make that determination and notify	pipeline is a gas utility or a private line. The Gas Services Division the operator of its status.
e) Does pipeline use any public highway or road, railroad, public utility,	
f) Will the pipeline carry only the gas and/or liquids produced by pipeline	ne owner or operator?YesXNo
If answer to (f) is "No", is the gas and/or liquids: Purchased from others. X_Owned by others, bu	ut transported for a fee. Both purchased and transported for others.
	New Construction Report Number
2. a) New installation? Yes X No	(see 16 TAC 8.115 for applicability)
b) Renewal for same operator? Yes X No c) Extension or modification? X Yes No	(see 10 TAC 6.113 for applicability)
If there has been a change in operator or ownership, give name and address of	of previous operator, owner, or lessor: (Attach form T4B)
Chevron Pipeline Company, 4800 Fournace Place, Bellaire Texas 77401	
3. Check detailed purpose(s) for which described pipeline will be used:	
X Transmission Terminal (Storage Field)	Industrial Distribution
Gathering Gas Lift	Manufacturing Feed Stock (Own Consumption)
Gas Injection Gas Plant	Other (explain)
OTOLTICH Map (DT X2171 20 Miles of 1000) accounts any angular data of	
 U.S.G.S. 7.5 Minute Quad attached? (Scale 1" = 2,000 feet) Overview map (24" x 24" / 1" = 20 miles or less) attached and digital data seems. 	YesNo sent?X_YesNo
declare, under penalties prescribed in Sec. 91.143. Texas Natural Reson	ources Code, that I am authorized to make this report, that this report was prepare
by me or under my supervision and direction, and that data and facts state	ed therein are true, correct, and complete, to the best of my knowledge.
	12 12 22
Todd M. Stamm	
Type or Print Name of Person)	(Date)
Manager, Western Pipeline Operations	- udd of Thom 1941,
Title)	(Signature)
equiries regarding this application should be directed to:	
fame: David Bom Address: One Fluor Daniel Dr. Building A Le	evel 3, Sugar Land TX 77478 Phone: (A/C) 281-637- 6497
anic. David Doni Address. One l'idoi Daniei Di. Dunding A Le	3101 3, Dugui Laliu 171 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

RAILROAD COMMISSION OF TEXAS GAS SERVICES DIVISION PIPELINE SAFETY PO BOX 12967, AUSTIN, TX 78711-2967

RECEIVED RRC OF TEXAS DEC 2 2 2009 SAFETY DIVISION AUSTIN, TEXAS

PIPELINE TRANSFER CERTIFICATION

(File with Form T-4)

NEW OPERATOR/APPLICANT: _	Sunoco Pipeline	L.P.
Address: One Fluor Daniel Dr., Bu	ilding A Level 3	
Sugar Land City	Texas State	77478 Zip
Does the above named operator own the p	ipeline(s) Yes	No If "no" give owners name and address:
responsibility for the regulatory compleremain designated as the current operator is approved by the Commission	ance of the listed perator until a new on.	gning this certificate, I acknowledge pipelines. I also acknowledge that I will certificate designating a new current
Name (print) Todd M. Stamm Signa	ture	Date 12-18-09
Title: Manager, Western Pipeline Or	oerations	Phone: (281) 637-6581
OLD OPERATOR:Chevron Pipe]	Line Company	
Address: _4800 Fournace Place		
	xas	77401
City Did the above named operator own the pip	State eline(s) Yes	Zip No If "no" give owners name and address:
responsibility for1 has been transferred to the above na	pipeline listed med operator. I perator as current ssion.	evious operator, I certify that operating on Form T-4A for Permit 006566 understand, as previous operator, that operator is not effective until this
Title DOT Specialist P	hone (713) 432-3	3206

FORM T-4B

Rev. 9/01

RECEIVED RRC OF TEXAS MAR 1 1 2009

Form T-4C (4/97)

SAFETY DIVISION AUSTIN, TEXAS

PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWAL FORM

COMPANY / ADDRESS CHEVRON PIPE LINE COMPANY	PERMIT NO.	P-5 NO.
4800 Fournace Place	06566	148100
Bellaire TX 77401		
PIPELINE CLASSIFICATION	PLEASE ANSWER (A) & (F	3)
Common Carrier Interstate		(A) Fluid (B) Miles Transported of Pipe
Gas Utility Intrastate 🔀 🗸	Crude	
Private	Condensate	
Yannana Data of Lord Domits Morely 5, 2007	Gas *	
Issuance Date of Last Permit March 5, 2007 Location of Line(s) by County(s) Milam, Robertson, Travis	Products *	71.46
& Williamson Counties	Full Oil Well Stream	\Box $\sqrt{115}$ W
	Full Gas Well Stream	
	Other *	
	Specify Idle Products Li	ne 🗸
	Does fluid contain H ₂ S? If yes, at what concentration	Yes No
This will certify that the installations described above have not been subject t issuance date of last permit. REMARKS: Idle Hearne - San Antonio System (Texaco)	o any modifications, extensi	ons or abandonment since the
CERTIFICATE		
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Cowas prepared by me or under my supervision and direction, and that data and factor for my knowledge.		rrect, and complete, to the best
Signature	Name of Person (type or pr	
03/10/2009 DOT Specialist	FAX: (71) Telephone Number (713)) 432-3206
Date Title	Area C	ode Number



Global Gas

J. R. Burke DOT Specialist Environmental and Technical Chevron Pipe Line Company 4800 Fournace Place Bellaire, TX 77401-2324 Tel 713-432-3206

RBurke@Chevron.com

March 10, 2009

Kathy Arnold Railroad Commission of Texas Gas Services Division P. O. Box 12967 Austin, TX 78711-2967

RECEIVE RRC OF T

MAR 11 2223

SAFETY AND AUSTIN

Annual Operating Permits

Dear Ms. Arnold:

The following T-4C permit forms for CPL have been completed for your use:

06218	00700	00963	02042	01032	01033
00964	01447	05365	06344	06566	06335
05718	00188				

Also included is a Form PS-87 Pipeline Proximity to Public Schools and a 7100.2-1 Annual Gas Report for permit # 06335 Chevron Keystone Gas Storage.

Please contact me at 713-432-3206 if you have questions or require additional information.

Sincerely,

J. R. (Randy) Burke

Phake



Form T-4C (4/97)

PIPELINE AND GATHERING SYSTEM CERTIFICATION CRESCALL FORM

COMPANY / ADDRESS	PERMIT NO	P-5 NO.
CHEVRON PIPE LINE COMPANY 4800 Fournace Place Bellaire TX 77401	06566	148100
PIPELINE CLASSIFICATION	PLEASE ANSWER (A) & (E	3)
Common Carrier Interstate		(A) Fluid (B) Miles Transported of Pipe
Gas Utility Intrastate Intrastate	Crude	
Private	Condensate	
January Data of Lot Down't Month 5, 2007	Gas *	
Issuance Date of Last Permit March 5, 2007 Location of Line(s) by County(s) Milam, Robertson, Travis	Products *	71 46
& Williamson Counties	Full O1 Well Stream	□ V71.510
RECEIVED	Full Gas Well Stream	
A.R.C. OF TEXAS MAR 1 7 2008	Other *	
GAS SERVICES DIVISION AUSTIN, TEXAS	Specify Idle Products L. Does fluid contain H ₂ S?	Yes No
This will certify that the installations described above have not been subject t	If yes, at what concentration to any modifications, extens:	
issuance date of last permit.	,	
REMARKS: Idle Hearne - San Antonio System (Texaco)		

CERTIFICATE		11.40
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Cowas prepared by me or under my supervision and direction, and that data and fatof my knowledge.		
A Burke	J. R. Burke - rburk	
Signature // DOT Specialist	Name of Person (type or p FAX: (71 Telephone Number (713	3) 432-3477
03/10/2008 DOT Specialist Date Title	Area (

RECEIVED R.R.C. OF TEXAS

MAR 2 3 2007

Form T-4C (4/97)

GAS SERVICES DIVISION

PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWALTFORM

COMPANY / ADDRESS	PERMIT NO.	P-5 NO.
CHEVRON PIPE LINE COMPANY 4800 Fournace Place	06566	148100
Bellaire TX 77401		
PIPELINE CLASSIFICATION	PLEASE ANSWER (A) & (B	(i)
Common Carrier Interstate		(A) Fluid (B) Miles Transported of Pipe
Gas Utility Intrastate Intrastate	Crude	
Private	Condensate	
May 1 5 2007	Gas *	
Issuance Date of Last Permit March 5, 2007 Location of Line(s) by County(s) Milam, Robertson, Travis	Products *	71.46
& Williamson Counties	Full Oil Well Stream	□ <u>11.5</u> ′
	Full Gas Well Stream	
	Other *	
	Specify Idle Products Li	ine
	Does fluid contain H ₂ S? If yes, at what concentration	Yes No
This will certify that the installations described above have not been subject to issuance date of last permit. REMARKS: Idle Hearne - San Antonio System (Texaco)	o any modifications, extension	ons or abandonments since the
CERTIFICATE		
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Cowas prepared by me or under my supervision and direction, and that data and fatof my knowledge.		
Spane	J. R. Burke	
Signature	Name of Person (type or p	·
03/10/2007 DOT Specialist Date Title	Telephone Number (713 Area C	

Please mail <u>completed</u> Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967. If you have any questions call (512) 463-7194.

PERMIT TO OPERATE PIPELINE

Austin, Texas, March 5, 2007

CHEVRON PIPE LINE COMPANY ATTN J.R. (RANDY) BURKE 4800 FOURNACE PLACE BELLAIRE TX 77401 Permit No. 06566 FLUID TRANSPORTED

Crude:

Crude FWS:

Condensate:

Gas FWS:

Gas

Products XXX REF PROD/IDLE

Other

This is to certify that CHEVRON PIPE LINE COMPANY has complied with 16 TAC Sec. 3.70 of the Commission Rules and Regulations governing pipelines in accordance with the Natural Resources Code Sec. 81.051 and is granted this permit by the Commission to operate the following line or lines located at:

MILAM

ROBERTSON

TRAVIS

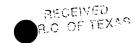
WILLIAMSON

PERMIT AMENDED TO REFLECT 2007-2008 RENEWAL AND TO REMOVE 81.0 MILES OF PIPE ABANDONED IN BEXAR, COMAL, GUADALUPE, HAYS, AND TRAVIS COUNTIES. REMAINING MILEAGE FOR THE HEARNE PRODUCTS SYSTEM IS 71.5.

This permit is valid until the operating ownership of such line or system changes, or until extensions or other physical changes are made in the line or system. (See Instructions on Form T-4.)

RAILROAD COMMISSION OF TEXAS

BY Kathy arnold



APPLICATION FOR PERMIT TO OPERATE A PIPELINE IN TEXAS 0 1 2007

(See 16 TAC 3.70)

Railroad Commission of Texas

FORM T-4

(8/06)

GAS SERVICES DIVISION AUSTIN, TEXAS Gas Services Division 06566 Permit No. License & Permits Section 11.5 Products aame ORGANIZATION INFORMATION 1. Operator (Applicant) (See Instruction 1) Address Chevron Pipe Line Company 4800 Fournace Place, Houston, TX. 77401 148100 No If "No", give name and address of owner. NO-P5 2. Does the above named operator own pipeline? 3/2 3. Does the above named operator conduct or control the economic operations on the pipeline? If "No", give name, address and P-5# of economic operator. (See Instruction 2) P5# PIPELINE INFORMATION 1. Mark appropriate block for each of the following questions × Intrastate Interstate a) Are the pipelines covered under this permit b) Fluid transported: Gas (*) Products (*) Full Gas Well Stream Full Oil Well Stream Crude Condensate * Specify Refined Products(Idle) X No If yes, at what concentration? c) Does fluid contain H2S? d) Pipeline classification: If answer to (b) is other than natural gas, will the pipeline be operated as X a common carrier or as X a private line? (Ch. 111, Texas Natural Resources Code) If answer to (b) is natural gas, will the pipeline be operated as a gas utility or as a __ private line? (Texas Utilities Code) NOTE: A natural gas pipeline permit will not specify whether the pipeline is a gas utility or a private line. The Gas Services Division Gas Utility Audit Section will make that determination and notify the operator of its status. e) Does pipeline use any public highway or road, railroad, public utility, or other common carrier right-of-way? f) Will the pipeline carry only the gas and/or liquids produced by pipeline owner or operator? If answer to (f) is "No", is the gas and/or liquids: Owned by others, but transported for a fee. Purchased from others Both purchased and transported for others. 2. a) New installation? \mathbf{X}_{No} b) Renewal for same operator? × Yes c) Extension or modification? If there has been a change in operator or ownership, give name and address of previous operator, owner, or lessor: (Attach form T4B) See Cover Sheet for detailed explanation. Quadalype + Hays Coo 3. Check detailed purpose(s) for which described pipeline will be used Terminal (Storage Field) Industrial Distribution Transmission Manufacturing Feed Stock (Own Consumption) Gas Lift Gathering Gas Plant Other (explain) Gas Injection × No U.S.G.S. 7.5 Minute Quad attached? (Scale 1" = 2,000 feet) Yes Overview map (24" x 24" / 1" = 20 miles or less) attached and digital data sent? × Yes No I declare, under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge. J.R. (Randy) Burke 02/19/2007 (Type or Print Name of Person) (Date) Muhe DOT Specialist (Title) Inquiries regarding this application should be directed to: 4800 Fournace Place, Houston, TX. 77401 Phone: (A/C) Randy Burke _{Eax (} (713) 432-3477 rburke@chevron.com

The Railroad Commission does not discriminate on the basis of race, color, national origin, sex, religion, age, or disability in employment or the provision of services. TDD/TDY (512) 463-7284



Global Gas

J. R. (Randy) Burke DOT Pipeline Safety Specialist Environmental & Technical Services Chevron Pipe Line Company 4800 Fournace Place Bellaire, TX 77401-2324 Tel 713-432-3206 Fax 713-432-3477 rburke@chevron.com

February 19, 2007

Kathy Arnold Railroad Commission of Texas Gas Services Division P. O. Box 12967 Austin, TX 78711-2967

RE: T-4 Permit #06566

Dear Ms. Arnold,

Attached please find a T-4 permit application, and an overview map. Please note the following:

• \$\mathbb{B}\$ - Abandon 80.99 miles of the Hearne Products System in Bexar, Guadalupe, Comal, Hays and Travis Counties. The abandoned section begins at the San Antonio Terminal and ends near FM 973, in Travis Co.

• NC - No Change

Add Counties: None

Remove Counties: Bexar, Comal, Guadalupe, Hays

Miles of Pipeline: Existing

152.45 **XB** - 80.99

Total Miles Permit #06566

71.46

Please contact me at 713-432-3206 if you have questions or require additional information.

Sincerely,

281 451 7537

J. R. (Randy) Burke

Attachments

Geography submitted via "FTP" filename t06566 on 02-19-07.

RECEIVED R.R.C. OF TEXAS

FEB 2 0 2007

GAS SERVICES DIVISION AUSTIN, TEXAS

From:

Kathy Arnold

To:

rburke@chevron.com

Date:

2/20/2007 3:42:16 PM

Subject:

T-4 #06566 Chevron Pipe Line Company

Hey, Randy. How goes it?

Two things. One. Your P-5 is delinquent. Two. Go fish on the permit application you submitted. It is way too old. The current one is on the website date 8/06. The one before this was 9/04. You are really digging up some old bones here. Look under Pipeline Safety for the current form and please resubmit. It is not going anywhere anyway until the P-5 is active again. Let me know if you have any questions. Thanks.

RECEIVED R.R.C. OF TEXAS

AILROAD COMMISSION OF TEXAS. GAS SERVICES DIVISION PIPELINE SAFETY SECTION

MAR 1 4 2005

Form T-4C (4/97)

GAS SERVICES DIVISION AUSTIN. TEXAS

AUSTIN, TEXAS PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWAL FORM

COMPANY / ADDRESS	PERMIT NO.	P-5 NO.	
CHEVRON PIPE LINE COMPANY 4800 Fournace Place Bellaire TX 77401	06566	14	8100
PIPELINE CLASSIFICATION	PLEASE ANSWER (A) & (B)	
Common Carrier Interstate		(A) Fluid (B) Transported	Miles of Pipe
Gas Utility Intrastate	Crude		
Private	Condensate		
Issuance Date of Last Permit February 19, 2003	Gas *		
Location of Line(s) by County(s) Bexar, Comal, Guadalupe, Hays, Milam,	Products *	\boxtimes	152.45
Robertson, Travis & Williamson Counties	Full Oil Well Stream		
·	Full Gas Well Stream		
	Other *		
	Specify Idle Products I Does fluid contain H ₂ S? If yes, at what concentration	Yes	No
This will certify that the installations described above have not been subject to issuance date of last permit. REMARKS: Idle Hearne - San Antonio System (Texaco)	o any modifications, extens	ions or abandonm	ents since the
CERTIFICATE			•
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Cowas prepared by me or under my supervision and direction, and that data and factor for my knowledge.			
Af Burke	J. R. Burke		
Signature	Name of Person (type or p	print)	
03/10/2006 DOT Specialist Date Title	<u>Telephone Number (7)</u> Area		

Please mail <u>completed</u> Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967. If you have any questions call (512) 463-7194.



Global Gas

J. R. Burke **DOT Specialist** **Environmental and Technical**

Chevron Pipe Line Company 4800 Fournace Place Bellaire, TX 77401-2324 Tel 713-432-3206 RBurke@Chevron.com

March 10, 2006

Kathy Arnold Railroad Commission of Texas Gas Services Division P.O. Box 12967 Austin, TX 78711-2967

RECEIVED R.R.C. OF TEXAS

MAR 1 4 2005

Annual Operating Permits

Dear Ms. Arnold:

GAS SERVICES DIVISION AUSTIN, TEXAS

The following T-4C permit forms for CPL have been completed for your use:

00204	00700	00894	00963	00964	01032
01033	01446	01447	01895	02838	04005
05235	05365	05718	05725	00188	06344
06566					

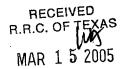
Also included is a Form PS-45 and 7100.2-1 for CPL and a 7100.2-1 for Unocal Keystone Gas Storage, LLC (please forward to Bruce Waterman).

Please contact me at 713-432-3206 if you have questions or require additional information.

Sincerely,

J. R. (Randy) Burke

GAS SERVICES DIVISION PIPELINE SAFETY SECTION



Form T-4C (4/97)

PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWALL FORM

COMPANY / ADDRESS	PERMIT NO.	P-5 NO.
CHEVRON PIPE LINE COMPANY PO BOX 4879	06566	148100
HOUSTON TX 77210		
PIPELINE CLASSIFICATION	PLEASE ANSWER (A) & (B)
PIPELINE CLASSIFICATION	PLEASE ANSWER (A) & (İ
Common Carrier Interstate		(A) Fluid (B) Miles Transported of Pipe
Gas Utility Intrastate	Crude	
Private	Condensate	<u>.</u>
Issuance Date of Last Permit February 19, 2003	Gas *	
Location of Line(s) by County(s) Bexar, Comal, Guadalupe, Hays, Milam,	Products *	<u>152.45</u>
Robertson, Travis & Williamson Counties	Full Oil Well Stream	
	Full Gas Well Stream	
	Other *	□/
	Specify Idle Products I	Line V
	Does fluid contain H ₂ S?	Yes No
	If yes, at what concentration	n? <u>pp</u> m
This will certify that the installations described above have not been subject t issuance date of last permit. REMARKS: Idle Hearne - San Antonio System (Texaco)	o any modifications, extens	ions or abandonments since the
CERTIFICATE		
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources C was prepared by me or under my supervision and direction, and that data and fa of my knowledge.		
Il Burke	J. R. Burke	
Signature	Name of Person (type or p	print)
03/10/2005 DOT Specialist Date Title	Telephone Number (28 Area	•

Please mail <u>completed</u> Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967. If you have any questions call (512) 463-7194.

Chevron Pipe Line Company

DOT Compliance/Risk Managem
2811 Hayes Road
Houston, TX 77082
Tel 281-596-3569
Fax 281-596-3640
RBurke@chevrontexaco.com

J. R. Burke DOT Compliance Specialist

March 10, 2005

ChevronTexaco

Kathy Arnold Railroad Commission of Texas Gas Services Division P. O. Box 12967 Austin, TX 78711-2967

RECEIVED R.R.C. OF TEXAS

MAR 1 5 2005

Dear Ms. Arnold:

GAS SERVICES DIVISION AUSTIN, TEXAS

The following T-4C permit forms have been completed for your use:

00203	00204	00700	00894	00963	00964
01033	01446	01447	01895	02838	· 04005
05235	05365	05711	05718	05725	00188
06344	06566				

Please contact me at 281-596-3569 if you have questions or require additional information.

Sincerely,

J. R. Burke



R.R.C. OF TEXAS

RECEIVED

Form T-4C (4/97)

GAS SERVICES DIVISION AUSTIN, TEXAS

PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWAL FORM

COMPANY / ADDRESS	PERMIT NO.	P-5 NO.
CHEVRON PIPE LINE COMPANY P O BOX 4879	06566	148100
HOUSTON TX 77210		
PIPELINE CLASSIFICATION	PLEASE ANSWER (A) & (B	3)
THE SERVE CERTIFICATION	1 22.102 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	
Common Carrier Interstate		(A) Fluid (B) Miles Transported of Pipe
Gas Utility Intrastate	Crude	
Private	Condensate	
Issuance Date of Last Permit February 19, 2003	Gas *	
Location of Line(s) by County(s) Bexar, Comal, Guadalupe, Hays, Milam,	Products *	∑ <u>152.45</u> ∠
Robertson, Travis & Williamson Counties	Full Oil Well Stream	
	Full Gas Well Stream	
	Other *	
	Specify Idle Products Li	ne 🖊
	Does fluid contain H ₂ S? If yes, at what concentration	Yes No
This will certify that the installations described above have not been subject to ssuance date of last permit. REMARKS: Idle Hearne - San Antonio System (Texaco)	any modifications, extension	ons or abandonments since the
CERTIFICATE		
declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Cowas prepared by me or under my supervision and direction, and that data and factor from knowledge.		
Signature Signature	J. R. Burke Name of Person (type or pr	int)
03/10/2004 DOT Specialist Date Title	Telephone Number (281 Area C	

Please mail completed Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967. If you have any questions call (512) 463-7194.

Chevron Pipe Line Company

DOT Compliance/Risk Management 2811 Hayes Road Houston, TX 77082 Tel 281-596-3569 Fax 281-596-3640 RBurke@chevrontexaco.com

J. R. Burke **DOT Compliance Specialist**

March 10, 2004

ChevronTexaco

RECEIVED R.R.C. OF TEXAS

MAR 1 2 2004

GAS SERVICES DIVISION AUSTIN, TEXAS

Kathy Arnold Railroad Commission of Texas Gas Services Division P.O. Box 12967 Austin, TX 78711-2967

Dear Ms. Arnold:

The following T-4C permit forms have been completed for your use:

00203	00204	00205	00700	00894	00963
00964	01032	01446	01447	01895	02838
04005	05235	05365	05711	05718	05725
00188	06344	06566			

Please contact me at 281-596-3569 if you have questions or require additional information.

Sincerely,

J. R. Burke



Safety 1	Eval. #		T-4	Permit No	o. <u>06566</u>	Prepared	by_	SE	C	_Date	<u>3/24</u>	/03
1) COMP					_		•			5	7	
Add N	lew Comp			Company	☐ Chan	ge Status			ct	ive 2	No	Change
	CC	OID	STATUS			COMPANY	NAI	ME_				
CURREN'	T 61	.94	A	SHELL PIPELINE COMPANY LP								
NEW		91	A	CHEVRON	PIPE LIN	E COMPANY						
	dd Unit					ID 🛭		-				
*Address	s <u>P. O</u>	. Box	4879, Hou	uston, Te	exas 772	10						
	UNI	ТĮD			UNI	T NAME						CO ID
CURRENT	05	962	SHELL PI	IPELINE/R	EG 4							6194
CHG/NEW	17	949	CHEVRON	PL/REG 4			· · · · · · · · · · · · · · · · · · ·					1791
CURRENT	SYSTEM UNIT							J	S	T-4	C	OUNTY
SYSTEM UNIT CURRENT 450873 05962								╁	<u> </u>		E GUA	BEXAR COMAL ADALUPE HAYS KILAM
											r	BERTSON RAVIS LIAMSON
CHG/NEW	450873	1794	9 HEARNE-	AUSTIN-SA	INOTNA NA	O PRODUCT	I	J	₽	06566		SAME
Reason				AL ACQUIS								
CURRENT												
CHG/NEW	`											
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Reason			•									
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Reason								ıl	1			

AS INTRASTATE PIPELINE QUESTION RE RAILROAD COMMISSION OF TEXAS GAS SERVICES DIVISION PIPELINE SAFETY SECTION

RECEIVED R.R.C. OF TEXAS

T-4 Permit No. 00967 (HEARNE PRODUCTS SYSTEM)

DEC 0 2 2002

If there are any changes in this address or information, please indicate below:						GAS SERVICES DIVISION AUSTIN, TEXAS			
· ·						.^^3			
MAILING ADDRESS P. O. BOX 2648 CITY, STATE, ZIP+4 HOUSTON, TX 77252-2648									
CITY, STATE, ZIP+									
Information is requested for all intrastate transmission/trunkline and gathering pipelines transporting hazardous liquids and CO₂ or gas which is flammable, toxic or corrosive under the specified T-4 Permit Number. Please complete a separate questionnaire for each T-4 permit application on file. If additional information is necessary to complete this form, telephone the Pipeline Safety Section in Austin at (512) 463-7058.									
I. GENERAL INFORMATION Are the pipelines covered under this permit Interstate									
NAME OF COMPLIANCE REPRESENTATIVE MAXINE G. KINNEY									
MAILING ADDRE			. O. BOX						
CITY, STATE, ZII				N, TX 77252	2-2648				
TELEPHONE NU									
TELEPHONE NUMBER (713) 241-2910 II. SYSTEM IDENTIFICATION AND LOCATION. The referenced T-4 permit may be several pipelines or pipeline systems, or a single listing permit									
	e or pipeline system	ATION. The releven	ceu 1-4 pi	emili may be	several pipelines of	pipeline systems, or a	single listing permit		
SYSTEM	FLUID	TYPE			CHECK	#PUMP/			
NAME/LINE	BEING	(Check as		PELINE	AS	COMPRESSOR			
NUMBER	TRANSPORTED	applicable)	SPECI	FICATIONS	APPLICABLE	STATIONS	COUNTIES		
Hearne	Product	Trunkline/	SMYS	35000	□ *Rural □ Non-Rural	2	Robertson		
Products	İ	Transinission	OD	10.750	☐ Bay Area		Falls		
System		☐ Gathering			☐ Offshore	1	McLennan		
1	*		WT	.250	☐ Navigable		Hills		
			LAGO	4445	Waterway	·	Ellis		
NC	`	MILES 144.19	MAOP	1145	☐ Environmentally		Dallas		
					Sensitive				
		T			□ *Rural				
Dallas Term.	Product	Trunkline/ Transmission	SMYS	35000	□ Non-Rural		Dallas		
To Ft. Worth	ļ	Transmission	OD	8	☐ Bay Area		Tarrant		
Term. 8"		☐ Gathering	"	J	☐ Offshore				
			wr	.250	□ Navigable				
	i			4400	Waterway				
BP .	·	MILES 25.87	MAOP	1109	☐ Environmentally				
			ĺ		Sensitive				
and the same of th					5 45				
Hearne –	Product	Trunkline/ Transmission	SMYS	42000	☐ *Rural		Robertson		
Austin		Hansmission	OD	0	□ Non-Rural □ Bay Area		Milam		
	 ,	☐ Gathering	00	8	☐ Offshore		Williamson		
	T4#06566	_	wt	.250/.322	□ Navigable		Travis		
SID 450873					Waterway	•			
PT-	·	MILES 78.97	MAOP						
Chevron/Texaco					Environmentally Sensitive				
Term many to phone					CONSINTO				
Austin-	Product	Trunkline/	SMYS	42000	□ *Rural		Travis		
San Antonio	Todaol	Transmission			☐ Non-Rural		Hays		
Jan Antonio			OD	6	☐ Bay Area	,	Comal		
450873	T4#06566	☐ Gathering	l		☐ Offshore	!			
100015	,		WT	.250/.280	□ Navigable		Guadalupe		
DT		MILES 73.48	МАОР		Waterway		Bexar		
PT-	,				Environmentally				
Chevron/Texaco					Sensitive				

*Rural means outside the limits of any incorporated or unincorporated city, town, village, or any other designated residential or commercial area such as a subdivision, a business or shopping center, or community development.

NOTE: Wt = Wall Thickness

The Railroad Commission does not discriminate on the basis of race, color, national origin, sex, religion, age, or disability in employment or the provision of services. TDD/TDY (512) 463-7284

*				- OUE	#DUMD/	
SYSTEM	FLUID	TYPE	515515	CHECK	#PUMP/	
NAMĘ/LINE	BEING	(Check as	PIPELINE	AS	COMPRESSOR	
NUMBER	TRANSPORTED	applicable)	SPECIFICATIONS	APPLICABLE	STATIONS	COUNTIES
		_				
		☐ Trunkline/	SMYS	□ *Rural		
		Transmission	1	☐ Non-Rural		
		·	OD	☐ Bay Area		
		☐ Gathering	1	☐ Offshore	İ	
	1		wr	□ Navigable		
			i	Waterway		
		MILES	MAOP			
				Environmentally		
,				Sensitive		
		☐ Trunkline/	SMYS	□ *Rural		
		Transmission		☐ Non-Rural		
			OD	☐ Bay Area		
	,	☐ Gathering		☐ Offshore		
			l wt	□ Navigable		
			·	Waterway		
		MILES	MAOP			
				Environmentally		
				Sensitive		
	Ì	☐ Trunkline/	SMYS	□ *Rural .		
		Transmission		☐ Non-Rural		
			OD	☐ Bay Area		
		□ Gathering		☐ Offshore		
		_	wr	□ Navigable		
•				Waterway		
	•	MILES	MAOP			
				Environmentally		
				Sensitive		
<u> </u>						
		☐ Trunkline/	SMYS	□ *Rural		
		Transmission		☐ Non-Rural]	
			OD	☐ Bay Area		
•		☐ Gathering		☐ Offshore		
•			WT	☐ Navigable		
]	_		Waterway		
]	MILES	MAOP			
				Environmentally		
				Sensitive		
Do any of these p	ipelines transport H	2S? ■ No				
•	•		entify:		Concentration	ppm

IF ADDITIONAL SPACE IS NEEDED, REPRODUCE THIS PAGE. Send completed report to: RAILROAD COMMISSION OF TEXAS, GAS SERVICES DIVISION, PIPELINE SAFETY SECTION, P. O. BOX 12967, AUSTIN, TX 78711-2967.

MAXINE G. KINNEY, OFFICE ASSISTANT NAME AND TITLE OF REPORTING OFFICIAL

SIGNATURE OF REPORTING OFFICIAL

(713) 241-2910 TELEPHONE



GAS SERVICES DIVISION PIPELINE SAFETY SECTION

RECEIVED R.R.C. OF TEXAS MAR 1 7 2003

Form T-4C (4/97)

GAS SERVICES DIVISION PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWATING TO SERVICES DIVISION

COMPANY / ADDRESS	PERMIT NO.	P-5 NO	
CHEVRON PIPE LINE COMPANY		06566	148100
PO BOX 4879 HOUSTON TX 77210			110200
PIPELINE CLASSIFICATION	PLEASE ANS	SWER (A) & (B)	
Common Carrier Interstate		(A) Flui Transpoi	
Gas Utility Intrastate	Crude		·
Private	Condensate	, 	
Issuance Date of Last Permit February 19, 2003	Gas *		
Location of Line(s) by County(s) Bexar, Comal, Guadalupe, Ha	Products *		152.45 L
Robertson, Travis & Williamson Counties	Full Oil Well	Stream	
	Full Gas Well	Stream	
	Other *		/
	Specify	dle Products Line	
	Does fluid cor	ntain H_2S ? Y_{ϵ} at concentration? p_{ϵ}	
This will certify that the installations described above have not issuance date of last permit. REMARKS: Idle Hearne - San Antonio System (Texaco)	been subject to any modifica	tions, extensions or ab	andonments since the
CE	RTIFICATE		,
I declare under penalties prescribed in Sec. 91.143, Texas Natura was prepared by me or under my supervision and direction, and to of my knowledge.			
Menle	J. R. B		
Signature	Name of Pe	erson (type or print)	
03/12/2003 DOT Specialist Date Title	Telephone N	Number (281) Area Code	596-3596 Number

Please mail <u>completed</u> Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967. If you have any questions call (512) 463-7194.

TEXAS INTRASTATE PIPELINE QUESTIONNAIRE AILROAD COMMISSION OF TEX GAS SERVICES DIVISION PIPELINE SAFETY SECTION

	PIPELINE	SAFELY SEC.	HON	
		•	T-4 Permit No	06566
If there are any changes in this	address or information, please indicate below:			
NAME OF OPERATOR	Chevron Pipe Line Company			
MAILING ADDRESS	P O Box 4862			
CITY, STATE, ZIP+4	Houston Texas 77210			
under the specified T-4 Permit I	intrastate transmission/trunkline and gathering pip Number. Please complete a separate questionna e Safety Section in Austin at (512) 463-7058.	pelines transporting hazard aire for each T-4 permit app	dication on file. If additional in	ich is flammable, toxic or corrosive forma 构图DEdds结 和 to complete R.R.C. OF TEYAS
I. GENERAL INFORMATION	Are the pipelines covered under this perm	it Interstate		
NAME OF COMPLIANCE REP	PRESENTATIVE J. R. Burke			MAR 1 7 2003
MAILING ADDRESS P.C.) Box 4879			S SERVICES DIVISION
OITY OTATE ZID 4	des Tayes 77010		GA	SERVICES STAR

CITY, STATE, ZIP+4	Houston Texas 77210				AUSTIN, T	EXAS
TELEPHONE NUMBER (281) 596-3569						
SYSTEM	FLUID	TYPE		CHECK	#PUMP/	
NAME/LINE	BEING	(Check as	PIPELINE	AS ABBU IOABU E	COMPRESSOR	COLINITIES
NUMBER	TRANSPORTED	applicable)	SPECIFICATIONS	APPLICABLE	STATIONS	COUNTIES
			O.D. 8.625	⊠ *Rural		Bexar
Idle Products		Trunkline/		Non-Rural		Guadalupe
8" Hearne To		Transmission	W.T322	☐ Bay Area		Comal
Austin			17.11.1022	Offshore		Hays
, Austin		Gathering	SMYS 24,000	Navigable Waterway		Travis
	=0 == ==		Olin to Etiood	Environmentally		
	MILES 78.97		MAO <u>P 1,032</u>	Sensitive		
				⊠ *Rural		Williamson
Idle Products	•	☑ Trunkline/	O.D. 6.625	⊠ Non-Rural		Milam
6" Austin To		Transmission		☐ Bay Area		Robertson
6 AUSTIII 10			W.T <u>280</u>	☐ Offshore		
San Antonio		☐ Gathering		☐ Navigable Waterway		
			SMY <u>S 24,000</u>	Environmentally		1
	MILES 73.48			Sensitive		
			MAO <u>P 1,168</u>			
		_	O.D.	☐ *Rural		
		☐ Trunkline/	J 0.D	☐ Non-Rural	·	
		Transmission	W.T.	Bay Area		
		_	····	☐ Offshore		
		☐ Gathering	SMYS	Navigable Waterway		
			SM 15	☐ Environmentally		
	MILES		MAOP	Sensitive		
Do any of these pipelines transport H₂S? ⊠ No						
☐ Yes Identify Concentration ppm						
IIF ADDITIONAL SPACE IS NEEDED, REPRODUCE THIS PAGE. Send completed report to: RAILROAD COMMISSION OF TEXAS, GAS SERVICES DIVISION, PIPELINE						
SAFETY SECTION P.O. ROY 12967, ALISTIN TEYAS, 78711-2967						
J 27 / 525/16/19/19/19			(h	Buch 3-1	17-07	

SIGNATURE OF REPORTING OFFICIAL

DOT Specialist

NAME AND TITLE OF REPORTING OFFICIAL

(281) 596-3569

TELEPHONE

PS-8000A, 6/97

RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION

PERMIT TO OPERATE PIPELINE

Austin, Texas, February 19, 2003

CHEVRON PIPE LINE COMPANY ATTN PHILLIP DE PRANG P O BOX 4879 HOUSTON TX 77210 Permit No. 06566
FLUID TRANSPORTED
Crude: Crude FWS:
Condensate: Gas FWS:
Gas
Products XXX REF PROD/IDLE
Other

This is to certify that CHEVRON PIPE LINE COMPANY has complied with 16 TAC Sec. 3.65 of the Commission Rules and Regulations governing pipelines in accordance with the Natural Resources Code Sec. 81.051 and is granted this permit by the Commission to operate the following line or lines located at:

BEXAR MILAM COMAL ROBERTSON GUADALUPE TRAVIS HAYS WILLIAMSON

INITIAL PERMIT: SAN ANTONIO TO HEARNE SYSTEM, PARTIAL TRANSFER FROM SHELL PIPELINE COMPANY T-4 #00967. MILEAGE 152.45 (IDLE).

This permit is valid until the operating ownership of such line or system changes, or until extensions or other physical changes are made in the line or system. (See Instructions on Form T-4.)

RAILROAD COMMISSION OF TEXAS

x ____ (Cathy amalal:

Form T-4A

(Rev. 4/99)

 \bigvee

FORM T-4 (3/98)

Railroad Commission Of Texas Gas Services Division 6 TAC 3.65 [Rule 70 of Statewide Rules and Regulations

Pipeline Safety Section					
P-5 # 148100	ORGANIZATION INFORMATION Permit No. New Olo 5 let				
Operator (Applicant)		Address P O BOX 4879			
CHEVRON PIPE LINE COMPANY		HOUSTON, TEX	KAS 77210		
2. To Whom in Texas should the Commission give notice?		Address P O BOX 4879			
CHEVRON PIPE LINE COMPANY		HOUSTON, TEX	XAS 77210		
3. Does the above named operator own pipeline?	3. Does the above named operator own pipeline? Yes No If "No", give name and address of owner.				
Texaco Pipeline Company, LLC 1301 McKINNEY HOUSTON, TEXAS 77010					
4. Does the above named operator own or operate oil or	gas producing properties in	Гехаs? Yes	No No		
	PIPELINE IN	FORMATION	·		
Mark appropriate block for each of the following que	stions:				
a) Are the pipelines covered under this permit	Interstate 🛛	Intrastate	_		
b b) Fluid transported: Crude	Condensate	Gas (*) Produc	cts (*)		
Full Oil Well S	_		Refined Products (Idle)		
c) Does fluid contain H ₂ S? Yes d) Pipeline classification:	⊠ No If ye	es, at what concentration?	ppm		
If answer to (b) is other than natural gas, will the pipe	eline be operated as	a common carrier or as	a private line?		
If answer to (b) is natural gas, will the pipeline be op-	_	s Natural Resources Code) ty or as a private line?			
in answer to (b) is flatural gas, will the pipeline be op-	(Texas Utilities				
A natural gas pipeline permit will not specify whethe the operator of its status.	r the pipeline is a gas utility	or a private line. The Gas Servi	ces Division will make that determination and notify		
e) Does pipeline cross any public highway or road, r	ight-of-way for any railroad,	public utility, or other common	carrier? X Yes No		
f) Will pipeline carry only the gas and/or liquids produced by pipeline owner or operator? Yes No					
If answer to (f) is "No", is the gas and/or liquids: Purchased from others. Owned by others, but transported for a fee.					
	Both purchased and t				
2. a) New installation? Yes No If yes, do not complete remainder of this question. (SEE COVER SHEET)					
b) Renewal for same operator?			Equilon Pipeline Company LLC		
c) Extension or modification?			P.O. Box 2648		
If there has been a change in operator or ownership,	give name and address of pre	evious operator, owner, or lesso	r: Houston, Texas 77252		
Check detailed purpose for which described pipeline	will be used:				
Trunk Transmission	Manufacturing Feed	Stock (Chemical, plastic, etc.)			
Gathering	Gas Injection (Recycl	ling, pressure maintenance)			
Gas Lift	Distribution Systems	(Municipal, industrial)			
Gas Plant (Gathering system)	Other (explain)				
Terminal (Storage, loading racks, etc.)	•				
U.S.G.S. 7.5 Minute Quad Map or General Highway Detailed map of gathering system attached?	y County Map attached? (Sc	ale 1" = 2 Miles) Yes No	L No		
I declare, under penalties prescribed in Sec. 91.143, me or under my supervision and direction, and that					
me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge. Phillip C. DePrang 1-30-2003					
(Type or Print Name of Person)			(Date)		
		111			
OPERATIONS SPECIALIST (Title) (Signature)					
(Title)		\mathcal{U}	(Signature)		
Inquiries regarding this application should be directed to:	n ~ n	OV 4050	(491) 507 3743		
Phillip C. DePrang		OX 4879	(281) 596 - 3623 RECEIVED		
	HOUSTON,	TEXAS 77210	R.R.C. OF TEXAS		



January 30, 2003

RECEIVED R.R.C. OF TEXAS

FEB 0.3 2003

GAS SERVICES DIVISION AUSTIN, TEXAS Chevron Pipe Line Company

2811 Hayes Road Houston, Texas 77082 P. O. Box 4879 Houston, Texas 77210

Kathy Arnold Railroad Commission of Texas Gas Services Division P. O. Box 12967 Austin, TX 78711-2967

RE: T-4 Permit #unknown

Dear Ms. Arnold:

Attached please find a T-4 permit application, and an overview map. Please note the following:

• PT - Partial Transfer from Equilon Pipeline permit #00967, a 152.45 mile segment of idle 6"/8" products line from Hearne to San Antonio. Equilon contact is Maxine Kinney (281-241-2910).

Add Counties: Bexar, Guadalupe, Comal, Hays, Travis, Williamson, Milam, AND ROBERTSON
Remove Counties: None

PER RANDY BURKE
244103

Miles of Pipeline:

Existing

0.00

PT

152.45

Total Miles Permit # unknown

152.45

Please contact me at 281-596-3569 if you have questions or require additional information.

Sincerely,

J.R. Burke

DOT Compliance Specialist

Attachments

Geography submitted via "FTP" filename tChevron on 1-30-03.





SECTION 4: WATER POLLUTION ABATEMENT PLAN

Water Pollution Abatement Plan Application

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: <u>Alejandro E. Granados Rico, P.E.</u>

Date: June 11, 2024

Signature of Customer/Agent:

Alejandro E. Granda Rica

Regulated Entity Name: Colony at Cole Springs Phase 1

Regulated Entity Information

1.	The type of project is:
	Residential: Number of Lots: 100
	Residential: Number of Living Unit Equivalents:
	Commercial
	☐ Industrial
	Other:

- 2. Total site acreage (size of property): 29.43
- 3. Estimated projected population: 350
- 4. The amount and type of impervious cover expected after construction are shown below:

Table 1 - Impervious Cover Table

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	362,000	÷ 43,560 =	8.31
Other paved surfaces	172,380	÷ 43,560 =	3.95
Total Impervious Cover	534,380	÷ 43,560 =	12.26

Total Impervious Cover <u>12.26</u> ÷ Total Acreage <u>29.43</u> X **100** = <u>41.66</u> % Impervious Cover

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

For Road Projects Only

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

7.	Type of project:
	TXDOT road project. County road or roads built to county specifications. City thoroughfare or roads to be dedicated to a municipality. Street or road providing access to private driveways.
8.	Type of pavement or road surface to be used:
	Concrete Asphaltic concrete pavement Other:
9.	Length of Right of Way (R.O.W.): feet.
	Width of R.O.W.: feet. $L \times W = _{} Ft^2 \div 43,560 Ft^2/Acre = acres.$
10.	. Length of pavement area: feet.
	Width of pavement area: feet. L x W = $Ft^2 \div 43,560 Ft^2/Acre = acres$. Pavement area acres \div R.O.W. area acres x $100 = \%$ impervious cover
11.	. A rest stop will be included in this project.
	A rest stop will not be included in this project.
12.	. Maintenance and repair of existing roadways that do not require approval from the TCEQ Executive Director. Modifications to existing roadways such as widening

roads/adding shoulders totaling more than one-half (1/2) the width of one (1) existing lane require prior approval from the TCEQ.

Stormwater to be generated by the Proposed Project

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

Wastewater to be generated	by the Propos	ed Project
14. The character and volume of wastewater is	s shown below:	
% Domestic % Industrial % Commingled TOTAL gallons/day <u>16,660</u>	16,660	Gallons/day Gallons/day Gallons/day
15. Wastewater will be disposed of by:		
On-Site Sewage Facility (OSSF/Septic Ta	ank):	
Attachment C - Suitability Letter fr will be used to treat and dispose of licensing authority's (authorized ag the land is suitable for the use of pr the requirements for on-site sewag relating to On-site Sewage Facilities Each lot in this project/development size. The system will be designed by sanitarian and installed by a license	the wastewater from thent) written approval is rivate sewage facilities age facilities as specified us. The facilities as specified us. The facilities as tone (1) acres by a licensed professional	his site. The appropriate attached. It states that and will meet or exceed under 30 TAC Chapter 285 e (43,560 square feet) in all engineer or registered
Sewage Collection System (Sewer Lines	s):	
 □ Private service laterals from the wastewater generating facilities will be connected to an existing SCS. □ Private service laterals from the wastewater generating facilities will be connected to a proposed SCS. 		
 ☐ The SCS was previously submitted on ☐ The SCS was submitted with this application. ☐ The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to Executive Director approval. 		
The sewage collection system will conv (Downtown) Wastewater Treatment Pl		
X Existing.		

Proposed.
16. All private service laterals will be inspected as required in 30 TAC §213.5.
Site Plan Requirements
Items 17 – 28 must be included on the Site Plan.
17. \square The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = <u>200</u> '.
18. 100-year floodplain boundaries:
 Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled. No part of the project site is located within the 100-year floodplain. The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s):
19. The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Lots, recreation centers, buildings, roads, open space, etc. are shown on the plan.
The layout of the development is shown with existing contours at appropriate, but not greater than ten-foot intervals. Finished topographic contours will not differ from the existing topographic configuration and are not shown. Lots, recreation centers, buildings, roads, open space, etc. are shown on the site plan.
20. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):
\boxtimes There are two (2) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)
 The wells are not in use and have been properly abandoned. The wells are not in use and will be properly abandoned. The wells are in use and comply with 16 TAC §76.
There are no wells or test holes of any kind known to exist on the project site.
21. Geologic or manmade features which are on the site:
 All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled. No sensitive geologic or manmade features were identified in the Geologic Assessment. Attachment D - Exception to the Required Geologic Assessment. A request and justification for an exception to a portion of the Geologic Assessment is attached.
22. The drainage patterns and approximate slopes anticipated after major grading activities.
23. Areas of soil disturbance and areas which will not be disturbed.

24. 🔀	Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
25. 🔀	Locations where soil stabilization practices are expected to occur.
26.	Surface waters (including wetlands).
\boxtimes	N/A
27.	Locations where stormwater discharges to surface water or sensitive features are to occur.
\boxtimes	There will be no discharges to surface water or sensitive features.
28. 🔀	Legal boundaries of the site are shown.
Adn	ninistrative Information
29. 🔀	Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.
30. 🔀	Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees

Factors Affecting Water Quality

Materials that are anticipated to be used on site that could be a potential source of contamination include the following:

During Construction:

- 1. Concrete and Masonry Materials
- 2. Wood, plastic, and metal Materials
- 3. Tar and hydrocarbons from paving operations
- 4. Oil, Grease, fuel, and hydraulic fluid from construction equipment and vehicle drippings
- 5. Fertilizers, Herbicides, and Pesticides
- 6. Cleaning solutions and detergents
- 7. Miscellaneous construction trash and debris
- 8. Soil erosion and sedimentation due to construction activity

Ultimate Use:

- 1. Pollutants generated from vehicles utilizing the site
- 2. Fertilizers, Herbicides, and pesticides used to maintain landscaping
- 3. Miscellaneous trash and debris generated from the public

(This is not intended to be an all-inclusive list)

All practical management practices will be used to reduce the risk of spills and other exposure of any contaminant to surface or groundwater

Volume and Character of Storm Water

The proposed Colony at Cole Springs Phase 1 project within the Recharge Zone and Contributing Zone within the Transition Zone includes the construction of 100 single family lots and associated civil improvements including, water, wastewater, roadways. There are three road connections to Colony at Cole Springs Phase 1 to provide ingress and egress from the Phase 2 site. Impervious cover for the site within the Recharge Zone of Phases 1 and 2 total 12.26 total acres (41.66 %) of impervious cover proposed.

Under existing conditions, the site generally flows from West to East. The site is a part of two watersheds, with both discharging into onion creek on the eastern property boundary. This flow is then carried off the property to the north.

Part of Phase 2 is located in the Federal Emergency Management Agency's 100-year floodplain according to FIRM 48209CO280F, Hays County, Texas and incorporated areas, dated September 2, 2005. In proposed conditions, all onsite flow will be captured and conveyed through a proposed storm system. Water will be treated according to TCEQ requirements. The area of Phase 2 within the recharge and contributing zone within the transition zone will be treated by Pond 2. The portion of Phase 2 not within the recharge and contributing zone within the transition zone will be treated by both Pond 2 and Pond 3. Pond 1 will be built at a later date to treat stormwater from future phases. Offsite drainage has no impervious cover; therefore, no treatment will be provided for these areas.

Three (3) on site Batch detention ponds are proposed on site for the entire subdivision. Only Pond 2 and Pond 3 will be built during Phase 1 and Pond 1 will be built with Phase 3. The Detention and Water Quality Structures are sized per current City of Buda and TCEQ design standards. Drainage area maps and calculations are included in the plan set for reference.

Regarding stormwater volume (quantity) of the stormwater runoff which is expected to occur from the proposed project, see table below depicting existing vs proposed runoff volume. This increase of runoff is being detained in proposed detention ponds to at or below existing condition runoff rates for the 2, 10, 25 and 100 year events.

	Storm Event	Volume of Runoff (CF)
EXISTING	2 10 25 100	775,640 1,599,733 2,242,723 3,142,705,896
PROPOSED	2 10 25 100	853,640 1,698,155 2,349,904 3,143,385,432

Suitability Letter From Authorized Agent

An on-site sewage facility will **not** be used to treat and dispose of the wastewater.



Exception to the Required Geologic Assessment

No sensitive geologic or manmade features were identified in the geologic assessment. Therefore, an exception to the Geologic Assessment Requirements will not be required.



SECTION 5: TEMPORARY STORMWATER SECTION

Temporary Stormwater Section

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(A), (B), (D)(I) and (G); Effective June 1, 1999

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

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

Signature

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

Print Name of Customer/Agent: Alejandro E. Granados Rico, P.E.

Date: June 11, 2024

Signature of Customer/Agent:

Alejandro E. Granda Rica

Regulated Entity Name: Colony at Cole Springs Phase 1

Project Information

Potential Sources of Contamination

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

1.	construction:
	The following fuels and/or hazardous substances will be stored on the site:
	These fuels and/or hazardous substances will be stored in:
	Aboveground storage tanks with a cumulative storage capacity of less than 250 gallons will be stored on the site for less than one (1) year.
	Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.

	Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.
	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.
Se	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 to be disturbed by each activity is given. For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.
ŝ.	Name the receiving water(s) at or near the site which will be disturbed, or which will receive discharges from disturbed areas of the project: N/A
Te	emporary Best Management Practices (TBMPs)
sta coi bas	osion control examples: tree protection, interceptor swales, level spreaders, outlet abilization, blankets or matting, mulch, and sod. Sediment control examples: stabilized instruction exit, silt fence, filter dikes, rock berms, buffer strips, sediment traps, and sediment sins. Please refer to the Technical Guidance Manual for guidelines and specifications. All ructural BMPs must be shown on the site plan.
7.	Attachment D – Temporary Best Management Practices and Measures. TBMPs and
	measures will prevent pollution of surface water, groundwater, and stormwater. The construction-phase BMPs for erosion and sediment controls have been designed to retain sediment on site to the extent practicable. The following information is attached:
	A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.

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

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

11. Attachment H - Temporary Sediment Pond(s) Plans and Calculations. Temporary

sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information

Administrative Information

20. [All structural controls will be inspected and maintained according to the submitted a	and
	approved operation and maintenance plan for the project.	

21. 🛭	$oxed{oxed}$ 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 erosi	ion and sediment controls will be
constructed and maintained as appropriate to prevent	pollutants from entering
sensitive features discovered during construction.	



Spill Response Actions

If there is an accidental spill on site, the contractor shall respond with appropriate action. The contractor will be required to contact the owner and in turn the owner will contact the TCEQ in the event of a spill on site. In addition to the following guidance, reference the latest version of TCEQ's Technical Guidance Manual (TGM) RG-348 Section 2.4.16.

Cleanup

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

Minor Spills

- Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.
- Use absorbent materials on small spills rather than hosing down or burying the spill.
- Absorbent materials should be promptly removed and disposed of properly.
- Follow the practice below for a minor spill:
 - Contain the spread of the spill.
 - Recover spilled materials.
 - Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities.

Spills should be cleaned up immediately:

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

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

• Notify the TCEQ by telephone as soon as possible and within 24 hours at (512)339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.



- For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
- Notification should first be made by telephone and followed up with a written report.
- The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
- Other agencies which may need to be consulted include, but not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.



Potential Sources of Contamination

Potential Source: Oil, grease, fuel, and hydraulic fluid contamination from construction equipment and vehicle dripping.

Preventative Measures: Vehicle maintenance will be performed within the construction staging area or a local maintenance shop.

Potential Source: Miscellaneous trash and litter from construction workers and material wrappings.

Preventative Measures: Trash containers will be placed throughout the site to encourage proper disposal of trash.

Potential Source: Silt leaving the site.

Preventative Measures: Contractor will install all temporary best management practices prior to start of construction including the stabilized construction entrance to prevent tracking onto adjoining streets.

Potential Source: Construction Debris.

Preventative Measures: Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case-by-case basis.

Potential Source: Soil and Mud from Construction Vehicle tires as they leave the site.

Preventative Measures: A stabilized construction exit shall be utilized as vehicles leave the site. Any soil, mud, etc. carried from the project onto public roads shall be cleaned up within 24 hours.

Potential Source: Sediment from soil, sand, gravel, and excavated materials stockpiled on site.

Preventative Measures: Silt fence shall be installed on the down gradient side of the stockpiled materials. Reinforced rock berms shall be installed at all downstream discharge locations.

Potential Source: Portable toilet spill.

Preventative Measures: Toilets on the site will be emptied on a regular basis by the contracted toilet company.



Sequence of Major Activities

The installation of erosion and sedimentation controls shall occur prior to any excavation of materials or major disturbances on the site. The sequence of major construction activities will be as follows. Approximate acreage to be disturbed is listed in parentheses next to each activity.

Intended Schedule or Sequence of Major Activities:

- 1. Construct Access (0.05 Acres)
- 2. Installation of Temporary BMPs (29.43 Acres)
- 3. Initiate Grubbing and Topsoil Stripping of Site (29.43 Acres)
- 4. Rough Subgrade Preparation (earthwork, grading, street and drainage excavation and embankment) (29.43 Acres)
- 5. Wet and Dry Utility Construction (<u>6</u> Acres)
- 6. Final Subgrade Preparation (<u>6</u> Acres)
- 7. Installation of Base Materials (<u>5</u> Acres)
- 8. Concrete (foundations, curbs, flatwork) (<u>4</u> Acres)
- 9. Building Construction (<u>5</u> Acres)
- 10. Paving Activities (<u>3.5</u> Acres)
- 11. Topsoil, Irrigation and Landscaping (<u>29.43</u> Acres)
- 12. Site cleanup and Removal of Temporary BMPs (29.43 Acres)

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



Temporary Best Management Practices and Measures

- **A.** No storm water originates up gradient that impacts the site.
- **B.** Temporary BMPs will be installed prior to soil disturbing construction activity. Silt fencing will be placed along the down-gradient sides of the property to prevent silt from escaping the construction area. A temporary construction entrance will be placed on site to reduce vehicle "tracking" onto adjoining streets. A concrete washout pit will be used to collect all excess concrete during construction. A spoils and staging area will be designated as part of the temporary best management practices near the intersection of Old Black Colony Road and the proposed Clarissa Street.

BMPs for this project will protect surface water or groundwater from turbid water, phosphorus, sediment, oil, and other contaminants, which may mobilize in storm water flows by slowing the flow of runoff to allow sediment and suspended solids to settle out of the runoff.

Practices may also be implemented on site for interim and permanent stabilization. Stabilization practices may include but are not limited to: establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of existing trees and vegetation, and other similar measures.

- **C.** There are no sensitive features or surface streams within the boundaries of the project. The temporary onsite BMPs will be used to treat stormwater runoff before it leaves the project and prevent pollutants from entering into surface streams or any sensitive features down-gradient of the site.
- **D.** There were no sensitive features identified during the geologic assessment. However, the BMPs for this project are designed to allow water to pass through after sedimentation has occurred. Existing flow patterns will be maintained to any naturally-occurring sensitive features that are discovered during construction.



Request To Temporarily Seal a Feature

Naturally occurring features will not be sealed on the site.



Structural Practices

Structural BMPs will be used to limit runoff discharge of pollutants from exposed areas of the site. BMPs will be installed prior to soil disturbing construction activity. Silt fencing will be placed along the downgradient sides of the property to prevent silt from escaping the construction area. A temporary construction entrance will be placed at the site entry/exit point to reduce tracking onto adjoining streets. A construction staging area will be used onsite to perform all vehicle maintenance and for equipment and material storage. A concrete truck washout pit will be placed on site to provide containment and easier cleanup of waste from concrete operations. The location of all structural temporary BMP's are shown on the erosion control plan sheet and details and specifications are provided on the erosion control details sheet which can be found at the end of this report under Section 8.

Description of Temporary BMPs

Temporary Construction Entrance/Exit

The purpose of a temporary gravel construction entrance is to provide a stable entrance/exit condition from the construction site and keep mud and sediment off public roads. A stabilized construction entrance is a stabilized pad of crushed stone located at any point traffic will be entering or leaving the construction site from a public right-of-way, street, alley, sidewalk, or parking area. The purpose of a stabilized construction entrance is to reduce or eliminate the tracking or flowing of sediment onto public rights-of-way. This practice should be used at all points of construction ingress and egress.

Excessive amounts of mud can also present a safety hazard to roadway users. To minimize the amount of sediment loss to nearby roads, access to the construction site should be limited to as few points as possible and vegetation around the perimeter should be protected where access is not necessary. A rock stabilized construction entrance should be used at all designated access points.

Inspection and Maintenance Guidelines:

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

Silt Fence

The purpose of a silt fence is to intercept and detain water-borne sediment from unprotected areas of a limited extent. Silt fence is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Silt fence should not be used where there is a concentration of water in a channel or drainage way. If concentrated flow occurs after installation, corrective action must be taken such as placing a rock berm in the areas of concentrated flow.

Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.



Inspection and Maintenance Guidelines:

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

Concrete Washout Area

The purpose of concrete washout areas is to prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout offsite, performing onsite washout in a designated area, and training employees and subcontractors.

The following steps will help reduce stormwater pollution from concrete wastes:

- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
- Avoid mixing excess amounts of fresh concrete.
- Perform washout of concrete trucks in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped onsite, except in designated areas.
- For onsite washout:
- Locate washout area at least 50 feet from sensitive features, storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.

Below grade concrete washout facilities are typical. These consist of a lined excavation sufficiently large to hold expected volume of washout material. Above grade facilities are used if excavation is not practical. Temporary concrete washout facility (type above grade) should be constructed as shown on the details at the end of this section, with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations. Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.

When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and disposed of. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and disposed of. Holes, depressions, or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.



Rock Berm

The purpose of a rock berm is to serve as a check dam in areas of concentrated flow, to intercept sediment-laden runoff, detain the sediment and release the water in sheet flow. The rock berm should be used when the contributing drainage area is less than 5 acres. Rock berms are used in areas where the volume of runoff is too great for a silt fence to contain. They are less effective for sediment removal than silt fences, particularly for fine particles, but are able to withstand higher flows than a silt fence. As such, rock berms are often used in areas of channel flows (ditches, gullies, etc.). Rock berms are most effective at reducing bed load in channels and should not be substituted for other erosion and sediment control measures further up the watershed.

Inspection and Maintenance Guidelines:

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

Inlet Protection

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

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

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

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

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

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



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

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

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

Inspection and Maintenance Guidelines:

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



Drainage Area Map

There are two areas greater than 10 acres within a common drainage area that will be disturbed at one time. An existing and proposed drainage area map is provided at the end of this report in Section 8 to support the aforementioned requirement.



Temporary Sediment Pond(s) Plans and Calculations

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

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

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

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

Sites With Drainage Areas Less than Ten Acres

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

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

Proposed Sedimentation Basin Calculations

For Colony at Cole Springs Phase 2, the batch detention ponds will be the temporary sedimentation ponds that will serve as a storage for on-site and off-site drainage. The basins will be designed to contain the 3,600 cubic feet per acre of disturbed area draining to the pond.



Inspection and Maintenance for BMPs

The primary operator is required to choose one of the two inspections listed below.

Personnel Responsible for Inspections

The agent that performs the inspections should be knowledgeable of this general permit, familiar with the construction site, and knowledgeable of the SWPPP for the site. The contractor is to provide an inspector with a CPESC, CESSWI, or CISEC certification. Documentation of the inspector's qualifications is to be included in the attached Inspector Qualifications Log.

Inspection Schedule

Option 1: Once every seven calendar days. If this alternative schedule is developed, then the inspection must occur regardless of whether or not there has been a rainfall event since the previous inspection.
 Option 2: Once every 14 calendar days and within 24 hours of the end of a storm event of two inches or greater.

The inspections may occur on either schedule provided that documentation reflects the current schedule and that any changes to the schedule are conducted in accordance with the following provisions: the schedule may be changed a maximum of one time each month, the schedule change must be implemented at the beginning of a calendar month, and the reason for the schedule change must be documented (e.g., end of "dry" season and beginning of "wet" season).

If option 2 is the chosen frequency of inspections a rain gauge must be properly maintained on site or the storm event information from a weather station that is representative of the site location. For any day of rainfall during normal business hours that measures 0.25 inches or greater, proper documentation of the total rainfall measured for that day must be recorded. Personnel provided by the permittee must inspect:

- disturbed areas of the construction site that have not been finally stabilized;
- areas used for storage of materials that are exposed to precipitation:
- structural controls (for evidence of, or the potential for, pollutants entering the drainage system);
- rock berms;
- concrete washout area;
- inlet protection;
- sediment and erosion control measures identified in the SWP3 (to ensure they are operating correctly); and
- locations where vehicles enter or exit the site (for evidence of off-site sediment tracking).

Reductions in Inspection Frequency

Where sites have been finally or temporarily stabilized or where runoff is unlikely due to winter conditions (e.g. site is covered with snow, ice, or frozen ground exists), inspections must be conducted at least once every month. In arid, semi-arid, or drought-stricken areas, inspections must be conducted at least once every month and within 24 hours after the end of a storm event of 0.5 inches or greater. A record of the total rainfall measured, as well as the approximate beginning and ending dates of winter or drought conditions resulting in monthly frequency of inspections in the attached Rain Gauge Log.

In the event of flooding or other uncontrollable situations which prohibit access to the inspection sites, inspections must be conducted as soon as access is practicable.



Inspection Report Forms

Use the Inspection Report Forms given as a checklist to ensure that all required areas of the construction site are addressed. There is space to document the inspector's name as well as when the inspections regularly take place. The tables will document that the required area was inspected. (If there were any areas of concern, briefly describe them in this space with a more detailed description in the narrative section. Use the last table to document any discharges found during the inspections). Describe how effective the installed BMPs are performing. Describe any BMP failures that were noted during the investigation and describe any maintenance required due to the failure. If new BMPs are needed as the construction site changes, the inspector can use the space at the bottom of the section to list BMPs to be implemented before the next inspection.

Describe the inspector's qualifications, how the inspection was conducted, and describe any areas of non-compliance in detail. If an inspection report does not identify any incidents of non-compliance, then it must contain a certifying signature stating that the facility or site is in compliance. The report must be signed by a person and in a manner required by 30 TAC 305.128. There is space at the end of the form to allow for this certifying signature.

Whenever an inspection shows that BMP modifications are needed to better control pollutants in runoff, the changes must be completed within seven calendar days following the inspection. If existing BMPs are modified or if additional BMPs are needed, you must describe your implementation schedule, and wherever possible, make the required BMP changes before the next storm event.

The Inspection Report Form functions as the required report and must be signed in accordance with TCEQ rules at 30 TAC 305.128.

Corrective Action

Personnel Responsible for Corrective Actions

Both Primary and Secondary Operators are responsible for maintaining all necessary Corrective Actions. If an individual is specifically identified as the responsible party for modifying the contact information for that individual should be documented in the attached Inspector Qualifications Log.

Corrective Action Forms

The Temporary BMPs must be modified based on the results of inspections, as necessary, to better control pollutants in runoff. Revisions must be completed within seven (7) calendar days following the inspection. If existing BMPs are modified or if additional BMPs are necessary, an implementation schedule must be described in the attached forms and wherever possible those changes implemented before the next storm event. If implementation before the next anticipated storm event is impracticable, these changes must be implemented as soon as practicable. Actions taken as a result of inspections must be properly documented by completing the corrective action forms given.

Schedule of Interim and Permanent Soil Stabilization

Construction practices shall disturb the minimal amount of existing ground cover as required for land clearing, grading, and construction activity for the shortest amount of time possible to minimize the potential of erosion and sedimentation from the site. Existing vegetation shall be maintained and left in place until it is necessary to disturb for construction activity. For this project the following stabilization practices will be implemented:

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

Records of the following shall be maintained:

a) The dates when major grading activities occur;



- b) The dates when construction activities temporarily or permanently cease on a portion of the site; and
- c) The dates when stabilization measures are initiated.

Stabilization measures must be initiated as soon as practical in portions of the site where construction activities have temporarily or permanently ceased, and except as provided in the following, must be initiated no more that fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased:

Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions, stabilization measures must be initiated as soon as practical.

Where construction activity on a portion of the site is temporarily ceased and earth disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures do not have to be initiated on that portion of the site.

In arid areas (areas with an average rainfall of 0-10 inches), semiarid areas (areas with an average annual rainfall of 10 to 20 inches), and areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonably arid conditions, stabilization measures must be initiated as soon as practical.

Maintenance

Below are some maintenance practices to be used to maintain erosion and sediment controls:

- All measures will be maintained in good working order. The operator should correct any damage or deficiencies as soon as practicable after the inspection, but in no case later than seven (7) calendar days after the inspection.
- BMP Maintenance (as applicable)
- Sediment must be removed from sediment traps and sedimentation ponds no later than the time that design capacity has been reduced by 50%. For perimeter controls such as silt fences, berms, etc., the trapped sediment must be removed before it reaches 50% of the above-ground height.
- Silt fence will be inspected for depth of sediment, tears, to see of the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
- Drainage swale will be inspected and repaired as necessary.
- Inlet control will be inspected and repaired as necessary.
- Check dam will be inspected and repaired as necessary.
- Straw bale dike will be inspected and repaired as necessary.
- Diversion dike will be inspected and any breaches promptly repaired.
- Temporary and permanent seeding and planting will be inspected for bare spots, washouts, and healthy growth.
- If sediment escapes the site, accumulations must be removed at a frequency that minimizes offsite impacts, and prior to the next rain event, if feasible. If the permittee does not own or operate the off-site conveyance, then the permittee must to work with the owner or operator of the property to remove the sediment.
- Locations where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking.

To maintain the above practices, the following will be performed:

 Maintenance and repairs will be conducted before the next anticipated storm event or as necessary to maintain the continued effectiveness of storm water controls. Following an



inspection, deficiencies should be corrected no later than seven (7) calendar days after the inspection.



Inspector Qualifications Log*

Inspector Name:
Qualifications (Check as appropriate and provide description):
□ Training Course
□ Supervised Experience
□ Other
Inspector Name:
Qualifications (Check as appropriate and provide description):
□ Training Course
□ Supervised Experience
□ Other
Inspector Name:
Qualifications (Check as appropriate and provide description):
□ Training Course
□ Supervised Experience
□ Other
Inspector Name:
Qualifications (Check as appropriate and provide description):
□ Training Course
□ Supervised Experience
□ Other
Ingnoston Nomo.
Inspector Name: Ovalifications (Cheek as appropriate and provide description):
Qualifications (Check as appropriate and provide description):
Qualifications (Check as appropriate and provide description): □ Training Course
Qualifications (Check as appropriate and provide description): □ Training Course □ Supervised Experience
Qualifications (Check as appropriate and provide description): □ Training Course
Qualifications (Check as appropriate and provide description): □ Training Course □ Supervised Experience
Qualifications (Check as appropriate and provide description): □ Training Course □ Supervised Experience □ Other
Qualifications (Check as appropriate and provide description): □ Training Course □ Supervised Experience □ Other Inspector Name:
Qualifications (Check as appropriate and provide description): Training Course Supervised Experience Other Inspector Name: Qualifications (Check as appropriate and provide description):
Qualifications (Check as appropriate and provide description): □ Training Course □ Supervised Experience □ Other Inspector Name:

^{*} The agent that performs the inspections should be knowledgeable of this general permit, familiar with the construction site, and knowledgeable of the SWPPP for the site. The contractor is to provide an inspector with a CPESC, CESSWI, or CISEC certification.



Amendment Log

No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]



Construction Activity Sequence Log

Name of Operator	Projected dates Month/year	Activity Disturbing Soil clearing, excavation, etc.	Location on-site where activity will be conducted	Acreage being disturbed

^{*}Construction activity sequences for linear projects may be conducted on a rolling basis. As a result, construction activities may be at different stages at different locations in the project area. The Contractor is required to complete and update the schedule and adjust as necessary.



Stormwater Control Installation and Removal Log

Stormwater Control	Location On-Site	Installation Date	Removal Date



Stabilization Activities Log

Date Activity Initiated	Description of Activity	Description of Stabilization Measure and Location	Date Activity Ceased (Indicate Temporary or Permanent)	Date When Stabilization Measures Initiated

Stabilization and erosion control practices may include, but are not limited to: establishing temporary or permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, and protecting existing trees and vegetation. List practices used where they are located, when they will be implemented, and whether they are temporary (interim) or permanent.



Inspection Frequency Log

Date	Frequency Schedule and Reason for Change



Rain Gauge Log

Date	Location of Rain Gauge	Gauge Reading



General Information								
Name of Project				Tracking No.		Inspection Date		
Inspector Name, T Contact Information								
Present Phase of Co	onstruction							
Inspection Location inspections are require location where this instead being conducted)	ed, specify							
Standard Frequ Increased Frequ Reduced Frequ - Once per n	Inspection Frequency Standard Frequency:							
If yes, how did : ☐ Rain gauge on	Was this inspection triggered by a 0.25" storm event? ☐ Yes ☐ No If yes, how did you determined whether a 0.25" storm event has occurred? ☐ Rain gauge on site ☐ Weather station representative of site. Specify weather station source: Total rainfall amount that triggered the inspection (in inches):							
If "yes", co	ine that any mplete the f	portion of your site w			No			
- Location(s) where condi	tions were found:						



Condition and Effectiveness of Erosion and Sediment (E&S) Controls						
Type/Location of E&S Control	Repairs or Other Maintenance Needed?	Corrective Action Required?	Date on Which Maintenance or Corrective Action First Identified?	Notes		
1.	□Yes □No	□Yes □No				
2.	□Yes □No	□Yes □No				
3.	□Yes □No	□Yes □No				
4.	□Yes □No	□Yes □No				
5.	□Yes □No	□Yes □No				
6.	□Yes □No	□Yes □No				
7.	□Yes □No	□Yes □No				
8.	□Yes □No	□Yes □No				
9.	□Yes □No	□Yes □No				
10.	□Yes □No	□Yes □No				



	Condition and Effectiveness of Pollution Prevention (P2) Practices					
Type/Location of P2 Practices	Repairs or Other Maintenance Needed?	Corrective Action Required?	Identification Date	Notes		
1.	□Yes □No	□Yes □No				
2.	□Yes □No	□Yes □No				
3.	□Yes □No	□Yes □No				
4.	□Yes □No	□Yes □No				
5.	□Yes □No	□Yes □No				
6.	□Yes □No	□Yes □No				
7.	□Yes □No	□Yes □No				
8.	□Yes □No	□Yes □No				
9.	□Yes □No	□Yes □No				
10.	□Yes □No	□Yes □No				



Stabilization of Exposed Soil					
Stabilization Area	Stabilization Method	Have You Initiated Stabilization?	Notes		
1.		☐ YES ☐ NO If yes, provide date:			
2.		☐ YES ☐ NO If yes, provide date:			
3.		☐ YES ☐ NO If yes, provide date:			
4.		☐ YES ☐ NO If yes, provide date:			
5.		☐ YES ☐ NO If yes, provide date:			
	Description of	Discharges			
	ner discharge occurring from any paint information for each point of dischar	rt of your site at the time of the inspec rge:	ction?		
Discharge Location	Observations				
1.	Describe the discharge:				
	At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and/or sediment accumulation that can be attributed to your discharge? Yes No If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue:				
2.	Describe the discharge:				
	At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and/or sediment accumulation that can be attributed to your discharge? Yes No If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue:				
3.	Describe the discharge:				
	At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and/or sediment accumulation that can be attributed to your discharge? Yes No If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue:				



Contractor or Subcontractor Certification and Signature				
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of maccurate, and complete. I am aware that there are significant penalties for submitting false information, including the posknowing violations."	e person or persons who manage the ny knowledge and belief, true,			
Signature of Contractor or Subcontractor:	Date:			
Printed Name and Affiliation:				
Certification and Signature by Permittee				
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of maccurate, and complete. I am aware that there are significant penalties for submitting false information, including the posknowing violations."	e person or persons who manage the ny knowledge and belief, true,			
Signature of Permittee or "Duly Authorized Representative":	Date:			
Printed Name and Affiliation:				



Section A – Initial Report (Complete this section <u>within 24 hours</u> of discovering the condition that triggered corrective action)					
Name of Project				Today's Date	
Date Problem First Disco	vered		Time Problem Firs	et Discovered	
Name and Contact Inform	nation of Individual Completing this				
☐ A required stormwater ☐ The stormwater contr	What site conditions triggered the requirement to conduct corrective action: A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements in Part 2 and/or 3 The stormwater controls that have been installed and maintained are not effective enough for the discharge to meet applicable water quality standards A prohibited discharge has occurred or is occurring				
Provide a description of t	he problem:				
Deadline for completing corrective action (Enter date that is either: (1) no more than 7 calendar days after the date you discovered the problem, or (2) if it is infeasible to complete work within the first 7 days, enter the date that is as soon as practicable following the 7th day):					
If your estimated date of completion falls after the 7-day deadline, explain (1) why you believe it is infeasible to complete work within 7 days, and (2) why the date you have established for making the new or modified stormwater control operational is the soonest practicable timeframe:					
	Sec (Complete this section <u>no later than</u>	tion B – Corre 7 calendar days afte	ctive Action Progreer discovering the cond	ess ition that triggered corrective action)	
Section B.1 – Why the	Problem Occurred				
Cause(s) of Problem (Add an additional sheet if necessary)			How This Was Determined and the Date You Determined the Cause		
1.			1.		
2.			2.		
3.			3.		
Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem					
List of Stormwater Contr Problem (Add an addition	ol Modification(s) Needed to Correct nal sheet if necessary)	Completion Date	SWPPP Update Necessary?	Notes	
1.			□Yes □No Date:		
2.			☐Yes ☐No Date:		
3.			□Yes □No Date:		



Section A – Initial Report (Complete this section <u>within 24 hours</u> of discovering the condition that triggered corrective action)					
Name of Project Tracking No.				Today's Date	
Date Problem First Disco	vered		Time Problem Firs	t Discovered	
Name and Contact Inform	nation of Individual Completing this				
☐ A required stormwater ☐ The stormwater contr	What site conditions triggered the requirement to conduct corrective action: A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements in Part 2 and/or 3 The stormwater controls that have been installed and maintained are not effective enough for the discharge to meet applicable water quality standards A prohibited discharge has occurred or is occurring				
Provide a description of t	he problem:				
	Deadline for completing corrective action (Enter date that is either: (1) no more than 7 calendar days after the date you discovered the problem, or (2) if it is infeasible to complete work within the first 7 days, enter the date that is as soon as practicable following the 7th day):				
If your estimated date of completion falls after the 7-day deadline, explain (1) why you believe it is infeasible to complete work within 7 days, and (2) why the date you have established for making the new or modified stormwater control operational is the soonest practicable timeframe:					
	Section (Complete this section <u>no later than 7 c</u>		ctive Action Progrer discovering the cond		
Section B.1 – Why the	Problem Occurred				
Cause(s) of Problem (Add	l an additional sheet if necessary)		How This Was Determined and the Date You Determined the Cause		
1.			1,		
2.			2.		
3.			3.		
Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem					
List of Stormwater Contro Problem (Add an addition	ol Modification(s) Needed to Correct nal sheet if necessary)	Completion Date	SWPPP Update Necessary?	Notes	
1.			□Yes □No Date:		
2.			☐Yes ☐No Date:		
3.			□Yes □No Date:		



Contractor or Subcontractor Certification and Signature			
'I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."			
Signature of Contractor or Subcontractor:	Date:		
Printed Name and Affiliation:			
Certification and Signature by Permittee			
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."			
Signature of Permittee or "Duly Authorized Representative": D	ate:		
Printed Name and Affiliation:			



SECTION 6: PERMANENT STORMWATER

Permanent Stormwater Section

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: <u>Alejandro E. Granados Rico, P.E.</u>

Date: June 11, 2024

Signature of Customer/Agent

Alejandro E. Granda River

Regulated Entity Name: Colony at Cole Springs Phase 1

Permanent Best Management Practices (BMPs)

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

1.	Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.
	□ N/A
2.	These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 85% 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.
	igstyle igstyle The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs

and measures for this site.

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

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

11. Attachment G - Inspection, Maintenance, Repair and Retrofit Plan. A plan for the inspection, maintenance, repairs, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan includes all of the following:
Prepared and certified by the engineer designing the permanent BMPs and measures
 Signed by the owner or responsible party Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit A discussion of record keeping procedures
N/A
12. Attachment H - Pilot-Scale Field Testing Plan. Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.
⊠ N/A
13. Attachment I -Measures for Minimizing Surface Stream Contamination. A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that results in water quality degradation.
⊠ N/A
Responsibility for Maintenance of Permanent BMP(s)
Responsibility for maintenance of best management practices and measures after construction is complete.
14. The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.
□ N/A
15. A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a
multiple single-family residential development, a multi-family residential development or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

20% or Less Impervious Cover Waiver

The site has more than 20% impervious cover. Therefore, a waiver will not be submitted for this project.

BMPs for UP-GRADIENT STORMWATER

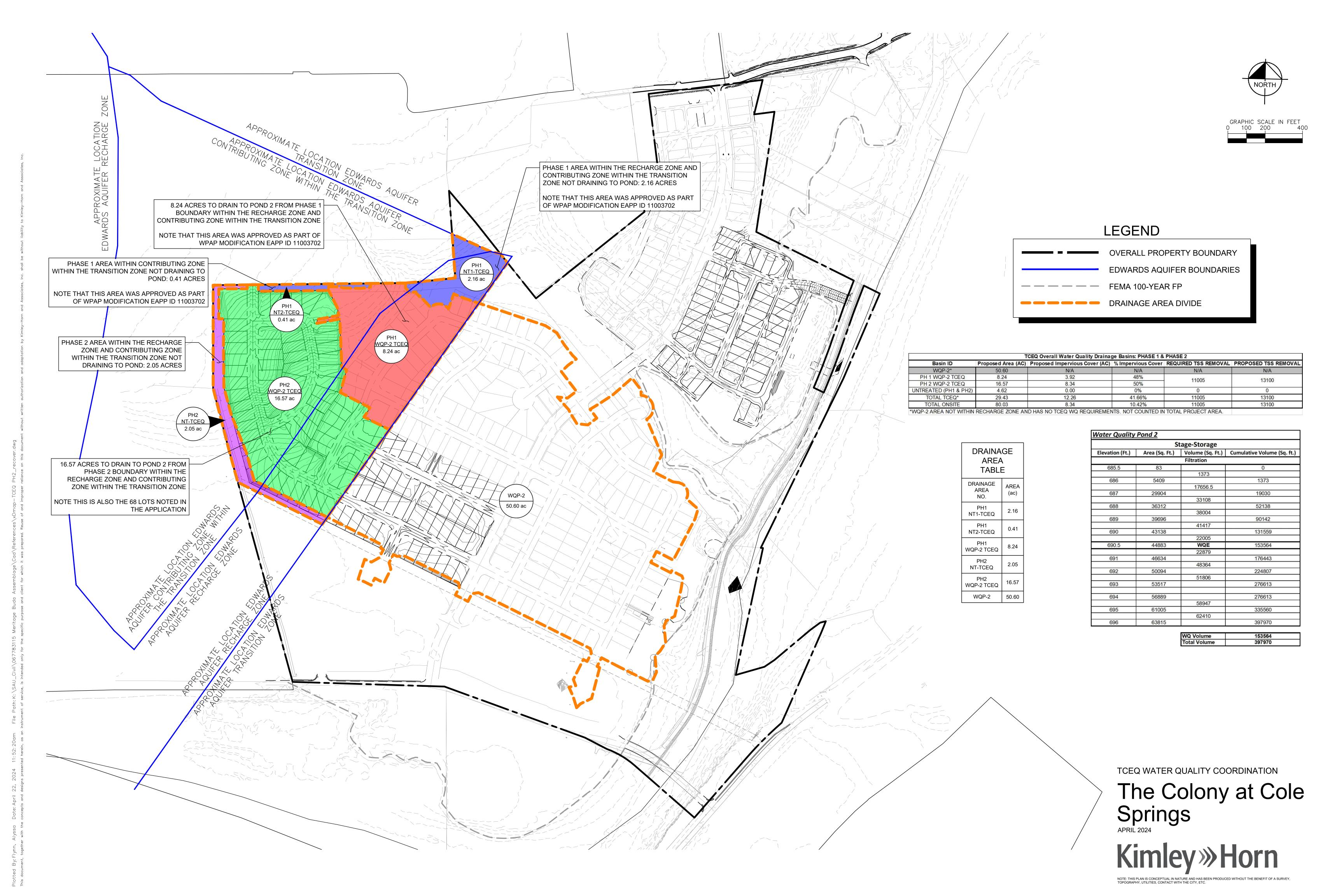
Up- gradient storm water exists north and west of the site. The off-site drainage will be intercepted via trap channels on the western and northern boundaries of the site and will be conveyed around/through the property and be discharged into Onion Creek floodplain on the Southeast and east side of the property. Please refer to the Existing and Proposed Drainage Area Maps that are provided at the end of this report in Section 8.

BMPs for On-Site Stormwater

Colony at Cole Springs has a total of 3 onsite basins. The overall required removal for this 29.43 acre site in Phase 1 and 2 of development is Lm = 11,005 LBS. The basins have been broken out and are shown on the Water Quality Coordination Exhibit. Water quality drainage area PH1 WQP-2 TCEQ and PH 2 WQP-2 TCEQ will overland flow to drainage inlets then pipe flow to Batch Detention Pond 2. This is the only area required to be treated to TCEQ standards. Water quality drainage area WQP-2 will overland flow to drainage inlets then pipe flow to Batch Detention Pond 2. This area is not required to be treated per TCEQ standards. Water Quality Pond 2 is sized to treat the total impervious cover going to the pond per City of Buda standards. The impervious breakdown is shown on the Water Quality Coordination Exhibit.

After construction, all disturbed areas on the site will be re-vegetated and runoff from the proposed improvements will be captured by the proposed storm system and conveyed through the proposed BMP's.

Construction plans, calculations and specifications are provided in Section 8 which is located at the end of this report.



TSS Removal Calculations 09/14/2017

Project Name: Colony at Cole Springs PH 2

Date Prepared:

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 =

Hays 29.43 0.00 Total project area included in plan acres (PHASE 1 & 2 WITHIN RZ AND CZ WITHIN TZ) Predevelopment impervious area within the limits of the plar

Total post-development impervious area within the limits of the plar (PHASE 1 & 2 WITHIN RZ AND CZ WITHIN TZ) acres Total post-development impervious cover fraction inches

> lbs. 11005 L_{M TOTAL PROJECT} =

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

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

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

Drainage Basin/Outfall Area No. =

L_{M THIS BASIN} =

Total drainage basin/outfall area= 75.41 acres Predevelopment impervious area within drainage basin/outfall are = acres Post-development impervious area within drainage basin/outfall are = acres Post-development impervious fraction within drainage basin/outfall are =

WQP-2 (50.60 AC) + WQP-2 PH 1 TCEQ (8.24 AC) + WQP-2 PH 2 TCEQ (16.57 AC) PHASE 1 (3.92) + PHASE 2 (8.34) WITHIN RZ AND CZ WITHIN TZ DRAINING TO POND

0.16

3. Indicate the proposed BMP Code for this basin

Proposed BMP = Extended Detention

11005

Removal efficiency = 91

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

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

RG-348 Page 3-33 Equation 3.7; L_P = (BMP efficiency) x P x (A x 34.6 + A_P x 0.54)

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

A_I = Impervious area proposed in the BMP catchment area A_P = Pervious area remaining in the BMP catchment area

L_R = TSS Load removed from this catchment area by the proposed BMP

A_I = 12.26 acres A_D = 63.15 acres lbs 13763

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

Desired L_{M THIS RASIN} = 13100 lbs.

F = 0.95

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 = Post Development Runoff Coefficient = 2.60 On-site Water Quality Volume = 124759 cubic feet

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

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

> Storage for Sediment = 24952

Total Capture Volume (required water quality volume(s) x 1.20) = 149710 cubic feet

The following sections are used to calculate the required water The values for BMP Types not selected in cell C45 will show NA

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 = 149710 cubic feet

TSS Removal Calculations 09/14/2017

Project Name: Colony at Cole Springs PH 1

4/9/2024 Date Prepared:

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:

 $L_{\text{M TOTAL PROJECT}}$ = Required TSS removal resulting from the proposed development = 80% of increased load A_N = Net increase in impervious area for the project

lbs.

P = Average annual precipitation, inches

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

Hays Total project area included in plan * = 29.43 acres Predevelopment impervious area within the limits of the plan* = 0.00 acres Total post-development impervious area within the limits of the plan* = 12.26 acres Total post-development impervious cover fraction * 0.42 inches 33

(PHASE 1 & 2 WITHIN RZ AND CZ WITHIN TZ)

 $L_{M TOTAL PROJECT} =$ * The values entered in these fields should be for the total project area.

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

2

11005

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

Drainage Basin/Outfall Area No. = UNTREATED

Total drainage basin/outfall area = 4.62 acres Predevelopment impervious area within drainage basin/outfall area=Post-development impervious area within drainage basin/outfall area= 0.00 acres acres Post-development impervious fraction within drainage basin/outfall area= 0.00

(PHASE 1 & 2 WITHIN RZ AND CZ WITHIN TZ)

PH1 NT1 TCEQ (2.16 AC) + PH1 NT2 TCEQ (0.41 AC) + PH2 NT TC

L_{M THIS BASIN} =

BMPs for Surface Streams and Sensitive Features

There are no existing surface streams or sensitive features on site. All permanent BMP's have been designed to remove minimum of 80% of the increase in Total Suspended Solids as per current TCEQ and City of Buda requirements.

Request To Seal a Feature

The permanent sealing of or diversion of flow from a naturally-occurring "sensitive" or "possibly sensitive" feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed for any naturally-occurring "sensitive" or "possibly sensitive" features on this site.

Construction Plans

Calculations for the load removal requirements for the project and the load removal provided by the permanent BMP's are provided as an exhibit in Section 8 which have been preliminary approved by a professional engineer licensed in the state of Texas. The load removal requirements are derived from the equations from the technical guidance manual based upon project area and increase in impervious cover. All stormwater runoff from impervious areas will be treated by the proposed permanent BMP's to provide the overall required removal of 85% of the increase in Total Suspended Solids. Provided within the calculations is a summary of the amount of pollutant load required to be removed from the drainage areas and the amount of removal provided by the permanent BMP's.

Construction plans, details, specifications, calculations, and construction notes are provided in Section 8 which is attached at the end of this report.

Responsible Party:

Inspection, Maintenance, Repair and Retrofit Plan

The inspection and maintenance plan outlines the procedures necessary to maintain the performance of the Permanent Best Management Practices for this project. It should be noted that the plan provides guidelines that may have to be adjusted dependent on site specific and weather-related conditions.

It is the responsibility of the owner to provide the inspections and maintenance as outlined in the plan for the duration of the project. The owner will maintain this responsibility until it is assumed or transferred to another entity in writing. If the property is leased or sold, the responsibility for the maintenance will be required to be transferred through the lease agreement, binding covenants, closing documents, or other binding legal instrument.

Disposal of accumulated silt shall be accomplished following Texas Commission on Environmental Quality guidelines and specifications.

Maintenance records shall be kept on the installation, maintenance, or removal of items necessary for the proper operation of the facilities. All inspections shall be documented.

An amended copy of this document will be provided to the Texas Commission on Environmental Quality within thirty (30) days of any changes in the following information.

M/I Homes of Austin, LLC

Mailing Address:	7600 N. Capital of Texas	Hwy.; Bldg. C, Su	ite 250
City, State:	Austin, TX	90 - 7545 	Zip:_ <u>78731</u>
Telephone:	512-770-8524	Fa	x: N/A
Plan for the proposed maintain responsibili	d Permanent Best Manageme ity for the implementation an imed by another party in writ	nt Practices for my id execution of the	ched Inspection and Maintenance project. I acknowledge that I will plan until the responsibility is ding legal instrument. Date 6/17/24
This Maintenance Pla	an is based on TCEQ Mainter	nance Guidelines.	
Alejand	ho E. Granda Rico	Date	6/11/2024
	dro E. Granados Rico, P.E.		MI AAI BO W BO ST

INSPECTION AND MAINTENANCE FOR BMPS

Batch Detention Basin

- 1. 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 revegetated immediately.
- 2. 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.
- 3. 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.
- 4. 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 revegetation 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. g: Grass areas in and around sand filters must be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscape areas. Vegetation on the pond embankments should be moved as appropriate to prevent the establishment of woody vegetation.
- 5. 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.
- 6. Nuisance Control. Standing water (not desired in a 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).
- 7. 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 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.
- 8. Logic Controller. The Logic Controller should be inspected as part of the twice-yearly investigations. Verify that the external indicators (active, cycle in progress) are operating properly by turning the controller off and on, and by initiating a cycle by triggering the level sensor in the

basin. The valve should be manually opened and closed using the open/close switch to verify valve operation and to assist in inspecting the valve for debris. The solar panel should be inspected and any dust or debris on the panel should be carefully removed. The controller and all other circuitry and wiring should be inspected for signs of corrosion, damage from insects, water leaks, or other damage. At the end of the inspection, the controller should be reset.

Rock Berm

- 1. Inspection should be made weekly and after each rainfall in accordance to Section 2.4.5 of RG-348. If placed in streambeds, inspection should occur on a daily basis.
- 2. Accumulated silt shall be removed when it reaches a depth of six (6) inches. The silt shall be disposed of on an approved site and in such a manner that will not contribute to additional siltation.
- 3. Loose wire sheathing shall be repaired immediately when necessary and the berm shall be reshaped as needed during inspection.
- 4. Berm shall be replaced if the structure ceases to function as initially intended due to factors such as silt accumulation, washout, construction traffic damage, etc.
- 5. When all upstream areas are stabilized and the accumulated silt has been removed, the rock berm should be removed and disposed of.

Pilot-Scale Field Testing Plan

The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site; therefore pilot-scale field testing is not required.

Measures for Minimizing Surface Stream Contamination

Surface streams do not exist on site. Therefore, 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 not provided at the end of this form. All disturbed areas will be revegetated as soon as practical.



SECTION 7: ADDITIONAL FORMS

Agent Authorization Form

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

I	Derek Baker	
	Print Name	
	Area President	
	Title - Owner/President/Other	
of	M/I HOMES OF AUSTIN	
	Corporation/Partnership/Entity Name	
have authorized	Alejandro E. Granados Rico, P.E.	
	Print Name of Agent/Engineer	
of	Kimley-Horn and Associates	
	Print Name of Firm	

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

I also understand that:

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

SIGNATURE PAGE:

Applicant's Signature

6/17/24 Date

THE STATE OF <u>TEXAS</u> §

ALISON MCMANN

Notary Public, State of Texas Comm. Expires 09-29-2024 Notary ID 130842098

County of TRAVIS §

BEFORE ME, the undersigned authority, on this day personally appeared <u>Derek Baker</u> 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 17 day of UNE 2024

NOTARY PUBLIC

Typed or Printed Name of Notary

MY CC

MY COMMISSION EXPIRES: 09.29.2024

Agent Authorization Form

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

I	Brandon Hammann	,
	Print Name	
	Director of Land Development	
	Title - Owner/President/Other	
of	Meritage Homes of Texas, LLC	
	Corporation/Partnership/Entity Name	
have authorized	Alejandro E. Granados Rico, P.E.	
	Print Name of Agent/Engineer	
of	Kimley-Horn and Associates	
	Print Name of Firm	

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

I also understand that:

- 1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to \$10,000 per day per violation.
- 2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.
- 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.

Applicant's Signature

6/14/24 Date

THE STATE OF __TEXAS_§

County of TRAVIS §

BEFORE ME, the undersigned authority, on this day personally appeared <u>Brandon Hammann</u> 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 14 day of June 2024

ANNETTE HERMISTON Notary ID #133033420 My Commission Expires April 13, 2025

NOTARY PUBLIC

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 4.13.25

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Colony at Cole Springs Phase 1 Regulated Entity Location: Cole Springs Rd and Old Black Colony Rd

Name of Customer: M/I Homes of Austin, LLC

Contact Person: Kyle Kriegel Phone: 512-770-8524

Customer Reference Number (if issued): 604305250

Tuno of Die	~	Cizo	Foo Duo
X Recharge Zone	Contributing Zone	Transit	ion Zone
Site Location (Check All That App	oly):		
Austin, TX 78711-3088	(!	512)239-0357	
P.O. Box 13088	А	ustin, TX 78753	
Mail Code 214	В	uilding A, 3rd Floor	
Revenues Section	1	2100 Park 35 Circle	
Mailed to: TCEQ - Cashier		vernight Delivery to: To	CEQ - Cashier
X Austin Regional Office	☐ Sa	an Antonio Regional Of	fice
form must be submitted with yo	ur fee payment . This pa	ayment is being submit	ted to:
Commission on Environmental C		• • • •	
Application fees must be paid by	check, certified check, c	r monev order, pavabl	e to the Texas
Comal	Kinney		
Bexar		Uva	alde
San Antonio Regional Office (336	52)		
	Travis	Wil	liamson
Austin Regional Office (3373)			
Regulated Entity Reference Number	Jei (ii issueu).11140113	9	
Regulated Entity Reference Numl	por (if issued):11140112	0	

	_	
Type of Plan	Size	Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	\$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	29.43 Acres	\$ 4,000
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	
Sewage Collection System		
Lift Stations without sewer lines	Acres	\$
Underground or Aboveground Storage Tank Facility	Tanks	\$
Piping System(s)(only)	Each	\$
Exception	Each	\$
Extension of Time	Each	\$

	Alejandro E. Granda Rica	
Signature: _	Magneta C. Atanda King	Date: <u>June 11, 2024</u>

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 5 < 10 10 < 40 40 < 100 100 < 500 ≥ 500	\$1,500 \$3,000 \$4,000 \$6,500 \$8,000 \$10,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	<1 1 < 5 5 < 10 10 < 40 40 < 100 ≥ 100	\$3,000 \$4,000 \$5,000 \$6,500 \$8,000 \$10,000

Organized Sewage Collection Systems and Modifications

Project	Cost per Linear Foot	Minimum Fee- 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



Core Data Form



TCEQ Core Data Form

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

SECTION I: General Information

 Reason for Submission (If other is checked please d New Permit, Registration or Authorization (Core Date) 	,	the program application.)	
Renewal (Core Data Form should be submitted with	the renewal form)	☐ Other	
2. Customer Reference Number (if issued)	Follow this link to search	3. Regulated Entity Reference Number (if issued)	
CN 604305250	for CN or RN numbers in Central Registry**	RN 111401139	

4. General Cu	General Customer Information 5. Effective Date for Customer Information Updates (mm/dd/yyyy)												
☐ New Custor	ner		Update to Custor	ner Informa	ition		Char	nge in R	egulated En	tity Own	ership		
Change in Le	egal Name	(Verifiable with the	Texas Secretary of	State or Te	xas Con	nptro	ller of Publi	c Accou	nts)				
The Custome	r Name s	ubmitted here ma	y be updated au	ıtomatica	lly base	ed on	what is c	urrent	and active	with th	ne Texas Sec	retary of State	
(SOS) or Texa	s Comptr	oller of Public Acc	ounts (CPA).										
6. Customer I	Legal Nan	ne (If an individual, p	orint last name firs	st: eg: Doe,	John)			<u>If new</u>	Customer,	enter pro	evious Custom	er below:	
M/I Homes of A	Austin, LLC												
7. TX SOS/CP	A Filing N	umber	8. TX State 1	ax ID (11 c	digits)			9. Fe	deral Tax I	D	10. DUNS	Number (if	
0801672376			32049298139					(9 dig	its)		applicable)		
								, 0	,				
11. Type of C	ustomer:		ration				☐ Individ	lual		Partne	Partnership: General Limited		
Government:	City 🗌	County 🗌 Federal 🛭	Local State	Other			Sole P	roprieto	rship	Otl	her:		
12. Number o	of Employ	ees				ı		13. lr	ndepender	ntly Ow	ned and Ope	erated?	
□ 0-20 □ 2	21-100 [101-250 25	51-500 🔲 501 a	and higher				☐ Ye	es	□ No			
14. Customer	Role (Pro	posed or Actual) – a	s it relates to the I	Regulated E	ntity list	ted or	n this form.	Please (check one o	f the follo	owing		
⊠Owner ☐ Occupationa	al Licensee	Operator Responsible I		ner & Opera					Other:				
	7500 11			250	•								
15. Mailing	7600 N.	Capital of Texas High	iway, Building Cite	250									
Address:													
Audi ess.	City Austin State TX ZIP					ZIP	78733	1		ZIP + 4			
16. Country N	/lailing In	formation (if outsid	de USA)	1		17.	. E-Mail Ad	ddress	(if applicabl	e)			
18. Telephone Number			1	9. Extensi	on or C	ode			20. Fax N	umber	(if applicable)		

TCEQ-10400 (11/22) Page 1 of 3

(512) 770-8503		() -
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SECTION III: Regulated Entity Information

21. General Regulated Er	tity Informa	ation (If 'New Re	gulated Entity" is sel	ected, a new p	ermit applica	ition is als	o required.)			
☐ New Regulated Entity	Update to	Regulated Entity	Name 🔀 Update	to Regulated	Entity Inform	nation				
The Regulated Entity Nar as Inc, LP, or LLC).	ne submitte	ed may be upda	ited, in order to m	eet TCEQ Coi	re Data Stai	ndards (r	emoval of o	rganizatioi	nal endings such	
22. Regulated Entity Nam	n e (Enter nam	ne of the site whe	re the regulated action	on is taking pla	ice.)					
The Colony at Cole Springs P	hase 2									
23. Street Address of the Regulated Entity:										
(No PO Boxes)	City	Buda	State	TX	ZIP	78610		ZIP + 4		
24. County	Hays Count	у	1		•	1			1	
		If no Stre	et Address is prov	ided, fields 2	5-28 are re	quired.				
25. Description to Physical Location:	Turn onto C	ole Springs Rd fro	om FM 1626 and go 1	1.25 miles on C	Cole Springs R	load				
26. Nearest City						State		Nea	rest ZIP Code	
Buda						TX		7861	.0	
Latitude/Longitude are rused to supply coordinate	-	-	-		ata Standa	ırds. (Ged	ocoding of ti	he Physical	Address may be	
27. Latitude (N) In Decim	al:	30.080681		28. Lo	28. Longitude (W) In Decimal:			-97.858217		
Degrees	Minutes		Seconds	Degre	Degrees		Minutes		Seconds	
29. Primary SIC Code (4 digits)		Secondary SIC	Code	31. Primar (5 or 6 digit	ry NAICS Co	de	32. Seco (5 or 6 dig	ndary NAICS Code		
6514				53111						
33. What is the Primary E	Business of t	this entity? (D	o not repeat the SIC (or NAICS descr	iption.)		II.			
Single Family Residential Dev	velopment									
34. Mailing	501 S. Aus	tin Ave, Suite 13	10							
· ·		.,								
Address:										
Address:	City	Georgetown	State	тх	ZIP	78626		ZIP + 4		
Address: 35. E-Mail Address:		· -	State	ТХ	ZIP	78626		ZIP + 4		
		Georgetown	State				er (if applical			

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

TCEQ-10400 (11/22) Page 2 of 3

Municipal S	Solid Waste	New Source Review Air	☐ OSSF			Petroleum Storage Tank	☐ PWS
Sludge		Storm Water	☐ Title V Air			Tires	Used Oil
		Z storm water	Tide V All				
☐ Voluntary Cleanup		Wastewater	☐ Wastewater Agricul	ture		Water Rights	Other:
SECTIO	N IV: Pr	<u>eparer Info</u>	<u>ormation</u>				
40. Name:	Alex Granados			41. Title:		P.E.	
42. Telephone	Number	43. Ext./Code	44. Fax Number	45. E-N	/lail A	Address	
(512) 782-0602	<u>.</u>		() -	alex.gra	nado	s@kimley-horn.com	

☐ Emissions Inventory Air

☐ Industrial Hazardous Waste

Edwards Aquifer

SECTION V: Authorized Signature

Districts

☐ Dam Safety

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Kimley-Horn	Job Title:	Project Ma	anager	
Name (In Print):	Alex Granados			Phone:	(512) 520- 6078
Signature:	Klejander E. Hranda Ries			Date:	4/9/2024

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SECTION 8: EXHIBITS

PLAN SUBMITTAL/REVIEW LOG

1ST SUBMITTAL TO CITY

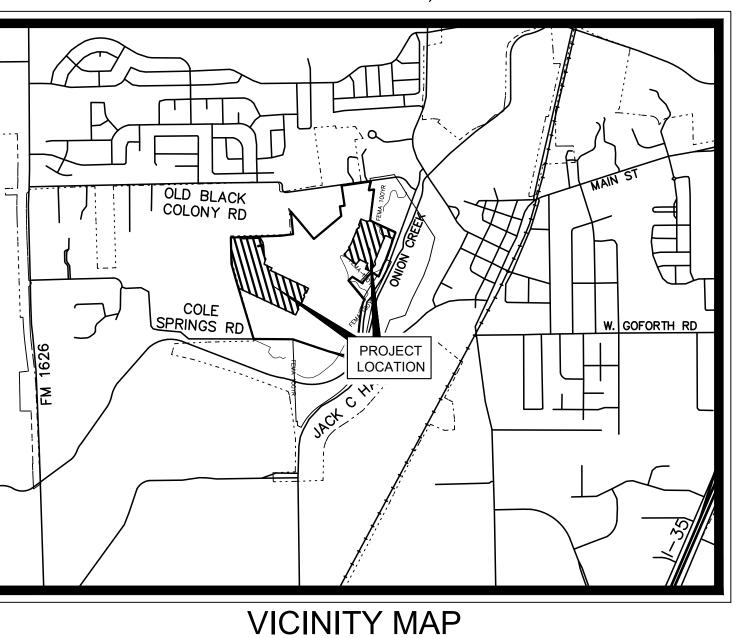
02/05/2024

CIVIL CONSTRUCTION PLANS PAVING, GRADING & UTILITIES FOR

THE COLONY PHASE 2

CITY OF BUDA, HAYS COUNTY, TEXAS BUDA MUD NO.1

33.04 ACRES, HIRAM CUMMINGS SURVEY, A-108, PHILLIPS J. ALLEN SURVEY, A-1 & S.V.R. EGGLESTON SURVEY, A-5 IN HAYS COUNTY, TEXAS



FEBRUARY 2024

SCALE: 1" = 2,000'

		DE ///					
		REVI	SIONS/CC	RRECTIONS	5		.
NO.	DESCRIPTION	REVISE (R) VOID (V) ADD (A) SHEET NO.'S	TOTAL NO. SHEETS IN PLAN SET	NET CHANGE IMP. COVER (SQ. FT.)	TOTAL SITE IMP. COVER (SQ. FT.)/%	CITY OF BUDA APPROVAL DATE	DATE IMAGED

GENERAL PLAN NOTES:

- 1. A PORTION OF PHASE 2 OF THE DEVELOPMENT IS LOCATED WITHIN A REGULATORY FEMA SPECIAL FLOOD HAZARD AREA, OR THE 100-YEAR FLOODPLAIN. FIRM PANEL NO. 48209CO280F, HAYS COUNTY, TEXAS AND INCORPORATED AREAS (DATED SEPTEMBER 2, 2005).
- 2. RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.
- 3. ALL PORTIONS OF THIS SITE ARE OVER THE EDWARDS AQUIFER RECHARGE ZONE, TRANSITION ZONE OR THE CONTRIBUTING ZONE WITHIN THE TRANSITION ZONE.
- 4. CONTRACTOR SHALL CONTACT INFRAMARK (O&M MANAGER) AT 14050 SUMMIT DRIVE SUITE 113A, AUSTIN, TX 78728 (512-246-0498) AND MURFEE ENGINEERING COMPANY AT 512-327-9204, AT LEAST (3) DAYS PRIOR TO BEGINNING CONSTRUCTION OF PROPOSED IMPROVEMENTS OR MAKING ANY CONNECTION TO THE EXISTING WASTEWATER COLLECTION AND STORM DRAINAGE SYSTEM. FAILURE TO SUCCESSFULLY PROVIDE NOTICE OF WORK MAY RESULT IN RE-EXCAVATION AND/OR REMOVAL OF INSTALLED FACILITIES.
- 5. THERE ARE TREES GREATER THAN 8" CALIPER WITHIN PHASE 1 OF THE
- 6. ALL PROPOSED ELEVATIONS (SPOT GRADES AND CONTOURS) ARE TO FUTURE TOP OF GROUND AND PAVEMENT. CONTRACTOR TO CONSTRUCT ROADWAYS AND R.O.W. TO FINAL TOP OF PAVEMENT, CURB, AND GROUND ELEVATIONS PER THESE PLANS. CONTRACTOR TO VERIFY EXISTING TOP OF SUBGRADE ELEVATIONS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER IMMEDIATELY IF ANY DISCREPANCIES.
- 7. ALL WASTEWATER SERVICES TO BE EXTENDED 5' BEYOND THE PROPOSED 10' UTILITY EASEMENT.
- 8. ENTIRE SITE IS LOCATED WITHIN BUDA CITY LIMITS AND BUDA ETJ
- . PHASE 2 OF THE COLONY AT COLE SPRINGS MEETS THE REQUIREMENTS OF THE DEVELOPMENT AGREEMENT.
- 9. HOA/MUD SHALL BE RESPONSIBLE FOR MAINTENANCE OF WATER QUALITY PONDS.

OWNER/DEVELOPER

MERITAGE HOMES
12301 RESEARCH BLVD.
BLDG 4, SUITE 400
AUSTIN, TX 78759
TEL: (512) 610-4816
CONTACT: BRANDON HAMMANN

MI HOMES OF AUSTIN, LLC 7600 N. CAPITAL OF TEXAS HIGHWAY BUILDING C, SUITE #250 AUSTIN, TEXAS 78731 TEL: (512) 770-8503 CONTACT: ROYCE RIPPY

ENGINEER

Kimley» Horn

GEORGETOWN, TEXAS 78626 Fax No. (512) 418-1791 CERTIFICATE OF REGISTRATION #928 CONTACT: ALEJANDRO E. GRANADOS RICO, P.E.

SURVEYOR

GREG MOSIER
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 6330
601 NW LOOP 410
SUITE 350
SAN ANTONIO, TEXAS 78216
TEL: (210) 541-9166
GREG.MOSIER@KIMLEY-HORN.COM

APPROVED BY:

CITY OF BUDA	DATE
BUDA FIRE DEPARTMENT	DATE

DATE

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

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CONSTRUCTION PLAN APPROVAL SHEET ___ OF _90

FILE NUMBER ___ APPLICATION DATE

APPROVED BY COMMISSION ON ___ N/A __ UNDER THE CITY OF BUDA UNIFIED DEVELOPMENT CODE.

EXPIRATION DATE ___ CASE MANAGER

City Engineer, City of Buda

RELEASED FOR GENERAL COMPLIANCE: ___ ZONING ___ N/A

Rev. 1 ___ Correction 1

Rev. 2 ___ Correction 2

Rev. 3 ___ Correction 3

Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

PERMIT NUMBER:

HE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

SHE

SHEET NUMBER

- THESE PLANS, PREPARED BY THE CITY OF BUDA DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES, AGENTS, OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE REGISTERED ENGINEER(S) HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS HAT MAY NOR OR HEREAFTER BE INCORPORATED INTO THESE PLANS.
- CONTRACTOR SHALL CONTACT THE CITY OF BUDA'S ENGINEER (512-312-0084) A MINIMUM OF TWO WORKING DAYS IN ADVANCE OF BLOCKING TRAFFIC LANES AND A MINIMUM OF SIX WORKING DAYS IN ADVANCE OF SCHEDULED DETOURING OF
- CONTRACTOR TO GIVE NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS, OR PERSONS IN CHARGE OF PRIVATE AND PUBLIC UTILITIES AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR TO ASSURE HIMSELF THAT ALL CONSTRUCTION PERMITS HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF WORK. REQUIRED PERMITS THAT CAN BE ISSUED TO CONTRACTOR TO BE OBTAINED AT HIS EXPENSE.
- CONTRACTOR TO COORDINATE INTERRUPTIONS OF ALL UTILITIES AND SERVICES. ALI WORK TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY
- CONTRACTOR TO LOCATE, PROTECT, AND MAINTAIN BENCHMARKS, MONUMENTS CONTROL POINTS, AND PROJECT ENGINEERING REFERENCE POINT, REESTABLISH DISTURBED OR DESTROYED ITEMS BY REGISTERED PUBLIC LAND SURVEYOR IN THE STATE OF TEXAS, AT NO ADDITIONAL COST TO OWNER.
- CONTRACTOR TO CONTROL DUST CAUSED BY THE WORK AND COMPLY WITH POLLUTION CONTROL REGULATIONS OF GOVERNING AUTHORITIES. DUST CONTROL SHALL BE ACHIEVED BY THE APPLICATION OF WATER BY AN APPROVED SPRINKLER IN AMOUNTS SUFFICIENT TO CONTROL THE DUST TO THE SATISFACTION OF THE ENGINEER (NO SEPARATE PAY).
- 8. BURNING IS NOT ALLOWED ON THIS PROJECT.
- DEMOLITION PERMITS (IF NEEDED) ARE TO BE OBTAINED BY THE CONTRACTOR. 10. ACQUISITION OF RIGHT OF WAY AND/OR EASEMENT IS THE RESPONSIBILITY OF THE
- 1. THE CONTRACTOR IS TO OBTAIN PERMIT PRIOR TO PERFORMING ANY WORK IN THE PUBLIC RIGHT-OF-WAY
- 12. CONTRACTOR SHALL REPAIR ALL STREET CROSSINGS, DRIVEWAYS AND DITCHES TO THEIR ORIGINAL CONDITION OR BETTER. STREET CROSSINGS SHALL BE REPAIRED WITHIN 10 WORKING DAYS AFTER CROSSING IS MADE, UNLESS PRIOR APPROVAL IS
- 1.3. ALL DAMAGE CAUSED DIRECTLY OR INDIRECTLY TO THE STREET SURFACE OR SUBSURFACE OUTSIDE OF THE PAVEMENT CUT AREA SHALL BE REGARDED AS PART OF THE STREET CUT REPAIR. THIS INCLUDES ANY SCRAPES, GOUGES, CUTS, CRACKING, DEPRESSIONS AND/OR ANY OTHER DAMAGE CAUSED BY THE CONTRACTOR DURING THE EXECUTION OF THE WORK. THESE AREAS WILL BE INCLUDED IN THE TOTAL AREA OF REPAIR. THE AREAS OF REPAIR SHALL BE SAW CUT IN STRAIGHT, NEAT LINES PARALLEL TO THE UTILITY TRENCH. ALL REPAIRS SHALL BE AT THE CONTRACTOR'S EXPENSE AND SHALL MEET ALL CITY TESTING REQUIREMENTS AND SPECIFICATIONS
- 14. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATION OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION. (OSHA STANDARDS MAY BE PURCHASED FROM THE GOVERNMENTS PRINTING OFFICE; INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, 611 EAST 6TH STREET, AUSTIN, TX.)
- 15. ALL SITE WORK MUST ALSO COMPLY WITH ENVIRONMENTAL REQUIREMENTS 16. THROUGHOUT THE CONSTRUCTION, AND AT THE COMPLETION OF THE CONSTRUCTION, THE CONTRACTOR IS TO ENSURE THAT DRAINAGE OF STORM WATER RUNOFF IS NOT
- 17. ALL EXCESS EXCAVATED MATERIAL AND SOIL IS TO BECOME PROPERTY OF CONTRACTOR AND TO BE REMOVED FROM SITE. (NO SEPARATE PAY.)
- 18. ALL CULVERTS REMOVED FROM CONSTRUCTION SHALL BE REPLACED TO ORIGINAL GRADE; ROAD DITCH SHALL BE GRADED TO PROVIDE FOR AN EVEN GRADE ANI SECTION BETWEEN EXISTING CULVERTS. ALL CULVERTS SHALL BE CLEAN AND FREE OF DEBRIS DURING AND AFTER CONSTRUCTION.
- 19. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE CITY OF BUDA AND. WHERE POSSIBLE. MEASUREMENTS TAKEN IN THE FIFLD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS AND TO VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES
- 20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO PRIVATE PROPERTY. WHICH OCCURRED AS A RESULT OF ANY PORTION OF THIS PROJECT. ANY DAMAGE) PRIVATE PROPERTY SHALL BE REPAIRED TO EQUAL OR BETTER CONDITION. CONTRACTOR SHALL COORDINATE ALL REPAIRS TO PRIVATE PROPERTY WITH THE PROPERTY OWNER. CONTRACTOR SHALL PAY AND/OR SETTLE WITH PRIVATE PROPERTY OWNER FOR ALL COSTS RELATED TO ANY DAMAGE. THE CITY OF BUDA WILL NOT PROVIDE SEPARATE PAY FOR REPAIR OF ANY DAMAGES, REIMBURSEMENTS

CITY OF BUDA EROSION AND SEDIMENTATION CONTROL NOTES:

- . THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR EXCAVATION).
- 2. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE CITY OF AUSTIN'S ENVIRONMENTAL CRITERIA MANUAL AS ADOPTED BY THE CITY OF BUDA.
- TREES DO NOT EXIST WITHIN THE PROJECT LIMITS, AND TREE PROTECTION WILL NOT BE REQUIRED
- A PRE—CONSTRUCTION CONFERENCE SHALL BE HELD WITH THE CONTRACTOR DESIGN ENGINEER/PERMIT APPLICANT AND INSPECTOR AFTER INSTALLATION OF THE FROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTION MEASURÉS AND PRIOR TO BEGINNING ANY SITÉ PREPARATION WORK. TH CONTRACTOR SHALL NOTIFY THE CITY OF BUDA ENGINEERING DEPARTMENT 512-523-1077, AT LEAST THREE DAYS PRIOR TO THE MEETING DATE.
- 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. MINOR CHANGES TO BE MADE AS FIELD REVISIONS TO THE PLAN MAY BE REQUIRED BY THE INSPECTOR DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES.
- THE CONTRACTOR IS REQUIRED 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 THE MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHED SIX (6) INCHES.

PERMANENT EROSION CONTROL: ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW. A MINIMUM OF FOUR

INCHES OF TOPSOIL SHALL BE PLACED IN ALL DRAINAGE CHANNELS (EXCEPT ROCK) AND BETWEEN THE CURB AND RIGHT-OF-WAY LINE.

THE SEEDING FOR PERMANENT EROSION CONTROL SHALL BE AS SPECIFIED IN THE CITY OF AUSTIN STANDARD SPECIFICATION 604S, AS ADOPTED BY THE CITY OF BUDA.

DUST CONTROL METHODS ARE REQUIRED AS PER CITY OF AUSTIN'S ENVIRONMENTAL CRITERIA MANUAL SECTION 1.4.5.D AS ADOPTED BY THE CITY OF BUDA.

GENERAL CONSTRUCTION NOTES:

- THE PROPERTY OWNER IS RESPONSIBLE FOR PROPER OPERATION AND MAINTENANCE OF ON-SITE STORMWATER DETENTION AND WATER QUALITY PONDS
- ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH
- CONTRACTOR IS FULLY RESPONSIBLE FOR FOLLOWING THE REQUIREMENTS OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR ALL SIGNAGE AND WORK IN A PUBLIC OR PRIVATE RIGHT-OF-WAY.
- FOR SLOPES OR TRENCHES GREATER THAN FIVE (5) FEET IN DEPTH, ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION. OSHA STANDARDS MAY BE PURCHASED FROM THE GOVERNMENT PRINTING OFFICE. INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA. 611 EAST 6TH STREET, AUSTIN, TEXAS.
- ALL CONSTRUCTION SHALL COMPLY WITH THE CITY OF BUDA STANDARD SPECIFICATIONS AND DETAILS, AS AMENDED BY SPECIAL PROVISION. CURRENT AT FHE TIME OF BIDDING. IF CITY OF BUDA SPECIFICATIONS ARE NOT AVAILABLE. THE PROJECT WILL FOLLOW CITY OF AUSTIN STANDARD SPECIFICATIONS AND DETAILS.
- CONTRACTOR TO TAKE ALL DUE PRECAUTIONS TO PROTECT EXISTING FACILITIES FROM DAMAGE. ANY DAMAGE TO EXISTING FACILITIES INCURRED AS A RESULT OF THESE CONSTRUCTION OPERATIONS TO BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.

- 7. CONTRACTOR TO GIVE NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS OR PERSONS IN CHARGE OF PRIVATE AND PUBLIC UTILITIES AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR TO MAKE CERTAIN THAT ALL CONSTRUCTION PERMITS THAT CAN ONLY BE ISSUED TO TH CONTRACTOR HAVE BEEN OBTAINED BY THE CONTRACTOR AT ITS EXPENSE PRIOR
- 8. CONTRACTOR TO COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS REGARDING EXCESS AND WASTE MATERIAL. INCLUDING METHODS OF
- 9. CONTRACTOR TO COORDINATE INTERRUPTIONS OF ALL UTILITIES AND SERVICES. ALL WORK TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY COMPANY OR AGENCY INVOLVED.
- 10. LOCATION OF EXISTING UTILITIES SHOWN ON PLANS WAS COMPILED FROM RECORD INFORMATION. NO WARRANTY IS IMPLIED AS TO THE ACTUAL LOCATION OF EXISTING
- 11. WHEN UNLOCATED OR INCORRECTLY LOCATED UNDERGROUND PIPING, OR A BREAK LOCATED IN THE LINE, OR OTHER UTILITIES AND SERVICES ARE ENCOUNTERED DURING SITE WORK OPERATIONS, NOTIFY THE APPLICABLE UTILITY COMPANY IMMEDIATELY TO OBTAIN PROCEDURE DIRECTIONS. COOPERATE WITH THE APPLICABLE UTILITY COMPANY IN MAINTAINING ACTIVE SERVICES IN OPERATION.
- 12. CONTRACTOR TO LOCATE, PROTECT, AND MAINTAIN BENCHMARKS, MONUMENTS, CONTROL POINTS, AND PROTECT ENGINEERING REFERENCE POINTS. RE-ESTABLISH DISTURBED OR DESTROYED ITEMS BY REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS AT NO ADDITIONAL COST TO OWNER.
- 13. NO BLASTING WITHIN 15 FEET OF EXISTING UTILITIES OR STRUCTURES. IF BLASTING IS TO BE USED BY THE CONTRACTOR, A BLASTING PERMIT MUST BE SECURED PRIOR TO COMMENCEMENT OF WORK, BLASTING TO BE IN ACCORDANCE WITH CITY OF BUDA STANDARD SPECIFICATIONS AND CRITERIA OF THE NATIONAL FIRE
- 14. CONTRACTOR TO INSTALL $\frac{1}{2}$ INCH-DIAMETER BY 12-INCH-LONG REBAR VERTICALLY, WITH TWO (2) FEET OF SURVEYOR'S RIBBON ATTACHED AT END OF ALL PIPE STUBS. TOP OF BAR TO BE NOT LESS THAN 12 INCHES ABOVE THE FINISHED RED RIBBON — WASTEWATER LINE
 - WHITE RIBBON GAS LINE YELLOW RIBBON - TELECOM DUCT BANK DRANGE RIBBON - ELECTRICAL DUCT BANK
- 15. MAKE CONNECTION BETWEEN NEW AND EXISTING ASPHALT STREETS BY REMOVING EXISTING ASPHALT FROM END BACK UNTIL FULL DEPTH BASE AND HMAC ARE ENCOUNTERED AND HMAC APPEARS TO BE IN SOUND CONDITION. PROVIDE EXPANSION JOINT AND DOWELS WHERE CONNECTING EXISTING CURB TO NEW CURB
- 16. A CURB LAYDOWN IS REQUIRED AT ALL POINTS WHERE THE PROPOSED SIDEWALK
- 17. UNLESS OCCURRING AT AN EXPANSION JOINT, MAKE CONNECTION BETWEEN NEW AND EXISTING SIDEWALK BY EXPOSING AND CLEANING A ONE-FOOT LENGTH OF WELDED WIRE REINFORCEMENT AND LAPPING NEW REINFORCEMENT ONTO THIS
- 18. CONCRETE FOR SITE WORK, OTHER THAN CONCRETE PAVEMENT AND STRUCTURES TO BE CLASS "A" (5-SACK, 3000 PSI @ 28-DAYS) AND ALL REINFORCING STEEL TO BE ASTM A615 60, UNLESS OTHERWISE NOTED, REFER TO GEOTECHNICAL REPORT AND ARCHITECTURAL DRAWINGS FOR PAVEMENT STRUCTURAL
- 19. TREE SURVEY, CONTOURS, AND BENCHMARK INFORMATION SUPPLIED BY OTHERS, ACTUAL LOCATION OF TREES AND ELEVATION OF NATURAL GROUND ON THE PROJECT SITE MAY VARY FROM WHAT IS DEPICTED ON THE PLAN SHEETS KIMLEY-HORN AND ASSOCIATES, INC., IS NOT RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION REGARDING SURVEYS OR BENCHMARK LOCATIONS.
- 20. DEMOLITION PERMITS (IF NEEDED) ARE TO BE OBTAINED BY THE CONTRACTOR AT THEIR EXPENSE. **CONSTRUCTION SEQUENCING PER PHASE:**

BENCHMARKS ARE AS FOLLOWS: SEE THIS SHEET.

- 1. INSTALL STABILIZED CONSTRUCTION ENTRANCE, EROSION CONTROLS AND TREE PROTECTION FENCING FOR EACH PHASE PRIOR TO CLEARING AND GRUBBING AND PER APPROVED EROSION AND SEDIMENTATION CONTROL/TREE PROTECTION PLAN. 2. THE CONTRACTOR SHALL ARRANGE AND COORDINATE ACCEPTABLE MEETING TIMES FOR AN ON-SITE PRE-CONSTRUCTION MEETING WITH THE OWNER, PROJECT ENGINEER, RELEVANT CONTRACTORS, RELEVANT UTILITY REPRESENTATIVES, AND THE CITY ENGINEER. AT THIS MEETING. THE CITY SHALL VERIFY THAT ALL EROSION AND SEDIMENT CONTROLS AND TREE PROTECTION ARE IN PLACE. THAT CONSTRUCTION DRAWINGS AND THE SWPPP ARE LOCATED ON SITE. AND THAT THE SWPPP PERMITS HAVE BEEN ISSUED. THE CITY MAY THEN ISSUE THE SUBDIVISION IMPROVEMENT
- BEGIN SITE CLEARING
- 4. CLEAR AND GRUB AND STRIP TOPSOIL. STOCKPILE TOPSOIL FOR LATER USE.
- 5. ROUGH GRADE SITE IN ACCORDANCE WITH PLANS AND SPECIFICATIONS. 6. INSTALL STORM SEWER LINES, APPURTENANCES, AND POND OUTFALL.
- 7. INSTALL TEMPORARY EROSION/SEDIMENTATION CONTROLS ON NEW STORM SEWER 11. A). FIRE HYDRANTS SHALL BE SET IN ACCORDANCE WITH CITY STANDARD
- 8. INSTALL WATER AND WASTEWATER LINES AND APPURTENANCES.
- 9. ENSURE THAT ALL UNDERGROUND UTILITY CROSSINGS ARE COMPLETED.
- 10. COMPLETE GRADING, DRAINAGE AND PAVING.
- 11. COMPLETE RESTORATION OF SITE VEGETATION. 12. PROJECT ENGINEER INSPECTS JOB AND SUBMITS THE ENGINEER'S CONCURRENCE 13. CITY VISITS SITE AND ISSUES CERTIFICATE OF ACCEPTANCE ONLY IF ALL
- CONSTRUCTION IS IN SUBSTANTIAL CONFORMANCE TO THE PLANS. 14. REMOVE AND DISPOSE OF TEMPORARY EROSION CONTROLS WHEN RESTORATION HAS BEEN ACCEPTED.

GENERAL CONSTRUCTION NOTES:

- 32. AT LEAST 48 HOURS BEFORE BEGINNING ANY WATER AND WASTEWATER CONSTRUCTION IN PUBLIC R.O.W. OR PUBLIC EASEMENT, THE CONTRACTOR SHALL NOTIFY THE WATERSHED PROTECTION AND DEVELOPMENT REVIEW INSPECTION DIVISION FOR MAIN LINE CONSTRUCTION, OR WATER AND WASTEWATER UTILITY TAPS INSPECTION FOR TAPS ONLY CONSTRUCTION.
- 33. THE CONTRACTOR SHALL CALL THE BUDA AREA "ONE CALL" SYSTEM AT 1-800-344-8377 FOR EXISTING UTILITY LOCATIONS 48 HOURS PRIOR TO ANY EXCAVATION IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES TO BE EXTENDED, TIED TO, OR ALTERED, OR SUBJECT TO DAMAGE/INCONCIENCE BY THE CONSTRUCTION OPERATIONS. THE CITY OF BUDA WATER AND WASTEWATER MAINTENANCE RESPONSIBILITY ENDS AT R.O.W./EASMENT
- 34. NO OTHER UTILITY SERVICE/APPURTENANCES SHALL BE PLACED NEAR THE PROPERTY LINE, OR OTHER ASSIGNED LOCATION DESIGNED FOR WATER AND WASTEWATER UTILITY SERVICE THAT WOULD INTERFERE WITH THE WATER AND
- 35. THE CITY SPECIFICATION ITEM 509S WILL BE REQUIRED AS A MINIMUM TRENCH SAFETY MEASURE. 36. ALL MATERIAL TESTS, INCLUDING SOIL DENSITY TESTS AND DETAILED SOIL ANALYSIS,
- OWNER IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 1804S.04. 37. ALL MATERIAL USED ON THIS PROJECT MUST BE LISTED ON THE STANDARD PRODUCTS LISTING. ANY MATERIAL NOT LISTED HAS TO GO THROUGH THE REVIEW OF THE STANDARDS COMMITTEE FOR REVIEW AND APPROVAL PRIOR TO START OF PROJECT. TESTING AND EVALUATION OF PRODUCTS ARE REQUIRED BEFORE APPROVAL WILL BE GIVEN ANY CONSIDERATION.

SHALL BE CONDUCTED BY AN INDEPENDENT LABORATORY AND FUNDED BY THE

- 38. ALL MANHOLES IN UNPAVED AREAS PROVIDING DIRECT ACCESS TO A WASTEWATER LINE SHALL BE WATERTIGHT AND BEAR THE WORDING AND INSIGNIA FOR THE CITY
- 39. THE CONTRACTOR SHALL LOCATE ALL HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING UTILITIES PRIOR TO STARTING ANY ONSITE UTILITY WORK.
- 40. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF BUDA STANDARD 41. DESIGN PROCEDURES ARE IN COMPLIANCE WITH THE CITY OF BUDA DRAINAGE CRITERIA MANUAL.
- 42. BENCH MARKS: SEE THIS SHEET.
- 43. PRIOR TO BEGINNING CONSTRUCTION, THE OWNER OR HIS AUTHORIZED REPRESENTATIVE SHALL CONVENE A PRE-CONSTRUCTION CONFERENCE BETWEEN THE CITY OF BUDA, SUNFIELD MUD #4 CONSULTING ENGINEER, AND CONTRACTOR(S), AT LEAST 48 HOURS PRIOR BEGINNING CONSTRUCTION.
- 44. THE CONTRACTOR SHALL GIVE THE CITY A MINIMUM OF 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION. (312-0084) PUBLIC WORKS DEPARTMENT (BUDA CONSTRUCTION INSPECTION DIVISION).
- CONSTRUCTED ON ALL DEAD-END STREETS AND AS NECESSARY DURING 46. ANY EXISTING PAVEMENT, CURB, AND/OR SIDEWALKS DAMAGED OR REMOVED WILL

48. ALL STORM SEWER PIPE TO BE CLASS III R.C.P. UNLESS NOTED OTHERWISE.

45. BARRICADES, BUILT TO CITY OF BUDA STANDARD SPECIFICATIONS, SHALL BE

- BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE PRIOR TO THE ACCEPTANCE OF 47. THE LOCATION OF ANY WATER AND/OR WASTEWATER LINES SHOWN ON THE PLANS
- MUST BE VERIFIED BY THE WATER AND WASTEWATER DEPARTMENT.

- 49. CAST BRONZE SURVEY MARKERS SHALL BE PLACED IN CONCRETE IN PERMANENT, ACCESSIBLE LOCATIONS AT THE TIME OF CONSTRUCTION. A MINIMUM OF ONE MARKER SHALL BE PLACED FOR EVERY 20 ACRES OF THE PROJECT. REFERENCE WILL BE PLACED ON THE MARKER BY DPWT AT THE TIME OF THE PRE-CONSTRUCTION CONFERENCE.
- 50. PURSUANT TO 15-12-131 OF THE CITY CODE, THE CONTRACTOR MAY NOT BLOCK, DIRECT, IMPEDE, OR REROUTE PEDESTRIAN AND VEHICULAR TRAFFIC, NOR PLACE A BARRICADE OR OTHER TRAFFIC CONTROL DEVICE IN A RIGHT-OF-WAY, WITHOUT FIRST OBTAINING A TEMPORARY USE OF RIGHT-OF-WAY PERMIT FROM THE DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION.
- 51. ALL DISTURBED AREAS SHALL BE REVEGETATED.
- 52. AN EXPANSION JOINT EVERY 40' AND A SCORE JOINT EVERY 10' IS REQUIRED FOR ANY PUBLIC CURB.
- 53. REBAR CHAIRS MUST BE USED FOR ALL REINFORCEMENT USED WITHIN THE ROW. 54. STREET LAMPS MUST BE ENERGIZED AND INSPECTED PRIOR TO THE FINAL
- 55. STOP LINES SHALL BE INSTALLED AT ALL STOP SIGN LOCATIONS AND SHALL BE STRIPED USING RETROREFLECTIVE WHITE THERMOPLASTIC MATERIAL A MINIMUM OF 24" WIDE. THE STRIPE SHALL BE PLACED ADJACENT TO THE STOP SIGN AND SHALL EXTEND FROM THE EDGE OF THE PAVEMENT TO THE MIDPOINT OF THE STREET.
- 56. ALL PUBLIC SIGNAGE MUST BE INSTALLED PRIOR TO FINAL ACCEPTANCE 57. ALL BEDDING MATERIAL WITHIN THE ROW SHALL COMPLY WITH COA DETAIL 510. 58. CONTRACTOR SHALL PROVIDE SIGNED AND SEALED RETAINING WALL DETAILS WITH MATERIAL SUBMITTALS TO THE ENGINEER.
- 59. FIBER REINFORCED CONCRETE WILL NOT BE ALLOWED FOR PROJECTS IN THE ROW.
- CITY OF BUDA UTILITY CONSTRUCTION NOTES THE CITY STANDARD CONSTRUCTION SPECIFICATIONS CURRENT AT THE TIME OF BIDDING SHALL COVER MATERIAL AND METHODS USED TO DO THIS
- 2. CONTRACTOR MUST OBTAIN A STREET CUT PERMIT FROM THE CITY OF BUDA BEFORE BEGINNING CONSTRUCTION WITHIN THE RIGHT-OF-WAY OF A PUBLIC

AT LEAST 48 HOURS BEFORE BEGINNING ANY WATER AND WASTEWATER

- CONSTRUCTION IN PUBLIC R.O.W. OR PUBLIC EASEMENT, THE CONTRACTOR SHALL NOTIFY THE CITY OF BUDA PUBLIC WORKS. THE CONTRACTOR SHALL CONTACT THE AUSTIN AREA "ONE CALL" SYSTEM AT 1-800-344-8377 FOR EXISTING UTILITY LOCATIONS PRIOR TO ANY EXCAVATION IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES TO BE EXTENDED, TIED TO, OR ALTERED,
- OPERATIONS. THE CITY OF BUDA WATER AND WASTEWATER MAINTENANCE RESPONSIBILITY ENDS AT R.O.W./EASEMENT LINES NO OTHER UTILITY SERVICE/APPURTENANCES SHALL BE PLACED NEAR THE PROPERTY LINE, OR OTHER ASSIGNED LOCATION DESIGNATED FOR WATER

OR SUBJECT TO DAMAGE/INCONVENIENCE BY THE CONSTRUCTION

AND WASTEWATER SERVICES. THE CITY SPECIFICATION ITEM 509S WILL BE REQUIRED AS A MINIMUM TRENCH SAFETY MEASURE.

AND WASTEWATER UTILITY SERVICE THAT WOULD INTERFERE WITH THE WATER

- ALL MATERIALS TEST. INCLUDING SOIL DENSITY TESTS AND DETAILED SOIL ANALYSES, SHALL BE CONDUCTED BY AN INDEPENDENT LABORATORY AND FUNDED BY THE OWNER IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 1803S.04.
- PRESSURE TAPS SHALL BE IN ACCORDANCE WITH CITY STANDARD ITEM 510.3(24). THE CONTRACTOR SHALL PERFORM EXCAVATION ETC. AND SHALL FURNISH, INSTALL AND AIR TEST THE SLEEVE AND VALVE, WHEN CONTRACTORS MAKE THE TAP A CITY INSPECTOR MUST BE PRESENT AND WORKING DAYS (MIN.) NOTIVE MUST BE GIVEN. "SIZE ON SIZE" TAPS WILL NOT BE PERMITTED. UNLESS. IT HAS BEEN DEMONSTRATED THAT A MOER ACCEPTABLE CONNECTION WOULD INVOLVE CONSIDERABLE HARDSHIP TO THE UTILITY SYSTEM. ALL TAPS SHALL BE MADE BY USE OF AN APPROVED FULL CIRCLE-GASKETED CAST IRON OR DUCTILE IRON TAPPING SLEEVE. CONCRETE BLOCKING SHALL BE PLACED UNDER ALL TAP SLEEVES PRIOR TO MAKING THE PRESSURE TAP AND THE USE OF PRECAST BLOCKS MAY BE USED TO HOLD THE TAP IN ITS CORRECT POSITION PRIOR TO BLOCKING. THE BLOCKING BEHIND AND UNDER THE TAP SHALL HAVE A MINIMUM OF 24 HOURS CURING TIME BEFORE THE VALVE CAN BE RE-OPENED FOR SERVICE
- 9. THRUST RESTRAINT SHALL BE IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 510.3(22).
- ALL BRANCH CONNECTIONS SHALL HAVE THE VALVE BOLTED TO THE MAIN BY METHODS OF FLANGE OR SWIVEL TEES. FOSTER ADAPTORS MAY BE USED IN LIEU OF FLANGE OR SWIVEL TEES WHEN CALLED OUT ON THE PLANS BY THE DESIGN ENGINEER.

FORCE MAIN PRESSURE TESTING SHALL BE CONDUCTED AND FALL UNDER

- -CIFICATION ITEM 5115.4. B). FIRE HYDRANTS SHALL BE PAINTED FLYNT 12. WATER LINE TESTING AND STERILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEMS 510.3 (27)-(29).
- PRESSURE SHOWN ON THE APPROVED PLANS. ALL MATERIAL USED ON THIS PROJECT MUST BE LISTED ON THE STANDARD PRODUCTS LISTING. ANY MATERIAL NOT LISTED HAS TO GO THROUGH THE CITY OF BUDA CITY ENGINEER FOR REVIEW AND APPROVAL PRIOR TO START PROJECT. TESTING AND EVALUATION OF PRODUCTS ARE REQUIRED

THE SPECIFICATIONS AS WATER LINES (PRESSURE PIPE) OR AT THE

- BEFORE APPROVAL WILL BE GIVEN ANY CONSIDERATION. WHEN WATER SERVICES ARE DAMAGED, THE SERVICE SHALL BE REPLACED FULL LENGTH WITH PE. NOTE: FULL LENGTH IS FROM BALL VALVE TO
- WHEN AN EXISTING WATERLINE SHUTOUT IS NECESSARY AND POSSIBLE, THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTOR WHO WILL THEN NOTIFY THE CITY OF BUDA PUBLIC WORKS AND THE AFFECTED CUSTOMERS A MINIMUM OF SEVENTY-TWO (72) HOURS IN ADVANCE. 16. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTOR SO THAT
- HE CAN NOTIFY THE CITY OF BUDA PUBLIC WORKS AT A MINIMUM OF 72 HOURS PRIOR TO RELOCATING ANY DOMESTIC OR FIRE DEMAND WATER METERS. THE CONTRACTOR SHALL CAREFULLY REMOVE ALL METERS AND METER BOXES THAT ARE INDICATED TO BE RELOCATED OR SALVAGED. THE CONTRACTOR SHALL INSTALL THE REMOVED METER OR CITY PROVIDED METER AT THE NEW LOCATION INDICATED ON THE CONSTRUCTION PLANS.
- 17. ALL MANHOLES IN UNPAVED AREAS PROVIDING DIRECT ACCESS TO A WASTEWATER LINE SHALL BE WATERTIGHT AND BEAR THE WORDING AND
- 18. THE CONTRACTOR SHALL VERIFY ALL VERTICAL AND HORIZONTAL LOCATIONS OF EXISTING UTILITIES PRIOR TO STARTING ONSITE UTILITY WORK. 19. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH

THE ENGINEER WHO PREPARED THEM. APPROVAL OF THESE PLANS BY THE

CITY OF BUDA DOES NOT REMOVE THESE RESPONSIBILITIES. REVIEW BY THE CITY OF BUDA WATER UTILITY APPLIES ONLY TO FACILITIES WITHIN PUBLIC STREETS OR PUBLIC UTILITY EASEMENTS. ALL OTHER WATER AND WASTEWATER FACILITIES INSIDE PRIVATE PROPERTY ARE UNDER THE JURISDICTION OF BUILDING INSPECTION.

TREE PROTECTION NOTES:

- ALL TREES AND NATURAL AREAS SHOWN ON PLAN TO BE PRESERVED SHALL BE PROTECTED DURING CONSTRUCTION WITH TEMPORARY FENCING. PROTECTIVE FENCES SHALL BE ERECTED ACCORDING TO CITY OF BUDA STANDARDS FOR TREE PROTECTION.
- PROTECTIVE FENCES SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING, OR GRADING), AND SHALL BE MAINTAINED THROUGHOÙT ALL PHASES OF THE CONSTRUCTION PROJECTS
- EROSION AND SEDIMENTATION CONTROL BARRIERS SHALL BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILD UP WITHIN TREE DRIP LINES.

PROTECTIVE FENCES SHALL SURROUND THE TREES OR GROUP OF TREES,

- AND WILL BE LOCATED AT THE OUTERMOST LIMITS 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 OF MATERIALS;
- B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 6 INCHES CUT OR FILL), OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE CITY ARRORIST WOUNDS TO EXPOSED ROOTS, TRUNK OR LIMBS BY MECHANICAL EQUIPMENT
- OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING, AND FIRES. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIP LINES MAY BE PERMITTED IN THE FOLLOWING CASE:
- 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

- 14. THE CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE IN ALL DIRECTIONS OF NINE FEET BETWEEN THE PROPOSED WATERLINE AND WASTEWATER COLLECTION FACILITIES INCLUDING MANHOLES AND SEPTIC TANK DRAINFIELDS. IF THIS DISTANCE CANNOT BE MAINTAINED. THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT ENGINEER FOR FURTHER DIRECTION. SEPARATION DISTANCES, INSTALLATION METHODS, AND MATERIALS UTILIZED MUST MEET 30 TAC \$290.44(E)(1-4) OF THE CURRENT RULES.
- 5. PURSUANT TO 30 TAC \$290.44(E)(5), THE SEPARATION DISTANCE FROM A POTABLE WATERLINE TO A WASTEWATER MAIN OR LATERAL MANHOLE OR CLEANOUT SHALL BE A MINIMUM OF NINE FEET. WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE POTABLE WATERLINE SHALL BE ENCASED IN A JOINT OF AT LEAST 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED THE ENCASEMENT PIPE SHALL BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEALANT.
- 16. PURSUANT TO 30 TAC \$290.44(E)(6), FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY WASTEWATER LINE, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE REGARDLESS OF CONSTRUCTION.
- 17. PURSUANT TO 30 TAC \$290.44(E)(7), SUCTION MAINS TO PUMPING EQUIPMENT SHALL NOT CROSS WASTEWATER MAINS, WASTEWATER LATERALS, OR WASTEWATER SERVICE LINES. RAW WATER SUPPLY LINES SHALL NOT BE INSTALLED WITHIN FIVE FEET OF ANY TILE OR CONCRETE WASTEWATER MAIN, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE.
- 18. PURSUANT TO 30 TAC \$290.44(F)(1), THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION.
- 19. PURSUANT TO 30 TAC \$290.44(F)(2), WHEN WATERLINES ARE LAID UNDER ANY FLOWING OR INTERMITTENT STREAM OR SEMI-PERMANENT BODY OF WATER THE WATER MAIN SHALL BE INSTALLED IN A SEPARATE WATERTIGHT PIPI ENCASEMENT. VALVES MUST BE PROVIDED ON EACH SIDE OF THE CROSSING WITH FACILITIES TO ALLOW THE UNDERWATER PORTION OF THE SYSTEM TO BE ISOLATED
- 20. THE CONTRACTOR SHALL DISINFECT THE NEW WATER MAINS IN ACCORDANCE WITH AWWA STANDARD C-651 AND THEN FLUSH AND SAMPLE THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATER LINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER, IN ACCORDANCE WITH 30 TAC §290.44(F)(3).
- TCEQ WATER POLLUTION ABATEMENT PLAN GENERAL CONSTRUCTION NOTES: A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE
- THE ACTIVITY START DATE - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR

- THE NAME OF THE APPROVED PROJECT

- 2. ALL CONTRACTORS CONDUCTION REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN (WPAP) AND THE TCEQ LETTER INDICATION THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.
- 3. IF ANY SENSITIVE FEATURE(S) (CAVES, SOLUTION CAVITY, SINK HOLE, ETC.) IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES MAY NOT BE RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE APPROPRIATE PROTECTIVE MEASURE IN ORDER TO PROTECT ANY SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.
- 4. NO TEMPORARY OR PERMANENT HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE.
- PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
- 6. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC. 7. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION
- BASINS NOT LATER THAN WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN LITTER. CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO
- STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE. 9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING

PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.

- 10. IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION 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.
- 11. THE FOLLOWING RECORD SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST: - THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR - THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE CISE - THE DATES WHEN STABILIZATION MEASURES ARE INITIATED
- 12. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING: - ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY **STRUCTURES**
- ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER - ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN TCEQ ORGANIZED SEWAGE COLLECTION SYSTEM GENERAL CONSTRUCTION NOTES:
- 1. THIS ORGANIZED SEWAGE COLLECTION SYSTEM (SCS) MUST BE CONSTRUCTED IN ACCORDANCE WITH 30 TEXAS ADMINISTRATIVE CODE (TAC) \$213.5(C), THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) EDWARDS AQUIFER RULES AND ANY LOCAL GOVERNMENT STANDARD SPECIFICATIONS. 2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS
- PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, CONTRACTORS MUST BE REQUIRED TO KEEP ON-SITE COPIES OF THE PLAN AND THE APPROVAL LETTER. 3. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE PRESIDING

TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY

PROPOSED REGULATED PROJECT MUST BE PROVIDED WITH COPIES OF THE SCS

- REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE: THE NAME OF THE APPROVED PROJECT; THE ACTIVITY START DATE: AND - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.
- 4. ANY MODIFICATION TO THE ACTIVITIES DESCRIBED IN THE REFERENCED SCS APPLICATION FOLLOWING THE DATE OF APPROVAL MAY REQUIRE THE SUBMITTAL OF AN SCS APPLICATION TO MODIFY THIS APPROVAL, INCLUDING THE PAYMENT APPROPRIATE FEES AND ALL INFORMATION NECESSARY FOR ITS REVIEW AND
- 5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. 6. IF ANY SENSITIVE FEATURES ARE DISCOVERED DURING THE WASTEWATER LIN TRENCHING ACTIVITIES, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPLICANT MUST IMMEDIATELY NOTIFY THE APPROPRIATE REGIONAL OFFICE OF THE TCEQ OF THE FEATURE DISCOVERED.
- A GEOLOGIST'S ASSESSMENT OF THE LOCATION AND EXTENT OF THE FEATUR DISCOVERED MUST BE REPORTED TO THAT REGIONAL OFFICE IN WRITING AND TH APPLICANT MUST SUBMIT A PLAN FOR ENSURING THE STRUCTURAL INTEGRITY (THE SEWER LINE OR FOR MODIFYING THE PROPOSED COLLECTION SYSTEM ALIGNMENT AROUND THE FEATURE. SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE EXECUTIVE DIRECTOR HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY WHILE MAINTAINING THE STRUCTURAL INTEGRITY OF THE LINE.

- SEWER LINES LOCATED WITHIN OR CROSSING THE 5-YEAR FLOODPLAIN OF A DRAINAGE WAY WILL BE PROTECTED FROM INUNDATION AND STREAM VELOCITIES WHICH COULD CAUSE EROSION AND SCOURING OF BACKFILL. THE TRENCH MUST BE CAPPED WITH CONCRETE TO PREVENT SCOURING OF BACKFILL. OR THE SEWE LINES MUST BE ENCASED IN CONCRETE. ALL CONCRETE SHALL HAVE A MINIMUM
- 8. BLASTING PROCEDURES FOR PROTECTION OF EXISTING SEWER LINES AND OTHER UTILITIES WILL BE IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION CRITERIA. SAND IS NOT ALLOWED AS BEDDING OR BACKFILL IN TRENCHES THAT HAVE BEEN BLASTED. IF ANY EXISTING SEWER LINES ARE DAMAGED, THE LINES MUST BE REPAIRED AND RETESTED.
- ALL MANHOLES CONSTRUCTED OR REHABILITATED ON THIS PROJECT MUST HAVE WATERTIGHT SIZE ON SIZE RESILIENT CONNECTORS ALLOWING FOR DIFFERENTIAL SETTLEMENT. IF MANHOLES ARE CONSTRUCTED WITHIN THE 100-YEAR FLOODPLAIN THE COVER MUST HAVE A GASKET AND BE BOLTED TO THE RING. WHERE GASKETED MANHOLE COVERS ARE REQUIRED FOR MORE THAN THREE MANHOLES IN SEQUENCE OR FOR MORE THAN 1500 FEET, ALTERNATE MEANS OF VENTING WILL BE PROVIDED. BRICKS ARE NOT AN ACCEPTABLE CONSTRUCTION MATERIAL FOR
- THE DIAMETER OF THE MANHOLES MUST BE A MINIMUM OF FOUR FEET AND THE MANHOLE FOR ENTRY MUST HAVE A MINIMUM CLEAR OPENING DIAMETER OF 30 INCHES. THESE DIMENSIONS AND OTHER DETAILS SHOWING COMPLIANCE WITH THE COMMISSION'S RULES CONCERNING MANHOLES AND SEWER LINE/MANHOLE INVERTS DESCRIBED IN 30 TAC \$217.55 ARE INCLUDED ON PLAN SHEET 90 OF 90. IT IS SUGGESTED THAT ENTRANCE INTO MANHOLES IN EXCESS OF FOUR FEET DEEP BE ACCOMPLISHED BY MEANS OF A PORTABLE LADDER. THE INCLUSION OF STEPS
- . WHERE WATER LINES AND NEW SEWER LINE ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES. WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO MANHOLES) THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(D) (PIPE DESIGN) AND 30 TAC §290.44(E) (WATER DISTRIBUTION).
- WHERE SEWERS LINES DEVIATE FROM STRAIGHT ALIGNMENT AND UNIFORM GRADE ALL CURVATURE OF SEWER PIPE MUST BE ACHIEVED BY THE FOLLOWING PROCEDURE WHICH IS RECOMMENDED BY THE PIPE MANUFACTURER:
- IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE USED: SPECIFIC CARE MUST BE TAKEN TO ENSURE THAT THE JOINT IS PLACED IN THE

CENTER OF THE TRENCH AND PROPERLY BEDDED IN ACCORDANCE WITH 30 TAC

- 12. NEW SEWAGE COLLECTION SYSTEM LINES MUST BE CONSTRUCTED WITH STUB OUTS FOR THE CONNECTION OF ANTICIPATED EXTENSIONS. THE LOCATION OF SUCH STUB OUTS MUST BE MARKED ON THE GROUND SUCH THAT THEIR LOCATION CAN BE EASILY DETERMINED AT THE TIME OF CONNECTION OF THE EXTENSIONS. SUCH STUB OUTS MUST BE MANUFACTURED WYES OR TEES THAT ARE COMPATIBLE IN SIZE AND MATERIAL WITH BOTH THE SEWER LINE AND THE EXTENSION. AT THE TIME OF ORIGINAL CONSTRUCTION, NEW STUB-OUTS MUST BE CONSTRUCTED SUFFICIENTLY TO EXTEND BEYOND THE END OF THE STREET PAVEMENT. AL STUB-OUTS MUST BE SEALED WITH A MANUFACTURED CAP TO PREVENT LEAKAGE. EXTENSIONS THAT WERE NOT ANTICIPATED AT THE TIME OF ORIGINAL CONSTRUCTION THAT ARE TO BE CONNECTED TO AN EXISTING SEWER LINE NOT FURNISHED WITH STUB OUTS MUST BE CONNECTED USING A MANUFACTURED SADDLE AND IN
- 13. TRENCHING, BEDDING AND BACKFILL MUST CONFORM WITH 30 TAC \$217.54. THE BEDDING AND BACKFILL FOR FLEXIBLE PIPE MUST COMPLY WITH THE STANDARDS OF ASTM D-2321, CLASSES IA, IB, II OR III. RIGID PIPE BEDDING MUST COMPLY WITH THE REQUIREMENTS OF ASTM C 12 (ANSI A 106.2) CLASSES A, B OR C.

ACCORDANCE WITH ACCEPTED PLUMBING TECHNIQUES.

- 14. SEWER LINES MUST BE TESTED FROM MANHOLE TO MANHOLE. WHEN A NEW SEWER LINE IS CONNECTED TO AN EXISTING STUB OR CLEAN-OUT, IT MUST BE TESTED FROM EXISTING MANHOLE TO NEW MANHOLE. IF A STUB OR CLEAN-OUT IS USEI AT THE END OF THE PROPOSED SEWER LINE, NO PRIVATE SERVICE ATTACHMENTS MAY BE CONNECTED BETWEEN THE LAST MANHOLE AND THE CLEANOUT UNLESS I CAN BE CERTIFIED AS CONFORMING WITH THE PROVISIONS OF 30 TAC
- AVAILABLE TO THE EXECUTIVE DIRECTOR UPON REQUEST. THE ENGINEER MUST CERTIFY IN WRITING THAT ALL WASTEWATER LINES HAVE PASSED ALL REQUIRED TESTING TO THE APPROPRIATE REGIONAL OFFICE WITHIN 30 DAYS OF TEST COMPLETION AND PRIOR TO USE OF THE NEW COLLECTION SYSTEM. TESTING MFTHOD WILL BE: (A) FOR A COLLECTION SYSTEM PIPE THAT WILL TRANSPORT WASTEWATER BY GRAVITY FLOW. THE DESIGN MUST SPECIFY AN INFILTRATION AND

15. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH 30 TAC \$217.57. THE

ENGINEER MUST RETAIN COPIES OF ALL TEST RESULTS WHICH MUST BE MADE

- EXFILTRATION TEST OR A LOW-PRESSURE AIR TEST. A TEST MUST CONFORM TO THE FOLLOWING REQUIREMENTS: (1) LOW PRESSURE AIR TEST. (A) A LOW PRESSURE AIR TEST MUST FOLLOW THE PROCEDURES DESCRIBED IN AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C-828, ASTM C-924, OR ASTM F-1417 OR OTHER PROCÉDURE APPROVED BY THE EXECUTIVE DIRECTOR, EXCEPT AS TO TESTING TIMES AS REQUIRED IN TABLE C.3 IN SUBPARAGRAPH
- (B) FOR SECTIONS OF COLLECTION SYSTEM PIPE LESS THAN 36 INCH AVERAGE INSIDE DIAMETER, THE FOLLOWING PROCEDURE MUST APPLY, UNLESS A PIPE IS TO BE TESTED AS REQUIRED BY A PIPE MUST BE PRESSURIZED TO 3.5 POUNDS PER SQUARE INCH (PSI) GREATER THAN THE PRESSURE EXERTED BY

ONCE THE PRESSURE IS STABILIZED, THE MINIMUM TIME

ALLOWABLE FOR THE PRESSURE TO DROP FROM 3.5 PSI

MINIMUM TESTING TIME FOR EACH PIPE DIAMETER IS SHOWN IN

MAXIMUM

114

100

80

10.4710

13.6760

17.3090

21.3690

GROUNDWATER ABOVE THE PIPE

(C) OF THIS PARAGRAPH OR EQUATION C.3 IN SUBPARAGRAPH

- GAUGE TO 2.5 PSI GAUGE IS COMPUTED FROM THE FOLLOWING EQUATION: EQUATION C.3
- T = TIME FOR PRESSURE TO DROP 1.0 POUND PER SQUARE INCH GAUGE IN SECONDS

 $0.085 \times D \times K$

 $K = 0.000419 \times D \times L$, BUT NOT LESS THAN 1.0 D = AVERAGE INSIDE PIPE DIAMETER IN INCHES . = LENGTH OF LINE OF SAME SIZE BEING TESTED, IN FEET Q = RATE OF LOSS, 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE (C) SINCE A K VALUE OF LESS THAN 1.0 MAY NOT BE USED, THE

THE FOLLOWING TABLE C.3:

21

27

30

DIRECTOR.

PIPE DIAMETER | MINIMUM TIME LENGTH FOR LONGER MINIMUM TIME LENGTH SECONDS/FOOT INCHES SECONDS FEET 0.8550 454 298 1.5200 10 239 2.3740 567 12 680 199 3.4190 5.3420 850 159 18 133 7.6930 1020

1190

1360

1530

1700

- 1870 25.8560 (D) AN OWNER MAY STOP A TEST IF NO PRESSURE LOSS HAS
- OCCURRED DURING THE FIRST 25% OF THE CALCULATED TESTING (E) IF ANY PRESSURE LOSS OR LEAKAGE HAS OCCURRED DURING THE FIRST 25% OF A TESTING PERIOD, THEN THE TEST MUST CONTINUE FOR THE ENTIRE TEST DURATION AS OUTLINED ABOVE

GREATER THAN 33 INCHES MUST BE APPROVED BY THE EXECUTIVE

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

(G) A TESTING PROCEDURE FOR PIPE WITH AN INSIDE DIAMETER

- (2) INFILTRATION/EXFILTRATION TEST. (A) THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH OF DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF
- 2.0 FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM (B) AN OWNER SHALL USE AN INFILTRATION TEST IN LIEU OF AN
- EXFILTRATION TEST WHEN PIPES ARE INSTALLED BELOW THE GROUNDWATER LEVEL (C) THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE,
- OR AT LEAST TWO FEET ABOVE EXISTING GROUNDWATER LEVEL, WHICHEVER IS GREATER. (D) FOR CONSTRUCTION WITHIN A 25-YEAR FLOOD PLAIN, THE INFILTRATION OR EXFILTRATION MUST NOT EXCEED 10 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24
- HOURS AT THE SAME MINIMUM TEST HEAD AS IN SUBPARAGRAPH (C) OF THIS PARAGRAPH (E) IF THE QUANTITY OF INFILTRATION OR EXFILTRATION EXCEEDS THE MAXIMUM QUANTITY SPECIFIED, AN OWNER SHALL UNDERTAKE REMEDIAL ACTION IN ORDER TO REDUCE THE INFILTRATION OR EXFILTRATION TO AN AMOUNT WITHIN THE LIMITS SPECIFIED. AN OWNER SHALL RETEST A PIPE FOLLOWING A REMEDIATION ACTION.
- (B) IF A GRAVITY COLLECTION PIPE IS COMPOSED OF FLEXIBLE PIPE DEFLECTION TESTING IS ALSO REQUIRED. THE FOLLOWING PROCEDURES MUST BE FOLLOWED: (1) FOR A COLLECTION PIPE WITH INSIDE DIAMETER LESS THAN 27 INCHES, DEFLECTION MEASUREMENT REQUIRES A RIGID MANDREL
 - (A) MANDREL SIZING. (I) A RIGID MANDREL MUST HAVE AN OUTSIDE DIAMETER (OD) NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER (ID) OR STANDARD BY THE ASTMS, AMERICAN WATER WORKS
 - ASSOCIATION, UNI-BELL, OR AMERICAN NATIONAL STANDARDS INSTITUTE, OR ANY RELATED APPENDIX. (II) IF A MANDREL SIZING DIAMETER IS NOT SPECIFIED IN THE APPROPRIATE STANDARD, THE MANDREL MUST HAVE AN OD EQUAL TO 95% OF THE ID OF A PIPE. IN THIS CASE, THE ID OF THE PIPE. FOR THE PURPOSE OF DETERMINING THE OD. OF THE MANDREL. MUST EQUAL BE THE AVERAGE OUTSIDE DIAMETER MINUS TWO MINIMUM WALL THICKNESSES FOR OD CONTROLLED PIPE AND THE AVERAGE INSIDE DIAMETER FOR
 - ID CONTROLLED PIPE. (III) ALL DIMENSIONS MUST MEET THE APPROPRIATE STANDARD (B) MANDREL DESIGN.
 - (I) A RIGID MANDREL MUST BE CONSTRUCTED OF A METAL OR A RIGID PLASTIC MATERIAL THAT CAN WITHSTAND 200 PSI WITHOUT BEING DEFORMED.
 - (II) A MANDREL MUST HAVE NINE OR MORE ODD NUMBER OF RUNNERS OR LEGS. (III) A BARREL SECTION LENGTH MUST EQUAL AT LEAST 75% OF THE INSIDE DIAMETER OF A PIPE

(III) IF REQUESTED, THE EXECUTIVE DIRECTOR MAY APPROVE T

(IV) EACH SIZE MANDREL MUST USE A SEPARATE PROVING RING. (C) METHOD OPTIONS. (I) AN ADJUSTABLE OR FLEXIBLE MANDREL IS PROHIBITED. (II) A TEST MAY NOT USE TELEVISION INSPECTION AS A SUBSTITUTE FOR A DEFLECTION TEST

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

- USE OF A DEFLECTOMETER OR A MANDREL WITH REMOVABLE LEGS OR RUNNERS ON A CASE-BY-CASE BASIS. (2) FOR A GRAVITY COLLECTION SYSTEM PIPE WITH AN INSIDE DIAMETER 27 INCHES AND GREATER, OTHER TEST METHODS MAY BE USED TO DETERMINE VERTICAL DEFLECTION.
- (3) A DEFLECTION TEST METHOD MUST BE ACCURATE TO WITHIN PLUS OR MINUS 0.2% DEFLECTION. (4) AN OWNER SHALL NOT CONDUCT A DEFLECTION TEST UNTIL AT LEAST 30 DAYS AFTER THE FINAL BACKFILL.

PERCENT (5%)

CORRECT THE PROBLEM AND CONDUCT A SECOND TEST AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. 16. ALL MANHOLES MUST BE TESTED TO MEET OR EXCEED THE REQUIREMENTS OF 30 TAC §217.58.

(6) IF A PIPE SECTION FAILS A DEFLECTION TEST, AN OWNER SHALL

- (A) ALL MANHOLES MUST PASS A LEAKAGE TEST. (B) AN OWNER SHALL TEST EACH MANHOLE (AFTER ASSEMBLY AND BACKFILLING) FOR LEAKAGE, SEPARATE AND INDEPENDENT OF THE COLLECTION SYSTEM PIPES, BY HYDROSTATIC EXFILTRATION TESTING, VACUUM TESTING, OR OTHER METHOD APPROVED BY THE EXECUTIVE DIRECTOR.
 - (1) HYDROSTATIC TESTING. (A) THE MAXIMUM LEAKAGE FOR HYDROSTATIC TESTING OR ANY ALTERNATIVE TEST METHODS IS 0.025 GALLONS PER FOOT DIAMETER PER FOOT OF MANHOLE DEPTH PER HOUR. (B) TO PERFORM A HYDROSTATIC EXFILTRATION TEST, AN OWNER
 - SHALL SEAL ALL WASTEWATER PIPES COMING INTO A MANHOLE WITH AN INTERNAL PIPE PLUG, FILL THE MANHOLE WITH WATER, AND MAINTAIN THE TEST FOR AT LEAST ONE HOUR. (C) A TEST FOR CONCRETE MANHOLES MAY USE A 24-HOUR WETTING

PERIOD BEFORE TESTING TO ALLOW SATURATION OF THE

- VACUUM TESTING (A) TO PERFORM A VACUUM TEST, AN OWNER SHALL PLUG ALL LIFT HOLES AND EXTERIOR JOINTS WITH A NON-SHRINK GROUT AND PLUG ALL PIPES ENTERING A MANHOLE.
- (B) NO GROUT MUST BE PLACED IN HORIZONTAL JOINTS BEFORE (C) STUB-OUTS, MANHOLE BOOTS, AND PIPE PLUGS MUST BE SECURED TO PREVENT MOVEMENT WHILE A VACUUM IS DRAWN. (D) AN OWNER SHALL USE A MINIMUM 60 INCH/LB TORQUE WRENCH

TO TIGHTEN THE EXTERNAL CLAMPS THAT SECURE A TEST COVER

(G) A TEST DOES NOT BEGIN UNTIL AFTER THE VACUUM PUMP IS OFF.

TO THE TOP OF A MANHOLE. (E) A TEST HEAD MUST BE PLACED AT THE INSIDE OF THE TOP OF A CONE SECTION, AND THE SEAL INFLATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. (F) THERE MUST BE A VACUUM OF 10 INCHES OF MERCURY INSIDE A

MANHOLE TO PERFORM A VALID TEST.

(H) A MANHOLE PASSES THE TEST IF AFTER 2.0 MINUTES AND WITH ALL VALVES CLOSED, THE VACUUM IS AT LEAST 9.0 INCHES OF 17. ALL PRIVATE SERVICE LATERALS MUST BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH 30 TAC \$213.5(C)(3)(I). AFTER INSTALLATION OF AND, PRIOR TO COVERING AND CONNECTING A PRIVATE SERVICE LATERAL TO AN EXISTING ORGANIZED SEWAGE COLLECTION SYSTEM, A TEXAS LICENSED PROFESSIONAL

MUST VISUALLY INSPECT THE PRIVATE SERVICE LATERAL AND THE CONNECTION TO

ENGINEER, TEXAS REGISTERED SANITARIAN, OR APPROPRIATE CITY INSPECTOR

THE SEWAGE COLLECTION SYSTEM, AND CERTIFY THAT IT IS CONSTRUCTED IN

CONFORMITY WITH THE APPLICABLE PROVISIONS OF THIS SECTION. THE OWNER

OF THE COLLECTION SYSTEM MUST MAINTAIN SUCH CERTIFICATIONS FOR FIVE YEARS AND FORWARD COPIES TO THE APPROPRIATE REGIONAL OFFICE UPON REQUEST. CONNECTIONS MAY ONLY BE MADE TO AN APPROVED SEWAGE COLLECTION SYSTEM. BUDA MUD NO. 1 GENERAL NOTES THE DISTRICT ENGINEER, JONES-HEROY & ASSOCIATES, INC (KEN HEROY, PH

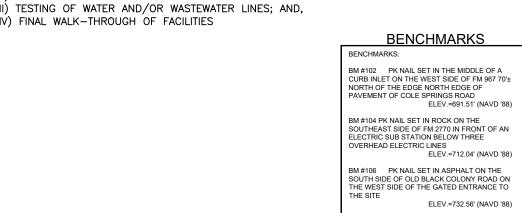
512-989-2200) SHALL BE CONTACTED 48 HOURS PRIOR TO:

PERMIT NUMBER

PRE—CONSTRUCTION MEETINGS

) BEGINNING EACH PHASE OF CONSTRUCTION

IV) FINAL WALK-THROUGH OF FACILITIES



CONSTRUCTION PLAN APPROVAL SHEET OF 90 _APPLICATION DATE_ APPROVED BY COMMISSION ON N/A UNDER THE CITY OF BUDA UNIFIED DEVELOPMENT CODE EXPIRATION DATE RELEASED FOR GENERAL COMPLIANCE: which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

04/9/2024 ALEJANDRO E. GRANADOS R 130084 ellane e

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SHEET NUMBER

OF 90

SPECIFICATIONS OR DETAILS, THE MORE RESTRICTIVE SPECIFICATION AND DETAIL SHALL BE FOLLOWED 2. THE CONTRACTOR SHALL COMPLY WITH CITY (OR TOWN) "GENERAL NOTES" FOR CONSTRUCTION IF EXISTING AND REQUIRED BY THE CITY. FOR INSTANCES WHERE THEY CONFLICT WITH THESE KH GENERAL NOTES, THEN THE MORE RESTRICTIVE SHALL APPLY. 3. THE CONTRACTOR SHALL FURNISH ALL MATERIAL AND LABOR TO CONSTRUCT THE FACILITY AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE AUTHORITIES' SPECIFICATIONS AND REQUIREMENTS.

4. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE EXISTING CONDITIONS. 5. THE EXISTING CONDITIONS SHOWN ON THESE PLANS WERE PROVIDED BY THE TOPOGRAPHIC SURVEY PREPARED BY THE PROJECT SURVEYOR, AND ARE BASED ON THE BENCHMARKS SHOWN. THE CONTRACTOR SHALL REFERENCE THE SAME BENCHMARKS. 6. THE CONTRACTOR SHALL REVIEW AND VERIFY THE EXISTING TOPOGRAPHIC SURVEY SHOWN ON THE PLANS REPRESENTS EXISTING FIELD CONDITIONS PRIOR TO CONSTRUCTION, AND SHALL REPORT ANY DISCREPANCIES FOUND TO THE OWNER AND ENGINEER

7. IF THE CONTRACTOR DOES NOT ACCEPT THE EXISTING TOPOGRAPHIC SURVEY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY AT THEIR OWN EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED PROFESSIONAL LAND SURVEYOR TO THE OWNER AND ENGINEER FOR REVIEW. 8. CONTRACTOR SHALL PROVIDE ALL CONSTRUCTION SURVEYING AND STAKING

9. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL CONTROL. INCLUDING BENCHMARKS PRIOR TO COMMENCING CONSTRUCTION OR STAKING OF IMPROVEMENTS. PROPERTY LINES AND CORNERS SHALL BE HELD AS THE HORIZONTAL CONTROL. 10. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS. ELEVATIONS. AND FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE ARCHITECT, ENGINEER, AND IF APPLICABLE THE CITY AND OWNER. NO CONSIDERATION WILL BE GIVEN TO CHANGE ORDERS FOR WHICH THE CITY, ENGINEER, AND OWNER WERE NOT CONTACTED PRIOR TO CONSTRUCTION OF THE AFFECTED ITEM. 11. CONTRACTOR SHALL THOROUGHLY CHECK COORDINATION OF CIVIL, LANDSCAPE, MEP, ARCHITECTURAL, AND OTHER PLANS PRIOR TO

12.IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES WITHIN OR NEAR THE CONSTRUCTION AREA BEFORE COMMENCING WORK TO HAVE THEM LOCATE THEIR EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE MINIMUM NOTICE TO ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION.

COMMENCING CONSTRUCTION. OWNER/ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY PRIOR TO COMMENCING WITH

13. CONTRACTOR SHALL CALL TEXAS 811 AN ADEQUATE AMOUNT OF TIME PRIOR TO COMMENCING CONSTRUCTION OR ANY EXCAVATION. 14. CONTRACTOR SHALL USE EXTREME CAUTION AS THE SITE CONTAINS VARIOUS KNOWN AND UNKNOWN PUBLIC AND PRIVATE UTILITIES. 15. THE LOCATIONS. ELEVATIONS. DEPTH. AND DIMENSIONS OF EXISTING UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM AVAILABLE UTILITY COMPANY MAPS AND PLANS, AND ARE CONSIDERED APPROXIMATE AND INCOMPLETE. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO VERIFY THE PRESENCE, LOCATION, ELEVATION, DEPTH, AND DIMENSION OF EXISTING UTILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION SO THAT ADJUSTMENTS CAN BE MADE TO PROVIDE ADEQUATE CLEARANCES. THE ENGINEER SHALL BE NOTIFIED WHEN A PROPOSED IMPROVEMENT CONFLICTS WITH AN EXISTING UTILITY.

16. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ANY ADJUSTMENTS AND RELOCATIONS OF EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO, ADJUSTING EXISTING MANHOLES TO MATCH PROPOSED GRADE, RELOCATING EXISTING POLES AND GUY WIRES THAT ARE LOCATED IN PROPOSED DRIVEWAYS, ADJUSTING THE HORIZONTAL OR VERTICAL ALIGNMENT OF EXISTING UNDERGROUND UTILITIES TO ACCOMMODATE PROPOSED GRADE OR CROSSING WITH A PROPOSED UTILITY, AND ANY OTHERS THAT MAY BE ENCOUNTERED THAT ARE UNKNOWN AT THIS TIME AND NOT SHOWN ON THESE PLANS

17. CONTRACTOR SHALL ARRANGE FOR OR PROVIDE, AT ITS EXPENSE, ALL GAS, TELECOMMUNICATIONS, CABLE, OVERHEAD AND UNDERGROUND POWER LINE, AND UTILITY POLE ADJUSTMENTS NEEDED. 18 CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION OF FRANCHISE UTILITIES THAT ARE NECESSARY FOR ON-SITE AND OFF-SITE CONSTRUCTION, AND SERVICE TO THE PROPOSED DEVELOPMENT.

19. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL DAMAGES DUE TO THE CONTRACTORS' FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UTILITIES. THE OWNER OR ENGINEER WILL ASSUME NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES. IF IT IS NECESSARY TO SHORE, BRACE, SWING OR RELOCATE A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED BY THE CONTRACTOR AND THEIR PERMISSION OBTAINED REGARDING THE METHOD TO USE FOR SUCH WORK. 20.BRACING OF UTILITY POLES MAY BE REQUIRED BY THE UTILITY COMPANIES WHEN TRENCHING OR EXCAVATING IN CLOSE PROXIMITY

TO THE POLES. THE COST OF BRACING POLES WILL BE BORNE BY THE CONTRACTOR, WITH NO SEPARATE PAY ITEM FOR THIS WORK. THE COST IS INCIDENTAL TO THE PAY ITEM. 21.CONTRACTOR SHALL USE ALL NECESSARY SAFETY PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND POWER LINES. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, FEDERAL AND UTILITY OWNER REGULATIONS PERTAINING

TO WORK SETBACKS FROM POWER LINES 22.THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL REQUIRED CONSTRUCTION PERMITS, APPROVALS, AND BONDS PRIOR TO CONSTRUCTION.

23. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES A COPY OF THE CONTRACT DOCUMENTS INCLUDING PLANS, GEOTECHNICAL REPORT AND ADDENDA, PROJECT AND CITY SPECIFICATIONS, AND SPECIAL CONDITIONS, COPIES OF ANY REQUIRED CONSTRUCTION PERMITS FROSION CONTROL PLANS SWPPP AND INSPECTION REPORTS 24.ALL SHOP DRAWINGS AND OTHER DOCUMENTS THAT REQUIRE ENGINEER REVIEW SHALL BE SUBMITTED BY THE CONTRACTOR SUFFICIENTLY IN ADVANCE OF CONSTRUCTION OF THAT ITEM, SO THAT NO LESS THAN 10 BUSINESS DAYS FOR REVIEW AND RESPONSE

25.ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES, JURISDICTIONAL AGENCIES, AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO USE OF THE FACILITY AND THE FINAL CONNECTION OF SERVICES. 26.CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.

27. CONTRACTOR'S BID PRICE SHALL INCLUDE ALL INSPECTION FEES 28.ALL SYMBOLS SHOWN ON THESE PLANS (E.G. FIRE HYDRANT, METERS, VALVES, INLETS, ETC....) ARE FOR PRESENTATION PURPOSES ONLY AND ARE NOT TO SCALE. CONTRACTOR SHALL COORDINATE FINAL SIZES AND LOCATIONS WITH APPROPRIATE CITY INSPECTOR. 29. THE SCOPE OF WORK FOR THE CIVIL IMPROVEMENTS SHOWN ON THESE PLANS TERMINATES 5-FEET FROM THE BUILDING. REFERENCE THE BUILDING PLANS (E.G. ARCHITECTURAL, STRUCTURAL, MEP) FOR AREAS WITHIN 5-FEET OF THE BUILDING AND WITHIN THE

BUILDING FOOTPRINT. 30.REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR ALL FINAL BUILDING DIMENSIONS 31. THE PROPOSED BUILDING FOOTPRINT(S) SHOWN IN THESE PLANS WAS PROVIDED TO KIMLEY-HORN AND ASSOCIATES. INC. (KH) BY THE PROJECT ARCHITECT AT THE TIME THESE PLANS WERE PREPARED. IT MAY NOT BE THE FINAL CORRECT VERSION BECAUSE THE BUILDING DESIGN WAS ONGOING. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONFIRMING THE FINAL CORRECT VERSION OF THE BUILDING FOOTPRINT WITH THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO LAYOUT. DIMENSIONS AND/OR COORDINATES SHOWN ON THESE PLANS WERE BASED ON THE ABOVE STATED ARCHITECTURAL FOOTPRINT, AND ARE THEREFORE A PRELIMINARY LOCATION OF THE BUILDING. THE CONTRACTOR IS SOLELY RESPONSIBLE TO VERIFY WHAT PART OF THE BUILDING THE ARCHITECT'S FOOTPRINT REPRESENTS (E.G. SLAB, OUTSIDE WALL, MASONRY LEDGE, ETC.....) AND TO CONFIRM ITS FINAL POSITION ON THE SITE BASED ON THE FINAL ARCHITECTURAL FOOTPRINT, CIVIL DIMENSION CONTROL PLAN, SURVEY BOUNDARY AND/OR PLAT. ANY

32.ALL CONSTRUCTION SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING SUBSEQUENT ADDENDA 33. CONTRACTOR IS RESPONSIBLE FOR ALL MATERIALS TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL MATERIALS TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR AND COMPLY WITH CITY STANDARD

DIFFERENCES FOUND SHALL BE REPORTED TO KH IMMEDIATELY.

SPECIFICATIONS AND GEOTECHNICAL REPORT. TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING MATERIALS. OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR MATERIALS TESTING. 34.ALL COPIES OF MATERIALS TEST RESULTS SHALL BE SENT TO THE OWNER, ENGINEER AND ARCHITECT DIRECTLY FROM THE TESTING

35.IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE MATERIALS, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS 36.DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING. THE CONTRACTOR SHALL ADHERE TO GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED

BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING, IF NONE IS CURRENTLY EXISTING. 37. ALL CONTRACTORS MUST CONFINE THEIR ACTIVITIES TO THE WORK AREA. NO ENCROACHMENTS OUTSIDE OF THE WORK AREA WILL BE ALLOWED. ANY DAMAGE RESULTING THEREFROM SHALL BE CONTRACTOR'S SOLE RESPONSIBILITY TO REPAIR. 38. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, UTILITIES, MANHOLES, POLES, GUY WIRES, VALVE COVERS, VAULT

NO COST TO THE OWNER. 39. THE CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE ANY PHYSICAL DAMAGE TO PRIVATE PROPERTY OR PUBLIC IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO: FENCES, WALLS, SIGNS, PAVEMENT, CURBS, UTILITIES, SIDEWALKS, GRASS, TREES, LANDSCAPING, AND IRRIGATION SYSTEMS, ETC.... TO ORIGINAL CONDITION OR BETTER AT NO COST TO THE OWNER. 40.ALL AREAS IN EXISTING RIGHT-OF-WAY DISTURBED BY SITE CONSTRUCTION SHALL BE REPAIRED TO ORIGINAL CONDITION OR BETTER,

LIDS, FIRE HYDRANTS, COMMUNICATION BOXES/PEDESTALS, AND OTHER FACILITIES TO REMAIN AND SHALL REPAIR ANY DAMAGES AT

INCLUDING AS NECESSARY GRADING, LANDSCAPING, CULVERTS, AND PAVEMENT. 41.THE CONTRACTOR SHALL SALVAGE ALL EXISTING POWER POLES, SIGNS, WATER VALVES, FIRE HYDRANTS, METERS, ETC... THAT ARE TO BE RELOCATED DURING CONSTRUCTION. 42.CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.

43.THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY. 44.THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER. 45.SITE SAFETY IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR

46.THESE PLANS DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE ENGINEER'S SEAL HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF ALL REQUIRED SAFETY PROCEDURES AND PROGRAMS

47.SIGNS RELATED TO SITE OPERATION OR SAFETY ARE NOT INCLUDED IN THESE PLANS. 48.CONTRACTOR OFFICE AND STAGING AREA SHALL BE AGREED ON BY THE OWNER AND CONTRACTOR PRIOR TO BEGINNING OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITTING REQUIREMENTS FOR THE CONSTRUCTION OFFICE, TRAILER, STORAGE, AND STAGING OPERATIONS AND LOCATIONS.

49.LIGHT POLES, SIGNS, AND OTHER OBSTRUCTIONS SHALL NOT BE PLACED IN ACCESSIBLE ROUTES. 50.ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM 51.TOP RIM ELEVATIONS OF ALL EXISTING AND PROPOSED MANHOLES SHALL BE COORDINATED WITH TOP OF PAVEMENT OR FINISHED GRADE AND SHALL BE ADJUSTED TO BE FLUSH WITH THE ACTUAL FINISHED GRADE AT THE TIME OF PAVING.

52.CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED VALVES, FIRE HYDRANTS, AND OTHER UTILITY APPURTENANCES TO MATCH ACTUAL FINISHED GRADES AT THE TIME OF PAVING. 53.THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION SEQUENCING AND PHASING, AND SHALL CONTACT THE APPROPRIATE CITY OFFICIALS, INCLUDING BUILDING OFFICIAL, ENGINEERING INSPECTOR, AND FIRE MARSHALL TO LEARN OF ANY REQUIREMENTS.

54. CONTRACTOR IS RESPONSIBLE FOR PREPARATION, SUBMITTAL, AND APPROVAL BY THE CITY OF A TRAFFIC CONTROL PLAN PRIOR TO THE START OF CONSTRUCTION. AND THEN THE IMPLEMENTATION OF THE PLAN. 55. CONTRACTOR SHALL KEEP A NEAT AND ACCURATE RECORD OF CONSTRUCTION, INCLUDING ANY DEVIATIONS OR VARIANCES FROM

56.THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT PLANS TO THE ENGINEER AND CITY IDENTIFYING ALL DEVIATIONS AND VARIATIONS FROM THESE PLANS MADE DURING CONSTRUCTION.

THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL EROSION CONTROL AND WATER QUALITY REQUIREMENTS, LAWS, AND ORDINANCES THAT APPLY TO THE CONSTRUCTION SITE LAND DISTURBANCE. 2. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE "TCEQ GENERAL PERMIT TO DISCHARGE UNDER THE TEXAS

POLITIANT DISCHARGE FLIMINATION SYSTEM TXR 150000" 3. EROSION CONTROL DEVICES SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START 4. ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS FOR THE

5. CONTRACTOR IS SOLELY RESPONSIBLE FOR INSTALLATION, IMPLEMENTATION, MAINTENANCE, AND EFFECTIVENESS OF ALL EROSION CONTROL DEVICES, BEST MANAGEMENT PRACTICES (BMPS), AND FOR UPDATING THE EROSION CONTROL PLAN DURING CONSTRUCTION AS FIELD CONDITIONS CHANGE.

6. CONTRACTOR SHALL DOCUMENT THE DATES OF INSTALLATION, MAINTENANCE OR MODIFICATION, AND REMOVAL FOR EACH BMP EMPLOYED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IF APPLICABLE. 7. AS STORM SEWER INLETS ARE INSTALLED ON-SITE, TEMPORARY EROSION CONTROL DEVICES SHALL BE INSTALLED AT EACH INLET PER APPROVED DETAILS.

3. THE EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL THE AREA IT PROTECTS HAS BEEN PERMANENTLY STABILIZED. 9. CONTRACTOR SHALL PROVIDE ADEQUATE EROSION CONTROL DEVICES NEEDED DUE TO PROJECT PHASING. 10. CONTRACTOR SHALL OBSERVE THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES AND MAKE FIELD ADJUSTMENTS AND MODIFICATIONS AS NEEDED TO PREVENT SEDIMENT FROM LEAVING THE SITE. IF THE EROSION CONTROL DEVICES DO NOT

EFFECTIVELY CONTROL EROSION AND PREVENT SEDIMENTATION FROM WASHING OFF THE SITE, THEN THE CONTRACTOR SHALL

11 OFF-SITE SOIL BORROW SPOIL AND STORAGE AREAS (IF APPLICABLE) ARE CONSIDERED AS PART OF THE PROJECT SITE AND MUST ALSO COMPLY WITH THE EROSION CONTROL REQUIREMENTS FOR THIS PROJECT. THIS INCLUDES THE INSTALLATION OF BMP'S TO CONTROL EROSION AND SEDIMENTATION AND THE ESTABLISHMENT OF PERMANENT GROUND COVER ON DISTURBED AREAS PRIOR TO FINAL APPROVAL OF THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR MODIFYING THE SWPPP AND FROSION CONTROL PLAN TO INCLUDE BMPS FOR ANY OFF-SITE THAT ARE NOT ANTICIPATED OR SHOWN ON THE EROSION CONTROL PLAN.

12. ALL STAGING, STOCKPILES, SPOIL, AND STORAGE SHALL BE LOCATED SUCH THAT THEY WILL NOT ADVERSELY AFFECT STORM WATER QUALITY. PROTECTIVE MEASURES SHALL BE PROVIDED IF NEEDED TO ACCOMPLISH THIS REQUIREMENT, SUCH AS COVERING OR ENCIRCLING THE AREA WITH AN APPROPRIATE BARRIER. 13. CONTRACTORS SHALL INSPECT ALL EROSION CONTROL DEVICES, BMPS, DISTURBED AREAS, AND VEHICLE ENTRY AND EXIT AREAS

WEEKLY AND WITHIN 24 HOURS OF ALL RAINFALL EVENTS OF 0.5 INCHES OR GREATER, AND KEEP A RECORD OF THIS INSPECTION IN THE SWPPP BOOKLET IF APPLICABLE TO VERIEY THAT THE DEVICES AND EROSION CONTROL PLAN ARE FUNCTIONING PROPERLY 14. CONTRACTOR SHALL CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE AT ALL PRIMARY POINTS OF ACCESS IN ACCORDANCE WITH CITY SPECIFICATIONS. CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION TRAFFIC USES THE STABILIZED ENTRANCE AT

ALL TIMES FOR ALL INGRESS/EGRESS 15. SITE ENTRY AND EXITS SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT THE TRACKING AND FLOWING OF SEDIMENT AND DIRT ONTO OFF-SITE ROADWAYS. ALL SEDIMENT AND DIRT FROM THE SITE THAT IS DEPOSITED ONTO AN OFF-SITE ROADWAY SHALL BE

REMOVED IMMEDIATELY 16. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL SILT AND DEBRIS FROM THE AFFECTED OFF-SITE ROADWAYS THAT ARE A RESULT OF THE CONSTRUCTION, AS REQUESTED BY OWNER AND CITY. AT A MINIMUM, THIS SHOULD OCCUR ONCE PER DAY FOR THE OFF-SITE ROADWAYS.

17. WHEN WASHING OF VEHICLES IS REQUIRED TO REMOVE SEDIMENT PRIOR TO EXITING THE SITE, IT SHALL BE DONE IN AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP BMP 18. CONTRACTOR SHALL INSTALL A TEMPORARY SEDIMENT BASIN FOR ANY ON-SITE DRAINAGE AREAS THAT ARE GREATER THAN 10

PLANS, THEN THE CONTRACTOR SHALL ARRANGE FOR AN APPROPRIATE DESIGN TO BE PROVIDED. 19 ALL FINES IMPOSED FOR SEDIMENT OR DIRT DISCHARGED FROM THE SITE SHALL BE PAID BY THE RESPONSIBLE CONTRACTOR 20. WHEN SEDIMENT OR DIRT HAS CLOGGED THE CONSTRUCTION ENTRANCE VOID SPACES BETWEEN STONES OR DIRT IS BEING TRACKED ONTO A ROADWAY, THE AGGREGATE PAD MUST BE WASHED DOWN OR REPLACED. RUNOFF FROM THE WASH-DOWN OPERATION SHALL NOT BE ALLOWED TO DRAIN DIRECTLY OFF SITE WITHOUT FIRST FLOWING THROUGH ANOTHER BMP TO CONTROL SEDIMENTATION. PERIODIC RE-GRADING OR NEW STONE MAY BE REQUIRED TO MAINTAIN THE EFFECTIVENESS OF THE CONSTRUCTION ENTRANCE.

ACRES, PER TCEQ AND CITY STANDARDS. IF NO ENGINEERING DESIGN HAS BEEN PROVIDED FOR A SEDIMENTATION BASIN ON THESE

21. TEMPORARY SEEDING OR OTHER APPROVED STABILIZATION SHALL BE INITIATED WITHIN 14 DAYS OF THE LAST DISTURBANCE OF ANY AREA, UNLESS ADDITIONAL CONSTRUCTION IN THE AREA IS EXPECTED WITHIN 21 DAYS OF THE LAST DISTURBANCE. 22.CONTRACTOR SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING CONSTRUCTION, ALWAYS CLEANING UP DIRT, LOOSE MATERIAL. AND TRASH AS CONSTRUCTION PROGRESSES 23.UPON COMPLETION OF FINE GRADING, ALL SURFACES OF DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED. STABILIZATION IS ACHIEVED WHEN THE AREA IS EITHER COVERED BY PERMANENT IMPERVIOUS STRUCTURES, SUCH AS BUILDINGS, SIDEWALK,

PAVEMENT OR A LINIFORM PERENNIAL VEGETATIVE COVER 24.AT THE CONCLUSION OF THE PROJECT, ALL INLETS, DRAIN PIPE, CHANNELS, DRAINAGEWAYS AND BORROW DITCHES AFFECTED BY THE CONSTRUCTION SHALL BE DREDGED, AND THE SEDIMENT GENERATED BY THE PROJECT SHALL BE REMOVED AND DISPOSED IN ACCORDANCE WITH APPLICABLE REGULATIONS.

STORM WATER DISCHARGE AUTHORIZATION

CONTRACTOR SHALL COMPLY WITH ALL TCEQ AND EPA STORM WATER POLLUTION PREVENTION REQUIREMENTS 2 CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE TCEO GENERAL PERMIT TO DISCHARGE UNDER THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM TXR 150000.

3 THE CONTRACTOR SHALL ENSURE THAT ALL PRIMARY OPERATORS SUBMIT A NOLTO TCEQ AT LEAST SEVEN DAYS PRIOR TO COMMENCING CONSTRUCTION (IF APPLICABLE), OR IF UTILIZING ELECTRONIC SUBMITTAL, PRIOR TO COMMENCING CONSTRUCTION. ALL PRIMARY OPERATORS SHALL PROVIDE A COPY OF THE SIGNED NOI TO THE OPERATOR OF ANY MS4 (TYPICALLY THE CITY) 4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IF

APPLICABLE, INCLUDING POSTING SITE NOTICE, INSPECTIONS, DOCUMENTATION, AND SUBMISSION OF ANY INFORMATION REQUIRED BY THE TCEQ AND EPA (E.G. NOI). ALL CONTRACTORS AND SUBCONTRACTORS PROVIDING SERVICES RELATED TO THE SWPPP SHALL SIGN THE REQUIRED CONTRACTOR CERTIFICATION STATEMENT ACKNOWLEDGING THEIR RESPONSIBILITIES AS SPECIFIED IN THE SWPPP. 6. A COPY OF THE SWPPP, INCLUDING NOI, SITE NOTICE, CONTRACTOR CERTIFICATIONS, AND ANY REVISIONS, SHALL BE SUBMITTED TO

THE CITY BY THE CONTRACTOR AND SHALL BE RETAINED ON-SITE DURING CONSTRUCTION. 7. A NOTICE OF TERMINATION (NOT) SHALL BE SUBMITTED TO TCEQ BY ANY PRIMARY OPERATOR WITHIN 30 DAYS AFTER ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND A UNIFORM VEGETATIVE COVER HAS BEEN ESTABLISHED ON ALL UNPAVED AREAS AND AREAS NOT COVERED BY STRUCTURES, A TRANSFER OF OPERATIONAL CONTROL HAS OCCURRED, OR THE OPERATOR HAS OBTAINED ALTERNATIVE AUTHORIZATION UNDER A DIFFERENT PERMIT. A COPY OF THE NOT SHALL BE PROVIDED TO

. KH IS NOT RESPONSIBLE FOR THE MEANS AND METHODS EMPLOYED BY THE CONTRACTOR TO IMPLEMENT THIS DEMOLITION PLAN. THIS PRELIMINARY DEMOLITION PLAN SIMPLY INDICATES THE KNOWN OBJECTS ON THE SUBJECT TRACT THAT ARE TO BE DEMOLISHED AND REMOVED FROM THE SITE 2. KH DOES NOT WARRANT OR REPRESENT THAT THE PLAN. WHICH WAS PREPARED BASED ON SURVEY AND UTILITY INFORMATION. PROVIDED BY OTHERS, SHOWS ALL IMPROVEMENTS AND UTILITIES, THAT THE IMPROVEMENTS AND UTILITIES ARE SHOWN ACCURATELY, OR THAT THE UTILITIES SHOWN CAN BE REMOVED. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ITS OWN SITE

RECONNAISSANCE TO SCOPE ITS WORK AND TO CONFIRM WITH THE OWNERS OF IMPROVEMENTS AND UTILITIES THE ABILITY AND PROCESS FOR THE REMOVAL OF THEIR FACILITIES. 3. THIS PLAN IS INTENDED TO GIVE A GENERAL GUIDE TO THE CONTRACTOR, NOTHING MORE. THE GOAL OF THE DEMOLITION IS TO LEAVE THE SITE IN A STATE SUITABLE FOR THE CONSTRUCTION OF THE PROPOSED DEVELOPMENT. REMOVAL OR PRESERVATION OF

IMPROVEMENTS, UTILITIES, ETC. TO ACCOMPLISH THIS GOAL ARE THE RESPONSIBILITY OF THE CONTRACTOR. 4. CONTRACTOR IS STRONGLY CAUTIONED TO REVIEW THE FOLLOWING REPORTS DESCRIBING SITE CONDITIONS PRIOR TO BIDDING AND IMPLEMENTING THE DEMOLITION PLAN-a. ENVIRONMENTAL SITE ASSESSMENT PROVIDED BY THE OWNER.

. ASBESTOS BUILDING INSPECTION REPORT(S) PROVIDED BY THE OWNER, c. GEOTECHNICAL REPORT PROVIDED BY THE OWNER.

THE OPERATOR OF ANY MS4 RECEIVING DISCHARGE FROM THE SITE.

d. OTHER REPORTS THAT ARE APPLICABLE AND AVAILABLE.

5 CONTRACTOR SHALL CONTACT THE OWNER TO VERIEV WHETHER ADDITIONAL REPORTS OR AMENDMENTS TO THE ABOVE CITED. REPORTS HAVE BEEN PREPARED AND TO OBTAIN/REVIEW/AND COMPLY WITH THE RECOMMENDATION OF SUCH STUDIES PRIOR TO STARTING ANY WORK ON THE SITE.

6. CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS REGARDING THE DEMOLITION OF OBJECTS ON THE SITE AND THE DISPOSAL OF THE DEMOLISHED MATERIALS OFF-SITE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO REVIEW THE SITE DETERMINE THE APPLICABLE REGULATIONS. RECEIVE THE REQUIRED PERMITS AND AUTHORIZATIONS. AND COMPLY . KH DOES NOT REPRESENT THAT THE REPORTS AND SURVEYS REFERENCED ABOVE ARE ACCURATE, COMPLETE, OR COMPREHENSIVE

SHOWING ALL ITEMS THAT WILL NEED TO BE DEMOLISHED AND REMOVED. 8. SURFACE PAVEMENT INDICATED MAY OVERLAY OTHER HIDDEN STRUCTURES, SUCH AS ADDITIONAL LAYERS OF PAVEMENT FOUNDATIONS OR WALLS. THAT ARE ALSO TO BE REMOVED.

1. THE CONTRACTOR AND GRADING SUBCONTRACTOR SHALL VERIFY THE SUITABILITY OF EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE START OF CONSTRUCTION. THE CIVIL ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES

CONTRACTOR SHALL OBTAIN ANY REQUIRED GRADING PERMITS FROM THE CITY. 3. UNLESS OTHERWISE NOTED, PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN IN PAVED AREA REFLECT TOP OF PAVEMENT SURFACE. IN LOCATIONS ALONG A CURB LINE, ADD 6-INCHES (OR THE HEIGHT OF THE CURB) TO THE PAVING GRADE FOR TOP OF CURB 4. PROPOSED SPOT ELEVATIONS AND CONTOURS OUTSIDE THE PAVEMENT ARE TO TOP OF FINISHED GRADE.

5. PROPOSED CONTOURS ARE APPROXIMATE. PROPOSED SPOT ELEVATIONS AND DESIGNATED GRADIENT ARE TO BE USED IN CASE OF DISCREPANCY. . ALL FINISHED GRADES SHALL TRANSITION UNIFORMLY BETWEEN THE FINISHED ELEVATIONS SHOWN . CONTOURS AND SPOT GRADES SHOWN ARE ELEVATIONS OF TOP OF THE FINISHED SURFACE. WHEN PERFORMING THE GRADING

OPERATIONS. THE CONTRACTOR SHALL PROVIDE AN APPROPRIATE ELEVATION HOLD-DOWN ALLOWANCE FOR THE THICKNESS OF PAVEMENT, SIDEWALK, TOPSOIL, MULCH, STONE, LANDSCAPING, RIP-RAP AND ALL OTHER SURFACE MATERIALS THAT WILL CONTRIBUTE TO THE TOP OF FINISHED GRADE. FOR EXAMPLE, THE LIMITS OF EARTHWORK IN PAVED AREAS IS THE BOTTOM OF THE PAVEMENT SECTION 3. NO REPRESENTATIONS OF EARTHWORK QUANTITIES OR SITE BALANCE ARE MADE BY THESE PLANS. THE CONTRACTOR SHALL PROVIDE THEIR OWN EARTHWORK CALCULATION TO DETERMINE THEIR CONTRACT QUANTITIES AND COST. ANY SIGNIFICANT

VARIANCE FROM A BALANCED SITE SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CIVIL ENGINEER. 9. ALL GRADING AND EARTHWORK SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING 10. ALL EXCAVATION IS UNCLASSIFIED AND SHALL INCLUDE ALL MATERIALS ENCOUNTERED. UNUSABLE EXCAVATED MATERIAL AND ALL WASTE RESULTING FROM SITE CLEARING AND GRUBBING SHALL BE REMOVED FROM THE SITE AND APPROPRIATELY DISPOSED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE 11. EROSION CONTROL DEVICES SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START

OF GRADING. REFERENCE EROSION CONTROL PLAN, DETAILS, GENERAL NOTES, AND SWPPP FOR ADDITIONAL INFORMATION AND 12.BEFORE ANY EARTHWORK IS PERFORMED, THE CONTRACTOR SHALL STAKE OUT AND MARK THE LIMITS OF THE PROJECT'S PROPERTY LINE AND SITE IMPROVEMENTS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY ENGINEERING AND SURVEYING FOR LINE AND GRADE CONTROL POINTS RELATED TO EARTHWORK. 13. CONTRACTOR TO DISPOSE OF ALL EXCESS EXCAVATION MATERIALS IN A MANNER THAT ADHERES TO LOCAL, STATE AND FEDERAL

LAWS AND REGULATIONS. THE CONTRACTOR SHALL KEEP A RECORD OF WHERE EXCESS EXCAVATION WAS DISPOSED, ALONG WITH THE RECEIVING LANDOWNER'S APPROVAL TO DO SO. 14. CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF TOPSOIL AT THE COMPLETION OF FINE GRADING. CONTRACTOR SHALL REFER TO LANDSCAPE ARCHITECTURE PLANS FOR SPECIFICATIONS AND REQUIREMENTS FOR TOPSOIL. 15. CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING

DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES. 16.NO EARTHWORK FILL SHALL BE PLACED IN ANY EXISTING DRAINAGE WAY, SWALE, CHANNEL, DITCH, CREEK, OR FLOODPLAIN FOR ANY REASON OR ANY LENGTH OF TIME, UNLESS THESE PLANS SPECIFICALLY INDICATE THIS IS REQUIRED. 17. TEMPORARY CULVERTS MAY BE REQUIRED IN SOME LOCATIONS TO CONVEY RUN-OFF.

18. REFER TO DIMENSION CONTROL PLAN, AND PLAT FOR HORIZONTAL DIMENSIONS. 19. THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND CONDITION FILL PER THE PROJECT GEOTECHNICAL ENGINEER'S SPECIFICATIONS. THE FILL MATERIAL TO BE USED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO 20.CONTRACTOR IS RESPONSIBLE FOR ALL SOILS TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL SOILS

TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR AND SHALL COMPLY WITH CITY STANDARD SPECIFICATIONS AND THE GEOTECHNICAL REPORT. SOILS TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING SOILS. THE OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR SOILS TESTING. 21.ALL COPIES OF SOILS TEST RESULTS SHALL BE SENT TO THE OWNER, ENGINEER AND ARCHITECT DIRECTLY FROM THE TESTING AGENCY 22.IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE SOILS, THAT THE WORK

CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS.

23.THE SCOPE OF WORK FOR CIVIL IMPROVEMENT SHOWN ON THESE PLANS TERMINATES 5-FEET FROM THE BUILDING. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT AND STRUCTURAL PLANS AND SPECIFICATIONS FILL, CONDITIONING, AND PREPARATION IN THE BUILDING PAD. 24.DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING, THE CONTRACTOR SHALL ADHERE TO GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING JE NONE IS CURRENTLY EXISTING

25.CONTRACTOR SHALL ENSURE THAT SUFFICIENT POSITIVE SLOPE AWAY FROM THE BUILDING PAD IS ACHIEVED FOR ENTIRE PERIMETER OF THE PROPOSED BUILDING(S) DURING GRADING OPERATIONS AND IN THE FINAL CONDITION. IF THE CONTRACTOR OBSERVES THAT THIS WILL NOT BE ACHIEVED, THE CONTRACTOR SHALL CONTACT THE ENGINEER TO REVIEW THE LOCATION 26.THE CONTRACTOR SHALL TAKE ALL AVAILABLE PRECAUTIONS TO CONTROL DUST. CONTRACTOR SHALL CONTROL DUST BY SPRINKLING WATER. OR BY OTHER MEANS APPROVED BY THE CITY. AT NO ADDITIONAL COST TO THE OWNER.

27.CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES FOR ANY REQUIRED UTILITY ADJUSTMENTS AND/OR RELOCATIONS NEEDED FOR GRADING OPERATIONS AND TO ACCOMMODATE PROPOSED GRADE, INCLUDING THE UNKNOWN UTILITIES NOT SHOWN ON THESE PLANS. CONTRACTOR SHALL REFER TO THE GENERAL NOTES "OVERALL" SECTION THESE PLANS FOR ADDITIONAL INFORMATION 28.EXISTING TREE LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE. CONTRACTOR SHALL REPORT ANY DISCREPANCIES FOUND IN THE FIELD THAT AFFECT THE GRADING PLAN TO THE CIVIL ENGINEER.

PROPOSED SITE GRADING, AND NOTIFY THE CIVIL ENGINEER AND LANDSCAPE ARCHITECT OF ANY CONFLICTS WITH THE TREE PRESERVATION PLAN BY THE LANDSCAPE ARCHITECT PRIOR TO COMMENCING THE WORK. 30 TREE PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY STANDARD TREE PROTECTION DETAILS AND THE

APPROVED TREE PRESERVATION PLANS BY THE LANDSCAPE ARCHITECT 31.CONTRACTOR SHALL REFER TO THE LANDSCAPING AND TREE PRESERVATIONS PLANS FOR ALL INFORMATION AND DETAILS REGARDING EXISTING TREES TO BE REMOVED AND PRESERVED.

32.NO TREE SHALL BE REMOVED UNLESS A TREE REMOVAL PERMIT HAS BEEN ISSUED BY THE CITY, OR CITY HAS OTHERWISE CONFIRMED IN WRITING THAT ONE IS NOT NEEDED FOR THE TREE(S) 33 NO TREE SHALL BE REMOVED OR DAMAGED WITHOUT PRIOR AUTHORIZATION OF THE OWNER OR OWNER'S REPRESENTATIVE EXISTING TREES SHALL BE PRESERVED WHENEVER POSSIBLE AND GRADING IMPACT TO THEM HELD TO A MINIMUM.

34 AFTER PLACEMENT OF SURGRADE AND PRIOR TO PLACEMENT OF PAVEMENT CONTRACTOR SHALL TEST AND OBSERVE PAVEMENT AREAS FOR EVIDENCE OF PONDING AND INADEQUATE SLOPE FOR DRAINAGE. ALL AREAS SHALL ADEQUATELY DRAIN TOWARDS THE INTENDED STRUCTURE TO CONVEY STORMWATER RUNOFF. CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER AND ENGINEER IF ANY AREAS OF POOR DRAINAGE ARE DISCOVERED 35. CONTRACTOR FIELD ADJUSTMENT OF PROPOSED SPOT GRADES IS ALLOWED, IF THE APPROVAL OF THE CIVIL ENGINEER IS OBTAINED.

. RETAINING WALLS SHOWN ARE FOR SITE GRADING PURPOSES ONLY, AND INCLUDE ONLY LOCATION AND SURFACE SPOT ELEVATIONS AT THE TOP AND BOTTOM OF THE WALL 2. RETAINING WALL TYPE OR SYSTEM SHALL BE SELECTED BY THE OWNER.

3. RETAINING WALL DESIGN SHALL BE PROVIDED BY OTHERS AND SHALL FIT IN THE WALL ZONE OR LOCATION SHOWN ON THESE PLANS. STRUCTURAL DESIGN AND PERMITTING OF RETAINING WALLS. RAILINGS, AND OTHER WALL SAFETY DEVICES SHALL BE PERFORMED BY A LICENSED ENGINEER AND ARE NOT PART OF THIS PLAN SET. 4. RETAINING WALL DESIGN SHALL MEET THE INTENT OF THE GRADING PLAN AND SHALL ACCOUNT FOR ANY INFLUENCE ON ADJACENT BUILDING FOUNDATIONS, UTILITIES, PROPERTY LINES AND OTHER CONSTRUCTABILITY NOTES. RETAINING WALL ENGINEER SHALL CONSULT THESE PLANS AND THE GEOTECHNICAL REPORT FOR POTENTIAL CONFLICTS.

1. ALL PAVING MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THESE PLANS, THE CITY STANDARD DETAILS AND SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT AND ALL ISSUED ADDENDA, AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS. THE CITY SPECIFICATIONS SHALL GOVERN WHERE OTHER SPECIFICATIONS DO NOT EXIST. IN CASE OF CONFLICTING SPECIFICATIONS OR DETAILS, THE MORE RESTRICTIVE SPECIFICATION/DETAIL SHALL BE FOLLOWED . ALL PRIVATE ON-SITE PAVING AND PAVING SUBGRADE SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST

EDITION). INCLUDING ALL ADDENDA. 3. ALL FIRELANE PAVING AND PAVING SUBGRADE SHALL COMPLY WITH CITY STANDARDS AND DETAILS. IF THESE ARE DIFFERENT THAN THOSE IN THE GEOTECHNICAL REPORT. THEN THE MORE RESTRICTIVE SHALL BE FOLLOWED 4. ALL PUBLIC PAVING AND PAVING SUBGRADE SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS 5. CONTRACTOR IS RESPONSIBLE FOR ALL PAVING AND PAVING SUBGRADE TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL PAVING AND PAVING SUBGRADE TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR. TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING PAVING AND SUBGRADE. OWNER SHALL

APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR PAVING AND PAVING SUBGRADE TESTING 6. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE PAVING AND PAVING SUBGRADE, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS. 7. DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING, THE CONTRACTOR SHALL ADHERE TO GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO

FLATWORK ADJACENT TO THE BUILDING. IF NONE IS CURRENTLY EXISTING. 8. CURB RAMPS ALONG PUBLIC STREETS AND IN THE PUBLIC RIGHT-OF-WAY SHALL BE CONSTRUCTED BASED ON THE CITY STANDARD CONSTRUCTION DETAIL AND SPECIFICATIONS 9. PRIVATE CURB RAMPS ON THE SITE (I.E. OUTSIDE PUBLIC STREET RIGHT-OF-WAY) SHALL CONFORM TO ADA AND TAS STANDARDS AND SHALL HAVE A DETECTABLE WARNING SURFACE THAT IS FULL WIDTH AND FULL DEPTH OF THE CURB RAMP, NOT INCLUDING FLARES. 10. ALL ACCESSIBLE RAMPS, CURB RAMPS, STRIPING, AND PAVEMENT MARKINGS SHALL CONFORM TO ADA AND TAS STANDARDS, LATEST

11. ANY COMPONENTS OF THE PROJECT SUBJECT TO RESIDENTIAL USE SHALL ALSO CONFORM TO THE FAIR HOUSING ACT. AND COMPLY WITH THE FAIR HOUSING ACT DESIGN MANUAL BY THE US DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT 12 CONTRACTOR SHALL CONSTRUCT PROPOSED PAVEMENT TO MATCH EXISTING PAVEMENT WITH A SMOOTH, FLUSH, CONNECTION 13. CONTRACTOR SHALL FURNISH AND INSTALL ALL PAVEMENT MARKINGS FOR FIRE LANES, PARKING STALLS, HANDICAPPED PARKING SYMBOLS, AND MISCELLANEOUS STRIPING WITHIN PARKING LOT AND AROUND BUILDING AS SHOWN ON THE PLANS. ALL PAINT AND

PAVEMENT MARKINGS SHALL ADHERE TO CITY AND OWNER STANDARDS. 14. REFER TO GEOTECHNICAL REPORT FOR PAVING JOINT LAYOUT PLAN REQUIREMENTS FOR PRIVATE PAVEMENT. 15. REFER TO CITY STANDARD DETAILS AND SPECIFICATIONS FOR JOINT LAYOUT PLAN REQUIREMENTS FOR PUBLIC PAVEMENT 16. ALL REINFORCING STEEL SHALL CONFORM TO THE GEOTECHNICAL REPORT, CITY STANDARDS, AND ASTM A-615, GRADE 60, AND SHALL BE SUPPORTED BY BAR CHAIRS. CONTRACTOR SHALL USE THE MORE STRINGENT OF THE CITY AND GEOTECHNICAL STANDARDS.

17. ALL JOINTS SHALL EXTEND THROUGH THE CURB 18. THE MINIMUM LENGTH OF OFFSET JOINTS AT RADIUS POINTS SHALL BE 2 FEET. 19. CONTRACTOR SHALL SUBMIT A JOINTING PLAN TO THE ENGINEER AND OWNER PRIOR TO BEGINNING ANY OF THE PAVING WORK. 20.ALL SAWCUTS SHALL BE FULL DEPTH FOR PAVEMENT REMOVAL AND CONNECTION TO EXISTING PAVEMENT

21.FIRE LANES SHALL BE MARKED AND LABELED AS A FIRELANE PER CITY STANDARDS 22.UNLESS THE PLANS SPECIFICALLY DICTATE TO THE CONTRARY. ON-SITE AND OTHER DIRECTIONAL SIGNS SHALL BE ORIENTED SO THEY ARE READILY VISIBLE TO THE ONCOMING TRAFFIC FOR WHICH THEY ARE INTENDED. 23.CONTRACTOR IS RESPONSIBLE FOR INSTALLING NECESSARY CONDUIT FOR LIGHTING, IRRIGATION, ETC. PRIOR TO PLACEMENT OF PAVEMENT. ALL CONSTRUCTION DOCUMENTS (CIVIL, MEP, LANDSCAPE, IRRIGATION, AND ARCHITECT) SHALL BE CONSULTED. 24.BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE ACCESSIBLE PEDESTRIAN ROUTES (PER ADA, TAS, AND FHA) EXIST TO AND FROM EVERY DOOR AND ALONG SIDEWALKS. ACCESSIBLE PARKING SPACES. ACCESS AISLES. AND ACCESSIBLE

ROUTES. IN NO CASE SHALL AN ACCESSIBLE RAMP SLOPE EXCEED 1 VERTICAL TO 12 HORIZONTAL. IN NO CASE SHALL SIDEWALK CROSS SLOPE EXCEED 2.0 PERCENT. IN NO CASE SHALL LONGITUDINAL SIDEWALK SLOPE EXCEED 5.0 PERCENT. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL NOT EXCEED 2.0 PERCENT SLOPE IN ANY DIRECTION 25.CONTRACTOR SHALL TAKE FIELD SLOPE MEASUREMENTS ON FINISHED SUBGRADE AND FORM BOARDS PRIOR TO PLACING PAVEMENT TO VERIFY THAT ADA/TAS SLOPE REQUIREMENTS ARE PROVIDED. CONTRACTOR SHALL CONTACT ENGINEER PRIOR TO PAVING IF ANY EXCESSIVE SLOPES ARE ENCOUNTERED. NO CONTRACTOR CHANGE ORDERS WILL BE ACCEPTED FOR ADA AND TAS SLOPE COMPLIANCE ISSUES.

. ALL STORM SEWER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND

SPECIFICATIONS. 2. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE STORM SEWER

3. THE CONTRACTOR SHALL FIELD VERIFY THE SIZE, CONDITION, HORIZONTAL, AND VERTICAL LOCATIONS OF ALL EXISTING STORM SEWER FACILITIES THAT ARE TO BE CONNECTED TO, PRIOR TO START OF CONSTRUCTION OF ANY STORM SEWER, AND SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED. 4. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF CURB INLETS AND GRATE INLETS AND ALL UTILITIES CROSSING THE STORM SEWER. 5. FLOW LINE, TOP-OF-CURB, RIM, THROAT, AND GRATE ELEVATIONS OF PROPOSED INLETS SHALL BE VERIFIED WITH THE GRADING PLAN NO

AND FIFI D CONDITIONS PRIOR TO THEIR INSTALLATION 6. ALL PUBLIC STORM SEWER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO CITY PUBLIC WORKS STANDARD DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS. 7. ALL PRIVATE STORM SEWER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO THE APPLICABLE PLUMBING CODE. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.

8. ALL PVC TO RCP CONNECTIONS AND ALL STORM PIPE CONNECTIONS ENTERING STRUCTURES OR OTHER STORM PIPES SHALL HAVE A CONCRETE COLLAR AND BE GROUTED TO ASSURE THE CONNECTION IS WATERTIGHT. 9. ALL PUBLIC STORM SEWER LINES SHALL BE MINIMUM CLASS III RCP. PRIVATE STORM SEWER LINES 18-INCHES AND GREATER SHALL BE CLASS III RCP OR OTHER APPROVED MATERIAL 10. WHERE COVER EXCEEDS 20-FEET OR IS LESS THAN 2-FEET, CLASS IV RCP SHALL BE USED.

11.IF CONTRACTOR PROPOSES TO USE HDPE OR PVC IN LIEU OF RCP FOR PRIVATE STORM SEWER, CONTRACTOR SHALL SUBMIT TECHNICAL DATA TO THE OWNER, ENGINEER AND CITY ENGINEER/INSPECTOR FOR APPROVAL PRIOR TO ORDERING THE MATERIAL. ANY PROPOSED HDPE AND PVC SHALL BE WATERTIGHT. 12. THE CONTRACTOR SHALL PROVIDE CONSTRUCTION SURVEYING FOR ALL STORM SEWER LINES.

13. EMBEDMENT FOR ALL STORM SEWER LINES, PUBLIC OR PRIVATE, SHALL BE PER CITY STANDARD DETAILS. 14. ALL WYE CONNECTIONS AND PIPE BENDS ARE TO BE PREFABRICATED AND INSTALLED PER MANUFACTURERS SPECIFICATIONS. 15. USE 4 FOOT JOINTS WITH BEVELED ENDS IF RADIUS OF STORM SEWER IS LESS THAN 100 FEET 16. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN. PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.

17. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.

ALL UTILITY SERVICES ENTERING THE BUILDING

ANY PONDS THAT ARE INTENDED TO HOLD WATER INDEFINITELY SHALL BE CONSTRUCTED WATERTIGHT. 2. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR POND LINER SPECIFICATIONS

3. A GEOTECHNICAL ENGINEER SHALL REVIEW AND APPROVE ALL POND LINER MATERIAL, PLACEMENT PROCEDURES, AND PROVIDE TESTING TO ENSURE THE POND LINER MATERIAL PLACED IS WATERTIGHT. 4. STORM SEWER PIPES AND HEADWALLS THAT CONNECT TO A POND INTENDED TO HOLD WATER INDEFINITELY SHALL BE INSTALLED WITH WATERTIGHT JOINTS TO AT LEAST 1-FOOT ABOVE THE NORMAL POOL WATER SURFACE ELEVATION. 5. ANY GRAVEL OR OTHER PERVIOUS EMBEDMENT AROUND PIPES OR OUTFALL STRUCTURES NEAR THE POND SHALL BE ELIMINATED FOR TCEQ

AT LEAST 20-FEET FROM THE POND SO NO ROUTE FOR WATER TO LEAK THROUGH THE EMBEDMENT MATERIAL IS PROVIDED. BACKFILL IN THESE AREAS SHALL BE OF IMPERVIOUS MATERIAL. 6. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE WATER LEVEL FOLLOWING COMPLETION AND FILLING OF THE POND SHALL BE MONITORED BY THE CONTRACTOR FOR AT LEAST 60 DAYS TO OBSERVE WATER INFLOW, OUTFLOW, AND CALCULATE

EVAPORATION TO VERIFY THAT THE POND IS WATERTIGHT. 7. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE POND WATER LEVEL SHALL ALSO BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION SO THAT IT REMAINS FULL TO ITS DESIGN WATER LEVEL, AND IS NOT LOWERED, AS THIS MAY DRY-OUT THE POND LINER AND RISK ITS WATERTIGHT PROPERTIES.

WATER AND WASTEWATER . ALL WATER AND WASTEWATER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS

2. CONTRACTOR SHALL FIELD VERIFY THE SIZE, CONDITION, HORIZONTAL, AND VERTICAL LOCATIONS OF ALL EXISTING WATER AND WASTEWATER FACILITIES THAT ARE TO BE CONNECTED TO, PRIOR TO START OF CONSTRUCTION OF ANY WATER OR WASTEWATER CONSTRUCTION, AND SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED. 3. CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF

4. THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATION OF ALL UTILITY CROSSINGS PRIOR TO THE INSTALLATION OF ANY PIPE 5. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE WATER AND WASTEWATER IMPROVEMENTS 6. ALL PUBLIC WATER AND WASTEWATER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO CITY PUBLIC WORKS STANDARD DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.

7. ALL PRIVATE WATER AND WASTEWATER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO THE APPLICABLE PLUMBING CODE. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS 8. FIRE SPRINKLER LINES SHALL BE DESIGNED AND INSTALLED BY A LICENSED FIRE SPRINKLER CONTRACTOR, AND COMPLY TO THE APPLICABLE CODES AND INSPECTIONS REQUIRED. THESE PLANS WERE PREPARED WITHOUT THE BENEFIT OF THE FIRE SPRINKLER DESIGN. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES. 9. EMBEDMENT FOR ALL WATER AND WASTEWATER LINES, PUBLIC OR PRIVATE, SHALL BE PER CITY STANDARD DETAILS.

10. CONTRACTOR SHALL TAKE REQUIRED SANITARY PRECAUTIONS, FOLLOWING ANY CITY, TCEQ, AND AWWA STANDARDS, TO KEEP WATER PIPE AND FITTINGS CLEAN AND CAPPED AT TIMES WHEN INSTALLATION IS NOT IN PROGRESS. 11 CONTRACTOR SHALL PROVIDE CONSTRUCTION SURVEYING FOR ALL WATER AND WASTEWATER LINES 12. ALL WATER AND WASTEWATER SERVICES SHALL TERMINATE 5-FEET OUTSIDE THE BUILDING, UNLESS NOTED OTHERWISE 13. CONTRACTOR SHALL COMPLY WITH CITY REQUIREMENTS FOR WATER AND WASTEWATER SERVICE DISRUPTIONS AND THE AMOUNT OF PRIOR NOTICE THAT IS REQUIRED, AND SHALL COORDINATE DIRECTLY WITH THE APPROPRIATE CITY DEPARTMENT.

14. CONTRACTOR SHALL SEQUENCE WATER AND WASTEWATER CONSTRUCTION TO AVOID INTERRUPTION OF SERVICE TO SURROUNDING PROPERTIES 15. CONTRACTOR SHALL MAINTAIN WATER SERVICE AND WASTEWATER SERVICE TO ALL CUSTOMERS THROUGHOUT CONSTRUCTION (IF NECESSARY, BY USE OF TEMPORARY METHODS APPROVED BY THE CITY AND OWNER). THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED 16. THE CONTRACTOR IS RESPONSIBLE TO PROTECT ALL WATER AND WASTEWATER LINES CROSSING THE PROJECT. THE CONTRACTOR

SANITARY SEWER SERVICES ARE SUBSIDIARY TO THE WORK, AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

SHALL REPAIR ALL DAMAGED LINES IMMEDIATELY. ALL REPAIRS OF EXISTING WATER MAINS, WATER SERVICES, SEWER MAINS, AND

29. CONTRACTOR SHALL FIELD VERIFY ALL PROTECTED TREE LOCATIONS, INDIVIDUAL PROTECTED TREE CRITICAL ROOT ZONES, AND 17. VALVE ADJUSTMENTS SHALL BE CONSTRUCTED SUCH THAT THE COVERS ARE AT FINISHED SURFACE GRADE OF THE PROPOSED 18. THE ENDS OF ALL EXISTING WATER MAINS THAT ARE CUT, BUT NOT REMOVED, SHALL BE PLUGGED AND ABANDONED IN PLACE. THIS WORK SHALL BE CONSIDERED AS A SUBSIDIARY COST TO THE PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED

19. ALL FIRE HYDRANTS, VALVES, TEES, BENDS, WYES, REDUCERS, FITTINGS, AND ENDS SHALL BE MECHANICALLY RESTRAINED AND/OR THRUST BLOCKED TO CITY STANDARDS. 20.CONTRACTOR SHALL INSTALL A FULL SEGMENT OF WATER OR WASTEWATER PIPE CENTERED AT ALL UTILITY CROSSINGS SO THAT THE JOINTS ARE GREATER THAN 9-FEET FROM THE CROSSING

21.ALL CROSSINGS AND LOCATIONS WHERE WASTEWATER IS LESS THAN 9-FEET FROM WATER, WASTEWATER CONSTRUCTION AND MATERIALS SHALL COMPLY WITH TCEQ CHAPTER 217.53. 22.ALL CROSSING AND LOCATIONS WHERE WATER IS LESS THAN 9-FEET FROM WASTEWATER, WATER CONSTRUCTION AND MATERIALS

SHALL COMPLY WITH TCFQ CHAPTER 290 44 23.ALL WATER AND WASTEWATER SHALL BE TESTED IN ACCORDANCE WITH THE CITY, AWWA, AND TCEQ STANDARDS AND SPECIFICATIONS. AT A MINIMUM, THIS SHALL CONSIST OF THE FOLLOWING: a. ALL WATERLINES SHALL BE HYDROSTATICALLY TESTED AND CHLORINATED BEFORE BEING PLACED INTO SERVICE. CONTRACTOR

SHALL COORDINATE WITH THE CITY FOR THEIR REQUIRED PROCEDURES AND SHALL ALSO COMPLY WITH TCEQ REGULATIONS. b. WASTEWATER LINES AND MANHOLES SHALL BE PRESSURE TESTED. CONTRACTOR SHALL COORDINATE WITH THE CITY FOR THEIR REQUIRED PROCEDURES AND SHALL ALSO COMPLY WITH TCEQ REGULATIONS. AFTER COMPLETION OF THESE TESTS, A TELEVISION INSPECTION SHALL BE PERFORMED AND PROVIDED TO THE CITY AND OWNER ON A DVD.

24.CONTRACTOR SHALL INSTALL DETECTABLE WIRING OR MARKING TAPE A MINIMUM OF 12" ABOVE WATER AND WASTEWATER LINES. MARKER DECALS SHALL BE LABELED "CAUTION - WATER LINE", OR "CAUTION - SEWER LINE". DETECTABLE WIRING AND MARKING TAPE SHALL COMPLY WITH CITY STANDARDS. AND SHALL BE INCLUDED IN THE COST OF THE WATER AND WASTEWATER PIPE. 25.DUCTILE IRON PIPE SHALL BE PROTECTED FROM CORROSION BY A LOW-DENSITY POLYETHYLENE LINER WRAP THAT IS AT LEAST A

26. WATERLINES SHALL BE INSTALLED AT NO LESS THAN THE MINIMUM COVER REQUIRED BY THE CITY. 27. CONTRACTOR SHALL PROVIDE CLEAN-OUTS FOR PRIVATE SANITARY SEWER LINES AT ALL CHANGES IN DIRECTION AND 100-FOOT INTERVALS, OR AS REQUIRED BY THE APPLICABLE PLUMBING CODE. CLEAN-OUTS REQUIRED IN PAVEMENT OR SIDEWALKS SHALL HAVE CAST IRON COVERS FLUSH WITH FINISHED GRADE.

28.CONTRACTOR SHALL PROVIDE BACKWATER VALVES FOR PLUMBING FIXTURES AS REQUIRED BY THE APPLICABLE PLUMBING CODE (E.G FLOOR ELEVATION OF FIXTURE UNIT IS BELOW THE ELEVATION OF THE MANHOLE COVER OF THE NEXT UPSTREAM MANHOLE IN THE PUBLIC SEWER). CONTRACTOR SHALL REVIEW BOTH MEP AND CIVIL PLANS TO CONFIRM WHERE THESE ARE REQUIRED. 29 THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN. PREPARED BY A PROFESSIONAL

ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCI SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.

30.THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER. **ABBREVIATIONS AND DEFINITIONS:** ADA AMERICANS WITH DISABILITIES ACT AMERICAN WATER WORKS ASSOCIATION B-B BACK TO BACK BEGIN CURVE BACK OF CURB BCR BEGIN CURB RETURN BEST MANAGEMENT PRACTICE BOC BACK OF CURB BEGIN VERTICAL CURVE ELEVATION BEGIN VERTICAL CURVE STATION **BVCS** BOTTOM OF WALL BW CUBIC FEET PER SECOND CITY, TOWN, OR OTHER APPLICABLE LOCAL GOVERNMENT JURISDICTION CITY CENTERLINE CENTERLINE CONCRETE CUBIC YARD CY **DEMO** DEMOLITION DG DECOMPOSED GRANITE DETAIL EACH END CURVE ECR END CURB RETURN EXISTING GROUND **ELEVATION** ELECTRICAL / ELECTRICITY ELEV ELEVATION UNITED STATES ENVIRONMENTAL PROTECTION AGENCY EASEMENT END VERTICAL CURVE ELEVATION **EVCS** END VERTICAL CURVE STATION EXISTING FACE TO FACE FINISHED GROUND FIRE HYDRANT FLOW LINE FOC FACE OF CURB FFFT HYDRAULIC GRADE LINE HGL KIMI FY-HORN AND ASSOCIATES INC KIMLEY-HORN AND ASSOCIATES, INC I ATFRAI LINEAR FEET LEFT MAXIMUM MATCH EXISTING ELEVATION MANHOLE NOTICE OF INTENT, REF. TCEQ GENERAL PERMIT

SINGLE LAYER OF 8-MIL. ALL DUCTILE IRON JOINTS SHALL BE BONDED.

NOTICE OF TERMINATION, REF. TCEQ GENERAL PERMIT NOT TO SCALE ON CENTER

OFFSET OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION POINT OF CURVATURE PORTLAND CEMENT CONCRETE / POINT OF COMPOUND CURVATURE PGL PROPOSED GRADE LINE

POINT OF INFLECTION PROP PROPOSED POINT OF REVERSE CURVATURE POUNDS PER SQUARE INCH POINT OF TANGENCY POLYVINYL CHLORIDE **PVC**

POINT OF VERTICAL INFLECTION PVMT PAVEMENT REINFORCED CONCRETE PIPE ROW RIGHT OF WAY RIGHT SQUARE FEET SANITARY SEWER

SANITARY SEWER MANHOLE STA STATION STD STANDARD SQUARE YARD ARCHITECTURAL BARRIERS TEXAS ACCESSIBILITY STANDARDS

TOP OF CURB TEXAS COMMISSION OF ENVIRONMENTAL QUALITY TEMPORARY TXDOT TEXAS DEPARTMENT OF TRANSPORTATION

TXMUTCD TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES TOP OF WALL TW TYPICAL VERTICAL CURVE WTR WATER WASTEWATER WW

4. <u>ATMOS ENERGY</u>, **888-286-6700**

UTILITY CONTACTS: 1. TELECOM COMPANY, CONTACT NAME, PHONE NUMBER, EMAIL

5. <u>CITY OF BUDA UTILITIES</u>, **BLAKE NEFFENDORF**, **512-523-1079**

2. CABLE COMPANY, CONTACT NAME, PHONE NUMBER, EMAIL 3. PEDERNALES ELECTRIC COOPERATIVE, INC., CODY LUEHLFING, 830-225-7031

THESE PLAN AND GENERAL NOTES REFER TO:

GEOTECHNICAL ENGINEERING REPORT (FIRM) MLA GEOTECHNICAL (PROJ./REPORT #) 22101100.019 (DATE) 05/03/2022 INCLUDING ALL REVISIONS AND ADDENDA TO THIS REPORT THAT MAY HAVE BEEN RELEASED AFTER THE NOTED DATE.

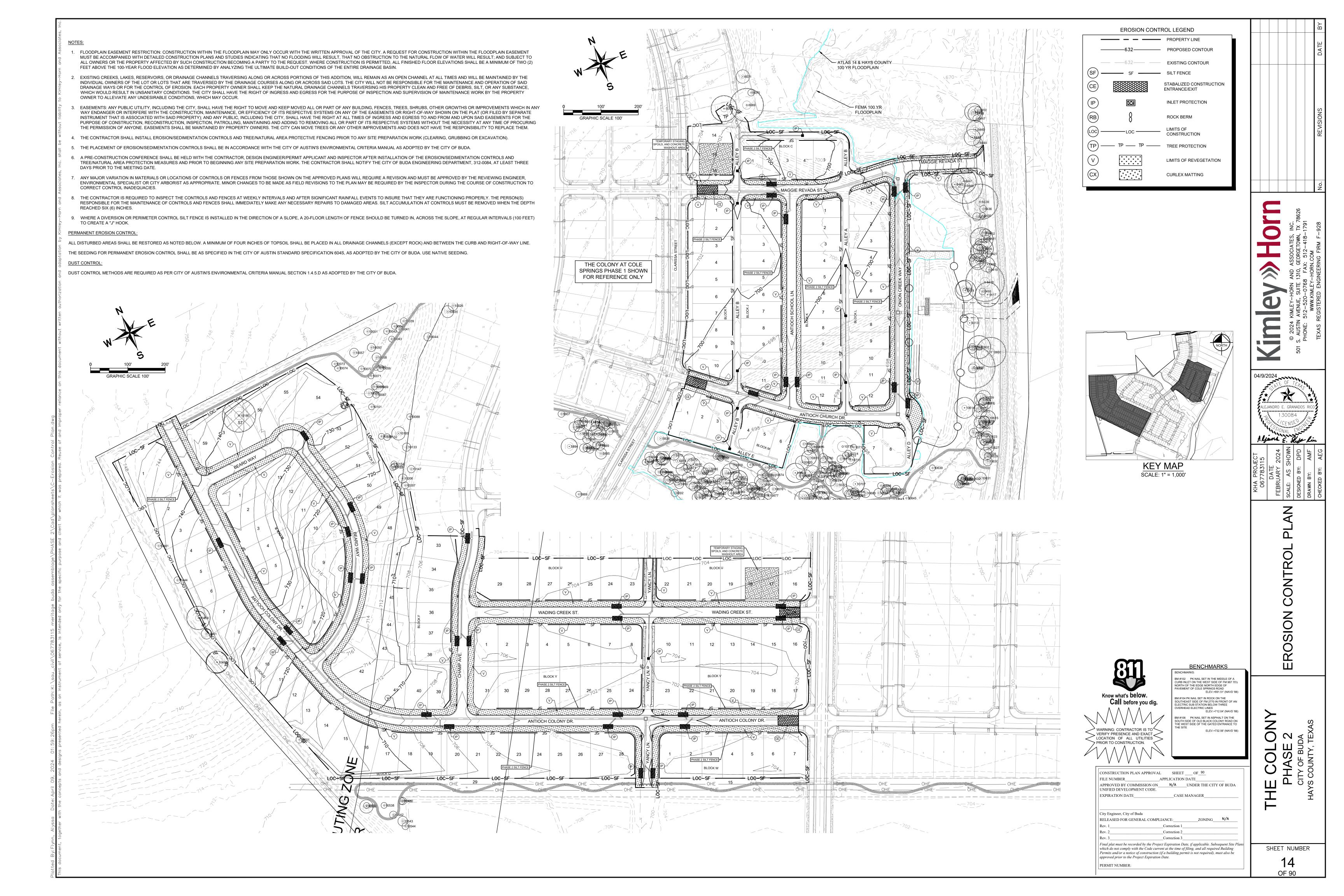
ELEV.=732.56' (NAVD '88 _APPLICATION DATE_ ZONING N/A

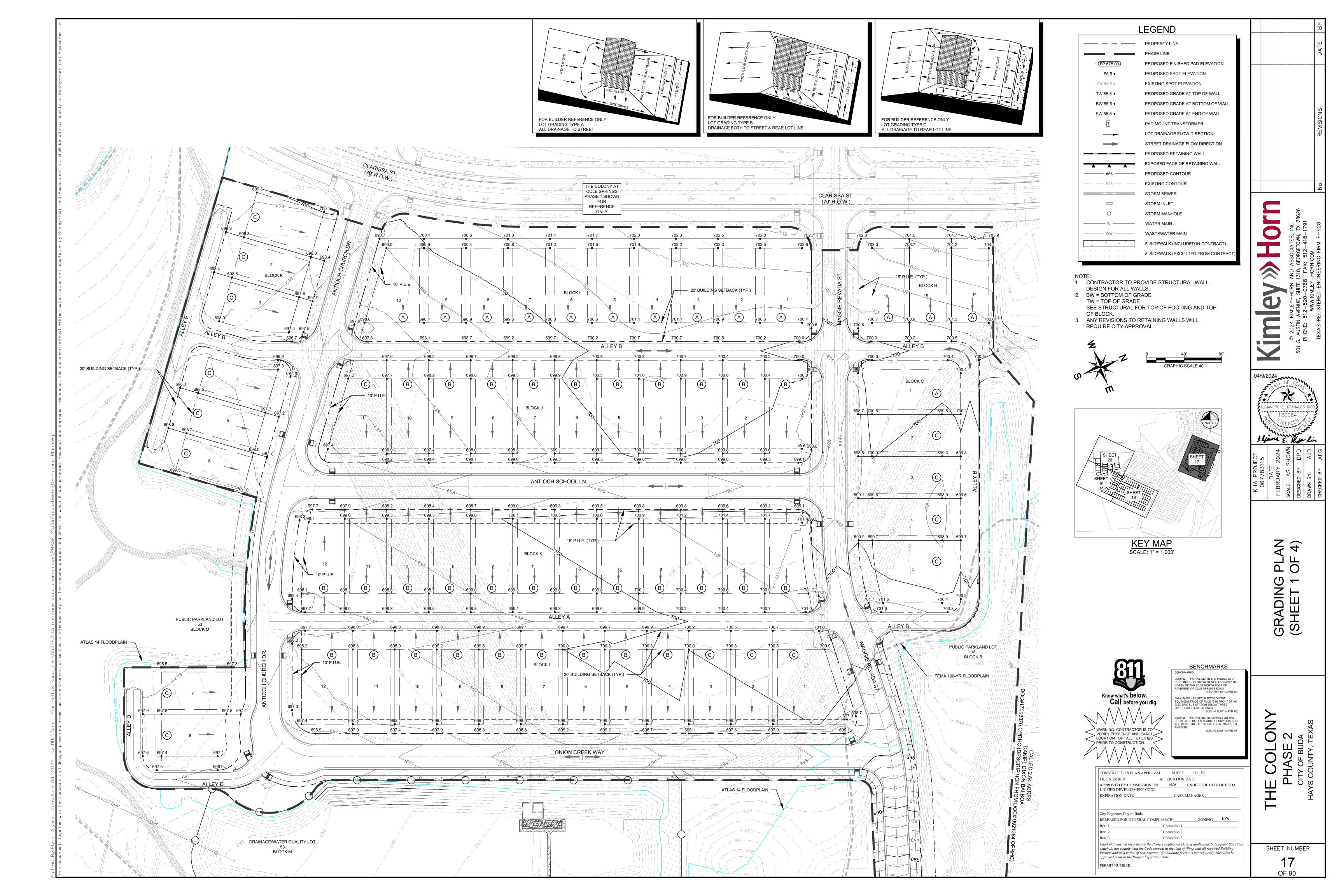
CONSTRUCTION PLAN APPROVAL SHEET ___ OF _90 FILE NUMBER APPROVED BY COMMISSION ON N/A UNDER THE CITY OF BUDA UNIFIED DEVELOPMENT CODE EXPIRATION DATE City Engineer, City of Buda RELEASED FOR GENERAL COMPLIANCE: Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Pl which do not comply with the Code current at the time of filing, and all required Buildin; Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date. © COPYRIGHT 2023 KIMLEY-HORN AND ASSOCIATES, INC., ALL RIGHTS RESERVE

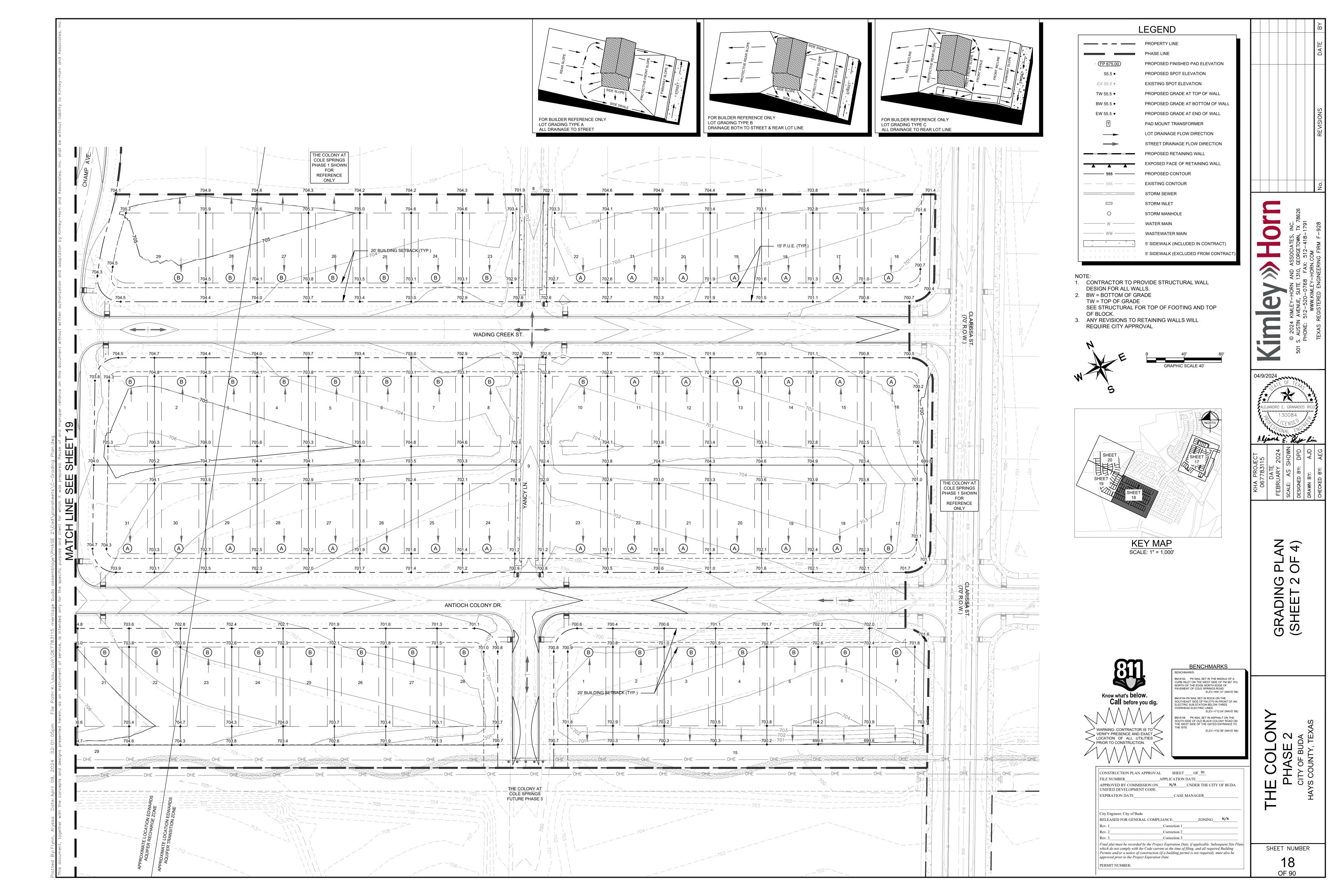
BENCHMARKS BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 967 70'± IORTH OF THE EDGE NORTH EDGE OF AVEMENT OF COLE SPRINGS ROA ELEV.=691.51' (NAVD '88 BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE /ERHEAD ELECTRIC LINES ELEV.=712.04' (NAVD '88 BM #106 PK NAIL SET IN ASPHALT ON THI SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO

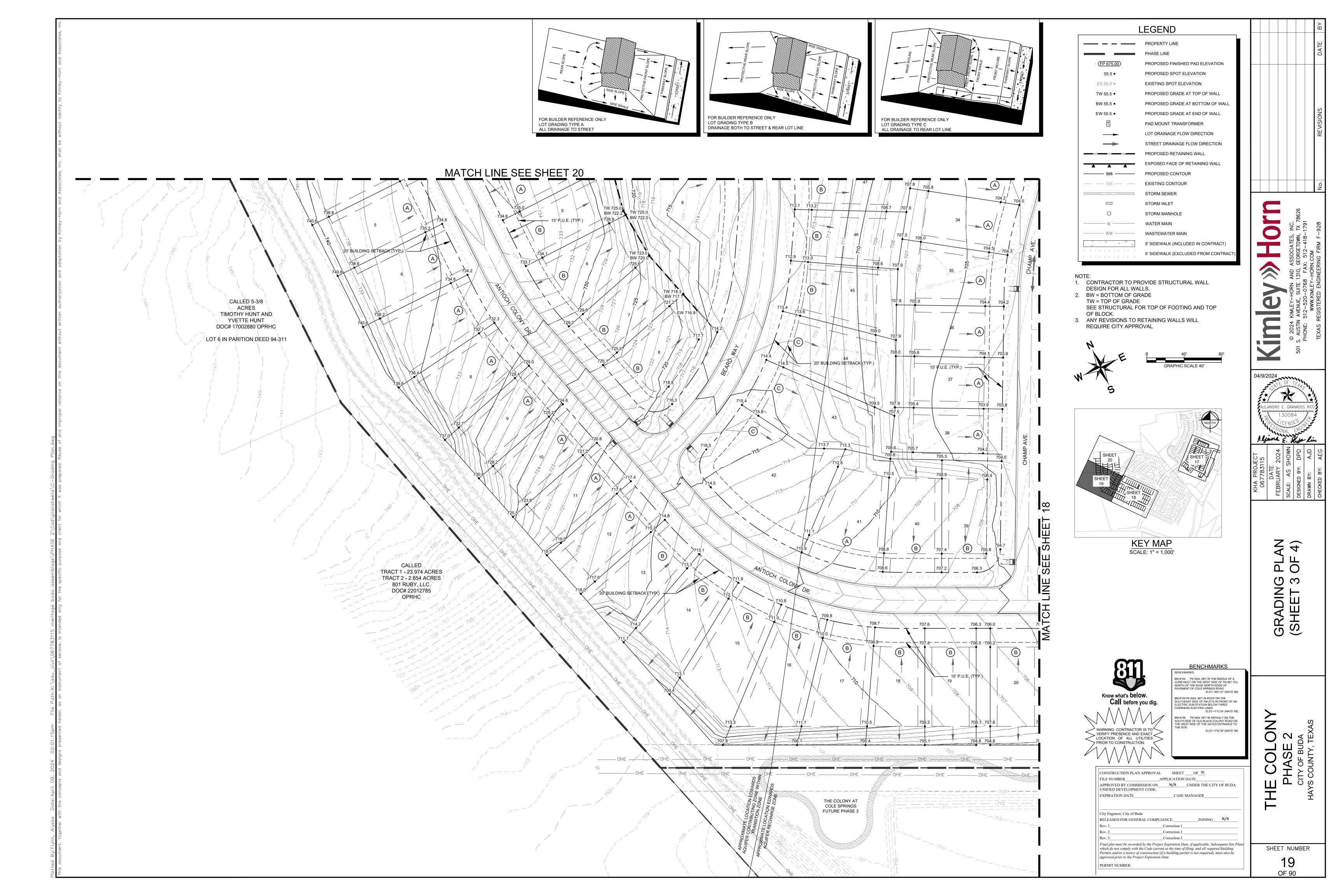
SHEET NUMBER OF 90

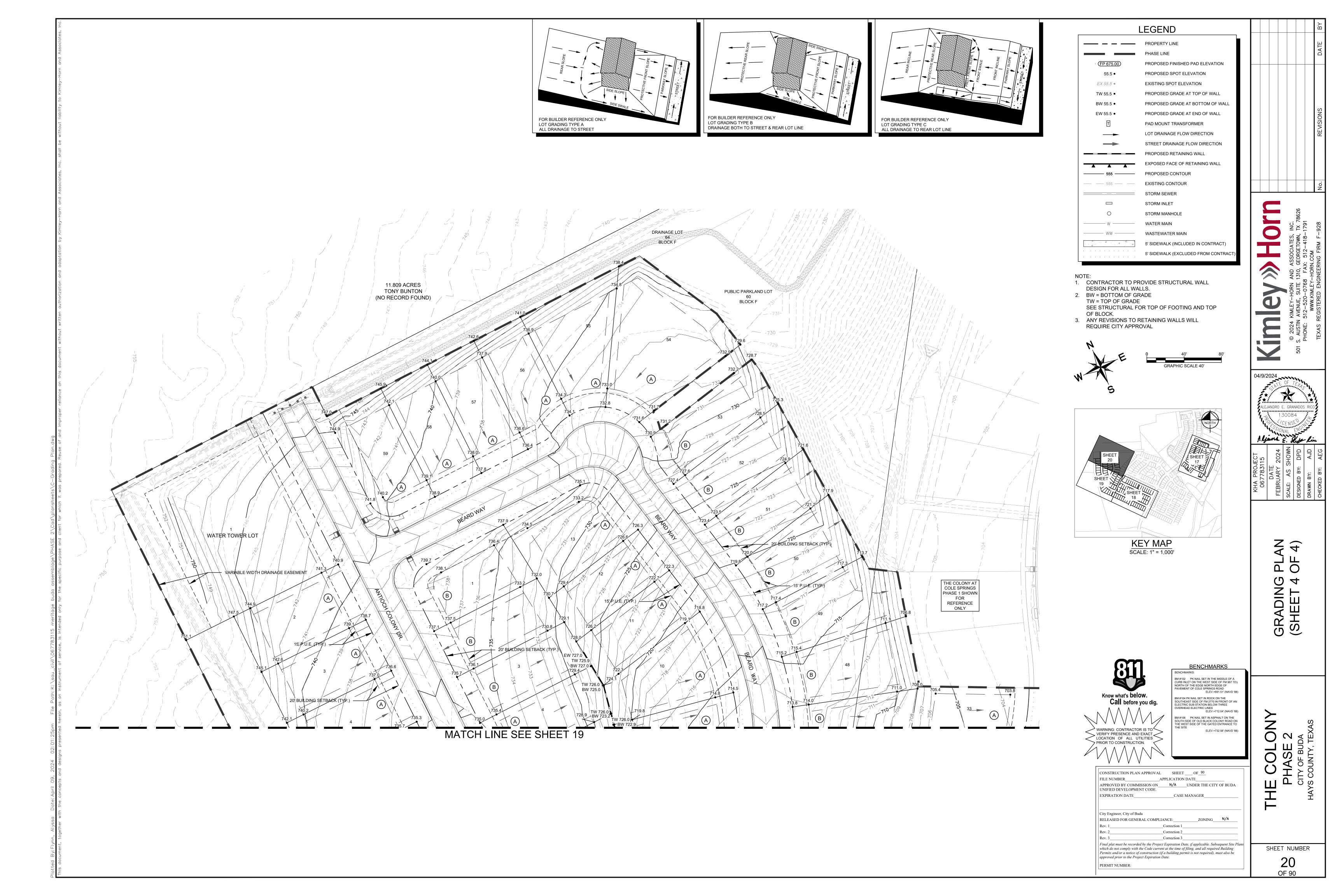
04/9/2024

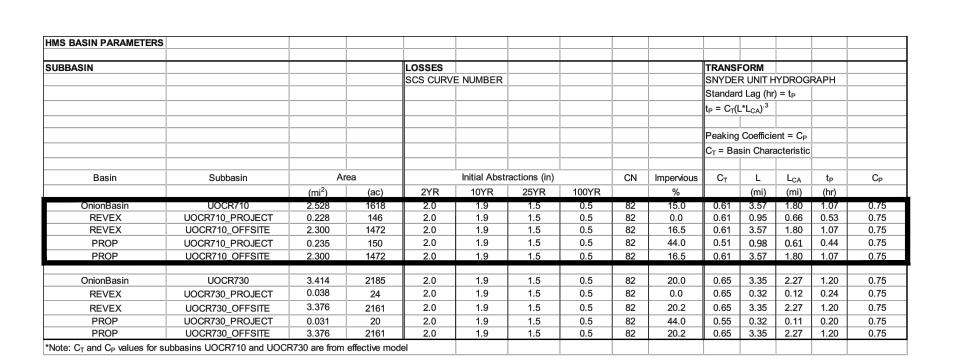












LAG TIME CALCULATIONS

				Lag	Time (On			Hydraulic	Model)				
		_			11	THE CONTRACTOR	h "R-710"				П		
xSec	Dist		2 YR Veloc	,		10 YR Veloc			25 YR Veloc			00YR Veloc	-
Station	(ft)	RAS Vel. (fps)	Avg. Vel. (fps)	Time (sec)	RAS Vel. (fps)	Avg. Vel. (fps)	Time (sec)	RAS Vel. (fps)	Avg. Vel. (fps)	Time (sec)	RAS Vel. (fps)	Avg. Vel. (fps)	Time (sec)
168897		2.90			5.07			6.23			8.11		
167934	963	3.05	3.0	324	6.29	5.7	170	7.44	6.8	141	9.37	8.7	110
Total La	ig (sec)		324			170			141			110	
Total La	g (min)		5.4			2.8			2.3			1.8	
						Reac	h ''R-730''						
167494		2.97			6.39			7.62			9.91	-	
166980	514	2.70	2.8	181	6.12	6.3	82	7.28	7.5	69	7.6	8.8	59
166507	473	2.93	2.8	168	5.44	5.8	82	6.64	7.0	68	7.48	7.5	63
166042	465	2.11	2.5	185	5	5.2	89	6.3	6.5	72	7.38	7.4	63
165718	324	2.98	2.5	127	5.82	5.4	60	7.22	6.8	48	8.47	7.9	41
165544	174	3.49	3.2	54	7.22	6.5	27	9.24	8.2	21	11.04	9.8	18
165324	220	2.33	2.9	76	4.89	6.1	36	6.35	7.8	28	7.95	9.5	23
165038	286	2.91	2.6	109	4.44	4.7	61	5.54	5.9	48	6.31	7.1	40
164471	567	3.06	3.0	190	6.5	5.5	104	6.86	6.2	91	7.69	7.0	81
163604	867	3.68	3.4	257	6.06	6.3	138	7.22	7.0	123	7.96	7.8	111
162747	857	3.20	3.4	249	6.36	6.2	138	7.71	7.5	115	8.33	8.1	105
162169	578	2.97	3.1	187	6.81	6.6	88	8.07	7.9	73	8.86	8.6	67
161507	662	3.01	3.0	221	6.44	6.6	100	8.01	8.0	82	10.02	9.4	70
160720	787	2.89	3.0	267	7.67	7.1	112	9.46	8.7	90	11.54	10.8	73
160585	135	3.97	3.4	39	7.43	7.6	18	8.49	9.0	15	9.91	10.7	13
160510	75	1.80	2.9	26	5.09	6.3	12	6.57	7.5	10	8.28	9.1	8
160503	7	1.98	1.9	4	5.37	5.2	1	6.97	6.8	1	8.81	8.5	1
160495	8	2.23	2.1	4	5.63	5.5	1	7.31	7.1	1	9.38	9.1	1
160389	106	2.65	2.4	43	6.18	5.9	18	7.82	7.6	14	9.97	9.7	11
160204	185	2.40	2.5	73	5.09	5.6	33	6.5	7.2	26	8.34	9.2	20
159660	544	2.87	2.6	206	4.65	4.9	112	5.87	6.2	88	7.51	7.9	69
158858	802	2.47	2.7	300	5.69	5.2	155	7.04	6.5	124	8.52	8.0	100
157942	916	3.34	2.9	315	6.28	6.0	153	7.53	7.3	126	8.73	8.6	106
157072	870	2.59	3.0	293	5.35	5.8	150	6.64	7.1	123	7.84	8.3	105
156278	794	3.90	3.2	245	7.05	6.2	128	8.51	7.6	105	9.85	8.8	90
155567	711	4.64	4.3	167	8.03	7.5	94	9.75	9.1	78	11.68	10.8	66
155173	394	4.24	4.4	89	7.94	8.0	49	9.54	9.6	41	11.33	11.5	34
155061	112	2.89	3.6	31	5.95	6.9	16	7.19	8.4	13	8.53	9.9	11
155011	50	3.56	3.2	16	6.38	6.2	8	7.49	7.3	7	8.71	8.6	6
Total 1 a	ng (000)		4124			2065			1701			1454	
Total La	ig (sec) ig (min)	17	68.7			34.4			28.3			24.2	

LOCAL DRAINAGE AREA MAP

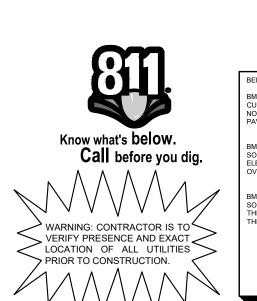


PEAK FLOW RESULTS

			2YR			10YR						
Junction	REVEX Peak	PROP Peak	DETPROP Peak	PROP - REVEX	DETPROP - REVEX	REVEX Peak	PROP Peak	DETPROP Peak	PROP - REVEX	DETPROP - REVEX		
	(cfs)	(cfs)	(cfs)	0/0000 100-1000		(cfs)	(cfs)	(cfs)	AVAINAGE TO THE SECOND	100 00 00 00 00 00 00 00 00 00 00 00 00		
UOCR710_PROJECT	13	134	134	122	122	233	379	379	145	145		
710 DETENTION			12					223				
JUOCR710	2542	2542	2549	0	7	22230	22232	22232	2	2		
JUOCR710_720	2549	2549	2556	0	7	22296	22297	22298	1	2		
UOCR730_PROJECT	3	27	27	24	24	62	93	93	31	31		
730_DETENTION			3					60				
JUOCR730	2531	2531	2539	0	8	22462	22464	22464	2	2		
JUOCR740	2525	2525	2533	0	8	22479	22481	22482	2	3		
JUOCR740_780	2525	2525	2533	0	8	22593	22595	22596	2	3		
JUOCR790	2516	2516	2524	0	8	22635	22637	22637	2	2		
JUOCR790 820	2540	2541	2549	1	9	22958	22960	22960	2	2		
JUOCR790 830	2540	2540	2548	0	8	22981	22982	22983	1	2		
JUOCR840	2537	2537	2545	0	8	23004	23005	23006	1	2		
UONION_CREEK	3116	3116	3124	0	8	26065	26066	26067	1	2		
				_								
			25YR			100YR						
Junction	REVEX Peak	PROP Peak	DETPROP Peak	PROP - REVEX	DETPROP - REVEX	REVEX Peak	PROP Peak	DETPROP Peak	PROP - REVEX	DETPROP - REVE		
UOCR710 PROJECT	(cfs) 411	(cfs) 546	(cfs) 546	135	135	(cfs) 659	(cfs) 794	(cfs) 794	135	135		
710 DETENTION		-	409	135	133		1	658	†	135		
	44040	44040				90047	90040					
JUOCR710	41812 41908	41813 41909	41814 41909	1	4	80017	80019	80018 80139	2	1		
JUOCR710_720						80138	80140			12		
UOCR730_PROJECT	106	107	107	1	1	165	152	152	-13	-13		
730_DETENTION			101					152				
JUOCR730	42112	42113	42113	1	1	80255	80256	80255	1	0		
JUOCR740	42128	42129	42129	1	1	80266	80267	80266	1	0		
JUOCR740_780	42298	42299	42299	1	1	80497	80499	80497	2	0		
JUOCR790	42349	42350	42350	1	1	80563	80564	80563	1	0		
JUOCR790_820	42817	42818	42819	1	2	81198	81199	81198	1	0		
JUOCR790_830	42852	42853	42853	1	1	81246	81247	81246	1	0		
JUOCR840	42886	42888	42888	2	2	81285	81286	81285	1	0		
UONION CREEK	47282	47283	47284	1	2	87646	87647	87646	1	0		

NOTES:

1) FLOW INFORMATION PER APPROVED MERITAGE COLE SPRINGS DETENTION WAIVER REQUEST DATED JANUARY, 2020.



BRAD W. PICKERING

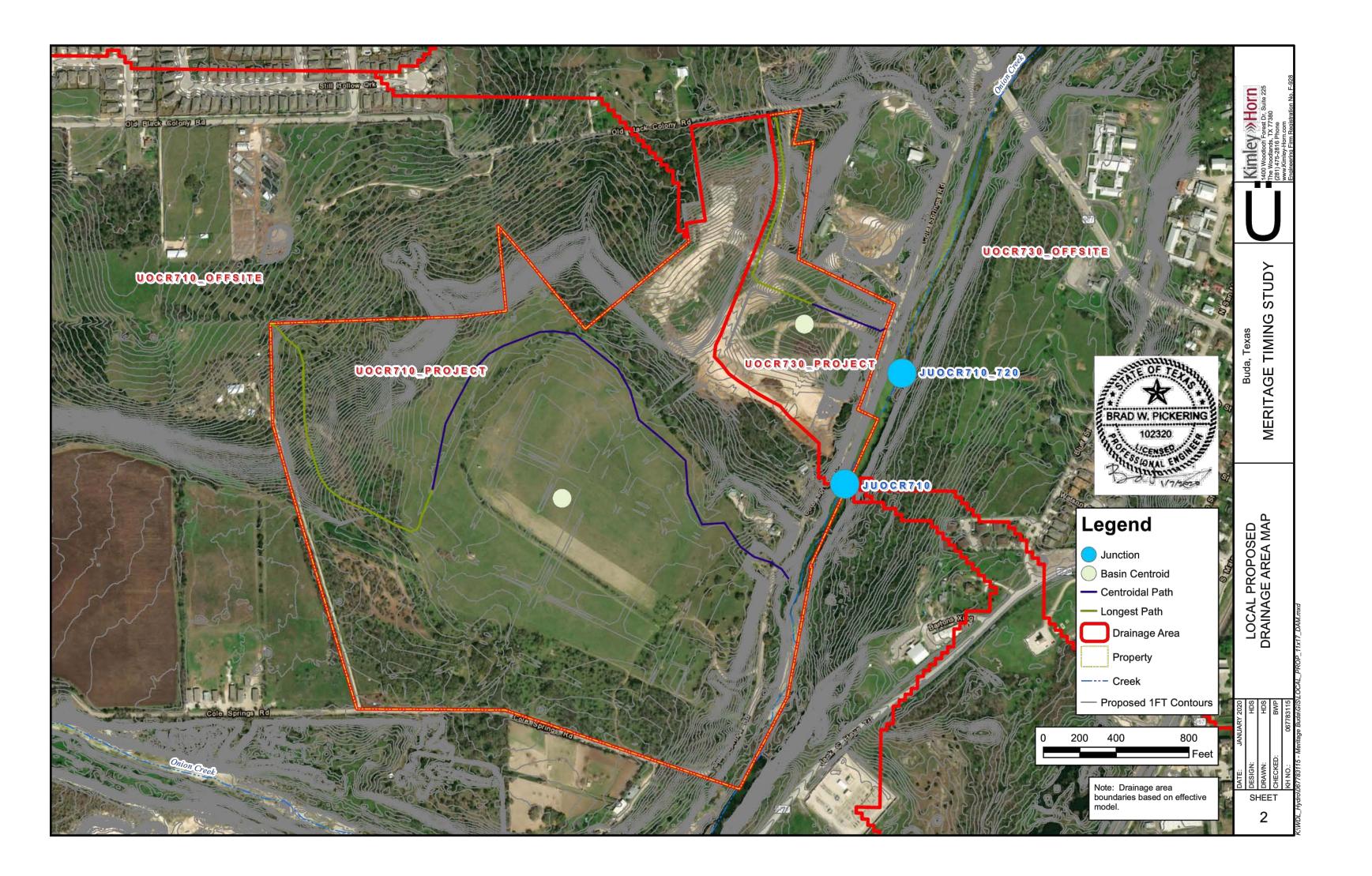
Note: Drainage area boundaries based on effective

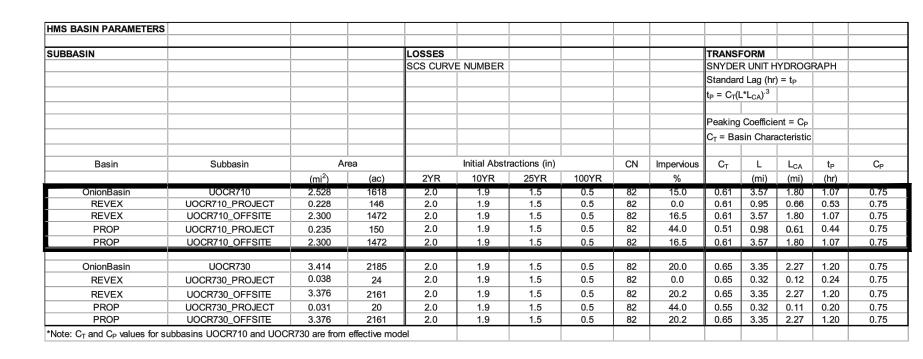
	BENCHMARKS
	BENCHMARKS:
	BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 967 70'± NORTH OF THE EDGE NORTH EDGE OF PAVEMENT OF COLE SPRINGS ROAD ELEV.=691.51' (NAVD '88)
	BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES ELEV.=712.04' (NAVD '88)
/ > >	BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE ELEV.=732.56' (NAVD '88)

CONSTRUCTION PLA			OF_90	
APPROVED BY COMMUNIFIED DEVELOPM	MISSION ONN			OF BUDA
EXPIRATION DATE_		_CASE	MANAGER	
				AL /A
RELEASED FOR GEN				
RELEASED FOR GEN Rev. 1 Rev. 2	Corre	ection 1_		
Rev. 1	Corre	ection 1_ ection 2_		
Rev. 1 Rev. 2	Corre Corre Corre ded by the Project Expi h the Code current at the Code construction (if a bui	ection 1_ ection 2_ ection 3_ tration Da the time of	ate, if applicable. Sub. filing, and all requir	sequent Site Plan

SHEET NUMBER 37 OF 90

04/9/2024





LAG TIME CALCULATIONS

						Reac	h "R-710"						
xSec	Dist		2 YR Veloc	ity		10 YR Velo	city		25 YR Velo	city		100YR Velo	city
Station	(ft)	II .		Time	RAS Vel.		Time	RAS Vel.	_	Time	RAS Vel.	Avg. Vel.	Time
	(/	(fps)	(fps)	(sec)	(fps)	(fps)	(sec)	(fps)	(fps)	(sec)	(fps)	(fps)	(sec
168897		2.90			5.07			6.23			8.11		
167934	963	3.05	3.0	324	6.29	5.7	170	7.44	6.8	141	9.37	8.7	110
10/934	303	3.03	3.0	324	0.23	5.7	170	7.44	0.0	141	3.37	0.7	110
Total La	ıa (sec)		324			170			141		110		
Total La			5.4			2.8			2.3			1.8	
						Reac	h ''R-730''						
167494		2.97			6.39			7.62			9.91		
166980	514	2.70	2.8	181	6.12	6.3	82	7.28	7.5	69	7.6	8.8	59
166507	473	2.93	2.8	168	5.44	5.8	82	6.64	7.0	68	7.48	7.5	63
166042	465	2.11	2.5	185	5	5.2	89	6.3	6.5	72	7.38	7.4	63
165718	324	2.98	2.5	127	5.82	5.4	60	7.22	6.8	48	8.47	7.9	41
165544	174	3.49	3.2	54	7.22	6.5	27	9.24	8.2	21	11.04	9.8	18
165324	220	2.33	2.9	76	4.89	6.1	36	6.35	7.8	28	7.95	9.5	23
165038	286	2.91	2.6	109	4.44	4.7	61	5.54	5.9	48	6.31	7.1	40
164471	567	3.06	3.0	190	6.5	5.5	104	6.86	6.2	91	7.69	7.0	81
163604	867	3.68	3.4	257	6.06	6.3	138	7.22	7.0	123	7.96	7.8	111
162747	857	3.20	3.4	249	6.36	6.2	138	7.71	7.5	115	8.33	8.1	105
162169	578	2.97	3.1	187	6.81	6.6	88	8.07	7.9	73	8.86	8.6	67
161507	662	3.01	3.0	221	6.44	6.6	100	8.01	8.0	82	10.02	9.4	70
160720	787	2.89	3.0	267	7.67	7.1	112	9.46	8.7	90	11.54	10.8	73
160585	135	3.97	3.4	39	7.43	7.6	18	8.49	9.0	15	9.91	10.7	13
160510	75	1.80	2.9	26	5.09	6.3	12	6.57	7.5	10	8.28	9.1	8
160503	7	1.98	1.9	4	5.37	5.2	1	6.97	6.8	1	8.81	8.5	1
160495	8	2.23	2.1	4	5.63	5.5	1	7.31	7.1	1	9.38	9.1	1
160389	106	2.65	2.4	43	6.18	5.9	18	7.82	7.6	14	9.97	9.7	11
160204	185	2.40	2.5	73	5.09	5.6	33	6.5	7.2	26	8.34	9.2	20
159660	544	2.87	2.6	206	4.65	4.9	112	5.87	6.2	88	7.51	7.9	69
158858	802	2.47	2.7	300	5.69	5.2	155	7.04	6.5	124	8.52	8.0	100
157942	916	3.34	2.9	315	6.28	6.0	153	7.53	7.3	126	8.73	8.6	106
157072	870	2.59	3.0	293	5.35	5.8	150	6.64	7.1	123	7.84	8.3	105
156278	794	3.90	3.2	245	7.05	6.2	128	8.51	7.6	105	9.85	8.8	90
155567	711	4.64	4.3	167	8.03	7.5	94	9.75	9.1	78	11.68	10.8	66
155173	394	4.24	4.4	89	7.94	8.0	49	9.54	9.6	41	11.33	11.5	34
155061	112	2.89	3.6	31	5.95	6.9	16	7.19	8.4	13	8.53	9.9	11
155011	50	3.56	3.2	16	6.38	6.2	8	7.49	7.3	7	8.71	8.6	6
	, .	-											
Total La	, ,		4124			2065			1701			1454	
Total La	g (min)		68.7			34.4	13		28.3			24.2	

PEAK FLOW RESULTS

			2YR					10YR		
Junction	REVEX Peak (cfs)	PROP Peak (cfs)	DETPROP Peak (cfs)	PROP - REVEX	DETPROP - REVEX	REVEX Peak (cfs)	PROP Peak (cfs)	DETPROP Peak (cfs)	PROP - REVEX	DETPROP - REVEX
UOCR710 PROJECT	13	134	134	122	122	233	379	379	145	145
710_DETENTION			12					223		
JUOCR710	2542	2542	2549	0	7	22230	22232	22232	2	2
JUOCR710_720	2549	2549	2556	0	7	22296	22297	22298	1	2
UOCR730_PROJECT	3	27	27	24	24	62	93	93	31	31
730_DETENTION			3					60		
JUOCR730	2531	2531	2539	0	8	22462	22464	22464	2	2
JUOCR740	2525	2525	2533	0	8	22479	22481	22482	2	3
JUOCR740_780	2525	2525	2533	0	8	22593	22595	22596	2	3
JUOCR790	2516	2516	2524	0	8	22635	22637	22637	2	2
JUOCR790_820	2540	2541	2549	1	9	22958	22960	22960	2	2
JUOCR790_830	2540	2540	2548	0	8	22981	22982	22983	1	2
JUOCR840	2537	2537	2545	0	8	23004	23005	23006	1	2
UONION_CREEK	3116	3116	3124	0	8	26065	26066	26067	1	2
			25YR					100YR		
Junction	REVEX Peak	PROP Peak	DETPROP Peak	PROP - REVEX	DETPROP - REVEX	REVEX Peak	PROP Peak	DETPROP Peak	PROP - REVEX	DETPROP - REVEX
	(cfs)	(cfs)	(cfs)			(cfs)	(cfs)	(cfs)		
UOCR710 PROJECT	411	546	546	135	135	659	794	794	135	135
710_DETENTION			409					658		
JUOCR710	41812									
		41813	41814	1	2	80017	80019	80018	2	1
JUOCR710_720	41908	41909	41909	1	2 1	80138	80140	80139	2	1
JUOCR710_720 UOCR730_PROJECT			41909 107		2 1 1			80139 152		1 1 -13
	41908 106 	41909	41909 107 101	1	ĺ	80138 165 	80140 152 	80139 152 152	2	1
UOCR730 PROJECT 730 DETENTION JUOCR730	41908 106 42112	41909 107 42113	41909 107 101 42113	1	1	80138 165 80255	80140 152 80256	80139 152 152 80255	2 -13	1 -13
UOCR730_PROJECT 730_DETENTION	41908 106 	41909 107 	41909 107 101	1 1	1	80138 165 	80140 152 	80139 152 152	2 -13	-13
UOCR730 PROJECT 730 DETENTION JUOCR730	41908 106 42112	41909 107 42113	41909 107 101 42113	1 1 1	1	80138 165 80255	80140 152 80256	80139 152 152 80255	2 -13	1 -13 0
UOCR730_PROJECT 730_DETENTION JUOCR730 JUOCR740	41908 106 42112 42128	41909 107 42113 42129	41909 107 101 42113 42129	1 1 1 1	1 1 1 1	80138 165 80255 80266	80140 152 80256 80267	80139 152 152 80255 80266	2 -13 1 1	1 -13 0 0
UOCR730 PROJECT 730 DETENTION JUOCR730 JUOCR740 JUOCR740 780	41908 106 42112 42128 42298	41909 107 42113 42129 42299	41909 107 101 42113 42129 42299	1 1 1 1 1	1 1 1 1	80138 165 80255 80266 80497	80140 152 80256 80267 80499	80139 152 152 80255 80266 80497	2 -13 1 1	1 -13 0 0
UOCR730 PROJECT 730 DETENTION JUOCR730 JUOCR740 JUOCR740 780 JUOCR790	41908 106 42112 42128 42298 42349	41909 107 42113 42129 42299 42350	41909 107 101 42113 42129 42299 42350	1 1 1 1 1 1 1	1 1 1 1 1	80138 165 80255 80266 80497 80563	80140 152 80256 80267 80499 80564	80139 152 152 80255 80266 80497 80563	2 -13 1 1	1 -13 0 0 0
UOCR730 PROJECT 730 DETENTION JUOCR730 JUOCR740 JUOCR740_780 JUOCR790 JUOCR790_820	41908 106 42112 42128 42298 42349 42817	41909 107 42113 42129 42299 42350 42818	41909 107 101 42113 42129 42299 42350 42819	1 1 1 1 1 1 1	1 1 1 1 1	80138 165 80255 80266 80497 80563 81198	80140 152 80256 80267 80499 80564 81199	80139 152 152 80255 80266 80497 80563 81198	2 -13 1 1	1 -13 0 0 0 0

1) FLOW INFORMATION PER APPROVED MERITAGE COLE SPRINGS DETENTION WAIVER REQUEST DATED JANUARY, 2020.

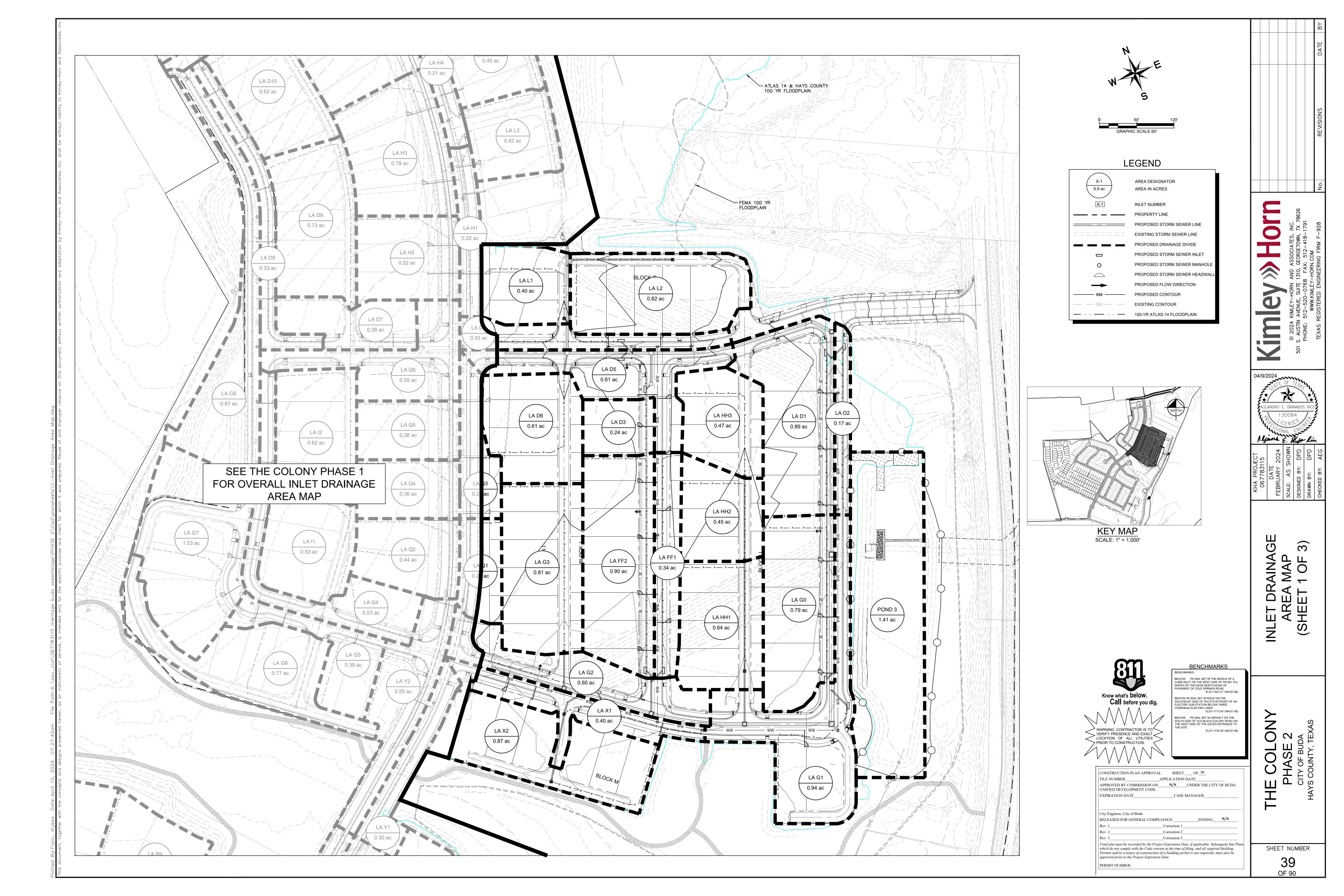


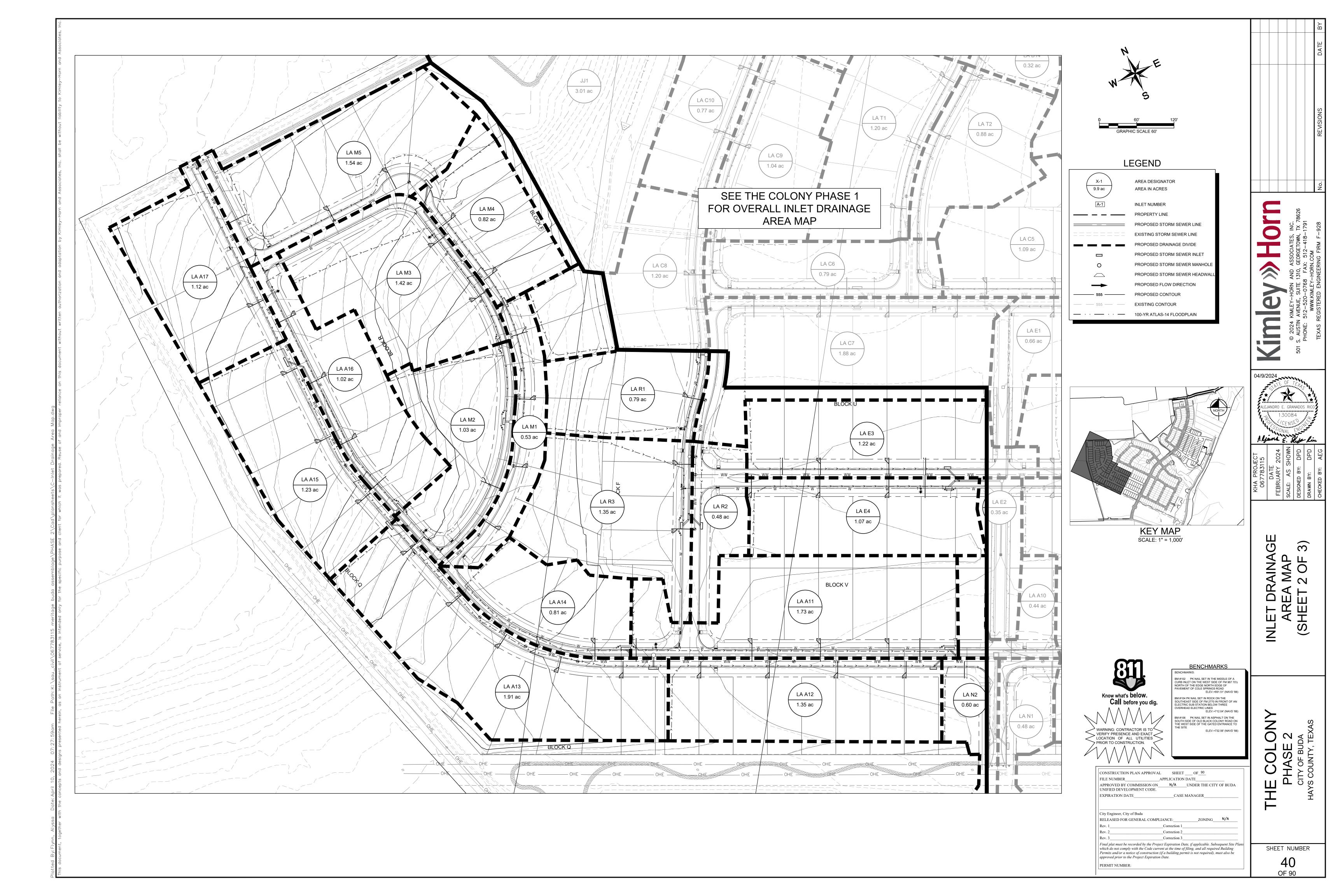
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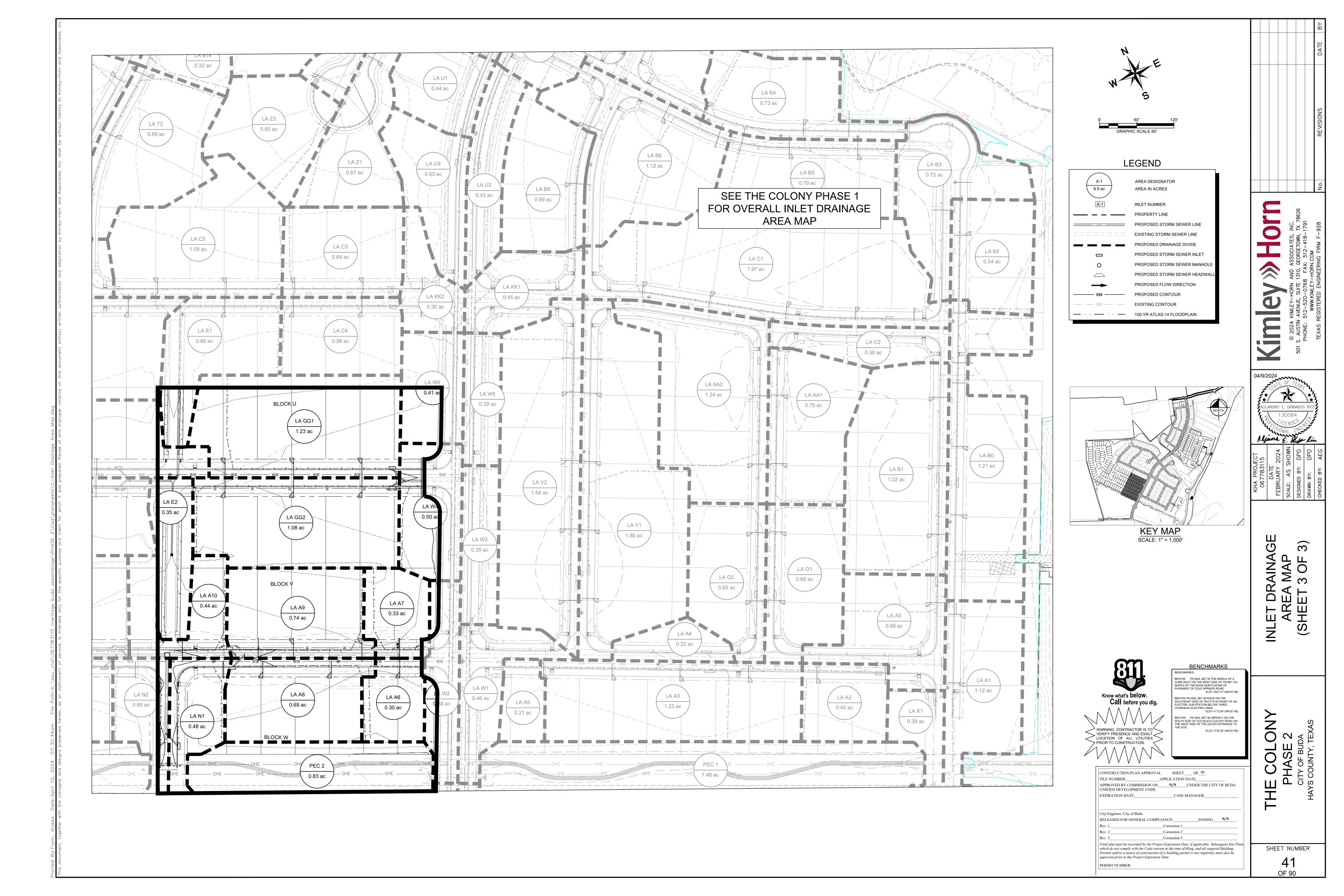
BENCHMARKS
BENCHMARKS: BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 967 70'± NORTH OF THE EDGE NORTH EDGE OF PAVEMENT OF COLE SPRINGS ROAD ELEV.=691.51' (NAVD '88) BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. ELEV.=732.56' (NAVD '88)

V V V	
CONSTRUCTION PLAN APPROVAL	SHEET OF_ 90_
FILE NUMBER	APPLICATION DATE
APPROVED BY COMMISSION ON_UNIFIED DEVELOPMENT CODE.	N/A UNDER THE CITY OF BUDA
EXPIRATION DATE	CASE MANAGER
City Engineer, City of Buda RELEASED FOR GENERAL COMPL	IANCE:ZONINGN/A
Rev. 1	Correction 1
Rev. 2	Correction 2
Rev. 3	Correction 3
which do not comply with the Code curre	ct Expiration Date, if applicable. Subsequent Site Plan ent at the time of filing, and all required Building if a building permit is not required), must also be Date.

SHEET NUMBER 38 OF 90







			Impervious	Pervious Area													1	LA F8	1.28	60%	0.77	0.51	0.60	0.66	0.70).77 1	2.43 4.6	3 7.00	8.60	11.22	3.54	5.90 7.	71 11.06
Drainage Area ID	Area (Ac.)	Impervious %	Area (Ac.)	(Ac.)	C, 2 Yr.	C, 10 Yr.	C, 25 Yr.	C, 100 Yr.	Tc, min.	I, 2 Yr.	I, 10 Yr.	I, 25 Yr.	I, 100 Yr.	Q, 2 Yr.	Q, 10 Yr.	Q, 25 Yr.	Q, 100 Yr.	LA F10	1.02	60%	0.61	0.41	0.60	0.66	0.70).77 1	0.79 4.9	1 7.43	9.12	11.89	2.99	4.99 6.	51 9.34
LA A0	0.68	60%	0.41	0.27	0.60	0.66	0.70	0.77	9.56	5.14	7.79	9.56	12.47	2.09	3.49	4.55	6.53	LA F11 LA FF1	0.59 0.34	60%	0.35	0.24	0.60	0.66			0.28 5.0 3.65 4.4		9.30 8.26	12.12 10.78	0.90	2.94 3. 1.50 1.	
LA A1 LA A2	0.40	60%	0.67	0.45	0.60	0.66	0.70	0.77	13.05	4.54 4.81	6.86 7.28	8.42 8.93	10.99 11.65	3.04 1.15	5.05 1.91	6.60 2.50	9.48	LA FF2	0.90	60%	0.54	0.36	0.60				5.00 6.3		11.79	15.42	3.39	5.69 7.	10000
LA A3	1.23	60%	0.74	0.49	0.60	0.66	0.70	0.77	9.54	5.15	7.80	9.57	12.48	3.79	6.31	8.24	11.82	LA G0 LA G1	0.79 0.99	60%	0.47 0.59	0.32	0.60	0.66			2.73 4.5 3.17 5.4		8.52 10.12	11.11	3.22	3.60 4. 5.37 7.	
LA A4	0.22	60%	0.13	0.09	0.60	0.66	0.70	0.77	8.33	5.40	8.19	10.06	13.12	0.71	1.19	1.55	2.22	LA G2	0.55	60%	0.33	0.22	0.60	0.66	0.70		5.00 6.3		11.79	15.42	2.07	3.48 4.	
LA A5 LA A6	0.21	60%	0.13	0.08	0.60	0.66	0.70	0.77	9.01	5.03 5.25	7.61	9.34 9.77	12.19 12.75	0.63 0.94	1.05	1.37 2.05	1.97 2.94	LA G3 LA G4	0.81 0.46	60%	0.49	0.32	0.60	0.66			2.11 4.6 5.16 5.9	7,100	8.70 11.11	11.35 14.51	2.27 1.64	3.78 4. 2.74 3.	7.55
LA A7	0.33	60%	0.20	0.13	0.60	0.66	0.70	0.77	8.41	5.39	8.17	10.02	13.08	1.06	1.77	2.32	3.32	LA G5	0.39	60%	0.23	0.16	0.60	0.66			0.14 5.0		9.34	12.19	1.17	1.95 2.	
LA A8	0.69	60%	0.41	0.28	0.60	0.66	0.70	0.77	9.47	5.16	7.82	9.59	12.51	2.13	3.55	4.63	6.65	LA G6 LA G7	0.77 1.03	60%	0.46	0.31	0.60	0.66			7.67 5.5 0.24 5.0		9.31	13.51 12.14	2.56 3.08	4.27 5. 5.14 6.	
LA A9 LA A10	0.74	60%	0.44	0.30	0.60	0.66	0.70	0.77	11.89	4.72	7.14	8.76 8.84	11.43 11.53	2.09	3.47	4.54	6.51 3.91	LA G8	0.87	60%	0.52	0.35	0.60				5.06 5.9		11.16	14.58	3.11		9.77
LA A10	1.73	60%	0.26 1.04	0.18	0.60	0.66	0.70	0.77	10.17	4.76 5.02	7.60	9.33	12.17	1.25 5.20	2.08 8.66	2.72 11.30	16.22	LA GG1 LA GG2	1.23 1.08	60%	0.74	0.49	0.60	0.66	51, 5		0.34 4.9 1.08 4.8	9 7.56 5 7.35	9.27	12.10	3.67	6.11 7. 5.22 6.	
LA A12	1.35	60%	0.81	0.54	0.60	0.66	0.70	0.77	13.38	4.49	6.78	8.33	10.88	3.62	6.03	7.88	11.31	LA H1	0.22	60%	0.13	0.09	0.60				5.00 6.3		11.79	15.42	0.83	1.39 1.	
LA A13	1.91	60%	1.15	0.76	0.60	0.66	0.70	0.77	8.86	5.29	8.01	9.84	12.83	6.04	10.07	13.15	18.87	LA H2 LA H3	0.52 0.78	60%	0.31	0.21	0.60	0.66			3.63 5.3 3.83 5.2		9.93 9.85	12.95 12.84	1.66 2.47	2.77 3. 4.12 5.	
LA A14 LA A15	0.81 1.23	60%	0.49	0.32	0.60	0.66	0.70	0.77	5.00 7.81	6.31 5.52	9.61	11.79 10.29	15.42 13.42	3.05 4.06	5.12 6.78	6.69 8.86	9.62	LA H4	0.21	60%	0.13	0.08	0.60	0.66	0.70		5.00 6.3	9.61	11.79	15.42	0.79	1.33 1.	73 2.49
LA A16	1.02	60%	0.61	0.41	0.60	0.66	0.70	0.77	7.81	5.52	8.38	10.29	13.42	3.37	5.63	7.34	10.54	LA H5 LA H6	1.05 0.28	60%	0.63	0.42	0.60	0.66			3.11 5.4 5.00 6.3		10.15	13.25 15.42	3.42 1.06	5.72 7. 1.77 2.	46 10.71 31 3.33
LA A17	1.12	60%	0.67	0.45	0.60	0.66	0.70	0.77	8.38	5.39	8.18	10.03	13.09	3.61	6.03	7.87	11.29	LA H7	0.36	60%	0.22	0.14	0.60	+		+	5.00 6.3		11.79	15.42	1.36	2.28 2.	
LA AA1	0.75	60%	0.45	0.30	0.60	0.66	0.70	0.77	10.58	4.95	7.49	9.19	11.99	2.22	3.70	4.83	6.92	LA HH1 LA HH2	0.64 0.45	60%	0.38	0.26	0.60	0.66	0.70		2.60 4.6 2.33 4.6		8.55 8.63	11.16 11.26	1.76 1.25	2.93 3. 2.08 2.	3.30
LA AA2 LA B0	1.24	60%	0.74 0.73	0.50 0.48	0.60	0.66 0.66	0.70 0.70	0.77 0.77	12.34 11.47	4.64 4.79	7.03 7.25	8.63 8.90	11.26 11.61	3.44 3.47	5.73 5.77	7.49 7.54	10.75	LA HH3	0.47	60%	0.28	0.19	0.60	0.66	0.70	0.77 1	2.43 4.6	3 7.00	8.60	11.22	1.30	2.17 2.	83 4.06
LA B1	1.22	60%	0.73	0.49	0.60	0.66	0.70	0.77	9.13	5.23	7.92	9.72	12.69	3.81	6.36	8.31	11.92	LA I1 LA I2	0.53 0.62	60%	0.32	0.21	0.60	0.66			3.36 5.4 3.91 5.2	0 8.18 8 8.00	10.04 9.81	13.10 12.80	1.71 1.96	2.85 3. 3.26 4.	
LA B2	0.54	60%	0.32	0.22	0.60	0.66	0.70	0.77	10.65	4.93	7.47	9.17	11.95	1.59	2.65	3.46	4.97	LA II1	0.32	60%	0.19	0.13	0.60	0.66			5.37 6.1		11.56	15.12	1.18	1.98 2.	
LA B3 LA B4	0.72	60%	0.43	0.29	0.60	0.66	0.70	0.77	9.81	5.05 5.09	7.64	9.38 9.47	12.23 12.35	2.17	3.62	4.73 4.84	6.78	LA II2 LA II3	0.34 0.32	60% 60%	0.20 0.19	0.14 0.13	0.60	0.66			5.00 6.3 3.42 5.3		11.79 10.02	15.42 13.07	1.28 1.03	2.15 2. 1.72 2.	81 4.04 24 3.22
LA B5	0.79	60%	0.47	0.32	0.60	0.66	0.70	0.77	10.56	4.95	7.49	9.20	12.00	2.34	3.89	5.09	7.30	LA J1	0.52	60%	0.19	0.13	0.60				2.31 4.6		8.64	11.27	1.45	2.41 3.	
LA B6	1.12	60%	0.67	0.45	0.60	0.66	0.70	0.77	12.17	4.67	7.07	8.68	11.32	3.13	5.21	6.80	9.77	LA J2 LA J3	0.23 0.80	60% 60%	0.14 0.48	0.09	0.60	0.66			2.57 4.6 0.57 4.9	6.97 5 7.49	8.56 9.19	11.17 11.99	0.63 2.37	1.05 1. 3.94 5.	
LA B7 LA B8	0.85	60%	0.51	0.34	0.60	0.66	0.70	0.77	11.09	4.85 4.64	7.35 7.01	9.02 8.61	11.76 11.23	2.47 1.91	4.11 3.18	5.37 4.16	7.70 5.97	JJ1	3.01	40%	1.20	1.81	0.52	0.57			0.16 5.0		9.34	12.18	7.89		15 7.39
LA B9	0.57	60%	0.41	0.23	0.60	0.66	0.70	0.77	10.73	4.92	7.44	9.14	11.92	1.68	2.79	3.65	5.23	LA K1 LA KK1	0.38 0.45	60%	0.23	0.15 0.18	0.60	0.66			9.91 5.0 2.06 4.6		9.43 8.71	12.30 11.37	1.15 1.26	1.92 2. 2.10 2.	
LA B10	0.37	60%	0.22	0.15	0.60	0.66	0.70	0.77	6.16	5.96	9.06	11.11	14.51	1.32	2.20	2.88	4.13	LA KK2	0.30	60%	0.18	0.13	0.60	0.66			3.68 5.3		9.91	12.93	0.96	1.59 2.	
LA B11	1.07	60%	0.64	0.43	0.60	0.66	0.70	0.77	10.24	5.01	7.58	9.31	12.14	3.20	5.34	6.97	10.00	LA L1 LA L2	0.40	60% 60%	0.24 0.49	0.16 0.33	0.60	0.66	0.70		7.41 5.6 0.33 5.1		10.47 9.65	13.66 12.58	1.34 2.54	2.25 2. 4.24 5.	
LA B12 LA B13	0.34	60%	0.73	0.48	0.60	0.66	0.70	0.77	9.80	4.54 5.09	6.86 7.71	8.43 9.47	11.00 12.35	3.28 1.04	5.47 1.73	7.14 2.25	10.25 3.23	LA L3	0.42	60%	0.49	0.33	0.60	0.66			0.43 5.1		9.61	12.53	1.30	2.16 2.	
LA B14	0.32	60%	0.19							4.97				0.95	1.58	2.07	2.97	LA L4	0.45	60%	0.27	0.18	0.60).42 5.1		9.61	12.54	1.39	2.32 3.	03 4.34
LA BB1	1.30	60%	0.78	0.52	0.60	0.66	0.70	0.77	11.32	4.81	7.28	8.94	11.67	3.74	6.23	8.14	11.68	LA L5 LA L6	0.48	60%	0.29	0.19	0.60		0.70 0		0.46 5.1 0.50 5.1		9.60 9.58	12.52 12.50	1.48 1.79	2.47 3. 2.98 3.	89 5.58
LA BB2 LA C1	1.16	60%	0.70	0.46	0.60	0.66	0.70	0.77	11.08	4.86 4.86	7.35	9.02 9.02	11.77 11.77	3.37 5.72	5.61 9.53	7.33	10.51 17.85	LA M1 LA M2	0.53	60%	0.32	0.21	0.60						11.24	14.69		3.20 4.	
LA C2	0.36	60%	0.22	0.14	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	1.36	2.28	2.97	4.28	LA M3	1.03 1.42	60%	0.62 0.85	0.41	0.60				6.00 6.3 7.15 5.6		11.79 10.59	15.42 13.83	3.88 4.83	6.51 8. 8.07 10	50 12.23 53 15.12
LA C3	0.64	60%	0.38	0.26	0.60	0.66	0.70	0.77	8.70	5.32	8.07	9.90	12.91	2.04	3.40	4.43	6.36	LA M4	0.82	60%	0.49	0.33	0.60						9.59	12.50			7.89
LA C4	0.55	60%	0.33	0.22	0.60 0.37	0.66	0.70	0.77	10.20	5.02	7.60	9.32	12.16	1.65	2.75 3.61	3.59	5.15 7.29	LA M5 LA N1	1.54 0.48	60%	0.92	0.62	0.60				7.42 5.6 1.49 4.7	8.53 8 7.24	10.47 8.89	13.66 11.59		8.64 11 2.29 2.	99 4.29
LA C5 LA C6	1.09 0.79	60%	0.65	0.44	0.60	0.42	0.46	0.53	9.26 11.35	5.20 4.81	7.89 7.28	9.68 8.93	12.62 11.65	2.10 2.27	3.78	4.85 4.94	7.29	LA N2	0.60	60%	0.36	0.24	0.60				0.32 4.9		9.28	12.11			90 5.59
LA C7	1.88	60%	1.13	0.75	0.60	0.66	0.70	0.77	16.13	4.12	6.23	7.66	10.01	4.64	7.71	10.08	14.49	LA 01 LA 02	0.69 0.65	60%	0.41	0.28	0.60				0.21 5.0 0.20 5.0		9.32	12.16 12.16	2.07 1.95	3.45 4. 3.25 4.	50 6.46 24 6.09
LA C8	1.20	60%	0.72	0.48	0.60	0.66	0.70	0.77	9.19	5.22	7.91	9.70	12.66	3.74	6.24	8.15	11.69	LA P1	0.44	60%	0.26	0.18	0.60				0.09 5.2		9.74	12.71		2.30 3.	
LA C9 LA C10	0.77	60%	0.62	0.42	0.60	0.66	0.70	0.77	11.14	4.84 4.90	7.33	9.00 9.10	11.74 11.87	3.01 2.26	5.02 3.76	6.55 4.91	9.40 7.04	LA P2 LA Q1	1.11 0.26	60%	0.67 0.16	0.44	0.60				0.22 5.0 6.00 6.3		9.32 11.79	12.15 15.42	3.33 0.98	5.54 7. 1.64 2.	
LA CC1	0.87	60%	0.52	0.35	0.60	0.66	0.70	0.77	12.23	4.66	7.05	8.66	11.30	2.43	4.04	5.27	7.57	LA Q2	0.44	60%	0.26	0.18	0.60				0.47 4.9		9.23	12.04	1.31	2.18 2.	
LA D1	0.89	60%	0.53	0.36	0.60	0.66	0.70	0.77	12.67	4.59	6.95	8.53	11.13	2.44	4.07	5.32	7.63	LA Q3 LA Q4	0.29 0.36	60%	0.17	0.12 0.14	0.60				5.22 6.2 9.82 5.0	9.50 9 7.71	9.46	15.24 12.34	1.08	1.81 2. 1.83 2.	
LA D2 LA D3	0.17	60%	0.10	0.07	0.60	0.66	0.70	0.77	5.00 12.16	6.31 4.67	9.61 7.07	11.79 8.68	15.42 11.33	0.64 0.67	1.07	1.40	2.02	LA Q5	0.36	60%	0.22	0.14	0.60					7 7.98	9.80	12.78		1.89 2.	
LA D4	0.33	60%	0.20	0.13	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	1.24	2.09	2.72	3.92	LA Q6 LA R1	0.55 0.79	60%	0.33	0.22	0.60				5.58 5.3 5.91 5.7	5 8.11 5 8.73	9.95	12.98 13.99	1.76 2.72	2.93 3. 4.54 5.	
LA D5	0.61	60%	0.37	0.24	0.60	0.66	0.70	0.77	12.23	4.66	7.05	8.66	11.30	1.70	2.83	3.70	5.31	LA R2 LA R3	0.48	60%	0.29	0.19	0.60				'.57 5.5	8 8.47	10.40			2.68 3. 7.80 10	49 5.01
LA D6 LA D7	0.61	60%	0.37	0.24	0.60	0.66	0.70	0.77	7.26	5.05 5.66	7.65 8.59	9.39 10.54	12.25 13.76	1.84 1.29	3.07 2.15	4.01 2.80	5.75 4.03	LA S1	1.35 1.11	60% 60%	0.81	0.54 0.44	0.60		0.70 C		5.81 5.7 3.03 4.5		10.77 8.43	14.06 11.00	4.66 3.01	5.01 6.	55 9.40
LA D8	0.33	60%	0.20	0.13	0.60	0.66	0.70	0.77		6.31	9.61	11.79	15.42	1.24	2.09	2.72	3.92	LA S2 LA T1	0.65 1.20	60%	0.39	0.26 0.48	0.60				1.11 4.8 0.09 5.0		9.01 9.36	11.76		3.14 4. 6.02 7.	
LA D9	0.73	60%	0.44	0.29	0.60	0.66	0.70	0.77	7.57	5.58	8.47	10.40	13.57	2.44	4.07	5.31	7.63	LATI LAT2	0.88	60% 60%	0.72 0.53	0.48	0.60 0.60				1.10 4.8		9.36	12.21 11.76		6.02 7. 4.25 5.	
LA D10 LA DD1	0.62	60%	0.37	0.25	0.60	0.66	0.70	0.77	7.07 5.00	5.71 6.31	8.67 9.61	10.64 11.79	13.88 15.42	2.12 0.94	3.54 1.58	4.62 2.06	6.63 2.97	LA U1 LA U2	0.44	60%	0.26	0.18 0.17	0.60				0.61 4.9 5.00 6.3		9.18	11.97		2.17 2.	
LA DD1	0.23	60%	0.13	0.09	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	0.94	1.36	1.90	2.73	LA U3	0.43 0.53	60% 60%	0.26 0.32	0.17	0.60		0.70).77	6.00 6.3 6.00 6.3		11.79 11.79	15.42 15.42		2.72 3. 3.35 4.	
LA E1	0.66	60%	0.40	0.26	0.60	0.66	0.70	0.77	11.00	4.87	7.37	9.05	11.80	1.92	3.20	4.18	6.00	LA V1 LA V2	1.80 1.54	60% 60%	1.08 0.92	0.72 0.62	0.60 0.60				3.18 4.5 1.65 4.7	6 6.83 7.20	8.39 8.84	10.95 11.53		8.09 10 7.29 9.	
LA E2 LA E3	0.35 1.22	60%	0.21	0.14	0.60 0.60	0.66 0.66	0.70	0.77	5.00 13.57	6.31 4.46	9.61 6.74	11.79 8.28	15.42 10.81	1.32 3.25	2.21 5.41	2.89 7.07	4.16	LA W1	0.46	60%	0.92	0.62	0.60		<u> </u>	-			11.45	14.97		2.83 3.	
LA E4	1.22	60%	0.73	0.43	0.60	0.66	0.70	0.77	11.09	4.46	7.35	9.02	10.81	3.25	5.41 5.17	6.76	10.16 9.69	LA W2 LA W3	0.38	60%	0.23	0.15 0.14	0.60			-	6.00 6.3 6.00 6.3		11.79 11.79	15.42 15.42		2.40 3. 2.21 2.	
LA EE1	0.19	60%	0.11	0.08	0.60	0.66	0.70	0.77	9.87	5.08	7.69	9.44	12.32	0.58	0.96	1.26	1.80	LA W4	0.35 0.50	60% 60%	0.21 0.30	0.14	0.60 0.60				0.00 6.3			15.42 12.25		2.21 2. 2.52 3.	
LA EE2	0.18	60%	0.11	0.07	0.60	0.66	0.70	0.77	9.87	5.08	7.69	9.44	12.32	0.55	0.91	1.19	1.71	LA W5	0.29	60%	0.17	0.12	0.60				5.00 6.3		11.79	15.42	1.09	1.83 2.	
LA F1 LA F2	0.89	60%	0.53	0.36	0.60	0.66	0.70	0.77	10.31	5.00 5.00	7.57	9.29 9.29	12.11 12.11	2.66 2.87	4.43	5.78 6.24	8.30 8.95	LA W6	0.50 0.40	60% 60%	0.30 0.24	0.20 0.16	0.60		0.70).77 5	7.22 5.6 6.00 6.3		10.56 11.79	13.79 15.42	1.51		30 4.75
LA F3	1.04	60%	0.62	0.42	0.60	0.66	0.70	0.77	10.58	4.95	7.49	9.19	11.99	3.08	5.12	6.69	9.60	LA X2	0.87	60%	0.52	0.35	0.60					6.96				3.98 5.	
LA F4	1.23	60%	0.74	0.49	0.60	0.66	0.70	0.77	10.59	4.94	7.48	9.19	11.98	3.64	6.06	7.91	11.35	LA Y1 LA Y2	0.30 0.51	60% 60%	0.18 0.31	0.12	0.60				5.00 6.3 1.26 4.8	1 9.61 2 7.30	11.79 8.96	15.42 11.69		1.90 2. 2.45 3.	
LA F5 LA F6	0.65 1.26	60%	0.39	0.26	0.60 0.60	0.66	0.70	0.77	11.55 10.93	4.77 4.88	7.22 7.39	8.87 9.07	11.57 11.83	1.86 3.68	3.09 6.13	4.04 8.00	5.79 11.48	LA Z1	0.67	60%	0.40	0.27	0.60	0.66	0.70	0.77 1	1.69 4.7		8.83	11.51	1.90	3.17 4.	14 5.94
LA F7				0.51				_		+								LA Z2 LA Z3		60% 60%		0.13 0.26	0.60		0.70 C			7.95 4 7.48					18 3.13 18 5.99
	Channel	Report								Chanr	nel Repo	ort							Chanr	nel Rep	ort												

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Tuesday, Jul 13 2021

Collector-100

Highlighted **User-defined** = 99.13 Invert Elev (ft) Depth (ft) = 0.83= 0.50 Slope (%) Q (cfs) = 54.00 = 0.029N-Value = 27.39 Area (sqft) Velocity (ft/s) = 1.97 Wetted Perim (ft) **Calculations** = 67.01 Crit Depth, Yc (ft) = 0.63Compute by: Known Q = 54.00 Top Width (ft) = 66.00 Known Q (cfs)

(Sta, El, n)-(Sta, El, n)... (0.00, 100.00)-(18.50, 99.63, 0.040)-(18.50, 99.13, 0.016)-(35.00, 99.46, 0.016)-(51.50, 99.13, 0.016)-(51.50, 99.63, 0.016)-(70.00, 100.00, 0.040)

EGL (ft)

= 0.89

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc.

= 99.18

Local-55-100

User-defined

Invert Elev (ft)

Highlighted Depth (ft) = 0.78 Q (cfs)

= 0.50Slope (%) = 41.00 = 0.029Area (sqft) = 21.84 N-Value Velocity (ft/s) = 1.88 Wetted Perim (ft) = 57.01 Calculations = 0.57 Compute by: Known Q Crit Depth, Yc (ft) Top Width (ft) = 41.00 = 56.00 Known Q (cfs) EGL (ft) = 0.83

(Sta, El, n)-(Sta, El, n)... (0.00, 100.00)-(16.00, 99.68, 0.040)-(16.00, 99.18, 0.016)-(30.00, 99.46, 0.016)-(44.00, 99.18, 0.016)-(44.00, 99.68, 0.016)-(60.00, 100.00, 0.040)

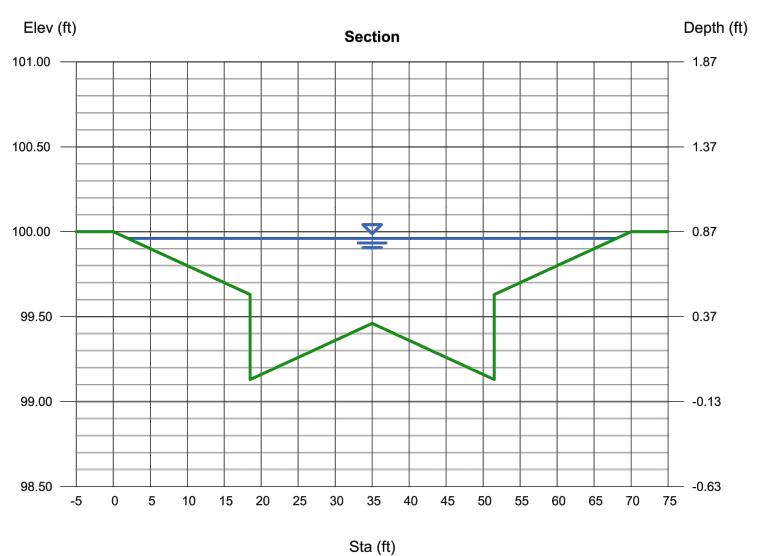
Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Tuesday, Jul 13 2021

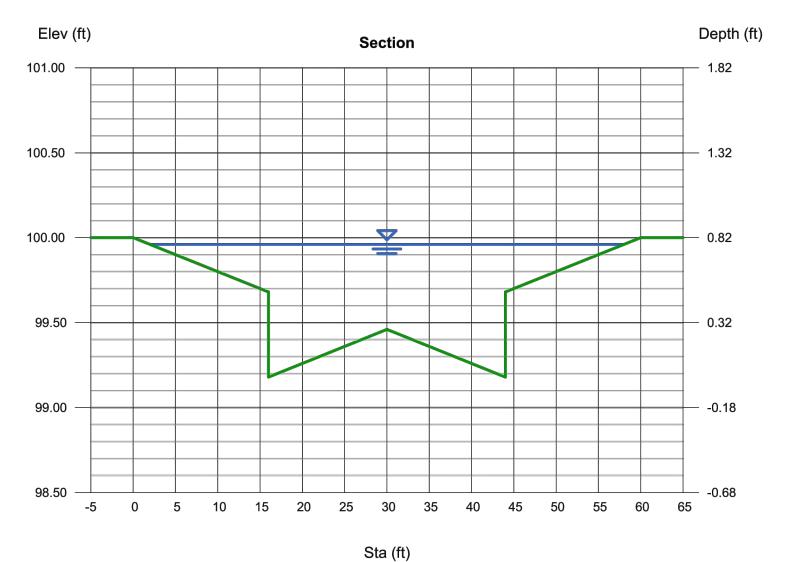
Local-45-100

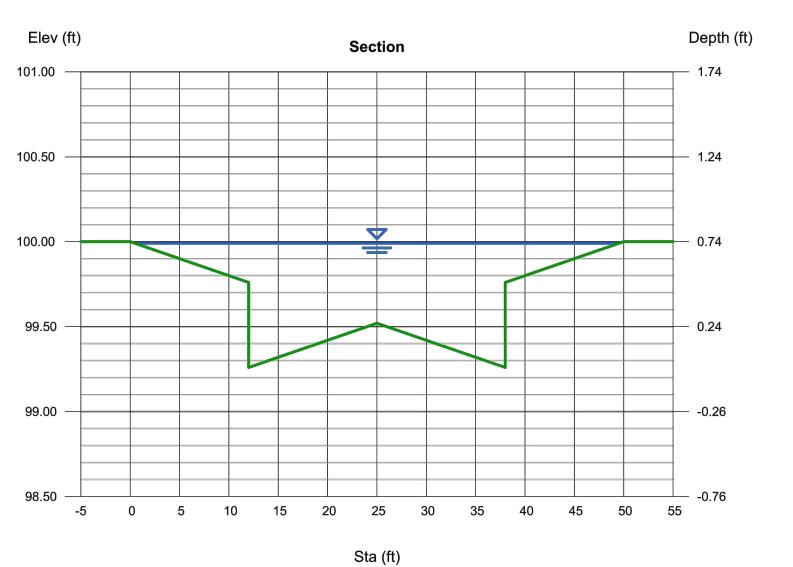
Tuesday, Jul 13 2021

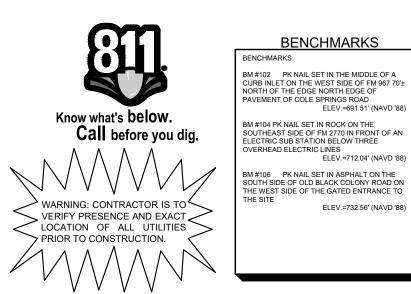
Highlighted **User-defined** = 99.26 Invert Elev (ft) Depth (ft) = 0.73= 0.50 Q (cfs) = 34.00 Slope (%) = 0.028 = 18.25 N-Value Area (sqft) Velocity (ft/s) = 1.86 = 50.01 Wetted Perim (ft) Calculations = 0.52Compute by: Known Q Crit Depth, Yc (ft) Known Q (cfs) = 34.00 Top Width (ft) = 49.00 EGL (ft) = 0.78

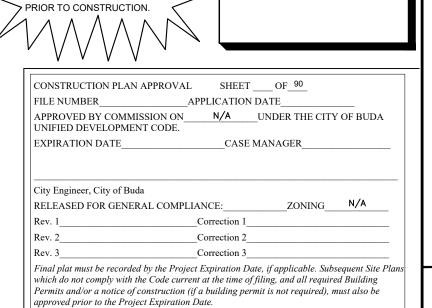
(Sta, El, n)-(Sta, El, n)... (0.00, 100.00)-(12.00, 99.76, 0.040)-(12.00, 99.26, 0.016)-(25.00, 99.52, 0.016)-(38.00, 99.26, 0.016)-(38.00, 99.76, 0.016)-(50.00, 100.00, 0.040)







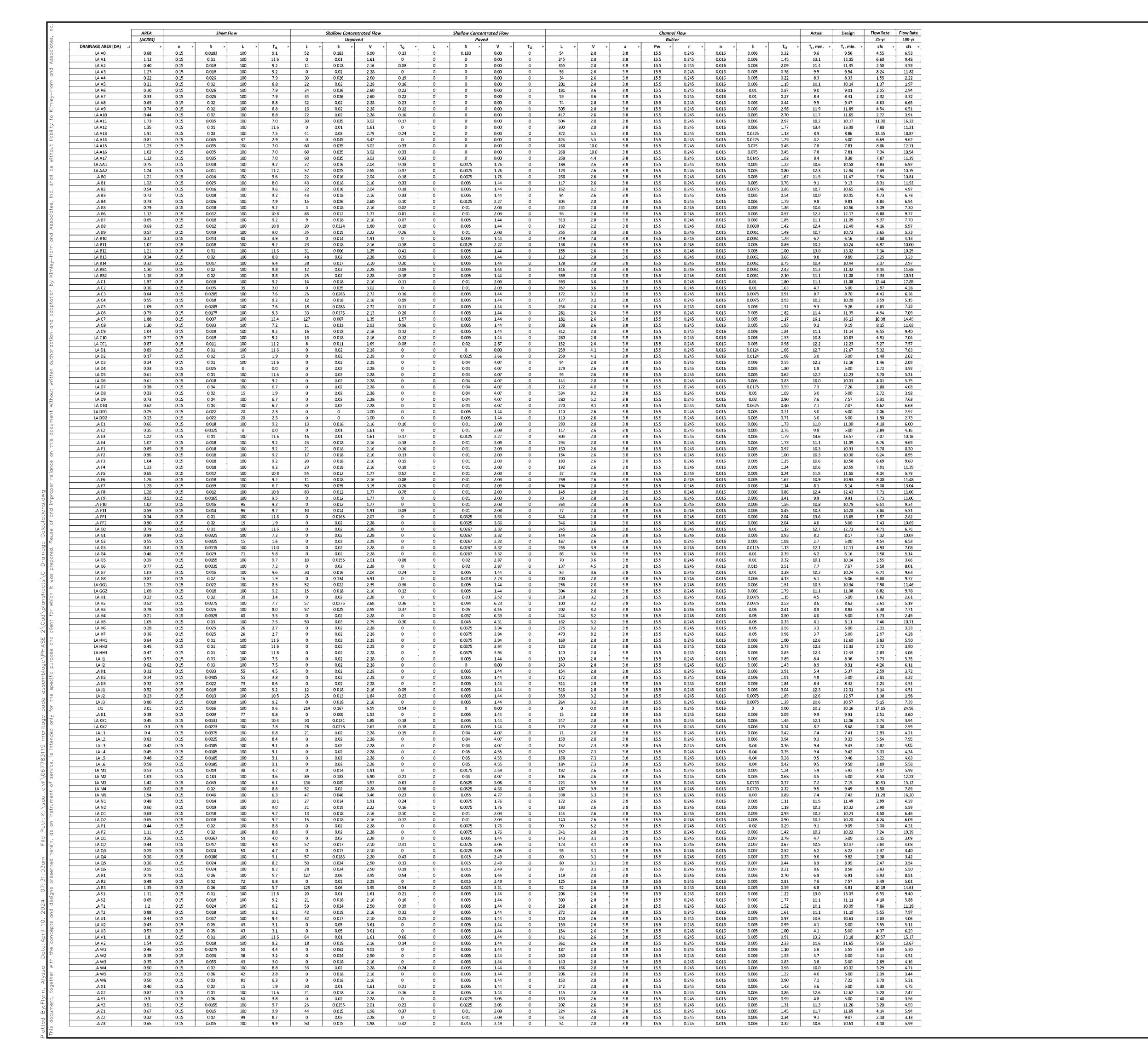


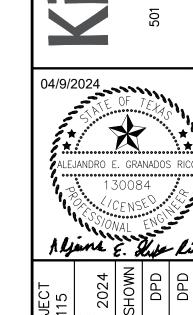


PERMIT NUMBER:

DRAINAGE CALCULATIONS (SHEET 1 OF 4)

SHEET NUMBER OF 90







SCALE:
DESIGNE
DRAWN

ATIONS 2 OF 4) DRAINAGE

BENCHMARKS

ELEV.=691.51' (NAVD '88)

ELEV.=732.56' (NAVD '88)

_ZONING___N/A

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 967 70'±
NORTH OF THE EDGE NORTH EDGE OF
PAVEMENT OF COLE SPRINGS ROAD

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES ELEV.=712.04' (NAVD '88)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO

BENCHMARKS:

Know what's **below**.

> WARNING: CONTRACTOR IS TO <

VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

UNIFIED DEVELOPMENT CODE.

RELEASED FOR GENERAL COMPLIANCE:_

approved prior to the Project Expiration Date.

FILE NUMBER

EXPIRATION DATE

PERMIT NUMBER:

City Engineer, City of Buda

CONSTRUCTION PLAN APPROVAL SHEET ___ OF _90

___APPLICATION DATE__

Correction 3 Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans

which do not comply with the Code current at the time of filing, and all required Building

Permits and/or a notice of construction (if a building permit is not required), must also be

CASE MANAGER

APPROVED BY COMMISSION ON N/A UNDER THE CITY OF BUDA

Call before you dig.

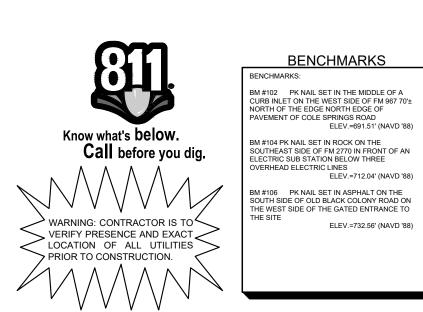
Algana E. She Rin

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SHEET NUMBER 43 OF 90

								INLE	T FLOW			ION TA	BLE	E (25-Yr Flows)	et
2% Straigh Column 1 Column 2 Inlet Drainage Inlet			lumn 4 Pass	Column 5 Q Total	Column 6	Column 7	Column 8	yo	Column 9	Min.	ON GRADE Width	1/2 Street	E _o	Column 11 Column 12 Column 13 Column 14 Column 15 Column 16 Column 17 Column 18 Se Qala La Length L/La alyo E Q/Qa Q Intercept Q Pass Ensuing	_
No. Area No. Type LA AO LA AO Grade	Type (cf Local 55 4.5	fs) 55	0.00	(Qa) (cfs) 4.55	0.60%	(in.) 5.00	(ft.) 0.280	(in.) 3.361	Width (ft)	Clear N/A	Allow 14.000	17.97	0.54	(eq. slope) (ft) (ft) (ft) (efficency) (cfs) (cfs) DA No. 4 0.21 0.70 6.47 10 1.55 1.49 1.00 1.00 4.55 0.00 LAB1 LA	
LA A2 LA A2 Grade	Local 55 6.6 Local 55 2.5 Local 55 8.3	50	0.00 0.00 0.00	6.60 2.50 8.24	0.60% 0.60% 0.50%	5.00 5.00 5.00	0.322 0.224	3.864 2.685	OVER CNTR 11.187	N/A N/A	14.000	17.97 17.97	0.47 0.66		-
LA A5 LA A5 Grade	Local 55 1.3 Local 55 2.0 Local 55 2.0	37	0.00 0.00 0.00	1.55 1.37 2.05	0.50% 0.60% 1.00%	5.00 5.00 5.00	0.179 0.189	2.145 2.265	8.935 9.439	N/A N/A	14 000 14.000	17.97 23.20	0.77 0.75	SEE SUMP CALCULATIONS BELOW 7 0.29 0.43 3.21 10 3.11 2.33 1.00 1.00 1.37 0.00 LAW1 LA A	\A2
LA A7 LA A7 Grade LA A8 LA A8 Grade	Local 55 2.3 Local 55 4.6	32 6 3	0.00	2.32	1.00%	5.00 5.00	0.198 0.282	2.370 3.384	9.875 OVER CNTR	N/A N/A	14.000	23.20 17.97	0.73 0.54	3 0.28 0.42 5.52 10 1.81 2.11 1.00 1.00 2.32 0.00 LAW2 LA	-
LA A10 LA A10 Sump	Local 55 4.5 Local 55 2.5 Local 55 11.	72	0.00 0.00 0.00	4.54 2.72 11.30	0.60% 0.50% 0.60%	5.00 5.00 5.00	0.280	3.357 4.727	13.989 OVER CNTR	N/A N/A	14.000	17.97 17.97	0.54	SEE SUMP CALCULATIONS BELOW N/A LA	-
LA A12 LA A12 Grade LA A13 LA A13 Grade	Local 55 7.8 Local 55 13.	.15	0.00	7.88 13.15	0.60%	5.00 5.00	0.344	4.128 3.905	OVER ONTR	N/A N/A	14.000 14.000	17.97 34.80	0.44 0.46	4 0.17 0.86 9.16 10 1.09 1.21 1.00 1.00 7.88 0.00 LAN2 LA E LA E LA E	-
LA A15 LA A15 Grade	Local 55 6.6 Local 55 8.8 Local 55 7.3	86	0.00 0.00 0.00	6 69 8.86 7 34	2.25% 7.50% 7.50%	5 00 5.00 5 00	0.253 0.224 0.209	3,030 2,686 2,504	12.625 11.194 10.435	N/A N/A N/A	14 000 14 000 14 000	34.80 63.54 63.54	0.60 0.66 0.70	6 0.26 0.47 18.69 20 1.07 1.86 1.00 1.00 8.86 0.00 LAA13	-
LA AA1 LA AA1 Sump	Local 55 7.8 Local 55 4.8 Local 55 7.9	83	0.00 0.00 0.00	7.67 4.63 7.49	0.50% 0.50%	5.00 5.00 5.00	0.291	3.497	OVER CNTR	N/A	14.000	27.94	0.52	SEE SUMP CALCULATIONS BELOW N/A LA	-
LA B0 LA B0 Sump LA B1 LA B1 Sump	Local 55 7.5 Local 55 8.3	54 31	0.00 0.00	7.54 8.31	0.50% 0.50%	5.00 5.00								SEE SUMP CALCULATIONS BELOW SEE SUMP CALCULATIONS BELOW N/A LA	
	Local 55 4.3 Local 55 4.3	73	0.00 0.00 0.00	3.46 4.73 4.84	0.75% 0.50% 0.60%	5.00 5.00 5.00	0.242	2.910 3.438	12.123 OVER ONTR	N/A N/A	14.000	20.09 17.97	0.62 0.53	SEE SUMPICAL CULATIONS BELOW N/A LA C	
LA B6 LA B6 Grade	Local 55 5.0 Local 55 6.8 Local 55 5.3	80	0.00 0.00 0.00	5 09 6.80 5 37	0.60% 0.60% 0.60%	5 00 5.00 5 00	0.292 0.326 0.298	3.504 3.908 3.575	OVER CNTR OVER CNTR OVER CNTR	N/A N/A N/A	14 000 14 000 14 000	17.97 17.97 17.97	0.52 0.46 0.51	6 0.18 0.82 8.34 10 1.20 1.28 1.00 1.00 6.80 0.00 LABS LA	
LA B8 LA B8 Grade	Local 55 5.3 Local 55 4.3 Local 55 3.6	16	0.00	4.16 3.65	0.38% 0.61%	5.00 5.00	0.295 0.257	3.539 3.083	OVER CNTR 12.846	N/A N/A	14.000 14.000	14.30 18.12	0.52 0.59	2 0.20 0.74 5.59 10 1.79 1.41 1.00 1.00 4.16 0.00 LAB6	-+
\rightarrow	Local 55 6.9 Local 55 7.1	97	0.00 0.00 0.00	2.88 6.97 7.14	0.61% 0.50% 0.50%	5.00 5.00 5.00	0.235	2.821	11.755	N/A	14.000	18.12	0.64	4 0.25 0.59 4.91 10 2.04 1.77 1.00 1.00 2.88 0.00 LA II2 SEE SUMP CALCULATIONS BELOW SEE SUMP CALCULATIONS BELOW LA	-
LA B13 LA B13 Grade LA B14 LA B14 Grade	Local 55 2.3 Local 55 2.9	25 07	0.00	2. 25 2.07	0.61% 0.61%	5.00 5.00	0.214	2.574	10.725 10.388	N/A N/A	14.000	18.12 18.12	0.69	9 0.26 0.53 4.26 10 2.35 1.94 1.00 1.00 2.25 0.00 LAB12 LA	E4
LA BB2 LA BB2 Grade	Local 55 7.3 Local 55 12.	33	0.00 0.00 0.00	8.14 7 33 12.44	0.61% 0.61% 1.00%	5.00 5.00 5.00	0.347 0.334	4.166 4.005	OVER CNTR	N/A N/A	14.000	18.12 18.12	0.43 0.45		-
LA C3 LA C3 Grade	Local 55 2.8 Local 55 4.4 Local 55 3.8	43	0.00 0.00 0.00	2 97 4.43 3.59	1.00% 0.75% 0.75%	5.00 5.00 5.00	0.266 0.246	3.192 2.948	13.300 12.285	N/A N/A	14.000 14.000	20.09 20.09	0.57 0.61		
LA C5 LA C5 Grade	Local 55 4.8 Local 55 4.8	85 94	0.00	4.85 4.94	0.60% 0.50%	5.00 5.00	0.287	3.442	OVER CNTR	N/A	14.000	17.97	0.53	3 0.21 0.72 6.73 10 1.49 1.45 1.00 1.00 4.85 0.00 LAC6 N/A LA	F3
LA C8 LA C8 Sump	Local 55 8.1 Local 55 6.9	15	0.00 0.00 0.00	10.08 8.15 6.55	0.50% 0.50% 0.60%	5.00 5.00 5.00	0.321	3.853	OVER CNTR	N/A	14.000	17.97	0.47	SEE SUMP CALCULATIONS BELOW SEE SUMP CALCULATIONS BELOW 7 0.19 0.81 8.14 10 1.23 1.30 1.00 1.00 6.55 0.00 LAC6 LA	-+
+ + + + + + + + + + + + + + + + + + + 	Local 55 4.3 Local 55 5.3 Local 45 5.3	27	0.00	4.91 5.27	0.60% 0.50%	5.00 5.00	0.288	3.457	OVER CNTR	N/A	14.000	17.97	0.53	SEE SUMP CALCULATIONS BELOW	
LA D2 LA D2 Sump	Local 45 1.4 Local 45 1.4	40	0.00 0.00 0.00	5.32 1 40 1.46	1.24% 1.24% 0.60%	5.00 5.00 5.00	0.183	2.193	9.139	N/A	13.000	17.44	0.76	SEE SUMP CALCULATIONS BELOW N/A LA F	
	Local 45 2.3 Local 45 3.3 Alley 4.0	70	0.00 0.00 0.00	2.72 3.70 4.01	0.50% 0.50% 0.60%	5.00 5.00 5.00	0.239	2.869	11.953	N/A	13.000	15.92	0.63	3 0.24 0.60 4.56 10 2.19 1.74 1.00 1.00 2.72 0.00 N/A LADS SEE SUMP CALCULATIONS BELOW LADS SEE GRATE INLET CALCULATIONS BELOW LADS	
LA D7	Local 45 2.3 Local 45 2.3	80 72	0.00 0.00	2.80 2.72	1.75% 5.00%	5.00 5.00	0.191 0.155	2.293 1.863	9.554 7.762	N/A N/A	13.000 13.000	29.78 50.33	0.74 0.83	4 0.28 0.40 7.00 10 1.43 2.18 1.00 1.00 2.80 0.00 LAQ4 LA D7 LA D7	
LA D9 LA D9 Grade LA D10 LA D10 Grade LA DD1 LA DD1 Sump	Alley 5.3 Alley 4.6 Collector 2.0	62	0.00 0.00 0.00	5.31 4.62 2.06	2.00% 6.25% 0.50%	5.00 5.00 5.00								SEE GRATE INLET CALCULATIONS BELOW SEE GRATE INLET CALCULATIONS BELOW SEE SUMP CALCULATIONS BELOW LA D8 N/A LA	-+
LA DD2 LA DD2 Sump LA E1 LA E1 Sump LA E2 LA E2 Sump	Collector 1.5 Alley 4.7 Alley 2.8	18	0.00 0.00 0.00	1.90 4 18 2.89	0.50% 0.60% 0.50%	5.00 5.00 5.00								SEE SUMP CALCULATIONS BELOW SEE GRATE INLET CALCULATIONS BELOW SEE GRATE INLET CALCULATIONS BELOW N/A LA	
LA E3 LA E3 Sump LA E4 LA E4 Sump	Local 55 7.0 Local 55 6.3	07 76	0.00	7.07 6.76	0.60% 0.60%	5.00 5.00								SEE SUMP CALCULATIONS BELOW SEE SUMP CALCULATIONS BELOW N/A N/A	-
LA EE2 LA EE2 Sump	Local 55 1.3 Local 55 1.3 Local 55 5.3	19	0.00 0.00 0.00	1.26 1.19 5.78	0.50% 0.50% 0.50%	5.00 5.00 5.00								SEE SUMP CALCULATIONS BELOW SEE SUMP CALCULATIONS BELOW SEE SUMP CALCULATIONS BELOW N/A N/A LA	
LA F3 LA F3 Sump	Local 55 6.0	69	0.00	6 24 6.69	0.50%	5.00 5.00								SEE SUMP CALCULATIONS BELOW SEE SUMP CALCULATIONS BELOW SEE SUMP CALCULATIONS BELOW LA	-
LA F5 LA F5 Sump	Local 55 4.0 Local 55 8.0	04	0.00 0.00 0.00	7 91 4.04 8 00	0.50% 0.50% 0.50%	5 00 5.00 5 00								SEE SUMP CALCULATIONS BELOW SEE SUMP CALCULATIONS BELOW N/A LA	V1
LA F8 LA F8 Grade	Local 55 7.3 Local 55 6.9	71	0.00 0.00 0.00	9.08 7.71 6.51	0.60% 0.60% 0.60%	5.00 5.00 5.00	0.363 0.341	4.355 4.095	OVER CNTR	N/A N/A	14.000 14.000	17.97 17.97	0.41 0.44		
LA F11 LA F11 Sump LA FF1 LA FF1 Grade	Local 55 3.8 Local 45 1.8	84 97	0.00 0.00	3 84 1.97	0.60% 0.60%	5 00 5.00	0.204	2.453	10.222	N/A	13.000	17.44	0.71	SEE SUMP CALCULATIONS BELOW 1 0.27 0.50 3.92 10 2.55 2.04 1.00 1.00 1.97 0.00 LAG2	
LA GO LA GO Grade	Local 45 7.4 Local 45 7.9	71	0.00 0.00 0.00	7 43 4.71 7.02	0.60% 1.00% 0.50%	5.00 5.00 5.00	0.337 0.258	4.039 3.093	OVER CNTR 12.888	N/A N/A	13.000 13.000	17.44 22.51	0.45 0.59	5 016 0.54 0.52 10 1.15 1.24 1.00 100 745 0.00 EAG2	
LA G3 LA G3 Grade	Local 45 4.5 Alley 4.5 Local 45 3.5	93	0.00 0.00 0.00	4.54 4.93 3.58	0.50% 1.15% 1.00%	5.00 5.00 5.00	0.233	2.790	11.626	N/A	13.000	22.51	0.64	SEE SUMP CALCULATIONS BELOW	
LA G5 LA G5 Grade LA G6 LA G6 Sump	Local 45 2.5 Alley 5.5	55 58	0.02 0.00	2 57 5.58	1.00%	5 00 5.00	0.205	2.465	10.273	N/A	13 000	22,51	0.71	1 0 27 0.44 5.86 10 1.71 2.03 1.00 0 99 2.57 0.00 LAY2 SEE GRATE INLET CALCULATIONS BELOW N/A	
LA G8 LA G8 Grade	Local 45 6.8 Local 55 7.9	80	0.00 0.00 0.00	6.71 6.80 7.98	0.60% 0.60%	5.00 5.00 5.00	0.294 0.326 0.346	3.533 3.907 4.149	OVER CNTR OVER CNTR OVER CNTR	N/A N/A N/A	13 000 13.000 14.000	22.51 17.44 17.97	0.52 0.46 0.43	6 0.18 0.82 8.33 10 1.20 1.28 1.00 1.00 6.80 0.00 LAG7	
LA H1 LA H1 Grade	Local 55 6.8 Collector 1.8 Collector 3.6	82	0.00 0.00 0.00	6.82 1.82 3.61	0.60% 0.75% 0.75%	5.00 5.00 5.00	0.326 0.190 0.246	3.911 2.284 2.956	OVER CNTR 9.515 MINCLEAR	N/A 12' 12'	14.000 11.000 11.000	17.97 21.19 21.19	0.46 0.74 0.61	4 0.28 0.46 3.95 10 2.53 2.19 1.00 1.00 1.82 0.00 LAD4	
LA H3 LA H3 Grade	Collector 5.3 Collector 1.3	38	0. 0 1 0. 0 0	5.39 1.73	5.00% 5.00%	5.00 5.00	0.201 0.131	2.406 1.572	10.026 6.552	12' 12'	11.000 11.000	54.71 54.71	0.72	2 0.28 0.42 12.84 15 1.17 2.08 1.00 1.00 5.39 0.00 LAH2 9 0.34 0.24 7.08 10 1.41 3.18 1.00 1.00 1.73 0.00 LAH1	
LA H6 LA H6 Grade	Collector 2.3 Collector 2.3	31	0.00 0.00 0.00	7.46 2.31 2.97	5.00% 5.00% 5.00%	5.00 5.00 5.00	0.227 0.146 0.160	2.718 1.752 1.925	MINCLEAR 7.298 8.019	12' 1 2 ' 12'	11.000 11.000 11.000	54.71 54.71 54.71	0.66 0.86 0.82	6 032 0.28 8.17 10 1.22 2.85 1.00 1.00 2.31 0.00 LAH4	
LA HH1 LA HH1 Grade LA HH2 LA HH2 Grade LA HH3 LA HH3 Grade	Alley 2.3 Alley 2.3	72	0.00 0.00 0.00	3.63 2.72 2.63	0.60% 0.60% 0.60%	5.00 5.00 5.00								SEE GRATE INLET CALCULATIONS BELOW SEE GRATE INLET CALCULATIONS BELOW LAHH1 SEE GRATE INLET CALCULATIONS BELOW LAHH2	
LA III Grade LA II LA II Grade LA I2 LA I2 Grade	Alley 2.8 Alley 3.3 Alley 4.3	73	0.00	3.73 4.26	0.60% 0.60%	5.00 5.00								SEE GRATE INLET CALCULATIONS BELOW LAG4 SEE GRATE INLET CALCULATIONS BELOW LAI1	
LA II2 LA II2 Grade	Collector 2.3 Collector 2.3 Collector 2.3	81	0.00 0.00 0.00	2.59 2.81 2.24	0.60% 0.60% 0.60%	5.00 5.00 5.00	0.227 0.234 0.215	2.720 2.803 2.578	MINCLEAR MINCLEAR 10.742	12' 12' 12'	11.000 11.000	18.95 18.95 18.95	0.66 0.64 0.68	4 0.25 0.58 4.82 10 2.07 1.78 1.00 1.00 2.81 0.00 LAY2	
LA J1 LA J1 Grade LA J2 LA J2 Grade	Local 55 3.1 Local 55 1.3	14 38	0.00	3.14 1.38	0.60% 0.75%	5.00 5.00	0.244 0.172	2.925 2.059	12.189 8.580	N/A N/A	14.000 14.000	17.97 20.09	0.62 0.79	2 0.24 0.61 5.16 10 1.94 1.71 1.00 1.00 3.14 0.00 LAF8 9 0.30 0.41 3.40 10 2.94 2.43 1.00 1.00 1.38 0.00 N/A	
JJ1 JJ1 Area	Local 55 5: Collector 17: Local 55 2:	.15	0.00 0.00 0.00	5.15 17 15 2.51	0.75% 0.00% 0.60%	5.00 5.00 5.00	0.281	3.376 2.688	11.199	N/A N/A	14.000	20.09 17.97	0.54	HEADWALL N/A	
 	Collector 2.0 Alley 2.8	08	0.00 0.00 0.00	2.74 2.08 2.93	0.60% 0.60% 0.60%	5.00 5.00 5.00	0.232 0.209	2.780 2.506	MINCLEAR 10.441	12' 12'	11.000 11.000	18.95 18.95	0.64 0.70	├	
LA L2 LA L2 Grade LA L3 LA L3 Grade	Alley 5.5 Alley 2.4	54 82	0.00 0.00	5.54 2 82	0.60% 4.00%	5.00 5.00								SEE GRATE INLET CALCULATIONS BELOW LAL1 SEE GRATE INLET CALCULATIONS BELOW N/A	
LA L4 LA L4 Grade LA L5 LA L5 Grade LA L6 LA L6 Grade	Alley 3.0 Alley 3.0 Alley 3.8	22	0.00 0.00 0.00	3.03 3.22 3.89	4.00% 4.00% 4.00%	5.00 5.00 5.00								SEE GRATE INLET CALCULATIONS BELOW SEE GRATE INLET CALCULATIONS BELOW LAL4 SEE GRATE INLET CALCULATIONS BELOW LAL5	
LA M2 LA M2 Sump	Local 55 4.1 Local 55 8.5 Local 55 10	50	0.00 0.02 0.00	4.17 8.52 10.53	0.50% 0.50% 7.33%	5.00 5.00 5.00	0.240	2.879	11.996	N/A	14.000	62.81	0.63	SEE SUMP CALCULATIONS BELOW N/A	
LA M4 LA M4 Grade	Local 55 5.5	50	0.00	5.50 11.28	7.33% 3.00%	5.00 5.00	0.188 0.291	2.257 3.493	9.404 OVER CNTR	N/A N/A	14.000 14.000	62.81 40.18	0.75 0.52	5 0.29 0.39 14.19 15 1.06 2.22 1.00 1.00 5.50 0.00 LAM1	
LA N2 LA N2 Sump	Local 55 2.8 Local 55 3.8 Local 55 4.8	90	0.00 0.00 0.00	2 99 3.90 4 50	0.50% 0.50% 0.50%	5.00 5.00 5.00								SEE SUMP CALCULATIONS BELOW N/A SEE SUMP CALCULATIONS BELOW N/A SEE SUMP CALCULATIONS BELOW N/A	
LA O2 LA O2 Grade LA P1 LA P1 Grade	Local 55 4.3 Local 45 3.0	24	0.00 0.00	4 24 3.00	0.50% 2.00%	5.00 5.00	0.191	2.294	9.558	N/A	13.000	31.83	0.74	SEE SUMP CALCULATIONS BELOW N/A 4 0.28 0.40 7.49 10 1.33 2.18 1.00 1.00 3.00 0.00 LA H4	
+ + +	Alley 7.3 Collector 2.3 Collector 2.3	15	0.00 0.00 0.00	7 24 2.15 2.84	0.60% 0.70% 0.70%	5.00 5.00 5.00	0.205 0.228	2.463 2.737	10.262 MINGLEAR	12' 12'	11.000 11.000	20.47 20.47	0.71 0.65		
LA Q4 LA Q4 Grade	Collector 2.3 Collector 2.3 Collector 2.4	38	0.00 0.00 0.00	2.37 2.38 2.47	0.70% 0.70% 0.70%	5.00 5.00 5.00	0.213 0.214 0.216	2.555 2.562 2.596	10.644 10.676 10.817	12' 12' 12'	11.000 11.000 11.000	20.47 20.47 20.47	0.69 0.69 0.68	9 0.26 0.53 4.53 10 2.21 1.95 1.00 1.00 2.38 0.00 LAQ2	
LA Q6 LA Q6 Grade LA R1 LA R1 Grade	Collector 3.8 Local 55 5.9	83 93	0.00 0.00	3 83 5.93	0.70% 0.60%	5.00 5.00	0.216 0.255 0.309	3.061 3.711	MINCLEAR OVER CNTR	1 2 ' N/A	11 000 14 000	20.47 20.47 17.97	0.59 0.49	9 0.23 0.64 6.00 10 1.67 1.63 1.00 1.00 3.63 0.00 LAC4 9 0.19 0.78 7.64 10 1.31 1.35 1.00 1.00 5.93 0.00 LAC8	
LA R3 LA R3 Sump	Local 55 10. Local 55 6.5	.18	0.00 0.00 0.00	3 49 10.18 6.55	0.50% 0.50% 0.60%	5.00 5.00 5.00	0.321	3.852	OVER CNTR	N/A	14.000	17.97	0.47	SEE SUMP CALCULATIONS BELOW N/A SEE SUMP CALCULATIONS BELOW N/A 7 0.19 0.80 8.14 10 1.23 1.30 1.00 1.00 6.55 0.00 LA B11	
LA S2 LA S2 Grade LA T1 LA T1 Grade	Local 55 4.1 Local 55 7.8	10 86	0.00 0.00	4.10 7.86	0.60% 0.60%	5.00 5.00	0.269 0.344	3.232 4.126	13.466 OVER ONTR	N/A N/A	14.000 14.000	17.97 17.97	0.56 0.44	6 0.22 0.68 6.06 10 1.65 1.55 1.00 1.00 4.10 0.00 LAB12 4 0.17 0.86 9.15 10 1.09 1.21 1.00 1.00 7.86 0.00 LAC6	
LA U1 LA U1 Grade	Local 55 5.5 Collector 2.6 Collector 3.5	83	0.00 0.00 0.00	5.55 2.83 3.55	0.60% 0.50% 0.50%	5.00 5.00 5.00	0.302 0.242	3.621 2.909	OVER CNTR MINCLEAR	N/A 12'	14.000 11.000	17.97 17.30	0.50 0.62	├──	
LA V1 LA V1 Sump	Collector 4.3 Local 55 10. Local 55 9.3	.57	0.00 0.00 0.00	4.37 10 57 9.53	0.50% 0.50% 0.50%	5.00 5.00 5.00								SEE SUMP CALCULATIONS BELOW N/A SEE SUMP CALCULATIONS BELOW N/A SEE SUMP CALCULATIONS BELOW N/A	
LA W1 LA W1 Grade LA W2 LA W2 Grade	Collector 3.0	6 9 14	0.00	3 69 3.14	0.60%	5.00 5.00	0.259 0.244	3.106 2.923	MINCLEAR MINCLEAR	12' 12'	11 000 11.000	18.95 18.95	0.59 0.62	9 0.23 0.65 5.68 10 1.76 1.61 1.00 1.00 3.69 0.00 LAW3 2 0.24 0.61 5.15 10 1.94 1.71 1.00 1.00 3.14 0.00 LAW4	
LA W4 LA W4 Grade	Collector 2.3 Collector 2.3	29	0.00 0.00 0.00	2.89 3.29 2.39	0.60% 0.60% 0.60%	5.00 5.00 5.00	0.220	2.641	MINCLEAR	12'	11.000	18.95	0.67	SEE SUMP CALCULATIONS BELOW N/A SEE SUMP CALCULATIONS BELOW N/A 7 0.26 0.55 4.39 10 2.28 1.89 1.00 1.00 2.39 0.00 LAW3	
LA W6 LA W6 Grade LA X1 LA X1 Sump	Collector 3.3 Alley 3.3	70 30	0.00	3.70 3.30 5.20	0.60% 0.60% 0.60%	5.00 5.00 5.00	0.259	3.109	MINCLEAR	12'	11.000	18.95	0.58	8 0.23 0.65 5.69 10 1.76 1.61 1.00 1.00 3.70 0.00 LAW4 SEE GRATE INLET CALCULATIONS BELOW N/A	
LA Y1 LA Y1 Sump LA Y2 LA Y2 Sump	Collector 2.4 Collector 3.3	48 20	0.00	2.48 3 20	0.50% 0.50%	5.00 5.00								SEE SUMP CALCULATIONS BELOW N/A SEE SUMP CALCULATIONS BELOW N/A	
LA Z2 LA Z2 Grade	Local 55 4.1 Local 55 2.1 Local 55 4.1	18	0.00 0.00 0.00	4.14 2 18 4.18	0.50% 0.60% 0.60%	5.00 5.00 5.00	0.280 0.213 0.271	3.356 2.552 3.254	13.984 10.633 13.559	N/A N/A N/A	14.000 14.000 14.000	16.40 17.97 17.97	0.54 0.69 0.56	9 0 26 0.52 4.17 10 2.40 1.96 1.00 1 00 2 18 0.00 LAB10	
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		2% Straig	ht Crown											SUMP IN	ILETS												
	Inlet	Drainage	Inlet	Street	Q	Q Pass	Q Total	Slope	a	yo	yo	Ponded	Min.	Width	1/2 Street	<u>Ε</u> ,	S _E	Qa/La	La	Length	L/La	a/yo	Crown	Q/Qa	Q Intercept	Q Pass	Ensuing
n 18	No.	Area No.	Туре	Туре	(cfs)	(cfs)	(Qa) (cfs)	(%)	(in.)	(ft.)	(in.)	Width (ft)	Clear	Allow	Cpcty (cfs)	_v			(ft)	(ft)		,	Pass (Cfs)		(cfs)	(cfs)	DA No.
s Ensuing	LA A3	LA A3	Sump	Local 55	8.24	0.000	8.238	0.50%	5.000	. () 0.422	5.070	OVER CNTR	N/A	14.000	-	0.34	0.14	1.11	7.431	10	1.35	0.99	0.00	1.00	10.61	0.00	X
DA No.	LA A4	LA A4	Sump	Local 55	1.55	0.000	1.549	0.50%	5.000	0.139	1.664	6.932	N/A	14.000	_	0.87	0.33	-1.95	-0.796	10	-12.57	3.01	0.00	1.00	10.61	0.00	Х
LABO LABO	LA A10	LA A10	Sump	Local 55	2.72	0.000	2.722	0.50%	5.000	0.202	2.423	10.096	N/A	14.000	_	0.72	0.27	4.21	0.647	10	15.45	2.06	0.00	1.00	10.61	0.00	X
N/A N/A	LA AA1	LA AA1	Sump	Local 55	4.83	0.000	4.825	0.50%	5.000	0.296	3.549	OVER CNTR	N/A	14.000	_	0.51	0.20	1.49	3.234	10	3.09	1.41	0.00	1.00	10.61	0.00	$\frac{x}{x}$
N/A LAW1	LA AA2	LA AA2	Sump	Local 55	7.49	0.000	7.489	0.50%	5.000	0.396	4.757	OVER CNTR	N/A	14.000	_	0.37	0.15	1.15	6.509	10	1.54	1.05	0.00	1.00	10.61	0.00	X
LAW2	LA BO	LA B0	Sump	Local 55	7.54	0.000	7.535	0.50%	5.000	0.398	4.777	OVER CNTR	N/A	14.000	_	0.37	0.15	1.15	6.566	10	1.52	1.05	0.00	1.00	10.61	0.00	X
LAW2	LA B1	LA B1	Sump	Local 55	8.31	0.000	8.305	0.50%	5.000	0.425	5.097	OVER CNTR	N/A	14.000	_	0.34	0.14	1.11	7.513	10	1.33	0.98	0.00	1.00	10.61	0.00	<u>x</u>
LA A10	LA B3	LA B3	Sump	Local 55	4.73	0.000	4.726	0.50%	5.000	0.292	3.500	OVER CNTR	N/A	14.000	_	0.52	0.20	1.52	3.112	10	3.21	1.43	0.00	1.00	10.61	0.00	X
N/A LA A10	LA B11	LAB11	Sump	Local 55	6.97	0.000	6.971	0.50%	5.000	0.378	4.536	OVER CNTR	N/A	14.000	_	0.39	0.16	1.19	5.873	10	1.70	1.10	0.00	1.00	10.61	0.00	$\frac{\lambda}{\lambda}$
LAN2 LAA12	LA B12	LAB12	Sump	Local 55	7.14	0.000	7.141	0.50%	5.000	0.384	4.609	OVER ONTR	N/A	14.000	_	0.38	0.16	1.17	6.082	10	1.64	1.08	0.00	1.00	10.61	0.00	X
LAA12	LA C1	LA C1	Sump	Local 55	12.44	0.000	12.441	1.00%	5.000	0.424	5.093	OVER CNTR	N/A	14.000	-	0.34	0.14	0.99	12.599	15	1.19	0.98	0.00	1.00	15.91	0.00	$\frac{\lambda}{X}$
LAA13	LA C1	LAC1	Sump	Local 55	2.97	0.000	2.972	1.00%	5.000	0.424	2.569	10.704		14.000	-		0.14		0.954	10	10.48	1.95	0.00	1.00	10.61	0.00	$\frac{}{}$
LA A15		LA C6	· · ·		4.94		4.940	0.50%	5.000	0.214			N/A		-	0.69		3.11	3.374	10	2.96	1.39		1.00		0.00	${x}$
N/A N/A	LA C6	LA C7	Sump	Local 55	10.08	0.000					3.605	OVER CNTR	N/A	14.000	-	0.51	0.20	1.46					0.00		10.61		
N/A	LA C7	LAC7 LAC8	Sump	Local 55	8.15	0.000	10.080 8.150	0.50%	5.000 5.000	0.483	5.800 5.034	OVER CNTR	N/A	14.000	-	0.29	0.12	1.04	9.696 7.323	10	1.03 1.37	0.86	0.00	1.00	10.61	0.00	
N/A LAB3	LA C8		Sump	Local 55		0.000		0.50%		0.419		OVER CNTR	N/A	14.000	-	0.34	0.14	1.11		10			0.00		10.61		X
LAB3 N/A	LA CC1	LACC1	Sump	Local 55	5.27	0.000	5.273	0.50%	5.000	0.314	3.766	OVER CNTR	N/A	14.000	-	0.48	0.19	1.39	3.785	10	2.64	1.33	0.00	1.00	10.61	0.00	X
LAB3	LA D1	LA DO	Sump	Local 45	5.32	0.000	5.315	1.24%	5.000	0.315	3.785	OVER CNTR	N/A	13.000	-	0.48	0.19	1.39	3.836	10	2.61	1.32	0.00	1.00	10.61	0.00	X
LAB5	LA D2	LA D2	Sump	Local 45	1.40	0.000	1.403	1.24%	5.000	0.130	1.558	6.491	N/A	13.000	-	0.89	0.34	-1.44	-0.974	10	-10.26	3.21	0.00	1.00	10.61	0.00	X
LAB4 LAB6	LA D5	LA D5	Sump	Local 45	3.70	0.000	3.698	0.50%	5.000	0.248	2.972	12.385	N/A	13.000	-	0.61	0.24	2.00	1.848	10	5.41	1.68	0.00	1.00	10.61	0.00	X
LAII2	LA DD1	LADD1	Sump	Collector	2.06	0.000	2.064	0.50%	5.000	0.168	2.015	8.394	12'	11.000	-	0.80	0.30	-12.72	-0.162	10	-61.62	2.48	0.00	1.00	10.61	0.00	X
N/A	LA DD2	LADD2	Sump	Collector	1.90	0.000	1.899	0.50%	5.000	0.159	1.906	7.940	12'	11.000	-	0.82	0.31	-5.20	-0.365	10	-27.37	2.62	0.00	1.00	10.61	0.00	X
N/A LAB12	LA E3	LA E3	Sump	Local 55	7.07	0.000	7.073	0.60%	5.000	0.382	4.580	OVER CNTR	N/A	14.000	-	0.39	0.16	1.18	5.998	10	1.67	1.09	0.00	1.00	10.61	0.00	<u> </u>
LAB12	LA E4	LA E4	Sump	Local 55	6.76	0.000	6.755	0.60%	5.000	0.370	4.441	OVER CNTR	N/A	14.000	-	0.40	0.16	1.20	5.607	10	1.78	1.13	0.00	1.00	10.61	0.00	X
LAF5	LA EE1	LA EE1	Sump	Local 55	1.26	0.000	1.256	0.50%	5.000	0.121	1.447	6.029	N/A	14.000	-	0.91	0.34	-1.09	-1.155	10	-8.65	3.46	0.00	1.00	10.61	0.00	X
N/A	LA EE2	LA EE2	Sump	Local 55	1.19	0.000	1.190	0.50%	5.000	0.116	1.396	5.815	N/A	14.000	-	0.92	0.35	-0.96	-1.237	10	-8.09	3.58	0.00	1.00	10.61	0.00	X
N/A LAU1	LA F1	LA F1	Sump	Local 55	5.78	0.000	5.785	0.50%	5.000	0.334	4.005	OVER CNTR	N/A	14.000	-	0.45	0.18	1.31	4.414	10	2.27	1.25	0.00	1.00	10.61	0.00	Х
LAW3	LA F2	LA F2	Sump	Local 55	6.24	0.000	6.241	0.50%	5.000	0.351	4.213	OVER CNTR	N/A	14.000	-	0.43	0.17	1.25	4.975	10	2.01	1.19	0.00	1.00	10.61	0.00	Х
N/A	LA F3	LAF3	Sump	Local 55	6.69	0.000	6.691	0.50%	5.000	0.368	4.413	OVER CNTR	N/A	14.000	-	0.40	0.16	1.21	5.528	10	1.81	1.13	0.00	1.00	10.61	0.00	Х
N/A N/A	LA F4	LA F4	Sump	Local 55	7.91	0.000	7.909	0.50%	5.000	0.411	4.934	OVER CNTR	N/A	14.000	-	0.35	0.15	1.13	7.026	10	1.42	1.01	0.00	1.00	10.61	0.00	Х
LAC6	LA F5	LA F5	Sump	Local 55	4.04	0.000	4.036	0.50%	5.000	0.263	3.151	13.127	N/A	14.000	-	0.58	0.23	1.78	2.263	10	4.42	1.59	0.00	1.00	10.61	0.00	Х
LAC8 N/A	LA F6	LA F6	Sump	Local 55	8.00	0.000	8.000	0.50%	5.000	0.414	4.971	OVER CNTR	N/A	14.000	-	0.35	0.14	1.12	7.137	10	1.40	1.01	0.00	1.00	10.61	0.00	Х
N/A	LA F10	LA F10	Sump	Local 55	6.51	0.000	6.511	0.60%	5.000	0.361	4.334	OVER CNTR	N/A	14.000	-	0.41	0.17	1.23	5.306	10	1.88	1.15	0.00	1.00	10.61	0.00	Х
N/A LAD5	LA F11	LA F11	Sump	Local 55	3.84	0.000	3.839	0.60%	5.000	0.254	3.047	12.697	N/A	14.000	-	0.60	0.23	1.90	2.021	10	4.95	1.64	0.00	1.00	10.61	0.00	X
N/A N/A	LA G1	LA G1	Sump	Local 45	7.02	0.000	7.016	0.50%	5.000	0.380	4.555	OVER CNTR	N/A	13.000	-	0.39	0.16	1.18	5.927	10	1.69	1.10	0.00	1.00	10.61	0.00	Х
LA D5	LA G2	LA G2	Sump	Local 45	4.54	0.000	4.540	0.50%	5.000	0.284	3.408	OVER CNTR	N/A	13.000	-	0.54	0.21	1.57	2.883	10	3.47	1.47	0.00	1.00	10.61	0.00	Х
LAQ4	LA M1	LA M1	Sump	Local 55	4.17	0.000	4.171	0.50%	5.000	0.268	3.220	13.419	N/A	14.000	-	0.57	0.22	1.72	2.429	10	4.12	1.55	0.00	1.00	10.61	0.00	Х
LAD7	LA M2	LA M2	Sump	Local 55	8.50	0.019	8.521	0.50%	5.000	0.432	5.185	OVER CNTR	N/A	14.000	-	0.33	0.14	1.10	7.778	10	1.29	0.96	0.00	1.00	10.61	0.00	Х
LA D8 N/A	LA N1	LA N1	Sump	Local 55	2.99	0.000	2.986	0.50%	5.000	0.215	2.577	10.739	N/A	14.000	-	0.68	0.26	3.07	0.972	10	10.28	1.94	0.00	1.00	10.61	0.00	Х
N/A	LA N2	LA N2	Sump	Local 55	3.90	0.000	3.898	0.50%	5.000	0.257	3.078	12.827	N/A	14.000	-	0.59	0.23	1.86	2.094	10	4.78	1.62	0.00	1.00	10.61	0.00	Х
N/A N/A	LA O1	LA 01	Sump	Local 55	4.50	0.000	4.502	0.50%	5.000	0.282	3.389	OVER CNTR	N/A	14.000	-	0.54	0.21	1.59	2.837	10	3.53	1.48	0.00	1.00	10.61	0.00	X
N/A N/A	LA O2	LA 02	Sump	Local 55	4.24	0.000	4.243	0.50%	5.000	0.271	3.257	13.573	N/A	14.000	-	0.56	0.22	1.69	2.518	10	3.97	1.53	0.00	1.00	10.61	0.00	Х
N/A	LA R2	LA R2	Sump	Local 55	3.49	0.000	3.493	0.50%	5.000	0.238	2.861	11.922	N/A	14.000	-	0.63	0.24	2.19	1.595	10	6.27	1.75	0.00	1.00	10.61	0.00	Х
N/A N/A	LA R3	LA R3	Sump	Local 55	10.18	0.000	10.175	0.50%	5.000	0.486	5.836	OVER CNTR	N/A	14.000	-	0.29	0.12	1.04	9.813	10	1.02	0.86	0.00	1.00	10.61	0.00	Х
N/A	LA U2	LA U2	Sump	Collector	3.55	0.000	3.549	0.50%	5.000	0.241	2.892	MINCLEAR	12'	11.000	-	0.62	0.24	2.13	1.665	10	6.01	1.73	0.00	1.00	10.61	0.00	Х
N/A N/A	LA U3	LA U3	Sump	Collector	4.37	0.000	4.375	0.50%	5.000	0.277	3.325	MINCLEAR	12'	11.000	-	0.55	0.21	1.63	2.680	10	3.73	1.50	0.00	1.00	10.61	0.00	Х
N/A	LA V1	LA V1	Sump	Local 55	10.57	0.000	10.569	0.50%	5.000	0.499	5.986	OVER CNTR	N/A	14.000	-	0.28	0.12	1.03	10.297	10	0.97	0.84	0.00	1.00	10.61	0.00	Х
N/A LAF5	LA V2	LA V2	Sump	Local 55	9.53	0.000	9.528	0.50%	5.000	0.466	5.586	OVER CNTR	N/A	14.000	-	0.30	0.13	1.06	9.017	10	1.11	0.90	0.00	1.00	10.61	0.00	Х
LA N2 N/A	LA W3	LA W3	Sump	Collector	2.89	0.000	2.889	0.60%	5.000	0.210	2.521	10.505	12'	11.000	-	0.70	0.27	3.39	0.853	10	11.73	1.98	0.00	1.00	10.61	0.00	Х
N/A	LA W4	LA W4	Sump	Collector	3.29	0.000	3.286	0.60%	5.000	0.229	2.747	MINCLEAR	12'	11.000	-	0.65	0.25	2.45	1.341	10	7.46	1.82	0.00	1.00	10.61	0.00	X
LAG2	LA Y1	LA Y1	Sump	Collector	2.48	0.000	2.476	0.50%	5.000	0.190	2.275	9.479	12'	11.000	_	0.75	0.29	7.17	0.345	10	28.96	2.20	0.00	1.00	10.61	0.00	X
LAG1	LA Y2	LA Y2	Sump	Collector	3.20	0.000	3.199	0.50%	5.000	0.225	2.699	MINCLEAR	12'	11.000	-	0.66	0.25	2.59	1.234	10	8.10	1.85	0.00	1.00	10.61	0.00	X
N/A N/A			'			1																	<u>. </u>				



CONSTRUCTION PLAN	N APPROVAL SHEET	OF_90	
FILE NUMBER	APPLICATION	DATE	
APPROVED BY COMM UNIFIED DEVELOPME	MISSION ON N/A ENT CODE.	_UNDER THE CITY	OF BUDA
EXPIRATION DATE	CASE !	MANAGER	
	ERAL COMPLIANCE:Correction 1		
	Correction 2		
	Correction 3		
	ed by the Project Expiration Da		
which do not comply with Permits and/or a notice of approved prior to the Proj	f construction (if a building peri		

THE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

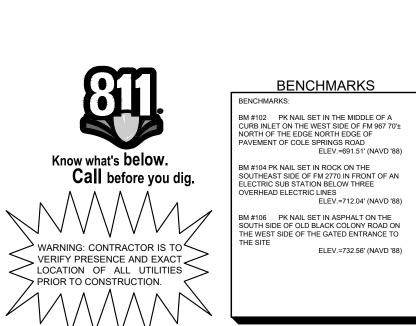
DRAINAGE CALCULATIONS (SHEET 3 OF 4)

44 OF 90

SHEET NUMBER

dar-		2% Straig	ght Crown	C-1	C1	4 C-1	E 0-1	C-2	1.F-1		T FLOW		The C ULATION GRADE	ON TA	BLE	(100-Yr		Coul	Pale	Cells	C-1	-	Cort	Cul	(Cod)	
lumn 1 Inlet No. A A0 A A1	Orainage Area No. LA AO LA A1	Inlet Type Grade Grade	Street Type Local 55 Local 55	Column 3 Q (cfs) 6.53 9.48	Q Pass (cfs) 0.00		Slope (%) 0.60%	a (in.) 5.00 5.00	Y _o (ft.) 0.321 0.369	yo (in.) 3.848 4.425	Ponded Width (ft) OVER ONTR	Min. Ctear N/A N/A	Width Allow 14.000	1/2 Street Cpcty (cfs) 17 97 17 97	E ₀ 0.47 0.40	S _E (eq. stope) 0.19 0.16	Qa/La 0.80 0.92	Column 12 La (ft) 8 12 10.33	Column 13 Length (ft) 10	Column 14 L/La 1 23 0.97	Column 15 a/y _o 1 30 1.13	(efficency) 1.00 1.00	Column 16 Q/Qa 1.00 1.00	Column 17 Q Intercept (cfs) 6.53 9.46		Ensuir DA No LA B
A A2 A A3 A A4	LA A2 LA A3 LA A4	Grade Sump Sump	Local 55 Local 55 Local 55	3.59 11.82 2.22	0.00 0.00 00.0	3.59 11.82 2.22	0.60% 0.50% 0.50%	5.00 5.00 5.00	0.256	3.074	12.809	N/A	14.000	17.97	0.59	SEE SU	0.64 IMP CALCUL IMP CALCUL	ATIONS BEL	ow	1.79	1.63	1.00	1.00	3.59	0.00	LA A N/A N/A
A A5 A A6 A A7	LA A5 LA A6 LA A7	Grade Grade Grade	Local 55 Local 55 Local 55	1.97 2.94 3.32	0.00 0.00 0.00	1.97 2 94 3.32	0.60% 1.00% 1.00%	5.00 5.00 5.00	0.205 0.216 0.226	2.455 2.594 2.714	10.231 10.808 11.308	N/A N/A N/A	14.000 14.000 14.000	17.97 23.20 23.20	0.71 0.68 0.66	0.27 0.26 0.25	0.50 0.46 0.49	3.93 6.34 6.80	10 10 10	2.55 1.58 1.47	2.04 1 93 1.84	1.00 1.00 1.00	1.00 1.00 1.00	1.97 2.94 3.32	0.00 00 0.00	LAV LAV
A A8 A A9 A A10	LA A8 LA A9 LA A10	Grade Grade Sump	Local 55 Local 55 Local 55	6.65 6.51 3.91	0.00 0.00 0.00	6.65 6.51 3.91	0.60% 0.60% 0.50%	5.00 5.00 5.00	0.323 0.320	3.874 3.844	OVER CNTR	N/A N/A	14.000 14.000	17.97 17.97	0.47 0.47	0.19 0.19 SEE SU	0.81 0.80 IMP CALCUL	8.22 8.11 ATIONS BEL	10 10 0W	1.22 1.23	1.29 1.30	1.00 1.00	1.00 1.00	6.65 6.51	0.00	LA N
A A11 A A12 A A13	LA A11 LA A12 LA A13	Grade Grade Grade	Local 55 Local 55 Local 55	16.22 11.31 18.87	0.01 0.73 0.37	16.23 12.04 19.23	0.60% 0.60% 2.25%	5.00 5.00 5.00	0.451 0.403 0.375	5.413 4.840 4.503	OVER ONTR OVER ONTR OVER ONTR	N/A N/A N/A	14.000 14.000 14.000	17.97 17.97 34.80	0.32 0.36 0.39	0.13 0.15 0.16	1.10 1.00 0.81	14.69 12.07 23.89	15 10 20	1.02 0.83 0.84	0.92 1.03 1.11	1.00 0.96 0.96	1.00 0.94 0.98	16.23 11.53 18.50	0.00 0.51 0.73	LA A
A A14 A A15 A A16	LA A14 LA A15 LA A16	Grade Grade Grade	Local 55 Local 55 Local 55	9.62 12.71 10.54	0.00	9.62 12.74 10.54	2.25% 7.50% 7.50%	5.00 5.00 5.00	0.289 0.257 0.239	3.473 3.079 2.868	OVER CNTR 12.830 11.949	N/A N/A N/A	14.000 14.000 14.000	34.80 63.54 63.54	0.53 0.59 0.63	0.21 0.23 0.24	0.63 0.55 0.51	15.32 23.23 20.72	15 20 20	0.98 0.86 0.97	1.44 1.62 1.74	1.00 0.97 1.00	1.00 1.00 1.00	9.6 1 12.38 10.52	0.01 0.37 0.02	LA A
A A17 A AA1	LA A17 LA AA1	Grade Sump	Local 55 Local 55	11.29 6.92	0.00	11.29 6 92 10.75	1.45% 0.50%	5.00 5.00	0.334	4.004	OVER CNTR	N/A	14.000	27.94	0.45	0.18 SEE SU	0.72 IMP CALCUL	15.59 ATIONS BELI	15 OVV	0.96	1.25	1.00	1.00	11.26	0.03	LA A
A AA2 A B0 A B1	LA AA2 LA B0 LA B1	Sump Sump	Local 55 Local 55 Local 55	10.75 10.81 11.92	0.00	10.83 11.92	0.50% 0.50%	5.00 5.00 5.00								SEE SU	IMP CALCUL: IMP CALCUL: IMP CALCUL:	ATIONS BELI ATIONS BELI	ow ow							N/
A B2 A B3 A B4	LA B2 LA B3 LA B4	Grade Sump Grade	Local 55 Local 55 Local 55	4.97 6.78 6.94	0.00	4 97 6.78 6 94	0.75% 0.50% 0.60%	5.00 5.00 5.00	0.278	3.937 3.937	13.881 OVER CNTR	N/A N/A	14.000	20 09 17 97	0.55	0.18	0.70 IMP CALGUL 0.82	8 44	10	1 40	1 50	1.00	1.00	4.97 6.94	0 00	LA N/ LA
A B5 A B6 A B7	LA B5 LA B6 LA B7	Grade Grade Grade	Local 55 Local 55 Local 55	7.30 9.77 7.70	0.05 0.00 0.00	7.34 9.77 7.70	0.60% 0.60%	5.00 5.00 5.00	0.335 0.373 0.341	4.021 4.475 4.093	OVER CNTR OVER CNTR OVER CNTR	N/A N/A N/A	14.000 14.000 14.000	17.97 17.97 17.97	0.45 0.40 0.44	0.18 0.16 0.18	0.84 0.93 0.85	8.75 10.53 9.03	10 10 10	1.14 0.95 1.11	1.24 1.12 1.22	1.00 1.00 1.00	0.99 1.00 1.00	7.34 9.72 7.70	0.00 0.05 0.00	LA LA
A B8 A B9 A 61 0	LA B8 LA B9 LA B10	Grade Grade Grade	Local 55 Local 55 Local 55	5.97 5.23 4.13	0.00	5 97 5.23 4 13	0.38% 0.61% 0.61%	5.00 5.00 5.00	0.338 0.294 0.269	4,053 3,530 3,232	OVER CNTR OVER CNTR 13.466	N/A N/A N/A	14.000 14.000 14.000	14 30 18.12 18 12	0.45 0.52 0.56	0.18 0.20 0.22	0.85 0.74 0.68	7 03 7.08 6 12	10 10	1 42 1.41 1 64	1 23 1.42 1 55	1.00 1.00 1.00	1.00 1.00 1.00	5.97 5.23 4.13	0 00 0 00 0 00	LA LA
A B11 A B12 A B13	LA B11 LA B12 LA B13	Sump Sump Grade	Local 55 Local 55 Local 55	10.00 10.25 3.23	0.01 0.00 0.00	10.02 10.25 3.23	0.50% 0.50% 0.61%	5.00 5.00 5.00	0.246	2.947	12.280	N/A	14.000	18.12	0.61		IMP CALCUL: IMP CALCUL: 0.61			1.90	1.70	1.00	1.00	3.23	0.00	N/ N/ LAE
A B14 A BB1 A BB2	LA B14 LA BB1 LA BB2	Grade Grade Grade	Local 55 Local 55 Local 55	2.97 11.68 10.51	0.00	2 97 11.68 10.51	0.61% 0.61% 0.61%	5.00 5.00 5.00	0.238 0.398 0.382	2.855 4.770 4.586	11.894 OVER CNTR OVER CNTR	N/A N/A N/A	14.000 14.000 14.000	18 12 18.12 18 12	0.63 0.37 0.39	0.24 0.15 0.16	0.59 0.98 0.95	5 00 11.87 11 08	10 10	2 00 0.84 0 90	1 75 1.05 1 09	1.00 0.96 0.98	1.00 1.00 1.00	2.97 11.26 10.35	0 00 0.42 0 16	LA E
A C1 A C2	LA C1 LA C2	Sump Sump	Local 55 Local 55	17.85 4.28	0.00	17.85 4.28	1.00%	5.00 5.00								SEE SU	IMP CALCUL.	ATIONS BELI	ow							N/
A C3 A C4 A C5	LA C3 LA C4 LA C5	Grade Grade	Local 55 Local 55 Local 55	6.36 5.15 7.29	0.00	6.36 5.15 7.29	0.75% 0.75% 0.60%	5.00 5.00 5.00	0.305 0.281 0.334	3.655 3.376 4.010	OVER ONTR OVER ONTR OVER ONTR	N/A N/A N/A	14.000 14.000 14.000	20.09 20.09 17.97	0.50 0.54 0.45	0.20 0.21 0.18	0.76 0.71 0.84	8.34 7.30 8.72	10	1.20 1.37 1.15	1.37 1.48 1.25	1.00 1.00 1.00	1.00 1.00 1.00	6.36 5.15 7.29	0.00 0.00 0.00	LA\
A C6 A C7 A C8	LA C6 LA C7 LA C8	Sump Sump	Local 55 Local 55 Local 55	7.09 14.49 11.69	0.32 0.00 0.00	7 41 14.49 11.69	0.50% 0.50% 0.50%	5.00 5.00 5.00								SEE SU	IMP CALCUL: IMP CALCUL: IMP CALCUL:	ATIONS BEL	OW							N/ N/
A C9 A C10 A CC1	LA C9 LA C10 LA CC1	Grade Grade Sump	Local 55 Local 55 Local 55	9.40 7.04 7.57	0.00 0.00 0.00	9.40 7.04 7.57	0.60% 0.60% 0.50%	5.00 5.00 5.00	0.368 0.330	4.412 3.958	OVER ONTR	N/A N/A	14.000 14.000	17.97 17.97	0.40 0.46	0.16 0.18 SEE SU	0.92 0.83 IMP CALCUL	10.27 8 52 ATIONS BELI	10 10	0.97 1 17	1.13 1.26	1.00 1.00	1.00 1.00	9.39 7.04	0.01 0.00	LA (
A D1 A D2 A D3	LA D1 LA D2 LA D3	Sump Sump Grade	Local 45 Local 45 Local 45	7.63 2.02 2.09	0.00	7 63 2.02 2.09	1.24% 1.24% 0.60%	5.00 5.00 5.00	0.209	2.511	10.464	N/A	13.000	17,44	0.70	SEE SU	IMP CALCUL IMP CALCUL 0.51	ATIONS BEL	wo	2.46	1.99	1.00	1.00	2.09	0.00	N/
.A D4 .A D5	LA D4 LA D5	Sump Sump	Local 45 Local 45	3.92 5.31	0.00	3.92 5.31	0.50% 0.50%	5.00 5.00	0.209	2.511 3.288	10.484 OVER CNTR	N/A N/A	13.000	17.44 15.92	0.70 0.55	0.22 SEE SU	0.69 IMP CALCUL	5.68 ATIONS BEL	10 OW	2.46 1.76	1.99	1.00	1.00	2.09 3.92	0.00	N/
A D6 A D7 A D8	LA D6 LA D7 LA D8	Grade Grade Grade	Alley Local 45 Local 45	5.75 4.03 3.92	0.00 0.03 0.00	5.75 4 06 3.92	0.60% 1.75% 5.00%	5.00 5.00 5.00	0.220 0.178	2.634 2.135	10.976 8.896	N/A N/A	13.000 13.000	29 78 50.33	0.67 0.78	9.26 0.30	0.47 0.36	8 63 10.77	10 10	1 16 0.93	1 90 2.34	1.00 0.99	0.99	4.06 3.89	0.00	LAI LAI
A D10 A D11	LA D9 LA D10 LA DD1	Grade Grade Sump	Alley Alley Collector	7.63 6.63 2.97	0.00 0.00 0.00	7.63 6.63 2.97	2.00% 6.25% 0.50%	5.00 5.00 5.00								SEE GRATE	EINLET CALC EINLET CALC IMP CALCUL	CULATIONS	BELOW							LAT LAT
A DD2 A E1	LA DD2 LA E1 LA E2	Sump Sump Sump	Collector Alley	2.73 6.00 4.16	0.00	2.73 6 00 4.16	0.50% 0.60% 0.50%	5.00 5.00 5.00								SEE GRATE	IMP CALCUL EINLET CALC EINLET CALC	ATIONS BELI CULATIONS I	DELOW DW							N/
A E3 A E4	LA E3	Sump Sump	Local 55 Local 55	10.16 9.69	0.00 0.00	10.16 9.69	0.60%	5.00 5.00								SEE SU	IMP CALCUL. IMP CALCUL.	ATIONS BELI ATIONS BELI	ÓW OW							N-
A EE2 A F1	LA EE2 LA F1	Sump Sump Sump	Local 55 Local 55 Local 55	1.80 1.71 8.30	0.00	1 80 1.71 8 30	0.50% 0.50% 0.50%	5.00 5.00 5.00								SEE SU	IMP CALCUL: IMP CALCUL: IMP CALCUL:	ATIONS BEL	OW							N N
A F2 A F3 A F4	LA F2 LA F3 LA F4	Sump Sump Sump	Local 55 Local 55 Local 55	8.95 9.60 11.35	0.00 0.00 0.00	8.95 9.60 11.35	0.50% 0.50% 0.50%	5.00 5.00 5.00								SEE SU	IMP CALCUL: IMP CALCUL: IMP CALCUL:	ATIONS BEL	ow							N N
A F6 A F7	LA F5 LA F6 LA F7	Sump Sump Grade	Local 55 Local 55 Local 55	5.79 11.48 13.04	0.58 0.00 0.00	6 37 11.48 13.04	0.50% 0.50% 0.60%	5.00 5.00 5.00	0.416	4.987	OVER CNTR	N/A	14.000	17 97	0.35		IMP CALCUL IMP CALCUL 1.02			1 18	1 00	1.00	1.00	13.04	0 00	N N LA
A F8 A F10	LA F8 LA F10	Grade Sump	Local 55 Local 55	11.06 9.34	0.00	11.06 9.34	0.60%	5.00 5.00	0.391	4.689	OVER CNTR	N/A	14.000	17.97	0.38	0.15 SEE SU	0.97 IMP CALCUL	11.42 ATIONS BELI	10 OW	0.88	1.07	0.98	1.00	10.80	0.26	LA N
A F11 A FF1 A FF2	LA F11 LA FF1 LA FF2	Sump Grade Grade	Local 45 Local 45 Local 45	5.51 2.82 10.69	0.00	5.51 2.82 10.69	0.60% 0.60% 0.60%	5.00 5.00 5.00	0.234 0.386	2.810 4.629	11,707 OVER ONTR	N/A N/A	13.000 13.000	17 44 17 44	0.64 0.38	SEE SU 0.25 0.16	0.58 0.96	4 84 11.17	10 10	2 07 0.90	1 78 1.08	1.00 0.98	1.00 1.00	2.82 10.50	0 00 0.18	LA LA
A G0 A G1 A G2	LA G0 LA G1 LA G2	Grade Sump Sump	Local 45 Local 45 Local 45	6.76 10.07 6.53	0.00 0.03 0.16	6 76 10.09 6.72	1.00% 0.50% 0.50%	5.00 5.00 5.00	0.295	3.542	OVER CNTR	N/A	13.000	22 51	0.51		0.65 IMP CALCUL IMP CALCUL			0 95	141	1.00	1.00	6.73	0 03	LA N
A G3 A G4 A G5	LA G3 LA G4 LA G5	Grade Grade Grade	Alley Local 45 Local 45	7.08 5.14 3.66	0.00	7.08 5.14 4.40	1.15%	5.00 5.00 5.00	0.266 0.251	3.198 3.016	OVER CNTR 12.566	N/A N/A	13.000 13.000	22 51 22 51	0.57		0.58 0.55			1 13 1.24	1 56 1.66	1.00	1,00 0.83	5.14 4.40	0.00	N LA
A G6 A G7	LA G6 LA G7	Sump Grade	Alley Local 45	8.01 9.63	0.00 0.05	8.01 9.67	1.50%	5.00 5.00	0.338	4.052	OVER CNTR	N/A	13.000	22.51	0.45	SEE GRATE 0.18	EINLET CALC	CULATIONS I 13.16	BELOW 10	0.76	1.23	0.92	1.00	8.93	0.74	N LA
A G8 A GG1 A GG2	LA G8 LA GG1 LA GG2	Grade Grade Grade	Local 45 Local 55 Local 55	9.77 11.46 9.78	0.00	9.77 11.46 9.78	0.60% 0.60%	5.00 5.00 5.00	0.373 0.396 0.373	4.476 4.751 4.478	OVER CNTR OVER CNTR OVER CNTR	N/A N/A	13.000 14.000 14.000	17.44 17.97 17.97	0.40 0.37 0.40	0.16 0.15 0.16	0.93 0.98 0.93	10.53 11.69 10.54	10	0.95 0.86 0.95	1.12 1.05 1.12	1.00 0.97 1.00	1.00 1.00 1.00	9.72 11.10 9.74	0.05 0.35 0.05	LA LA
A H1 A H2 A H3	LA H1 LA H2 LA H3	Grade Grade Grade	Collector Collector Collector	2.61 5.19 7.71	0.00 0.13 0.73	2.61 5.32 8.44	0.75% 0.75% 5.00%	5.00 5.00 5.00	0.218 0.285 0.237	2.617 3.417 2.847	10.906 MINGLEAR MINGLEAR	12° 12° 12°	11.000 11.000 11.000	21.19 21.19 54.71	0.68 0.53 0.63	0.26 0.21 0.24	0.54 0.71 0.51	4.85 7.45 16.66	10 10 15	2.06 1.34 0.90	1.91 1.46 1.76	1.00 1.00 0.9 8	1.00 0.98 0.91	2.61 5.32 8.31	0.00 0.00 0.13	LA LA
A H4 A H5 A H6	LA H4 LA H5 LA H6	Grade Grade Grade	Collector Collector	2.49 10.71 3.33	0.00 0.09 0.00	2.49 10.80 3.33	5.00% 5.00% 5.00%	5.00 5.00 5.00	0.150 0.260 0.167	1.802 3.122 2.008	7.509 MINCLEAR 8.365	12° 12° 1 2 °	11.000 11.000 11.000	54.71 54.71 54.71	0.85 0.58 0.80	0.32 0.23 0.31	0.29 0.56 0.34	8.49 19.32 9.88	10 15 10	1.18 0.78 1.01	2.77 1.60 2.49	1.00 0.93 1.00	1.00 0.99 1.00	2.49 10.07 3.33	0.00 0.73 0.00	LA LA
A H7 A HH1	LA H7 LA HH1	Grade Grade Grade	Collector Alley	4.28 5.50 3.90	0.00	4.28 5.50 3.90	5.00% 0.60% 0.60%	5.00 5.00 5.00	0.184	2.206	9.191	12'	11.000	54.71	0.76	0.29 SEE GRATI	0.38 EINLET CALC	11.29 CULATIONS I	10 BELOW	0.89	2.27	0.98	1.00	4.19	0.09	LA LA
A HH2 A HH3 LA I1	LA HH2 LA HH3 LA I1	Grade Grade	Alley Alley	4.06 5.35	0.00	4.06 5.35	0.60%	5.00 5.00								SEE GRATE	EINLET CALC	CULATIONS I	BELOW BELOW							LA I
LA 12 LA 111 LA 112	LA 12 LA 111 LA 112	Grade Grade Grade	Alley Collector Collector	6.11 3.72 3.22	0.00 0.00 0.00	6 11 3.72 3.22	0.60% 0.60% 0.60%	5.00 5.00 5.00	0.260 0.246	3.117 2.952	MINCLEAR MINCLEAR	12°	11.000 11.000	18.95 18.95	0.58 0.61	9.23 0.24	0.65 0.62	5.72 5.23	10 10	1.75 1.91	1.60 1.69	1.00 1.00	1.00 1.00	3.72 3.22	0.00	LA LA
A 113 A J1 A J2	LA II3 LA J1 LA J2	Grade Grade Grade	Collector Local 55 Local 55	4.51 4.51 1.98	0.00 0.00 0.00	4.51 4.51 1.98	0.60% 0.60% 0.75%	5.00 5.00 5.00	0.279 0.279 0.197	3.350 3.350 2.358	MINCLEAR 13.957 9.825	12" N/A N/A	11.000 14.000 14.000	18.95 17.97 20.09	0.54 0.54 0.73	0.21 0.21 0.28	0.70 0.70 0.48	6.43 6.43 4.14	10 10 10	1.55 1.55 2.41	1.49 1.49 2.12	1.00 1.00 1.00	1.00 1.00 1.00	4.51 4.51 1.98	0.00 0.00 0.00	LA LA N/
A J3 JJ1 A K1	LA J3 JJ1 LA K1	Grade Area Grade	Local 55 Collector Local 55	7.39 24.56 3.60	0.00	7 39 24.56 3.60	0.75% 0.00% 0.60%	5.00 5.00 5.00	0.322	3.865	OVER CNTR	N/A	14.000	20 09	0.47	0.19	0.81 HEADW	9 17	10	1 09	1 29	1.00	1.00	7.39	0.00	N/
4 KK1 4 KK2	LA KK1 LA KK2	Grade Grade	Collector Collector	3.94 2.99	0.00	3.94 2.99	0.60%	5.00 5.00	0.256 0.265 0.239	3.183 2.869	MINGLEAR MINGLEAR	12°	14.000 11.000 11.000	17.97 18.95 18.95	0.59 0.57 0.63	0.22 0.24	0.67 0.60	5.92 5.00	10 10	1.79 1.69 2.00	1.52 1.57 1.74	1.00 1.00 1.00	1.00 1.00 1.00	3.94 2.99	0.00	LA
A L1 A L2 A L3	LA L1 LA L2 LA L3	Grade Grade Grade	Alley Alley Alley	7.95 4.05	0.00	4.21 7.95 4.05	0.60% 0.60% 4.00%	5.00 5.00 5.00								SEE GRATE	EINLET CALC EINLET CALC	CULATIONS I	BELOW BELOW							LA LA
A L4 A L5 A L6	LA L4 LA L5 LA L6	Grade Grade Grade	Alley Alley Alley	4.34 4.63 5.58	0.00 0.00 0.00	4.34 4.63 5.58	4.00% 4.00% 4.00%	5.00 5.00 5.00								SEE GRATE	EINLET CALC EINLET CALC EINLET CALC	CULATIONS	BELOW							LA LA
A M1 A M2 A M3	LA M1 LA M2 LA M3	Sump Sump Grade	Local 55 Local 55 Local 55	5.99 12.23 15.12	0.29 1.02 0.00	6.29 13.26 15.12	0.50% 0.50% 7.33%	5.00 5.00 5.00	0.275	3.297	13.739	N/A	14.000	62.81	0.55	SEE SU	IMP CALCUL IMP CALCUL 0.59	ATIONS BEL	OW	0.78	1.52	0.93	1.00	14.12	1.00	N.
A M4 A M5	LA M4 LA M5	Grade Grade	Local 55 Local 55	7.89 16.20	0.32 0.00	8.21 16.20	7.33% 3.00%	5.00 5.00	0.219 0.333	2.623 4.000	10.929 OVER CNTR	N/A N/A	14.000	62.81 40.18	0.68 0.45	0.26 0.18	0.46 0.72	17.80 22 55	15 20	0.84 0.89	1.91 1.25	0.96 0.98	0.96 1.00	7.92 15.88	0.29	LA LA
A N1 A N2 A Q1	LA N1 LA N2 LA O1	Sump Sump Grade	Local 55 Local 55 Local 55	4.29 5.59 6.46	0.00 0.77 0.00	4.29 6.36 6.46	0.50% 0.50%	5.00 5.00								SEE SU	IMP CALCUL IMP CALCUL IMP CALCUL	ATIONS BELI ATIONS BELI	ow ow							N N
A 02 A P1 A P2	LA 02 LA P1 LA P2	Grade Grade Grade	Local 55 Local 45 Alley	6.09 4.31 10.39	0.00 0.00 0.00	6.09 4.31 10.39	0.50% 2.00% 0.60%	5.00 5.00 5.00	0.219	2.626	10.943	N/A	13.000	31.83	0.67	0.26	0.47 EINLET CALC	9.20	10	1.09	1.90	1.00	1.00	4.31	0.00	LA LA
A Q1 A Q2 A Q3	LA Q1 LA Q2 LA Q3	Grade Grade Grade	Collector Collector Collector	3.09 4.08 3.40	0.00 0.00 0.00	3.09 4.08 3.40	0.70% 0.70% 0.70%	5.00 5.00 5.00	0.235 0.261 0.244	2.823 3.133 2.928	MINCLEAR MINCLEAR MINCLEAR	12° 12° 12°	11.000 11.000 11.000	20.47 20.47 20.47	0.64 0.58 0.62	0.25 0.23 0.24	0.59 0.65 0.61	5.27 6.24 5.59	10 10	1.90 1.60 1.79	1,77 1,60 1,71	1.00 1.00 1.00	1.00 1.00 1.00	3.09 4.08 3.40	0.00 0.00 0.00	LA LA
A Q4 A Q5	LA Q4 LA Q5	Grade Grade	Collector Collector	3.42 3.54	0.00	3.42 3.54	0.70% 0.70%	5.00 5.00	0.244 0.248	2.934 2.972	MINCLEAR MINCLEAR	12°	11.000 11.000	20.47 20.47	0.62 0.61	0.24 0.24	0.61 0.62	5.61 5.73	10 10	1.78 1.75	1.70 1.68	1.00 1.00	1.00 1.00	3.42 3.54	0.00	LA LA
A Q6 A R1 A R2	LA Q6 LA R1 LA R2	Grade Grade Sump	Collector Local 55 Local 55	5.50 8.51 5.01	0.00	5 50 8.51 5.01	0.70% 0.60% 0.50%	5.00 5.00 5.00	0.292 0.354	3.505 4.250	MINCLEAR OVER CNTR	12' N/A	11.000 14.000	20 47 17.97	0.52 0.42	0.20 0.17 SEE SU	0.73 0.88 IMP CALCUL	7 50 9.63 ATIONS BELI	10 10 OW	1 33 1.04	1 43 1.18	1.00	1.00	5.50 8.51	0.00	LA LA N
A R3 A \$1 A S2	LA R3 LA \$1 LA \$2	Sump Grade Grade	Local 55 Local 55 Local 55	14.61 9.40 5.88	0.00 00.00 00.00	14.61 9.40 5.88	0.50% 0.60% 0.60%	5.00 5.00 5.00	0.368 0.308	4.412 3.700	OVER CNTR	N/A N/A	14.000 14.000	17.97 17.97	0.40 0.49	SEE SU 0.16 0.19	0.92 0.77	ATIONS BELI 10.27 7.60	10 10	0.97 1.32	1.13 1.35	1.00	1.00	9.39 5.88	0.01 0.00	LAI LAI
LA T1 LA T2	LA T1 LA T2	Grade Grade Grade	Local 55 Local 55	11.28 7.97 4.06	0.00	11.28 7.97 4.06	0.60% 0.60% 0.50%	5.00 5.00 5.00	0.394 0.345 0.278	4.724 4.146 3.331	OVER CNTR OVER CNTR MINCLEAR	N/A N/A 12*	14.000 14.000 11.000	17 97 17 97 17 97	0.37 0.43 0.55	0.15 0.17 0.21	0.97 0.86 0.70	11 57 9.23 5.81	10	0 86 1.08 1.72	1 06 1.21 1.50	0.97 1.00 1.00	1.00 1.00 1.00	10.97 7.97 4.06	0.31 0.00 0.00	LA LA
A U2 A U3	LA U1 LA U2 LA U3	Sump Sump	Collector Collector	5.11 6.29	0.00	5.11 6.29	0.50% 0.50%	5.00 5.00	D.210	J.J31	CLEAR	12	. 1.000		ა.ამ	SEE SU	IMP CALCUL	ATIONS BELI	OM OM	*.r4	1.50	r.ou		4.3 0	UULU	N
A V1 A V2 A W1	LA V1 LA V2 LA W1	Sump Sump Grade	Local 55 Local 55 Collector	15.17 13.67 5.30	0.00 0.00 0.00	15.17 13.67 5.30	0.50% 0.50% 0.60%	5.00 5.00 5.00	0.297	3.559	MINCLEAR	12*	11.000	18.95	0.51		IMP CALCUL IMP CALCUL 0.75			1.41	1,40	1.00	1.00	5.30	0.00	N LA
A W2 A W3 A W4	LA W2 LA W3 LA W4	Grade Grade Grade	Collector Collector Collector	4.51 4.16 4.71	0.40 0.00 0.00	4.91 4.16 4.71	0.60% 0.60% 0.60%	5.00 5.00 5.00	0.288	3.458	MINCLEAR	12'	11.000	18.95	0.53		0.72 IMP CALCUL IMP CALCUL			1.47	1.45	1.00	0.92	4.91	0.00	LA N
A W5	LA W5 LA W6	Grade Grade	Collector Collector	3.44 5.31	0.00	3.44 5.31	0.60%	5.00 5.00	0.252 0.297	3.027 3.560	MINCLEAR MINCLEAR	12°	11.000 11.000	18.95 18.95	0.60 0.51	0.23 0.20	0.63 0.75	5.45 7.12	10	1.83 1.40	1.65 1.40	1.00	1.00 1.00	3.44 5.31	0.00 00 0	LA LA
A X1 A X2 A Y1	LA X1 LA X2 LA Y1	Sump Sump Sump	Alley Alley Collector	4.75 7.47 3.56	0.00	4.75 7.47 3.56	0.60% 0.60% 0.50%	5.00 5.00 5.00								SEE GRATE SEE SU	EINLET CALC EINLET CALC IMP CALCUL	CULATIONS I	OW							N/ N/
A Y2	LA Y2	Sump	Collector	4.59	0.00	4 59	0.50%	5.00 5.00	0.320	3.843	OVER CNTR	N/A	14.000	16.40	0.47	SEE SU 0.19	IMP CALCUL 0.80	ATIONS BEL- 7.38	0W	1.35	1.30	1.00	1.00	5.94	0.00	N//

	2% Straig	ht Crown											SUMP IN	ILETS												
Inlet	Drainage	Inlet	Street	Q	Q Pass	Q Total	Slope	а	yo	yo	Ponded	Min.	Width	1/2 Street	E ₀	S _E	Qa/La	La	Length	L/La	a/yo	Crown	Q/Qa	Q Intercept	Q Pass	Ensuing
No.	Area No.	Type	Туре	(cfs)	(cfs)	(Qa) (cfs)	(%)	(in.)	(ft.)	(in.)	Width (ft)	Clear	Allow	Cpcty (cfs)				(ft)	(ft)			Pass (Cfs)		(cfs)	(cfs)	DA No.
LA A3	LA A3	Sump	Local 55	11.82	0.000	11.819	0.50%	5.000	0.537	6.449	OVER CNTR	N/A	14.000	-	0.25	0.11	1.00	11.835	10	0.84	0.78	1.21	1.00	10.61	1.21	Х
LA A4	LA A4	Sump	Local 55	2.22	0.000	2.222	0.50%	5.000	0.176	2.117	8.819	N/A	14.000	-	0.78	0.30	67.86	0.033	10	305.36	2.36	0.00	1.00	10.61	0.00	Х
LA A10	LA A10	Sump	Local 55	3.91	0.000	3.906	0.50%	5.000	0.257	3.083	12.844	N/A	14.000	-	0.59	0.23	1.86	2.103	10	4.75	1.62	0.00	1.00	10.61	0.00	Х
LA AA1	LA AA1	Sump	Local 55	6.92	0.000	6.923	0.50%	5.000	0.376	4.515	OVER CNTR	N/A	14.000	-	0.39	0.16	1.19	5.814	10	1.72	1.11	0.00	1.00	10.61	0.00	X
LA AA2	LA AA2	Sump	Local 55	10.75	0.000	10.748	0.50%	5.000	0.504	6.053	OVER CNTR	N/A	14.000	-	0.27	0.12	1.02	10.517	10	0.95	0.83	0.14	1.00	10.61	0.14	Х
LA B0	LA B0	Sump	Local 55	10.81	0.019	10.832	0.50%	5.000	0.507	6.085	OVER CNTR	N/A	14.000	-	0.27	0.12	1.02	10.620	10	0.94	0.82	0.23	1.00	10.61	0.23	Х
LA B1	LA B1	Sump	Local 55	11.92	0.000	11.916	0.50%	5.000	0.540	6.484	OVER CNTR	N/A	14.000	-	0.25	0.11	1.00	11.954	10	0.84	0.77	1.31	1.00	10.61	1.31	Х
LA B3	LA B3	Sump	Local 55	6.78	0.000	6.781	0.50%	5.000	0.371	4.453	OVER CNTR	N/A	14.000	-	0.40	0.16	1.20	5.639	10	1.77	1.12	0.00	1.00	10.61	0.00	Х
LA B11	LA B11	Sump	Local 55	10.00	0.014	10.016	0.50%	5.000	0.481	5.775	OVER CNTR	N/A	14.000	-	0.29	0.12	1.04	9.617	10	1.04	0.87	0.00	1.00	10.61	0.00	Х
LA B12	LA B12	Sump	Local 55	10.25	0.000	10.252	0.50%	5.000	0.489	5.865	OVER CNTR	N/A	14.000	-	0.28	0.12	1.03	9.907	10	1.01	0.85	0.00	1.00	10.61	0.00	Х
LA C1	LAC1	Sump	Local 55	17.85	0.000	17.851	1.00%	5.000	0.540	6.478	OVER CNTR	N/A	14.000	-	0.25	0.11	0.93	19.252	15	0.78	0.77	1.94	1.00	15.91	1.94	X
LA C2	LAC2	Sump	Local 55	4.28	0.000	4.275	1.00%	5.000	0.273	3.274	13.642	N/A	14.000	-	0.56	0.22	1.67	2.558	10	3.91	1.53	0.00	1.00	10.61	0.00	X
LA C6	LA C6	Sump	Local 55	7.09	0.324	7.412	0.50%	5.000	0.394	4.725	OVER CNTR	N/A	14.000	-	0.37	0.15	1.16	6.415	10	1.56	1.06	0.00	0.96	10.61	0.00	X
LA C7	LA C7	Sump	Local 55	14.49	0.000	14.488	0.50%	5.000	0.616	7.387	OVER CNTR	N/A	14.000	-	0.21	0.10	0.96	15.117	10	0.66	0.68	3.88	1.00	10.61	3.88	X
LA C8	LA CC1	Sump	Local 55	11.69	0.000	11.694	0.50%	5.000	0.534	6.403	OVER CNTR	N/A	14.000	-	0.25	0.11	1.00	11.681	10	0.86	0.78	1.09	1.00	10.61	1.09	X
LA CC1	LACC1	Sump	Local 55	7.57	0.000	7.568	0.50%	5.000	0.399	4.791	OVER CNTR	N/A	14.000	-	0.37	0.15	1.15	6.607	10	1.51	1.04	0.00	1.00	10.61	0.00	X
LA D1	LA D1 LA D2	Sump	Local 45	7.63	0.000	7.629	1.24%	5.000	0.401	4.817	OVER CNTR	N/A	13.000	-	0.36	0.15	1.14	6.682	10	1.50 -46.03	1.04	0.00	1.00	10.61 10.61	0.00	X
LA DE	-	Sump	Local 45	2.02	0.000	2.019	1.24%	5.000	0.165	1.985	8.272	N/A	13.000	-	0.81	0.31	-9.29 1.30	-0.217	10		2.52	0.00	1.00		0.00	
LA D5	LA D5	Sump	Local 45	5.31	0.000	5.308	0.50%	5.000	0.315	3.782	OVER CNTR	N/A	13.000	-	0.48	0.19	1.39	3.827	10	2.61	1.32	0.00	1.00	10.61	0.00	X
LA DD1	LA DD1	Sump	Collector	2.97	0.000	2.969	0.50%	5.000	0.214	2.567	10.698	12	11.000	-	0.69	0.26	3.12	0.951	10	10.51	1.95	0.00	1.00	10.61	0.00	X
LA DD2	LA DD2	Sump	Collector	2.73	0.000	2.731	0.50%	5.000	0.202	2.429	10.119	I∠ N/A	11.000	-	0.71	0.27	4.14	0.659	10	15.17	2.06	0.00	1.00	10.61	0.00	X
LA E3	LA E3	Sump	Local 55	10.16	0.000	10.156	0.60%	5.000	0.486	5.829	OVER CNTR	N/A	14.000	-	0.29	0.12	1.04	9.789	10	1.02	0.86	0.00	1.00	10.61	0.00	$\frac{\lambda}{\lambda}$
LA E4	LA E4 LA EE1	Sump	Local 55	9.69	0.000	9.693 1.802	0.60% 0.50%	5.000	0.471	5.650	OVER CNTR	N/A	14.000	-	0.30	0.13	1.05	9.220 -0.484	10 10	1.08 -20.66	0.88	0.00	1.00	10.61 10.61	0.00	X
LA EE1	LA EE2	Sump Sump	Local 55 Local 55	1.80 1.71	0.000	1.707	0.50%	5.000 5.000	0.153 0.148	1.841 1.775	7.669 7.397	N/A N/A	14.000 14.000	-	0.84 0.85	0.32 0.32	-3.72 -2.84	-0. 4 64 -0.601	10	-16.65	2.72	0.00	1.00	10.61	0.00	${}$
LA EE2	LA F1	Sump	Local 55	8.30	0.000	8.300	0.50%	5.000	0.148	5.095	OVER CNTR	N/A	14.000	-	0.34	0.32	-2.0 4 1.11	7.507	10	1.33	0.98	0.00	1.00	10.61	0.00	X
LA F2	LATT LAF2	Sump	Local 55	8.95	0.000	8.954	0.50%	5.000	0.423	5.359	OVER CNTR	N/A	14.000	_	0.32	0.14	1.08	8.312	10	1.20	0.93	0.00	1.00	10.61	0.00	· ·
LA F3	LAT2	Sump	Local 55	9.60	0.000	9.600	0.50%	5.000	0.447	5.614	OVER CNTR	N/A	14.000	_	0.30	0.13	1.05	9.106	10	1.10	0.89	0.00	1.00	10.61	0.00	X
LA F4	LA F4	Sump	Local 55	11.35	0.000	11.347	0.50%	5.000	0.523	6.276	OVER CNTR	N/A	14.000	_	0.26	0.13	1.01	11.254	10	0.89	0.80	0.74	1.00	10.61	0.74	X
LA F5	LA F5	Sump	Local 55	5.79	0.580	6.371	0.50%	5.000	0.356	4.271	OVER CNTR	N/A	14.000	_	0.42	0.17	1.24	5.135	10	1.95	1.17	0.00	0.91	10.61	0.00	X
LA F6	LA F6	Sump	Local 55	11.48	0.000	11.478	0.50%	5.000	0.527	6.324	OVER CNTR	N/A	14.000	_	0.26	0.11	1.01	11.415	10	0.88	0.79	0.87	1.00	10.61	0.87	X
LA F10	LA F10	Sump	Local 55	9.34	0.000	9.341	0.60%	5.000	0.459	5.513	OVER CNTR	N/A	14.000	_	0.31	0.13	1.06	8.788	10	1.14	0.91	0.00	1.00	10.61	0.00	X
LA F11	LA F11	Sump	Local 55	5.51	0.000	5.508	0.60%	5.000	0.323	3.876	OVER CNTR	N/A	14.000	_	0.47	0.19	1.35	4.073	10	2.46	1.29	0.00	1.00	10.61	0.00	X
LA G1	LA G1	Sump	Local 45	10.07	0.026	10.094	0.50%	5.000	0.484	5.805	OVER CNTR	N/A	13.000	<u>-</u>	0.29	0.12	1.04	9.713	10	1.03	0.86	0.00	1.00	10.61	0.00	X
LA G2	LA G2	Sump	Local 45	6.53	0.184	6.716	0.50%	5.000	0.369	4.424	OVER CNTR	N/A	13.000	_	0.40	0.16	1.21	5.559	10	1.80	1.13	0.00	0.97	10.61	0.00	X
LA M1	LA M1	Sump	Local 55	5.99	0.295	6.289	0.50%	5.000	0.353	4.235	OVER CNTR	N/A	14.000	_	0.42	0.17	1.25	5.034	10	1.99	1.18	0.00	0.95	10.61	0.00	X
LA M2	LA M2	Sump	Local 55	12.23	1.025	13.257	0.50%	5.000	0.580	6.962	OVER CNTR	N/A	14.000	_	0.23	0.10	0.97	13.603	10	0.74	0.72	2.65	0.92	10.61	2.65	X
LA N1	LAN1	Sump	Local 55	4.29	0.000	4.285	0.50%	5.000	0.273	3.279	13.662	N/A	14.000	-	0.56	0.22	1.67	2.570	10	3.89	1.52	0.00	1.00	10.61	0.00	X
LA N2	LA N2	Sump	Local 55	5.59	0.766	6.359	0.50%	5.000	0.355	4.266	OVER CNTR	N/A	14.000	-	0.42	0.17	1.24	5.120	10	1.95	1.17	0.00	0.88	10.61	0.00	Х
LA 01	LA O1	Sump	Local 55	6.46	0.000	6.459	0.50%	5.000	0.359	4.311	OVER CNTR	N/A	14.000	-	0.42	0.17	1.23	5.243	10	1.91	1.16	0.00	1.00	10.61	0.00	X
LA O2	LA O2	Sump	Local 55	6.09	0.000	6.087	0.50%	5.000	0.345	4.144	OVER CNTR	N/A	14.000	-	0.43	0.17	1.27	4.786	10	2.09	1.21	0.00	1.00	10.61	0.00	Х
LA R2	LAR2	Sump	Local 55	5.01	0.000	5.014	0.50%	5.000	0.303	3.641	OVER CNTR	N/A	14.000	-	0.50	0.20	1.45	3.466	10	2.89	1.37	0.00	1.00	10.61	0.00	X
LA R3	LAR3	Sump	Local 55	14.61	0.000	14.612	0.50%	5.000	0.619	7.429	OVER CNTR	N/A	14.000	-	0.21	0.09	0.96	15.270	10	0.65	0.67	4.01	1.00	10.61	4.01	Х
LA U2	LAU2	Sump	Collector	5.11	0.000	5.107	0.50%	5.000	0.307	3.686	MINCLEAR	12'	11.000	-	0.49	0.20	1.43	3.580	10	2.79	1.36	0.00	1.00	10.61	0.00	Х
LA U3	LAU3	Sump	Collector	6.29	0.000	6.294	0.50%	5.000	0.353	4.237	MINCLEAR	12'	11.000	-	0.42	0.17	1.25	5.040	10	1.98	1.18	0.00	1.00	10.61	0.00	X
LA V1	LA V1	Sump	Local 55	15.17	0.000	15.172	0.50%	5.000	0.635	7.617	OVER CNTR	N/A	14.000	_	0.20	0.09	0.95	15.958	10	0.63	0.66	4.57	1.00	10.61	4.57	X
LA V2	LA V2	Sump	Local 55	13.67	0.000	13.673	0.50%	5.000	0.592	7.107	OVER CNTR	N/A	14.000	-	0.22	0.10	0.97	14.114	10	0.71	0.70	3.07	1.00	10.61	3.07	X
LA W3	LA W3	Sump	Collector	4.16	0.000	4.157	0.60%	5.000	0.268	3.213	MINCLEAR	12'	11.000	-	0.57	0.22	1.72	2.412	10	4.15	1.56	0.00	1.00	10.61	0.00	X
LA W4	LA W4	Sump	Collector	4.71	0.000	4.715	0.60%	5.000	0.291	3.495	MINCLEAR	12'	11.000	_	0.52	0.21	1.52	3.098	10	3.23	1.43	0.00	1.00	10.61	0.00	X
LA Y1	LA Y1	Sump	Collector	3.56	0.000	3.563	0.50%	5.000	0.242	2.899	MINCLEAR	12'	11.000	-	0.62	0.24	2.12	1.681	10	5.95	1.72	0.00	1.00	10.61	0.00	X
LA Y2	LA Y2	Sump	Collector	4.59	0.000	4.591	0.50%	5.000	0.286	3.433	MINCLEAR	12'	11.000	_	0.53	0.21	1.56	2.945	10	3.40	1.46	0.00	1.00	10.61	0.00	X
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CONSTRUCTION PLAN APPROVAL SHEET ___ OF _90 FILE NUMBER _____APPLICATION DATE___ APPROVED BY COMMISSION ON N/A UNDER THE CITY OF BUDA UNIFIED DEVELOPMENT CODE. EXPIRATION DATE__ __CASE MANAGER_ City Engineer, City of Buda RELEASED FOR GENERAL COMPLIANCE:___

Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

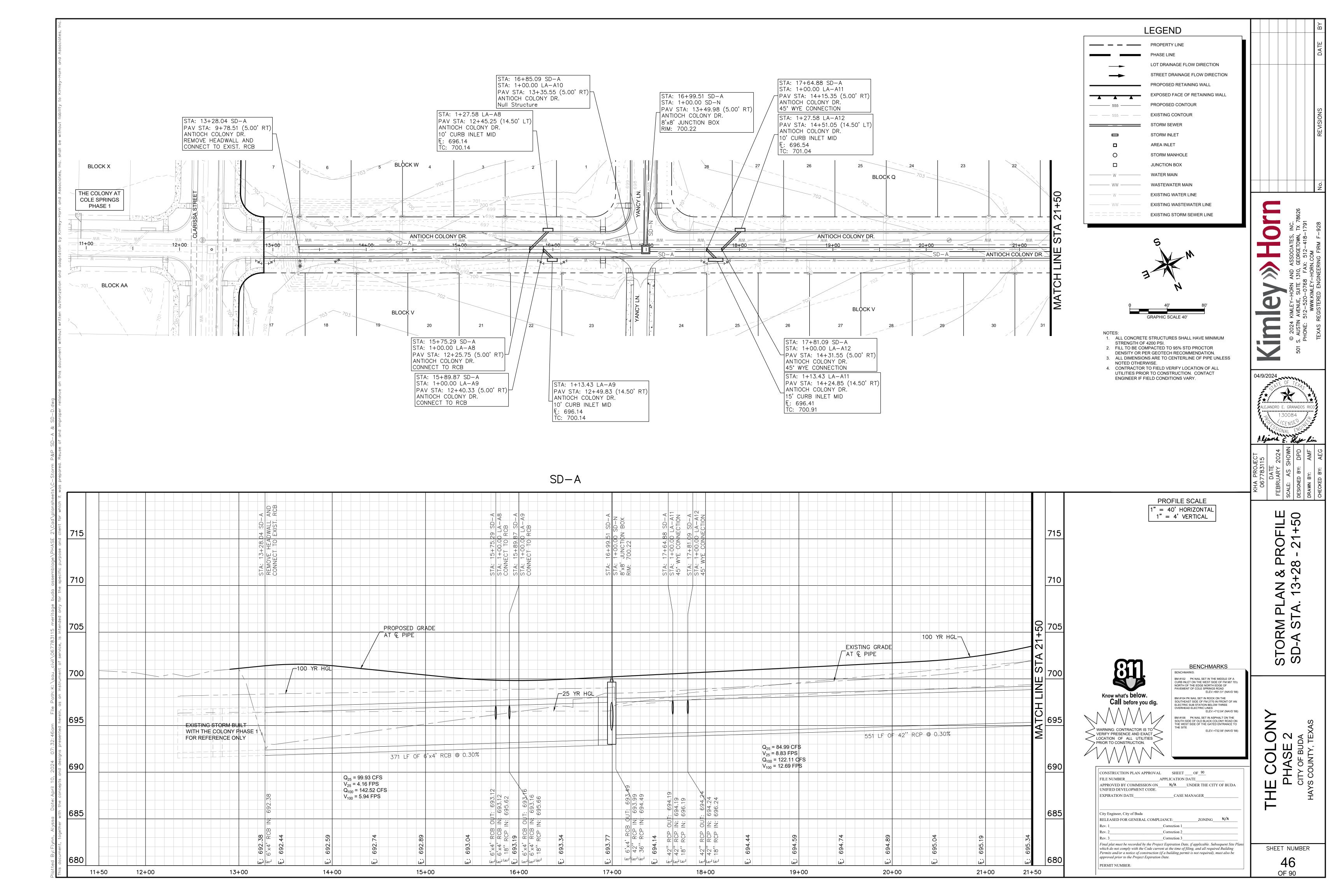
PERMIT NUMBER:

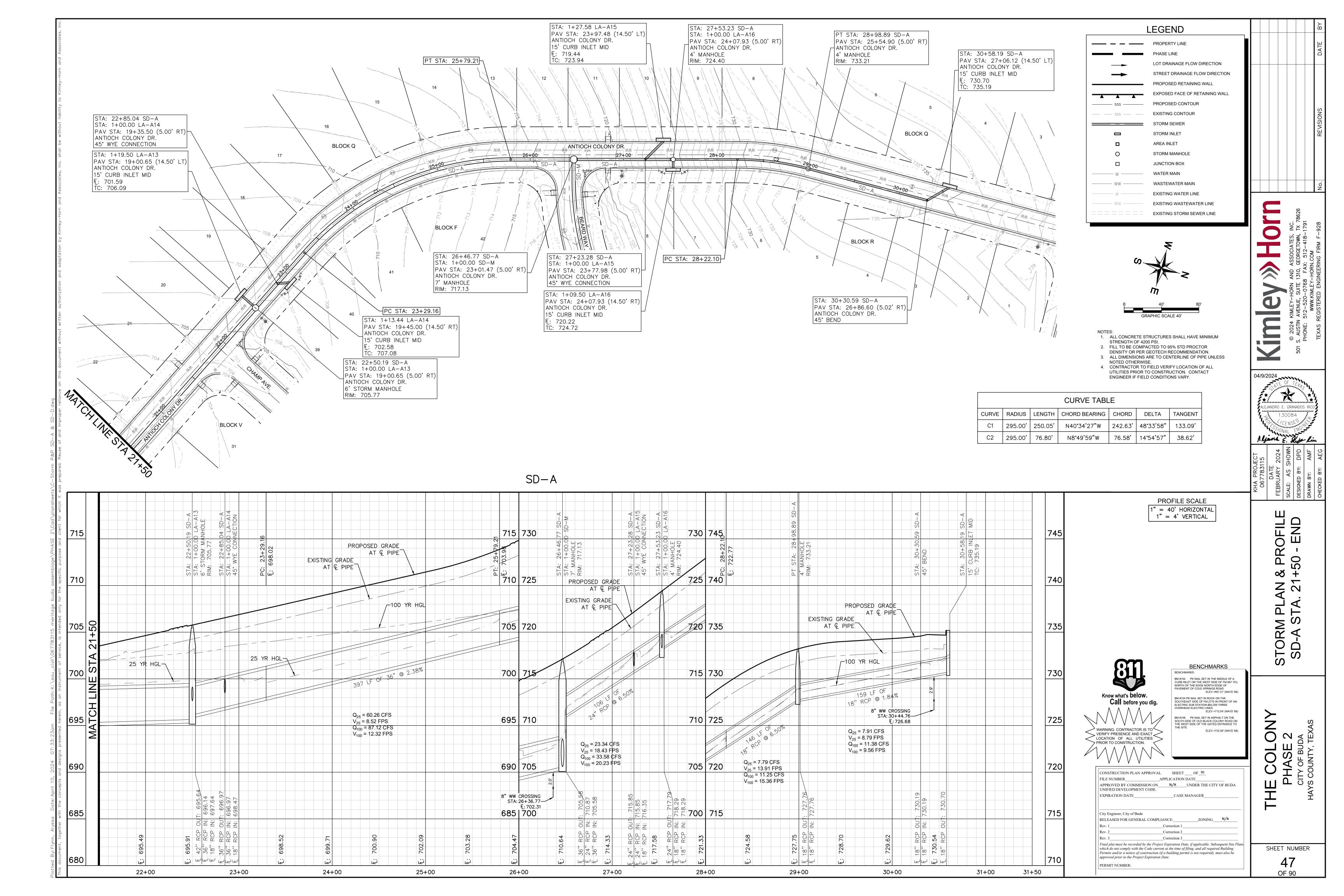
SHEET NUMBER 45

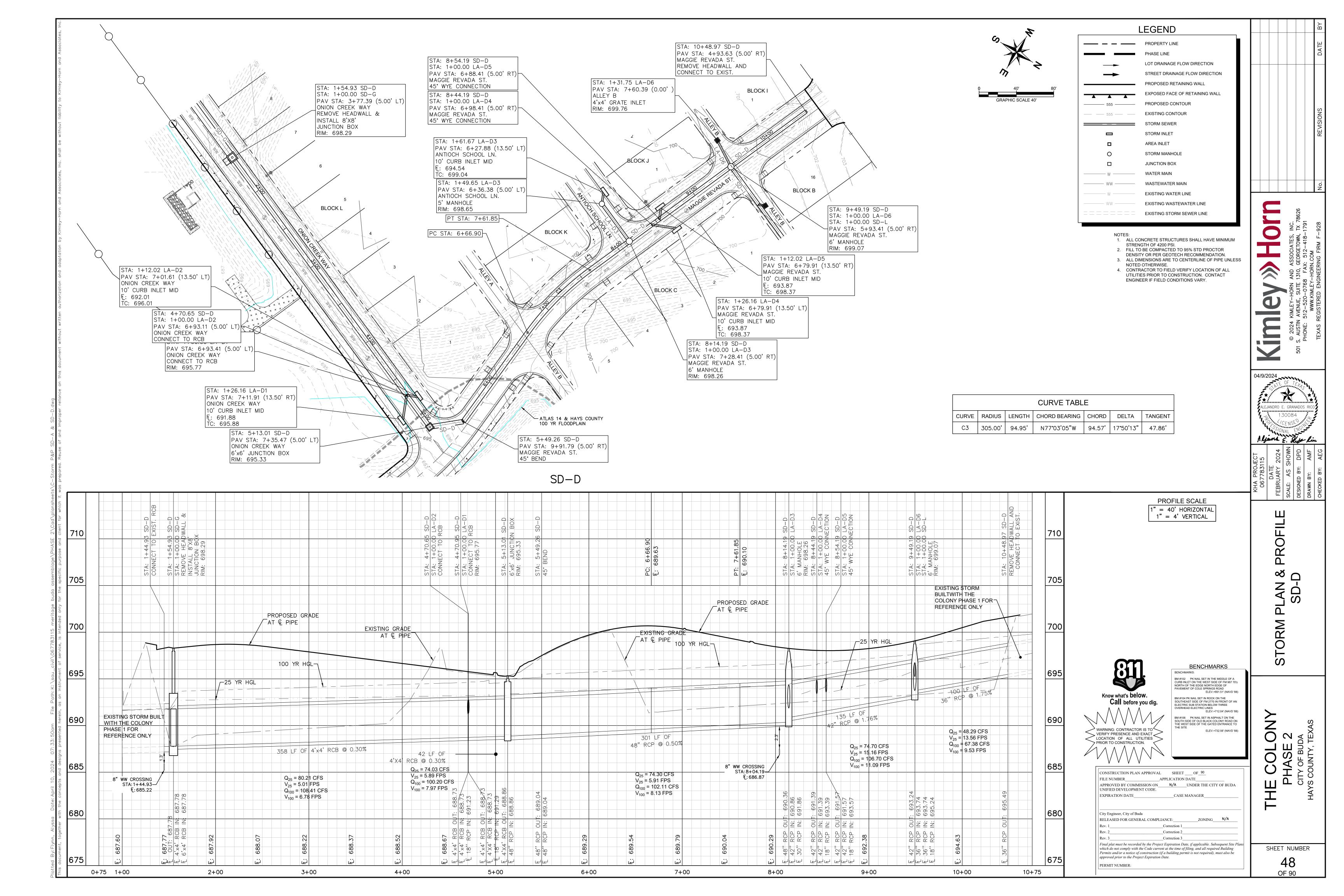
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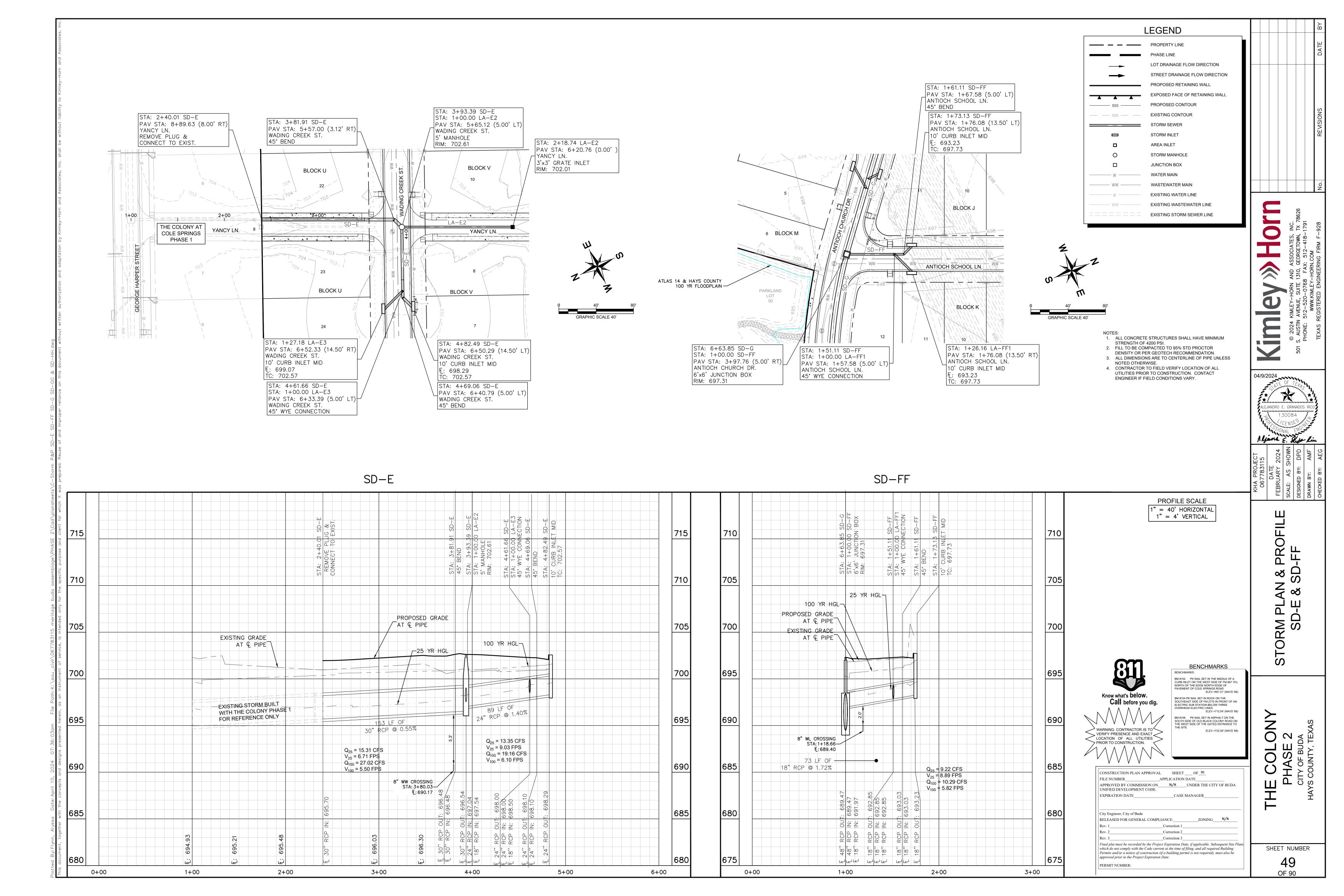
DRAINAGE CALCULATIONS (SHEET 4 OF 4)

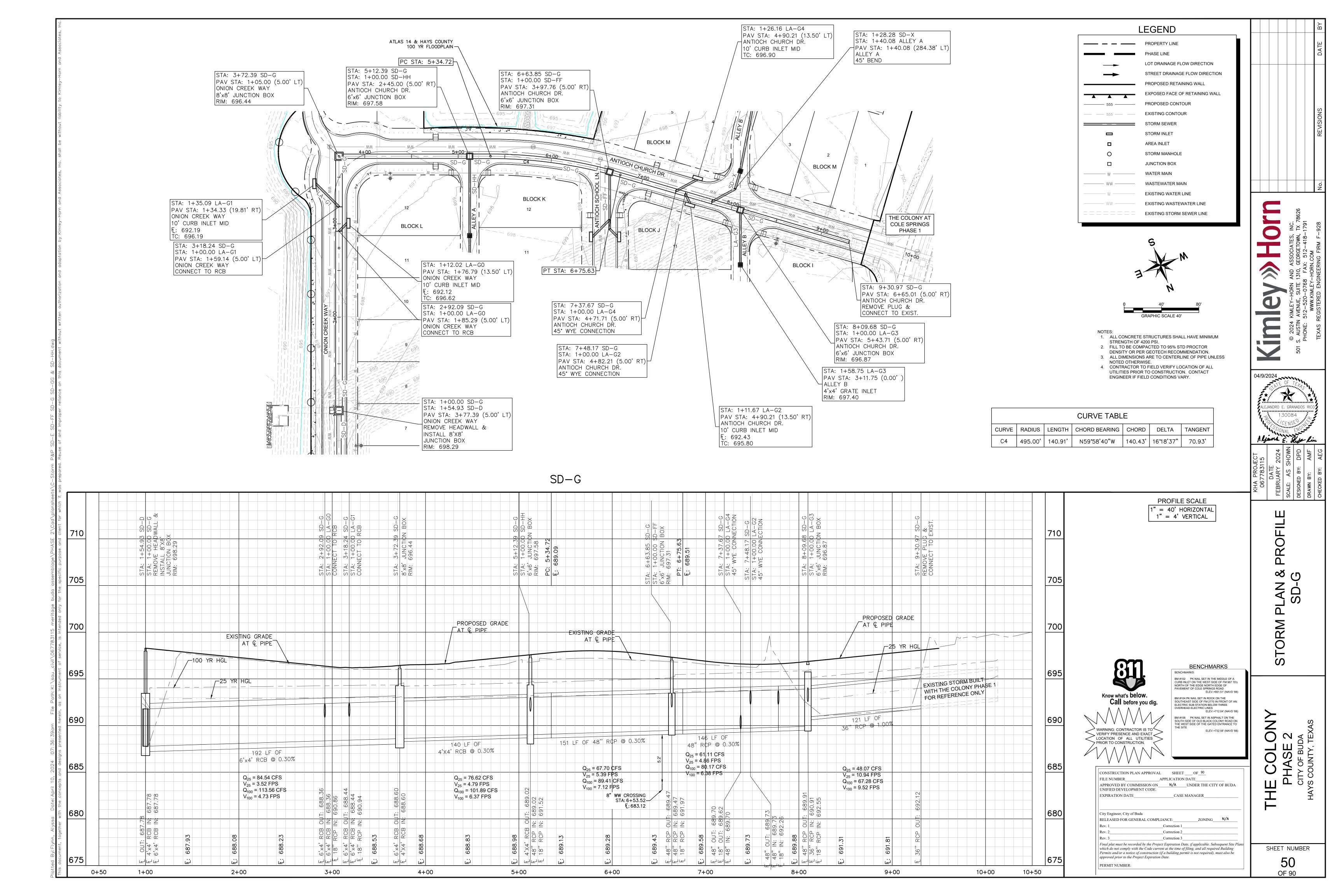
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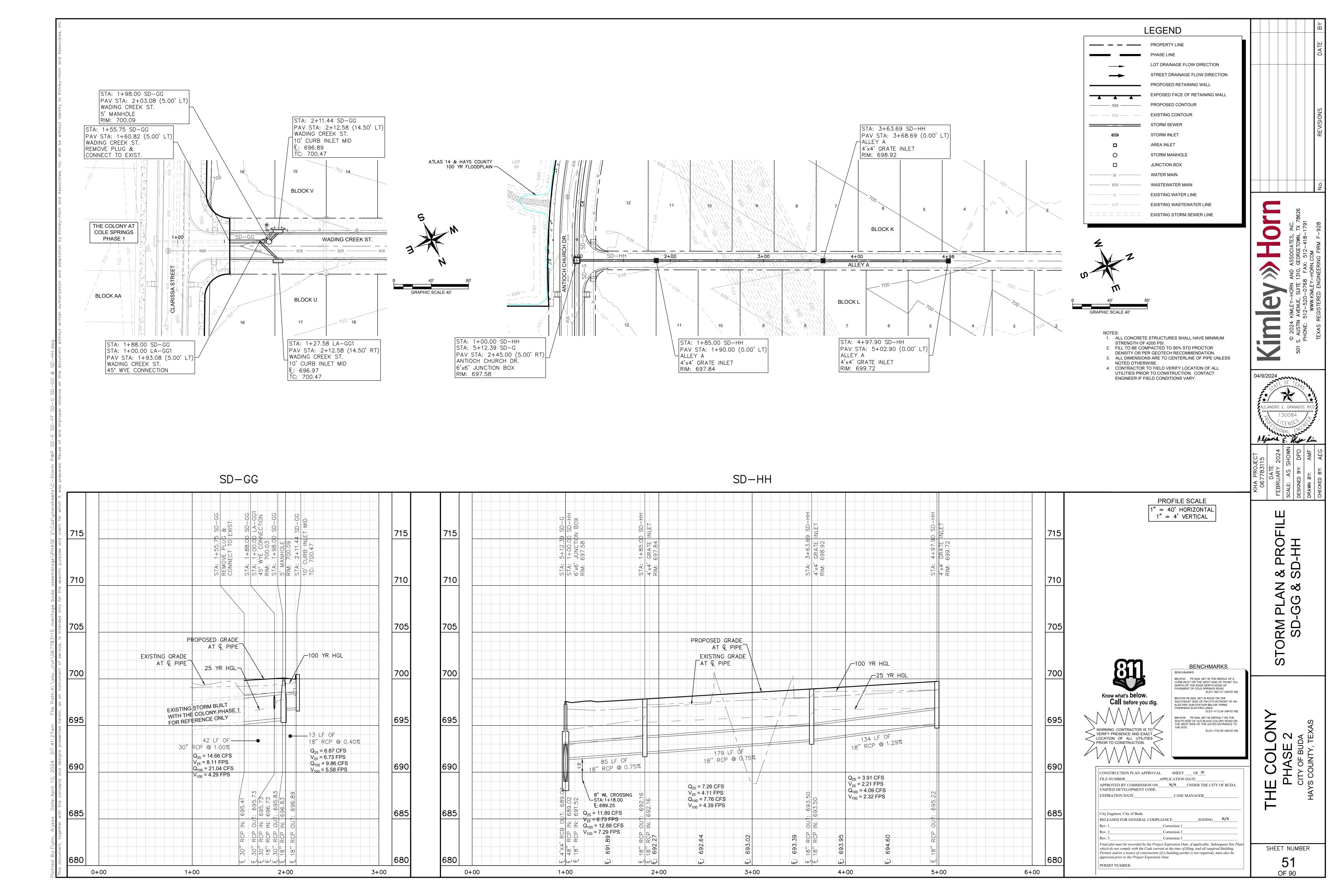


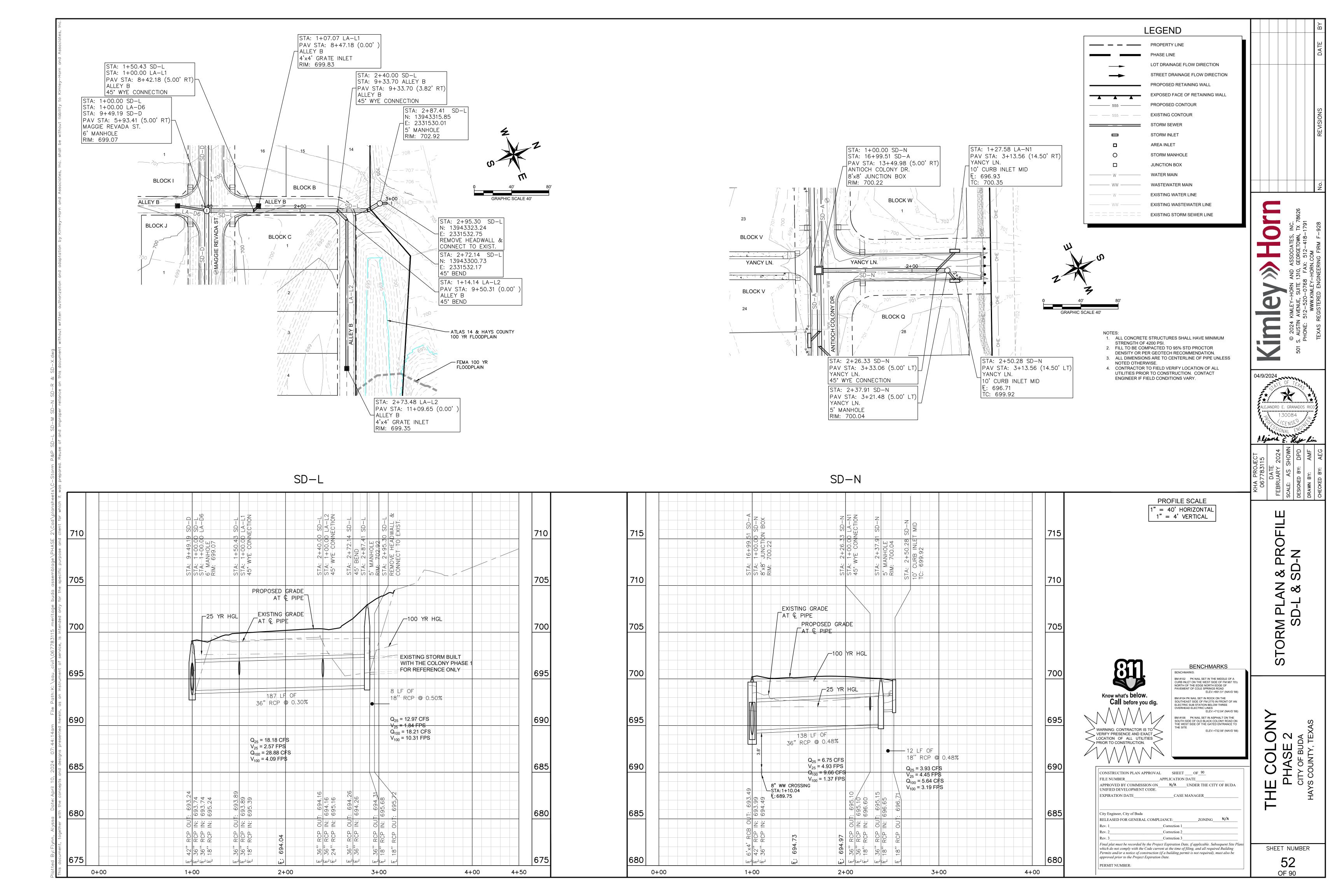


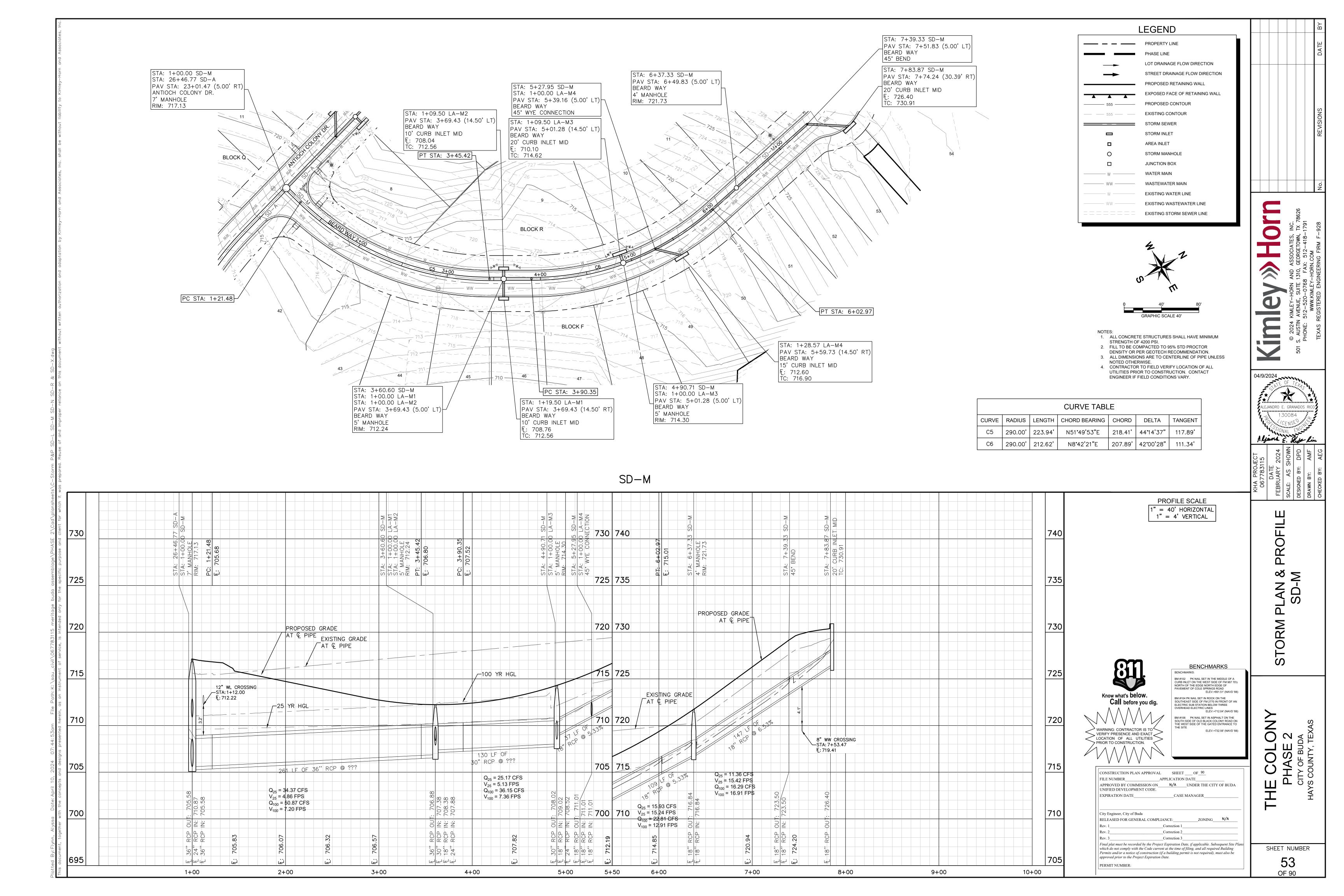


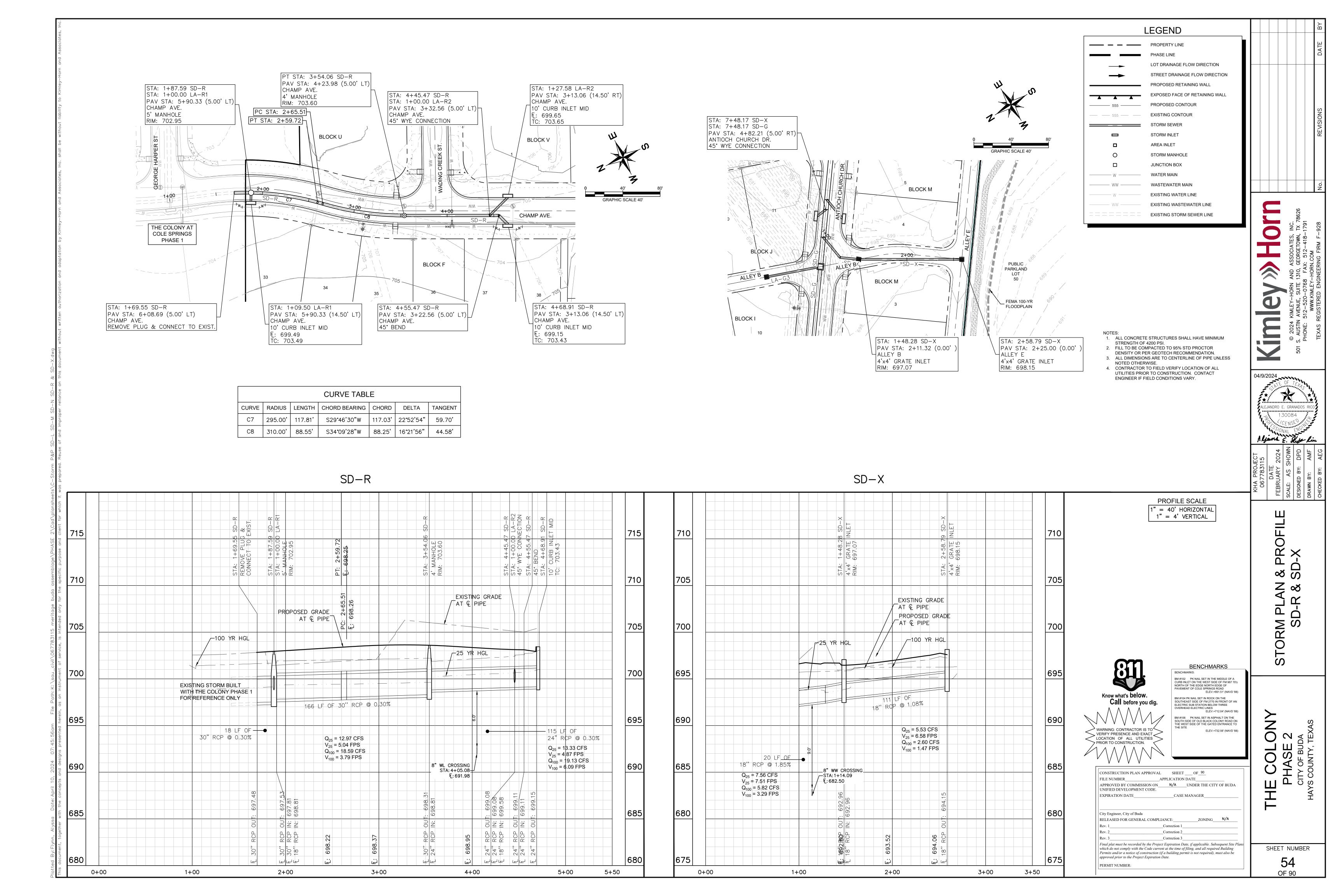


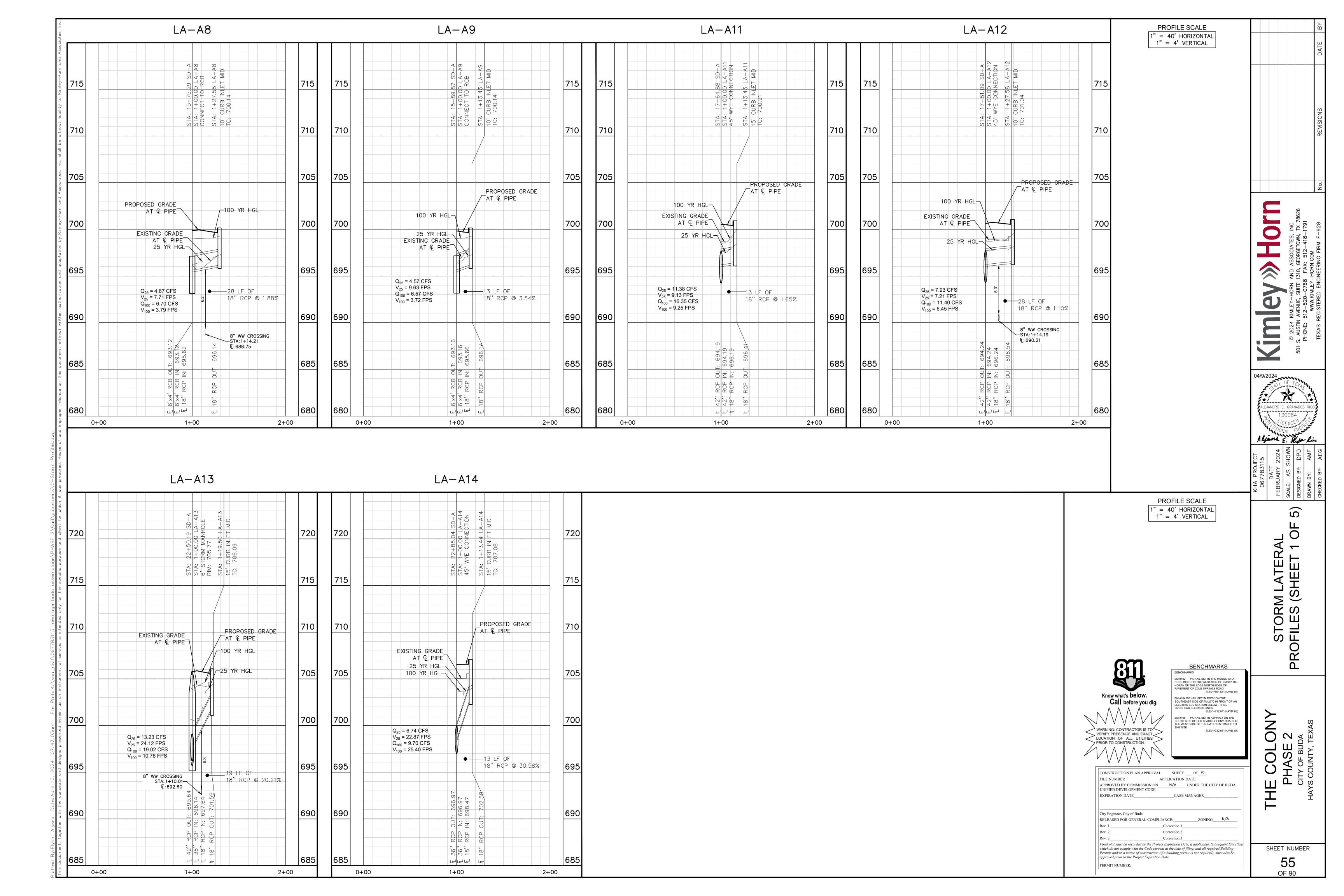


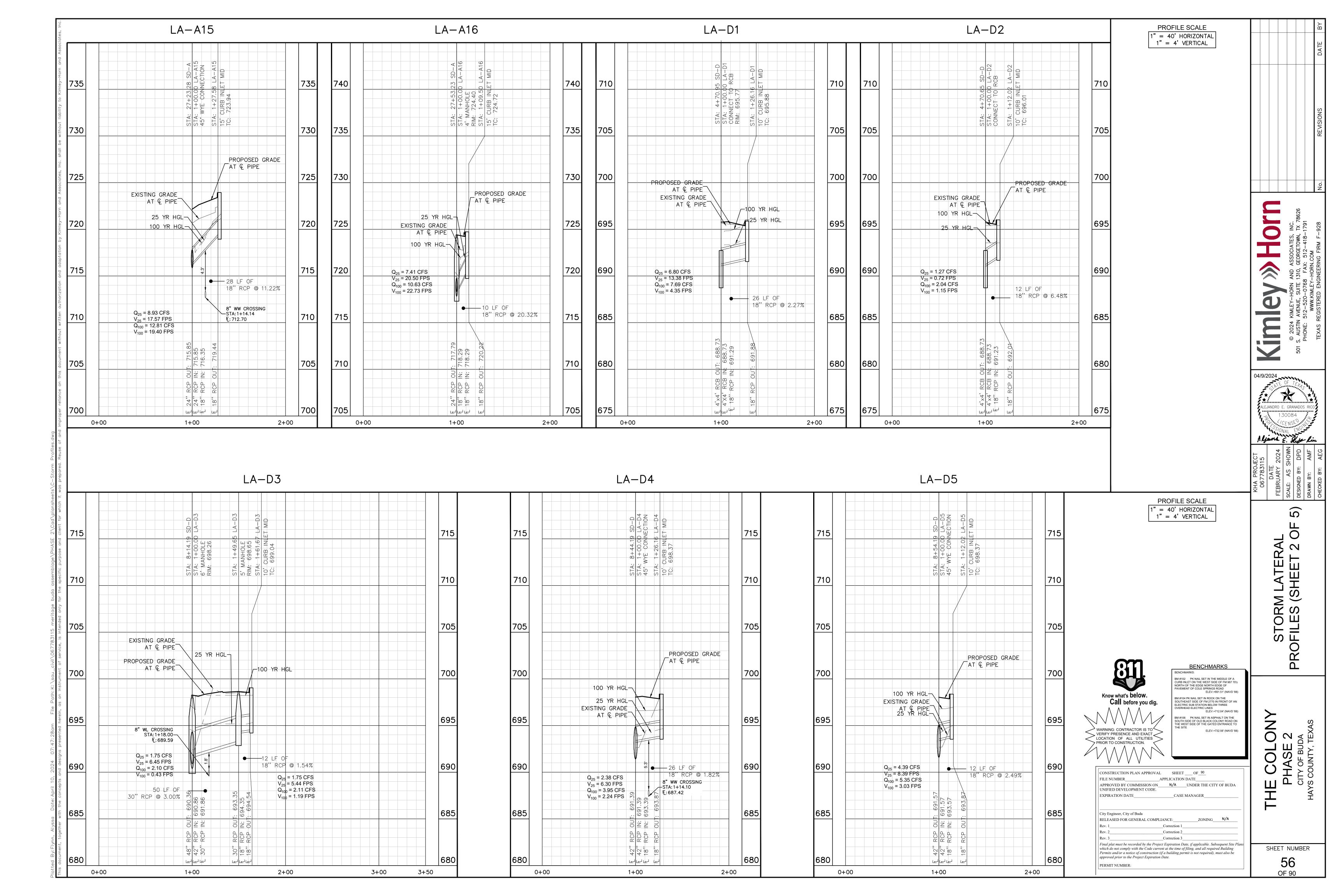


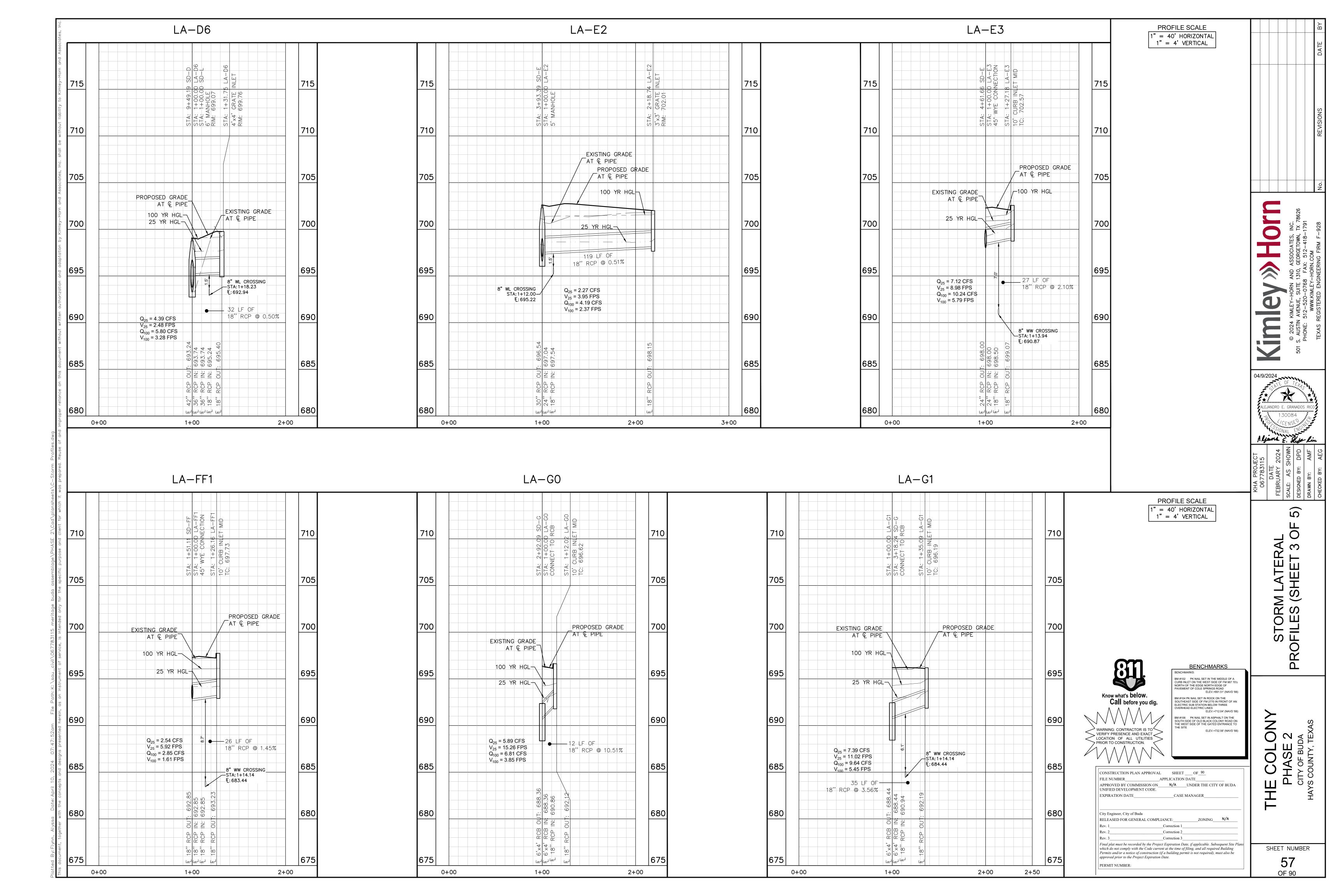


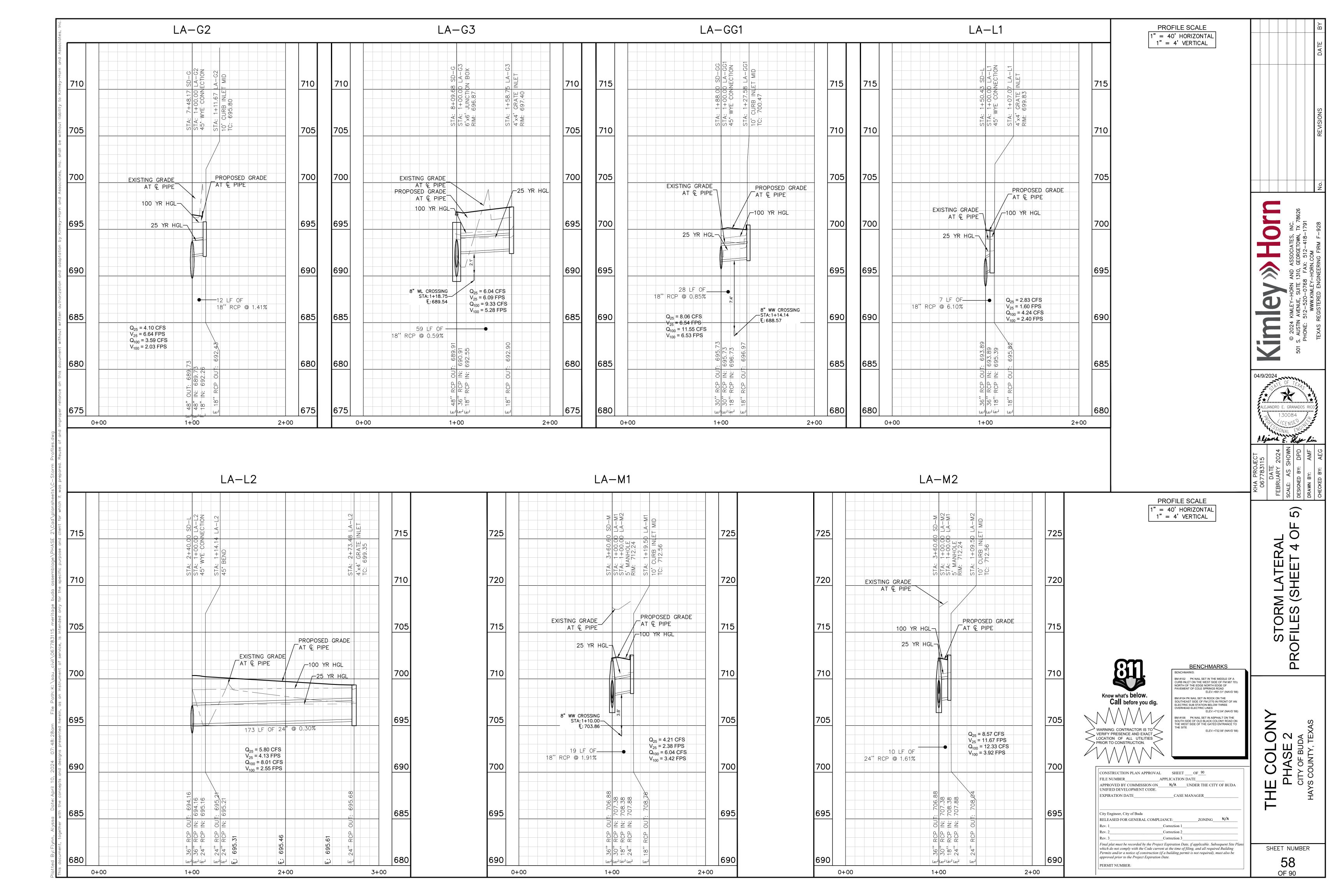


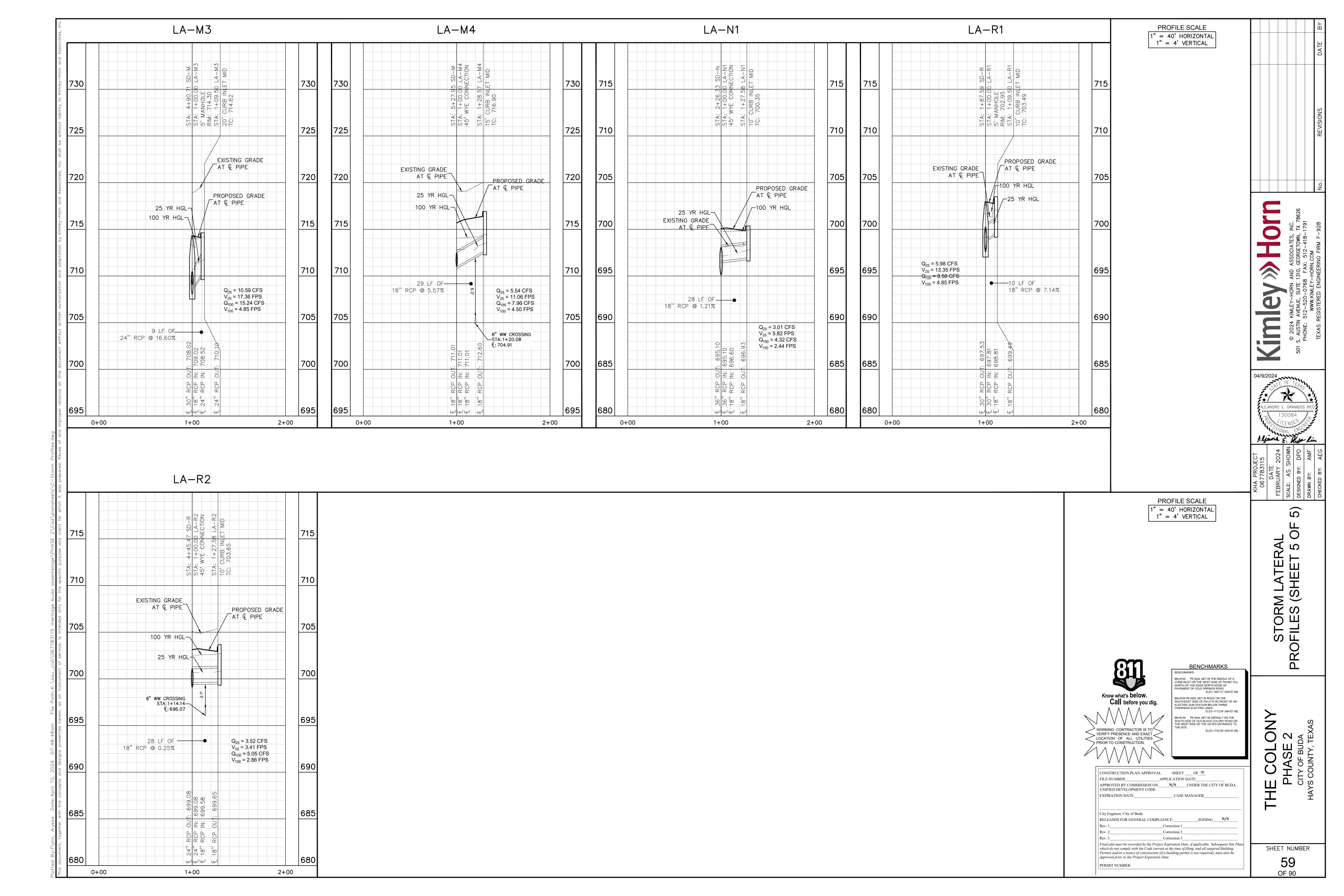


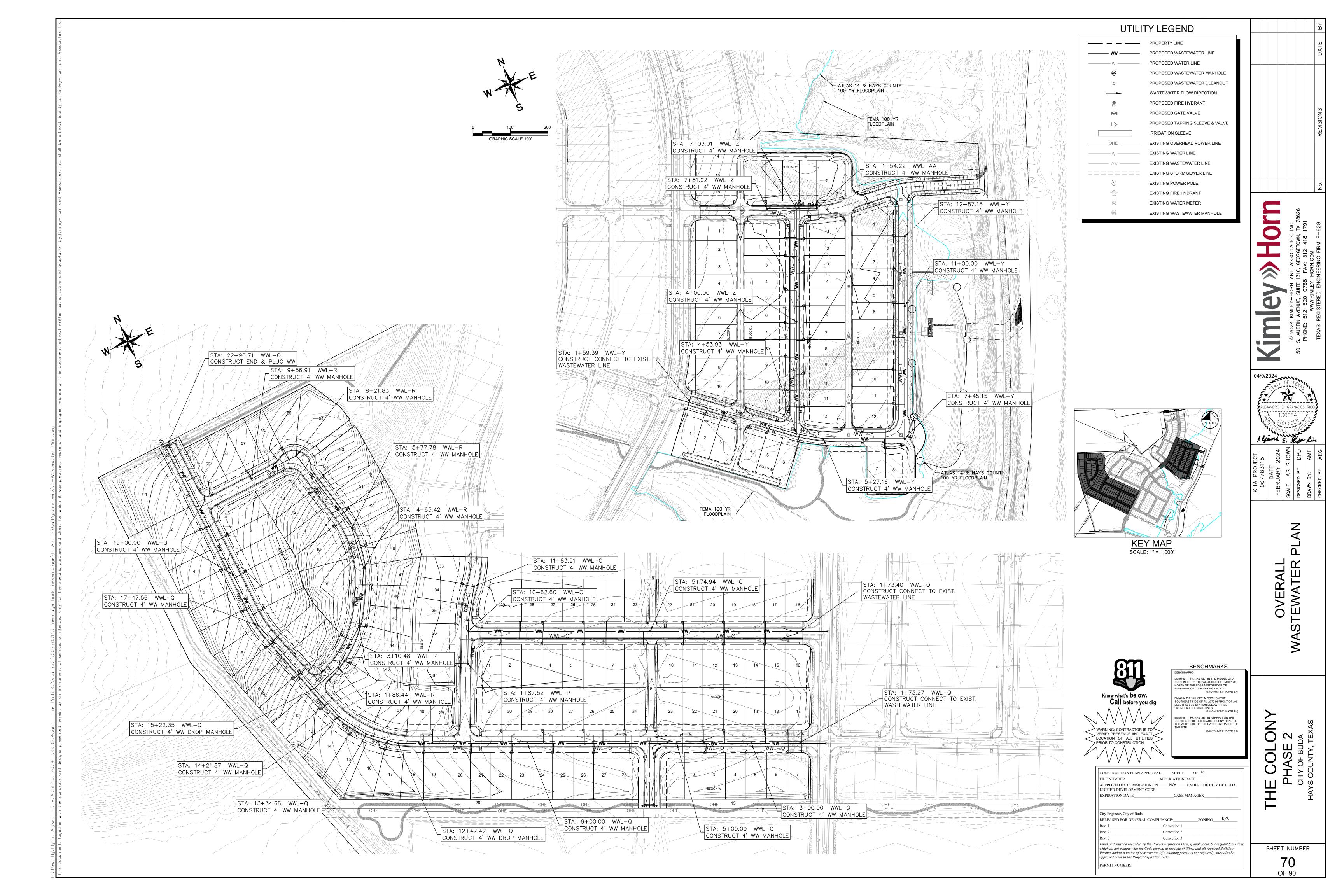


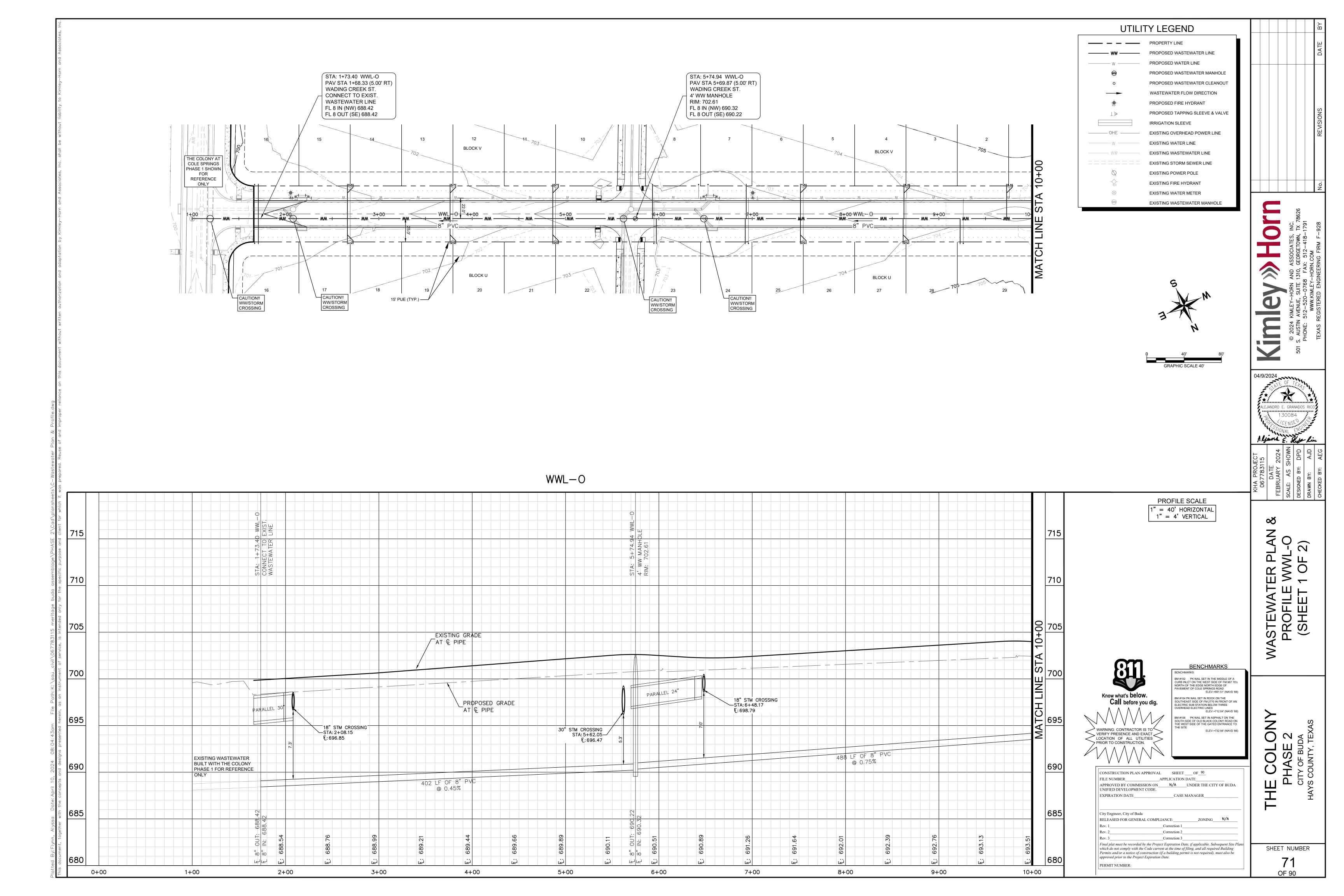


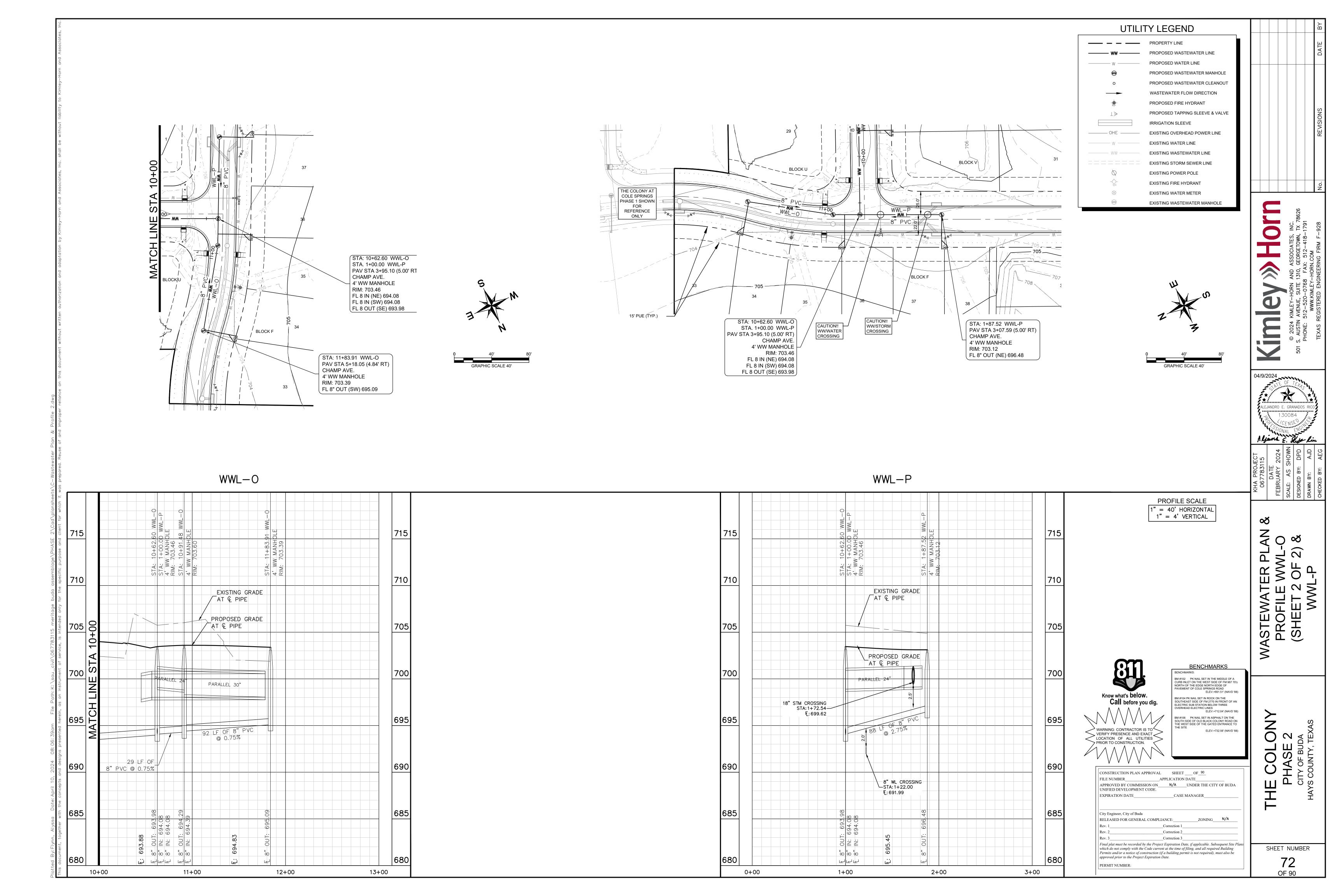


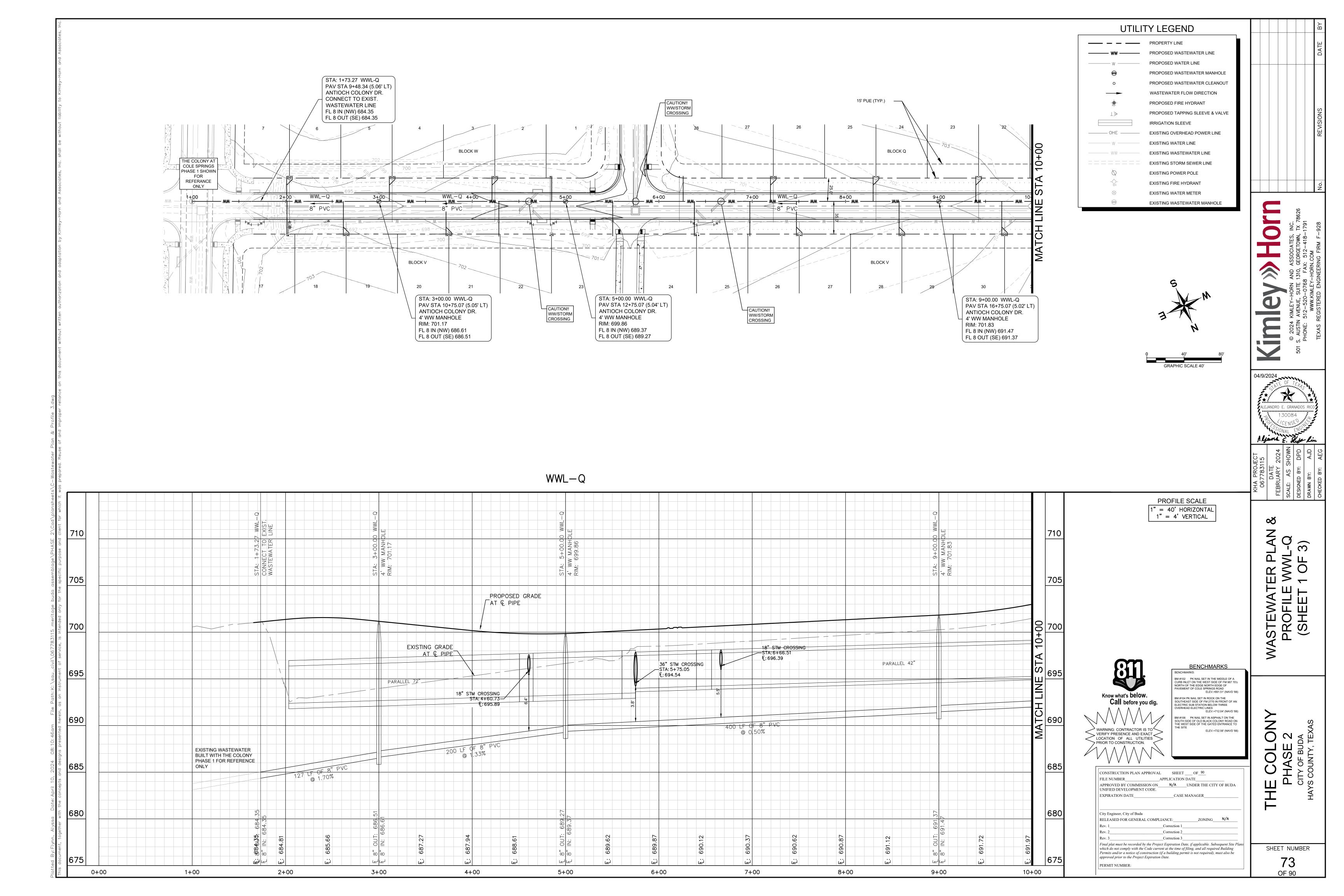


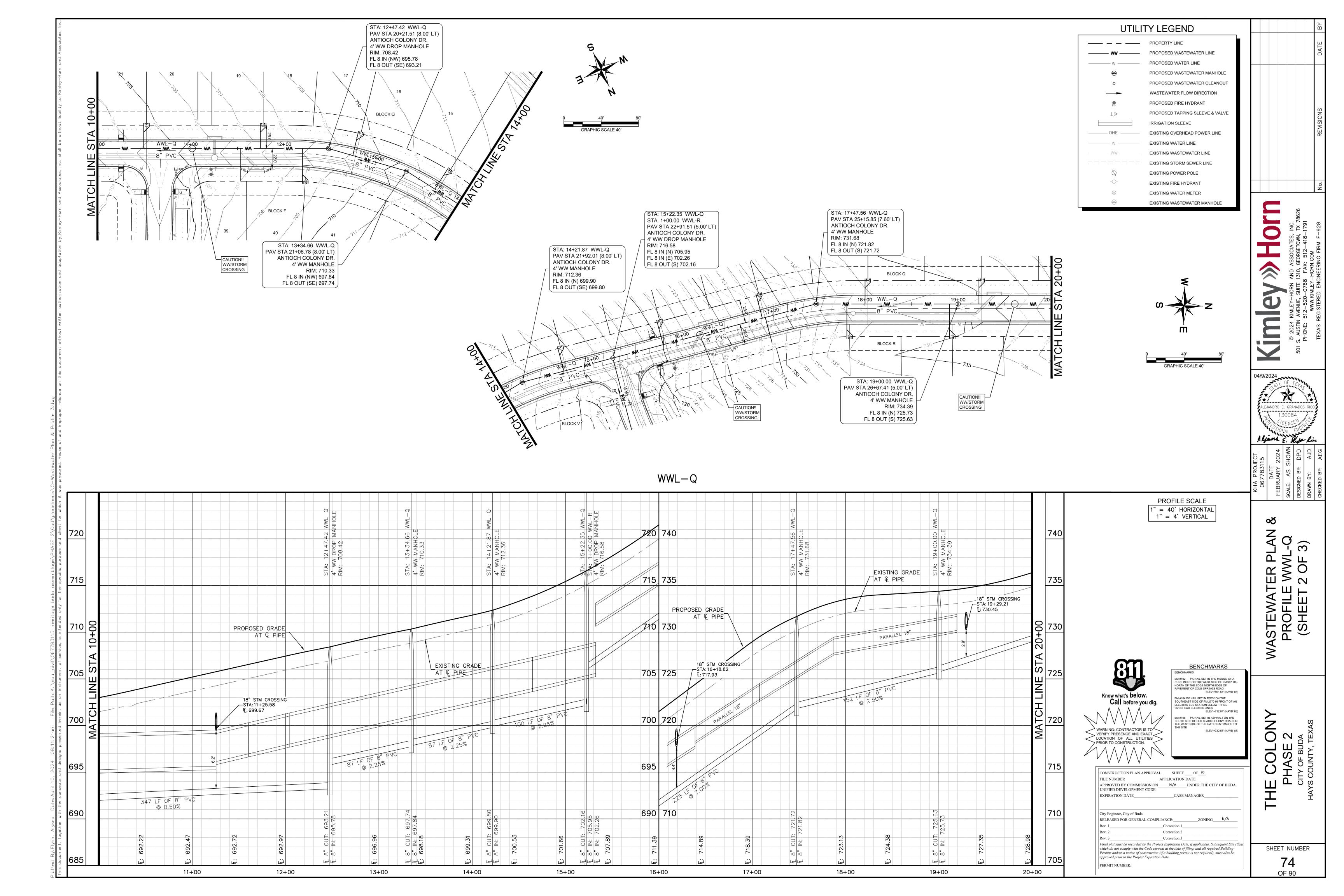


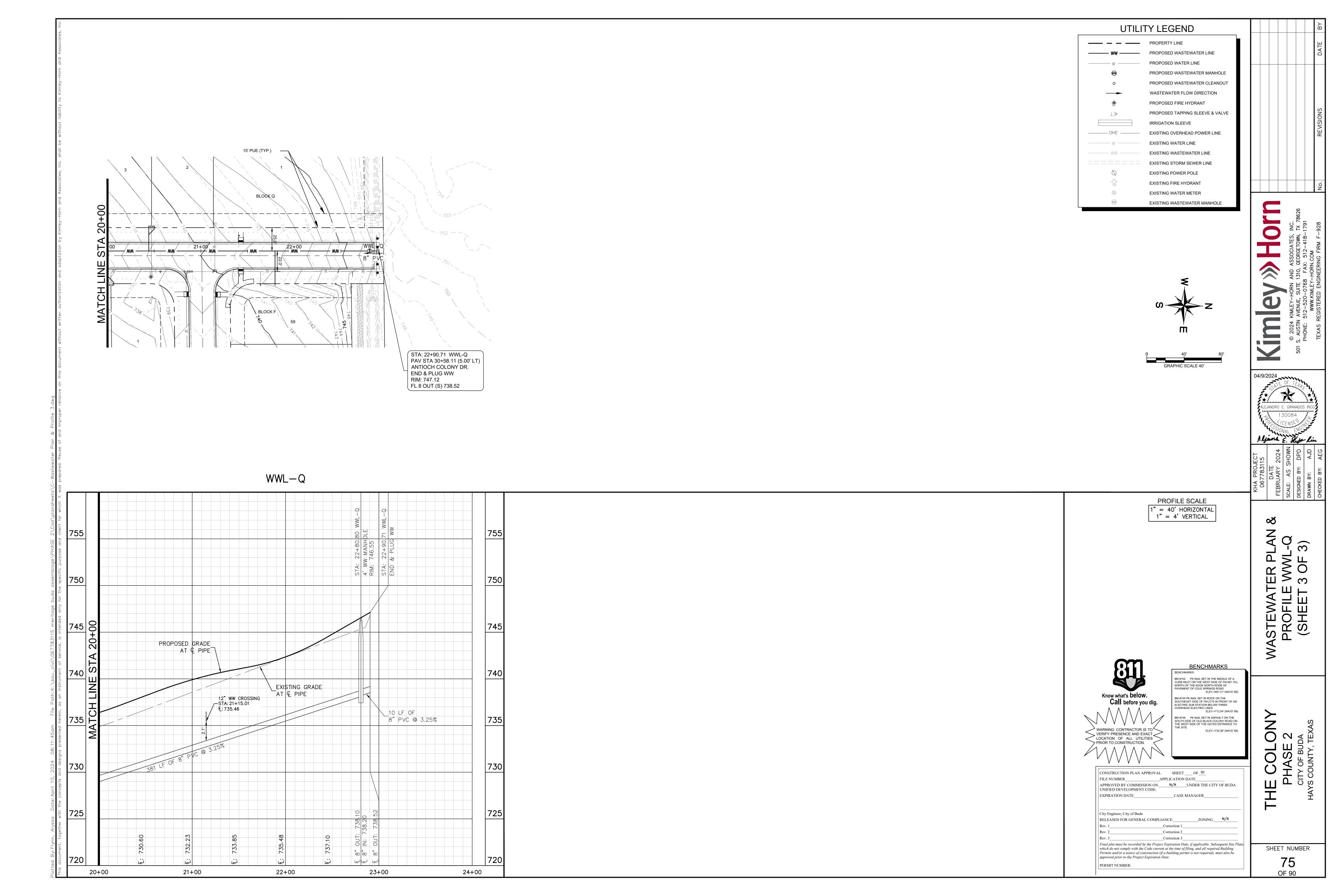


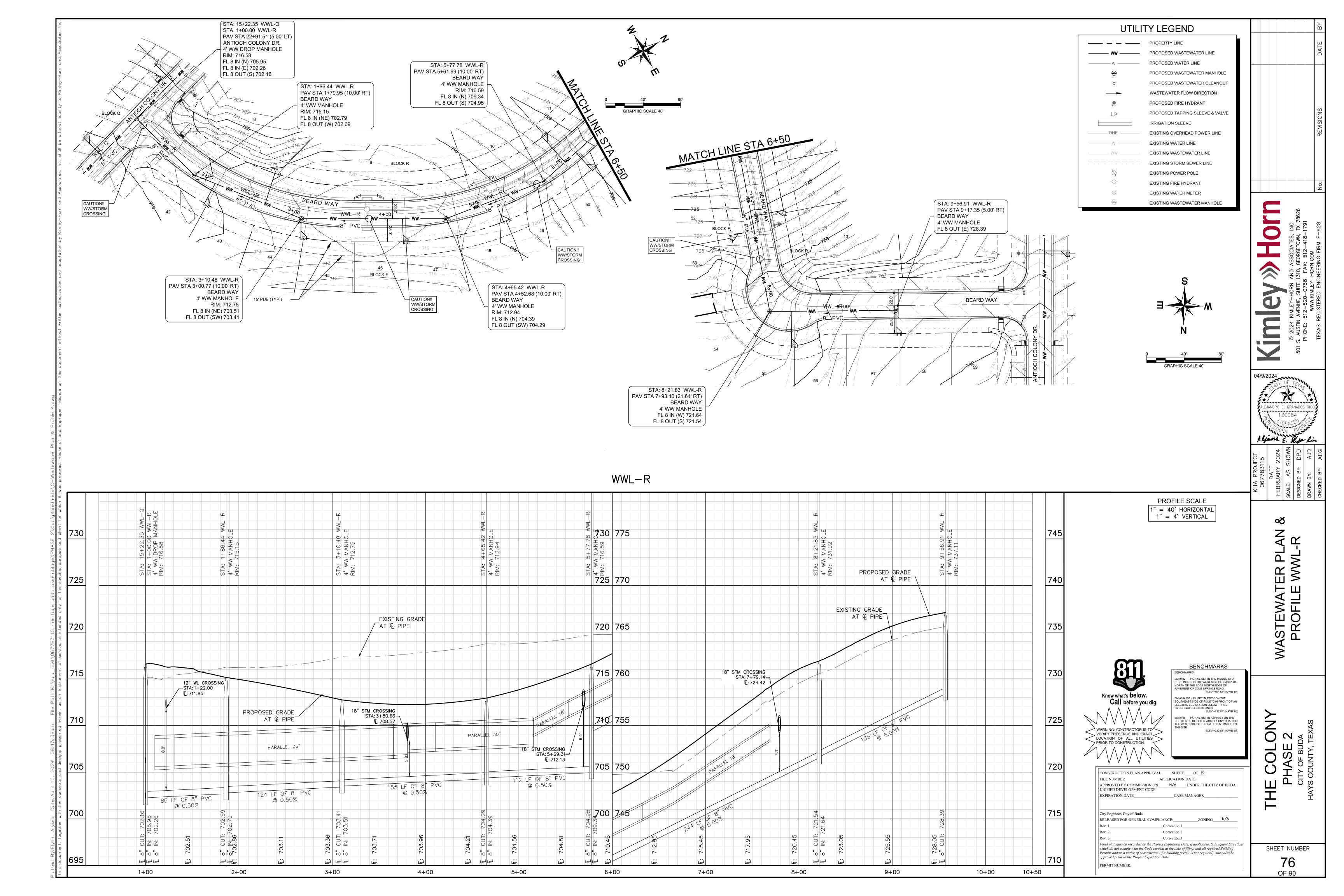


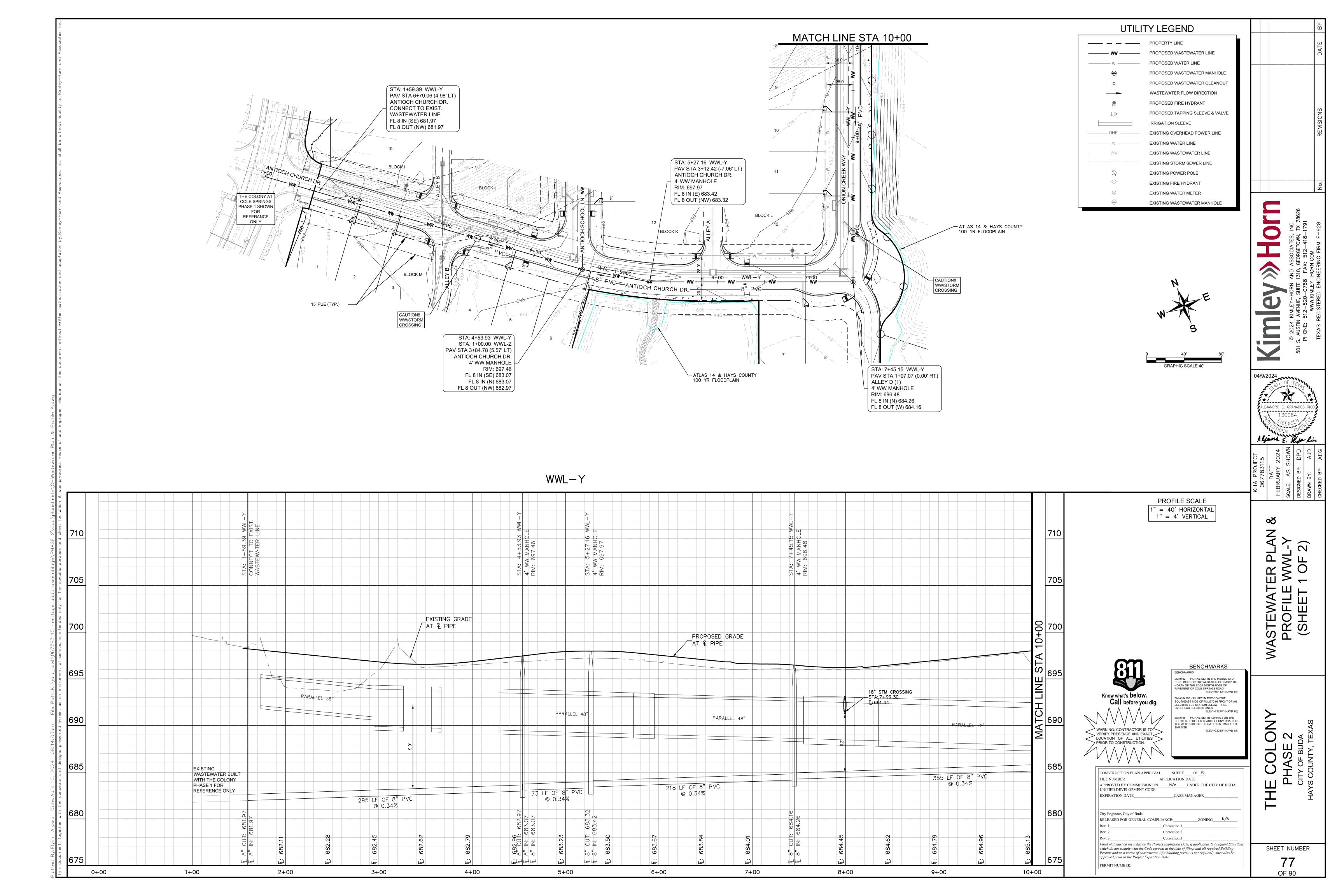


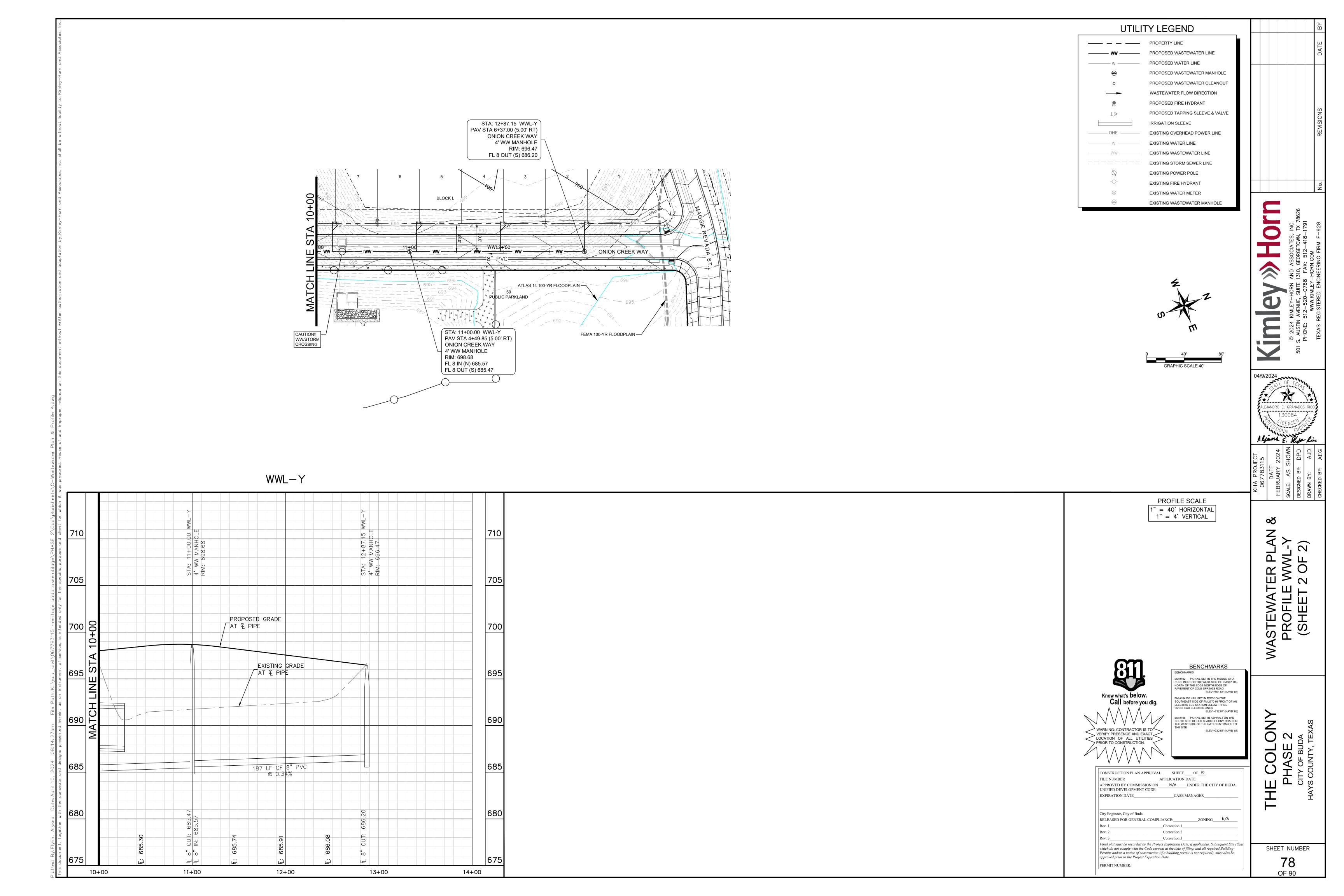


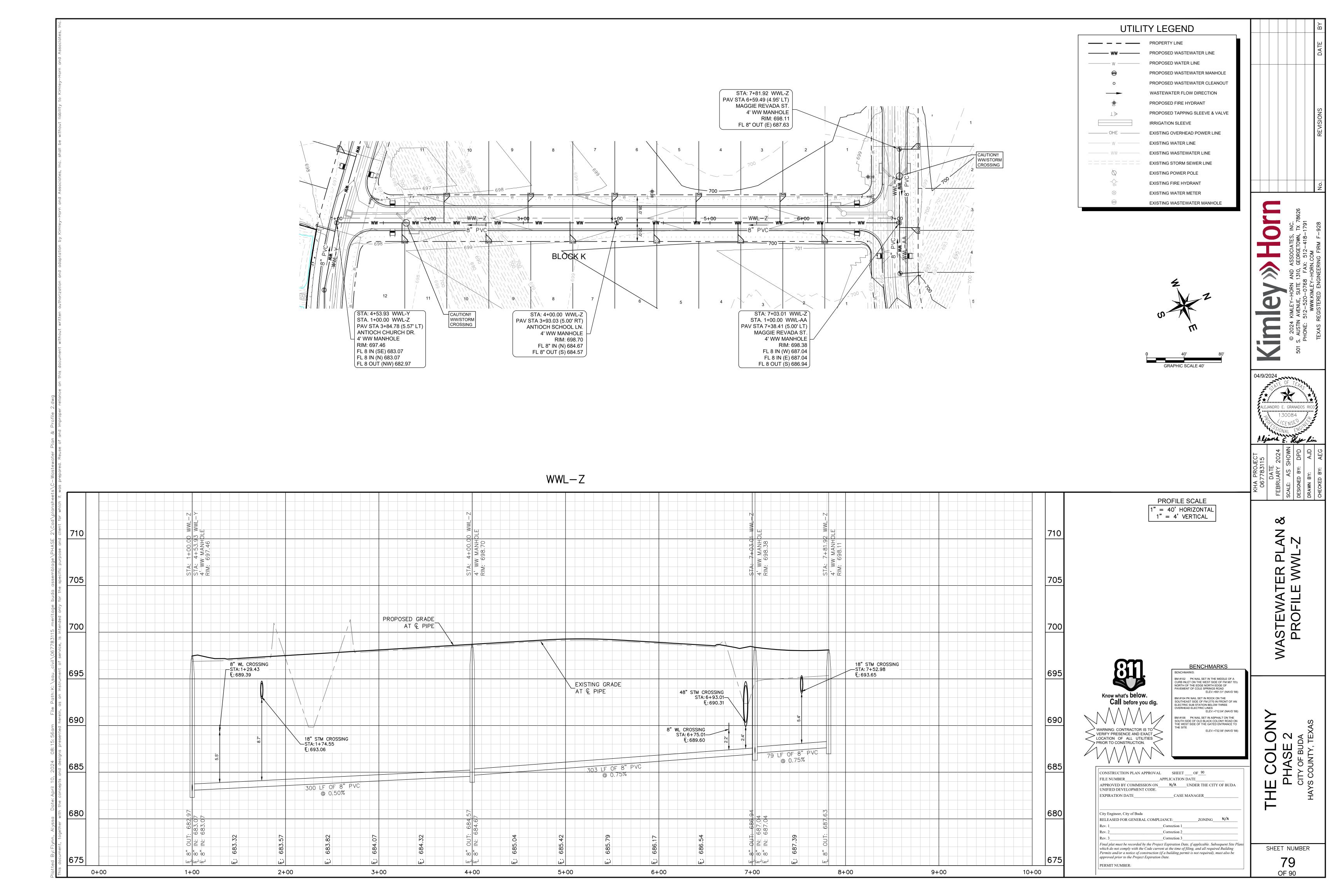


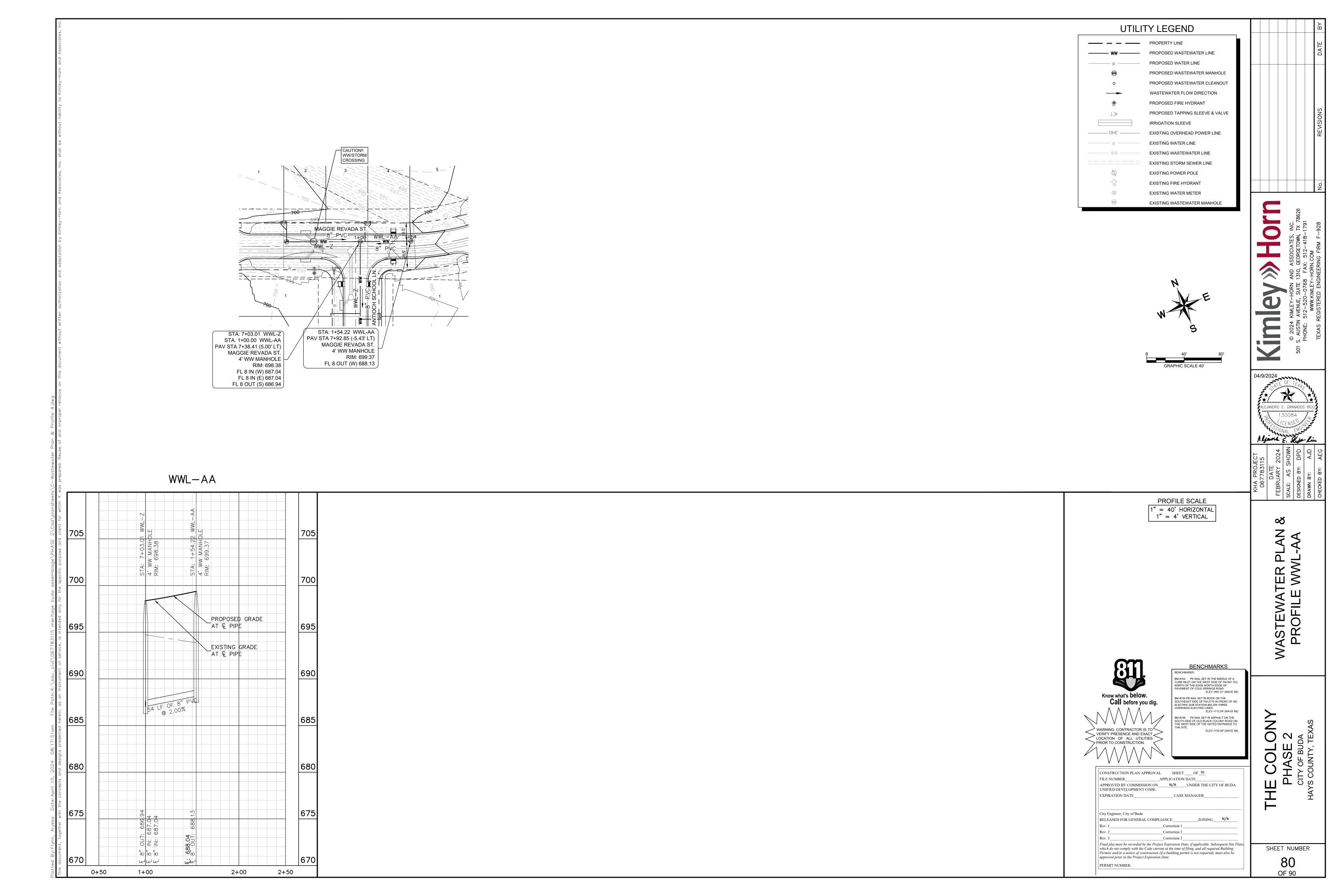












EROSION CONTROL NOTES - APPENDIX P-1

- 1. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION
- WORK (CLEARING, GRUBBING OR EXCAVATION). 2. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE ENVIRONMENTAL CRITERIA MANUAL AND THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN. THE C.O.A. E.S.C. PLAN SHALL BE CONSULTED AND USED AS THE BASIS FOR A T.P.D.E.S. REQUIRED S.W.P.P. IF A S.W.P.P. IS REQUIRED, IT SHALL BE AVAILABLE FOR REVIEW BY THE CITY OF BUDA ENVIRONMENTAL INSPECTOR AT ALL TIMES DURING CONSTRUCTION, INCLUDING THE
- 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 AREA PLAN.
- 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 AND DEVELOPMENT REVIEW DEPARTMENT, 974-2278, AT LEAST THREE DAYS PRIOR TO THE MEETING DATE. THE CONTRACTOR SHALL NOTIFY THE WATERSHED PROTECTION AND DEVELOPMENT REVIEW DEPARTMENT, 974-2278, AT LEAST THREE DAYS PRIOR TO THE MEETING DATE. C.O.A. APPROVED E.S.C. PLAN AND T.P.D.E.S. S.W.P.P. (IF REQUIRED) SHOULD BE REVIEWED BY C.O.A. E.V. INSPECTOR AT THIS TIME.
- 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 (C.P.E.S.C.). CERTIFIED EROSION, SEDIMENT AND STORMWATER-INSPECTOR (C.E.S.S.W.I.), OR CERTIFIED INSPECTOR OF SEDIMENTATION AND EROSION CONTROLS (C.I.S.E.C) 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 SITES.
- 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 BUDA ENVIRONMENTAL INSPECTOR FOR FURTHER INVESTIGATION.
- 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 3 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

-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. COMPOSITION SHALL MEET THE FOLLOWING CRITERIA:

TEXTURE 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 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 MATERIAL. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY OFTEN BE USED, BUT IT

SHOULD MEET THE SAME STANDARDS AS SET FORTH IN THESE

B. 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 CONTROL. 2. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED
- BERMUDA AT A RATE OF 1 POUNDS PER 1000 SE
- 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.
- b. HYDROMULCH SHALL COMPLY WITH TABLE 1, BELOW. c. TEMPORARY 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. d. WHEN REQUIRED, NATIVE GRASS SEEDING SHALL COMPLY WITH REQUIREMENTS OF THE CITY OF AUSTIN ENVIRONMENTAL CRITERIA

TABLE 1 HYDRO	DMULCHING FOR T	EMPORARY V	EGETATIVE STABIL	IZATION
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	0-3 MONTHS	MODERATE SLOPES; FROM FLAT TO 3:1	1500 TO 2000 LBS PER ACRE

PERMANENT VEGETATIVE STABILIZATION

FIBERS

- 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. 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 SE

- 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 ½ 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 1½ 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 AUSTIN ENVIRONMENTAL CRITERIA MANUAL.

TAB	BLE 2 HYDROMULCHING	G FOR PERMAN	ENT VEGETATIVE S	TABILIZATION
MATERIAL	DESCRIPTION	LONGEVITY	TYPICAL APPLICATIONS	APPLICATION RATE
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 PE 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:

M/I HOMES OF AUSTIN, LLC

CONTACT:

PHONE NO:

CONTACT:

7600 N. CAPITAL OF TEXAS HWY, BLDG C, SUITE 250 AUSTIN, TEXAS 78731

PHONE NO: (512) 770-8524 CONTACT: KYLE KRIEGEL

A. OWNER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS: ALEJANDRO E. GRANADOS RICO, P.E. / KIMLEY-HORN AND ASSOCIATES, INC.

PHONE NO.: (512) 520-0768 B. PERSON OR FIRM RESPONSIBLE FOR EROSION/SEDIMENTATION CONTOL MAINTENANCE:

M/I HOMES OF AUSTIN, LLC 7600 N. CAPITAL OF TEXAS HWY, BLDG C, SUITE 250 AUSTIN, TEXAS 78731 PHONE NO: (512) 770-8524

C. PERSON OR FIRM RESPONSIBLE FOR TREE/NATURAL AREA CONTROL MAINTENANCE:

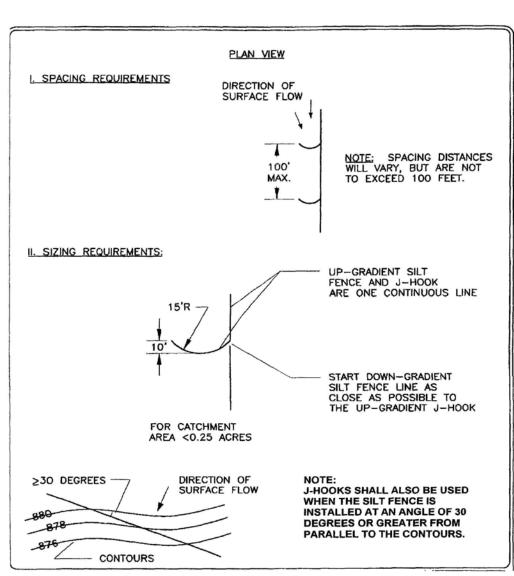
KYLE KRIEGEL

(512) 770-8524

KYLE KRIEGEL

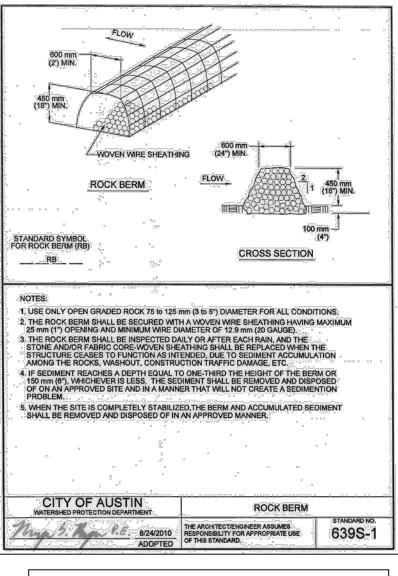
M/I HOMES OF AUSTIN, LLC 7600 N. CAPITAL OF TEXAS HWY., BLDG. C, SUITE 250 ADDRESS: AUSTIN, TEXAS 78731

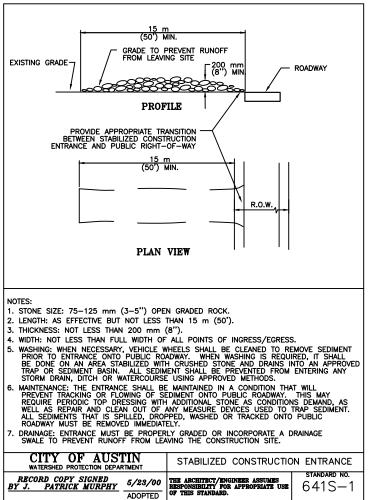
- 11. THE CONTRACTOR SHALL NOT DISPOSE OF SURPLUS EXCAVATED MATERIAL FROM THE SITE WITHOUT NOTIFYING THE CITY OF BUDA AT LEAST 48 HOURS PRIOR WITH THE LOCATION AND A COPY OF THE PERMIT ISSUED TO RECEIVE THE MATERIAL.
- 12. ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN-COMPLIANCE WITH THE CITY OF AUSTIN RULES AND REGULATIONS (CITY OF AUSTIN LDC 25-8-183)
- 13. CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURES DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING AS PER CITY OF AUSTIN ECM 1.4.5(A), OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
- 14. CONTRACTOR SHALL CLEAN UP SPOILS THAT MIGRATE ONTO THE ROADS A MINIMUM OF ONCE DAILY. (CITY OF AUSTIN ECM 1.4.4.D.4.)

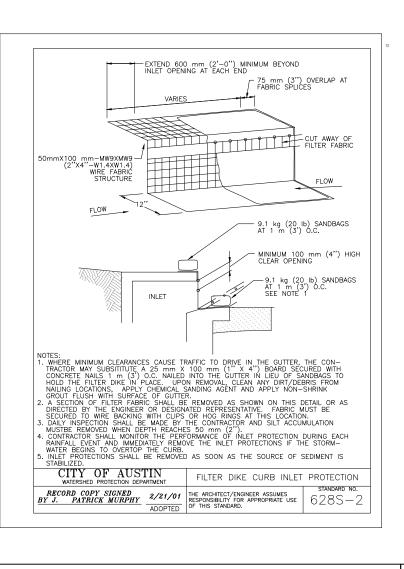


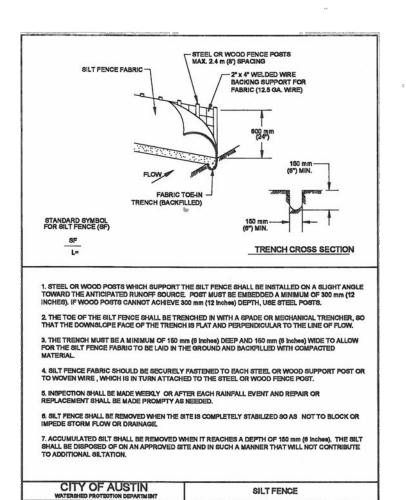
J-HOOK

SCALE: N.T.S.

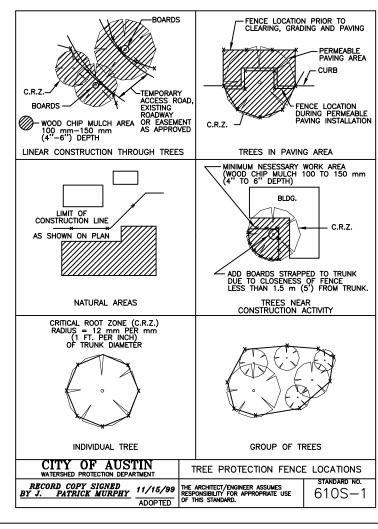


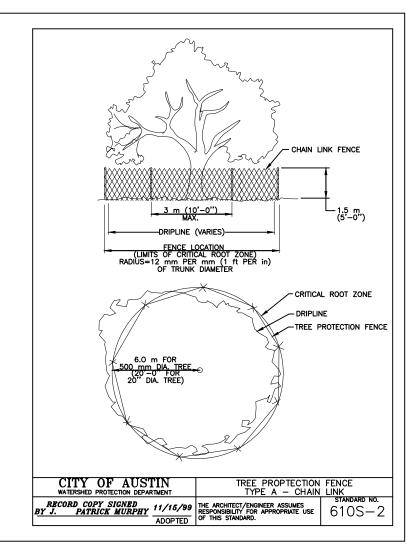


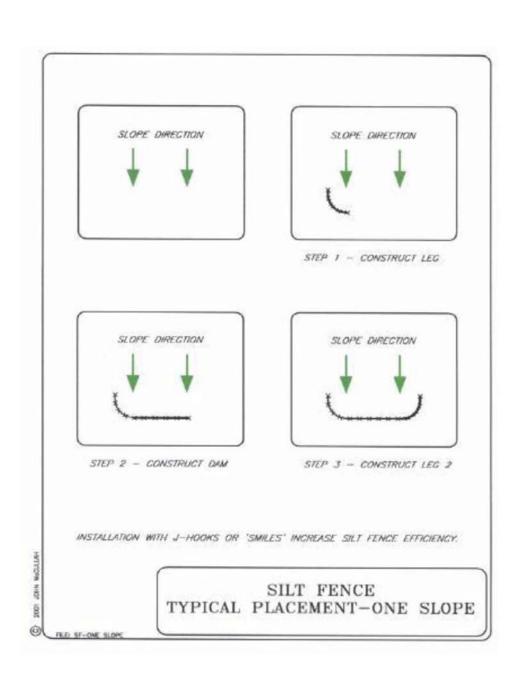


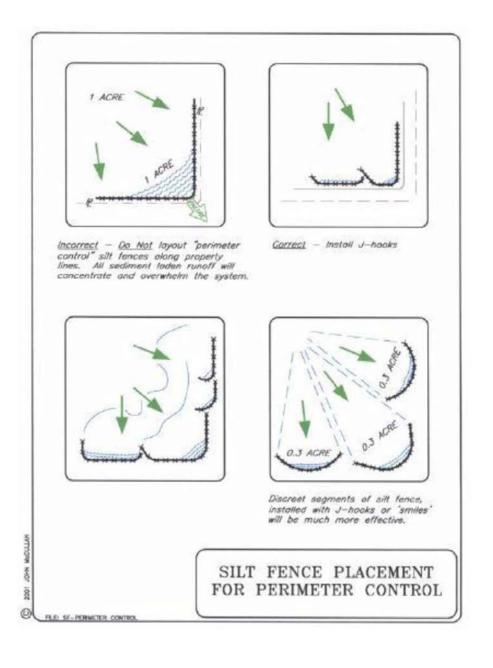


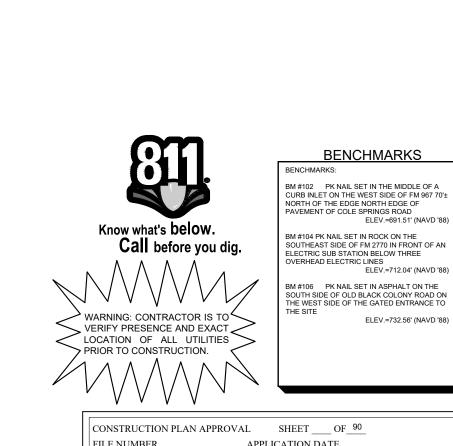
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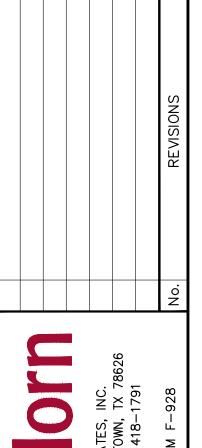


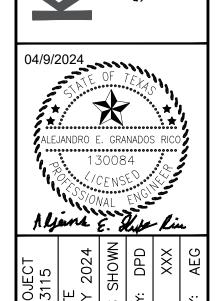


BENCHMARKS

ELEV.=691.51' (NAVD '88

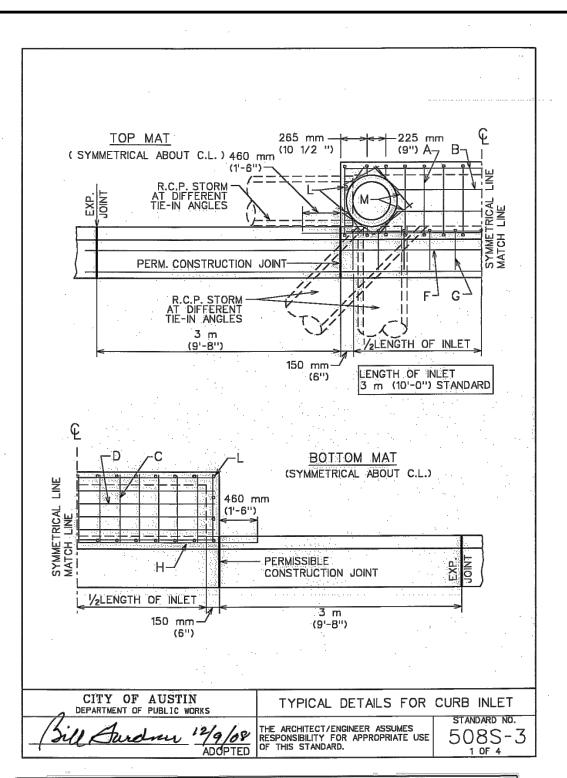
ELEV.=732.56' (NAVD '88





SHEET NUMBER

83 OF 90



_150 mm (6'')

ADOPTED THE ARCHITECT/ENGINEER ASSUMES STANDARD NO. 5085-1

63.5 mm (2 ½") < > 12 mm (1/2") -> ->

11 mm → (7/16")

<u>SECTION</u>

375 mm (15") MIN. PROOF COIL, CARBON STEEL CHAIN 7 mm (0.281") DIA. MANUFACTURED TO ASTM-A413 SPECIFICATIONS. ATTACH TO THE CAST-ON EYE.

CAST-ON LUG AND COVER CHAIN DETAIL

457 mm (18") COVER AND FRAME

CAST-ON HOOK-

- CAST-ON

STANDARD NO.

)50 mm ((2 1 1)

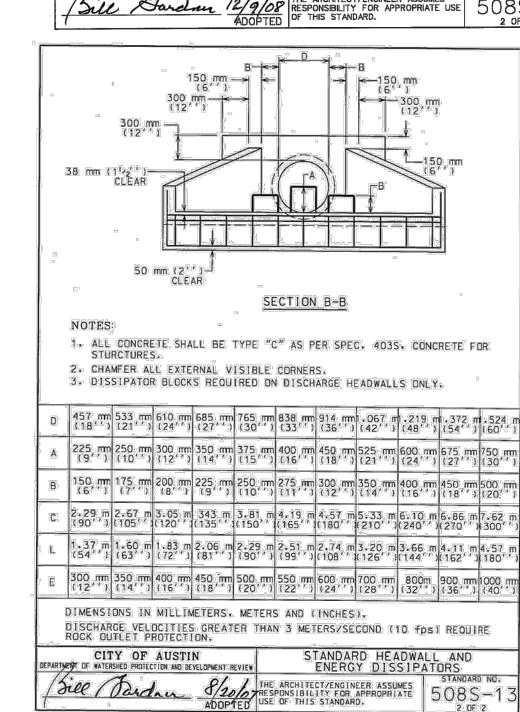
CITY OF AUSTIN

. — . — . — . — . CAST-ON -

(1/2")

TOP VIEW

38 mm (11/2'')— CLEAR



— L (6 BARS)

(EXTEND 460 mm

— A (15 BARS)

304 mm (1') SLOP

600 mm (2'-0") MIN.

ELEVATION - SECTION

6 mm(1/4") :

(2 1/2 ") R

120 mm

(4 3/4 "

57 mm

G (11 BARS)-

F (3 BARS) ---

(EXTEND 1' INTO

J (4 BARS)

K (30 BARS) -

75 mm

DEPARTMENT OF PUBLIC WORKS

· (3")

TRANSITION CURB)

(2 1/4 ") -

(1'6") INTO TRANSITION/

— C (7 BARS)

D (5 BARS)

B (4 BARS)

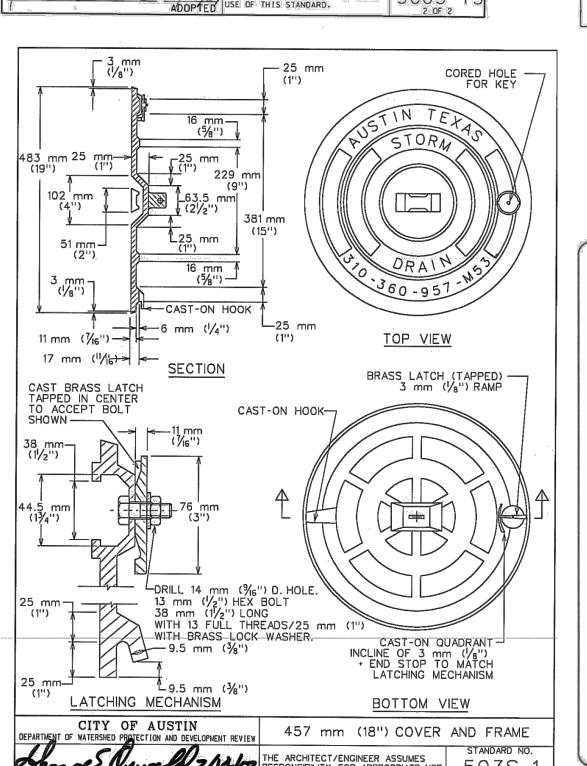
50 mm

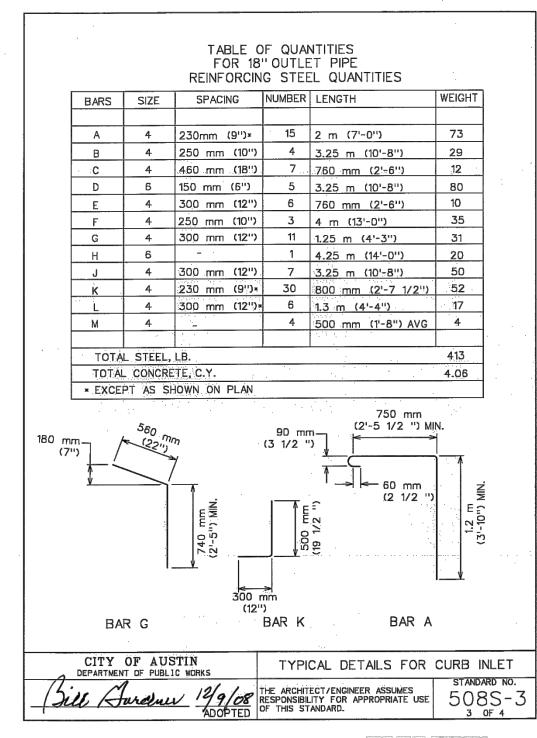
STANDARD NO.

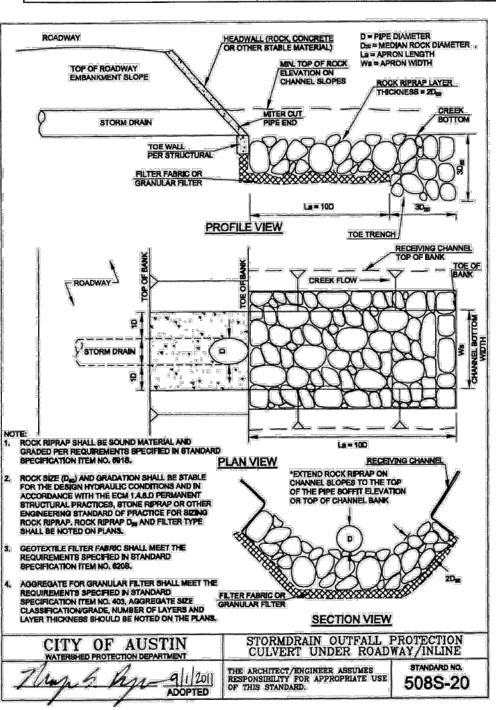
← (2")

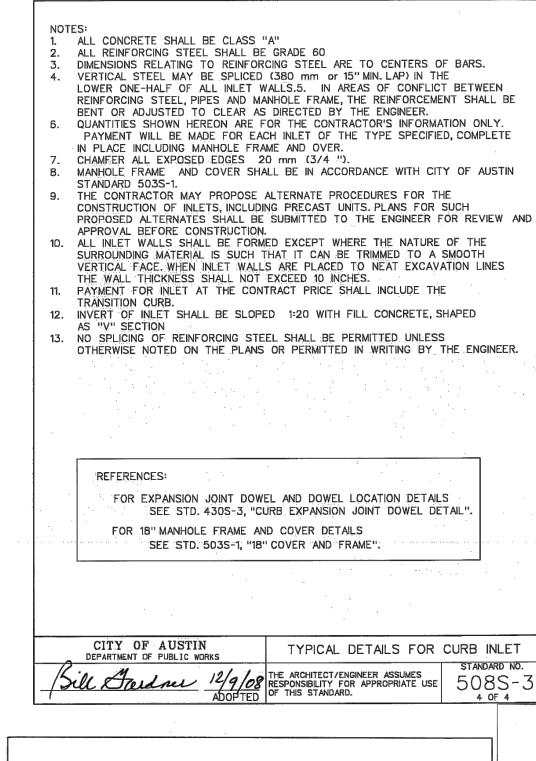
TYPICAL DETAILS FOR CURB INLET

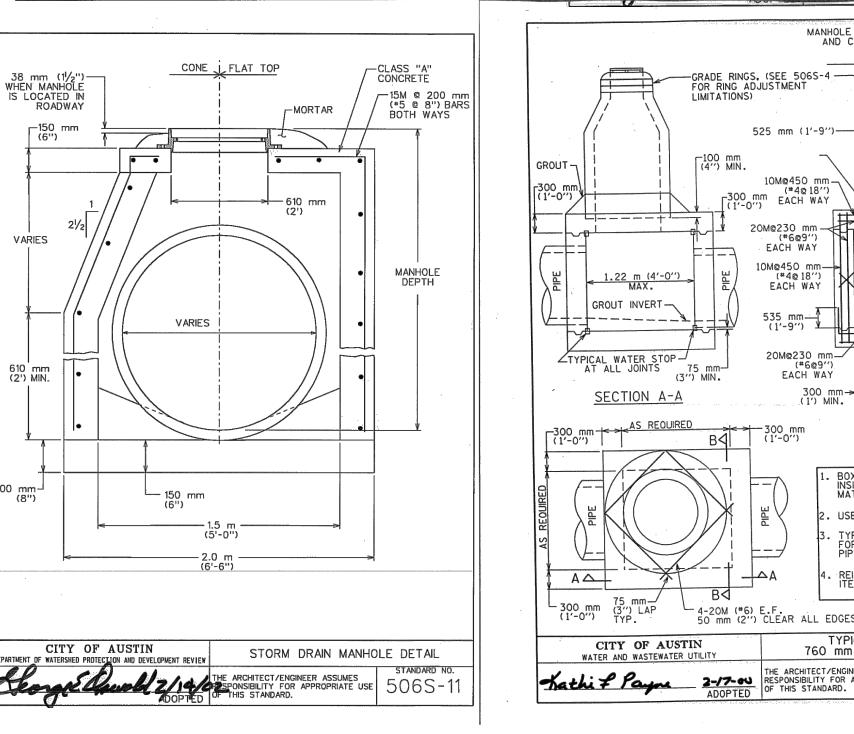
--(1 1/2")

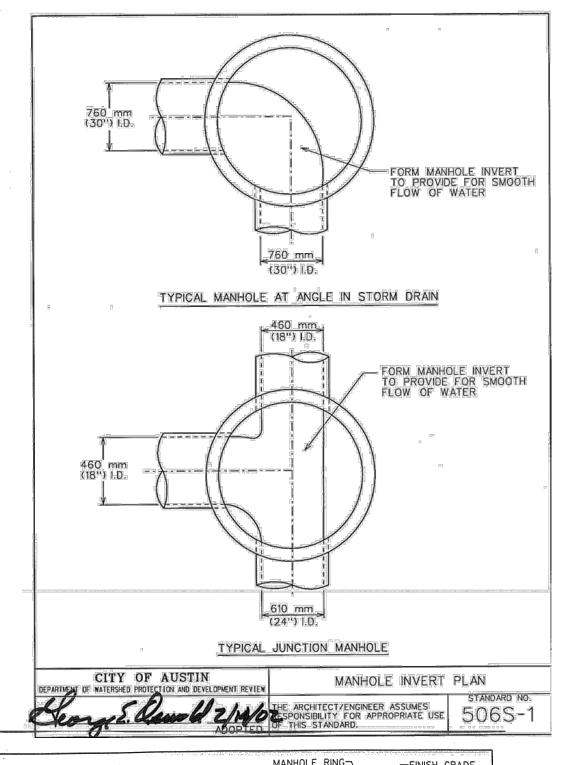


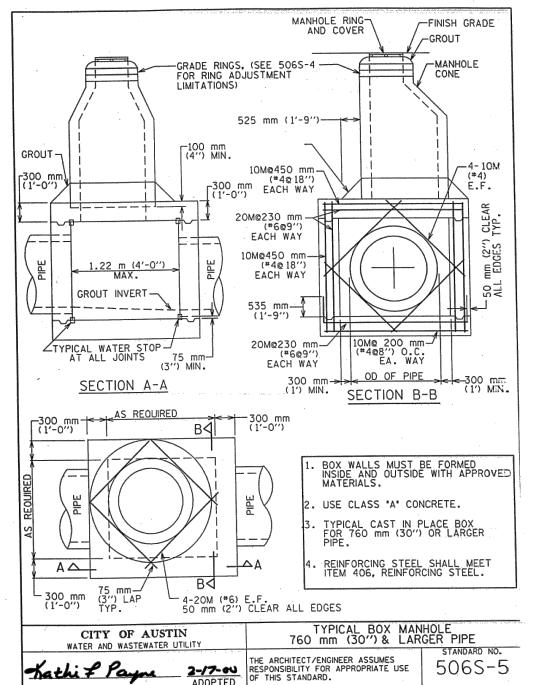


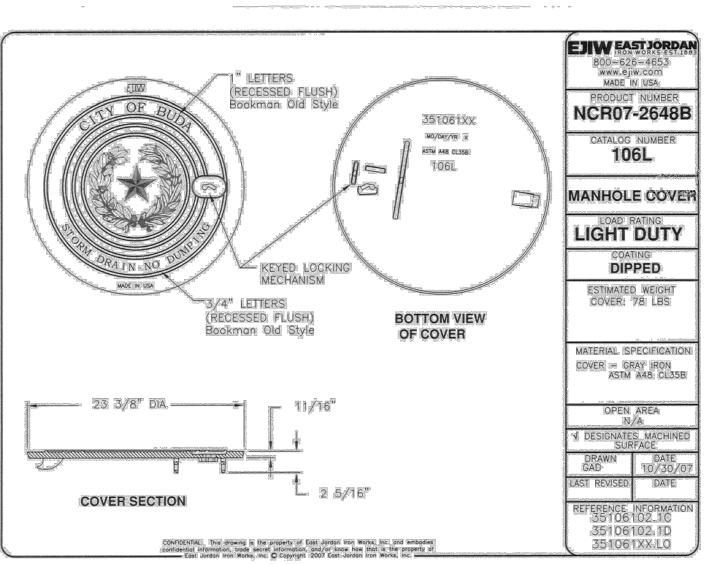


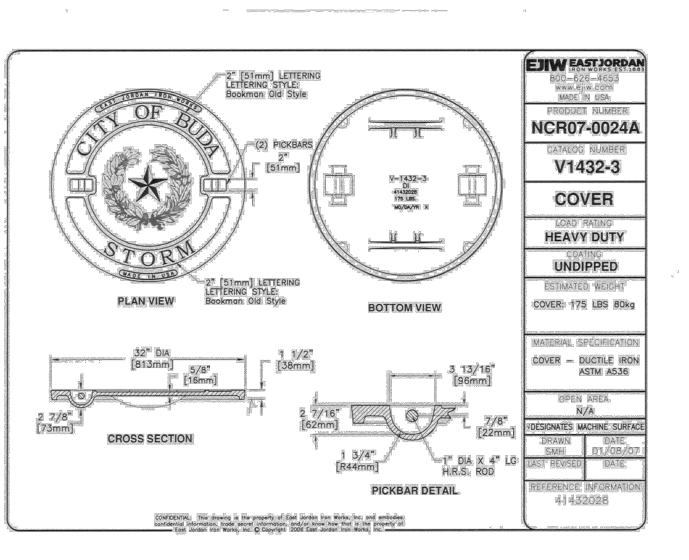














CONSTRUCTION PL				
FILE NUMBER				
APPROVED BY COMUNIFIED DEVELOPMENT		IN/A U	NDER THE CIT	Y OF BUDA
EXPIRATION DATE		CASE MA	ANAGER	
RELEASED FOR GET				
Rev. 1				
Rev. 2	C	orrection 2		
Rev. 3	C	orrection 3		
Final plat must be reco which do not comply w	th the Code current of	at the time of fil		ed Building

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SHEET NUMBER 88 OF 90

04/9/2024

ALEJANDRO E. GRANADOS R

130084

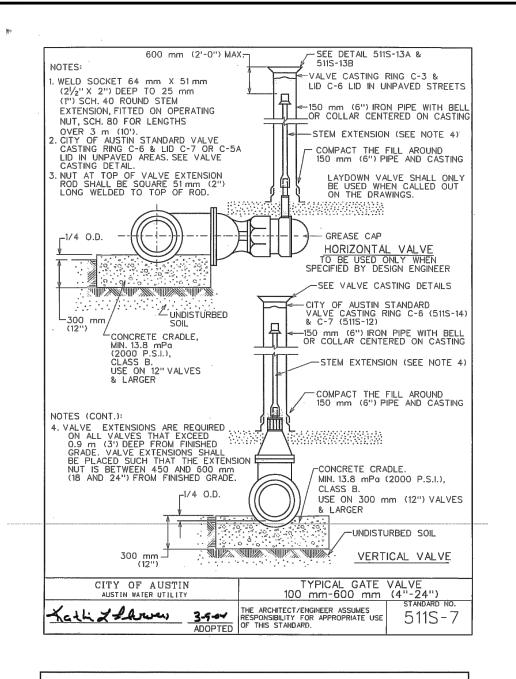
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S

DETAIL

DRAIN

STORM



BOLTED CAST COUPLING (UNION --

1" OR 2" GALV, IRON PIPE -

BLACK DRESSER OR EQUIVALENT

LOCATE AS SPECIFIED

ON DRAWINGS

SIDEWALK

3" - 8" CLEARANCE -

BRICK OR PIPE -

SPL WW-3C. POTABLE WATER PIPE SHALL BE PAINTED SAFETY BLUE.

MINIMUM CLEARANCE OF 18" FROM ANY OBSTACLE.

CORPORATION COCK *

SEE NOTE 9 ON

EXTERIOR SURFACES OF EXPOSED AIR VENT PIPE AND DI SUPPORT PIPE SHALL BE PAINTED PER

. AIR VENT PIPE INSTALLATION SHALL BE AS NEAR AS PRACTICAL TO RIGHT-OF-WAY LINE WITH

3. HDPE METER BOX PENETRATION SHALL BE CORE BIT DRILLED. VOID SHALL BE FILLED WITH

LINKSEAL LS 300 OR APPROVED EQUAL.

COMPACTED COARSE GRAVEL OR BROKEN STONE MIXED WITH SAND SLOPED TO DRAIN.

AS INDICATED ON PLANS.

1" OR 2" AIR RELEASE OR AIR/VACUUM VALVE

SPL WW-367, WW-462, WW-462A OR WW-462B

THREAD TO COMPRESSION BALL VALVE

BRASS ELBOW ALLOWED IF SPL WW-275

NECESSARY DUE TO DEPTH

LIMITATIONS

SCREEN COVER VENT

BAILEY MFG. CO. OR

TO 4" DI PIPE FILLED

WITH CONCRETE

- 4" DI PIPE FILLED w/CONC

SET IN 1'x1' CONC. BLOC

(1'x1'x1') ROCK OR GRAVEL

- GRAVEL - SEE NOTE 4

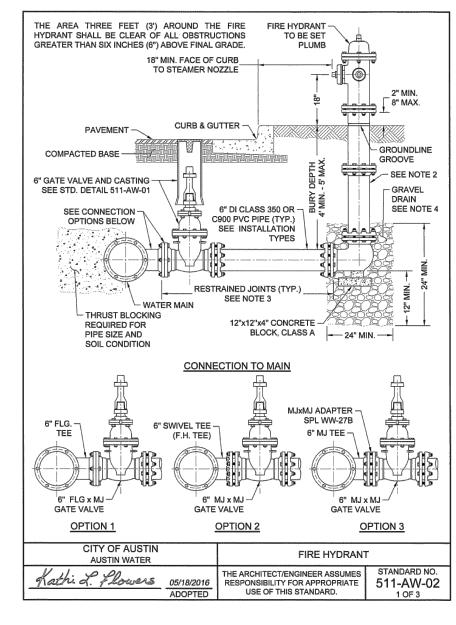
2" COPPER PER SPL WW-613 OR 2" HDPE PER SPL WW-65

FOR POTABLE, AND SPL

WW-65A FOR RECLAIMED

EQUIVALENT)

SEE NOTE 4



- PER PLAN DIMENSION -

WATER VALVE BOX

SEE STD. DETAIL

SUPPORT

SEE NOTE 9 ON

SLOPE PIPE -

AIR VALVE

PIPE FLG x FACTORY RESTRAINED JOINT SPIGOT END.

SIDEWALK

DI MAIN

90° BEND w/FACTORY RESTRAINED JOINT BELL ENDS. SPL WW-27F.

- PIPE BEDDING

GATE VALVE (FLG x FLG). GATE VALVE SHALL NOT BE INSTALLED DIRECTLY ABOVE WATER MAIN.

🗠 4" DI PIPE FILLEI

w/CONC. SET IN

2 - #4 REBAR - 2" CLEAR

CLASS A CONCRETE, SPEC 403.

BLOCKING AND SUPPORT

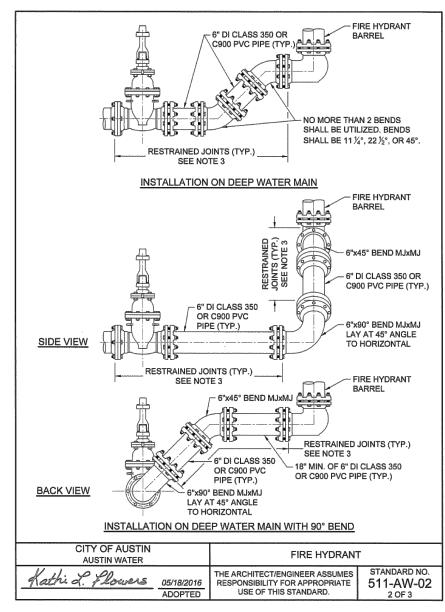
ISOLATION KIT

1' MIN. PEA GRAVEL

FLG OUTLET

STEEL/CSC MAIN

1'x1' CONC. BLOCK



VALVE SHALL BE VENTED WITHIN THE VAULT INTO THE LARGER VENT PIPE

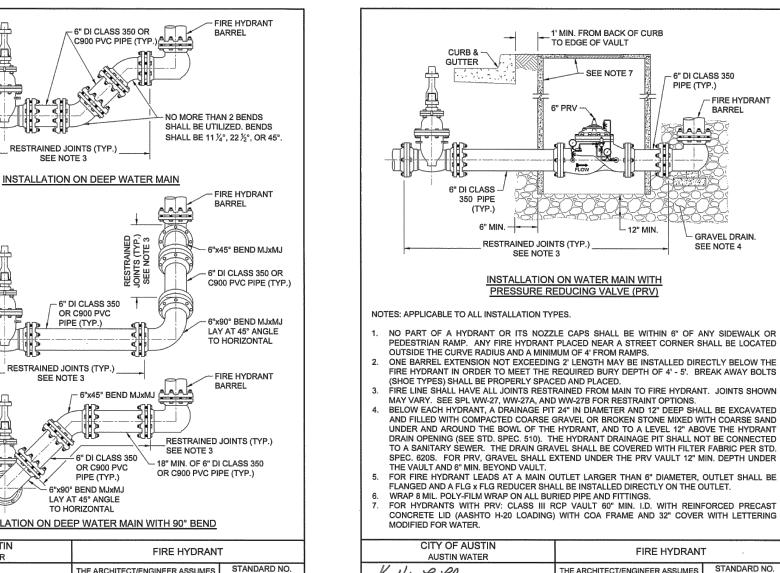
ENTIRE AIR VENT ASSEMBLY SHALL BE LOCATED WITHIN EASEMENT OR R.O.W.

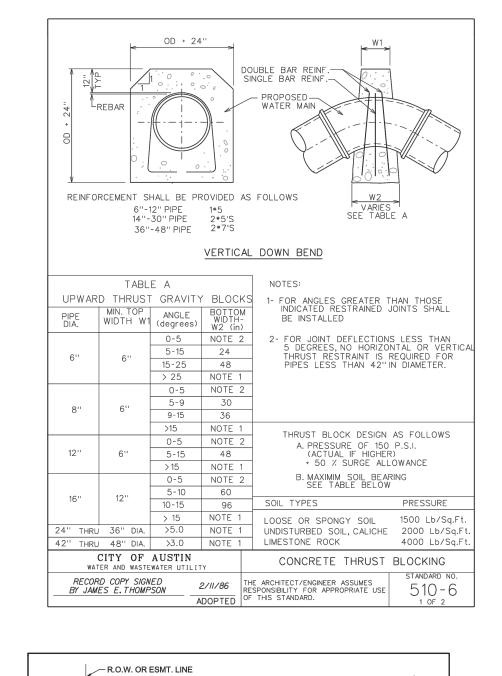
3" OR LARGER AIR/VACUUM VALVE INSTALLATION - TYPE II

ASSEMBLY WITHOUT REMOVAL OF PRECAST CONCRETE LID.

w/LINKSEAL LS 300 OR APPROVED EQUAL.

CONNECTION OF ARV.





@**—**___

WATER SERVICE TAP PROFILE VIEW

1" & SMALLER METERS

R.O.W. OR ESMT. LINE

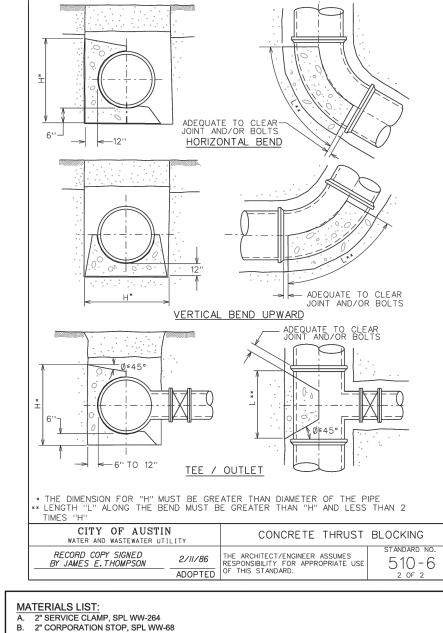
- 1" PVC MALE -

CITY OF AUSTIN

ADAPTER

WATER SERVICE TAP PLAN VIEW

WATER MAIN -



2" HDPE WATER SERVICE TUBING, SPL WW-65

1" HDPE WATER SERVICE TUBING, SPL WW-65

MATERIALS TO BE INSTALLED BY PLUMBER:

1" METERS: 8 ½" LONG x 1" DIA. PROPERTY OWNER'S CUT OFF VALVE, SPL WW-276

PROPERTY OWNER'S CUT OFF VALVE BOX AND LID

INSTALLATION.
TOP OF METER BOXES SHOULD BE 4" ABOVE GROUND.

ABOVE GRANULAR BEDDING AS REQUIRED BY SECTION 510.3 (25).

%" AND %" METERS: 8 %" LONG x %" DIA.

RAFFIC AREA AND SIDEWALK.

COMPRESSION FITTING USED.

CAST INTO THEM, SPL WW-145A.

AUSTIN WATER

TO BALL VALVE "D".

METER SIZES TO BE SHOWN ON PLANS.

1" ANGLE METER STOP, SPL WW-68

METER BOX AND LID. SPL WW-145A:

SINGLE SERVICE: 2" MIP X 1" COPPER FLARE FITTING, SPL WW-68 OR

WATER METER PURCHASED FROM AUSTIN WATER
BRASS WATER METER COUPLING MALE IPT x SWIVEL COUPLING NUT:

BRASS METER BUSHING - SIZE AS NEEDED TO CONNECT ANGLE METER STOP TO METER

TEMPORARY METER SPACER (REQUIRED TO ASSURE METER WILL FIT APPROPRIATELY)

SERVICE CLAMP SHALL BE WRAPPED COMPLETELY WITH 8 MIL. POLYETHYLENE FILM, SPL WW-27D.

BRANCH CONNECTIONS AND ALL ANGLE METER STOPS MUST BE INSTALLED PRIOR TO ANY METER

PIPING AND TUBING IN STREET RIGHT-OF-WAY SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY SECTION 510.3 (14) OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS; BACKFILL

METER BOX MUST BE BEHIND CURB NEXT TO PROPERTY LINE OR EASEMENT AND OUT OF VEHICULAR

BALL VALVE "D" SHALL NOT BE LOCATED UNDER SIDEWALK, CURB, OR PAVEMENT, AND NOT BE LOCATED MORE THAN 36" BELOW FINAL GRADE.

METER BOX CUT OUTS SHALL NOT EXCEED TWO TIMES THE PIPE DIAMETER.
INSTALL METALLIC TRACER TAPE, SPL WW-597, MINIMUM 1' ABOVE TUBING FROM SERVICE CLAMP "A"

TUBING SHALL BE PLACED IN A STRAIGHT ALIGNMENT AND ALLOWED TO RELAX AND "SNAKE"

LOOSELY IN THE TRENCH. TUBING BEHIND CURB AND GUTTER SHALL BE INSTALLED WITH A MINIMUM

1" TUBING, WHEN BENT, SHALL HAVE A RADIUS NO SMALLER THAN 3'. 2" TUBING, WHEN BENT, SHALL

HAVE A RADIUS NO SMALLER THAN 5'. BRASS FITTINGS SHALL NOT BE CONNECTED TO A BENT

COMPRESSION FITTINGS. INSERT STIFFENERS SHALL BE FROM THE SAME MANUFACTURER AS THE

SOLID, TUBULAR STAINLESS STEEL INSERT STIFFENERS FOR HDPE TUBING SHALL BE USED AT ALL

B. FOR RECLAIMED WATER SERVICES AND METERS, ALL RECLAIMED TUBING SHALL BE MANUFACTURED

ALL FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED

PURPLE PER SPL WW-3C. ALL METER BOX LIDS SHALL BE PURPLE AND HAVE "RECLAIMED WATER"

SOLID PURPLE, SPL WW-65A. ALL APPURTENANCES SHALL BE MANUFACTUR

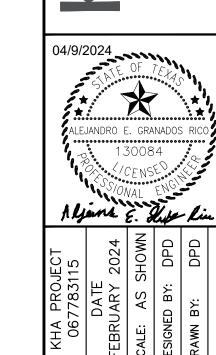
1" WOODEN DOWEL (SHOW ADDRESS ON DOWEL USING WATERPROOF MARKER)

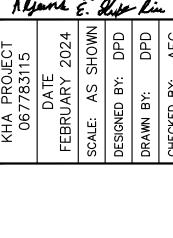
DOUBLE SERVICE: 2" MIP X 1" COPPER FLARE WYE, SPL WW-68
1" SWIVEL NUT x 1" COMPRESSION 90" BEND, SPL WW-68

FOR DUAL 1" METERS: USE TWO SINGLE METER BOXES

2" BALL VALVE, SPL WW-68







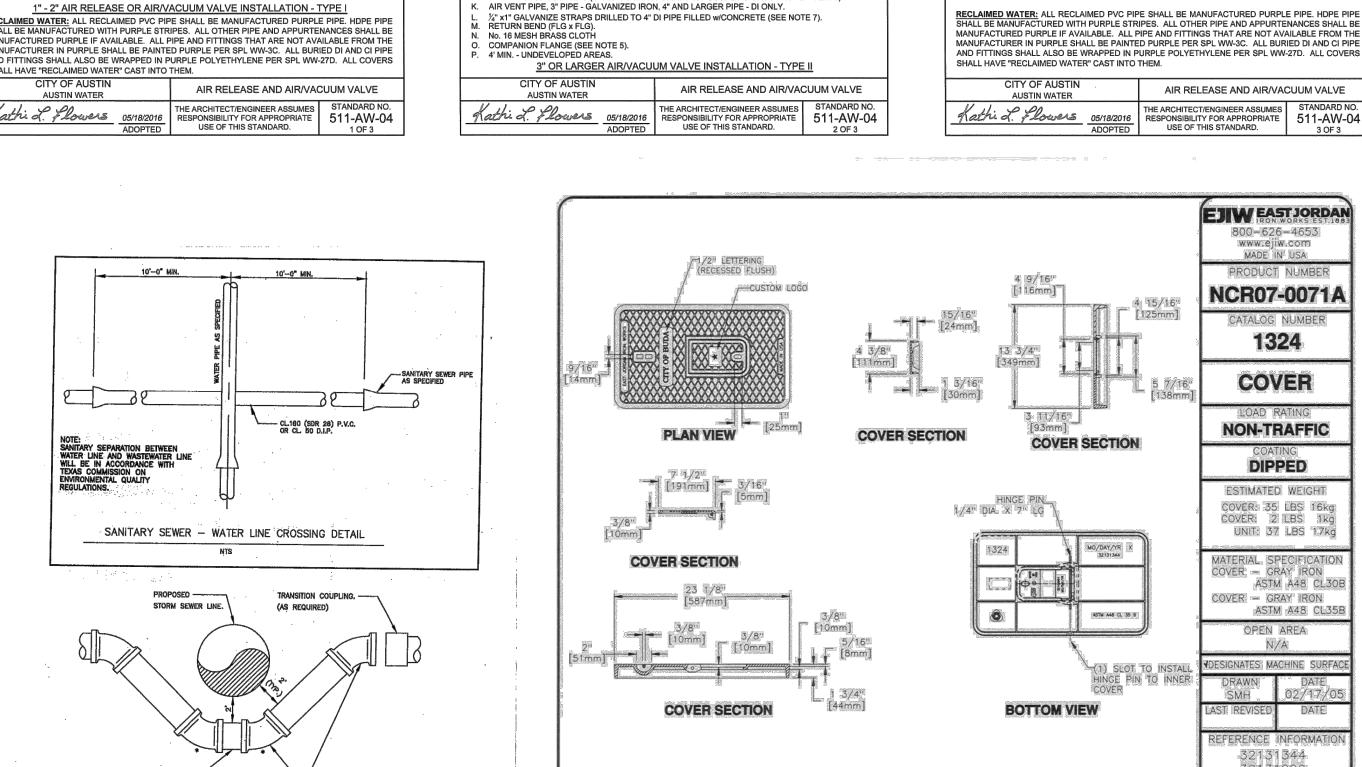


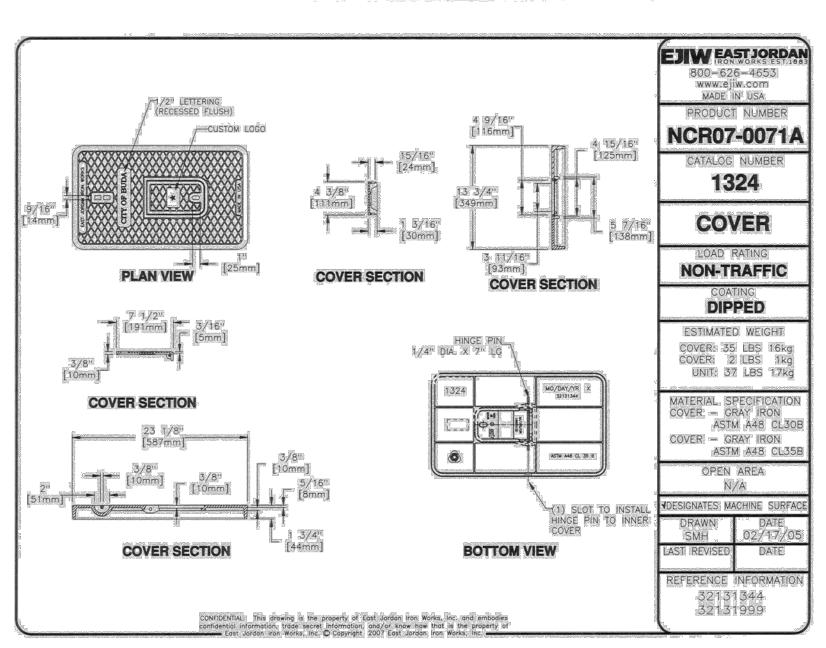
SHEET NUMBER

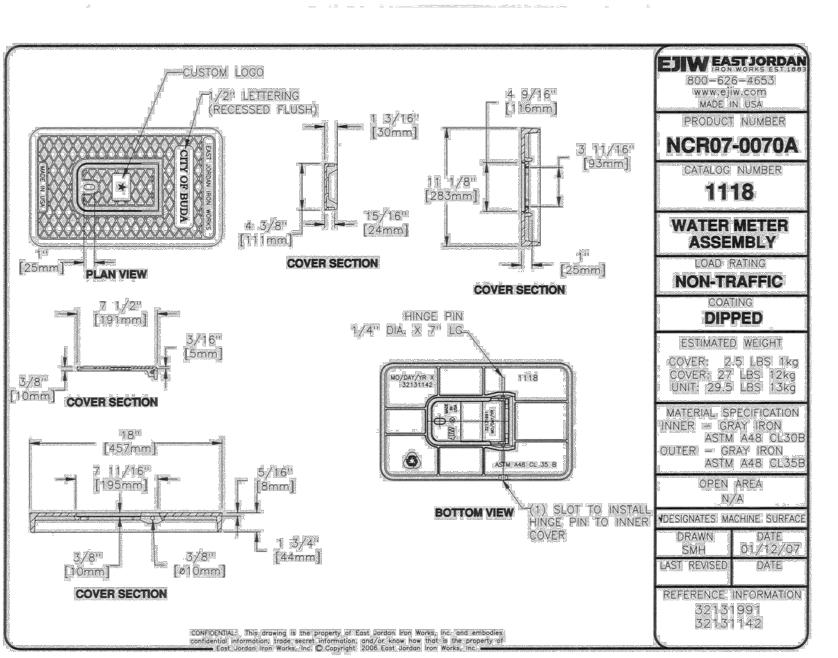
89

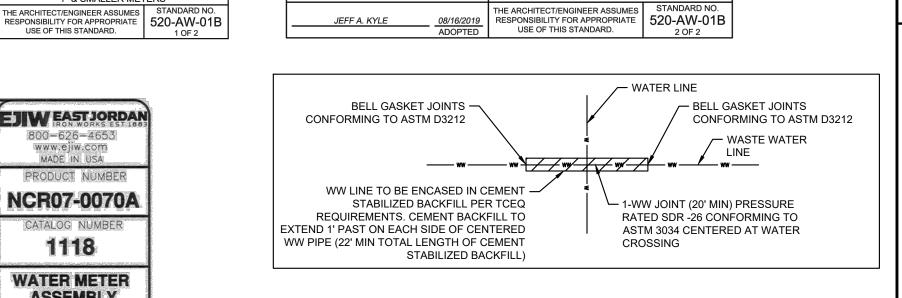
OF 90

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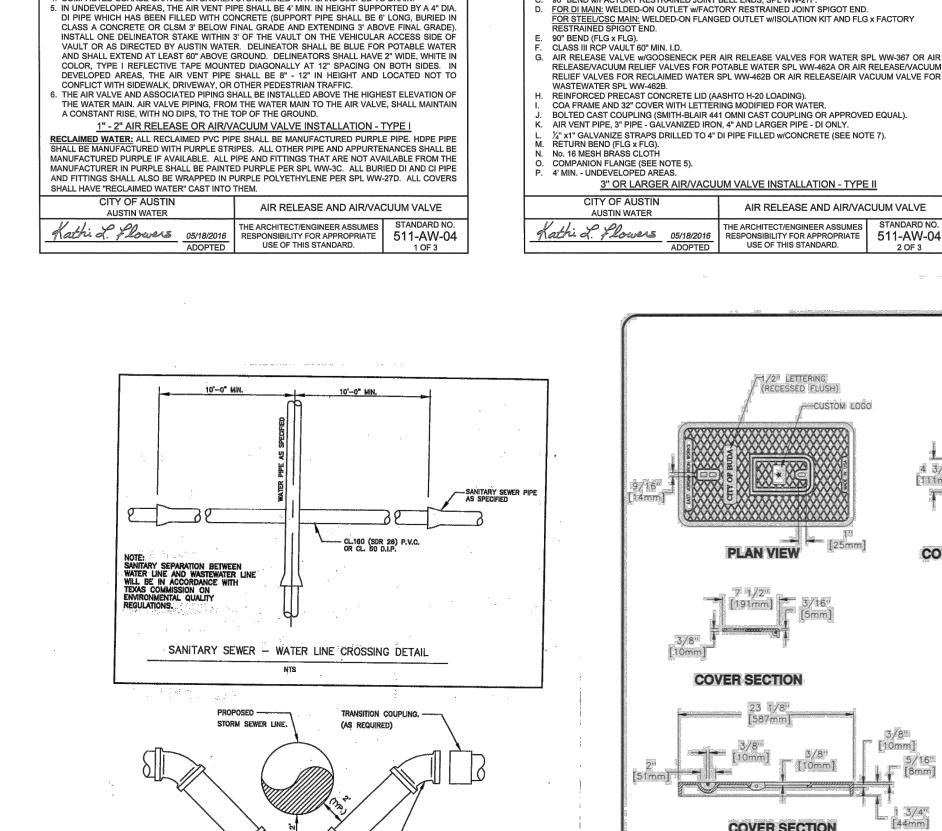


WATER SERVICE & METER INSTALLATION -

THE ARCHITECT/ENGINEER ASSUMES STANDARD NO

WATER/WASTEWATER CROSSING **DETAIL**



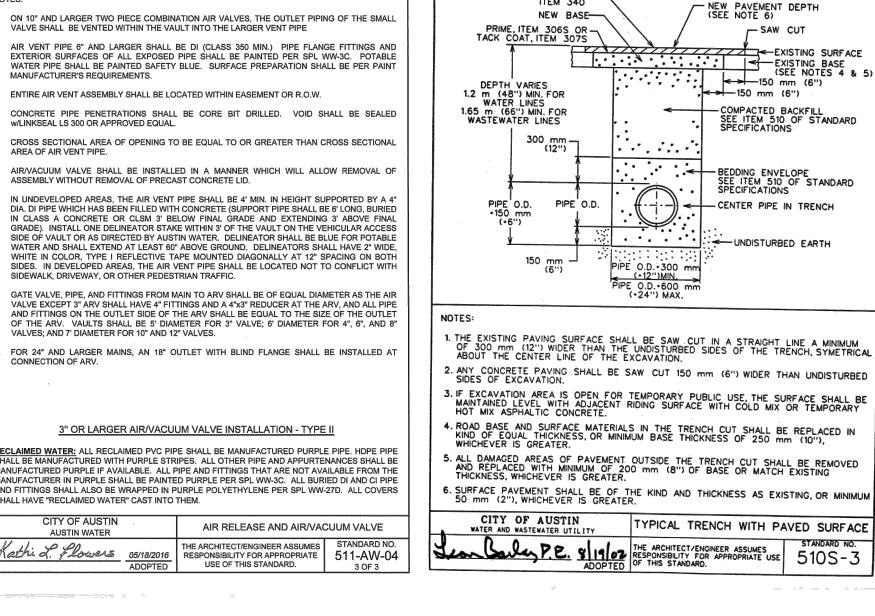


ALL PIPE TO BE --- 45' RESTRAINED JOINT ---

WATERLINE ADJUSTMENT

DETAIL NOT TO SCALE

DUCTILE IRON FITTINGS, (TYPICAL)



Kathi L. Flowers 05/18/2011

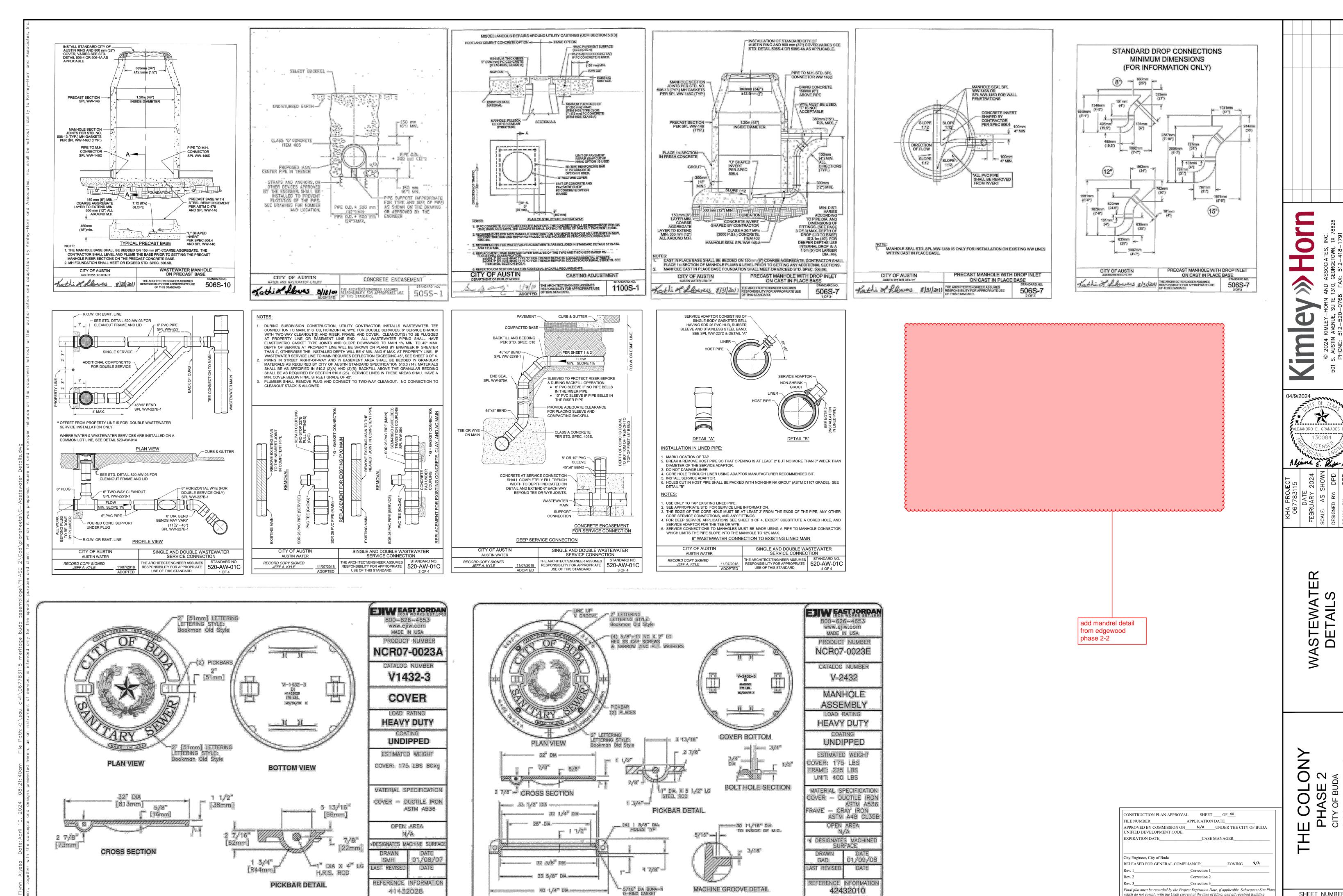
NEW PAVING SURFACE -

THIS DETAIL FOR USE ONLY ON CITY OF AUSTIN C.I.P. PROJECTS.

- 6" DI CLASS 350

FIRE HYDRANT

RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. 511-AW-02



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CONFIDENTIAL. This drawing is the property of East Jordan Iron Works, Inc. and embodies confidential information, trade secret information, and/or know how that is the property of East Jordan Iron Works, Inc. © Copyright 2006 East Jordan Iron Works, Inc.

424320XX

130084

SHEET NUMBER

which do not comply with the Code current at the time of filing, and all required Building

approved prior to the Project Expiration Date.

PERMIT NUMBER:

Permits and/or a notice of construction (if a building permit is not required), must also be

OF 90

ORGANIZED SEWAGE COLLECTION SYSTEM

THE COLONY AT COLE SPRINGS PHASE 2 COLE SPRINGS RD AND OLD BLACK COLONY RD BUDA, HAYS COUNTY, TEXAS

Prepared For:

M/I Homes of Austin, LLC Meritage Homes of Texas, LLC

7600 N. Capital of Texas Hwy, Bldg C, Ste 250 Austin, TX 78759 512-770-8524

Prepared For:

MERITAGE HOMES OF TEXAS, LLC

12301 Research Blvd, Suite. 400 Austin, TX 78759 512-615-6432

Prepared By:

KIMLEY-HORN AND ASSOCIATES, INC.

501 S. Austin Ave, Suite 1310 Georgetown, Texas 78626 (512) 520-0768

Firm No. 928 KHA Project No. 067783115

June 11, 2024



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SECTION 1: EDWARDS AQUIFER APPLICATION COVER PAGE

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 will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited**.
- 4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: The Colony at Cole Springs Phase 2				2. Re	egulate	ated Entity No.: N111401139			
3. Customer Name: M/I Homes of Austin, LLC Meritage Homes of Texas, LLC			4. Cu	4. Customer No.: 604305250, 603298068					
5. Project Type: (Please circle/check one)	New		Modification			Exter	ision	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)	Resider	<u>ıtial</u>	Non-residential				8. Sit	te (acres): 18.62	
9. Application Fee:	\$2,957.5	0	10. Permanent BM			MP(s)	:	Batch Detention Pond	
11. SCS (Linear Ft.):	5,935		12. AST/UST (No.			Tank	s):	N/A	
13. County:	Hays		14. Wa	itersh	ied:			Onion Creek	

Application Distribution

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

http://www.tceg.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.)	_X_	_	_					
Region (1 req.)	_X_	_	_					
County(ies)	_ <u>X</u> _		_					
Groundwater Conservation District(s)	Edwards Aquifer Authority Barton Springs/ Edwards Aquifer Hays Trinity Plum Creek	Barton Springs/ Edwards Aquifer	NA					
Austin X BudaDripping SpringsKyleMountain CitySan MarcosWimberleyWoodcreek		AustinBee CavePflugervilleRollingwoodRound RockSunset ValleyWest Lake Hills	AustinCedar ParkFlorenceGeorgetownJerrellLeanderLiberty HillPflugervilleRound Rock					

	Sa	an 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	Bulverde Fair Oaks Ranch Garden Ridge New Braunfels Schertz	NA	San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the appl hereby submitted to TCEQ for administrative review ar	
Alejandro E. Granados Rico, P.E.	
Print Name of Customer/Authorized Agent	
Alejandro E. Granda Rico	6/11/2024
Signature of Customer/Authorized Agent	Date

FOR TCEQ INTERNAL USE ONLY		
Date(s)Reviewed:	Date Administratively Complete:	
Received From:	Correct Number of Copies:	
Received By:	Distribution Date:	
EAPP File Number:	Complex:	
Admin. Review(s) (No.):	No. AR Rounds:	
Delinquent Fees (Y/N):	Review Time Spent:	
Lat./Long. Verified:	SOS Customer Verification:	
Agent Authorization Complete/Notarized (Y/N):	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):	



SECTION 2: GENERAL INFORMATION

General Information Form

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Alejandro E. Granados Rico, P.E. Date: June 11, 2024 Signature of Customer/Agent: Alejandro E. Granda Rice Project Information 1. Regulated Entity Name: The Colony at Cole Springs Phase 2 2. County: Hays 3. Stream Basin: Onion Creek 4. Groundwater Conservation District (If applicable): N/A 5. Edwards Aquifer Zone: Recharge Zone Transition Zone 6. Plan Type: **WPAP AST** Modification **Exception Request**

7.	Customer (Applicant):	
	Contact Person: Kyle Kriegel Entity: M/I Homes of Austin, LLC Mailing Address: 7600 N. Capital of Texas Hwy, Blo City, State: Austin, TX Telephone: 512-770-8524 Email Address: kkriegel@mihomes.com	dg C, Ste 250 Zip: <u>78731</u> Fax: <u>N/A</u>
	Contact Person: <u>Brandon Hammann</u> Entity: <u>Meritage Homes of Texas, LLC</u> Mailing Address: <u>1231 Research Blvd, Suite 400</u> City, State: <u>Austin, TX</u> Telephone: <u>512-615-6432</u> Email Address: <u>brandon.hammann@meritagehom</u>	Zip: <u>78759</u> Fax: <u>N/A</u> nes.com
8.	Agent/Representative (If any):	
	Contact Person: Alejandro E. Granados Rico, P.E. Entity: Kimley-Horn Mailing Address: 501 S. Austin Ave, Suite 1310 City, State: Georgetown, Texas Telephone: 512-520-0768 Email Address: alex.granados@kimley-horn.com	Zip: <u>78626</u> Fax: <u>N/A</u>
9.	Project Location:	
	 The project site is located inside the city limits The project site is located outside the city limit jurisdiction) of The project site is not located within any city's 	ts but inside the ETJ (extra-territorial
10.	The location of the project site is described be detail and clarity so that the TCEQ's Regional s boundaries for a field investigation. North of C	taff can easily locate the project and site
11.	Attachment A – Road Map. A road map show project site is attached. The project location at the map.	_
12.	Attachment B - USGS / Edwards Recharge Zor USGS Quadrangle Map (Scale: 1" = 2000') of the map(s) clearly show:	
	 ☑ Project site boundaries. ☑ USGS Quadrangle Name(s). ☑ Boundaries of the Recharge Zone (and Trange) ☑ Drainage path from the project site to the 	

13.	The TCEQ must be able to inspect the project site or the application will be returned. Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment.
\boxtimes	Survey staking will be completed by this date: 5/1/2024
14.	Attachment C – Project Description . Attached at the end of this form is a detailed narrative description of the proposed project. The project description is consistent throughout the application and contains, at a minimum, the following details:
	 Area of the site ○ Offsite areas ○ Impervious cover ○ Permanent BMP(s) ○ Proposed site use ○ Site history ○ Previous development ○ Area(s) to be demolished
15. Exi	sting project site conditions are noted below:
	 □ Existing commercial site □ Existing industrial site □ Existing residential site □ Existing paved and/or unpaved roads □ Undeveloped (Cleared) □ Undeveloped (Undisturbed/Uncleared) □ Other:
Prof	hibited Activities
16. 🔀	I am aware that the following activities are prohibited on the Recharge Zone and are not proposed for this project:
	(1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);
	(2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;
	(3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;
	(4) The use of sewage holding tanks as parts of organized collection systems; and
	(5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types

(6) New municipal and industrial wastewater discharges into or adjacent to water in the

of Municipal Solid Waste Facilities).

state that would create additional pollutant loading.

- 17. X I am aware that the following activities are prohibited on the Transition Zone and are not proposed for this project:
 - (1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);
 - (2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and
 - (3) New municipal solid waste landfill facilities required to meet and comply with Type I

standards which are defined in §33	30.41 (b), (c), and (d) of this title.	
Administrative Information		
18. The fee for the plan(s) is based on:		
where regulated activities will occur. For an Organized Sewage Collection Sy footage of all collection system lines. For a UST Facility Plan or Modification number of tanks or piping systems.	or Modification, the total acreage of the site stem Plan or Modification, the total linear or an AST Facility Plan or Modification, the total tantive portion of the regulations related to the usly approved plan.	
fee is not submitted, the TCEQ is not r	et the time the application is filed. If the correct equired to consider the application until the and the Edwards Aquifer Fee Form have been	
	s in Hays, Travis, and Williamson Counties) rojects in Bexar, Comal, Kinney, Medina, and	
needed for each affected incorporated county in which the project will be loc	by of the application, plus additional copies as district, groundwater conservation district, and ated. The TCEQ will distribute the additional es must be submitted to the appropriate regional	
	ted activity until the Edwards Aquifer Protection with and approved by the Executive Director.	



Road Map



DIRECTIONS FROM TCEQ HEADQUARTERS TO PROJECT SITE

- 1. HEAD SOUTH ON PARK 35 CIRCLE, TURNING RIGHT ONTO S IH-35 FRONTAGE ROAD
- 2. USE LEFT LANE TO TAKE RAMP ONTO IH-35 AND CONTINUE SOUTH
- 3. TAKE EXIT 221 TOWARD MAIN STREET AND CONTINUE SOUTH ON S IH-35 FRONTAGE ROAD
- 4. SLIGHT RIGHT TOWARD MAIN ST/OLD NORTH LOOP 4
- 5. TURN RIGHT ONTO FM 967/LIVE OAK ST
- 6. TURN LEFT ONTO COLE SPRINGS RD
- 7. TURN RIGHT ONTO OLD BLACK COLONY RD
- B. CONTINUE PAST ANTIOCH COLONY PARK FOR 0,2 MILES
- 9. SITE IS LOCATED ON THE LEFT



SHEET

EX A

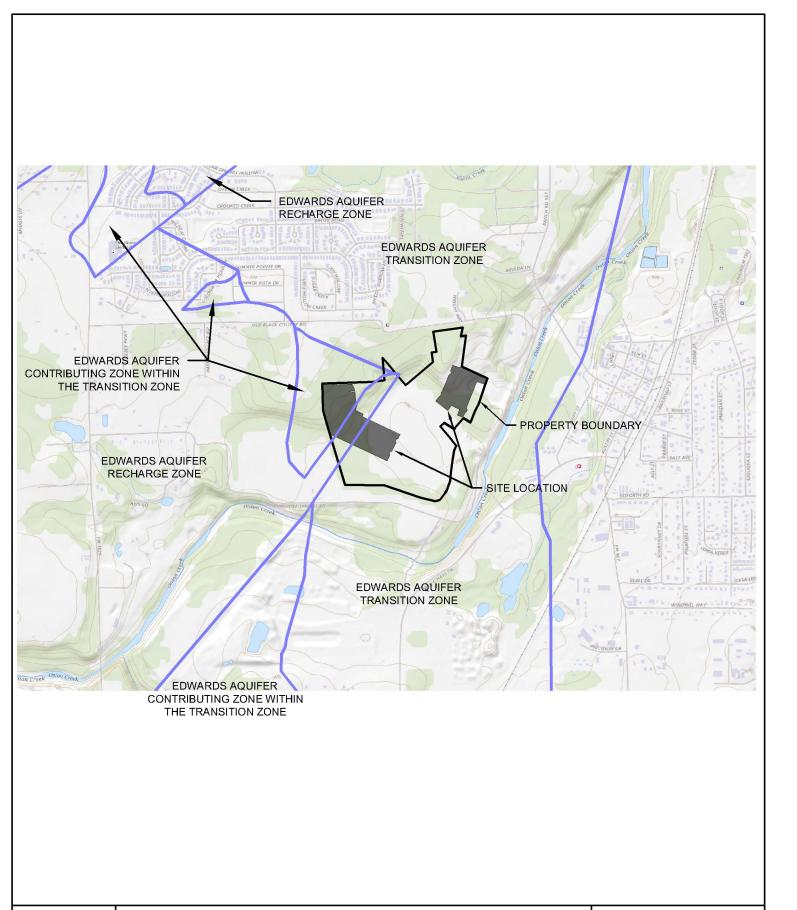
COLONY AT COLE SPRINGS PH 2

Kimley » Horn

Buda, Texas April 2024 501 S. AUSTIN AVE, SUITE 1310 GEORGETOWN, TX 78626 PHONE: (512) 520-0768



USGS/Edwards Recharge Zone Map



SHEET

EX B

Buda, Texas April 2024

COLONY AT COLE SPRINGS PH 2

Kimley»Horn 501 S. AUSTIN AVE, SUITE 1310 GEORGETOWN, TX 78626 PHONE: (512) 520-0768



Introduction

The subject site that is located in the Edwards aquifer recharge zone and contributing zone within the transition zone totals 18.62 acres and is a largely undeveloped lot located on Cole Springs Rd and Old Black Colony Rd and within the Full Purpose city limits of the City of Buda. The subject property is part of a larger development, Colony at Cole Springs, which encompasses ±178 acres and will comprise of residential single-family.

A portion of Phase 2 is located in the Federal Emergency Management Agency's 100-year floodplain according to FIRM 48209C0280F, dated September 2, 2005. The site is located within the Edwards Aquifer Recharge Zone and the Edwards Aquifer Contributing Zone within the Transition Zone. Note that no area in Phase 2 that is within the Recharge Zone or Contributing Zone within the Recharge Zone lies within the FEMA 100-year floodplain.

Current Tract Conditions

Legal Description

The legal description is described as 117.43 acres of land in the Hiram Cummings Survey, Phillips J. Allen Survey, A-1 & S.V.R. Eggleston Survey Abstract No. 5 City of Buda, Hays, County, Texas.

Land Use

The lot is zoned as a PUD following regulations for R-3 and F4 zonings, the site resides within the Full Purpose city limits of the City of Buda in Hays County, Texas.

Existing Drainage Conditions

Under existing conditions, the site generally flows from West to East. The site is part of two watersheds, with both discharging into onion creek along the eastern property boundary. This flow is then carried off the property to the North.

Proposed Development

The proposed Colony at Cole Springs Phase 2 includes construction of 179 lots of single-family residential development. Water and wastewater lines will be designed according to City of Buda specifications and connect to City of Buda utility services. Access to the site will be through two proposed driveways along FM 967 and Jack C. Hays Rd. The overall subdivision project encompasses 181.90 acres and proposes 68.61 acres (37.69%) of total impervious cover. Stormwater in Phase 2 will be treated according to TCEQ requirements through two (2) existing on site Batch Detention Ponds. The flow will be discharged east of the site and then into Onion Creek. A timing study was performed, and it was determined detention has a negative impact, therefore a detention waiver was approved.

For the purposes of this Water Pollution Abatement Plan, the project area will be defined by the 18.62 acres of the site is within the Edwards Aquifer Recharge Zone and Contributing Zone within the Transition Zone that flows to the Recharge Zone, with 8.34 acres of impervious cover (which includes 68 single family lots, 1 water tower lot, and other associated impervious cover) within this project area.



Drainage and Water Quality Analysis

Floodplain Information

A portion of Phase 2 is located in the Federal Emergency Management Agency's 100-year floodplain according to FIRM 48209C0280F, dated September 2, 2005. The site is located within the Edwards Aquifer Recharge Zone and the Edwards Aquifer Contributing Zone within the Transition Zone. No portion of the area within the Recharge and Contributing Zone within the Transition Zone lies within the 100-year floodplain.

On-Site Drainage

The proposed Phase 2 site will convey runoff through an underground storm pipe system into two (2) existing on site Batch detention ponds (Pond 2 and Pond 3). The water quality ponds were sized for treatment, but no detention ponds are being proposed with an approved Detention Waiver Request. Drainage area maps and calculations are included in the construction set included in the Exhibits Section.

Off-Site Drainage

Under existing conditions, 353.33 acres of offsite water enters the site from the West. The off-site drainage will be intercepted via trap channels on the western and northern boundaries of the site and will be conveyed around/through the property and be discharged into Onion Creek floodplain on the Southeast and east side of the property.

Detention and Water Quality

Water Quality Best Management Practices (BMP) for Colony at Cole Springs Phase 2 will address the water quality requirements for the ultimate area disturbed. Phase 2 will include drainage to two (2) Batch Detention Ponds: Pond 2 and Pond 3. Pond 1, another batch detention pond will be constructed in a later phase as part of overall water quality for the entire subdivision. All of the area in Phase 2 within the recharge and contributing zone within the transition zone will be routed to Pond 2. Offsite drainage has no impervious cover and is remaining in its natural state; therefore no treatment will be provided for these areas. These drainage areas are to meet all water quality requirements per TCEQ requirements. See Permanent Stormwater Section – Attachment C for a breakdown on TSS calculations.

For the purpose of this Water Pollution Abatement Plan, water quality for the areas of the project within the Edwards Aquifer Recharge Zone and Edwards Aquifer Contributing Zone within the Transition Zone will be provided solely by existing Pond 2. There will be no area in Phase 2 within the Edwards Aquifer Recharge Zone and Edwards Aquifer Contributing Zone within the Transition Zone that will drain to existing Pond 3.

No detention ponds are proposed as it would negatively impact the timing. The detention waiver study has been provided for reference.

Erosion and Sedimentation Controls

Temporary erosion and sedimentation controls during construction are proposed on the Erosion Control Plan and include silt fences, inlet protection, construction staging area, concrete washout, rock berm, and a stabilized construction entrance designed to City of Austin criteria. The land disturbed during construction, including the staging and stockpile areas, will drain into the proposed on-site storm sewer system where it will be conveyed to the proposed water quality ponds located on-site. The water quality ponds will discharge onto proposed rock rip rap and eventually into Onion Creek.

Sewage Collection System

The sewage collection system that is within the Edward's Aquifer Recharge Zone will consist of approximately 5,935 LF of 8" SDR 26 ASTM D3034 PVC. All wastewater in Phase 2 shall be conveyed via gravity line that eventually ties to an existing lift station. From the lift station, it will then be pumped by



an 8" force main. The 8" force main will transition to an 8" wastewater line in Old Black Colony Road, where it will continue to an existing manhole connection.



SECTION 3: GEOLOGIC ASSESSMENT



GEOLOGIC ASSESSMENT FOR THE 123.67-ACRE COLONY AT COLE SPRINGS TRACT

Hays County, Texas

December 2019

Submitted to:

M/I Homes 6801 N. Capital of Texas Highway Lakewood II, Suite 100 Austin, Texas 78731

Prepared by:

aci Group, LLC 1001 Mopac Circle Austin, Texas 78746 TBPG Firm License No. 50260

aci project #: 22-19-100

Geologic Assessment

Texas Commission on Environmental Quality

For Regulated Activities on The Edwards Aquifer Recharge/transition Zones and Relating to 30 TAC §213.5(b)(3), Effective June 1, 1999

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

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

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: Mark T. Adams	Telephone: <u>(512) 347-9000</u>
Date: November 26, 2019	Fax: <u>(512) 306-0974</u>
Representing: aci Group LLC TS (C License No. 502) registration number)	60 (Name of Company and TBPG or TBPE
Signature of Geologist: MARK T. ADAMS GEOLOGY No. 1835 CENSE	
Project Information	
1. Date(s) Geologic Assessment was performed: N	lovember 12, 13 & 18, 2019
2. Type of Project:	
WPAPSCSScsLocation of Project:	☐ AST ☐ UST
Recharge Zone Transition Zone Contributing Zone within the Transition Zone	ne

4.			ologic Assessmen Table) is attached.		ed Geologic Assessment Table
	Hydrolog 55, Appe	ic Soil Grondix A, Soict site, sho	ups* (Urban Hydr il Conservation Sel ow each soil type of iltration	ology for Small W rvice, 1986). If the on the site Geolog	e below and uses the SCS atersheds, Technical Release No. ere is more than one soil type on gic Map or a separate soils map. Group Definitions (Abbreviated)
S	Soil Name ee soils table	Group*	Thickness(feet)		Soils having a high infiltration rate when thoroughly wetted. Soils having a moderate infiltration rate when thoroughly
	(pg. 12)				wetted. Soils having a slow infiltration rate when thoroughly wetted. Soils having a very slow infiltration rate when thoroughly wetted.
6.	members top of the	, and thicl	knesses is attache phic column. Oth	d. The outcroppin	column showing formations, g unit, if present, should be at the most unit should be at the top of
7.	including potential	any featu for fluid n	res identified in th	ne Geologic Assess	of the site specific geology sment Table, a discussion of the stratigraphy, structure(s), and
8.			e Geologic Map(s Plan. The minimu		ic Map must be the same scale as)'
	Site Geol	ogic Map S	n Scale: 1" = <u>200</u> ' Scale: 1" = <u>200</u> ' e (if more than 1 s	oil type): 1" = <u>500</u>	<u>'</u>
9.	Method of co	ollecting p	ositional data:		
	=	_	System (GPS) tech lease describe me		ection:
10	. 🔀 The proje	ct site and	d boundaries are o	learly shown and	labeled on the Site Geologic Map.
11	. 🔀 Surface g	eologic un	its are shown and	labeled on the Si	te Geologic Map.

12. 🔀	Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.
	Geologic or manmade features were not discovered on the project site during the field investigation.
13. 🖂	The Recharge Zone boundary is shown and labeled, if appropriate.
	known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If olicable, the information must agree with Item No. 20 of the WPAP Application Section.
	There are 2 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.) The wells are not in use and have been properly abandoned. The wells are not in use and will be properly abandoned. The wells are in use and comply with 16 TAC Chapter 76. There are no wells or test holes of any kind known to exist on the project site.
Adm	ninistrative I nformation
15. 🔀	Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.



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December 3, 2019

Geologic Assessment for the Colony at Cole Springs Tract located in Hays County, Texas

1.0 INTRODUCTION

The purpose of this assessment is to identify karst or non-karst features and their recharge potential. This report complies with the requirements of Title 30, Texas Administrative Code (TAC) Chapter 213 relating to the protection of the Edwards aquifer recharge zone.

The Colony at Cole Springs Tract hereafter referred to as the subject area or site, is located approximately 0.5 mile southeast from the intersection of Cole Springs Road and Old Black Colony Road in the City of Buda Extraterritorial Jurisdiction (ETJ), Hays County, Texas (**Attachment D**, **Figure 1**).

2.0 PROJECT INFORMATION

Pedestrian investigations of the subject area were performed on November 12th, 13th, and 18th, 2019 by Luke Rome, P.G., and Kara Posso, G.I.T., Eric Brown, Ben Ruthven, and Mark Adams, P.G. with **aci consulting**.

This report is intended to satisfy the requirements for a Geologic Assessment, which shall be included as a component of a Water Pollution Abatement Plan (WPAP) and Sewage Collection System (SCS). The proposed site use is for a single-family, residential development. The scope of the report consists of a site reconnaissance, field survey, and review of existing data and reports. Features identified during the field survey were ranked utilizing the Texas Commission on Environmental Quality (TCEQ) matrix for Edwards aquifer recharge zone features. The ranking of the features will determine their viability as "sensitive" features.

According to Edwards aquifer zone maps, the subject area is within the Edwards aquifer Recharge Zone, Transition Zone, and Transition Zone within the Contributing Zone (TCEQ 2005).



3.0 INVESTIGATION METHODS

The following investigation methods and activities were used to develop this report:

- Review of existing files and literature to determine the regional geology and any known caves associated with the project area;
- Review of past geological field reports, cave studies, and correspondence regarding the existing geologic features on the project area, if available;
- Site reconnaissance by a registered professional geologist to identify and examine caves, recharge features, and other significant geological structures;
- Evaluation of collected field data and a ranking of features using the TCEQ Ranking Table 0585 for the Edwards Aquifer Recharge Zone; and
- Review of historic aerial photographs to determine if there are any structural features present, and to determine any past disturbances on the subject property.

4.0 SUMMARY OF FINDINGS

This report documents the findings of a geologic assessment conducted by **aci consulting** personnel on November 12th, 13th, and 18th, 2019. Nine features (non-karst and manmade features in bedrock) were initially noted on the site. No sensitive karst features were identified within the subject area. Six of the nine features are manmade features in bedrock and should be brought to the attention of the engineer. The remaining three features were classified as other and are not a product of dissolution or karst processes and do not have a direct connection to the Edwards aquifer. Based on the field findings, it appears that the thin sliver of recharge zone that extends onto the subject area as shown on TCEQ maps is likely miss-mapped.

5.0 RECOMMENDATIONS

aci consulting recommends that the six manmade features in bedrock (CS-01, CS-04, CS-05, CS-06, CS-07, and CS-08) be brought to the attention of the engineer.



6.0 REFERENCES

- Hauwert, N., et. al. 2002. Geologic Map of the Barton Springs Segment of the Edwards Aquifer. Barton Springs Edwards Aquifer Conservation District and the United States Geologic Survey. Austin, Texas.
- (SCS) Soil Conservation Survey. 1983. Soil Survey of Hays County, Texas. United States Department of Agriculture. Texas Agriculture Experiment Station.
- Small, T.A.; J.A. Hanson; and N.M. Hauwert. 1996. Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Outcrop, (Barton Springs Segment) Northeastern Hays and Southwestern Travis Counties, Texas. U.S. Geological Survey Water Resources Investigations Report 96-4306.
- (TCEQ) Texas Commission on Environmental Quality. 2004. Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones. October 1, 2004. Austin, Texas.
- (TCEQ) Texas Commission on Environmental Quality. 2005. "Edwards Aquifer Protection Program, Chapter 213 Rules Recharge Zone, Transition Zone, Contributing Zone, and Contributing Zone within the Transition Zone." Map. Digital data. September 1, 2005. Austin, Texas.
- (TWDB) Texas Water Development Board. 2019. Water Data Interactive Groundwater Data Viewer. Accessed on November 11, 2019. Available at: http://www2.twdb.texas.gov/apps/waterdatainteractive/groundwaterdataviewer
- (USDA NRCS) U.S. Department of Agriculture Natural Resources Conservation Service. 2019. WebSoilSurvey.com. Soil Survey Area: Hays County, Texas. Date accessed: November 11, 2019.



ATTACHMENT A Geologic Assessment Table

GEOL	GEOLOGIC ASSESSMENT TABLE PROJECT NAME: Colony at Cole Springs																			
	LOCATION FEATURE CHARACTERISTICS EVALUATION PHYSICAL SETTING										SETTING									
1A	1B *	1C*	2A	2B	3		4		5	5A	6	7	8A	8B	9		10	1	1	12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)		DIMENSIONS (FEET)		DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENS	SITIVITY		ENT AREA RES)	TOPOGRAPHY
						Х	Υ	Z		10						<40	<u>>40</u>	<1.6	<u>>1.6</u>	
CS-01	30.079596	-97.858919	MB	30	Kbu/Kdr/Kgt	-	-	-	-	-	-	-	X/N	10	40		Х	Χ		Hillside
CS-02	30.081277	-97.860138	0	5	Kdr (Kbu)	1.5	0.7	1.5	-	-	-	-	O,F,C	15	20	Х		Χ		Drainage
CS-03	30.082607	-97.857384	0	5	Kgt	2	2	2.75	-	-	-	-	O,F	5	10	Х		Χ		Hillside
CS-04	30.079589	-97.857979	MB	30	Kbu/Kdr/Kgt	0.25	0.25	-	-	-	-	-	X/N	10	40		Χ	Χ		Hillside
CS-05	30.076847	-97.855193	MB	30	Kbu	-	-	-	-	١	•	-	X/N	10	40		Χ	Χ		Hillside
CS-06	30.077728	-97.856127	MB	30	Kbu	0.08	0.08	-	-		-	-	X/N	10	40		Х	Χ		Hillside
CS-07	30.078152	-97.852964	MB	30	Kbu	3	3	-	-		-	-	X/N	10	40		Χ	Χ		Hillside
CS-08	30.078029	-97.85343	MB	30	Kbu	-	-	-	-		-	-	X/N	10	40		Χ	Χ		Hillside
CS-09	30.078671	-97.852727	0	5	Kbu	1.7	0.7	3.5	-	•		-	O,F,C	10	15	Χ		Χ		Hillside
			_																	
			•																	
													·							

* DATUM: NAD 1983 State Plane 4203

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

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

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

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field.

My signature certifies that I am qualified as a geologist as defined by 20 ACC Chapter 213.

Date 12/3/2019

Date 12/3/2019

Sheet __1__ of __1___

TCEQ-0585-Table (Rev. 10-01-04)



ATTACHMENT B Stratigraphic Column



Colony at Cole Springs Tract, Hays County

Group	Formation	Thickness (Small et al., 1996)
Washita Group	Buda Limestone	40-50 feet
Washita Group	Del Rio Clay	50-60 feet
Washita Group	Georgetown Limestone**	40-60 feet

**Note: the Georgetown Limestone was not identified onsite.



ATTACHMENT C Site Geology



The following includes a description of the site stratigraphy, geologic structure related to the Edwards aquifer, and karstic characteristics. Also included in this section is a review of historic aerials for presence of geologic changes or changes to manmade features in bedrock, the soil table, and a short feature summary. The final portion of this attachment contains full feature descriptions and photos.

Stratigraphy

Kbu – Buda Limestone

Small et al. describes Buda Limestone as "40 to 50 ft of dense, variably nodular, sublithographic or "porcelaneous" limestone; and light-gray to buff mudstone, commonly containing calcispheres and tiny calcite-filled fractures."

Kdr – Del Rio Clay

The Del Rio Clay is described by Small as "50 to 60 ft thick and is a dark blue-green to yellow-brown, variably gypsiferous clay, commonly containing pecten-type fossil clams and an abundance of the fossil oyster Ilymatogyra arietina, formerly Exogyra arietina (Roemer). These fossil oysters are known locally as "rams horns."

Kgt – Georgetown Limestone (Not identified onsite

The Georgetown Limestone is described as "40 ft in the south to about 60 ft in the north. The lithology of the Georgetown Formation generally consists of gray to light-tan, marly, fossiliferous limestone, usually containing ammonites, oyster-like clams, and the brachiopod Waconella wacoensis, formerly Kingena wacoensis (Roemer)."

Structure

According to Small et al (1996), the subject area is underlain by Kbu, Kdr, and Kgt, however, Kgt was not obserThere are two mapped normal faults that intersect the subject area at 30°-35° (Hauwert et. al. 2002). Locally, the dominant structural trend of the area is 35°, as evidenced by the mapped fault patterns (**Attachment D, Figure 2**). Thus, all features that have a trend ranging from 20° to 50° are considered on trend and will be awarded an additional 10 points in the Geologic Assessment Table.

The geologic strata associated with the Edwards aquifer include the Georgetown Formations overlying the Edwards Limestone Group. These rocks are underlain by the Walnut Formation, which has members including the Whitestone Member, Keys Valley Marl Member, the Cedar Park Member, the Bee Cave Member and the Bull Creek

aci Project No.: 22-19-100



Member. The Glen Rose Formation, another marine limestone stratum, is located below the Walnut Formation. On site, the Edwards Aquifer Recharge Zone corresponds to the Georgetown Formation.

Karstic Characteristics

In limestone terrains, karst is expressed by erratically developed cavernous porosity and the manifestations of sinkholes, voids, and erratic surface drainage. Karst landscapes are typical of the Edwards Limestone, occurring across a vast region of Central Texas, west of the Balcones Escarpment, and these processes are critical to understanding the Edwards aquifer within its various segments. The features produced by karst processes (voids, holes, and solution layers) eventually provide conduits for surface water runoff and "point recharge" for the Edwards aquifer. The identification and protection of these features in established recharge areas is critical to maintaining groundwater quality and species habitat. The TCEQ require protective strategies within these areas to maintain quantity and quality of recharge prior to, during, and upon completion of construction activities.

Review of Historic Aerials

Aerial photographs were reviewed for the site 1951, 1958, 1967, 1973, 1981, 1995, 2004, 2008, 2014, 2018. It was determined that ranching and agricultural activities occurred on the site with an associated rural residence since the first aerial image dated 1951 (**Attachment E**). There is a "Refined Liquid Product" buried pipeline crossing the site that appears to have been installed prior to the 1951 aerial. It is unclear whether this pipeline is still in service. Additional information regarding the pipeline in A**ttachment F**. The 1973 aerial show the first appearance of an aerial easement (transmission line) crossing the site. The 2008 aerial shows the first appearance of a quarry to the northeast of the site.

aci Project No.: 22-19-100



Soil Table

Soil Name	Group	Thickness (feet)
DeB—Denton silty clay, 1 to 3 percent slopes	D	6.66
ErG—Eckrant-Rock outcrop association, 8 to 30 percent slopes	D	6.66
GrC—Gruene clay, 1 to 5 percent slopes	D	6.66
KrB—Krum clay, 1 to 3 percent slopes	С	6.66
Or—Orif soils, moist, 0 to 3 percent slopes, frequently flooded	A	6.66
RUD—Rumple-Comfort, rubbly association, 1 to 8 percent	D	4.92
slopes		
SeB—Seawillow clay loam, 1 to 3 percent slopes	В	5.16

Feature Summary

Nine features were identified during site investigations and are detailed below, and shown on Figure 3 in Attachment D.

Soils discussed on the Geologic Assessment Form are delineated in **Attachment D, Figure 4.**

aci Project No.: 22-19-100



GPS: 30.079596, -97.858919

CS-01 is a manmade feature in bedrock that crosses the Buda Limestone, Del Rio Clay, and Georgetown Limestone Formations. The feature is a petroleum pipeline registered to Sunoco Pipeline, L.P. (P-5 # 829627). The pipeline permit information is presented in Attachment F. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive to call the attention of the project engineer.



Photo of CS-01.



GPS: 30.081277, -97.860138

CS-02 is an "other natural bedrock feature" and is present on a bank within a drainage. The geology is mapped as the Del Rio Clay Formation but was field confirmed as the Buda Limestone Formation. The feature is 1.5 feet wide by 0.7 feet tall, extending laterally 1.5 feet into the east bank of the drainage. Infill material consists of exposed limestone, rock cobbles, loose leaf litter, soils, and clay with desiccation cracks. The catchment area is less than 1.6 acres. Based on Figure 1 of the TCEQ Instructions to Geologists, the probability of rapid infiltration is designated as low (15 pts). This feature is not a sensitive recharge feature.

Recommendation: None, no action required.



Photo of CS-02.



GPS: 30.082607, -97.857384

CS-03 is an "other natural bedrock feature" and is present on a hillside in the Del Rio Clay Formation. This is likely an animal burrow due to the presence of soil mounding surrounding the feature. The dimensions are 2 feet by 2 feet, extending down and laterally 2.5 feet. Infill material consists of loose leaf litter, roots and dark soils. The catchment area is less than 1.6 acres. Based on Instructions to Geologists Figure 1, the probability of rapid infiltration is designated as low (5 pts). This feature is not a sensitive recharge feature.

Recommendation: None, no action required.



Photo of CS-03.



GPS: 30.079589, -97.857979

CS-04 represents a buried 3-inch waterline with a series of water spigots (manmade features in bedrock) that protrude approximately 1-2 feet above the surface. The locations of the spigots were located throughout the property and fall within each of the three mapped geological formations on site. Based on conversations with the ranch hand, the waterline and spigots are directly connected to the water well, CS-05, and are found primarily along the open pasture and the fenced areas along the west portion of the subject area. The depth of the waterline is unknown. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive and call the attention of the project engineer.



Photo of CS-04



GPS: 30.076847, -97.855193

CS-05 is a manmade feature in bedrock and is present on a hillside in the Buda Limestone Formation. The feature is a well and pumphouse with unknown dimensions. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive and call the attention of the project engineer.



Photo of CS-05.



GPS: 30.077728, -97.856127

CS-06 is a manmade feature in bedrock and is present on a hillside in the Buda Limestone Formation. There were two waterline spigots in the vicinity that had a 1-inch diameter each and an unknown depth. These waterlines are likely connected to the well designated as CS-05. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive and call the attention of the project engineer.



Photo of CS-06.



GPS: 30.078152, -97.852964

CS-07 is a manmade feature in bedrock and is present on a hillside in the Buda Limestone Formation. The feature was found proximal to a collapsed rural residence and is likely the relict access for a below ground septic system. The dimensions are approximately 3 feet by 3 feet with an unknown depth. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive and call the attention of the project engineer.



Photo of CS-07.



GPS: 30.078029, -97.85343

CS-08 is a manmade feature in bedrock and is present on a hillside in the Buda Limestone Formation. The feature is a well and pumphouse with unknown dimensions. The probability of rapid infiltration has been assigned a point value of 10 to designate this feature as sensitive and call the attention of the project engineer.



Photo of CS-08.



GPS: 30.078671, -97.852727

CS-09 is a "other natural bedrock feature" and is present on a hillside outcrop in the Buda Limestone Formation. While the outcrop constituents are consistent with the Buda Limestone, the structure suggests an alluvial concretionary deposit rather than bedrock. The feature dimensions are 1.7 feet by 0.7 feet, extending laterally into the outcrop for 3.5 feet. Infill material consists of rock cobbles, loose leaf litter, and soil. The catchment area is less than 1.6 acres. Based on Instructions to Geologists Figure 1, the probability of rapid infiltration is designated as low (10 pts). This feature is not a sensitive recharge feature.

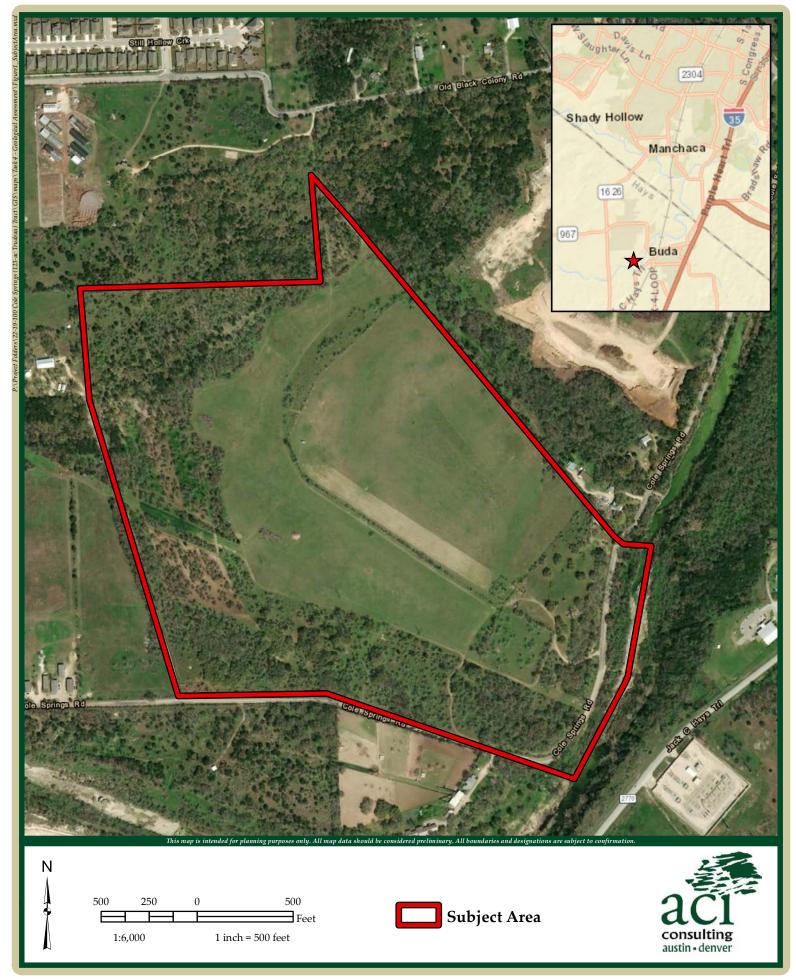
Recommendation: None, no action required.



Photo of CS-09.

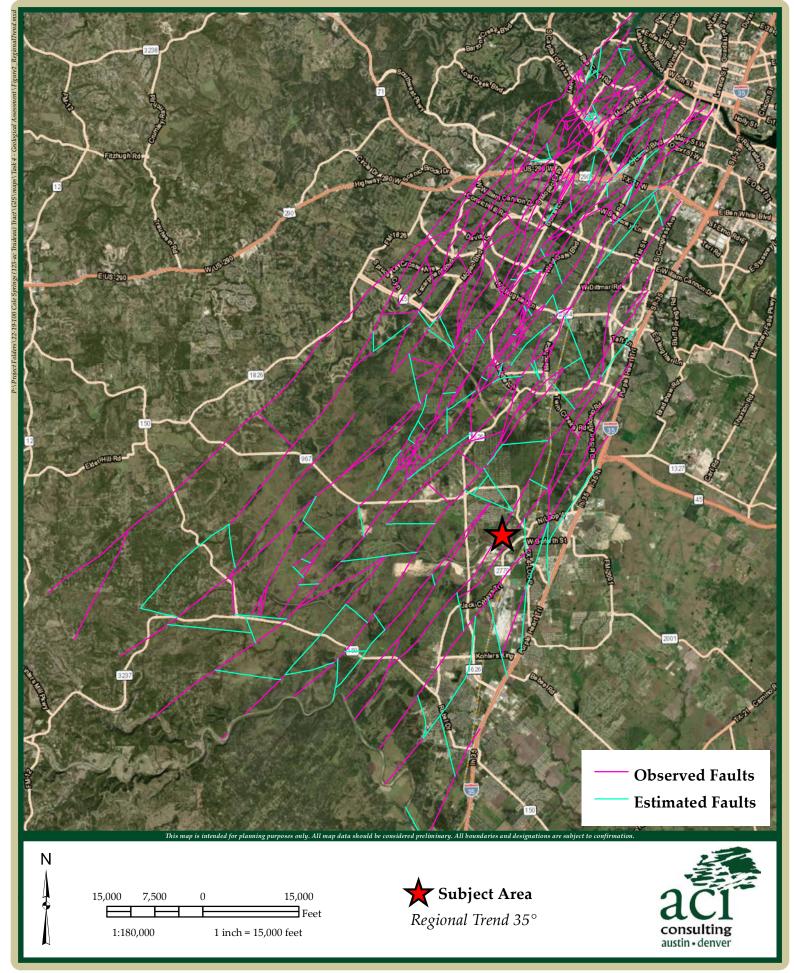


ATTACHMENT D Site Maps

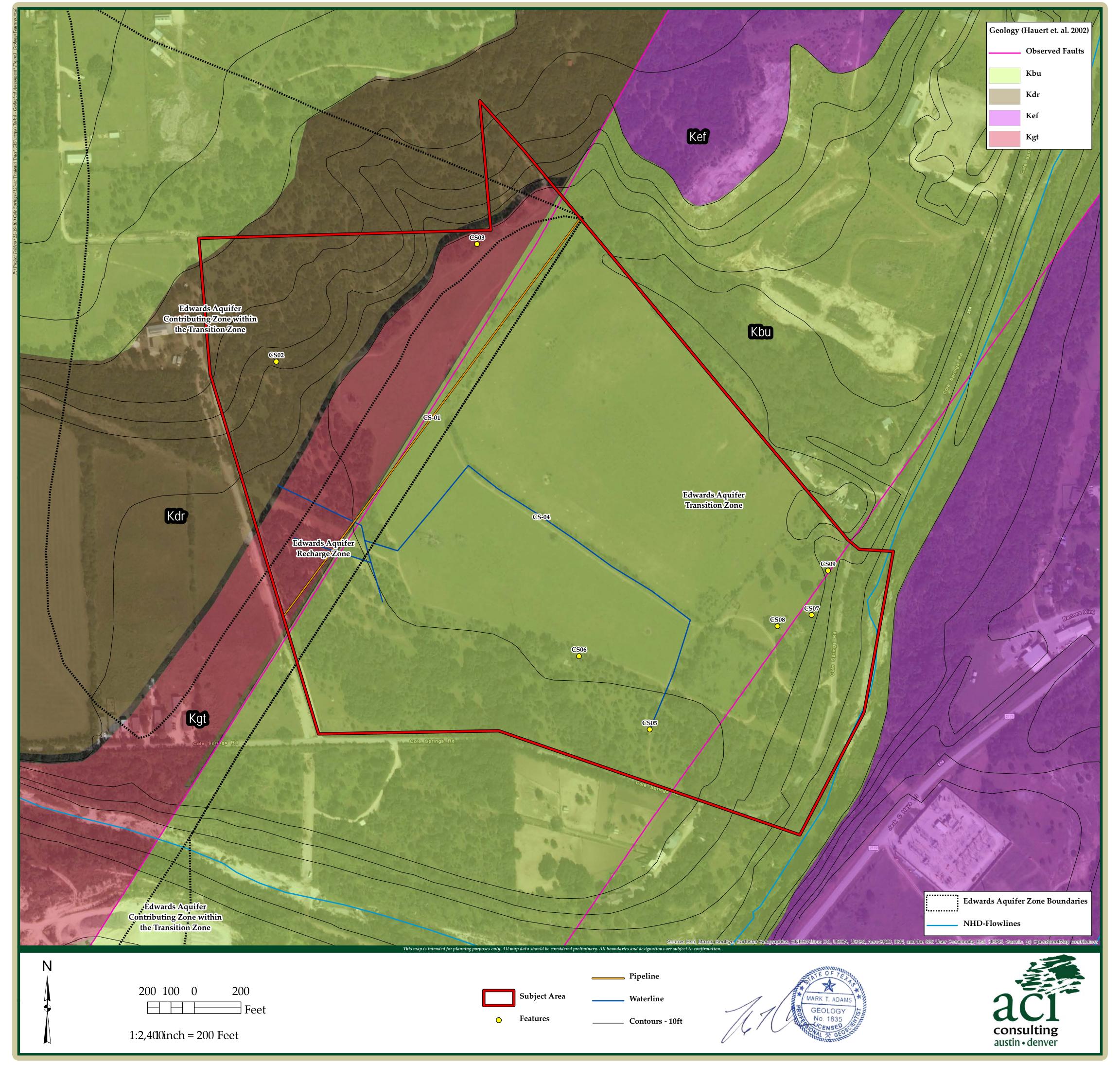


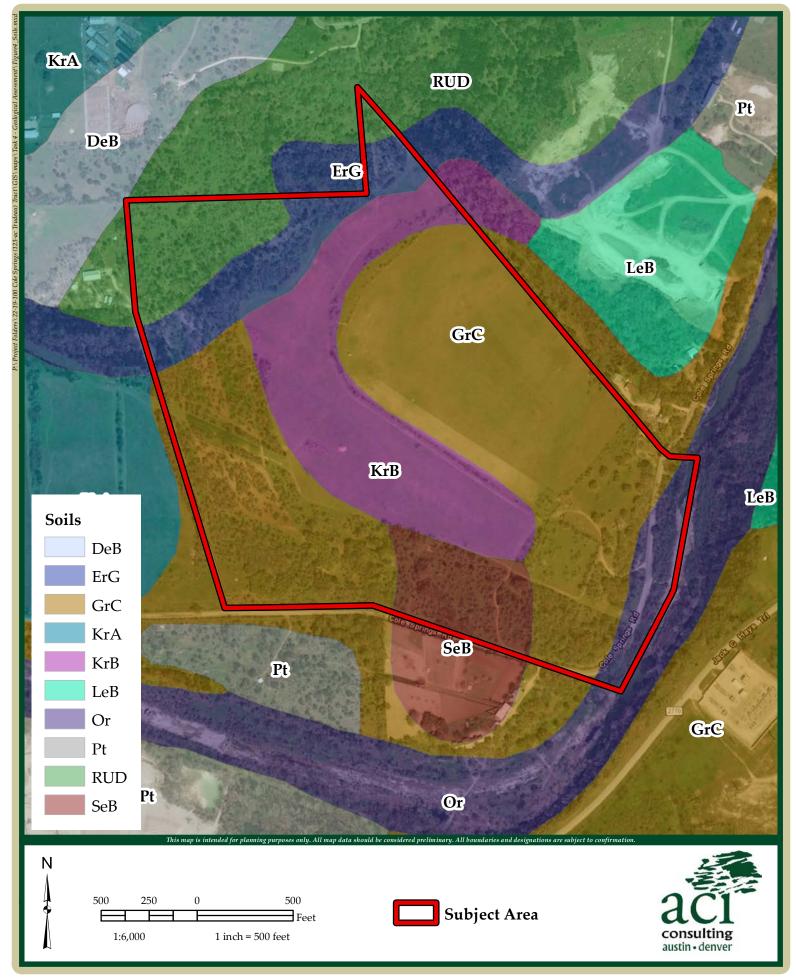
Colony at Cole Springs
Figure 1: Site Location Map

aci Project No.: 22-19-100 (22-15-013J)



Colony at Cole Springs Figure 2: Regional Trend Map





Colony at Cole Springs

aci Project No.: 22-19-100 (22-15-013J)

Figure 4: Soils December 2019



ATTACHMENT E Historical Aerial Photographs

Prepared for:

ACI CONSULTING 1001 Mopac Circle Austin TX 78746



Historical | Cole Springs Road tract Aerial Hays County, TX Photographs

PO #: 22-15-03J

ES-131419

Thursday, June 27, 2019



Date: 2018 Source: TNRIS

Feet 0 250 500 1,000





Date: 2014 Source: USDA

Feet 0 250 500 1,000

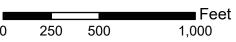




Source: USDA











Source: USGS





Source: USGS







Source: USGS







Source: USDA





AERIAL SOURCE DEFINITIONS

Acronym	Agency
NASA	National Aeronautics & Space Administration
AMS	Army Mapping Service
ASCS	Agricultural Stabilization & Conservation Service
SCS	Soil Conservation Service
ISGS	Illinois State Geological Survey
Fairchild	Fairchild Aerial Surveys
TXDOT	Texas Department of Transportation
BLM	Bureau of Land Management
USAF	United States Air Force
USCOE	United States Corps of Engineers
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WALLACE	Wallace-Zingery Aerial Surveys
TNRIS	Texas Natural Resources Information System

HISTORICAL AERIA	AL PHOTOGRAPHS
ES-131419	June 27, 2019



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ATTACHMENT F Petroleum Pipeline Information

DATABASE CHANGES

Form PS-74 rev 7-04

TRANSFER FROM PERMIT 06566 TO PERMIT Safety Eval#_____ Prepared by _____Permit # 07899 Change date 1/4/10 print date 1/4/10 1) COMPANY: No Changes ___ Change Company ___ Change Status to Inactive Add New Company COID STATUS COMPANY NAME CURRENT 1791 CHEVRON PIPE LINE COMPANY NEW 6139 Α SUNOCO PIPELINE L.P. 2) UNIT: When adding a new unit, include the contact person and complete address. L Chg. Co. ID Chg Name of Unit Transfer to Another Unit No Chgs. Contact Person_____Title_____Phone () -* Address UNIT ID UNIT NAME CO ID CURRENT 17949 CHEVRON PL/REG 4 1791 CHG/NEW 18250 SUNOCO PL LP/BEAUMONT 6139 3) SYSTEM: Change of: Unit ID Name Status County ☐ Miles ☐ T-4 Permit Split System(s) Out $\bigcap_{\mathbf{A}^{\mathtt{CTIVE}} \mathbf{J}^{\mathtt{URIS}}} \mathtt{S}^{\mathtt{SSTYPE}}$ Add New System(s) ☐ Merge System(s) SYSTEM UNIT SYSTEM NAME Α T-4COUNTY CURRENT 450873 17949 HEARNE-AUSTIN PRODUCT Α J 6566 Milam CHG/NEW 7899 Robertson OPERATOR NAME CHANGE, PERMIT CHANGE: Reason Travis IDLE SYSTEM TRANSFERRING FROM CHEVRON PERMIT 06566 CANCELED Williamson AND MERGED INTO EXISTING SUNOCO PERMIT 07899. 71.4 mi CURRENT CHG/NEW Reason CURRENT CHG/NEW Reason CURRENT CHG/NEW Reason CURRENT CHG/NEW Reason

Program Manager Review

Date

RAILROAD COMMISSION OF TEXAS SAFETY DIVISION PERMIT SECTION

PERMIT TO OPERATE PIPELINE

Austin, Texas, December 23, 2009

SUNOCO PIPELINE L.P. ATTN DAVID BORN ONE FLUOR DANIEL DR BLDG A 3 SUGAR LAND TX 77478

Permit No. 06566 FLUID TRANSPORTED

Crude: Condensate:

Crude FWS: Gas FWS:

Gas

Products XXX REF PROD/IDLE

Other

This is to certify that SUNOCO PIPELINE L.P. has complied with 16 TAC Sec. 3.70 of the Commission Rules and Regulations governing pipelines in accordance with the Natural Resources Code Sec. 81.051 and is granted this permit by the Commission to operate the following line or lines located at:

MILAM

ROBERTSON TRAVIS

WILLIAMSON

PERMIT AMENDED TO REFLECT OPERATOR CHANGE FROM CHEVRON PIPE LINE COMPANY, THEN PERMIT CANCELED AND MERGED INTO SUNOCO PIPELINE L.P. EXISTING PERMIT 07899. (ALSO OWNER CHANGE FROM TEXACO PIPELINE COMPANY TO SAME AS CURRENT OPERATOR.)

This permit is valid until the operating ownership of such line or system changes, or until extensions or other physical changes are made in the line or system. (See Instructions on Form T-4.)

LROAD COMMISSION OF TEXAS

APPLICATION FOR PERMIT TO OPERATE A PIPELINE TRANSTEXAS

(See 16 TAC 3.70)

DEC 2 2 2009

(8/06)

FORM T-4

Railroad Commission of Texas Gas Services Division License & Permits Section

Fax (866) 619-8702

E-mail

kdborn@sunocologistics.com

The Railroad Commission does not discriminate on the basis of race, color, national origin, sex, religion, age, or disability in employment or the provision of services. TDD/TDY (512) 463-7284

as Services Division	
icense & Permits Section	SAFETY DIVISION Permit No.: 06
ORGANIZATI	ION INFORMATION AUSTIN, TEXAS
Operator (Applicant) (See Instruction 1)	Address
Sunoco Pipeline L.P.	One Fluor Daniel Dr. Bldg. A Level 3, Sugar Land TX 77478
P5# <u>829627</u>	— One ridor Damer Dr. Bidg. A Lever 3, Sugar Land 1 & 11476
2. Does the above named operator own pipeline? XYes	No If "No", give name and address of owner.
3. Does the above named operator conduct or control the economic operations of If "No", give name, address and P-5# of economic operator. (See Instruction 2)	
	P5#
PIPELINE	INFORMATION
 Mark appropriate block for each of the following questions: a) Are the pipelines covered under this permitInterstate b) Fluid transported: 	X_Intrastate
CrudeCondensateGas (*) _X _ Pro	oducts (*)Full Gas Well StreamFull Oil Well StreamOther (*)
* Specify <u>G</u>	Gasoline, Diesel, Jet A
. — — — -	concentration? ppm
 d) Pipeline classification: If answer to (b) is other than natural gas, will the pipeline be opera 	ated as X_a common carrier or asa private line? (Ch. 111, Texas Natural Resources Code)
If answer to (b) is natural gas, will the pipeline be operated as a	gas utility or as aprivate line? (Texas Utilities Code)
NOTE: A natural gas pipeline permit will not specify whether the Gas Utility Audit Section will make that determination and notify	pipeline is a gas utility or a private line. The Gas Services Division the operator of its status.
e) Does pipeline use any public highway or road, railroad, public utility,	
f) Will the pipeline carry only the gas and/or liquids produced by pipeline	ne owner or operator?YesXNo
If answer to (f) is "No", is the gas and/or liquids: Purchased from others. X_Owned by others, bu	ut transported for a fee. Both purchased and transported for others.
	New Construction Report Number
2. a) New installation? Yes X No	(see 16 TAC 8.115 for applicability)
b) Renewal for same operator? Yes X No c) Extension or modification? X Yes No	(see 10 TAC 6.113 for applicability)
If there has been a change in operator or ownership, give name and address of	of previous operator, owner, or lessor: (Attach form T4B)
Chevron Pipeline Company, 4800 Fournace Place, Bellaire Texas 77401	
3. Check detailed purpose(s) for which described pipeline will be used:	
X Transmission Terminal (Storage Field)	Industrial Distribution
Gathering Gas Lift	Manufacturing Feed Stock (Own Consumption)
Gas Injection Gas Plant	Other (explain)
OTOTTOT Map (DT N2171 20 Miles of 1000) accounts any angular data of	
 U.S.G.S. 7.5 Minute Quad attached? (Scale 1" = 2,000 feet) Overview map (24" x 24" / 1" = 20 miles or less) attached and digital data seems. 	YesNo sent?X_YesNo
declare, under penalties prescribed in Sec. 91.143. Texas Natural Reson	ources Code, that I am authorized to make this report, that this report was prepare
by me or under my supervision and direction, and that data and facts state	ed therein are true, correct, and complete, to the best of my knowledge.
	12 12 22
Todd M. Stamm	
Type or Print Name of Person)	(Date)
Manager, Western Pipeline Operations	- udd of Thom 1941,
Title)	(Signature)
equiries regarding this application should be directed to:	
fame: David Bom Address: One Fluor Daniel Dr. Building A Le	evel 3, Sugar Land TX 77478 Phone: (A/C) 281-637- 6497
anic. David Doni Address. One l'idoi Daniei Di. Dunding A Le	3101 3, Dugui Laliu 171 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

RAILROAD COMMISSION OF TEXAS GAS SERVICES DIVISION PIPELINE SAFETY PO BOX 12967, AUSTIN, TX 78711-2967

RECEIVED RRC OF TEXAS DEC 2 2 2009 SAFETY DIVISION AUSTIN, TEXAS

PIPELINE TRANSFER CERTIFICATION

(File with Form T-4)

NEW OPERATOR/APPLICANT: _	Sunoco Pipeline	L.P.
Address: One Fluor Daniel Dr., Bu	ilding A Level 3	
Sugar Land City	Texas State	77478 Zip
Does the above named operator own the p	ipeline(s) Yes	No If "no" give owners name and address:
responsibility for the regulatory compleremain designated as the current operator is approved by the Commission	ance of the listed perator until a new on.	gning this certificate, I acknowledge pipelines. I also acknowledge that I will certificate designating a new current
Name (print) Todd M. Stamm Signa	ture	Date 12-18-09
Title: Manager, Western Pipeline Or	oerations	Phone: (281) 637-6581
OLD OPERATOR:Chevron Pipe]	Line Company	
Address: _4800 Fournace Place		
	xas	77401
City Did the above named operator own the pip	State eline(s) Yes	Zip No If "no" give owners name and address:
responsibility for1 has been transferred to the above na	pipeline listed med operator. I perator as current ssion.	evious operator, I certify that operating on Form T-4A for Permit 006566 understand, as previous operator, that operator is not effective until this
Title DOT Specialist P	hone (713) 432-3	3206

FORM T-4B

Rev. 9/01

RECEIVED RRC OF TEXAS MAR 1 1 2009

Form T-4C (4/97)

SAFETY DIVISION AUSTIN, TEXAS

PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWAL FORM

COMPANY / ADDRESS CHEVRON PIPE LINE COMPANY	PERMIT NO.	P-5 NO.
4800 Fournace Place	06566	148100
Bellaire TX 77401		
PIPELINE CLASSIFICATION	PLEASE ANSWER (A) & (F	3)
Common Carrier Interstate		(A) Fluid (B) Miles Transported of Pipe
Gas Utility Intrastate 🔀 🗸	Crude	
Private	Condensate	
Yannana Data of Lord Domits Morely 5, 2007	Gas *	
Issuance Date of Last Permit March 5, 2007 Location of Line(s) by County(s) Milam, Robertson, Travis	Products *	71.46
& Williamson Counties	Full Oil Well Stream	\Box $\sqrt{115}$ W
	Full Gas Well Stream	
	Other *	
	Specify Idle Products Li	ne 🗸
	Does fluid contain H ₂ S? If yes, at what concentration	Yes No
This will certify that the installations described above have not been subject t issuance date of last permit. REMARKS: Idle Hearne - San Antonio System (Texaco)	o any modifications, extensi	ons or abandonment since the
CERTIFICATE		
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Cowas prepared by me or under my supervision and direction, and that data and far of my knowledge.		rrect, and complete, to the best
Signature	Name of Person (type or pr	
03/10/2009 DOT Specialist	FAX: (71) Telephone Number (713)) 432-3206
Date Title	Area C	ode Number



Global Gas

J. R. Burke DOT Specialist Environmental and Technical Chevron Pipe Line Company 4800 Fournace Place Bellaire, TX 77401-2324 Tel 713-432-3206

RBurke@Chevron.com

March 10, 2009

Kathy Arnold Railroad Commission of Texas Gas Services Division P. O. Box 12967 Austin, TX 78711-2967

RECEIVE RRC OF T

MAR 11 2223

SAFETY AND AUSTIN

Annual Operating Permits

Dear Ms. Arnold:

The following T-4C permit forms for CPL have been completed for your use:

06218	00700	00963	02042	01032	01033
00964	01447	05365	06344	06566	06335
05718	00188				

Also included is a Form PS-87 Pipeline Proximity to Public Schools and a 7100.2-1 Annual Gas Report for permit # 06335 Chevron Keystone Gas Storage.

Please contact me at 713-432-3206 if you have questions or require additional information.

Sincerely,

J. R. (Randy) Burke

Phake



Form T-4C (4/97)

PIPELINE AND GATHERING SYSTEM CERTIFICATION CRESCALL FORM

COMPANY / ADDRESS	PERMIT NO	P-5 NO.
CHEVRON PIPE LINE COMPANY 4800 Fournace Place Bellaire TX 77401	06566	148100
PIPELINE CLASSIFICATION	PLEASE ANSWER (A) & (E	3)
Common Carrier Interstate		(A) Fluid (B) Miles Transported of Pipe
Gas Utility Intrastate Intrastate	Crude	
Private	Condensate	
January Data of Lot Down't Month 5, 2007	Gas *	
Issuance Date of Last Permit March 5, 2007 Location of Line(s) by County(s) Milam, Robertson, Travis	Products *	71 46
& Williamson Counties	Full O1 Well Stream	□ V71.510
RECEIVED	Full Gas Well Stream	
A.R.C. OF TEXAS MAR 1 7 2008	Other *	
GAS SERVICES DIVISION AUSTIN, TEXAS	Specify Idle Products L. Does fluid contain H ₂ S?	Yes No
This will certify that the installations described above have not been subject t	If yes, at what concentration to any modifications, extens:	
issuance date of last permit.	,	
REMARKS: Idle Hearne - San Antonio System (Texaco)		

CERTIFICATE		11.40
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Cowas prepared by me or under my supervision and direction, and that data and fatof my knowledge.		
A Burke	J. R. Burke - rburk	
Signature // DOT Specialist	Name of Person (type or p FAX: (71 Telephone Number (713	3) 432-3477
03/10/2008 DOT Specialist Date Title	Area (

RECEIVED R.R.C. OF TEXAS

MAR 2 3 2007

Form T-4C (4/97)

GAS SERVICES DIVISION

PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWALTFORM

COMPANY / ADDRESS	PERMIT NO.	P-5 NO.
CHEVRON PIPE LINE COMPANY 4800 Fournace Place	06566	148100
Bellaire TX 77401		
PIPELINE CLASSIFICATION	PLEASE ANSWER (A) & (B	(i)
Common Carrier Interstate		(A) Fluid (B) Miles Transported of Pipe
Gas Utility Intrastate Intrastate	Crude	
Private	Condensate	
May 1 5 2007	Gas *	
Issuance Date of Last Permit March 5, 2007 Location of Line(s) by County(s) Milam, Robertson, Travis	Products *	71.46
& Williamson Counties	Full Oil Well Stream	□ <u>11.5</u> ′
	Full Gas Well Stream	
	Other *	
	Specify Idle Products Li	ine
	Does fluid contain H ₂ S? If yes, at what concentration	Yes No
This will certify that the installations described above have not been subject to issuance date of last permit. REMARKS: Idle Hearne - San Antonio System (Texaco)	o any modifications, extension	ons or abandonments since the
CERTIFICATE		
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Cowas prepared by me or under my supervision and direction, and that data and fatof my knowledge.		
Spane	J. R. Burke	:
Signature	Name of Person (type or p	·
03/10/2007 DOT Specialist Date Title	Telephone Number (713 Area C	

Please mail <u>completed</u> Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967. If you have any questions call (512) 463-7194.

PERMIT TO OPERATE PIPELINE

Austin, Texas, March 5, 2007

CHEVRON PIPE LINE COMPANY ATTN J.R. (RANDY) BURKE 4800 FOURNACE PLACE BELLAIRE TX 77401 Permit No. 06566 FLUID TRANSPORTED

Crude:

Crude FWS:

Condensate:

Gas FWS:

Gas

Products XXX REF PROD/IDLE

Other

This is to certify that CHEVRON PIPE LINE COMPANY has complied with 16 TAC Sec. 3.70 of the Commission Rules and Regulations governing pipelines in accordance with the Natural Resources Code Sec. 81.051 and is granted this permit by the Commission to operate the following line or lines located at:

MILAM

ROBERTSON

TRAVIS

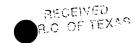
WILLIAMSON

PERMIT AMENDED TO REFLECT 2007-2008 RENEWAL AND TO REMOVE 81.0 MILES OF PIPE ABANDONED IN BEXAR, COMAL, GUADALUPE, HAYS, AND TRAVIS COUNTIES. REMAINING MILEAGE FOR THE HEARNE PRODUCTS SYSTEM IS 71.5.

This permit is valid until the operating ownership of such line or system changes, or until extensions or other physical changes are made in the line or system. (See Instructions on Form T-4.)

RAILROAD COMMISSION OF TEXAS

BY Kathy arnold



APPLICATION FOR PERMIT TO OPERATE A PIPELINE IN TEXAS 0 1 2007

(See 16 TAC 3.70)

Railroad Commission of Texas

FORM T-4

(8/06)

GAS SERVICES DIVISION AUSTIN, TEXAS Gas Services Division 06566 Permit No. License & Permits Section 11.5 Products aame ORGANIZATION INFORMATION 1. Operator (Applicant) (See Instruction 1) Address Chevron Pipe Line Company 4800 Fournace Place, Houston, TX. 77401 148100 No If "No", give name and address of owner. NO-P5 2. Does the above named operator own pipeline? 3/2 3. Does the above named operator conduct or control the economic operations on the pipeline? If "No", give name, address and P-5# of economic operator. (See Instruction 2) P5# PIPELINE INFORMATION 1. Mark appropriate block for each of the following questions × Intrastate Interstate a) Are the pipelines covered under this permit b) Fluid transported: Gas (*) Products (*) Full Gas Well Stream Full Oil Well Stream Crude Condensate * Specify Refined Products(Idle) X No If yes, at what concentration? c) Does fluid contain H2S? d) Pipeline classification: If answer to (b) is other than natural gas, will the pipeline be operated as X a common carrier or as X a private line? (Ch. 111, Texas Natural Resources Code) If answer to (b) is natural gas, will the pipeline be operated as a gas utility or as a __ private line? (Texas Utilities Code) NOTE: A natural gas pipeline permit will not specify whether the pipeline is a gas utility or a private line. The Gas Services Division Gas Utility Audit Section will make that determination and notify the operator of its status. e) Does pipeline use any public highway or road, railroad, public utility, or other common carrier right-of-way? f) Will the pipeline carry only the gas and/or liquids produced by pipeline owner or operator? If answer to (f) is "No", is the gas and/or liquids: Owned by others, but transported for a fee. Purchased from others Both purchased and transported for others. 2. a) New installation? \mathbf{X}_{No} b) Renewal for same operator? × Yes c) Extension or modification? If there has been a change in operator or ownership, give name and address of previous operator, owner, or lessor: (Attach form T4B) See Cover Sheet for detailed explanation. Quadalype + Hays Coo 3. Check detailed purpose(s) for which described pipeline will be used Terminal (Storage Field) Industrial Distribution Transmission Manufacturing Feed Stock (Own Consumption) Gas Lift Gathering Gas Plant Other (explain) Gas Injection × No U.S.G.S. 7.5 Minute Quad attached? (Scale 1" = 2,000 feet) Yes Overview map (24" x 24" / 1" = 20 miles or less) attached and digital data sent? × Yes No I declare, under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge. J.R. (Randy) Burke 02/19/2007 (Type or Print Name of Person) (Date) Muhe DOT Specialist (Title) Inquiries regarding this application should be directed to: 4800 Fournace Place, Houston, TX. 77401 Phone: (A/C) Randy Burke _{Eax (} (713) 432-3477 rburke@chevron.com

The Railroad Commission does not discriminate on the basis of race, color, national origin, sex, religion, age, or disability in employment or the provision of services. TDD/TDY (512) 463-7284



Global Gas

J. R. (Randy) Burke DOT Pipeline Safety Specialist Environmental & Technical Services Chevron Pipe Line Company 4800 Fournace Place Bellaire, TX 77401-2324 Tel 713-432-3206 Fax 713-432-3477 rburke@chevron.com

February 19, 2007

Kathy Arnold Railroad Commission of Texas Gas Services Division P. O. Box 12967 Austin, TX 78711-2967

RE: T-4 Permit #06566

Dear Ms. Arnold,

Attached please find a T-4 permit application, and an overview map. Please note the following:

• \$\mathbb{B}\$ - Abandon 80.99 miles of the Hearne Products System in Bexar, Guadalupe, Comal, Hays and Travis Counties. The abandoned section begins at the San Antonio Terminal and ends near FM 973, in Travis Co.

• NC - No Change

Add Counties: None

Remove Counties: Bexar, Comal, Guadalupe, Hays

Miles of Pipeline: Existing

152.45 **XB** - 80.99

Total Miles Permit #06566

71.46

Please contact me at 713-432-3206 if you have questions or require additional information.

Sincerely,

281 451 7537

J. R. (Randy) Burke

Attachments

Geography submitted via "FTP" filename t06566 on 02-19-07.

RECEIVED R.R.C. OF TEXAS

FEB 2 0 2007

GAS SERVICES DIVISION AUSTIN, TEXAS

From:

Kathy Arnold

To:

rburke@chevron.com

Date:

2/20/2007 3:42:16 PM

Subject:

T-4 #06566 Chevron Pipe Line Company

Hey, Randy. How goes it?

Two things. One. Your P-5 is delinquent. Two. Go fish on the permit application you submitted. It is way too old. The current one is on the website date 8/06. The one before this was 9/04. You are really digging up some old bones here. Look under Pipeline Safety for the current form and please resubmit. It is not going anywhere anyway until the P-5 is active again. Let me know if you have any questions. Thanks.

RECEIVED R.R.C. OF TEXAS

AILROAD COMMISSION OF TEXAS. GAS SERVICES DIVISION PIPELINE SAFETY SECTION

MAR 1 4 2005

Form T-4C (4/97)

GAS SERVICES DIVISION AUSTIN. TEXAS

AUSTIN, TEXAS PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWAL FORM

COMPANY / ADDRESS	PERMIT NO.	P-5 NO.	
CHEVRON PIPE LINE COMPANY 4800 Fournace Place Bellaire TX 77401	06566	14	8100
PIPELINE CLASSIFICATION	PLEASE ANSWER (A) & (B)	
Common Carrier Interstate		(A) Fluid (B) Transported	Miles of Pipe
Gas Utility Intrastate	Crude		
Private	Condensate		
Issuance Date of Last Permit February 19, 2003	Gas *		
Location of Line(s) by County(s) Bexar, Comal, Guadalupe, Hays, Milam,	Products *	\boxtimes	152.45
Robertson, Travis & Williamson Counties	Full Oil Well Stream		
·	Full Gas Well Stream		
	Other *		
	Specify Idle Products I Does fluid contain H ₂ S? If yes, at what concentration	Yes	No
This will certify that the installations described above have not been subject to issuance date of last permit. REMARKS: Idle Hearne - San Antonio System (Texaco)	o any modifications, extens	ions or abandonm	ents since the
CERTIFICATE			•
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Cowas prepared by me or under my supervision and direction, and that data and factor for my knowledge.			
Af Burke	J. R. Burke		
Signature	Name of Person (type or p	print)	
03/10/2006 DOT Specialist Date Title	<u>Telephone Number (7)</u> Area		

Please mail <u>completed</u> Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967. If you have any questions call (512) 463-7194.



Global Gas

J. R. Burke **DOT Specialist** **Environmental and Technical**

Chevron Pipe Line Company 4800 Fournace Place Bellaire, TX 77401-2324 Tel 713-432-3206 RBurke@Chevron.com

March 10, 2006

Kathy Arnold Railroad Commission of Texas Gas Services Division P.O. Box 12967 Austin, TX 78711-2967

RECEIVED R.R.C. OF TEXAS

MAR 1 4 2005

Annual Operating Permits

Dear Ms. Arnold:

GAS SERVICES DIVISION AUSTIN, TEXAS

The following T-4C permit forms for CPL have been completed for your use:

00204	00700	00894	00963	00964	01032
01033	01446	01447	01895	02838	04005
05235	05365	05718	05725	00188	06344
06566					

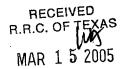
Also included is a Form PS-45 and 7100.2-1 for CPL and a 7100.2-1 for Unocal Keystone Gas Storage, LLC (please forward to Bruce Waterman).

Please contact me at 713-432-3206 if you have questions or require additional information.

Sincerely,

J. R. (Randy) Burke

GAS SERVICES DIVISION PIPELINE SAFETY SECTION



Form T-4C (4/97)

PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWALL FORM

COMPANY / ADDRESS	PERMIT NO.	P-5 NO.
CHEVRON PIPE LINE COMPANY PO BOX 4879	06566	148100
HOUSTON TX 77210		
PIPELINE CLASSIFICATION	PLEASE ANSWER (A) & (B)
PIPELINE CLASSIFICATION	PLEASE ANSWER (A) & (İ
Common Carrier Interstate		(A) Fluid (B) Miles Transported of Pipe
Gas Utility Intrastate	Crude	
Private	Condensate	<u>.</u>
Issuance Date of Last Permit February 19, 2003	Gas *	
Location of Line(s) by County(s) Bexar, Comal, Guadalupe, Hays, Milam,	Products *	<u>152.45</u>
Robertson, Travis & Williamson Counties	Full Oil Well Stream	
	Full Gas Well Stream	
	Other *	□/
	Specify Idle Products I	Line V
	Does fluid contain H ₂ S?	Yes No
	If yes, at what concentration	n? <u>pp</u> m
This will certify that the installations described above have not been subject t issuance date of last permit. REMARKS: Idle Hearne - San Antonio System (Texaco)	o any modifications, extens	ions or abandonments since the
CERTIFICATE		
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources C was prepared by me or under my supervision and direction, and that data and fa of my knowledge.		
Il Burke	J. R. Burke	
Signature	Name of Person (type or p	print)
03/10/2005 DOT Specialist Date Title	Telephone Number (28 Area	•

Please mail <u>completed</u> Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967. If you have any questions call (512) 463-7194.

Chevron Pipe Line Company

DOT Compliance/Risk Managem
2811 Hayes Road
Houston, TX 77082
Tel 281-596-3569
Fax 281-596-3640
RBurke@chevrontexaco.com

J. R. Burke DOT Compliance Specialist

March 10, 2005

ChevronTexaco

Kathy Arnold Railroad Commission of Texas Gas Services Division P. O. Box 12967 Austin, TX 78711-2967

RECEIVED R.R.C. OF TEXAS

MAR 1 5 2005

Dear Ms. Arnold:

GAS SERVICES DIVISION AUSTIN, TEXAS

The following T-4C permit forms have been completed for your use:

00203	00204	00700	00894	00963	00964
01033	01446	01447	01895	02838	· 04005
05235	05365	05711	05718	05725	00188
06344	06566				

Please contact me at 281-596-3569 if you have questions or require additional information.

Sincerely,

J. R. Burke



R.R.C. OF TEXAS

RECEIVED

Form T-4C (4/97)

GAS SERVICES DIVISION AUSTIN, TEXAS

PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWAL FORM

COMPANY / ADDRESS	PERMIT NO.	P-5 NO.
CHEVRON PIPE LINE COMPANY P O BOX 4879	06566	148100
HOUSTON TX 77210		
PIPELINE CLASSIFICATION	PLEASE ANSWER (A) & (B	3)
THE SERVE CERTIFICATION	1 22.102 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	
Common Carrier Interstate		(A) Fluid (B) Miles Transported of Pipe
Gas Utility Intrastate Intrastate	Crude	
Private	Condensate	
Issuance Date of Last Permit February 19, 2003	Gas *	
Location of Line(s) by County(s) Bexar, Comal, Guadalupe, Hays, Milam,	Products *	∑ <u>152.45</u> ∠
Robertson, Travis & Williamson Counties	Full Oil Well Stream	
	Full Gas Well Stream	
	Other *	
	Specify Idle Products Li	ne 🖊
	Does fluid contain H ₂ S? If yes, at what concentration	Yes No
This will certify that the installations described above have not been subject to ssuance date of last permit. REMARKS: Idle Hearne - San Antonio System (Texaco)	any modifications, extension	ons or abandonments since the
CERTIFICATE		
declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Cowas prepared by me or under my supervision and direction, and that data and factor from knowledge.		
Signature Signature	J. R. Burke Name of Person (type or pr	int)
03/10/2004 DOT Specialist Date Title	Telephone Number (281 Area C	

Please mail completed Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967. If you have any questions call (512) 463-7194.

Chevron Pipe Line Company

DOT Compliance/Risk Management 2811 Hayes Road Houston, TX 77082 Tel 281-596-3569 Fax 281-596-3640 RBurke@chevrontexaco.com

J. R. Burke **DOT Compliance Specialist**

March 10, 2004

ChevronTexaco

RECEIVED R.R.C. OF TEXAS

MAR 1 2 2004

GAS SERVICES DIVISION AUSTIN, TEXAS

Kathy Arnold Railroad Commission of Texas Gas Services Division P.O. Box 12967 Austin, TX 78711-2967

Dear Ms. Arnold:

The following T-4C permit forms have been completed for your use:

00203	00204	00205	00700	00894	00963
00964	01032	01446	01447	01895	02838
04005	05235	05365	05711	05718	05725
00188	06344	06566			

Please contact me at 281-596-3569 if you have questions or require additional information.

Sincerely,

J. R. Burke



Safety 1	Eval. #		T-4	Permit No	o. <u>06566</u>	Prepared	by_	SE	C	_Date	<u>3/24</u>	/03
1) COMP					_		•			5	7	
Add N	lew Comp			Company	☐ Chan	ge Status			ct	ive 2	No	Change
	CC	OID	STATUS			COMPANY	NAI	ME_				
CURREN'	T 61	.94	A	SHELL P	IPELINE (COMPANY LP						
NEW		91	A	CHEVRON	PIPE LIN	E COMPANY						
	dd Unit					ID 🛭		-				
*Address	s <u>P. O</u>	. Box	4879, Hou	uston, Te	exas 772	10						
	UNI	ТĮD			UNI	T NAME						CO ID
CURRENT	05	962	SHELL PI	IPELINE/R	EG 4							6194
CHG/NEW	17	949	CHEVRON	PL/REG 4			· · · · · · · · · · · · · · · · · · ·					1791
CURRENT	SYSTEM UNIT CURRENT 450873 05962								S	T-4	C	OUNTY
CURRENT					O PRODUCT	I	╁	<u> </u>		E GUA	BEXAR COMAL ADALUPE HAYS KILAM	
											r	BERTSON RAVIS LIAMSON
CHG/NEW	450873	1794	9 HEARNE-	AUSTIN-SA	INOTNA NA	O PRODUCT	I	J	₽	06566		SAME
Reason				AL ACQUIS								
CURRENT												
CHG/NEW	`											
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CHG/NEW					7470 A	•						
Reason		•	•									
CURRENT												
CHG/NEW												
Reason								ıl	1			

AS INTRASTATE PIPELINE QUESTION RE RAILROAD COMMISSION OF TEXAS GAS SERVICES DIVISION PIPELINE SAFETY SECTION

RECEIVED R.R.C. OF TEXAS

T-4 Permit No. 00967 (HEARNE PRODUCTS SYSTEM)

DEC 0 2 2002

	nges in this address of		GAS SERVICES DIVISION AUSTIN, TEXAS							
NAME OF OPERATOR SHELL PIPELINE CO. L.P. 1931N, 15XAS MAILING ADDRESS P. O. BOX 2648							.^^3			
· ·										
Information is requested for all intrastate transmission/trunkline and gathering pipelines transporting hazardous liquids and CO₂ or gas which is flammable, toxic or corrosive under the specified T-4 Permit Number. Please complete a separate questionnaire for each T-4 permit application on file. If additional information is necessary to complete this form, telephone the Pipeline Safety Section in Austin at (512) 463-7058.										
I. GENERAL INFORMATION Are the pipelines covered under this permit □Interstate ■Intrastate										
	LIANCE REPRESE			3. KINNEY						
MAILING ADDRE			. O. BOX							
CITY, STATE, ZII					2-2648					
	CITY, STATE, ZIP+4 HOUSTON, TX 77252-2648 TELEPHONE NUMBER (713) 241-2910									
					novoral pipolinos er	ninolino systems, er s	single listing name			
	TIFICATION AND LOC e or pipeline system	ATION. The reference	ceu 1-4 pi	emili may be	several pipelines of	pipeline systems, or a	single listing permit			
SYSTEM	FLUID	TYPE			CHECK	#PUMP/				
NAME/LINE	BEING	(Check as		PELINE	AS	COMPRESSOR				
NUMBER	TRANSPORTED	applicable)	SPECI	FICATIONS	APPLICABLE	STATIONS	COUNTIES			
Hearne	Product	Trunkline/	SMYS	35000	□ *Rural □ Non-Rural	2	Robertson			
Products	İ	Transinission	OD	10.750	☐ Bay Area		Falls			
System		☐ Gathering			☐ Offshore	1	McLennan			
1	*		WT	.250	☐ Navigable		Hills			
			LAGO	4445	Waterway	·	Ellis			
NC	`	MILES 144.19	MAOP	1145	☐ Environmentally		Dallas			
					Sensitive					
		T			□ *Rural					
Dallas Term.	Product	Trunkline/ Transmission	SMYS	35000	□ Non-Rural		Dallas			
To Ft. Worth	ļ	Transmission	OD	8	☐ Bay Area		Tarrant			
Term. 8"		☐ Gathering	"	J	☐ Offshore					
			wr	.250	□ Navigable					
	i			4400	Waterway					
BP .	·	MILES 25.87	MAOP	1109	☐ Environmentally					
			ĺ		Sensitive					
and the same of th					5 45					
Hearne –	Product	Trunkline/ Transmission	SMYS	42000	☐ *Rural		Robertson			
Austin		Hansmission	OD	0	□ Non-Rural □ Bay Area		Milam			
	 ,	☐ Gathering	00	8	☐ Offshore		Williamson			
	T4#06566	_	wt	.250/.322	□ Navigable		Travis			
SID 450873					Waterway	•				
PT-	·	MILES 78.97	MAOP							
Chevron/Texaco	•				Environmentally Sensitive					
Term many to phone			<u> </u>		CONSINTO					
Austin-	Product	Trunkline/	SMYS	42000	□ *Rural		Travis			
San Antonio	Todaol	Transmission			☐ Non-Rural		Hays			
Jan Antonio			OD	6	☐ Bay Area	,	Comal			
450873	T4#06566	☐ Gathering	l		☐ Offshore	!				
100015	,		WT	.250/.280	□ Navigable		Guadalupe			
DT		MILES 73.48	МАОР		Waterway		Bexar			
PT-	,				Environmentally					
Chevron/Texaco					Sensitive					

*Rural means outside the limits of any incorporated or unincorporated city, town, village, or any other designated residential or commercial area such as a subdivision, a business or shopping center, or community development.

NOTE: Wt = Wall Thickness

The Railroad Commission does not discriminate on the basis of race, color, national origin, sex, religion, age, or disability in employment or the provision of services. TDD/TDY (512) 463-7284

*				- OUE	#DUMD!	
SYSTEM	FLUID	TYPE	515515	CHECK	#PUMP/	
NAMĘ/LINE	BEING	(Check as	PIPELINE	AS	COMPRESSOR	
NUMBER	TRANSPORTED	applicable)	SPECIFICATIONS	APPLICABLE	STATIONS	COUNTIES
		_				
		☐ Trunkline/	SMYS	□ *Rural		
		Transmission	1	☐ Non-Rural		
		·	OD	☐ Bay Area	1	
		☐ Gathering	1	☐ Offshore		
	1		wr	□ Navigable		
			i	Waterway	· .	
		MILES	MAOP			
				Environmentally		
				Sensitive		
		☐ Trunkline/	SMYS	□ *Rural		
		Transmission	1	☐ Non-Rural	•	
	İ		OD	☐ Bay Area		
	,	☐ Gathering		☐ Offshore		
			l wt	□ Navigable		
			·	Waterway		
		MILES	MAOP			
				Environmentally		
				Sensitive		
	Ì	☐ Trunkline/	SMYS	□ *Rural .		
		Transmission		☐ Non-Rural		
			OD	☐ Bay Area		
		☐ Gathering		☐ Offshore		
		_	l wr	□ Navigable		
				Waterway		
		MILES	MAOP			
				Environmentally		
				Sensitive		
				_		
		☐ Trunkline/	SMYS	□ *Rural		
		Transmission		☐ Non-Rural		
	_		OD	□ Bay Area		
•		□ Gathering		☐ Offshore		
•			wr	☐ Navigable		
				Waterway	į	
]	MILES	MAOP			
				Environmentally		
				Sensitive		
Do any of these o	ipelines transport H	2S? ■ No				
,			entify:		Concentration	ppm
· · · · · · · · · · · · · · · · · · ·		<u> </u>	y			
•						

IF ADDITIONAL SPACE IS NEEDED, REPRODUCE THIS PAGE. Send completed report to: RAILROAD COMMISSION OF TEXAS, GAS SERVICES DIVISION, PIPELINE SAFETY SECTION, P. O. BOX 12967, AUSTIN, TX 78711-2967.

MAXINE G. KINNEY, OFFICE ASSISTANT NAME AND TITLE OF REPORTING OFFICIAL

SIGNATURE OF REPORTING OFFICIAL

(713) 241-2910 TELEPHONE



GAS SERVICES DIVISION PIPELINE SAFETY SECTION

RECEIVED R.R.C. OF TEXAS MAR 1 7 2003

Form T-4C (4/97)

GAS SERVICES DIVISION PIPELINE AND GATHERING SYSTEM CERTIFICATION RENEWATING TO SERVICES DIVISION

COMPANY / ADDRESS	PERMIT NO.	P-5 NO	
CHEVRON PIPE LINE COMPANY		06566	148100
PO BOX 4879 HOUSTON TX 77210			210200
PIPELINE CLASSIFICATION	PLEASE ANS	SWER (A) & (B)	
Common Carrier Interstate		(A) Flui Transpoi	
Gas Utility Intrastate	Crude		·
Private	Condensate	, 	
Issuance Date of Last Permit February 19, 2003	Gas *		
Location of Line(s) by County(s) Bexar, Comal, Guadalupe, Ha	Products *		152.45 L
Robertson, Travis & Williamson Counties	Full Oil Well	Stream	
	Full Gas Well	Stream	
	Other *		/
	Specify	dle Products Line	
	Does fluid cor	ntain H_2S ? Y_{ϵ} at concentration? p_{ϵ}	
This will certify that the installations described above have not issuance date of last permit. REMARKS: Idle Hearne - San Antonio System (Texaco)	been subject to any modifica	tions, extensions or ab	andonments since the
CE	RTIFICATE		,
I declare under penalties prescribed in Sec. 91.143, Texas Natura was prepared by me or under my supervision and direction, and to of my knowledge.			
Menle	J. R. B		
Signature	Name of Pe	erson (type or print)	
03/12/2003 DOT Specialist Date Title	Telephone N	Number (281) Area Code	596-3596 Number

Please mail <u>completed</u> Form T-4C to Railroad Commission of Texas, Gas Services Division / Pipeline Safety, P. O. Box 12967, Austin, TX 78711-2967. If you have any questions call (512) 463-7194.

TEXAS INTRASTATE PIPELINE QUESTIONNAIRE AILROAD COMMISSION OF TEX GAS SERVICES DIVISION PIPELINE SAFETY SECTION

	PIPELINE	SAFELY SEC.	HON	
		•	T-4 Permit No	06566
If there are any changes in this	address or information, please indicate below:			
NAME OF OPERATOR	Chevron Pipe Line Company			
MAILING ADDRESS	P O Box 4862			
CITY, STATE, ZIP+4	Houston Texas 77210			
under the specified T-4 Permit I	intrastate transmission/trunkline and gathering pip Number. Please complete a separate questionna e Safety Section in Austin at (512) 463-7058.	pelines transporting hazard aire for each T-4 permit app	dication on file. If additional in	ich is flammable, toxic or corrosive forma 构图DEdds结 和to complete R.R.C. OF TEYAS
I. GENERAL INFORMATION	Are the pipelines covered under this perm	it Interstate		
NAME OF COMPLIANCE REP	PRESENTATIVE J. R. Burke			MAR 1 7 2003
MAILING ADDRESS P.C.) Box 4879			S SERVICES DIVISION
OITY OTATE ZID 4	des Tayes 77010		GA	SERVICES STAR

CITY, STATE, ZIP+4	Houston Texas 77210				AUSTIN, T	EXAS
TELEPHONE NUMBER	(281) 596-3569				•	
SYSTEM	FLUID	TYPE		CHECK	#PUMP/	
NAME/LINE	BEING	(Check as	PIPELINE	AS ABBU IOABU E	COMPRESSOR	COLINITIES
NUMBER	TRANSPORTED	applicable)	SPECIFICATIONS	APPLICABLE	STATIONS	COUNTIES
			O.D. 8.625	⊠ *Rural		Bexar
Idle Products		Trunkline/		Non-Rural		Guadalupe
8" Hearne To		Transmission	W.T322	☐ Bay Area		Comal
Austin			17.11.1022	Offshore		Hays
, Austini		Gathering	SMYS 24,000	Navigable Waterway		Travis
	=0 == ==		Olin to Etiood	Environmentally		
	MILES 78.97		MAO <u>P 1,032</u>	Sensitive		
				⊠ *Rural		Williamson
Idle Products	•	☑ Trunkline/	O.D. 6.625	⊠ Non-Rural		Milam
6" Austin To		Transmission		☐ Bay Area		Robertson
6 Austill 10			W.T <u>280</u>	☐ Offshore		
San Antonio		☐ Gathering		☐ Navigable Waterway		
			SMY <u>S 24,000</u>	Environmentally		1
	MILES 73.48			Sensitive		
			MAO <u>P 1,168</u>			
		_	O.D.	☐ *Rural		
		☐ Trunkline/	J 0.D	☐ Non-Rural	·	
		Transmission	W.T.	Bay Area		
		_	····	☐ Offshore		
		☐ Gathering	SMYS	Navigable Waterway		
			SM 15	☐ Environmentally		
	MILES		MAOP	Sensitive		
	<u></u>	. 577		L		<u> </u>
Do any of these pipelines transport H₂S? ⊠ No						
☐ Yes Identify Concentration ppm						
ILE ADDITIONAL SPACE	IS NEEDED DEDBOOLIGE			11	GAS SEDVICES	DIVISION DIDELING
	IIF ADDITIONAL SPACE IS NEEDED, REPRODUCE THIS PAGE. Send completed report to: RAILROAD COMMISSION OF TEXAS, GAS SERVICES DIVISION, PIPELINE SAFETY SECTION, P.O. BOX 12967, AUSTIN, TEXAS 78711-2967.					
J 27 / 525/16/19/19/19	3-12-03				12-02	

SIGNATURE OF REPORTING OFFICIAL

DOT Specialist

NAME AND TITLE OF REPORTING OFFICIAL

(281) 596-3569

TELEPHONE

PS-8000A, 6/97

RAILROAD COMMISSION OF TEXAS
GAS SERVICES DIVISION
PIPELINE SAFETY SECTION

PERMIT TO OPERATE PIPELINE

Austin, Texas, February 19, 2003

CHEVRON PIPE LINE COMPANY ATTN PHILLIP DE PRANG P O BOX 4879 HOUSTON TX 77210 Permit No. 06566
FLUID TRANSPORTED
Crude: Crude FWS:
Condensate: Gas FWS:
Gas
Products XXX REF PROD/IDLE
Other

This is to certify that CHEVRON PIPE LINE COMPANY has complied with 16 TAC Sec. 3.65 of the Commission Rules and Regulations governing pipelines in accordance with the Natural Resources Code Sec. 81.051 and is granted this permit by the Commission to operate the following line or lines located at:

BEXAR MILAM COMAL ROBERTSON GUADALUPE TRAVIS HAYS WILLIAMSON

INITIAL PERMIT: SAN ANTONIO TO HEARNE SYSTEM, PARTIAL TRANSFER FROM SHELL PIPELINE COMPANY T-4 #00967. MILEAGE 152.45 (IDLE).

This permit is valid until the operating ownership of such line or system changes, or until extensions or other physical changes are made in the line or system. (See Instructions on Form T-4.)

RAILROAD COMMISSION OF TEXAS

x ____ (Cathy amalal:

Form T-4A

(Rev. 4/99)

 \bigvee

FORM T-4 (3/98)

Railroad Commission Of Texas Gas Services Division 6 TAC 3.65 [Rule 70 of Statewide Rules and Regulations

Pipeline Safety Section				
P-5 # 148100	ORGANIZATION INFORMATION Permit No. New Oo56			
Operator (Applicant)		Address P O BOX 4879		
CHEVRON PIPE LINE COMPANY		HOUSTON, TEX	KAS 77210	
2. To Whom in Texas should the Commission give notice	ce?	Address P O BOX 4879		
CHEVRON PIPE LINE COMPANY		HOUSTON, TEX	XAS 77210	
3. Does the above named operator own pipeline?	Yes No If"	No", give name and address of	owner.	
Texaco Pipeline Company, LLC 1301 McKIN	NEY HOUSTON, TEX	AS 77010		
4. Does the above named operator own or operate oil or	gas producing properties in	Гехаs? Yes	⊠ No	
	PIPELINE IN	FORMATION	·	
Mark appropriate block for each of the following que	stions:			
a) Are the pipelines covered under this permit	Interstate 🛛	Intrastate	_	
b b) Fluid transported: Crude	Condensate	Gas (*) Produc	cts (*)	
Full Oil Well S	_		Refined Products (Idle)	
c) Does fluid contain H ₂ S? Yes d) Pipeline classification:	⊠ No If ye	es, at what concentration?	ppm	
If answer to (b) is other than natural gas, will the pipe	eline be operated as	a common carrier or as	a private line?	
If answer to (b) is natural gas, will the pipeline be op-	_	s Natural Resources Code) ty or as a private line?		
in answer to (b) is flatural gas, will the pipeline be op-	(Texas Utilities			
A natural gas pipeline permit will not specify whethe the operator of its status.	r the pipeline is a gas utility	or a private line. The Gas Servi	ces Division will make that determination and notify	
e) Does pipeline cross any public highway or road, r	ight-of-way for any railroad,	public utility, or other common	carrier? X Yes No	
f) Will pipeline carry only the gas and/or liquids produced by pipeline owner or operator? Yes No				
If answer to (f) is "No", is the gas and/or liquids:	Purchased from other	s. Owned by others,	but transported for a fee.	
	Both purchased and t			
2. a) New installation?		es, do not complete remainder o	f this question. (SEE COVER SHEET)	
b) Renewal for same operator?	=		Equilon Pipeline Company LLC	
c) Extension or modification?			P.O. Box 2648	
If there has been a change in operator or ownership,	give name and address of pre	evious operator, owner, or lesso	r: Houston, Texas 77252	
Check detailed purpose for which described pipeline	will be used:			
Trunk Transmission	Manufacturing Feed	Stock (Chemical, plastic, etc.)		
Gathering	Gas Injection (Recycl	ling, pressure maintenance)		
Gas Lift	Distribution Systems	(Municipal, industrial)		
Gas Plant (Gathering system)	Other (explain)			
Terminal (Storage, loading racks, etc.)	•			
U.S.G.S. 7.5 Minute Quad Map or General Highway Detailed map of gathering system attached?	y County Map attached? (Sc	ale 1" = 2 Miles) Yes No	L No	
I declare, under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.				
Phillip C. DePrang				
(Type or Print Name of Person)			(Date)	
OPERATIONS SPECIALIST (Title) OPERATIONS SPECIALIST (Signature)				
OPERATIONS SPECIALIST	-	HK.	upe tor P.C. Vernang	
(Title)		\mathcal{U}	(Signature)	
Inquiries regarding this application should be directed to:	n ~ n	OV 4050	(491) 507 3743	
Phillip C. DePrang		OX 4879	(281) 596 - 3623 RECEIVED	
	HOUSTON,	TEXAS 77210	R.R.C. OF TEXAS	



January 30, 2003

RECEIVED R.R.C. OF TEXAS

FEB 0.3 2003

GAS SERVICES DIVISION AUSTIN, TEXAS Chevron Pipe Line Company

2811 Hayes Road Houston, Texas 77082 P. O. Box 4879 Houston, Texas 77210

Kathy Arnold Railroad Commission of Texas Gas Services Division P. O. Box 12967 Austin, TX 78711-2967

RE: T-4 Permit #unknown

Dear Ms. Arnold:

Attached please find a T-4 permit application, and an overview map. Please note the following:

• PT - Partial Transfer from Equilon Pipeline permit #00967, a 152.45 mile segment of idle 6"/8" products line from Hearne to San Antonio. Equilon contact is Maxine Kinney (281-241-2910).

Add Counties: Bexar, Guadalupe, Comal, Hays, Travis, Williamson, Milam, AND ROBERTSON
Remove Counties: None

PER RANDY BURKE
244103

Miles of Pipeline:

Existing

0.00

PT

152.45

Total Miles Permit # unknown

152.45

Please contact me at 281-596-3569 if you have questions or require additional information.

Sincerely,

J.R. Burke

DOT Compliance Specialist

Attachments

Geography submitted via "FTP" filename tChevron on 1-30-03.





SECTION 4: ORGANIZED SEWAGE COLLECTION SYSTEM

Organized Sewage Collection System Application

Texas Commission on Environmental Quality

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

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

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

Regulated Entity Name: Colony at Cole Springs Phase 2

1. Attachment A – SCS Engineering Design Report. This Engineering Design Report is provided to fulfill the requirements of 30 TAC Chapter 217, including 217.10 of Subchapter A, §§217.51 – 217.70 of Subchapter C, and Subchapter D as applicable, and is required to be submitted with this SCS Application Form.

Customer Information

2. The entity and contact person responsible for providing the required engineering certification of testing for this sewage collection system upon completion (including private service connections) and every five years thereafter to the appropriate TCEQ region office pursuant to 30 TAC §213.5(c) is:

Contact Person: Kyle Kriegel
Entity: M/I Homes of Austin, LLC

Mailing Address: 7600 N. Capital of Texas Hwy.; Bldg. C, Suite 250 City, State: Austin, TX Zip: 78731 Telephone: (512) 770-8524 Fax: N/A

Email Address: kkriegel@mihomes.com

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

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

Contact Person: Alejandro E. Granados Rico, P.E.

Texas Licensed Professional Engineer's Number: 130084

Entity: Kimley-Horn

Mailing Address: 501 S. Austin Ave, Suite 1310

City, State: <u>Georgetown, Texas</u> Zip: <u>78626</u> Telephone: <u>(512) 520-0768</u> Fax: <u>N/A</u>

Email Address: <u>alex.granados@kimley-horn.com</u>

Project Information

4.	• • • • • • • • • • • • • • • • • • • •	development to be serv	ved (estimated future pond commercial flows):	opulation to be served,
	Multi-family Commercial Industrial	Number of single-family: Number of residential	units:	
5.	<u> </u>	– olume of wastewater is	shown below:	
	% Domestic % Industrial % Commingle Total gallons/da	od.	<u>16,660</u> gallons gallons gallons	s/day
6.	Existing and anticipa	ated infiltration/inflow	is <u>0</u> gallons/day. This wi	ll be addressed by: <u>n/a</u> .
7.		• • •	is required for construc t located on the Rechar	•
	The WPAP a with this app A WPAP app submitted.	olication, but has not be lication is required for a associated project requi	opment was submitted	
	Pipe Diameter(Inches)	Linear Feet (1)	Pipe Material (2)	Specifications (3)
	8"	5,935	PVC SDR-26	ASTM D-3034
9.	service lateral (2) Pipe Material (3) Specifications included. The sewage collecti	oclude stub-outs and do s. - If PVC, state SDR value - ASTM / ANSI / AWWA on system will convey t		ty of Buda (Downtown)
	TCEQ-0582 (Re	ev. 02-11-15)		2 of 12

10. All components of this sewage collection system will comply with:
☐ The City of <u>Buda</u> standard specifications.☐ Other. Specifications are attached.
11. No force main(s) and/or lift station(s) are associated with this sewage collection system A force main(s) and/or lift station(s) is associated with this sewage collection system and the Lift Station/Force Main System Application form (TCEQ-0624) is included with this application.
Alignment
12. There are no deviations from uniform grade in this sewage collection system without manholes and with open cut construction.
13. There are no deviations from straight alignment in this sewage collection system without manholes.
 Attachment B - Justification and Calculations for Deviation in Straight Alignment without Manholes. A justification for deviations from straight alignment in this sewage collection system without manholes with documentation from pipe manufacturer allowing pipe curvature is attached. For curved sewer lines, all curved sewer line notes (TCEQ-0596) are included on the construction plans for the wastewater collection system.

Manholes and Cleanouts

14. Manholes or clean-outs exist at the end of each sewer line(s). These locations are listed below: (Please attach additional sheet if necessary)

Table 2 - Manholes and Cleanouts

Line	Shown on Sheet	Station	Manhole or Clean- out?
WWL-O	71	5+74.94	Manhole
WWL-O	72	10+62.60	Manhole
WWL-O	72	10+91.48	Manhole
WWL-O	72	11+83.66	Manhole
WWL-P	72	1+87.52	Manhole
WWL-Q	73	3+00.00	Manhole
WWL-Q	73	5+00.00	Manhole
WWL-Q	73	9+00.00	Manhole
WWL-Q	74	12+47.42	Manhole
WWL-Q	74	13+34.66	Manhole

Line	Shown on Sheet	Station	Manhole or Clean- out?
WWL-Q	74	14+21.87	Manhole
WWL-Q	74	15+22.35	Manhole
WWL-Q	74	17+47.56	Manhole
WWL-Q	74	19+00.00	Manhole
WWL-Q	75	22+80.80	Manhole
WWL-R	76	1+86.44	Manhole
WWL-R	76	3+10.48	Manhole
WWL-R	76	4+65.42	Manhole
WWL-R	76	5+77.78	Manhole
WWL-R	76	8+21.83	Manhole
WWL-R	76	9+56.91	Manhole
WWL-Y	77	4+53.93	Manhole
WWL-Y	77	5+27.16	Manhole
WWL-Y	77	7+45.15	Manhole
WWL-Y	78	11+00.00	Manhole
WWL-Y	78	12+87.15	Manhole
WWL-Z	79	4+00.00	Manhole
WWL-Z	79	7+03.01	Manhole
WWL-Z	79	7+81.92	Manhole
WWL-A	80	1+54.22	Manhole

^{15.} Manholes are installed at all Points of Curvature and Points of Termination of a sewer line.

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

Pipe Diameter (inches)	Max. Manhole Spacing (feet)
6 - 15	500
16 - 30	800
36 - 48	1000
≥54	2000

Attachment C – Justification for Variance from Maximum Manhole Spacing. The maximum spacing between manholes on this project (for each pipe diameter used) is

greater than listed in the table above. A justification for any variance from the maximum spacing is attached, and must include a letter from the entity which will operate and maintain the system stating that it has the capability to maintain lines with manhole spacing greater than the allowed spacing.
17. 🗌 All manholes will be monolithic, cast-in-place concrete.
The use of pre-cast manholes is requested for this project. The manufacturer's specifications and construction drawings, showing the method of sealing the joints, are attached.
Site Plan Requirements
Items 18 - 25 must be included on the Site Plan.
18. \square The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = <u>100</u> '.
19. The Site Plan must include the sewage collection system general layout, including manholes with station numbers, and sewer pipe stub outs (if any). Site plan must be overlain by topographic contour lines, using a contour interval of not greater than ten feet and showing the area within both the five-year floodplain and the 100-year floodplain of any drainage way.
20. Lateral stub-outs:
☐ The location of all lateral stub-outs are shown and labeled.☐ No lateral stub-outs will be installed during the construction of this sewer collection system.
21. Location of existing and proposed water lines:
 ☐ The entire water distribution system for this project is shown and labeled. ☐ If not shown on the Site Plan, a Utility Plan is provided showing the entire water and sewer systems.
There will be no water lines associated with this project.
22. 100-year floodplain:
After construction is complete, no part of this project will be in or cross a 100-year floodplain, either naturally occurring or manmade. (Do not include streets or concrete-lined channels constructed above of sewer lines.) After construction is complete, all sections located within the 100-year floodplain will have water-tight manholes. These locations are listed in the table below and ar shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)
Table 2 - 100 Vanu Flandulain

Table 3 - 100-Year Floodplain

Line	Sheet	Station
n/a	n/a	n/a

floodp concre After c be enc table b	onstruction is complain, either naturall te-lined channels compossible compassed in concrete or ellow and are show	olete, no part of this y occurring or man- onstructed above so olete, all sections lo capped with concr on and labeled on th onstructed above so	made. (Do not ince ewer lines.) cated within the 5- ete. These location e Site Plan. (Do no	lude streets or year floodplain will
Table 4 - 5-Yea	r Floodplain	Sheet		 Station
n/a		n/a		n/a
<u> </u>	daries of the site a	·		, u
Items 26 - sheets. 26. All existing sewer line rated pipe variance frapproval for the map of the m	g or proposed waters are listed in the tate to be installed shown the required prom 30 TAC Chapter be no water line crube no water lines w	able below. These I wn on the plan and ressure rated piping er 290.	the Plan an any parallel water ines must have the profile sheets. An at crossings must osed sewer lines.	d Profile lines within 9 feet of type of pressure y request for a include a variance
Line	Station or Closest Point	Crossing or Parallel	Horizontal Separation Distance	Vertical Separation Distance
WWL-P	1+22.00	CROSSING	N/A	2.0'
WWL-Q	21+15.01	CROSSING	N/A	2.1'
WWL-R	1+22.00	CROSSING	N/A	8.8'
WWL-Z	1+29.43	CROSSING	N/A	5.5'
WWL-Z	6+75.01	CROSSING	N/A	2.2'
27. Vented Manho	oles:			

No part of this sewer line is within the 100-year floodplain and vented manholes are

not required by 30 TAC Chapter 217.

will be proven listed in the listed in the listed in the listed in the means of vector at listed A portion of listed listed in the listed in the listed in the listed listed in the listed listed in the listed listed listed in the listed list	ive means is described of this sewer line is within ger than 1500 feet locate	oot intervals. These wat I on the appropriate pro the 100-year floodplair at less than 1500 feet in on the following page. the 100-year floodplair	er-tight manholes are file sheets. If and an alternative tervals. A description of this is no
Line	Manhole	Station	Sheet
n/a	n/a	n/a	n/a
Sewer lines than 24 inch	iate profile sheets. Thes)(H).	ting manholes or "manh nvert are listed in the ta	ble below and labeled or
Line	Manhole Manhole	Station	Sheet
WWL-Q	4'	12+47.42	74
WWL-Q	4'	15+22.35	74
WWL-R	4'	5+77.78	76
The placeme No sewer lir collection sy 30. Lateral stub-outs (F	or proposed private servent and markings of all lad	ewer line stub-outs are stalled during the constitution of the constitution of the connections of the connections of the connection of the	ruction of this sewage wn and labeled.
			roduce flows equal to or
32. Maximum flow velo Assuming pi of less than Attachment	pes are flowing full, all so or equal to 10 feet per so D – Calculations for Slo suming pipes are flowing	ndix A) lopes are designed to posecond for this system/lipes for Flows Greater T	ne. han 10.0 Feet per

greater than 10 feet per second. These locations are listed in the table below. Calculations are attached.

Table 8 - Flows Greater Than 10 Feet per Second

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

33. Assuming pipes are flowing full, where flows are ≥ 10 feet per second, the provisions noted

below have been made to protect against pipe displacement by erosion and/or shock under 30 TAC §217.53(I)(2)(B).
Concrete encasement shown on appropriate Plan and Profile sheets for the locations listed in the table above.
Steel-reinforced, anchored concrete baffles/retards placed every 50 feet shown on
appropriate Plan and Profile sheets for the locations listed in the table above.

Administrative Information

- 34. The final plans and technical specifications are submitted for TCEQ review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.
- 35. Standard details are shown on the detail sheets, which are dated, signed, and sealed by the Texas Licensed Professional Engineer, as listed in the table below:

Table 9 - Standard Details

 \bowtie N/A

Standard Details	Shown on Sheet
Lateral stub-out marking [Required]	n/a
Manhole, showing inverts comply with 30 TAC §217.55(I)(2) [Required]	90
Alternate method of joining lateral to existing SCS line for potential future connections [Required]	n/a
Typical trench cross-sections [Required]	90
Bolted manholes [Required]	n/a
Sewer Service lateral standard details [Required]	90
Clean-out at end of line [Required, if used]	n/a
Baffles or concrete encasement for shock/erosion protection [Required, if flow velocity of any section of pipe >10 fps]	n/a
Detail showing Wastewater Line/Water Line Crossing [Required, if crossings are proposed]	89
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) [Required, if Flexible Pipe is used]	90
Drop manholes [Required, if a pipe entering a manhole is more than 24 inches above manhole invert]	90

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

Signature

fees.

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

Print Name of Licensed Professional Engineer: Alejandro E. Granados Rico P.E.

Date: <u>June 11th 2024</u>

Place engineer's seal here:



Alejandro E. Granda Rico

Signature of Licensed Professional Engineer:

Appendix A-Flow Velocity Table

Flow Velocity (Flowing Full) All gravity sewer lines on the Edwards Aquifer Recharge Zone shall be designed and constructed with hydraulic slopes sufficient to give a velocity when flowing full of not less than 2.0 feet per second, and not greater than 10 feet per second. The grades shown in the following table are based on Manning's formula and an n factor of 0.013 and shall be the minimum and maximum acceptable slopes unless provisions are made otherwise.

Table 10 - Slope Velocity

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

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

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

Figure 1 - Manning's Formula



Engineer's Design Report

This Engineering Design Report has been prepared to comply with the Texas Commission on Environmental Quality Design Criteria for Domestic Wastewater Systems, 30 TAC Chapter 217, including 217.10 of Subchapter A, §§217.51 – 217.70 of Subchapter C, and Subchapter D as applicable. Please note that throughout this application, the more stringent of AWU or TCEQ regulations shall apply.

Project Description

Introduction

Colony at Cole Springs Phase 2 is an undeveloped 42.23 acre property located near the intersection of Cole Springs Road and Old Black Colony Road, within the city limits of Buda, Texas. The proposed Colony at Cole Springs Phase 2 project includes the construction of 179 single family homes with associated roadway, water, wastewater, and drainage improvements to support the project. The portion of this project that is within the recharge and contributing zone within the transition zone includes 18.62 acres and proposes 8.34 acres (44.79%) of impervious cover.

This project is located within the Onion Creek Watershed. A portion of this site is located in the Federal Emergency Management Agency's 100-year floodplain according to FIRM 48209C0280F, dated September 2, 2005. The site is located within the Edwards Aquifer Recharge Zone and Contributing Zone within the Transition Zone according to the City of Austin and Edward's Aquifer GIS databases. There are no critical water quality zones and or critical environmental features located on-site. The overall site for Phase 2 consists of 42.23 acres of undeveloped land.

On-site infrastructure is comprised of water, gas, electric, wastewater, and storm sewer lines. The wastewater service outlined in this report will consist of seven (7) lines that will convey wastewater to one lift station, proposed with The Colony at Cole Springs Phase 1 and eventually will travel via an 8" force main to an existing manhole off of Old Black Colony Road. All lines will consist of single and double service connections to homes that are proposed per this development. All proposed manholes shall be watertight, with watertight rings and covers.

Pipe Design

Flow Design Basis

Service for the build-out of the 42.23 ac 179 single family homes, Phase 2 site, located at Cole Springs Rd and Old Black Colony Rd, will be served by this wastewater system. The City of Austin Utility Criteria Manual (UCM) was used to determine the parameters for the design of the wastewater line system. See Appendix B for the map illustrating the property to be served by this wastewater line system and Appendix C for the calculations (as approved by the City of Austin).

Gravity Pipe and Joint Materials

The proposed pipe to be used for the 8" wastewater line will be ASTM D3034 SDR-26 PVC pipe (cell class 12454). The joints for this pipe shall meet the requirements of ASTM D3212. The pipe joints shall have an integral bell and rubber gasket seal with the locked-in type gasket.



Separation Distances for Water and Wastewater

A 26-foot minimum horizontal separation is maintained between all proposed wastewater infrastructure and proposed water lines. There are 4 water line crossings which do not meet the nine-foot minimum vertical separation. Cement-stabilized sand backfill has been provided at these locations. See Table 5 – Water Crossings for all water line crossings. It is not feasible to provide nine-feet of vertical separation at waterline crossings due to depth limitations. In most cases, the crossing water line would need to be above the finished grade, or approximately twenty-feet below grade in order to meet the nine-foot separation requirement.

Service Connections

Service connections have been included for each of the 179 proposed single-family homes.

Boring and Tunneling of Crossings

No boring or tunneling of crossings are proposed for this project.

Corrosion Potential

PVC pipe will be utilized for or all proposed wastewater lines. No deterioration of the proposed pipe or its associated components is anticipated in this application.

Odor Control

All flows contributing to the proposed wastewater lines are from single family developments generating domestic sewage. There are no proposed lift stations in this phase, and no odor control proposed.

Active Geologic Faults

Per the Geologic Assessment, no active geologic faults were located within the area of the project.

Capacity Analysis

The capacity of each proposed wastewater segment is calculated below based on Manning's Equation. The calculation for each segment is based on the minimum proposed slope.

$$Q = \frac{1.49}{n} * A * R^{0.67} * S^{0.5}$$

Where:

Qfull = flow rate of fluid in pipe at full flow (ft³/s) (cfs)

Q90%= flow rate of fluid in pipe at 90% full flow (ft³/s) (cfs)

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

d = internal pipe diameter (ft) = Do – 2t

Do = outside diameter (in) t = pipe wall thickness (in)

n = Manning's Roughness coefficient = 0.013

Rfull = hydraulic radius of pipe (full flow) = A/P = D/4 (ft)

R90% = hydraulic radius of pipe (90% full flow) = 0.9*A/P = 0.9*D/4 (ft)



P = wetted perimeter of pipe = π *D (ft)

S = slope of energy line

Pipes	Length	Slope	Slope	Diam	eter	Pipe	Manningla	Р	Α	Rfull	R90%	Qfull	Q90%	Vfull	V90%
Pipes	ft	%	ft/ft	in	ft	Material	Manning's	ft	sf	ft	ft	cfs	cfs	fps	fps
0-1	402	0.45	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.81	0.73	2.31	2.08
0-2	488	0.75	0.008	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.04	0.94	2.99	2.69
O-3	29	0.75	0.008	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.04	0.94	2.99	2.69
0-4	92	0.75	0.008	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.04	0.94	2.99	2.69
P-1	88	2.75	0.028	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	2.00	1.80	5.72	5.15
Q-1	127	1.70	0.017	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.57	1.41	4.50	4.05
Q-2	200	1.33	0.013	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.39	1.25	3.98	3.58
Q-3	400	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
Q-4	347	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
Q-5	87	2.25	0.023	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.81	1.63	5.18	4.66
Q-6	87	2.25	0.023	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.81	1.63	5.18	4.66
Q-7	100	2.25	0.023	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.81	1.63	5.18	4.66
Q-8	225	7.00	0.070	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	3.19	2.87	9.13	8.22
Q-9	152	2.50	0.025	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.90	1.71	5.46	4.91
Q-10	381	3.25	0.033	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	2.17	1.95	6.22	5.60
Q-11	10	3.25	0.033	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	2.17	1.95	6.22	5.60
R-1	86	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
R-2	124	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
R-3	155	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
R-4	112	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
R-5	244	5.00	0.050	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	2.69	2.42	7.72	6.94
R-6	135	5.00	0.050	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	2.69	2.42	7.72	6.94
Y-1	295	0.34	0.003	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.70	0.63	2.01	1.81
Y-2	73	0.34	0.003	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.70	0.63	2.01	1.81
Y-3	218	0.34	0.003	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.70	0.63	2.01	1.81
Y-4	355	0.34	0.003	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.70	0.63	2.01	1.81
Y-5	187	0.34	0.003	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.70	0.63	2.01	1.81
Z-1	300	0.50	0.005	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	0.85	0.77	2.44	2.20
Z-2	303	0.75	0.008	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.04	0.94	2.99	2.69
Z-3	79	0.75	0.008	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.04	0.94	2.99	2.69
AA-1	54	2.00	0.020	8.00	0.67	PVC	0.013	2.09	0.35	0.17	0.15	1.70	1.53	4.88	4.39

Pipe	Minimum Velocity	Maximum Velocity
Type	fps	fps
8" PVC	2.01	9.13

The proposed wastewater line installed at the slope specified provides capacity in excess of the calculated peak wet weather design flows at full flow and 90% full flow conditions.

Structural Analysis

Flexible pipe is proposed on this project. Structural calculations are provided for the flexible pipe to be installed. The proposed collection system piping is designed to have a minimum structural life of 50 years. As previously mentioned, all proposed PVC pipe shall be cell class 12454 with a tensile strength of 7,000 psi.

Live Load Calculations - no significant live loads are anticipated on any segment of this project.

Buckling Pressure - the following equations utilized for the calculation of buckling pressure are taken from the Handbook of PVC Pipe: Design and Construction (Uni-Bell PVC Pipe Association, 2001).

Pcr =
$$\frac{2*E}{(1-v^2)*(DR-1)^3}$$
 (Equation 7.14)

Pb =
$$1.15*\sqrt{Pcr*E}$$
 (Equation 7.18)



H = (Pb*144)/w (Equation 6.7)

Where:

Pcr = critical buckling pressure (psi)

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

v = Poisson's Ratio = 0.38 for PVC

DR = dimension ratio

Pb = buckling pressure in soil (psi)

E' = modulus of soil reaction (psi) = 2,000 psi for crushed rock compacted to greater than 95% relative

density

H = maximum allowable cover height of soil (ft)

w = weight of soil (lbs/ft³) = 120 lbs/ft³

8" ASTM D3034 SDR-26

$$Pcr = \frac{2*400,000}{(1-0.38^2)*(26-1)^3}$$

Pcr = 59.84 psi

Pb =
$$1.15 * \sqrt{59.84 * 2,000}$$

Pb = 397.84 psi

H = (397.84*144) / 120

H = 477.41 ft height of soil to cause pipe buckling

Prism Load Calculations - the following equations utilized for the calculation of prism loads are taken from the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001).

 $P = H^*w$ (Equation 6.7)

Where:

P = prism load pressure due to soil weight (lbs/ft²)

H = depth of pipe (ft)

 $w = soil density (lbs/ft^3) = 120 lbs/ft^3$

8" ASTM D3034 SDR-26

P = 20 * 120

 $P = 2,400 \text{ lbs/ft}^2 \text{ or } 16.67 \text{ psi}$



Long Term Deflection Calculations - the following equations utilized for the calculation of long term deflection are taken from the Handbook of PVC Pipe: Design and Construction (Uni-Bell PVC Pipe Association, 2001).

$$\Delta Y/D = \frac{DL*K*P+K*W_{\perp}}{[2E/(3(DR-1)^3)]+0.061*E'}*100 \qquad \textit{(Equation 7.10)}$$

Where:

 $\Delta Y/D$ = long term deflection (%)

DL = Deflection Lag Factor = 1.0 for prism load calculation

K = bedding constant = 0.096 for 90°

P = prism load pressure due to soil weight (lbs/ft²)

 $W_1 =$ live load (psi) = 0 psi

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

DR = dimension ratio

E' = modulus of soil reaction (psi) = 2,000 psi for crushed rock bedding compacted to greater than 95% relative density

Note: Leonhardt's Zeta factor is assumed to equal 1, and thus is not required in the calculation. This is a conservative assumption that results in a more conservatively calculated value for long term deflection.

8" ASTM D3034 SDR-26

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

 $\Delta Y/D = 1.15\%$

Wall Crushing Calculations - the following equations utilized for the calculation of wall crushing are taken from the Handbook of PVC Pipe: Design and Construction (Uni-Bell PVC Pipe Association, 2001).

$$Py = \frac{\Theta c * 2 * A}{D}$$
 (Equation 7.20)

$$H = Py / w$$
 (Equation 6.7)

Where:

Py = pressure due to soil weight (psi)

 Θc = compressive stress (psi) = 4,000 psi for PVC pipe

A= surface area of the pipe wall (in²/in)

D = mean pipe diameter (in) = Do - t



t = pipe wall thickness (in)

H = maximum allowable height of cover (ft)

w = soil density (lbs/ft3) = 120 lbs/ft3

8" ASTM D3034 SDR-26

Do = 8.4 - 0.323 = 8.077 in, A = 3.88 in 2 /ft (0.323 in * 12 in/ft)

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

Py = 320.25 psi

H = (320.25*144) / 120

H = 384.30 ft height of soil to cause wall crushing

Strain Calculations - the following equations utilized for the calculation of strain are taken from the Handbook of PVC Pipe: Design and Construction (Uni-Bell PVC Pipe Association, 2001).

$$\epsilon h = \frac{P*D}{2*t*E}$$
(Equation 7.22)

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

$$\varepsilon = \varepsilon h + \varepsilon f$$
 (Equation 7.25)

Where:

εh = maximum strain in the pipe wall due to hoop stress (in/in)

P = prism load pressure due to soil weight (psi)

D = mean pipe diameter (in) = Do - t

t = pipe wall thickness (in)

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

ef = maximum strain in the pipe due to ring deflection or flexure (in/in)

 $\Delta Y/D$ = long term deflection

 ϵ = maximum combined strain in pipe wall (in/in)

8" ASTM D3034 SDR-26

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

 $\epsilon h = 0.00052 \text{ in/in}$

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

 $\varepsilon f = 0.0014 \text{ in/in}$



 $\varepsilon = 0.00035 + 0.0014$

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

Per the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001), deflection test samples have experienced a pipe wall strain of up to 0.025 in/in and have not "showed any failures or cracks". The calculated strains for this project are significantly below this level, so no failure due to strain is anticipated.

Pipe Stiffness Calculation - the following equations utilized for the calculation of pipe stiffness are taken from the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001).

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

Where:

Ps = pipe stiffness (psi)

DR = Dimensional Ration = Do / t

Do = Outside diameter (in)

t = pipe wall thickness (in)

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

8" ASTM D3034 SDR-26

DR = 26

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

Ps = 115 psi

Criteria for Laying Pipe

Pipe Embedment

Bedding and initial backfill material selection and installation will be carried out in accordance with applicable governing procedures contained within the *City of Austin Standard Specifications for Pipes and Appurtenances, TCEQ Chapter 217.54(a),* and in accordance with the detail on sheet 89. Bedding material shall be in accordance with City of Austin Standard Specification Item 510, Section 510.3(14). Compacted backfill, from a point one (1) foot above the pipe to the finished surface, will be comprised of suitable material removed during excavation, as described in Item 510, Section 510.2(6). Brush, debris, and junk shall not be utilized as a backfilling material.

Compaction

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



Envelope Size

Envelope size will be in accordance with *City of Austin Standard Specifications for Pipes and Appurtenances* and *TCEQ Chapter 217.54(c)*. Per the detail on sheet 89, a minimum of 6-inch and maximum of 12-inch space shall be allowed between the outside diameter of the pipe and the trench wall and floor. In addition, a minimum of 6-inch and maximum of 12-inch space shall be allowed between the outside diameter of the pipe bell and the trench wall. The embedment and initial backfill must be installed to a minimum depth of 12 inches above the crown of the pipe.

Trench Width

Trench width will be in accordance with the detail on sheet 89 and *TCEQ Chapter 217.54(d)*. Per the detail on sheet 89, a minimum of 6-inch and maximum of 12-inch space shall be allowed between the outside diameter of the pipe and the trench wall and floor. In addition, a minimum of 6-inch and maximum of 12-inch space shall be allowed between the outside diameter of the pipe bell and the trench wall. These limits shall be maintained to protect the structural integrity of the pipe and will be sufficient for the placement of materials and use of compaction equipment in the pipe zone.

Manholes and Related Structures

Manhole and Appurtenance Placement

Manholes are located at all points of change in alignment or grade and at the intersection of all pipes for this project.

Manhole Stub Outs

No manholes are being placed at the end of a line that may be extended in the future, so no stub outs are included on this project.

Cleanouts

No dead end lines are included in this project, so no cleanouts are proposed.

Manhole Material

Monolithic or precast manholes are acceptable for the contractor to utilize and are included in the City of Austin Detail 506S-10 on sheet 90. The use of bricks is not acceptable for the manhole or for cover adjustments.

Manhole Spacing

Manhole spacing meets the requirements of Table C.2 in TCEQ Chapter 217.55.

Manholes within Waterways

No manholes will be located within flow paths of waterways or in areas where water ponding is probable.

Manhole Covers, Inlets, and Bases

Per the COA detail 506S-10 sheet 90, the manhole covers shall have a 30-inch diameter clear opening. Manhole covers shall be constructed of cast iron and have no openings for water to infiltrate. No proposed manholes are located within the 100-year flood plain. All manholes shall be watertight, with watertight rings and covers, as shown per the detail on sheet 90.



As shown in the project details, the bottom of the manhole shall have a U-shaped channel to provide smooth continuation between the inlet and outlet pipes. For the proposed pipe, the manhole channel depth shall be equal to at least half the largest pipe diameter. Manholes with different pipe sizes shall have the tops of the pipes at the same elevation and flow channels in the invert sloped evenly from pipe to pipe. A bench will be provided above each manhole channel to slope at a minimum of 0.5 inches per foot.

Manhole Steps

No steps shall be allowed in any proposed manholes.

Manhole Connections

Manhole-pipe connections shall be watertight per City of Austin pipe to manhole connector SPL WW-146D. See detail 506S-10 on Sheet 90.

Manhole Venting

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

Trenchless Pipe Installation

There will be no trenchless pipe installation.

Testing Requirements for Gravity Pipes

Infiltration/Exfiltration and Low Pressure Air Test

All testing will be in compliance with Texas Administrative Code title 30 Part 1 Chapter 217 Subchapter C 217.57 and 217.58. See TCEQ note on Sheet 3.

Infiltration and exfiltration or low pressure air testing in accordance with ASTM C828, C924 or F1417 are required for all proposed gravity wastewater pipe as specified in the project notes, Sheet 2. The requirements specified are in accordance with *TCEQ Chapter 217.57*.

Deflection Testing

For the proposed 8-inch wastewater line, deflection shall be measured with a rigid mandrel per the project detail on Sheet 2. The requirements specified are in accordance with *TCEQ Chapter 217.57*.

Owner Inspection

The Owner shall have an inspector onsite during construction of the project. A professional engineer registered in the state of Texas (Alejandro E. Granados Rico, P.E.) shall be present to witness the testing of the wastewater lines.

Testing Requirements for Manholes

Manhole testing in accordance with *TCEQ Chapter 217.58* is specified in the project notes, sheet 2. Manholes will be tested after assembly and backfilling for leakage by either a hydrostatic test and/or a vacuum test.



For the vacuum test, all lift holes and exterior joints shall be plugged with an approved non-shrink grout and no grout shall be placed in horizontal joints before testing. All pipes entering the manhole shall be plugged, taking care to securely brace the plugs from being drawn into the manhole. Stubouts, manhole boots and pipe plugs shall be secured to prevent movement while the vacuum is drawn. A minimum 60-inch/lb torque wrench shall be used to tighten the external clamps that secure the test cover to the top of the manhole. The test head shall be placed at the inside of the top of the cone section and the seal inflated in accordance with the manufacturer's recommendation. A vacuum of 10 inches of mercury shall be drawn and the vacuum pump shut off. With the valves closed, the time shall be measured for the vacuum to drop to 9 inches of mercury. The manhole shall pass if the time is greater than 2 minutes. If the manhole fails the initial test, necessary repairs shall be made with a non-shrink grout while the vacuum is still being drawn. If the manhole fails a second time, repairs should again be made and the manhole shall be tested by means of a hydrostatic test. If any manhole fails the hydrostatic test, after failing the vacuum test twice, the contractor should consider replacing that manhole. If the contractor chooses to attempt to repair that manhole, the manhole must be retested by means of the hydrostatic test until it passes.

Inspection will be provided during critical phases of construction by a qualified inspector under the direction of a P.E. (Alejandro E. Granados Rico, P.E.). Critical phases of construction are deemed at a minimum to include testing of pipe and manholes for leakage and testing of flexible pipe for installed deflection.

TCEQ approval letters for plans and specifications review contain the requirement that once the project is completed, a P.E. registered in the state of Texas (Alejandro E. Granados Rico, P.E.) much certify that the construction was performed substantially in accordance with the approved plans and specifications.

Notification and Inspection

TCEQ Chapter 213 requires that the applicant must provide written notification to the Austin regional office at least 48 hours prior to commencing construction on the regulated activity. If any sensitive feature is discovered during construction, then the work shall be suspended immediately and the Austin regional office shall be notified to then determine the appropriate course of action. All other notification and inspection requirements identified in TCEQ Chapter 213.5(c) shall be met.



SECTION 5: TEMPORARY STORMWATER SECTION

Temporary Stormwater Section

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(A), (B), (D)(I) and (G); Effective June 1, 1999

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

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

Signature

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

Print Name of Customer/Agent: Alejandro E. Granados Rico, P.E. Date: June 11, 2024

Signature of Customer/Agent: Alejandro E. Granda Rier

Regulated Entity Name: The Colony at Cole Springs Phase 2

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.

L.	construction:
	☐ The following fuels and/or hazardous substances will be stored on the site:
	These fuels and/or hazardous substances will be stored in:
	Aboveground storage tanks with a cumulative storage capacity of less than 250 gallons will be stored on the site for less than one (1) year.
	Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.

		Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.
	\boxtimes	Fuels and hazardous substances will not be stored on the site.
2.		Attachment A - Spill Response Actions . A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.
3.		Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.
4.		Attachment B - Potential Sources of Contamination . A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.
Se	equ	uence of Construction
5.		Attachment C - Sequence of Major Activities . A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.
		 For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given. For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.
6.		Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: N/A
Te	em	porary Best Management Practices (TBMPs)
sta cor bas	ıbiliz nstru sins.	n control examples: tree protection, interceptor swales, level spreaders, outlet ration, blankets or matting, mulch, and sod. Sediment control examples: stabilized uction exit, silt fence, filter dikes, rock berms, buffer strips, sediment traps, and sediment. Please refer to the Technical Guidance Manual for guidelines and specifications. All ural BMPs must be shown on the site plan.
7.	\boxtimes	Attachment D – Temporary Best Management Practices and Measures. TBMPs and
		measures will prevent pollution of surface water, groundwater, and stormwater. The construction-phase BMPs for erosion and sediment controls have been designed to retain sediment on site to the extent practicable. The following information is attached:
		A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.

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

	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.
\boxtimes	N/A
12.	Attachment I - Inspection and Maintenance for BMPs. A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.
13.	All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.
14.	If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
15. 🔀	Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.
16. 🔀	Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).
Soil	Stabilization Practices
mulchi	les: establishment of temporary vegetation, establishment of permanent vegetation, ng, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, or vation 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.

11. Attachment H - Temporary Sediment Pond(s) Plans and Calculations. Temporary

sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a

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 erosi	ion and sediment controls will be
constructed and maintained as appropriate to prevent	pollutants from entering
sensitive features discovered during construction.	



Spill Response Actions

If there is an accidental spill on site, the contractor shall respond with appropriate action. The contractor will be required to contact the owner and in turn the owner will contact the TCEQ in the event of a spill on site. In addition to the following guidance, reference the latest version of TCEQ's Technical Guidance Manual (TGM) RG-348 Section 2.4.16.

Cleanup

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

Minor Spills

- Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.
- Use absorbent materials on small spills rather than hosing down or burying the spill.
- Absorbent materials should be promptly removed and disposed of properly.
- Follow the practice below for a minor spill:
 - Contain the spread of the spill.
 - Recover spilled materials.
 - Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities.

Spills should be cleaned up immediately:

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

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

- Notify the TCEQ by telephone as soon as possible and within 24 hours at (512)339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.
- For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.



- Notification should first be made by telephone and followed up with a written report.
- The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
- Other agencies which may need to be consulted include, but not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.



Potential Sources of Contamination

Potential Source: Oil, grease, fuel, and hydraulic fluid contamination from construction equipment and vehicle dripping.

Preventative Measures: Vehicle maintenance will be performed within the construction staging area or a local maintenance shop.

Potential Source: Miscellaneous trash and litter from construction workers and material wrappings.

Preventative Measures: Trash containers will be placed throughout the site to encourage proper disposal of trash.

Potential Source: Silt leaving the site.

Preventative Measures: Contractor will install all temporary best management practices prior to start of construction including the stabilized construction entrance to prevent tracking onto adjoining streets.

Potential Source: Construction Debris.

Preventative Measures: Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.

Potential Source: Soil and Mud from Construction Vehicle tires as they leave the site.

Preventative Measures: A stabilized construction exit shall be utilized as vehicles leave the site. Any soil, mud, etc. carried from the project onto public roads shall be cleaned up within 24 hours.

Potential Source: Sediment from soil, sand, gravel and excavated materials stock piled on site.

Preventative Measures: Silt fence shall be installed on the down gradient side of the stock piled materials. Reinforced rock berms shall be installed at all downstream discharge locations.

Potential Source: Portable toilet spill.

Preventative Measures: Toilets on the site will be emptied on a regular basis by the contracted toilet company.



Sequence of Major Activities

The installation of erosion and sedimentation controls shall occur prior to any excavation of materials or major disturbances on the site. The sequence of major construction activities will be as follows. Approximate acreage to be disturbed is listed in parentheses next to each activity.

Intended Schedule or Sequence of Major Activities:

- 1. Construct Access (<u>0.05</u> Acres)
- 2. Installation of Temporary BMPs (18.62 Acres)
- 3. Initiate Grubbing and Topsoil Stripping of Site (18.62 Acres)
- 4. Rough Subgrade Preparation (earthwork, grading, street and drainage excavation and embankment) (18.62 Acres)
- 5. Wet and Dry Utility Construction (<u>3</u> Acres)
- 6. Final Subgrade Preparation (<u>3</u> Acres)
- 7. Installation of Base Materials (<u>2.5</u> Acres)
- 8. Concrete (foundations, curbs, flatwork) (<u>2.5</u> Acres)
- 9. Paving Activities (2.5 Acres)
- 10. Topsoil, Irrigation and Landscaping (18.62 Acres)
- 11. Site cleanup and Removal of Temporary BMPs (18.62 Acres)

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



Temporary Best Management Practices and Measures

- **A.** No storm water originates up gradient that impacts the site.
- **B.** Temporary BMPs will be installed prior to soil disturbing construction activity. Silt fencing will be placed along the down-gradient sides of the property to prevent silt from escaping the construction area. A temporary construction entrance will be placed on site to reduce vehicle "tracking" onto adjoining streets. A concrete washout pit will be used to collect all excess concrete during construction. A spoils and staging area will be designated as part of the temporary best management practices.

BMPs for this project will protect surface water or groundwater from turbid water, phosphorus, sediment, oil, and other contaminants, which may mobilize in storm water flows by slowing the flow of runoff to allow sediment and suspended solids to settle out of the runoff.

Practices may also be implemented on site for interim and permanent stabilization. Stabilization practices may include but are not limited to: establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of existing trees and vegetation, and other similar measures.

- **C.** There are no sensitive features or surface streams within the boundaries of the project. The temporary onsite BMPs will be used to treat stormwater runoff before it leaves the project and prevent pollutants from entering into surface streams or any sensitive features down-gradient of the site.
- **D.** The BMPs for this project are designed to allow water to pass through after sedimentation has occurred. Existing flow patterns will be maintained to any naturally occurring sensitive features that are discovered during construction.

Temporary runoff protection measures will be installed according to the recommendations made in Chapter 1 of RG-348. Temporary erosion control will be placed as close to the site of construction soil disturbance as possible to minimize any disturbance with drainage areas. Frequent inspections of erosion controls will be warranted near the environmentally sensitive features, especially after every rainfall.



Request To Temporarily Seal a Feature

The permanent sealing of or diversion of flow from a naturally-occurring "sensitive" or "possibly sensitive" feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed for any naturally occurring "sensitive" or "possibly sensitive" features on this site.



Structural Practices

Structural BMPs will be used to limit runoff discharge of pollutants from exposed areas of the site. BMPs will be installed prior to soil disturbing construction activity. Silt fencing will be placed along the downgradient sides of the property to prevent silt from escaping the construction area. A temporary construction entrance will be placed at the site entry/exit point to reduce tracking onto adjoining streets. A construction staging area will be used onsite to perform all vehicle maintenance and for equipment and material storage. A concrete truck washout pit will be placed on site to provide containment and easier cleanup of waste from concrete operations. The location of all structural temporary BMP's are shown on the erosion control plan sheet and details and specifications are provided on the erosion control details sheet which can be found at the end of this report under Section 8.

Description of Temporary BMPs

Temporary Construction Entrance/Exit

The purpose of a temporary gravel construction entrance is to provide a stable entrance/exit condition from the construction site and keep mud and sediment off public roads. A stabilized construction entrance is a stabilized pad of crushed stone located at any point traffic will be entering or leaving the construction site from a public right-of-way, street, alley, sidewalk or parking area. The purpose of a stabilized construction entrance is to reduce or eliminate the tracking or flowing of sediment onto public rights-of-way. This practice should be used at all points of construction ingress and egress.

Excessive amounts of mud can also present a safety hazard to roadway users. To minimize the amount of sediment loss to nearby roads, access to the construction site should be limited to as few points as possible and vegetation around the perimeter should be protected where access is not necessary. A rock stabilized construction entrance should be used at all designated access points.

Inspection and Maintenance Guidelines:

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

Silt Fence

The purpose of a silt fence is to intercept and detain water-borne sediment from unprotected areas of a limited extent. Silt fence is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Silt fence should not be used where there is a concentration of water in a channel or drainage way. If concentrated flow occurs after installation, corrective action must be taken such as placing a rock berm in the areas of concentrated flow.

Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.



Inspection and Maintenance Guidelines:

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

Concrete Washout Area

The purpose of concrete washout areas is to prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout offsite, performing onsite washout in a designated area, and training employees and subcontractors.

The following steps will help reduce stormwater pollution from concrete wastes:

- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
- Avoid mixing excess amounts of fresh concrete.
- Perform washout of concrete trucks in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped onsite, except in designated areas.
- For onsite washout:
- Locate washout area at least 50 feet from sensitive features, storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.

Below grade concrete washout facilities are typical. These consist of a lined excavation sufficiently large to hold expected volume of washout material. Above grade facilities are used if excavation is not practical. Temporary concrete washout facility (type above grade) should be constructed as shown on the details at the end of this section, with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations. Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.

When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and disposed of. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and disposed of. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.



Rock Berm

The purpose of a rock berm is to serve as a check dam in areas of concentrated flow, to intercept sediment-laden runoff, detain the sediment and release the water in sheet flow. The rock berm should be used when the contributing drainage area is less than 5 acres. Rock berms are used in areas where the volume of runoff is too great for a silt fence to contain. They are less effective for sediment removal than silt fences, particularly for fine particles, but are able to withstand higher flows than a silt fence. As such, rock berms are often used in areas of channel flows (ditches, gullies, etc.). Rock berms are most effective at reducing bed load in channels and should not be substituted for other erosion and sediment control measures further up the watershed.

Inspection and Maintenance Guidelines:

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

Inlet Protection

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

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

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

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

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

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



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

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

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

Inspection and Maintenance Guidelines:

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



Drainage Area Map

There are two areas greater than 10 acres within a common drainage area that will be disturbed at one time. An existing and proposed drainage area map is provided at the end of this report in Section 8 to support the aforementioned requirement.



Temporary Sediment Pond(s) Plans and Calculations

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

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

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

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

Sites With Drainage Areas Less than Ten Acres

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

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

Proposed Sedimentation Basin Calculations

A batch detention pond will serve as storage for on-site and off-site drainage for Colony Phase 2 (as shown on the approved Colony Cole Springs Phase 1 Pond 2 Plan) during the construction phase. The total drainage area includes 67.17 acres (167.57 acres from Phase 2 + 50.60 acres from Phase 1) and generates a volume of 241,812 ft³. The proposed detention pond (Pond 2) will contain a volume of 397,970 ft³, thus the constructed detention ponds will be adequately sized required for sedimentation purposes.



Inspection and Maintenance for BMPs

Personnel Responsible for Inspections

The agent that performs the inspections should be knowledgeable of this general permit, familiar with the construction site, and knowledgeable of the SWPPP for the site. The contractor is to provide an inspector with a CPESC, CESSWI, or CISEC certification. Documentation of the inspector's qualifications is to be included in the attached Inspector Qualifications Log.

Inspection Schedule

□ Option 1: Once every seven calendar days. If this alternative schedule is developed, then the inspection must occur regardless of whether or not there has been a rainfall event since the previous inspection.
 □ Option 2: Once every 14 calendar days and within 24 hours of the end of a storm event of two inches or greater.

The inspections may occur on either schedule provided that documentation reflects the current schedule and that any changes to the schedule are conducted in accordance with the following provisions: the schedule may be changed a maximum of one time each month, the schedule change must be implemented at the beginning of a calendar month, and the reason for the schedule change must be documented (e.g., end of "dry" season and beginning of "wet" season).

If option 2 is the chosen frequency of inspections a rain gauge must be properly maintained on site or the storm event information from a weather station that is representative of the site location. For any day of rainfall during normal business hours that measures 0.25 inches or greater, proper documentation of the total rainfall measured for that day must be recorded. Personnel provided by the permittee must inspect:

- disturbed areas of the construction site that have not been finally stabilized;
- areas used for storage of materials that are exposed to precipitation:
- structural controls (for evidence of, or the potential for, pollutants entering the drainage system);
- sediment and erosion control measures identified in the SWP3 (to ensure they are operating correctly); and
- locations where vehicles enter or exit the site (for evidence of off-site sediment tracking).

Reductions in Inspection Frequency

Where sites have been finally or temporarily stabilized or where runoff is unlikely due to winter conditions (e.g. site is covered with snow, ice, or frozen ground exists), inspections must be conducted at least once every month. In arid, semi-arid, or drought-stricken areas, inspections must be conducted at least once every month and within 24 hours after the end of a storm event of 0.5 inches or greater. A record of the total rainfall measured, as well as the approximate beginning and ending dates of winter or drought conditions resulting in monthly frequency of inspections in the attached Rain Gauge Log.

In the event of flooding or other uncontrollable situations which prohibit access to the inspection sites, inspections must be conducted as soon as access is practicable.

Inspection Report Forms

Use the Inspection Report Forms given as a checklist to ensure that all required areas of the construction site are addressed. There is space to document the inspector's name as well as when the inspections regularly take place. The tables will document that the required area was inspected. (If there were any areas of concern, briefly describe them in this space with a more detailed description in the narrative section. Use the last table to document any discharges found during the inspections). Describe how effective the installed BMPs are performing. Describe any BMP failures that were noted during the investigation and describe any maintenance required due to the failure. If new BMPs are



needed as the construction site changes, the inspector can use the space at the bottom of the section to list BMPs to be implemented before the next inspection.

Describe the inspector's qualifications, how the inspection was conducted, and describe any areas of non-compliance in detail. If an inspection report does not identify any incidents of non-compliance, then it must contain a certifying signature stating that the facility or site is in compliance. The report must be signed by a person and in a manner required by 30 TAC 305.128. There is space at the end of the form to allow for this certifying signature.

Whenever an inspection shows that BMP modifications are needed to better control pollutants in runoff, the changes must be completed within seven calendar days following the inspection. If existing BMPs are modified or if additional BMPs are needed, you must describe your implementation schedule, and wherever possible, make the required BMP changes before the next storm event.

The Inspection Report Form functions as the required report and must be signed in accordance with TCEQ rules at 30 TAC 305.128.

Corrective Action

Personnel Responsible for Corrective Actions

Both Primary and Secondary Operators are responsible for maintaining all necessary Corrective Actions. If an individual is specifically identified as the responsible party for modifying the contact information for that individual should be documented in the attached Inspector Qualifications Log.

Corrective Action Forms

The Temporary BMPs must be modified based on the results of inspections, as necessary, to better control pollutants in runoff. Revisions must be completed within seven (7) calendar days following the inspection. If existing BMPs are modified or if additional BMPs are necessary, an implementation schedule must be described in the attached forms and wherever possible those changes implemented before the next storm event. If implementation before the next anticipated storm event is impracticable, these changes must be implemented as soon as practicable. Actions taken as a result of inspections must be properly documented by completing the corrective action forms given.

Schedule of Interim and Permanent Soil Stabilization

Construction practices shall disturb the minimal amount of existing ground cover as required for land clearing, grading, and construction activity for the shortest amount of time possible to minimize the potential of erosion and sedimentation from the site. Existing vegetation shall be maintained and left in place until it is necessary to disturb for construction activity. For this project the following stabilization practices will be implemented:

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

Records of the following shall be maintained:

- a) The dates when major grading activities occur;
- b) The dates when construction activities temporarily or permanently cease on a portion of the site; and
- c) The dates when stabilization measures are initiated.

Stabilization measures must be initiated as soon as practical in portions of the site where construction activities have temporarily or permanently ceased, and except as provided in the following, must be initiated no more that fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased:



Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions, stabilization measures must be initiated as soon as practical.

Where construction activity on a portion of the site is temporarily ceased and earth disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures do not have to be initiated on that portion of the site.

In arid areas (areas with an average rainfall of 0-10 inches), semiarid areas (areas with an average annual rainfall of 10 to 20 inches), and areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonably arid conditions, stabilization measures must be initiated as soon as practical.

Maintenance

Below are some maintenance practices to be used to maintain erosion and sediment controls:

- All measures will be maintained in good working order. The operator should correct any damage or deficiencies as soon as practicable after the inspection, but in no case later than seven (7) calendar days after the inspection.
- BMP Maintenance (as applicable)
- Sediment must be removed from sediment traps and sedimentation ponds no later than the time that design capacity has been reduced by 50%. For perimeter controls such as silt fences, berms, etc., the trapped sediment must be removed before it reaches 50% of the above-ground height.
- Silt fence will be inspected for depth of sediment, tears, to see of the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
- Drainage swale will be inspected and repaired as necessary.
- Inlet control will be inspected and repaired as necessary.
- Check dam will be inspected and repaired as necessary.
- Straw bale dike will be inspected and repaired as necessary.
- Diversion dike will be inspected and any breaches promptly repaired.
- Temporary and permanent seeding and planting will be inspected for bare spots, washouts, and healthy growth.
- If sediment escapes the site, accumulations must be removed at a frequency that minimizes offsite impacts, and prior to the next rain event, if feasible. If the permittee does not own or operate the off-site conveyance, then the permittee must to work with the owner or operator of the property to remove the sediment.
- Locations where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking.

To maintain the above practices, the following will be performed:

• Maintenance and repairs will be conducted before the next anticipated storm event or as necessary to maintain the continued effectiveness of storm water controls. Following an inspection, deficiencies should be corrected no later than seven (7) calendar days after the inspection.



Inspector Qualifications Log*

Inspector Name:
Qualifications (Check as appropriate and provide description):
□ Training Course
□ Supervised Experience
□ Other
Inspector Name:
Qualifications (Check as appropriate and provide description):
☐ Training Course
□ Supervised Experience
□ Other
Inspector Name:
Qualifications (Check as appropriate and provide description):
□ Training Course
□ Supervised Experience
□ Other
Inspector Name:
Qualifications (Check as appropriate and provide description):
□ Training Course
□ Supervised Experience
□ Other
Inspector Name:
Qualifications (Check as appropriate and provide description):
□ Training Course
□ Supervised Experience
□ Other
Inspector Name:
Qualifications (Check as appropriate and provide description):
□ Training Course
□ Supervised Experience
□ Other

^{*} The agent that performs the inspections should be knowledgeable of this general permit, familiar with the construction site, and knowledgeable of the SWPPP for the site. The contractor is to provide an inspector with a CPESC, CESSWI, or CISEC certification.



Amendment Log

No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]



Construction Activity Sequence Log

Name of Operator	Projected dates Month/year	Activity Disturbing Soil clearing, excavation, etc.	Location on-site where activity will be conducted	Acreage being disturbed

^{*}Construction activity sequences for linear projects may be conducted on a rolling basis. As a result, construction activities may be at different stages at different locations in the project area. The Contractor is required to complete and update the schedule and adjust as necessary.



Stormwater Control Installation and Removal Log

Stormwater Control	Location On-Site	Installation Date	Removal Date



Stabilization Activities Log

Date Activity Initiated	Description of Activity	Description of Stabilization Measure and Location	Date Activity Ceased (Indicate Temporary or Permanent)	Date When Stabilization Measures Initiated

Stabilization and erosion control practices may include, but are not limited to: establishing temporary or permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, and protecting existing trees and vegetation. List practices used where they are located, when they will be implemented, and whether they are temporary (interim) or permanent.



Inspection Frequency Log

Date	Frequency Schedule and Reason for Change



Rain Gauge Log

Date	Location of Rain Gauge	Gauge Reading



General Information								
Name of Project				Tracking No.		Inspection Date		
Inspector Name, T Contact Information								
Present Phase of Co	onstruction							
Inspection Location inspections are require location where this instead being conducted)	ed, specify							
Standard Frequ Increased Frequ Reduced Frequ - Once per n	Inspection Frequency Standard Frequency:							
If yes, how did y ☐ Rain gauge on	Was this inspection triggered by a 0.25" storm event? ☐ Yes ☐ No If yes, how did you determined whether a 0.25" storm event has occurred? ☐ Rain gauge on site ☐ Weather station representative of site. Specify weather station source: Total rainfall amount that triggered the inspection (in inches):							
If "yes", con	ine that any mplete the f	portion of your site w			No			
- Location(s) where condi	tions were found:						



Condition and Effectiveness of Erosion and Sediment (E&S) Controls						
Type/Location of E&S Control	Repairs or Other Maintenance Needed?	Corrective Action Required?	Date on Which Maintenance or Corrective Action First Identified?	Notes		
1.	□Yes □No	□Yes □No				
2.	□Yes □No	□Yes □No				
3.	□Yes □No	□Yes □No				
4.	□Yes □No	□Yes □No				
5.	□Yes □No	□Yes □No				
6.	□Yes □No	□Yes □No				
7.	□Yes □No	□Yes □No				
8.	□Yes □No	□Yes □No				
9.	□Yes □No	□Yes □No				
10.	□Yes □No	□Yes □No				



	Condition and Effectiveness of Pollution Prevention (P2) Practices						
Type/Location of P2 Practices	Repairs or Other Maintenance Needed?	Corrective Action Required?	Identification Date	Notes			
1.	□Yes □No	□Yes □No					
2.	□Yes □No	□Yes □No					
3.	□Yes □No	□Yes □No					
4.	□Yes □No	□Yes □No					
5.	□Yes □No	□Yes □No					
6.	□Yes □No	□Yes □No					
7.	□Yes □No	□Yes □No					
8.	□Yes □No	□Yes □No					
9.	□Yes □No	□Yes □No					
10.	□Yes □No	□Yes □No					



Stabilization of Exposed Soil						
Stabilization Area	Stabilization Method	Have You Initiated Stabilization?	Notes			
1.		☐ YES ☐ NO If yes, provide date:				
2.		☐ YES ☐ NO If yes, provide date:				
3.		☐ YES ☐ NO If yes, provide date:				
4.		☐ YES ☐ NO If yes, provide date:				
5.		☐ YES ☐ NO If yes, provide date:				
	Description of	Discharges				
	ner discharge occurring from any paint information for each point of dischar	rt of your site at the time of the inspec rge:	ction?			
Discharge Location	Observations					
1.	Describe the discharge:					
	At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and/or sediment accumulation that can be attributed to your discharge? Yes No If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue:					
2.	Describe the discharge:					
	At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and/or sediment accumulation that can be attributed to your discharge? Yes No If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue:					
3.	Describe the discharge:					
	signs of erosion and/or sediment accum	and banks of surface waters in the immedia ulation that can be attributed to your discha- location(s) where these conditions were for e action is needed to resolve the issue:	arge? 🗌 Yes 🔲 No			



Contractor or Subcontractor Certification and Signature	
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in a to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the p system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possil knowing violations."	person or persons who manage the knowledge and belief, true,
Signature of Contractor or Subcontractor:	Date:
Printed Name and Affiliation:	
Certification and Signature by Permittee	
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in a to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the p system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possil knowing violations."	person or persons who manage the knowledge and belief, true,
Signature of Permittee or "Duly Authorized Representative": I	Date:
Printed Name and Affiliation:	



Section A — Initial Report (Complete this section <u>within 24 hours</u> of discovering the condition that triggered corrective action)					
Name of Project	Tracking N	No.		Today's Date	
Date Problem First Disco	overed		Time Problem Firs	t Discovered	
Name and Contact Inform	nation of Individual Completing this				
☐ A required stormwate ☐ The stormwater cont	gered the requirement to conduct corre er control was never installed, was insta rols that have been installed and maint ge has occurred or is occurring	alled incorrectly	y, or not in accordan ffective enough for tl	ce with the requirements in Part 2 ne discharge to meet applicable wa	and/or 3 ater quality standards
Provide a description of t	the problem:				
	corrective action (Enter date that is eit. ork within the first 7 days, enter the da				the problem, or (2) if it is
	completion falls after the 7-day deadlin d for making the new or modified storm				7 days, and (2) why the
	Section (Complete this section <u>no later than 7 c</u>		ctive Action Progre er discovering the cond		
Section B.1 – Why the	Problem Occurred				
Cause(s) of Problem (Ade	d an additional sheet if necessary)		How This Was Det	ermined and the Date You Determ	nined the Cause
1.			1.		
2.	2. 2.				
3.			3.		
Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem					
List of Stormwater Contr Problem (Add an additio	ol Modification(s) Needed to Correct nal sheet if necessary)	Completion Date	SWPPP Update Necessary?	Notes	
1.			□Yes □No Date:		
2.			☐Yes ☐No Date:		
3.			□Yes □No Date:		



Section A – Initial Report (Complete this section <u>within 24 hours</u> of discovering the condition that triggered corrective action)						
Name of Project	Tracking No.			Today's Date		
Date Problem First Disco	vered			Time Problem Firs	t Discovered	
Name and Contact Inform	nation of Individual Completin	g this				
☐ A required stormwater ☐ The stormwater contr	gered the requirement to condu er control was never installed, w cols that have been installed and ge has occurred or is occurring	vas installed	incorrectly	, or not in accordanc fective enough for th	ce with the requirements in Part 2 ne discharge to meet applicable w	2 and/or 3 ater quality standards
Provide a description of t	he problem:					
	corrective action (Enter date th ork within the first 7 days, ente				ays after the date you discovered lowing the 7th day):	l the problem, or (2) if it is
	completion falls after the 7-day I for making the new or modific				nfeasible to complete work withir onest practicable timeframe:	17 days, and (2) why the
	(Complete this section <u>no later</u>	Section E	3 – Correc dar days afte	ctive Action Progr r discovering the condi	ess tion that triggered corrective action)	
Section B.1 – Why the	Problem Occurred					
Cause(s) of Problem (Add	d an additional sheet if necessar	ry)		How This Was Det	ermined and the Date You Deterr	nined the Cause
1.	1.					
2.	2.					
3.			3.			
Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem						
List of Stormwater Contr Problem (Add an addition	ol Modification(s) Needed to Co nal sheet if necessary)	orrect Co Da	mpletion ite	SWPPP Update Necessary?	Notes	
1.				□Yes □No Date:	-	•
2.				□Yes □No Date:		
3.				□Yes □No Date:	-	-



Contractor or Subcontractor Certification and Signature			
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of maccurate, and complete. I am aware that there are significant penalties for submitting false information, including the posknowing violations."	e person or persons who manage the y knowledge and belief, true,		
Signature of Contractor or Subcontractor:	Date:		
Printed Name and Affiliation:			
Certification and Signature by Permittee			
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."			
Signature of Permittee or "Duly Authorized Representative":	Date:		
Printed Name and Affiliation:			



SECTION 6: ADDITIONAL FORMS

Agent Authorization Form

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

I	Derek Baker
	Print Name
	Area President
	Title - Owner/President/Other
of	M/I HOMES OF AUSTIN
	Corporation/Partnership/Entity Name
have authorized	Alejandro E. Granados Rico, P.E.
	Print Name of Agent/Engineer
of	Kimley-Horn and Associates
	Print Name of Firm

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

I also understand that:

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

SIGNATURE PAGE:

Applicant's Signature

6/17/24 Date

THE STATE OF <u>TEXAS</u> §

County of TRAVIS §

BEFORE ME, the undersigned authority, on this day personally appeared <u>Derek Baker</u> 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 17 day of UNE 2024

NOTARY PUBLIC

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 09.29.2024

ALISON MCMANN
Notary Public, State of Texas
Comm. Expires 09-29-2024
Notary ID 130842098

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: <u>The Colony at Cole Springs Phase 2</u> Regulated Entity Location: Cole Springs Rd and Old Black Colony Rd

Name of Customer: M/I Homes of Austin, LLC

Contact Person: Kyle Kriegel Phone: <u>512-770-8524</u>

Customer Reference Number (if issued): 604305250

Regulated Entity Reference Nun	nber (if issued):N11	1401139	
Austin Regional Office (3373)			
	Travis		Williamson
San Antonio Regional Office (33	362)		
Bexar	Medina		Uvalde
Comal	☐ Kinney		
Application fees must be paid by	y check, certified ch	eck, or money	order, payable to the Texas
Commission on Environmental	Quality. Your cance	eled check wil	I serve as your receipt. This
form must be submitted with y	our fee payment.	Γhis payment i	is being submitted to:
Austin Regional Office		San Antor	nio Regional Office
Mailed to: TCEQ - Cashier		Overnight	t Delivery to: TCEQ - Cashier
Revenues Section		12100 Pa	rk 35 Circle
Mail Code 214		Building <i>F</i>	A, 3rd Floor
P.O. Box 13088		Austin, Tک	< 78753
Austin, TX 78711-3088		(512)239-	-0357
Site Location (Check All That Ap	pply):		
Recharge Zone	Contributing	Zone	Transition Zone

Mechange Zone	contributing zone	Z ITalis	tion Zone
Type of Pl	lan	Size	Fee Due
Water Pollution Abatement Pla Plan: One Single Family Resider	,	Acres	\$
Water Pollution Abatement Pla Plan: Multiple Single Family Res	,	Acres	\$
Water Pollution Abatement Pla Plan: Non-residential	n, Contributing Zone	Acres	
Sewage Collection System		5,935 LF	\$2,967.50
Lift Stations without sewer lines	S	Acres	\$
Underground or Aboveground S	Storage Tank Facility	Tanks	\$
Piping System(s)(only)		Each	\$
Exception		Each	\$
Extension of Time		Each	\$

Signature: Alejandro E. Franda O.

Date: June 11, 2024

Application Fee Schedule

Texas Commission on Environmental Quality

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

Project	Cost per Linear Foot	Minimum Fee- 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



Core Data Form

If new Customer, enter previous Customer below:

10. DUNS Number (if

applicable)

9. Federal Tax ID

(9 digits)



TCEQ Core Data Form

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

(SOS) or Texas Comptroller of Public Accounts (CPA).

M/I Homes of Austin, LLC

0801672376

7. TX SOS/CPA Filing Number

6. Customer Legal Name (If an individual, print last name first: eg: Doe, John)

SECTION 1: General Information					
1. Reason for Submission (If other is checked please de	escribe in space provided.)				
New Permit, Registration or Authorization (Core Dat	a Form should be submitted with	the program application.)			
Renewal (Core Data Form should be submitted with	the renewal form)	☑ Other			
2. Customer Reference Number (if issued)	Follow this link to search for CN or RN numbers in	3. Regulated Entity Reference Number (if issued)			
CN 604305250	Central Registry**	RN 111401139			
SECTION II: Customer Information					
4. General Customer Information 5. Effe	ctive Date for Customer Info	mation Updates (mm/dd/yyyy)			
☐ 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 here may be updated automatically based on what is current and active with the Texas Secretary of State					

☐ Individual Partnership: \square General \square Limited 11. Type of Customer: Government: \square City \square County \square Federal \square Local \square State \square Other ☐ Sole Proprietorship Other: 12. Number of Employees 13. Independently Owned and Operated? \boxtimes 0-20 $\ \square$ 21-100 $\ \square$ 101-250 $\ \square$ 251-500 $\ \square$ 501 and higher ☐ Yes ■ No 14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following Owner & Operator **⊠**Owner Operator Other: Occupational Licensee Responsible Party 7600 N. Capital of Texas Highway, Building C ite 250 15. Mailing Address: City Austin State TX ZIP 78731 ZIP + 4**16. Country Mailing Information** (if outside USA) 17. E-Mail Address (if applicable) 18. Telephone Number 19. Extension or Code 20. Fax Number (if applicable)

8. TX State Tax ID (11 digits)

32049298139

TCEQ-10400 (11/22) Page 1 of 3

(512) 770-8503	() -

SECTION III: Regulated Entity Information

21. General Regulated En	tity Informa	ation (If 'New Re	gulated Entity" is se	lected, a new p	ermit applica	ition is also	o required.)		
☐ New Regulated Entity	Update to	Regulated Entity	Name 🛚 Updat	e to Regulated	Entity Inform	nation			
The Regulated Entity Nar as Inc, LP, or LLC).	ne submitte	ed may be upda	ited, in order to n	neet TCEQ Col	re Data Stai	ndards (r	emoval of o	rganizatioi	nal endings such
22. Regulated Entity Nam	ne (Enter nam	ne of the site whe	re the regulated act	ion is taking plo	ace.)				
The Colony at Cole Springs P	hase 2								
23. Street Address of the Regulated Entity:									
(No PO Boxes)	City	Buda	State	TX	ZIP	78610		ZIP + 4	
24. County	Hays County								
If no Street Address is provided, fields 25-28 are required.									
25. Description to Physical Location:	Turn onto Cole Springs Rd from FM 1626 and go 1.25 miles on Cole Springs Road								
26. Nearest City						State		Nea	rest ZIP Code
Buda					TX			78610	
Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).									
27. Latitude (N) In Decim	al:	30.080681		28. L	ongitude (W	V) In Deci	imal:	-97.85822	17
Degrees	Minutes		Seconds	Degre	ees	N	Minutes		Seconds
29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)		Code	31. Primai (5 or 6 digit	. Primary NAICS Code			condary NAICS Code digits)	
6514 53111									
33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)									
Single Family Residential Dev	velopment								
34. Mailing	501 S. Austin Ave, Suite 1310								
J4. Walling	501 S. Aus	oun Ave, Suite 13							
Address:	501 S. Aus	tim Ave, Suite 13							
	City	Georgetown	State	TX	ZIP	78626		ZIP + 4	
	City	· -	State	тх	ZIP	78626		ZIP + 4	
Address:	City	Georgetown	State				er (if applical		

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

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Municipal S	Solid Waste	New Source Review Air	OSSF			Petroleum Storage Tank	☐ PWS	
Sludge		Storm Water	☐ Title V Air			Tires	Used Oil	
☐ Voluntary (Cleanup	☐ Wastewater	☐ Wastewater Agriculture			Water Rights	Other:	
SECTION IV: Preparer Information								
40. Name: Alex Granados		41. Title:	: P.E.					
42. Telephone Number 43. Ext./Code 44. Fax Number			45. E-N	45. E-Mail Address				
(512)782-0602			alex.granados@kimley-horn.com					

☐ Emissions Inventory Air

☐ Industrial Hazardous Waste

Edwards Aquifer

SECTION V: Authorized Signature

Districts

☐ Dam Safety

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Kimley-Horn	anager			
Name (In Print):	Alex Granados	Phone:	(512) 520- 6078		
Signature:	Alejandro E. Granda lies			Date:	4/9/2024

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SECTION 7: EXHIBITS

PLAN SUBMITTAL/REVIEW LOG

1ST SUBMITTAL TO CITY

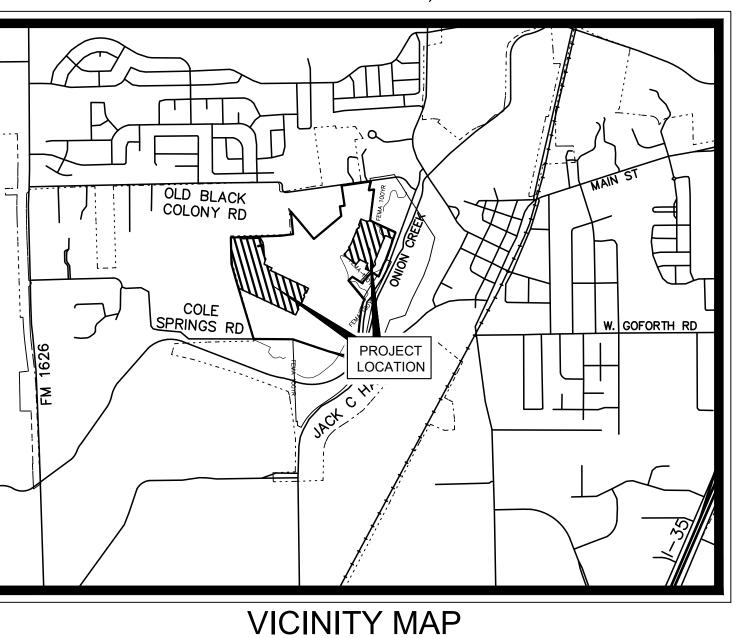
02/05/2024

CIVIL CONSTRUCTION PLANS PAVING, GRADING & UTILITIES FOR

THE COLONY PHASE 2

CITY OF BUDA, HAYS COUNTY, TEXAS BUDA MUD NO.1

33.04 ACRES, HIRAM CUMMINGS SURVEY, A-108, PHILLIPS J. ALLEN SURVEY, A-1 & S.V.R. EGGLESTON SURVEY, A-5 IN HAYS COUNTY, TEXAS



FEBRUARY 2024

SCALE: 1" = 2,000'

		DE ///	010110100				
		REVI	SIONS/CC	RRECTIONS	5		.
NO.	DESCRIPTION	REVISE (R) VOID (V) ADD (A) SHEET NO.'S	TOTAL NO. SHEETS IN PLAN SET	NET CHANGE IMP. COVER (SQ. FT.)	TOTAL SITE IMP. COVER (SQ. FT.)/%	CITY OF BUDA APPROVAL DATE	DATE IMAGED

GENERAL PLAN NOTES:

- 1. A PORTION OF PHASE 2 OF THE DEVELOPMENT IS LOCATED WITHIN A REGULATORY FEMA SPECIAL FLOOD HAZARD AREA, OR THE 100-YEAR FLOODPLAIN. FIRM PANEL NO. 48209CO280F, HAYS COUNTY, TEXAS AND INCORPORATED AREAS (DATED SEPTEMBER 2, 2005).
- 2. RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.
- 3. ALL PORTIONS OF THIS SITE ARE OVER THE EDWARDS AQUIFER RECHARGE ZONE, TRANSITION ZONE OR THE CONTRIBUTING ZONE WITHIN THE TRANSITION ZONE.
- 4. CONTRACTOR SHALL CONTACT INFRAMARK (O&M MANAGER) AT 14050 SUMMIT DRIVE SUITE 113A, AUSTIN, TX 78728 (512-246-0498) AND MURFEE ENGINEERING COMPANY AT 512-327-9204, AT LEAST (3) DAYS PRIOR TO BEGINNING CONSTRUCTION OF PROPOSED IMPROVEMENTS OR MAKING ANY CONNECTION TO THE EXISTING WASTEWATER COLLECTION AND STORM DRAINAGE SYSTEM. FAILURE TO SUCCESSFULLY PROVIDE NOTICE OF WORK MAY RESULT IN RE-EXCAVATION AND/OR REMOVAL OF INSTALLED FACILITIES.
- 5. THERE ARE TREES GREATER THAN 8" CALIPER WITHIN PHASE 1 OF THE
- 6. ALL PROPOSED ELEVATIONS (SPOT GRADES AND CONTOURS) ARE TO FUTURE TOP OF GROUND AND PAVEMENT. CONTRACTOR TO CONSTRUCT ROADWAYS AND R.O.W. TO FINAL TOP OF PAVEMENT, CURB, AND GROUND ELEVATIONS PER THESE PLANS. CONTRACTOR TO VERIFY EXISTING TOP OF SUBGRADE ELEVATIONS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER IMMEDIATELY IF ANY DISCREPANCIES.
- 7. ALL WASTEWATER SERVICES TO BE EXTENDED 5' BEYOND THE PROPOSED 10' UTILITY EASEMENT.
- 8. ENTIRE SITE IS LOCATED WITHIN BUDA CITY LIMITS AND BUDA ETJ
- . PHASE 2 OF THE COLONY AT COLE SPRINGS MEETS THE REQUIREMENTS OF THE DEVELOPMENT AGREEMENT.
- 9. HOA/MUD SHALL BE RESPONSIBLE FOR MAINTENANCE OF WATER QUALITY PONDS.

OWNER/DEVELOPER

MERITAGE HOMES
12301 RESEARCH BLVD.
BLDG 4, SUITE 400
AUSTIN, TX 78759
TEL: (512) 610-4816
CONTACT: BRANDON HAMMANN

MI HOMES OF AUSTIN, LLC 7600 N. CAPITAL OF TEXAS HIGHWAY BUILDING C, SUITE #250 AUSTIN, TEXAS 78731 TEL: (512) 770-8503 CONTACT: ROYCE RIPPY

ENGINEER

Kimley» Horn

GEORGETOWN, TEXAS 78626 Fax No. (512) 418-1791 CERTIFICATE OF REGISTRATION #928 CONTACT: ALEJANDRO E. GRANADOS RICO, P.E.

SURVEYOR

GREG MOSIER
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 6330
601 NW LOOP 410
SUITE 350
SAN ANTONIO, TEXAS 78216
TEL: (210) 541-9166
GREG.MOSIER@KIMLEY-HORN.COM

APPROVED BY:

CITY OF BUDA	DATE
BUDA FIRE DEPARTMENT	DATE

DATE

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

SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2 3	GENERAL NOTES (SHEET 1 OF 2) GENERAL NOTES (SHEET 2 OF 2)
4	PRELIMINARY PLAT (SHEET 1 OF 7)
5	PRELIMINARY PLAT (SHEET 2 OF 7) PRELIMINARY PLAT (SHEET 3 OF 7)
7	PRELIMINARY PLAT (SHEET 4 OF 7)
8	PRELIMINARY PLAT (SHEET 5 OF 7)
9	PRELIMINARY PLAT (SHEET 6 OF 7) PRELIMINARY PLAT (SHEET 7 OF 7)
10 11	PHASING PLAN
12	PARKLAND HOA HATCHING
13 14	EXISTING CONDITIONS & DEMOLITION PLAN
15	EROSION CONTROL PLAN TREE LIST
16	OVERALL TREE PLAN
17	GRADING PLAN (SHEET 1 OF 4) GRADING PLAN (SHEET 2 OF 4)
18 19	GRADING PLAN (SHEET 2 OF 4) GRADING PLAN (SHEET 3 OF 4)
20	GRADING PLAN (SHEET 4 OF 4)
21	PAVING PLAN & PROFILE - ANTIOCH CHURCH DR.
22	PAVING PLAN & PROFILE - ANTIOCH SCHOOL LN. PAVING PLAN & PROFILE - MAGGIE REVADA ST.
24	PAVING PLAN & PROFILE - ALLEY A
25	PAVING PLAN & PROFILE - ALLEY B (SHEET 1 OF 2) PAVING PLAN & PROFILE - ALLEY B (SHEET 2 OF 2)
26 27	PAVING PLAN & PROFILE - ALLEY B (SHEET 2 OF 2) PAVING PLAN & PROFILE - ALLEY D & ALLEY E
28	PAVING PLAN & PROFILE - ONION CREEK WAY
29	PAVING PLAN & PROFILE - ANTIOCH COLONY DR. (SHEET 1 OF 3) PAVING PLAN & PROFILE - ANTIOCH COLONY DR. (SHEET 2 OF 3)
30	PAVING PLAN & PROFILE - ANTIOCH COLONY DR. (SHEET 2 OF 3) PAVING PLAN & PROFILE - ANTIOCH COLONY DR. (SHEET 3 OF 3)
32	PAVING PLAN & PROFILE - BEARD WAY
33	PAVING PLAN & PROFILE - CHAMP AVE.
34	PAVING PLAN & PROFILE - WADING CREEK ST. PAVING PLAN & PROFILE - YANCY LN.
36	PAVING PLAN & PROFILE - FIRE ACCESS DRIVE
37	EXISTING DRAINAGE AREA MAP
38	PROPOSED DRAINAGE AREA MAP INLET DRAINAGE AREA MAP (SHEET 1 OF 3)
40	INLET DRAINAGE AREA MAP (SHEET 2 OF 3)
41	INLET DRAINAGE AREA MAP (SHEET 3 OF 3)
42	DRAINAGE CALCULATIONS (SHEET 1 OF 4) DRAINAGE CALCULATIONS (SHEET 2 OF 4)
44	DRAINAGE CALCULATIONS (SHEET 3 OF 4)
45	DRAINAGE CALCULATIONS (SHEET 4 OF 4)
46	STORM PLAN & PROFILE SD-A STA. 13+28 - 21+50 STORM PLAN & PROFILE SD-A STA. 21+50 - END
48	STORM PLAN & PROFILE SD-D
49	STORM PLAN AND PROFILE SD-E & SD-FF STORM PLAN & PROFILE SD-G
50 51	STORM PLAN & PROFILE SD-G STORM PLAN AND PROFILE SD-GG & SD-HH
52	STORM PLAN AND PROFILE SD-L & SD-N
53 54	STORM PLAN AND PROFILE SD-M STORM PLAN AND PROFILE SD-R & SD-X
55	STORM LATERAL PROFILES (SHEET 1 OF 5)
56	STORM LATERAL PROFILES (SHEET 2 OF 5)
57 58	STORM LATERAL PROFILES (SHEET 3 OF 5) STORM LATERAL PROFILES (SHEET 4 OF 5)
59	STORM LATERAL PROFILES (SHEET 5 OF 5)
60	OVERALL WATER PLAN
61 62	WATER PLAN & PROFILE - WL-F (SHEET 1 OF 2) WATER PLAN & PROFILE - WL-F (SHEET 2 OF 2)
63	WATER PLAN & PROFILE - WL-G
64	WATER PLAN & PROFILE - WL-H
65 66	WATER PLAN & PROFILE - WL-Q WATER PLAN & PROFILE - WL-R (SHEET 1 OF 3)
67	WATER PLAN & PROFILE - WL-R (SHEET 2 OF 3)
68 69	WATER PLAN & PROFILE - WL-R (SHEET 3 OF 3) WATER PLAN & PROFILE - WL-V
69 70	OVERALL WASTEWATER PLAN
71	WASTEWATER PLAN & PROFILE WWL-O (SHEET 1 OF 2)
72 73	WASTEWATER PLAN & PROFILE WWL-O (SHEET 2 OF 2) & WWL-P WASTEWATER PLAN & PROFILE WWL-Q (SHEET 1 OF 3)
74	WASTEWATER PLAN & PROFILE WWL-Q (SHEET 2 OF 3)
75	WASTEWATER PLAN & PROFILE WWL-Q (SHEET 3 OF 3)
76	WASTEWATER PLAN & PROFILE WWL-R WASTEWATER PLAN & PROFILE WWL-Y (SHEET 1 OF 2)
77 78	WASTEWATER PLAN & PROFILE WWL-Y (SHEET 2 OF 2)
79	WASTEWATER PLAN & PROFILE WWL-Z
80	WASTEWATER PLAN & PROFILE WWL-AA STREET LIGHT & SIGN PLAN (SHEET 1 OF 2)
81 82	STREET LIGHT & SIGN PLAN (SHEET 1 OF 2) STREET LIGHT & SIGN PLAN (SHEET 2 OF 2)
83	EROSION CONTROL DETAILS
84	PAVING DETAILS (SHEET 1 OF 4) PAVING DETAILS (SHEET 2 OF 4)
85 86	PAVING DETAILS (SHEET 2 OF 4) PAVING DETAILS (SHEET 3 OF 4)
87	PAVING DETAILS (SHEET 4 OF 4)
88 89	STORM DRAIN DETAILS
89 90	WATER DETAILS WASTEWATER DETAILS

CONSTRUCTION PLAN APPROVAL SHEET ___ OF _90

FILE NUMBER ___ APPLICATION DATE

APPROVED BY COMMISSION ON ___ N/A __ UNDER THE CITY OF BUDA UNIFIED DEVELOPMENT CODE.

EXPIRATION DATE ___ CASE MANAGER

City Engineer, City of Buda

RELEASED FOR GENERAL COMPLIANCE: ___ ZONING ___ N/A

Rev. 1 ___ Correction 1

Rev. 2 ___ Correction 2

Rev. 3 ___ Correction 3

Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

PERMIT NUMBER:

HE COLONY
PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

SHE

- CONTRACTOR SHALL CONTACT THE CITY OF BUDA'S ENGINEER (512-312-0084) A MINIMUM OF TWO WORKING DAYS IN ADVANCE OF BLOCKING TRAFFIC LANES AND A MINIMUM OF SIX WORKING DAYS IN ADVANCE OF SCHEDULED DETOURING OF
- CONTRACTOR TO GIVE NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS, OR PERSONS IN CHARGE OF PRIVATE AND PUBLIC UTILITIES AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR TO ASSURE HIMSELF THAT ALL CONSTRUCTION PERMITS HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF WORK. REQUIRED PERMITS THAT CAN BE ISSUED TO CONTRACTOR TO BE OBTAINED AT HIS EXPENSE.
- CONTRACTOR TO COORDINATE INTERRUPTIONS OF ALL UTILITIES AND SERVICES. ALI WORK TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY
- CONTRACTOR TO LOCATE, PROTECT, AND MAINTAIN BENCHMARKS, MONUMENTS CONTROL POINTS, AND PROJECT ENGINEERING REFERENCE POINT, REESTABLISH DISTURBED OR DESTROYED ITEMS BY REGISTERED PUBLIC LAND SURVEYOR IN THE STATE OF TEXAS, AT NO ADDITIONAL COST TO OWNER.
- CONTRACTOR TO CONTROL DUST CAUSED BY THE WORK AND COMPLY WITH POLLUTION CONTROL REGULATIONS OF GOVERNING AUTHORITIES. DUST CONTROL SHALL BE ACHIEVED BY THE APPLICATION OF WATER BY AN APPROVED SPRINKLER IN AMOUNTS SUFFICIENT TO CONTROL THE DUST TO THE SATISFACTION OF THE ENGINEER (NO SEPARATE PAY).
- 8. BURNING IS NOT ALLOWED ON THIS PROJECT.

PUBLIC RIGHT-OF-WAY

REQUIREMENTS AND SPECIFICATIONS

DEMOLITION PERMITS (IF NEEDED) ARE TO BE OBTAINED BY THE CONTRACTOR.

10. ACQUISITION OF RIGHT OF WAY AND/OR EASEMENT IS THE RESPONSIBILITY OF THE

- 1. THE CONTRACTOR IS TO OBTAIN PERMIT PRIOR TO PERFORMING ANY WORK IN THE
- 12. CONTRACTOR SHALL REPAIR ALL STREET CROSSINGS, DRIVEWAYS AND DITCHES TO THEIR ORIGINAL CONDITION OR BETTER. STREET CROSSINGS SHALL BE REPAIRED WITHIN 10 WORKING DAYS AFTER CROSSING IS MADE, UNLESS PRIOR APPROVAL IS
- 1.3. ALL DAMAGE CAUSED DIRECTLY OR INDIRECTLY TO THE STREET SURFACE OR SUBSURFACE OUTSIDE OF THE PAVEMENT CUT AREA SHALL BE REGARDED AS PART OF THE STREET CUT REPAIR. THIS INCLUDES ANY SCRAPES, GOUGES, CUTS, CRACKING, DEPRESSIONS AND/OR ANY OTHER DAMAGE CAUSED BY THE CONTRACTOR DURING THE EXECUTION OF THE WORK. THESE AREAS WILL BE INCLUDED IN THE TOTAL AREA OF REPAIR. THE AREAS OF REPAIR SHALL BE SAW CUT IN STRAIGHT, NEAT LINES PARALLEL TO THE UTILITY TRENCH. ALL REPAIRS SHALL BE AT THE CONTRACTOR'S EXPENSE AND SHALL MEET ALL CITY TESTING
- 14. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATION OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION. (OSHA STANDARDS MAY BE PURCHASED FROM THE GOVERNMENTS PRINTING OFFICE; INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, 611 EAST 6TH STREET, AUSTIN, TX.)
- 15. ALL SITE WORK MUST ALSO COMPLY WITH ENVIRONMENTAL REQUIREMENTS 16. THROUGHOUT THE CONSTRUCTION, AND AT THE COMPLETION OF THE CONSTRUCTION, THE CONTRACTOR IS TO ENSURE THAT DRAINAGE OF STORM WATER RUNOFF IS NOT
- 17. ALL EXCESS EXCAVATED MATERIAL AND SOIL IS TO BECOME PROPERTY OF CONTRACTOR AND TO BE REMOVED FROM SITE. (NO SEPARATE PAY.)
- 18. ALL CULVERTS REMOVED FROM CONSTRUCTION SHALL BE REPLACED TO ORIGINAL GRADE; ROAD DITCH SHALL BE GRADED TO PROVIDE FOR AN EVEN GRADE ANI SECTION BETWEEN EXISTING CULVERTS. ALL CULVERTS SHALL BE CLEAN AND FREE OF DEBRIS DURING AND AFTER CONSTRUCTION.
- 19. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE CITY OF BUDA AND. WHERE POSSIBLE. MEASUREMENTS TAKEN IN THE FIFLD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS AND TO VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES
- 20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO PRIVATE PROPERTY. WHICH OCCURRED AS A RESULT OF ANY PORTION OF THIS PROJECT. ANY DAMAGE) PRIVATE PROPERTY SHALL BE REPAIRED TO EQUAL OR BETTER CONDITION. CONTRACTOR SHALL COORDINATE ALL REPAIRS TO PRIVATE PROPERTY WITH THE PROPERTY OWNER. CONTRACTOR SHALL PAY AND/OR SETTLE WITH PRIVATE PROPERTY OWNER FOR ALL COSTS RELATED TO ANY DAMAGE. THE CITY OF BUDA WILL NOT PROVIDE SEPARATE PAY FOR REPAIR OF ANY DAMAGES, REIMBURSEMENTS

CITY OF BUDA EROSION AND SEDIMENTATION CONTROL NOTES:

- THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR EXCAVATION).
- 2. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE CITY OF AUSTIN'S ENVIRONMENTAL CRITERIA MANUAL AS ADOPTED BY THE CITY OF BUDA.
- TREES DO NOT EXIST WITHIN THE PROJECT LIMITS, AND TREE PROTECTION WILL NOT BE REQUIRED
- A PRE—CONSTRUCTION CONFERENCE SHALL BE HELD WITH THE CONTRACTOR DESIGN ENGINEER/PERMIT APPLICANT AND INSPECTOR AFTER INSTALLATION OF THE FROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTION MEASURÉS AND PRIOR TO BEGINNING ANY SITÉ PREPARATION WORK. THE CONTRACTOR SHALL NOTIFY THE CITY OF BUDA ENGINEERING DEPARTMENT 512-523-1077, AT LEAST THREE DAYS PRIOR TO THE MEETING DATE.
- 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. MINOR CHANGES TO BE MADE AS FIELD REVISIONS TO THE PLAN MAY BE REQUIRED BY THE INSPECTOR DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES.
- THE CONTRACTOR IS REQUIRED 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 THE MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHED SIX (6) INCHES.

ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW. A MINIMUM OF FOUR INCHES OF TOPSOIL SHALL BE PLACED IN ALL DRAINAGE CHANNELS (EXCEPT ROCK) AND BETWEEN THE CURB AND RIGHT-OF-WAY LINE.

THE SEEDING FOR PERMANENT EROSION CONTROL SHALL BE AS SPECIFIED IN THE CITY OF AUSTIN STANDARD SPECIFICATION 604S, AS ADOPTED BY THE CITY OF BUDA.

DUST CONTROL METHODS ARE REQUIRED AS PER CITY OF AUSTIN'S ENVIRONMENTAL CRITERIA MANUAL SECTION 1.4.5.D AS ADOPTED BY THE CITY OF BUDA.

GENERAL CONSTRUCTION NOTES:

PERMANENT EROSION CONTROL:

- THE PROPERTY OWNER IS RESPONSIBLE FOR PROPER OPERATION AND MAINTENANCE OF ON-SITE STORMWATER DETENTION AND WATER QUALITY PONDS
- ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH
- CONTRACTOR IS FULLY RESPONSIBLE FOR FOLLOWING THE REQUIREMENTS OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR ALL SIGNAGE AND WORK IN A PUBLIC OR PRIVATE RIGHT-OF-WAY.
- FOR SLOPES OR TRENCHES GREATER THAN FIVE (5) FEET IN DEPTH, ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION. OSHA STANDARDS MAY BE PURCHASED FROM THE GOVERNMENT PRINTING OFFICE. INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA. 611 EAST 6TH STREET, AUSTIN, TEXAS.
- ALL CONSTRUCTION SHALL COMPLY WITH THE CITY OF BUDA STANDARD SPECIFICATIONS AND DETAILS, AS AMENDED BY SPECIAL PROVISION. CURRENT AT FHE TIME OF BIDDING. IF CITY OF BUDA SPECIFICATIONS ARE NOT AVAILABLE. THE PROJECT WILL FOLLOW CITY OF AUSTIN STANDARD SPECIFICATIONS AND DETAILS.
- CONTRACTOR TO TAKE ALL DUE PRECAUTIONS TO PROTECT EXISTING FACILITIES FROM DAMAGE. ANY DAMAGE TO EXISTING FACILITIES INCURRED AS A RESULT OF THESE CONSTRUCTION OPERATIONS TO BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.

- 7. CONTRACTOR TO GIVE NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS OR PERSONS IN CHARGE OF PRIVATE AND PUBLIC UTILITIES AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR TO MAKE CERTAIN THAT ALL CONSTRUCTION PERMITS THAT CAN ONLY BE ISSUED TO TH CONTRACTOR HAVE BEEN OBTAINED BY THE CONTRACTOR AT ITS EXPENSE PRIOR
- 8. CONTRACTOR TO COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS REGARDING EXCESS AND WASTE MATERIAL. INCLUDING METHODS OF
- 9. CONTRACTOR TO COORDINATE INTERRUPTIONS OF ALL UTILITIES AND SERVICES. ALL WORK TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY COMPANY OR AGENCY INVOLVED.
- 10. LOCATION OF EXISTING UTILITIES SHOWN ON PLANS WAS COMPILED FROM RECORD INFORMATION. NO WARRANTY IS IMPLIED AS TO THE ACTUAL LOCATION OF EXISTING
- 11. WHEN UNLOCATED OR INCORRECTLY LOCATED UNDERGROUND PIPING, OR A BREAK LOCATED IN THE LINE, OR OTHER UTILITIES AND SERVICES ARE ENCOUNTERED DURING SITE WORK OPERATIONS, NOTIFY THE APPLICABLE UTILITY COMPANY IMMEDIATELY TO OBTAIN PROCEDURE DIRECTIONS. COOPERATE WITH THE APPLICABLE UTILITY COMPANY IN MAINTAINING ACTIVE SERVICES IN OPERATION.
- 12. CONTRACTOR TO LOCATE, PROTECT, AND MAINTAIN BENCHMARKS, MONUMENTS, CONTROL POINTS, AND PROTECT ENGINEERING REFERENCE POINTS. RE-ESTABLISH DISTURBED OR DESTROYED ITEMS BY REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS AT NO ADDITIONAL COST TO OWNER.
- 13. NO BLASTING WITHIN 15 FEET OF EXISTING UTILITIES OR STRUCTURES. IF BLASTING IS TO BE USED BY THE CONTRACTOR, A BLASTING PERMIT MUST BE SECURED PRIOR TO COMMENCEMENT OF WORK, BLASTING TO BE IN ACCORDANCE WITH CITY OF BUDA STANDARD SPECIFICATIONS AND CRITERIA OF THE NATIONAL FIRE
- 14. CONTRACTOR TO INSTALL $\frac{1}{2}$ INCH-DIAMETER BY 12-INCH-LONG REBAR VERTICALLY, WITH TWO (2) FEET OF SURVEYOR'S RIBBON ATTACHED AT END OF ALL PIPE STUBS. TOP OF BAR TO BE NOT LESS THAN 12 INCHES ABOVE THE FINISHED RED RIBBON — WASTEWATER LINE

WHITE RIBBON - GAS LINE YELLOW RIBBON - TELECOM DUCT BANK DRANGE RIBBON - ELECTRICAL DUCT BANK

- 15. MAKE CONNECTION BETWEEN NEW AND EXISTING ASPHALT STREETS BY REMOVING EXISTING ASPHALT FROM END BACK UNTIL FULL DEPTH BASE AND HMAC ARE ENCOUNTERED AND HMAC APPEARS TO BE IN SOUND CONDITION. PROVIDE EXPANSION JOINT AND DOWELS WHERE CONNECTING EXISTING CURB TO NEW CURB
- 16. A CURB LAYDOWN IS REQUIRED AT ALL POINTS WHERE THE PROPOSED SIDEWALK
- 17. UNLESS OCCURRING AT AN EXPANSION JOINT, MAKE CONNECTION BETWEEN NEW AND EXISTING SIDEWALK BY EXPOSING AND CLEANING A ONE-FOOT LENGTH OF WELDED WIRE REINFORCEMENT AND LAPPING NEW REINFORCEMENT ONTO THIS
- 18. CONCRETE FOR SITE WORK, OTHER THAN CONCRETE PAVEMENT AND STRUCTURES TO BE CLASS "A" (5-SACK, 3000 PSI @ 28-DAYS) AND ALL REINFORCING STEEL TO BE ASTM A615 60, UNLESS OTHERWISE NOTED, REFER TO GEOTECHNICAL REPORT AND ARCHITECTURAL DRAWINGS FOR PAVEMENT STRUCTURAL
- 19. TREE SURVEY, CONTOURS, AND BENCHMARK INFORMATION SUPPLIED BY OTHERS, ACTUAL LOCATION OF TREES AND ELEVATION OF NATURAL GROUND ON THE PROJECT SITE MAY VARY FROM WHAT IS DEPICTED ON THE PLAN SHEETS KIMLEY-HORN AND ASSOCIATES, INC., IS NOT RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION REGARDING SURVEYS OR BENCHMARK LOCATIONS. BENCHMARKS ARE AS FOLLOWS: SEE THIS SHEET.
- 20. DEMOLITION PERMITS (IF NEEDED) ARE TO BE OBTAINED BY THE CONTRACTOR AT THEIR EXPENSE. **CONSTRUCTION SEQUENCING PER PHASE:**
- 1. INSTALL STABILIZED CONSTRUCTION ENTRANCE, EROSION CONTROLS AND TREE PROTECTION FENCING FOR EACH PHASE PRIOR TO CLEARING AND GRUBBING AND PER APPROVED EROSION AND SEDIMENTATION CONTROL/TREE PROTECTION PLAN. 2. THE CONTRACTOR SHALL ARRANGE AND COORDINATE ACCEPTABLE MEETING TIMES FOR AN ON-SITE PRE-CONSTRUCTION MEETING WITH THE OWNER, PROJECT ENGINEER, RELEVANT CONTRACTORS, RELEVANT UTILITY REPRESENTATIVES, AND THE CITY ENGINEER. AT THIS MEETING. THE CITY SHALL VERIFY THAT ALL EROSION AND SEDIMENT CONTROLS AND TREE PROTECTION ARE IN PLACE. THAT CONSTRUCTION DRAWINGS AND THE SWPPP ARE LOCATED ON SITE. AND THAT THE SWPPP PERMITS HAVE BEEN ISSUED. THE CITY MAY THEN ISSUE THE SUBDIVISION IMPROVEMENT
- BEGIN SITE CLEARING
- 4. CLEAR AND GRUB AND STRIP TOPSOIL. STOCKPILE TOPSOIL FOR LATER USE.
- 5. ROUGH GRADE SITE IN ACCORDANCE WITH PLANS AND SPECIFICATIONS. 6. INSTALL STORM SEWER LINES, APPURTENANCES, AND POND OUTFALL.
- 7. INSTALL TEMPORARY EROSION/SEDIMENTATION CONTROLS ON NEW STORM SEWER 11. A). FIRE HYDRANTS SHALL BE SET IN ACCORDANCE WITH CITY STANDARD
- 8. INSTALL WATER AND WASTEWATER LINES AND APPURTENANCES.
- 9. ENSURE THAT ALL UNDERGROUND UTILITY CROSSINGS ARE COMPLETED.
- 10. COMPLETE GRADING, DRAINAGE AND PAVING. 11. COMPLETE RESTORATION OF SITE VEGETATION.
- 12. PROJECT ENGINEER INSPECTS JOB AND SUBMITS THE ENGINEER'S CONCURRENCE 13. CITY VISITS SITE AND ISSUES CERTIFICATE OF ACCEPTANCE ONLY IF ALL CONSTRUCTION IS IN SUBSTANTIAL CONFORMANCE TO THE PLANS.
- 14. REMOVE AND DISPOSE OF TEMPORARY EROSION CONTROLS WHEN RESTORATION HAS BEEN ACCEPTED.

GENERAL CONSTRUCTION NOTES:

- 32. AT LEAST 48 HOURS BEFORE BEGINNING ANY WATER AND WASTEWATER CONSTRUCTION IN PUBLIC R.O.W. OR PUBLIC EASEMENT, THE CONTRACTOR SHALL NOTIFY THE WATERSHED PROTECTION AND DEVELOPMENT REVIEW INSPECTION DIVISION FOR MAIN LINE CONSTRUCTION, OR WATER AND WASTEWATER UTILITY TAPS INSPECTION FOR TAPS ONLY CONSTRUCTION.
- 33. THE CONTRACTOR SHALL CALL THE BUDA AREA "ONE CALL" SYSTEM AT 1-800-344-8377 FOR EXISTING UTILITY LOCATIONS 48 HOURS PRIOR TO ANY EXCAVATION IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES TO BE EXTENDED, TIED TO, OR ALTERED, OR SUBJECT TO DAMAGE/INCONCIENCE BY THE CONSTRUCTION OPERATIONS. THE CITY OF BUDA WATER AND WASTEWATER MAINTENANCE RESPONSIBILITY ENDS AT R.O.W./EASMENT
- 34. NO OTHER UTILITY SERVICE/APPURTENANCES SHALL BE PLACED NEAR THE PROPERTY LINE, OR OTHER ASSIGNED LOCATION DESIGNED FOR WATER AND WASTEWATER UTILITY SERVICE THAT WOULD INTERFERE WITH THE WATER AND
- 35. THE CITY SPECIFICATION ITEM 509S WILL BE REQUIRED AS A MINIMUM TRENCH SAFETY MEASURE. 36. ALL MATERIAL TESTS, INCLUDING SOIL DENSITY TESTS AND DETAILED SOIL ANALYSIS,

SHALL BE CONDUCTED BY AN INDEPENDENT LABORATORY AND FUNDED BY THE

- OWNER IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 1804S.04. 37. ALL MATERIAL USED ON THIS PROJECT MUST BE LISTED ON THE STANDARD PRODUCTS LISTING. ANY MATERIAL NOT LISTED HAS TO GO THROUGH THE REVIEW OF THE STANDARDS COMMITTEE FOR REVIEW AND APPROVAL PRIOR TO START OF PROJECT. TESTING AND EVALUATION OF PRODUCTS ARE REQUIRED BEFORE APPROVAL WILL BE GIVEN ANY CONSIDERATION.
- 38. ALL MANHOLES IN UNPAVED AREAS PROVIDING DIRECT ACCESS TO A WASTEWATER LINE SHALL BE WATERTIGHT AND BEAR THE WORDING AND INSIGNIA FOR THE CITY
- 39. THE CONTRACTOR SHALL LOCATE ALL HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING UTILITIES PRIOR TO STARTING ANY ONSITE UTILITY WORK. 40. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF BUDA STANDARD
- 41. DESIGN PROCEDURES ARE IN COMPLIANCE WITH THE CITY OF BUDA DRAINAGE CRITERIA MANUAL.
- 42. BENCH MARKS: SEE THIS SHEET.
- 43. PRIOR TO BEGINNING CONSTRUCTION, THE OWNER OR HIS AUTHORIZED REPRESENTATIVE SHALL CONVENE A PRE-CONSTRUCTION CONFERENCE BETWEEN THE CITY OF BUDA, SUNFIELD MUD #4 CONSULTING ENGINEER, AND CONTRACTOR(S), AT LEAST 48 HOURS PRIOR BEGINNING CONSTRUCTION.
- 44. THE CONTRACTOR SHALL GIVE THE CITY A MINIMUM OF 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION. (312-0084) PUBLIC WORKS DEPARTMENT (BUDA CONSTRUCTION INSPECTION DIVISION).
- CONSTRUCTED ON ALL DEAD-END STREETS AND AS NECESSARY DURING 46. ANY EXISTING PAVEMENT, CURB, AND/OR SIDEWALKS DAMAGED OR REMOVED WILL

MUST BE VERIFIED BY THE WATER AND WASTEWATER DEPARTMENT.

45. BARRICADES, BUILT TO CITY OF BUDA STANDARD SPECIFICATIONS, SHALL BE

- BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE PRIOR TO THE ACCEPTANCE OF 47. THE LOCATION OF ANY WATER AND/OR WASTEWATER LINES SHOWN ON THE PLANS
- 48. ALL STORM SEWER PIPE TO BE CLASS III R.C.P. UNLESS NOTED OTHERWISE.

- 49. CAST BRONZE SURVEY MARKERS SHALL BE PLACED IN CONCRETE IN PERMANENT, ACCESSIBLE LOCATIONS AT THE TIME OF CONSTRUCTION. A MINIMUM OF ONE MARKER SHALL BE PLACED FOR EVERY 20 ACRES OF THE PROJECT. REFERENCE WILL BE PLACED ON THE MARKER BY DPWT AT THE TIME OF THE PRE-CONSTRUCTION CONFERENCE.
- 50. PURSUANT TO 15-12-131 OF THE CITY CODE, THE CONTRACTOR MAY NOT BLOCK, DIRECT, IMPEDE, OR REROUTE PEDESTRIAN AND VEHICULAR TRAFFIC, NOR PLACE A BARRICADE OR OTHER TRAFFIC CONTROL DEVICE IN A RIGHT-OF-WAY, WITHOUT FIRST OBTAINING A TEMPORARY USE OF RIGHT-OF-WAY PERMIT FROM THE DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION.
- 51. ALL DISTURBED AREAS SHALL BE REVEGETATED.
- 52. AN EXPANSION JOINT EVERY 40' AND A SCORE JOINT EVERY 10' IS REQUIRED FOR ANY PUBLIC CURB.
- 53. REBAR CHAIRS MUST BE USED FOR ALL REINFORCEMENT USED WITHIN THE ROW.
- 54. STREET LAMPS MUST BE ENERGIZED AND INSPECTED PRIOR TO THE FINAL 55. STOP LINES SHALL BE INSTALLED AT ALL STOP SIGN LOCATIONS AND SHALL BE STRIPED USING RETROREFLECTIVE WHITE THERMOPLASTIC MATERIAL A MINIMUM OF 24" WIDE. THE STRIPE SHALL BE PLACED ADJACENT TO THE STOP SIGN AND SHALL
- EXTEND FROM THE EDGE OF THE PAVEMENT TO THE MIDPOINT OF THE STREET. 56. ALL PUBLIC SIGNAGE MUST BE INSTALLED PRIOR TO FINAL ACCEPTANCE 57. ALL BEDDING MATERIAL WITHIN THE ROW SHALL COMPLY WITH COA DETAIL 510. 58. CONTRACTOR SHALL PROVIDE SIGNED AND SEALED RETAINING WALL DETAILS WITH
- MATERIAL SUBMITTALS TO THE ENGINEER. 59. FIBER REINFORCED CONCRETE WILL NOT BE ALLOWED FOR PROJECTS IN THE ROW.
- CITY OF BUDA UTILITY CONSTRUCTION NOTES THE CITY STANDARD CONSTRUCTION SPECIFICATIONS CURRENT AT THE TIME OF BIDDING SHALL COVER MATERIAL AND METHODS USED TO DO THIS
- 2. CONTRACTOR MUST OBTAIN A STREET CUT PERMIT FROM THE CITY OF BUDA BEFORE BEGINNING CONSTRUCTION WITHIN THE RIGHT-OF-WAY OF A PUBLIC
- AT LEAST 48 HOURS BEFORE BEGINNING ANY WATER AND WASTEWATER CONSTRUCTION IN PUBLIC R.O.W. OR PUBLIC EASEMENT, THE CONTRACTOR SHALL NOTIFY THE CITY OF BUDA PUBLIC WORKS.
- THE CONTRACTOR SHALL CONTACT THE AUSTIN AREA "ONE CALL" SYSTEM AT 1-800-344-8377 FOR EXISTING UTILITY LOCATIONS PRIOR TO ANY EXCAVATION IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES TO BE EXTENDED, TIED TO, OR ALTERED, OR SUBJECT TO DAMAGE/INCONVENIENCE BY THE CONSTRUCTION OPERATIONS. THE CITY OF BUDA WATER AND WASTEWATER MAINTENANCE RESPONSIBILITY ENDS AT R.O.W./EASEMENT LINES
- NO OTHER UTILITY SERVICE/APPURTENANCES SHALL BE PLACED NEAR THE PROPERTY LINE, OR OTHER ASSIGNED LOCATION DESIGNATED FOR WATER AND WASTEWATER UTILITY SERVICE THAT WOULD INTERFERE WITH THE WATER AND WASTEWATER SERVICES.
- THE CITY SPECIFICATION ITEM 509S WILL BE REQUIRED AS A MINIMUM TRENCH SAFETY MEASURE.
- ALL MATERIALS TEST. INCLUDING SOIL DENSITY TESTS AND DETAILED SOIL ANALYSES, SHALL BE CONDUCTED BY AN INDEPENDENT LABORATORY AND FUNDED BY THE OWNER IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 1803S.04.
- PRESSURE TAPS SHALL BE IN ACCORDANCE WITH CITY STANDARD ITEM 510.3(24). THE CONTRACTOR SHALL PERFORM EXCAVATION ETC. AND SHALL FURNISH, INSTALL AND AIR TEST THE SLEEVE AND VALVE, WHEN CONTRACTORS MAKE THE TAP A CITY INSPECTOR MUST BE PRESENT AND WORKING DAYS (MIN.) NOTIVE MUST BE GIVEN. "SIZE ON SIZE" TAPS WILL NOT BE PERMITTED. UNLESS. IT HAS BEEN DEMONSTRATED THAT A MOER ACCEPTABLE CONNECTION WOULD INVOLVE CONSIDERABLE HARDSHIP TO THE UTILITY SYSTEM. ALL TAPS SHALL BE MADE BY USE OF AN APPROVED FULL CIRCLE-GASKETED CAST IRON OR DUCTILE IRON TAPPING SLEEVE. CONCRETE BLOCKING SHALL BE PLACED UNDER ALL TAP SLEEVES PRIOR TO MAKING THE PRESSURE TAP AND THE USE OF PRECAST BLOCKS MAY BE USED TO HOLD THE TAP IN ITS CORRECT POSITION PRIOR TO BLOCKING. THE BLOCKING BEHIND AND UNDER THE TAP SHALL HAVE A MINIMUM OF 24 HOURS CURING TIME BEFORE THE VALVE CAN BE RE-OPENED FOR SERVICE
- 9. THRUST RESTRAINT SHALL BE IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 510.3(22).
- ALL BRANCH CONNECTIONS SHALL HAVE THE VALVE BOLTED TO THE MAIN BY METHODS OF FLANGE OR SWIVEL TEES. FOSTER ADAPTORS MAY BE USED IN LIEU OF FLANGE OR SWIVEL TEES WHEN CALLED OUT ON THE PLANS BY THE DESIGN ENGINEER.

ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEMS 510.3 (27)-(29).

FORCE MAIN PRESSURE TESTING SHALL BE CONDUCTED AND FALL UNDER

- -CIFICATION ITEM 5115.4. B). FIRE HYDRANTS SHALL BE PAINTED FLYNT 12. WATER LINE TESTING AND STERILIZATION SHALL BE PERFORMED IN
- THE SPECIFICATIONS AS WATER LINES (PRESSURE PIPE) OR AT THE PRESSURE SHOWN ON THE APPROVED PLANS. ALL MATERIAL USED ON THIS PROJECT MUST BE LISTED ON THE STANDARD PRODUCTS LISTING. ANY MATERIAL NOT LISTED HAS TO GO THROUGH THE CITY OF BUDA CITY ENGINEER FOR REVIEW AND APPROVAL PRIOR TO START
- PROJECT. TESTING AND EVALUATION OF PRODUCTS ARE REQUIRED BEFORE APPROVAL WILL BE GIVEN ANY CONSIDERATION. WHEN WATER SERVICES ARE DAMAGED, THE SERVICE SHALL BE REPLACED FULL LENGTH WITH PE. NOTE: FULL LENGTH IS FROM BALL VALVE TO
- WHEN AN EXISTING WATERLINE SHUTOUT IS NECESSARY AND POSSIBLE, THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTOR WHO WILL THEN NOTIFY THE CITY OF BUDA PUBLIC WORKS AND THE AFFECTED CUSTOMERS A MINIMUM OF SEVENTY-TWO (72) HOURS IN ADVANCE.
- 16. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTOR SO THAT HE CAN NOTIFY THE CITY OF BUDA PUBLIC WORKS AT A MINIMUM OF 72 HOURS PRIOR TO RELOCATING ANY DOMESTIC OR FIRE DEMAND WATER METERS. THE CONTRACTOR SHALL CAREFULLY REMOVE ALL METERS AND METER BOXES THAT ARE INDICATED TO BE RELOCATED OR SALVAGED. THE CONTRACTOR SHALL INSTALL THE REMOVED METER OR CITY PROVIDED METER
- AT THE NEW LOCATION INDICATED ON THE CONSTRUCTION PLANS. 17. ALL MANHOLES IN UNPAVED AREAS PROVIDING DIRECT ACCESS TO A WASTEWATER LINE SHALL BE WATERTIGHT AND BEAR THE WORDING AND
- 18. THE CONTRACTOR SHALL VERIFY ALL VERTICAL AND HORIZONTAL LOCATIONS OF EXISTING UTILITIES PRIOR TO STARTING ONSITE UTILITY WORK. 19. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH

THE ENGINEER WHO PREPARED THEM. APPROVAL OF THESE PLANS BY THE

CITY OF BUDA DOES NOT REMOVE THESE RESPONSIBILITIES. REVIEW BY THE CITY OF BUDA WATER UTILITY APPLIES ONLY TO FACILITIES WITHIN PUBLIC STREETS OR PUBLIC UTILITY EASEMENTS. ALL OTHER WATER AND WASTEWATER FACILITIES INSIDE PRIVATE PROPERTY ARE UNDER THE JURISDICTION OF BUILDING INSPECTION.

TREE PROTECTION NOTES:

EQUIPMENT

- ALL TREES AND NATURAL AREAS SHOWN ON PLAN TO BE PRESERVED SHALL BE PROTECTED DURING CONSTRUCTION WITH TEMPORARY FENCING. PROTECTIVE FENCES SHALL BE ERECTED ACCORDING TO CITY OF BUDA STANDARDS FOR TREE PROTECTION.
- PROTECTIVE FENCES SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING, OR GRADING), AND SHALL BE MAINTAINED THROUGHOÙT ALL PHASES OF THE CONSTRUCTION PROJECTS.
- EROSION AND SEDIMENTATION CONTROL BARRIERS SHALL BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILD UP WITHIN TREE DRIP LINES. PROTECTIVE FENCES SHALL SURROUND THE TREES OR GROUP OF TREES,
- AND WILL BE LOCATED AT THE OUTERMOST LIMITS 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 OF MATERIALS;
- B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 6 INCHES CUT OR FILL), OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE CITY ARRORIST WOUNDS TO EXPOSED ROOTS, TRUNK OR LIMBS BY MECHANICAL
- OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING, AND FIRES. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIP LINES MAY BE PERMITTED IN THE FOLLOWING CASE:
- 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

- 14. THE CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE IN ALL DIRECTIONS OF NINE FEET BETWEEN THE PROPOSED WATERLINE AND WASTEWATER COLLECTION FACILITIES INCLUDING MANHOLES AND SEPTIC TANK DRAINFIELDS. IF THIS DISTANCE CANNOT BE MAINTAINED. THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT ENGINEER FOR FURTHER DIRECTION. SEPARATION DISTANCES, INSTALLATION METHODS, AND MATERIALS UTILIZED MUST MEET 30 TAC \$290.44(E)(1-4) OF THE CURRENT RULES.
- 5. PURSUANT TO 30 TAC \$290.44(E)(5), THE SEPARATION DISTANCE FROM A POTABLE WATERLINE TO A WASTEWATER MAIN OR LATERAL MANHOLE OR CLEANOUT SHALL BE A MINIMUM OF NINE FEET. WHERE THE NINE-FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE POTABLE WATERLINE SHALL BE ENCASED IN A JOINT OF AT LEAST 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED THE ENCASEMENT PIPE SHALL BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEALANT.
- 16. PURSUANT TO 30 TAC \$290.44(E)(6), FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY WASTEWATER LINE, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE REGARDLESS OF CONSTRUCTION.
- 17. PURSUANT TO 30 TAC \$290.44(E)(7), SUCTION MAINS TO PUMPING EQUIPMENT SHALL NOT CROSS WASTEWATER MAINS, WASTEWATER LATERALS, OR WASTEWATER SERVICE LINES. RAW WATER SUPPLY LINES SHALL NOT BE INSTALLED WITHIN FIVE FEET OF ANY TILE OR CONCRETE WASTEWATER MAIN, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE.
- 18. PURSUANT TO 30 TAC \$290.44(F)(1), THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION.
- 19. PURSUANT TO 30 TAC \$290.44(F)(2), WHEN WATERLINES ARE LAID UNDER ANY FLOWING OR INTERMITTENT STREAM OR SEMI-PERMANENT BODY OF WATER THE WATER MAIN SHALL BE INSTALLED IN A SEPARATE WATERTIGHT PIPI ENCASEMENT. VALVES MUST BE PROVIDED ON EACH SIDE OF THE CROSSING WITH FACILITIES TO ALLOW THE UNDERWATER PORTION OF THE SYSTEM TO BE ISOLATED
- 20. THE CONTRACTOR SHALL DISINFECT THE NEW WATER MAINS IN ACCORDANCE WITH AWWA STANDARD C-651 AND THEN FLUSH AND SAMPLE THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATER LINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER, IN ACCORDANCE WITH 30 TAC §290.44(F)(3).
- TCEQ WATER POLLUTION ABATEMENT PLAN GENERAL CONSTRUCTION NOTES: A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE - THE NAME OF THE APPROVED PROJECT
- THE ACTIVITY START DATE - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR 2. ALL CONTRACTORS CONDUCTION REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER

POLLUTION ABATEMENT PLAN (WPAP) AND THE TCEQ LETTER INDICATION THE

REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER. 3. IF ANY SENSITIVE FEATURE(S) (CAVES, SOLUTION CAVITY, SINK HOLE, ETC.) IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES MAY NOT BE

SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE

EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY. 4. NO TEMPORARY OR PERMANENT HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE.

RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE APPROPRIATE

PROTECTIVE MEASURE IN ORDER TO PROTECT ANY SENSITIVE FEATURE AND THE

- PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
- 6. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC. 7. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION
- BASINS NOT LATER THAN WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN LITTER. CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO
- STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE. 9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING
- PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE. 10. IF PORTIONS OF THE SITE WILL HAVE A TEMPORARY OR PERMANENT CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION 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.
- 11. THE FOLLOWING RECORD SHALL BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST: - THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR - THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE CISE - THE DATES WHEN STABILIZATION MEASURES ARE INITIATED
- 12. THE HOLDER OF ANY APPROVED EDWARD AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING: - ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY
 - ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER - ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN
- TCEQ ORGANIZED SEWAGE COLLECTION SYSTEM GENERAL CONSTRUCTION NOTES: 1. THIS ORGANIZED SEWAGE COLLECTION SYSTEM (SCS) MUST BE CONSTRUCTED IN ACCORDANCE WITH 30 TEXAS ADMINISTRATIVE CODE (TAC) \$213.5(C), THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) EDWARDS AQUIFER RULES AND ANY LOCAL GOVERNMENT STANDARD SPECIFICATIONS.
- 2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROPOSED REGULATED PROJECT MUST BE PROVIDED WITH COPIES OF THE SCS PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF IT APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, TH CONTRACTORS MUST BE REQUIRED TO KEEP ON-SITE COPIES OF THE PLAN AND THE APPROVAL LETTER.
- 3. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE PRESIDING TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
- THE NAME OF THE APPROVED PROJECT; THE ACTIVITY START DATE: AND - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.

STRUCTURES

- 4. ANY MODIFICATION TO THE ACTIVITIES DESCRIBED IN THE REFERENCED SCS APPLICATION FOLLOWING THE DATE OF APPROVAL MAY REQUIRE THE SUBMITTAL OF AN SCS APPLICATION TO MODIFY THIS APPROVAL, INCLUDING THE PAYMENT APPROPRIATE FEES AND ALL INFORMATION NECESSARY FOR ITS REVIEW AND
- 5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. 6. IF ANY SENSITIVE FEATURES ARE DISCOVERED DURING THE WASTEWATER LIN TRENCHING ACTIVITIES, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPLICANT MUST IMMEDIATELY NOTIFY THE APPROPRIATE REGIONAL OFFICE OF THE TCEQ OF THE FEATURE DISCOVERED.
- A GEOLOGIST'S ASSESSMENT OF THE LOCATION AND EXTENT OF THE FEATUR DISCOVERED MUST BE REPORTED TO THAT REGIONAL OFFICE IN WRITING AND TH APPLICANT MUST SUBMIT A PLAN FOR ENSURING THE STRUCTURAL INTEGRITY O THE SEWER LINE OR FOR MODIFYING THE PROPOSED COLLECTION SYSTEM ALIGNMENT AROUND THE FEATURE. SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE EXECUTIVE DIRECTOR HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY WHILE MAINTAINING THE STRUCTURAL INTEGRITY OF THE LINE.

- SEWER LINES LOCATED WITHIN OR CROSSING THE 5-YEAR FLOODPLAIN OF A DRAINAGE WAY WILL BE PROTECTED FROM INUNDATION AND STREAM VELOCITIES WHICH COULD CAUSE EROSION AND SCOURING OF BACKFILL. THE TRENCH MUST BE CAPPED WITH CONCRETE TO PREVENT SCOURING OF BACKFILL. OR THE SEWE LINES MUST BE ENCASED IN CONCRETE. ALL CONCRETE SHALL HAVE A MINIMUM
- 8. BLASTING PROCEDURES FOR PROTECTION OF EXISTING SEWER LINES AND OTHER UTILITIES WILL BE IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION CRITERIA. SAND IS NOT ALLOWED AS BEDDING OR BACKFILL IN TRENCHES THAT HAVE BEEN BLASTED. IF ANY EXISTING SEWER LINES ARE DAMAGED, THE LINES MUST BE REPAIRED AND RETESTED.
- ALL MANHOLES CONSTRUCTED OR REHABILITATED ON THIS PROJECT MUST HAVE WATERTIGHT SIZE ON SIZE RESILIENT CONNECTORS ALLOWING FOR DIFFERENTIAL SETTLEMENT. IF MANHOLES ARE CONSTRUCTED WITHIN THE 100-YEAR FLOODPLAIN THE COVER MUST HAVE A GASKET AND BE BOLTED TO THE RING. WHERE GASKETED MANHOLE COVERS ARE REQUIRED FOR MORE THAN THREE MANHOLES IN SEQUENCE OR FOR MORE THAN 1500 FEET, ALTERNATE MEANS OF VENTING WILL BE PROVIDED. BRICKS ARE NOT AN ACCEPTABLE CONSTRUCTION MATERIAL FOR
- THE DIAMETER OF THE MANHOLES MUST BE A MINIMUM OF FOUR FEET AND THE MANHOLE FOR ENTRY MUST HAVE A MINIMUM CLEAR OPENING DIAMETER OF 30 INCHES. THESE DIMENSIONS AND OTHER DETAILS SHOWING COMPLIANCE WITH THE COMMISSION'S RULES CONCERNING MANHOLES AND SEWER LINE/MANHOLE INVERTS DESCRIBED IN 30 TAC \$217.55 ARE INCLUDED ON PLAN SHEET 90 OF 90. IT IS SUGGESTED THAT ENTRANCE INTO MANHOLES IN EXCESS OF FOUR FEET DEEP BE ACCOMPLISHED BY MEANS OF A PORTABLE LADDER. THE INCLUSION OF STEPS
- . WHERE WATER LINES AND NEW SEWER LINE ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES. WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO MANHOLES) THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(D) (PIPE DESIGN) AND 30 TAC §290.44(E) (WATER DISTRIBUTION).
- WHERE SEWERS LINES DEVIATE FROM STRAIGHT ALIGNMENT AND UNIFORM GRADE ALL CURVATURE OF SEWER PIPE MUST BE ACHIEVED BY THE FOLLOWING PROCEDURE WHICH IS RECOMMENDED BY THE PIPE MANUFACTURER:
- DEFLECTION OF THE JOINT MUST BE USED: SPECIFIC CARE MUST BE TAKEN TO ENSURE THAT THE JOINT IS PLACED IN THE

CENTER OF THE TRENCH AND PROPERLY BEDDED IN ACCORDANCE WITH 30 TAC

IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING

- 12. NEW SEWAGE COLLECTION SYSTEM LINES MUST BE CONSTRUCTED WITH STUB OUTS FOR THE CONNECTION OF ANTICIPATED EXTENSIONS. THE LOCATION OF SUCH STUB OUTS MUST BE MARKED ON THE GROUND SUCH THAT THEIR LOCATION CAN BE EASILY DETERMINED AT THE TIME OF CONNECTION OF THE EXTENSIONS. SUCH STUB OUTS MUST BE MANUFACTURED WYES OR TEES THAT ARE COMPATIBLE IN SIZE AND MATERIAL WITH BOTH THE SEWER LINE AND THE EXTENSION. AT THE TIME OF ORIGINAL CONSTRUCTION, NEW STUB-OUTS MUST BE CONSTRUCTED SUFFICIENTLY TO EXTEND BEYOND THE END OF THE STREET PAVEMENT. AL STUB-OUTS MUST BE SEALED WITH A MANUFACTURED CAP TO PREVENT LEAKAGE. EXTENSIONS THAT WERE NOT ANTICIPATED AT THE TIME OF ORIGINAL CONSTRUCTION THAT ARE TO BE CONNECTED TO AN EXISTING SEWER LINE NOT FURNISHED WITH STUB OUTS MUST BE CONNECTED USING A MANUFACTURED SADDLE AND IN ACCORDANCE WITH ACCEPTED PLUMBING TECHNIQUES.
- 13. TRENCHING, BEDDING AND BACKFILL MUST CONFORM WITH 30 TAC \$217.54. THE BEDDING AND BACKFILL FOR FLEXIBLE PIPE MUST COMPLY WITH THE STANDARDS OF ASTM D-2321, CLASSES IA, IB, II OR III. RIGID PIPE BEDDING MUST COMPLY WITH THE REQUIREMENTS OF ASTM C 12 (ANSI A 106.2) CLASSES A, B OR C.
- 14. SEWER LINES MUST BE TESTED FROM MANHOLE TO MANHOLE. WHEN A NEW SEWER LINE IS CONNECTED TO AN EXISTING STUB OR CLEAN-OUT, IT MUST BE TESTED FROM EXISTING MANHOLE TO NEW MANHOLE. IF A STUB OR CLEAN-OUT IS USEI AT THE END OF THE PROPOSED SEWER LINE, NO PRIVATE SERVICE ATTACHMENTS MAY BE CONNECTED BETWEEN THE LAST MANHOLE AND THE CLEANOUT UNLESS I CAN BE CERTIFIED AS CONFORMING WITH THE PROVISIONS OF 30 TAC
- ENGINEER MUST RETAIN COPIES OF ALL TEST RESULTS WHICH MUST BE MADE AVAILABLE TO THE EXECUTIVE DIRECTOR UPON REQUEST. THE ENGINEER MUST CERTIFY IN WRITING THAT ALL WASTEWATER LINES HAVE PASSED ALL REQUIRED TESTING TO THE APPROPRIATE REGIONAL OFFICE WITHIN 30 DAYS OF TEST COMPLETION AND PRIOR TO USE OF THE NEW COLLECTION SYSTEM. TESTING MFTHOD WILL BE: (A) FOR A COLLECTION SYSTEM PIPE THAT WILL TRANSPORT WASTEWATER BY GRAVITY FLOW. THE DESIGN MUST SPECIFY AN INFILTRATION AND

15. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH 30 TAC \$217.57. THE

EXFILTRATION TEST OR A LOW-PRESSURE AIR TEST. A TEST MUST

CONFORM TO THE FOLLOWING REQUIREMENTS: (1) LOW PRESSURE AIR TEST. (A) A LOW PRESSURE AIR TEST MUST FOLLOW THE PROCEDURES DESCRIBED IN AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C-828, ASTM C-924, OR ASTM F-1417 OR OTHER PROCÉDURE APPROVED BY THE EXECUTIVE DIRECTOR, EXCEPT AS TO TESTING TIMES AS REQUIRED IN TABLE C.3 IN SUBPARAGRAPH

(C) OF THIS PARAGRAPH OR EQUATION C.3 IN SUBPARAGRAPH

(B) FOR SECTIONS OF COLLECTION SYSTEM PIPE LESS THAN 36 INCH AVERAGE INSIDE DIAMETER, THE FOLLOWING PROCEDURE MUST APPLY, UNLESS A PIPE IS TO BE TESTED AS REQUIRED BY A PIPE MUST BE PRESSURIZED TO 3.5 POUNDS PER SQUARE INCH (PSI) GREATER THAN THE PRESSURE EXERTED BY GROUNDWATER ABOVE THE PIPE

ONCE THE PRESSURE IS STABILIZED, THE MINIMUM TIME

ALLOWABLE FOR THE PRESSURE TO DROP FROM 3.5 PSI

GAUGE TO 2.5 PSI GAUGE IS COMPUTED FROM THE

FOLLOWING EQUATION: EQUATION C.3 $0.085 \times D \times K$

- T = TIME FOR PRESSURE TO DROP 1.0 POUND PER SQUARE INCH GAUGE IN SECONDS $K = 0.000419 \times D \times L$, BUT NOT LESS THAN 1.0
- D = AVERAGE INSIDE PIPE DIAMETER IN INCHES . = LENGTH OF LINE OF SAME SIZE BEING TESTED, IN FEET Q = RATE OF LOSS, 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE (C) SINCE A K VALUE OF LESS THAN 1.0 MAY NOT BE USED, THE MINIMUM TESTING TIME FOR EACH PIPE DIAMETER IS SHOWN IN

THE FOLLOWING TABLE C.3:

.30

PIPE DIAMETER	MINIMUM TIME	MAXIMUM LENGTH FOR MINIMUM TIME	TIME FOR LONGER LENGTH
INCHES	SECONDS	FEET	SECONDS/FOOT
6	340	398	0.8550
8	454	298	1.5200
10	567	239	2.3740
12	680	199	3.4190
15	850	159	5.3420
18	1020	133	7.6930
21	1190	114	10.4710
24	1360	100	13.6760
27	1530	88	17.3090

33 1870 72 25.8560 (D) AN OWNER MAY STOP A TEST IF NO PRESSURE LOSS HAS

1700

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

80

21.3690

- (F) WASTEWATER COLLECTION SYSTEM PIPES WITH A 27 INCH OR LARGER AVERAGE INSIDE DIAMETER MAY BE AIR TESTED AT EACH JOINT INSTEAD OF FOLLOWING THE PROCEDURE OUTLINED IN THIS
- (G) A TESTING PROCEDURE FOR PIPE WITH AN INSIDE DIAMETER GREATER THAN 33 INCHES MUST BE APPROVED BY THE EXECUTIVE DIRECTOR.

- (2) INFILTRATION/EXFILTRATION TEST. (A) THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH OF DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF 2.0 FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM
- (B) AN OWNER SHALL USE AN INFILTRATION TEST IN LIEU OF AN EXFILTRATION TEST WHEN PIPES ARE INSTALLED BELOW THE
- GROUNDWATER LEVEL (C) THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO

FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE,

OR AT LEAST TWO FEET ABOVE EXISTING GROUNDWATER LEVEL,

- WHICHEVER IS GREATER. (D) FOR CONSTRUCTION WITHIN A 25-YEAR FLOOD PLAIN, THE INFILTRATION OR EXFILTRATION MUST NOT EXCEED 10 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT THE SAME MINIMUM TEST HEAD AS IN SUBPARAGRAPH
- (C) OF THIS PARAGRAPH (E) IF THE QUANTITY OF INFILTRATION OR EXFILTRATION EXCEEDS THE MAXIMUM QUANTITY SPECIFIED, AN OWNER SHALL UNDERTAKE REMEDIAL ACTION IN ORDER TO REDUCE THE INFILTRATION OR EXFILTRATION TO AN AMOUNT WITHIN THE LIMITS SPECIFIED. AN OWNER SHALL RETEST A PIPE FOLLOWING A REMEDIATION ACTION.
- (B) IF A GRAVITY COLLECTION PIPE IS COMPOSED OF FLEXIBLE PIPE DEFLECTION TESTING IS ALSO REQUIRED. THE FOLLOWING PROCEDURES MUST BE FOLLOWED: (1) FOR A COLLECTION PIPE WITH INSIDE DIAMETER LESS THAN 27 INCHES, DEFLECTION MEASUREMENT REQUIRES A RIGID MANDREL
 - (A) MANDREL SIZING. (I) A RIGID MANDREL MUST HAVE AN OUTSIDE DIAMETER (OD) NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER (ID) OR STANDARD BY THE ASTMS, AMERICAN WATER WORKS ASSOCIATION, UNI-BELL, OR AMERICAN NATIONAL STANDARDS
 - INSTITUTE, OR ANY RELATED APPENDIX. (II) IF A MANDREL SIZING DIAMETER IS NOT SPECIFIED IN THE APPROPRIATE STANDARD, THE MANDREL MUST HAVE AN OD EQUAL TO 95% OF THE ID OF A PIPE. IN THIS CASE, THE ID OF THE PIPE. FOR THE PURPOSE OF DETERMINING THE OD. OF THE MANDREL. MUST EQUAL BE THE AVERAGE OUTSIDE DIAMETER MINUS TWO MINIMUM WALL THICKNESSES FOR OD CONTROLLED PIPE AND THE AVERAGE INSIDE DIAMETER FOR
 - ID CONTROLLED PIPE. (III) ALL DIMENSIONS MUST MEET THE APPROPRIATE STANDARD (B) MANDREL DESIGN. (I) A RIGID MANDREL MUST BE CONSTRUCTED OF A METAL OR A
 - RIGID PLASTIC MATERIAL THAT CAN WITHSTAND 200 PSI WITHOUT BEING DEFORMED. (II) A MANDREL MUST HAVE NINE OR MORE ODD NUMBER OF RUNNERS OR LEGS.

(I) AN ADJUSTABLE OR FLEXIBLE MANDREL IS PROHIBITED.

- (III) A BARREL SECTION LENGTH MUST EQUAL AT LEAST 75% OF THE INSIDE DIAMETER OF A PIPE (IV) EACH SIZE MANDREL MUST USE A SEPARATE PROVING RING. (C) METHOD OPTIONS.
- (II) A TEST MAY NOT USE TELEVISION INSPECTION AS A SUBSTITUTE FOR A DEFLECTION TEST (III) IF REQUESTED, THE EXECUTIVE DIRECTOR MAY APPROVE T USE OF A DEFLECTOMETER OR A MANDREL WITH REMOVABLE LEGS OR RUNNERS ON A CASE-BY-CASE BASIS.

(2) FOR A GRAVITY COLLECTION SYSTEM PIPE WITH AN INSIDE DIAMETER 27

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

- INCHES AND GREATER, OTHER TEST METHODS MAY BE USED TO DETERMINE VERTICAL DEFLECTION. (3) A DEFLECTION TEST METHOD MUST BE ACCURATE TO WITHIN PLUS OR MINUS 0.2% DEFLECTION. (4) AN OWNER SHALL NOT CONDUCT A DEFLECTION TEST UNTIL AT LEAST
- PERCENT (5%) (6) IF A PIPE SECTION FAILS A DEFLECTION TEST, AN OWNER SHALL CORRECT THE PROBLEM AND CONDUCT A SECOND TEST AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS.

30 DAYS AFTER THE FINAL BACKFILL.

METHOD APPROVED BY THE EXECUTIVE DIRECTOR.

- 16. ALL MANHOLES MUST BE TESTED TO MEET OR EXCEED THE REQUIREMENTS OF 30 TAC §217.58. (A) ALL MANHOLES MUST PASS A LEAKAGE TEST. (B) AN OWNER SHALL TEST EACH MANHOLE (AFTER ASSEMBLY AND BACKFILLING) FOR LEAKAGE, SEPARATE AND INDEPENDENT OF THE COLLECTION SYSTEM PIPES, BY HYDROSTATIC EXFILTRATION TESTING, VACUUM TESTING, OR OTHER
 - (1) HYDROSTATIC TESTING. (A) THE MAXIMUM LEAKAGE FOR HYDROSTATIC TESTING OR ANY ALTERNATIVE TEST METHODS IS 0.025 GALLONS PER FOOT DIAMETER PER FOOT OF MANHOLE DEPTH PER HOUR. (B) TO PERFORM A HYDROSTATIC EXFILTRATION TEST, AN OWNER
 - SHALL SEAL ALL WASTEWATER PIPES COMING INTO A MANHOLE WITH AN INTERNAL PIPE PLUG, FILL THE MANHOLE WITH WATER, AND MAINTAIN THE TEST FOR AT LEAST ONE HOUR. (C) A TEST FOR CONCRETE MANHOLES MAY USE A 24-HOUR WETTING PERIOD BEFORE TESTING TO ALLOW SATURATION OF THE
 - VACUUM TESTING (A) TO PERFORM A VACUUM TEST, AN OWNER SHALL PLUG ALL LIFT HOLES AND EXTERIOR JOINTS WITH A NON-SHRINK GROUT AND PLUG ALL PIPES ENTERING A MANHOLE.
 - (B) NO GROUT MUST BE PLACED IN HORIZONTAL JOINTS BEFORE (C) STUB-OUTS, MANHOLE BOOTS, AND PIPE PLUGS MUST BE SECURED TO PREVENT MOVEMENT WHILE A VACUUM IS DRAWN. (D) AN OWNER SHALL USE A MINIMUM 60 INCH/LB TORQUE WRENCH

TO TIGHTEN THE EXTERNAL CLAMPS THAT SECURE A TEST COVER

TO THE TOP OF A MANHOLE. (E) A TEST HEAD MUST BE PLACED AT THE INSIDE OF THE TOP OF A CONE SECTION, AND THE SEAL INFLATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. (F) THERE MUST BE A VACUUM OF 10 INCHES OF MERCURY INSIDE A

MANHOLE TO PERFORM A VALID TEST.

(G) A TEST DOES NOT BEGIN UNTIL AFTER THE VACUUM PUMP IS OFF. (H) A MANHOLE PASSES THE TEST IF AFTER 2.0 MINUTES AND WITH ALL VALVES CLOSED, THE VACUUM IS AT LEAST 9.0 INCHES OF 17. ALL PRIVATE SERVICE LATERALS MUST BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH 30 TAC \$213.5(C)(3)(I). AFTER INSTALLATION OF AND, PRIOR TO COVERING AND CONNECTING A PRIVATE SERVICE LATERAL TO AN EXISTING

ORGANIZED SEWAGE COLLECTION SYSTEM, A TEXAS LICENSED PROFESSIONAL

ENGINEER, TEXAS REGISTERED SANITARIAN, OR APPROPRIATE CITY INSPECTOR

THE SEWAGE COLLECTION SYSTEM, AND CERTIFY THAT IT IS CONSTRUCTED IN

OF THE COLLECTION SYSTEM MUST MAINTAIN SUCH CERTIFICATIONS FOR FIVE

CONFORMITY WITH THE APPLICABLE PROVISIONS OF THIS SECTION. THE OWNER

MUST VISUALLY INSPECT THE PRIVATE SERVICE LATERAL AND THE CONNECTION TO

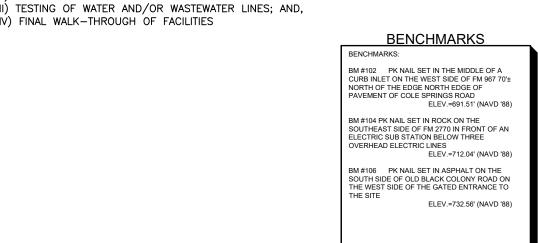
YEARS AND FORWARD COPIES TO THE APPROPRIATE REGIONAL OFFICE UPON REQUEST. CONNECTIONS MAY ONLY BE MADE TO AN APPROVED SEWAGE COLLECTION SYSTEM. BUDA MUD NO. 1 GENERAL NOTES THE DISTRICT ENGINEER, JONES-HEROY & ASSOCIATES, INC (KEN HEROY, PH 512-989-2200) SHALL BE CONTACTED 48 HOURS PRIOR TO:

PERMIT NUMBER

PRE-CONSTRUCTION MEETINGS

) BEGINNING EACH PHASE OF CONSTRUCTION

IV) FINAL WALK-THROUGH OF FACILITIES



CONSTRUCTION PLAN APPROVAL SHEET OF 90 _APPLICATION DATE_ APPROVED BY COMMISSION ON N/A UNDER THE CITY OF BUDA UNIFIED DEVELOPMENT CODE EXPIRATION DATE RELEASED FOR GENERAL COMPLIANCE: which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

04/9/2024 |

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SHEET NUMBER

OF 90

ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THESE PLANS, CITY (OR TOWN) STANDARD DETAILS AND SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT AND ALL ISSUED ADDENDA, AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS. THE CITY SPECIFICATIONS SHALL GOVERN WHERE OTHER SPECIFICATIONS DO NOT EXIST. IN CASE OF CONFLICTING

SPECIFICATIONS OR DETAILS, THE MORE RESTRICTIVE SPECIFICATION AND DETAIL SHALL BE FOLLOWED 2. THE CONTRACTOR SHALL COMPLY WITH CITY (OR TOWN) "GENERAL NOTES" FOR CONSTRUCTION IF EXISTING AND REQUIRED BY THE CITY. FOR INSTANCES WHERE THEY CONFLICT WITH THESE KH GENERAL NOTES, THEN THE MORE RESTRICTIVE SHALL APPLY. 3. THE CONTRACTOR SHALL FURNISH ALL MATERIAL AND LABOR TO CONSTRUCT THE FACILITY AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE AUTHORITIES' SPECIFICATIONS AND REQUIREMENTS.

4. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE EXISTING CONDITIONS. 5. THE EXISTING CONDITIONS SHOWN ON THESE PLANS WERE PROVIDED BY THE TOPOGRAPHIC SURVEY PREPARED BY THE PROJECT SURVEYOR, AND ARE BASED ON THE BENCHMARKS SHOWN. THE CONTRACTOR SHALL REFERENCE THE SAME BENCHMARKS. 6. THE CONTRACTOR SHALL REVIEW AND VERIFY THE EXISTING TOPOGRAPHIC SURVEY SHOWN ON THE PLANS REPRESENTS EXISTING FIELD CONDITIONS PRIOR TO CONSTRUCTION, AND SHALL REPORT ANY DISCREPANCIES FOUND TO THE OWNER AND ENGINEER

7. IF THE CONTRACTOR DOES NOT ACCEPT THE EXISTING TOPOGRAPHIC SURVEY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY AT THEIR OWN EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED PROFESSIONAL LAND SURVEYOR TO THE OWNER AND ENGINEER FOR REVIEW. 8. CONTRACTOR SHALL PROVIDE ALL CONSTRUCTION SURVEYING AND STAKING

9. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL CONTROL. INCLUDING BENCHMARKS PRIOR TO COMMENCING

CONSTRUCTION OR STAKING OF IMPROVEMENTS. PROPERTY LINES AND CORNERS SHALL BE HELD AS THE HORIZONTAL CONTROL. 10. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS. ELEVATIONS. AND FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE ARCHITECT, ENGINEER, AND IF APPLICABLE THE CITY AND OWNER. NO CONSIDERATION WILL BE GIVEN TO CHANGE ORDERS FOR WHICH THE CITY, ENGINEER, AND OWNER WERE NOT CONTACTED PRIOR TO CONSTRUCTION OF THE AFFECTED ITEM. 11. CONTRACTOR SHALL THOROUGHLY CHECK COORDINATION OF CIVIL, LANDSCAPE, MEP, ARCHITECTURAL, AND OTHER PLANS PRIOR TO

12.IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES WITHIN OR NEAR THE CONSTRUCTION AREA BEFORE COMMENCING WORK TO HAVE THEM LOCATE THEIR EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE MINIMUM NOTICE TO ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION.

COMMENCING CONSTRUCTION. OWNER/ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY PRIOR TO COMMENCING WITH

13. CONTRACTOR SHALL CALL TEXAS 811 AN ADEQUATE AMOUNT OF TIME PRIOR TO COMMENCING CONSTRUCTION OR ANY EXCAVATION. 14. CONTRACTOR SHALL USE EXTREME CAUTION AS THE SITE CONTAINS VARIOUS KNOWN AND UNKNOWN PUBLIC AND PRIVATE UTILITIES. 15. THE LOCATIONS. ELEVATIONS. DEPTH. AND DIMENSIONS OF EXISTING UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM AVAILABLE UTILITY COMPANY MAPS AND PLANS, AND ARE CONSIDERED APPROXIMATE AND INCOMPLETE. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO VERIFY THE PRESENCE, LOCATION, ELEVATION, DEPTH, AND DIMENSION OF EXISTING UTILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION SO THAT ADJUSTMENTS CAN BE MADE TO PROVIDE ADEQUATE CLEARANCES. THE ENGINEER SHALL BE NOTIFIED WHEN A PROPOSED IMPROVEMENT CONFLICTS WITH AN EXISTING UTILITY.

16. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ANY ADJUSTMENTS AND RELOCATIONS OF EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO, ADJUSTING EXISTING MANHOLES TO MATCH PROPOSED GRADE, RELOCATING EXISTING POLES AND GUY WIRES THAT ARE LOCATED IN PROPOSED DRIVEWAYS, ADJUSTING THE HORIZONTAL OR VERTICAL ALIGNMENT OF EXISTING UNDERGROUND UTILITIES TO ACCOMMODATE PROPOSED GRADE OR CROSSING WITH A PROPOSED UTILITY, AND ANY OTHERS THAT MAY BE ENCOUNTERED THAT ARE UNKNOWN AT THIS TIME AND NOT SHOWN ON THESE PLANS

17. CONTRACTOR SHALL ARRANGE FOR OR PROVIDE, AT ITS EXPENSE, ALL GAS, TELECOMMUNICATIONS, CABLE, OVERHEAD AND UNDERGROUND POWER LINE, AND UTILITY POLE ADJUSTMENTS NEEDED. 18. CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION OF FRANCHISE UTILITIES THAT ARE NECESSARY FOR ON-SITE AND OFF-SITE CONSTRUCTION, AND SERVICE TO THE PROPOSED DEVELOPMENT.

19. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL DAMAGES DUE TO THE CONTRACTORS' FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UTILITIES. THE OWNER OR ENGINEER WILL ASSUME NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES. IF IT IS NECESSARY TO SHORE, BRACE, SWING OR RELOCATE A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED BY THE CONTRACTOR AND THEIR PERMISSION OBTAINED REGARDING THE METHOD TO USE FOR SUCH WORK.

20.BRACING OF UTILITY POLES MAY BE REQUIRED BY THE UTILITY COMPANIES WHEN TRENCHING OR EXCAVATING IN CLOSE PROXIMITY TO THE POLES. THE COST OF BRACING POLES WILL BE BORNE BY THE CONTRACTOR, WITH NO SEPARATE PAY ITEM FOR THIS WORK. THE COST IS INCIDENTAL TO THE PAY ITEM. 21.CONTRACTOR SHALL USE ALL NECESSARY SAFETY PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND POWER

LINES. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, FEDERAL AND UTILITY OWNER REGULATIONS PERTAINING TO WORK SETBACKS FROM POWER LINES 22.THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL REQUIRED CONSTRUCTION PERMITS, APPROVALS, AND BONDS PRIOR TO CONSTRUCTION.

23. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES A COPY OF THE CONTRACT DOCUMENTS INCLUDING PLANS, GEOTECHNICAL REPORT AND ADDENDA, PROJECT AND CITY SPECIFICATIONS, AND SPECIAL CONDITIONS, COPIES OF ANY REQUIRED CONSTRUCTION PERMITS FROSION CONTROL PLANS SWPPP AND INSPECTION REPORTS 24.ALL SHOP DRAWINGS AND OTHER DOCUMENTS THAT REQUIRE ENGINEER REVIEW SHALL BE SUBMITTED BY THE CONTRACTOR SUFFICIENTLY IN ADVANCE OF CONSTRUCTION OF THAT ITEM, SO THAT NO LESS THAN 10 BUSINESS DAYS FOR REVIEW AND RESPONSE

25.ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES, JURISDICTIONAL AGENCIES, AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO USE OF THE FACILITY AND THE FINAL CONNECTION OF SERVICES. 26.CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.

27. CONTRACTOR'S BID PRICE SHALL INCLUDE ALL INSPECTION FEES 28.ALL SYMBOLS SHOWN ON THESE PLANS (E.G. FIRE HYDRANT, METERS, VALVES, INLETS, ETC....) ARE FOR PRESENTATION PURPOSES ONLY AND ARE NOT TO SCALE. CONTRACTOR SHALL COORDINATE FINAL SIZES AND LOCATIONS WITH APPROPRIATE CITY INSPECTOR. 29. THE SCOPE OF WORK FOR THE CIVIL IMPROVEMENTS SHOWN ON THESE PLANS TERMINATES 5-FEET FROM THE BUILDING. REFERENCE THE BUILDING PLANS (E.G. ARCHITECTURAL, STRUCTURAL, MEP) FOR AREAS WITHIN 5-FEET OF THE BUILDING AND WITHIN THE BUILDING FOOTPRINT.

30.REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR ALL FINAL BUILDING DIMENSIONS 31. THE PROPOSED BUILDING FOOTPRINT(S) SHOWN IN THESE PLANS WAS PROVIDED TO KIMLEY-HORN AND ASSOCIATES. INC. (KH) BY THE PROJECT ARCHITECT AT THE TIME THESE PLANS WERE PREPARED. IT MAY NOT BE THE FINAL CORRECT VERSION BECAUSE THE BUILDING DESIGN WAS ONGOING. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONFIRMING THE FINAL CORRECT VERSION OF THE BUILDING FOOTPRINT WITH THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO LAYOUT. DIMENSIONS AND/OR COORDINATES SHOWN ON THESE PLANS WERE BASED ON THE ABOVE STATED ARCHITECTURAL FOOTPRINT, AND ARE THEREFORE A PRELIMINARY LOCATION OF THE BUILDING. THE CONTRACTOR IS SOLELY RESPONSIBLE TO VERIFY WHAT PART OF THE BUILDING THE ARCHITECT'S FOOTPRINT REPRESENTS (E.G. SLAB, OUTSIDE WALL, MASONRY LEDGE, ETC.....) AND TO CONFIRM ITS FINAL POSITION ON THE SITE BASED ON THE FINAL ARCHITECTURAL FOOTPRINT, CIVIL DIMENSION CONTROL PLAN, SURVEY BOUNDARY AND/OR PLAT. ANY

DIFFERENCES FOUND SHALL BE REPORTED TO KH IMMEDIATELY. 32.ALL CONSTRUCTION SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING SUBSEQUENT ADDENDA

33. CONTRACTOR IS RESPONSIBLE FOR ALL MATERIALS TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL MATERIALS TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR AND COMPLY WITH CITY STANDARD SPECIFICATIONS AND GEOTECHNICAL REPORT. TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING MATERIALS. OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR MATERIALS TESTING. 34.ALL COPIES OF MATERIALS TEST RESULTS SHALL BE SENT TO THE OWNER, ENGINEER AND ARCHITECT DIRECTLY FROM THE TESTING

35.IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE MATERIALS, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS 36.DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING. THE CONTRACTOR SHALL ADHERE TO

GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING, IF NONE IS CURRENTLY EXISTING. 37. ALL CONTRACTORS MUST CONFINE THEIR ACTIVITIES TO THE WORK AREA. NO ENCROACHMENTS OUTSIDE OF THE WORK AREA WILL BE ALLOWED. ANY DAMAGE RESULTING THEREFROM SHALL BE CONTRACTOR'S SOLE RESPONSIBILITY TO REPAIR.

38. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, UTILITIES, MANHOLES, POLES, GUY WIRES, VALVE COVERS, VAULT

LIDS, FIRE HYDRANTS, COMMUNICATION BOXES/PEDESTALS, AND OTHER FACILITIES TO REMAIN AND SHALL REPAIR ANY DAMAGES AT NO COST TO THE OWNER. 39. THE CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE ANY PHYSICAL DAMAGE TO PRIVATE PROPERTY OR PUBLIC IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO: FENCES, WALLS, SIGNS, PAVEMENT, CURBS, UTILITIES, SIDEWALKS, GRASS, TREES, LANDSCAPING, AND IRRIGATION SYSTEMS, ETC.... TO ORIGINAL CONDITION OR BETTER AT NO COST TO THE OWNER.

40.ALL AREAS IN EXISTING RIGHT-OF-WAY DISTURBED BY SITE CONSTRUCTION SHALL BE REPAIRED TO ORIGINAL CONDITION OR BETTER, INCLUDING AS NECESSARY GRADING, LANDSCAPING, CULVERTS, AND PAVEMENT. 41.THE CONTRACTOR SHALL SALVAGE ALL EXISTING POWER POLES, SIGNS, WATER VALVES, FIRE HYDRANTS, METERS, ETC... THAT ARE TO BE RELOCATED DURING CONSTRUCTION. 42.CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING

DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES. 43.THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY. 44.THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.

45.SITE SAFETY IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR 46.THESE PLANS DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE ENGINEER'S SEAL HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF ALL REQUIRED SAFETY PROCEDURES AND PROGRAMS

47.SIGNS RELATED TO SITE OPERATION OR SAFETY ARE NOT INCLUDED IN THESE PLANS. 48.CONTRACTOR OFFICE AND STAGING AREA SHALL BE AGREED ON BY THE OWNER AND CONTRACTOR PRIOR TO BEGINNING OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITTING REQUIREMENTS FOR THE CONSTRUCTION OFFICE, TRAILER, STORAGE, AND STAGING OPERATIONS AND LOCATIONS.

49.LIGHT POLES, SIGNS, AND OTHER OBSTRUCTIONS SHALL NOT BE PLACED IN ACCESSIBLE ROUTES. 50.ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM 51.TOP RIM ELEVATIONS OF ALL EXISTING AND PROPOSED MANHOLES SHALL BE COORDINATED WITH TOP OF PAVEMENT OR FINISHED

GRADE AND SHALL BE ADJUSTED TO BE FLUSH WITH THE ACTUAL FINISHED GRADE AT THE TIME OF PAVING. 52.CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED VALVES, FIRE HYDRANTS, AND OTHER UTILITY APPURTENANCES TO MATCH ACTUAL FINISHED GRADES AT THE TIME OF PAVING. 53.THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION SEQUENCING AND PHASING, AND SHALL CONTACT THE APPROPRIATE CITY

OFFICIALS, INCLUDING BUILDING OFFICIAL, ENGINEERING INSPECTOR, AND FIRE MARSHALL TO LEARN OF ANY REQUIREMENTS. 54. CONTRACTOR IS RESPONSIBLE FOR PREPARATION, SUBMITTAL, AND APPROVAL BY THE CITY OF A TRAFFIC CONTROL PLAN PRIOR TO THE START OF CONSTRUCTION. AND THEN THE IMPLEMENTATION OF THE PLAN.

55. CONTRACTOR SHALL KEEP A NEAT AND ACCURATE RECORD OF CONSTRUCTION, INCLUDING ANY DEVIATIONS OR VARIANCES FROM 56.THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT PLANS TO THE ENGINEER AND CITY IDENTIFYING ALL DEVIATIONS AND VARIATIONS FROM THESE PLANS MADE DURING CONSTRUCTION.

THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL EROSION CONTROL AND WATER QUALITY REQUIREMENTS, LAWS, AND ORDINANCES THAT APPLY TO THE CONSTRUCTION SITE LAND DISTURBANCE.

2. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE "TCEQ GENERAL PERMIT TO DISCHARGE UNDER THE TEXAS POLITIANT DISCHARGE FLIMINATION SYSTEM TXR 150000" 3. EROSION CONTROL DEVICES SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START

4. ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS FOR THE 5. CONTRACTOR IS SOLELY RESPONSIBLE FOR INSTALLATION, IMPLEMENTATION, MAINTENANCE, AND EFFECTIVENESS OF ALL EROSION

CONTROL DEVICES, BEST MANAGEMENT PRACTICES (BMPS), AND FOR UPDATING THE EROSION CONTROL PLAN DURING CONSTRUCTION AS FIELD CONDITIONS CHANGE. 6. CONTRACTOR SHALL DOCUMENT THE DATES OF INSTALLATION, MAINTENANCE OR MODIFICATION, AND REMOVAL FOR EACH BMP

EMPLOYED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IF APPLICABLE. 7. AS STORM SEWER INLETS ARE INSTALLED ON-SITE, TEMPORARY EROSION CONTROL DEVICES SHALL BE INSTALLED AT EACH INLET PER APPROVED DETAILS.

3. THE EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL THE AREA IT PROTECTS HAS BEEN PERMANENTLY STABILIZED. 9. CONTRACTOR SHALL PROVIDE ADEQUATE EROSION CONTROL DEVICES NEEDED DUE TO PROJECT PHASING. 10. CONTRACTOR SHALL OBSERVE THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES AND MAKE FIELD ADJUSTMENTS AND MODIFICATIONS AS NEEDED TO PREVENT SEDIMENT FROM LEAVING THE SITE. IF THE EROSION CONTROL DEVICES DO NOT

EFFECTIVELY CONTROL EROSION AND PREVENT SEDIMENTATION FROM WASHING OFF THE SITE, THEN THE CONTRACTOR SHALL

11 OFF-SITE SOIL BORROW SPOIL AND STORAGE AREAS (IF APPLICABLE) ARE CONSIDERED AS PART OF THE PROJECT SITE AND MUST ALSO COMPLY WITH THE EROSION CONTROL REQUIREMENTS FOR THIS PROJECT. THIS INCLUDES THE INSTALLATION OF BMP'S TO CONTROL EROSION AND SEDIMENTATION AND THE ESTABLISHMENT OF PERMANENT GROUND COVER ON DISTURBED AREAS PRIOR TO FINAL APPROVAL OF THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR MODIFYING THE SWPPP AND FROSION CONTROL PLAN TO INCLUDE BMPS FOR ANY OFF-SITE THAT ARE NOT ANTICIPATED OR SHOWN ON THE EROSION CONTROL PLAN.

12. ALL STAGING, STOCKPILES, SPOIL, AND STORAGE SHALL BE LOCATED SUCH THAT THEY WILL NOT ADVERSELY AFFECT STORM WATER QUALITY. PROTECTIVE MEASURES SHALL BE PROVIDED IF NEEDED TO ACCOMPLISH THIS REQUIREMENT, SUCH AS COVERING OR ENCIRCLING THE AREA WITH AN APPROPRIATE BARRIER.

13. CONTRACTORS SHALL INSPECT ALL EROSION CONTROL DEVICES, BMPS, DISTURBED AREAS, AND VEHICLE ENTRY AND EXIT AREAS WEEKLY AND WITHIN 24 HOURS OF ALL RAINFALL EVENTS OF 0.5 INCHES OR GREATER, AND KEEP A RECORD OF THIS INSPECTION IN THE SWPPP BOOKLET IF APPLICABLE TO VERIEY THAT THE DEVICES AND EROSION CONTROL PLAN ARE FUNCTIONING PROPERLY 14. CONTRACTOR SHALL CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE AT ALL PRIMARY POINTS OF ACCESS IN ACCORDANCE WITH CITY SPECIFICATIONS. CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION TRAFFIC USES THE STABILIZED ENTRANCE AT

ALL TIMES FOR ALL INGRESS/EGRESS 15. SITE ENTRY AND EXITS SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT THE TRACKING AND FLOWING OF SEDIMENT AND DIRT ONTO OFF-SITE ROADWAYS. ALL SEDIMENT AND DIRT FROM THE SITE THAT IS DEPOSITED ONTO AN OFF-SITE ROADWAY SHALL BE REMOVED IMMEDIATELY

16. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL SILT AND DEBRIS FROM THE AFFECTED OFF-SITE ROADWAYS THAT ARE A RESULT OF THE CONSTRUCTION, AS REQUESTED BY OWNER AND CITY. AT A MINIMUM, THIS SHOULD OCCUR ONCE PER DAY FOR THE OFF-SITE ROADWAYS. 17. WHEN WASHING OF VEHICLES IS REQUIRED TO REMOVE SEDIMENT PRIOR TO EXITING THE SITE, IT SHALL BE DONE IN AN AREA

STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP BMP 18. CONTRACTOR SHALL INSTALL A TEMPORARY SEDIMENT BASIN FOR ANY ON-SITE DRAINAGE AREAS THAT ARE GREATER THAN 10 ACRES, PER TCEQ AND CITY STANDARDS. IF NO ENGINEERING DESIGN HAS BEEN PROVIDED FOR A SEDIMENTATION BASIN ON THESE PLANS, THEN THE CONTRACTOR SHALL ARRANGE FOR AN APPROPRIATE DESIGN TO BE PROVIDED.

19 ALL FINES IMPOSED FOR SEDIMENT OR DIRT DISCHARGED FROM THE SITE SHALL BE PAID BY THE RESPONSIBLE CONTRACTOR 20. WHEN SEDIMENT OR DIRT HAS CLOGGED THE CONSTRUCTION ENTRANCE VOID SPACES BETWEEN STONES OR DIRT IS BEING TRACKED ONTO A ROADWAY, THE AGGREGATE PAD MUST BE WASHED DOWN OR REPLACED. RUNOFF FROM THE WASH-DOWN OPERATION SHALL NOT BE ALLOWED TO DRAIN DIRECTLY OFF SITE WITHOUT FIRST FLOWING THROUGH ANOTHER BMP TO CONTROL SEDIMENTATION. PERIODIC RE-GRADING OR NEW STONE MAY BE REQUIRED TO MAINTAIN THE EFFECTIVENESS OF THE CONSTRUCTION ENTRANCE. 21. TEMPORARY SEEDING OR OTHER APPROVED STABILIZATION SHALL BE INITIATED WITHIN 14 DAYS OF THE LAST DISTURBANCE OF ANY AREA, UNLESS ADDITIONAL CONSTRUCTION IN THE AREA IS EXPECTED WITHIN 21 DAYS OF THE LAST DISTURBANCE. 22.CONTRACTOR SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING CONSTRUCTION, ALWAYS CLEANING UP DIRT, LOOSE

MATERIAL. AND TRASH AS CONSTRUCTION PROGRESSES 23.UPON COMPLETION OF FINE GRADING, ALL SURFACES OF DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED. STABILIZATION IS ACHIEVED WHEN THE AREA IS EITHER COVERED BY PERMANENT IMPERVIOUS STRUCTURES, SUCH AS BUILDINGS, SIDEWALK, PAVEMENT OR A LINIFORM PERENNIAL VEGETATIVE COVER 24.AT THE CONCLUSION OF THE PROJECT, ALL INLETS, DRAIN PIPE, CHANNELS, DRAINAGEWAYS AND BORROW DITCHES AFFECTED BY THE CONSTRUCTION SHALL BE DREDGED, AND THE SEDIMENT GENERATED BY THE PROJECT SHALL BE REMOVED AND DISPOSED IN

STORM WATER DISCHARGE AUTHORIZATION

ACCORDANCE WITH APPLICABLE REGULATIONS.

CONTRACTOR SHALL COMPLY WITH ALL TCEQ AND EPA STORM WATER POLLUTION PREVENTION REQUIREMENTS 2 CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE TCEO GENERAL PERMIT TO DISCHARGE UNDER THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM TXR 150000.

3 THE CONTRACTOR SHALL ENSURE THAT ALL PRIMARY OPERATORS SUBMIT A NOLTO TCEQ AT LEAST SEVEN DAYS PRIOR TO COMMENCING CONSTRUCTION (IF APPLICABLE), OR IF UTILIZING ELECTRONIC SUBMITTAL, PRIOR TO COMMENCING CONSTRUCTION. ALL PRIMARY OPERATORS SHALL PROVIDE A COPY OF THE SIGNED NOI TO THE OPERATOR OF ANY MS4 (TYPICALLY THE CITY) 4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IF

APPLICABLE, INCLUDING POSTING SITE NOTICE, INSPECTIONS, DOCUMENTATION, AND SUBMISSION OF ANY INFORMATION REQUIRED BY THE TCEQ AND EPA (E.G. NOI). ALL CONTRACTORS AND SUBCONTRACTORS PROVIDING SERVICES RELATED TO THE SWPPP SHALL SIGN THE REQUIRED CONTRACTOR CERTIFICATION STATEMENT ACKNOWLEDGING THEIR RESPONSIBILITIES AS SPECIFIED IN THE SWPPP. 6. A COPY OF THE SWPPP, INCLUDING NOI, SITE NOTICE, CONTRACTOR CERTIFICATIONS, AND ANY REVISIONS, SHALL BE SUBMITTED TO

THE CITY BY THE CONTRACTOR AND SHALL BE RETAINED ON-SITE DURING CONSTRUCTION. 7. A NOTICE OF TERMINATION (NOT) SHALL BE SUBMITTED TO TCEQ BY ANY PRIMARY OPERATOR WITHIN 30 DAYS AFTER ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND A UNIFORM VEGETATIVE COVER HAS BEEN ESTABLISHED ON ALL UNPAVED AREAS AND AREAS NOT COVERED BY STRUCTURES, A TRANSFER OF OPERATIONAL CONTROL HAS OCCURRED, OR THE OPERATOR HAS OBTAINED ALTERNATIVE AUTHORIZATION UNDER A DIFFERENT PERMIT. A COPY OF THE NOT SHALL BE PROVIDED TO THE OPERATOR OF ANY MS4 RECEIVING DISCHARGE FROM THE SITE.

. KH IS NOT RESPONSIBLE FOR THE MEANS AND METHODS EMPLOYED BY THE CONTRACTOR TO IMPLEMENT THIS DEMOLITION PLAN. THIS PRELIMINARY DEMOLITION PLAN SIMPLY INDICATES THE KNOWN OBJECTS ON THE SUBJECT TRACT THAT ARE TO BE DEMOLISHED AND REMOVED FROM THE SITE 2. KH DOES NOT WARRANT OR REPRESENT THAT THE PLAN. WHICH WAS PREPARED BASED ON SURVEY AND UTILITY INFORMATION. PROVIDED BY OTHERS, SHOWS ALL IMPROVEMENTS AND UTILITIES, THAT THE IMPROVEMENTS AND UTILITIES ARE SHOWN ACCURATELY, OR THAT THE UTILITIES SHOWN CAN BE REMOVED. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ITS OWN SITE RECONNAISSANCE TO SCOPE ITS WORK AND TO CONFIRM WITH THE OWNERS OF IMPROVEMENTS AND UTILITIES THE ABILITY AND

PROCESS FOR THE REMOVAL OF THEIR FACILITIES. 3. THIS PLAN IS INTENDED TO GIVE A GENERAL GUIDE TO THE CONTRACTOR, NOTHING MORE. THE GOAL OF THE DEMOLITION IS TO LEAVE THE SITE IN A STATE SUITABLE FOR THE CONSTRUCTION OF THE PROPOSED DEVELOPMENT. REMOVAL OR PRESERVATION OF IMPROVEMENTS, UTILITIES, ETC. TO ACCOMPLISH THIS GOAL ARE THE RESPONSIBILITY OF THE CONTRACTOR.

4. CONTRACTOR IS STRONGLY CAUTIONED TO REVIEW THE FOLLOWING REPORTS DESCRIBING SITE CONDITIONS PRIOR TO BIDDING AND IMPLEMENTING THE DEMOLITION PLAN-a. ENVIRONMENTAL SITE ASSESSMENT PROVIDED BY THE OWNER.

. ASBESTOS BUILDING INSPECTION REPORT(S) PROVIDED BY THE OWNER, c. GEOTECHNICAL REPORT PROVIDED BY THE OWNER.

CONTRACTOR SHALL OBTAIN ANY REQUIRED GRADING PERMITS FROM THE CITY.

d. OTHER REPORTS THAT ARE APPLICABLE AND AVAILABLE. 5 CONTRACTOR SHALL CONTACT THE OWNER TO VERIEV WHETHER ADDITIONAL REPORTS OR AMENDMENTS TO THE ABOVE CITED. REPORTS HAVE BEEN PREPARED AND TO OBTAIN/REVIEW/AND COMPLY WITH THE RECOMMENDATION OF SUCH STUDIES PRIOR TO STARTING ANY WORK ON THE SITE.

6. CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS REGARDING THE DEMOLITION OF OBJECTS ON THE SITE AND THE DISPOSAL OF THE DEMOLISHED MATERIALS OFF-SITE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO REVIEW THE SITE DETERMINE THE APPLICABLE REGULATIONS. RECEIVE THE REQUIRED PERMITS AND AUTHORIZATIONS. AND COMPLY . KH DOES NOT REPRESENT THAT THE REPORTS AND SURVEYS REFERENCED ABOVE ARE ACCURATE, COMPLETE, OR COMPREHENSIVE

SHOWING ALL ITEMS THAT WILL NEED TO BE DEMOLISHED AND REMOVED. 8. SURFACE PAVEMENT INDICATED MAY OVERLAY OTHER HIDDEN STRUCTURES, SUCH AS ADDITIONAL LAYERS OF PAVEMENT FOUNDATIONS OR WALLS. THAT ARE ALSO TO BE REMOVED.

1. THE CONTRACTOR AND GRADING SUBCONTRACTOR SHALL VERIFY THE SUITABILITY OF EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE START OF CONSTRUCTION. THE CIVIL ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES

3. UNLESS OTHERWISE NOTED, PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN IN PAVED AREA REFLECT TOP OF PAVEMENT SURFACE. IN LOCATIONS ALONG A CURB LINE, ADD 6-INCHES (OR THE HEIGHT OF THE CURB) TO THE PAVING GRADE FOR TOP OF CURB 4. PROPOSED SPOT ELEVATIONS AND CONTOURS OUTSIDE THE PAVEMENT ARE TO TOP OF FINISHED GRADE.

5. PROPOSED CONTOURS ARE APPROXIMATE. PROPOSED SPOT ELEVATIONS AND DESIGNATED GRADIENT ARE TO BE USED IN CASE OF DISCREPANCY. . ALL FINISHED GRADES SHALL TRANSITION UNIFORMLY BETWEEN THE FINISHED ELEVATIONS SHOWN . CONTOURS AND SPOT GRADES SHOWN ARE ELEVATIONS OF TOP OF THE FINISHED SURFACE. WHEN PERFORMING THE GRADING OPERATIONS. THE CONTRACTOR SHALL PROVIDE AN APPROPRIATE ELEVATION HOLD-DOWN ALLOWANCE FOR THE THICKNESS OF

PAVEMENT, SIDEWALK, TOPSOIL, MULCH, STONE, LANDSCAPING, RIP-RAP AND ALL OTHER SURFACE MATERIALS THAT WILL CONTRIBUTE TO THE TOP OF FINISHED GRADE. FOR EXAMPLE, THE LIMITS OF EARTHWORK IN PAVED AREAS IS THE BOTTOM OF THE PAVEMENT SECTION 3. NO REPRESENTATIONS OF EARTHWORK QUANTITIES OR SITE BALANCE ARE MADE BY THESE PLANS. THE CONTRACTOR SHALL PROVIDE THEIR OWN EARTHWORK CALCULATION TO DETERMINE THEIR CONTRACT QUANTITIES AND COST. ANY SIGNIFICANT VARIANCE FROM A BALANCED SITE SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CIVIL ENGINEER. 9. ALL GRADING AND EARTHWORK SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING

10. ALL EXCAVATION IS UNCLASSIFIED AND SHALL INCLUDE ALL MATERIALS ENCOUNTERED. UNUSABLE EXCAVATED MATERIAL AND ALL WASTE RESULTING FROM SITE CLEARING AND GRUBBING SHALL BE REMOVED FROM THE SITE AND APPROPRIATELY DISPOSED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE 11. EROSION CONTROL DEVICES SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START OF GRADING. REFERENCE EROSION CONTROL PLAN, DETAILS, GENERAL NOTES, AND SWPPP FOR ADDITIONAL INFORMATION AND

12.BEFORE ANY EARTHWORK IS PERFORMED, THE CONTRACTOR SHALL STAKE OUT AND MARK THE LIMITS OF THE PROJECT'S PROPERTY LINE AND SITE IMPROVEMENTS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY ENGINEERING AND SURVEYING FOR LINE AND GRADE CONTROL POINTS RELATED TO EARTHWORK. 13. CONTRACTOR TO DISPOSE OF ALL EXCESS EXCAVATION MATERIALS IN A MANNER THAT ADHERES TO LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS. THE CONTRACTOR SHALL KEEP A RECORD OF WHERE EXCESS EXCAVATION WAS DISPOSED, ALONG WITH

THE RECEIVING LANDOWNER'S APPROVAL TO DO SO. 14. CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF TOPSOIL AT THE COMPLETION OF FINE GRADING. CONTRACTOR SHALL REFER TO LANDSCAPE ARCHITECTURE PLANS FOR SPECIFICATIONS AND REQUIREMENTS FOR TOPSOIL. 15. CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.

16.NO EARTHWORK FILL SHALL BE PLACED IN ANY EXISTING DRAINAGE WAY, SWALE, CHANNEL, DITCH, CREEK, OR FLOODPLAIN FOR ANY REASON OR ANY LENGTH OF TIME, UNLESS THESE PLANS SPECIFICALLY INDICATE THIS IS REQUIRED. 17. TEMPORARY CULVERTS MAY BE REQUIRED IN SOME LOCATIONS TO CONVEY RUN-OFF. 18. REFER TO DIMENSION CONTROL PLAN, AND PLAT FOR HORIZONTAL DIMENSIONS.

19. THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND CONDITION FILL PER THE PROJECT GEOTECHNICAL ENGINEER'S SPECIFICATIONS. THE FILL MATERIAL TO BE USED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO 20.CONTRACTOR IS RESPONSIBLE FOR ALL SOILS TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL SOILS

TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR AND SHALL COMPLY WITH CITY STANDARD SPECIFICATIONS AND THE GEOTECHNICAL REPORT. SOILS TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING SOILS. THE OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR SOILS TESTING. 21.ALL COPIES OF SOILS TEST RESULTS SHALL BE SENT TO THE OWNER, ENGINEER AND ARCHITECT DIRECTLY FROM THE TESTING AGENCY 22.IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE SOILS, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS.

23.THE SCOPE OF WORK FOR CIVIL IMPROVEMENT SHOWN ON THESE PLANS TERMINATES 5-FEET FROM THE BUILDING. CONTRACTOR

SHALL REFER TO THE GEOTECHNICAL REPORT AND STRUCTURAL PLANS AND SPECIFICATIONS FILL, CONDITIONING, AND PREPARATION IN THE BUILDING PAD. 24.DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING, THE CONTRACTOR SHALL ADHERE TO GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING JE NONE IS CURRENTLY EXISTING

25.CONTRACTOR SHALL ENSURE THAT SUFFICIENT POSITIVE SLOPE AWAY FROM THE BUILDING PAD IS ACHIEVED FOR ENTIRE PERIMETER OF THE PROPOSED BUILDING(S) DURING GRADING OPERATIONS AND IN THE FINAL CONDITION. IF THE CONTRACTOR OBSERVES THAT THIS WILL NOT BE ACHIEVED, THE CONTRACTOR SHALL CONTACT THE ENGINEER TO REVIEW THE LOCATION 26.THE CONTRACTOR SHALL TAKE ALL AVAILABLE PRECAUTIONS TO CONTROL DUST. CONTRACTOR SHALL CONTROL DUST BY SPRINKLING WATER. OR BY OTHER MEANS APPROVED BY THE CITY. AT NO ADDITIONAL COST TO THE OWNER.

29. CONTRACTOR SHALL FIELD VERIFY ALL PROTECTED TREE LOCATIONS, INDIVIDUAL PROTECTED TREE CRITICAL ROOT ZONES, AND

IN THE FIELD THAT AFFECT THE GRADING PLAN TO THE CIVIL ENGINEER.

27.CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES FOR ANY REQUIRED UTILITY ADJUSTMENTS AND/OR RELOCATIONS NEEDED FOR GRADING OPERATIONS AND TO ACCOMMODATE PROPOSED GRADE, INCLUDING THE UNKNOWN UTILITIES NOT SHOWN ON THESE PLANS. CONTRACTOR SHALL REFER TO THE GENERAL NOTES "OVERALL" SECTION THESE PLANS FOR ADDITIONAL INFORMATION 28.EXISTING TREE LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE. CONTRACTOR SHALL REPORT ANY DISCREPANCIES FOUND

PROPOSED SITE GRADING, AND NOTIFY THE CIVIL ENGINEER AND LANDSCAPE ARCHITECT OF ANY CONFLICTS WITH THE TREE PRESERVATION PLAN BY THE LANDSCAPE ARCHITECT PRIOR TO COMMENCING THE WORK. 30 TREE PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY STANDARD TREE PROTECTION DETAILS AND THE APPROVED TREE PRESERVATION PLANS BY THE LANDSCAPE ARCHITECT

2. RETAINING WALL TYPE OR SYSTEM SHALL BE SELECTED BY THE OWNER.

31.CONTRACTOR SHALL REFER TO THE LANDSCAPING AND TREE PRESERVATIONS PLANS FOR ALL INFORMATION AND DETAILS REGARDING EXISTING TREES TO BE REMOVED AND PRESERVED.

32.NO TREE SHALL BE REMOVED UNLESS A TREE REMOVAL PERMIT HAS BEEN ISSUED BY THE CITY, OR CITY HAS OTHERWISE CONFIRMED IN WRITING THAT ONE IS NOT NEEDED FOR THE TREE(S) 33 NO TREE SHALL BE REMOVED OR DAMAGED WITHOUT PRIOR AUTHORIZATION OF THE OWNER OR OWNER'S REPRESENTATIVE

EXISTING TREES SHALL BE PRESERVED WHENEVER POSSIBLE AND GRADING IMPACT TO THEM HELD TO A MINIMUM. 34 AFTER PLACEMENT OF SURGRADE AND PRIOR TO PLACEMENT OF PAVEMENT, CONTRACTOR SHALL TEST AND OBSERVE PAVEMENT AREAS FOR EVIDENCE OF PONDING AND INADEQUATE SLOPE FOR DRAINAGE. ALL AREAS SHALL ADEQUATELY DRAIN TOWARDS THE INTENDED STRUCTURE TO CONVEY STORMWATER RUNOFF. CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER AND ENGINEER IF ANY AREAS OF POOR DRAINAGE ARE DISCOVERED 35. CONTRACTOR FIELD ADJUSTMENT OF PROPOSED SPOT GRADES IS ALLOWED, IF THE APPROVAL OF THE CIVIL ENGINEER IS OBTAINED.

. RETAINING WALLS SHOWN ARE FOR SITE GRADING PURPOSES ONLY, AND INCLUDE ONLY LOCATION AND SURFACE SPOT ELEVATIONS AT THE TOP AND BOTTOM OF THE WALL

3. RETAINING WALL DESIGN SHALL BE PROVIDED BY OTHERS AND SHALL FIT IN THE WALL ZONE OR LOCATION SHOWN ON THESE PLANS. STRUCTURAL DESIGN AND PERMITTING OF RETAINING WALLS. RAILINGS, AND OTHER WALL SAFETY DEVICES SHALL BE PERFORMED BY A LICENSED ENGINEER AND ARE NOT PART OF THIS PLAN SET. 4. RETAINING WALL DESIGN SHALL MEET THE INTENT OF THE GRADING PLAN AND SHALL ACCOUNT FOR ANY INFLUENCE ON ADJACENT BUILDING FOUNDATIONS, UTILITIES, PROPERTY LINES AND OTHER CONSTRUCTABILITY NOTES.

RETAINING WALL ENGINEER SHALL CONSULT THESE PLANS AND THE GEOTECHNICAL REPORT FOR POTENTIAL CONFLICTS.

1. ALL PAVING MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THESE PLANS, THE CITY STANDARD DETAILS AND SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT AND ALL ISSUED ADDENDA, AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS. THE CITY SPECIFICATIONS SHALL GOVERN WHERE OTHER SPECIFICATIONS DO NOT EXIST. IN CASE OF CONFLICTING SPECIFICATIONS OR DETAILS, THE MORE RESTRICTIVE SPECIFICATION/DETAIL SHALL BE FOLLOWED . ALL PRIVATE ON-SITE PAVING AND PAVING SUBGRADE SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST

EDITION). INCLUDING ALL ADDENDA. 3. ALL FIRELANE PAVING AND PAVING SUBGRADE SHALL COMPLY WITH CITY STANDARDS AND DETAILS. IF THESE ARE DIFFERENT THAN THOSE IN THE GEOTECHNICAL REPORT. THEN THE MORE RESTRICTIVE SHALL BE FOLLOWED 4. ALL PUBLIC PAVING AND PAVING SUBGRADE SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS 5. CONTRACTOR IS RESPONSIBLE FOR ALL PAVING AND PAVING SUBGRADE TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL PAVING AND PAVING SUBGRADE TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR.

TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING PAVING AND SUBGRADE. OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR PAVING AND PAVING SUBGRADE TESTING 6. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE PAVING AND PAVING SUBGRADE, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS. 7. DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING, THE CONTRACTOR SHALL ADHERE TO GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED

BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING. IF NONE IS CURRENTLY EXISTING. 8. CURB RAMPS ALONG PUBLIC STREETS AND IN THE PUBLIC RIGHT-OF-WAY SHALL BE CONSTRUCTED BASED ON THE CITY STANDARD CONSTRUCTION DETAIL AND SPECIFICATIONS 9. PRIVATE CURB RAMPS ON THE SITE (I.E. OUTSIDE PUBLIC STREET RIGHT-OF-WAY) SHALL CONFORM TO ADA AND TAS STANDARDS AND

SHALL HAVE A DETECTABLE WARNING SURFACE THAT IS FULL WIDTH AND FULL DEPTH OF THE CURB RAMP, NOT INCLUDING FLARES. 10. ALL ACCESSIBLE RAMPS, CURB RAMPS, STRIPING, AND PAVEMENT MARKINGS SHALL CONFORM TO ADA AND TAS STANDARDS, LATEST 11. ANY COMPONENTS OF THE PROJECT SUBJECT TO RESIDENTIAL USE SHALL ALSO CONFORM TO THE FAIR HOUSING ACT. AND COMPLY WITH THE FAIR HOUSING ACT DESIGN MANUAL BY THE US DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT 12 CONTRACTOR SHALL CONSTRUCT PROPOSED PAVEMENT TO MATCH EXISTING PAVEMENT WITH A SMOOTH FLUSH CONNECTION.

13. CONTRACTOR SHALL FURNISH AND INSTALL ALL PAVEMENT MARKINGS FOR FIRE LANES, PARKING STALLS, HANDICAPPED PARKING SYMBOLS, AND MISCELLANEOUS STRIPING WITHIN PARKING LOT AND AROUND BUILDING AS SHOWN ON THE PLANS. ALL PAINT AND PAVEMENT MARKINGS SHALL ADHERE TO CITY AND OWNER STANDARDS. 14. REFER TO GEOTECHNICAL REPORT FOR PAVING JOINT LAYOUT PLAN REQUIREMENTS FOR PRIVATE PAVEMENT. 15. REFER TO CITY STANDARD DETAILS AND SPECIFICATIONS FOR JOINT LAYOUT PLAN REQUIREMENTS FOR PUBLIC PAVEMENT

16. ALL REINFORCING STEEL SHALL CONFORM TO THE GEOTECHNICAL REPORT, CITY STANDARDS, AND ASTM A-615, GRADE 60, AND SHALL BE SUPPORTED BY BAR CHAIRS. CONTRACTOR SHALL USE THE MORE STRINGENT OF THE CITY AND GEOTECHNICAL STANDARDS. 17. ALL JOINTS SHALL EXTEND THROUGH THE CURB 18. THE MINIMUM LENGTH OF OFFSET JOINTS AT RADIUS POINTS SHALL BE 2 FEET. 19. CONTRACTOR SHALL SUBMIT A JOINTING PLAN TO THE ENGINEER AND OWNER PRIOR TO BEGINNING ANY OF THE PAVING WORK. 20.ALL SAWCUTS SHALL BE FULL DEPTH FOR PAVEMENT REMOVAL AND CONNECTION TO EXISTING PAVEMENT

21.FIRE LANES SHALL BE MARKED AND LABELED AS A FIRELANE PER CITY STANDARDS 22.UNLESS THE PLANS SPECIFICALLY DICTATE TO THE CONTRARY. ON-SITE AND OTHER DIRECTIONAL SIGNS SHALL BE ORIENTED SO THEY ARE READILY VISIBLE TO THE ONCOMING TRAFFIC FOR WHICH THEY ARE INTENDED. 23.CONTRACTOR IS RESPONSIBLE FOR INSTALLING NECESSARY CONDUIT FOR LIGHTING, IRRIGATION, ETC. PRIOR TO PLACEMENT OF PAVEMENT. ALL CONSTRUCTION DOCUMENTS (CIVIL, MEP, LANDSCAPE, IRRIGATION, AND ARCHITECT) SHALL BE CONSULTED. 24.BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE ACCESSIBLE PEDESTRIAN ROUTES (PER ADA, TAS, AND

FHA) EXIST TO AND FROM EVERY DOOR AND ALONG SIDEWALKS. ACCESSIBLE PARKING SPACES. ACCESS AISLES. AND ACCESSIBLE

ROUTES. IN NO CASE SHALL AN ACCESSIBLE RAMP SLOPE EXCEED 1 VERTICAL TO 12 HORIZONTAL. IN NO CASE SHALL SIDEWALK CROSS SLOPE EXCEED 2.0 PERCENT. IN NO CASE SHALL LONGITUDINAL SIDEWALK SLOPE EXCEED 5.0 PERCENT. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL NOT EXCEED 2.0 PERCENT SLOPE IN ANY DIRECTION 25.CONTRACTOR SHALL TAKE FIELD SLOPE MEASUREMENTS ON FINISHED SUBGRADE AND FORM BOARDS PRIOR TO PLACING PAVEMENT TO VERIFY THAT ADA/TAS SLOPE REQUIREMENTS ARE PROVIDED. CONTRACTOR SHALL CONTACT ENGINEER PRIOR TO PAVING IF ANY EXCESSIVE SLOPES ARE ENCOUNTERED. NO CONTRACTOR CHANGE ORDERS WILL BE ACCEPTED FOR ADA AND TAS SLOPE COMPLIANCE ISSUES.

. ALL STORM SEWER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND

SPECIFICATIONS. 2. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE STORM SEWER 3. THE CONTRACTOR SHALL FIELD VERIFY THE SIZE, CONDITION, HORIZONTAL, AND VERTICAL LOCATIONS OF ALL EXISTING STORM

SEWER FACILITIES THAT ARE TO BE CONNECTED TO, PRIOR TO START OF CONSTRUCTION OF ANY STORM SEWER, AND SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED. 4. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF CURB INLETS AND GRATE INLETS AND ALL UTILITIES CROSSING THE STORM SEWER. 5. FLOW LINE, TOP-OF-CURB, RIM, THROAT, AND GRATE ELEVATIONS OF PROPOSED INLETS SHALL BE VERIFIED WITH THE GRADING PLAN NO

6. ALL PUBLIC STORM SEWER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO CITY PUBLIC WORKS STANDARD DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS. 7. ALL PRIVATE STORM SEWER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO THE APPLICABLE PLUMBING CODE. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS. 8. ALL PVC TO RCP CONNECTIONS AND ALL STORM PIPE CONNECTIONS ENTERING STRUCTURES OR OTHER STORM PIPES SHALL HAVE A CONCRETE COLLAR AND BE GROUTED TO ASSURE THE CONNECTION IS WATERTIGHT.

9. ALL PUBLIC STORM SEWER LINES SHALL BE MINIMUM CLASS III RCP. PRIVATE STORM SEWER LINES 18-INCHES AND GREATER SHALL BE CLASS III RCP OR OTHER APPROVED MATERIAL 10. WHERE COVER EXCEEDS 20-FEET OR IS LESS THAN 2-FEET, CLASS IV RCP SHALL BE USED. 11.IF CONTRACTOR PROPOSES TO USE HDPE OR PVC IN LIEU OF RCP FOR PRIVATE STORM SEWER, CONTRACTOR SHALL SUBMIT

TECHNICAL DATA TO THE OWNER, ENGINEER AND CITY ENGINEER/INSPECTOR FOR APPROVAL PRIOR TO ORDERING THE MATERIAL. ANY PROPOSED HDPE AND PVC SHALL BE WATERTIGHT. 12. THE CONTRACTOR SHALL PROVIDE CONSTRUCTION SURVEYING FOR ALL STORM SEWER LINES. 13. EMBEDMENT FOR ALL STORM SEWER LINES, PUBLIC OR PRIVATE, SHALL BE PER CITY STANDARD DETAILS.

14. ALL WYE CONNECTIONS AND PIPE BENDS ARE TO BE PREFABRICATED AND INSTALLED PER MANUFACTURERS SPECIFICATIONS. 15. USE 4 FOOT JOINTS WITH BEVELED ENDS IF RADIUS OF STORM SEWER IS LESS THAN 100 FEET 16. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN. PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY. 17. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.

AND FIFLD CONDITIONS PRIOR TO THEIR INSTALLATION

ALL UTILITY SERVICES ENTERING THE BUILDING

ANY PONDS THAT ARE INTENDED TO HOLD WATER INDEFINITELY SHALL BE CONSTRUCTED WATERTIGHT. 2. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR POND LINER SPECIFICATIONS

3. A GEOTECHNICAL ENGINEER SHALL REVIEW AND APPROVE ALL POND LINER MATERIAL, PLACEMENT PROCEDURES, AND PROVIDE TESTING TO ENSURE THE POND LINER MATERIAL PLACED IS WATERTIGHT. 4. STORM SEWER PIPES AND HEADWALLS THAT CONNECT TO A POND INTENDED TO HOLD WATER INDEFINITELY SHALL BE INSTALLED WITH WATERTIGHT JOINTS TO AT LEAST 1-FOOT ABOVE THE NORMAL POOL WATER SURFACE ELEVATION. 5. ANY GRAVEL OR OTHER PERVIOUS EMBEDMENT AROUND PIPES OR OUTFALL STRUCTURES NEAR THE POND SHALL BE ELIMINATED FOR TCEQ

AT LEAST 20-FEET FROM THE POND SO NO ROUTE FOR WATER TO LEAK THROUGH THE EMBEDMENT MATERIAL IS PROVIDED. BACKFILL IN THESE AREAS SHALL BE OF IMPERVIOUS MATERIAL. 6. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE WATER LEVEL FOLLOWING COMPLETION AND FILLING OF THE POND

SHALL BE MONITORED BY THE CONTRACTOR FOR AT LEAST 60 DAYS TO OBSERVE WATER INFLOW, OUTFLOW, AND CALCULATE EVAPORATION TO VERIFY THAT THE POND IS WATERTIGHT. 7. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE POND WATER LEVEL SHALL ALSO BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION SO THAT IT REMAINS FULL TO ITS DESIGN WATER LEVEL, AND IS NOT LOWERED,

AS THIS MAY DRY-OUT THE POND LINER AND RISK ITS WATERTIGHT PROPERTIES. WATER AND WASTEWATER

. ALL WATER AND WASTEWATER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS 2. CONTRACTOR SHALL FIELD VERIFY THE SIZE, CONDITION, HORIZONTAL, AND VERTICAL LOCATIONS OF ALL EXISTING WATER AND WASTEWATER FACILITIES THAT ARE TO BE CONNECTED TO, PRIOR TO START OF CONSTRUCTION OF ANY WATER OR WASTEWATER CONSTRUCTION, AND SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED.

4. THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATION OF ALL UTILITY CROSSINGS PRIOR TO THE INSTALLATION OF ANY PIPE 5. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE WATER AND WASTEWATER IMPROVEMENTS 6. ALL PUBLIC WATER AND WASTEWATER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO CITY PUBLIC WORKS

3. CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF

STANDARD DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS. 7. ALL PRIVATE WATER AND WASTEWATER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO THE APPLICABLE PLUMBING CODE. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS 8. FIRE SPRINKLER LINES SHALL BE DESIGNED AND INSTALLED BY A LICENSED FIRE SPRINKLER CONTRACTOR, AND COMPLY TO THE APPLICABLE CODES AND INSPECTIONS REQUIRED. THESE PLANS WERE PREPARED WITHOUT THE BENEFIT OF THE FIRE SPRINKLER DESIGN. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES.

9. EMBEDMENT FOR ALL WATER AND WASTEWATER LINES, PUBLIC OR PRIVATE, SHALL BE PER CITY STANDARD DETAILS. 10. CONTRACTOR SHALL TAKE REQUIRED SANITARY PRECAUTIONS, FOLLOWING ANY CITY, TCEQ, AND AWWA STANDARDS, TO KEEP WATER PIPE AND FITTINGS CLEAN AND CAPPED AT TIMES WHEN INSTALLATION IS NOT IN PROGRESS. 11 CONTRACTOR SHALL PROVIDE CONSTRUCTION SURVEYING FOR ALL WATER AND WASTEWATER LINES 12. ALL WATER AND WASTEWATER SERVICES SHALL TERMINATE 5-FEET OUTSIDE THE BUILDING, UNLESS NOTED OTHERWISE

PRIOR NOTICE THAT IS REQUIRED, AND SHALL COORDINATE DIRECTLY WITH THE APPROPRIATE CITY DEPARTMENT. 14. CONTRACTOR SHALL SEQUENCE WATER AND WASTEWATER CONSTRUCTION TO AVOID INTERRUPTION OF SERVICE TO SURROUNDING PROPERTIES 15. CONTRACTOR SHALL MAINTAIN WATER SERVICE AND WASTEWATER SERVICE TO ALL CUSTOMERS THROUGHOUT CONSTRUCTION (IF NECESSARY, BY USE OF TEMPORARY METHODS APPROVED BY THE CITY AND OWNER). THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED 16. THE CONTRACTOR IS RESPONSIBLE TO PROTECT ALL WATER AND WASTEWATER LINES CROSSING THE PROJECT. THE CONTRACTOR

SHALL REPAIR ALL DAMAGED LINES IMMEDIATELY. ALL REPAIRS OF EXISTING WATER MAINS, WATER SERVICES, SEWER MAINS, AND

SANITARY SEWER SERVICES ARE SUBSIDIARY TO THE WORK, AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED. 17. VALVE ADJUSTMENTS SHALL BE CONSTRUCTED SUCH THAT THE COVERS ARE AT FINISHED SURFACE GRADE OF THE PROPOSED 18. THE ENDS OF ALL EXISTING WATER MAINS THAT ARE CUT, BUT NOT REMOVED, SHALL BE PLUGGED AND ABANDONED IN PLACE. THIS WORK SHALL BE CONSIDERED AS A SUBSIDIARY COST TO THE PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED

19. ALL FIRE HYDRANTS, VALVES, TEES, BENDS, WYES, REDUCERS, FITTINGS, AND ENDS SHALL BE MECHANICALLY RESTRAINED AND/OR THRUST BLOCKED TO CITY STANDARDS. 20.CONTRACTOR SHALL INSTALL A FULL SEGMENT OF WATER OR WASTEWATER PIPE CENTERED AT ALL UTILITY CROSSINGS SO THAT THE JOINTS ARE GREATER THAN 9-FEET FROM THE CROSSING

21.ALL CROSSINGS AND LOCATIONS WHERE WASTEWATER IS LESS THAN 9-FEET FROM WATER, WASTEWATER CONSTRUCTION AND MATERIALS SHALL COMPLY WITH TCEQ CHAPTER 217.53. 22.ALL CROSSING AND LOCATIONS WHERE WATER IS LESS THAN 9-FEET FROM WASTEWATER, WATER CONSTRUCTION AND MATERIALS SHALL COMPLY WITH TCFQ CHAPTER 290 44

23.ALL WATER AND WASTEWATER SHALL BE TESTED IN ACCORDANCE WITH THE CITY, AWWA, AND TCEQ STANDARDS AND SPECIFICATIONS. AT A MINIMUM, THIS SHALL CONSIST OF THE FOLLOWING: a. ALL WATERLINES SHALL BE HYDROSTATICALLY TESTED AND CHLORINATED BEFORE BEING PLACED INTO SERVICE. CONTRACTOR SHALL COORDINATE WITH THE CITY FOR THEIR REQUIRED PROCEDURES AND SHALL ALSO COMPLY WITH TCEQ REGULATIONS. b. WASTEWATER LINES AND MANHOLES SHALL BE PRESSURE TESTED. CONTRACTOR SHALL COORDINATE WITH THE CITY FOR THEIR

REQUIRED PROCEDURES AND SHALL ALSO COMPLY WITH TCEQ REGULATIONS. AFTER COMPLETION OF THESE TESTS, A TELEVISION INSPECTION SHALL BE PERFORMED AND PROVIDED TO THE CITY AND OWNER ON A DVD. 24.CONTRACTOR SHALL INSTALL DETECTABLE WIRING OR MARKING TAPE A MINIMUM OF 12" ABOVE WATER AND WASTEWATER LINES.

MARKER DECALS SHALL BE LABELED "CAUTION - WATER LINE", OR "CAUTION - SEWER LINE". DETECTABLE WIRING AND MARKING TAPE SHALL COMPLY WITH CITY STANDARDS. AND SHALL BE INCLUDED IN THE COST OF THE WATER AND WASTEWATER PIPE. 25.DUCTILE IRON PIPE SHALL BE PROTECTED FROM CORROSION BY A LOW-DENSITY POLYETHYLENE LINER WRAP THAT IS AT LEAST A SINGLE LAYER OF 8-MIL. ALL DUCTILE IRON JOINTS SHALL BE BONDED. 26. WATERLINES SHALL BE INSTALLED AT NO LESS THAN THE MINIMUM COVER REQUIRED BY THE CITY.

27. CONTRACTOR SHALL PROVIDE CLEAN-OUTS FOR PRIVATE SANITARY SEWER LINES AT ALL CHANGES IN DIRECTION AND 100-FOOT INTERVALS, OR AS REQUIRED BY THE APPLICABLE PLUMBING CODE. CLEAN-OUTS REQUIRED IN PAVEMENT OR SIDEWALKS SHALL HAVE CAST IRON COVERS FLUSH WITH FINISHED GRADE. 28.CONTRACTOR SHALL PROVIDE BACKWATER VALVES FOR PLUMBING FIXTURES AS REQUIRED BY THE APPLICABLE PLUMBING CODE (E.C FLOOR ELEVATION OF FIXTURE UNIT IS BELOW THE ELEVATION OF THE MANHOLE COVER OF THE NEXT UPSTREAM MANHOLE IN THE

PUBLIC SEWER). CONTRACTOR SHALL REVIEW BOTH MEP AND CIVIL PLANS TO CONFIRM WHERE THESE ARE REQUIRED. 29 THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN. PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCI SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.

30.THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER. **ABBREVIATIONS AND DEFINITIONS:** ADA AMERICANS WITH DISABILITIES ACT AMERICAN WATER WORKS ASSOCIATION B-B BACK TO BACK BEGIN CURVE BACK OF CURB BCR BEGIN CURB RETURN BEST MANAGEMENT PRACTICE BOC BACK OF CURB BEGIN VERTICAL CURVE ELEVATION BEGIN VERTICAL CURVE STATION **BVCS** BOTTOM OF WALL BW CUBIC FEET PER SECOND CITY, TOWN, OR OTHER APPLICABLE LOCAL GOVERNMENT JURISDICTION CITY CENTERLINE CENTERLINE CONCRETE CUBIC YARD CY **DEMO** DEMOLITION DG DECOMPOSED GRANITE DETAIL EACH END CURVE ECR END CURB RETURN EXISTING GROUND **ELEVATION** ELECTRICAL / ELECTRICITY ELEV ELEVATION UNITED STATES ENVIRONMENTAL PROTECTION AGENCY EASEMENT END VERTICAL CURVE ELEVATION **EVCS** END VERTICAL CURVE STATION EXISTING FACE TO FACE FINISHED GROUND FIRE HYDRANT FLOW LINE FOC FACE OF CURB FFFT HYDRAULIC GRADE LINE HGL KIMI FY-HORN AND ASSOCIATES INC KIMLEY-HORN AND ASSOCIATES, INC I ATFRAI LINEAR FEET LEFT MAXIMUM MATCH EXISTING ELEVATION MANHOLE NOTICE OF INTENT, REF. TCEQ GENERAL PERMIT NOTICE OF TERMINATION, REF. TCEQ GENERAL PERMIT NOT TO SCALE ON CENTER OFFSET OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION POINT OF CURVATURE PORTLAND CEMENT CONCRETE / POINT OF COMPOUND CURVATURE PGL PROPOSED GRADE LINE

POINT OF INFLECTION PROP PROPOSED

POINT OF REVERSE CURVATURE POUNDS PER SQUARE INCH POINT OF TANGENCY POLYVINYL CHLORIDE **PVC** POINT OF VERTICAL INFLECTION PVMT PAVEMENT REINFORCED CONCRETE PIPE

ROW RIGHT OF WAY RIGHT SQUARE FEET SANITARY SEWER SANITARY SEWER MANHOLE STA STATION

STANDARD

WATER

WASTEWATER

4. <u>ATMOS ENERGY</u>, **888-286-6700**

(DATE) 05/03/2022

THE NOTED DATE.

WTR

WW

STD SQUARE YARD ARCHITECTURAL BARRIERS TEXAS ACCESSIBILITY STANDARDS TOP OF CURB TEXAS COMMISSION OF ENVIRONMENTAL QUALITY TEMPORARY

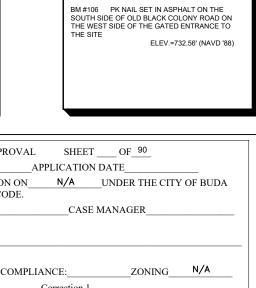
TXDOT TEXAS DEPARTMENT OF TRANSPORTATION TXMUTCD TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES TOP OF WALL TW TYPICAL VERTICAL CURVE

UTILITY CONTACTS: 1. TELECOM COMPANY, CONTACT NAME, PHONE NUMBER, EMAIL

2. CABLE COMPANY, CONTACT NAME, PHONE NUMBER, EMAIL 3. PEDERNALES ELECTRIC COOPERATIVE, INC., CODY LUEHLFING, 830-225-7031

5. <u>CITY OF BUDA UTILITIES</u>, **BLAKE NEFFENDORF**, **512-523-1079**

THESE PLAN AND GENERAL NOTES REFER TO: GEOTECHNICAL ENGINEERING REPORT (FIRM) MLA GEOTECHNICAL 13. CONTRACTOR SHALL COMPLY WITH CITY REQUIREMENTS FOR WATER AND WASTEWATER SERVICE DISRUPTIONS AND THE AMOUNT OF



Permits and/or a notice of construction (if a building permit is not required), must also be

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approved prior to the Project Expiration Date.

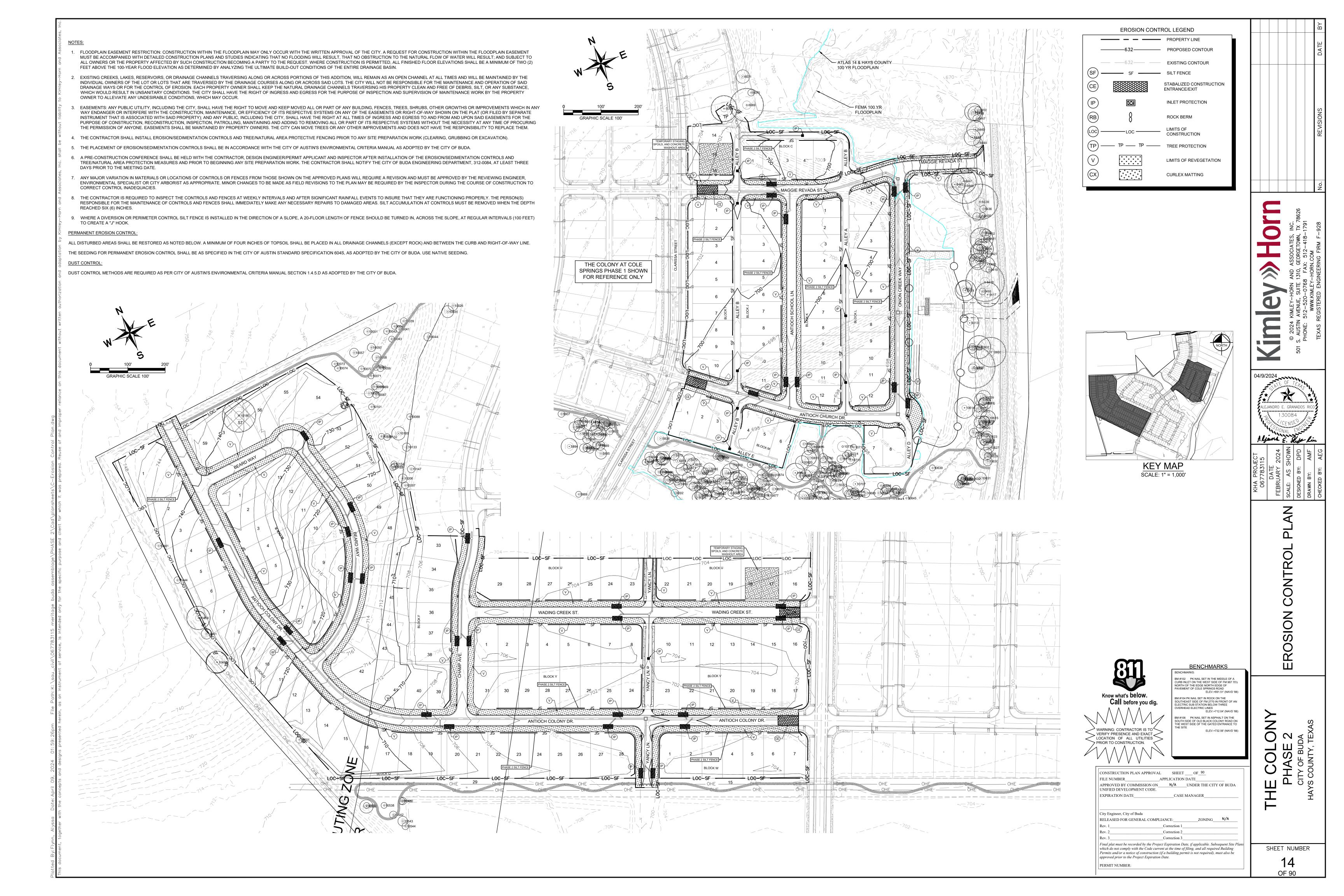
CONSTRUCTION PLAN APPROVAL SHEET ___ OF _90 FILE NUMBER APPROVED BY COMMISSION ON N/A UNDER THE CITY OF BUDA UNIFIED DEVELOPMENT CODE EXPIRATION DATE (PROJ./REPORT #) 22101100.019 INCLUDING ALL REVISIONS AND ADDENDA TO THIS City Engineer, City of Buda REPORT THAT MAY HAVE BEEN RELEASED AFTER RELEASED FOR GENERAL COMPLIANCE: Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Pl which do not comply with the Code current at the time of filing, and all required Buildin;

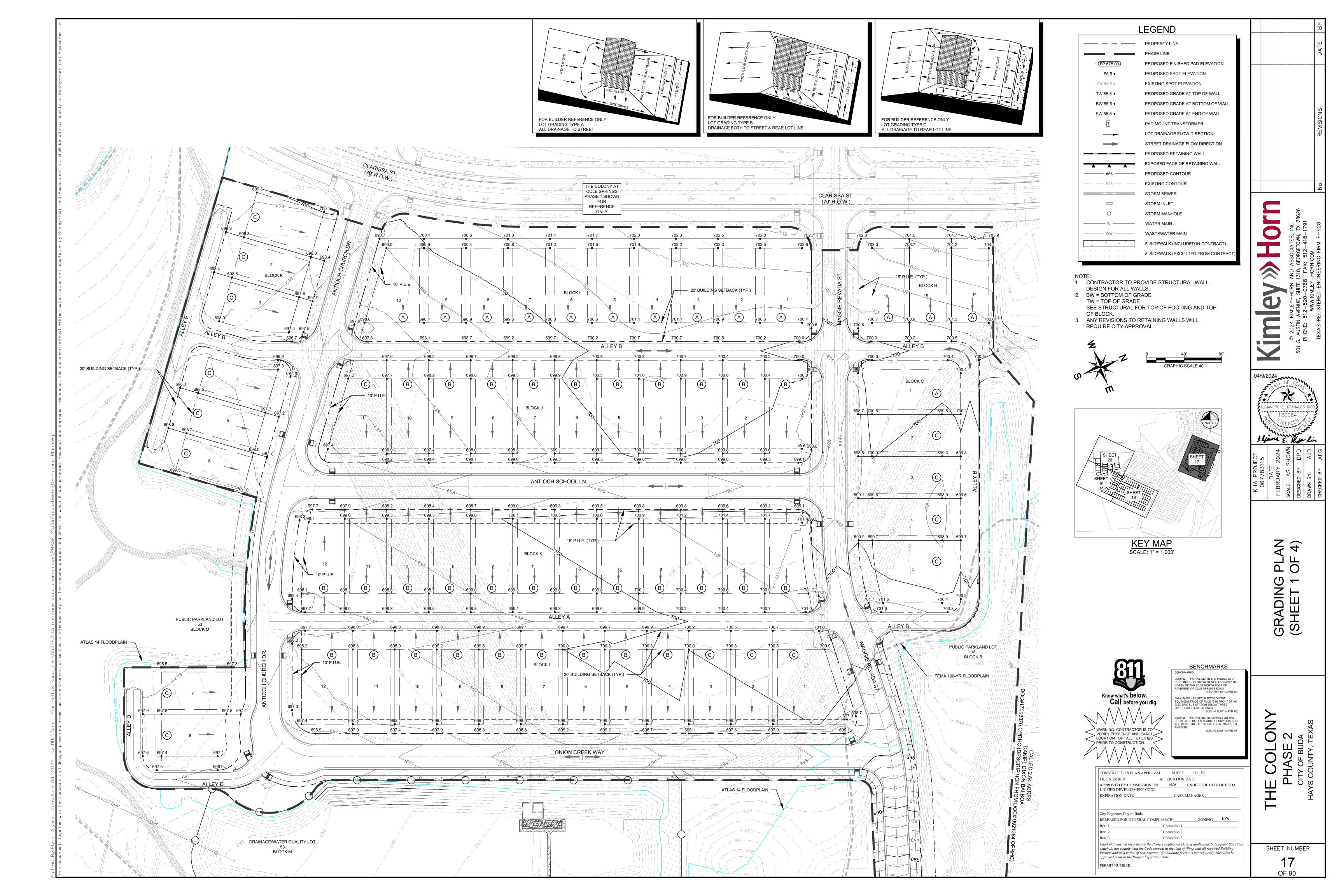
BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 967 70'± IORTH OF THE EDGE NORTH EDGE OF AVEMENT OF COLE SPRINGS ROA ELEV.=691.51' (NAVD '88 BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE /ERHEAD ELECTRIC LINES ELEV.=712.04' (NAVD '88

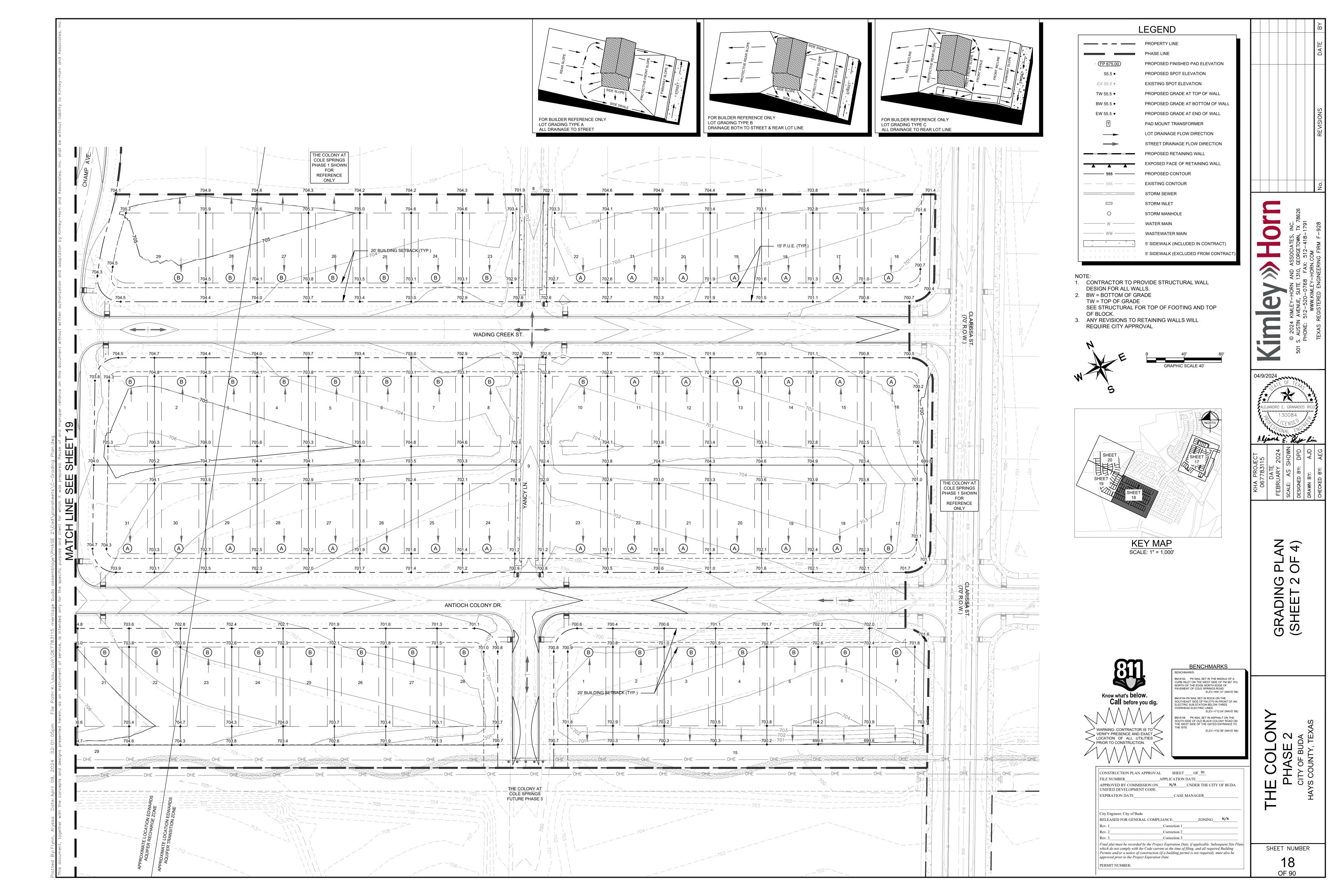
BENCHMARKS

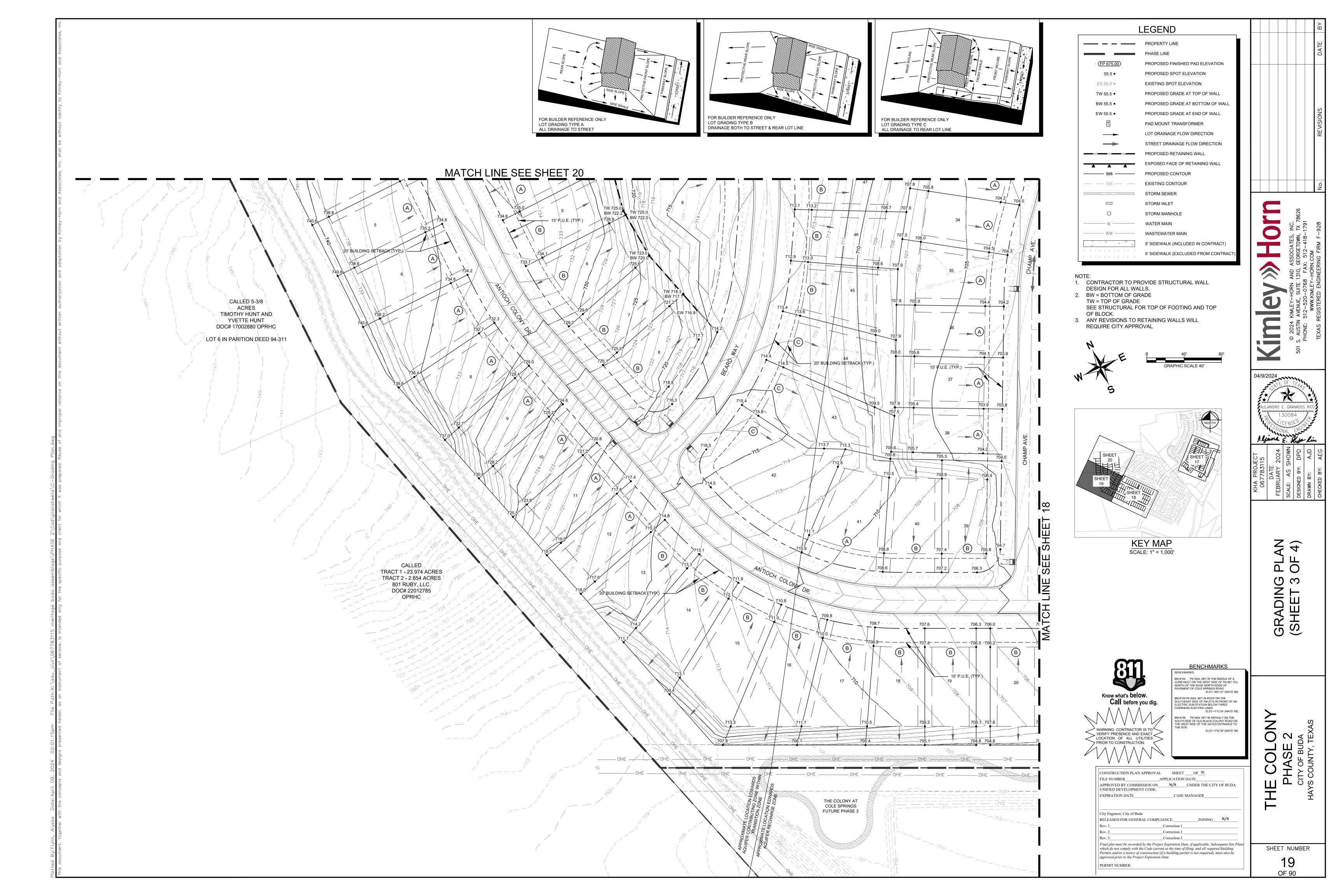
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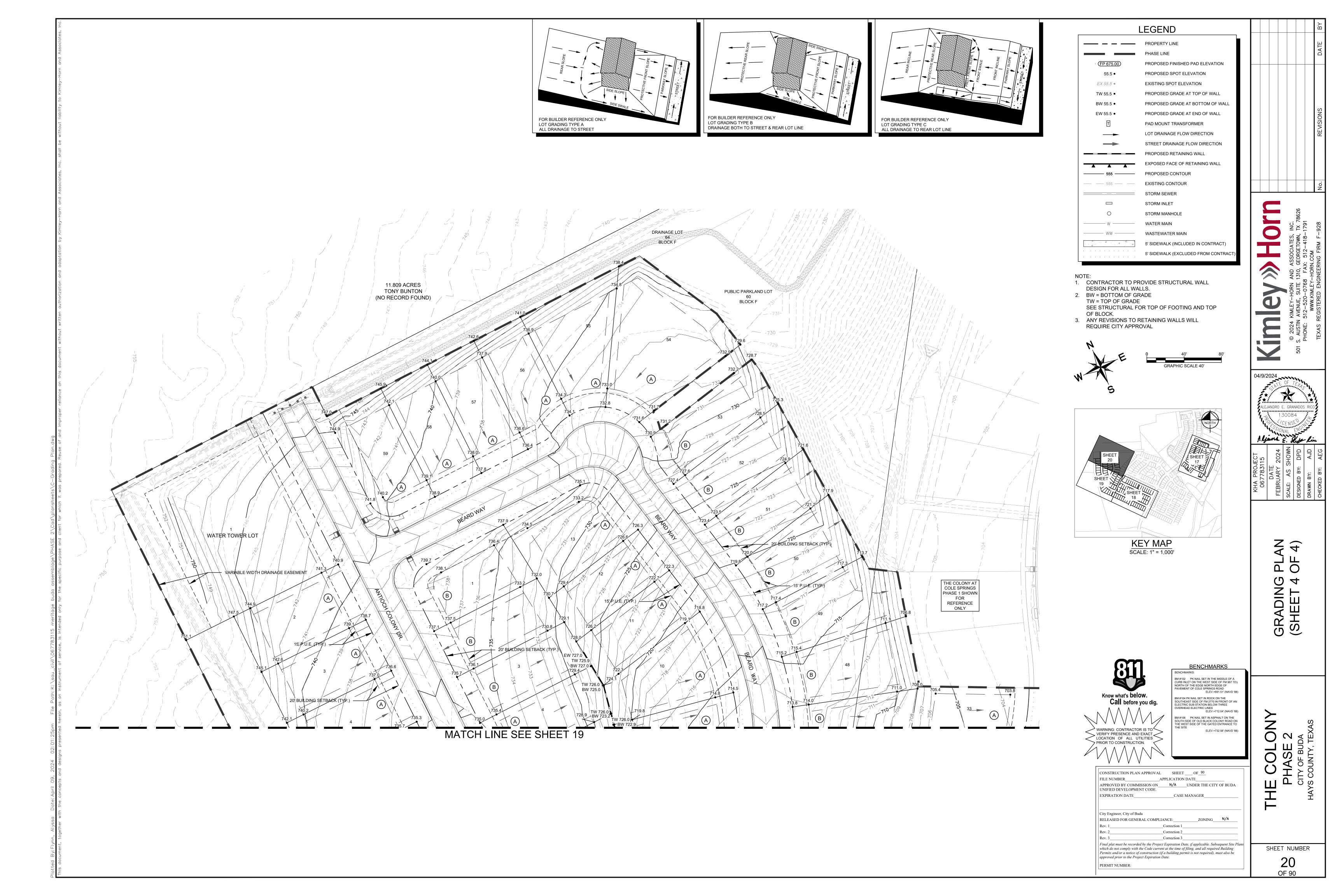
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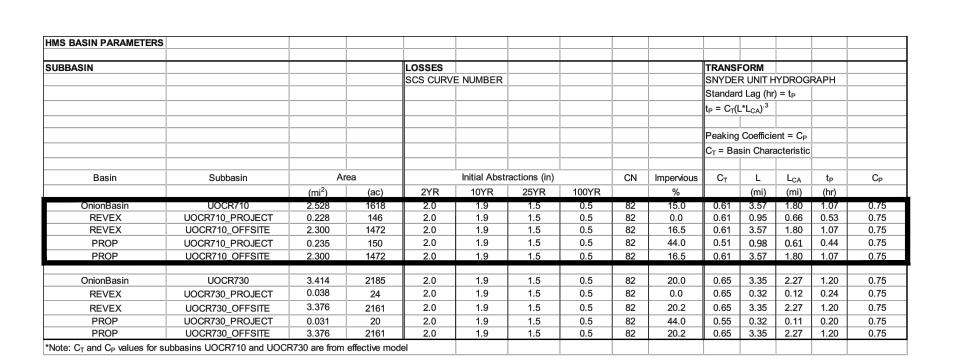












LAG TIME CALCULATIONS

				Lag	Time (On			Hydraulic	Model)					
		_			11	THE CONTRACTOR	h "R-710"				П			
xSec	Dist		2 YR Veloc	,		10 YR Veloc			25 YR Veloc			00YR Veloc	-	
Station 168897 167934 Total Lag Total Lag Total Lag 167494 166980 166507 166042 165718 165544 165324 165038 164471 163604 162747 162169 161507 160720 160585 160510 160503	(ft)	RAS Vel. (fps)	Avg. Vel. (fps)	Time (sec)	RAS Vel. (fps)	Avg. Vel. (fps)	Time (sec)	RAS Vel. (fps)	Avg. Vel. (fps)	Time (sec)	RAS Vel. (fps)	Avg. Vel. (fps)	Time (sec)	
160007		2.90			5.07			6.23			8.11			
	963	3.05	3.0	324	6.29	5.7	170	7.44	6.8	141	9.37	8.7	110	
Total La	ig (sec)		324			170			141			110		
Total La	g (min)		5.4		2.8				2.3			1.8		
						Reac	h ''R-730''							
		2.97			6.39			7.62			9.91	-		
	514	2.70	2.8	181	6.12	6.3	82	7.28	7.5	69	7.6	8.8	59	
	473	2.93	2.8	168	5.44	5.8	82	6.64	7.0	68	7.48	7.5	63	
	465	2.11	2.5	185	5	5.2	89	6.3	6.5	72	7.38	7.4	63	
	324	2.98	2.5	127	5.82	5.4	60	7.22	6.8	48	8.47	7.9	41	
165544	174	3.49	3.2	54	7.22	6.5	27	9.24	8.2	21	11.04	9.8	18	
165324	220	2.33	2.9	76	4.89	6.1	36	6.35	7.8	28	7.95	9.5	23 40	
165038	286	2.91	2.6	109	4.44 4.7 6.5 5.5	4.7	61	5.54	5.9	48	6.31	7.1		
164471	567	3.06	3.0	190		104	6.86	6.2	91	7.69	7.0	81		
163604	867	3.68	3.4	257	6.06	6.3	138	7.22	7.0	123	7.96	7.8	111	
162747	857	3.20	3.4	249	6.36	6.2	138	7.71	7.5	115	8.33	8.1	105	
162169	578	2.97	3.1	187	6.81	6.6	88	8.07	7.9	73	8.86	8.6	67	
161507	662	3.01	3.0	221	6.44	6.6	100	8.01	8.0	82	10.02	9.4	70	
160720	787	2.89	3.0	267	7.67	7.1	112	9.46	8.7	90	11.54	10.8	73	
160585	135	3.97	3.4	39	7.43	7.6	18	8.49	9.0	15	9.91	10.7	13	
160510	75	1.80	2.9	26	5.09	6.3	12	6.57	7.5	10	8.28	9.1	8	
160503	7	1.98	1.9	4	5.37	5.2	1	6.97	6.8	1	8.81	8.5	1	
160495	8	2.23	2.1	4	5.63	5.5	1	7.31	7.1	1	9.38	9.1	1	
160389	106	2.65	2.4	43	6.18	5.9	18	7.82	7.6	14	9.97	9.7	11	
160204	185	2.40	2.5	73	5.09	5.6	33	6.5	7.2	26	8.34	9.2	20	
159660	544	2.87	2.6	206	4.65	4.9	112	5.87	6.2	88	7.51	7.9	69	
158858	802	2.47	2.7	300	5.69	5.2	155	7.04	6.5	124	8.52	8.0	100	
157942	916	3.34	2.9	315	6.28	6.0	153	7.53	7.3	126	8.73	8.6	106	
157072	870	2.59	3.0	293	5.35	5.8	150	6.64	7.1	123	7.84	8.3	105	
156278	794	3.90	3.2	245	7.05	6.2	128	8.51	7.6	105	9.85	8.8	90	
155567	711	4.64	4.3	167	8.03	7.5	94	9.75	9.1	78	11.68	10.8	66	
155173	394	4.24	4.4	89	7.94	8.0	49	9.54	9.6	41	11.33	11.5	34	
155061	112	2.89	3.6	31	5.95	6.9	16	7.19	8.4	13	8.53	9.9	11	
155011	50	3.56	3.2	16	6.38	6.2	8	7.49	7.3	7	8.71	8.6	6	
Total 1 a	ng (000)		4124			2065			1701			1454		
Total La	ig (sec) ig (min)	17	68.7			34.4			28.3		1454			

LOCAL DRAINAGE AREA MAP

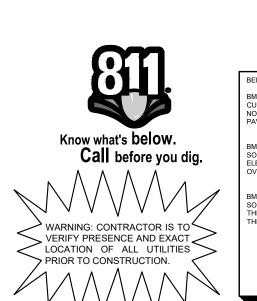


PEAK FLOW RESULTS

			2YR			10YR										
Junction	REVEX Peak	PROP Peak	DETPROP Peak	PROP - REVEX	DETPROP - REVEX	REVEX Peak	PROP Peak	DETPROP Peak	PROP - REVEX	DETPROP - REVEX						
	(cfs)	(cfs)	(cfs)	0/0000 100-1000		(cfs)	(cfs)	(cfs)	AVAINAGE TO THE SECOND	100 00 00 00 00 00 00 00 00 00 00 00 00						
UOCR710_PROJECT	13	134	134	122	122	233	379	379	145	145						
710 DETENTION			12					223								
JUOCR710	2542	2542	2549	0	7	22230	22232	22232	2	2						
JUOCR710_720	2549	2549	2556	0	7	22296	22297	22298	1	2						
UOCR730_PROJECT	3	27	27	24	24	62	93	93	31	31						
730_DETENTION			3					60								
JUOCR730	2531	2531	2539	0	8	22462	22464	22464	2	2						
JUOCR740	2525	2525	2533	0	8	22479	22481	22482	2	3						
JUOCR740_780	2525	2525	2533	0	8	22593	22595	22596	22596 2							
JUOCR790	2516	2516	2524	0	8	22635	22637	22637	2	2						
JUOCR790 820	2540	2541	2549	1	9	22958	22960	22960	2	2						
JUOCR790 830	2540	2540	2548	0	8	22981	22982	22983	1	2						
JUOCR840	2537	2537	2545	0	8	23004	23005	23006	1	2						
UONION_CREEK	3116	16 3116 3124 0		0	8	26065	26066	26067	1	2						
				_												
			25YR			100YR										
Junction	REVEX Peak	PROP Peak	DETPROP Peak	PROP - REVEX	DETPROP - REVEX	REVEX Peak	PROP Peak	DETPROP Peak	PROP - REVEX	DETPROP - REVE						
UOCR710 PROJECT	(cfs) 411	(cfs) 546	(cfs) 546	135	135	(cfs) 659	(cfs) 794	(cfs) 794	135	135						
710 DETENTION		-	409	135	133		1	658	†	135						
	44040	44040				90047	90040									
JUOCR710	41812 41908	41813 41909	41814 41909	1	4	80017	80019	80018 80139	2	1						
JUOCR710_720						80138	80140			12						
UOCR730_PROJECT	106	107	107	1	1	165	152	152	-13	-13						
730_DETENTION			101					152								
JUOCR730	42112	42113	42113	1	1	80255	80256	80255	1	0						
JUOCR740	42128	42129	42129	1	1	80266	80267	80266	1	0						
JUOCR740_780	42298	42299	42299	1	1	80497	80499	80497	2	0						
JUOCR790	42349	42350	42350	1	1	80563	80564	80563	1	0						
JUOCR790_820	42817	42818	42819	1	2	81198	81199	81198	1	0						
JUOCR790_830	42852	42853	42853	1	1	81246	81247	81246	1	0						
JUOCR840	42886	42888	42888	2	2	81285	81286	81285	1	0						
UONION CREEK	47282	47283	47284	1	2	87646	87647	87646	1	0						

NOTES:

1) FLOW INFORMATION PER APPROVED MERITAGE COLE SPRINGS DETENTION WAIVER REQUEST DATED JANUARY, 2020.



BRAD W. PICKERING

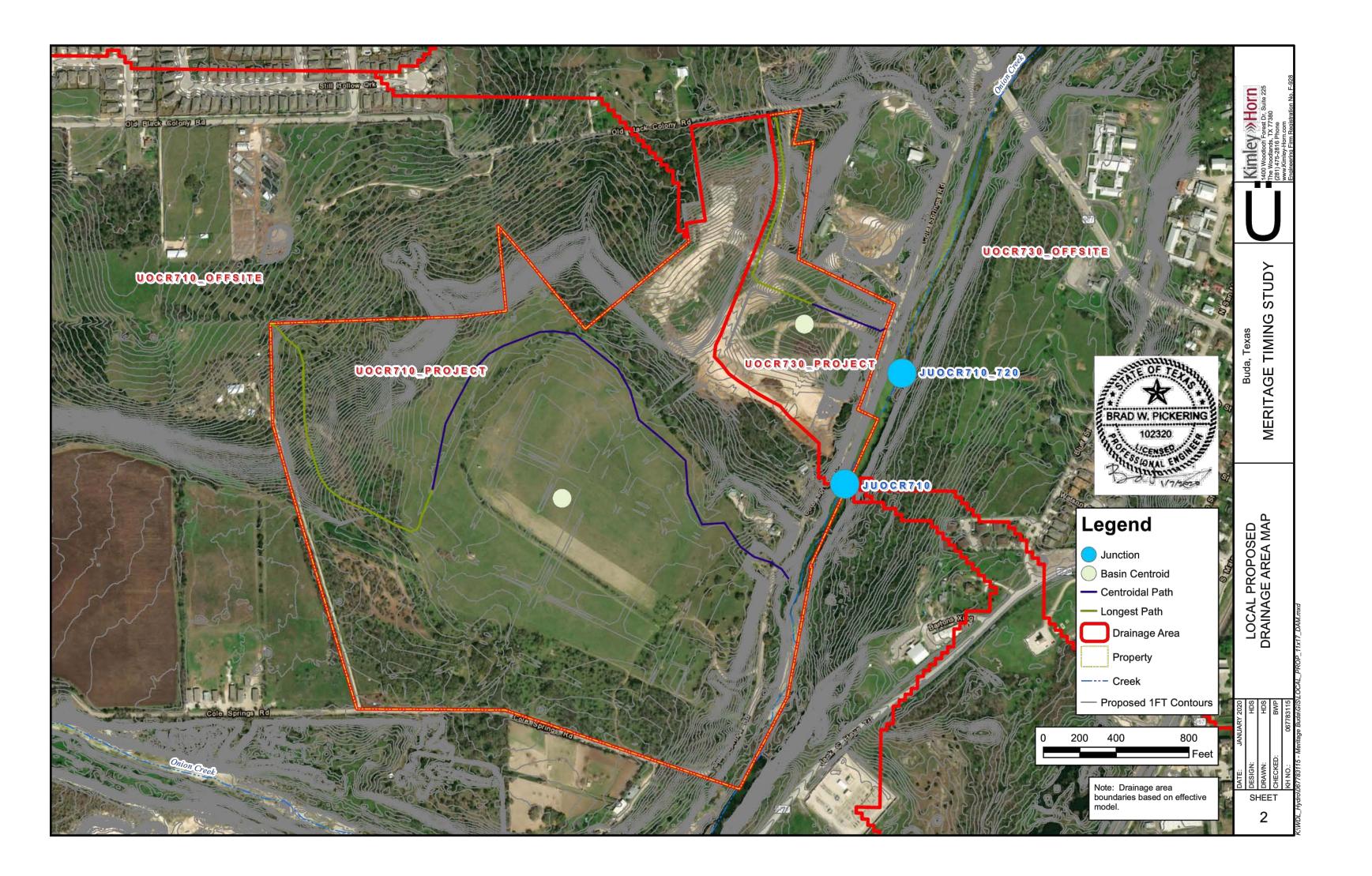
Note: Drainage area boundaries based on effective

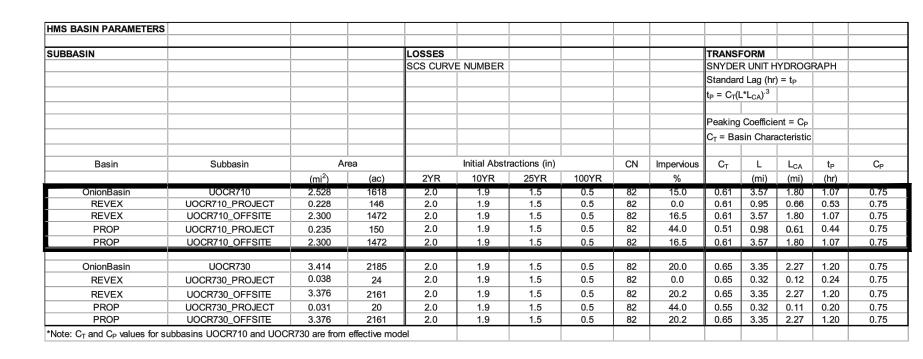
	BENCHMARKS
	BENCHMARKS:
	BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 967 70'± NORTH OF THE EDGE NORTH EDGE OF PAVEMENT OF COLE SPRINGS ROAD ELEV.=691.51' (NAVD '88)
	BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES ELEV.=712.04' (NAVD '88)
/ > >	BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE ELEV.=732.56' (NAVD '88)

CONSTRUCTION PLA			OF_90	
APPROVED BY COMMUNIFIED DEVELOPM	MISSION ONN			OF BUDA
EXPIRATION DATE_		_CASE I	MANAGER	
				AL /A
RELEASED FOR GEN				
RELEASED FOR GEN Rev. 1 Rev. 2	Corre	ection 1_		
Rev. 1	Corre	ection 1_ ection 2_		
Rev. 1 Rev. 2	Corre Corre Corre ded by the Project Expi h the Code current at the Code construction (if a bui	ection 1_ ection 2_ ection 3_ tration Da the time of	ate, if applicable. Sub. filing, and all requir	sequent Site Plan

SHEET NUMBER 37 OF 90

04/9/2024





LAG TIME CALCULATIONS

						Reac	h "R-710"												
xSec	Dist		2 YR Veloc	ity		10 YR Velo	city		25 YR Velo	city	Time RAS Vel. Avg. Vel. (fps) (fps)								
Station	(ft)	II .		Time	RAS Vel.		Time	RAS Vel.	_	Time	II .		Time						
	(/	(fps)	(fps)	(sec)	(fps)	(fps)	(sec)	(fps)	(fps)	(sec)	(fps)	(fps)	(sec						
168897		2.90			5.07			6.23			8.11								
167934	963	3.05	3.0	324	6.29	5.7	170	7.44	6.8	141	9.37	8.7	110						
10/934	303	3.03	3.0	324	0.23	5.7	170	7.44	0.0	141	3.37	0.7	110						
Total La	ıa (sec)		324			170			141			110							
Total La			5.4			2.8			2.3			1.8							
Reach "R-730"																			
167494		2.97			6.39			7.62			9.91								
166980	514	2.70	2.8	181	6.12	6.3	82	7.28	7.5	69	7.6	8.8	59						
166507	473	2.93	2.8	168	5.44	5.8	82	6.64	7.0	68	7.48	7.5	63						
166042	465	2.11	2.5	185	5	5.2	89	6.3	6.5	72	7.38	7.4	63						
165718	324	2.98	2.5	127	5.82	5.4	60	7.22	6.8	48	8.47	7.9	41						
165544	174	3.49	3.2	54	7.22	6.5	27	9.24	8.2	21	11.04	9.8	18						
165324	220	2.33	2.9	76	4.89	6.1	36	6.35	7.8	28	7.95	9.5	23						
165038	286	2.91	2.6	109	4.44	4.7	61	5.54	5.9	48	6.31	7.1	40						
164471	567	3.06	3.0	190	6.5	5.5	104	6.86	6.2	91	7.69	7.0	81						
163604	867	3.68	3.4	257	6.06	6.3	138	7.22	7.0	123	7.96	7.8	111						
162747	857	3.20	3.4	249	6.36	6.2	138	7.71	7.5	115	8.33	8.1	105						
162169	578	2.97	3.1	187	6.81	6.6	88	8.07	7.9	73	8.86	8.6	67						
161507	662	3.01	3.0	221	6.44	6.6	100	8.01	8.0	82	10.02	9.4	70						
160720	787	2.89	3.0	267	7.67	7.1	112	9.46	8.7	90	11.54	10.8	73						
160585	135	3.97	3.4	39	7.43	7.6	18	8.49	9.0	15	9.91	10.7	13						
160510	75	1.80	2.9	26	5.09	6.3	12	6.57	7.5	10	8.28	9.1	8						
160503	7	1.98	1.9	4	5.37	5.2	1	6.97	6.8	1	8.81	8.5	1						
160495	8	2.23	2.1	4	5.63	5.5	1	7.31	7.1	1	9.38	9.1	1						
160389	106	2.65	2.4	43	6.18	5.9	18	7.82	7.6	14	9.97	9.7	11						
160204	185	2.40	2.5	73	5.09	5.6	33	6.5	7.2	26	8.34	9.2	20						
159660	544	2.87	2.6	206	4.65	4.9	112	5.87	6.2	88	7.51	7.9	69						
158858	802	2.47	2.7	300	5.69	5.2	155	7.04	6.5	124	8.52	8.0	100						
157942	916	3.34	2.9	315	6.28	6.0	153	7.53	7.3	126	8.73	8.6	106						
157072	870	2.59	3.0	293	5.35	5.8	150	6.64	7.1	123	7.84	8.3	105						
156278	794	3.90	3.2	245	7.05	6.2	128	8.51	7.6	105	9.85	8.8	90						
155567	711	4.64	4.3	167	8.03	7.5	94	9.75	9.1	78	11.68	10.8	66						
155173	394	4.24	4.4	89	7.94	8.0	49	9.54	9.6	41	11.33	11.5	34						
155061	112	2.89	3.6	31	5.95	6.9	16	7.19	8.4	13	8.53	9.9	11						
155011	50	3.56	3.2	16	6.38	6.2	8	7.49	7.3	7	8.71	8.6	6						
	, .	-																	
Total La	, ,		4124			2065			1701			1454							
Total La	g (min)		68.7			34.4	13		28.3			24.2							

PEAK FLOW RESULTS

			2YR			10YR									
Junction	REVEX Peak (cfs)	PROP Peak (cfs)	DETPROP Peak (cfs)	PROP - REVEX	DETPROP - REVEX	REVEX Peak (cfs)	PROP Peak (cfs)	DETPROP Peak (cfs)	PROP - REVEX	DETPROP - REVEX					
UOCR710 PROJECT	13	134	134	122	122	233	379	379	145	145					
710_DETENTION			12					223							
JUOCR710	2542	2542	2549	0	7	22230 22232		22232	2	2					
JUOCR710_720	2549	2549	2556	0	7	22296	22297	22298	1	2					
UOCR730_PROJECT	3	27	27	24	24	62	93	93	31	31					
730_DETENTION			3					60							
JUOCR730	OCR730 2531 2531		2539	0	8	22462	22464	22464	2	2					
JUOCR740	2525	2525	2533	0	8	22479	22481	22482	2	3					
JUOCR740_780	2525	2525	2533	0	8	22593	22595	22596	2	3					
JUOCR790	2516	2516	2524	0	8	22635	22637	22637	2	2					
JUOCR790_820	2540	2541	2549	1	9	22958	22960	22960	2	2					
JUOCR790_830	2540	2540	2548	0	8	22981	22982	22983	1	2					
JUOCR840	2537	2537	2545	0	8	23004 23005		23006 1		2					
UONION_CREEK	3116	3116	3124	0	8	26065	26066	26067	1	2					
			25YR												
Junction	REVEX Peak	PROP Peak	DETPROP Peak	PROP - REVEX	DETPROP - REVEX	REVEX Peak	PROP Peak	DETPROP Peak	PROP - REVEX	DETPROP - REVEX					
	(cfs)	(cfs)	(cfs)	THOI - NEVEX	DETITION - NEVEX	(cfs)	(cfs)	(cfs)	TROT - REVEX	DETITION - INEVE					
UOCR710 PROJECT	411	546	546	135	135	659	794	794	135	135					
710_DETENTION			409					658							
JUOCR710	41812														
	41012	41813	41814	1	2	80017	80019	80018	2	1					
JUOCR710_720	41908	41813 41909	41814 41909	1	2 1	80017 80138	80019 80140	80018 80139	2 2	1					
JUOCR710_720 UOCR730_PROJECT					2 1 1					1 1 -13					
	41908	41909	41909	1	ĺ	80138	80140	80139	2	1					
UOCR730_PROJECT	41908	41909 107	41909 107	1	1	80138 165	80140 152	80139 152	2 -13	1 -13					
UOCR730_PROJECT 730_DETENTION	41908 106 	41909 107 	41909 107 101	1 1	1	80138 165 	80140 152 	80139 152 152	2 -13	-13 					
UOCR730 PROJECT 730 DETENTION JUOCR730	41908 106 42112	41909 107 42113	41909 107 101 42113	1 1 1	1	80138 165 80255	80140 152 80256	80139 152 152 80255	2 -13	1 -13 0					
UOCR730_PROJECT 730_DETENTION JUOCR730 JUOCR740	41908 106 42112 42128	41909 107 42113 42129	41909 107 101 42113 42129	1 1 1 1	1 1 1	80138 165 80255 80266	80140 152 80256 80267	80139 152 152 80255 80266	2 -13 1 1	1 -13 0 0					
UOCR730 PROJECT 730 DETENTION JUOCR730 JUOCR740 JUOCR740 780	41908 106 42112 42128 42298	41909 107 42113 42129 42299	41909 107 101 42113 42129 42299	1 1 1 1 1	1 1 1	80138 165 80255 80266 80497	80140 152 80256 80267 80499	80139 152 152 80255 80266 80497	2 -13 1 1	1 -13 0 0					
UOCR730 PROJECT 730 DETENTION JUOCR730 JUOCR740 JUOCR740 780 JUOCR790	41908 106 42112 42128 42298 42349	41909 107 42113 42129 42299 42350	41909 107 101 42113 42129 42299 42350	1 1 1 1 1 1	1 1 1 1 1	80138 165 80255 80266 80497 80563	80140 152 80256 80267 80499 80564	80139 152 152 80255 80266 80497 80563	2 -13 1 1	1 -13 0 0 0					
UOCR730 PROJECT 730 DETENTION JUOCR730 JUOCR740 JUOCR740 780 JUOCR790 JUOCR790 820	41908 106 42112 42128 42298 42349 42817	41909 107 42113 42129 42299 42350 42818	41909 107 101 42113 42129 42299 42350 42819	1 1 1 1 1 1 1	1 1 1 1 1	80138 165 80255 80266 80497 80563 81198	80140 152 80256 80267 80499 80564 81199	80139 152 152 80255 80266 80497 80563 81198	2 -13 1 1	1 -13 0 0 0 0					

1) FLOW INFORMATION PER APPROVED MERITAGE COLE SPRINGS DETENTION WAIVER REQUEST DATED JANUARY, 2020.

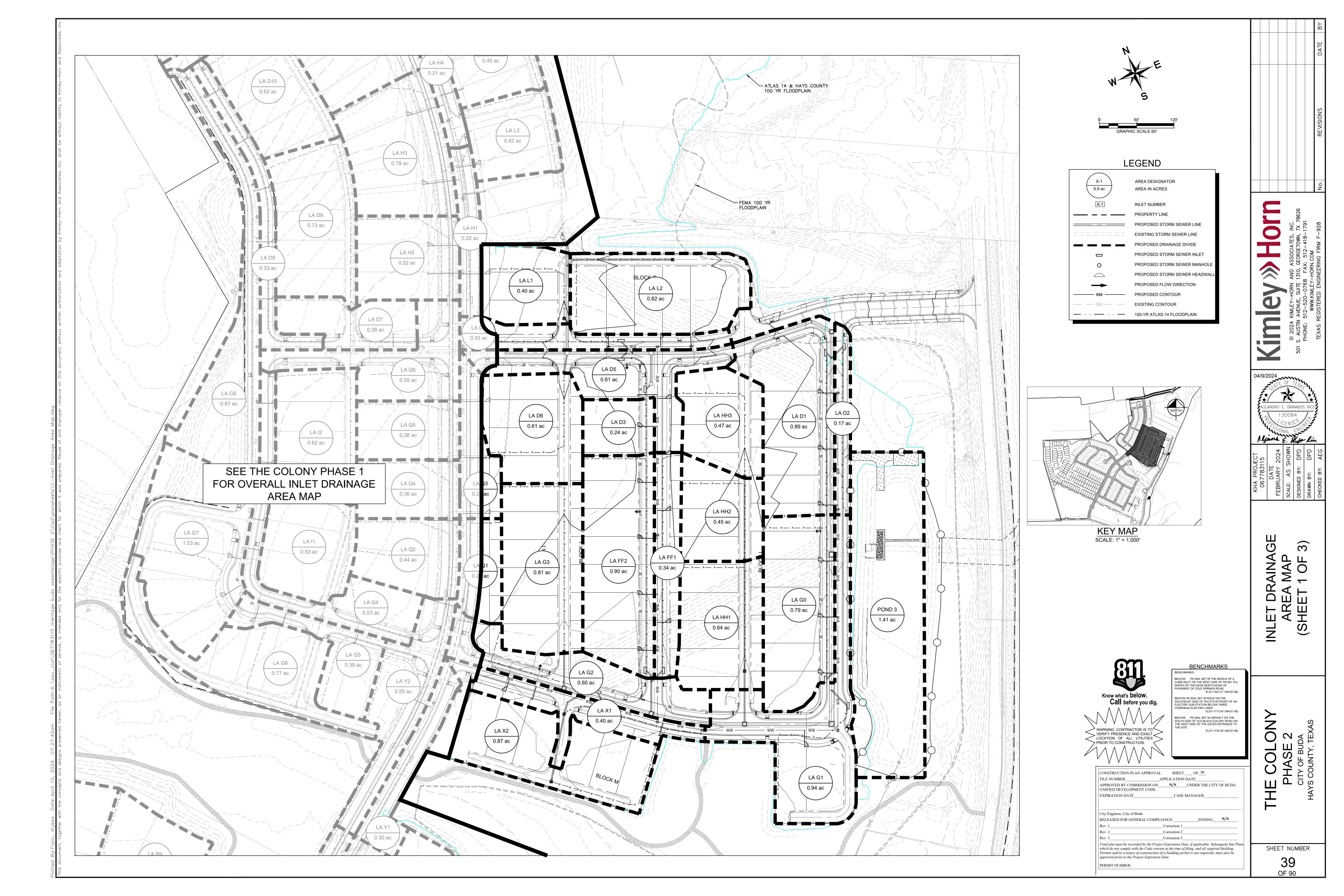


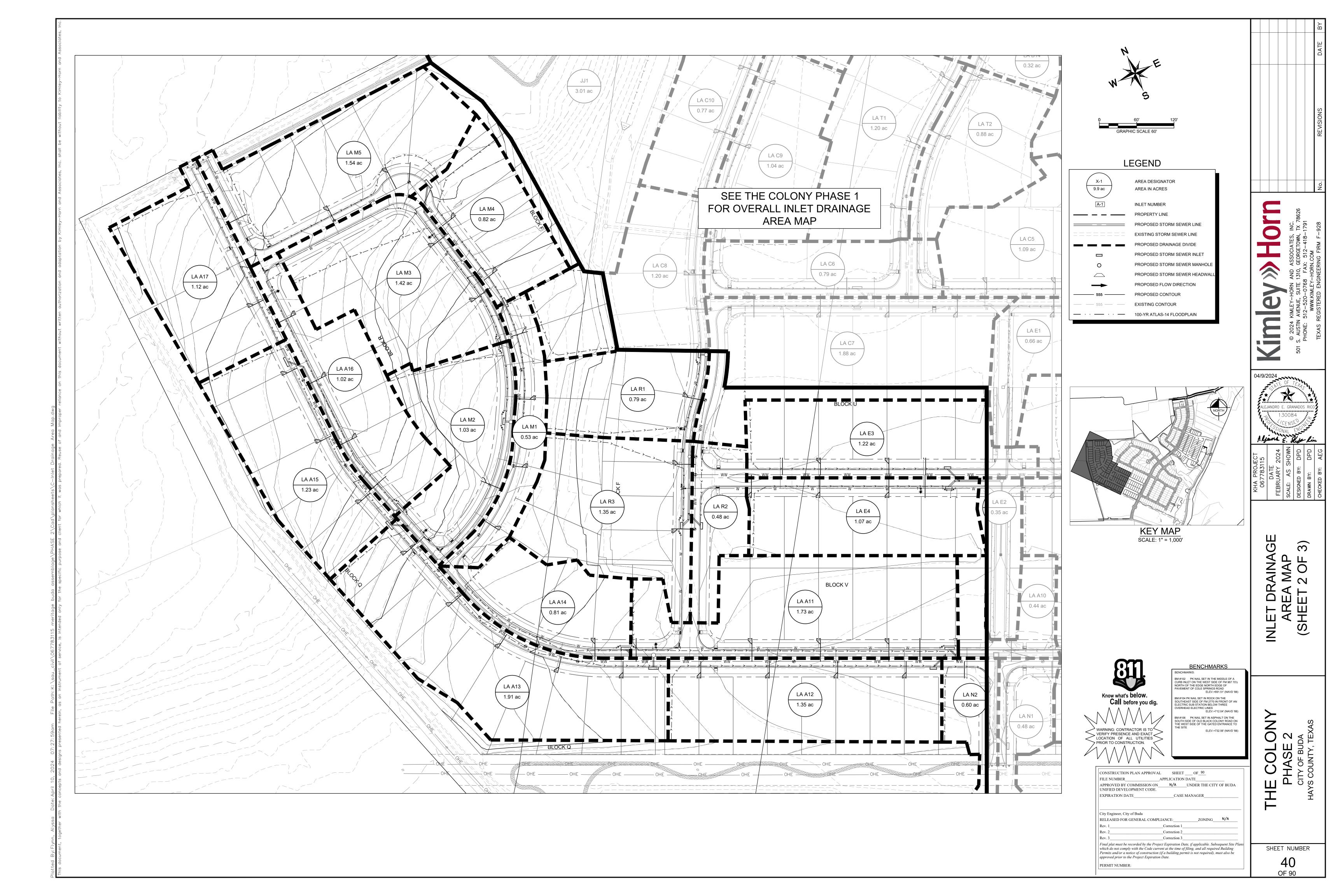
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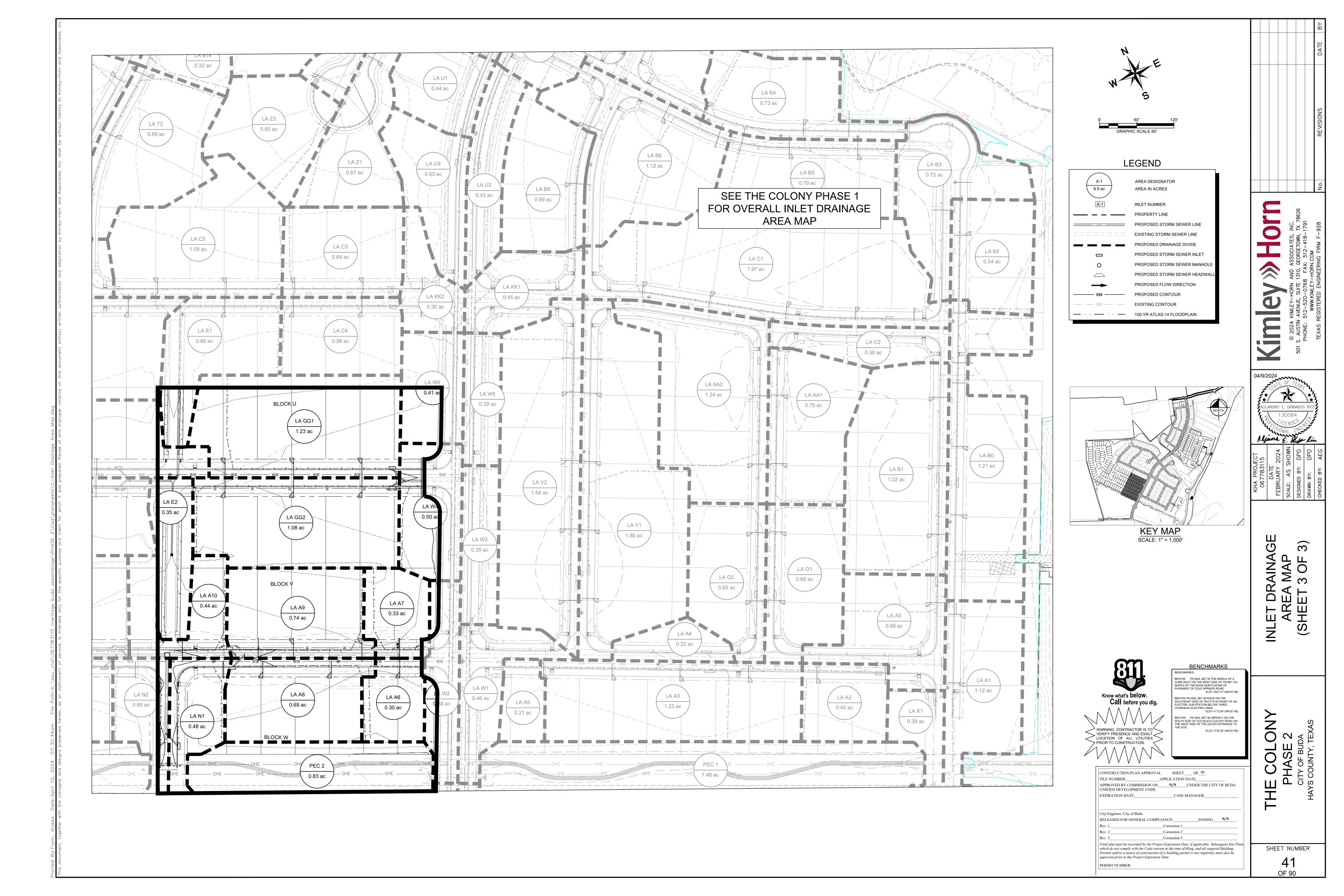
BENCHMARKS
BENCHMARKS: BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 967 70'± NORTH OF THE EDGE NORTH EDGE OF PAVEMENT OF COLE SPRINGS ROAD ELEV.=691.51' (NAVD '88) BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO THE SITE WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. ELEV.=732.56' (NAVD '88)

V V V	
CONSTRUCTION PLAN APPROVAL	SHEET OF_ 90_
FILE NUMBER	APPLICATION DATE
APPROVED BY COMMISSION ON_UNIFIED DEVELOPMENT CODE.	N/A UNDER THE CITY OF BUDA
EXPIRATION DATE	CASE MANAGER
City Engineer, City of Buda RELEASED FOR GENERAL COMPL	IANCE:ZONINGN/A
Rev. 1	Correction 1
Rev. 2	Correction 2
Rev. 3	Correction 3
which do not comply with the Code curre	ct Expiration Date, if applicable. Subsequent Site Plan ent at the time of filing, and all required Building if a building permit is not required), must also be Date.

SHEET NUMBER 38 OF 90







			Impervious	Pervious Area													1	LA F8	1.28	60%	0.77	0.51	0.60	0.66	0.70).77 1	2.43 4.6	3 7.00	8.60	11.22	3.54	5.90 7.	71 11.06
Drainage Area ID	Area (Ac.)	Impervious %	Area (Ac.)	(Ac.)	C, 2 Yr.	C, 10 Yr.	C, 25 Yr.	C, 100 Yr.	Tc, min.	I, 2 Yr.	I, 10 Yr.	I, 25 Yr.	I, 100 Yr.	Q, 2 Yr.	Q, 10 Yr.	Q, 25 Yr.	Q, 100 Yr.	LA F10	1.02	60%	0.61	0.41	0.60	0.66	0.70).77 1	0.79 4.9	1 7.43	9.12	11.89	2.99	4.99 6.	51 9.34
LA A0	0.68	60%	0.41	0.27	0.60	0.66	0.70	0.77	9.56	5.14	7.79	9.56	12.47	2.09	3.49	4.55	6.53	LA F11 LA FF1	0.59 0.34	60%	0.35	0.24	0.60	0.66			0.28 5.0 3.65 4.4		9.30 8.26	12.12 10.78	0.90	2.94 3. 1.50 1.	
LA A1 LA A2	0.40	60%	0.67	0.45	0.60	0.66	0.70	0.77	13.05	4.54 4.81	6.86 7.28	8.42 8.93	10.99 11.65	3.04 1.15	5.05 1.91	6.60 2.50	9.48	LA FF2	0.90	60%	0.54	0.36	0.60	0.66			5.00 6.3		11.79	15.42	3.39	5.69 7.	10000
LA A3	1.23	60%	0.74	0.49	0.60	0.66	0.70	0.77	9.54	5.15	7.80	9.57	12.48	3.79	6.31	8.24	11.82	LA G0 LA G1	0.79	60%	0.47 0.59	0.32	0.60	0.66			2.73 4.5 3.17 5.4		8.52 10.12	11.11 13.21	3.22	3.60 4. 5.37 7.	
LA A4	0.22	60%	0.13	0.09	0.60	0.66	0.70	0.77	8.33	5.40	8.19	10.06	13.12	0.71	1.19	1.55	2.22	LA G2	0.55	60%	0.33	0.22	0.60	0.66	0.70		5.00 6.3		11.79	15.42	2.07	3.48 4.	
LA A5 LA A6	0.21	60%	0.13	0.08	0.60	0.66	0.70	0.77	9.01	5.03 5.25	7.61	9.34 9.77	12.19 12.75	0.63 0.94	1.05	1.37 2.05	1.97 2.94	LA G3 LA G4	0.81 0.46	60%	0.49	0.32	0.60	0.66			2.11 4.6 5.16 5.9	7,100	8.70 11.11	11.35 14.51	2.27 1.64	3.78 4. 2.74 3.	7.55
LA A7	0.33	60%	0.20	0.13	0.60	0.66	0.70	0.77	8.41	5.39	8.17	10.02	13.08	1.06	1.77	2.32	3.32	LA G5	0.39	60%	0.23	0.16	0.60	0.66			0.14 5.0		9.34	12.19	1.17	1.95 2.	
LA A8	0.69	60%	0.41	0.28	0.60	0.66	0.70	0.77	9.47	5.16	7.82	9.59	12.51	2.13	3.55	4.63	6.65	LA G6 LA G7	0.77 1.03	60%	0.46	0.31	0.60	0.66			7.67 5.5 0.24 5.0		9.31	13.51 12.14	2.56 3.08	4.27 5. 5.14 6.	
LA A9 LA A10	0.74	60%	0.44	0.30	0.60	0.66	0.70	0.77	11.89	4.72	7.14	8.76 8.84	11.43 11.53	2.09	3.47	4.54	6.51 3.91	LA G8	0.87	60%	0.52	0.35	0.60	0.66			5.06 5.9		11.16	14.58	3.11		9.77
LA A10	1.73	60%	0.26 1.04	0.18	0.60	0.66	0.70	0.77	10.17	4.76 5.02	7.60	9.33	12.17	1.25 5.20	2.08 8.66	2.72 11.30	16.22	LA GG1 LA GG2	1.23	60%	0.74	0.49	0.60	0.66	51, 5		0.34 4.9 1.08 4.8	9 7.56 5 7.35	9.27	12.10	3.67	6.11 7. 5.22 6.	
LA A12	1.35	60%	0.81	0.54	0.60	0.66	0.70	0.77	13.38	4.49	6.78	8.33	10.88	3.62	6.03	7.88	11.31	LA H1	0.22	60%	0.13	0.09	0.60	0.66			5.00 6.3		11.79	15.42	0.83	1.39 1.	
LA A13	1.91	60%	1.15	0.76	0.60	0.66	0.70	0.77	8.86	5.29	8.01	9.84	12.83	6.04	10.07	13.15	18.87	LA H2 LA H3	0.52 0.78	60%	0.31	0.21	0.60	0.66			3.63 5.3 3.83 5.2		9.93 9.85	12.95 12.84	1.66 2.47	2.77 3. 4.12 5.	
LA A14 LA A15	0.81 1.23	60%	0.49	0.32	0.60	0.66	0.70	0.77	5.00 7.81	6.31 5.52	9.61	11.79 10.29	15.42 13.42	3.05 4.06	5.12 6.78	6.69 8.86	9.62	LA H4	0.21	60%	0.13	0.08	0.60	0.66	0.70		5.00 6.3	9.61	11.79	15.42	0.79	1.33 1.	73 2.49
LA A16	1.02	60%	0.61	0.41	0.60	0.66	0.70	0.77	7.81	5.52	8.38	10.29	13.42	3.37	5.63	7.34	10.54	LA H5 LA H6	1.05 0.28	60%	0.63	0.42	0.60	0.66			3.11 5.4 5.00 6.3		10.15	13.25 15.42	3.42 1.06	5.72 7. 1.77 2.	46 10.71 31 3.33
LA A17	1.12	60%	0.67	0.45	0.60	0.66	0.70	0.77	8.38	5.39	8.18	10.03	13.09	3.61	6.03	7.87	11.29	LA H7	0.36	60%	0.22	0.14	0.60	0.66		+	5.00 6.3		11.79	15.42	1.36	2.28 2.	
LA AA1	0.75	60%	0.45	0.30	0.60	0.66	0.70	0.77	10.58	4.95	7.49	9.19	11.99	2.22	3.70	4.83	6.92	LA HH1 LA HH2	0.64 0.45	60%	0.38	0.26	0.60	0.66	0.70		2.60 4.6 2.33 4.6		8.55 8.63	11.16 11.26	1.76 1.25	2.93 3. 2.08 2.	3.30
LA AA2 LA B0	1.24	60%	0.74 0.73	0.50 0.48	0.60	0.66 0.66	0.70 0.70	0.77 0.77	12.34 11.47	4.64 4.79	7.03 7.25	8.63 8.90	11.26 11.61	3.44 3.47	5.73 5.77	7.49 7.54	10.75	LA HH3	0.47	60%	0.28	0.19	0.60	0.66	0.70	0.77 1	2.43 4.6	3 7.00	8.60	11.22	1.30	2.17 2.	83 4.06
LA B1	1.22	60%	0.73	0.49	0.60	0.66	0.70	0.77	9.13	5.23	7.92	9.72	12.69	3.81	6.36	8.31	11.92	LA I1 LA I2	0.53 0.62	60% 60%	0.32	0.21	0.60	0.66			3.36 5.4 3.91 5.2	0 8.18 8 8.00	10.04 9.81	13.10 12.80	1.71 1.96	2.85 3. 3.26 4.	
LA B2	0.54	60%	0.32	0.22	0.60	0.66	0.70	0.77	10.65	4.93	7.47	9.17	11.95	1.59	2.65	3.46	4.97	LA II1	0.32	60%	0.19	0.13	0.60	0.66			5.37 6.1		11.56	15.12	1.18	1.98 2.	
LA B3 LA B4	0.72	60%	0.43	0.29	0.60	0.66	0.70	0.77	9.81	5.05 5.09	7.64	9.38 9.47	12.23 12.35	2.17	3.62	4.73 4.84	6.78	LA II2 LA II3	0.34 0.32	60% 60%	0.20 0.19	0.14 0.13	0.60	0.66			5.00 6.3 3.42 5.3		11.79 10.02	15.42 13.07	1.28 1.03	2.15 2. 1.72 2.	81 4.04 24 3.22
LA B5	0.79	60%	0.47	0.32	0.60	0.66	0.70	0.77	10.56	4.95	7.49	9.20	12.00	2.34	3.89	5.09	7.30	LA J1	0.52	60%	0.19	0.13	0.60				2.31 4.6		8.64	11.27	1.45	2.41 3.	
LA B6	1.12	60%	0.67	0.45	0.60	0.66	0.70	0.77	12.17	4.67	7.07	8.68	11.32	3.13	5.21	6.80	9.77	LA J2 LA J3	0.23 0.80	60% 60%	0.14 0.48	0.09	0.60	0.66			2.57 4.6 0.57 4.9	6.97 5 7.49	8.56 9.19	11.17 11.99	0.63 2.37	1.05 1. 3.94 5.	
LA B7 LA B8	0.85	60%	0.51	0.34	0.60	0.66	0.70 0.70	0.77	11.09	4.85 4.64	7.35 7.01	9.02 8.61	11.76 11.23	2.47 1.91	4.11 3.18	5.37 4.16	7.70 5.97	JJ1	3.01	40%	1.20	1.81	0.52	0.57			0.16 5.0		9.34	12.18	7.89		15 7.39
LA B9	0.57	60%	0.41	0.23	0.60	0.66	0.70	0.77	10.73	4.92	7.44	9.14	11.92	1.68	2.79	3.65	5.23	LA K1 LA KK1	0.38 0.45	60%	0.23	0.15 0.18	0.60	0.66			9.91 5.0 2.06 4.6		9.43 8.71	12.30 11.37	1.15 1.26	1.92 2. 2.10 2.	
LA B10	0.37	60%	0.22	0.15	0.60	0.66	0.70	0.77	6.16	5.96	9.06	11.11	14.51	1.32	2.20	2.88	4.13	LA KK2	0.30	60%	0.18	0.12	0.60	0.66			3.68 5.3		9.91	12.93	0.96	1.59 2.	
LA B11	1.07	60%	0.64	0.43	0.60	0.66	0.70	0.77	10.24	5.01	7.58	9.31	12.14	3.20	5.34	6.97	10.00	LA L1 LA L2	0.40	60% 60%	0.24 0.49	0.16 0.33	0.60	0.66	0.70		7.41 5.6 9.33 5.1		10.47 9.65	13.66 12.58	1.34 2.54	2.25 2. 4.24 5.	
LA B12 LA B13	0.34	60%	0.73	0.48	0.60	0.66	0.70	0.77	9.80	4.54 5.09	6.86 7.71	8.43 9.47	11.00 12.35	3.28 1.04	5.47 1.73	7.14 2.25	10.25 3.23	LA L3	0.42	60%	0.49	0.33	0.60	0.66			9.43 5.1		9.61	12.53	1.30	2.16 2.	
LA B14	0.32	60%	0.19							4.97				0.95	1.58	2.07	2.97	LA L4	0.45	60%	0.27	0.18	0.60	0.66			9.42 5.1		9.61	12.54	1.39	2.32 3.	03 4.34
LA BB1	1.30	60%	0.78	0.52	0.60	0.66	0.70	0.77	11.32	4.81	7.28	8.94	11.67	3.74	6.23	8.14	11.68	LA L5 LA L6	0.48	60%	0.29	0.19	0.60		0.70		9.46 5.1 9.50 5.1		9.60 9.58	12.52 12.50	1.48 1.79	2.47 3. 2.98 3.	89 5.58
LA BB2 LA C1	1.16	60%	0.70 1.18	0.46	0.60	0.66	0.70	0.77	11.08	4.86 4.86	7.35	9.02 9.02	11.77 11.77	3.37 5.72	5.61 9.53	7.33	10.51 17.85	LA M1 LA M2	0.53	60%	0.32	0.21	0.60						11.24	14.69		3.20 4.	
LA C2	0.36	60%	0.22	0.14	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	1.36	2.28	2.97	4.28	LA M3	1.03 1.42	60%	0.62 0.85	0.41	0.60				5.00 6.3 7.15 5.6		11.79 10.59	15.42 13.83	3.88 4.83	6.51 8. 8.07 10	50 12.23 53 15.12
LA C3	0.64	60%	0.38	0.26	0.60	0.66	0.70	0.77	8.70	5.32	8.07	9.90	12.91	2.04	3.40	4.43	6.36	LA M4	0.82	60%	0.49	0.33	0.60						9.59	12.50			7.89
LA C4	0.55	60%	0.33	0.22	0.60 0.37	0.66	0.70	0.77	10.20	5.02	7.60	9.32	12.16	1.65	2.75 3.61	3.59	5.15 7.29	LA M5 LA N1	1.54 0.48	60%	0.92	0.62	0.60				7.42 5.6 1.49 4.7	8.53 8 7.24	10.47 8.89	13.66 11.59		8.64 11 2.29 2.	99 4.29
LA C5 LA C6	1.09 0.79	60%	0.65	0.44	0.60	0.42	0.46	0.53	9.26 11.35	5.20 4.81	7.89 7.28	9.68 8.93	12.62 11.65	2.10 2.27	3.78	4.85 4.94	7.29	LA N2	0.60	60%	0.36	0.24	0.60				0.32 4.9		9.28	12.11			90 5.59
LA C7	1.88	60%	1.13	0.75	0.60	0.66	0.70	0.77	16.13	4.12	6.23	7.66	10.01	4.64	7.71	10.08	14.49	LA 01 LA 02	0.69 0.65	60%	0.41	0.28	0.60				0.21 5.0 0.20 5.0		9.32	12.16 12.16	2.07 1.95	3.45 4. 3.25 4.	50 6.46 24 6.09
LA C8	1.20	60%	0.72	0.48	0.60	0.66	0.70	0.77	9.19	5.22	7.91	9.70	12.66	3.74	6.24	8.15	11.69	LA P1	0.44	60%	0.26	0.18	0.60				9.09 5.2		9.74	12.71		2.30 3.	
LA C9 LA C10	0.77	60%	0.62	0.42	0.60	0.66	0.70	0.77	11.14	4.84 4.90	7.33	9.00 9.10	11.74 11.87	3.01 2.26	5.02 3.76	6.55 4.91	9.40 7.04	LA P2 LA Q1	1.11 0.26	60%	0.67 0.16	0.44	0.60				0.22 5.0 5.00 6.3		9.32 11.79	12.15 15.42	3.33 0.98	5.54 7. 1.64 2.	
LA CC1	0.87	60%	0.52	0.35	0.60	0.66	0.70	0.77	12.23	4.66	7.05	8.66	11.30	2.43	4.04	5.27	7.57	LA Q2	0.44	60%	0.26	0.18	0.60				0.47 4.9		9.23	12.04	1.31	2.18 2.	
LA D1	0.89	60%	0.53	0.36	0.60	0.66	0.70	0.77	12.67	4.59	6.95	8.53	11.13	2.44	4.07	5.32	7.63	LA Q3 LA Q4	0.29 0.36	60%	0.17	0.12 0.14	0.60				5.22 6.2 9.82 5.0	9.50 9 7.71	9.46	15.24 12.34	1.08	1.81 2. 1.83 2.	
LA D2 LA D3	0.17	60%	0.10	0.07	0.60	0.66	0.70	0.77	5.00 12.16	6.31 4.67	9.61 7.07	11.79 8.68	15.42 11.33	0.64 0.67	1.07	1.40	2.02	LA Q5	0.36	60%	0.22	0.14	0.60					7 7.98	9.80	12.78		1.89 2.	
LA D4	0.33	60%	0.20	0.13	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	1.24	2.09	2.72	3.92	LA Q6 LA R1	0.55 0.79	60%	0.33	0.22	0.60				3.58 5.3 5.91 5.7	5 8.11 5 8.73	9.95	12.98 13.99	1.76 2.72	2.93 3. 4.54 5.	
LA D5	0.61	60%	0.37	0.24	0.60	0.66	0.70	0.77	12.23	4.66	7.05	8.66	11.30	1.70	2.83	3.70	5.31	LA R2 LA R3	0.48	60%	0.29	0.19	0.60				7.57 5.5	8 8.47	10.40			2.68 3. 7.80 10	49 5.01
LA D6 LA D7	0.61	60%	0.37	0.24	0.60	0.66	0.70	0.77	7.26	5.05 5.66	7.65 8.59	9.39 10.54	12.25 13.76	1.84 1.29	3.07 2.15	4.01 2.80	5.75 4.03	LA S1	1.35 1.11	60% 60%	0.81	0.54 0.44	0.60		0.70 C		5.81 5.7 3.03 4.5		10.77 8.43	14.06 11.00	4.66 3.01	5.01 6.	55 9.40
LA D8	0.33	60%	0.20	0.13	0.60	0.66	0.70	0.77		6.31	9.61	11.79	15.42	1.24	2.09	2.72	3.92	LA S2 LA T1	0.65 1.20	60%	0.39	0.26 0.48	0.60				1.11 4.8 0.09 5.0		9.01 9.36	11.76		3.14 4. 6.02 7.	
LA D9	0.73	60%	0.44	0.29	0.60	0.66	0.70	0.77	7.57	5.58	8.47	10.40	13.57	2.44	4.07	5.31	7.63	LATI LAT2	0.88	60% 60%	0.72 0.53	0.48	0.60				1.10 4.8		9.36	12.21 11.76		6.02 7. 4.25 5.	
LA D10 LA DD1	0.62	60%	0.37	0.25	0.60	0.66	0.70 0.70	0.77	7.07 5.00	5.71 6.31	8.67 9.61	10.64 11.79	13.88 15.42	2.12 0.94	3.54 1.58	4.62 2.06	6.63 2.97	LA U1 LA U2	0.44	60%	0.26	0.18 0.17	0.60				0.61 4.9 5.00 6.3		9.18	11.97		2.17 2.	
LA DD1	0.23	60%	0.13	0.09	0.60	0.66	0.70	0.77	5.00	6.31	9.61	11.79	15.42	0.94	1.36	1.90	2.73	LA U3	0.43 0.53	60% 60%	0.26 0.32	0.17	0.60		0.70).77	5.00 6.3 5.00 6.3		11.79 11.79	15.42 15.42		2.72 3. 3.35 4.	
LA E1	0.66	60%	0.40	0.26	0.60	0.66	0.70	0.77	11.00	4.87	7.37	9.05	11.80	1.92	3.20	4.18	6.00	LA V1 LA V2	1.80 1.54	60% 60%	1.08 0.92	0.72 0.62	0.60 0.60				3.18 4.5 1.65 4.7	6 6.83 7.20	8.39 8.84	10.95 11.53		8.09 10 7.29 9.	
LA E2 LA E3	0.35 1.22	60%	0.21	0.14	0.60 0.60	0.66 0.66	0.70 0.70	0.77	5.00 13.57	6.31 4.46	9.61 6.74	11.79 8.28	15.42 10.81	1.32 3.25	2.21 5.41	2.89 7.07	4.16	LA W1	0.46	60%	0.92	0.62	0.60		<u> </u>	-			11.45	14.97		2.83 3.	
LA E4	1.22	60%	0.73	0.43	0.60	0.66	0.70	0.77	11.09	4.46	7.35	9.02	10.81	3.25	5.41 5.17	6.76	10.16 9.69	LA W2 LA W3	0.38	60%	0.23	0.15 0.14	0.60				5.00 6.3 5.00 6.3		11.79 11.79	15.42 15.42		2.40 3. 2.21 2.	
LA EE1	0.19	60%	0.11	0.08	0.60	0.66	0.70	0.77	9.87	5.08	7.69	9.44	12.32	0.58	0.96	1.26	1.80	LA W4	0.35 0.50	60% 60%	0.21 0.30	0.14	0.60 0.60				0.02 5.0			15.42 12.25		2.21 2. 2.52 3.	
LA EE2	0.18	60%	0.11	0.07	0.60	0.66	0.70	0.77	9.87	5.08	7.69	9.44	12.32	0.55	0.91	1.19	1.71	LA W5	0.29	60%	0.17	0.12	0.60				5.00 6.3		11.79	15.42	1.09	1.83 2.	
LA F1 LA F2	0.89	60%	0.53	0.36	0.60	0.66	0.70	0.77	10.31	5.00 5.00	7.57	9.29 9.29	12.11 12.11	2.66 2.87	4.43	5.78 6.24	8.30 8.95	LA W6	0.50 0.40	60% 60%	0.30 0.24	0.20 0.16	0.60 0.60		0.70).77 5	7.22 5.6 5.00 6.3		10.56 11.79	13.79 15.42	1.51		30 4.75
LA F3	1.04	60%	0.62	0.42	0.60	0.66	0.70	0.77	10.58	4.95	7.49	9.19	11.99	3.08	5.12	6.69	9.60	LA X2	0.87	60%	0.52	0.35	0.60					6.96				3.98 5.	
LA F4	1.23	60%	0.74	0.49	0.60	0.66	0.70	0.77	10.59	4.94	7.48	9.19	11.98	3.64	6.06	7.91	11.35	LA Y1 LA Y2	0.30 0.51	60% 60%	0.18 0.31	0.12	0.60				5.00 6.3 1.26 4.8	1 9.61 2 7.30	11.79 8.96	15.42 11.69		1.90 2. 2.45 3.	
LA F5 LA F6	0.65 1.26	60%	0.39	0.26	0.60 0.60	0.66	0.70 0.70	0.77	11.55 10.93	4.77 4.88	7.22 7.39	8.87 9.07	11.57 11.83	1.86 3.68	3.09 6.13	4.04 8.00	5.79 11.48	LA Z1	0.67	60%	0.40	0.27	0.60	0.66	0.70	0.77 1	1.69 4.7		8.83	11.51	1.90	3.17 4.	14 5.94
LA F7				0.51				_		+								LA Z2 LA Z3		60% 60%		0.13 0.26			0.70 C			7.95 4 7.48					18 3.13 18 5.99
	Channel	Report								Chanr	nel Repo	ort							Chanr	nel Rep	ort												

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Tuesday, Jul 13 2021

Collector-100

Highlighted **User-defined** = 99.13 Invert Elev (ft) Depth (ft) = 0.83= 0.50 Slope (%) Q (cfs) = 54.00 = 0.029N-Value = 27.39 Area (sqft) Velocity (ft/s) = 1.97 Wetted Perim (ft) **Calculations** = 67.01 Crit Depth, Yc (ft) = 0.63Compute by: Known Q = 54.00 Top Width (ft) = 66.00 Known Q (cfs)

(Sta, El, n)-(Sta, El, n)... (0.00, 100.00)-(18.50, 99.63, 0.040)-(18.50, 99.13, 0.016)-(35.00, 99.46, 0.016)-(51.50, 99.13, 0.016)-(51.50, 99.63, 0.016)-(70.00, 100.00, 0.040)

EGL (ft)

= 0.89

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc.

= 99.18

Local-55-100

User-defined

Invert Elev (ft)

Highlighted Depth (ft) = 0.78 Q (cfs)

= 0.50Slope (%) = 41.00 = 0.029Area (sqft) = 21.84 N-Value Velocity (ft/s) = 1.88 Wetted Perim (ft) = 57.01 Calculations = 0.57 Compute by: Known Q Crit Depth, Yc (ft) Top Width (ft) = 41.00 = 56.00 Known Q (cfs) EGL (ft) = 0.83

(Sta, El, n)-(Sta, El, n)... (0.00, 100.00)-(16.00, 99.68, 0.040)-(16.00, 99.18, 0.016)-(30.00, 99.46, 0.016)-(44.00, 99.18, 0.016)-(44.00, 99.68, 0.016)-(60.00, 100.00, 0.040)

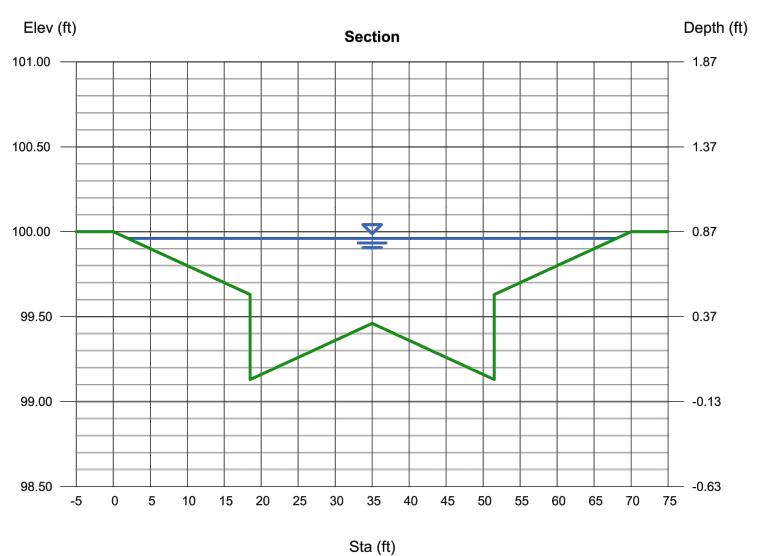
Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Tuesday, Jul 13 2021

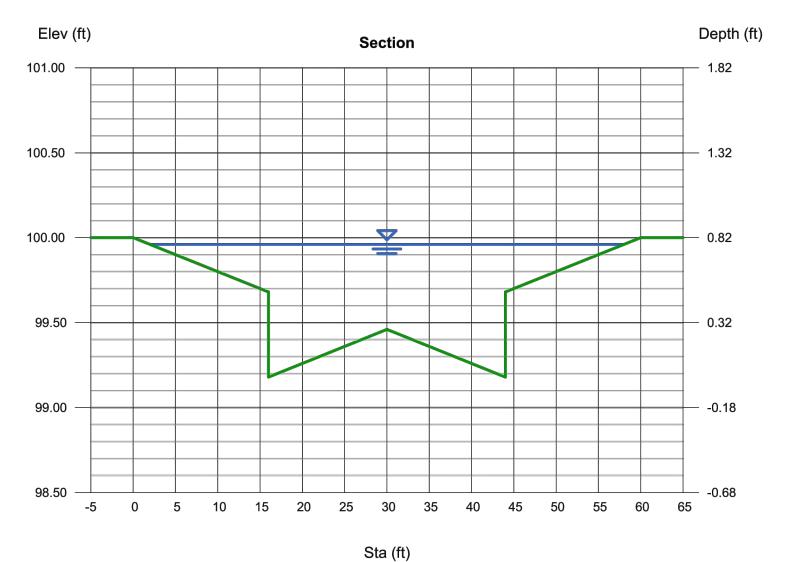
Local-45-100

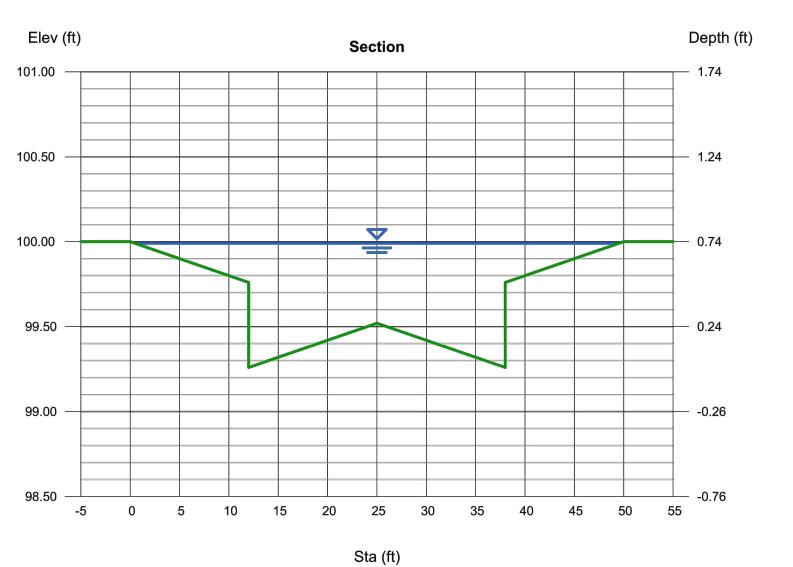
Tuesday, Jul 13 2021

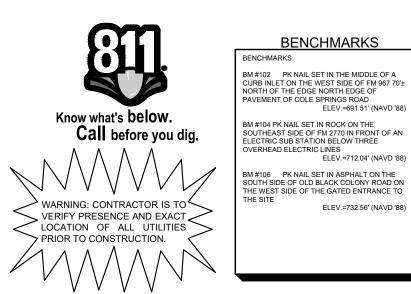
Highlighted **User-defined** = 99.26 Invert Elev (ft) Depth (ft) = 0.73= 0.50 Q (cfs) = 34.00 Slope (%) = 0.028 = 18.25 N-Value Area (sqft) Velocity (ft/s) = 1.86 = 50.01 Wetted Perim (ft) Calculations = 0.52Compute by: Known Q Crit Depth, Yc (ft) Known Q (cfs) = 34.00 Top Width (ft) = 49.00 EGL (ft) = 0.78

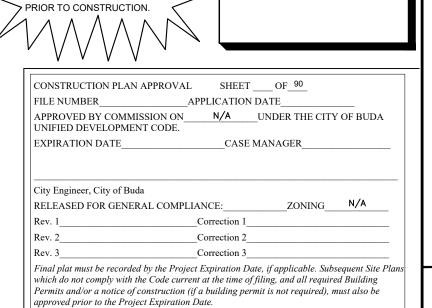
(Sta, El, n)-(Sta, El, n)... (0.00, 100.00)-(12.00, 99.76, 0.040)-(12.00, 99.26, 0.016)-(25.00, 99.52, 0.016)-(38.00, 99.26, 0.016)-(38.00, 99.76, 0.016)-(50.00, 100.00, 0.040)





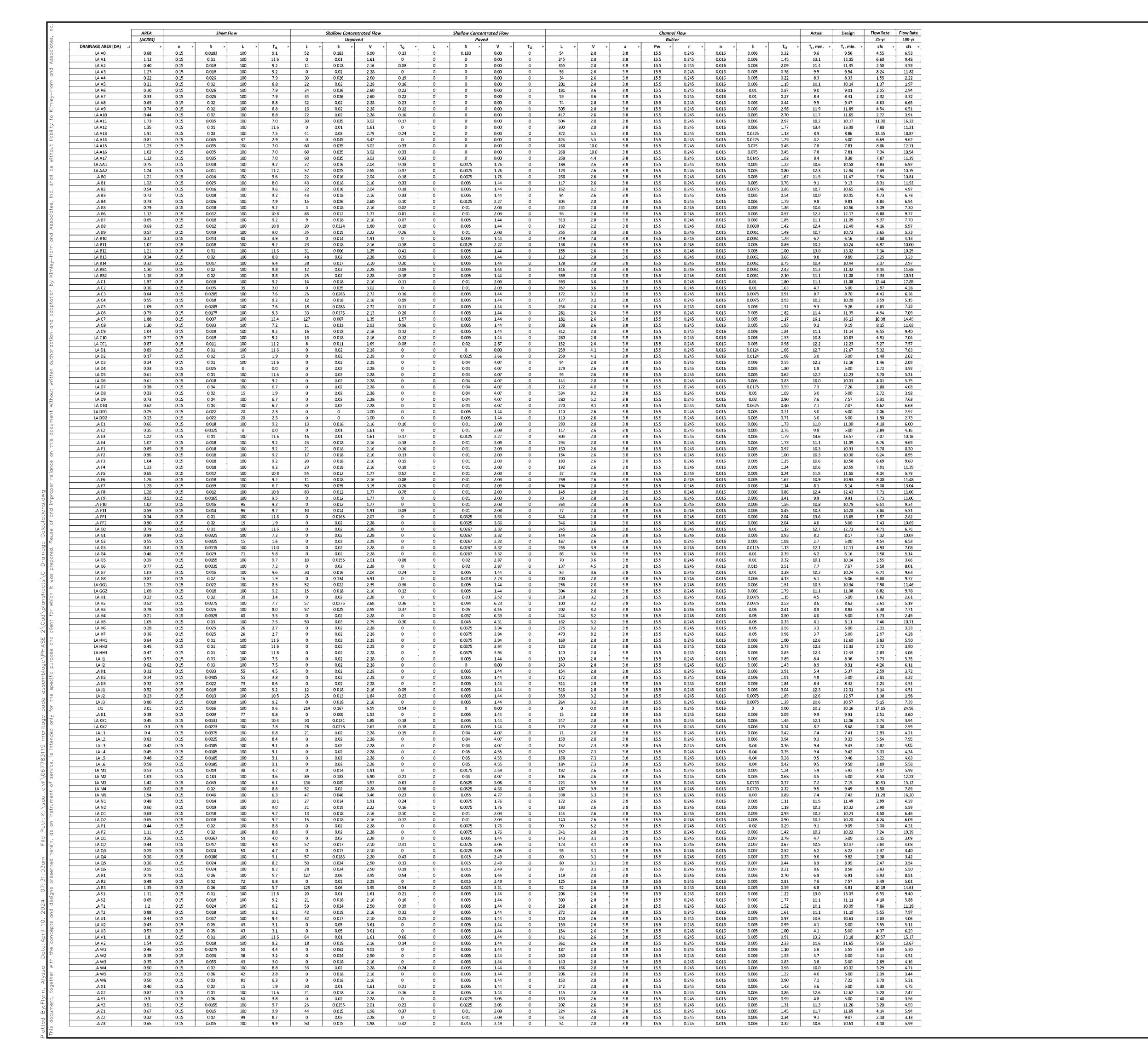


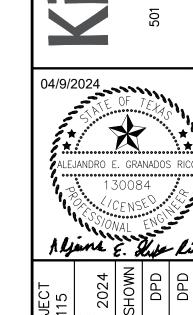




PERMIT NUMBER:

DRAINAGE CALCULATIONS (SHEET 1 OF 4)







SCALE:
DESIGNE
DRAWN

ATIONS 2 OF 4) DRAINAGE

BENCHMARKS

ELEV.=691.51' (NAVD '88)

ELEV.=732.56' (NAVD '88)

_ZONING___N/A

BM #102 PK NAIL SET IN THE MIDDLE OF A CURB INLET ON THE WEST SIDE OF FM 967 70'±
NORTH OF THE EDGE NORTH EDGE OF
PAVEMENT OF COLE SPRINGS ROAD

BM #104 PK NAIL SET IN ROCK ON THE SOUTHEAST SIDE OF FM 2770 IN FRONT OF AN ELECTRIC SUB STATION BELOW THREE OVERHEAD ELECTRIC LINES ELEV.=712.04' (NAVD '88)

BM #106 PK NAIL SET IN ASPHALT ON THE SOUTH SIDE OF OLD BLACK COLONY ROAD ON THE WEST SIDE OF THE GATED ENTRANCE TO

BENCHMARKS:

Know what's **below**.

> WARNING: CONTRACTOR IS TO <

VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

UNIFIED DEVELOPMENT CODE.

RELEASED FOR GENERAL COMPLIANCE:_

approved prior to the Project Expiration Date.

FILE NUMBER

EXPIRATION DATE

PERMIT NUMBER:

City Engineer, City of Buda

CONSTRUCTION PLAN APPROVAL SHEET ___ OF _90

___APPLICATION DATE__

Correction 3 Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans

which do not comply with the Code current at the time of filing, and all required Building

Permits and/or a notice of construction (if a building permit is not required), must also be

CASE MANAGER

APPROVED BY COMMISSION ON N/A UNDER THE CITY OF BUDA

Call before you dig.

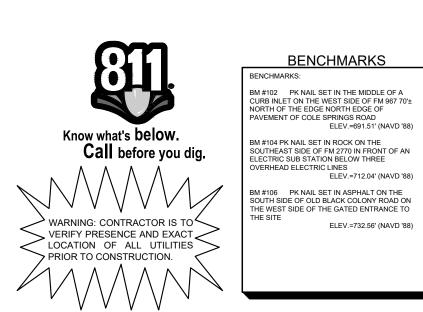
Algana E. She Rin

... 2 ... 5 ... 5 ... 5 ... 5 뽀

SHEET NUMBER 43 OF 90

								INLE	T FLOW			ION TA	BLE	E (25-Yr Flows)	et
2% Straigh Column 1 Column 2 Inlet Drainage Inlet			lumn 4 Pass	Column 5 Q Total	Column 6	Column 7	Column 8	yo	Column 9	Min.	ON GRADE Width	1/2 Street	E _o	Column 11 Column 12 Column 13 Column 14 Column 15 Column 16 Column 17 Column 18 Se Qala La Length L/La alyo E Q/Qa Q Intercept Q Pass Ensuing	_
No. Area No. Type LA AO LA AO Grade	Type (cf Local 55 4.5	fs) 55	0.00	(Qa) (cfs) 4.55	0.60%	(in.) 5.00	(ft.) 0.280	(in.) 3.361	Width (ft)	Clear N/A	Allow 14.000	17.97	0.54	(eq. slope) (ft) (ft) (ft) (efficency) (cfs) (cfs) DA No. 4 0.21 0.70 6.47 10 1.55 1.49 1.00 1.00 4.55 0.00 LAB1 LA	
LA A2 LA A2 Grade	Local 55 6.6 Local 55 2.5 Local 55 8.3	50	0.00 0.00 0.00	6.60 2.50 8.24	0.60% 0.60% 0.50%	5.00 5.00 5.00	0.322 0.224	3.864 2.685	OVER CNTR 11.187	N/A N/A	14.000	17.97 17.97	0.47 0.66		-
LA A5 LA A5 Grade	Local 55 1.3 Local 55 2.0 Local 55 2.0	37	0.00 0.00 0.00	1.55 1.37 2.05	0.50% 0.60% 1.00%	5.00 5.00 5.00	0.179 0.189	2.145 2.265	8.935 9.439	N/A N/A	14 000 14.000	17.97 23.20	0.77 0.75	SEE SUMP CALCULATIONS BELOW 7 0.29 0.43 3.21 10 3.11 2.33 1.00 1.00 1.37 0.00 LAW1 LA A	\A2
LA A7 LA A7 Grade LA A8 LA A8 Grade	Local 55 2.3 Local 55 4.6	32 6 3	0.00	2.32	1.00%	5.00 5.00	0.198 0.282	2.370 3.384	9.875 OVER CNTR	N/A N/A	14.000	23.20 17.97	0.73 0.54	3 0.28 0.42 5.52 10 1.81 2.11 1.00 1.00 2.32 0.00 LAW2 LA	-
LA A10 LA A10 Sump	Local 55 4.5 Local 55 2.5 Local 55 11.	72	0.00 0.00 0.00	4.54 2.72 11.30	0.60% 0.50% 0.60%	5.00 5.00 5.00	0.280	3.357 4.727	13.989 OVER CNTR	N/A N/A	14.000	17.97 17.97	0.54	SEE SUMP CALCULATIONS BELOW N/A LA	-
LA A12 LA A12 Grade LA A13 LA A13 Grade	Local 55 7.8 Local 55 13.	.15	0.00	7.88 13.15	0.60%	5.00 5.00	0.344	4.128 3.905	OVER ONTR	N/A N/A	14.000 14.000	17.97 34.80	0.44 0.46	4 0.17 0.86 9.16 10 1.09 1.21 1.00 1.00 7.88 0.00 LAN2 LA E LA E LA E	-
LA A15 LA A15 Grade	Local 55 6.6 Local 55 7.3	86	0.00 0.00 0.00	6 69 8.86 7 34	2.25% 7.50% 7.50%	5 00 5.00 5 00	0.253 0.224 0.209	3,030 2,686 2,504	12.625 11.194 10.435	N/A N/A N/A	14 000 14 000 14 000	34.80 63.54 63.54	0.60 0.66 0.70	6 0.26 0.47 18.69 20 1.07 1.86 1.00 1.00 8.86 0.00 LAA13	-
LA AA1 LA AA1 Sump	Local 55 7.8 Local 55 4.8 Local 55 7.9	83	0.00 0.00 0.00	7.67 4.63 7.49	0.50% 0.50%	5.00 5.00 5.00	0.291	3.497	OVER CNTR	N/A	14.000	27.94	0.52	SEE SUMP CALCULATIONS BELOW N/A LA	-
LA B0 LA B0 Sump LA B1 LA B1 Sump	Local 55 7.5 Local 55 8.3	54 31	0.00 0.00	7.54 8.31	0.50% 0.50%	5.00 5.00								SEE SUMP CALCULATIONS BELOW SEE SUMP CALCULATIONS BELOW N/A LA	
	Local 55 4.3 Local 55 4.3	73	0.00 0.00 0.00	3.46 4.73 4.84	0.75% 0.50% 0.60%	5.00 5.00 5.00	0.242	2.910 3.438	12.123 OVER ONTR	N/A N/A	14.000	20.09 17.97	0.62 0.53	SEE SUMPICAL CULATIONS BELOW N/A LA C	
LA B6 LA B6 Grade	Local 55 5.0 Local 55 6.8 Local 55 5.3	80	0.00 0.00 0.00	5 09 6.80 5 37	0.60% 0.60% 0.60%	5 00 5.00 5 00	0.292 0.326 0.298	3.504 3.908 3.575	OVER CNTR OVER CNTR OVER CNTR	N/A N/A N/A	14 000 14 000 14 000	17.97 17.97 17.97	0.52 0.46 0.51	6 0.18 0.82 8.34 10 1.20 1.28 1.00 1.00 6.80 0.00 LABS LA	
LA B8 LA B8 Grade	Local 55 5.3 Local 55 4.3 Local 55 3.6	16	0.00	4.16 3.65	0.38% 0.61%	5.00 5.00	0.295 0.257	3.539 3.083	OVER CNTR 12.846	N/A N/A	14.000 14.000	14.30 18.12	0.52 0.59	2 0.20 0.74 5.59 10 1.79 1.41 1.00 1.00 4.16 0.00 LAB6	-+
\rightarrow	Local 55 6.9 Local 55 7.1	97	0.00 0.00 0.00	2.88 6.97 7.14	0.61% 0.50% 0.50%	5.00 5.00 5.00	0.235	2.821	11.755	N/A	14.000	18.12	0.64	4 0.25 0.59 4.91 10 2.04 1.77 1.00 1.00 2.88 0.00 LA II2 SEE SUMP CALCULATIONS BELOW SEE SUMP CALCULATIONS BELOW LA	-
LA B13 LA B13 Grade LA B14 LA B14 Grade	Local 55 2.3 Local 55 2.9	25 07	0.00	2. 25 2.07	0.61% 0.61%	5.00 5.00	0.214	2.574	10.725 10.388	N/A N/A	14.000	18.12 18.12	0.69	9 0.26 0.53 4.26 10 2.35 1.94 1.00 1.00 2.25 0.00 LAB12 LA	E4
LA BB2 LA BB2 Grade	Local 55 7.3 Local 55 12.	33	0.00 0.00 0.00	8.14 7 33 12.44	0.61% 0.61% 1.00%	5.00 5.00 5.00	0.347 0.334	4.166 4.005	OVER CNTR	N/A N/A	14.000	18.12 18.12	0.43 0.45		-
LA C3 LA C3 Grade	Local 55 2.8 Local 55 4.4 Local 55 3.8	43	0.00 0.00 0.00	2 97 4.43 3.59	1.00% 0.75% 0.75%	5.00 5.00 5.00	0.266 0.246	3.192 2.948	13.300 12.285	N/A N/A	14.000 14.000	20.09 20.09	0.57 0.61		
LA C5 LA C5 Grade	Local 55 4.8 Local 55 4.8	85 94	0.00	4.85 4.94	0.60% 0.50%	5.00 5.00	0.287	3.442	OVER CNTR	N/A	14.000	17.97	0.53	3 0.21 0.72 6.73 10 1.49 1.45 1.00 1.00 4.85 0.00 LAC6 N/A LA	F3
LA C8 LA C8 Sump	Local 55 8.1 Local 55 6.9	15	0.00 0.00 0.00	10.08 8.15 6.55	0.50% 0.50% 0.60%	5.00 5.00 5.00	0.321	3.853	OVER CNTR	N/A	14.000	17.97	0.47	SEE SUMP CALCULATIONS BELOW SEE SUMP CALCULATIONS BELOW 7 0.19 0.81 8.14 10 1.23 1.30 1.00 1.00 6.55 0.00 LAC6 LA	-+
+ + + + + + + + + + + + + + + + + + + 	Local 55 4.3 Local 55 5.3 Local 45 5.3	27	0.00	4.91 5.27	0.60% 0.50%	5.00 5.00	0.288	3.457	OVER CNTR	N/A	14.000	17.97	0.53	SEE SUMP CALCULATIONS BELOW	
LA D2 LA D2 Sump	Local 45 1.4 Local 45 1.4	40	0.00 0.00 0.00	5.32 1 40 1.46	1.24% 1.24% 0.60%	5.00 5.00 5.00	0.183	2.193	9.139	N/A	13.000	17.44	0.76	SEE SUMPICALCULATIONS BELOW N/A LA F	-
	Local 45 2.3 Local 45 3.3 Alley 4.0	70	0.00 0.00 0.00	2.72 3.70 4.01	0.50% 0.50% 0.60%	5.00 5.00 5.00	0.239	2.869	11.953	N/A	13.000	15.92	0.63	3 0.24 0.60 4.56 10 2.19 1.74 1.00 1.00 2.72 0.00 N/A LADS SEE SUMP CALCULATIONS BELOW LADS SEE GRATE INLET CALCULATIONS BELOW LADS	
LA D7	Local 45 2.3 Local 45 2.3	80 72	0.00 0.00	2.80 2.72	1.75% 5.00%	5.00 5.00	0.191 0.155	2.293 1.863	9.554 7.762	N/A N/A	13.000 13.000	29.78 50.33	0.74 0.83	4 0.28 0.40 7.00 10 1.43 2.18 1.00 1.00 2.80 0.00 LAQ4 LA D7 LA D7	
LA D9 LA D9 Grade LA D10 LA D10 Grade LA DD1 LA DD1 Sump	Alley 5.3 Alley 4.6 Collector 2.0	62	0.00 0.00 0.00	5.31 4.62 2.06	2.00% 6.25% 0.50%	5.00 5.00 5.00								SEE GRATE INLET CALCULATIONS BELOW SEE GRATE INLET CALCULATIONS BELOW SEE SUMP CALCULATIONS BELOW LA D8 N/A LA	-+
LA DD2 LA DD2 Sump LA E1 LA E1 Sump LA E2 LA E2 Sump	Collector 1.5 Alley 4.7 Alley 2.8	18	0.00 0.00 0.00	1.90 4 18 2.89	0.50% 0.60% 0.50%	5.00 5.00 5.00								SEE SUMP CALCULATIONS BELOW SEE GRATE INLET CALCULATIONS BELOW SEE GRATE INLET CALCULATIONS BELOW N/A LA	
LA E3 LA E3 Sump LA E4 LA E4 Sump	Local 55 7.0 Local 55 6.3	07 76	0.00	7.07 6.76	0.60% 0.60%	5.00 5.00								SEE SUMP CALCULATIONS BELOW SEE SUMP CALCULATIONS BELOW N/A N/A	-
LA EE2 LA EE2 Sump	Local 55 1.3 Local 55 1.3 Local 55 5.3	19	0.00 0.00 0.00	1.26 1.19 5.78	0.50% 0.50% 0.50%	5.00 5.00 5.00								SEE SUMP CALCULATIONS BELOW SEE SUMP CALCULATIONS BELOW SEE SUMP CALCULATIONS BELOW N/A N/A LA	
LA F3 LA F3 Sump	Local 55 6.0	69	0.00	6 24 6.69	0.50%	5.00 5.00								SEE SUMP CALCULATIONS BELOW SEE SUMP CALCULATIONS BELOW SEE SUMP CALCULATIONS BELOW LA	-
LA F5 LA F5 Sump	Local 55 4.0 Local 55 8.0	04	0.00 0.00 0.00	7 91 4.04 8 00	0.50% 0.50% 0.50%	5 00 5.00 5 00								SEE SUMP CALCULATIONS BELOW SEE SUMP CALCULATIONS BELOW N/A LA	V1
LA F8 LA F8 Grade	Local 55 7.3 Local 55 6.9	71	0.00 0.00 0.00	9.08 7.71 6.51	0.60% 0.60% 0.60%	5.00 5.00 5.00	0.363 0.341	4.355 4.095	OVER CNTR	N/A N/A	14.000 14.000	17.97 17.97	0.41 0.44		
LA F11 LA F11 Sump LA FF1 LA FF1 Grade	Local 55 3.8 Local 45 1.8	84 97	0.00 0.00	3 84 1.97	0.60% 0.60%	5.00 5.00	0.204	2.453	10.222	N/A	13.000	17.44	0.71	SEE SUMP CALCULATIONS BELOW 1 0.27 0.50 3.92 10 2.55 2.04 1.00 1.00 1.97 0.00 LAG2	
LA GO LA GO Grade	Local 45 7.4 Local 45 7.9	71	0.00 0.00 0.00	7 43 4.71 7.02	0.60% 1.00% 0.50%	5.00 5.00 5.00	0.337 0.258	4.039 3.093	OVER CNTR 12.888	N/A N/A	13.000 13.000	17.44 22.51	0.45 0.59	5 016 0.54 0.52 10 1.15 1.24 1.00 100 745 0.00 EAG2	
LA G3 LA G3 Grade	Local 45 4.5 Alley 4.5 Local 45 3.5	93	0.00 0.00 0.00	4.54 4.93 3.58	0.50% 1.15% 1.00%	5.00 5.00 5.00	0.233	2.790	11.626	N/A	13.000	22.51	0.64	SEE SUMP CALCULATIONS BELOW	
LA G5 LA G5 Grade LA G6 LA G6 Sump	Local 45 2.5 Alley 5.5	55 58	0.02 0.00	2 57 5.58	1.00%	5 00 5.00	0.205	2.465	10.273	N/A	13 000	22,51	0.71	1 0 27 0.44 5.86 10 1.71 2.03 1.00 0 99 2.57 0.00 LAY2 SEE GRATE INLET CALCULATIONS BELOW N/A	
LA G8 LA G8 Grade	Local 45 6.8 Local 55 7.9	80	0.00 0.00 0.00	6.71 6.80 7.98	0.60% 0.60%	5.00 5.00 5.00	0.294 0.326 0.346	3.533 3.907 4.149	OVER CNTR OVER CNTR OVER CNTR	N/A N/A N/A	13 000 13.000 14.000	22.51 17.44 17.97	0.52 0.46 0.43	6 0.18 0.82 8.33 10 1.20 1.28 1.00 1.00 6.80 0.00 LAG7	
LA H1 LA H1 Grade	Local 55 6.8 Collector 1.8 Collector 3.6	82	0.00 0.00 0.00	6.82 1.82 3.61	0.60% 0.75% 0.75%	5.00 5.00 5.00	0.326 0.190 0.246	3.911 2.284 2.956	OVER CNTR 9.515 MINCLEAR	N/A 12' 12'	14.000 11.000 11.000	17.97 21.19 21.19	0.46 0.74 0.61	4 0.28 0.46 3.95 10 2.53 2.19 1.00 1.00 1.82 0.00 LAD4	
LA H3 LA H3 Grade	Collector 5.3 Collector 1.3	38	0. 0 1 0. 0 0	5.39 1.73	5.00% 5.00%	5.00 5.00	0.201 0.131	2.406 1.572	10.026 6.552	12' 12'	11.000	54.71 54.71	0.72	2 0.28 0.42 12.84 15 1.17 2.08 1.00 1.00 5.39 0.00 LAH2 9 0.34 0.24 7.08 10 1.41 3.18 1.00 1.00 1.73 0.00 LAH1	
LA H6 LA H6 Grade	Collector 2.3 Collector 2.3	31	0.00 0.00 0.00	7.46 2.31 2.97	5.00% 5.00% 5.00%	5.00 5.00 5.00	0.227 0.146 0.160	2.718 1.752 1.925	MINCLEAR 7.298 8.019	12' 1 2 ' 12'	11.000 11.000 11.000	54.71 54.71 54.71	0.66 0.86 0.82	6 032 0.28 8.17 10 1.22 2.85 1.00 1.00 2.31 0.00 LAH4	
LA HH1 LA HH1 Grade LA HH2 LA HH2 Grade LA HH3 LA HH3 Grade	Alley 2.3 Alley 2.3	72	0.00 0.00 0.00	3.63 2.72 2.63	0.60% 0.60% 0.60%	5.00 5.00 5.00								SEE GRATE INLET CALCULATIONS BELOW SEE GRATE INLET CALCULATIONS BELOW LAHH1 SEE GRATE INLET CALCULATIONS BELOW LAHH2	
LA III	Alley 2.8 Alley 3.3 Alley 4.3	73	0.00	3.73 4.26	0.60% 0.60%	5.00 5.00								SEE GRATE INLET CALCULATIONS BELOW LAG4 SEE GRATE INLET CALCULATIONS BELOW LAI1	
LA II2 LA II2 Grade	Collector 2.3 Collector 2.3 Collector 2.3	81	0.00 0.00 0.00	2.59 2.81 2.24	0.60% 0.60% 0.60%	5.00 5.00 5.00	0.227 0.234 0.215	2.720 2.803 2.578	MINCLEAR MINCLEAR 10.742	12' 12' 12'	11.000 11.000	18.95 18.95 18.95	0.66 0.64 0.68	4 0.25 0.58 4.82 10 2.07 1.78 1.00 1.00 2.81 0.00 LAY2	
LA J1 LA J1 Grade LA J2 LA J2 Grade	Local 55 3.1 Local 55 1.3	14 38	0.00	3.14 1.38	0.60% 0.75%	5.00 5.00	0.244 0.172	2.925 2.059	12.189 8.580	N/A N/A	14.000 14.000	17.97 20.09	0.62 0.79	2 0.24 0.61 5.16 10 1.94 1.71 1.00 1.00 3.14 0.00 LAF8 9 0.30 0.41 3.40 10 2.94 2.43 1.00 1.00 1.38 0.00 N/A	
JJ1 JJ1 Area	Local 55 5: Collector 17: Local 55 2:	.15	0.00 0.00 0.00	5.15 17 15 2.51	0.75% 0.00% 0.60%	5.00 5.00 5.00	0.281	3.376 2.688	11.199	N/A N/A	14.000	20.09 17.97	0.54	HEADWALL N/A	
 	Collector 2.0 Alley 2.8	08	0.00 0.00 0.00	2.74 2.08 2.93	0.60% 0.60% 0.60%	5.00 5.00 5.00	0.232 0.209	2.780 2.506	MINCLEAR 10.441	12' 12'	11.000 11.000	18.95 18.95	0.64 0.70	├	
LA L2 LA L2 Grade LA L3 LA L3 Grade	Alley 5.5 Alley 2.4	54 82	0.00 0.00	5.54 2 82	0.60% 4.00%	5.00 5.00								SEE GRATE INLET CALCULATIONS BELOW LAL1 SEE GRATE INLET CALCULATIONS BELOW N/A	
LA L4 LA L4 Grade LA L5 LA L5 Grade LA L6 LA L6 Grade	Alley 3.0 Alley 3.0 Alley 3.8	22	0.00 0.00 0.00	3.03 3.22 3.89	4.00% 4.00% 4.00%	5.00 5.00 5.00								SEE GRATE INLET CALCULATIONS BELOW SEE GRATE INLET CALCULATIONS BELOW LAL4 SEE GRATE INLET CALCULATIONS BELOW LAL5	
LA M2 LA M2 Sump	Local 55 4.1 Local 55 8.5 Local 55 10	50	0.00 0.02 0.00	4.17 8.52 10.53	0.50% 0.50% 7.33%	5.00 5.00 5.00	0.240	2.879	11.996	N/A	14.000	62.81	0.63	SEE SUMP CALCULATIONS BELOW N/A	
LA M4 LA M4 Grade	Local 55 5.5	50	0.00	5.50 11.28	7.33% 3.00%	5.00 5.00	0.188 0.291	2.257 3.493	9.404 OVER CNTR	N/A N/A	14.000 14.000	62.81 40.18	0.75 0.52	5 0.29 0.39 14.19 15 1.06 2.22 1.00 1.00 5.50 0.00 LAM1	
LA N2 LA N2 Sump	Local 55 2.8 Local 55 3.8 Local 55 4.8	90	0.00 0.00 0.00	2 99 3.90 4 50	0.50% 0.50% 0.50%	5.00 5.00 5.00								SEE SUMP CALCULATIONS BELOW N/A SEE SUMP CALCULATIONS BELOW N/A SEE SUMP CALCULATIONS BELOW N/A	
LA O2 LA O2 Grade LA P1 LA P1 Grade	Local 55 4.3 Local 45 3.0	24	0.00 0.00	4 24 3.00	0.50% 2.00%	5.00 5.00	0.191	2.294	9.558	N/A	13.000	31.83	0.74	SEE SUMP CALCULATIONS BELOW N/A 4 0.28 0.40 7.49 10 1.33 2.18 1.00 1.00 3.00 0.00 LA H4	
+ + +	Alley 7.3 Collector 2.3 Collector 2.3	15	0.00 0.00 0.00	7 24 2.15 2.84	0.60% 0.70% 0.70%	5.00 5.00 5.00	0.205 0.228	2.463 2.737	10.262 MINGLEAR	12' 12'	11.000 11.000	20.47 20.47	0.71 0.65		
LA Q4 LA Q4 Grade	Collector 2.3 Collector 2.3 Collector 2.4	38	0.00 0.00 0.00	2.37 2.38 2.47	0.70% 0.70% 0.70%	5.00 5.00 5.00	0.213 0.214 0.216	2.555 2.562 2.596	10.644 10.676 10.817	12' 12' 12'	11.000 11.000 11.000	20.47 20.47 20.47	0.69 0.69 0.68	9 0.26 0.53 4.53 10 2.21 1.95 1.00 1.00 2.38 0.00 LAQ2	
LA Q6 LA Q6 Grade LA R1 LA R1 Grade	Collector 3.8 Local 55 5.9	83 93	0.00 0.00	3 83 5.93	0.70% 0.60%	5.00 5.00	0.216 0.255 0.309	3.061 3.711	MINCLEAR OVER CNTR	1 2 ' N/A	11 000 14 000	20.47 20.47 17.97	0.59 0.49	9 0.23 0.64 6.00 10 1.67 1.63 1.00 1.00 3.63 0.00 LAC4 9 0.19 0.78 7.64 10 1.31 1.35 1.00 1.00 5.93 0.00 LAC8	
LA R3 LA R3 Sump	Local 55 10. Local 55 6.5	.18	0.00 0.00 0.00	3 49 10.18 6.55	0.50% 0.50% 0.60%	5.00 5.00 5.00	0.321	3.852	OVER CNTR	N/A	14.000	17.97	0.47	SEE SUMP CALCULATIONS BELOW N/A SEE SUMP CALCULATIONS BELOW N/A 7 0.19 0.80 8.14 10 1.23 1.30 1.00 1.00 6.55 0.00 LA B11	
LA S2 LA S2 Grade LA T1 LA T1 Grade	Local 55 4.1 Local 55 7.8	10 86	0.00 0.00	4.10 7.86	0.60% 0.60%	5.00 5.00	0.269 0.344	3.232 4.126	13.466 OVER ONTR	N/A N/A	14.000 14.000	17.97 17.97	0.56 0.44	6 0.22 0.68 6.06 10 1.65 1.55 1.00 1.00 4.10 0.00 LAB12 4 0.17 0.86 9.15 10 1.09 1.21 1.00 1.00 7.86 0.00 LAC6	
LA U1 LA U1 Grade	Local 55 5.5 Collector 2.6 Collector 3.5	83	0.00 0.00 0.00	5.55 2.83 3.55	0.60% 0.50% 0.50%	5.00 5.00 5.00	0.302 0.242	3.621 2.909	OVER CNTR MINCLEAR	N/A 12'	14.000 11.000	17.97 17.30	0.50 0.62	├──	
LA V1 LA V1 Sump	Collector 4.3 Local 55 10. Local 55 9.3	.57	0.00 0.00 0.00	4.37 10 57 9.53	0.50% 0.50% 0.50%	5.00 5.00 5.00								SEE SUMP CALCULATIONS BELOW N/A SEE SUMP CALCULATIONS BELOW N/A SEE SUMP CALCULATIONS BELOW N/A	
LA W1 LA W1 Grade LA W2 LA W2 Grade	Collector 3.0	6 9 14	0.00	3 69 3.14	0.60%	5.00 5.00	0.259 0.244	3.106 2.923	MINCLEAR MINCLEAR	12' 12'	11 000 11.000	18.95 18.95	0.59 0.62	9 0.23 0.65 5.68 10 1.76 1.61 1.00 1.00 3.69 0.00 LAW3 2 0.24 0.61 5.15 10 1.94 1.71 1.00 1.00 3.14 0.00 LAW4	
LA W4 LA W4 Grade	Collector 2.3 Collector 2.3	29	0.00 0.00 0.00	2.89 3.29 2.39	0.60% 0.60% 0.60%	5.00 5.00 5.00	0.220	2.641	MINCLEAR	12'	11.000	18.95	0.67	SEE SUMP CALCULATIONS BELOW N/A SEE SUMP CALCULATIONS BELOW N/A 7 0.26 0.55 4.39 10 2.28 1.89 1.00 1.00 2.39 0.00 LAW3	
LA W6 LA W6 Grade LA X1 LA X1 Sump	Collector 3.3 Alley 3.3	70 30	0.00	3.70 3.30 5.20	0.60% 0.60% 0.60%	5.00 5.00 5.00	0.259	3.109	MINCLEAR	12'	11.000	18.95	0.58	8 0.23 0.65 5.69 10 1.76 1.61 1.00 1.00 3.70 0.00 LAW4 SEE GRATE INLET CALCULATIONS BELOW N/A	
LA Y1 LA Y1 Sump LA Y2 LA Y2 Sump	Collector 2.4 Collector 3.3	48 20	0.00	2.48 3 20	0.50% 0.50%	5.00 5.00								SEE SUMP CALCULATIONS BELOW N/A SEE SUMP CALCULATIONS BELOW N/A	
LA Z2 LA Z2 Grade	Local 55 4.1 Local 55 2.1 Local 55 4.1	18	0.00 0.00 0.00	4.14 2 18 4.18	0.50% 0.60% 0.60%	5.00 5.00 5.00	0.280 0.213 0.271	3.356 2.552 3.254	13.984 10.633 13.559	N/A N/A N/A	14.000 14.000 14.000	16.40 17.97 17.97	0.54 0.69 0.56	9 0 26 0.52 4.17 10 2.40 1.96 1.00 1 00 2 18 0.00 LAB10	
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		2% Straig	ht Crown											SUMP IN	ILETS												
	Inlet	Drainage	Inlet	Street	Q	Q Pass	Q Total	Slope	a	yo	yo	Ponded	Min.	Width	1/2 Street	<u>Ε</u> ,	S _E	Qa/La	La	Length	L/La	a/yo	Crown	Q/Qa	Q Intercept	Q Pass	Ensuing
n 18	No.	Area No.	Туре	Туре	(cfs)	(cfs)	(Qa) (cfs)	(%)	(in.)	(ft.)	(in.)	Width (ft)	Clear	Allow	Cpcty (cfs)	_v			(ft)	(ft)		,	Pass (Cfs)		(cfs)	(cfs)	DA No.
s Ensuing	LA A3	LA A3	Sump	Local 55	8.24	0.000	8.238	0.50%	5.000	. () 0.422	5.070	OVER CNTR	N/A	14.000	-	0.34	0.14	1.11	7.431	10	1.35	0.99	0.00	1.00	10.61	0.00	X
DA No.	LA A4	LA A4	Sump	Local 55	1.55	0.000	1.549	0.50%	5.000	0.139	1.664	6.932	N/A	14.000	_	0.87	0.33	-1.95	-0.796	10	-12.57	3.01	0.00	1.00	10.61	0.00	Х
LABO LABO	LA A10	LA A10	Sump	Local 55	2.72	0.000	2.722	0.50%	5.000	0.202	2.423	10.096	N/A	14.000	_	0.72	0.27	4.21	0.647	10	15.45	2.06	0.00	1.00	10.61	0.00	X
N/A N/A	LA AA1	LA AA1	Sump	Local 55	4.83	0.000	4.825	0.50%	5.000	0.296	3.549	OVER CNTR	N/A	14.000	_	0.51	0.20	1.49	3.234	10	3.09	1.41	0.00	1.00	10.61	0.00	$\frac{x}{x}$
N/A LAW1	LA AA2	LA AA2	Sump	Local 55	7.49	0.000	7.489	0.50%	5.000	0.396	4.757	OVER CNTR	N/A	14.000	_	0.37	0.15	1.15	6.509	10	1.54	1.05	0.00	1.00	10.61	0.00	X
LAW2	LA BO	LA B0	Sump	Local 55	7.54	0.000	7.535	0.50%	5.000	0.398	4.777	OVER CNTR	N/A	14.000	_	0.37	0.15	1.15	6.566	10	1.52	1.05	0.00	1.00	10.61	0.00	X
LAW2	LA B1	LA B1	Sump	Local 55	8.31	0.000	8.305	0.50%	5.000	0.425	5.097	OVER CNTR	N/A	14.000	_	0.34	0.14	1.11	7.513	10	1.33	0.98	0.00	1.00	10.61	0.00	<u> </u>
LA A10	LA B3	LA B3	Sump	Local 55	4.73	0.000	4.726	0.50%	5.000	0.292	3.500	OVER CNTR	N/A	14.000	_	0.52	0.20	1.52	3.112	10	3.21	1.43	0.00	1.00	10.61	0.00	X
N/A LA A10	LA B11	LAB11	Sump	Local 55	6.97	0.000	6.971	0.50%	5.000	0.378	4.536	OVER CNTR	N/A	14.000	_	0.39	0.16	1.19	5.873	10	1.70	1.10	0.00	1.00	10.61	0.00	$\frac{\lambda}{\lambda}$
LAN2 LAA12	LA B12	LAB12	Sump	Local 55	7.14	0.000	7.141	0.50%	5.000	0.384	4.609	OVER ONTR	N/A	14.000	_	0.38	0.16	1.17	6.082	10	1.64	1.08	0.00	1.00	10.61	0.00	X
LAA12	LA C1	LA C1	Sump	Local 55	12.44	0.000	12.441	1.00%	5.000	0.424	5.093	OVER CNTR	N/A	14.000	-	0.34	0.14	0.99	12.599	15	1.19	0.98	0.00	1.00	15.91	0.00	$\frac{\lambda}{X}$
LAA13	LA C1	LAC1	Sump	Local 55	2.97	0.000	2.972	1.00%	5.000	0.424	2.569	10.704		14.000	-		0.14		0.954	10	10.48	1.95	0.00	1.00	10.61	0.00	$\frac{}{}$
LA A15		LA C6	· · ·		4.94		4.940	0.50%	5.000	0.214			N/A		-	0.69		3.11	3.374	10	2.96	1.39		1.00		0.00	${x}$
N/A N/A	LA C6	LA C7	Sump	Local 55	10.08	0.000					3.605	OVER CNTR	N/A	14.000	-	0.51	0.20	1.46					0.00		10.61		
N/A	LA C7	LAC7 LAC8	Sump	Local 55	8.15	0.000	10.080 8.150	0.50%	5.000 5.000	0.483	5.800 5.034	OVER CNTR	N/A	14.000	-	0.29	0.12	1.04	9.696 7.323	10	1.03 1.37	0.86	0.00	1.00	10.61	0.00	
N/A LAB3	LA C8		Sump	Local 55		0.000		0.50%		0.419		OVER CNTR	N/A	14.000	-	0.34	0.14	1.11		10			0.00		10.61		X
LAB3 N/A	LA CC1	LACC1	Sump	Local 55	5.27	0.000	5.273	0.50%	5.000	0.314	3.766	OVER CNTR	N/A	14.000	-	0.48	0.19	1.39	3.785	10	2.64	1.33	0.00	1.00	10.61	0.00	X
LAB3	LA D1	LA D1	Sump	Local 45	5.32	0.000	5.315	1.24%	5.000	0.315	3.785	OVER CNTR	N/A	13.000	-	0.48	0.19	1.39	3.836	10	2.61	1.32	0.00	1.00	10.61	0.00	X
LAB5	LA D2	LA D2	Sump	Local 45	1.40	0.000	1.403	1.24%	5.000	0.130	1.558	6.491	N/A	13.000	-	0.89	0.34	-1.44	-0.974	10	-10.26	3.21	0.00	1.00	10.61	0.00	X
LAB4	LA D5	LA D5	Sump	Local 45	3.70	0.000	3.698	0.50%	5.000	0.248	2.972	12.385	N/A	13.000	-	0.61	0.24	2.00	1.848	10	5.41	1.68	0.00	1.00	10.61	0.00	X
LAII2	LA DD1	LADD1	Sump	Collector	2.06	0.000	2.064	0.50%	5.000	0.168	2.015	8.394	12'	11.000	-	0.80	0.30	-12.72	-0.162	10	-61.62	2.48	0.00	1.00	10.61	0.00	X
N/A	LA DD2	LADD2	Sump	Collector	1.90	0.000	1.899	0.50%	5.000	0.159	1.906	7.940	12'	11.000	-	0.82	0.31	-5.20	-0.365	10	-27.37	2.62	0.00	1.00	10.61	0.00	X
N/A LAB12	LA E3	LA E3	Sump	Local 55	7.07	0.000	7.073	0.60%	5.000	0.382	4.580	OVER CNTR	N/A	14.000	-	0.39	0.16	1.18	5.998	10	1.67	1.09	0.00	1.00	10.61	0.00	<u> </u>
LAB12	LA E4	LA E4	Sump	Local 55	6.76	0.000	6.755	0.60%	5.000	0.370	4.441	OVER CNTR	N/A	14.000	-	0.40	0.16	1.20	5.607	10	1.78	1.13	0.00	1.00	10.61	0.00	X
LAF5	LA EE1	LA EE1	Sump	Local 55	1.26	0.000	1.256	0.50%	5.000	0.121	1.447	6.029	N/A	14.000	-	0.91	0.34	-1.09	-1.155	10	-8.65	3.46	0.00	1.00	10.61	0.00	X
N/A	LA EE2	LA EE2	Sump	Local 55	1.19	0.000	1.190	0.50%	5.000	0.116	1.396	5.815	N/A	14.000	-	0.92	0.35	-0.96	-1.237	10	-8.09	3.58	0.00	1.00	10.61	0.00	X
N/A LAU1	LA F1	LA F1	Sump	Local 55	5.78	0.000	5.785	0.50%	5.000	0.334	4.005	OVER CNTR	N/A	14.000	-	0.45	0.18	1.31	4.414	10	2.27	1.25	0.00	1.00	10.61	0.00	Х
LAW3	LA F2	LA F2	Sump	Local 55	6.24	0.000	6.241	0.50%	5.000	0.351	4.213	OVER CNTR	N/A	14.000	-	0.43	0.17	1.25	4.975	10	2.01	1.19	0.00	1.00	10.61	0.00	X
N/A	LA F3	LAF3	Sump	Local 55	6.69	0.000	6.691	0.50%	5.000	0.368	4.413	OVER CNTR	N/A	14.000	-	0.40	0.16	1.21	5.528	10	1.81	1.13	0.00	1.00	10.61	0.00	Х
N/A N/A	LA F4	LA F4	Sump	Local 55	7.91	0.000	7.909	0.50%	5.000	0.411	4.934	OVER CNTR	N/A	14.000	-	0.35	0.15	1.13	7.026	10	1.42	1.01	0.00	1.00	10.61	0.00	Х
LAC6	LA F5	LA F5	Sump	Local 55	4.04	0.000	4.036	0.50%	5.000	0.263	3.151	13.127	N/A	14.000	-	0.58	0.23	1.78	2.263	10	4.42	1.59	0.00	1.00	10.61	0.00	Х
LAC8 N/A	LA F6	LA F6	Sump	Local 55	8.00	0.000	8.000	0.50%	5.000	0.414	4.971	OVER CNTR	N/A	14.000	-	0.35	0.14	1.12	7.137	10	1.40	1.01	0.00	1.00	10.61	0.00	Х
N/A	LA F10	LA F10	Sump	Local 55	6.51	0.000	6.511	0.60%	5.000	0.361	4.334	OVER CNTR	N/A	14.000	-	0.41	0.17	1.23	5.306	10	1.88	1.15	0.00	1.00	10.61	0.00	Х
N/A LAD5	LA F11	LA F11	Sump	Local 55	3.84	0.000	3.839	0.60%	5.000	0.254	3.047	12.697	N/A	14.000	-	0.60	0.23	1.90	2.021	10	4.95	1.64	0.00	1.00	10.61	0.00	X
N/A N/A	LA G1	LA G1	Sump	Local 45	7.02	0.000	7.016	0.50%	5.000	0.380	4.555	OVER CNTR	N/A	13.000	-	0.39	0.16	1.18	5.927	10	1.69	1.10	0.00	1.00	10.61	0.00	Х
LA D5	LA G2	LA G2	Sump	Local 45	4.54	0.000	4.540	0.50%	5.000	0.284	3.408	OVER CNTR	N/A	13.000	-	0.54	0.21	1.57	2.883	10	3.47	1.47	0.00	1.00	10.61	0.00	Х
LAQ4	LA M1	LA M1	Sump	Local 55	4.17	0.000	4.171	0.50%	5.000	0.268	3.220	13.419	N/A	14.000	-	0.57	0.22	1.72	2.429	10	4.12	1.55	0.00	1.00	10.61	0.00	Х
LAD7	LA M2	LA M2	Sump	Local 55	8.50	0.019	8.521	0.50%	5.000	0.432	5.185	OVER CNTR	N/A	14.000	-	0.33	0.14	1.10	7.778	10	1.29	0.96	0.00	1.00	10.61	0.00	Х
LA D8 N/A	LA N1	LA N1	Sump	Local 55	2.99	0.000	2.986	0.50%	5.000	0.215	2.577	10.739	N/A	14.000	-	0.68	0.26	3.07	0.972	10	10.28	1.94	0.00	1.00	10.61	0.00	Х
N/A	LA N2	LA N2	Sump	Local 55	3.90	0.000	3.898	0.50%	5.000	0.257	3.078	12.827	N/A	14.000	-	0.59	0.23	1.86	2.094	10	4.78	1.62	0.00	1.00	10.61	0.00	Х
N/A N/A	LA O1	LA 01	Sump	Local 55	4.50	0.000	4.502	0.50%	5.000	0.282	3.389	OVER CNTR	N/A	14.000	-	0.54	0.21	1.59	2.837	10	3.53	1.48	0.00	1.00	10.61	0.00	X
N/A N/A	LA O2	LA 02	Sump	Local 55	4.24	0.000	4.243	0.50%	5.000	0.271	3.257	13.573	N/A	14.000	-	0.56	0.22	1.69	2.518	10	3.97	1.53	0.00	1.00	10.61	0.00	Х
N/A	LA R2	LA R2	Sump	Local 55	3.49	0.000	3.493	0.50%	5.000	0.238	2.861	11.922	N/A	14.000	-	0.63	0.24	2.19	1.595	10	6.27	1.75	0.00	1.00	10.61	0.00	Х
N/A N/A	LA R3	LA R3	Sump	Local 55	10.18	0.000	10.175	0.50%	5.000	0.486	5.836	OVER CNTR	N/A	14.000	-	0.29	0.12	1.04	9.813	10	1.02	0.86	0.00	1.00	10.61	0.00	Х
N/A	LA U2	LA U2	Sump	Collector	3.55	0.000	3.549	0.50%	5.000	0.241	2.892	MINCLEAR	12'	11.000	-	0.62	0.24	2.13	1.665	10	6.01	1.73	0.00	1.00	10.61	0.00	Х
N/A N/A	LA U3	LA U3	Sump	Collector	4.37	0.000	4.375	0.50%	5.000	0.277	3.325	MINCLEAR	12'	11.000	-	0.55	0.21	1.63	2.680	10	3.73	1.50	0.00	1.00	10.61	0.00	Х
N/A	LA V1	LA V1	Sump	Local 55	10.57	0.000	10.569	0.50%	5.000	0.499	5.986	OVER CNTR	N/A	14.000	-	0.28	0.12	1.03	10.297	10	0.97	0.84	0.00	1.00	10.61	0.00	Х
N/A LAF5	LA V2	LA V2	Sump	Local 55	9.53	0.000	9.528	0.50%	5.000	0.466	5.586	OVER CNTR	N/A	14.000	-	0.30	0.13	1.06	9.017	10	1.11	0.90	0.00	1.00	10.61	0.00	Х
LA N2 N/A	LA W3	LA W3	Sump	Collector	2.89	0.000	2.889	0.60%	5.000	0.210	2.521	10.505	12'	11.000	-	0.70	0.27	3.39	0.853	10	11.73	1.98	0.00	1.00	10.61	0.00	Х
N/A	LA W4	LA W4	Sump	Collector	3.29	0.000	3.286	0.60%	5.000	0.229	2.747	MINCLEAR	12'	11.000	-	0.65	0.25	2.45	1.341	10	7.46	1.82	0.00	1.00	10.61	0.00	X
LAG2	LA Y1	LA Y1	Sump	Collector	2.48	0.000	2.476	0.50%	5.000	0.190	2.275	9.479	12'	11.000	_	0.75	0.29	7.17	0.345	10	28.96	2.20	0.00	1.00	10.61	0.00	X
LAG1	LA Y2	LA Y2	Sump	Collector	3.20	0.000	3.199	0.50%	5.000	0.225	2.699	MINCLEAR	12'	11.000	-	0.66	0.25	2.59	1.234	10	8.10	1.85	0.00	1.00	10.61	0.00	X
N/A N/A			'			1																	<u>. </u>				



CONSTRUCTION PLAN	N APPROVAL SHEET	OF_90	
FILE NUMBER	APPLICATION	DATE	
APPROVED BY COMM UNIFIED DEVELOPME	MISSION ON N/A ENT CODE.	_UNDER THE CITY	OF BUDA
EXPIRATION DATE	CASE !	MANAGER	
	ERAL COMPLIANCE:Correction 1		
	Correction 2		
	Correction 3		
	ed by the Project Expiration Da		
which do not comply with Permits and/or a notice of approved prior to the Proj	f construction (if a building peri		

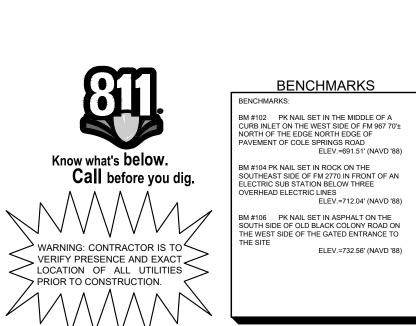
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PHASE 2
CITY OF BUDA
HAYS COUNTY, TEXAS

DRAINAGE CALCULATIONS (SHEET 3 OF 4)

44 OF 90

dar-		2% Straig	ght Crown	C-1	C1	4 C-1	E 0-1	C-2	1.F-1		T FLOW		The C ULATION GRADE	ON TA	BLE	(100-Yr		Cod	Pale	Cells	C-1	-	Cort	Cul	(Cod)	
lumn 1 Inlet No. A A0 A A1	Orainage Area No. LA AO LA A1	Inlet Type Grade Grade	Street Type Local 55 Local 55	Column 3 Q (cfs) 6.53 9.48	Q Pass (cfs) 0.00		Slope (%) 0.60%	a (in.) 5.00 5.00	Y _o (ft.) 0.321 0.369	yo (in.) 3.848 4.425	Ponded Width (ft) OVER ONTR	Min. Ctear N/A N/A	Width Allow 14.000	1/2 Street Cpcty (cfs) 17 97 17 97	E ₀ 0.47 0.40	S _E (eq. stope) 0.19 0.16	Qa/La 0.80 0.92	Column 12 La (ft) 8 12 10.33	Column 13 Length (ft) 10	Column 14 L/La 1 23 0.97	Column 15 a/y _o 1 30 1.13	(efficency) 1.00 1.00	Column 16 Q/Qa 1.00 1.00	Column 17 Q Intercept (cfs) 6.53 9.46		Ensuir DA No LA B
A A2 A A3 A A4	LA A2 LA A3 LA A4	Grade Sump Sump	Local 55 Local 55 Local 55	3.59 11.82 2.22	0.00 0.00 00.0	3.59 11.82 2.22	0.60% 0.50% 0.50%	5.00 5.00 5.00	0.256	3.074	12.809	N/A	14.000	17.97	0.59	SEE SU	0.64 IMP CALCUL IMP CALCUL	ATIONS BEL	ow	1.79	1.63	1.00	1.00	3.59	0.00	LA A N/A N/A
A A5 A A6 A A7	LA A5 LA A6 LA A7	Grade Grade Grade	Local 55 Local 55 Local 55	1.97 2.94 3.32	0.00 0.00 0.00	1.97 2 94 3.32	0.60% 1.00% 1.00%	5.00 5.00 5.00	0.205 0.216 0.226	2.455 2.594 2.714	10.231 10.808 11.308	N/A N/A N/A	14.000 14.000 14.000	17.97 23.20 23.20	0.71 0.68 0.66	0.27 0.26 0.25	0.50 0.46 0.49	3.93 6.34 6.80	10 10 10	2.55 1.58 1.47	2.04 1 93 1.84	1.00 1.00 1.00	1.00 1.00 1.00	1.97 2.94 3.32	0.00 00 0.00	LAV LAV
A A8 A A9 A A10	LA A8 LA A9 LA A10	Grade Grade Sump	Local 55 Local 55 Local 55	6.65 6.51 3.91	0.00 0.00 0.00	6.65 6.51 3.91	0.60% 0.60% 0.50%	5.00 5.00 5.00	0.323 0.320	3.874 3.844	OVER CNTR	N/A N/A	14.000 14.000	17.97 17.97	0.47 0.47	0.19 0.19 SEE SU	0.81 0.80 IMP CALCUL	8.22 8.11 ATIONS BEL	10 10 0W	1.22 1.23	1.29 1.30	1.00 1.00	1.00 1.00	6.65 6.51	0.00	LA N
A A11 A A12 A A13	LA A11 LA A12 LA A13	Grade Grade Grade	Local 55 Local 55 Local 55	16.22 11.31 18.87	0.01 0.73 0.37	16.23 12.04 19.23	0.60% 0.60% 2.25%	5.00 5.00 5.00	0.451 0.403 0.375	5.413 4.840 4.503	OVER ONTR OVER ONTR OVER ONTR	N/A N/A N/A	14.000 14.000 14.000	17.97 17.97 34.80	0.32 0.36 0.39	0.13 0.15 0.16	1.10 1.00 0.81	14.69 12.07 23.89	15 10 20	1.02 0.83 0.84	0.92 1.03 1.11	1.00 0.96 0.96	1.00 0.94 0.98	16.23 11.53 18.50	0.00 0.51 0.73	LA A
A A14 A A15 A A16	LA A14 LA A15 LA A16	Grade Grade Grade	Local 55 Local 55 Local 55	9.62 12.71 10.54	0.00	9.62 12.74 10.54	2.25% 7.50% 7.50%	5.00 5.00 5.00	0.289 0.257 0.239	3.473 3.079 2.868	OVER CNTR 12.830 11.949	N/A N/A N/A	14.000 14.000 14.000	34.80 63.54 63.54	0.53 0.59 0.63	0.21 0.23 0.24	0.63 0.55 0.51	15.32 23.23 20.72	15 20 20	0.98 0.86 0.97	1.44 1.62 1.74	1.00 0.97 1.00	1.00 1.00 1.00	9.6 1 12.38 10.52	0.01 0.37 0.02	LA A
A A17 A AA1	LA A17 LA AA1	Grade Sump	Local 55 Local 55	11.29 6.92	0.00	11.29 6 92 10.75	1.45% 0.50%	5.00 5.00	0.334	4.004	OVER CNTR	N/A	14.000	27.94	0.45	0.18 SEE SU	0.72 IMP CALCUL	15.59 ATIONS BELI	15 OVV	0.96	1.25	1.00	1.00	11.26	0.03	LA A
A AA2 A B0 A B1	LA AA2 LA B0 LA B1	Sump Sump	Local 55 Local 55 Local 55	10.75 10.81 11.92	0.00	10.83 11.92	0.50% 0.50%	5.00 5.00								SEE SU	IMP CALCUL: IMP CALCUL: IMP CALCUL:	ATIONS BELI ATIONS BELI	ow ow							N/
A B2 A B3 A B4	LA B2 LA B3 LA B4	Grade Sump Grade	Local 55 Local 55 Local 55	4.97 6.78 6.94	0.00	4 97 6.78 6 94	0.75% 0.50% 0.60%	5.00 5.00 5.00	0.278	3.937 3.937	13.881 OVER CNTR	N/A N/A	14.000	20 09 17 97	0.55	0.18	0.70 IMP CALGUL 0.82	8 44	10	1 40	1 50	1.00	1.00	4.97 6.94	0 00	LA N/ LA
A B5 A B6 A B7	LA B5 LA B6 LA B7	Grade Grade Grade	Local 55 Local 55 Local 55	7.30 9.77 7.70	0.05 0.00 0.00	7.34 9.77 7.70	0.60% 0.60%	5.00 5.00 5.00	0.335 0.373 0.341	4.021 4.475 4.093	OVER CNTR OVER CNTR OVER CNTR	N/A N/A N/A	14.000 14.000 14.000	17.97 17.97 17.97	0.45 0.40 0.44	0.18 0.16 0.18	0.84 0.93 0.85	8.75 10.53 9.03	10 10 10	1.14 0.95 1.11	1.24 1.12 1.22	1.00 1.00 1.00	0.99 1.00 1.00	7.34 9.72 7.70	0.00 0.05 0.00	LA LA
A B8 A B9 A 61 0	LA B8 LA B9 LA B10	Grade Grade Grade	Local 55 Local 55 Local 55	5.97 5.23 4.13	0.00	5 97 5.23 4 13	0.38% 0.61% 0.61%	5.00 5.00 5.00	0.338 0.294 0.269	4,053 3,530 3,232	OVER CNTR OVER CNTR 13.466	N/A N/A N/A	14.000 14.000 14.000	14 30 18.12 18 12	0.45 0.52 0.56	0.18 0.20 0.22	0.85 0.74 0.68	7 03 7.08 6 12	10 10	1 42 1.41 1 64	1 23 1.42 1 55	1.00 1.00 1.00	1.00 1.00 1.00	5.97 5.23 4.13	0 00 0 00 0 00	LA LA
A B11 A B12 A B13	LA B11 LA B12 LA B13	Sump Sump Grade	Local 55 Local 55 Local 55	10.00 10.25 3.23	0.01 0.00 0.00	10.02 10.25 3.23	0.50% 0.50% 0.61%	5.00 5.00 5.00	0.246	2.947	12.280	N/A	14.000	18.12	0.61		IMP CALCUL: IMP CALCUL: 0.61			1.90	1.70	1.00	1.00	3.23	0.00	N/ N/ LAE
A B14 A BB1 A BB2	LA B14 LA BB1 LA BB2	Grade Grade Grade	Local 55 Local 55 Local 55	2.97 11.68 10.51	0.00	2 97 11.68 10.51	0.61% 0.61% 0.61%	5.00 5.00 5.00	0.238 0.398 0.382	2.855 4.770 4.586	11.894 OVER CNTR OVER CNTR	N/A N/A N/A	14.000 14.000 14.000	18 12 18.12 18 12	0.63 0.37 0.39	0.24 0.15 0.16	0.59 0.98 0.95	5 00 11.87 11 08	10 10	2 00 0.84 0 90	1 75 1.05 1 09	1.00 0.96 0.98	1.00 1.00 1.00	2.97 11.26 10.35	0 00 0.42 0.16	LA E
A C1 A C2	LA C1 LA C2	Sump Sump	Local 55 Local 55	17.85 4.28	0.00	17.85 4.28	1.00%	5.00 5.00								SEE SU	IMP CALCUL.	ATIONS BELI	ow							N/
A C3 A C4 A C5	LA C3 LA C4 LA C5	Grade Grade	Local 55 Local 55 Local 55	6.36 5.15 7.29	0.00	6.36 5.15 7.29	0.75% 0.75% 0.60%	5.00 5.00 5.00	0.305 0.281 0.334	3.655 3.376 4.010	OVER ONTR OVER ONTR OVER ONTR	N/A N/A N/A	14.000 14.000 14.000	20.09 20.09 17.97	0.50 0.54 0.45	0.20 0.21 0.18	0.76 0.71 0.84	8.34 7.30 8.72	10	1.20 1.37 1.15	1.37 1.48 1.25	1.00 1.00 1.00	1.00 1.00 1.00	6.36 5.15 7.29	0.00 0.00 0.00	LA\
A C6 A C7 A C8	LA C6 LA C7 LA C8	Sump Sump	Local 55 Local 55 Local 55	7.09 14.49 11.69	0.32 0.00 0.00	7 41 14.49 11.69	0.50% 0.50% 0.50%	5.00 5.00 5.00								SEE SU	IMP CALCUL: IMP CALCUL: IMP CALCUL:	ATIONS BEL	OW							N/ N/
A C9 A C10 A CC1	LA C9 LA C10 LA CC1	Grade Grade Sump	Local 55 Local 55 Local 55	9.40 7.04 7.57	0.00 0.00 0.00	9.40 7.04 7.57	0.60% 0.60% 0.50%	5.00 5.00 5.00	0.368 0.330	4.412 3.958	OVER ONTR	N/A N/A	14.000 14.000	17.97 17.97	0.40 0.46	0.16 0.18 SEE SU	0.92 0.83 IMP CALCUL	10.27 8 52 ATIONS BELI	10 10	0.97 1 17	1.13 1.26	1.00 1.00	1.00 1.00	9.39 7.04	0.01 0.00	LA (
A D1 A D2 A D3	LA D1 LA D2 LA D3	Sump Sump Grade	Local 45 Local 45 Local 45	7.63 2.02 2.09	0.00	7 63 2.02 2.09	1.24% 1.24% 0.60%	5.00 5.00 5.00	0.209	2.511	10.464	N/A	13.000	17,44	0.70	SEE SU	IMP CALCUL IMP CALCUL 0.51	ATIONS BEL	wo	2.46	1.99	1.00	1.00	2.09	0.00	N/
.A D4 .A D5	LA D4 LA D5	Sump Sump	Local 45 Local 45	3.92 5.31	0.00	3.92 5.31	0.50% 0.50%	5.00 5.00	0.209	2.511 3.288	10.484 OVER CNTR	N/A N/A	13.000	17.44 15.92	0.70 0.55	0.22 SEE SU	0.69 IMP CALCUL	5.68 ATIONS BEL	10 OW	2.46 1.76	1.99	1.00	1.00	2.09 3.92	0.00	N/
A D6 A D7 A D8	LA D6 LA D7 LA D8	Grade Grade Grade	Alley Local 45 Local 45	5.75 4.03 3.92	0.00 0.03 0.00	5.75 4 06 3.92	0.60% 1.75% 5.00%	5.00 5.00 5.00	0.220 0.178	2.634 2.135	10.976 8.896	N/A N/A	13.000 13.000	29 78 50.33	0.67 0.78	9.26 0.30	0.47 0.36	8 63 10.77	10 10	1 16 0.93	1 90 2.34	1.00 0.99	0.99	4.06 3.89	0.00	LAI LAI
A D10 A D11	LA D9 LA D10 LA DD1	Grade Grade Sump	Alley Alley Collector	7.63 6.63 2.97	0.00 0.00 0.00	7.63 6.63 2.97	2.00% 6.25% 0.50%	5.00 5.00 5.00								SEE GRATE	EINLET CALC EINLET CALC IMP CALCUL	CULATIONS	BELOW							LAT LAT
A DD2 A E1	LA DD2 LA E1 LA E2	Sump Sump Sump	Collector Alley	2.73 6.00 4.16	0.00	2.73 6 00 4.16	0.50% 0.60% 0.50%	5.00 5.00 5.00								SEE GRATE	IMP CALCUL EINLET CALC EINLET CALC	ATIONS BELI CULATIONS I	DELOW DW							N/
A E3 A E4	LA E3	Sump Sump	Local 55 Local 55	10.16 9.69	0.00 0.00	10.16 9.69	0.60%	5.00 5.00								SEE SU	IMP CALCUL. IMP CALCUL.	ATIONS BELI ATIONS BELI	ÓW OW							N-
A EE2 A F1	LA EE2 LA F1	Sump Sump Sump	Local 55 Local 55 Local 55	1.80 1.71 8.30	0.00	1 80 1.71 8 30	0.50% 0.50% 0.50%	5.00 5.00 5.00								SEE SU	IMP CALCUL: IMP CALCUL: IMP CALCUL:	ATIONS BEL	OW							N N
A F2 A F3 A F4	LA F2 LA F3 LA F4	Sump Sump Sump	Local 55 Local 55 Local 55	8.95 9.60 11.35	0.00 0.00 0.00	8.95 9.60 11.35	0.50% 0.50% 0.50%	5.00 5.00 5.00								SEE SU	IMP CALCUL: IMP CALCUL: IMP CALCUL:	ATIONS BEL	ow							N N
A F6 A F7	LA F5 LA F6 LA F7	Sump Sump Grade	Local 55 Local 55 Local 55	5.79 11.48 13.04	0.58 0.00 0.00	6 37 11.48 13.04	0.50% 0.50% 0.60%	5.00 5.00 5.00	0.416	4.987	OVER CNTR	N/A	14.000	17 97	0.35		IMP CALCUL IMP CALCUL 1.02			1 18	1 00	1.00	1.00	13.04	0 00	N N LA
A F8 A F10	LA F8 LA F10	Grade Sump	Local 55 Local 55	11.06 9.34	0.00	11.06 9.34	0.60%	5.00 5.00	0.391	4.689	OVER CNTR	N/A	14.000	17.97	0.38	0.15 SEE SU	0.97 IMP CALCUL	11.42 ATIONS BELI	10 OW	0.88	1.07	0.98	1.00	10.80	0.26	LA N
A F11 A FF1 A FF2	LA F11 LA FF1 LA FF2	Sump Grade Grade	Local 45 Local 45 Local 45	5.51 2.82 10.69	0.00	5.51 2.82 10.69	0.60% 0.60% 0.60%	5.00 5.00 5.00	0.234 0.386	2.810 4.629	11,707 OVER ONTR	N/A N/A	13.000 13.000	17 44 17 44	0.64 0.38	SEE SU 0.25 0.16	0.58 0.96	4 84 11.17	10 10	2 07 0.90	1 78 1.08	1.00 0.98	1.00 1.00	2.82 10.50	0 00 0.18	LA LA
A G0 A G1 A G2	LA G0 LA G1 LA G2	Grade Sump Sump	Local 45 Local 45 Local 45	6.76 10.07 6.53	0.00 0.03 0.16	6 76 10.09 6.72	1.00% 0.50% 0.50%	5.00 5.00 5.00	0.295	3.542	OVER CNTR	N/A	13.000	22 51	0.51		0.65 IMP CALCUL IMP CALCUL			0 95	141	1.00	1.00	6.73	0 03	LA N
A G3 A G4 A G5	LA G3 LA G4 LA G5	Grade Grade Grade	Alley Local 45 Local 45	7.08 5.14 3.66	0.00	7.08 5.14 4.40	1.15%	5.00 5.00 5.00	0.266 0.251	3.198 3.016	OVER CNTR 12.566	N/A N/A	13.000 13.000	22 51 22 51	0.57		0.58 0.55			1 13 1.24	1 56 1.66	1.0 0 1.00	1,00 0.83	5.14 4.40	0.00	N LA
A G6 A G7	LA G6 LA G7	Sump Grade	Alley Local 45	8.01 9.63	0.00 0.05	8.01 9.67	1.50%	5.00 5.00	0.338	4.052	OVER CNTR	N/A	13.000	22.51	0.45	SEE GRATE 0.18	EINLET CALC	CULATIONS I 13.16	BELOW 10	0.76	1.23	0.92	1.00	8.93	0.74	N LA
A G8 A GG1 A GG2	LA G8 LA GG1 LA GG2	Grade Grade Grade	Local 45 Local 55 Local 55	9.77 11.46 9.78	0.00	9.77 11.46 9.78	0.60% 0.60%	5.00 5.00 5.00	0.373 0.396 0.373	4.476 4.751 4.478	OVER CNTR OVER CNTR OVER CNTR	N/A N/A	13.000 14.000 14.000	17.44 17.97 17.97	0.40 0.37 0.40	0.16 0.15 0.16	0.93 0.98 0.93	10.53 11.69 10.54	10	0.95 0.86 0.95	1.12 1.05 1.12	1.00 0.97 1.00	1.00 1.00 1.00	9.72 11.10 9.74	0.05 0.35 0.05	LA LA
A H1 A H2 A H3	LA H1 LA H2 LA H3	Grade Grade Grade	Collector Collector Collector	2.61 5.19 7.71	0.00 0.13 0.73	2.61 5.32 8.44	0.75% 0.75% 5.00%	5.00 5.00 5.00	0.218 0.285 0.237	2.617 3.417 2.847	10.906 MINGLEAR MINGLEAR	12° 12° 12°	11.000 11.000 11.000	21.19 21.19 54.71	0.68 0.53 0.63	0.26 0.21 0.24	0.54 0.71 0.51	4.85 7.45 16.66	10 10 15	2.06 1.34 0.90	1.91 1.46 1.76	1.00 1.00 0.9 8	1.00 0.98 0.91	2.61 5.32 8.31	0.00 0.00 0.13	LA LA
A H4 A H5 A H6	LA H4 LA H5 LA H6	Grade Grade Grade	Collector Collector	2.49 10.71 3.33	0.00 0.09 0.00	2.49 10.80 3.33	5.00% 5.00% 5.00%	5.00 5.00 5.00	0.150 0.260 0.167	1.802 3.122 2.008	7.509 MINCLEAR 8.365	12° 12° 1 2 °	11.000 11.000 11.000	54.71 54.71 54.71	0.85 0.58 0.80	0.32 0.23 0.31	0.29 0.56 0.34	8.49 19.32 9.88	10 15 10	1.18 0.78 1.01	2.77 1.60 2.49	1.00 0.93 1.00	1.00 0.99 1.00	2.49 10.07 3.33	0.00 0.73 0.00	LA LA
A H7 A HH1	LA H7 LA HH1	Grade Grade Grade	Collector Alley	4.28 5.50 3.90	0.00	4.28 5.50 3.90	5.00% 0.60% 0.60%	5.00 5.00 5.00	0.184	2.206	9.191	12'	11.000	54.71	0.76	0.29 SEE GRATI	0.38 EINLET CALC	11.29 CULATIONS I	10 BELOW	0.89	2.27	0.98	1.00	4.19	0.09	LA LA
A HH2 A HH3 LA I1	LA HH2 LA HH3 LA I1	Grade Grade	Alley Alley	4.06 5.35	0.00	4.06 5.35	0.60%	5.00 5.00								SEE GRATE	EINLET CALC	CULATIONS I	BELOW BELOW							LA I
LA 12 LA 111 LA 112	LA 12 LA 111 LA 112	Grade Grade Grade	Alley Collector Collector	6.11 3.72 3.22	0.00 0.00 0.00	6 11 3.72 3.22	0.60% 0.60% 0.60%	5.00 5.00 5.00	0.260 0.246	3.117 2.952	MINCLEAR MINCLEAR	12°	11.000 11.000	18.95 18.95	0.58 0.61	9.23 0.24	0.65 0.62	5.72 5.23	10 10	1.75 1.91	1.60 1.69	1.00	1.00 1.00	3.72 3.22	0.00	LA LA
A 113 A J1 A J2	LA II3 LA J1 LA J2	Grade Grade Grade	Collector Local 55 Local 55	4.51 4.51 1.98	0.00 0.00 0.00	4.51 4.51 1.98	0.60% 0.60% 0.75%	5.00 5.00 5.00	0.279 0.279 0.197	3.350 3.350 2.358	MINCLEAR 13.957 9.825	12" N/A N/A	11.000 14.000 14.000	18.95 17.97 20.09	0.54 0.54 0.73	0.21 0.21 0.28	0.70 0.70 0.48	6.43 6.43 4.14	10 10 10	1.55 1.55 2.41	1.49 1.49 2.12	1.00 1.00 1.00	1.00 1.00 1.00	4.51 4.51 1.98	0.00 0.00 0.00	LA LA N/
A J3 JJ1 A K1	LA J3 JJ1 LA K1	Grade Area Grade	Local 55 Collector Local 55	7.39 24.56 3.60	0.00	7 39 24.56 3.60	0.75% 0.00% 0.60%	5.00 5.00 5.00	0.322	3.865	OVER CNTR	N/A	14.000	20 09	0.47	0.19	0.81 HEADW	9 17	10	1 09	1 29	1.00	1.00	7.39	0.00	N/
4 KK1 4 KK2	LA KK1 LA KK2	Grade Grade	Collector Collector	3.94 2.99	0.00	3.94 2.99	0.60%	5.00 5.00	0.256 0.265 0.239	3.183 2.869	MINGLEAR MINGLEAR	12°	14.000 11.000 11.000	17.97 18.95 18.95	0.59 0.57 0.63	0.22 0.24	0.67 0.60	5.92 5.00	10 10	1.79 1.69 2.00	1.57 1.74	1.00 1.00 1.00	1.00 1.00 1.00	3.94 2.99	0.00	LA
A L1 A L2 A L3	LA L1 LA L2 LA L3	Grade Grade Grade	Alley Alley Alley	7.95 4.05	0.00	4.21 7.95 4.05	0.60% 0.60% 4.00%	5.00 5.00 5.00								SEE GRATE	EINLET CALC EINLET CALC	CULATIONS I	BELOW BELOW							LA LA
A L4 A L5 A L6	LA L4 LA L5 LA L6	Grade Grade Grade	Alley Alley Alley	4.34 4.63 5.58	0.00 0.00 0.00	4.34 4.63 5.58	4.00% 4.00% 4.00%	5.00 5.00 5.00								SEE GRATE	EINLET CALC EINLET CALC EINLET CALC	CULATIONS	BELOW							LA LA
A M1 A M2 A M3	LA M1 LA M2 LA M3	Sump Sump Grade	Local 55 Local 55 Local 55	5.99 12.23 15.12	0.29 1.02 0.00	6.29 13.26 15.12	0.50% 0.50% 7.33%	5.00 5.00 5.00	0.275	3.297	13.739	N/A	14.000	62.81	0.55	SEE SU	IMP CALCUL IMP CALCUL 0.59	ATIONS BEL	OW	0.78	1.52	0.93	1.00	14.12	1.00	N.
A M4 A M5	LA M4 LA M5	Grade Grade	Local 55 Local 55	7.89 16.20	0.32 0.00	8.21 16.20	7.33% 3.00%	5.00 5.00	0.219 0.333	2.623 4.000	10.929 OVER CNTR	N/A N/A	14.000 14.000	62.81 40.18	0.68 0.45	0.26 0.18	0.46 0.72	17.80 22 55	15 20	0.84 0.89	1.91 1.25	0.96 0.98	0.96 1.00	7.92 15.88	0.29	LA LA
A N1 A N2 A Q1	LA N1 LA N2 LA O1	Sump Sump Grade	Local 55 Local 55 Local 55	4.29 5.59 6.46	0.00 0.77 0.00	4.29 6.36 6.46	0.50% 0.50%	5.00 5.00								SEE SU	IMP CALCUL IMP CALCUL IMP CALCUL	ATIONS BELI ATIONS BELI	ow ow							N N
A 02 A P1 A P2	LA 02 LA P1 LA P2	Grade Grade Grade	Local 55 Local 45 Alley	6.09 4.31 10.39	0.00 0.00 0.00	6.09 4.31 10.39	0.50% 2.00% 0.60%	5.00 5.00 5.00	0.219	2.626	10.943	N/A	13.000	31.83	0.67	0.26	0.47 EINLET CALC	9.20	10	1.09	1.90	1.00	1.00	4.31	0.00	LA LA
A Q1 A Q2 A Q3	LA Q1 LA Q2 LA Q3	Grade Grade Grade	Collector Collector Collector	3.09 4.08 3.40	0.00 0.00 0.00	3.09 4.08 3.40	0.70% 0.70% 0.70%	5.00 5.00 5.00	0.235 0.261 0.244	2.823 3.133 2.928	MINCLEAR MINCLEAR MINCLEAR	12° 12° 12°	11.000 11.000 11.000	20.47 20.47 20.47	0.64 0.58 0.62	0.25 0.23 0.24	0.59 0.65 0.61	5.27 6.24 5.59	10 10	1.90 1.60 1.79	1,77 1,60 1,71	1.00 1.00 1.00	1.00 1.00 1.00	3.09 4.08 3.40	0.00 0.00 0.00	LA LA
A Q4 A Q5	LA Q4 LA Q5	Grade Grade	Collector Collector	3.42 3.54	0.00	3.42 3.54	0.70% 0.70%	5.00 5.00	0.244 0.248	2.934 2.972	MINCLEAR MINCLEAR	12°	11.000 11.000	20.47 20.47	0.62 0.61	0.24 0.24	0.61 0.62	5.61 5.73	10 10	1.78 1.75	1.70 1.68	1.00 1.00	1.00 1.00	3.42 3.54	0.00	LA LA
A Q6 A R1 A R2	LA Q6 LA R1 LA R2	Grade Grade Sump	Collector Local 55 Local 55	5.50 8.51 5.01	0.00	5 50 8.51 5.01	0.70% 0.60% 0.50%	5.00 5.00 5.00	0.292 0.354	3.505 4.250	MINCLEAR OVER CNTR	12' N/A	11.000 14.000	20 47 17.97	0.52 0.42	0.20 0.17 SEE SU	0.73 0.88 IMP CALCUL	7 50 9.63 ATIONS BELI	10 10 OW	1 33 1.04	1 43 1.18	1.00	1.00	5.50 8.51	0.00	LA LA N
A R3 A \$1 A S2	LA R3 LA \$1 LA \$2	Sump Grade Grade	Local 55 Local 55 Local 55	14.61 9.40 5.88	0.00 00.00 00.00	14.61 9.40 5.88	0.50% 0.60% 0.60%	5.00 5.00 5.00	0.368 0.308	4.412 3.700	OVER CNTR	N/A N/A	14.000 14.000	17.97 17.97	0.40 0.49	SEE SU 0.16 0.19	0.92 0.77	ATIONS BELI 10.27 7.60	10 10	0.97 1.32	1.13 1.35	1.00	1.00	9.39 5.88	0.01 0.00	LAI LAI
LA T1 LA T2	LA T1 LA T2	Grade Grade Grade	Local 55 Local 55	11.28 7.97 4.06	0.00	11.28 7.97 4.06	0.60% 0.60% 0.50%	5.00 5.00 5.00	0.394 0.345 0.278	4.724 4.146 3.331	OVER CNTR OVER CNTR MINCLEAR	N/A N/A 12*	14.000 14.000 11.000	17 97 17 97 17 97	0.37 0.43 0.55	0.15 0.17 0.21	0.97 0.86 0.70	11 57 9.23 5.81	10	0 86 1.08 1.72	1 06 1.21 1.50	0.97 1.00 1.00	1.00 1.00 1.00	10.97 7.97 4.06	0.31 0.00 0.00	LA LA
A U2 A U3	LA U1 LA U2 LA U3	Sump Sump	Collector Collector	5.11 6.29	0.00	5.11 6.29	0.50% 0.50%	5.00 5.00	D.210	J.J31	CLEAR	12	. 1.000		ა.ამ	SEE SU	IMP CALCUL	ATIONS BELI	OM OM	*.r4	1.50	r.ou		4.3 0	UULU	N
A V1 A V2 A W1	LA V1 LA V2 LA W1	Sump Sump Grade	Local 55 Local 55 Collector	15.17 13.67 5.30	0.00 0.00 0.00	15.17 13.67 5.30	0.50% 0.50% 0.60%	5.00 5.00 5.00	0.297	3.559	MINCLEAR	12*	11.000	18.95	0.51		IMP CALCUL IMP CALCUL 0.75			1.41	1,40	1.00	1.00	5.30	0.00	N LA
A W2 A W3 A W4	LA W2 LA W3 LA W4	Grade Grade Grade	Collector Collector Collector	4.51 4.16 4.71	0.40 0.00 0.00	4.91 4.16 4.71	0.60% 0.60% 0.60%	5.00 5.00 5.00	0.288	3.458	MINCLEAR	12'	11.000	18.95	0.53		0.72 IMP CALCUL IMP CALCUL			1.47	1.45	1.00	0.92	4.91	0.00	LA N
A W5	LA W5 LA W6	Grade Grade	Collector Collector	3.44 5.31	0.00	3.44 5.31	0.60%	5.00 5.00	0.252 0.297	3.027 3.560	MINCLEAR MINCLEAR	12°	11.000 11.000	18.95 18.95	0.60 0.51	0.23 0.20	0.63 0.75	5.45 7.12	10	1.83 1.40	1.65 1.40	1.00	1.00 1.00	3.44 5.31	0.00 00 0	LA LA
A X1 A X2 A Y1	LA X1 LA X2 LA Y1	Sump Sump Sump	Alley Alley Collector	4.75 7.47 3.56	0.00	4.75 7.47 3.56	0.60% 0.60% 0.50%	5.00 5.00 5.00								SEE GRATE SEE SU	EINLET CALC EINLET CALC IMP CALCUL	CULATIONS I	OW							N/ N/
A Y2	LA Y2	Sump	Collector	4.59	0.00	4 59	0.50%	5.00 5.00	0.320	3.843	OVER CNTR	N/A	14.000	16.40	0.47	SEE SU 0.19	IMP CALCUL	ATIONS BEL- 7.38	0W	1.35	1.30	1.00	1.00	5.94	0.00	N//

	2% Straig	ht Crown											SUMP IN	ILETS												
Inlet	Drainage	Inlet	Street	Q	Q Pass	Q Total	Slope	а	yo	yo	Ponded	Min.	Width	1/2 Street	E ₀	S _E	Qa/La	La	Length	L/La	a/yo	Crown	Q/Qa	Q Intercept	Q Pass	Ensuing
No.	Area No.	Type	Туре	(cfs)	(cfs)	(Qa) (cfs)	(%)	(in.)	(ft.)	(in.)	Width (ft)	Clear	Allow	Cpcty (cfs)				(ft)	(ft)			Pass (Cfs)		(cfs)	(cfs)	DA No.
LA A3	LA A3	Sump	Local 55	11.82	0.000	11.819	0.50%	5.000	0.537	6.449	OVER CNTR	N/A	14.000	-	0.25	0.11	1.00	11.835	10	0.84	0.78	1.21	1.00	10.61	1.21	Х
LA A4	LA A4	Sump	Local 55	2.22	0.000	2.222	0.50%	5.000	0.176	2.117	8.819	N/A	14.000	-	0.78	0.30	67.86	0.033	10	305.36	2.36	0.00	1.00	10.61	0.00	Х
LA A10	LA A10	Sump	Local 55	3.91	0.000	3.906	0.50%	5.000	0.257	3.083	12.844	N/A	14.000	-	0.59	0.23	1.86	2.103	10	4.75	1.62	0.00	1.00	10.61	0.00	Х
LA AA1	LA AA1	Sump	Local 55	6.92	0.000	6.923	0.50%	5.000	0.376	4.515	OVER CNTR	N/A	14.000	-	0.39	0.16	1.19	5.814	10	1.72	1.11	0.00	1.00	10.61	0.00	X
LA AA2	LA AA2	Sump	Local 55	10.75	0.000	10.748	0.50%	5.000	0.504	6.053	OVER CNTR	N/A	14.000	-	0.27	0.12	1.02	10.517	10	0.95	0.83	0.14	1.00	10.61	0.14	Х
LA B0	LA B0	Sump	Local 55	10.81	0.019	10.832	0.50%	5.000	0.507	6.085	OVER CNTR	N/A	14.000	-	0.27	0.12	1.02	10.620	10	0.94	0.82	0.23	1.00	10.61	0.23	Х
LA B1	LA B1	Sump	Local 55	11.92	0.000	11.916	0.50%	5.000	0.540	6.484	OVER CNTR	N/A	14.000	-	0.25	0.11	1.00	11.954	10	0.84	0.77	1.31	1.00	10.61	1.31	Х
LA B3	LA B3	Sump	Local 55	6.78	0.000	6.781	0.50%	5.000	0.371	4.453	OVER CNTR	N/A	14.000	-	0.40	0.16	1.20	5.639	10	1.77	1.12	0.00	1.00	10.61	0.00	Х
LA B11	LA B11	Sump	Local 55	10.00	0.014	10.016	0.50%	5.000	0.481	5.775	OVER CNTR	N/A	14.000	-	0.29	0.12	1.04	9.617	10	1.04	0.87	0.00	1.00	10.61	0.00	Х
LA B12	LA B12	Sump	Local 55	10.25	0.000	10.252	0.50%	5.000	0.489	5.865	OVER CNTR	N/A	14.000	-	0.28	0.12	1.03	9.907	10	1.01	0.85	0.00	1.00	10.61	0.00	Х
LA C1	LAC1	Sump	Local 55	17.85	0.000	17.851	1.00%	5.000	0.540	6.478	OVER CNTR	N/A	14.000	-	0.25	0.11	0.93	19.252	15	0.78	0.77	1.94	1.00	15.91	1.94	X
LA C2	LAC2	Sump	Local 55	4.28	0.000	4.275	1.00%	5.000	0.273	3.274	13.642	N/A	14.000	-	0.56	0.22	1.67	2.558	10	3.91	1.53	0.00	1.00	10.61	0.00	X
LA C6	LAC6	Sump	Local 55	7.09	0.324	7.412	0.50%	5.000	0.394	4.725	OVER CNTR	N/A	14.000	-	0.37	0.15	1.16	6.415	10	1.56	1.06	0.00	0.96	10.61	0.00	X
LA C7	LA C7	Sump	Local 55	14.49	0.000	14.488	0.50%	5.000	0.616	7.387	OVER CNTR	N/A	14.000	-	0.21	0.10	0.96	15.117	10	0.66	0.68	3.88	1.00	10.61	3.88	X
LA C8	LA CC1	Sump	Local 55	11.69	0.000	11.694	0.50%	5.000	0.534	6.403	OVER CNTR	N/A	14.000	-	0.25	0.11	1.00	11.681	10	0.86	0.78	1.09	1.00	10.61	1.09	X
LA CC1	LACC1	Sump	Local 55	7.57	0.000	7.568	0.50%	5.000	0.399	4.791	OVER CNTR	N/A	14.000	-	0.37	0.15	1.15	6.607	10	1.51	1.04	0.00	1.00	10.61	0.00	X
LA D1	LA D1 LA D2	Sump	Local 45	7.63	0.000	7.629	1.24%	5.000	0.401	4.817	OVER CNTR	N/A	13.000	-	0.36	0.15	1.14	6.682	10	1.50 -46.03	1.04	0.00	1.00	10.61 10.61	0.00	X
LA DE	-	Sump	Local 45	2.02	0.000	2.019	1.24%	5.000	0.165	1.985	8.272	N/A	13.000	-	0.81	0.31	-9.29 1.30	-0.217	10		2.52	0.00	1.00		0.00	
LA D5	LA D5	Sump	Local 45	5.31	0.000	5.308	0.50%	5.000	0.315	3.782	OVER CNTR	N/A	13.000	-	0.48	0.19	1.39	3.827	10	2.61	1.32	0.00	1.00	10.61	0.00	X
LA DD1	LA DD1	Sump	Collector	2.97	0.000	2.969	0.50%	5.000	0.214	2.567	10.698	12	11.000	-	0.69	0.26	3.12	0.951	10	10.51	1.95	0.00	1.00	10.61	0.00	X
LA DD2	LA DD2	Sump	Collector	2.73	0.000	2.731	0.50%	5.000	0.202	2.429	10.119	I∠ N/A	11.000	-	0.71	0.27	4.14	0.659	10	15.17	2.06	0.00	1.00	10.61	0.00	X
LA E3	LA E3	Sump	Local 55	10.16	0.000	10.156	0.60%	5.000	0.486	5.829	OVER CNTR	N/A	14.000	-	0.29	0.12	1.04	9.789	10	1.02	0.86	0.00	1.00	10.61	0.00	$\frac{\lambda}{\lambda}$
LA E4	LA E4 LA EE1	Sump	Local 55	9.69	0.000	9.693 1.802	0.60% 0.50%	5.000	0.471	5.650	OVER CNTR	N/A	14.000	-	0.30	0.13	1.05	9.220 -0.484	10 10	1.08 -20.66	0.88	0.00	1.00	10.61 10.61	0.00	X
LA EE1	LA EE2	Sump Sump	Local 55 Local 55	1.80 1.71	0.000	1.707	0.50%	5.000 5.000	0.153 0.148	1.841 1.775	7.669 7.397	N/A N/A	14.000 14.000	-	0.84 0.85	0.32 0.32	-3.72 -2.84	-0.464	10	-16.65	2.72	0.00	1.00	10.61	0.00	${}$
LA EE2	LA F1	Sump	Local 55	8.30	0.000	8.300	0.50%	5.000	0.148	5.095	OVER CNTR	N/A	14.000	-	0.34	0.32	-2.0 4 1.11	7.507	10	1.33	0.98	0.00	1.00	10.61	0.00	X
LA F2	LATT LAF2	Sump	Local 55	8.95	0.000	8.954	0.50%	5.000	0.423	5.359	OVER CNTR	N/A	14.000	_	0.32	0.14	1.08	8.312	10	1.20	0.93	0.00	1.00	10.61	0.00	· ·
LA F3	LAT2	Sump	Local 55	9.60	0.000	9.600	0.50%	5.000	0.447	5.614	OVER CNTR	N/A	14.000	_	0.30	0.13	1.05	9.106	10	1.10	0.89	0.00	1.00	10.61	0.00	X
LA F4	LA F4	Sump	Local 55	11.35	0.000	11.347	0.50%	5.000	0.523	6.276	OVER CNTR	N/A	14.000	_	0.26	0.13	1.01	11.254	10	0.89	0.80	0.74	1.00	10.61	0.74	X
LA F5	LA F5	Sump	Local 55	5.79	0.580	6.371	0.50%	5.000	0.356	4.271	OVER CNTR	N/A	14.000	_	0.42	0.17	1.24	5.135	10	1.95	1.17	0.00	0.91	10.61	0.00	X
LA F6	LA F6	Sump	Local 55	11.48	0.000	11.478	0.50%	5.000	0.527	6.324	OVER CNTR	N/A	14.000	_	0.26	0.11	1.01	11.415	10	0.88	0.79	0.87	1.00	10.61	0.87	X
LA F10	LA F10	Sump	Local 55	9.34	0.000	9.341	0.60%	5.000	0.459	5.513	OVER CNTR	N/A	14.000	_	0.31	0.13	1.06	8.788	10	1.14	0.91	0.00	1.00	10.61	0.00	X
LA F11	LA F11	Sump	Local 55	5.51	0.000	5.508	0.60%	5.000	0.323	3.876	OVER CNTR	N/A	14.000	_	0.47	0.19	1.35	4.073	10	2.46	1.29	0.00	1.00	10.61	0.00	X
LA G1	LA G1	Sump	Local 45	10.07	0.026	10.094	0.50%	5.000	0.484	5.805	OVER CNTR	N/A	13.000	<u>-</u>	0.29	0.12	1.04	9.713	10	1.03	0.86	0.00	1.00	10.61	0.00	X
LA G2	LA G2	Sump	Local 45	6.53	0.184	6.716	0.50%	5.000	0.369	4.424	OVER CNTR	N/A	13.000	_	0.40	0.16	1.21	5.559	10	1.80	1.13	0.00	0.97	10.61	0.00	X
LA M1	LA M1	Sump	Local 55	5.99	0.295	6.289	0.50%	5.000	0.353	4.235	OVER CNTR	N/A	14.000	_	0.42	0.17	1.25	5.034	10	1.99	1.18	0.00	0.95	10.61	0.00	X
LA M2	LA M2	Sump	Local 55	12.23	1.025	13.257	0.50%	5.000	0.580	6.962	OVER CNTR	N/A	14.000	_	0.23	0.10	0.97	13.603	10	0.74	0.72	2.65	0.92	10.61	2.65	X
LA N1	LAN1	Sump	Local 55	4.29	0.000	4.285	0.50%	5.000	0.273	3.279	13.662	N/A	14.000	-	0.56	0.22	1.67	2.570	10	3.89	1.52	0.00	1.00	10.61	0.00	X
LA N2	LA N2	Sump	Local 55	5.59	0.766	6.359	0.50%	5.000	0.355	4.266	OVER CNTR	N/A	14.000	-	0.42	0.17	1.24	5.120	10	1.95	1.17	0.00	0.88	10.61	0.00	Х
LA 01	LA O1	Sump	Local 55	6.46	0.000	6.459	0.50%	5.000	0.359	4.311	OVER CNTR	N/A	14.000	-	0.42	0.17	1.23	5.243	10	1.91	1.16	0.00	1.00	10.61	0.00	X
LA O2	LA O2	Sump	Local 55	6.09	0.000	6.087	0.50%	5.000	0.345	4.144	OVER CNTR	N/A	14.000	-	0.43	0.17	1.27	4.786	10	2.09	1.21	0.00	1.00	10.61	0.00	Х
LA R2	LAR2	Sump	Local 55	5.01	0.000	5.014	0.50%	5.000	0.303	3.641	OVER CNTR	N/A	14.000	-	0.50	0.20	1.45	3.466	10	2.89	1.37	0.00	1.00	10.61	0.00	X
LA R3	LAR3	Sump	Local 55	14.61	0.000	14.612	0.50%	5.000	0.619	7.429	OVER CNTR	N/A	14.000	-	0.21	0.09	0.96	15.270	10	0.65	0.67	4.01	1.00	10.61	4.01	Х
LA U2	LAU2	Sump	Collector	5.11	0.000	5.107	0.50%	5.000	0.307	3.686	MINCLEAR	12'	11.000	-	0.49	0.20	1.43	3.580	10	2.79	1.36	0.00	1.00	10.61	0.00	X
LA U3	LAU3	Sump	Collector	6.29	0.000	6.294	0.50%	5.000	0.353	4.237	MINCLEAR	12'	11.000	-	0.42	0.17	1.25	5.040	10	1.98	1.18	0.00	1.00	10.61	0.00	X
LA V1	LA V1	Sump	Local 55	15.17	0.000	15.172	0.50%	5.000	0.635	7.617	OVER CNTR	N/A	14.000	_	0.20	0.09	0.95	15.958	10	0.63	0.66	4.57	1.00	10.61	4.57	X
LA V2	LA V2	Sump	Local 55	13.67	0.000	13.673	0.50%	5.000	0.592	7.107	OVER CNTR	N/A	14.000	-	0.22	0.10	0.97	14.114	10	0.71	0.70	3.07	1.00	10.61	3.07	X
LA W3	LA W3	Sump	Collector	4.16	0.000	4.157	0.60%	5.000	0.268	3.213	MINCLEAR	12'	11.000	-	0.57	0.22	1.72	2.412	10	4.15	1.56	0.00	1.00	10.61	0.00	X
LA W4	LA W4	Sump	Collector	4.71	0.000	4.715	0.60%	5.000	0.291	3.495	MINCLEAR	12'	11.000	_	0.52	0.21	1.52	3.098	10	3.23	1.43	0.00	1.00	10.61	0.00	X
LA Y1	LA Y1	Sump	Collector	3.56	0.000	3.563	0.50%	5.000	0.242	2.899	MINCLEAR	12'	11.000	-	0.62	0.24	2.12	1.681	10	5.95	1.72	0.00	1.00	10.61	0.00	X
LA Y2	LA Y2	Sump	Collector	4.59	0.000	4.591	0.50%	5.000	0.286	3.433	MINCLEAR	12'	11.000	_	0.53	0.21	1.56	2.945	10	3.40	1.46	0.00	1.00	10.61	0.00	X
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CONSTRUCTION PLAN APPROVAL SHEET ___ OF _90 FILE NUMBER _____APPLICATION DATE___ APPROVED BY COMMISSION ON N/A UNDER THE CITY OF BUDA UNIFIED DEVELOPMENT CODE. EXPIRATION DATE__ __CASE MANAGER_ City Engineer, City of Buda RELEASED FOR GENERAL COMPLIANCE:___

Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

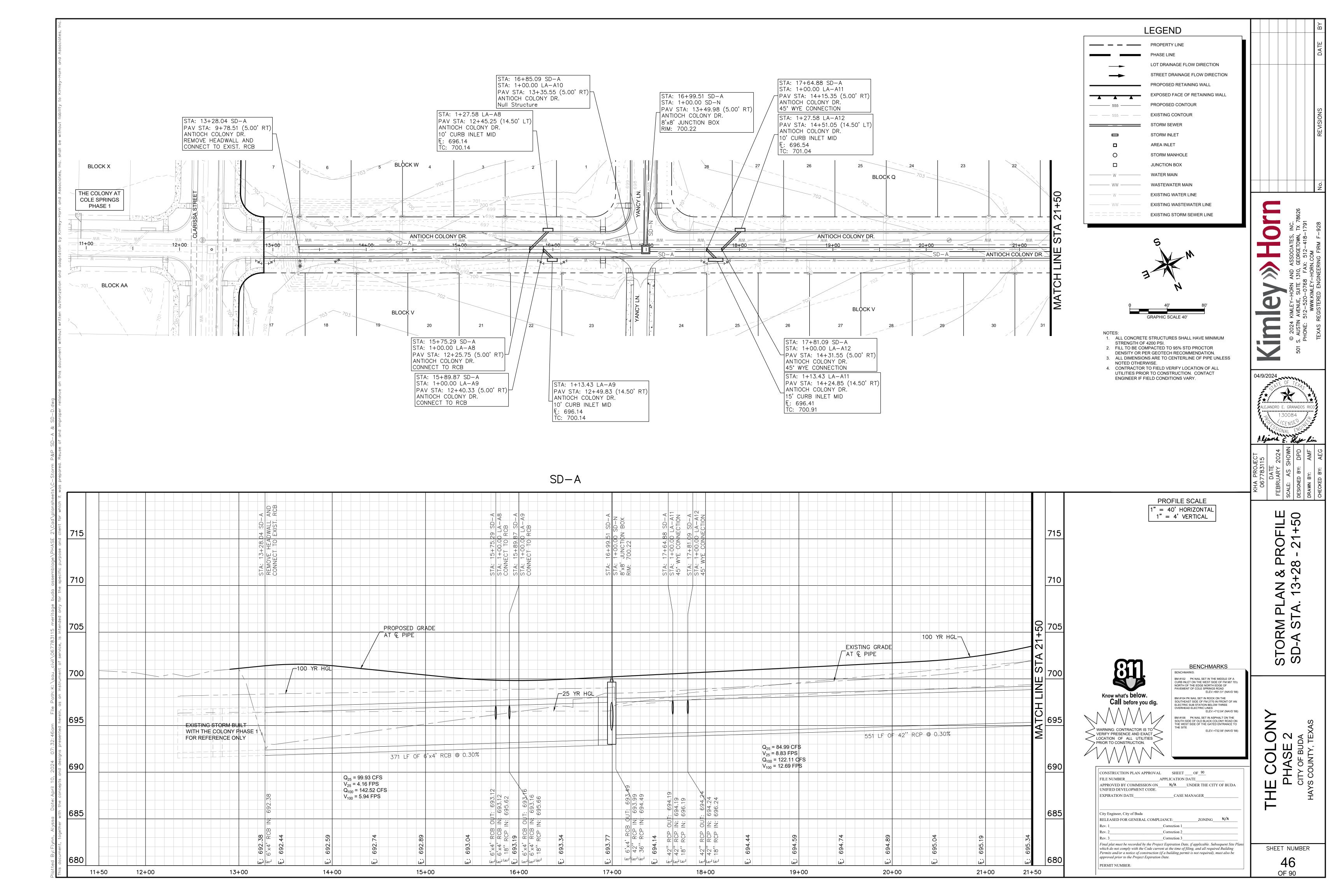
PERMIT NUMBER:

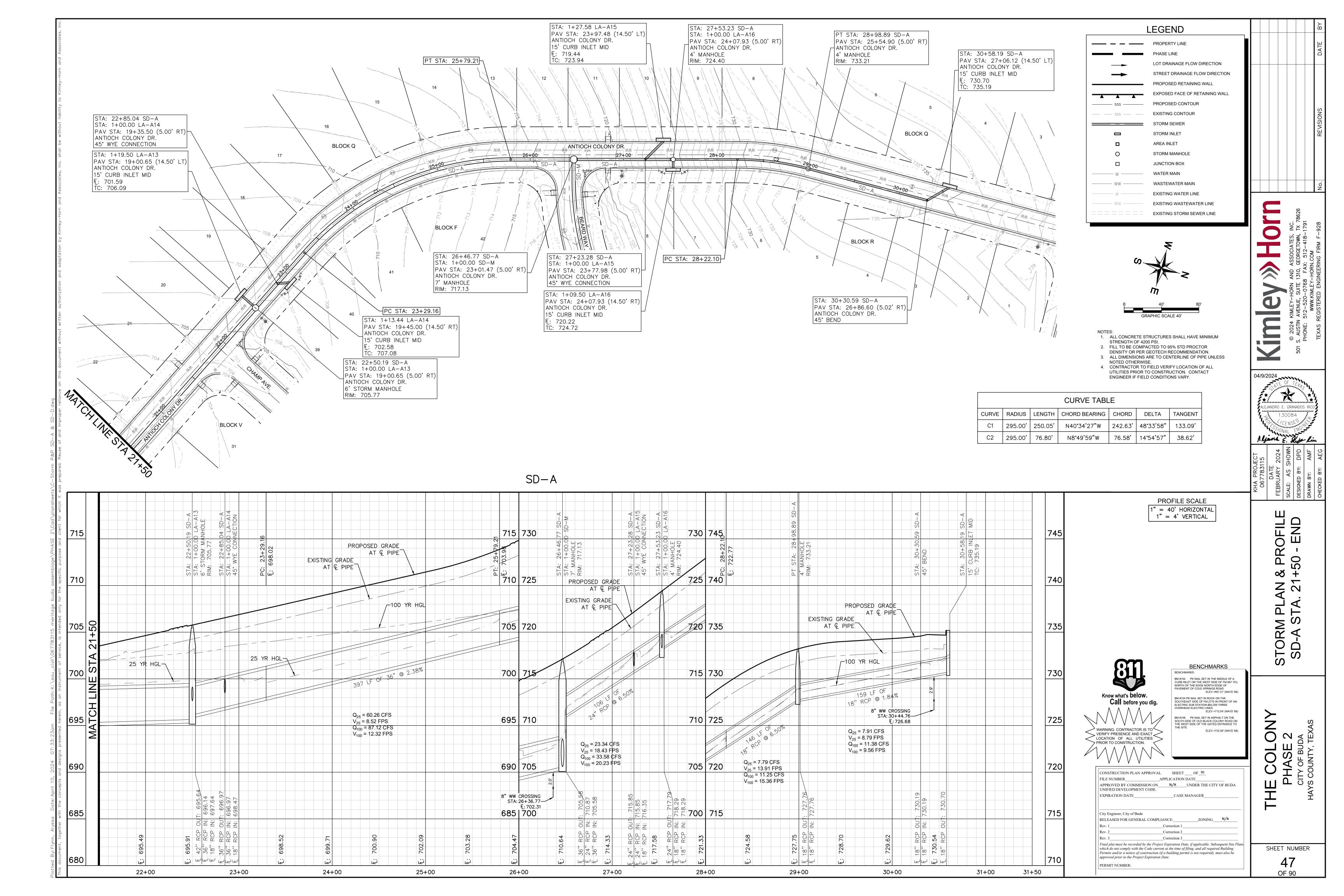
SHEET NUMBER 45

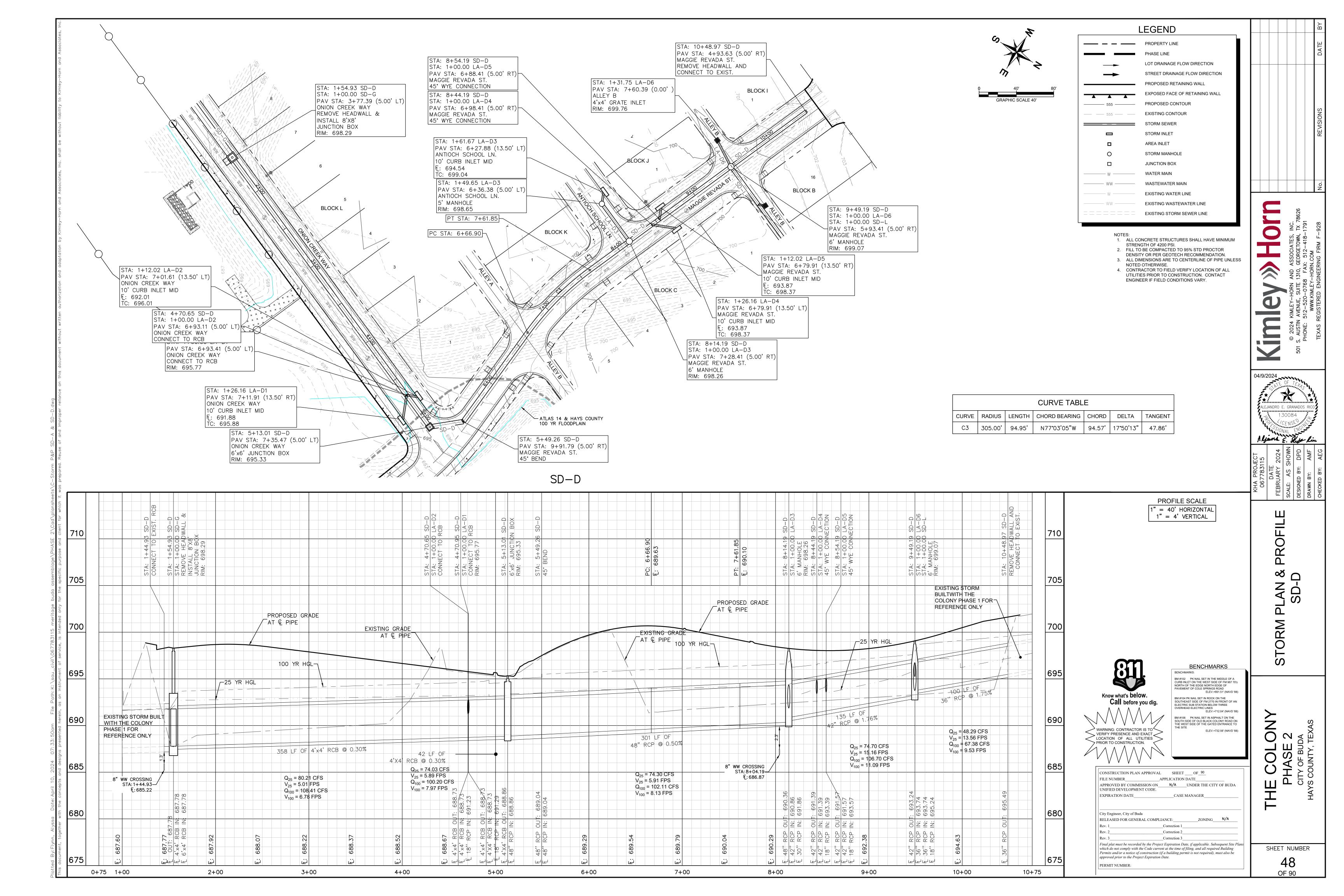
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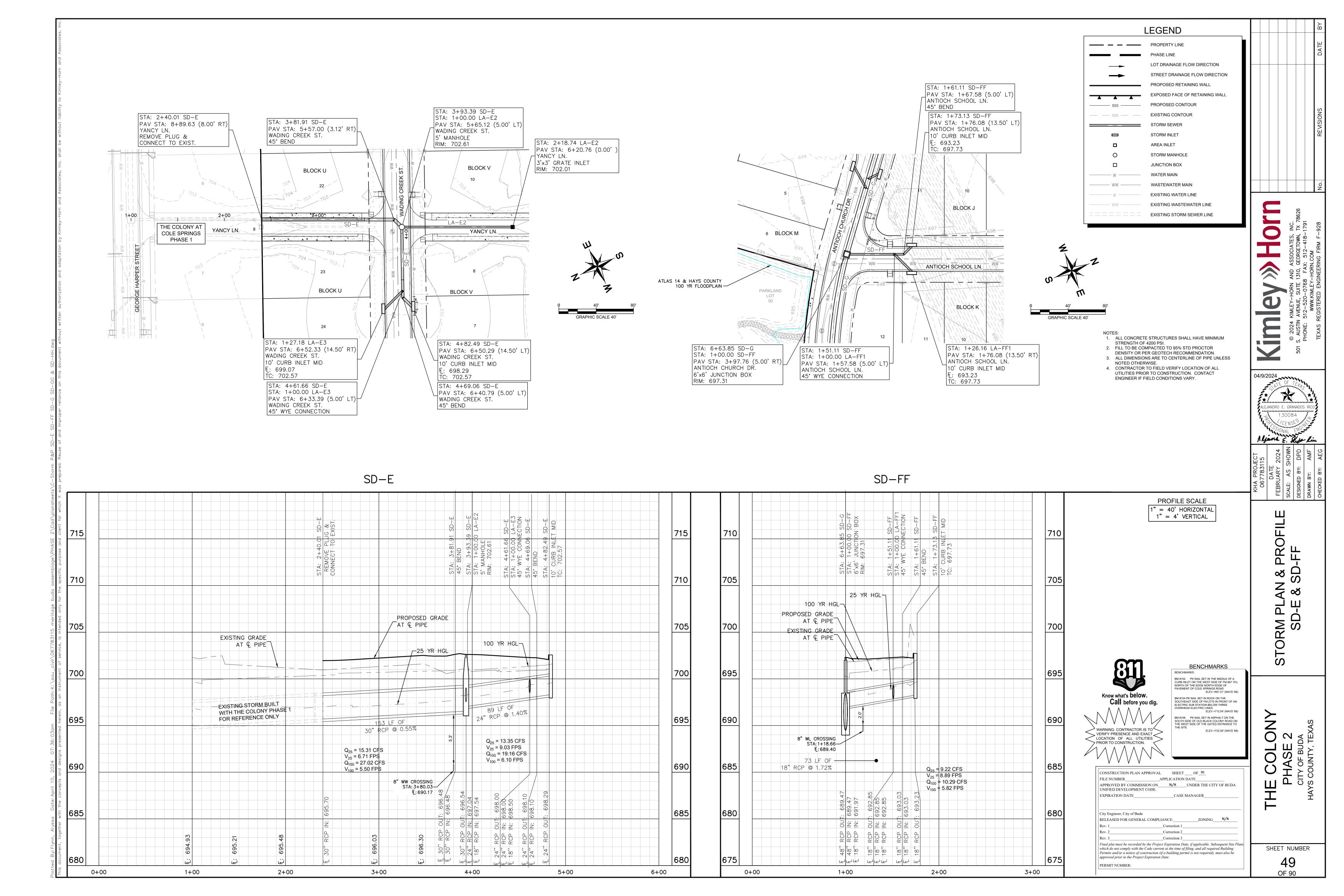
DRAINAGE CALCULATIONS (SHEET 4 OF 4)

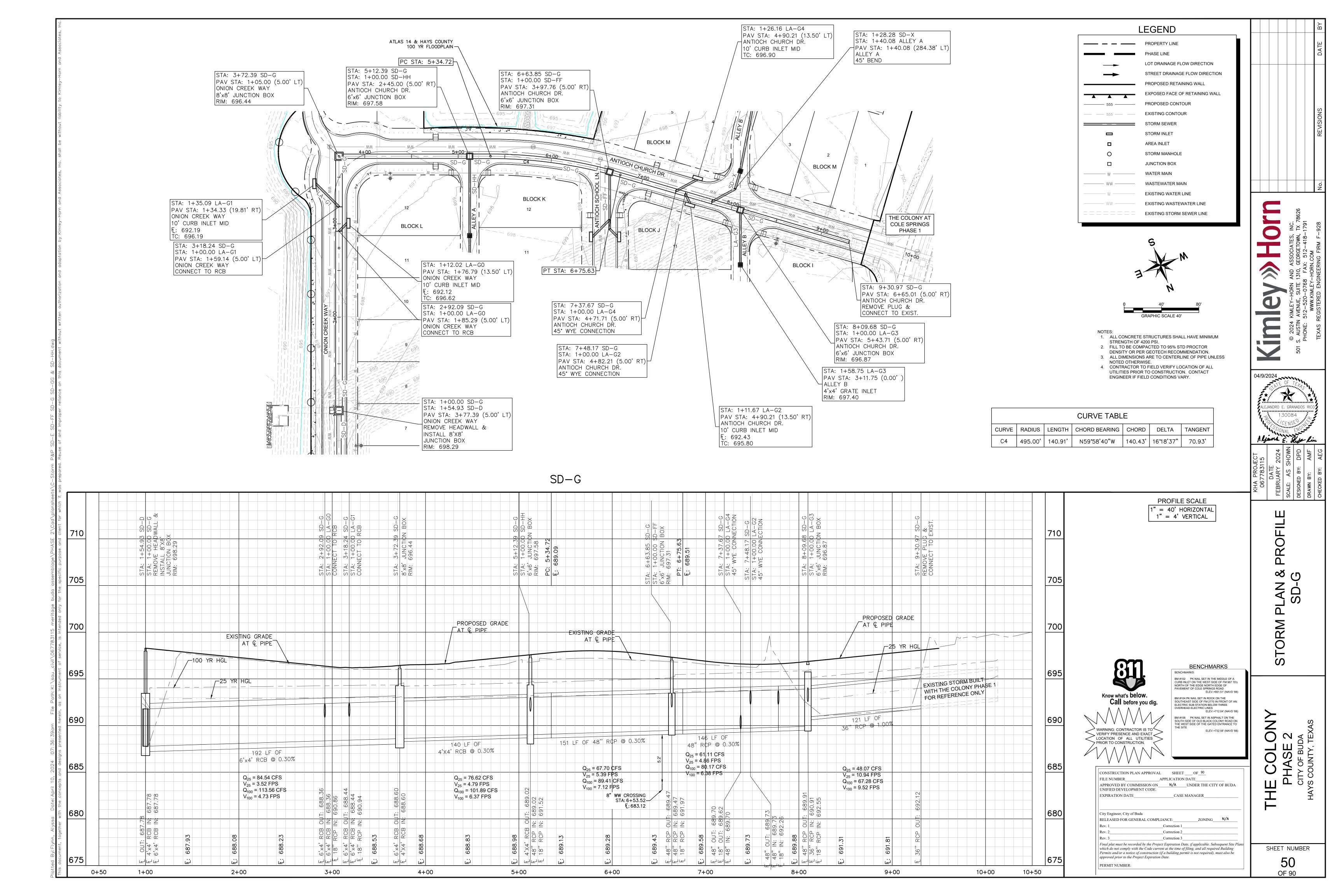
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CITY OF BUDA
HAYS COUNTY, TEXAS 里

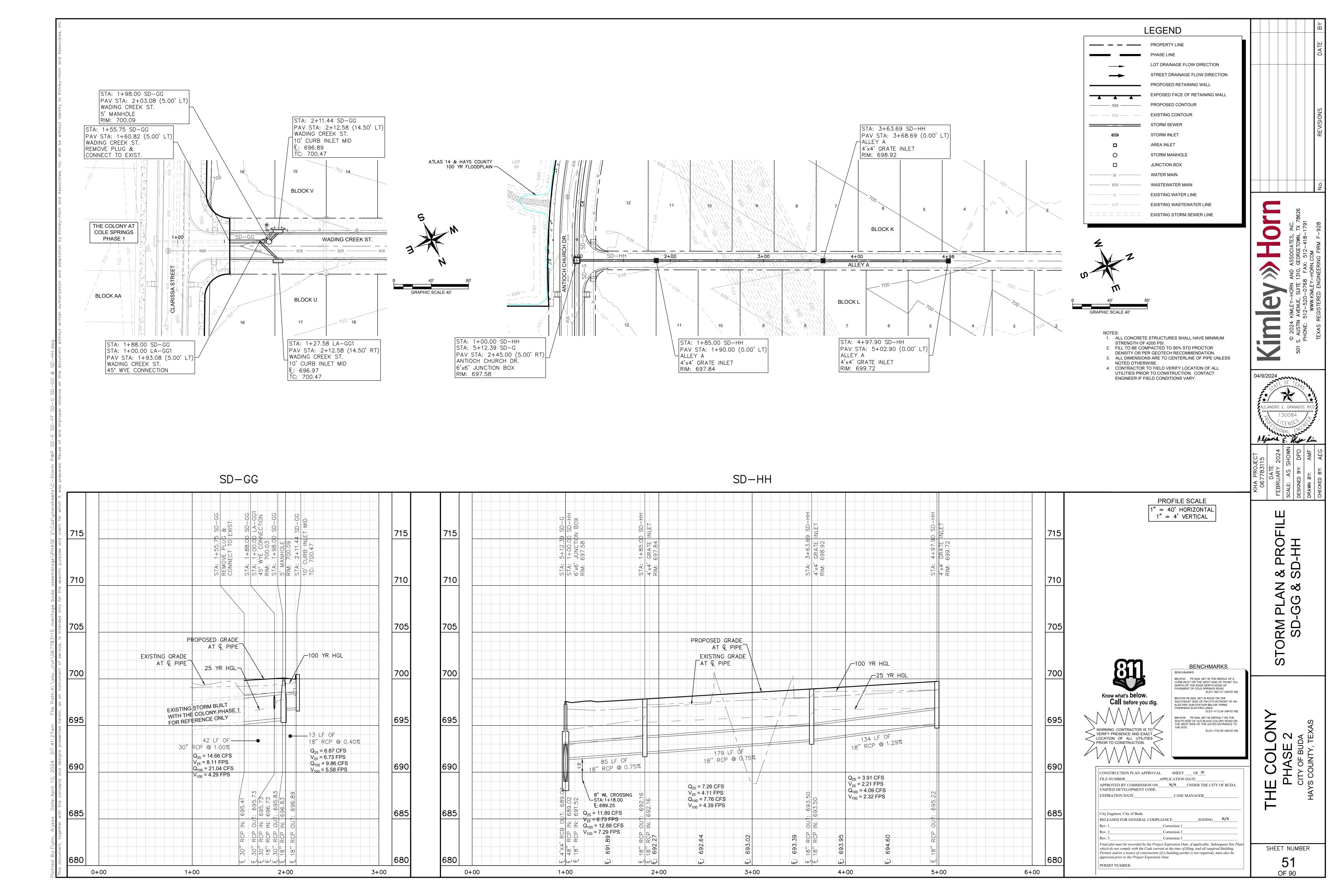


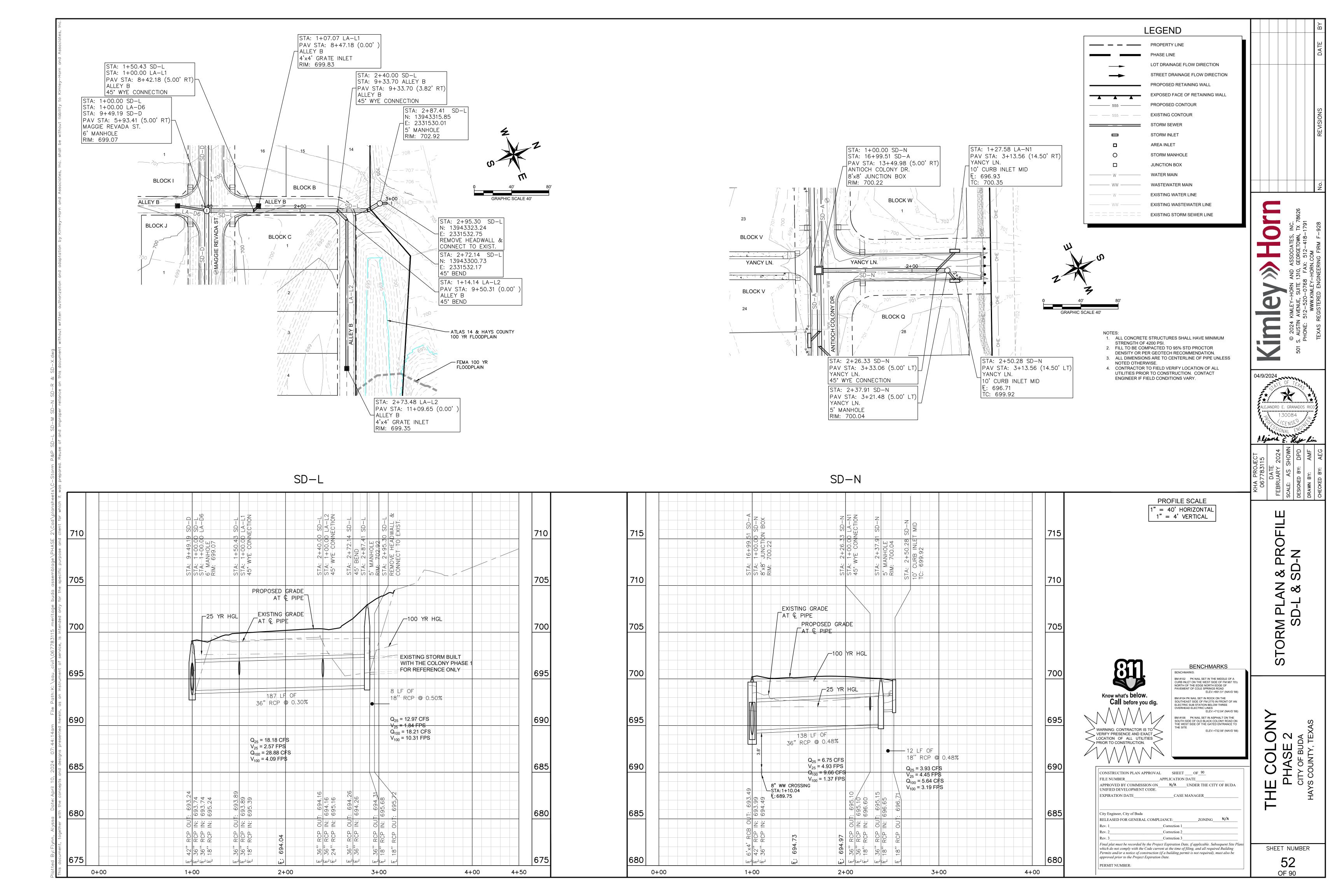


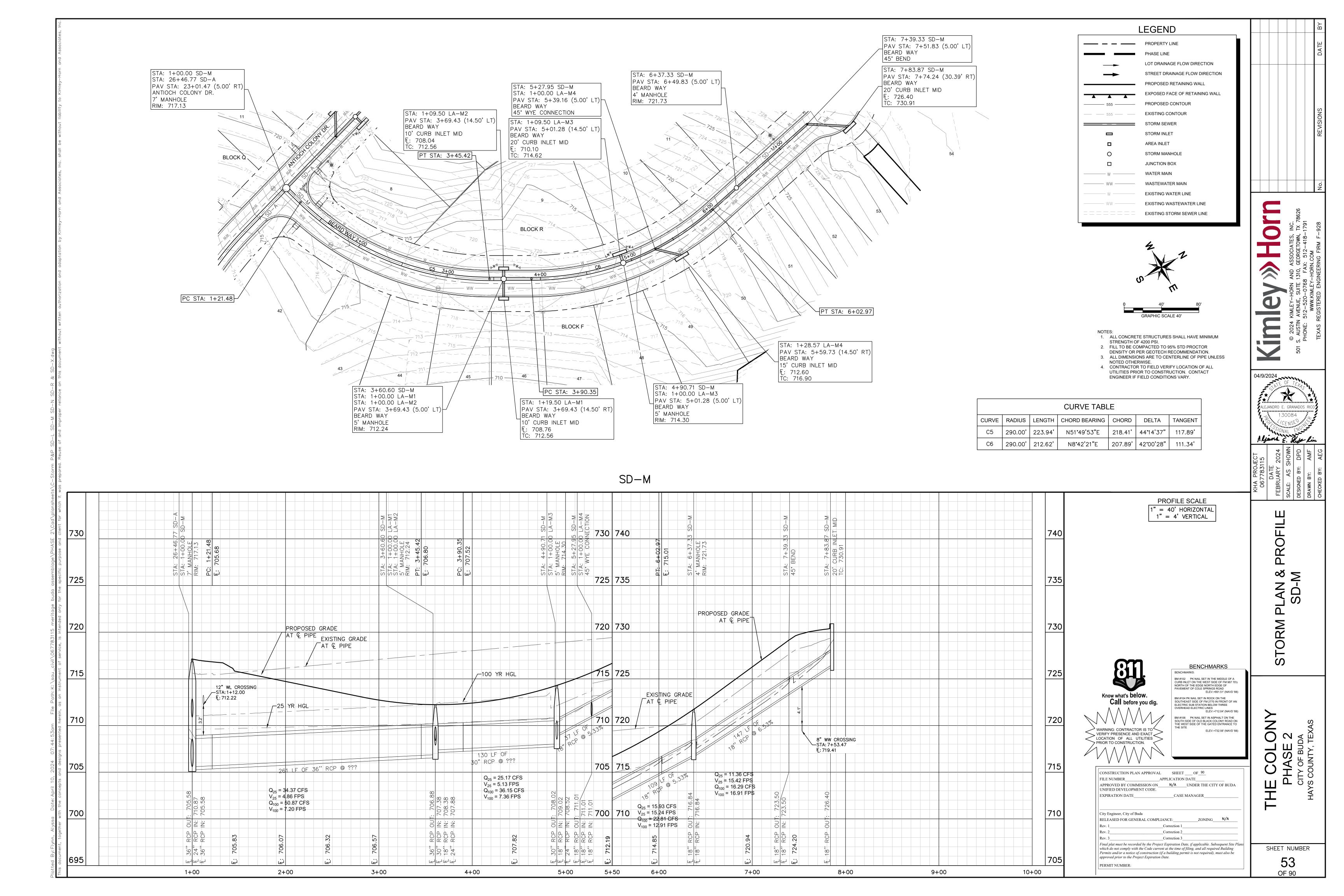


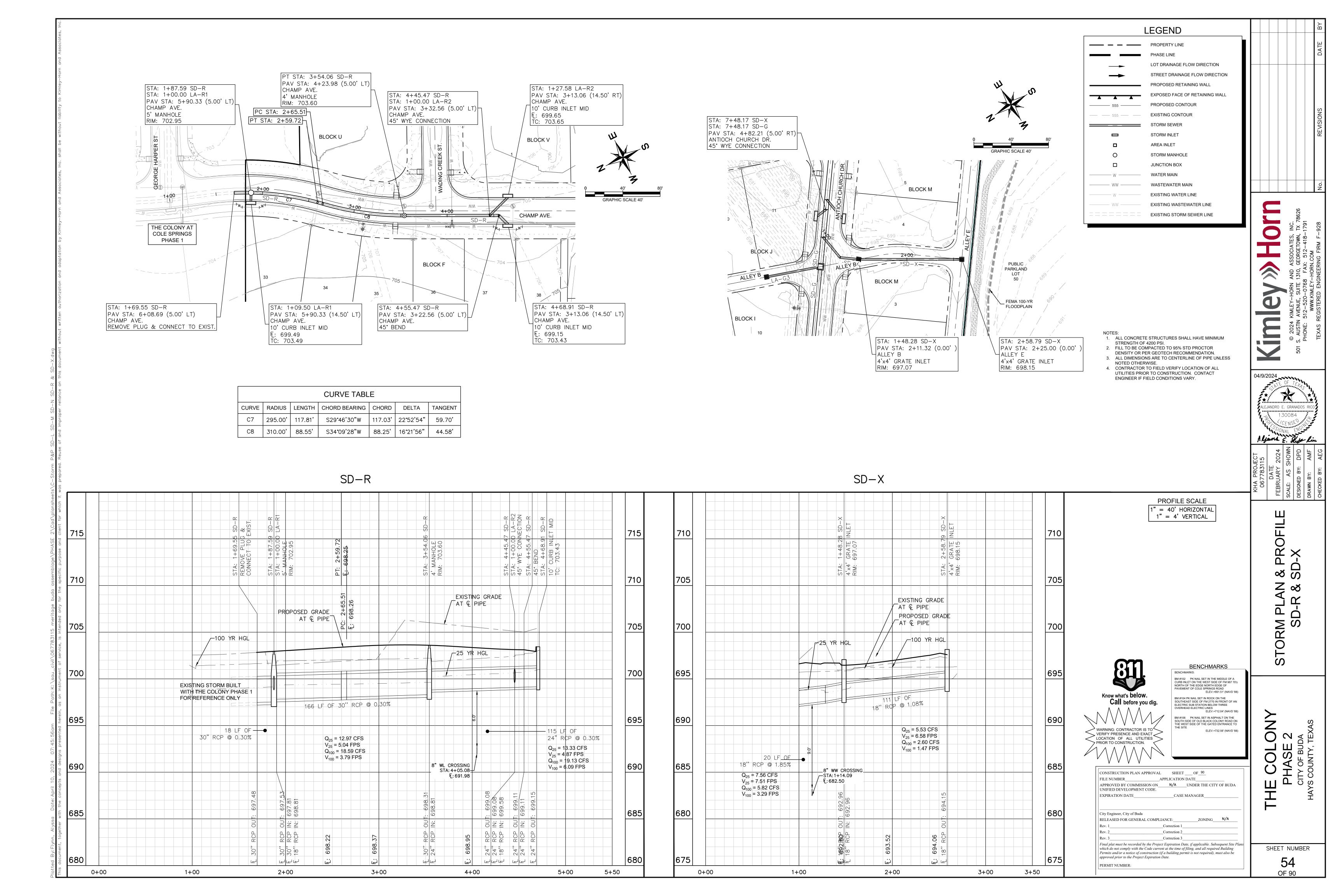


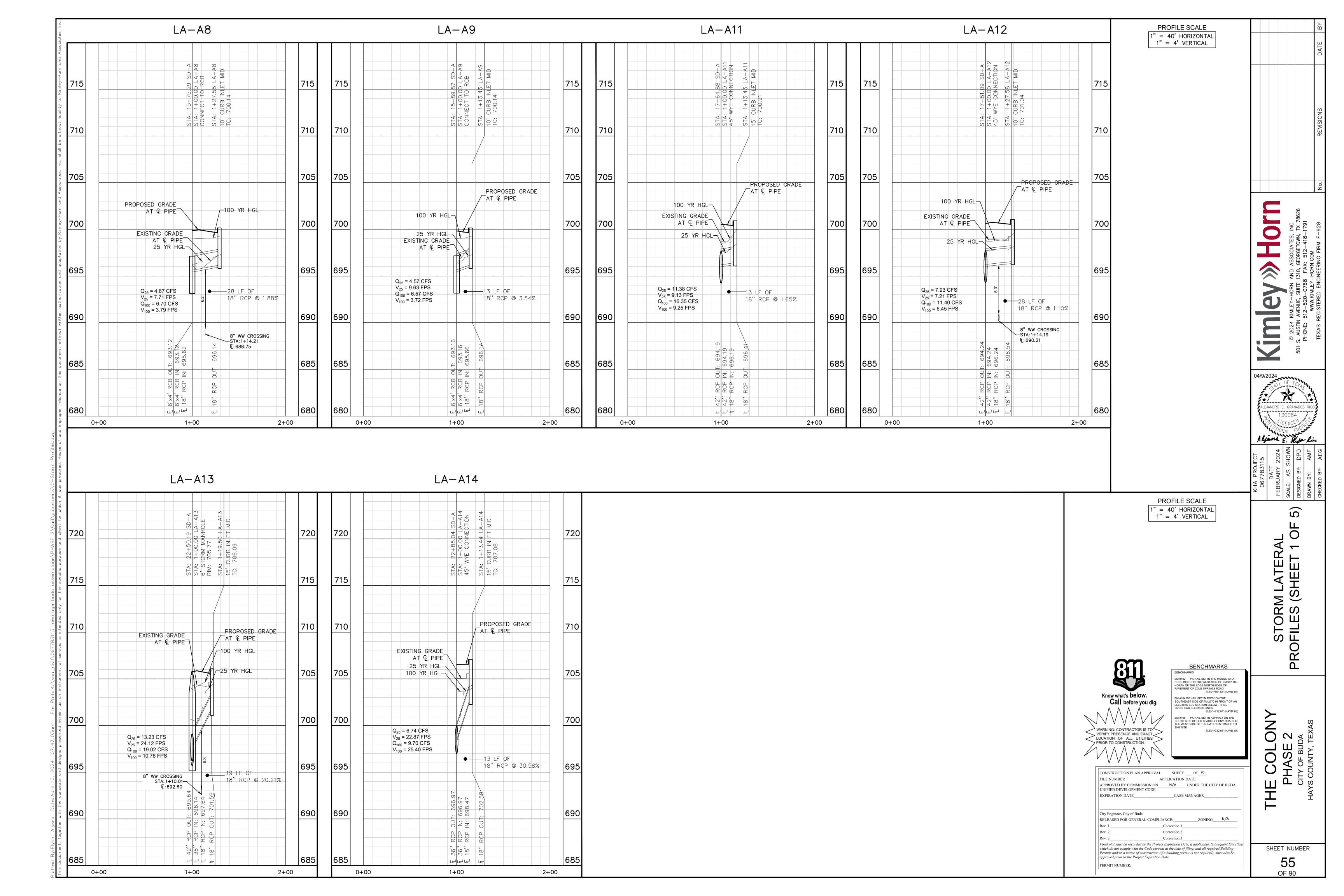


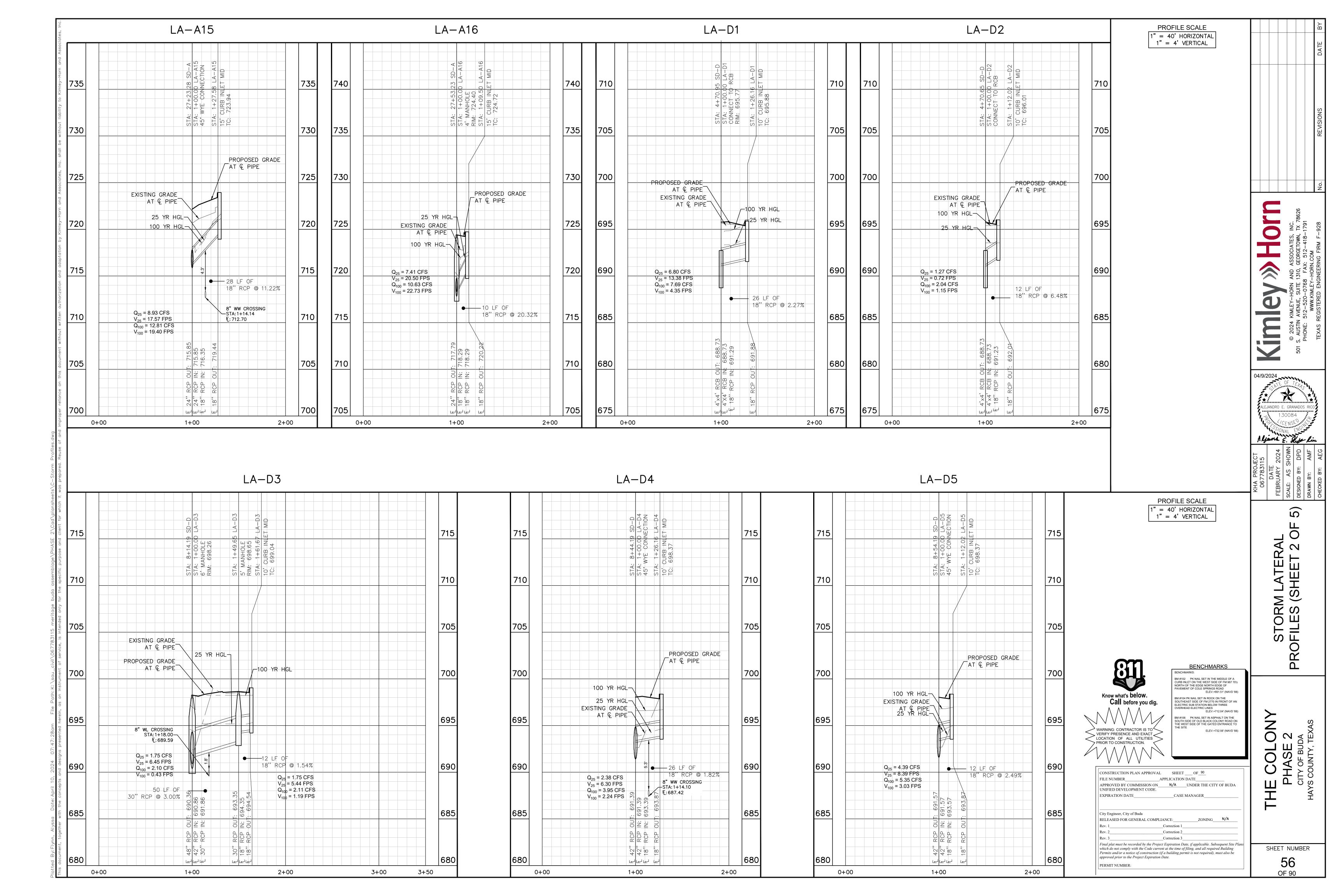


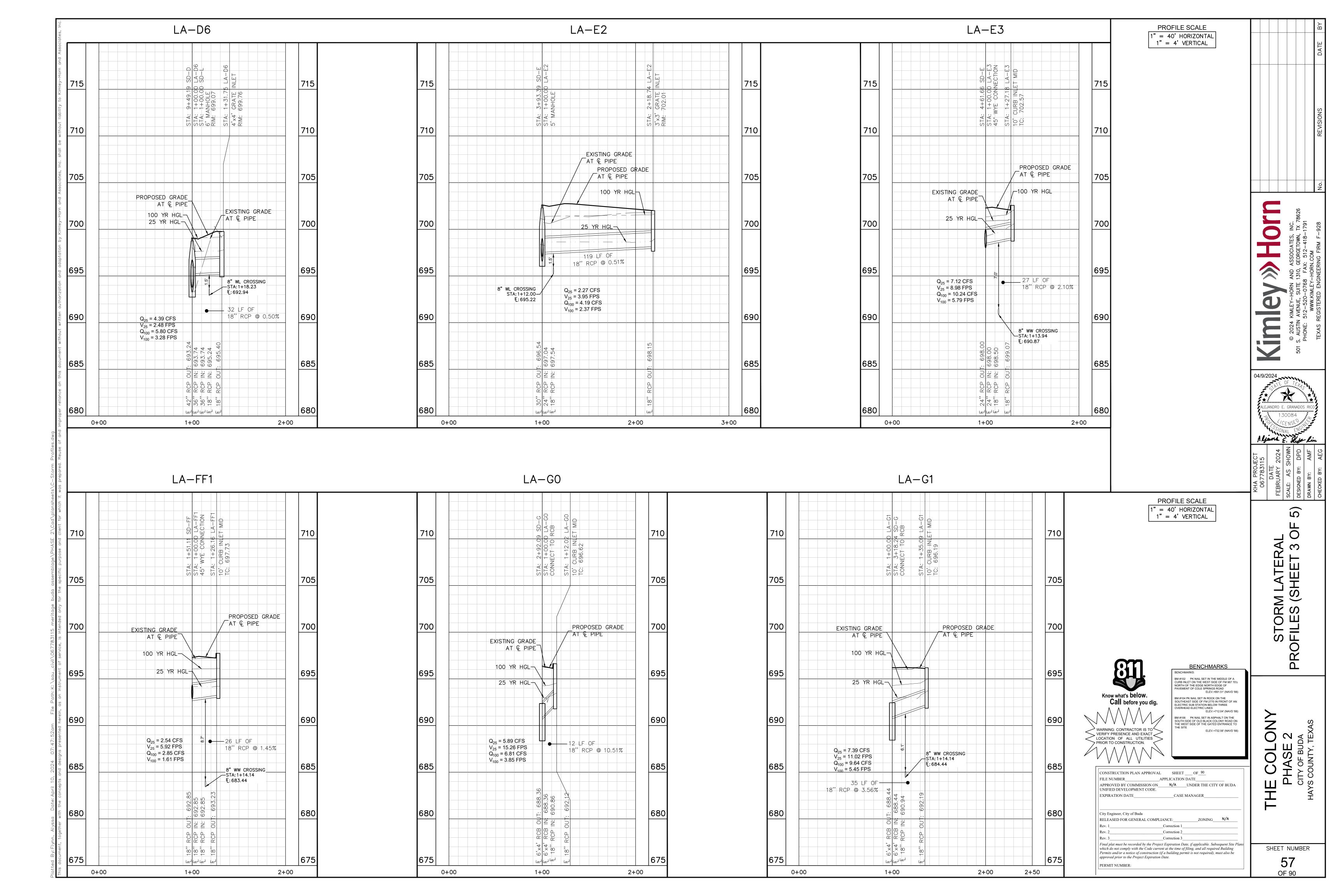


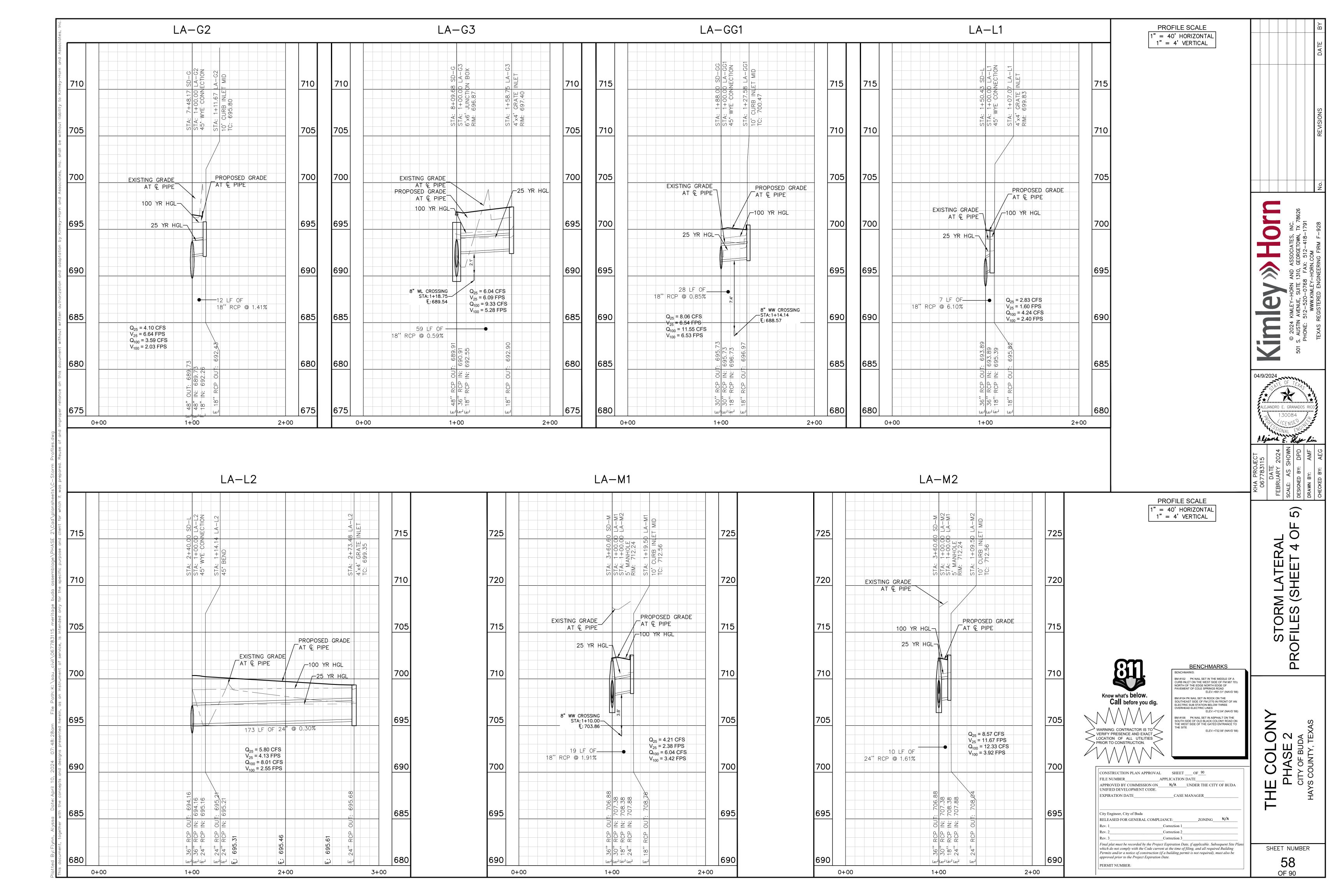


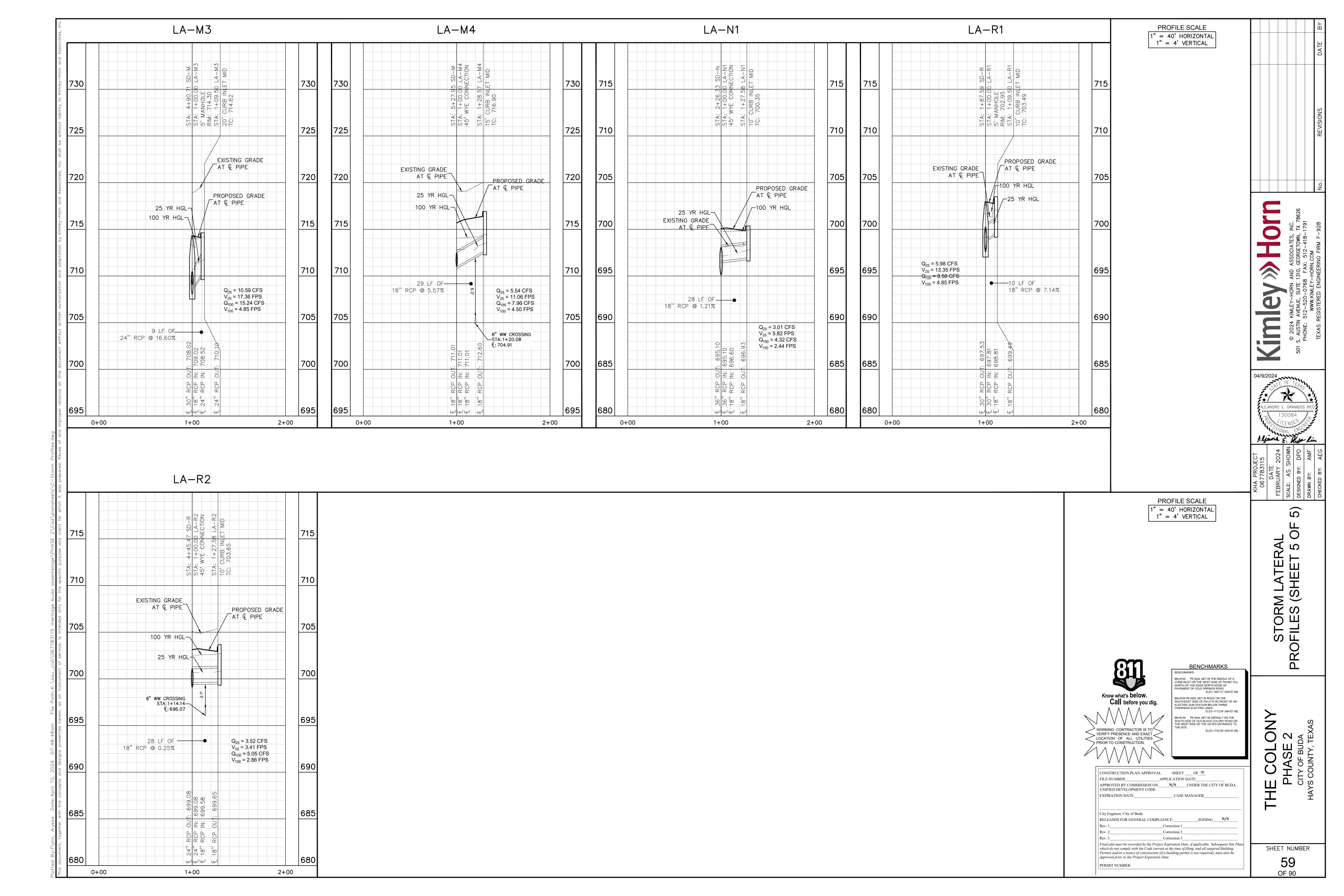


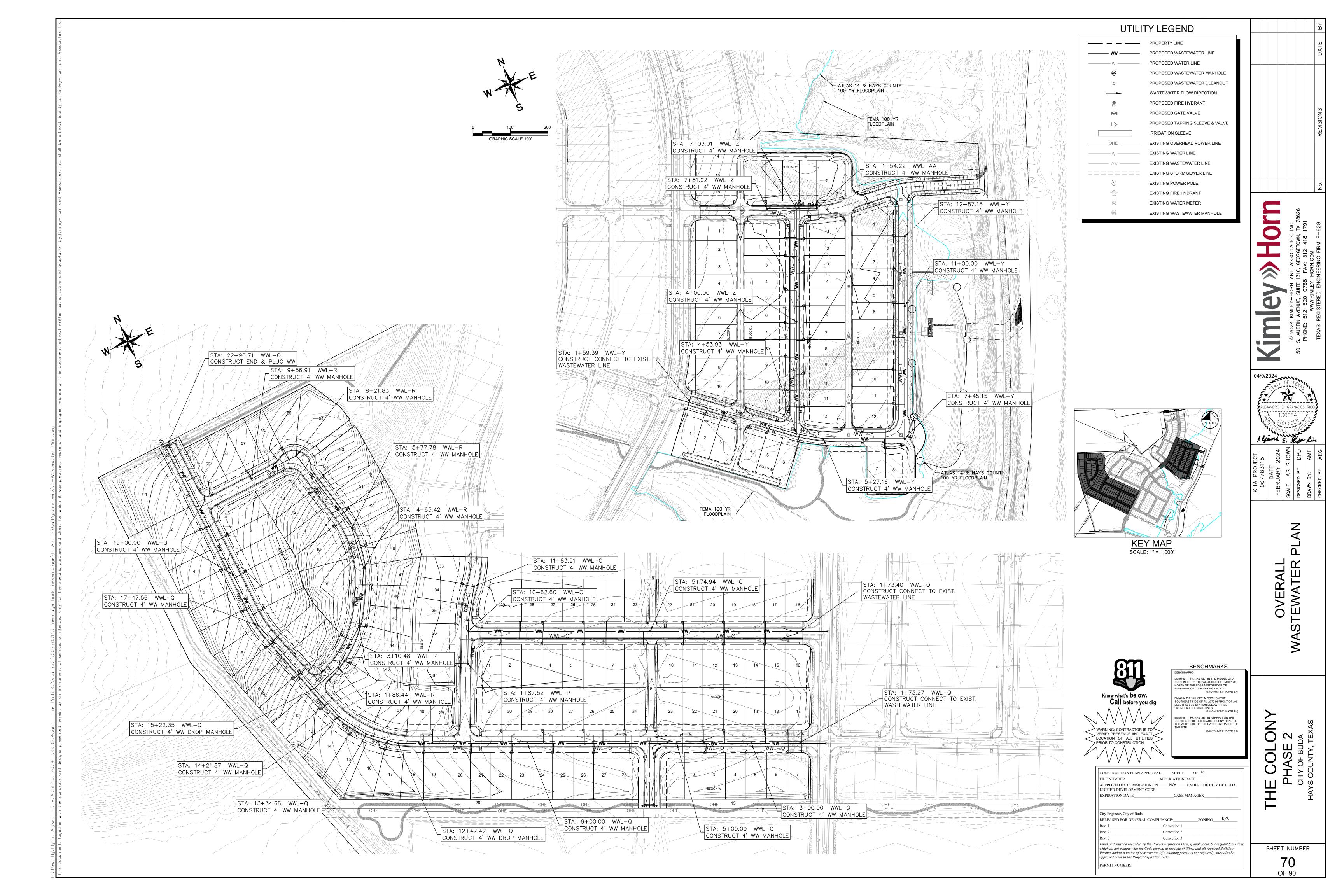


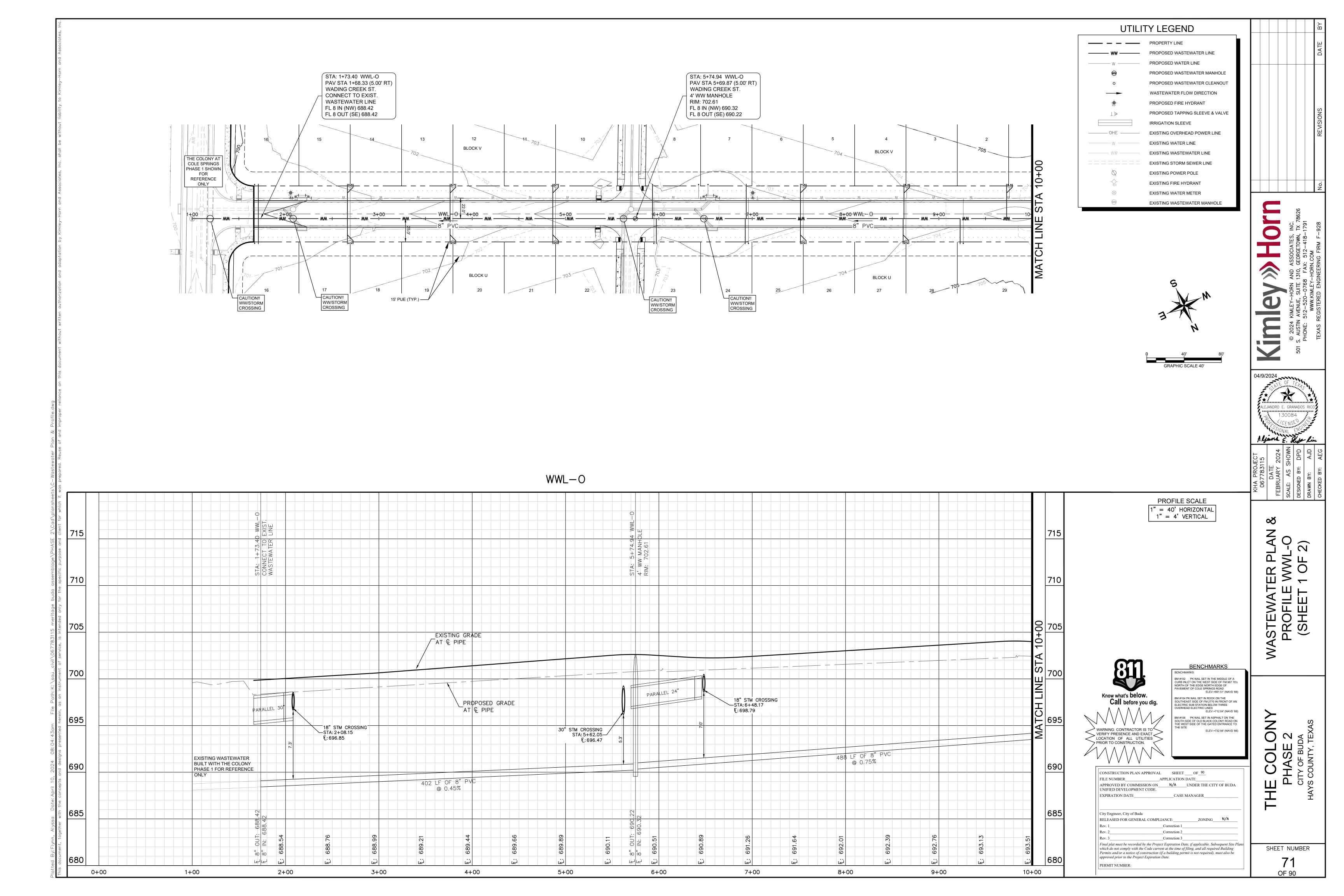


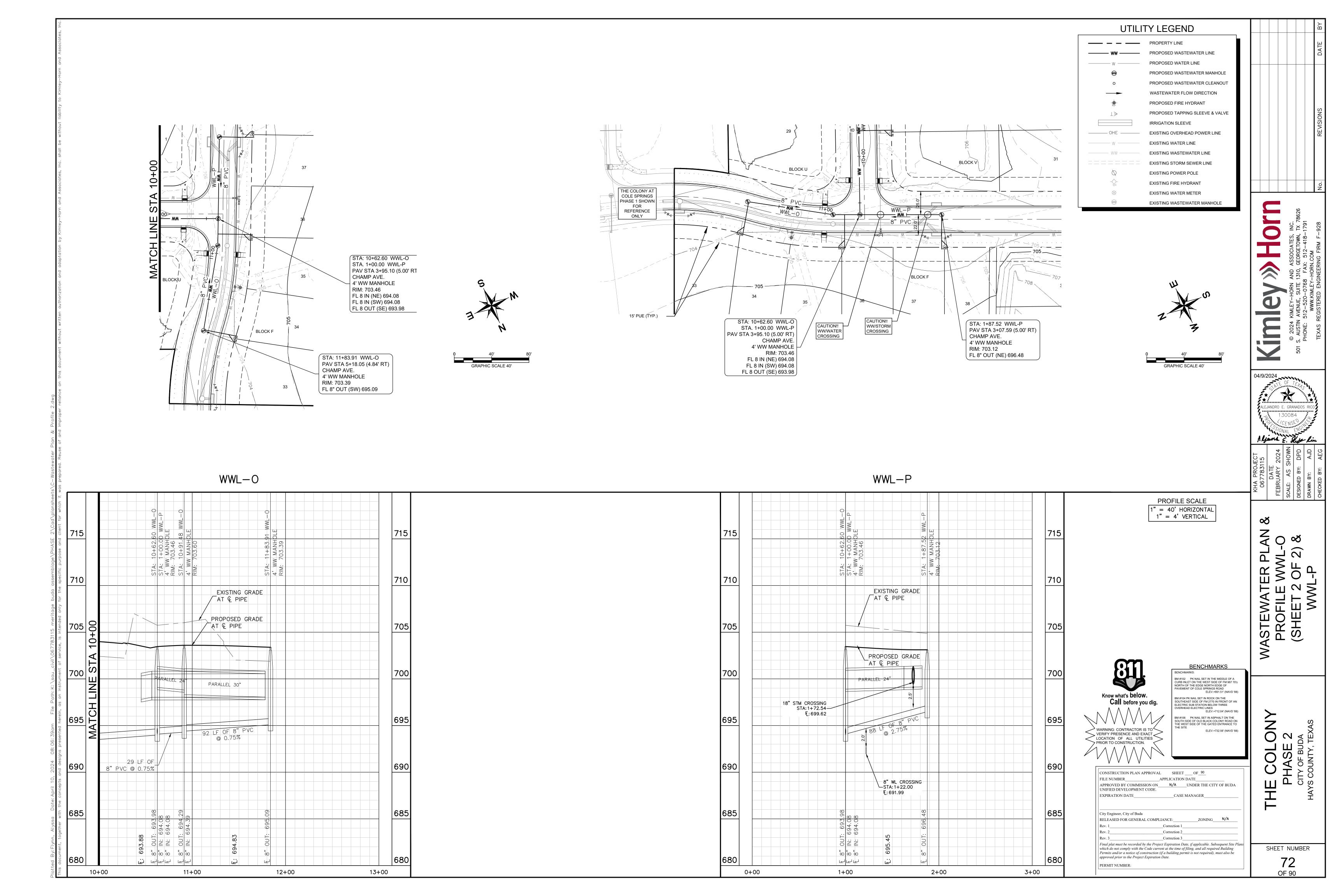


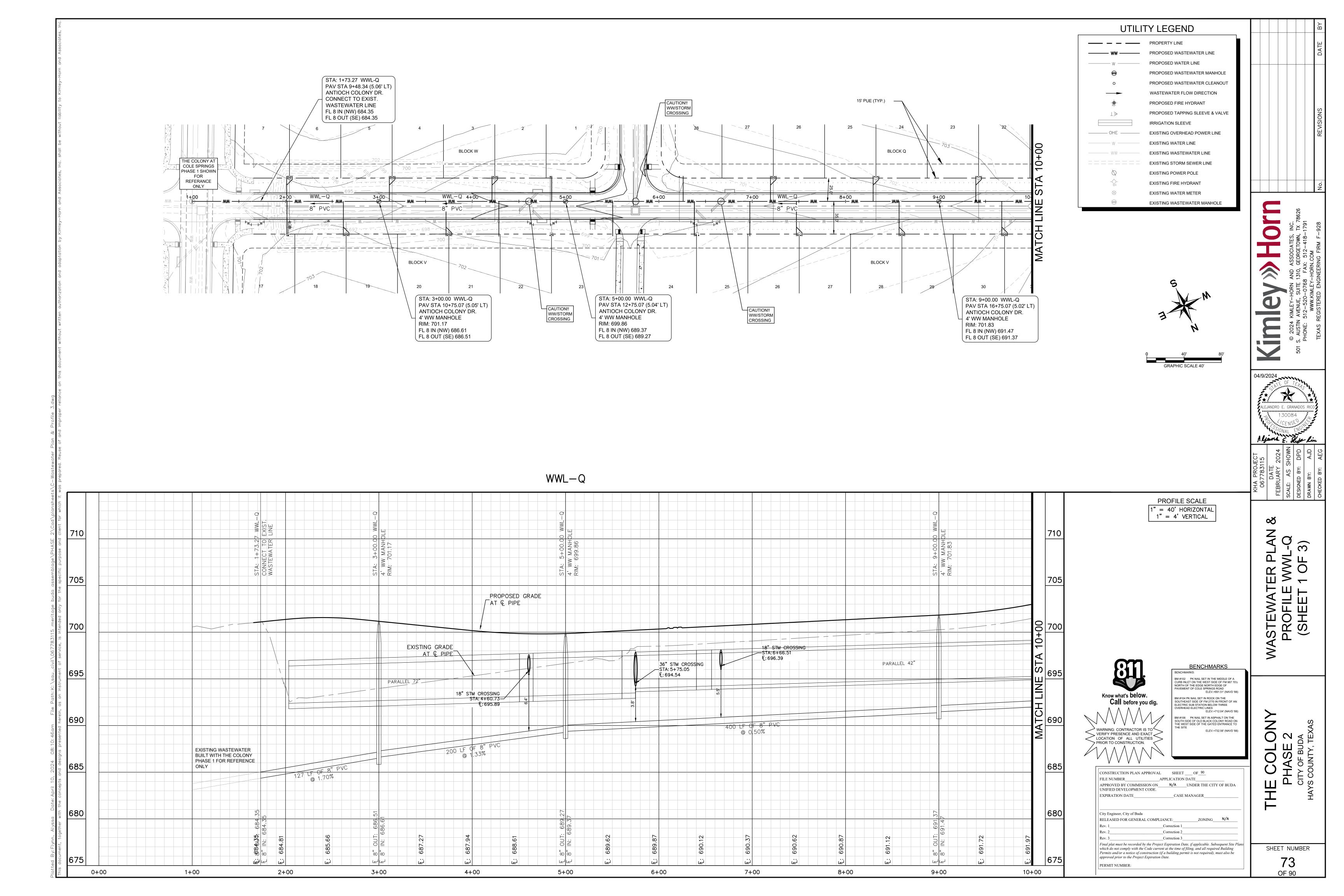


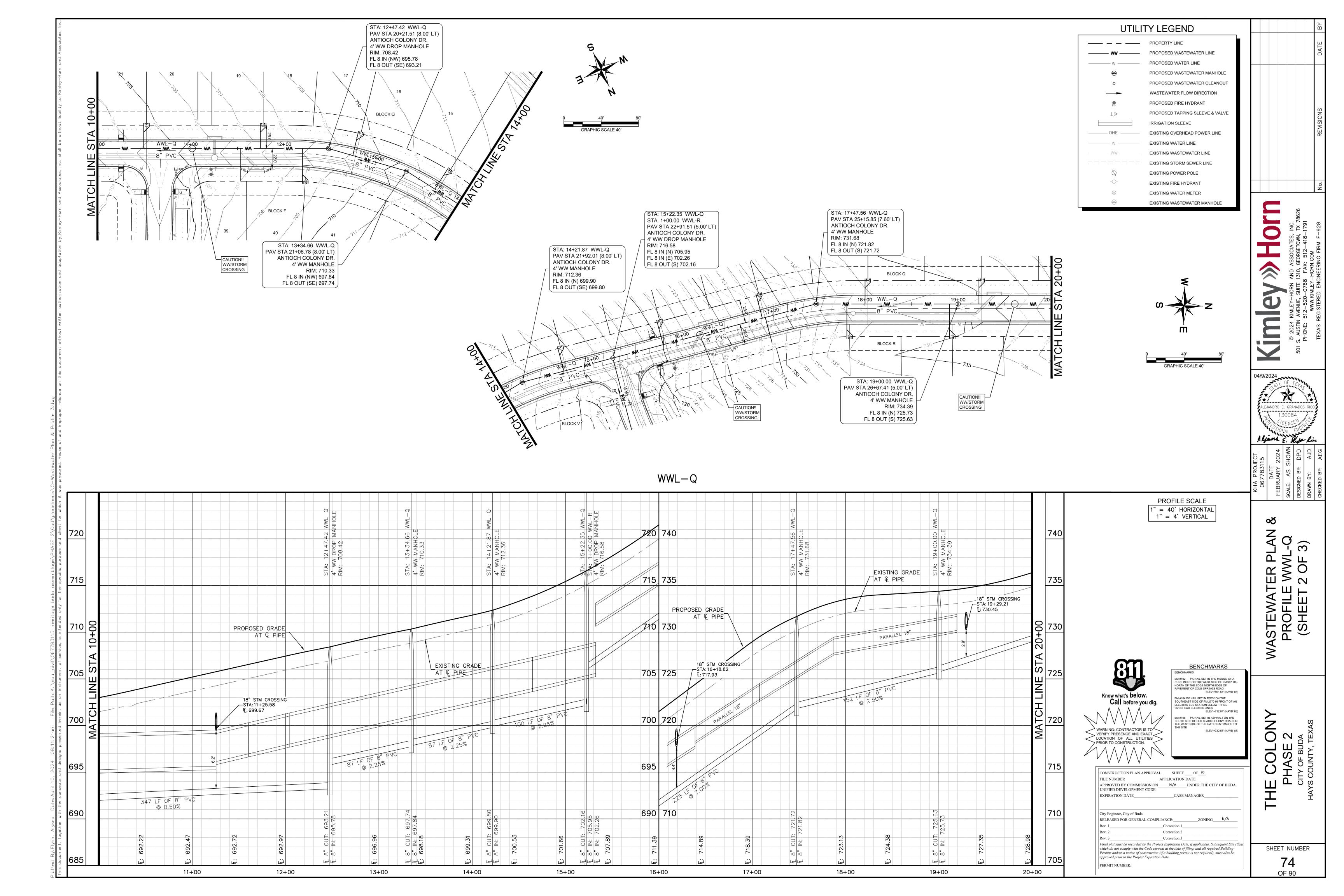


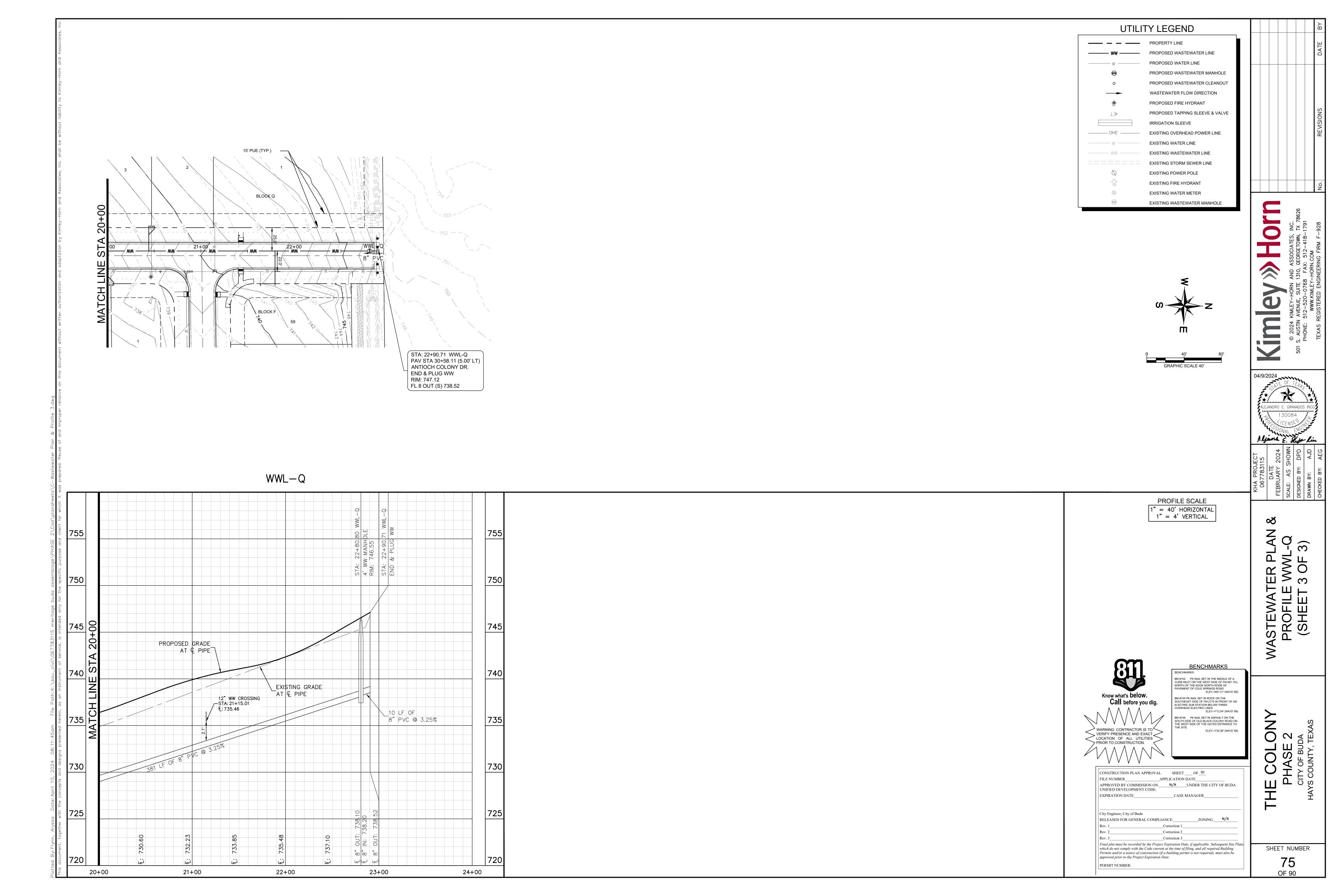


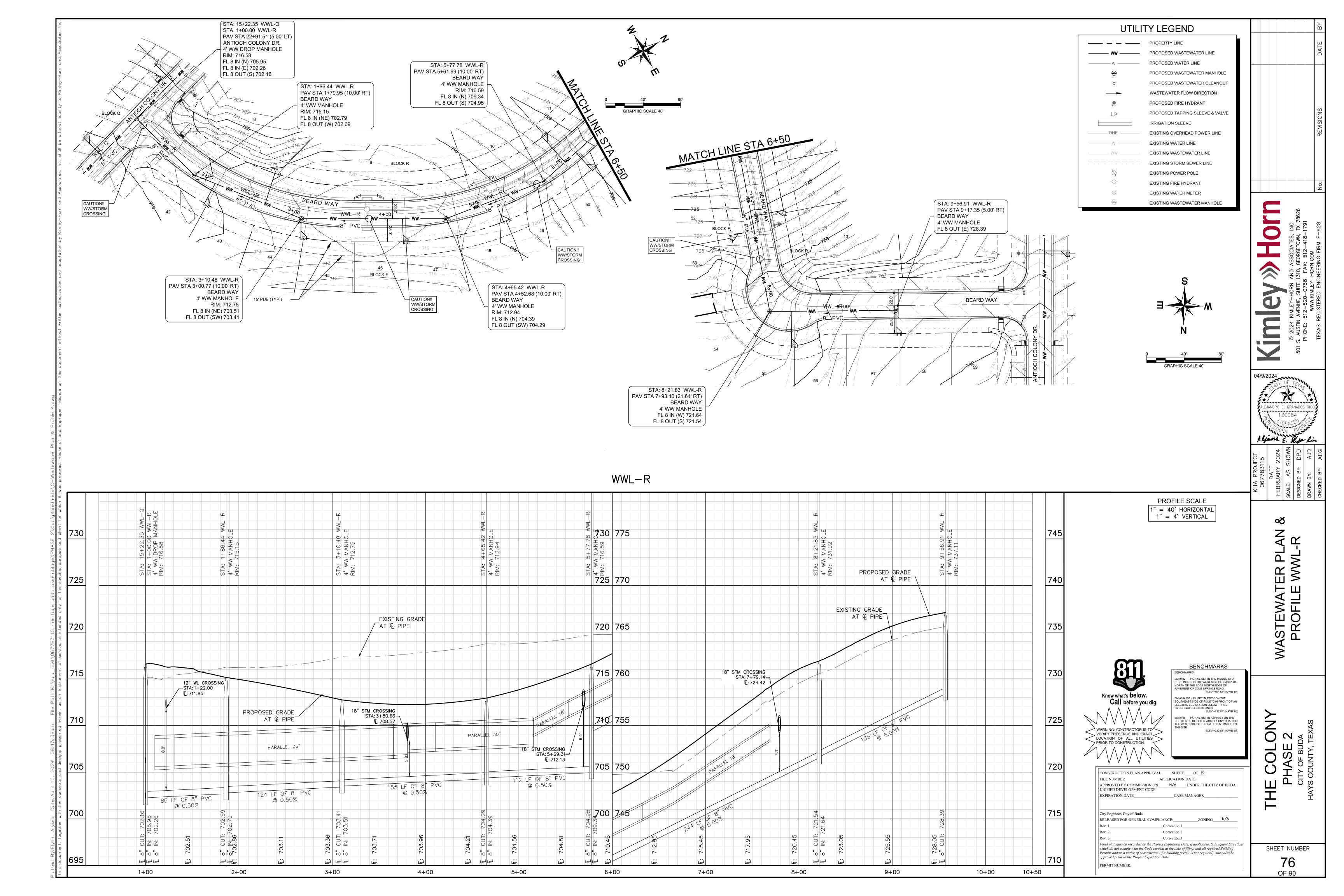


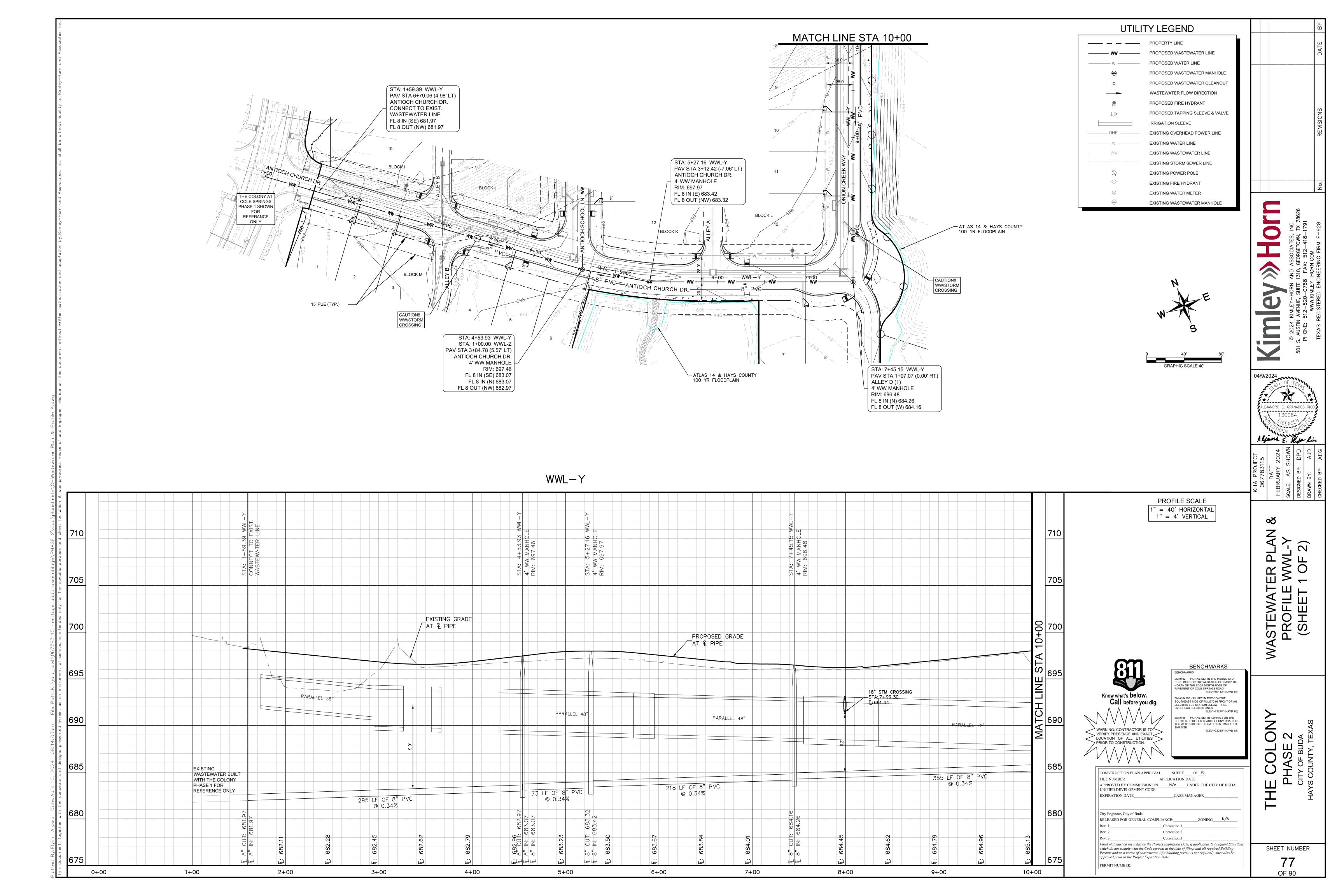


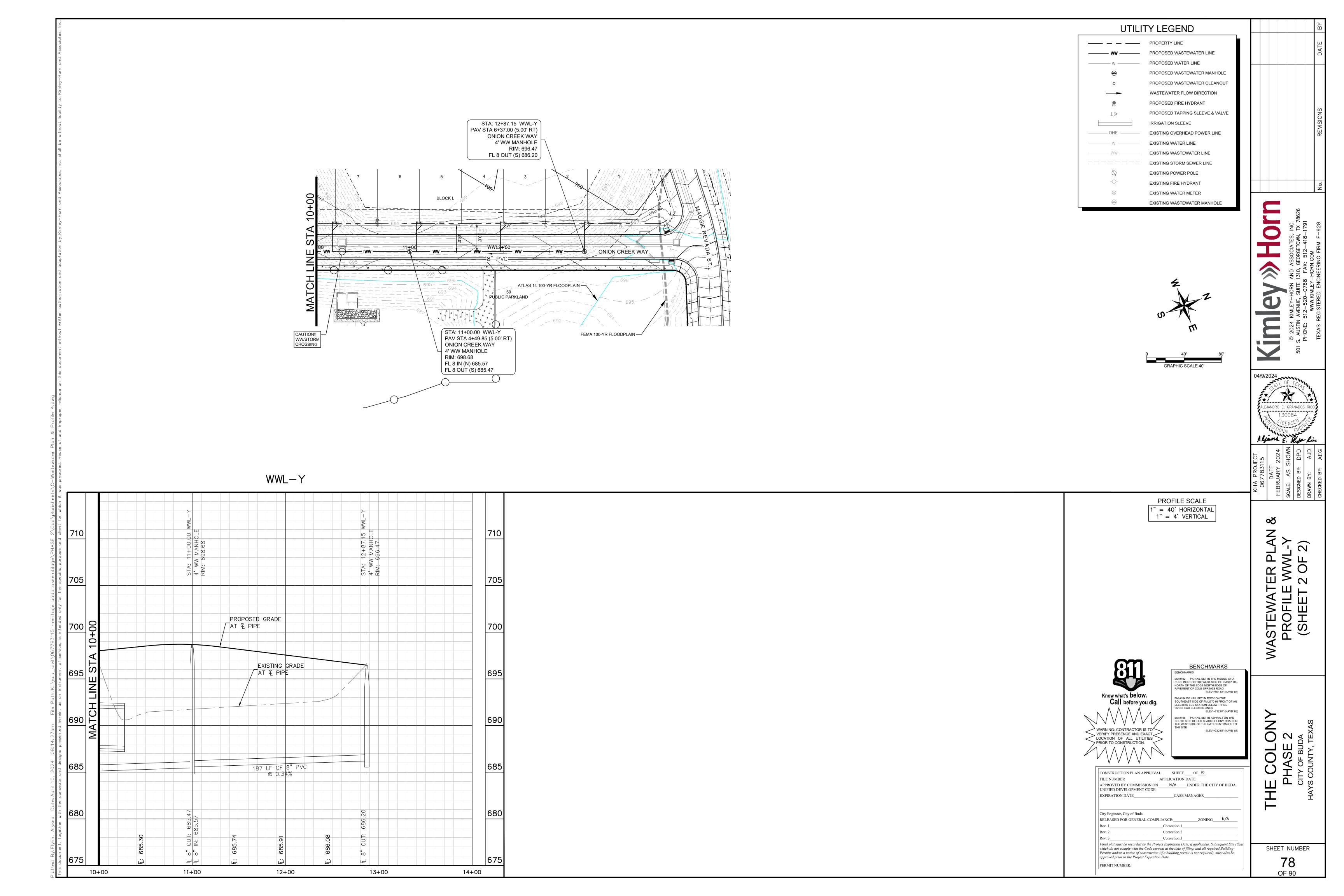


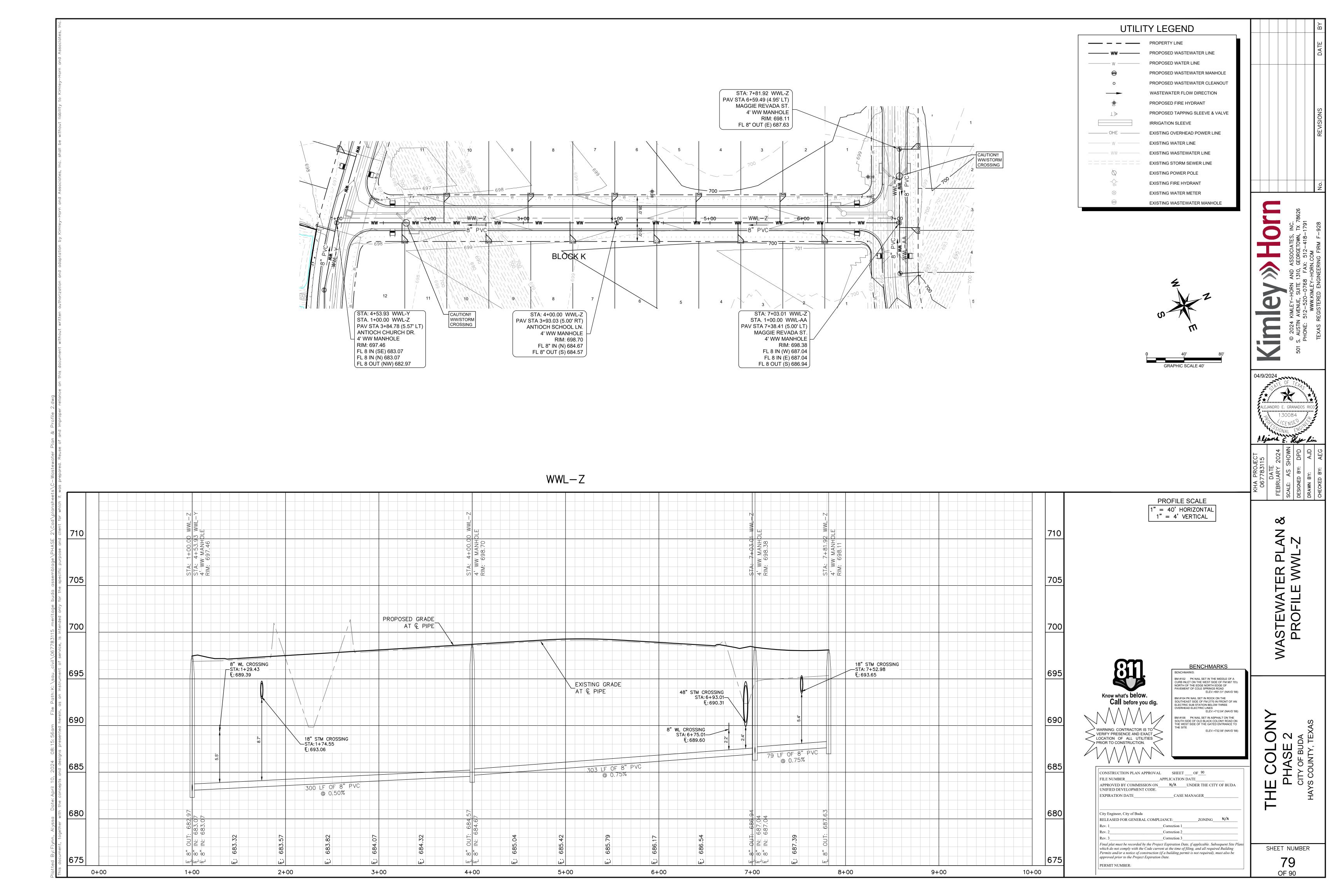


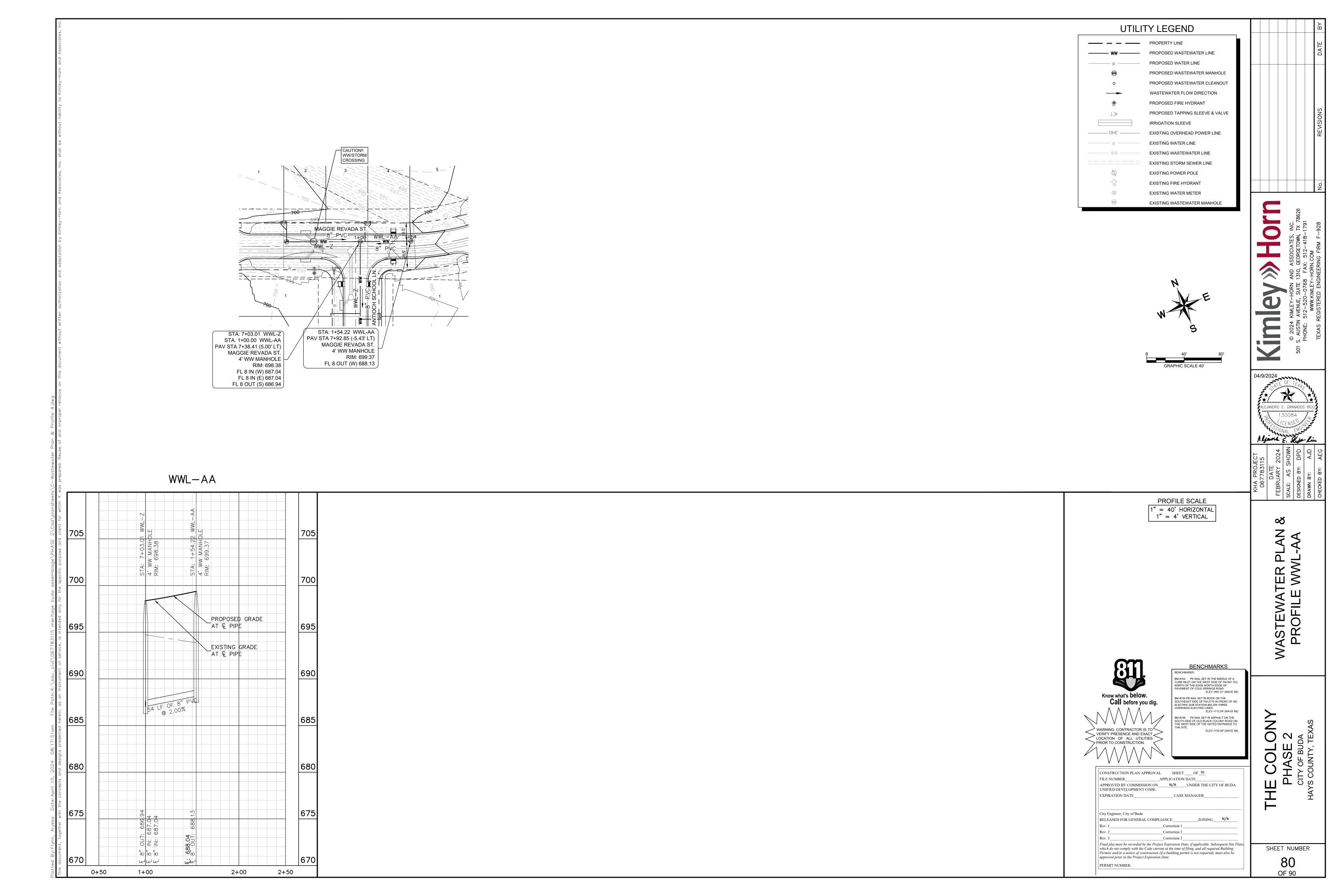












EROSION CONTROL NOTES - APPENDIX P-1

- 1. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION
- WORK (CLEARING, GRUBBING OR EXCAVATION). 2. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE ENVIRONMENTAL CRITERIA MANUAL AND THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN. THE C.O.A. E.S.C. PLAN SHALL BE CONSULTED AND USED AS THE BASIS FOR A T.P.D.E.S. REQUIRED S.W.P.P. IF A S.W.P.P. IS REQUIRED, IT SHALL BE AVAILABLE FOR REVIEW BY THE CITY OF BUDA ENVIRONMENTAL INSPECTOR AT ALL TIMES DURING CONSTRUCTION, INCLUDING THE
- 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 AREA PLAN.
- 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 AND DEVELOPMENT REVIEW DEPARTMENT, 974-2278, AT LEAST THREE DAYS PRIOR TO THE MEETING DATE. THE CONTRACTOR SHALL NOTIFY THE WATERSHED PROTECTION AND DEVELOPMENT REVIEW DEPARTMENT, 974-2278, AT LEAST THREE DAYS PRIOR TO THE MEETING DATE. C.O.A. APPROVED E.S.C. PLAN AND T.P.D.E.S. S.W.P.P. (IF REQUIRED) SHOULD BE REVIEWED BY C.O.A. E.V. INSPECTOR AT THIS TIME.
- 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 (C.P.E.S.C.). CERTIFIED EROSION, SEDIMENT AND STORMWATER-INSPECTOR (C.E.S.S.W.I.), OR CERTIFIED INSPECTOR OF SEDIMENTATION AND EROSION CONTROLS (C.I.S.E.C) 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 SITES.
- 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 BUDA ENVIRONMENTAL INSPECTOR FOR FURTHER INVESTIGATION.
- 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 3 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

-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. COMPOSITION SHALL MEET THE FOLLOWING CRITERIA:

TEXTURE 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 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 MATERIAL. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY OFTEN BE USED, BUT IT

SHOULD MEET THE SAME STANDARDS AS SET FORTH IN THESE

B. 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 CONTROL. 2. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED
- BERMUDA AT A RATE OF 1 POUNDS PER 1000 SE
- 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.
- b. HYDROMULCH SHALL COMPLY WITH TABLE 1, BELOW. c. TEMPORARY 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. d. WHEN REQUIRED, NATIVE GRASS SEEDING SHALL COMPLY WITH REQUIREMENTS OF THE CITY OF AUSTIN ENVIRONMENTAL CRITERIA

TABLE 1 HYDRO	DMULCHING FOR T	EMPORARY V	EGETATIVE STABIL	IZATION
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	0-3 MONTHS	MODERATE SLOPES; FROM FLAT TO 3:1	1500 TO 2000 LBS PER ACRE

PERMANENT VEGETATIVE STABILIZATION

FIBERS

- 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. 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 SE

- 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 ½ 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 1½ 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 AUSTIN ENVIRONMENTAL CRITERIA MANUAL.

TAB	BLE 2 HYDROMULCHING	G FOR PERMAN	ENT VEGETATIVE S	TABILIZATION
MATERIAL	DESCRIPTION	LONGEVITY	TYPICAL APPLICATIONS	APPLICATION RATE
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 PE 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:

M/I HOMES OF AUSTIN, LLC

CONTACT:

PHONE NO:

CONTACT:

7600 N. CAPITAL OF TEXAS HWY, BLDG C, SUITE 250 AUSTIN, TEXAS 78731

PHONE NO: (512) 770-8524 CONTACT: KYLE KRIEGEL

A. OWNER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS: ALEJANDRO E. GRANADOS RICO, P.E. / KIMLEY-HORN AND ASSOCIATES, INC.

PHONE NO.: (512) 520-0768 B. PERSON OR FIRM RESPONSIBLE FOR EROSION/SEDIMENTATION CONTOL MAINTENANCE:

M/I HOMES OF AUSTIN, LLC 7600 N. CAPITAL OF TEXAS HWY, BLDG C, SUITE 250 AUSTIN, TEXAS 78731 PHONE NO: (512) 770-8524

C. PERSON OR FIRM RESPONSIBLE FOR TREE/NATURAL AREA CONTROL MAINTENANCE:

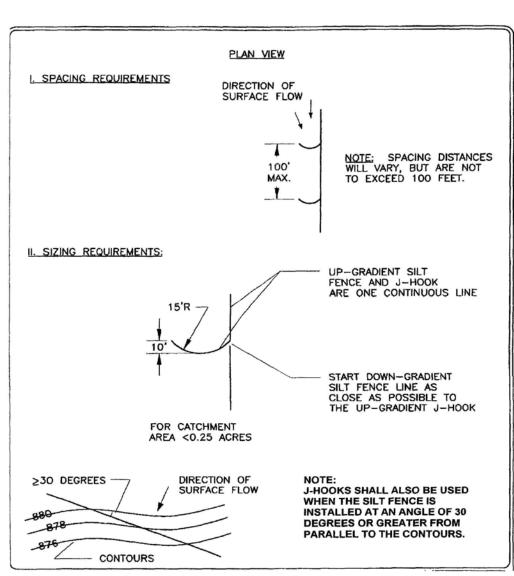
KYLE KRIEGEL

(512) 770-8524

KYLE KRIEGEL

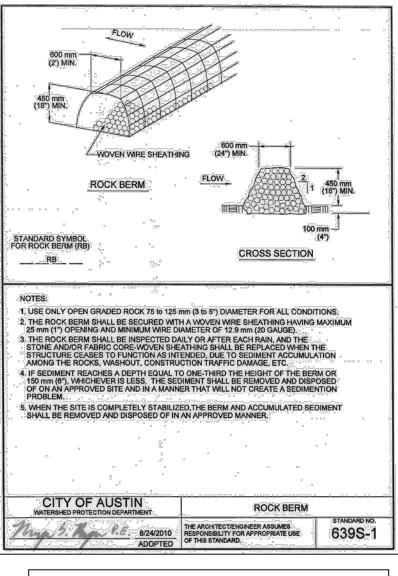
M/I HOMES OF AUSTIN, LLC 7600 N. CAPITAL OF TEXAS HWY., BLDG. C, SUITE 250 ADDRESS: AUSTIN, TEXAS 78731

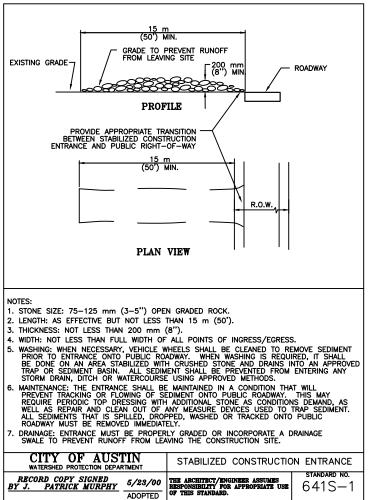
- 11. THE CONTRACTOR SHALL NOT DISPOSE OF SURPLUS EXCAVATED MATERIAL FROM THE SITE WITHOUT NOTIFYING THE CITY OF BUDA AT LEAST 48 HOURS PRIOR WITH THE LOCATION AND A COPY OF THE PERMIT ISSUED TO RECEIVE THE MATERIAL.
- 12. ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN-COMPLIANCE WITH THE CITY OF AUSTIN RULES AND REGULATIONS (CITY OF AUSTIN LDC 25-8-183)
- 13. CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURES DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING AS PER CITY OF AUSTIN ECM 1.4.5(A), OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
- 14. CONTRACTOR SHALL CLEAN UP SPOILS THAT MIGRATE ONTO THE ROADS A MINIMUM OF ONCE DAILY. (CITY OF AUSTIN ECM 1.4.4.D.4.)

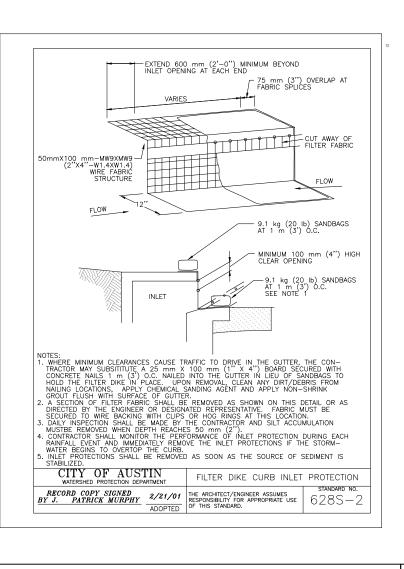


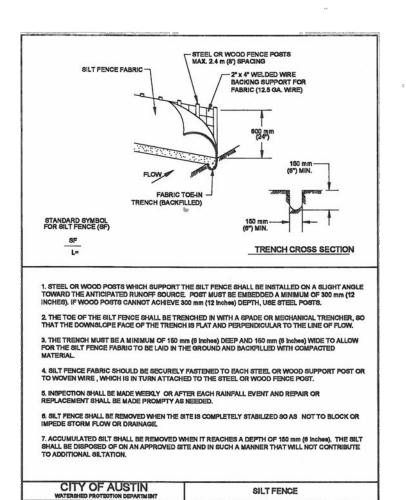
J-HOOK

SCALE: N.T.S.

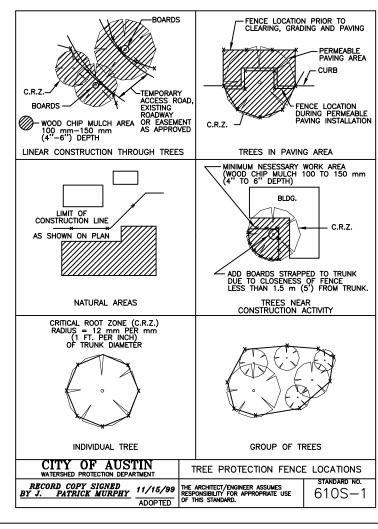


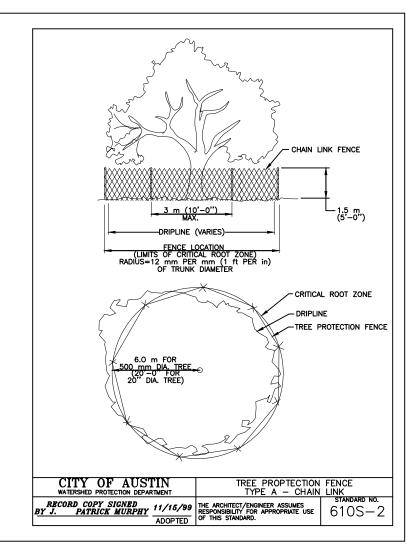


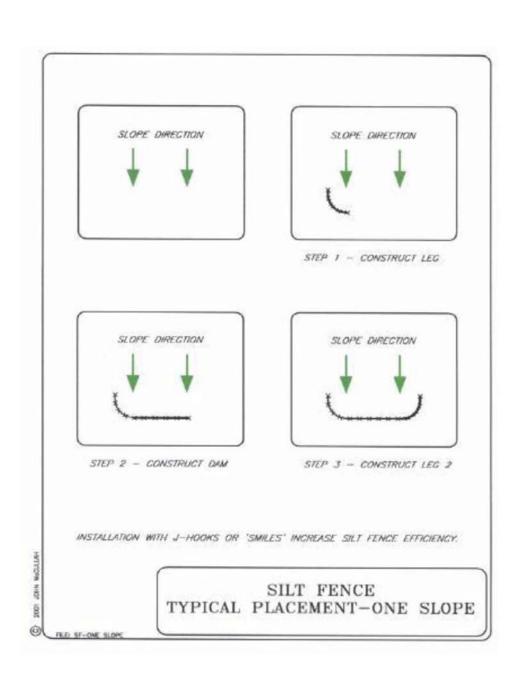


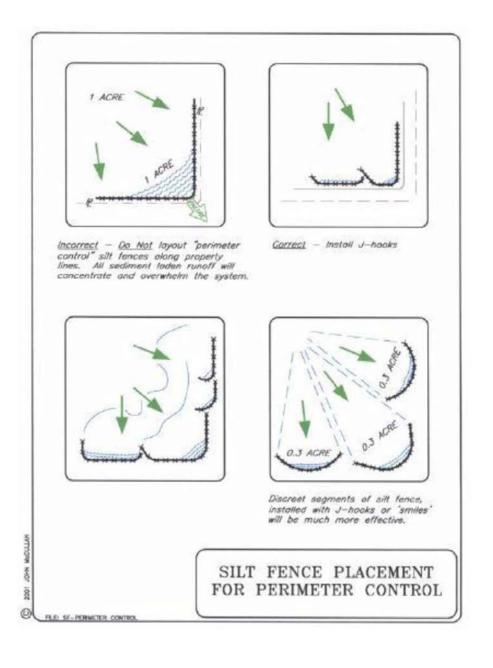


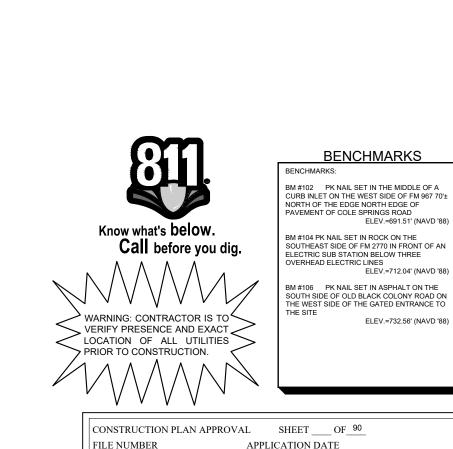
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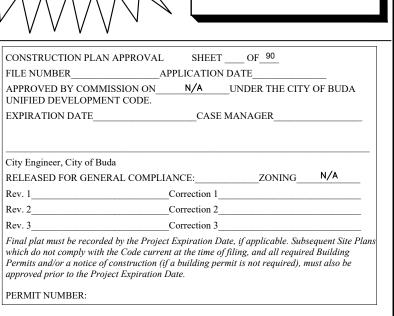








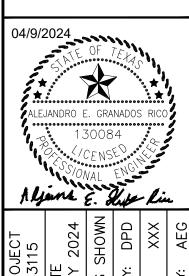




BENCHMARKS

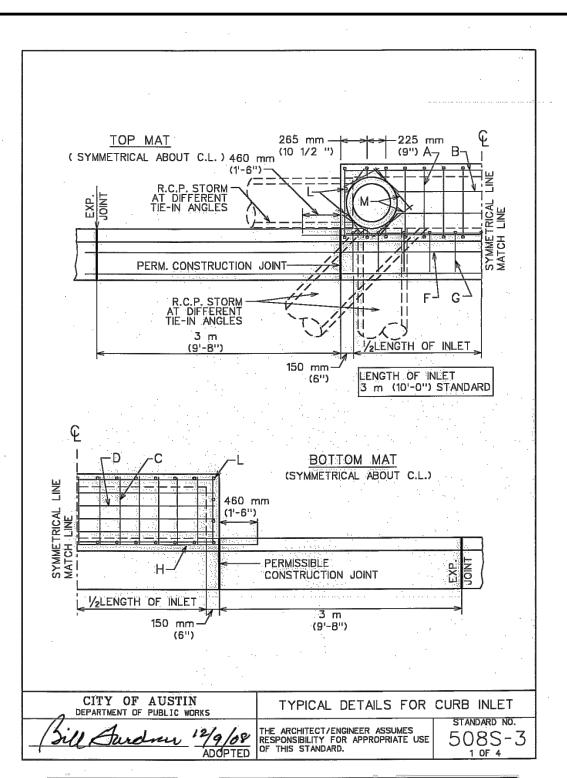
ELEV.=691.51' (NAVD '88

ELEV.=732.56' (NAVD '88



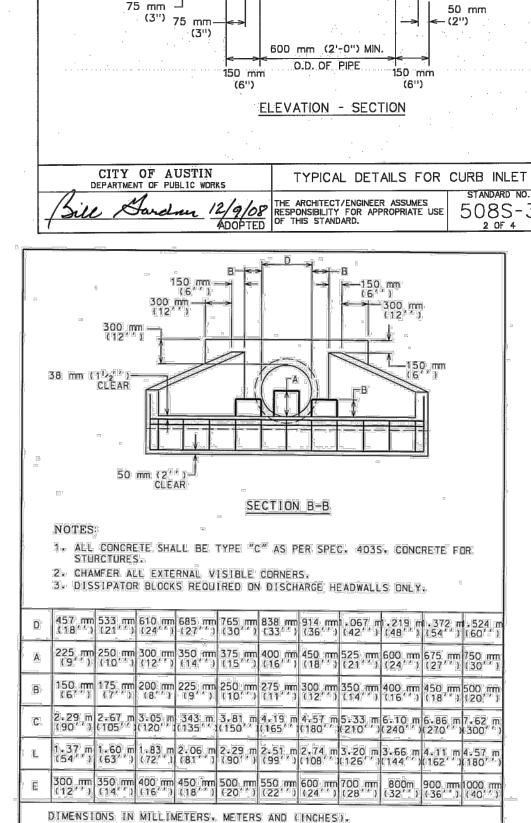
SHEET NUMBER

83 OF 90



_150 mm (6'')

38 mm (11/2'')— CLEAR



DISCHARCE VELOCITIES GREATER THAN 3 METERS/SECOND (10 fps) REQUIRE ROCK OUTLET PROTECTION.

STANDARD HEADWALL AND ENERGY DISSIPATORS STANDARD NO.

— [(6 BARS)

(EXTEND 460 mm

— A (15 BARS)

304 mm (1') SLOP

6 mm(1/4") :

(2 1/2 ") R

120 mm

(4 3/4 "

57 mm

G (11 BARS)-

F (3 BARS) ---

(EXTEND 1' INTO

J (4 BARS)

K (30 BARS) -

TRANSITION CURB)

(2 1/4 ") -

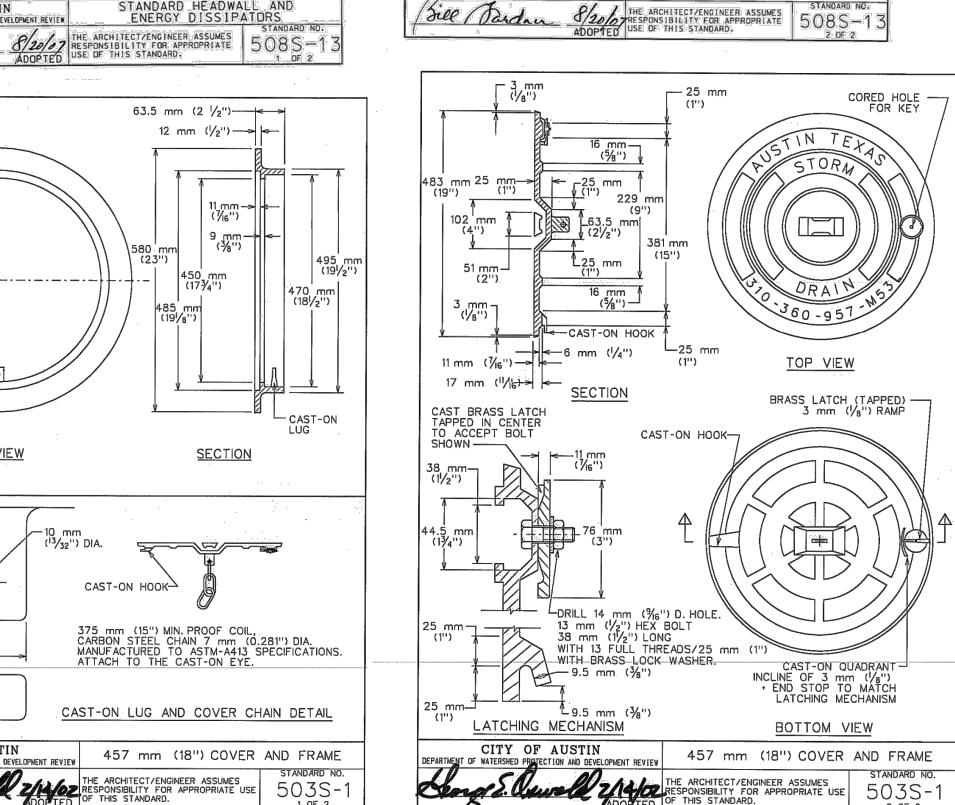
(1'6") INTO TRANSITION/

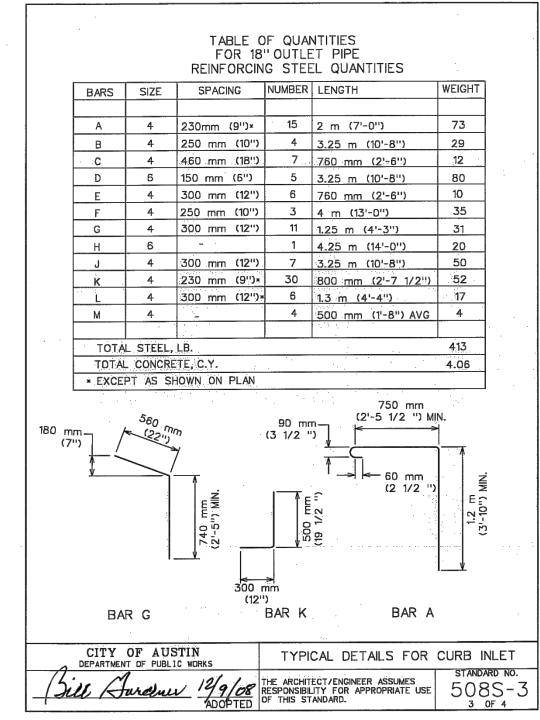
— C (7 BARS)

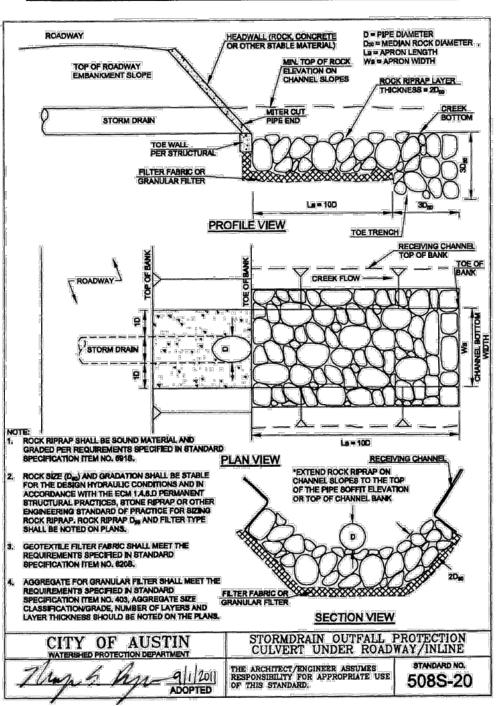
D (5 BARS)

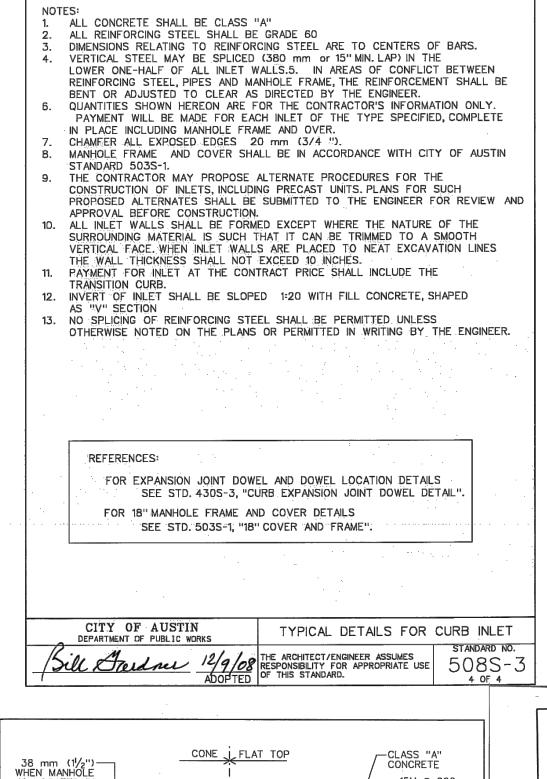
B (4 BARS)

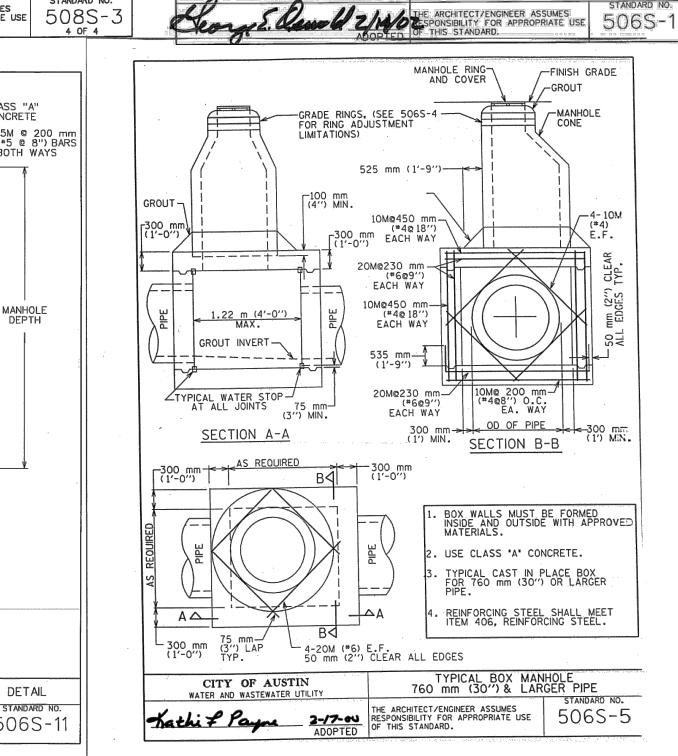
--(1 1/2")











CITY OF AUSTIN

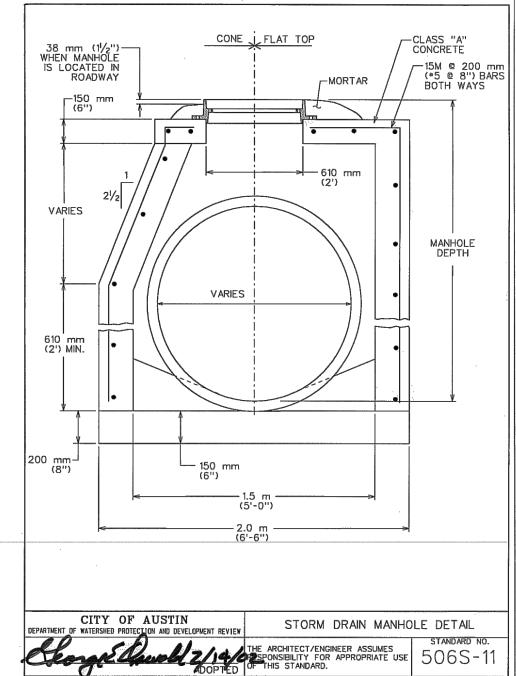
TYPICAL MANHOLE AT ANGLE IN STORM DRAIN

TYPICAL JUNCTION MANHOLE

FORM MANHOLE INVERT

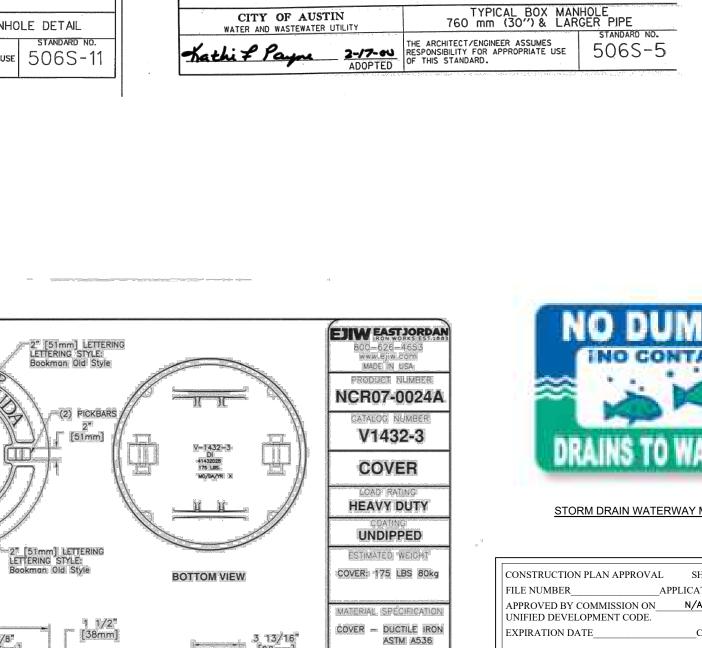
MANHOLE INVERT PLAN

TO PROVIDE FOR SMOOTH



PLAN VIEW

CROSS SECTION



H.R.S. ROD

41432028



which do not comply with the Code current at the time of filing, and all required Building

PERMIT NUMBER:

Permits and/or a notice of construction (if a building permit is not required), must also be

Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plan SHEET NUMBER 88 OF 90

04/9/2024

ALEJANDRO E. GRANADOS R

130084

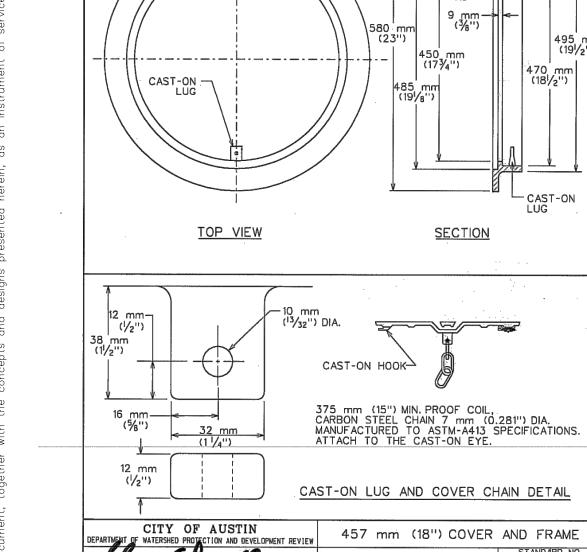
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DETAIL

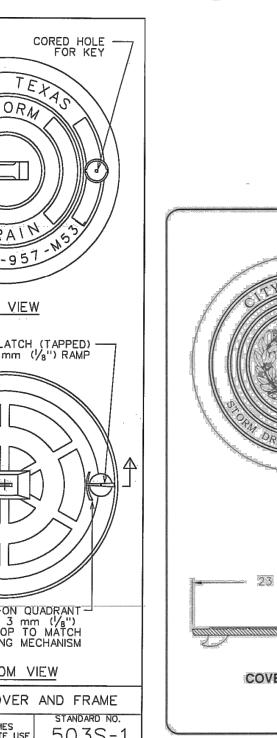
DRAIN

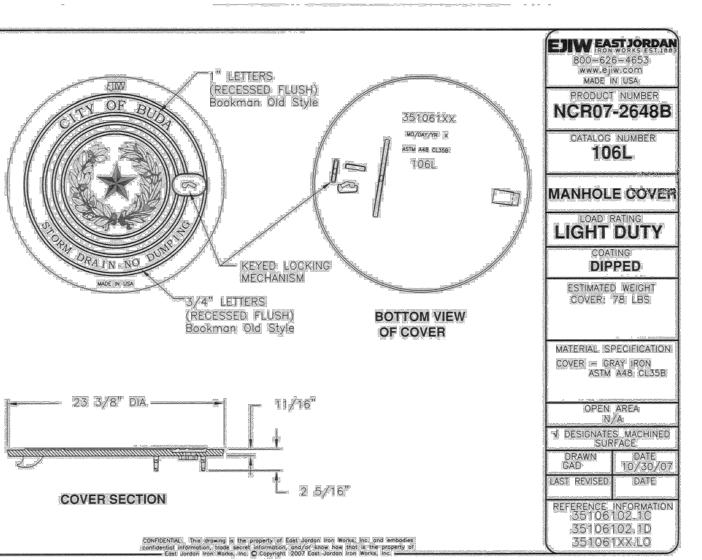
TORM

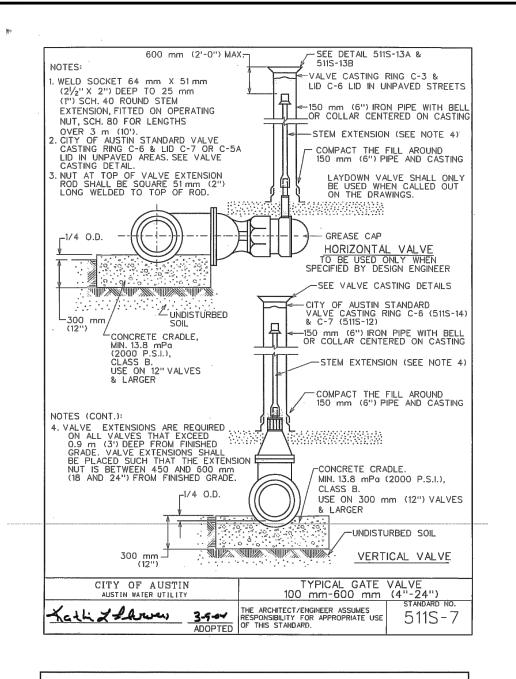


)50 mm ((2 1 1)

CITY OF AUSTIN







BOLTED CAST COUPLING (UNION --

1" OR 2" GALV, IRON PIPE -

BLACK DRESSER OR EQUIVALENT

LOCATE AS SPECIFIED

ON DRAWINGS

SIDEWALK

3" - 8" CLEARANCE -

BRICK OR PIPE -

SPL WW-3C. POTABLE WATER PIPE SHALL BE PAINTED SAFETY BLUE.

MINIMUM CLEARANCE OF 18" FROM ANY OBSTACLE.

CORPORATION COCK *

SEE NOTE 9 ON

EXTERIOR SURFACES OF EXPOSED AIR VENT PIPE AND DI SUPPORT PIPE SHALL BE PAINTED PER

. AIR VENT PIPE INSTALLATION SHALL BE AS NEAR AS PRACTICAL TO RIGHT-OF-WAY LINE WITH

3. HDPE METER BOX PENETRATION SHALL BE CORE BIT DRILLED. VOID SHALL BE FILLED WITH

LINKSEAL LS 300 OR APPROVED EQUAL.

COMPACTED COARSE GRAVEL OR BROKEN STONE MIXED WITH SAND SLOPED TO DRAIN.

AS INDICATED ON PLANS.

1" OR 2" AIR RELEASE OR AIR/VACUUM VALVE

SPL WW-367, WW-462, WW-462A OR WW-462B

THREAD TO COMPRESSION BALL VALVE

BRASS ELBOW ALLOWED IF SPL WW-275

NECESSARY DUE TO DEPTH

LIMITATIONS

SCREEN COVER VENT

BAILEY MFG. CO. OR

TO 4" DI PIPE FILLED

WITH CONCRETE

- 4" DI PIPE FILLED w/CONC

SET IN 1'x1' CONC. BLOC

(1'x1'x1') ROCK OR GRAVEL

- GRAVEL - SEE NOTE 4

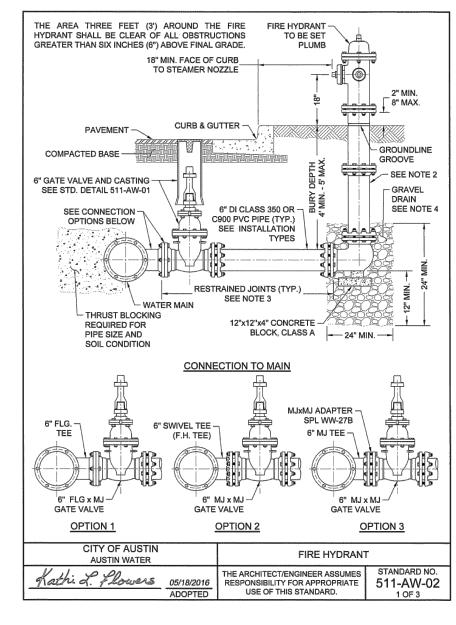
- 2" COPPER PER SPL WW-613 OR 2" HDPE PER SPL WW-65

FOR POTABLE, AND SPL

WW-65A FOR RECLAIMED

EQUIVALENT)

SEE NOTE 4



- PER PLAN DIMENSION -

WATER VALVE BOX

SEE STD. DETAIL

SUPPORT

SEE NOTE 9 ON

SLOPE PIPE -

AIR VALVE

PIPE FLG x FACTORY RESTRAINED JOINT SPIGOT END.

SIDEWALK

DI MAIN

90° BEND w/FACTORY RESTRAINED JOINT BELL ENDS. SPL WW-27F.

- PIPE BEDDING

GATE VALVE (FLG x FLG). GATE VALVE SHALL NOT BE INSTALLED DIRECTLY ABOVE WATER MAIN.

🗠 4" DI PIPE FILLEI

w/CONC. SET IN

2 - #4 REBAR - 2" CLEAR

CLASS A CONCRETE, SPEC 403.

BLOCKING AND SUPPORT

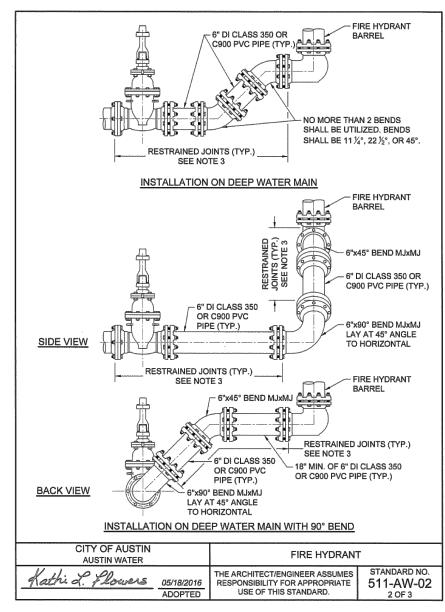
ISOLATION KIT

1' MIN. PEA GRAVEL

FLG OUTLET

STEEL/CSC MAIN

1'x1' CONC. BLOCK



VALVE SHALL BE VENTED WITHIN THE VAULT INTO THE LARGER VENT PIPE

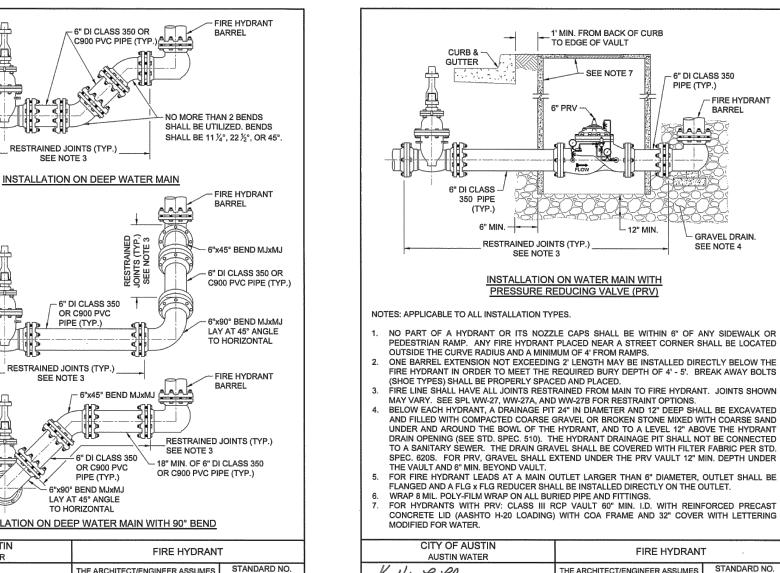
ENTIRE AIR VENT ASSEMBLY SHALL BE LOCATED WITHIN EASEMENT OR R.O.W.

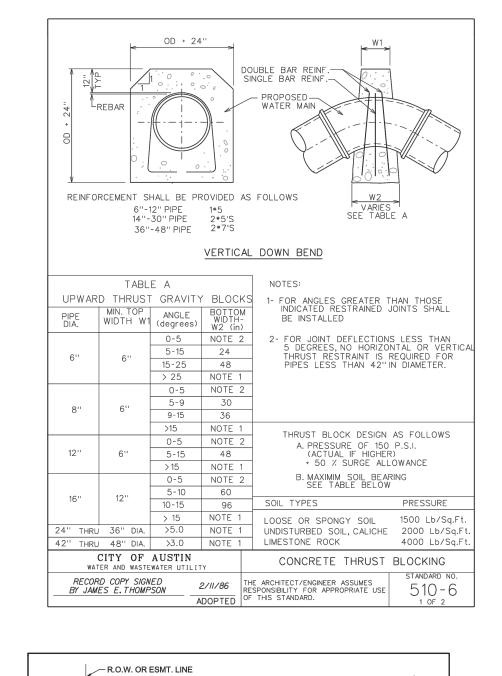
3" OR LARGER AIR/VACUUM VALVE INSTALLATION - TYPE II

ASSEMBLY WITHOUT REMOVAL OF PRECAST CONCRETE LID.

w/LINKSEAL LS 300 OR APPROVED EQUAL.

CONNECTION OF ARV.





@**—**___

WATER SERVICE TAP PROFILE VIEW

1" & SMALLER METERS

R.O.W. OR ESMT. LINE

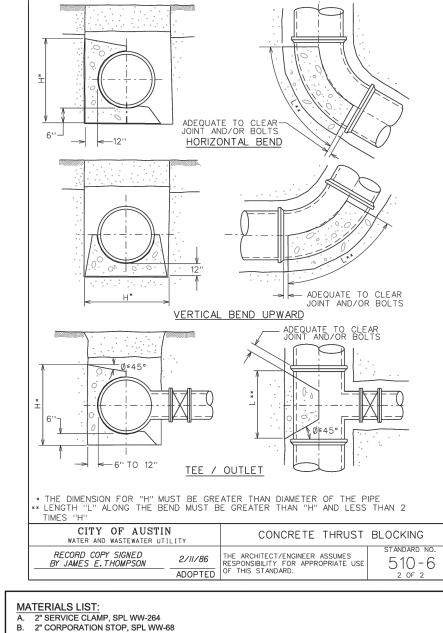
- 1" PVC MALE -

CITY OF AUSTIN

ADAPTER

WATER SERVICE TAP PLAN VIEW

WATER MAIN -



2" HDPE WATER SERVICE TUBING, SPL WW-65

1" HDPE WATER SERVICE TUBING, SPL WW-65

MATERIALS TO BE INSTALLED BY PLUMBER:

1" METERS: 8 ½" LONG x 1" DIA. PROPERTY OWNER'S CUT OFF VALVE, SPL WW-276

PROPERTY OWNER'S CUT OFF VALVE BOX AND LID

INSTALLATION.
TOP OF METER BOXES SHOULD BE 4" ABOVE GROUND.

ABOVE GRANULAR BEDDING AS REQUIRED BY SECTION 510.3 (25).

%" AND %" METERS: 8 %" LONG x %" DIA.

RAFFIC AREA AND SIDEWALK.

COMPRESSION FITTING USED.

CAST INTO THEM, SPL WW-145A.

AUSTIN WATER

TO BALL VALVE "D".

METER SIZES TO BE SHOWN ON PLANS.

1" ANGLE METER STOP, SPL WW-68

METER BOX AND LID. SPL WW-145A:

SINGLE SERVICE: 2" MIP X 1" COPPER FLARE FITTING, SPL WW-68 OR

WATER METER PURCHASED FROM AUSTIN WATER
BRASS WATER METER COUPLING MALE IPT x SWIVEL COUPLING NUT:

BRASS METER BUSHING - SIZE AS NEEDED TO CONNECT ANGLE METER STOP TO METER

TEMPORARY METER SPACER (REQUIRED TO ASSURE METER WILL FIT APPROPRIATELY)

SERVICE CLAMP SHALL BE WRAPPED COMPLETELY WITH 8 MIL. POLYETHYLENE FILM, SPL WW-27D.

BRANCH CONNECTIONS AND ALL ANGLE METER STOPS MUST BE INSTALLED PRIOR TO ANY METER

PIPING AND TUBING IN STREET RIGHT-OF-WAY SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY SECTION 510.3 (14) OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS; BACKFILL

METER BOX MUST BE BEHIND CURB NEXT TO PROPERTY LINE OR EASEMENT AND OUT OF VEHICULAR

BALL VALVE "D" SHALL NOT BE LOCATED UNDER SIDEWALK, CURB, OR PAVEMENT, AND NOT BE LOCATED MORE THAN 36" BELOW FINAL GRADE.

METER BOX CUT OUTS SHALL NOT EXCEED TWO TIMES THE PIPE DIAMETER.
INSTALL METALLIC TRACER TAPE, SPL WW-597, MINIMUM 1' ABOVE TUBING FROM SERVICE CLAMP "A"

TUBING SHALL BE PLACED IN A STRAIGHT ALIGNMENT AND ALLOWED TO RELAX AND "SNAKE"

LOOSELY IN THE TRENCH. TUBING BEHIND CURB AND GUTTER SHALL BE INSTALLED WITH A MINIMUM

1" TUBING, WHEN BENT, SHALL HAVE A RADIUS NO SMALLER THAN 3'. 2" TUBING, WHEN BENT, SHALL

HAVE A RADIUS NO SMALLER THAN 5'. BRASS FITTINGS SHALL NOT BE CONNECTED TO A BENT

COMPRESSION FITTINGS. INSERT STIFFENERS SHALL BE FROM THE SAME MANUFACTURER AS THE

SOLID, TUBULAR STAINLESS STEEL INSERT STIFFENERS FOR HDPE TUBING SHALL BE USED AT ALL

B. FOR RECLAIMED WATER SERVICES AND METERS, ALL RECLAIMED TUBING SHALL BE MANUFACTURED

ALL FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED

PURPLE PER SPL WW-3C. ALL METER BOX LIDS SHALL BE PURPLE AND HAVE "RECLAIMED WATER"

SOLID PURPLE, SPL WW-65A. ALL APPURTENANCES SHALL BE MANUFACTUR

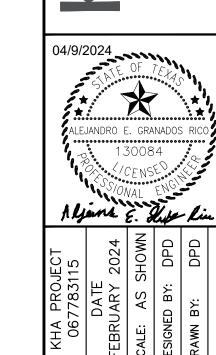
1" WOODEN DOWEL (SHOW ADDRESS ON DOWEL USING WATERPROOF MARKER)

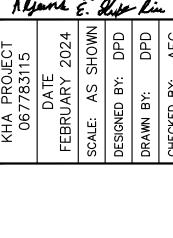
DOUBLE SERVICE: 2" MIP X 1" COPPER FLARE WYE, SPL WW-68
1" SWIVEL NUT x 1" COMPRESSION 90" BEND, SPL WW-68

FOR DUAL 1" METERS: USE TWO SINGLE METER BOXES

2" BALL VALVE, SPL WW-68







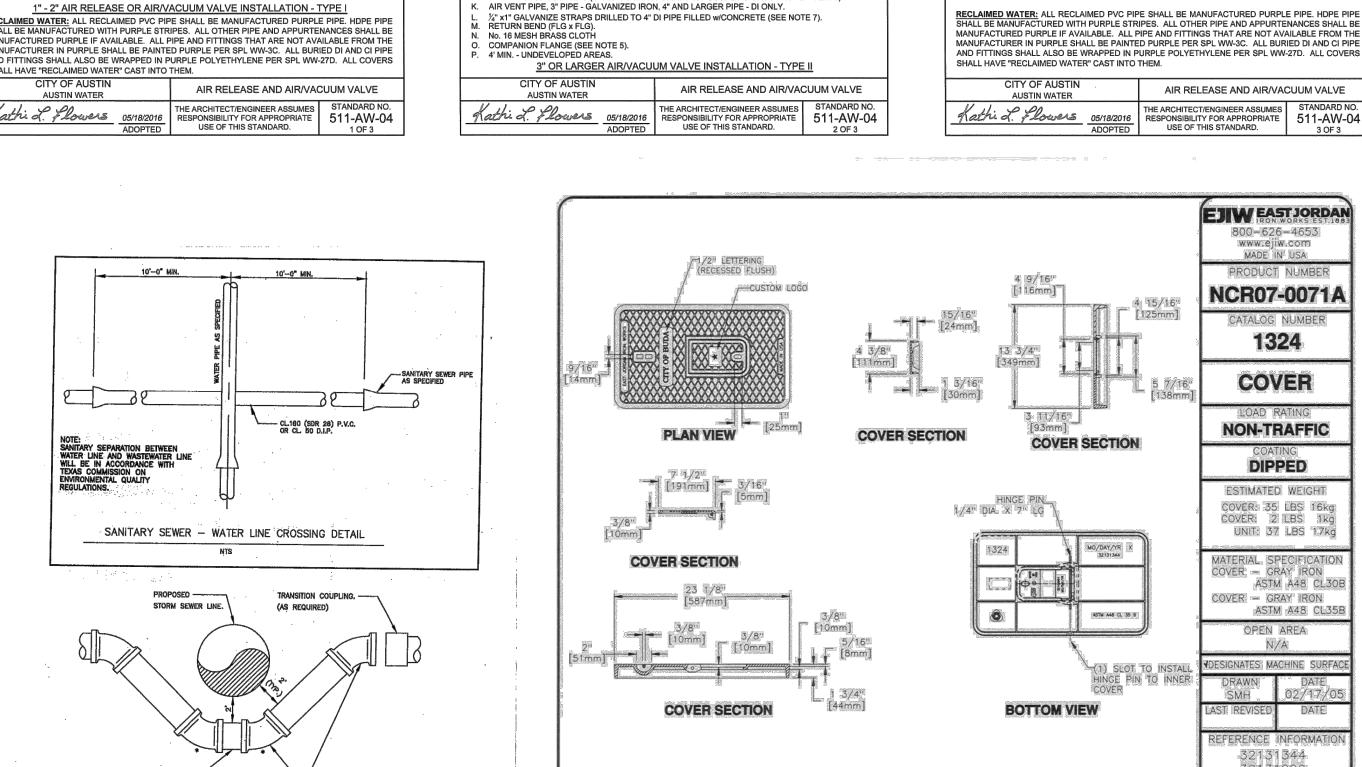


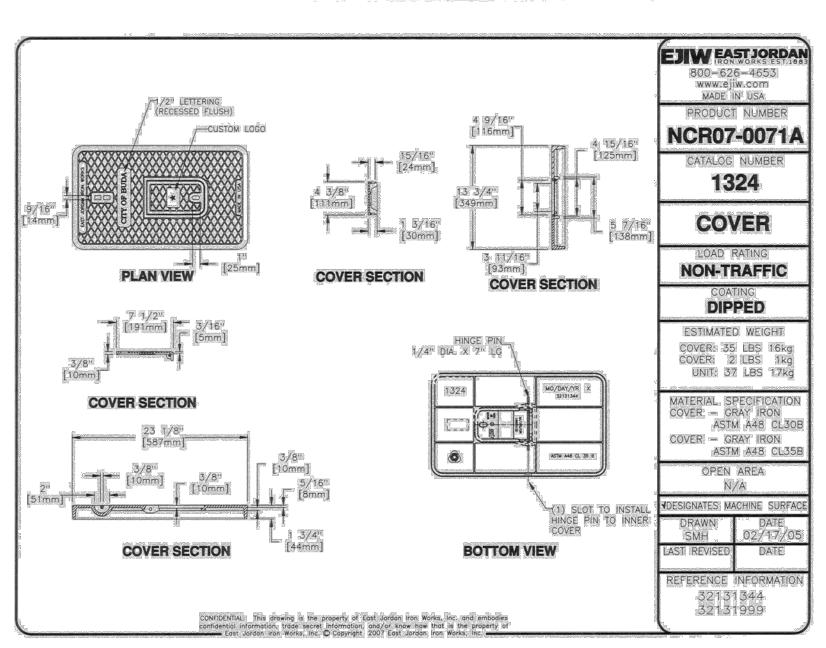
SHEET NUMBER

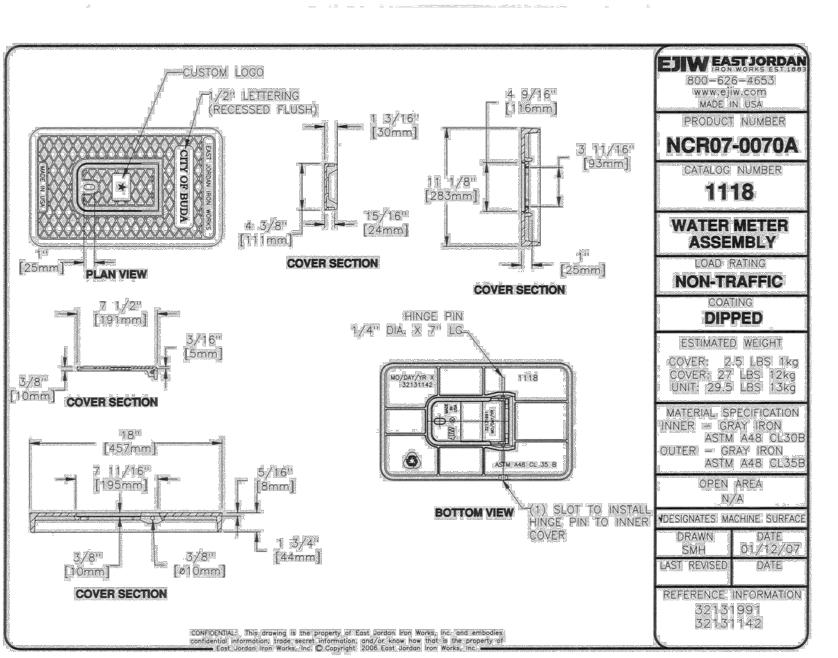
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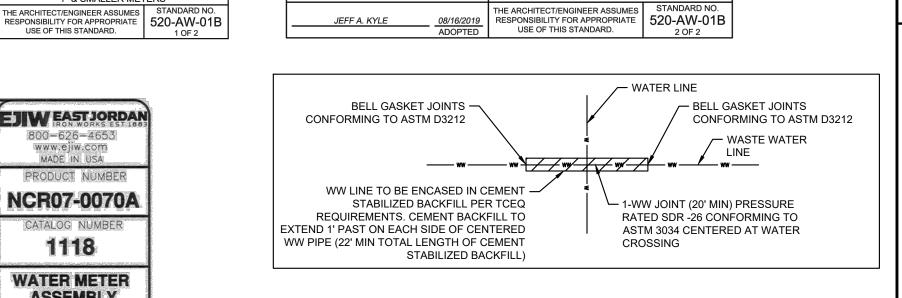
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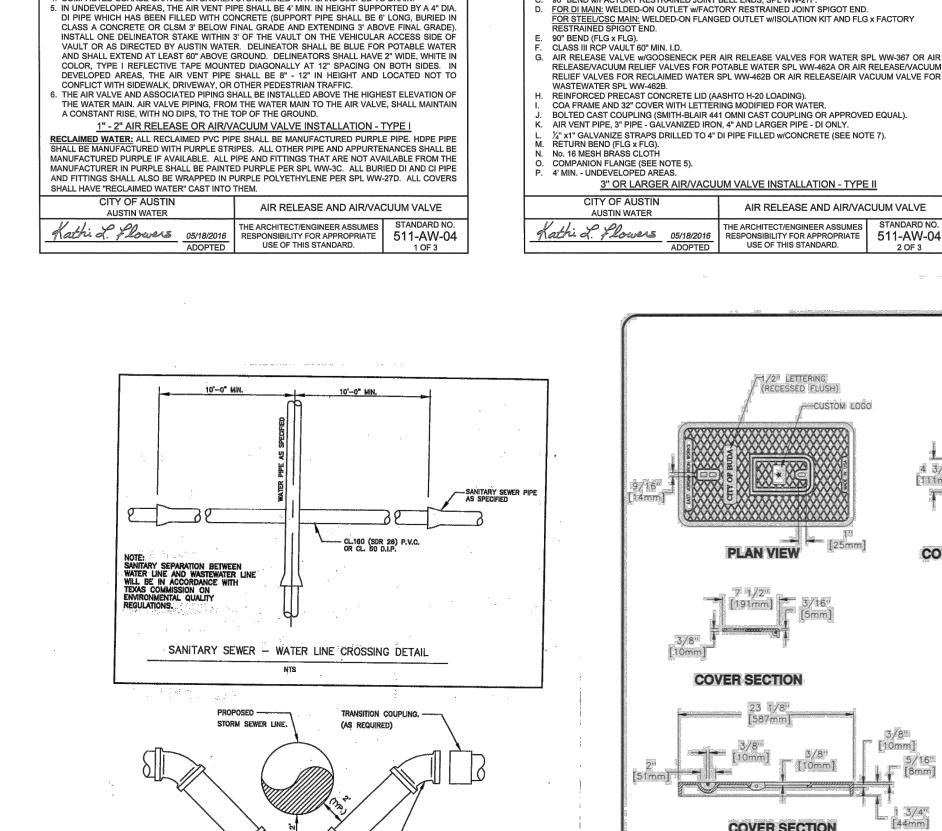


WATER SERVICE & METER INSTALLATION -

THE ARCHITECT/ENGINEER ASSUMES STANDARD NO

WATER/WASTEWATER CROSSING **DETAIL**



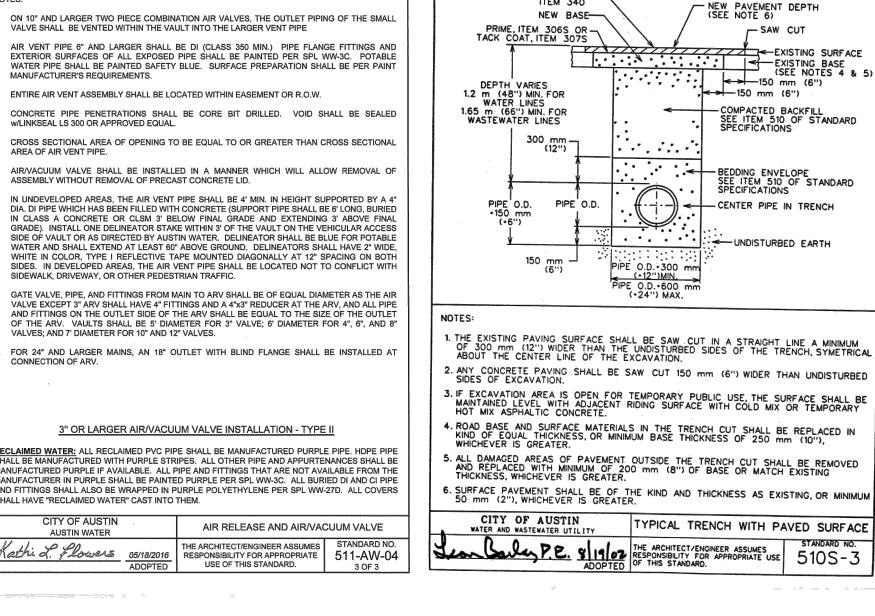


ALL PIPE TO BE --- 45' RESTRAINED JOINT ---

WATERLINE ADJUSTMENT

DETAIL NOT TO SCALE

DUCTILE IRON FITTINGS, (TYPICAL)



Kathi L. Flowers 05/18/2011

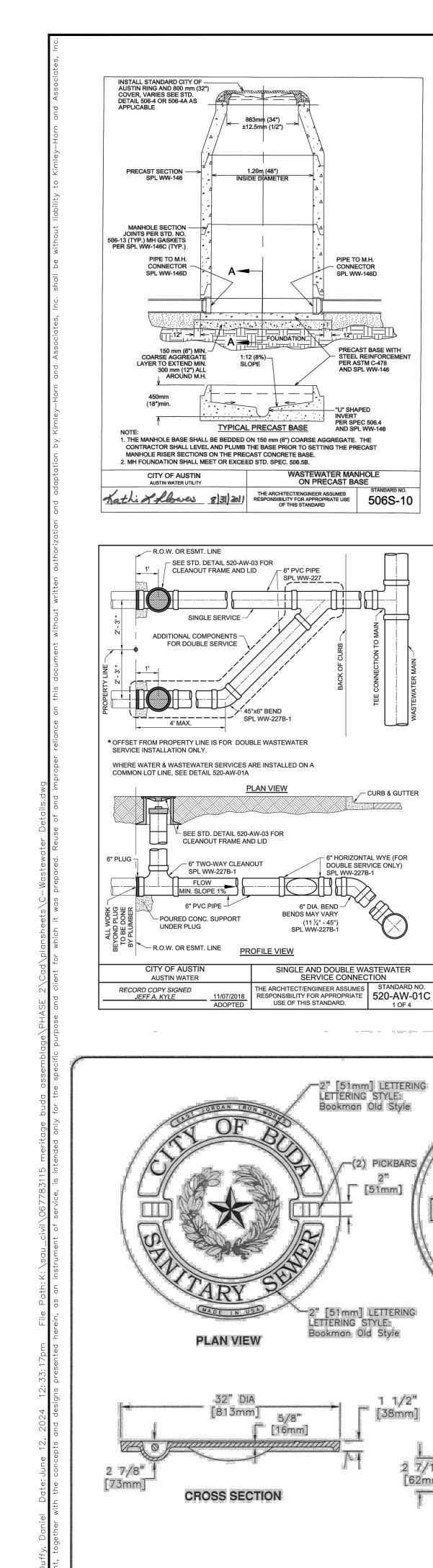
NEW PAVING SURFACE -

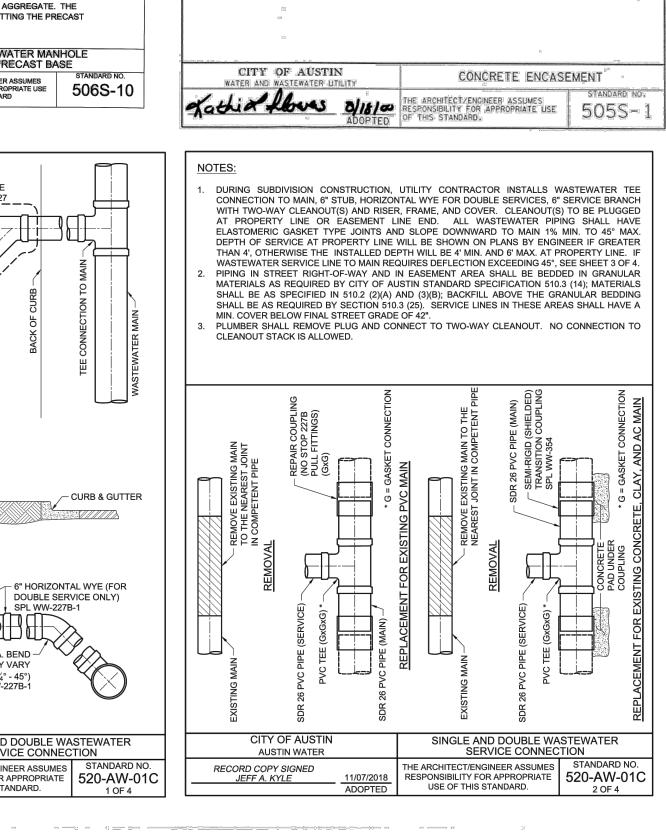
THIS DETAIL FOR USE ONLY ON CITY OF AUSTIN C.I.P. PROJECTS.

- 6" DI CLASS 350

FIRE HYDRANT

RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. 511-AW-02





SELECT BACKFILL -

UNDISTURBED EARTH -

CLASS: "D" CONGRETE

PROPOSED MAIN CENTER PIPE IN TRENCH

BY THE ENGINEER, SHALL BE INSTALLED TO PREVENT FLOTATION OF THE PIPE

SEE DRAWINGS FOR NUMBER

V-1432-3 DI 41432028 175 LBS

BOTTOM VIEW

PICKBAR DETAIL

R44mm

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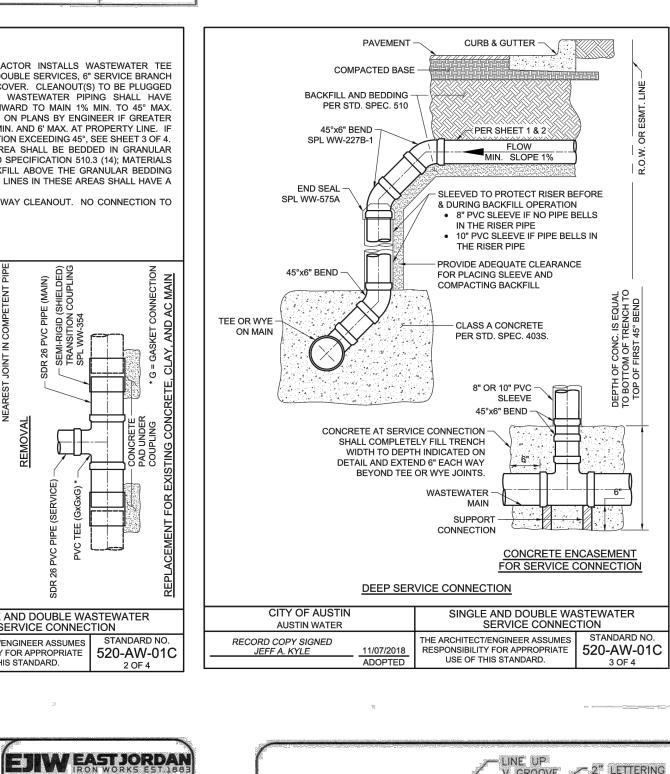
3 13/16"

[96mm]

H.R.S. ROD

MO/DA/YR X

CURB & GUTTER



MISCELLANEOUS REPAIRS AROUND UTILITY CASTINGS (UCM SECTION 5.8.3)

SECTION A-A

- HMAC PAVEMENT SURFACE (SEE NOTE 4)

__ SAW CUT

#5 (15M) REINFORCING BAR IF PC CONCRETE OPTION IS USED.

CASTING ADJUSTMENT

STRUCTURE COVER

PLAN OF STRUCTURE IN ROADWAY

1. IF PC CONCRETE IS USED AROUND THE MANHOLE, THE CONCRETE SHALL BE REINFORCED WITH A (15M) BARS AS SHOWN, THE CONCRETE SHALL EXTEND TO EDGE OF SAW CUT PAVEMENT EDGE.

2. REQUIREMENTS FOR NEW MANHOLE CONSTRUCTION AND MINOR MANHOLE ADJUSTMENTS IN NEW RECONSTRUCTION AND REPAYING PROJECTS ARE INCLUDED IN STANDARD NO. 508S-4 AND 508S-4.

3. REQUIREMENTS FOR WATER VALVE ADJUSTMENTS ARE INCLUDED IN STANDARD DETAILS 511S-13A, AND 511S-13B.

a) MIN. 2° (50 mm) HMAC TYPE "D' FOR TRENCH REPAIR IN LOCAL/RESIDENTIAL STREETS.
b) MIN. 3° (75 mm) HMAC TYPE "C" FOR TRENCH REPAIR IN COLLECTOR/ARTERIAL STREETS. SEE
ITEM 340S, SECTION 340S.4.

4. REPLACEMENT HIMAC SURFACE LAYER SHALL BE OF THE TYPE AND THICKNESS BASED ON FUNCTIONAL CLASSIFICATION.

MANHOLE SECTION JOINTS PER STD. NO.

PRECAST SECTION =

CITY OF AUSTIN

506-13 (TYP.) MH GASKET PER SPL WW-146C (TYP

PLACE 1st SECTION
IN FRESH CONCRETE

PORTLAND CEMENT CONCRETE OPTION - HMAC OPTION

MANHOLE, PULLBOX, OR OTHER SIMILAR STRUCTURE

+-----

PIPE SUPPORT (APPROPRIATE

AS SHOWN ON THE DRAWING

FOR TYPE AND SIZE OF PIP

800-626-4653

www.ejiw.com

MADE IN USA

NCR07-0023A

CATALOG NUMBER

V1432-3

COVER

LOAD RATING

HEAVY DUTY

COATING

UNDIPPED

ESTIMATED WEIGHT

COVER: 175 LBS 80kg

MATERIAL SPECIFICATION

COVER - DUCTILE IRON

OPEN AREA

N/A

DESIGNATES MACHINE SURFACE

REFERENCE INFORMATION

41432028

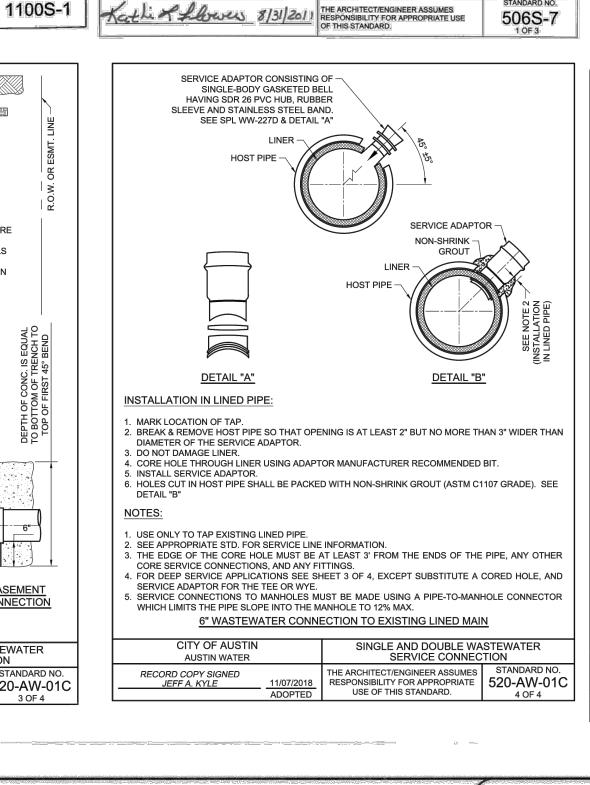
SMH

LAST 'REVISED

ASTM A536

01/08/07

PRODUCT NUMBER



INSTALLATION OF STANDARD CITY OF AUSTIN RING AND 800 mm (32") COVER VARIES SEE STD. DETAIL 506S-4 OR 506S-4A AS APPLICABLE.

INSIDE DIAMETER

SHAPED BY CONTRACTOR

MANHOLE SEAL SPL WW 146-A

CLASS A 20.7 MPa -(3000 P.S.I.) CONCRET

CAST IN PLACE BASE SHALL BE BEDDED ON 150mm (6") COARSE AGGREGATE. CONTRACTOR SHALL PLACE 1st SECTION OF MANHOLE PLUMB & LEVEL PRIOR TO SETTING ANY ADDITIONAL SECTIONS.

MANHOLE CAST IN PLACE BASE FOUNDATION SHALL MEET OR EXCEED STD. SPEC. 506.5B.

PIPE TO M.H. STD. SPL CONNECTOR WW 146D

150mm (6") ABOVE PIPE

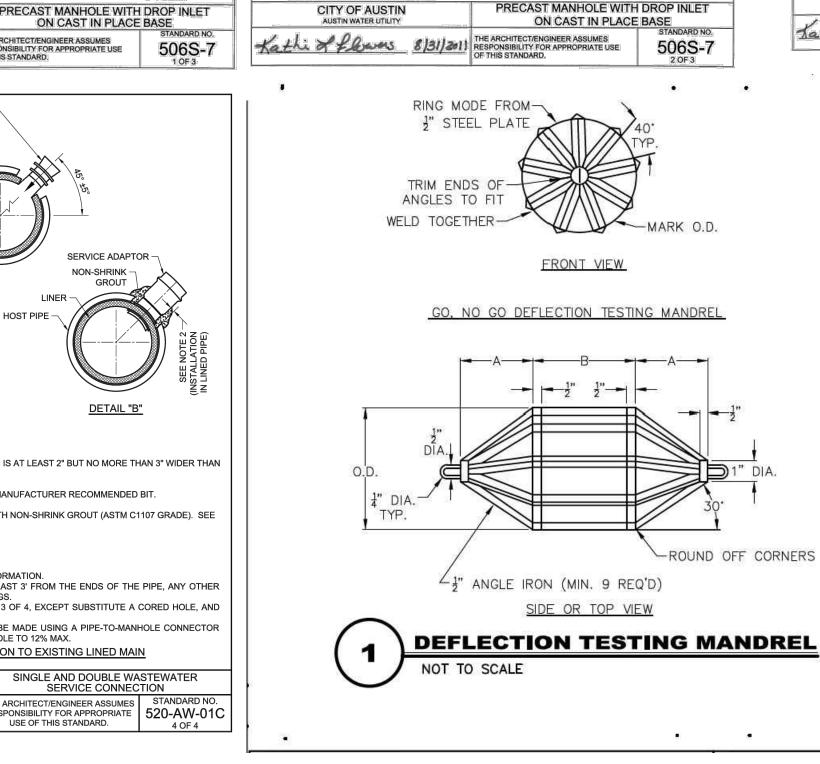
WYE MUST BE USED, "T" IS NOT ACCEPTABLE

(12") MIN.

O PIPE DIA, AND DIMENSIONS OF ITTINGS. (SEE PAGE

3 OF 3) MAX. DEPTH OF DROP (LID TO BASE) IS 3.1m (10'), FOR

DEEPER DEPTHS USE INTERNAL DROP IN A 1.5m (5') OR LARGER DIA. MH.



MANHOLE SEAL SPL

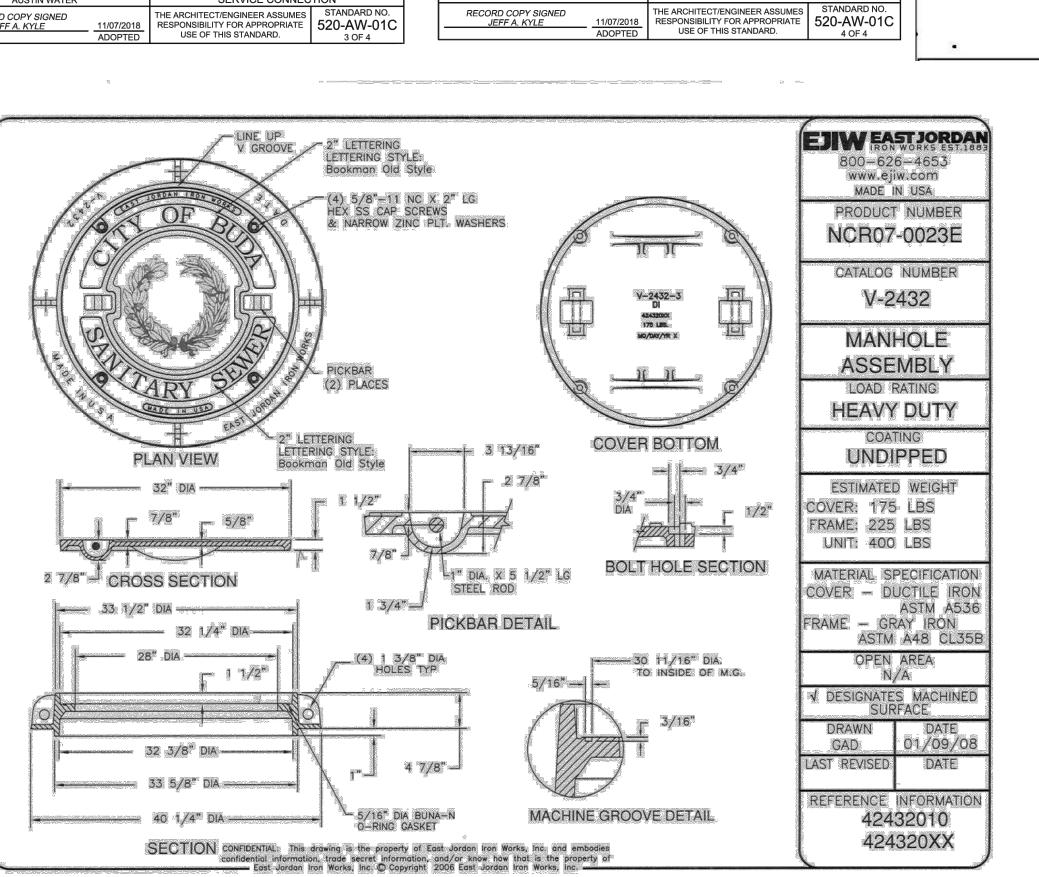
WW-146A OR SPL WW-146D FOR WALL PENETRATIONS

CONTRACTOR PER SPEC 506.4

*ALL PVC PIPE SHALL BE REMOVED

MANHOLE SEAL STD. SPL WW-146A IS ONLY FOR INSTALLATION ON EXISTING WW LINES WITHIN CAST IN PLACE BASE.

CONCRETE INVERT



	PLAN APPROVAL SHEET OF	
	APPLICATION DATE_	
APPROVED BY CO UNIFIED DEVELOI	OMMISSION ON N/A UNDER PMENT CODE.	R THE CITY OF BUDA
EXPIRATION DATI	ECASE MANAC	GER
	Correction 1	
	Correction 2	
Rev. 3	Correction 3	
	corded by the Project Expiration Date, if app with the Code current at the time of filing, an ice of construction (if a building permit is no.	nd all required Building

STANDARD DROP CONNECTIONS MINIMUM DIMENSIONS (FOR INFORMATION ONLY)

(15")

PRECAST MANHOLE WITH DROP INLET

ON CAST IN PLACE BASE
STANDARD NO.

506S-7

04/9/2024

ALEJANDRO E. GRANADOS F

130084

CITY OF AUSTIN

OF 90