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

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

Technical Review

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

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

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: Cascade Subdivision				2. Regulated Entity No.: RN111868394				
3. Customer Name: Domain Timberlake Multistate 2 LLC				4. Customer No.: CN606350627				
5. Project Type: (Please circle/check one)	New	Modification		Extension		Exception		
6. Plan Type: (Please circle/check one)	WPAP CZP	SCS UST AST		EXP	EXT	Technical Clarification	Optional Enhanced Measures	
7. Land Use: (Please circle/check one)	Residential	Non-residential			8. Sit	e (acres):	31.40 Ac	
9. Application Fee:	\$8,000	10. Permanent BM			BMP(s	s):	Batch Detentio Strips	n Pond & Vegetative Filter
11. SCS (Linear Ft.):	N/A	12. AST/UST (No. 7			o. Tar	ıks):	N/A	
13. County:	Williamson	14. Watershed:				North Fork San Gabriel		

Application Distribution

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

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

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

Austin Region					
County:	Hays	Travis	Williamson		
Original (1 req.)	_	_	<u>X</u>		
Region (1 req.)	_	_	<u>X</u>		
County(ies)		_	_ <u>X</u> _		
Groundwater Conservation District(s)	Edwards Aquifer AuthorityBarton Springs/ Edwards AquiferHays TrinityPlum Creek	Barton Springs/ Edwards Aquifer	NA		
City(ies) Jurisdiction	AustinBudaDripping SpringsKyleMountain CitySan MarcosWimberleyWoodcreek	AustinBee CavePflugervilleRollingwoodRound RockSunset ValleyWest Lake Hills	AustinCedar ParkFlorenceGeorgetownJerrellLeanderLiberty HillPflugervilleRound Rock		

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

I certify that to the best of my knowledge, that the ap	
application is hereby submitted to TCEQ for adminis	strative review and technical review.
Nathan Kelly, P.E.	
Print Name of Customer/Authorized Agent	
11.415	0/00/0005
Mall	8/28/2025
Signature of Customer/Authorized Agent	Date

Date(s)Reviewed:	Date Adr	ninistratively Complete:	
Received From:	Correct Number of Copies:		
Received By:	Distribut	ion Date:	
EAPP File Number:	Complex	:	
Admin. Review(s) (No.):	No. AR R	tounds:	
Delinquent Fees (Y/N):	Review Time Spent:		
Lat./Long. Verified:	SOS Cust	comer Verification:	
Agent Authorization Complete/Notarized (Y/N):	Fee	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):	

Contributing Zone Plan Application

Texas Commission on Environmental Quality

for Regulated Activities on the Contributing Zone to the Edwards Aquifer and Relating to 30 TAC §213.24(1), Effective June 1, 1999

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

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

Signature

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

	Print Name of Customer/Agent:	Nathan Kelly, P.E.
--	-------------------------------	--------------------

Date: 8/28/2025

Signature of Customer/Agent:

Regulated Entity Name: Cascade Subdivision

Project Information

1. County: Williamson

2. Stream Basin: North Fork San Gabriel

3. Groundwater Conservation District (if applicable): None

4. Customer (Applicant):

Contact Person: <u>Adam Boenig</u>
Entity: <u>Domain Timberlake Multistate 2 LLC</u>
Mailing Address: <u>6720 Vaught Ranch Rd, Ste 200</u>

 City, State: Austin, TX
 Zip: 78730

 Telephone: (512) 334-6775
 Fax: _____

Email Address: AdamB@brohnhomes.com

5.	Agent/Representative (If any):
	Contact Person: Nathan Kelly, P.E. Entity: Gray Civil, Inc. Mailing Address: 8834 N. Capital of Texas Hwy, Ste 140 City, State: Austin, TX Telephone: (512) 452-0371 Email Address: NKelly@gray-civil.com
6.	Project Location:
	 ☐ The project site is located inside the city limits of ☐ The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of ☐ The project site is not located within any city's limits or ETJ.
7.	The location of the project site is described below. Sufficient detail and clarity has been provided so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.
	Approximately 1 mile Southwest of the US HWY 183 and CR 207 intersection in Williamson County, TX.
8.	Attachment A - Road Map. A road map showing directions to and the location of the project site is attached. The map clearly shows the boundary of the project site.
9.	Attachment B - USGS Quadrangle Map. A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') is attached. The map(s) clearly show:
	✓ Project site boundaries.✓ USGS Quadrangle Name(s).
10	Attachment C - Project Narrative. A detailed narrative description of the proposed project is attached. The project description is consistent throughout the application and contains, at a minimum, the following details:
	 Area of the site ○ Offsite areas ○ Impervious cover ○ Permanent BMP(s) ○ Proposed site use ○ Site history ○ Previous development ○ Area(s) to be demolished
11	Existing project site conditions are noted below:
	Existing commercial site Existing industrial site

 Existing residential site Existing paved and/or unpaved roads Undeveloped (Cleared) Undeveloped (Undisturbed/Not cleared) Other:
12. The type of project is:
Residential: # of Lots: <u>155</u> Residential: # of Living Unit Equivalents: Commercial Industrial
Other: 1 - Drainage/WQ Lot
13. Total project area (size of site): <u>31.40</u> Acres
Total disturbed area: 29.63 Acres
14. Estimated projected population: <u>543</u>

Table 1 - Impervious Cover

below:

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	604,500	÷ 43,560 =	13.88
Parking	0	÷ 43,560 =	0.00
Other paved surfaces	238,028	÷ 43,560 =	5.46
Total Impervious Cover	842,528	÷ 43,560 =	19.35

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

Total Impervious Cover $\underline{19.35}$ ÷ Total Acreage $\underline{31.40}$ X 100 = $\underline{61.62}$ % Impervious Cover

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

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

For Road Projects Only

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

\bigvee	NI/A
\sim	IN/A

18.	Type of project:
	 TXDOT road project. County road or roads built to county specifications. City thoroughfare or roads to be dedicated to a municipality. Street or road providing access to private driveways.
19.	Type of pavement or road surface to be used:
	Concrete Asphaltic concrete pavement Other:
20.	Right of Way (R.O.W.):
	Length of R.O.W.: feet. Width of R.O.W.: feet. $L \times W = Ft^2 \div 43,560 Ft^2/Acre = acres.$
21.	Pavement Area:
	Length of pavement area: feet. Width of pavement area: feet. L x W = $Ft^2 \div 43,560 \ Ft^2/Acre = acres.$ Pavement area acres \div R.O.W. area acres x $100 = \%$ impervious cover.
22.	A rest stop will be included in this project.
	A rest stop will not be included in this project.
23.	Maintenance and repair of existing roadways that do not require approval from the TCEQ Executive Director. Modifications to existing roadways such as widening roads/adding shoulders totaling more than one-half (1/2) the width of one (1) existing lane require prior approval from the TCEQ.
St	ormwater to be generated by the Proposed Project
24.	Attachment E - Volume and Character of Stormwater. A detailed description of the volume (quantity) and character (quality) of the stormwater runoff which is expected to occur from the proposed project is attached. The estimates of stormwater runoff quality and quantity are based on area and type of impervious cover. Include the runof coefficient of the site for both pre-construction and post-construction conditions.
W	astewater to be generated by the Proposed Project
25.	 Wastewater is to be discharged in the contributing zone. Requirements under 30 TAC §213.6(c) relating to Wastewater Treatment and Disposal Systems have been satisfied. N/A

		 To	 otal x 1.5 = Gallons
5			
4			
3			
2			
AST Number	Size (Gallons)	Substance to be Stored	Tank Material
Table 2 - Tanks and	Substance Storage	1	T
27. Tanks and substanc	e stored:		
⊠n/A			
greater than or equal t	to 500 gallons.		
Gallons Complete questions 27	' - 33 if this project includ		-
	oveground Stor	rage Tanks(AS)	Ts) ≥ 500
□ N/A			
Existing. Proposed.			
The sewage collecti	on System (Sewer Lines) on system will convey th Plant. The treatment fac	ne wastewater to the $ \underline{W} $	Varren Tract Wastewater
285.	nd installed by a licensec	·	with 30 TAC Chapter
Each lot in the sylvanian Each lot in the sy	his project/development stem will be designed by	is at least one (1) acre a licensed professional	engineer or registered
licensing au the land is s the requirer	thority's (authorized age uitable for the use of pri	nt) written approval is a vate sewage facilities ar e facilities as specified un	nttached. It states that
	F - Suitability Letter fro to treat and dispose of t	_	n on-site sewage facility
On-Site Sewage	Facility (OSSF/Septic Tar	nk):	
26. Wastewater will be	disposed of by:		

5 of 11

•	stem, the containm umulative storage c		ed to capture one an ns.	d one-half (1 1/2)
for providin		nment are propose	ent Methods. Alterr d. Specifications sho	
	ons and capacity of o		ure(s):	
Length (L)(Ft.)	ary Containment Width(W)(Ft.)	Height (H)(Ft.)	L x W x H = (Ft3)	Gallons
				otal: Gallons
Some of the structure. The piping v The piping v The contain	e piping to dispense will be aboveground will be underground ment area must be	rs or equipment wi constructed of and	side the containmen Il extend outside the I in a material imperv ment structure will b	containment vious to the
	t H - AST Containme nt structure is attach		ings. A scaled drawi following:	ing of the
Internal Tanks cle	, ,		wall and floor thickn collection of any sp	•
storage tan			for collection and recontrolled drainage a	
	vent of a spill, any s 4 hours of the spill	_	oved from the contai operly.	nment structure

In the event of a spill, any spillage will be drained from the containment structure through a drain and valve within 24 hours of the spill and disposed of properly. The drain and valve system are shown in detail on the scaled drawing.
Site Plan Requirements
tems 34 - 46 must be included on the Site Plan.
34. \boxtimes The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = <u>200</u> '.
35. 100-year floodplain boundaries:
 Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled. No part of the project site is located within the 100-year floodplain. The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA FIRM Panel 48491C0235F, dated December 20, 2019
36. The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Lots, recreation centers, buildings, roads, etc. are shown on the site plan.
The layout of the development is shown with existing contours at appropriate, but not greater than ten-foot contour intervals. Finished topographic contours will not differ from the existing topographic configuration and are not shown. Lots, recreation centers, buildings, roads, etc. are shown on the site plan.
37. $igotimes$ A drainage plan showing all paths of drainage from the site to surface streams.
38. $igotimes$ The drainage patterns and approximate slopes anticipated after major grading activities.
39. $igotimes$ Areas of soil disturbance and areas which will not be disturbed.
40. \(\simega\) Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
11. $igotimes$ Locations where soil stabilization practices are expected to occur.
42. Surface waters (including wetlands).
⊠ N/A
13. Locations where stormwater discharges to surface water.
There will be no discharges to surface water.
14. Temporary aboveground storage tank facilities.
\boxtimes Temporary aboveground storage tank facilities will not be located on this site.

45. 🗌	Permanent aboveground storage tank facilities.
\boxtimes	Permanent aboveground storage tank facilities will not be located on this site.
46. 🗵	Legal boundaries of the site are shown.
Peri	manent Best Management Practices (BMPs)
Practi	ces and measures that will be used during and after construction is completed.
47. 🔀	Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.
- 48. ⊠	N/A These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.
	 The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site. A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is:
] N/A
49. 🔀	Owners must insure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.
	N/A
les pe pe wh Ap	here a site is used for low density single-family residential development and has 20 % or as impervious cover, other permanent BMPs are not required. This exemption from armanent BMPs must be recorded in the county deed records, with a notice that if the creent impervious cover increases above 20% or land use changes, the exemption for the nole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to oplication Processing and Approval), may no longer apply and the property owner must outify 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.

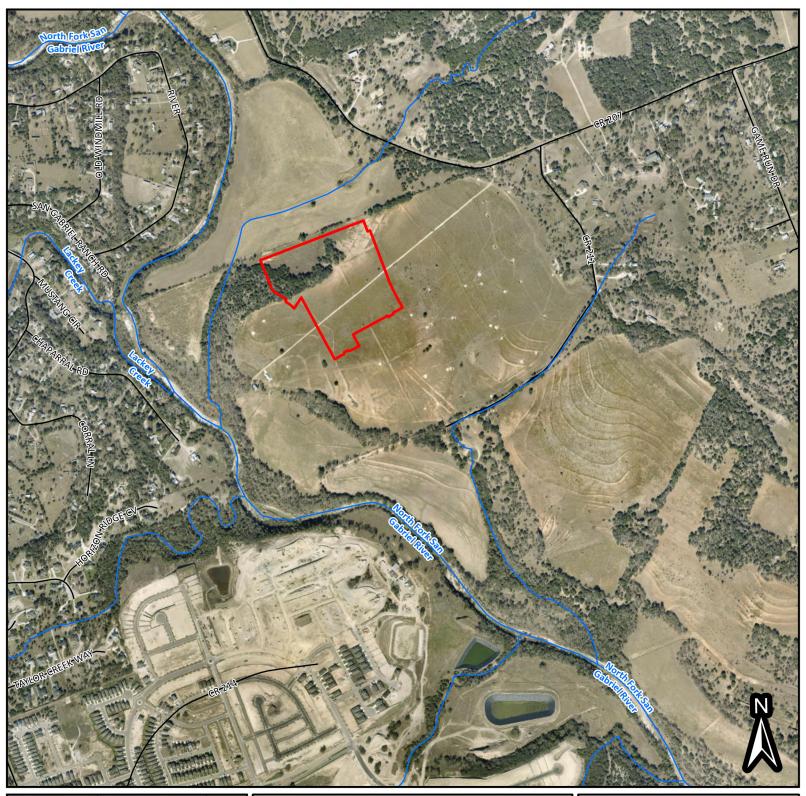
fan imp rec inc the and	nily residential developments, schools, or small business sites where 20% or less pervious cover is used at the site. This exemption from permanent BMPs must be corded in the county deed records, with a notice that if the percent impervious cover reases above 20% or land use changes, the exemption for the whole site as described in a property boundaries required by 30 TAC §213.4(g) (relating to Application Processing d Approval), may no longer apply and the property owner must notify the appropriate gional office of these changes.
	 Attachment I - 20% or Less Impervious Cover Waiver. The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached. □ The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover. □ The site will not be used for multi-family residential developments, schools, or small business sites.
52. 🗌	Attachment J - BMPs for Upgradient Stormwater.
	 A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached. No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached. Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.
53. 🗌	Attachment K - BMPs for On-site Stormwater.
	 A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is attached. Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.
54. 🔀	Attachment L - BMPs for Surface Streams . A description of the BMPs and measures that prevent pollutants from entering surface streams is attached.
	N/A
55. 🔀	Attachment M - Construction Plans . Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. Construction plans for the proposed permanent BMPs and measures are

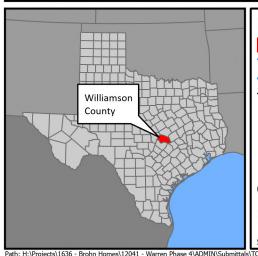
	attached and include: Design calculations, TCEQ Construction Notes, all proposed structural plans and specifications, and appropriate details.
	N/A
56. 🔀	Attachment N - Inspection, Maintenance, Repair and Retrofit Plan. A site and BMP specific plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan fulfills all of the following:
	 ✓ Prepared and certified by the engineer designing the permanent BMPs and measures ✓ Signed by the owner or responsible party
	 Outlines specific procedures for documenting inspections, maintenance, repairs, and, if necessary, retrofit. Contains a discussion of record keeping procedures
	N/A
57.	Attachment O - Pilot-Scale Field Testing Plan . Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.
\boxtimes	N/A
58.	Attachment P - Measures for Minimizing Surface Stream Contamination. A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that result in water quality degradation.
	N/A
-	consibility for Maintenance of Permanent BMPs and sures after Construction is Complete.
59.	The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.
60. 🔀	A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development,

or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

Administrative Information

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





Legend

Cascade Ph 4

Stream (NHD) Waterbody (NWI)

- Roadway (TxDOT)

1,000 2,000 500 US Feet 1 inch: 1,000 feet

Sources: NHD (2023), NWI (2023), TxDOT (2024)

Cascade Phase 4

Project Vicinity Map

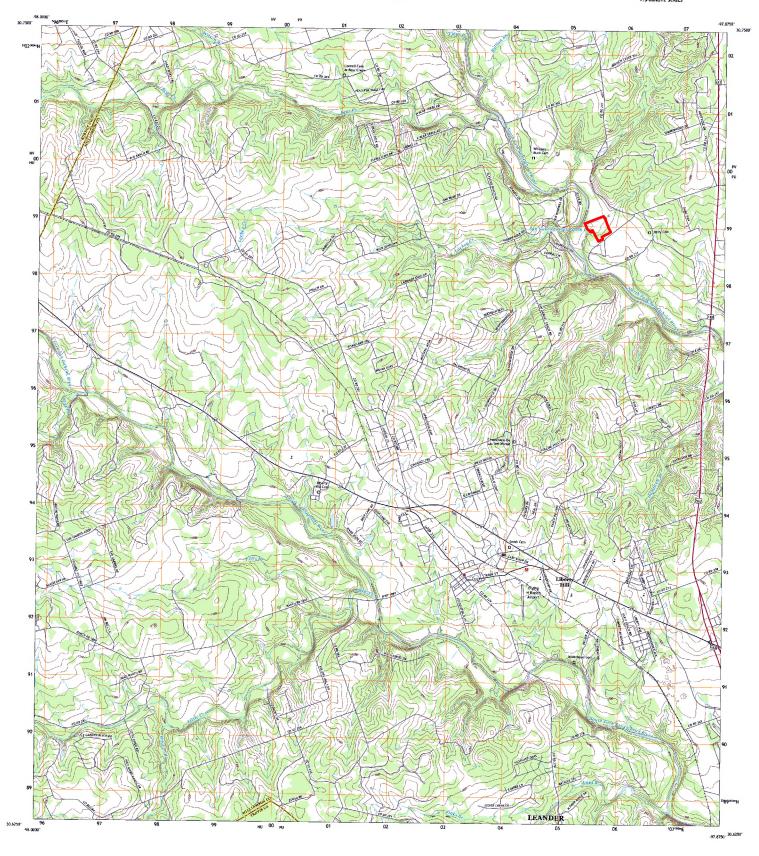
Williamson County, Texas

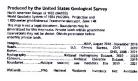


8834 North Capital of Texas Highway Suite 140, Austin, Texas 78759 Telephone: 512.452.9933

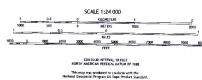
Aug 2025

Project Number: 12041













Attachment C - Project Narrative

Area of Site

Cascade Phase 4 is a 25.75-acre tract of land (phase plat boundary) in Williamson County, Texas. The site is located immediately north of Cascade Phases 2 & 3, approximately 1 mile southwest of the North US Highway 183 and County Road 207 intersection.

Offsite Areas

The Cascade Phase 4 contributing zone plan is comprised of a total of 31.40 acres. This overall area incorporates a portion of Phase 3, being previously treated by a grassy swale and area within future phases which will drain to the proposed Phase 3 pond. Excess spoils from proposed grading and utility installation within Phase 4 will be placed within future phases, ensuring not to alter existing drainage patterns. All runoff resulting from these areas is accounted for in the Drainage and TSS removal calculations.

Impervious Cover

There is no existing impervious cover present within the project site. In total, 29.63 acres will be disturbed by regulated activities (grading, utility installation, road construction, and home construction) and will be accounted for within proposed erosion controls. Phase 4 BMPs will account for and treat 19.35 acres of proposed impervious cover, composed of both residential lots and the associated street and paving improvements. In addition to the Phase 4 BMP's providing treatment for the proposed impervious cover, portions of the Phase 4 construction will drain to the approved Phase 2 (Pond B) and Phase 3 (Pond C) ponds. Similarly to the Pond D design, which accounts for future phases at full buildout, The Phase 2 and 3 ponds were designed to account for the impervious cover from Phase 4 that drains to them.

Permanent BMPs

Three (3) total permanent BMPs are proposed for this project: one (1) Batch Detention Pond and two (2) Vegetative Filter Strip.

Batch Detention Pond D receives, at final build-out, 30.57 of runoff with 18.83 acres of impervious cover. At final build-out the runoff to Pond D will require a treatment of 16,385 pounds, and due to the additional treatment provided by the vegetated filter strips, 16,345 pounds is provided. This results in a required water quality volume of 75,942 cubic feet.

Vegetative Filter Strip 5 receives 0.50 acres of runoff, with 0.31 acres of proposed impervious cover. This results in a required TSS removal of 270 pounds. Vegetative Filter Strip 5 provides a total of 294 pounds of proposed treatment.

Vegetative Filter Strip 6 receives 0.33 acres of runoff, with 0.21 acres of proposed impervious cover. This results in a required TSS removal of 180 pounds. Vegetative Filter Strip 6 provides a total of 196 pounds of proposed treatment.

There are no proposed areas with impervious cover in Phase 4 that will flow from the site untreated.

Table 1 shows a summary of the TSS removal calculations. Details and calculations for the proposed BMPs can also be found in the attached construction plans.

Site History, Previous Development & Areas to be Demolished

No significant construction has occurred on site.

Phase 4 of the Cascade Tract is located within the Edward's Aquifer Contributing Zone. A portion of Phase 4 is located within the FEMA 100-year Flood Plain in accordance with Flood Insurance Rate Map (FIRM) Panel No. 48491C0235F, effective date December 20, 2019.

Table 1: TSS Removal Calculations Summary

Basin	Runoff Area (AC)	Impervious Area (AC)	TSS REQ. (LB)	REQ. VOLUME (CF)	PROVIDED VOLUME (CF)	TSS REMOVED (LB)
Pond D	30.57	18.83	16,385	75,942	76,086	16,345
VFS 5	0.5	0.31	270	-	-	294
VFS 6	0.33	0.21	180	-	-	196
Total	31.4	19.35	16,835			16,835

Attachment D - Factors Affecting Surface Water Quality

Multiple factors have the potential of affecting surface water quality during construction. These include: oil, grease, gas, transmission fluids, and/or other vehicular fluids, as well as shifts in sediment that will occur during excavation and fill operations. Upon completion of construction, normal traffic on the site could be responsible for many of these same pollutants, as well as everyday activities, such as car washing and lawn watering.

Attachment E – Volume and Character of Stormwater

A majority of the runoff from Phase 4 drains to on-site BMPs where it will be treated. The total drainage area accounted for by Phase 4 BMPs is 31.40 acres of runoff with 19.35 acres of impervious cover. Resultant runoff is conveyed to one (1) proposed batch detention pond via proposed storm system improvements, and two (2) proposed vegetative filter strip. BMPs shown in the construction plans have been adequately sized to account for all proposed flows, including those from future phases.

In addition to the proposed BMPs, part of the impervious cover proposed within Phase 4 will drain to previously approved BMPs. The existing BMPs (batch detention ponds) within Phases 2 and 3 were designed to include and treat the contributing flows from Phase 4.

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

Attachment F – Suitability Letter from Authorized Agent

Not applicable to this project.

Attachment G – Alternative Secondary Containment Methods

Not applicable to this project.

Attachment H – AST Containment Structure Drawings

Not applicable to this project.

Attachment I -20% or Less Impervious Cover Declaration Not applicable to this project.

Attachment J – BMPs for Upgradient Stormwater

Upgradient stormwater can be characterized as runoff from previous and future phases of construction that are to be treated by the proposed BMPs in Phase 4. The upgradient stormwater is being captured by storm infrastructure to route the runoff to Pond D.

Attachment K – BMPs for On-Site Stormwater

On-site stormwater will be treated by three (3) proposed permanent BMPs, in addition to the existing BMPs (Pond B and C) which account for all proposed impervious cover on the site, as well as additional impervious cover from the future Cascade Tract developments. A majority of the TSS removal will occur by way of one (1) Batch Detention Pond, which is sized to account for future phase runoff inclusions. There will also be two (2) vegetative filter strips that account for additional pollutant treatment. TSS removal calculations for each BMP are shown below. The locations and copies of these calculations for each individual BMP are also shown in the attached construction plans.

Batch Detention Pond D TSS Calculations (Final Condition)

TSS Remov	al Calculations 04-20-2009			Project Name:	Cascade F	Ph 4	
	un culculudino d / 20 2000			Date Prepared:			
	nformation is provided for cells with a red triang				cursor ove	r the cell.	
	blue indicate location of instructions in the Technica	I Guidance	Manual - Ro	G-348.			
	shown in red are data entry fields.						
naracters	shown in black (Bold) are calculated fields. Cha	anges to th	ese tielas v	will remove the e	quations us	sea in the spre	adsnee
The Require	ed Load Reduction for the total project:	Calculations t	from RG-348		Pages 3-27 to	3-30	
. The Require	a Loud Reduction for the total project.	Carcarations			r agoo o zr t	0.00	
	Page 3-29 Equation 3.3: L _M =	27.2(A _N x P)					
where:				Iting from the propose	d development	= 80% of increase	d load
		Net increase Average annu		area for the project			
	F-	Average armu	ai precipitatio	ii, iliches			
Site Data:	Determine Required Load Removal Based on the Entire Project						
	County = Total project area included in plan * =	Williamson 31.40	acres				
P	redevelopment impervious area within the limits of the plan * =		acres				
Total po	st-development impervious area within the limits of the plan* =		acres				
	Total post-development impervious cover fraction * = P =	0.62 32	inches				
	F-	32					
	L _M TOTAL PROJECT =	16842	lbs.				
The values e	entered in these fields should be for the total project area						
Nun	nber of drainage basins / outfalls areas leaving the plan area =	3					
Drainage Ba	sin Parameters (This information should be provided for	each basin):					
	Drainage Basin/Outfall Area No. =	POND D	•				
	_						
Drodo	Total drainage basin/outfall area = velopment impervious area within drainage basin/outfall area =		acres				
	velopment impervious area within drainage basin/outian area =		acres				
	opment impervious fraction within drainage basin/outfall area =						
	L _{M THIS BASIN} =	16385	lbs.				
Indicate the	proposed BMP Code for this basin.						
. marcate are	proposed biiii oode for tills basiii.						
	Proposed BMP =						
Calculate M	Removal efficiency = aximum TSS Load Removed (L_R) for this Drainage Basin		percent ted BMP Tvn	Α			
- Juliouruto III	aximum 100 2000 (Cimovou (Eg) 101 uno Bramago 2001)	27 110 00100		<u> </u>			
	RG-348 Page 3-33 Equation 3.7: L _R =	(BMP efficien	cy) x P x (A _I	x 34.6 + A _P x 0.54)			
where:	-			in the BMP catchme			
				n the BMP catchment the BMP catchment a			
				s catchment area by t		RMP	
	L _K -	TOO LOGG TO	noved nom th	s catoriment area by t	no proposed E	71411	
	A _C =	30.57	acres				
	A ₁ =		acres				
	A _P =	11.75	acres				
	L _R =	19152	lbs				
. Calculate Fr	raction of Annual Runoff to Treat the drainage basin / out	fall area	1				
	D 25 H	40	No.				
	Desired L _{M THIS BASIN} =	16345	lbs.				
	F =	0.85	+				
. Calculate Ca	apture Volume required by the BMP Type for this drainag	ge basin / out	fall area.	Calculations from RG	-348	Pages 3-34 to 3-36	3
	Rainfall Depth =		inches				
	Post Development Runoff Coefficient =	0.43	andels for a				
	On-site Water Quality Volume =	63285	cubic feet				
		Calculations t	rom RG-348	Pages 3-36 to 3-37			
	Off-site area draining to BMP =	0.00	acres				
	Off-site Impervious cover draining to BMP =		acres				
	Impervious fraction of off-site area =	0					
	Off-site Runoff Coefficient = Off-site Water Quality Volume =		cubic feet				-
	Oil-Site Water Quality Volume =	U	ouble leet				أتحي
	Storage for Sediment =	12657					21
		75942	cubic feet				- 1

NATHAN D. KELLY

141451

CENSES

108/28/20

Vegetative Filter Strip 5 TSS Calculations

<u>e Require</u>	d 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 resulting from	the proposed development = 80% of inc	reased load
	A _N =	Net increase i	n impervious area for th	ne project	
	P =	Average annua	al precipitation, inches		
Site Data:	Determine Required Load Removal Based on the Entire Project				
	County =	Williamson			
	Total project area included in plan *=	31.40	acres		
Р	redevelopment impervious area within the limits of the plan * =	0.00	acres		
Total po	st-development impervious area within the limits of the plan* =	19.35	acres		
	Total post-development impervious cover fraction * =	0.62			
	P =	32	inches		
	L _M TOTAL PROJECT =	16842	lbs.		
e values e	entered in these fields should be for the total project area				
Nur	nber of drainage basins / outfalls areas leaving the plan area =	3			
ainage Ba	sin Parameters (This information should be provided for	each basin):			
	Drainage Basin/Outfall Area No. =	VFS 5			
	Total drainage basin/outfall area =	0.50	acres		
Drode	velopment impervious area within drainage basin/outiali area =	0.00	acres		
	velopment impervious area within drainage basin/outial area =		acres		
	opment impervious fraction within drainage basin/outfall area =	0.63	aurus		
	opinion importious naction within dramage basil/outlan alea -	0.00			



Vegetative Filter 6 TSS Calculations

e Require	ed Load Reduction for the total project:	Calculations fr	om RG-348	Page	es 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 resulting fron	n the proposed dev	elopment = 80% c	of increased load
	A _N =	Net increase i	n impervious area for t	he project		
			al precipitation, inches			
Site Data:	Determine Required Load Removal Based on the Entire Project	t				
	County =	Williamson	•			
	Total project area included in plan * =	31.40	acres			
Р	redevelopment impervious area within the limits of the plan * =	0.00	acres			
Total po	st-development impervious area within the limits of the plan* =	19.35	acres			
	Total post-development impervious cover fraction * =	0.62				
	P =	32	inches			
	L _M TOTAL PROJECT =	16842	lbs.			
e values e	entered in these fields should be for the total project area					
Nur	mber of drainage basins / outfalls areas leaving the plan area =	3				
ainage Ba	asin Parameters (This information should be provided for	each basin):				
	Drainage Basin/Outfall Area No. =	VFS 6				
	Total drainage basin/outfall area =	0.33	acres			
Prede	evelopment impervious area within drainage basin/outfall area =	0.00	acres			
	evelopment impervious area within drainage basin/outfall area =	0.21	acres			
	opment impervious fraction within drainage basin/outfall area =	0.62				
	L _{M THIS BASIN} =	180	lbs.			



Attachment L – BMPs for Surface Streams

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

Attachment M - Construction Plans

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

DEVELOPER:

CLAYTON PROPERTIES GROUP, INC. DBA BROHN HOMES 6720 VAUGHT RANCH ROAD SUITE 200 AUSTIN, TX 78730

ENGINEER:

(512) 320-8833

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

GENERAL NOTES:

 THIS PROJECT IS LOCATED WITHIN THE NORTH FORK SAN GABRIEL RIVER WATERSHED.

- 2. THIS PROJECT IS LOCATED WITHIN THE EDWARDS AQUIFER CONTRIBUTING ZONE.
- 3. PORTION OF THIS PLAN IS ENCROACHED BY SPECIAL FLOOD HAZARD AREAS INUNDATED BY THE 1% ANNUAL CHANCE FLOOD AS IDENTIFIED BY THE U.S. FEDERAL EMERGENCY MANAGEMENT AGENCY BOUNDARY MAP (FLOOD INSURANCE RATE MAP) COMMUNITY PANEL NUMBER 48491C0235F, EFFECTIVE DATE DECEMBER 20, 2019 FOR WILLIAMSON COUNTY TEXAS.
- 4. THE CONTRACTOR SHALL OBTAIN A "NOTICE OF PROPOSED INSTALLATION OF UTILITY LINE" PERMIT FROM WILLIAMSON COUNTY FOR ANY WORK PERFORMED IN THE EXISTING COUNTY RIGHT-OF-WAY (DRIVEWAY APRON, WATER MAIN TIE-IN, ETC.) THIS PERMIT APPLICATION WILL REQUIRE A LIABILITY AGREEMENT, A CONSTRUCTION COST ESTIMATE FOR WORK WITHIN THE RIGHT-OF-WAY INCLUDING PAVEMENT REPAIR (IF NEEDED), A PERFORMANCE BOND, CONSTRUCTION PLANS AND, IF NECESSARY, A TRAFFIC CONTROL PLAN. AN INSPECTION FEE, AND A PRE-CONSTRUCTION MEETING MAY ALSO BE REQUIRED, DEPENDING ON THE SCOPE OF WORK. THE PERMIT WILL BE REVIEWED AND APPROVED BY THE COUNTY ENGINEER, AND MUST ALSO BE APPROVED BY THE WILLIAMSON COUNTY COMMISSIONERS COURT IF ANY ROAD CLOSURE IS INVOLVED."

BEARING BASIS:

BEARING ORIENTATION IS BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM,
CENTRAL ZONE 4203, NAD83. THE COMBINED SCALE FACTOR = 1.0001467900

BENCHMARKS:

TBM 70 - COTTON SPINDLE SET IN ASPHALT W/ WASHER STAMPED "BGE TRAV".

GRID N. 10,234,619.48 GRID E. 3,064,292.74

ELEV. 953.24 FEET (NAVD 88 DATUM)

TBM 71 - 1/2" IRON ROD SET W/ CAP STAMPED "BGE TRAV".

GRID N. 10,234,419.84 GRID E. 3,064,044.83

ELEV. 943.18 FEET (NAVD 88 DATUM)

TBM 72 - 1/2" IRON ROD SET W/ CAP STAMPED "BGE TRAV". GRID N. 10,233,104.01

GRID E. 3,062,373.79

ELEV. 907.73 FEET (NAVD 88 DATUM)

REVIEWED BY:

REVIEWED FOR COMPLIANCE WITH COUNTY REQUIREMENTS (WCSR 2021B)

THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

WILLIAMSON COUNTY	DATE
GEORGETOWN UTILITY SYSTEMS	DATE
WILLIAMSON COUNTY MUD 39	DATE
REVIEW OF THE PLANS BY THE DISTRICT IS LIMITED TO WATER, W	
DRAINAGE (AND ROADS) AND DOES NOT INDICATE A REVIEW OF THE DESIGN FOR THE FACILITIES. IN APPROVING THESE PLANS, THE DI	

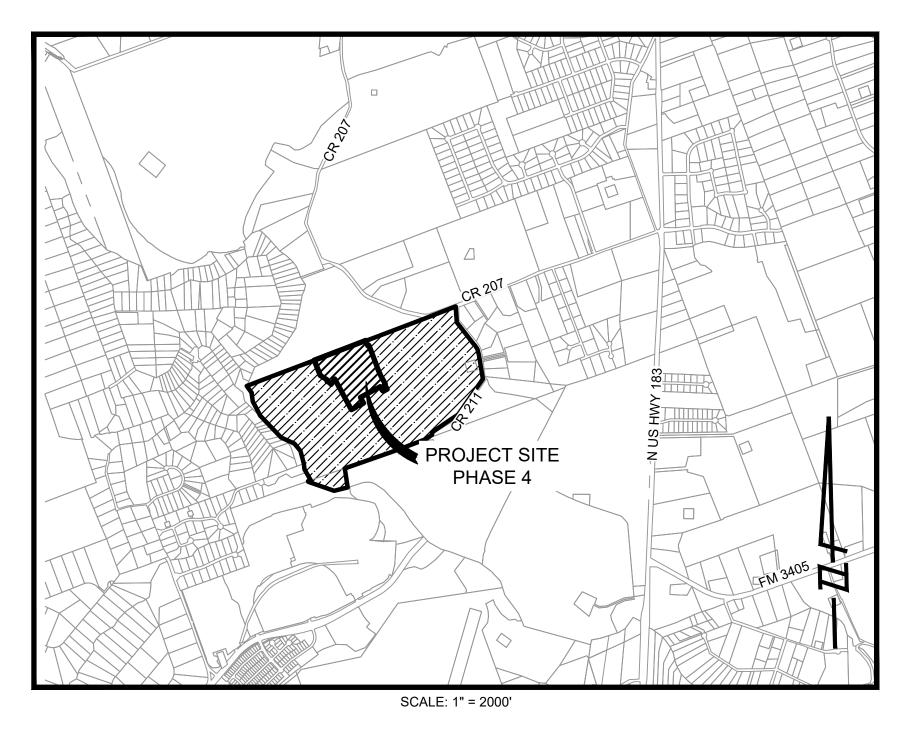
CONSTRUCTION PLANS FOR

CASCADE TRACT PHASE 4

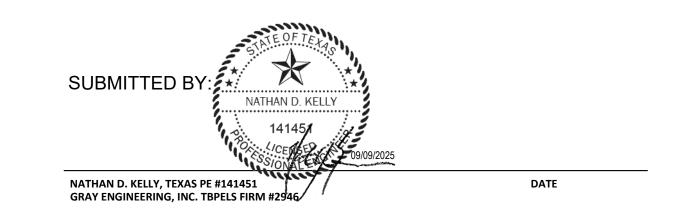
"PAVING, DRAINAGE, WATER & WASTEWATER IMPROVEMENTS"

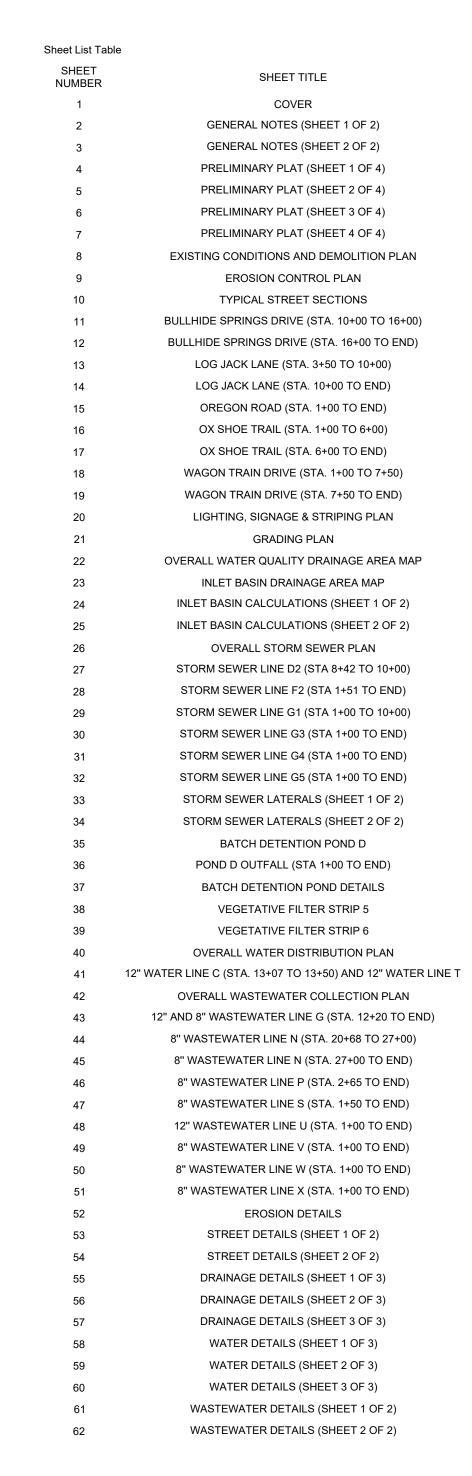
WILLIAMSON COUNTY, TX

AUGUST 2025



NO.	DATE	SHEETS	REVISION DESCRIPTION







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

2. ANY EXISTING UTILITIES, PAVEMENT, CURBS, SIDEWALKS, STRUCTURES, TREES, ETC., NOT PLANNED FOR DESTRUCTION OR REMOVAL THAT ARE DAMAGED OR REMOVED SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE

3. THE CONTRACTOR SHALL VERIFY ALL DEPTHS AND LOCATIONS OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES WITH THE CONSTRUCTION PLANS FOUND IN THE FIELD SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE ENGINEER WHO SHALL BE RESPONSIBLE FOR REVISING THE PLANS AS APPROPRIATE.

4. MANHOLE FRAMES, COVERS, VALVES, CLEANOUTS, ETC. SHALL BE RAISED TO FINISHED GRADE PRIOR TO FINAL PAVING CONSTRUCTION

5. THE CONTRACTOR SHALL GIVE THE WILLIAMSON COUNTY 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION. TELEPHONE (512) 943-3367 (ENGINEERING AND

DEVELOPMENT SERVICES DEPARTMENT). 6. ALL AREAS DISTURBED OR EXPOSED DURING CONSTRUCTION SHALL BE REVEGETATED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. REVEGETATION OF ALL 4.

DISTURBED OR EXPOSED AREAS SHALL CONSIST OF SODDING OR SEEDING, AT THE CONTRACTOR'S OPTION. HOWEVER, THE TYPE OF REVEGETATION MUST EQUAL OR EXCEED THE TYPE OF VEGETATION PRESENT BEFORE CONSTRUCTION

COUNTY ACCURATE "AS-BUILT" DRAWINGS FOLLOWING COMPLETION OF ALL CONSTRUCTION. THESE "AS-BUILT" DRAWINGS SHALL MEET WITH THE SATISFACTION OF THE ENGINEERING AND DEVELOPMENT SERVICES DEPARTMENT PRIOR TO FINAL ACCEPTANCE

WHEN CONSTRUCTION IS BEING CARRIED OUT WITHIN THE EASEMENTS, THE CONTRACTOR SHALL CONFINE HIS WORK TO WITHIN THE PERMANENT AND ANY TEMPORARY EASEMENTS. PRIOR TO FINAL ACCEPTANCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TRASH AND DEBRIS WITHIN THE PERMANENT AND TEMPORARY EASEMENTS. CLEAN-UP SHALL BE TO THE SATISFACTION OF THE COUNTY ENGINEER.

9. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL APPLY FOR AND SECURE ALL PROPER PERMITS FROM THE APPROPRIATE AUTHORITIES.

TRENCH SAFETY NOTES

1. IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, ALL TRENCHES OVER 5 FEET IN CALL 485-6433 DEPTH IN EITHER HARD AND COMPACT OR SOFT AND UNSTABLE SOIL SHALL BE SLOPED, SHORED, SHEETED, BRACED OR OTHERWISE SUPPORTED. FURTHERMORE, ALL TRENCHES FOR UTILITY LINE LOCATION LESS THAN 5 FEET IN DEPTH SHALL ALSO BE EFFECTIVELY PROTECTED WHEN HAZARDOUS GROUND MOVEMENT MAY BE EXPECTED. TRENCH SAFETY SYSTEMS TO BE UTILIZED CALL 485-6356 FOR THIS PROJECT (WILL BE PROVIDED BY THE CONTRACTOR; ARE ON SHEET____

IN ACCORDANCE WITH THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, WHEN PERSONS ARE IN TRENCHES 4-FEET DEEP OR MORE, ADEQUATE B4 CONSTRUCTION - GENERAL MEANS OF EXIT, SUCH AS A LADDER OR STEPS, MUST BE PROVIDED AND LOCATED SO AS TO REQUIRE NO MORE THAN 25 FEET OF LATERAL TRAVEL.

3. IF TRENCH SAFETY SYSTEM DETAILS WERE NOT PROVIDED IN THE PLANS BECAUSE TRENCHES WERE ANTICIPATED TO BE LESS THAN 5 FEET IN DEPTH AND DURING CONSTRUCTION IT IS FOUND THAT TRENCHES ARE IN FACT 5 FEET OR MORE IN DEPTH OR TRENCHES LESS THAN 5 FEET IN DEPTH ARE IN AN AREA WHERE HAZARDOUS GROUND MOVEMENT IS EXPECTED, ALL CONSTRUCTION SHALL CEASE, THE TRENCHED AREA SHALL BE BARRICADED AND THE ENGINEER NOTIFIED IMMEDIATELY. CONSTRUCTION SHALL NOT RESUME UNTIL APPROPRIATE TRENCH SYSTEM DETAILS, AS DESIGNED BY A PROFESSIONAL ENGINEER, ARE RETAINED AND COPIES SUBMITTED TO WILLIAMSON COUNTY.

STREET AND DRAINAGE NOTES

1. ALL TESTING SHALL BE DONE BY AN INDEPENDENT LABORATORY AT THE OWNER'S EXPENSE. ANY RETESTING SHALL BE PAID FOR BY THE CONTRACTOR. A COUNTY INSPECTOR SHALL BE PRESENT DURING ALL TESTS. TESTING SHALL BE COORDINATED WITH THE COUNTY INSPECTOR AND HE SHALL BE GIVEN A MINIMUM OF 24 HOURS NOTICE PRIOR TO ANY TESTING. TELEPHONE (512) 943-3367 (INSPECTIONS)

. BACKFILL BEHIND THE CURB SHALL BE COMPACTED TO OBTAIN A MINIMUM OF 95% MAXIMUM DENSITY TO WITHIN 3" OF TOP OF CURB. MATERIAL USED SHALL BE PRIMARILY GRANULAR WITH NO ROCKS LARGER THAN 6" IN THE GREATEST DIMENSION. THE REMAINING 3" SHALL BE CLEAN TOPSOIL FREE FROM ALL CLODS AND SUITABLE FOR SUSTAINING

3. DEPTH OF COVER FOR ALL CROSSINGS UNDER PAVEMENT INCLUDING GAS, ELECTRIC, TELEPHONE, CABLE TV, WATER SERVICES, ETC., SHALL BE A MINIMUM OF 30" BELOW

4. BARRICADES BUILT TO WILLIAMSON COUNTY STANDARDS SHALL BE CONSTRUCTED ON ALL DEAD-END STREETS AND AS NECESSARY DURING CONSTRUCTION TO MAINTAIN JOB AND PUBLIC SAFETY.

5. ALL R.C.P. SHALL BE MINIMUM CLASS III.

6. THE SUBGRADE MATERIAL FOR THE STREETS SHOWN HEREIN WAS TESTED BY TERRADYNE (2/5/2024) AND THE PAVING SECTIONS DESIGNED IN ACCORDANCE WITH THE CURRENT WILLIAMSON COUNTY DESIGN CRITERIA. THE PAVING SECTIONS ARE TO BE CONSTRUCTED AS FOLLOWS:

CLASSIFICATION - LOCAL STREETS (<35 PI): LOG JACK LANE (STA 4+34 TO 11+74), CLASSIFICATION - LOCAL STREETS (35<PI<55): LOG JACK LANE (STA 11+74 TO END) WAGON TRAIN DRIVE (STA 2+60 TO 8+00): OREGON ROAD, OX SHOE TRAIL, WAGON TRAIN DRIVE (STA 8+00 TO END):

MATERIALS	THICKNESS	<u>MATERIALS</u>	THICKNESS
CRUSHED LIMESTONE BASE	12.0 INCHES	CRUSHED LIMESTONE BASE	14.0 INCHES
HOT MIX ASPHALTIC CONCRETE	2.0 INCHES	HOT MIX ASPHALTIC CONCRETE	2.0 INCHES
LIME STABILIZED SUBGRADE	8.0 INCHES	LIME STABILIZED SUBGRADE	8.0 INCHES

CLASSIFICATION - MINOR COLLECTOR (35<PI<55): BULLHIDE SPRINGS DRIVE (STA 10+61 TO END)

<u>MATERIALS</u>	THICKNESS
CRUSHED LIMESTONE BASE	16.0 INCHES
HOT MIX ASPHALTIC CONCRETE	2.0 INCHES
LIME STABILIZED SUBGRADE	8.0 INCHES

7. THE GEOTECHNICAL ENGINEER SHALL INSPECT THE SUBGRADE FOR COMPLIANCE WITH THE DESIGN ASSUMPTIONS MADE DURING PREPARATIONS OF THE SOILS REPORT. ANY ADJUSTMENTS THAT ARE REQUIRED SHALL BE MADE THROUGH REVISION OF THE CONSTRUCTION PLANS.

8. WHERE PI'S ARE OVER 20, THE SUBGRADES MUST BE STABILIZED UTILIZING A METHOD ACCEPTABLE TO THE COUNTY ENGINEER. THE GEOTECHNICAL ENGINEER SHALL

RECOMMEND AN APPROPRIATE SUBGRADE STABILIZATION IF SULFATES ARE DETERMINED TO BE PRESENT. 9. ANY EXPANSIVE FILL (PI > 20) PLACED IN THE SUBGRADE SHALL BE CONSIDERED EXPANSIVE SUBGRADE

10. THE PRIMARY PAVEMENT DESIGN OPTION FOR AREAS WITH MORE THAN 2 FEET OF EXPANSIVE CLAY SHALL BE THE HIGH PLASTICITY SUB-BASE OPTION. IF NOT FEASIBLE, AN ALTERNATE STABILIZING DESIGN SHALL BE PROPOSED AND SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL

11. DELINEATION BETWEEN THESE DIFFERENT PAVEMENT THICKNESS SECTIONS SHOULD BE COMPLETED IN THE FIELD BY OBSERVATION OF OPEN UTILITIES TRENCHES AND THE B5 SUBGRADE PAVEMENT SUBGRADE BY THE GEOTECHNICAL ENGINEER OR HIS DESIGNATE. GIVEN THE KNOWN VARIABILITY OF SURFACE SOILS AND THE PRESENCE OF FAULTS AT THIS SITE. 1. THE GEOTECHNICAL ENGINEER MUST VERIFY THE SUBGRADE BEFORE INSTALLATION OF THE PAVEMENT SYSTEM CAN PROCEED. MULTIPLE SITE VISITS MAY BE REQUIRED. DEPENDING UPON THE CONSTRUCTION SCHEDULE. FINALIZED DISTINCTION BETWEEN PAVEMENT SECTIONS SHALL BE PROVIDED AS ADDENDUMS TO THIS REPORT AS THESE OBSERVATIONS ARE COMPLETED. PLEASE CONTACT THE GEOTECHNICAL ENGINEER WITH THE UTILITY TRENCHES ARE OPEN.

12. THE SUBGRADE IMPROVEMENT (LOW PLASTICITY SUB-BASE OR APPROVED ALTERNATE) SHOULD BE EXTENDED 3 FEET BEYOND THE BACK OF THE CURB LINE.

13. THESE PAVEMENT THICKNESS DESIGNS ARE INTENDED TO TRANSFER THE LOAD FROM THE ANTICIPATED TRAFFIC CONDITIONS

14. THE RESPONSIBILITY OF ASSIGNING STREET CLASSIFICATION TO THE STREETS IN THIS PROJECT IS LEFT TO THE CIVIL ENGINEER.

15. IF PAVEMENT DESIGNS OTHER THAN THOSE LISTED ABOVE ARE DESIRED. PLEASE CONTACT HOLT ENGINEERING 16. CONTRACTOR IS TO AVOID INSTALLATION OF UTILITIES, IRRIGATION LINES, PLANTINGS, ETC. IN THE BASE OVERBUILD

TRAFFIC MARKING NOTES

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

EROSION AND SEDIMENTATION CONTROL NOTES

1. EROSION CONTROL MEASURES, SITE WORK AND RESTORATION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF GEORGETOWN EROSION AND SEDIMENTATION CONTROL

B6 BASE MATERIAL

2. ALL SLOPES SHALL BE SODDED OR SEEDED WITH APPROVED GRASS, GRASS MIXTURES OR GROUND COVER SUITABLE TO THE AREA AND SEASON IN WHICH THEY ARE APPLIED.

3. SILT FENCES, ROCK BERMS, SEDIMENTATION BASINS AND SIMILARLY RECOGNIZED TECHNIQUES AND MATERIALS SHALL BE EMPLOYED DURING CONSTRUCTION TO PREVENT POINT SOURCE SEDIMENTATION LOADING OF DOWNSTREAM FACILITIES. SUCH INSTALLATION SHALL BE REGULARLY INSPECTED BY WILLIAMSON COUNTY FOR EFFECTIVENESS.

ADDITIONAL MEASURES MAY BE REQUIRED IF, IN THE OPINION OF THE COUNTY ENGINEER, THEY ARE WARRANTED 4. ALL TEMPORARY EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL FINAL INSPECTION AND APPROVAL OF THE PROJECT BY THE ENGINEER. IT SHALL BE THE

RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL TEMPORARY EROSION CONTROL STRUCTURES AND TO REMOVE EACH STRUCTURE AS APPROVED BY THE ENGINEER. 5. ALL MUD, DIRT, ROCKS, DEBRIS, ETC., SPILLED, TRACKED OR OTHERWISE DEPOSITED ON EXISTING PAVED STREETS, DRIVES AND AREAS USED BY THE PUBLIC SHALL BE CLEANED UP IMMEDIATELY.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY CONTRIBUTING ZONE 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 GROUND DISTURBANCE OR CONSTRUCTION ACTIVITIES. THIS NOTICE MUST INCLUDE THE NAME OF THE APPROVED PROJECT, THE ACTIVITY START DATE, AND THE CONTACT INFORMATION OF THE PRIME

ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT SHOULD BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED CONTRIBUTING ZONE PLAN (CZP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTOR(S) SHOULD KEEP COPIES OF THE APPROVED PLAN AND APPROVAL LETTER ONSITE.

NO 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 MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST

REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO

SURFACE STREAMS, SENSITIVE FEATURES, ETC. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS WHEN IT OCCUPIES 50% OF THE BASIN'S DESIGN CAPACITY.

7. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BEING DISCHARGED OFFSITE.

8. ALL EXCAVATED MATERIAL THAT WILL BE STORED ON-SITE MUST HAVE PROPER E&S CONTROLS.

9. IF PORTIONS OF THE SITE WILL HAVE A CEASE IN CONSTRUCTION ACTIVITY LASTING LONGER THAN 14 DAYS, SOIL STABILIZATION IN THOSE AREAS SHALL BE INITIATED AS SOON AS POSSIBLE PRIOR TO THE 14TH DAY OF INACTIVITY. IF ACTIVITY WILL RESUME PRIOR TO THE 21ST DAY, STABILIZATION MEASURES ARE NOT REQUIRED. IF DROUGHT CONDITIONS OR INCLEMENT WEATHER PREVENT ACTION BY THE 14TH DAY, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE.

10. THE FOLLOWING RECORDS SHOULD BE MAINTAINED AND MADE AVAILABLE TO THE TCEQ UPON REQUEST: THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR; THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE; AND THE DATES WHEN STABILIZATION MEASURES ARE INITIATED

11. THE HOLDER OF ANY APPROVED CZP MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO 11.A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY BEST MANAGEMENT PRACTICES (BMPS) OR STRUCTURE(S), INCLUDING BUT NOT LIMITED TO TEMPORARY OR

PERMANENT PONDS, DAMS, BERMS, SILT FENCES, AND DIVERSIONARY STRUCTURES; 11.B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED;

11.C. ANY CHANGE THAT WOULD SIGNIFICANTLY IMPACT THE ABILITY TO PREVENT POLLUTION OF THE EDWARDS AQUIFER; OR 11.D. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE APPROVED CONTRIBUTING ZONE PLAN.

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

SAN ANTONIO REGIONAL OFFICE SAN ANTONIO, TEXAS 78233-4480 PHONE (210) 490-3096

STORM WATER POLLUTION PREVENTION PLAN GENERAL NOTES

1. ALL ROADS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AS APPROVED BY THE COUNTY ENGINEER AND IN ACCORDANCE WITH THE 1. ALL CONSTRUCTION ACTIVITES DISTURBING ONE ACRE AND GREATER MUST OBTAIN STORM WATER DISCHARGE AUTHORIZATION FROM THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ)UGH COMPLIANCE WITH TCEQ'S GENERAL PERMIT #TXR150000. THE PRIMARY CONSTRUCTION SITE OPERATOR(S) [PCSO]PREPARE AND 8. IMPLEMENT AN SWP3 THROUGHOUT CONSTRUCTION WHICH INCLUDES THE EROSION AND SEDIMENT CONTROL (ESC) PLAN AND OTHER BEST MANAGEMENT PRACTICES (BMPS) SPECIFIED IN THESE PLANS APPROVED BY WILLIAMSON COUNTY.

> SMALL CONSTRUCTION ACTIVITIES DISTURBING BETWEEN ONE AND FIVE ACRES SHALL POST A TCEQ CONSTRUCTION SITE NOTICE (CSN) ON SITE PRIOR TO COMMENCING 9. CONSTRUCTION. LARGE CONSTRUCTION ACTIVITIES DISTURBING FIVE ACRES OR GREATER SHALL SUBMIT A NOTICE OF INTENT (NOI) TO TCEQ AND POST THE NOI ON SITE AT LEAST SEVEN (7) DAYS PRIOR TO BEGINNING CONSTRUCTION. NOTICES POSTED MUST BE MAINTAINED THROUGHOUT CONSTRUCTION.

THE PCSO MUST REVISE THE SWP3 WHENEVER CHANGING SITE CONDITIONS, OR A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE HAS A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS NOT PREVIOUSLY ADDRESSED; OR WHEN RESULTS OF INSPECTIONS BY SITE OPERATORS, WILLIAMSON COUNTY, TCEQ, OR OTHER LOCAL AGENCY AUTHORIZED TO APPROVE ESC PLANS INDICATE THE SWP3 IS PROVING INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANTS IN DISCHARGES FROM

TEMPORARY OR PERMANENT EROSION CONTROL AND STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE, AND AS SPECIFIED ON THE PLANS, IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. THESE MEASURES MUST BE INITIATED N LATER THAN 14 DAYS AFTER CESSATION, UNLESS CONSTRUCTION ACTIVITIES WILL RESUME WITHIN 21 DAYS IN THE AREA.

7. THE CONTRACTOR AND THE ENGINEER SHALL KEEP ACCURATE RECORDS OF ALL CONSTRUCTION THAT DEVIATES FROM THE PLANS. THE ENTIRE SITE, INCLUDING COMPLETION OF ALL STABILIZATION REQUIREMENTS OF THE APPROVED PLANS AND PERMIT AS VERIFIED BY WILLIAMSON COUNTY, THE PCSO SHALL SUBMIT A NOTICE OF TERMINATION (NOT) TO TCEQ.

FOR PRE-CONSTRUCTION MEETINGS CALL 505-7649 FOR UTILITY LINE LOCATION CALL 505-7542

FOR PRE-CONSTRUCTION MEETINGS CALL 370-1000 FOR UTILITY LINE LOCATION

WILLIAMSON COUNTY MUNICIPAL UTILITY DISTRICT NO. 39
THE DISTRICT ENGINEER, JONES-HEROY & ASSOCIATES, INC. (PH. 512-989-2200) SHALL BE CONTACTED 48 HOURS PRIOR TO:

I) PRE-CONSTRUCTION MEETINGS II) BEGINNING EACH PHASE OF CONSTRUCTION III) TESTING OF WATER AND/OR WASTEWATER LINES; AND,

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

2. ALL MATERIALS SHALL BE SAMPLED AND TESTED BY AN INDEPENDENT TESTING LABORATORY IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE COUNTY 1. IN LIEU OF BITUMINOUS PAVEMENT, PORTLAND CEMENT CONCRETE PAVEMENT MAY BE USED. IN SUCH CASES, THE PAVEMENT THICKNESS SHALL BE A MINIMUM OF 9 INCHES OF ENGINEER THE OWNER SHALL PAY FOR ALL TESTING SERVICES AND SHALL FURNISH THE COUNTY ENGINEER WITH CERTIFIED COPIES OF THESE TEST RESULTS. THE COUNTY ENGINEER MUST APPROVE THE TEST RESULTS PRIOR TO CONSTRUCTING THE NEXT COURSE OF THE ROADWAY STRUCTURE. ANY MATERIAL WHICH DOES NOT MEET THE MINIMUM. REQUIRED TEST SPECIFICATIONS SHALL BE REMOVED AND RECOMPACTED OR REPLACED UNLESS ALTERNATIVE REMEDIAL ACTION IS APPROVED IN WRITING FROM THE COUNTY

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

4. ALL PROPOSED PAVEMENTS (FLEXIBLE AND RIGID) ARE TO BE SPECIFIED IN THE GEOTECH REPORT. THE GEOTECH REPORT IS TO BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER. PAVEMENT DESIGNS SHALL FOLLOW THE BELOW COUNTY REQUIREMENTS BASED UPON SOIL CONDITIONS FROM SAMPLES TAKEN ALONG THE PROPOSED ROADWAYS. TEST BORINGS SHALL BE PLACED AT A MAXIMUM SPACING OF 500 FEET OR OTHER SAMPLING FREQUENCY APPROVED BY THE COUNTY ENGINEER BASED ON RECOMMENDATIONS PROVIDED BY THE GEOTECHNICAL ENGINEER. BORINGS SHALL BE TO A DEPTH OF TEN FT OR, IF SOLID ROCK IS ENCOUNTERED, ONE FT BELOW NON-FRACTURED ROCK OR 3 FT BELOW FRACTURED ROCK. THE PAVEMENT DESIGN MUST MEET AT LEAST THE MINIMUM OF ONE OF THE APPROVED COUNTY DESIGNS AND CITY OF GEORGETOWN - GENERAL NOTES PROVIDED IN THE GEOTECHNICAL REPORT FOR REVIEW AND APPROVAL PRIOR TO THE REVIEW AND APPROVAL OF THE CONSTRUCTION PLANS. IN ADDITION TO THE BASIS OF THE PAVEMENT DESIGN, THE SOILS REPORT SHALL CONTAIN THE RESULTS OF SAMPLED AND TESTED SUBGRADE FOR PLASTICITY INDEX.

FLEXIBLE PAVEMENT DESIGNS BASED ON ROADWAY CLASSIFICATION:
TELNIBLE I AVENIENT BEGIONG BAGED ON NOADWAT GEAGGII IOATION.

Minimum Local Roadway (Urban/Rural) Flexible Pavement design				Minimum Gollector Roadway (Urban/Rural) Flexible Pavement design					
Plasticity Index	PI <20	PI 20-35	PI 35-55 (4)		Plasticity Index	PI <20	PI 20-35	PI 35-55 (4)	
Soil Classification	Clayey Sand	Lean Clay	Fat Clay	- Material Requirements	Soil Classification	Clayey Sand	Lean Clay	Fat Clay	Material Requirements
HMA Surface (1)	2"	2"	2"	TxDOT Item 340 D- GR HMA PG 70-22 SAC B	HMA Surface (1)	2"	2"	2"	TxDOT Item 340 D- GR HMA PG 70-22 SAC B
Prime Coat or One Course Underseal	YES	YES	YES	AEP or TxDOT Item 316	Prime Coat or One Course Underseal	YES	YES	YES	AEP or TxDOT Item 316
Flexible Base (2)(5)	12"	12"	14"	TxDOT Item 247 FLBS TY A GR 5	Flexible Base (2)(5)	14"	14"	16"	TxDOT Item 247 FLBS TY A GR 5
Lime treated Subgrade (3)	NO	8"	8"	TxDOT Item 260	Lime treated Subgrade (3)	NO	8"	8"	TxDOT Item 260
Notes:	(1) For Urban See Appendix B7 – B10 for HMA material requirements. Rural is also allowed B7.11 (2) See Appendix B6 for additional Flexible Base specifications. (3) Pelletized lime is not allowed. Use hydrated lime or lime slurry. Confirm sulfates are not present in soil. (4) For PI >55 additional pavement structure is necessary and shall be reviewed and approved by the County Engineer. (5) Should solid rock be encountered prior to the depth necessary for 12" of base material underneath 2" HMA, a substitute pavement design may be allowed. Substitute pavement design shall have a base thickness no less than 8" and existing material shall be excavated to the exposed solid rock layer. No significant amount of existing material shall be left remaining between the base layer and the rock layer.			Notes:	(1). (1) For Urban See Appendix B7 – B10 for HMA material requirements. Rural is also allowed B7.11 (2) See Appendix B6 for additional Flexible Base specifications. (3) Pelletized lime is not allowed. Use hydrated lime or lime slurry. Confirm sulfates are not present in soil. (4) For PI >55 additional pavement structure is necessary and shall be reviewed and approved by the County Engineer. (5) Should solid rock be encountered prior to the depth necessary for 14 of base material underneath 2" HMA, a substitute pavement design may be allowed. Substitute pavement design shall have a base thickness no less than 10" and existing material shall be excavated to the exposed solid rock layer. No significant amount of existing material shall be left				

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

2. IF LIME IS NECESSARY, THEN A SUFFICIENT AMOUNT OF LIME SHALL BE ADDED, AS DESCRIBED IN ITEM 260 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS

3. PRIOR TO LIME STABILIZATION, A SULFATE TEST OF IN SITU SOILS SHALL BE PERFORMED BY DEVELOPER TO CONFIRM THE APPROPRIATE MEANS AND METHODS OF STABILIZATION. 5. ALL WATER LINE CROSSINGS OF WASTEWATER MAINS SHALL BE PERPENDICULAR [§290.44(E)(4)(B)]. PROVIDE SULFATE TEST TO COUNTY ENGINEER PRIOR TO STABILIZATION.

4. ANY VARIATION TO THE COUNTY'S STABILIZATION REQUIREMENTS MUST BE APPROVED BY THE COUNTY ENGINEER. 5. THE SUBGRADE SHALL BE PREPARED AND COMPACTED TO ACHIEVE A DRY DENSITY PER TXDOT ITEM 132. IN ADDITION, PROOF ROLLING MAY BE REQUIRED BY THE COUNTY 7. THE MAXIMUM ALLOWABLE LEAD CONTENT OF PIPES, PIPE FITTINGS, PLUMBING FITTINGS, AND FIXTURES IS 0.25 PERCENT [§290.44(B)]

6. THE SUBGRADE SHALL BE INSPECTED AND APPROVED BY AN INDEPENDENT TESTING LABORATORY AND A CERTIFIED COPY OF ALL INSPECTION REPORTS FURNISHED TO THE SCREENING MATERIAL OR AN ACCEPTABLE EQUIVALENT [§290.44(D)(1)]. COUNTY ENGINEER. THE COUNTY ENGINEER MUST APPROVE THE REPORT PRIOR TO APPLICATION OF THE BASE MATERIAL. ALL DENSITY TEST REPORTS SHALL INCLUDE A COPY OF THE WORK SHEET SHOWING THE PERCENTAGE OF THE MAXIMUM DRY (PROCTOR) DENSITY. THE NUMBER AND LOCATION OF ALL SUBGRADE TESTS SHALL BE DETERMINED BY THE 9. COUNTY ENGINEER.

SHALL BE TYPE A GRADE 4, OR AS APPROVED BY THE COUNTY ENGINEER. GRADE 4 MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF TABLE B6.1 BELOW: Table B6.1: Gradation Specification for TY A, Grade 4

Master gradation sieve size	Cumulative % Retained
2 ½"	-
1 ¾"	0
7/8™	10% - 35%
3/8"	30% - 65%
#4	45% - 75%
#40	70% - 90%
#200	87% - 95%

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

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

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

2. IF PROVIDING MIXTURE TYPE C OR D, USE PERFORMANCE GRADE (PG) BINDER 70-22. PROVIDE PG BINDER THAT DOES NOT CONTAIN RECYCLED ENGINE OIL BOTTOMS (REOBS) OR 12. THE CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE IN ALL DIRECTIONS OF NINE FEET BETWEEN THE PROPOSED WATERLINE AND WASTEWATER COLLECTION POLY PHOSPHORIC ACID (PPA). RECYCLED ASPHALT PAVEMENT (RAP) IS NOT PERMITTED FOR USE AS A COMPONENT OF THE HMACP. THE CONTRACTOR IS ALSO NOT PERMITTED THE USE RECYCLED ASPHALT SHINGLES (RAS) AS A COMPONENT OF THE HMACP.

PERCENT (20%) RAP IS PERMITTED IN THE MIX DESIGN. THE CONTRACTOR IS NOT PERMITTED TO USE RAS AS A COMPONENT OF THE HMACP

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

ALL MIXTURES MUST MEET THE HAMBURG REQUIREMENT AS STATED IN THE TABLE BELOW

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

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

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

UNLESS OTHERWISE APPROVED, PROVIDE TYPE B MIXTURES THAT HAVE NO LESS THAN 4.5% ASPHALT BINDER, AND TY C AND D MIXTURES WITH NO LESS THAN 4.7% BINDER.

FOR MIXTURE DESIGN VERIFICATION. PROVIDE THE ENGINEER WITH TWO 5-GALLON BUCKETS OF EACH AGGREGATE STOCKPILE TO BE USED ON THE PROJECT AND THREE GALLONS OF EACH PG BINDER TO BE USED ON THE PROJECT. ALSO PROVIDE SUFFICIENT QUANTITIES OF ANY OTHER ADDITIVES THAT WILL BE USED IN THE HMA MIXTURE. THIS MUST BE DONE PRIOR TO APPROVAL OF THE MIX DESIGN, UNLESS ALREADY PERFORMED WITHIN A ONE-YEAR TIME PERIOD.

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

1. INDIRECT TENSILE TEST IN ACCORDANCE WITH TEX-226-F

2. HAMBURG WHEEL TEST IN ACCORDANCE WITH TEX-242-F 3. OVERLAY TEST IN ACCORDANCE WITH TEX-248-F

4. CANTABRO TEST IN ACCORDANCE WITH TEX-245-F

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

1. THE INDIRECT TENSILE TEST RESULTS IN A VALUE GREATER THAN 200 PSI

2. THE HAMBURG WHEEL TEST RESULTS IN A VALUE LESS THAN 3.0 MM 3. THE OVERLAY TEST RESULTS IN A VALUE LESS THAN 100 CYCLES

4. THE CANTABRO TEST RESULTS IN A VALUE OF MORE THAN 20% LOSS

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

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

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

CONCRETE, AND SHALL BE JOINTED AND REINFORCED IN ACCORDANCE WITH THE DETAIL INCLUDED IN APPENDIX I. THE MIX SHALL BE FROM A TXDOT CERTIFIED PLANT. THE MIX DESIGN SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF THE MATERIAL.

UNLESS OTHERWISE SPECIFIED, CONCRETE SHALL BE IN ACCORDANCE WITH ITEM 421 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND BE PLACED IN ACCORDANCE WITH THE APPLICABLE ITEM.

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

THESE CONSTRUCTION PLANS WERE PREPARED. SEALED. SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE. THE CONSTRUCTION PLANS FOR CONSTRUCTION OF THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY STATE, AND FEDERAL REQUIREMENTS AND CODES.

2. THIS PROJECT IS SUBJECT TO ALL CITY REGULATIONS, STANDARD SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE CITY.

5. PRIVATE WATER SYSTEM FIRE LINES SHALL BE DUCTILE IRON PIPING FROM THE WATER MAIN TO THE BUILDING SPRINKLER SYSTEM, AND 200 PSI C900 PVC FOR ALL OTHERS.

3. THE SITE CONSTRUCTION PLANS SHALL MEET ALL REQUIREMENTS OF THE APPROVED SITE PLAN. 4. PRIVATE WATER SYSTEM FIRE LINES SHALL BE TESTED BY THE CONTRACTOR TO 200 PSI FOR 2 HOURS.

6. PUBLIC WATER SYSTEM MAINS SHALL BE 150 PSI C900 PVC AND TESTED BY THE CONTRACTOR AT 200 PSI FOR 15 MINUTES AND 150 PSI FOR 2 HOURS 7. ALL BENDS AND CHANGES IN DIRECTION ON WATER MAINS SHALL BE RESTRAINED AND THRUST BLOCKED

8. LONG FIRE HYDRANT LEADS SHALL BE RESTRAINED.

9. ALL WATER LINES ARE TO BE BACTERIA TESTED BY THE CONTRACTOR ACCORDING TO THE CITY STANDARDS AND SPECIFICATIONS. 10. WATER AND SEWER MAIN CROSSINGS SHALL MEET ALL REQUIREMENTS OF THE TCEQ AND THE CITY.

11. ALL SIDEWALK RAMPS ARE TO BE INSTALLED WITH THE PUBLIC INFRASTRUCTURE 12. A MAINTENANCE BOND IS REQUIRED TO BE SUBMITTED TO THE CITY PRIOR TO ACCEPTANCE OF THE PUBLIC IMPROVEMENTS. THIS BOND SHALL BE ESTABLISHED FOR 2 YEARS IN

THE AMOUNT OF 10% OF THE COST OF THE WATER MAIN IMPROVEMENTS AND SHALL FOLLOW THE CITY FORMAT UNLESS OTHERWISE SPECIFIED BY THE AGREEMENT. 13. RECORD DRAWINGS OF PUBLIC IMPROVEMENTS SHALL BE SUBMITTED TO THE CITY BY THE DESIGN ENGINEER PRIOR TO ACCEPTANCE OF THE PROJECT. THESE DRAWINGS SHALI BE A PDF EMAILED TO THE CITY DEVELOPMENT ENGINEER.

TCEQ WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES

1. THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D. WHEN CONFLICTS ARE NOTED WITH LOCAL STANDARDS, THE MORE STRINGENT REQUIREMENT SHALL BE APPLIED. AT A MINIMUM, CONSTRUCTION FOR PUBLIC WATER SYSTEMS MUST ALWAYS MEET TCEQ'S "RULES AND REGULATIONS FOR

ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)/NSF INTERNATIONAL STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI [§290.44(A)(1)]. PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NSF INTERNATIONAL SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT

LEAST 150 PSI OR A STANDARD DIMENSION RATIO OF 26 OR LESS [§290.44(A)(2)]. FOR CONSTRUCTION TO PROPERLY STABILIZE SUBGRADE. THE USE OF HYDRATED LIME OR LIME SLURRY IS APPROVED; HOWEVER, THE USE OF PELLETIZED LIME IS NOT 4. NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF DRINKING WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING

6. WATER TRANSMISSION AND DISTRIBUTION LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. HOWEVER, THE TOP OF THE WATER LINE MUST BE LOCATED BELOW THE FROST LINE AND IN NO CASE SHALL THE TOP OF THE WATER LINE BE LESS THAN 24 INCHES BELOW GROUND SURFACE [§290.44(A)(4)].

8. THE CONTRACTOR SHALL INSTALL APPROPRIATE AIR RELEASE DEVICES WITH VENT OPENINGS TO THE ATMOSPHERE COVERED WITH 16-MESH OR FINER, CORROSION RESISTANT

THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION [§290.44(F)(1)].

10. WHEN WATERLINES ARE LAID UNDER ANY FLOWING OR INTERMITTENT STREAM OR SEMI-PERMANENT BODY OF WATER THE WATERLINE SHALL BE INSTALLED IN A SEPARATE WATERTIGHT PIPE ENCASEMENT. VALVES MUST BE PROVIDED ON EACH SIDE OF THE CROSSING WITH FACILITIES TO ALLOW THE UNDERWATER PORTION OF THE SYSTEM TO BE ISOLATED AND TESTED [§290.44(F)(2)].

1. BASE MATERIAL SHALL CONFORM TO ITEM 247 OF THE CURRENT EDITION OF THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, "FLEXIBLE BASE". THE BASE MATERIAL 11. PURSUANT TO 30 TAC §290.44(A)(5), THE HYDROSTATIC LEAKAGE RATE SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY THE MOST CURRENT AWWA FORMULAS FOR PVC PIPE, CAST IRON AND DUCTILE IRON PIPE. INCLUDE THE FORMULAS IN THE NOTES ON THE PLANS.

THE HYDROSTATIC LEAKAGE RATE FOR POLYVINYL CHLORIDE (PVC) PIPE AND APPURTENANCES SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-605 AS REQUIRED IN 30 TAC §290.44(A)(5). PLEASE ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST **CURRENT FORMULA IS IN USE**

Q=LD√P / 148,000

Q = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR,

L = THE LENGTH OF PIPE SECTION BEING TESTED, IN FEET, D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND

P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI)

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

L=SD√P / 148,000

L = THE QUANTITY OF MAKEUP WATER IN GALLONS PER HOUR S = THE LENGTH OF PIPE SECTION BEING TESTED, IN FEET,

D = THE NOMINAL DIAMETER OF THE PIPE IN INCHES, AND

P = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI)

FACILITIES INCLUDING MANHOLES. IF THIS DISTANCE CANNOT BE MAINTAINED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT ENGINEER FOR FURTHER DIRECTION. SEPARATION DISTANCES, INSTALLATION METHODS, AND MATERIALS UTILIZED MUST MEET §290.44(E)(1)-(4).

. IF PROVIDING MIXTURE TYPE B, USE PG BINDER 64-22. PROVIDE PG BINDERS THAT DO NOT CONTAIN REOBS OR PPA. FOR SUBSURFACE COURSE TYPE B, THE 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 SAND. THE ENCASEMENT PIPE SHALL BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR

> MANUFACTURED SEALANT [§290.44(E)(5)]. 14. FIRE HYDRANTS SHALL NOT BE INSTALLED WITHIN NINE FEET VERTICALLY OR HORIZONTALLY OF ANY WASTEWATER LINE, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE REGARDLESS OF CONSTRUCTION [§290.44(E)(6)].

15. SUCTION MAINS TO PUMPING EQUIPMENT SHALL NOT CROSS WASTEWATER MAINS, WASTEWATER LATERALS, OR WASTEWATER SERVICE LINES. RAW WATER SUPPLY LINES SHALI NOT BE INSTALLED WITHIN FIVE FEET OF ANY TILE OR CONCRETE WASTEWATER MAIN, WASTEWATER LATERAL, OR WASTEWATER SERVICE LINE [§290.44(E)(7)].

16. WATERLINES SHALL NOT BE INSTALLED CLOSER THAN TEN FEET TO SEPTIC TANK DRAINFIELDS [§290.44(E)(8)]. 17. THE CONTRACTOR SHALL DISINFECT THE NEW WATERLINES IN ACCORDANCE WITH AWWA STANDARD C651-14 OR MOST RECENT, THEN FLUSH AND SAMPLE THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICROBIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATERLINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER [§290.44(F)(3)].

18. DECHLORINATION OF DISINFECTING WATER SHALL BE IN STRICT ACCORDANCE WITH CURRENT AWWA STANDARD C655-09 OR MOST RECENT

ROJECT NO: 1636-1204^a

DESIGNED BY: NK

DRAWN BY: DPG/BE CHECKED BY: NK

ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER

IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.



CONSTRUCTION SEQUENCE OF EVENTS

- 1. CALL DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION, DEVELOPMENT ENGINEERING, CONSTRUCTION INSPECTION, AND THE ENVIRONMENTAL AND CONSERVATION SERVICES DEPARTMENT 48 HOURS PRIOR TO BEGINNING ANY WORK. CALL THE ONE CALL CENTER FOR UTILITY LOCATIONS AND OBTAIN PERMIT FOR ANY WORK WITHIN THE CITY OF GEORGETOWN OR WILLIAMSON COUNTY R.O.W. TREE PROTECTION WILL ALSO BE INSTALLED.
- 2. INSTALL TEMPORARY EROSION CONTROL MEASURES AND STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH LOCATIONS AND DETAILS SHOWN ON THE PLANS. PRIOR TO CLEARING AND GRUBBING, NOTIFY CITY OF GEORGETOWN AND WILLIAMSON COUNTY INSPECTORS WHEN EROSION CONTROLS ARE INSTALLED.
- 3. HOLD PRE-CONSTRUCTION CONFERENCE ON SITE WITH THE CONTRACTOR, DESIGN ENGINEER, OWNERS REPRESENTATIVE AND THE CITY'S ENVIRONMENTAL INSPECTOR(UTILITY DEPARTMENT DEVELOPMENT ENGINEER, (512) 930-3582 REQUIRES 72 HOURS ADVANCE NOTICE) AFTER INSTALATION OF THE EROSION / SEDIMENTATION AND PRIOR TO BEGINNING ANY WORK.
- 4. BEGIN CONSTRUCTION OF PROJECT AS FOLLOWS:
- A. ROUGH CUT / GRADE STREET, CHANNELS, PONDS, DRAINAGE FACILITIES TO ENSURE NO MAJOR DEVIATIONS TO PROPOSED DRAINAGE PATTERNS OCCUR DURING CONSTRUCTION
- B. INSTALL ALL UTILITIES
- C. INSTALL ALL CROSSINGS WITHIN STREET RIGHT-OF-WAYS
- D. PREPARE SUBGRADE
- E. CONSTRUCT STREET BASE
- F. INSTALL CURB AND GUTTERG. COMPLETE ALL ROUGH GRADING AND UNDERGROUND UTILITIES IN STREET RIGHT-OF-WAYS
- H. LAY FINAL BASE COURSE
- I. LAY ASPHALT
- J. COMPLETE ALL NECESSARY FINAL GRADING AND DRESS UP OF AREAS DISTURBED DURING CONSTRUCTION
- 5. HOLD OWNERS POST-CONSTRUCTION CONFERENCE ON SITE WITH THE CONTRACTOR, DESIGN ENGINEER, OWNER'S REPRESENTATIVE AND THE CITY'S ENVIRONMENTAL ENGINEER.
 6. AFTER ACCEPTANCE OF REVEGETATION BY THE OWNER AND THE CITY'S INSPECTOR, REMOVE TEMPORARY SEDIMENTATION AND EROSION CONTROLS
- 7. FINAL INSPECTION BY COUNTY AND CITY WITH CONTRACTOR AND ENGINEER.

W.C.E.S.D. #4 NOTES

(2) SECTION C105.2 INSTALLATION

FIRE HYDRANTS MUST BE INSTALLED WIT HTHE CENTER OF THE FIVE (5) INCH STEAMER OPENING AT LEAST 18 INCHES ABOVE FINISHED GRADE. THE FIVE (5) INCH OPENING MUST FACE THE DRIVEWAY OR STREET AND MUST BE TOTALLY UNOBSTRUCTED TO THE STREET. FIRE HYDRANT DESIGN SHALL BE 2-2.5" NST OUTLETS, 1 - 5.0" STORZ CONNECTION WITH A CAP TO INCLUDE A HEX NUT TO FIT A HYDRANT WRENCH ALONG WITH A REFLECTIVE BAND. THE FIRE HYDRANT SHALL BE PAINTED SILVER IN COLOR AND DESIGNATED BY A BLUE REFLECTOR IN THE CENTER OF THE STREET.

PEDERNALES ELECTRIC COMPANY NOTES

- 1. A PRE-CONSTRUCTION SAFETY MEETING WITH PEDERNALES ELECTRIC COOPERATIVE, INC. ("PEC") IS REQUIRED 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION. FAILURE TO DO SO MAY RESULT IN THE PROJECT BEING SHUT DOWN. CALL MARSHA MOORE, AT 1-800-868-4791 EXT. 7161 TO SCHEDULE A PRE-CONSTRUCTION SAFETY MEETING.
- 2. BARRICADES MUST BE ERECTED 15 FEET FROM ELECTRIC TRANSMISSION STRUCTURES DURING CONSTRUCTION.
- 3. WARNING SIGNS MUST BE PLACED UNDER THE OVERHEAD ELECTRIC TRANSMISSION FACILITIES AS NOTIFICATION OF THESE ELECTRICAL FACILITIES. (THIS NOTE SHOULD BE SHOWN ON GRADING PLANS).
- 4. FEDERAL, STAT AND LOCAL LAWS REGULATE THE ACTIVITIES OF THOSE WHO WORK NEAR OVERHEAD POWER LINES, INCLUDING MOVING EQUIPMENT, AND GOVERN MINIMUM ELECTRIC LINE CLEARANCE REQUIREMENTS FOR SUCH WORK. CRIMINAL PENALTIES MAY RESULT FOR ANY VIOLATIONS. CONSTRUCTION WILL BE WITHIN THE MOST RESTRICTIVE MINIMUM ELECTRIC CLEARANCE.
- 5. PROPERTY OWNER SHALL NOT CONSTRUCT, LOCATE, OR CAUSE TO BE CONSTRUCTED OR LOCATED, ANY BUILDING OR HABITABLE STRUCTURE WITHIN PEC'S EASEMENT AND RIGHT-OF-WAY. THE TERMS "BUILDING" AND "HABITABLE STRUCTURE" SHALL INCLUDE, BUT ARE NOT LIMITED TO, ANY HOUSE, APARTMENT, DWELLING, MOBILE HOME, GARAGE, OUT BUILDING, EQUIPMENT SHELTER, FARM OR LIVESTOCK FACILITIES, STORAGE BARNS, HUNTING STRUCTURE, OR STORAGE SHEDS. IT IS FURTHER EXPRESSLY UNDERSTOOD BY PROPERTY OWNER, AND PROPERTY OWNER FURTHER COVENANTS, THAT PROPERTY OWNER WILL NOT CONSTRUCT, LOCATE, OR CAUSE TO BE CONSTRUCTED OR LOCATED ANY ADDITION OR IMPROVEMENT TO ANY HOUSE, APARTMENT, DWELLING, MOBILE HOME, GARAGE, OUT BUILDING, EQUIPMENT SHELTER, FARM OR LIVESTOCK FACILITIES, STORAGE BARNS, HUNTING STRUCTURES, OR STORAGE SHEDS, WHICH ARE LOCATED IN THE VICINITY OF PEC'S EASEMENT IN SUCH A WAY THAT THE ADDITION OR IMPROVEMENT WILL BE LOCATED, EITHER IN WHOLE OR IN PART, WITHIN PEC'S EASEMENT.
- 6. DUMPSTERS, STAGING OF MATERIAL OR EQUIPMENT, AND SPOIL PILES ARE NOT PERMITTED WITHIN PEC'S EASEMENT.
- 7. THE PROJECT SHALL NOT INTERFERE WITH PEC'S 24-HOUR ACCESS TO ELECTRIC FACILITIES AND EASEMENTS.
- 8. TEMPORARY OR PERMANENT SECURITY FENCING SHALL NOT PREVENT PEC'S ACCESS OR CROSSING OF THE TRANSMISSION EASEMENT(S). THE OWNER SHALL INSTALL GATE(S)
- WITH PEC COMPANY LOCK AS REQUIRED BY TO MAINTAIN ACCESS.
- 9. PROPERTY OWNER IS RESPONSIBLE FOR DUST CONTROL TO PREVENT INSULATOR FLASHOVER DUE TO CONTAMINATION. PROPERTY OWNER IS RESPONSIBLE FOR ALL OUTAGES THAT PEC DETERMINES TO HAVE RESULTED OR ARISEN FROM DUST FROM THIS PROJECT.
- 10. PROPERTY OWNER WILL BE BILLED FOR ANY OUTAGES AND REPAIRS THAT PEC DETERMINES TO HAVE RESULTED OR ARISEN FROM THIS PROJECT.
- 11. PROPERTY OWNER IS RESPONSIBLE FOR ALL DAMAGES TO CURBING, SIDEWALKS, LANDSCAPING, WALLS, AND OTHER IMPROVEMENTS MADE WITHIN PEC'S ELECTRIC TRANSMISSION EASEMENT.

GENERAL NOT

PROJECT NO: 1636-12041 DESIGNED BY: NK

DRAWN BY: DPG/BE

CHECKED BY: NK

NOTICE:
ALTERATION OF A
SEALED DRAWING
WITHOUT PROPER
NOTIFICATION TO THE

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



3 OF 62















									Tim	ne of Concer											
	Sheet Flow							Shallow Concentrated Flow										CI	Time of Concentration (min.)		
Drainage Area					÷	Unpaved					Paved	1		Total	nannel Flow	inne or consenatation (innin)					
Diamago 7110a	Surface Type	n	Length (ft)	Highest Elev. (ft)	Lowest Elev. (ft)	Slope (%)	Tt (min.)	Length (ft)	Highest Elev. (ft)	Lowest Elev. (ft)	Slope (%)	Tt (min.)	Length (ft)	Highest Elev. (ft)	Lowest Elev. (ft)	Slope (%)	Tt (min.)	Tt (min.) Velocity (ft/s	Length (ft) Tt (min.)	Minimum Tc (min.)= 5	
D2.3	Grass (Dense grasses)	0.24		913.4	911.4	2.0%	12.86	28.1	911.4	910.8	2.1%	0.20	328.3	910.3	907.9	0.7%	3.15	3.35		16.21	
D2.4	Grass (Dense grasses)	0.24	100	913.1	911.1	2.0%	12.86	27	911.1	910.6	1.9%	0.20	273.8	910.1	905.7	1.6%	1.77	1.98		14.84	
D2.5	Grass (Dense grasses)	0.24	100	913.2	911.1	2.1%	12.61	29.6	911.1	910.5	2.0%	0.21	272.5	910	905.7	1.6%	1.78	1.99		14.61	
F1.0	Grass (Dense grasses)	0.24	100	913.2	911.2	2.0%	12.86	28.1	911.2	910.7	1.8%	0.22	242.2	910.2	904.8	2.2%	1.33	1.55		14.41	
F1.1	Grass (Dense grasses)	0.24	57.9	907.7	906.4	2.2%	7.93	0	906.4	906.4	0.0%		74.8	905.9	904.8	1.5%	0.51	0.51		8.44	
F2.0	Grass (Dense grasses)	0.24	100	910.9	908.7	2.2%	12.38	149.8	908.7	904.5	2.8%	0.92	84.5	904	903.7	0.4%	1.16	2.09		14.47	
F2.1	Grass (Dense grasses)	0.24	100	908.6	906.5	2.1%	12.61	126	906.5	904.1	1.9%	0.94	151.5	903.6	902.9	0.5%	1.83	2.77		15.38	
F2.2	Grass (Dense grasses)	0.24	88.4	906.4	904.6	2.0%	11.57	0	904.6	904.6	0.0%		276.8	904.1	902.9	0.4%	3.45	3.45		15.02	
G1.0	Grass (Dense grasses)	0.24	100	924.9	922.9	2.0%	12.86	61	922.9	920.9	3.3%	0.35	263.2	920.4	918.2	0.8%	2.36	2.71		15.57	
G1.1	Grass (Dense grasses)	0.24	100	921.1	919	2.1%	12.61	110.3	919	916.7	2.1%	0.79	79	916.2	915	1.5%	0.53	1.31		13.93	
G1.2	Grass (Dense grasses)	0.24	100	919.3	917.3	2.0%	12.86	28.1	917.3	916.7	2.1%	0.20	154.9	916.2	915.4	0.5%	1.77	1.97		14.83	
G1.3	Grass (Dense grasses)	0.24	100	921.7	919.4	2.3%	12.16	36.9	919.4	918.6	2.2%	0.26	235.3	918.1	913.1	2.1%	1.32	1.58		13.74	
G1.4	Grass (Dense grasses)	0.24	100	918.7	916.5	2.2%	12.38	28.1	916.5	915.9	2.1%	0.20	326.8	915.4	908.6	2.1%	1.86	2.06		14.44	
G1.5	Grass (Dense grasses)	0.24	100	918.4	916.4	2.0%	12.86	148.1	916.4	913.3	2.1%	1.06	154.4	912.8	910.2	1.7%	0.98	2.03		14.89	
G1.6	Grass (Dense grasses)	0.24	100	917.6	914.5	3.1%	10.79	35	914.5	913.5	2.9%	0.21	235.3	913	907.8	2.2%	1.30	1.51		12.30	
G1.7	Grass (Dense grasses)	0.24	100	913.8	911.2	2.6%	11.58	28.1	911.2	910.6	2.1%	0.20	313.8	910.1	903.4	2.1%	1.76	1.96		13.54	
G1.8	Grass (Dense grasses)	0.24	100	911.5	909	2.5%	11.76	33.1	909	908.1	2.7%	0.21	235.4	907.6	903.4	1.8%	1.44	1.65		13.41	
G1.9	Grass (Dense grasses)	0.24	100	905.8	904.4	1.4%	14.83	31.2	904.4	903.8	1.9%	0.23	235.5	903.3	901.3	0.8%	2.10	2.33		17.16	
G1.10	Grass (Dense grasses)	0.24	100	909	906.9	2.1%	12.61	28.2	906.9	906.3	2.1%	0.20	323.3	905.8	900.1	1.8%	2.00	2.20		14.81	
G1.11	Grass (Dense grasses)	0.24	100	904.4	902.3	2.1%	12.61	27.1	902.3	901.7	2.2%	0.19	240.8	901.2	897.4	1.6%	1.57	1.76		14.37	
G1.11 (US)	Grass (Dense grasses)	0.24	100	904.4	902.3	2.1%	12.61	27.1	902.3	901.7	2.2%	0.19	111.4	901.2	899.4	1.6%	0.72	0.91		13.52	
G1.12	Grass (Dense grasses)	0.24	61.9	900.4	898.1	3.7%	6.84	0	898.1	898.1	0.0%		16.7	897.6	897.4	1.2%	0.13	0.13		6.96	
G1.13	Grass (Dense grasses)	0.24	100	902	900.5	1.5%	14.43	110.3	900.5	896.9	3.3%	0.63	89.9	896.4	895.2	1.3%	0.64	1.27		15.70	
G1.14	Grass (Dense grasses)	0.24	100	900.4	898.4	2.0%	12.86	12.6	898.4	898.1	2.4%	0.08	239.1	897.6	894.7	1.2%	1.78	1.86		14.72	
G1.15A	Grass (Dense grasses)	0.24	100	901.4	898.3	3.1%	10.79	28	898.3	897.5	2.9%	0.17	279	897	891.9	1.8%	1.69	1.86		12.66	
G1.15A (US)	Grass (Dense grasses)	0.24	100	901.4	898.3	3.1%	10.79	28	898.3	897.5	2.9%	0.17	122.1	897	893.5	2.9%	0.59	0.76		11.55	
G1.15B	Grass (Dense grasses)	0.24	100	900.4	898.2	2.2%	12.38	28.1	898.2	897.6	2.1%	0.20	411.3	897.1	891.9	1.3%	3.00	3.20		15.58	
G1.15B (US)	Grass (Dense grasses)	0.24	100	900.4	898.2	2.2%	12.38	28.1	898.2	897.6	2.1%	0.20	106.1	897.1	894.7	2.3%	0.58	0.78		13.16	
G1.16A	Grass (Dense grasses)	0.24	100	906.1	904.1	2.0%	12.86	28.3	904.1	903.7	1.4%	0.25	550	903.2	891.9	2.1%	3.15	3.39		16.25	
G1.16B	Grass (Dense grasses)	0.24		896.7	894.7	2.0%	12.86	11.3	894.7	894.5	1.8%	0.09	296.4	894	891.9	0.7%	2.89	2.97		15.84	
G2.0	Grass (Dense grasses)	0.24	100	916.9	914.9	2.0%	12.86	83.9	914.9	913.6	1.5%	0.70	115.1	913.1	910.6	2.2%	0.64	1.34		14.20	
G2.1	Grass (Dense grasses)	0.24	100	916	914	2.0%	12.86	148	914	911	2.0%	1.07	118.9	910.5	906	3.8%	0.50	1.57		14.44	
G3.0	Grass (Dense grasses)	0.24	100	914.1	912.1	2.0%	12.86	85.8	912.1	910.5	1.9%	0.65	191.1	910	906.8	1.7%	1.21	1.86		14.72	
G3.1	Grass (Dense grasses)	0.24	100	913.2	911.2	2.0%	12.86	29.6	911.2	910.6	2.0%	0.21	273.9	910.1	906.1	1.5%	1.86	2.07		14.93	
G3.2	Grass (Dense grasses)	0.24	100	913.3	910.6	2.7%	11.41	144.6	910.6	907.2	2.4%	0.97	155.9	906.7	904.1	1.7%	0.99	1.96		13.37	
G3.3	Grass (Dense grasses)	0.24	100	912.4	908.8	3.6%	10.17	144.5	908.8	904.5	3.0%	0.87	156.9	904	901.4	1.7%	1.00	1.86		12.03	
G3.4	Grass (Dense grasses)	0.24	100	909.3	907.2	2.1%	12.61	29.5	907.2	906.5	2.4%	0.20	278.7	906	901.4	1.7%	1.78	1.98		14.59	
G4.0	Grass (Dense grasses)	0.24	100	913.1	911.2	1.9%	13.13	28	911.2	910.6	2.1%	0.20	180.3	910.1	907.5	1.4%	1.23	1.43		14.56	
G4.1	Grass (Dense grasses)	0.24	100	910.5	908.5	2.0%	12.86	28.1	908.5	907.9	2.1%	0.20	197.4	907.4	903.9	1.8%	1.22	1.41		14.27	
G4.2	Grass (Dense grasses)	0.24	100	905.9	903.8	2.1%	12.61	54.5	903.8	902.7	2.0%	0.40	118.5	902.2	897.4	4.1%	0.48	0.88		13.49	
G4.3	Grass (Dense grasses)	0.24	34.1	909.2	908.4	2.3%	5.10	0	908.4	908.4	0.0%		455.3	907.9	895.5	2.7%	2.26	2.26		7.36	
G5.0	Grass (Dense grasses)	0.24	100	910.9	908.7	2.2%	12.38	150.6	908.7	904.6	2.7%	0.94	154.9	904.1	903.5	0.4%	2.04	2.98		15.36	
G5.1	Grass (Dense grasses)	0.24	88.4	906.4	904.6	2.0%	11.57	0	904.6	904.6	0.0%		235.8	904.1	903	0.5%	2.83	2.83		14.40	
G5.2	Grass (Dense grasses)	0.24	100	909.2	906.9	2.3%	12.16	142.9	906.9	903.7	2.2%	0.99	123.5	903.2	901.1	1.7%	0.78	1.76		13.92	
G5.3	Grass (Dense grasses)	0.24	100	906.8	904.3	2.5%	11.76	163.8	904.3	900.3	2.4%	1.08	179.4	899.8	894.8	2.8%	0.88	1.96		13.73	
G5.4	Grass (Dense grasses)	0.24	100	906.1	904	2.1%	12.61	28.2	904	903.3	2.5%	0.18	275.9	902.8	894.8	2.9%	1.33	1.51		14.13	
G5.5	Grass (Dense grasses)	0.24	89.8	906	904.3	1.9%	12.06	0	904.3	904.3	0.0%		329.7	903.8	897.1	2.0%	1.90	1.90		13.96	
VFS-5	Grass (Dense grasses)	0.24	96.8	898.6	895.5	3.2%	10.38	21.3	895.5	895	2.3%	0.14	0	894.5	894.5	0.0%		0.14		10.52	
VFS-6	Grass (Dense grasses)	0.24		893	891.2	1.8%	13.41	0	891.2	891.2	0.0%		0	890.7		0.0%				13.41	
POND D	Grass (Dense grasses)	0.24		896	892.3	3.7%	10.06	10.7	892.3	891	12.1%	0.03	0	890.5		0.0%		0.03		10.09	

S834 N. Capital of Texas Hwy.

Suite 140

Austin, Texas 78759

(512)452-0371

FAX(512)454-9933

TBPELS FIRM #2946

NO. BY DATE REVISION DESCRIPTION

CASCADE - PHASE 4 WILLIAMSON COUNTY, TE

> LET BASIN CALCULATION: (SHEET 1 OF 2)

PROJECT NO: 1636-12041 DESIGNED BY: NK

DESIGNED BY: NK

DRAWN BY: DPG/BE

CHECKED BY: NK

NOTICE:
ALTERATION OF A
SEALED DRAWING
WITHOUT PROPER
NOTIFICATION TO THE
RESPONSIBLE ENGINEER

IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

NATHAN D. KELLY

NATHAN D. KELLY

141451

October 199/09/2025

SHEET 24 OF 62

												25 Year	Storm												
									Stre	et Capacity			Inlet on Grade							Sump Inlet					
Drainage Area	Inlet	Inlet Type	Upstream Inlet	Q _{area} (ft³/s)	Q _{add} (ft³/s)	Q _{inlet} (ft³/s)	Street Width (ft)	Slope (%)	Crown	Gutter	Water Depth (ft)	Ponded Width	Qa/La	Length Needed (ft)	Length (ft)	L/Lneed	a/Y _o	Possible Q (ft³/s)	Q _{pass} (ft³/s)	Clogging Factor	Q (ft³/s)	Allowable	Inlet Length (ft)	Calculated head (ft)	Remarks
D2.3	D2.3	Grade Inlet		3.81		3.81	33	1.00%	0.500	0.42	0.37	8.18	0.83	4.59	10	1	1.12	8.29	0						
D2.4	D2.4	Grade Inlet		4.61		4.61	40	1.00%	0.583	0.42	0.39	8.45	0.85	5.45	10	1	1.07	8.46	0						
D2.5	D2.5	Grade Inlet		3.82		3.82	40	1.00%	0.583	0.42	0.36	7.74	0.82	4.66	10	1	1.14	8.20	0						
F1.0	F1.0	Grade Inlet		3.70		3.70	33	1.34%	0.500	0.42	0.35	7.52	0.81	4.58	10	1	1.18	8.07	0						1
F1.1	F1.1	Grade Inlet		2.18		2.18	33	1.34%	0.500	0.42	0.30	5.94	0.75	2.91	10	1	1.41	7.48	0						
F2.0	F2.0	Grade Inlet		3.40		3.40	33	0.50%	0.500	0.42	0.40	9.23	0.86	3.94	10	1	1.03	8.62	0						
F2.1	F2.1	Grade Inlet		3.92		3.92	33	0.50%	0.500	0.42	0.42	10.00	0.88	4.44	10	1	0.99	8.83	0						
F2.2	F2.2	Grade Inlet		4.14		4.14	33	0.50%	0.500	0.42	0.43	10.34	0.89	4.65	10	1	0.97	8.92	0						
G1.9	G1.9	Grade Inlet		3.83		3.83	33	2.00%	0.500	0.42	0.33	6.96	0.79	4.86	10	1	1.25	7.87	0						
G1.10	G1.10	Grade Inlet		4.91		4.91	33	2.00%	0.500	0.42	0.36	7.83	0.82	6.01	10	1	1.15	8.18	0						
G1.11	G1.11	Grade Inlet		3.57		3.57	40	1.58%	0.583	0.42	0.33	6.78	0.78	4.56	10	1	1.27	7.83	0						
G1.12	G1.12	Grade Inlet		1.05		1.05	40	1.58%	0.583	0.42	0.22	4.11	0.67	1.57	10	1	1.94	6.68	0						'
G1.13	G1.13	Grade Inlet		2.59		2.59	33	1.50%	0.500	0.42	0.31	6.24	0.76	3.41	10	1	1.36	7.60	0						
G1.14	G1.14	Grade Inlet		4.59		4.59	33	1.50%	0.500	0.42	0.37	8.12	0.83	5.55	10	1	1.12	8.28	0						'
G1.15A	G1.15	Sump Inlet		4.35		4.35	33	0.50%	0.500	0.42	0.44	10.66								100/	10.25	0.583	15	0.40	<u>'</u>
G1.15B	G1.15	Sump Inlet		6.00		6.00	33	0.50%	0.500	0.42	0.49	13.81								10%	10.35	0.565	15	0.40	<u>'</u>
G1.16A	G1.16	Sump Inlet		3.71		3.71	33	0.50%	0.500	0.42	0.41	9.69								100/	7.44	0.502	15	0.22	
G1.16B	G1.16	Sump Inlet		3.73		3.73	33	0.50%	0.500	0.42	0.42	9.72								10%	7.44	0.583	15	0.32	'
G2.0	G2.0	Grade Inlet		4.30		4.30	33	3.00%	0.500	0.42	0.32	6.70	0.78	5.53	10	1	1.29	7.78	0						'
G2.1	G2.1	Grade Inlet		3.69		3.69	33	4.15%	0.500	0.42	0.29	5.84	0.74	4.96	10	1	1.43	7.44	0						
G3.0	G3.0	Grade Inlet		4.96		4.96	40	1.70%	0.583	0.42	0.36	7.72	0.82	6.05	10	1	1.15	8.20	0						'
G3.1	G3.1	Grade Inlet		4.88		4.88	40	1.70%	0.583	0.42	0.36	7.67	0.82	5.97	10	1	1.15	8.18	0						
G3.2	G3.2	Grade Inlet		5.13		5.13	40	1.70%	0.583	0.42	0.37	7.85	0.82	6.23	10	1	1.13	8.24	0						
G3.3	G3.3	Grade Inlet		5.35		5.35	40	1.70%	0.583	0.42	0.37	8.00	0.83	6.44	10	1	1.12	8.30	0						
G3.4	G3.4	Grade Inlet		4.06		4.06	40	1.70%	0.583	0.42	0.34	7.06	0.79	5.12	10	1	1.23	7.94	0						
G4.0	G4.0	Grade Inlet		3.54		3.54	33	1.50%	0.500	0.42	0.34	7.17	0.79	4.45	10	1	1.22	7.95	0						
G4.1	G4.1	Grade Inlet		3.43		3.43	33	2.96%	0.500	0.42	0.30	6.08	0.75	4.55	10	1	1.39	7.54	0						
G4.2	_	Grade Inlet		3.69		3.69	33	4.10%	0.500	0.42	0.29	5.86	0.74	4.96	10	1	1.43	7.45	0						
G4.3		Grade Inlet		3.29		3.29	33	2.31%	0.500	0.42	0.31	6.31	0.76	4.32	10	1	1.35	7.63	0						
G5.0		Grade Inlet		4.58		4.58	33	0.50%	0.500	0.42	0.45	11.03	0.91	5.05	10	1	0.94	9.08	0						
G5.1		Grade Inlet		3.87		3.87	33	1.09%	0.500	0.42	0.37	8.07	0.83	4.68	10	1	1.13	8.26	0						
G5.2		Grade Inlet		5.02		5.02	33	3.18%	0.500	0.42	0.34	7.09	0.79	6.33	10	1	1.24	7.92	0						
G5.3		Grade Inlet		5.72		5.72	33	2.12%	0.500	0.42	0.38	8.31	0.83	6.86	10	1	1.11	8.34	0						
G5.4		Grade Inlet		2.92		2.92	33	2.12%	0.500	0.42	0.30	6.10	0.75	3.87	10	1	1.38	7.54	0						
G5.5		Grade Inlet		4.29		4.29	33	3.00%	0.500	0.42	0.32	6.69	0.78	5.52	10	1	1.29	7.77	0						

	PEAK FLOW TABLE (DEVELOPED CONDITIONS) - INTERSECTION FLOW																
Drainage Area Inlet		Λτος (Λοτο)	Impervious (%)	Pervious(%)	Time of Concentration 2 Year			10 Year			25 Year			100 Year			
Diamage Alea Illiet	illot	Alea (Acie)	Impervious (70)	1 GI VIOUS (70)	(min.)	С	l (in/hr)	Q (ft³/s)	С	l (in/hr)	$Q (ft^3/s)$	С	l (in/hr)	Q (ft³/s)	С	I (in/hr)	Q (ft³/s)
G1.11 (US)	G1.11 (US)	0.29	67.40%	32.60%	13.57	0.75	3.98	0.86	0.76	6.38	1.40	0.77	7.82	1.74	0.79	10.13	2.31
G1.15A (US)	G1.15A (US)	0.35	63.21%	36.79%	13.45	0.72	3.99	1.00	0.73	6.40	1.63	0.74	7.84	2.02	0.76	10.16	2.70
G1.15B (US)	G1.15B (US)	0.33	65.53%	34.47%	13.44	0.73	4.00	0.96	0.75	6.40	1.56	0.76	7.85	1.94	0.78	10.16	2.58

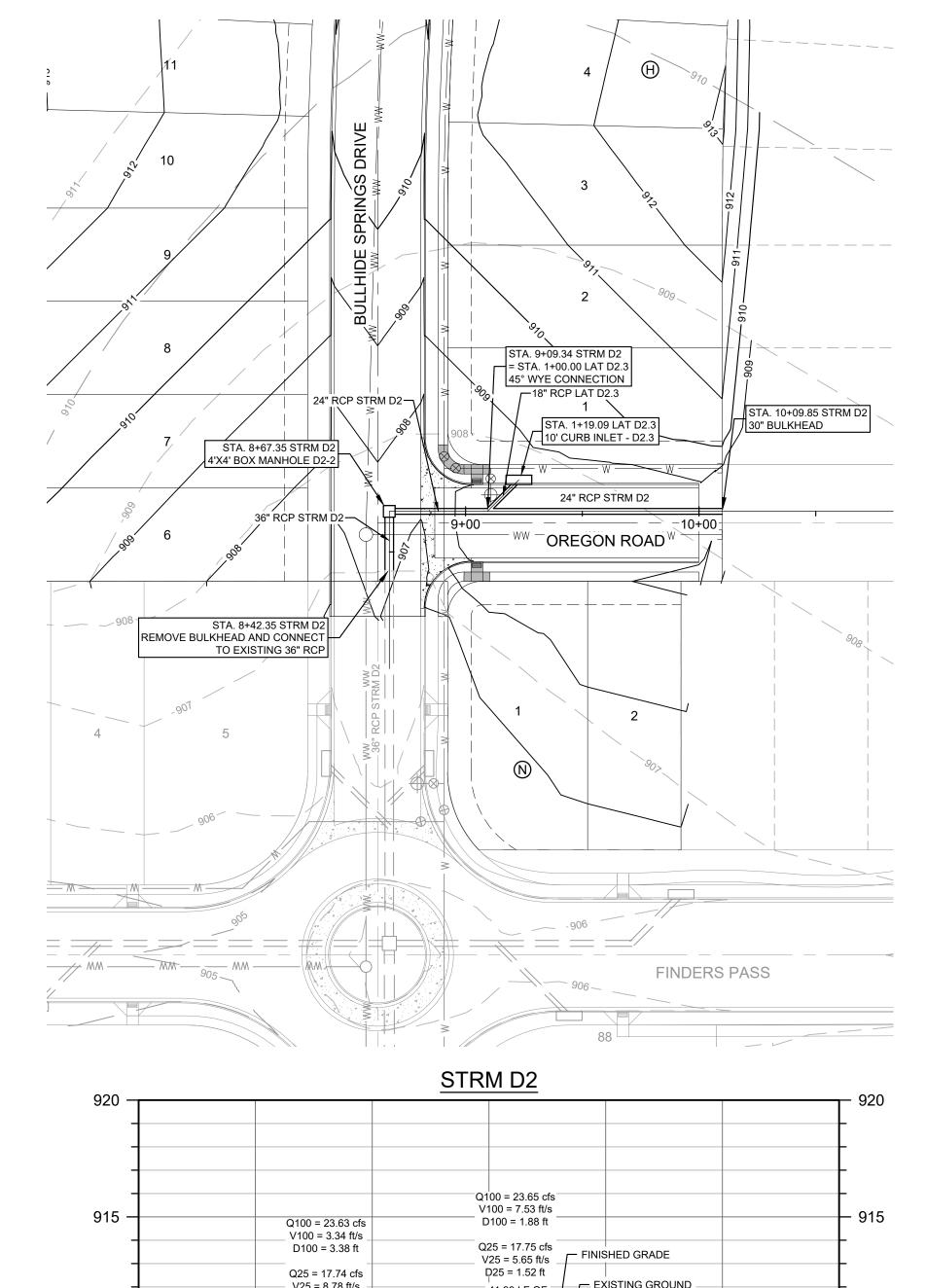
DESIGNED BY: NK DRAWN BY: DPG/BE

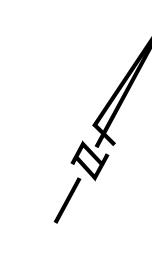
> CHECKED BY: NK NOTICE: ALTERATION OF A SEALED DRAWING

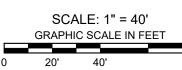
WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.











LEGEND

LEGEND						
	PROPERTY BOUNDARY					
	PROPOSED RIGHT OF WAY					
<u> </u>	EXISTING CONTOUR					
— — 950 — —	EXISTING CONTOUR					
950 ———	PROPOSED CONTOUR					
	PROPOSED CONTOUR					
\longrightarrow	STORM SEWER FLOW DIRECTION					
	PROPOSED MANHOLE					
	PROPOSED BOX MANHOLE					
	10' CURB INLET					
	15' CURB INLET					

NOTES:

- 1. ALL INLET WYE CONNECTIONS TO BE 45 DEGREES UNLESS OTHERWISE NOTED.
- 2. ALL FITTINGS AND WYES SHALL BE PRECAST ELEMENTS AND NOT CAST-IN-PLACE WITHOUT PRIOR APPROVAL FROM THE COUNTY.
- 3. ALL STORM LATERALS TO BE 18" CLIII RCP UNLESS OTHERWISE NOTED. 4. ALL CURB INLETS TO BE 10' UNLESS

OTHERWISE NOTED. PROFILE LEGEND

	FINISHED GRADE LINE
	PROPOSED SUBGRADE
	EXISTING GROUND AT CENTERLINE
	25YR HGL
· · · · · ·	100 YR HGL

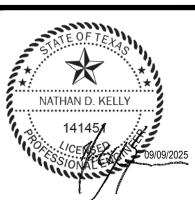
PROJECT NO: 1636-12041

DESIGNED BY: NK

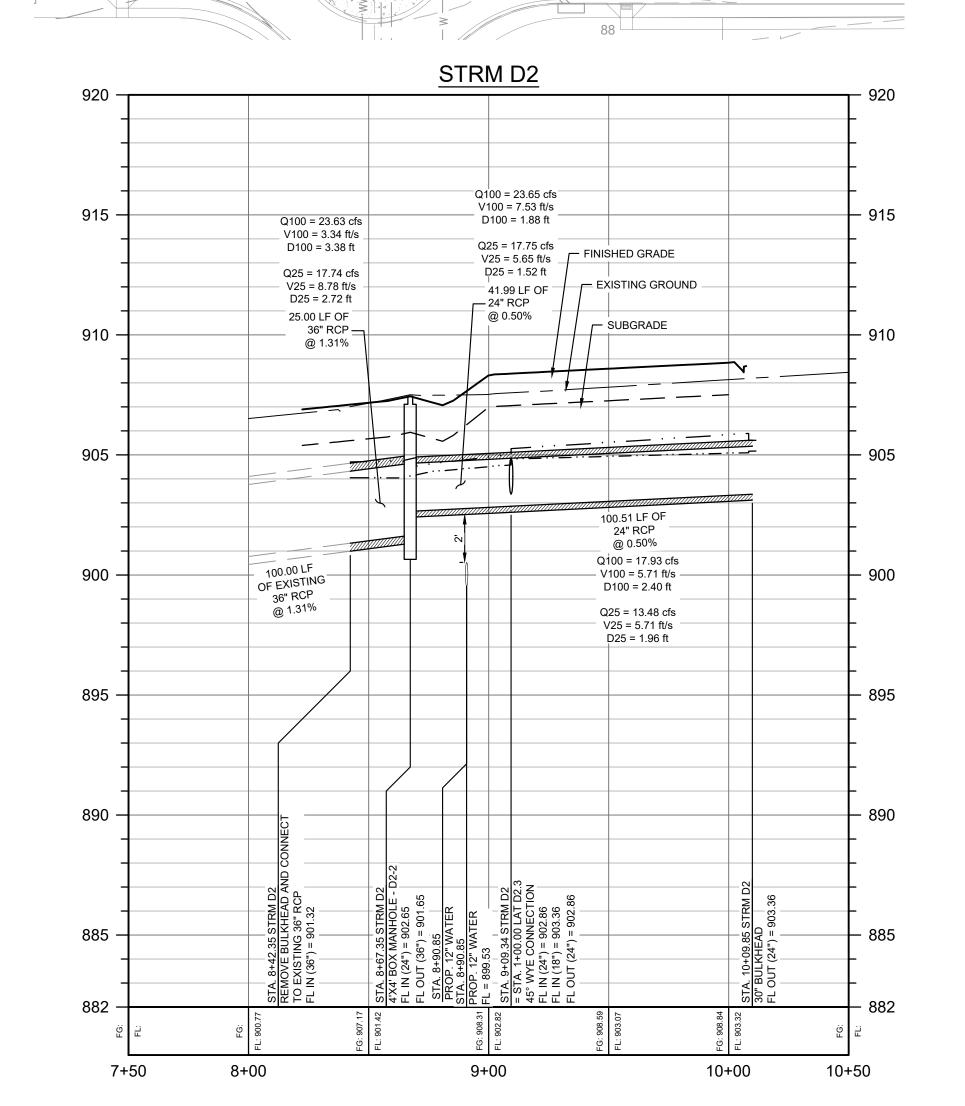
DRAWN BY: DPG/BE

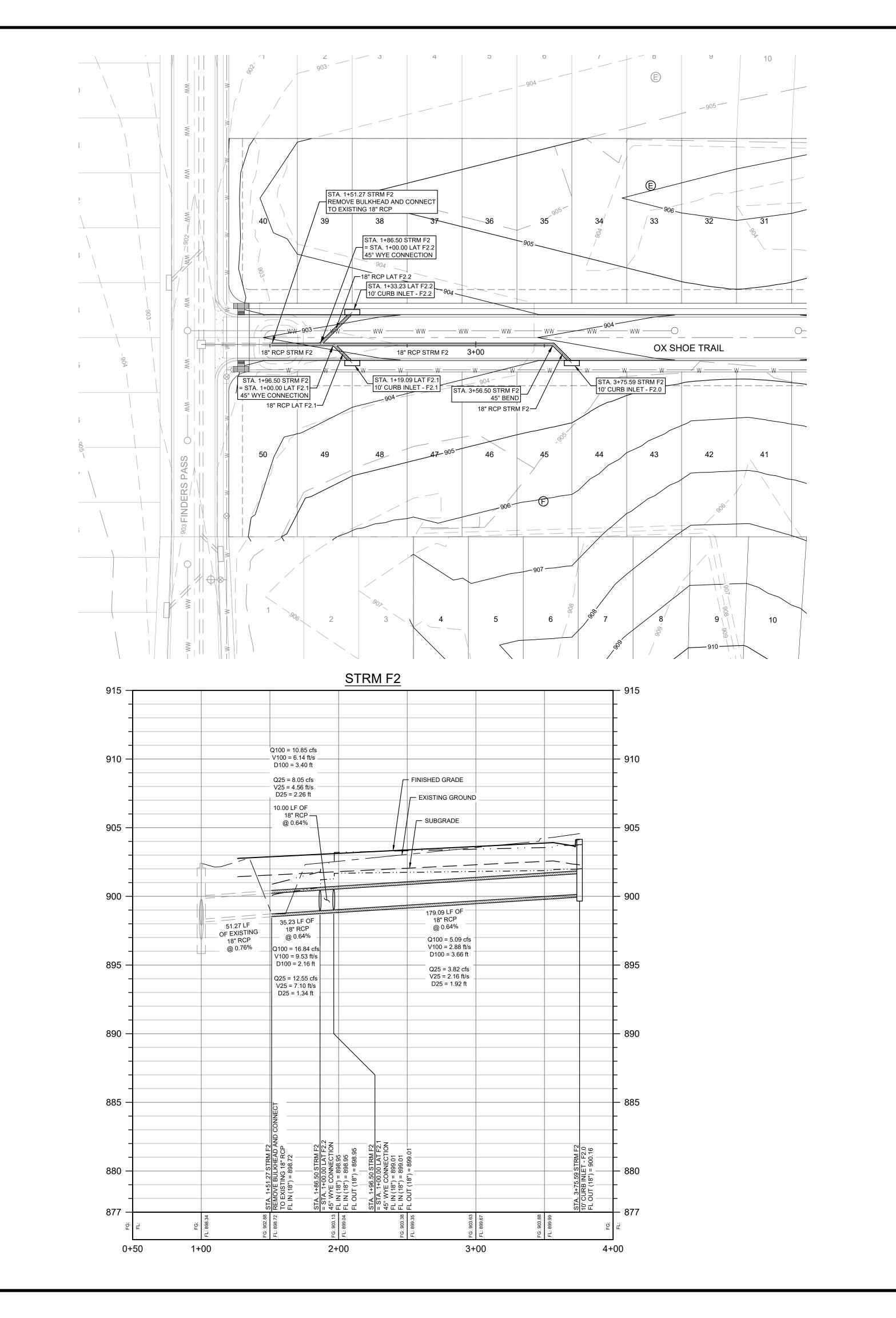
CHECKED BY: NK <u>NOTICE:</u> ALTERATION OF A

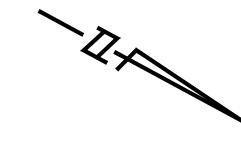
SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

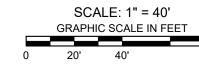


SHEET 27 OF 62









LEGEND

	PROPERTY BOUNDARY
	PROPOSED RIGHT OF WAY
——————————————————————————————————————	EXISTING CONTOUR
— —	EXISTING CONTOUR
950 ———	PROPOSED CONTOUR
	PROPOSED CONTOUR
\longrightarrow	STORM SEWER FLOW DIRECTION
	PROPOSED MANHOLE
	PROPOSED BOX MANHOLE
	10' CURB INLET
	15' CURB INLET

NOTES:

- ALL INLET WYE CONNECTIONS TO BE 45 DEGREES UNLESS OTHERWISE NOTED.
- ALL FITTINGS AND WYES SHALL BE
 PRECAST ELEMENTS AND NOT
 CAST-IN-PLACE WITHOUT PRIOR
 APPROVAL FROM THE COUNTY.
 ALL STORM LATERALS TO BE 18" CLIII RCP
- UNLESS OTHERWISE NOTED.

 4. ALL CURB INLETS TO BE 10' UNLESS OTHERWISE NOTED.

PROFILE LEGEND						
	FINISHED GRADE LINE					
	PROPOSED SUBGRADE EXISTING GROUND AT					
	CENTERLINE 25YR HGI					
	100 YR HGI					

NO. BY DATE REVISION DESCRIPTION

8834 N. Capita
Suite
Austin, Te
(512)45

CASCADE - PHASE 4 WILLIAMSON COUNTY, TEX

STORM SEWER LINE F2 (STA 1+51 TO END)

PROJECT NO: 1636-12041

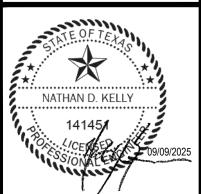
DESIGNED BY: NK

DRAWN BY: DPG/BE

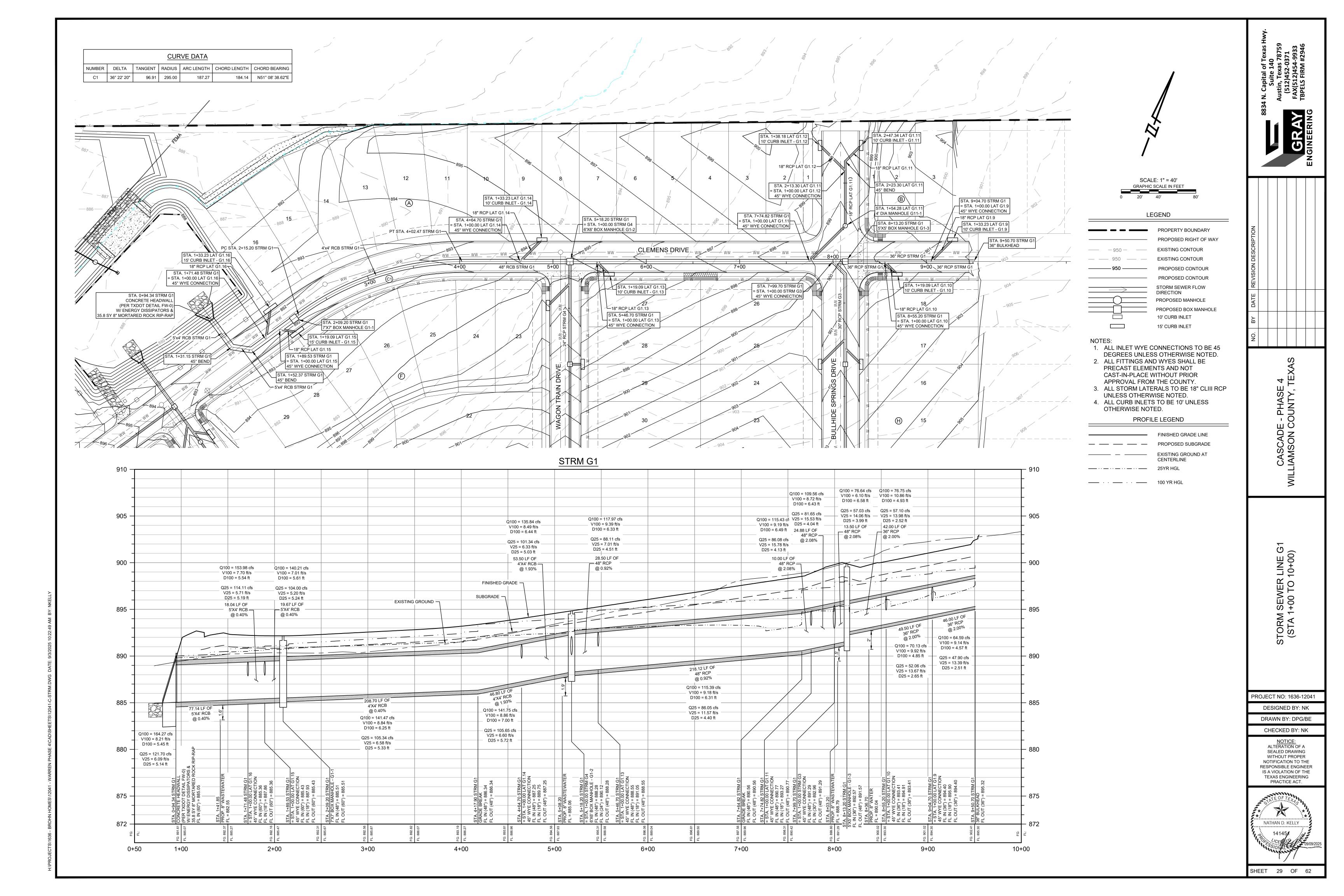
CHECKED BY: NK

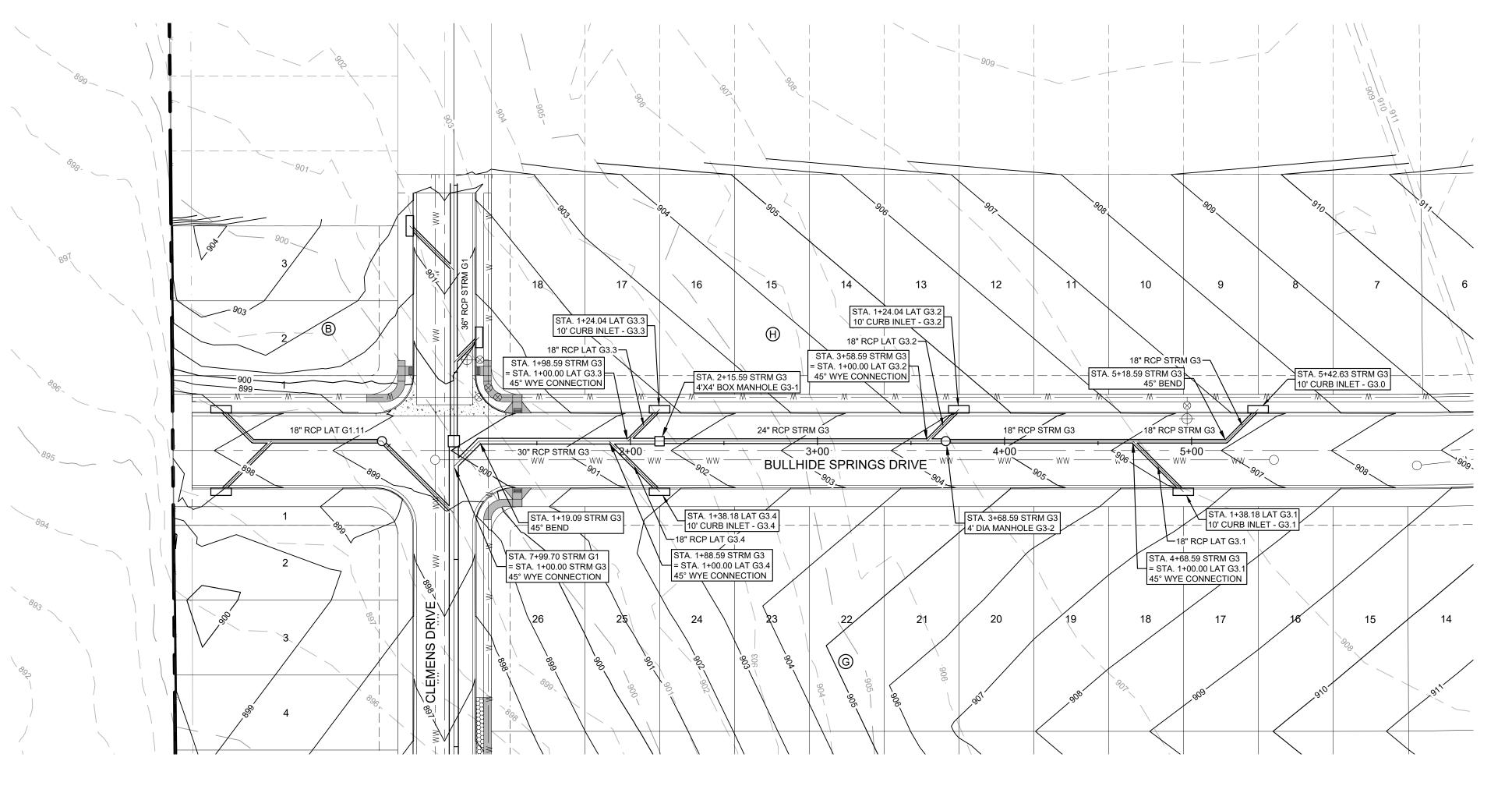
NOTICE:
ALTERATION OF A

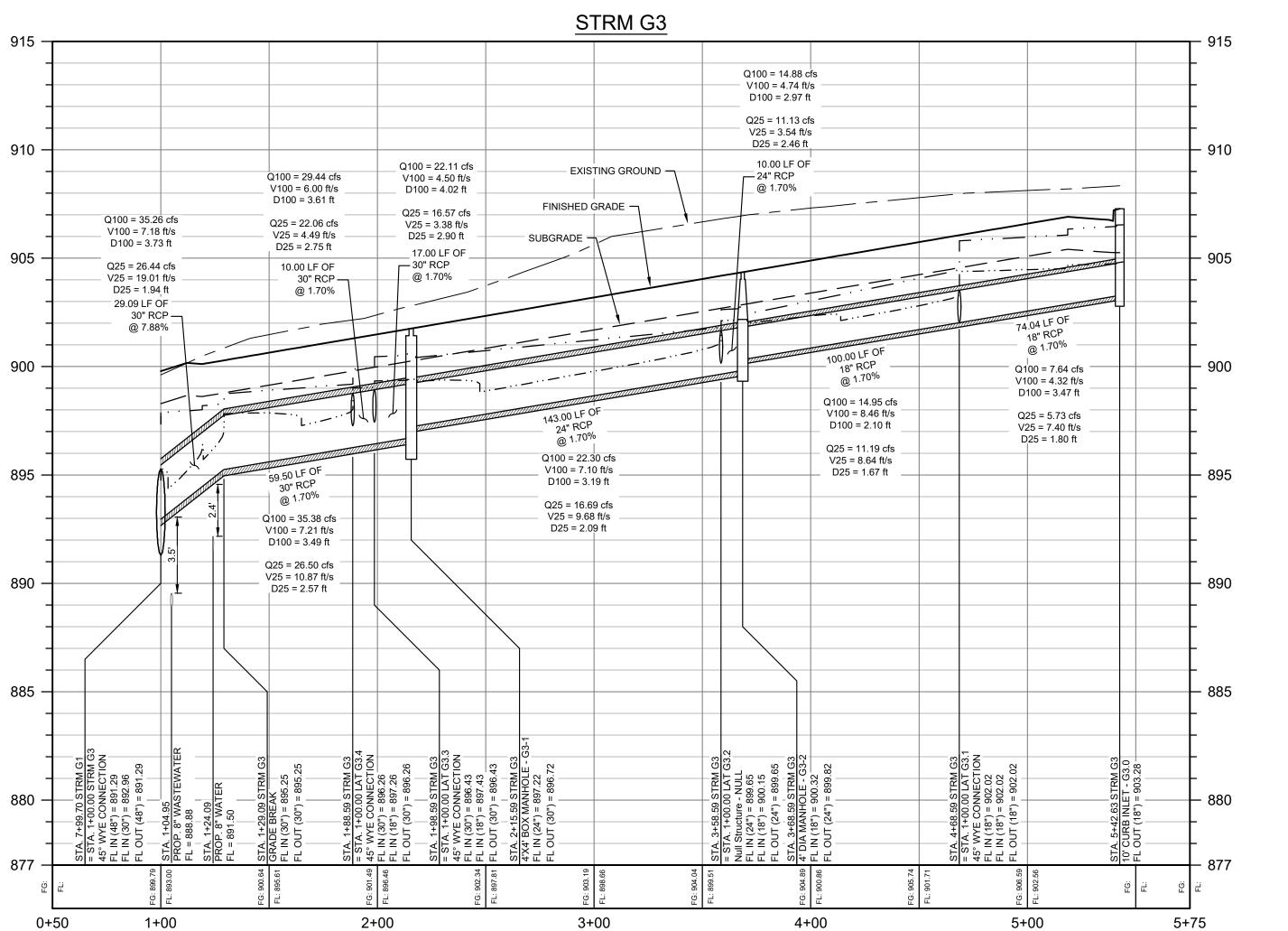
ALTERATION OF A
SEALED DRAWING
WITHOUT PROPER
NOTIFICATION TO THE
RESPONSIBLE ENGINEER
IS A VIOLATION OF THE
TEXAS ENGINEERING
PRACTICE ACT.

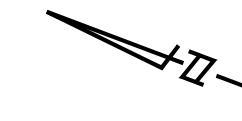


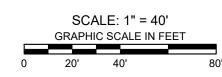
SHEET 28 OF 62











PROPERTY BOUNDARY PROPOSED RIGHT OF WAY PROPOSED RIGHT OF WAY SISTING CONTOUR PROPOSED CONTOUR PROPOSED CONTOUR PROPOSED CONTOUR STORM SEWER FLOW DIRECTION PROPOSED MANHOLE PROPOSED BOX MANHOLE 10' CURB INLET

NOTES:

- ALL INLET WYE CONNECTIONS TO BE 45 DEGREES UNLESS OTHERWISE NOTED.
- ALL FITTINGS AND WYES SHALL BE PRECAST ELEMENTS AND NOT CAST-IN-PLACE WITHOUT PRIOR APPROVAL FROM THE COUNTY.
- ALL STORM LATERALS TO BE 18" CLIII RCP UNLESS OTHERWISE NOTED.
 ALL CURB INLETS TO BE 10' UNLESS OTHERWISE NOTED.

PROFILE LEGEND

 FINISHED GRADE LINE
 PROPOSED SUBGRADE
 EXISTING GROUND AT CENTERLINE
 25YR HGL

____ · · · ___ 100 YR HGL

BY DATE REVISION DESCRIPTION

8834 N. Capita

Suite

Austin, Te

(512)45

CASCADE - PHASE 4 WILLIAMSON COUNTY, TEX

> STORM SEWER LINE G3 (STA 1+00 TO END)

PROJECT NO: 1636-12041

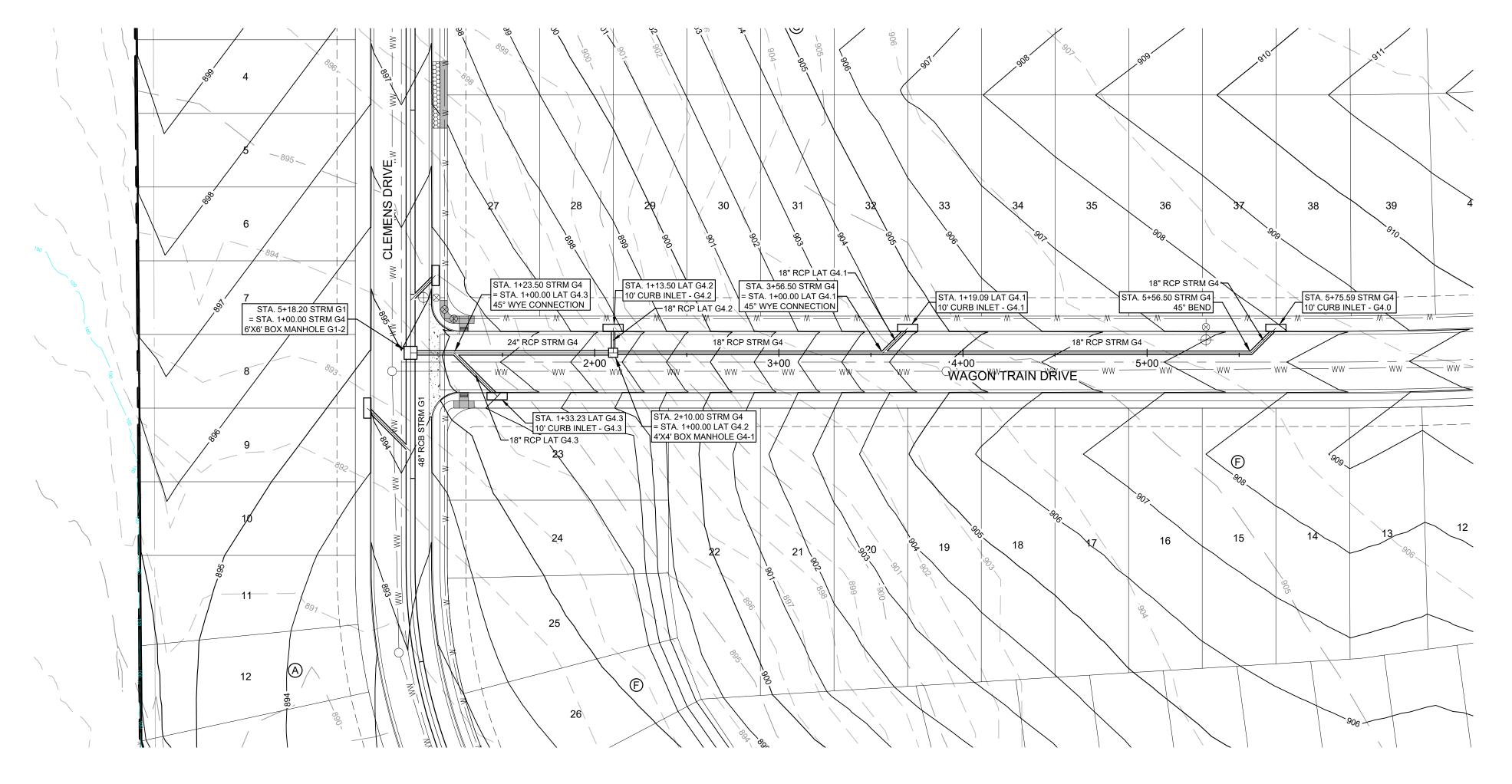
DESIGNED BY: NK

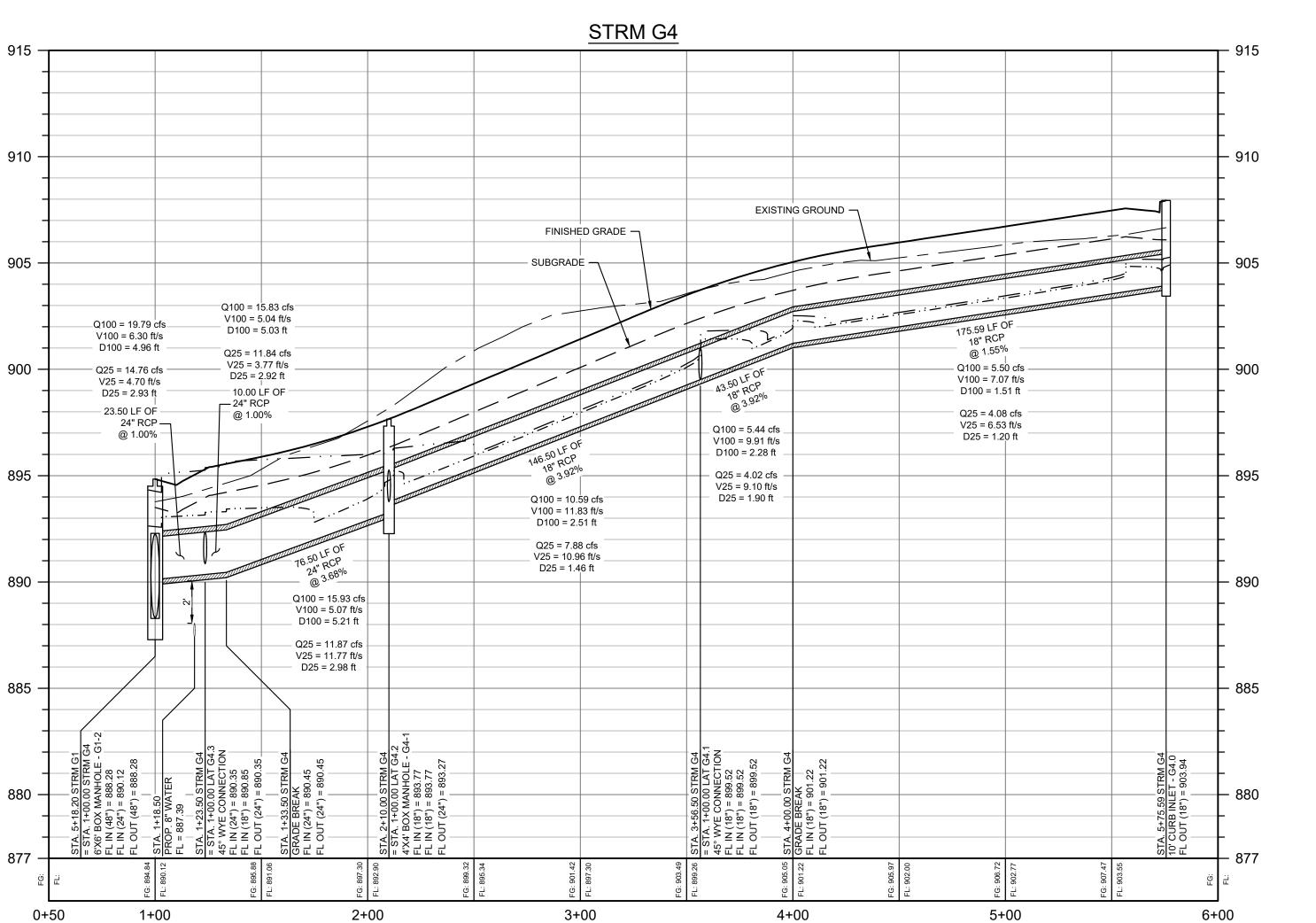
DRAWN BY: DPG/BE
CHECKED BY: NK

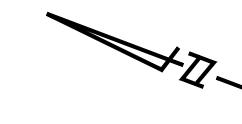
NOTICE:
ALTERATION OF A
SEALED DRAWING
WITHOUT PROPER
NOTIFICATION TO THE
RESPONSIBLE ENGINEER
IS A VIOLATION OF THE
TEXAS ENGINEERING
PRACTICE ACT.

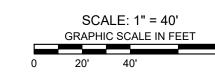


SHEET 30 OF 62









PROPERTY BOUNDARY PROPOSED RIGHT OF WAY PROPOSED RIGHT OF WAY EXISTING CONTOUR PROPOSED CONTOUR PROPOSED CONTOUR PROPOSED CONTOUR PROPOSED CONTOUR PROPOSED MANHOLE PROPOSED BOX MANHOLE 10' CURB INLET

NOTES:

- ALL INLET WYE CONNECTIONS TO BE 45 DEGREES UNLESS OTHERWISE NOTED.
- ALL FITTINGS AND WYES SHALL BE PRECAST ELEMENTS AND NOT CAST-IN-PLACE WITHOUT PRIOR APPROVAL FROM THE COUNTY.
 ALL STORM LATERALS TO BE 18" CLIII RCP
- UNLESS OTHERWISE NOTED.
 4. ALL CURB INLETS TO BE 10' UNLESS OTHERWISE NOTED.

PROFIL	PROFILE LEGEND							
	FINISHED GRADE LINE PROPOSED SUBGRADE							
	EXISTING GROUND AT CENTERLINE							
	25YR HGL							

____ · · · ___ 100 YR HGL

NO. BY DATE REVISION DESCRIPTION

8834 N.

Au

GRAY

TR

CASCADE - PHASE 4 WILLIAMSON COUNTY, TE

> STORM SEWER LINE G4 (STA 1+00 TO END)

PROJECT NO: 1636-12041

DESIGNED BY: NK

DRAWN BY: DPG/BE

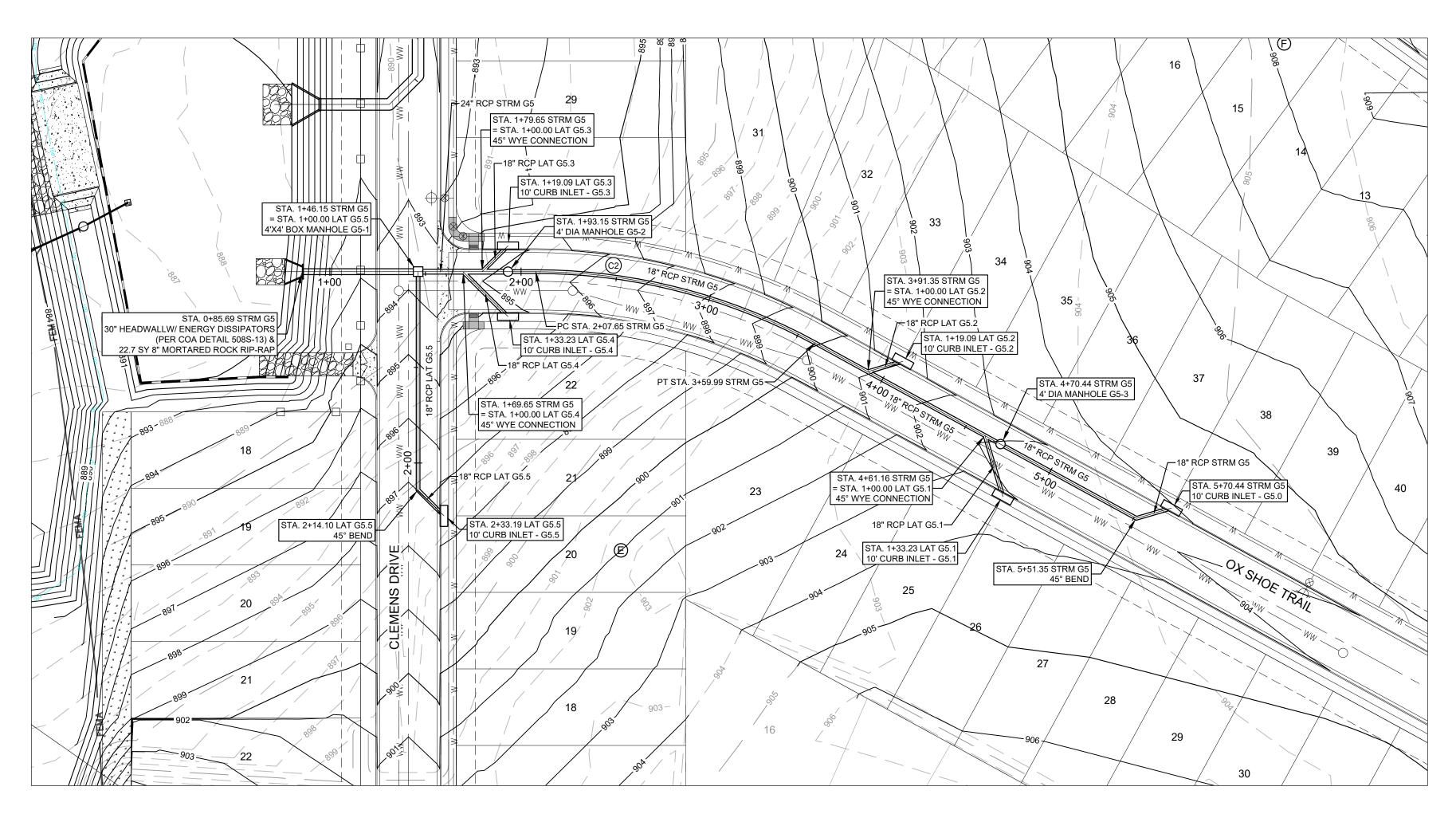
CHECKED BY: NK

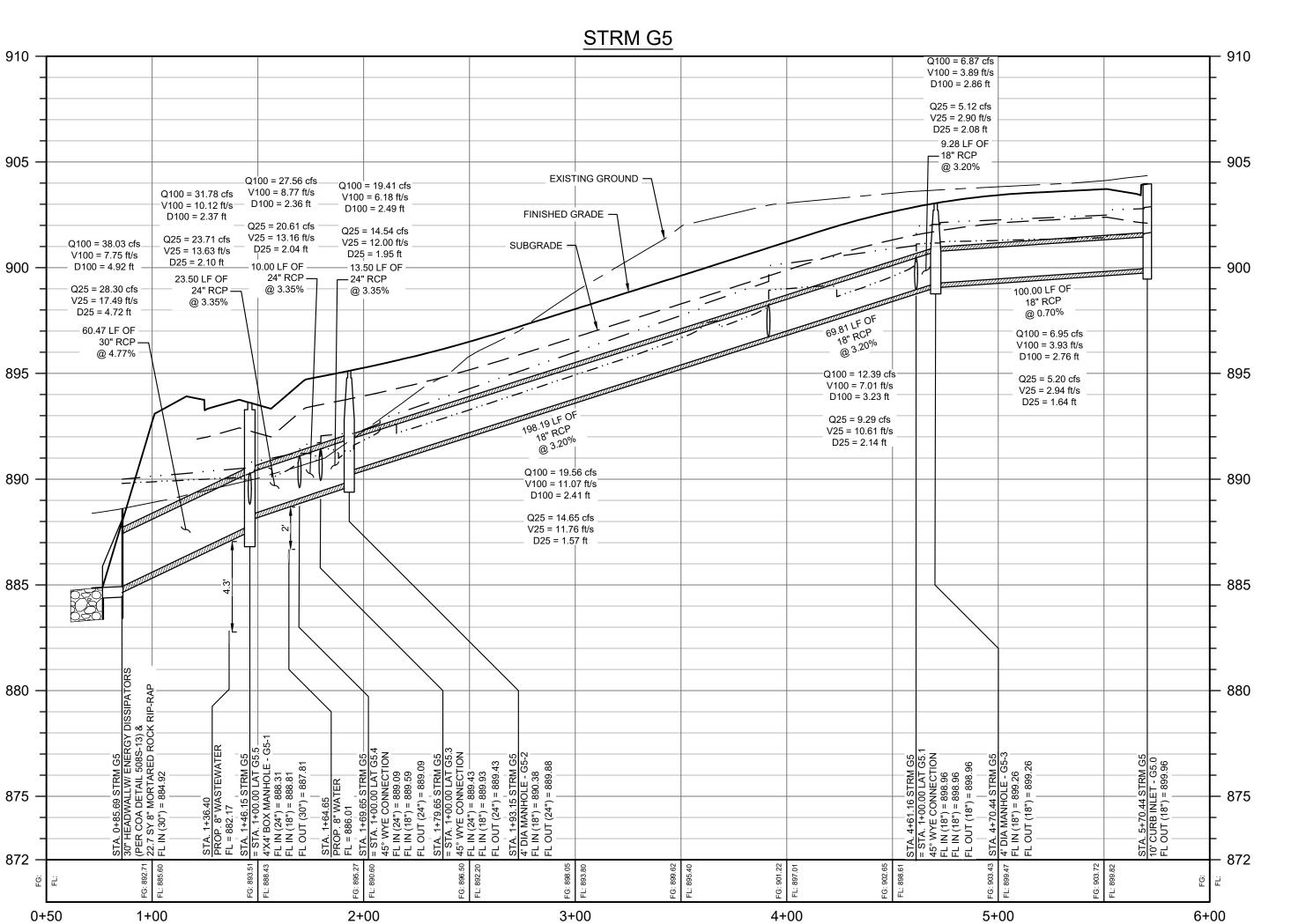
NOTICE:
ALTERATION OF A
SEALED DRAWING
WITHOUT PROPER
NOTIFICATION TO THE
RESPONSIBLE ENGINEER
IS A VIOLATION OF THE
TEXAS ENGINEERING
PRACTICE ACT.

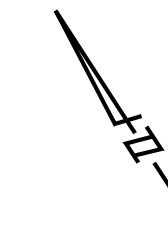


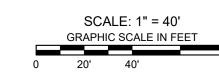
SHEET 31 OF 62

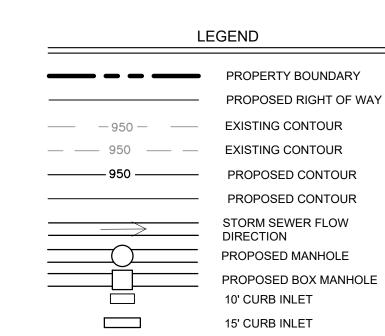
H:\PROJECTS\1636 - BROHN HOMES\12041 - WARREN PHASE 4\CAD\SHEETS\12041-C-STRM.DWG DATE: 9











NOTES:

- 1. ALL INLET WYE CONNECTIONS TO BE 45 DEGREES UNLESS OTHERWISE NOTED.
- 2. ALL FITTINGS AND WYES SHALL BE PRECAST ELEMENTS AND NOT CAST-IN-PLACE WITHOUT PRIOR APPROVAL FROM THE COUNTY.
- 3. ALL STORM LATERALS TO BE 18" CLIII RCP UNLESS OTHERWISE NOTED. 4. ALL CURB INLETS TO BE 10' UNLESS OTHERWISE NOTED.

PROFII	PROFILE LEGEND						
	FINISHED GRADE LINE						
	PROPOSED SUBGRADE						
	EXISTING GROUND AT CENTERLINE						
	25YR HGL						

____ · · · ___ 100 YR HGL

PROJECT NO: 1636-12041

DESIGNED BY: NK DRAWN BY: DPG/BE

CHECKED BY: NK

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



SHEET 32 OF 62

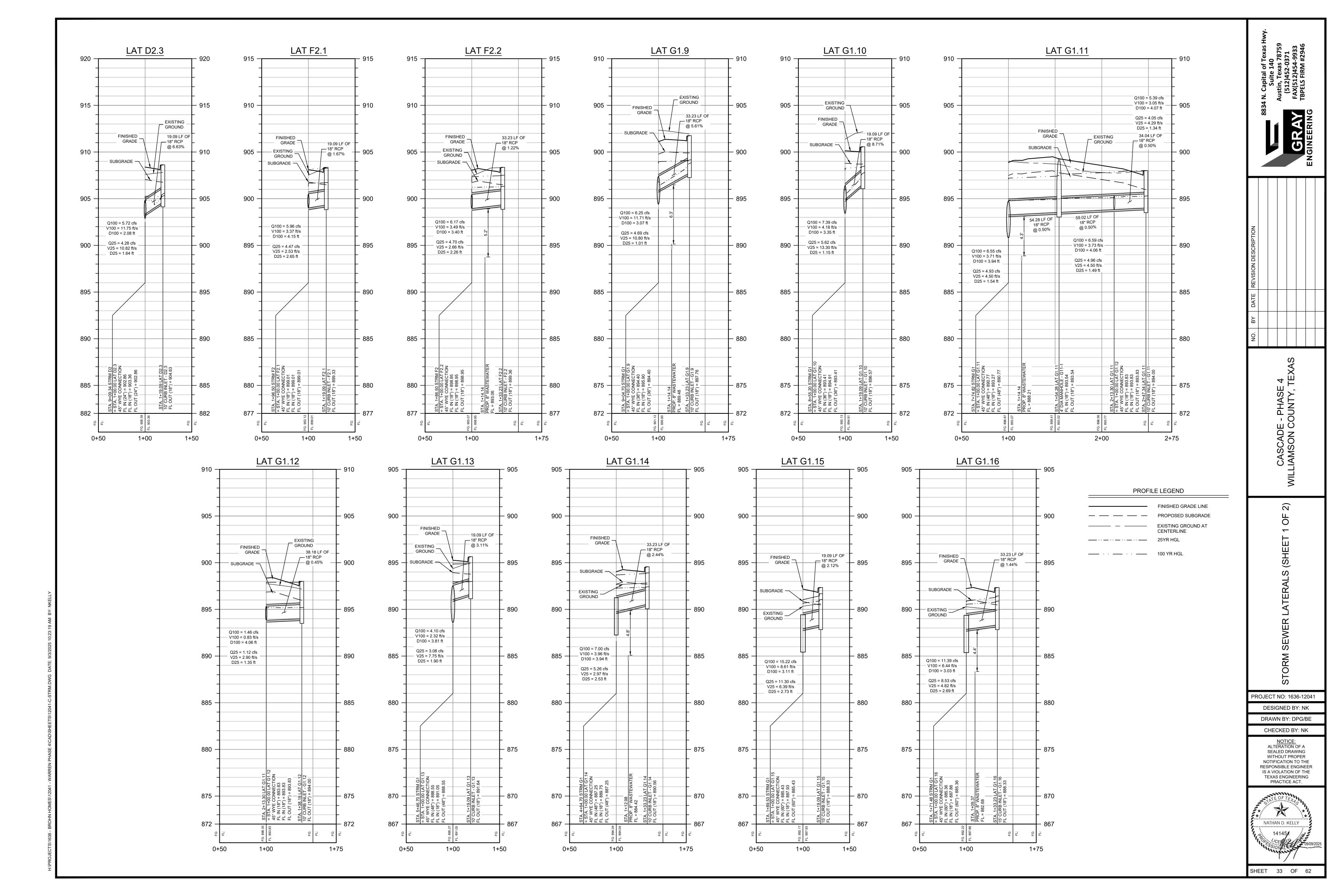
CURVE DATA

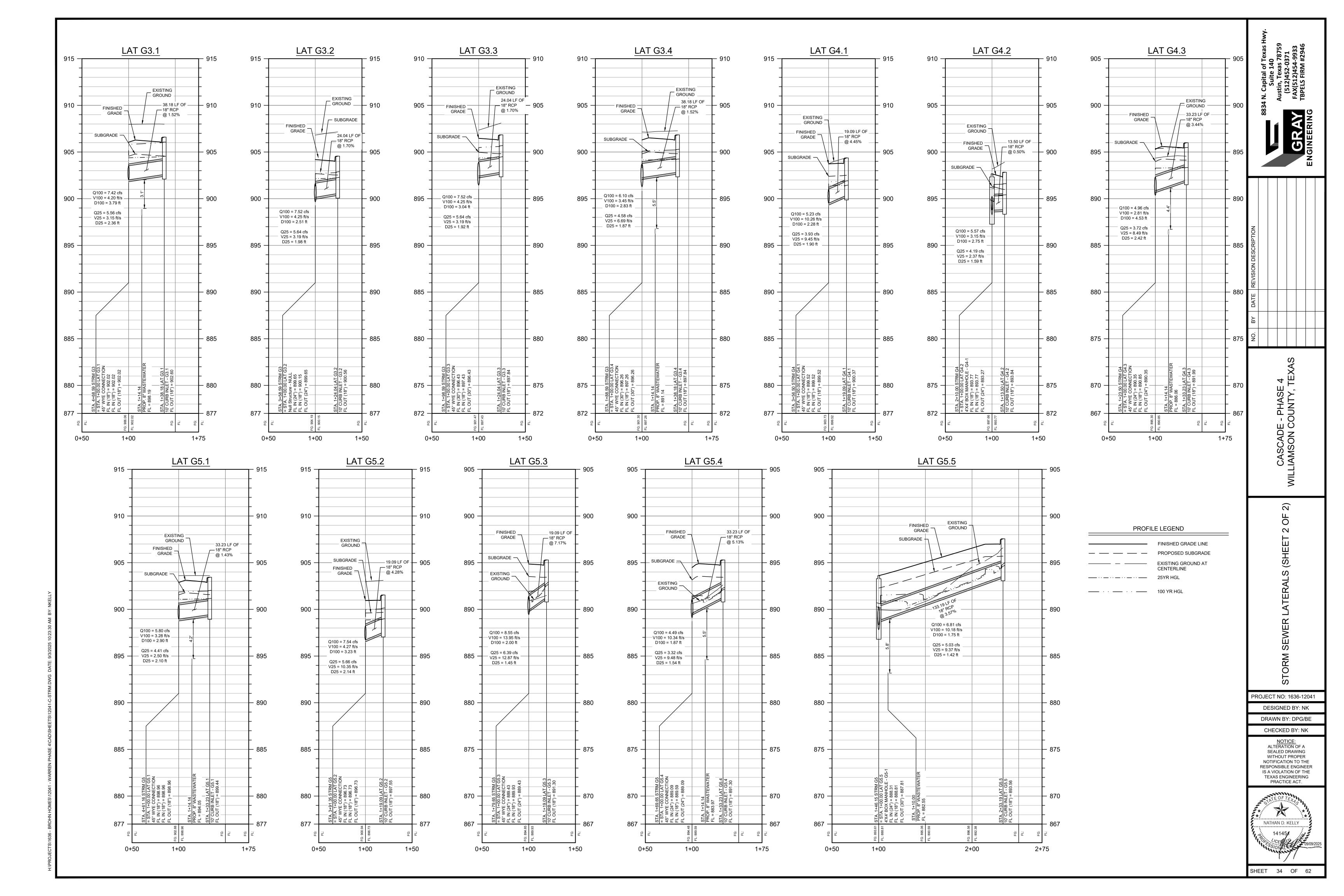
NUMBER | DELTA | TANGENT | RADIUS | ARC LENGTH | CHORD LENGTH | CHORD BEARING |

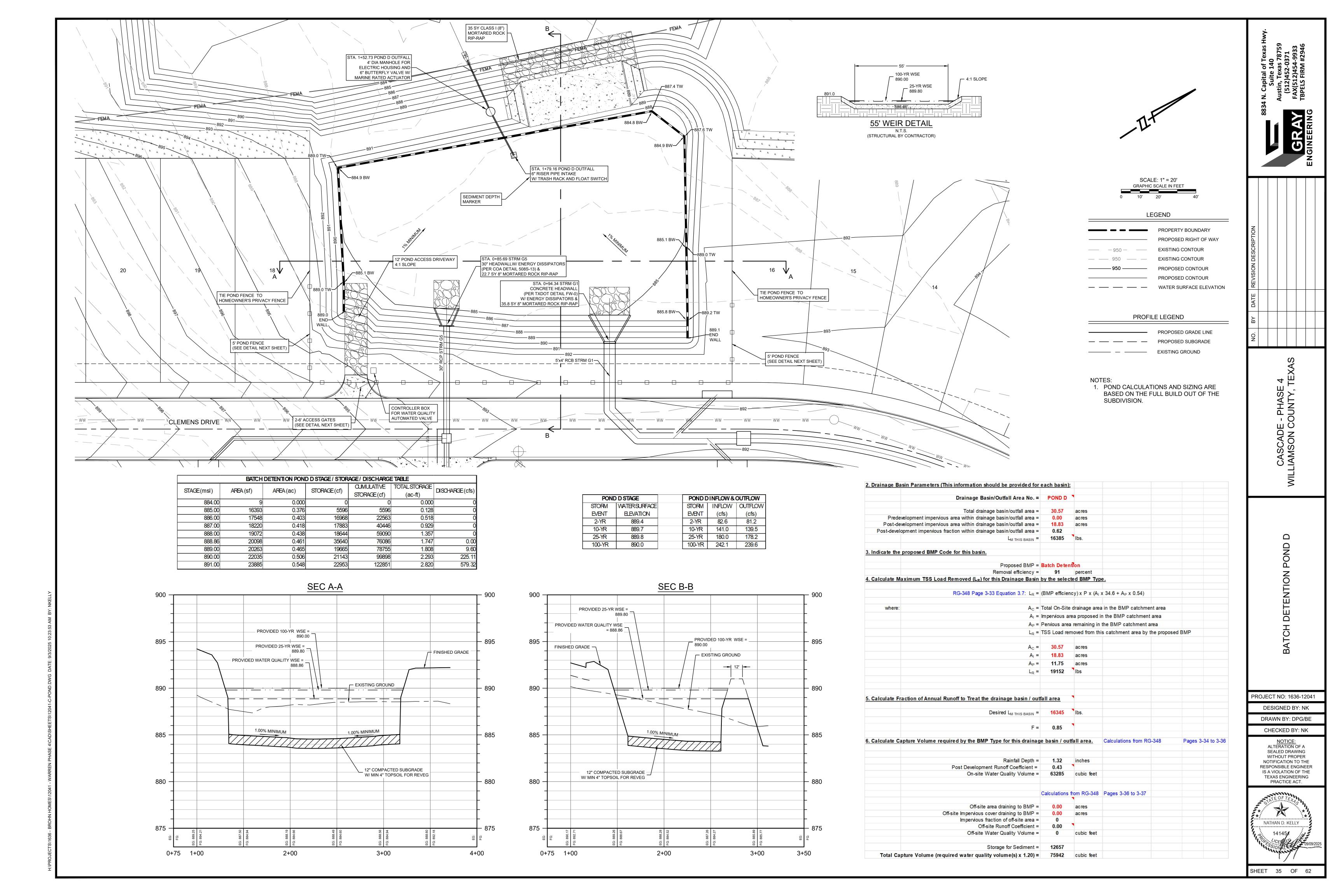
C2 | 28° 37' 01" | 77.79 | 305.00 |

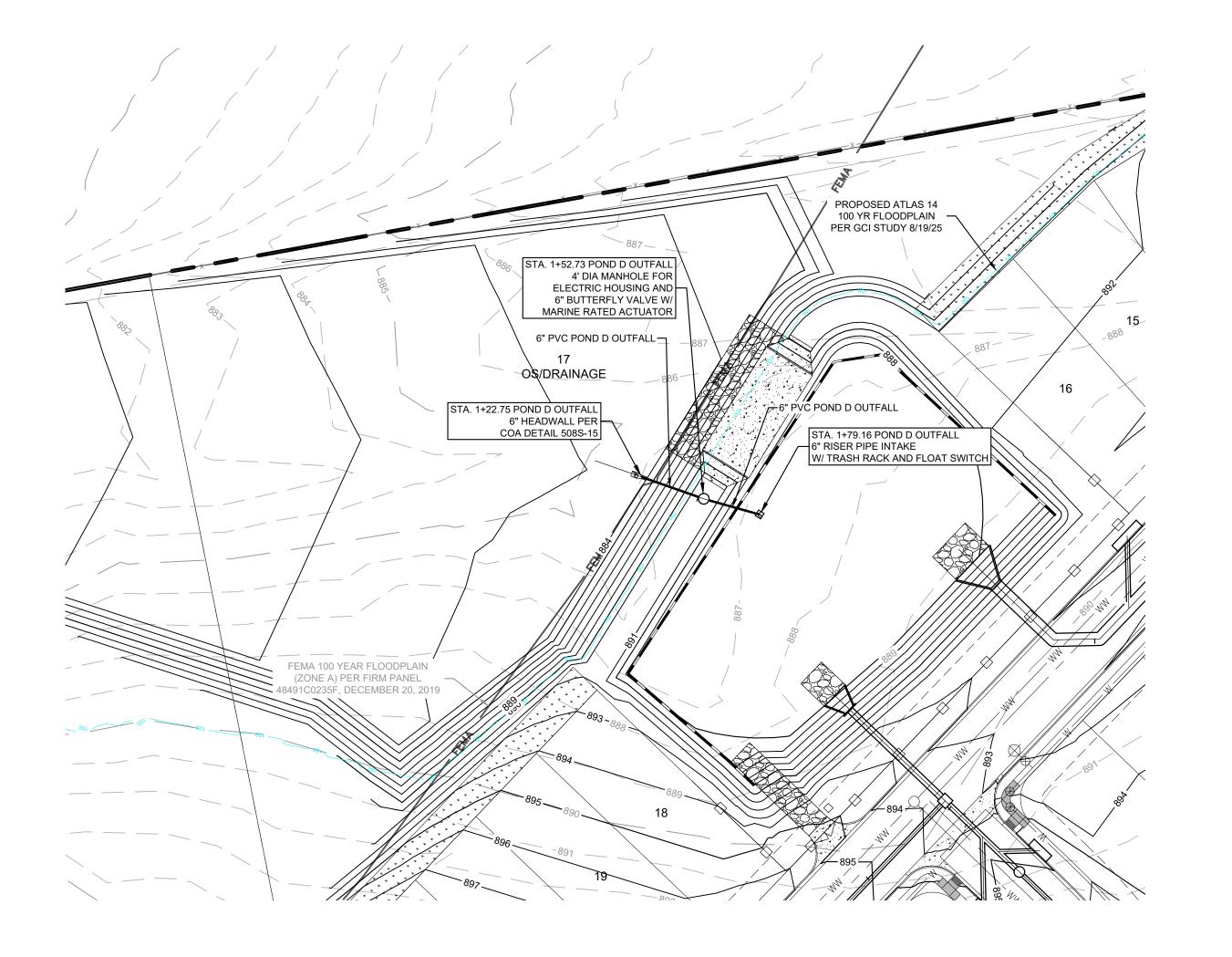
152.34

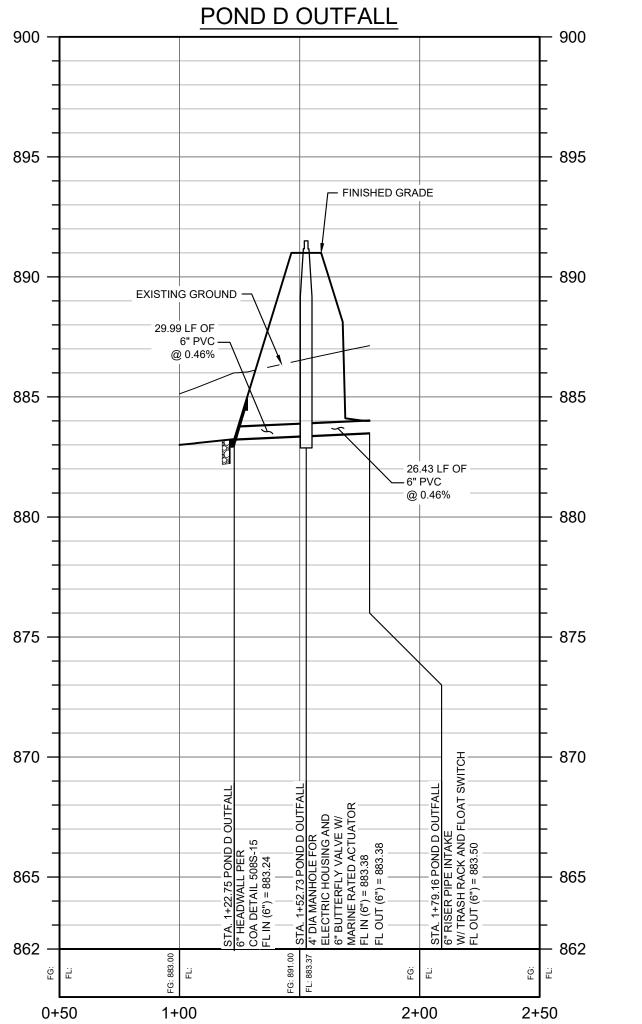
150.76 S42° 44' 00.72"E



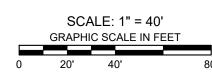












LEGEND PROPERTY BOUNDARY PROPOSED RIGHT OF WAY EXISTING CONTOUR PROPOSED CONTOUR PROPOSED CONTOUR STORM SEWER FLOW DIRECTION PROPOSED MANHOLE PROPOSED BOX MANHOLE 10' CURB INLET 15' CURB INLET

NOTES:

- 1. ALL INLET WYE CONNECTIONS TO BE 45 DEGREES UNLESS OTHERWISE NOTED. 2. ALL FITTINGS AND WYES SHALL BE
- PRECAST ELEMENTS AND NOT CAST-IN-PLACE WITHOUT PRIOR APPROVAL FROM THE COUNTY. 3. ALL STORM LATERALS TO BE 18" CLIII RCP
- UNLESS OTHERWISE NOTED. 4. ALL CURB INLETS TO BE 10' UNLESS OTHERWISE NOTED.

PROFILE LEGEND FINISHED GRADE LINE — — PROPOSED SUBGRADE EXISTING GROUND AT CENTERLINE

____ · · · ___ 100 YR HGL





REVISION DESCRIPTION				
DAIE				
ВУ				
O N				

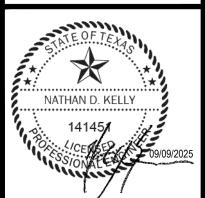
END)

PROJECT NO: 1636-12041 DESIGNED BY: NK

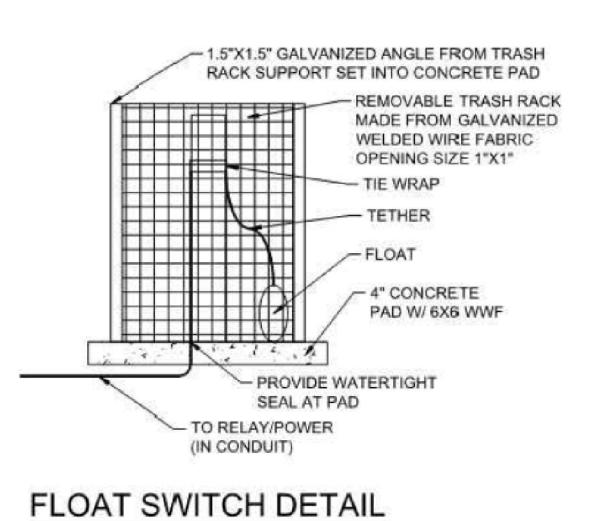
DRAWN BY: DPG/BE

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

CHECKED BY: NK

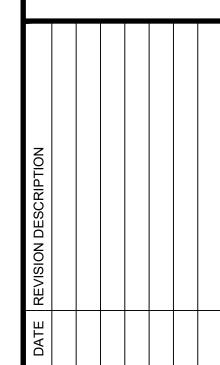


SHEET 36 OF 62



Programmable Solai Controllar Controller Butterfly Valve 죠--Level Detector

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



PROJECT NO: 1636-12041

DESIGNED BY: NK

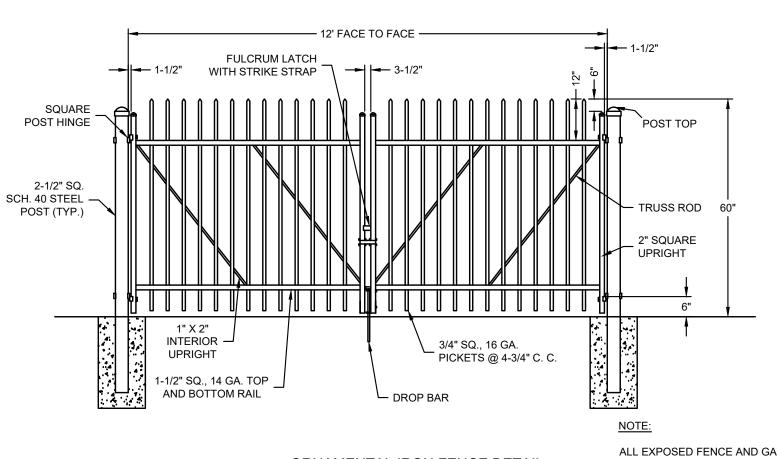
DRAWN BY: DPG/BE CHECKED BY: NK

<u>NOTICE:</u> ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING

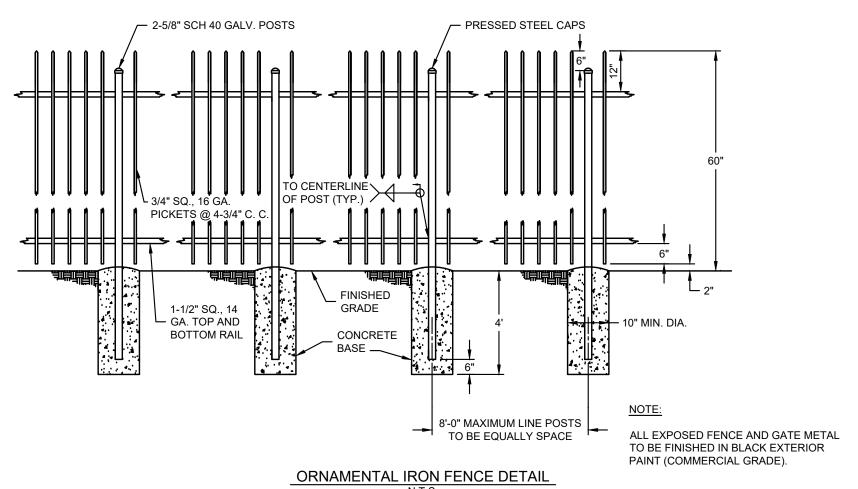
PRACTICE ACT.

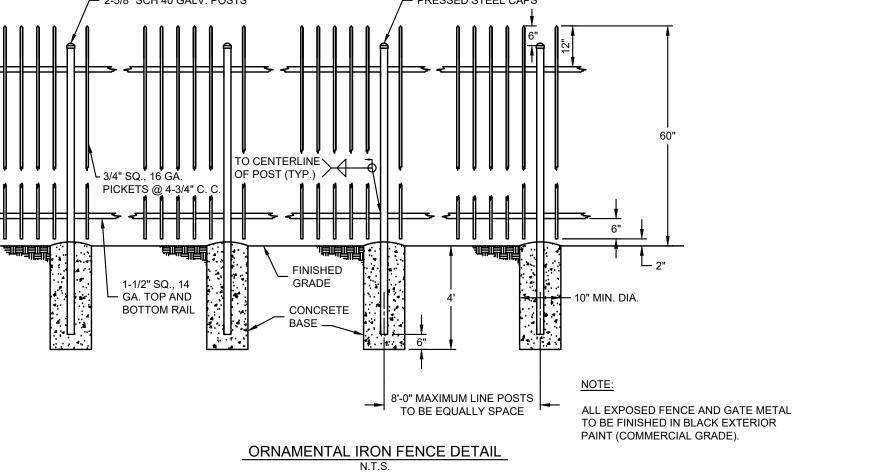


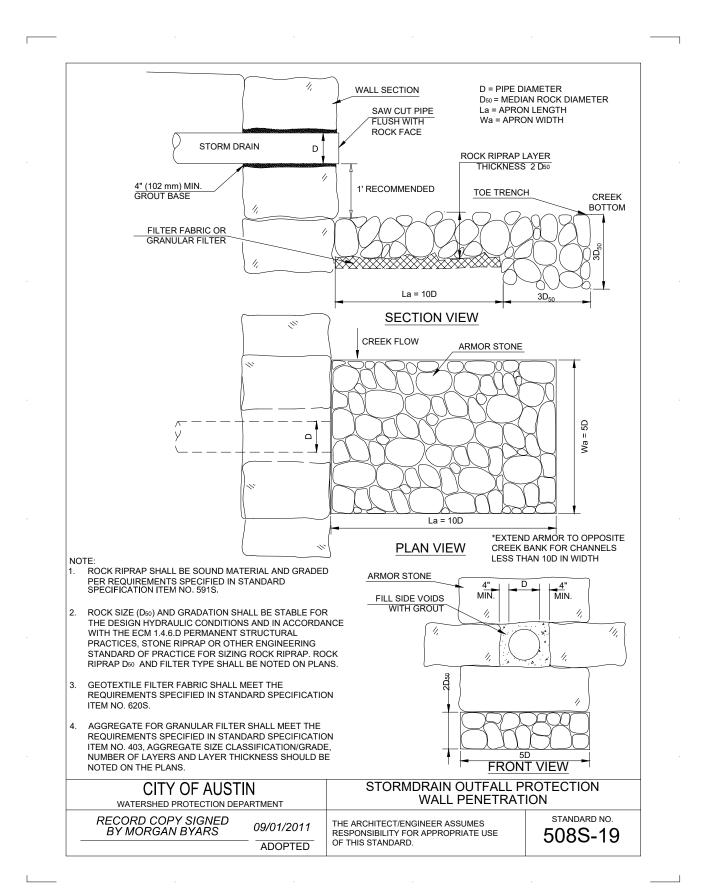


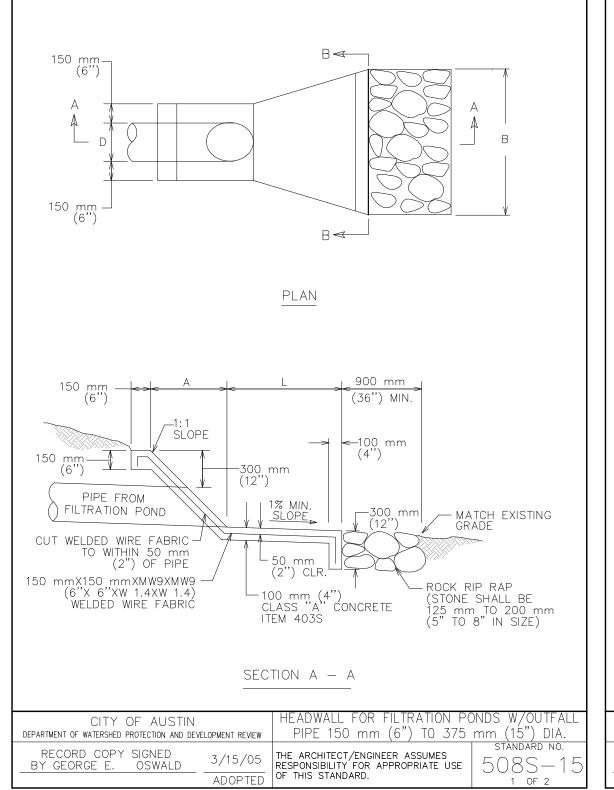


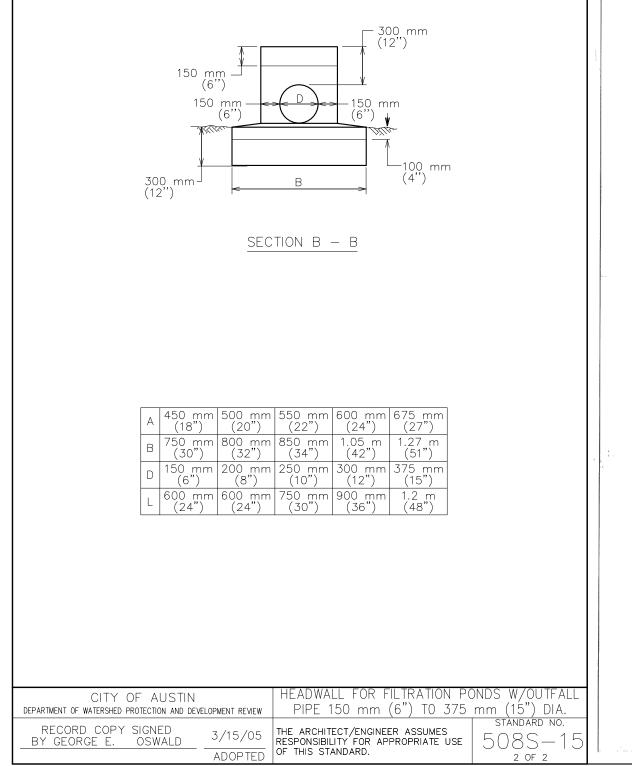


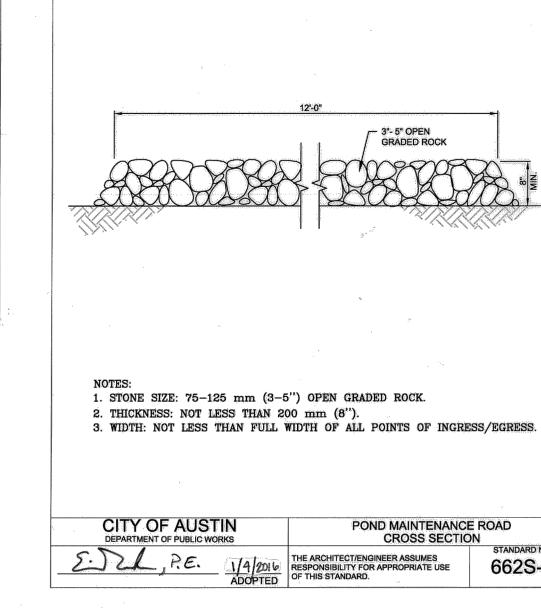








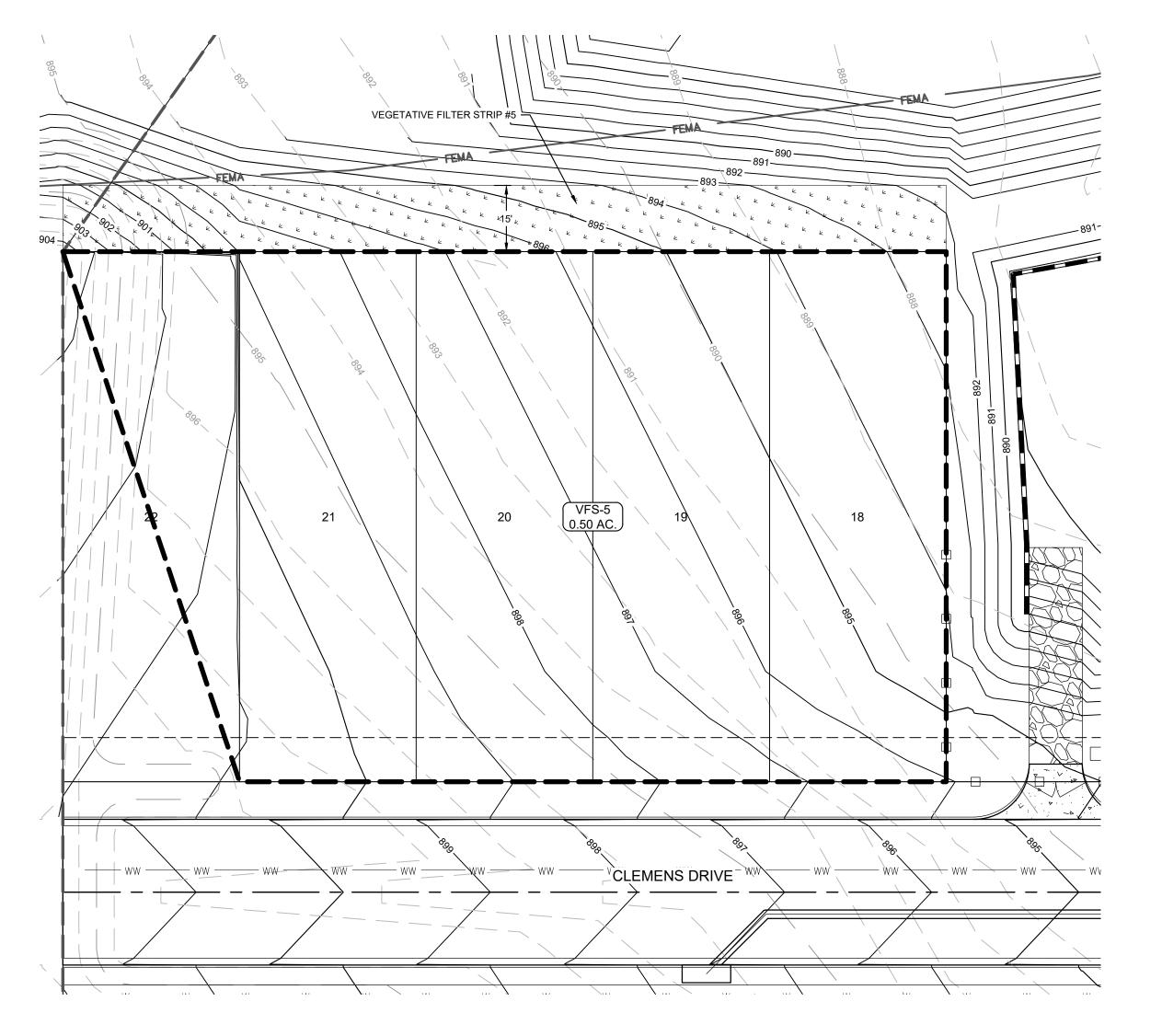


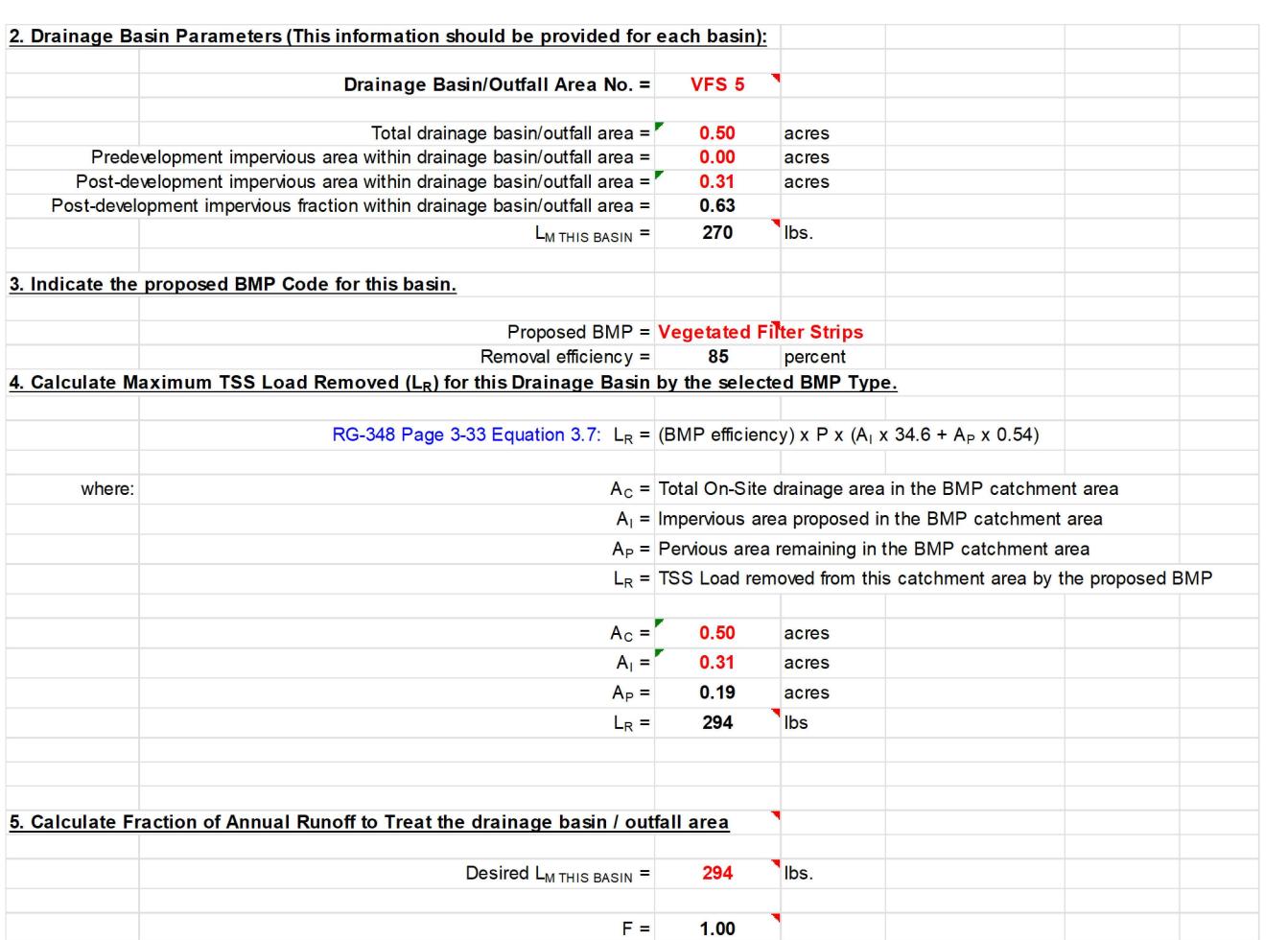


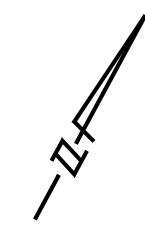
2" PAINTED RED STRIPE

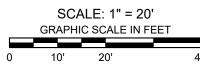
3500 PSI CONCRETE

SEDIMENT MARKER DETAIL







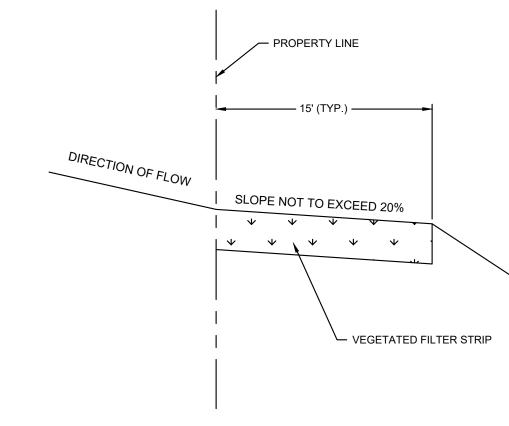


LEGEND PROPERTY BOUNDARY PROPOSED RIGHT OF WAY EXISTING CONTOUR PROPOSED CONTOUR PROPOSED CONTOUR PROPOSED CONTOUR WATER SURFACE ELEVATION

PROFII	LE LEGEND
-	
	PROPOSED GRADE LI
	PROPOSED SUBGRAD
	EXISTING GROUND

NOTES:

1. POND CALCULATIONS AND SIZING ARE BASED ON THE FULL BUILD OUT OF THE SUBDIVISION.



VFS NOTES (TCEQ RG348):

- 1. THE FILTER STRIP SHOULD EXTEND ALONG THE ENTIRE LENGTH OF THE CONTRIBUTING AREA AND THE SLOPE SHOULD NOT EXCEED 20%. THE MINIMUM DIMENSION OF THE FILTER STRIP (IN THE DIRECTION OF FLOW) SHOULD BE NO LESS THAN 15 FEET. THE MAXIMUM WIDTH (IN THE DIRECTION OF FLOW) OF THE CONTRIBUTING IMPERVIOUS ARE SHOULD NOT EXCEED 72 FEET. FOR ROADWAYS WITH A VEGETATED STRIP ALONG BOTH SIDES, THE TOTAL WIDTH OF THE ROADWAY SHOULD NOT EXCEED 144 FEET (I.E. 72 FEET DRAINING TO EACH SIDE).
- 2. THE MINIMUM VEGETATED COVER FOR
- ENGINEERED STRIPS IS 80%.

 3. THE AREA CONTRIBUTING RUNOFF TO A FILTER STRIP SHOULD BE RELATIVELY FLAT SO THAT THE RUNOFF IS DISTRIBUTED EVENLY TO THE VEGETATED AREA WITHOUT THE USE OF A LEVEL SPREADER.
- 4. THE AREA TO BE USED FOR THE STRIP SHOULD BE FREE OF GULLIES OR RILLS THAT CAN CONCENTRATE OVERLAND FLOW (SCHUELER, 1987).
- 5. THE TOP EDGE OF THE FILTER STRIP ALONG THE PAVEMENT WILL BE DESIGNED TO AVOID THE SITUATION WHERE RUNOFF WOULD TRAVEL ALONG THE TOP OF THE FILTER STRIP, RATHER THAN THROUGH IT.
- 6. TOP EDGE OF THE FILTER STRIP SHOULD BE LEVEL, OTHERWISE RUNOFF WILL TEND TO FORM A CHANNEL IN THE LOW SPOT. A LEVEL SPREADER SHOULD NOT BE USED TO DISTRIBUTE RUNOFF TO AN ENGINEERED FILTER STRIP.
- 7. FILTER STRIPS SHOULD BE LANDSCAPED AFTER OTHER PORTIONS OF THE PROJECT ARE COMPLETED.

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

NO. BY DATE REVISION DESCRIPTION

CASCADE - PHASE 4 WILLIAMSON COUNTY, TEX

VEGETATIVE FILTER STRIP 5

PROJECT NO: 1636-12041

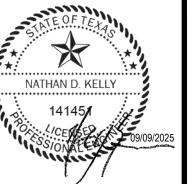
DESIGNED BY: NK

DRAWN BY: DPG/BE
CHECKED BY: NK

CHECKED BY: NK

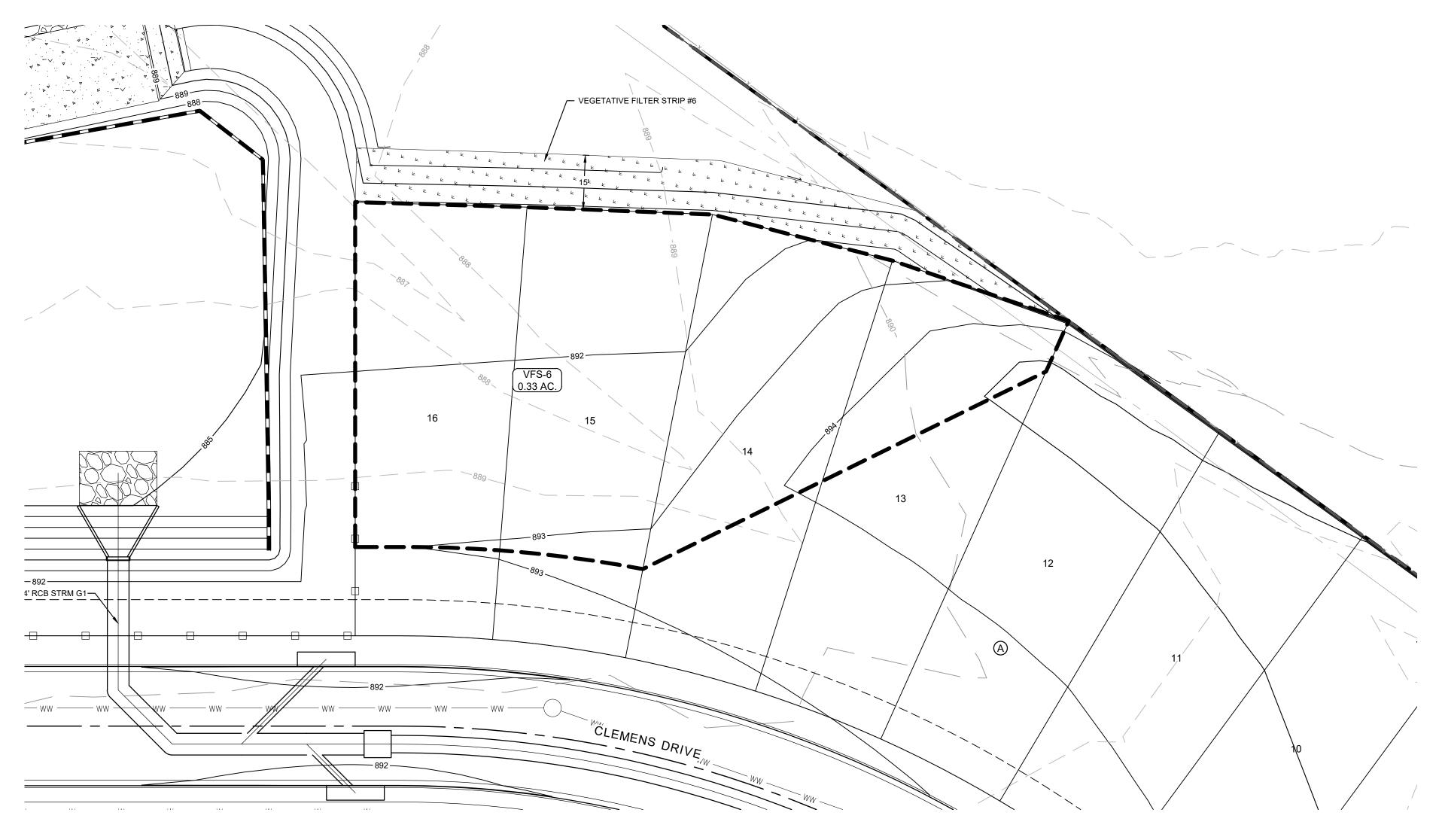
NOTICE:
ALTERATION OF A

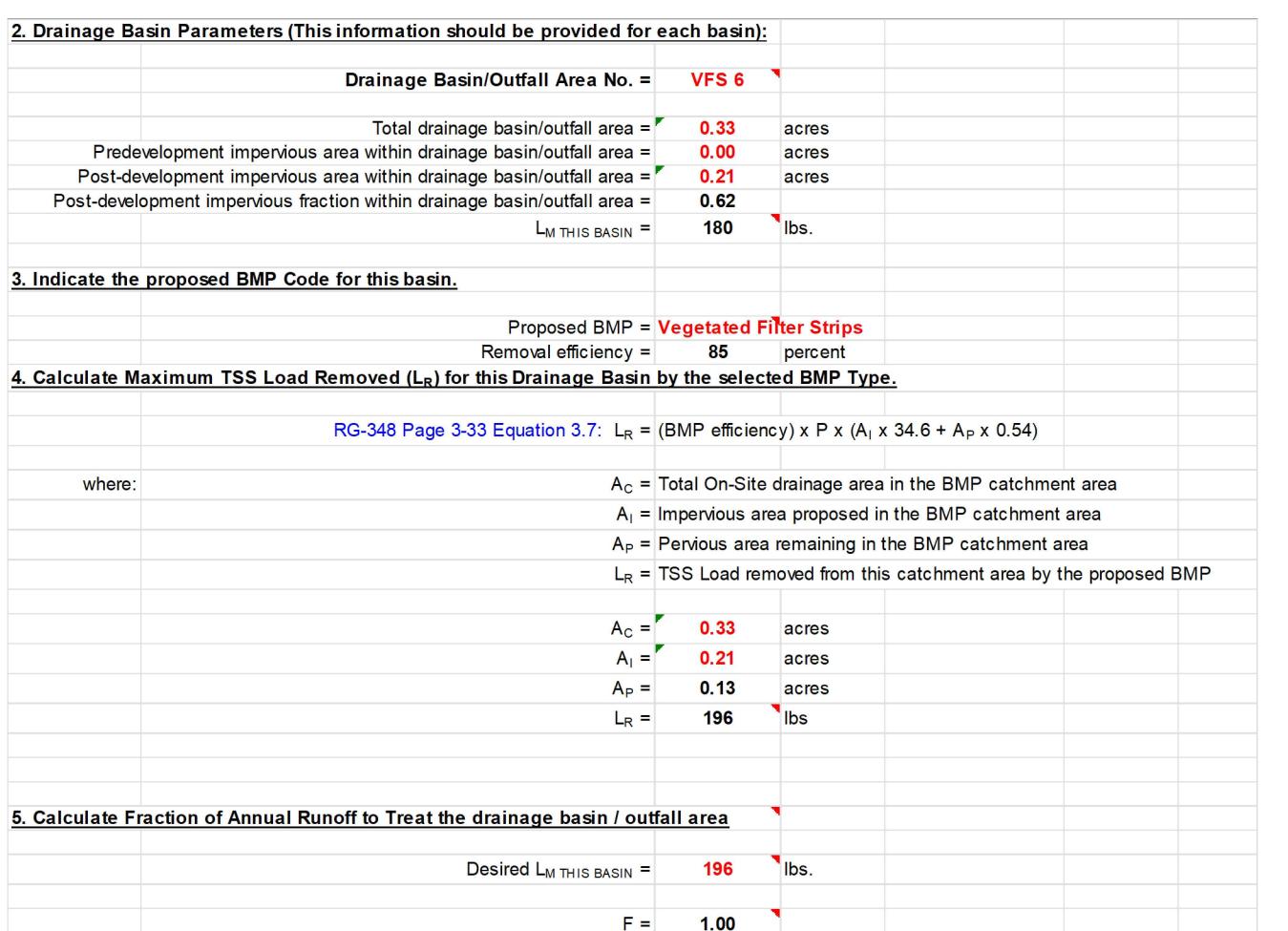
ALTERATION OF A
SEALED DRAWING
WITHOUT PROPER
NOTIFICATION TO THE
RESPONSIBLE ENGINEER
IS A VIOLATION OF THE
TEXAS ENGINEERING
PRACTICE ACT.

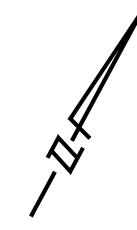


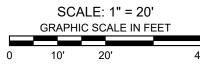
SHEET 38 OF 62

H:\PROJECTS\1636 - BROHN HOMES\12041 - WARREN PHASE 4\CAD\SHEETS\12041-C-POND.D'









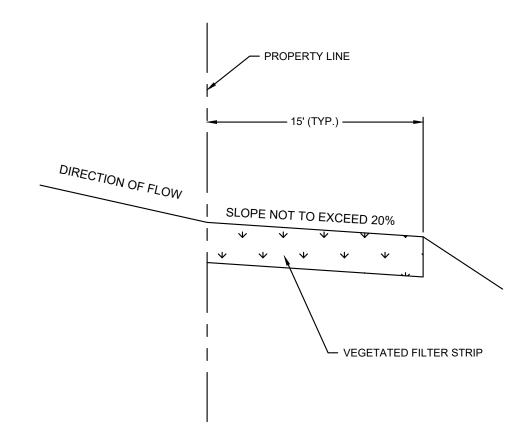
	- CEND
	PROPERTY BOUNDARY
	PROPOSED RIGHT OF WAY
<u> </u>	EXISTING CONTOUR
— —	EXISTING CONTOUR
950 ———	PROPOSED CONTOUR
	PROPOSED CONTOUR
	WATER SURFACE ELEVATION

LEGEND

PROFIL	E LEGEND
	PROPOSED GRADE LI
	PROPOSED SUBGRAD
	EXISTING GROUND

NOTES:

1. POND CALCULATIONS AND SIZING ARE
BASED ON THE FULL BUILD OUT OF THE
SUBDIVISION.



VFS NOTES (TCEQ RG348):

- 1. THE FILTER STRIP SHOULD EXTEND ALONG THE ENTIRE LENGTH OF THE CONTRIBUTING AREA AND THE SLOPE SHOULD NOT EXCEED 20%. THE MINIMUM DIMENSION OF THE FILTER STRIP (IN THE DIRECTION OF FLOW) SHOULD BE NO LESS THAN 15 FEET. THE MAXIMUM WIDTH (IN THE DIRECTION OF FLOW) OF THE CONTRIBUTING IMPERVIOUS ARE SHOULD NOT EXCEED 72 FEET. FOR ROADWAYS WITH A VEGETATED STRIP ALONG BOTH SIDES, THE TOTAL WIDTH OF THE ROADWAY SHOULD NOT EXCEED 144 FEET (I.E. 72 FEET DRAINING TO EACH SIDE).
- 2. THE MINIMUM VEGETATED COVER FOR ENGINEERED STRIPS IS 80%.
- 3. THE AREA CONTRIBUTING RUNOFF TO A FILTER STRIP SHOULD BE RELATIVELY FLAT SO THAT THE RUNOFF IS DISTRIBUTED EVENLY TO THE VEGETATED AREA WITHOUT THE USE OF A LEVEL SPREADER.
- 4. THE AREA TO BE USED FOR THE STRIP SHOULD BE FREE OF GULLIES OR RILLS THAT CAN CONCENTRATE OVERLAND FLOW (SCHUELER, 1987).
- 5. THE TOP EDGE OF THE FILTER STRIP ALONG THE PAVEMENT WILL BE DESIGNED TO AVOID THE SITUATION WHERE RUNOFF WOULD TRAVEL ALONG THE TOP OF THE FILTER STRIP, RATHER THAN THROUGH IT.
- 6. TOP EDGE OF THE FILTER STRIP SHOULD BE LEVEL, OTHERWISE RUNOFF WILL TEND TO FORM A CHANNEL IN THE LOW SPOT. A LEVEL SPREADER SHOULD NOT BE USED TO DISTRIBUTE RUNOFF TO AN ENGINEERED FILTER STRIP.
- 7. FILTER STRIPS SHOULD BE LANDSCAPED AFTER OTHER PORTIONS OF THE PROJECT ARE COMPLETED.

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

	4		Ē	
DATE REVISION DESCRIPTION				
DATE				
ВУ				
<u>.</u>				

CASCADE - PHASE 4 WILLIAMSON COUNTY, TEX

VEGETATIVE FILTER STRIP 6

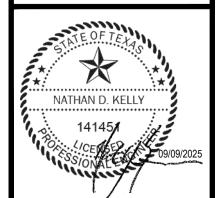
PROJECT NO: 1636-12041

DESIGNED BY: NK

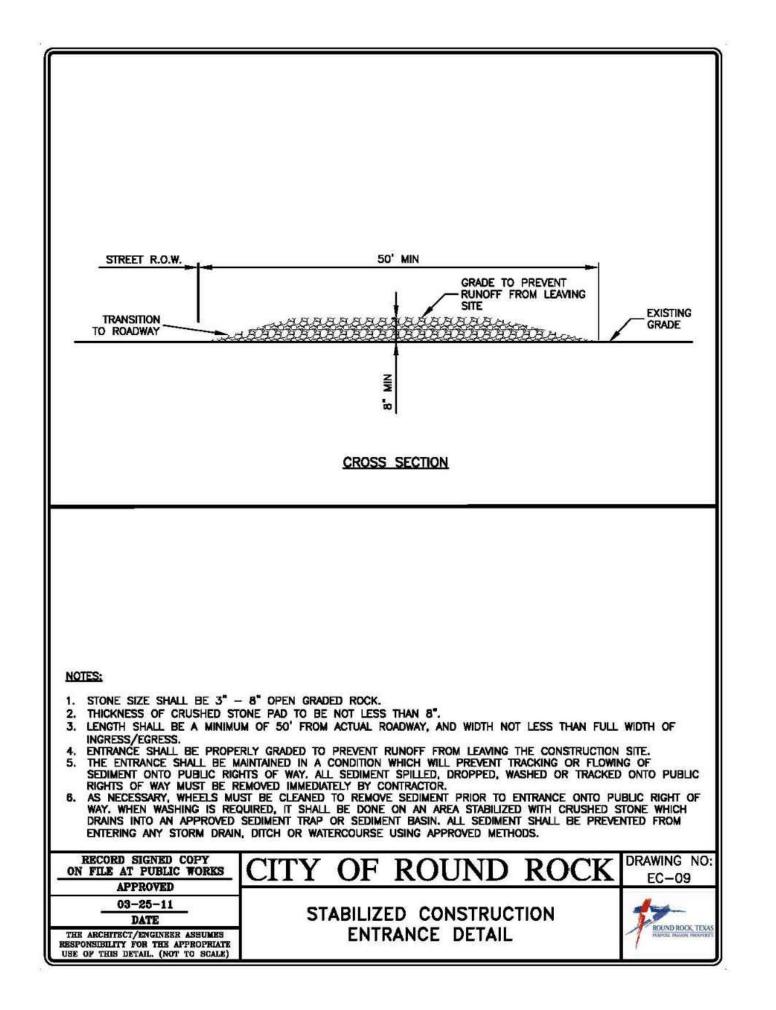
DRAWN BY: DPG/BE
CHECKED BY: NK

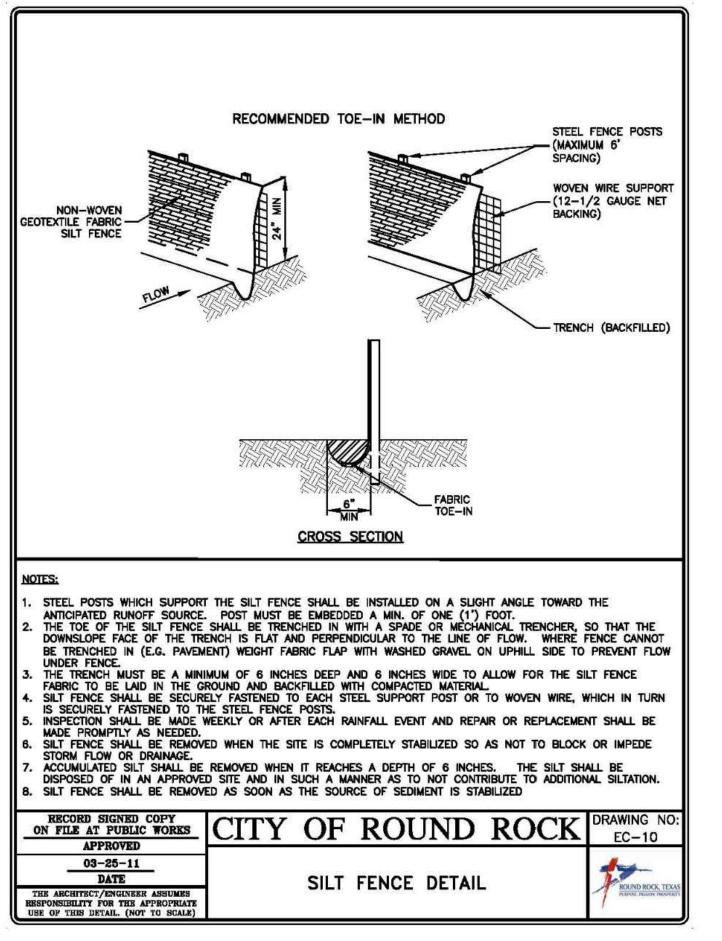
NOTICE:
ALTERATION OF A
SEALED DRAWING
WITHOUT PROPER
NOTIFICATION TO THE
RESPONSIBLE ENGINEER
IS A VIOLATION OF THE
TEXAS ENGINEERING

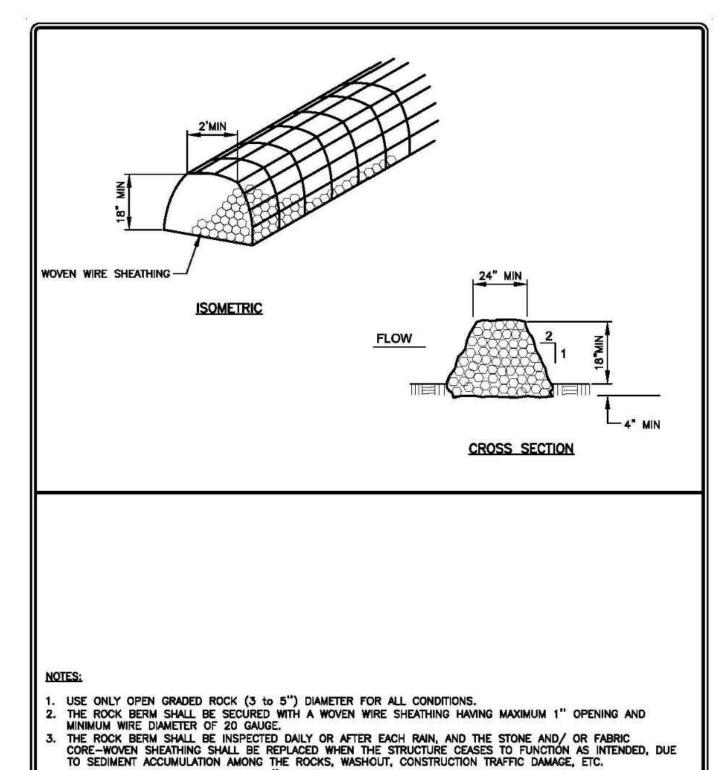
PRACTICE ACT.



SHEET 39 OF 62







. IF SEDIMENT REACHES A DEPTH OF 6", THE SEDIMENT SHALL BE REMOVED AND DISPOSED OF ON AN APPROVED SITE AND IN A MANNER THAT WILL NOT CREATE A SEDIMENTATION PROBLEM.

DISPOSED OF IN AN APPROVED MANNER.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS

03-25-11

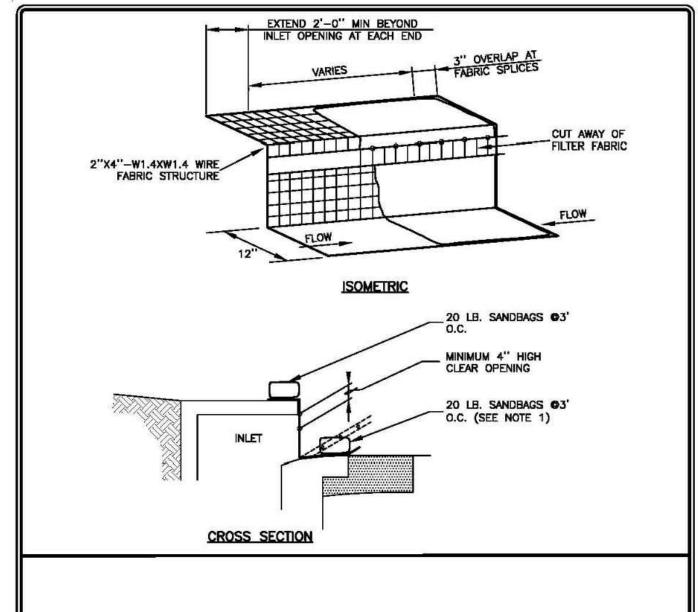
DATE

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

WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SEDIMENT SHALL BE REMOVED AND

CITY OF ROUND ROCK

ROCK BERM DETAIL



RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)

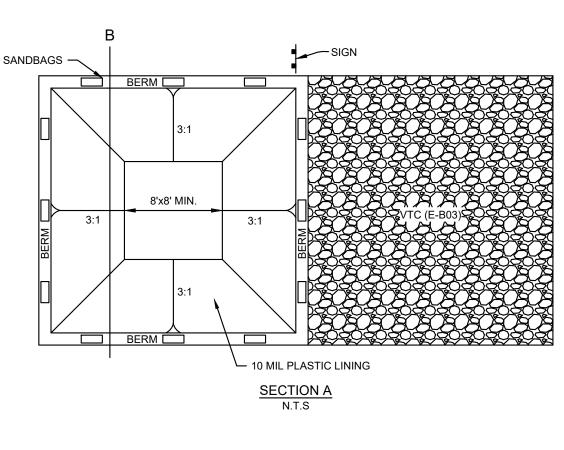
EC-12

- WHERE MINIMUM CLEARANCES CAUSE TRAFFIC TO DRIVE IN THE GUTTER, THE CONTRACTOR MAY SUBSTITUTE A 1" X 4" BOARD SECURED WITH CONCRETE NAILS 3' O.C. NAILED INTO THE GUTTER IN LIEU OF SANDBAGS TO HOLD THE FILTER DIKE IN PLACE. UPON REMOVAL, CLEAN ANY DIRT/DEBRIS FROM NAILING LOCATIONS, APPLY CHEMICAL SANDING AGENT AND APPLY NON-SHRINK GROUT FLUSH WITH SURFACE OF GUTTER.

 A SECTION OF FILTER FABRIC SHALL BE REMOVED AS SHOWN ON THIS DETAIL OR AS DIRECTED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR
- DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN
- CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND

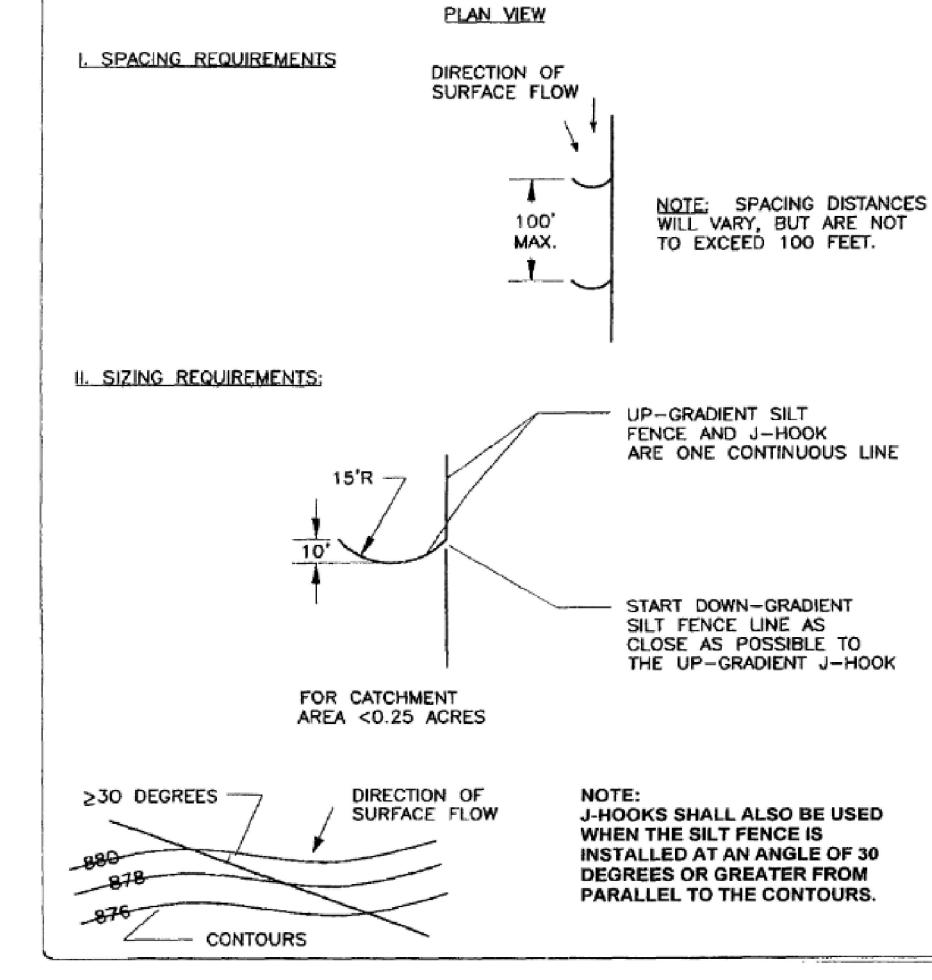
	RRCO	RD SIGNED C	OPY	П	~~~	 _	_	 T	-	-	_	O OTT	DRAWING	N
5.		PROTECTIONS			ALTERNATION CONTRACTOR	 	200	 			- 100 Te		MD.	

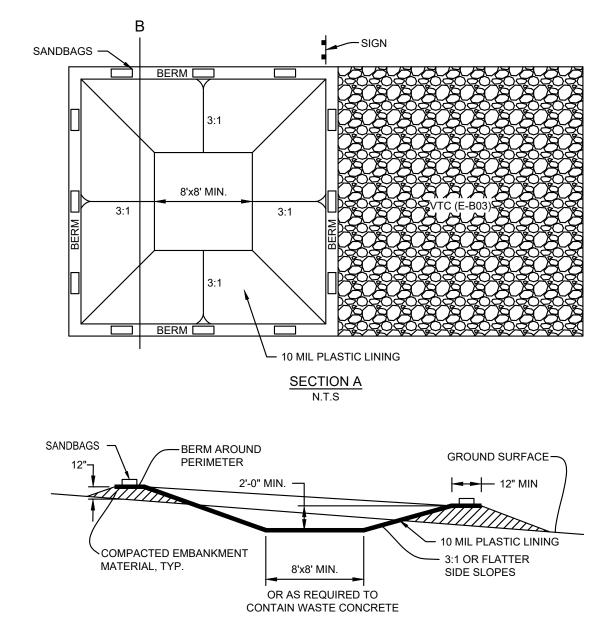
ON FILE AT PUBLIC WORKS CITY OF ROUND ROCK EC-14 03-25-11 DATE **CURB INLET PROTECTION DETAIL**



SECTION B N.T.S.

- CONCRETE WASHOUT AREA MAINTENANCE NOTES 1. CONTRACTOR SHALL SELECT A SUITABLE LOCATION FOR
- 1. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED CONCRETE WASHOUT AREA(S). (TO BE PLACED A AND ENLARGED OR CLEANED OUT AS NECESSARY TO MINIMUM OF 100' FROM DRINAGEWAYS, BODIES OF MAINTAIN CAPACITY FOR WASTED CONCRETE.
 - 2. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
 - 3. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.
 - 4. INSPECT WEEKLY, DURING AND AFTER ANY STORM
 - 5. IMMEDIATELY REPAIR/REPLACE PLASTIC LINING IN THE EVENT OF TEARS, HOLES, OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY.





CONCRETE WASHOUT AREA INSTALLATION NOTES

REQUIRED AT THE ACCESS POINT.

WATER, AND INLETS.) 2. LOCATION FOR CONCRETE WASHOUT SHALL BE ADDED

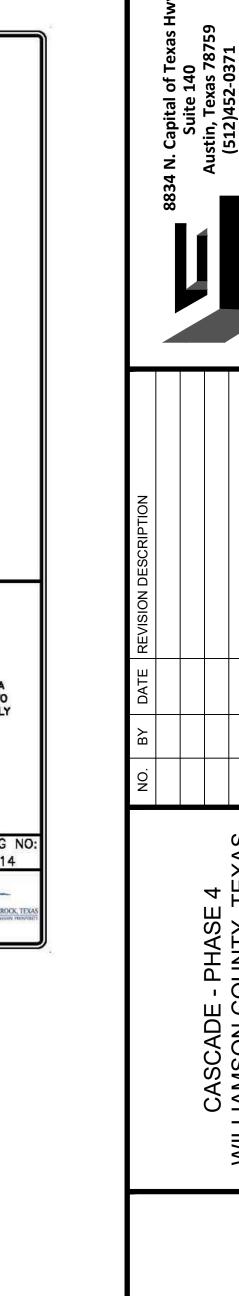
TO APPROVED SWP3 KEPT ON SITE. 3. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED

PRIOR TO ANY CONCRETE PLACEMENT ON SITE. 4. VEHICLE TRACKING CONTROL (DETAIL E-B03) IS

5. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.

6. EXCAVATED MATERIAL SHALL BE UTILIZED IN PERIMETER BERM CONSTRUCTION.

> CONCRETE **WASHOUT AREA**



PROJECT NO: 1636-12041

DESIGNED BY: NK

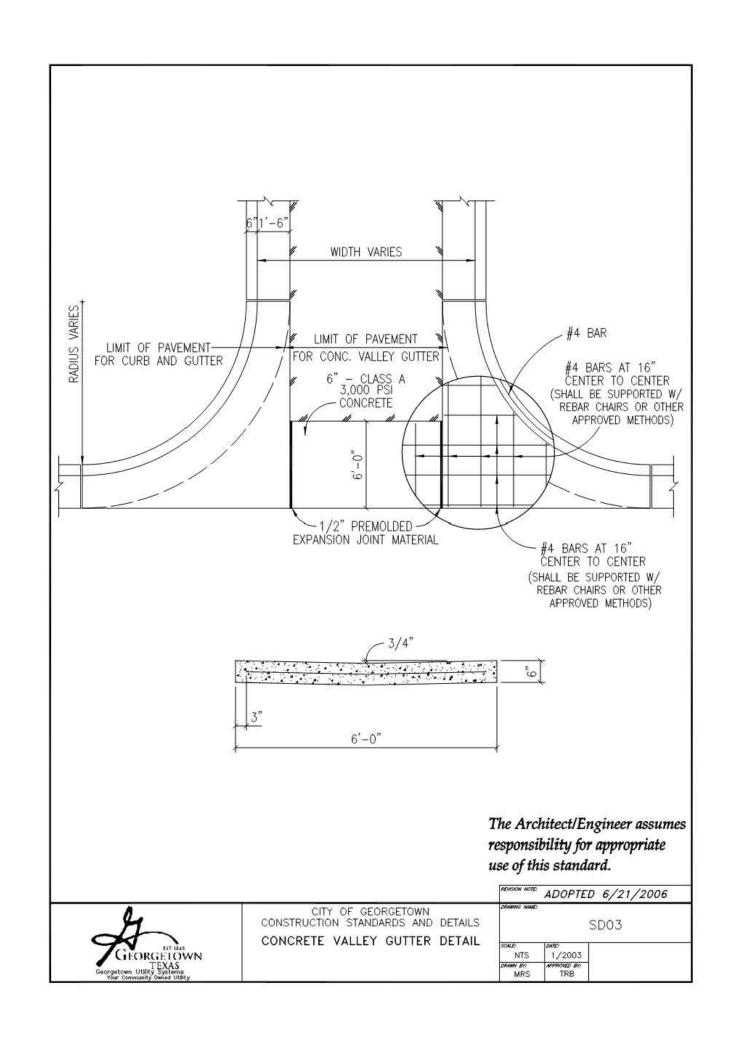
DRAWN BY: DPG/BE

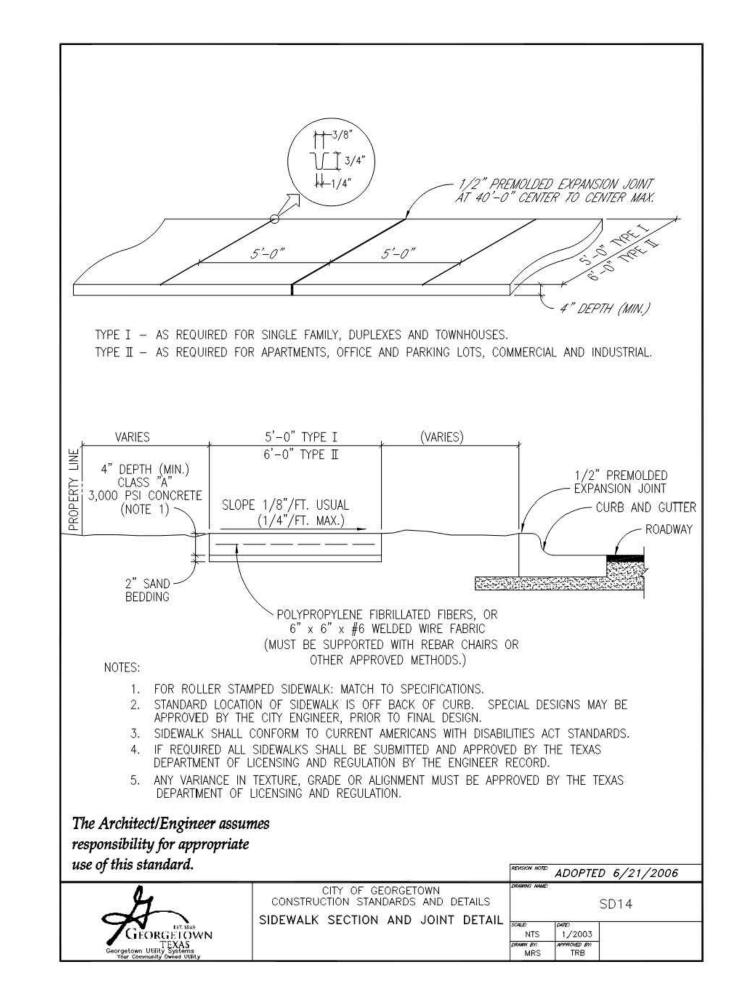
CHECKED BY: NK

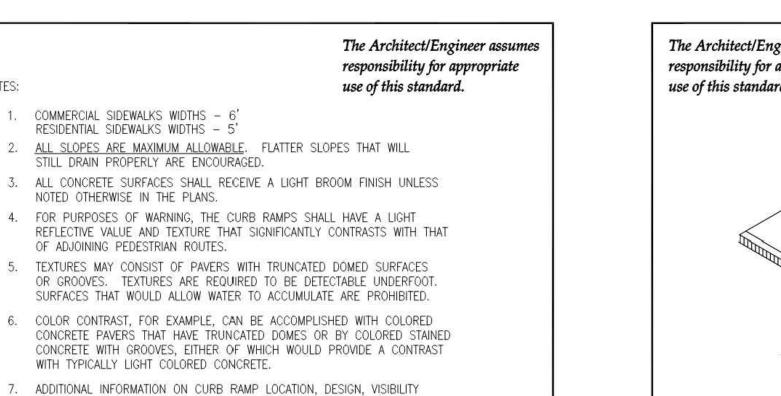
<u>NOTICE:</u> ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.



SHEET 52 OF 62







7. ADDITIONAL INFORMATION ON CURB RAMP LOCATION, DESIGN, VISIBILITY AND TEXTURE MAY BE FOUND IN THE CURRENT EDITION OF THE TEXAS ACCESSIBILITY STANDARDS (TAS) PREPARED AND ADMINISTERED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION (TDLR).

NOTES:

1. COMMERCIAL SIDEWALKS WIDTHS - 6' RESIDENTIAL SIDEWALKS WIDTHS - 5'

NOTED OTHERWISE IN THE PLANS.

OF ADJOINING PEDESTRIAN ROUTES.

8. RAISED MEDIANS SEPARATE OPPOSING DIRECTIONS OF TRAFFIC AND PROVIDE A REFUGE AREA FOR PEDESTRIANS IF THEY ARE UNABLE TO CROSS THE ENTIRE ROADWAY IN THE ALLOTTED SIGNAL PHASE. TO SERVE AS A REFUGE AREA. THE MEDIAN SHOULD BE A MINIMUM OF 4 FEET WIDE. MEDIANS SHOULD BE DESIGNED TO PROVIDE ACCESSIBLE PASSAGE OVER OR THROUGH THEM.

9. ALL SIDEWALK PLANS AND DETAILS SHALL BE SUBMITTED AND APPROVED BY THE TEXAS DEPARTMENT OF LICENSING AND REGUALTION (TDLR).

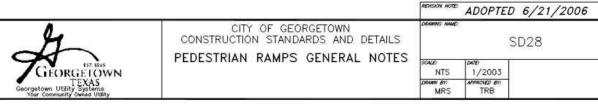
10. ANY PART OF THE ACCESSIBLE ROUTE WITH A SLOPE GRATER THAN 1:20 (5%) SHALL BE CONSIDERED A RAMP. IF A RAMP HAS A RISE GREATER THAN 6 INCHES OR A HORIZONTAL PROJECTION GREATER THAN 72 INCHES, THEN IT SHALL HAVE HANDRAILS ON BOTH SIDES. THE ONLY EXCEPTION IS AT CURB RAMPS. HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. CURB RAMPS SHALL BE PROVIDED WHERE EVER AN ACCESSIBLE ROUTE CROSSES (PENETRATES) A CURB. CURB RAMPS ARE GENERALLY INTERPRETED AS ONLY THE PORTION TYING DIRECTLY INTO THE ROADWAY.

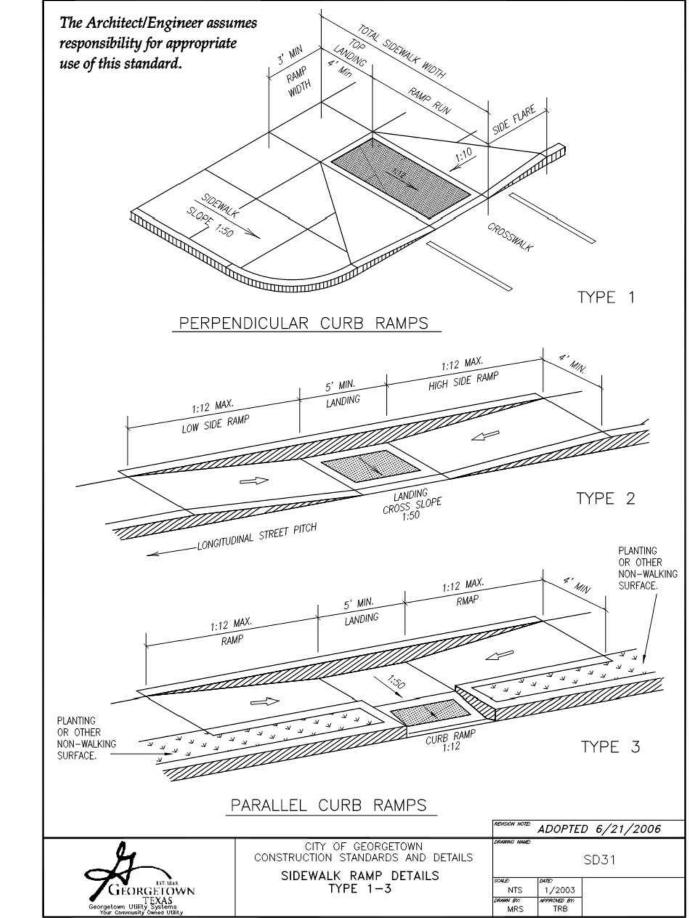
11. TRAFFIC SIGNAL OR ILLUMINATION POLES, GROUND BOXES, CONTROLLER BOXES, SIGNS, DRAINAGE FACILITIES AND OTHER ITEMS SHALL BE PLACED SO NOT TO OBSTRUCT THE ACCESSIBLE ROUTE.

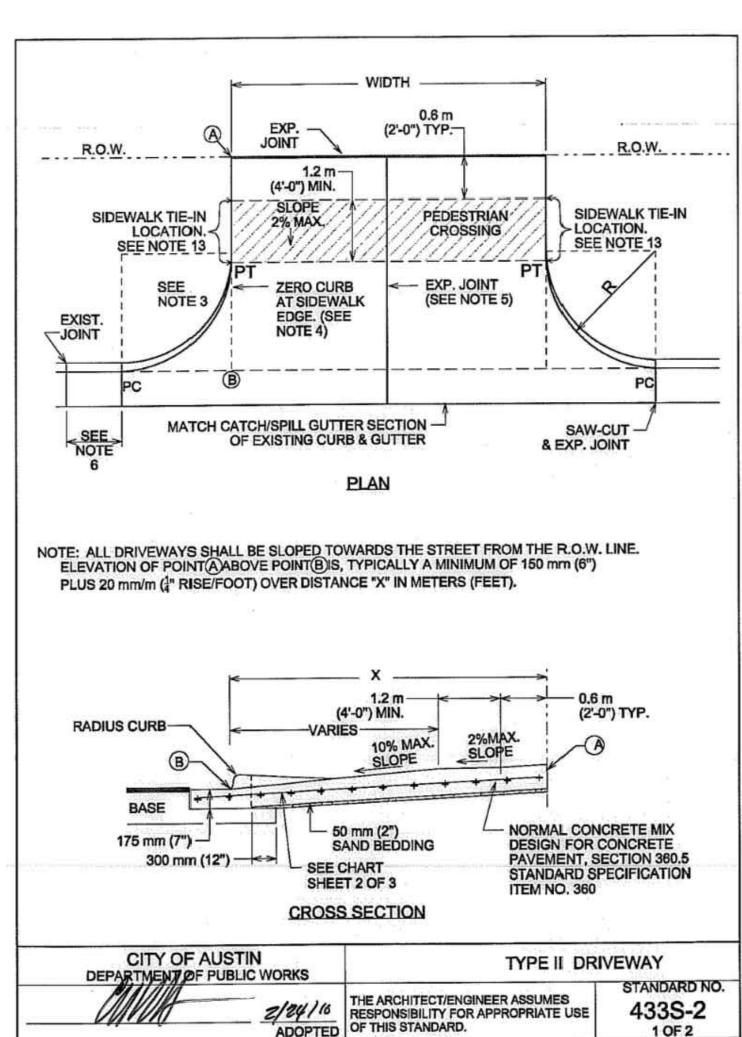
12. ALL SIDEWALKS WILL BE DOWELED INTO EXISTING SIDEWALKS, DRIVEWALKS, DRIVEWAYS, INLET BOXES, RETAINING WALLS, ETC.

13. ALL SIDEWALK CROSS-SLOPES SHALL NOT EXCEED 1:50, UNLESS A VARIANCE

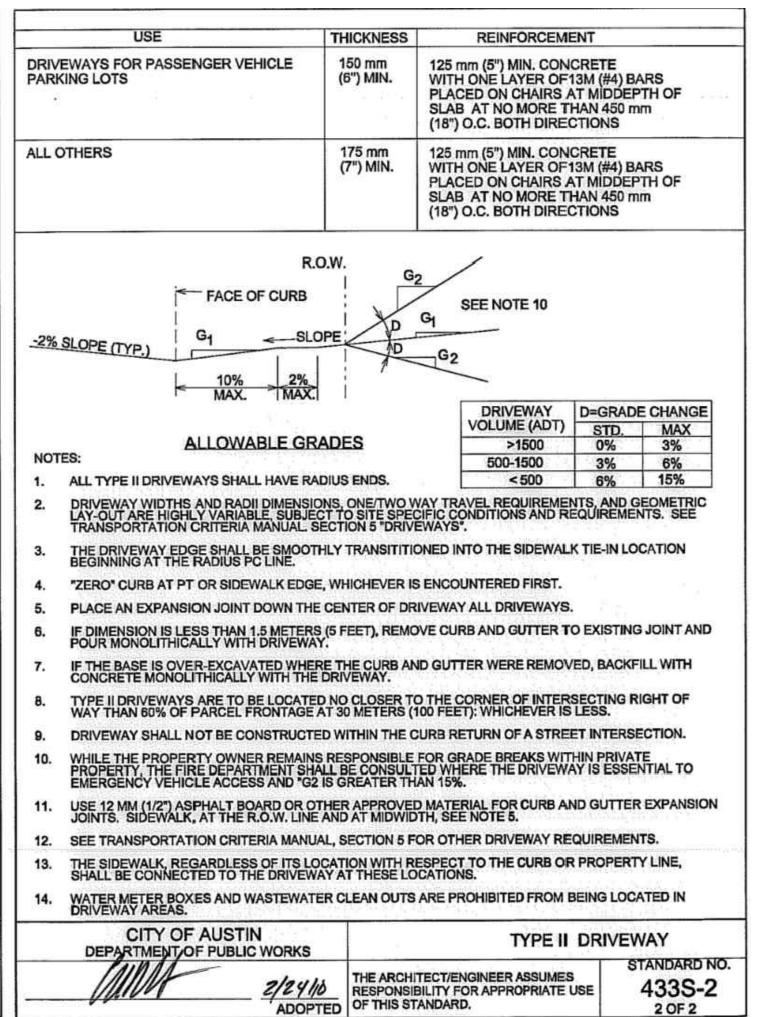
IS PROVIDED BY TDLR.

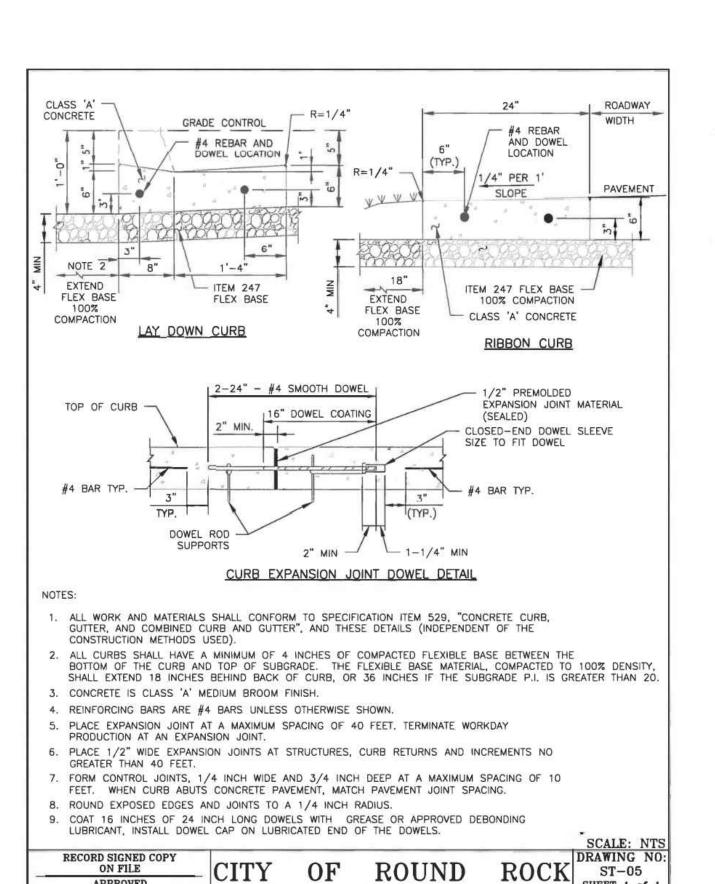






1 OF 2





LAYDOWN AND RIBBON CURB DETAIL

(WITH EXPANSION JOINT

DOWEL DETAIL)

SHEET 1 of

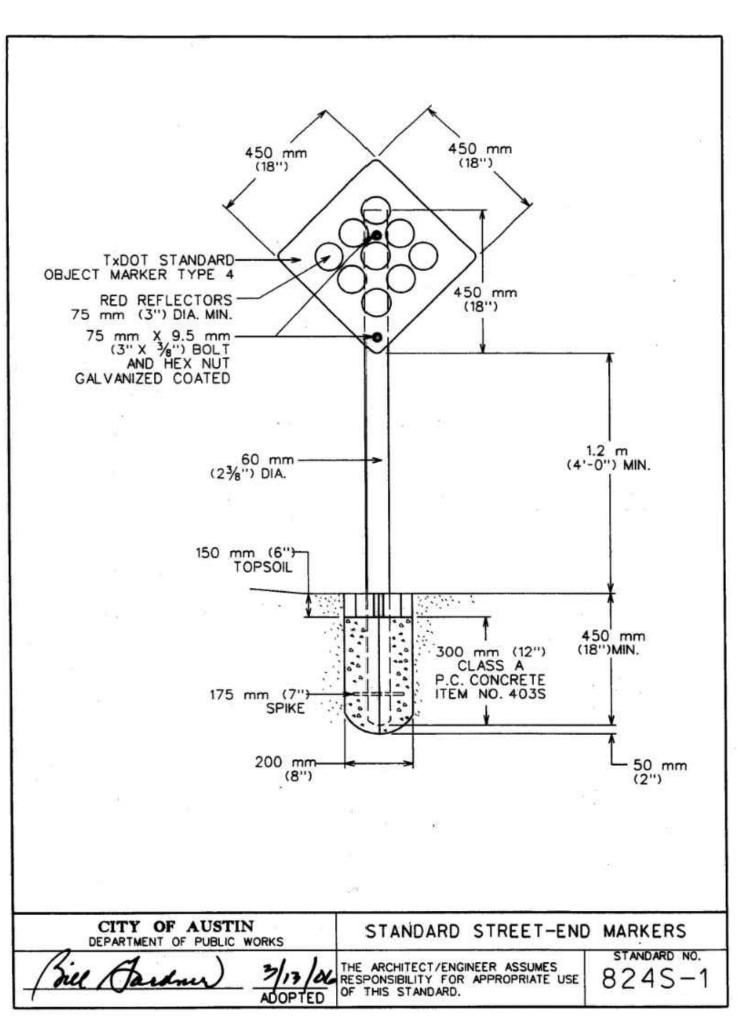
ROUND ROCK TE

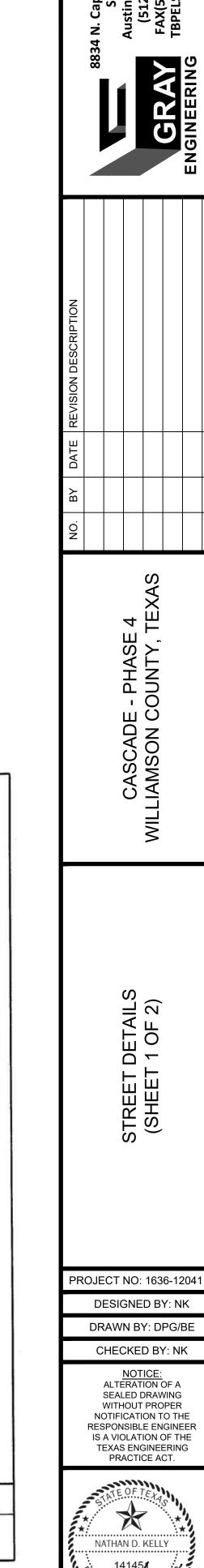
APPROVED

THE ARCHITECT/ENGINEER ASSUMES

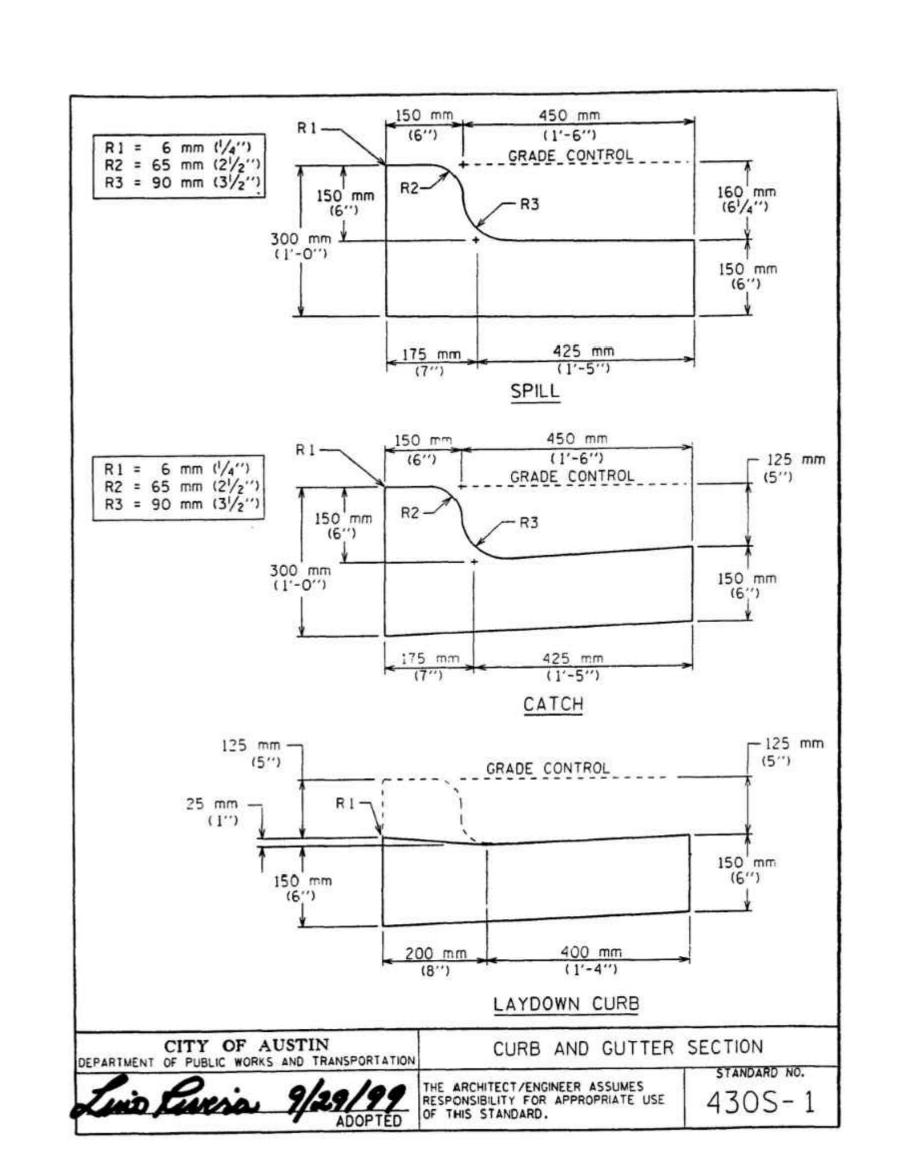
RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL.

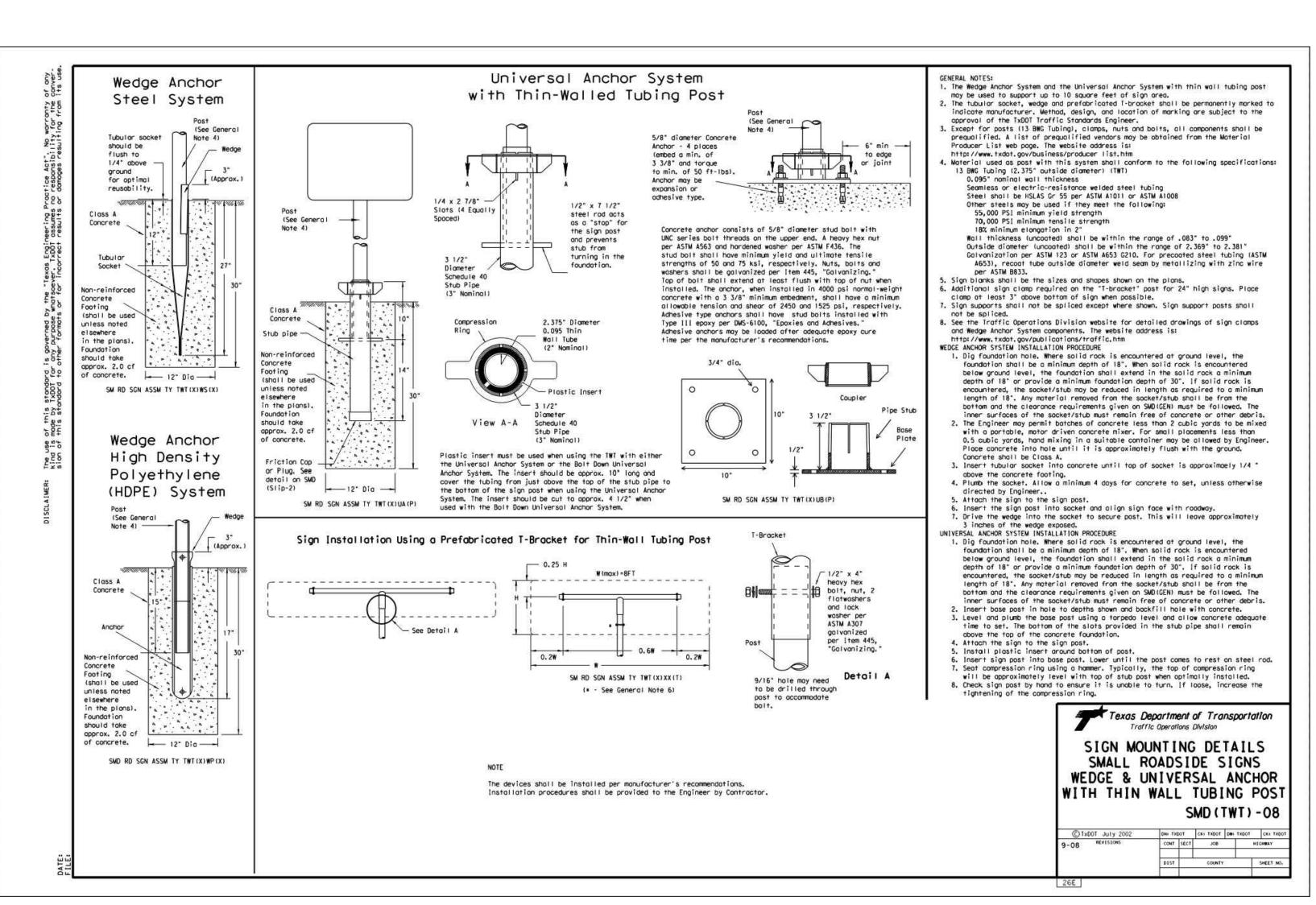
2 OF 2

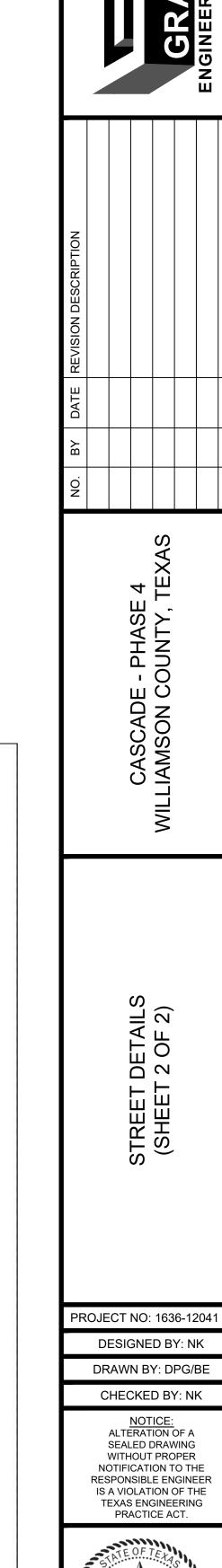




PRACTICE ACT. 14145/ HEET 53 OF 62







Austin, Texas 78759

(512)452-0371

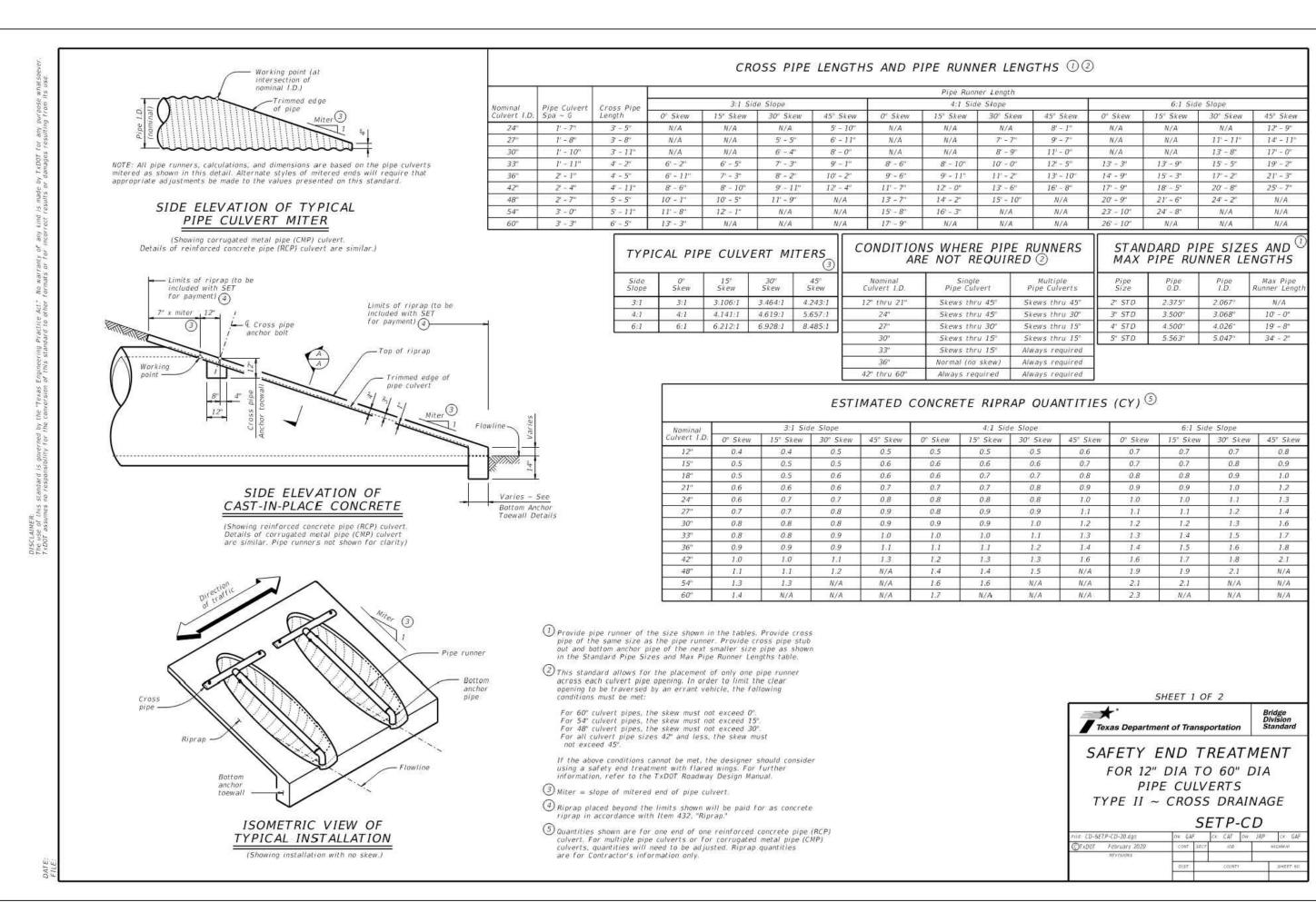
(512)454-9933

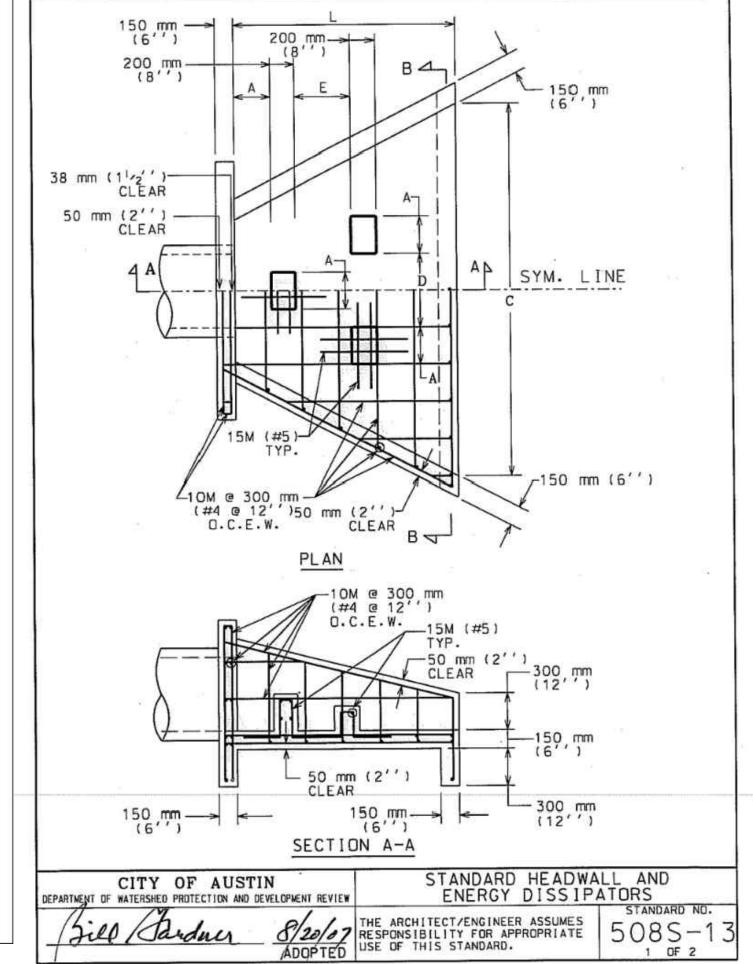
TBPELS FIRM #2946

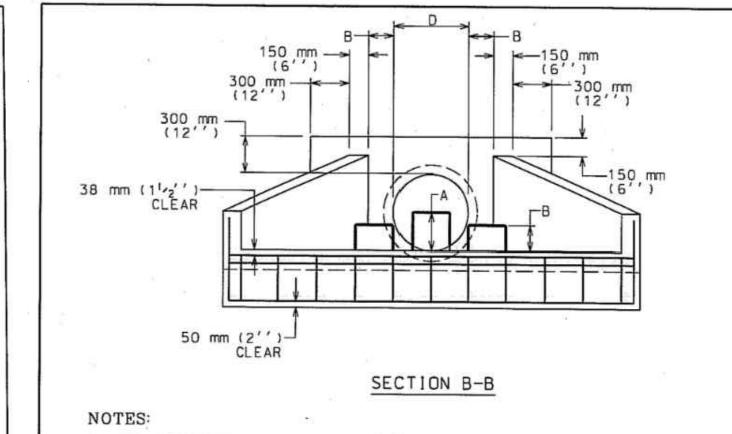
14145 O9/09/202

NATHAN D. KELLY

SHEET 54 OF 62





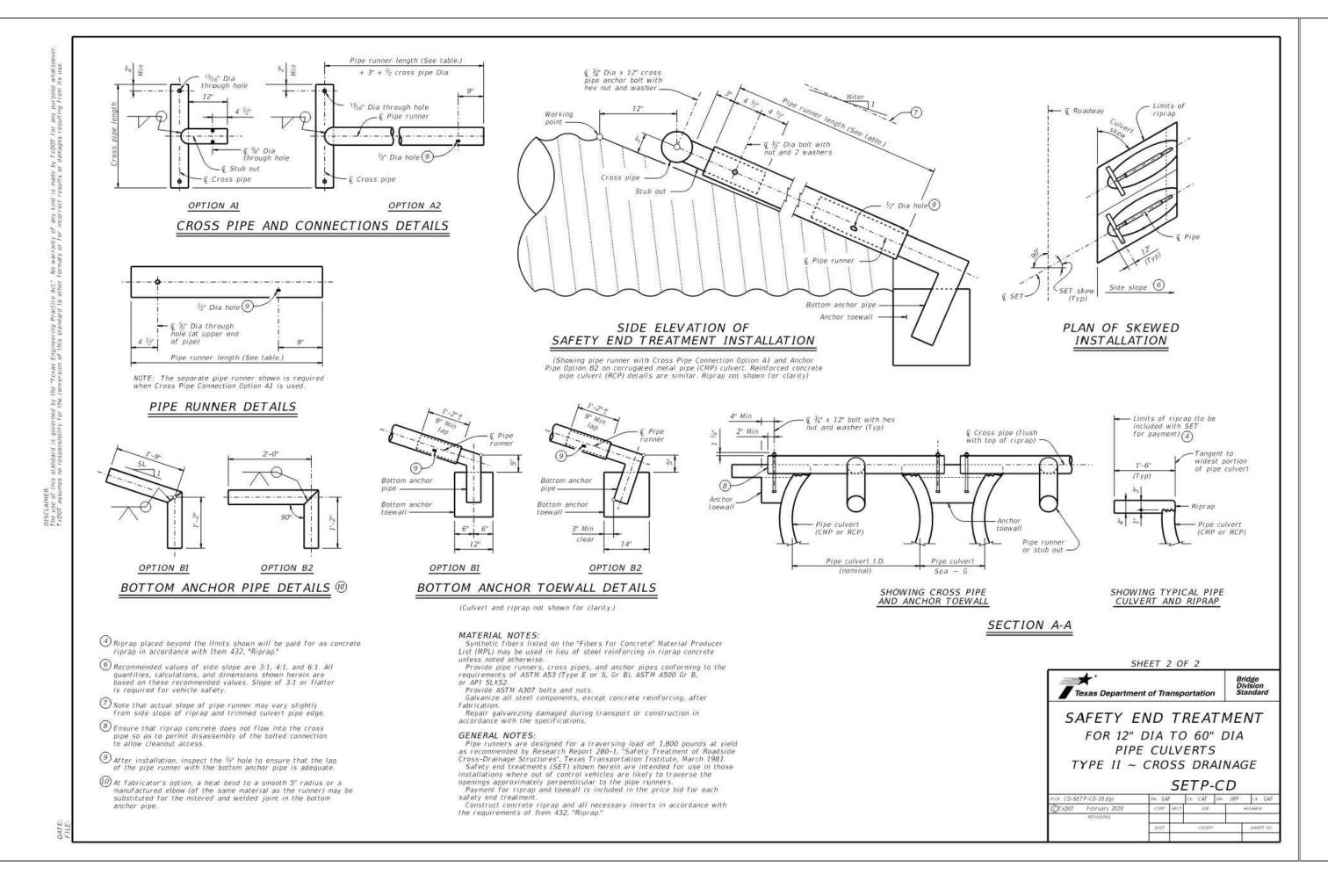


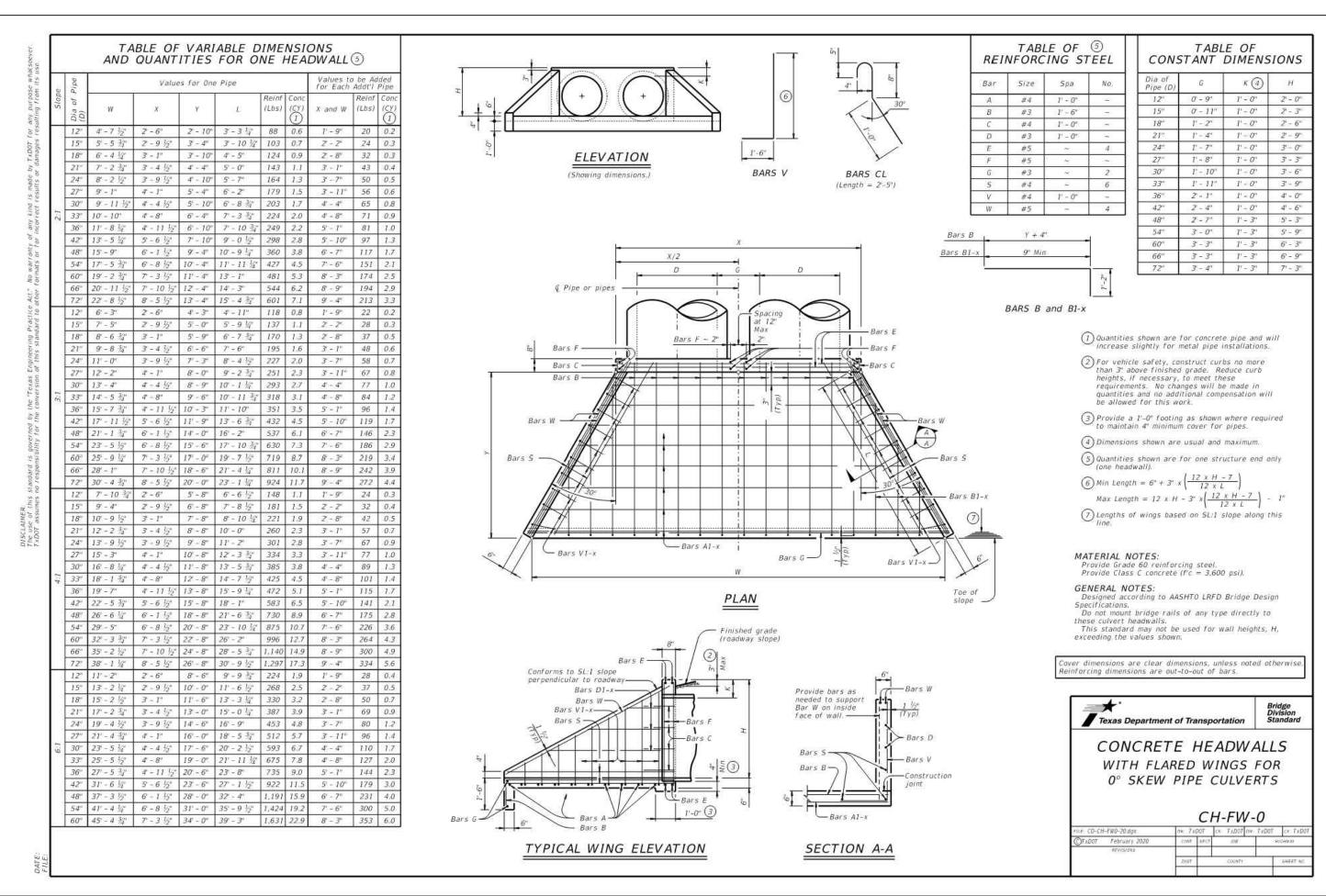
- ALL CONCRETE SHALL BE TYPE "C" AS PER SPEC. 403S. CONCRETE FOR STURCTURES.
- 2. CHAMFER ALL EXTERNAL VISIBLE CORNERS.
- 3. DISSIPATOR BLOCKS REQUIRED ON DISCHARGE HEADWALLS ONLY.

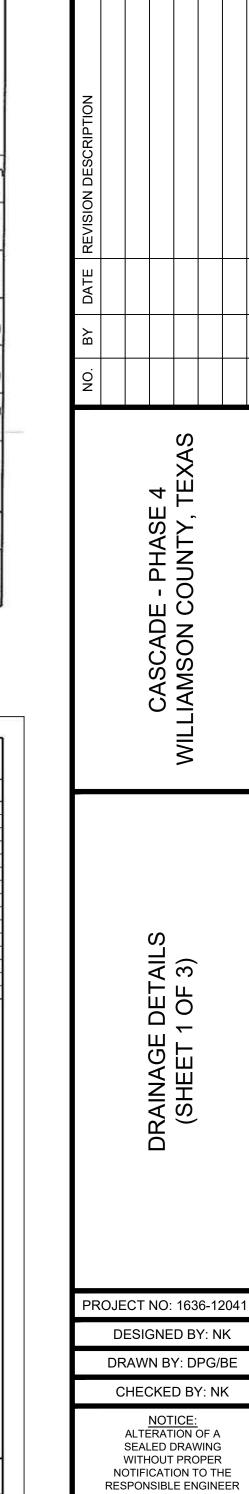
D	457 mm (18'')	533 mm (21'')	610 mm (24'')	685 mm (27'')	765 mm (30'')	838 mm (33'')	914 mm (36'')	(42'')	(48'')	(54'')	.524 n
A	225 mm	250 mm (10'')	300 mm (12'')	350 mm (14'')	375 mm (15'')	400 mm	450 mm (18'')	525 mm (21'')	600 mm (24′′)	675 mm (27'')	750 mm (30′′)
В	150 mm (6'')	175 mm (7'')	200 mm	225, mn (9'')	250 mm (10′′)	275 mm (11'')	300 mm	350 mm (14'')	400 mm (16′′)	450 mm (18'')	500 mm
С	2.29 m (90'')	2.67 m (105'	3.05 m	343 m (135 m	3.81 m	4.19 m (165''	4.57 m (180''	5.33 m (210'')	6.10 m (240'')	6.86 m (270'')	7.62 m
L	1.37 m (54'')	1.60 m (63'')	1.83 m (72'')	2.06 m (81'')	2.29 m (90'')	2.51 m (99'')	2.74 m (108'')	3.20 m (126'')	3.66 m (144'')	4.11 m (162'')	4.57 m
Ε	300 mm.	350 mm (14'')	400 mm (16′′)	450 mm (18′′)	500 mm (20'')	550 mm (22'')	600 mm (24'')	700 ,mm (28'')	800m (32'')	900 mm (36'')	1000 m (40′′)
	DIMENSI	ONS IN	MILLIN	ÆTERS.	METERS	S AND (INCHES).		-	

DISCHARGE VELOCITIES GREATER THAN 3 METERS/SECOND (10 fps) REQUIRE ROCK DUTLET PROTECTION.

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	STANDARD HEADWALL AND ENERGY DISSIPATORS			
Sile Bardon 8/20/07	THE ARCHITECT/ENGINEER ASSUMES PRESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	5085-13		







RESPONSIBLE ENGINEER
IS A VIOLATION OF THE
TEXAS ENGINEERING
PRACTICE ACT.

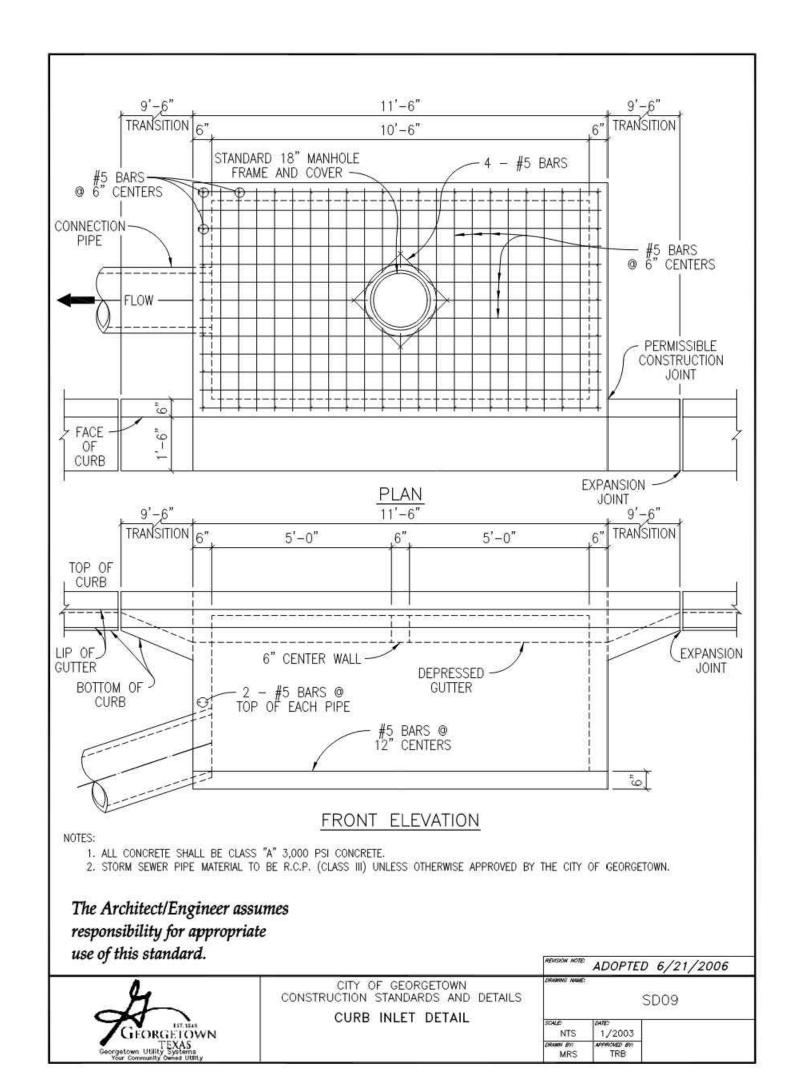
NATHAN D. KELLY

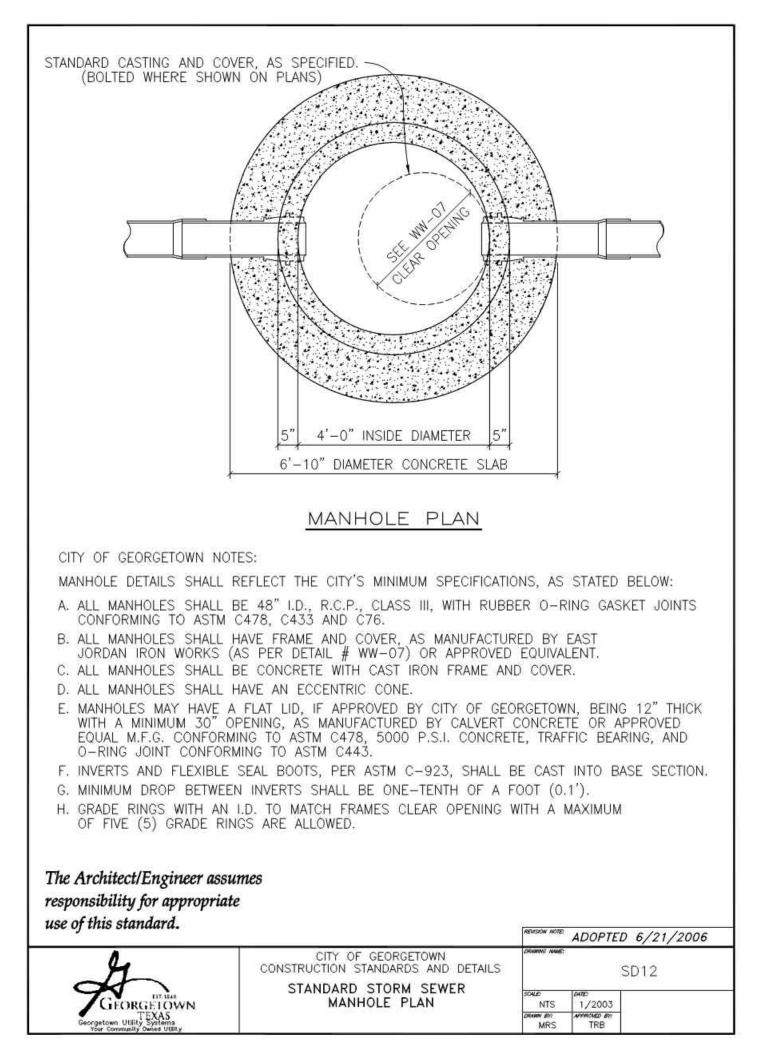
NATHAN D. KELLY

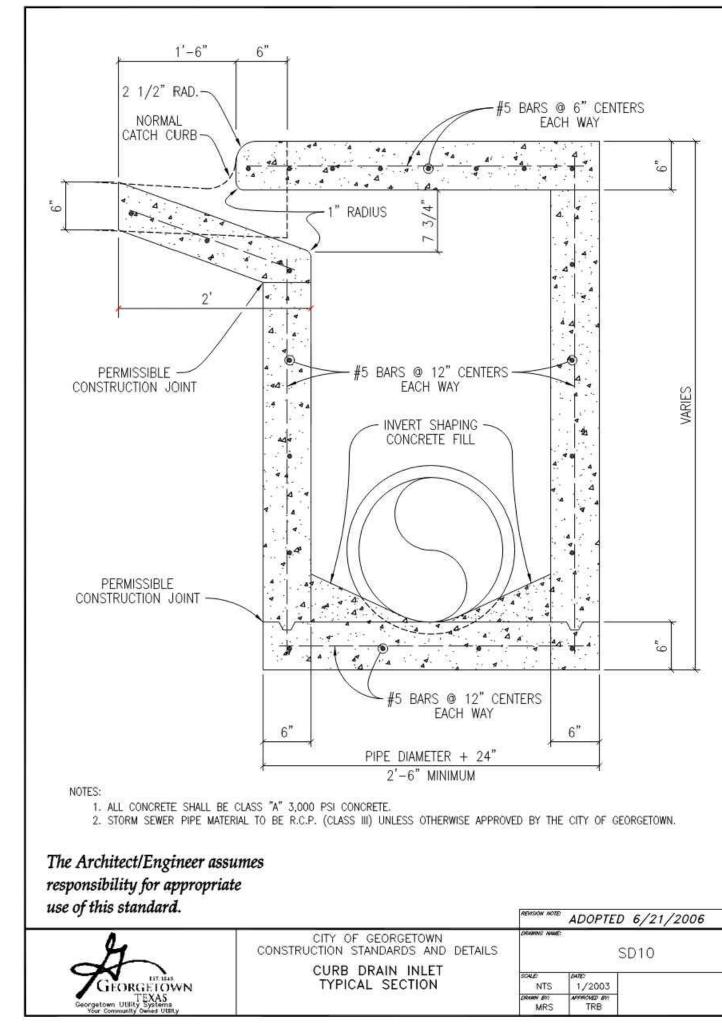
141451

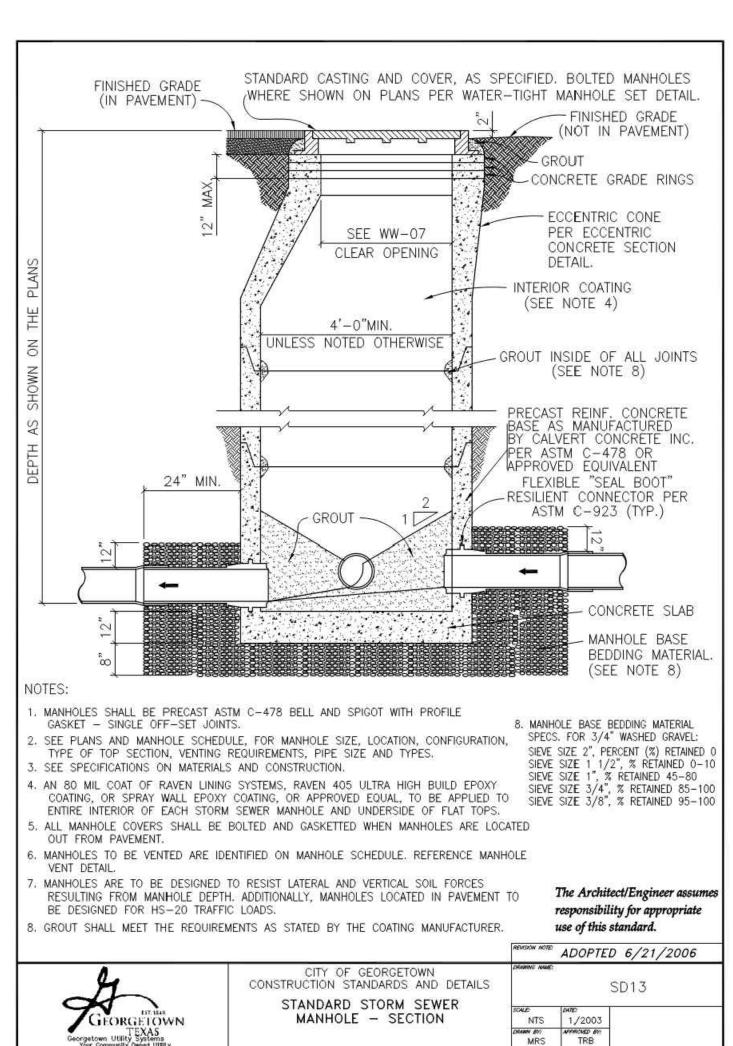
09/09/2025

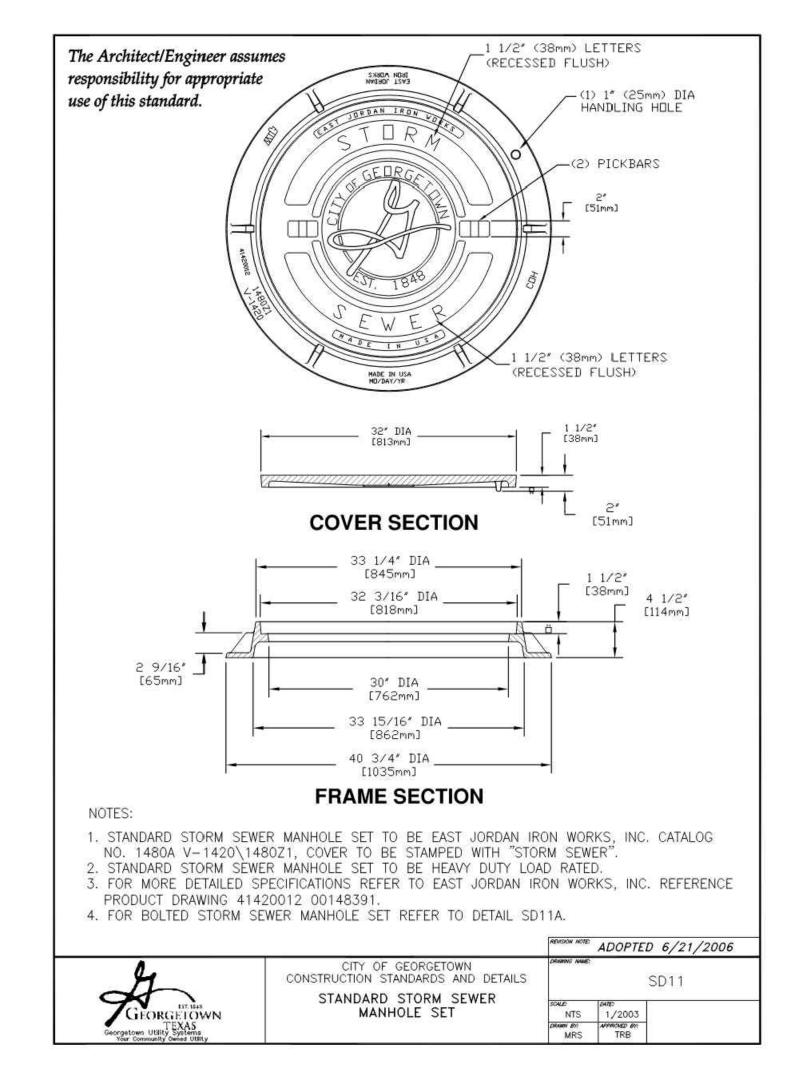
SHEET 55 OF 62





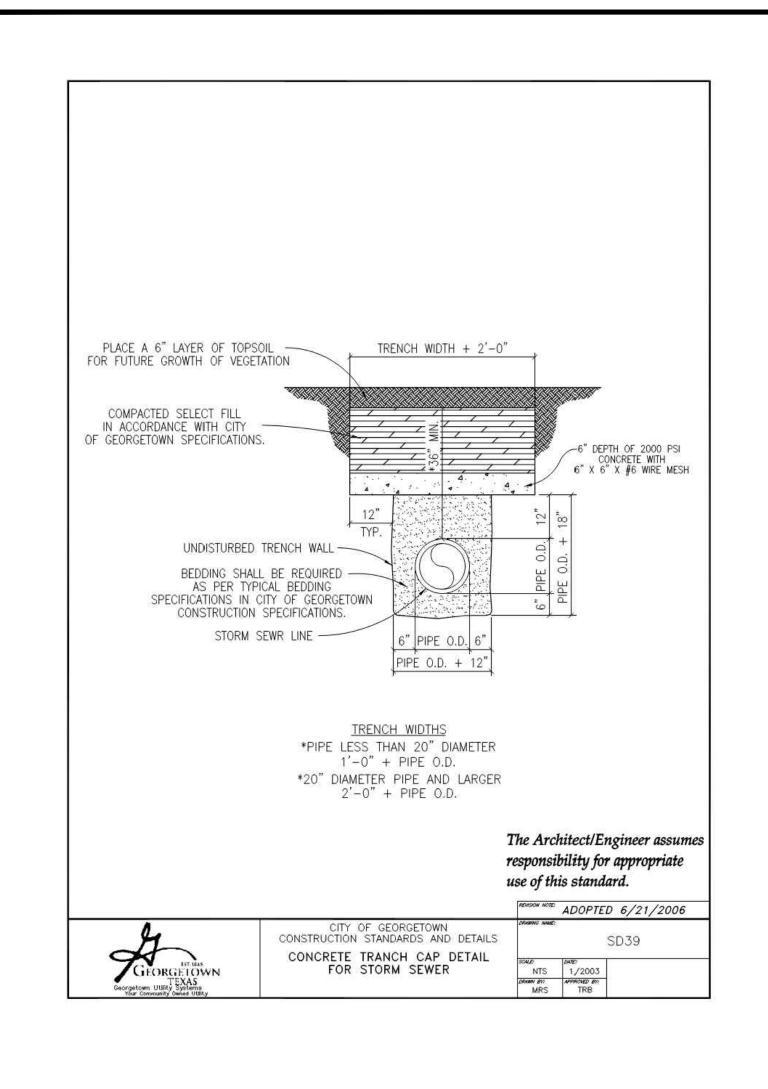


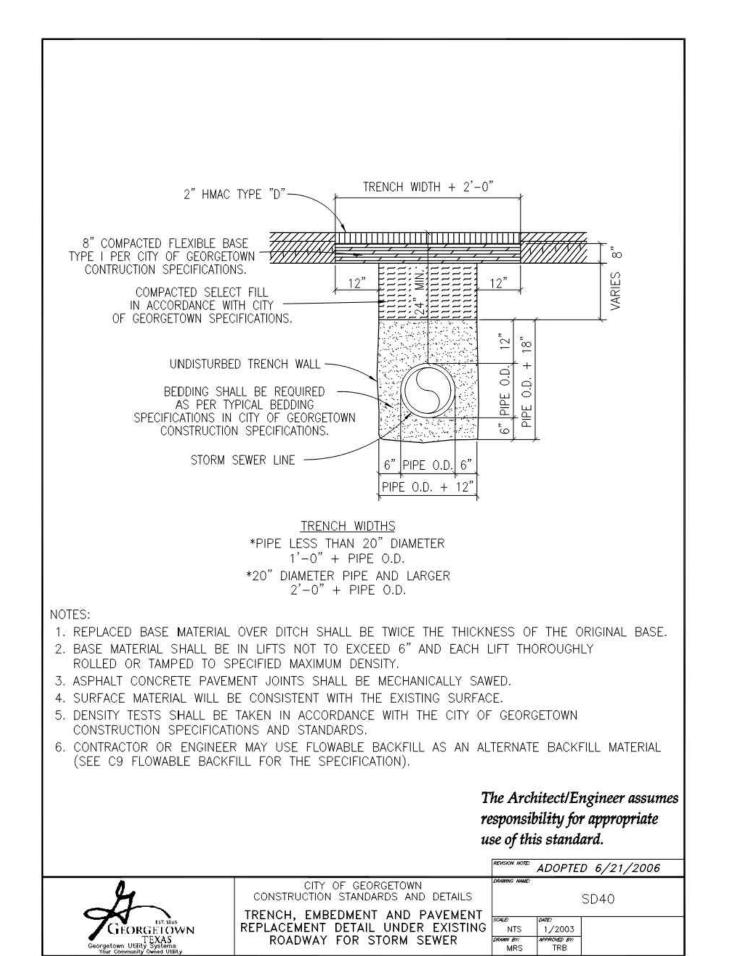


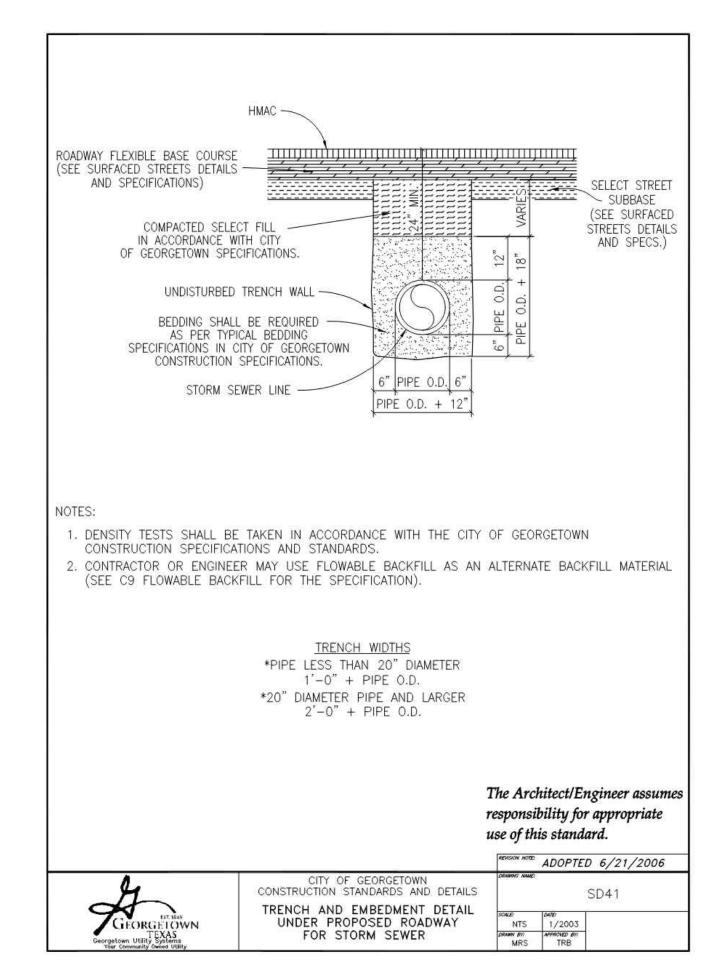


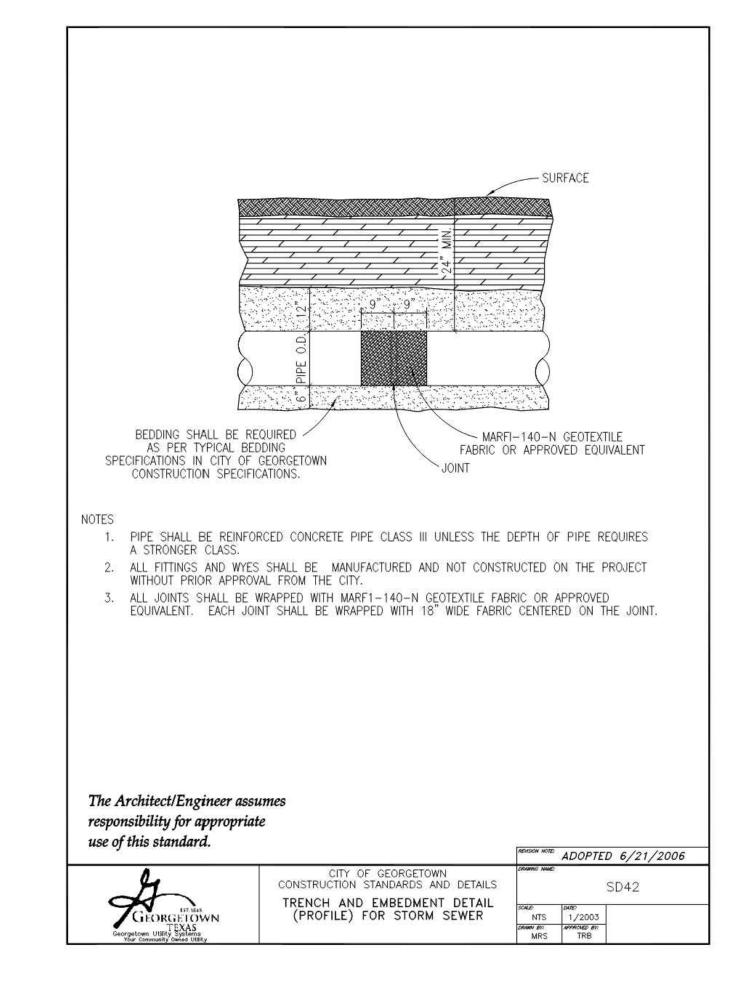
*MANHOLE LID TO HAVE GENERIC LID/COVER

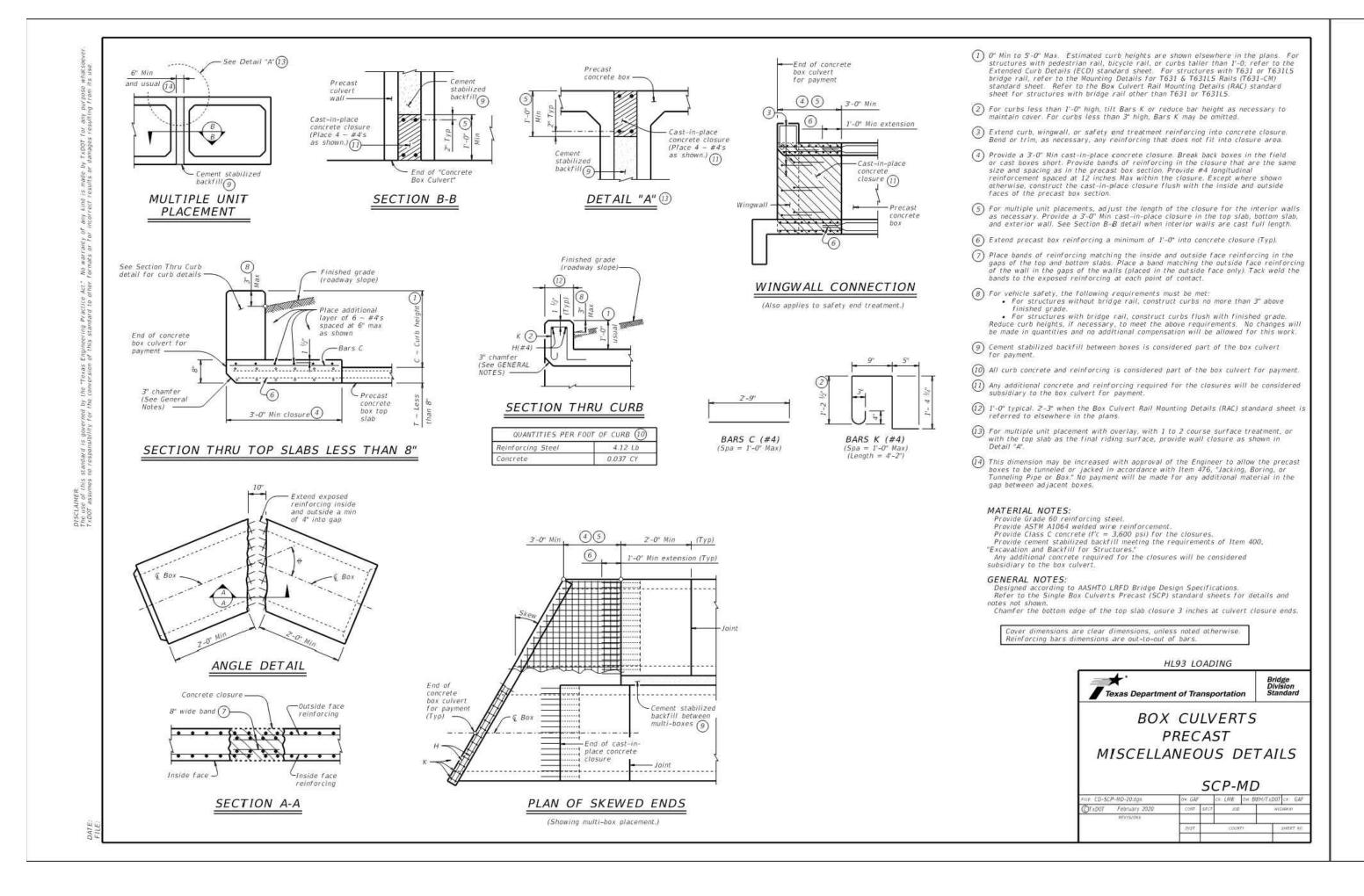


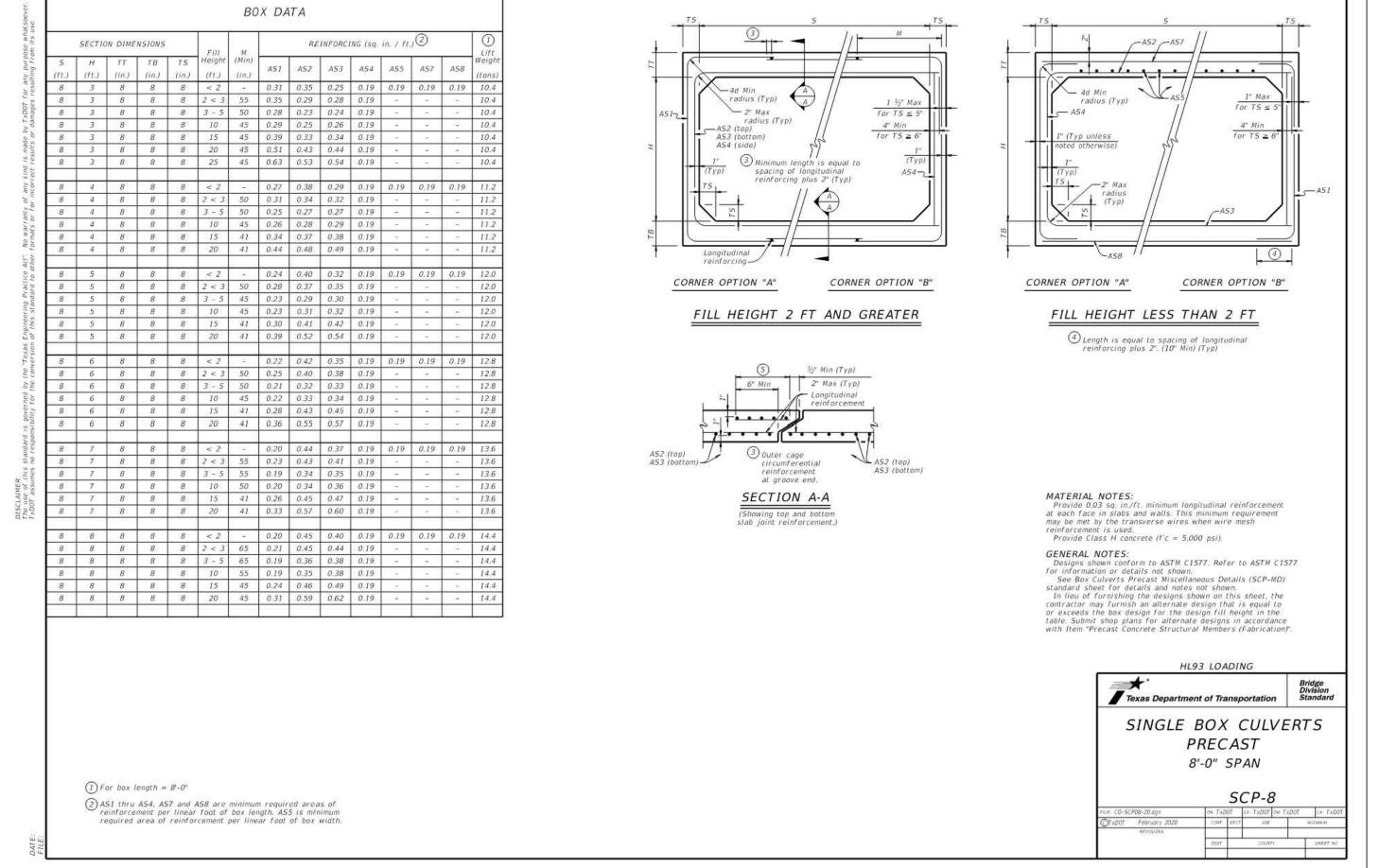


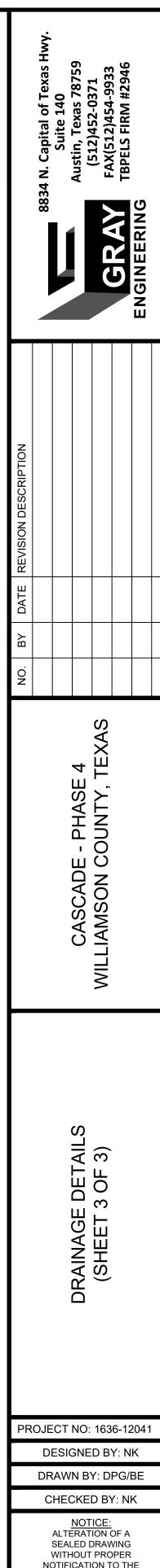












NOTIFICATION TO THE RESPONSIBLE ENGINEER

PRACTICE ACT. NATHAN D. KELLY 14145/

IS A VIOLATION OF THE TEXAS ENGINEERING

SHEET 57 OF 62

Attachment N – Inspection, Maintenance, Repair, & Retrofit Plan

Batch Detention Pond

Inspections should occur at least twice a year. If possible, these inspections should be conducted during wet weather to determine if the pond is meeting target detention times. Inspections should check for clogging of the primary outfall mechanism, as well as erosion problems in all flow paths, and any erodible areas inside and downstream of the basin. If any slumping or erosion is discovered, immediate regrading or revegetation should be performed to correct the problems. Structural faults discovered during inspection should be identified and repaired immediately. Faults to check for include cracked concrete, sealing of voids, and removal of vegetation from cracks and joints. All inlet/outlet and riser pipes will eventually deteriorate and require replacement.

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

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

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

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

Vegetative Filter Strips

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

Inspections for debris and litter removal should be performed twice per year, at a minimum. Routine periodic checks are preferred. The filter strips should be kept free of obstructions and debris to allow for proper usage and minimal blockage. Additionally, monitoring to ensure channels and preferential flow paths have not developed should be conducted during routine inspection.

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

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

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

Responsible Party: H

Houdin Honarvar - Acting Manager of Domain Timberlake Multistate 2,

LLC

Mailing Address:

520 Madison Ave, 21st Fl

City, State, Zip:

New York, New York, 10022

(Signature of Responsible Party)

Agent/Engineer:

Nathan Kelly, P.E. - Gray Civil, Inc.

Mailing Address:

8834 N Capital of Texas Highway, Suite 140

City, State, Zip:

Austin, Texas, 78759

Telephone:

(512) 452-0371

اری اعتلات of Agent/Engineer)

Attachment O – Pilot-Scale Field Testing Plan

Not applicable to this project.

Attachment P – Measures for Minimizing Surface Stream Contamination

The site will be stabilized using silt fence; all stabilization will be installed prior to construction and will be removed after construction has been completed. These methods will minimize any increases in erosion caused by construction. Additionally, the proposed permanent BMPs will treat any stormwater passing through the site prior to that stormwater's returning to existing drainage patterns and eventually flowing to surface streams.

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: Nathan Kelly, P.E.
Date: <u>8/28/2</u> 025
Signature of Customer/Agent:
1/46/5
Regulated Entity Name: Cascade Subdivision
Project Information
Potential Sources of Contamination
Examples: Fuel storage and use, chemical storage and use, use of asphaltic products, construction vehicles tracking onto public roads, and existing solid waste.
1. Fuels for construction equipment and hazardous substances which will be used during construction:
☐ The following fuels and/or hazardous substances will be stored on the site:
These fuels and/or hazardous substances will be stored in:
Aboveground storage tanks with a cumulative storage capacity of less than 250

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

	 Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year. Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.
	$igthered{igwedge}$ 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.
S	equence of Construction
5.	Attachment C - Sequence of Major Activities. A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.
	 For each activity described, an estimate (in acres) of the total area of the site 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

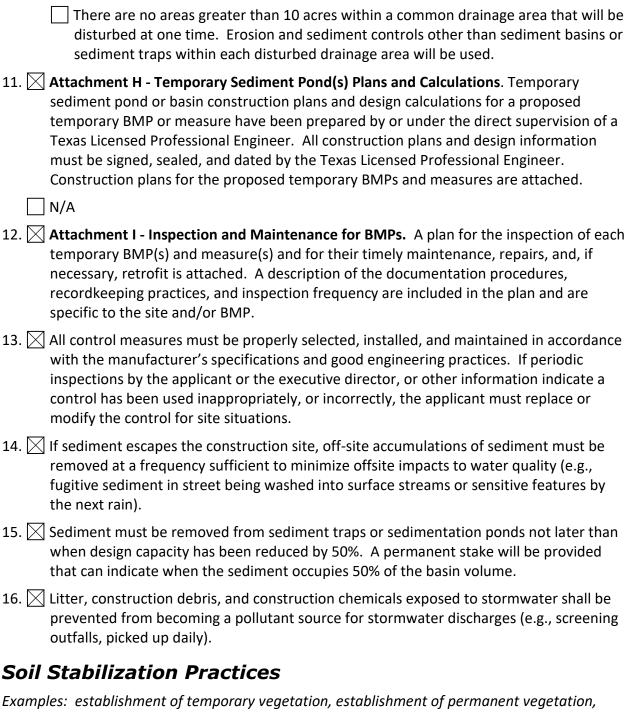
Temporary Best Management Practices (TBMPs)

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

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

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

	A description of how BMPs and measures will prevent pollution of surface 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.



mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, or preservation of mature vegetation.

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

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

Administrative Information

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

Attachment A – Spill Response Action

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

Cleanup:

- 1. Onsite personnel must be trained in spill prevention and spill cleanup.
- 2. Clean up leaks and spills immediately
- 3. 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.
- 4. Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly.

Minor Spills:

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

Semi-Significant Spills:

Semi-significant spills can still be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. this response may require the cessation of all other activities. Spills should be cleaned up immediately, using the following practices:

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

Significant/Hazardous Spills:

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

For significant or hazardous spills that are in reportable quantities:

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

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

Attachment B – Potential Sources of Contamination

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

Potential Sources of Sediment to Stormwater Runoff:

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

Potential Pollutants and Sources, other than Sediment, to Stormwater Runoff:

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

Potential On-Site Pollutants:

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

Attachment C – Sequence of Major Activities

- Temporary erosion and sedimentation controls are to be installed as indicated on the approved subdivision construction plans and in accordance with the stormwater pollution prevention plan (SWPPP) that is required to be posted on the site. Install tree protection and initiate tree mitigation measures.
- 2. The environmental project manager, and/or site supervisor, and/or designated responsible party, and the general contractor will follow the storm water pollution prevention plan (SWPPP) posted on the site. Temporary erosion and sedimentation controls will be revised, if needed to comply with city inspectors' directives, and revised construction schedule relative to the water quality plan requirements and the erosion and sedimentation plan.
- 3. Temporary erosion and sedimentation controls will be inspected maintained in accordance with the storm water pollution prevention plan (SWPPP) posted on the site.
- 4. A sequence of major construction activities, as well as an estimated area of disturbance for each, is listed below:
 - o Clearing and grubbing 29.63 acres
 - o Rough Cut BMPs 0.89 acres
 - o Grading and excavation for roadway and lots 23.39 acres
 - Excavation for utilities and storm sewer 5.46 acres
 - o Install Final BMPs and stabilize 1.5 acres
 - Construction of utilities and storm sewer system 5.46 acres
 - Paving, striping, etc. 5.46 acres
 - Revegetation 24.17 acres
- 5. Upon completion of construction and revegetation, the design engineer shall submit an engineer's letter of concurrence to Williamson County and the M.U.D. indicating that construction, including revegetation, is complete and in substantial conformity with the approved plans. After receiving this letter, a final inspection will be scheduled by the appropriate inspector.
- 6. After construction is complete and all disturbed areas have been revegetated per plan to at least 90 percent established, remove the temporary erosion and sedimentation controls and complete any necessary final revegetation resulting from removal of the controls. Conduct any maintenance and rehabilitation of the permanent BMPs.

Attachment D – Temporary Best Management Practices and Measures

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

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

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

Attachment E – Request to Temporarily Seal a Feature

Not applicable to this project.

Attachment F – Structural Practices

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

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

Attachment G – Drainage Area Map

Drainage area maps are shown in the attached construction plans and an overall BMP map showing interim and final condition drainage area designations is included with this submittal.



Attachment H – Temporary Sediment Ponds Plan and Calculations

As part of managing erosion control, the contractor will construct Batch Detention Pond \underline{D} to be a temporary sedimentation pond prior to the installation of any stormwater networks. The temporary sedimentation pond will then be converted into a batch detention pond for permanent stormwater management.

Attachment I – Inspection and Maintenance for BMPs

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

Inspection Personnel:

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

Inspection Schedule and Procedures:

An inspection shall occur weekly and after any rain event.

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

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

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

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

Actions taken as a result of the inspections must be described within, and retained as a part of, the SWPPP. Reports must identify any incidents of non-compliance. Where a report does not identify any incidents of non-compliance, the report must contain a certification that the facility or site is in compliance with the SWPPP and the TPDES general permit. The report must be signed by the authorized representative delegated by the operators in accordance with TAC 305.128.

Maintenance and Corrective Actions:

Maintenance of erosion control facilities shall consist of the minimum requirements as follows:

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

Inspection and Maintenance Schedule for Temporary Best Management Practices (BMPs)

Name	Date	Maintenance Description
Hamo	Date	mantonario Bosciption

Attachment J – Schedule of Interim and Permanent Soil Stabilization Practices

Silt fence will be used during the period of construction near the perimeter of the disturbed area to intercept sediment while allowing water to percolate through. Silt fencing will be installed prior to any site clearing. This silt fence will remain in place until the disturbed area is permanently stabilized. Tree protection fencing will be installed around all protected trees. A stabilized pad of crushed stone will be placed at the point where traffic will be entering and leaving the construction site to eliminate the tracking or flowing of sediment onto public rights-of-way. Once all site grading activities and landscaping plantings have been completed, all disturbed areas and exposed soil will be revegetated with hydro-mulch as needed. All controls will remain in place until the revegetated areas are permanently stabilized.

If portions of the site will have a temporary or permanent cease in construction activity lasting longer than 14 days, soil stabilization (via hydro-mulch revegetation) 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.

Should construction activities be interrupted for a period of at least 4 weeks of non-activity, Contractor shall revegetate all disturbed areas as required for permanent revegetation. Contractor shall keep all temporary BMPs in place until the disturbed areas become permanently stabilized.

Agent Authorization Form

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

1	Houdin Honarvar	
	Print Name	
	Acting Manager	
of	Title - Owner/President/Other Domain Timberlake Multistate 2, LLC	
·	Corporation/Partnership/Entity Name	
have authorized	Nathan Kelly, P.E.	
	Print Name of Agent/Engineer	
of	Gray Engineering, Inc.	
	Print Name of Firm	

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

I also understand that:

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

SIGNATURE PAGE:

Applicant's Signature

9 9 20 25

Date

THE STATE OF NEWYORK S

BEFORE ME, the undersigned authority, on this day personally appeared 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 That day of September 2025

DEBORAH BRAZIER
NOTARY PUBLIC, STATE OF NEW YORK
Registration No. 01BR0037248
Qualified in Suffolk County
My Commission Expires 05-03-2029

Deborah Brazier

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 05-13-7029

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: <u>Cascade - Phase 4</u>
Regulated Entity Location: Approximately 1 mile Southwest of US HWY 183 and County Road
207 intersection

207 intersection	, =		<u> </u>
Name of Customer:	_		
Contact Person: Adam Boenig	Phone	e: <u>(512) 334-6775</u>	
Customer Reference Number (if i	ssued):CN <u>N/A</u>		
Regulated Entity Reference Numl	oer (if issued):RN <u>N/A</u>		
Austin Regional Office (3373)			
Hays	Travis	⊠ Wil	liamson
San Antonio Regional Office (336	52)	_	
Bexar	Medina	Uva	ılde
Comal	Kinney	_	
Application fees must be paid by	check, certified check, o	r money order, payable	e to the Texas
Commission on Environmental Q			
form must be submitted with yo	•	•	-
X Austin Regional Office	Sa	n Antonio Regional Of	fice
Mailed to: TCEQ - Cashier	O	vernight Delivery to: T	CEQ - Cashier
Revenues Section	12	2100 Park 35 Circle	
Mail Code 214	Ві	uilding A, 3rd Floor	
P.O. Box 13088	A	ustin, TX 78753	
Austin, TX 78711-3088	(5	12)239-0357	
Site Location (Check All That App	ly):		
Recharge Zone	Contributing Zone	Transit	ion Zone
Type of PI	an	Size	Fee Due
Water Pollution Abatement Plar	, Contributing Zone		
Plan: One Single Family Resident	ial Dwelling	Acres	\$
Water Pollution Abatement Plan	, Contributing Zone		
Plan: Multiple Single Family Resi	dential and Parks	219.293 Acres	\$ 8,000.00

Type of Plan	Size	ree 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	219.293 Acres	\$ 8,000.00
Water Pollution Abatement Plan, Contributing Zone		
Plan: Non-residential	Acres	\$
Sewage Collection System	L.F.	\$
Lift Stations without sewer lines	Acres	\$
Underground or Aboveground Storage Tank Facility	Tanks	\$
Piping System(s)(only)	Each	\$
Exception	Each	\$
Extension of Time	Each	\$

Signature: 125/2025

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

Organized Sewage Collection Systems and Modifications

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



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

1. Keason ioi	Jubillissi	OII (IJ OTHER IS CHECKED	pieuse uesci	Tibe III space provided	1.)						
New Pern	nit, Registra	ation or Authorization	(Core Data F	orm should be submi	tted with	the prog	ram app	lication.)			
Renewal ((Core Data	Form should be submi	ted with the	renewal form)			ther				
2. Customer I	Reference	Number (if issued)		Follow this link to		3. Reg	3. Regulated Entity Reference Number (if issued)				issued)
CN 6062155	15		Central Registr		RN 1	RN 111868394					
SECTION	N II:	Customer	Infor	mation							
4. General Cu	ıstomar İn	formation	5 Effectiv	ve Date for Custom	er Info	rmation	Undate	s (mm/dd/	`\nn\\		
☐ New Custor		U ل (Verifiable with the Tex)	•	tomer Information	mntrolle		•	gulated Ent	tity Owne	ership	
		ibmitted here may l oller of Public Accou	-	automatically bas	sed on v	vhat is c	urrent	and act i ve	with th	e Texas Seci	retary of State
(303) 01 16x0	3 Compare	mer of Fublic Accou	ints (CFA).								
6. Customer I	Legal Nam	ne (If an individual, pri	nt last name	first: eg: Doe, John)			<u>If new</u>	Customer,	enter pre	evious Custom	er below:
7. TV 606/60	A F11: N		0. TV Ct	T ID (44 1: 1:)			0.5-	4	<u> </u>	40 DUNG	November 100
7. TX SOS/CP	A Filing N	umber	8. IX Stat	e Tax ID (11 digits)			9. ге	deral Tax I	U	applicable)	Number (if
							(9 digits)				
44 = 60		Псата	<u> </u>			داد داله مدا			Dautus	h:	and Dissibad
11. Type of C		Corporat		oto Othor		☐ Individ		rchin	Oth		neral Limited
12. Number of		County Federal	Local Sta	other		Sole P		•		ned and Ope	orated?
									_	neu anu Ope	erateu:
0-20 2	21-100 L	101-250 251-	500 📙 50	01 and higher			☐ Ye	S	∐ No		
14. Customer	Role (Pro	posed or Actual) – as i	t relates to ti	he Regulated Entity li	sted on t	his form.	Please o	heck one of	the follo	wing	
Owner		Operator		Owner & Operator				Oth			
Occupation	al Licensee	Responsible Pa	rty [VCP/BSA Applicant				Other:			
15. Mailing											
Address:	City	Г		Charles		710				710 . 4	T
	City			State		ZIP				ZIP + 4	
16. Country N	Mailing Inf	formation (if outside	USA)		17. 1	-Mail A	ddress	(if applicabl	e)		
18. Telephone	e Number	•		19. Extension or	Code			20. Fax N	umber	(if applicable)	

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

_			<u>Inform</u>						
nformat	tion (If 'New Re	gulate	d Entity" is select	ed, a new pe	ermit applicat	tion is also	required.)		
odate to F	Regulated Entity	Name	e Update to	Regulated I	Entity Informa	ation			
bmitted	l may be upda	ited, i	in order to mee	t TCEQ Cor	e Data Stan	dards (r	emoval of o	rganization	al endings such
ter name	of the site whe	re the	regulated action	is taking pla	ce.)				
,			State		ZIP			ZIP + 4	
	If no Stre	et Ad	dress is provide	ed, fields 2	5-28 are red	quired.			
						State		Nea	rest ZIP Code
	-	-	ated to meet To led or to gain a		ata Standa	rds. (Geo	ocoding of ti	he Physical	Address may be
	-	-		ccuracy).	ata Standa ongitude (W			he Physical	Address may be
	-	-	led or to gain a	ccuracy).	ongitude (W	/) In Dec		he Physical	Address may be Seconds
nere non	-	orovia	led or to gain a	28. Lo	ongitude (W	/) In Dec	imal:	he Physical	
utes	-	Seco	nds	28. Lo Degre	es y NAICS Co	/) In Dec	imal: Winutes 32. Seco	ondary NAIG	Seconds
utes	ne have been p	Seco	nds	28. Lo	es y NAICS Co	/) In Dec	imal: Winutes	ondary NAIG	Seconds
utes 30. S (4 dig	Secondary SIC	Seco	nds	28. Lo Degre 31. Primar (5 or 6 digit	es y NAICS Co	/) In Dec	imal: Winutes 32. Seco	ondary NAIG	Seconds
utes 30. S (4 dig	Secondary SIC	Seco	nds	28. Lo Degre 31. Primar (5 or 6 digit	es y NAICS Co	/) In Dec	imal: Winutes 32. Seco	ondary NAIG	Seconds
utes 30. S (4 dig	Secondary SIC	Seco	nds	28. Lo Degre 31. Primar (5 or 6 digit	es y NAICS Co	/) In Dec	imal: Winutes 32. Seco	ondary NAIG	Seconds
utes 30. S (4 dig	Secondary SIC	Seco	nds	28. Lo Degre 31. Primar (5 or 6 digit	es y NAICS Co	/) In Dec	imal: Winutes 32. Seco	ondary NAIG	Seconds
utes 30. S (4 dig	Secondary SIC	Seco	nds	28. Lo Degre 31. Primar (5 or 6 digit	es y NAICS Co	/) In Dec	imal: Winutes 32. Seco	ondary NAIG	Seconds
utes 30. S (4 dig	Secondary SIC	Seco	nds	28. Lo Degre 31. Primar (5 or 6 digit	es y NAICS Co	/) In Dec	imal: Winutes 32. Seco	ondary NAIG	Seconds
utes 30. S (4 dig	Secondary SIC	Seco	nds	28. Lo Degre 31. Primar (5 or 6 digit	es y NAICS Cod iption.)	/) In Dec	imal: Winutes 32. Seco	ondary NAIC	Seconds
utes 30. S (4 dig	Secondary SIC	Seco Code	nds	28. Lo Degre 31. Primar (5 or 6 digit	es y NAICS Cod iption.)	/) In Dec	imal: Winutes 32. Seco	ondary NAIO gits) ZIP + 4	Seconds
7	nformati pdate to l	pdate to Regulated Entity ubmitted may be upda nter name of the site whe	Information (If 'New Regulated polate to Regulated Entity Name ubmitted may be updated, in the name of the site where the	Information (If 'New Regulated Entity" is select pdate to Regulated Entity Name Update to ubmitted may be updated, in order to mee after name of the site where the regulated action State	Information (If 'New Regulated Entity" is selected, a new per polate to Regulated Entity Name Update to Regulated In Information Update to Regulated In Information Informatio	pdate to Regulated Entity Name	pdate to Regulated Entity Name	Information (If 'New Regulated Entity" is selected, a new permit application is also required.) Inputate to Regulated Entity Name Update to Regulated Entity Information Industrial District Core Data Standards (removal of or other name of the site where the regulated action is taking place.) If no Street Address is provided, fields 25-28 are required.	Information (If 'New Regulated Entity" is selected, a new permit application is also required.) pdate to Regulated Entity Name Update to Regulated Entity Information ubmitted may be updated, in order to meet TCEQ Core Data Standards (removal of organization of the site where the regulated action is taking place.) y State ZIP ZIP + 4 If no Street Address is provided, fields 25-28 are required.

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

☐ Dam Safety	Districts	Edwards Aquifer	Emissions Inventory Air	☐ Industrial Hazardous Waste				
Municipal 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: Nathan Kelly, P.E.				41. Title:	Project Manager
42. Telephone Number 43. Ext./Code			44. Fax Number	45. E-Mail Address	
() -			() -	NKelly	@gray-civil.com

SECTION V: Authorized Signature

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

Company:	Gray Engineering, Inc.	Job Title:	Project Manager		
Name (In Print):	Nathan Kelly, P.E.			Phone:	
Signature: /kt/L			Date:	8/28/2025	
	(//				

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