WATER POLLUTION ABATEMENT PLAN

FOR

TONKINESE DR SUBDIVISION

Tonkinese Dr.
Round Rock, TX 78681

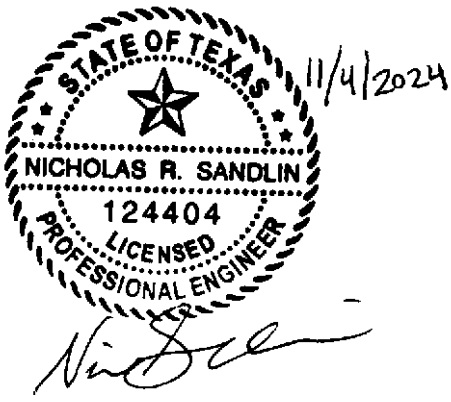
Prepared For:

1130 AIRPORT INC.
1130 AIRPORT BLVD
AUSTIN, TX 78702

Prepared By:

Sandlin Services, LLC
TBPELS Firm # 21356
P: (806) 679-7303

November 4, 2024



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Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

1. 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: Tonkinese Dr Subdivision						**2. Regulated Entity No.:**			
3. Customer Name: 1130 Airport Inc						**4. Customer No.:**			
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. Site (acres):**		5.13	
9. Application Fee:	$3,000		**10. Permanent BMP(s):**			Batch Detention, Vegetated Filter Strip			
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Williamson		**14. Watershed:**			Brushy Creek			

Application Distribution

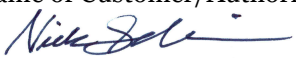
Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected incorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which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

http://www.tceq.texas.gov/assets/public/compliance/field_ops/eapp/EAPP%20GWCD%20map.pdf

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	___	___	_1_
Region (1 req.)	___	___	_1_
County(ies)	___	___	_1_
Groundwater Conservation District(s)	___Edwards Aquifer Authority ___Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	___Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	___Austin ___Buda ___Dripping Springs ___Kyle ___Mountain City ___San Marcos ___Wimberley ___Woodcreek	___Austin ___Bee Cave ___Pflugerville ___Rollingwood ___Round Rock ___Sunset Valley ___West Lake Hills	___Austin ___Cedar Park ___Florence ___Georgetown ___Jerrell ___Leander ___Liberty Hill ___Pflugerville _1_Round 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 Hills ___Fair Oaks Ranch ___Helotes ___Hill Country Village ___Hollywood Park ___San Antonio (SAWS) ___Shavano Park	___Bulverde ___Fair Oaks Ranch ___Garden Ridge ___New Braunfels ___Schertz	NA	___San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. Nick Sandlin, P.E. (Sandlin Services, LLC)
Print Name of Customer/Authorized Agent  11/4/2024 Signature of Customer/Authorized Agent Date

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

General Information Form
(TCEQ-0587)

General Information Form

Texas Commission on Environmental Quality

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

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

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

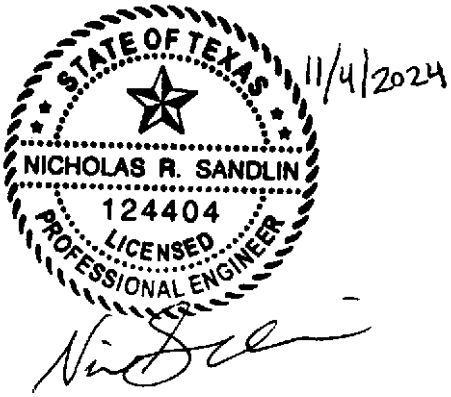
Signature

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

Print Name of Customer/Agent: Nicholas Sandlin, P.E.

Date: 11/4/2024

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Tonkinese Dr Subdivision
2. County: Williamson
3. Stream Basin: Brazos River
4. Groundwater Conservation District (If applicable): N/A
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

   ☒ WPAP
   ☐ SCS
   ☐ Modification
   ☐ AST
   ☐ UST
   ☐ Exception Request

7. Customer (Applicant):

   Contact Person: Barkat Ali
   Entity: 1130 Airport Inc
   Mailing Address: 1130 Airport Blvd.
   City, State: Austin, Texas Zip: 78702
   Telephone: 512-928-1235 FAX: _____
   Email Address: barkat323@gmail.com

8. Agent/Representative (If any):

   Contact Person: Nick Sandlin, P.E.
   Entity: Sandlin Services, LLC
   Mailing Address: 9111 Jollyville Rd. Suite 212
   City, State: Austin, Texas Zip: 78759
   Telephone: 806-679-7303 FAX: _____
   Email Address: operations@sandlinservices.com

9. 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 Round Rock, Texas.
   ☐ The project site is not located within any city's limits or ETJ.

10. ☒ The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

    0 Tonkinese Drive, Brushy Creek, TX 78681

11. ☒ **Attachment A – Road Map**. A road map showing directions to and the location of the project site is attached. The project location and site boundaries are clearly shown on the map.

12. ☒ **Attachment B - USGS / Edwards Recharge Zone Map**. A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached. The map(s) clearly show:

    ☒ Project site boundaries.
    ☒ USGS Quadrangle Name(s).
    ☒ Boundaries of the Recharge Zone (and Transition Zone, if applicable).
    ☒ Drainage path from the project site to the boundary of the Recharge Zone.

13. ☒ **The TCEQ must be able to inspect the project site or the application will be returned**. Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment.

    ☒ Survey staking will be completed by this date: 4/1/2025

14. ☒ **Attachment C – Project Description**. Attached at the end of this form is a detailed narrative description of the proposed project. The project description is consistent throughout the application and contains, at a minimum, the following details:

- ☒ Area of the site
- ☒ Offsite areas
- ☒ Impervious cover
- ☒ Permanent BMP(s)
- ☒ Proposed site use
- ☒ Site history
- ☒ Previous development
- ☒ Area(s) to be demolished

15. 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/Uncleared)
- ☐ Other: _____

Prohibited Activities

16. ☒ I am aware that the following activities are prohibited on the Recharge Zone and are not proposed for this project:

(1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);

(2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;

(3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;

(4) The use of sewage holding tanks as parts of organized collection systems; and

(5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).

(6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.

17. ☒ I am aware that the following activities are prohibited on the Transition Zone and are not proposed for this project:

(1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);

(2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and

(3) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

Administrative Information

18. The fee for the plan(s) is based on:

- ☒ For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
- ☐ For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
- ☐ For a UST Facility Plan or Modification or an AST Facility Plan or Modification, the total number of tanks or piping systems.
- ☐ A request for an exception to any substantive portion of the regulations related to the protection of water quality.
- ☐ A request for an extension to a previously approved plan.

19. ☒ Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:

- ☐ TCEQ cashier
- ☒ Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
- ☐ San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

20. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

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

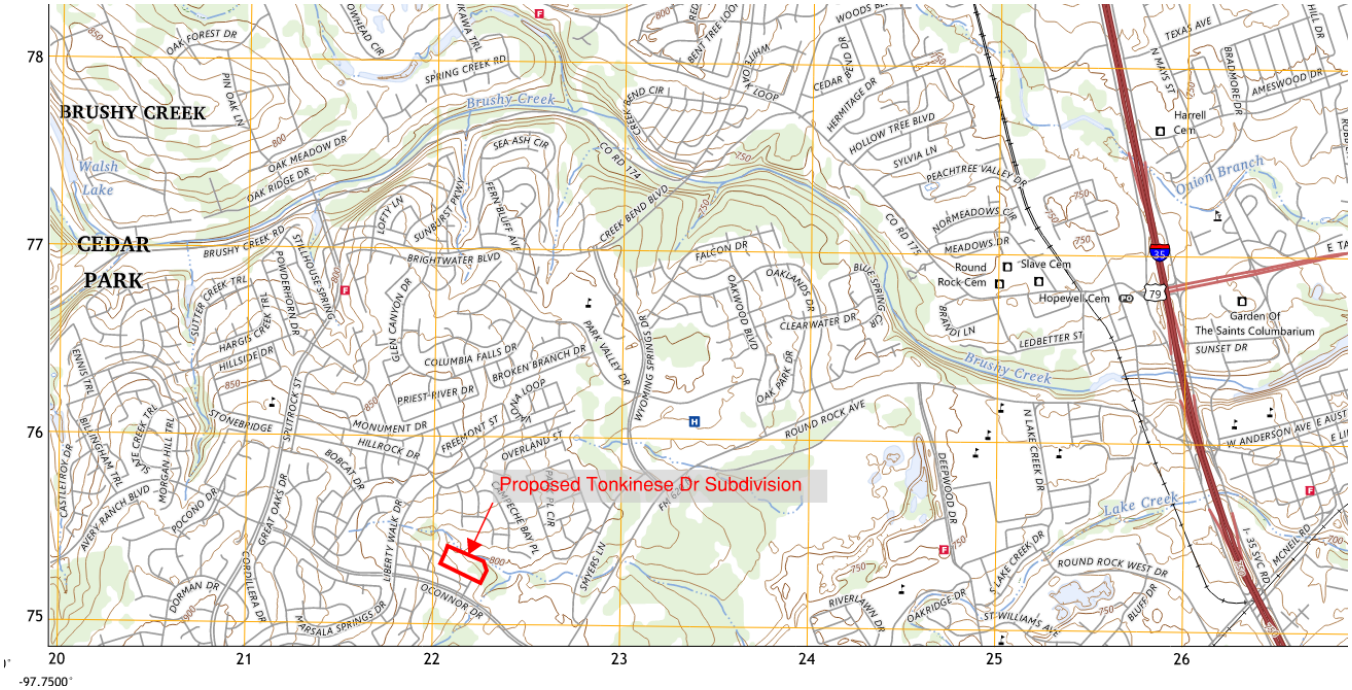
General Information Form (TCEQ-0587)

Attachment A: Road Map

Source: Google Earth Pro accessed 08/27/2024

General Information Form
(TCEQ-0587)

Attachment B:
USGS Quadrangle Map
Edwards Aquifer Recharge Zone Map
FEMA FIRM Map

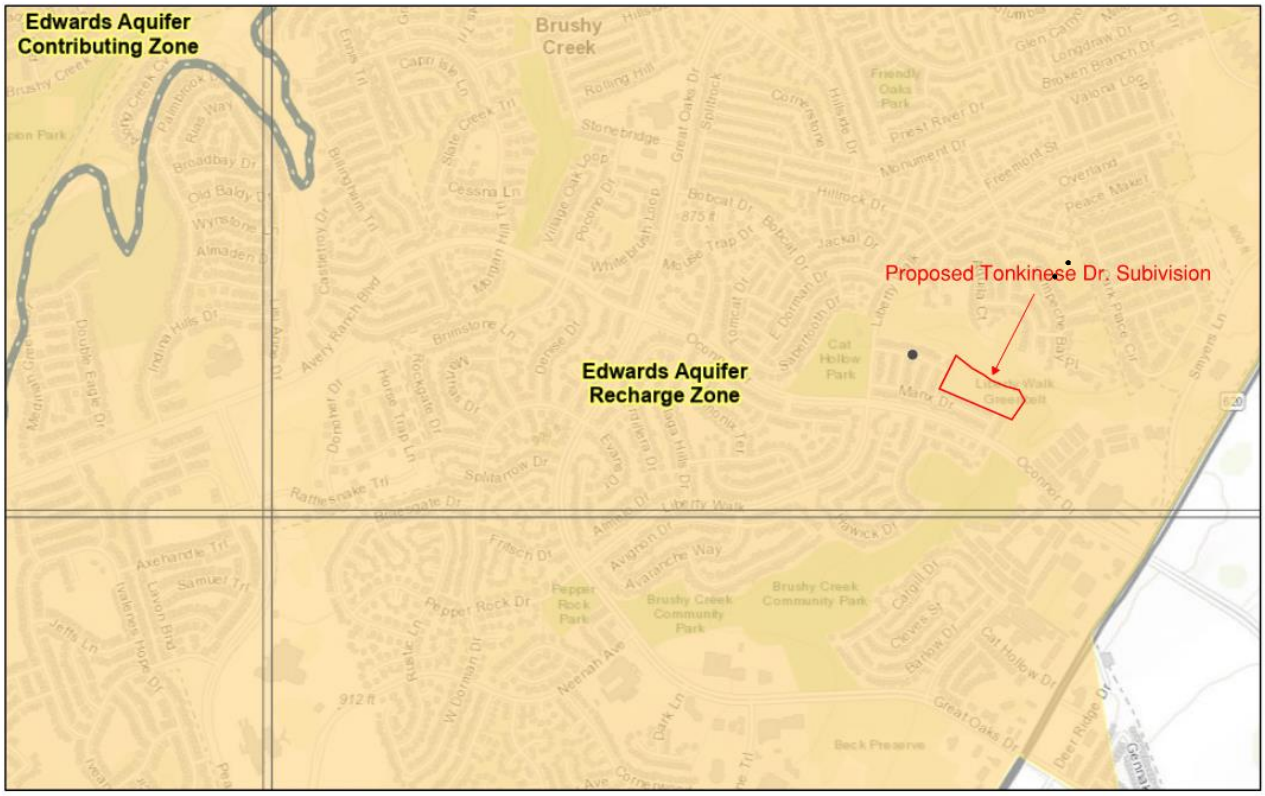


Source: Portion of USGS Quadrangle Map (TX_Round_Rock_20230724_TM_geo)

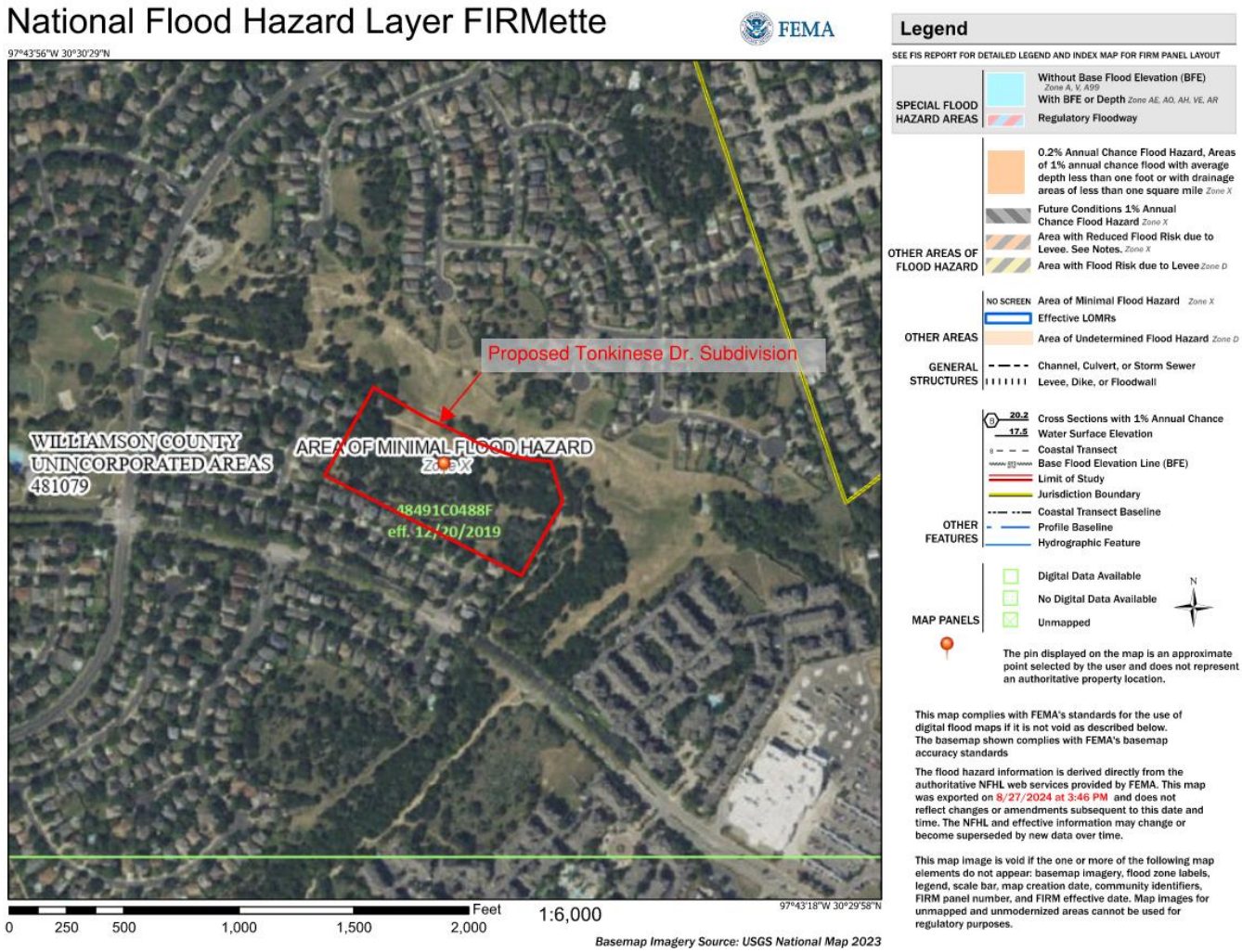
EDWARDS AQUIFER ZONE MAP
Tonkinese Dr. Subdivision
Round Rock, TX 78681
Source: TCEQ Edwards Aquifer Viewer
Prepared: August 29, 2024

N
W E
S

Tonkinese Dr. Subdivision



FEMA FIRM MAP PANEL



Source: Portion of FEMA FIRM Map Panel 48491C0488F (effective 12/20/2019)

General Information Form (TCEQ-0587)

Attachment C: Project Description

Proposed Development

The 5.13 AC project site is located at Tonkinese Dr., Round Rock, Texas 78681 and within the City of Round Rock ETJ (Extra Territorial Jurisdiction). The project site is currently undeveloped land. Proposed development is a single-family subdivision of approximately 11 tracts with associated required civil infrastructure. The property is within the Edwards Aquifer Recharge Zone and will need a Water Pollution Abatement Plan (WPAP). The WPAP proposes Batch Detention and Vegetated Filter Strip BMPs for permanent stormwater water quality control.

An existing pre-rule sewage collection system currently exists on-site and is conveyed to an existing wastewater treatment facility. Please refer to the wastewater collection plan for the proposed service laterals.

Site Description and History

The 5.13 AC property is currently owned by 1130 Airport Inc. (Document # 2024054631, dated 06/26/2024).

Total land area (5.13 AC) is on land with 0% - 15% slopes. Elevation is between 800 FT and 825 FT. Vegetation at the undeveloped site is primarily native grasses.

Demolition of Structures

There are no existing structures on the property.

Access

Proposed access to the site will be from an existing driveway stub at Tonkinese Drive.

Impervious Cover (IC)

Total existing area of impervious cover is approximately 0.0 acres.

The total proposed Project Site IC is 9,666 SF or 0.22 AC (4.3%), consisting of the required public cul-de-sac and sidewalk improvements. In accordance with TCEQ single-family IC assumptions, the anticipated impervious cover is 51,428 SF or 1.18 AC (23%). The proposed areas of impervious cover will be treated as shown in the permanent stormwater section.

Watershed and FEMA Floodplain Information

The project site is within the Brushy Creek Watershed, which drains to the Brazon River Basin. No surface streams run across the property. Drainage is generally to the east to the San Gabriel River. No portion of this tract is within the boundaries of the 100-year floodplain of any waterway within the study of the Federal Insurance Administration Firm panel #48491C0488F, dated 12/20/2019 for Williamson County.

Batch Detention and Vegetated Filter Strip BMPs are proposed to address stormwater drainage and water quality at the developed project site.

Temporary Best Management Practices (BMPs)

Construction practices shall disturb the minimal amount of existing ground cover as required for land clearing, grading, and construction activity for the shortest amount of time possible to minimize the potential of erosion and sedimentation from the site.

Prior to soil disturbing construction activity, temporary BMPs will be installed. Silt fencing will be installed along the down-gradient sides of the property to intercept and detain waterborne sediment from unprotected areas. The silt fence shall remain in place until the disturbed area is permanently stabilized.

Permanent Best Management Practices (BMPs)

Batch Detention and Vegetated Filter Strip permanent BMPs are proposed to address stormwater drainage and water quality at the developed project site. The batch detention pond BMP has a capture volume of 5,158 cubic feet. The drainage area (DA) to control is 2.65 AC. The EVFS BMP will have a total capture volume of 7,159 cubic feet and the associated drainage area is 0.63 AC. Existing impervious cover (IC) within the DA is 0%. After the proposed project construction of the batch detention pond and grassy swale BMPs, the anticipated IC at the property will be approximately 23%.

After construction activities are complete, the permanent BMPs will be maintained as described in Attachment G of the Permanent Stormwater Section. Permanent seeding, sodding or mulching will be utilized as described in Attachment J of the Temporary Stormwater Section. Permanent BMPs for trash, herbicide/pesticide use, and general maintenance of the BMPs are also described in Attachment G of the Permanent Stormwater Section.

Offsite Areas

No offsite areas are anticipated to be affected by pre and post construction activities at the site. Temporary BMPs will minimize any anticipated effects of the proposed construction activities. Permanent BMPs will address any anticipated stormwater issues at the developed site.

Narrative Description of Site-Specific Geology for Cat Hollow Section 1B Located in Round Rock, Williamson County, Texas

Prepared for:

BARKAT ALI

Prepared by:

CAMBRIAN ENVIRONMENTAL

October 14th, 2024

NARRATIVE DESCRIPTION OF SITE-SPECIFIC GEOLOGY FOR CAT HOLLOW SECTION 1B LOCATED IN ROUND ROCK, WILLIAMSON COUNTY, TEXAS

Prepared for:

BARKAT ALI
0 Tonkinese Dr.
Round Rock, Texas 78681

Prepared by:

Craig Crawford, P.G.
TX Geoscience License #10791

Cambrian Environmental
4422 Pack Saddle Pass
Suite 204
Austin, Texas 78745

TX Geoscience Firm Registration #50484

As a licensed professional geoscientist, I attest that the contents of this report are complete and accurate to the best of my knowledge.

Geologic Assessment

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Geologist: Craig Crawford, P.G.

Telephone: (512) 705-5541

Fax: _____

Date: October 14, 2024

Representing: Cambrian Environmental, TBPG Firm #50484 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:

Regulated Entity Name: Cat Hollow Section 1B

Project Information

1. Date(s) Geologic Assessment was performed: October 3 and 11, 2024
2. Type of Project:
   - ☒ WPAP
   - ☐ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition Zone

4. ☒ **Attachment A - Geologic Assessment Table**. Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.

5. ☒ Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups* (Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A, Soil Conservation Service, 1986). If there is more than one soil type on the project site, show each soil type on the site Geologic Map or a separate soils map.

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)

Soil Name	Group*	Thickness(feet)
Eckrant-Rock outcrop association (ErE)	D	1-2
Eckrant extremely stony clay (EeB)	D	1-2

** Soil Group Definitions (Abbreviated)*

A. *Soils having a high infiltration rate when thoroughly wetted.*
B. *Soils having a moderate infiltration rate when thoroughly wetted.*
C. *Soils having a slow infiltration rate when thoroughly wetted.*
D. *Soils having a very slow infiltration rate when thoroughly wetted.*

6. ☒ **Attachment B – Stratigraphic Column**. A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.

7. ☒ **Attachment C – Site Geology**. A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.

8. ☒ **Attachment D – Site Geologic Map(s)**. The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1": 400'

   Applicant's Site Plan Scale: 1" = 40'
   Site Geologic Map Scale: 1" = 40'
   Site Soils Map Scale (if more than 1 soil type): 1" = 400'

9. Method of collecting positional data:

   ☒ Global Positioning System (GPS) technology.

☐ Other method(s). Please describe method of data collection: _____

10. ☒ The project site and boundaries are clearly shown and labeled on the Site Geologic Map.
11. ☒ Surface geologic units are shown and labeled on the Site Geologic Map.
12. ☒ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.

    ☐ Geologic or manmade features were not discovered on the project site during the field investigation.
13. ☒ The Recharge Zone boundary is shown and labeled, if appropriate.
14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.

    ☐ There are _____ (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    - ☐ The wells are not in use and have been properly abandoned.
    - ☐ The wells are not in use and will be properly abandoned.
    - ☐ The wells are in use and comply with 16 TAC Chapter 76.

    ☒ There are no wells or test holes of any kind known to exist on the project site.

Administrative Information

15. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

NARRATIVE DESCRIPTION OF SITE-SPECIFIC GEOLOGY FOR CAT HOLLOW SECTION 1B LOCATED IN ROUND ROCK, WILLIAMSON COUNTY, TEXAS

INTRODUCTION

This narrative Geologic Assessment accompanies the Texas Commission on Environmental Quality (TCEQ) Geologic Assessment Form TCEQ-0585 completed for the Cat Hollow Section 1B property in Round Rock, Williamson County, Texas (see Site Location Map). The project area is comprised of approximately 5.132-acres of land located at the terminus of Tonkinese Drive, approximately 300-ft northeast of O'Connor Drive.

METHODOLOGY

Two Cambrian Environmental Registered Professional Geoscientists (Texas License #'s 10791 & 10083) conducted a field survey for a TCEQ Geologic Assessment on October 3rd, 2024. The pedestrian survey was completed by walking parallel transects spaced approximately 50 feet apart as directed by the TCEQ in the Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones (Rev. 10-01-04). Closer spacing was used where vegetation inhibited clear observation. The project site was thoroughly examined for the presence of potential karst features, including depressions, holes, and animal burrows. A number of techniques can be used for this effort, including probing with a digging implement to determine the thickness and consistency of fill material and feeling for the presence of air flow, which may indicate the presence of a sub-surface void space. Other techniques include making observations of any notable characteristics of the feature site such as the presence of various types of vegetation or a semi-circular burrow mound produced by the activities of small mammals.

RESULTS

Soils

Soils mapped within the project area consist of the Eckrant extremely stony clay (EeB) and Eckrant-Rock outcrop (ErE) series soils[1] (see Site Soils Map). The Eckrant series soils are within the "D" classification of the hydrologic soil groups. Type "D" soils have a very slow infiltration rate (very high runoff potential) when thoroughly wet.

Geology

The mapped bedrock lithology underlying the project area consists of the Edwards Limestone (Ked). The entire tract is mapped as being within the Edwards Aquifer Recharge Zone (see Site Geologic Map). The geology of the property has been mapped most recently at a useful scale by Collins (2005) and we find his interpretation of the geology to be generally accurate.[2] Bedrock outcrops were common in some areas,

[1] United States Department of Agriculture, Natural Resource Conservation Service. Online Web Soil Survey, Williamson County, Texas. http://websoilsurvey.sc.egov.usda.gov/

[2] E.W. Collins, 2005, Geologic Map of the West Half of the Taylor Texas 30x60 Quadrangle: Central Texas Urban Corridor Encompassing Round Rock, Georgetown, Salado, Briggs, Liberty Hill, and Leander, Bureau of Economic Geology, University of Texas at Austin. Scale 1:100,000

while other areas seemed to have relatively thick soil cover. No faults are mapped within the project limits, and none were observed during the pedestrian survey.

Recharge into the aquifer primarily occurs in areas where the Edwards Group and upper confining units are exposed at the surface. Most recharge is from direct infiltration via precipitation and streamflow loss. Recharge occurs predominantly along secondary porosity features such as faults, fractures, and karst features (caves, solution cavities, sinkholes, etc.); and these types of karst features are commonly formed along joints, fractures, and bedding plane surfaces formed within the Edwards Group Limestone.

Site Hydrogeologic Assessment

Seven (7) sensitive features were identified during the pedestrian survey. Recharge to the aquifer on this property has the greatest potential to occur in the immediate vicinity of this feature. Additionally, should any karst features be discovered during the construction phase of the project, they should be reported to TCEQ to determine the appropriate mitigation measures.

Feature Descriptions

F-1 The feature consists of a shallow sinkhole filled with large cobbles and loose organic material. The sinkhole measures approximately 5 feet by 5 feet by 1.5 feet deep. The sinkhole is located on the hillside, has a small catchment area and appears to be karst in origin. Minor probing revealed loose organics, soils and cobbles. Therefore, the probability for rapid infiltration is high and the feature is ranked as "sensitive".

F-2 The feature consists of a solution cavity choked with cobbles, loose soil and organic material. The feature lies within the hillside, has a small catchment area and appears to be karst in origin. Therefore, the probability for rapid infiltration is high and the feature is ranked as "sensitive".

F-3 The feature consists of a solution cavity extending approximately 3-ft into the subsurface. Organic material, loose soils and small cobbles were observed at depth. The feature lies within the hillside, has a small catchment area and appears to be karst in origin. Therefore, the probability for rapid infiltration is high and the feature is ranked as "sensitive".

F-4 The feature consists of a solution cavity with a tree growing out of it. Infilling consisted of coarse material including cobbles, loose soil and organic material. The feature lies within the hillside, has a small catchment area and appears to be karst in origin. Therefore, the probability for rapid infiltration is high and the feature is ranked as "sensitive".

F-5 The feature consists of a small solution cavity with infilling consisting of loose soil and organic material. The feature lies within the hillside, has a small catchment area and appears to be karst in origin. Therefore, the probability for rapid infiltration is high and the feature is ranked as "sensitive".

F-6 The feature consists of a solution cavity choke with cobbles, loose soil and organic material. The feature lies within the hillside, has a small catchment area and appears to be karst in origin. Therefore, the probability for rapid infiltration is high and the feature is ranked as "sensitive".

F-7 The feature is previously documented as El Tigre Cave and consists of subsurface passages along bedding planes. The entrance to the cave is within an exposed limestone outcrop bedding plane surrounded by large loose boulders presumably placed around the opening during previous construction activities near the cave. The probability for rapid infiltration is high and the feature is ranked as “non-sensitive.

F-8 The feature is a manmade existing sewer line that is not located beneath pavement. The sewer line has been trenched through bedrock and backfilled with a mix of fine and coarse material that may be more permeable than surrounding undisturbed areas. Therefore, the probability for rapid infiltration is appears to be and the feature is ranked as “non-sensitive”.

Stratigraphic Column

*Area shaded gray represents the lithology directly underlying the project site

Period	Group	Stratigraphic Unit	Hydrologic Unit	Maximum Thickness (Feet)
Quaternary to Tertiary		Stream and river alluvium (Qal)	Overlying Units	70
		Terrace alluvium (Qt)		
		Older alluvium (QTa)		
Upper Cretaceous (Gulf Series)	Taylor	Taylor Clay (Ktl)	Confining Units	300
	Austin	Austin Chalk (Kau)		400
	Eagle Ford	Eagle Ford Shale (Kef)		60
	Washita	Buda Limestone (Kbu)		20
		Del Rio Clay (Kdr)		60
Lower Cretaceous (Comanche Series)	Fredericksburg	Georgetown Limestone (Kgt)	Edwards Aquifer	100
		Edwards Limestone (Ked)		120
		Comanche Peak Formation (Kc)		50
	Trinity	Walnut Formation (Kw)	Confining Unit	140
		Upper Glen Rose Limestone (Kgru)	Upper Trinity Aquifer	200

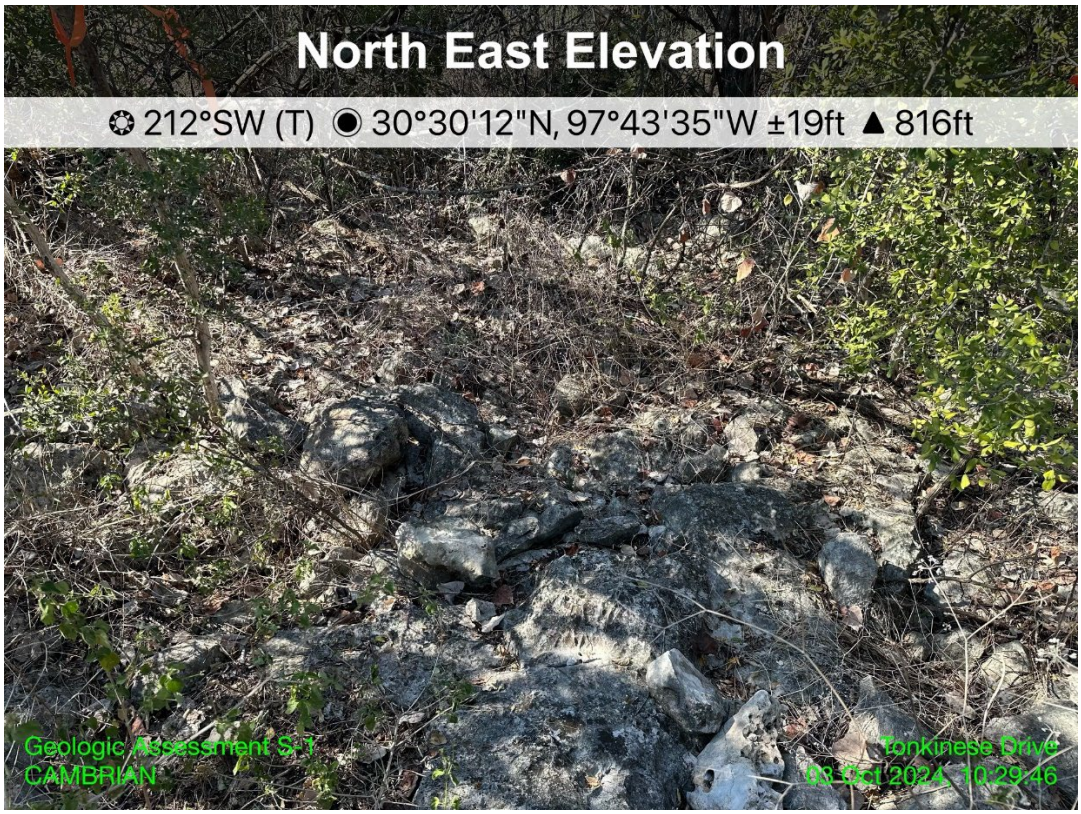


Photo 1. View of feature S-1

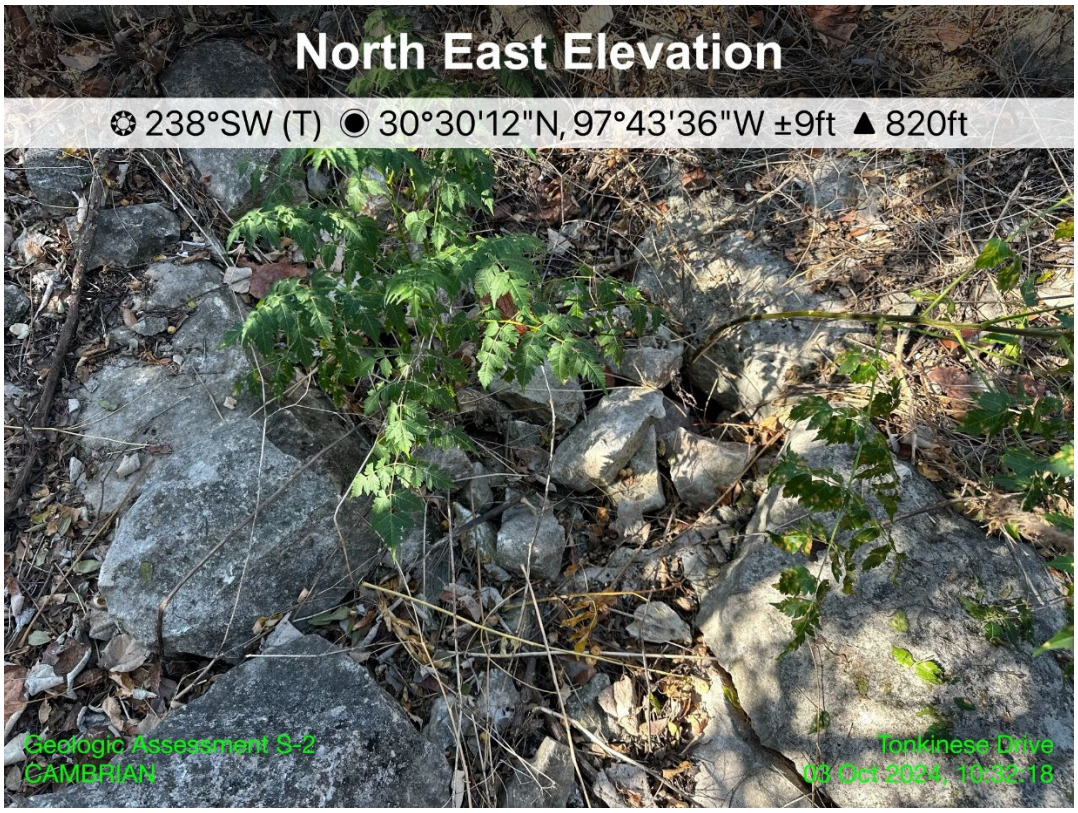


Photo 2. View of feature F-2

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: CAT HOLLOW SECTION 1B

LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	≥40	<1.6	≥1.6	
S-1	30°30'12.7"	97°43'35.9"	SH	20	Ked	5	5	1	-	0			C,O	35	55		55	X		Hillside
S-2	30°30'12.9"	97°43'36.3"	SC	20	Ked	1	1	1.5	-	0			C,O	35	55		55	X		Hillside
S-3	30°30'12.9"	97°43'36.6"	SC	20	Ked	0.7	0.9	3	N18°W	0			N,C,O	35	55		55	X		Hillside
S-4	30°30'13.8"	97°43'39.6"	SC	20	Ked	1	1	1.8	-	0			N,C,O	35	55		55	X		Hillside
S-5	30°30'14.4"	97°43'39.5"	SC	20	Ked	0.4	0.4	2	-	0			N,C,O	35	55		55	X		Hillside
S-6	30°30'15.0"	97°43'40.3"	SC	20	Ked	1	1	2.2	-	0			N,C,O	35	55		55	X		Hillside
S-7	30°30'15.0"	97°43'39.1"	C	30	Ked	35	60	14	N60°W	0			N,C,O	35	55		55	X		Hillside
S-8	30°30'12.7"	97°43'34.6"	MB	30	Ked	668			-	0			C,F	5	35	35		X		Hillside

* DATUM: NAD 83

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

8A INFILLING

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

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

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

My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Signature

Date: October 14, 2024

Sheet __1__ of __1__

STATE OF TEXAS
CRAIG CRAWFORD
GEOLOGY
NO. 10791
LICENSED
PROFESSIONAL GEOSCIENTIST

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

Photo 3. View of feature S-3

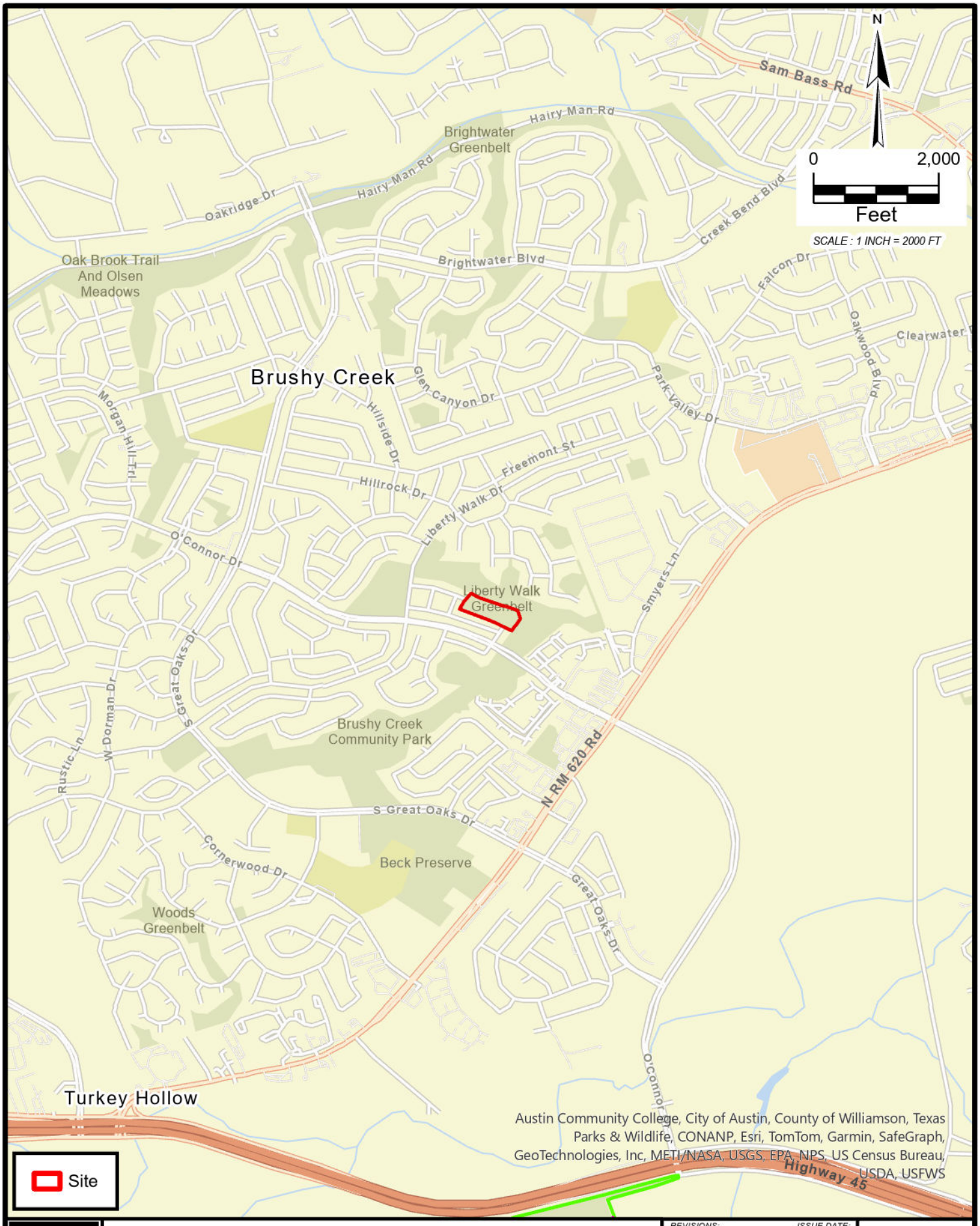
Photo 4. View of feature S-4

Photo 5. View of feature S-5

Photo 6. View of feature S-6

Photo 7. View of feature S-7, El Tigre Cave entrance

Photo 8. View of feature S-8, sewer line easement

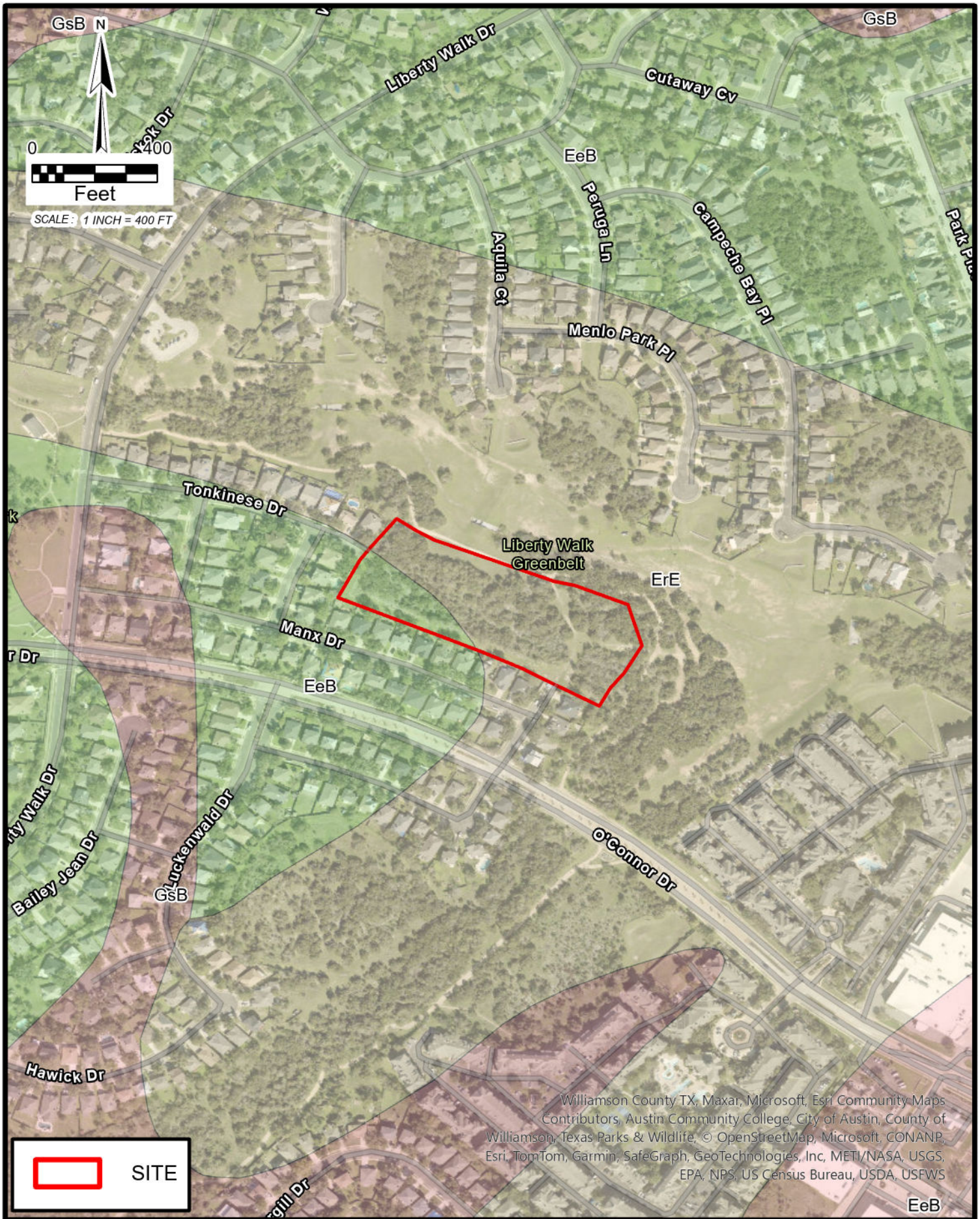


Cambrian

CAT HOLLOW SECTION 1B
GEOLOGIC ASSESSMENT
SITE LOCATION MAP
ROUND ROCK, WILLIAMSON COUNTY, TEXAS

REVISIONS:	ISSUE DATE:
PROJECT NO.	
DATE: October 2024	DESIGNER:
DRAWN: RCP	CHECKED: HB

FIGURE 1



Cambrian

CAT HOLLOW SECTION 1B
GEOLOGIC ASSESSMENT
SITE SOILS MAP
ROUND ROCK, WILLIAMSON COUNTY, TEXAS

REVISIONS:	ISSUE DATE:
PROJECT NO.	
DATE: October 2024	DESIGNER: RCP
DRAWN: RCP	CHECKED: HB

FIGURE 2

Edwards Aquifer
Recharge Zone

Edwards Aquifer
Recharge Zone

N

0 40 80
FEET
SCALE: 1in = 40ft

S-1
S-2
S-3
S-4
S-5
S-6
S-7
S-8

Ked

Liberty Walk Greenbelt

Tonkinese Dr
Abyssinian Ln
Manx Dr
O'Connor Dr

LEGEND

- SITE
- Ked — Edwards Limestone
- Features
- El Tigre Cave Footprint
- Sanitary Sewer

Cambrian

ISSUE DATE

REVISIONS

CAT HOLLOW SECTION 1B

SITE GEOLOGIC MAP
GEOLOGIC ASSESSMENT
ROUND ROCK, WILLIAMSON COUNTY, TEXAS

PROJECT NO:
DATE: October 2024
DRAWN: RCP CHECKED: CC

FIGURE
3

Water Pollution Abatement Plan Application

Texas Commission on Environmental Quality

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

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

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

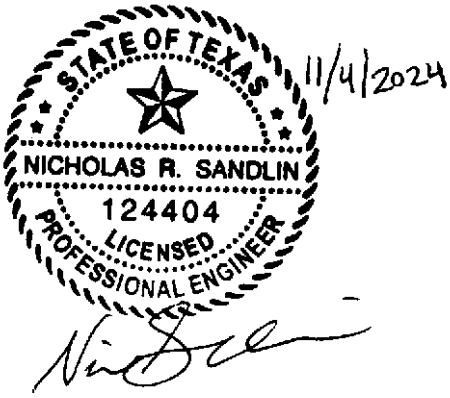
Signature

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

Print Name of Customer/Agent: Nicholas Sandlin, P.E.

Date: 11/4/2024

Signature of Customer/Agent:



Regulated Entity Name: Tonkinese Dr Subdivision

Regulated Entity Information

1. The type of project is:

   ☒ Residential: Number of Lots:11
   ☐ Residential: Number of Living Unit Equivalents:_____
   ☐ Commercial
   ☐ Industrial
   ☐ Other:_____

2. Total site acreage (size of property):5.13

3. Estimated projected population:11

4. The amount and type of impervious cover expected after construction are shown below:

Table 1 - Impervious Cover Table

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	41,762	÷ 43,560 =	0.96
Parking		÷ 43,560 =	
Other paved surfaces	9,666	÷ 43,560 =	0.22
Total Impervious Cover	51,428	÷ 43,560 =	1.18

Total Impervious Cover 1.18 **÷ Total Acreage** 5.13 **X 100 =** 23**% Impervious Cover**

5. ☒ **Attachment A - Factors Affecting Surface Water Quality**. A detailed description of all factors that could affect surface water and groundwater quality that addresses ultimate land use is attached.

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

For Road Projects Only

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

7. Type of project:

   ☐ TXDOT road project.
   ☐ County road or roads built to county specifications.
   ☐ City thoroughfare or roads to be dedicated to a municipality.
   ☐ Street or road providing access to private driveways.

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

   ☐ Concrete
   ☐ Asphaltic concrete pavement
   ☐ Other: _____

9. Length of Right of Way (R.O.W.): _____ feet.

   Width of R.O.W.: _____ feet.
   L x W = _____ Ft^2 ÷ 43,560 Ft^2/Acre = _____ acres.

10. Length of pavement area: _____ feet.

    Width of pavement area: _____ feet.
    L x W = _____ Ft^2 ÷ 43,560 Ft^2/Acre = _____ acres.
    Pavement area _____ acres ÷ R.O.W. area _____ acres x 100 = _____% impervious cover.

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

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

12. ☐ Maintenance and repair of existing roadways that do not require approval from the TCEQ Executive Director. Modifications to existing roadways such as widening roads/adding shoulders totaling more than one-half (1/2) the width of one (1) existing lane require prior approval from the TCEQ.

Stormwater to be generated by the Proposed Project

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

Wastewater to be generated by the Proposed Project

14. The character and volume of wastewater is shown below:

100% Domestic	15,534 Gallons/day
_____% Industrial	_____Gallons/day
_____% Commingled	_____Gallons/day

TOTAL gallons/day 15,534 gpd

15. Wastewater will be disposed of by:

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

☐ **Attachment C - Suitability Letter from Authorized Agent**. An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's (authorized agent) written approval is attached. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities.

☐ Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.

☒ Sewage Collection System (Sewer Lines):

☒ Private service laterals from the wastewater generating facilities will be connected to an existing SCS.

☐ Private service laterals from the wastewater generating facilities will be connected to a proposed SCS.

☒ The SCS was previously submitted on WW Main Constructed Pre-Rule

☐ The SCS was submitted with this application.

☐ The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to Executive Director approval.

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

☒ Existing.
☐ Proposed.

16. ☒ All private service laterals will be inspected as required in 30 TAC §213.5.

Site Plan Requirements

Items 17 – 28 must be included on the Site Plan.

17. ☒ The Site Plan must have a minimum scale of 1" = 400'.

Site Plan Scale: 1" = 40'.

18. 100-year floodplain boundaries:

☐ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
☒ No part of the project site is located within the 100-year floodplain.
The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA FIRM Panel # 48491C0488F (effective 12/20/2019)

19. ☒ The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Lots, recreation centers, buildings, roads, open space, etc. are shown on the plan.

☐ The layout of the development is shown with existing contours at appropriate, but not greater than ten-foot intervals. Finished topographic contours will not differ from the existing topographic configuration and are not shown. Lots, recreation centers, buildings, roads, open space, etc. are shown on the site plan.

20. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):

☐ There are _____ (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)

☐ The wells are not in use and have been properly abandoned.
☐ The wells are not in use and will be properly abandoned.
☐ The wells are in use and comply with 16 TAC §76.

☒ There are no wells or test holes of any kind known to exist on the project site.

21. Geologic or manmade features which are on the site:

☒ All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.
☐ No sensitive geologic or manmade features were identified in the Geologic Assessment.
☐ **Attachment D - Exception to the Required Geologic Assessment**. A request and justification for an exception to a portion of the Geologic Assessment is attached.

22. ☒ The drainage patterns and approximate slopes anticipated after major grading activities.

23. ☒ Areas of soil disturbance and areas which will not be disturbed.

24. ☒ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.

25. ☒ Locations where soil stabilization practices are expected to occur.

26. ☐ Surface waters (including wetlands).

    ☒ N/A

27. ☐ Locations where stormwater discharges to surface water or sensitive features are to occur.

    ☒ There will be no discharges to surface water or sensitive features.

28. ☒ Legal boundaries of the site are shown.

Administrative Information

29. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

30. ☒ Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

Water Pollution Abatement Plan Application Form (TCEQ-0584)

Attachment A: Factors Affecting Surface Water Quality

Potential pollution sources during the construction phase include increased sediment erosion from disturbed soil; oil, grease, fuel, and hydraulic fluid contamination from construction equipment and vehicles; concrete washout waste; and miscellaneous trash and litter from construction. Potential pollution sources at the developed site include oil, grease, fuel, and hydraulic fluid contamination from vehicles, trash, and litter.

Water Pollution Abatement Plan Application Form (TCEQ-0584)

Attachment B: Volume and Character of Stormwater

The proposed site is located within the Edwards Aquifer Recharge Zone. Stormwater from the developed IC will convey to Batch Detention Pond and Engineered Vegetated Filter Strip BMPs per the Water Quality Plan. Please see the water quality and drainage sheets of the construction plans for calculations and details. There are no anticipated off-site impacts.

Water Pollution Abatement Plan Application Form (TCEQ-0584)

Attachment C:
Suitability Letter from Authorized Agent (if OSSF is proposed)

N/A

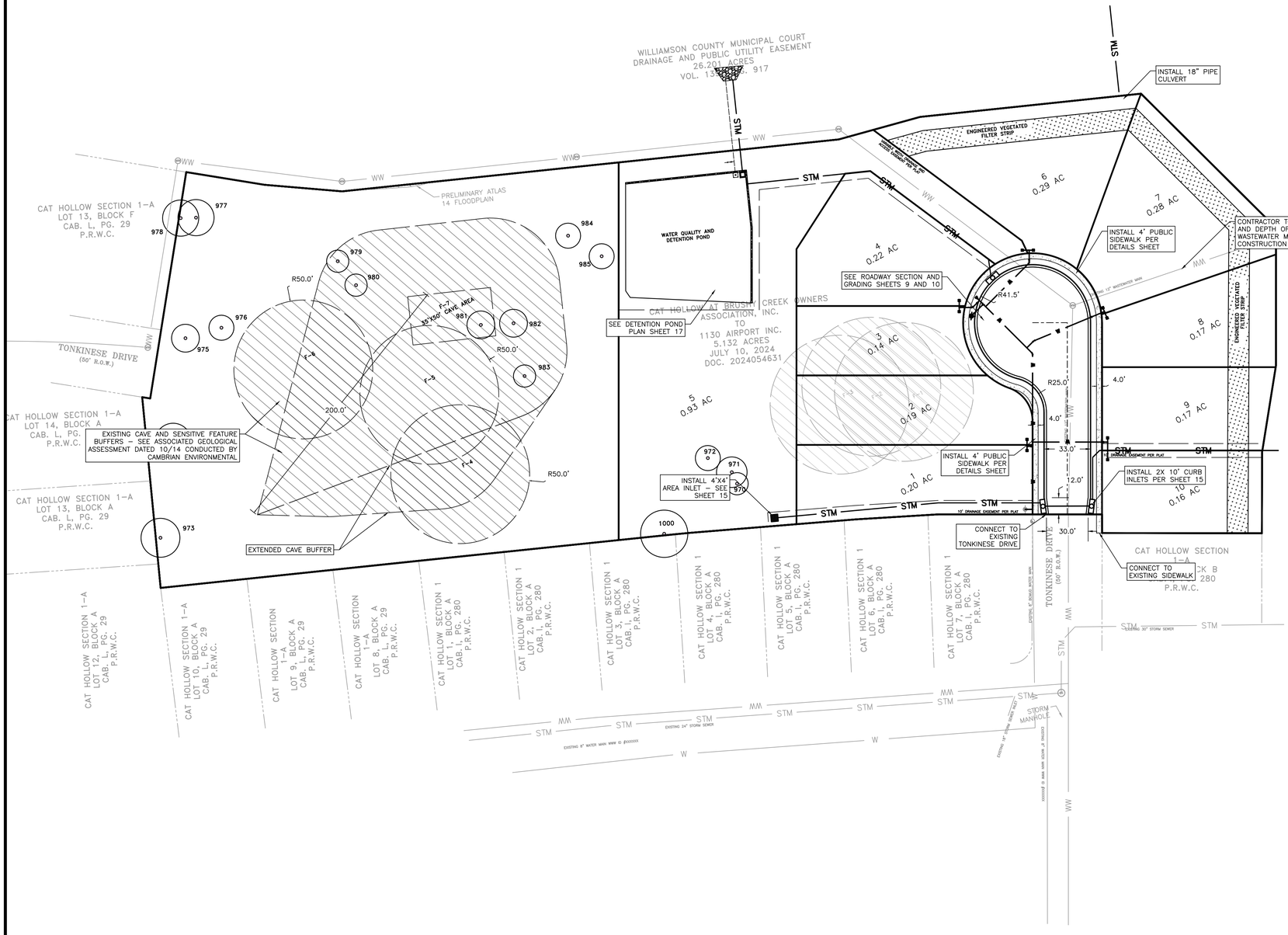
Water Pollution Abatement Plan Application Form (TCEQ-0584)

Attachment D: Exception to the Required Geologic Assessment

N/A

Water Pollution Abatement Plan Application Form (TCEQ-0584)

Site Plan



0 20' 40' 80'

SCALE: 1" = 40'

IF DRAWING BAR DOES NOT MEASURE 2" THIS PRINT IS NOT TO SCALE

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
11/4/2024

SITE PLAN LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- FIRE LANE
- PROPOSED CURB & GUTTER
- STREET CENTERLINE
- FENCE
- STRUCTURAL RETAINING WALL (BY OTHERS)
- PROPOSED CONCRETE SIDEWALK
- (R) PROPOSED PARKING SPACES
- (T) TRANSFORMER PAD
- SITE WALLS
- PHASING

TAS ACCESSIBLE ROUTE

TAS ACCESSIBLE ROUTES MAY NOT EXCEED A CROSS SLOPE OF 1:50 (2%) OR EXCEED A RUNNING SLOPE OF 1:20 (5%) UNLESS DESIGNED AS A RAMP. THE MAXIMUM RUNNING SLOPE OF A RAMP IN NEW CONSTRUCTION IS 1:12 (8.33%). THE MAXIMUM RISE FOR ANY RAMP RUN IS 30 INCHES. REFER TO GRADING SHEET(S).

- EX. WATER LINE / PR. WATER LINE
- EX. WASTEWATER / FIRE LINE
- EX. STORM SEWER LINE / PR. WASTEWATER
- PR. STORM SEWER LINE
- EX. FIRE HYDRANT / PR. FIRE HYDRANT
- EX. WATER METER / PR. WATER METER
- EX. WASTEWATER MANHOLE / PR. WASTEWATER MANHOLE
- FITTINGS AS NOTED
- GATE VALVE AS NOTED / FLOW ARROW
- WW CLEAN OUT
- BFP BACK FLOW PREVENTER / EX. UTILITY POLE

SITE DATA	
	PROPOSED
TOTAL SITE AREA	5.13 AC / 223,517 SF
LOT COUNT	11
IMPERVIOUS COVER	9,666 SF = 0.22 AC = 4.3%

SITE LEGEND

- A 6" CURB & GUTTER. SEE DETAIL SHEET.
- B RIBBON CURB. SEE DETAIL SHEET.
- C CASTELLATED CURB. SEE DETAIL SHEET.
- D STANDARD CITY TYPE II DRIVEWAY. SEE DETAIL SHEET
- E CONCRETE SIDEWALK. SEE DETAIL SHEET.
- F PEDESTRIAN CROSSWALK.
- G HANDICAP SPACE W/SIGN. SEE DETAIL SHEET.
- H PEDESTRIAN ADA RAMP OR AT GRADE ADA DOME PAVERS. SEE DETAIL SHEET.
- I CONCRETE WHEEL STOP. SEE DETAIL SHEET.
- J STANDARD CITY BIKE RACK. SEE DETAIL SHEET.
- K DUMPSTER ENCLOSURE WITH CONCRETE PAD PER GEOTECHNICAL REPORT AND CITY STANDARDS

TEXAS 811 BEFORE YOU DIG

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

ENGINEERING | CONSULTING
SANDLIN
SERVICES, LLC

TBPELS FIRM #21356
9111 JOLLYVILLE RD. STE 212 AUSTIN, TX 78759

SUBDVISION LAYOUT PLAN

PROJECT CASE: XXXXXXX

TONKINESE DR SUBDIVISION

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 8 OF 26

G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-0129-002 Tonkinese Dr Subdivision\CAD\Construction Sheets\S TNK STE.dwg-SUBDIVISION LAYOUT PLAN Plotted Nov 11, 2024 at 2:53pm by Engineer | Last Saved by: Engineer

Temporary Stormwater Section
(TCEQ-0602)

Temporary Stormwater Section

Texas Commission on Environmental Quality

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

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

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

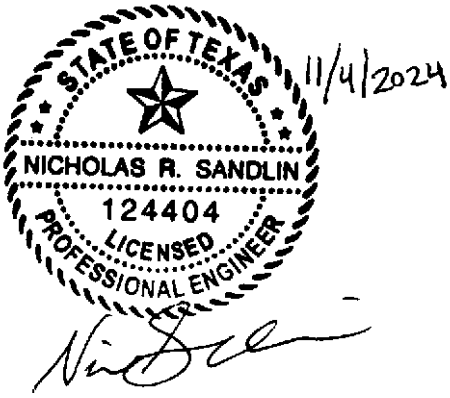
Signature

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

Print Name of Customer/Agent: Nicholas Sandlin, P.E.

Date: 11/4/2024

Signature of Customer/Agent:



Regulated Entity Name: Tonkinese Dr 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.

☒ Fuels and hazardous substances will not be stored on the site.

2. ☒ **Attachment A - Spill Response Actions**. A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.

3. ☒ Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

4. ☒ **Attachment B - Potential Sources of Contamination**. A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

Sequence of Construction

5. ☒ **Attachment C - Sequence of Major Activities**. A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.

   ☒ For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.

   ☐ For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.

6. ☒ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: Brushy Creek

Temporary Best Management Practices (TBMPs)

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

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

☒ A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.

☒ A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.

☒ A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.

☒ A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.

8. ☐ The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.

☐ **Attachment E - Request to Temporarily Seal a Feature**. A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.

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

9. ☒ **Attachment F - Structural Practices**. A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.

10. ☒ **Attachment G - Drainage Area Map**. A drainage area map supporting the following requirements is attached:

☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.

☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.

☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.

☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

☒ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.

11. ☐ **Attachment H - Temporary Sediment Pond(s) Plans and Calculations**. Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.

☒ N/A

12. ☒ **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.

13. ☒ All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.

14. ☒ If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).

15. ☒ Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.

16. ☒ Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

Soil Stabilization Practices

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

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

18. ☒ Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

19. ☒ Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

Administrative Information

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

21. ☒ If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.

22. ☒ Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

Temporary Stormwater Section (TCEQ-0602)

Attachment A: Spill Response Actions

Spill Response Actions

In the event of an accidental spill, immediate action shall be undertaken by the General Contractor to contain and remove the spilled material. All hazardous materials, including contaminated soil and liquid concrete waste (if applicable), shall be disposed of by the Contractor in the manner specified by Federal, State and Local regulations and by the manufacturer of such products. As soon as possible, the spill shall be reported to the appropriate agencies. As required under the provisions of the Clean Water Act, any spill or discharge entering waters of the United States shall be properly reported. The General Contractor shall prepare a written record of any spill and associated clean-up activities of petroleum products or hazardous materials in excess of 1 gallon or reportable quantities, whichever is less. The General Contractor shall provide notice to the Owner immediately upon identification of a reportable spill.

All spills of petroleum products or hazardous materials in excess of Reportable Quantities as defined by EPA or the State or Local agency regulations, shall be immediately reported within 24 hours to the EPA National Response Center (1-800-424-8802), TCEQ (1-800-832-8224), and local Fire Department (911).

The reportable quantity for hazardous materials can be found in 40 CFR 302:

Reportable Quantities		
Material	**Media Released to**	**Reportable Quantities**
Engine Oil, Fuel, Hydraulic & Brake Fluid	Land	25 gallons
Engine Oil, Fuel, Hydraulic & Brake Fluid	Water	Visible sheen
Antifreeze	Land	100 lbs (13 gal.)
Battery Acid	Land, Water	100 lbs
Refrigerant	Air	1 lb
Gasoline	Air, Land, Water	100 lbs
Engine Degreasers	Air, Land, Water	100 lbs

Please visit https://www.tceq.texas.gov/response/spills/spill_rq.html for more information.

In order to minimize the potential for a spill of petroleum product or hazardous materials to come in contact with stormwater, the following steps shall be implemented.

1) All materials with hazardous properties (such as pesticides, petroleum products, fertilizers, detergents, construction chemicals, acids paints, paint solvents, additives for soil stabilization,

concrete curing compounds and additives, etc.) shall be stored in a secure location, under cover and in appropriate, tightly sealed containers when not in use.

2) The minimum practical quantity of all such materials shall be kept on the job site and scheduled for delivery as close to the time of use as practical. Post Material Safety Data Sheets (MSDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.

3) A spill control and containment kit (containing for example: absorbent material such as kitty litter or sawdust, acid neutralizing agent, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) shall be provided on the construction site and construction employees shall be trained in when and how to use spill containment materials.

4) The contractor personnel will immediately clean up any oil, fuel or hydraulic fluid if observed being released from equipment or vehicles. Vehicles or equipment will cease operation until required repairs are made to the equipment.

5) All of the product in a container shall be used before the container is disposed of. All such containers shall be triple rinsed with water prior to disposal. The rinse water used in these containers shall be disposed of in a manner in compliance with State and Federal regulations and shall not be allowed to mix with stormwater discharges.

6) All products shall be stored in and used from the original container with the original product label.

7) All products shall be used in strict compliance with instructions on the product label.

8) The disposal of the excess or used products shall be in strict compliance with instructions on the product's label.

Spill Prevention and Control

Education

1) Be aware that different materials pollute in different amounts. Make sure that each employee knows what a "significant spill" is for each material they use, and what is the appropriate response for "significant" and "insignificant" spills. Employees should also be aware of when a spill must be reported to the TCEQ. Information is available in 30 TAC 327.4 and 40 CFR 302.4.
2) Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.
3) Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
4) Establish a continuing education program to indoctrinate new employees.
5) Have contractor's superintendent or representative oversee and enforce proper spill prevention and control measures.

General Measures

1) To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110, 117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
2) Store hazardous materials and wastes in covered containers and protect from vandalism.
3) Place a stockpile of spill cleanup materials where it will be readily accessible.
4) Train employees in spill prevention and cleanup.
5) Designate responsible individuals to oversee and enforce control measures.
6) Spills should be covered and protected from stormwater run-on during rainfall to the extent that it doesn't compromise cleanup activities.
7) Do not bury or wash spills with water.
8) Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.
9) Do not allow water used for leaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.
10) Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.
11) Place Material Safety Data Sheets (MSDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.
12) Keep waste storage areas clean, well-organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

1) Clean up leaks and spills immediately.
2) 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.
3) Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of it properly. See the waste management BMPs in this section for specific information.

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:
5) Contain the spread of the spill.
6) Recover spilled materials.
7) Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

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

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 the spill with tarps or other material to prevent contaminating runoff.

Significant/Hazardous Spills

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.
2) For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,009, 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.
4) The services of a spill's contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staff 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 Office, Fire Departments, etc.

More information on spill rules and appropriate responses is available on the TCEQ website at: https://www.tceq.texas.gov/downloads/compliance/investigations/spills/spill-poster-x.pdf

Vehicle and Equipment Maintenance

1) If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage course, to prevent the runon of stormwater and the runoff of spills.

2) Regularly inspect onsite vehicles and equipment for leaks and repair immediately.
3) Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.
4) Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
5) Place drip pans or absorbent materials under paving equipment when not in use.
6) Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of them properly.
7) Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
8) Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters.
9) Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

<u>Vehicle and Equipment Fueling</u>

1) If fueling must occur on site, use designated areas, located away from drainage courses, to prevent the runon of stormwater and the runoff of spills.
2) Discourage 'topping off' of fuel tanks.

Always use secondary containment, such as a drain pan, when fueling to catch spills/leaks.

SPILL REPORT FORM

Notes to General Contractor:

- Control and contain the spill.
- Contact the appropriate regulatory agencies if the spill exceeds the applicable reportable quantity.
- Clean up the spill and dispose of waste according to federal, state and local regulations.
- Complete the Spill Report Form in full for each spill that exceeds the applicable reportable quantity and submit to the Owner.
- Call the Owner.
- Resolve as appropriate and as required by regulatory authorities.

SPILL REPORT FORM

DATE:
PROJECT:
PROJECT ADDRESS:

Spill Reported By: _____

Date / Time of Spill: _____

Describe spill location and events leading to spill: _____

_____

Material Spilled: _____

Source of Spill: _____

Amount Spilled: _____

Amount Spilled to Waterway (Name Waterway): _____

Containment or Clean up Action: _____

_____

Approximate depth (yards) of soil excavation: _____

List injuries or Personal Contamination: _____

Action to be taken to prevent future spills:
_____

Agencies notified of spill:
_____

_____

_____ _____
Contractor Signature and Printed Name **Date**

AFTER NOTIFYING GOVERNING AUTHORITIES, IMMEDIATELY COMPLETE THIS FORM AND CONTACT THE OWNER IF THE SPILL EXCEEDS THE REPORTABLE QUANTITY FOR THE GOVERNING AGENCY

Temporary Stormwater Section (TCEQ-0602)

Attachment B: Potential Sources of Contamination

Potential Sources of Contamination and Preventive Measures:

Potential Source: Concrete and concrete products used on-site during construction.
Preventive Measures: Concrete washout structure will be used if necessary.

Potential Source: Oil, grease, fuel, and hydraulic fluid contamination from construction equipment and vehicle dripping.
Preventative Measures: Vehicle maintenance will be performed at a local maintenance shop.

Potential Source: Miscellaneous trash and litter from construction workers and material wrappings.
Preventative Measures: Trash containers will be placed throughout the site to encourage proper disposal of trash.

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

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

Potential Source: Soil and mud from construction vehicle tires as they leave the site.
Preventative Measures: a stabilized construction exit shall be utilized as vehicles leave the site. And soil, mud, etc. carried from the project onto public roads shall be cleaned up within 24 hours.

Potential Source: Sediment from soil, sand, gravel, and excavated materials stockpiled on site.
Preventative Measures: Silt fence shall be installed on the down gradient side of the stockpiled materials. Reinforced rock berms shall be installed at all downstream discharge locations.

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

Temporary Stormwater Section (TCEQ-0602)

Attachment C: Sequence of Major Activities

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

Intended Schedule or Sequence of Major Activities:

1. Submit written notice of construction to TCEQ regional office at least 48 hours prior to the start of any regulated activities. (See Permanent Stormwater Section – Attachment F)

2. A pre-construction conference prior to commencement of construction. All contractors conducting regulated activities associated with this project must be provided with complete copies of the approved Water Pollution Abatement Plan (WPAP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors are required to keep on-site copies of the approved plan and approval letter.

3. Contractors must follow requirements as outlined in TCEQ General Construction Notes for the Water Pollution Abatement Plan (WPAP). WPAP Construction Notes are included on the Construction Plan sheets (See Permanent Stormwater Section – Attachment F).

4. Prior to beginning any construction activity, all temporary erosion and sedimentation BMPs and control measures must be properly installed and maintained in accordance with the approved plans and manufacturers specifications (3.34 Acres).

5. Evaluate temporary erosion control installation. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized.

6. Review construction schedule and the Water Pollution Abatement Plan (WPAP) requirements.

7. Complete Permanent BMP construction and install landscaping (3.34 Acres).

8. Topsoil, Irrigation and Landscaping: Revegetate all disturbed areas according to plan.

9. Site cleanup and removal of temporary erosion/sedimentation BMP controls. (3.34 Acres)

Maximum total construction time is not expected to exceed 6 months.

Temporary Stormwater Section (TCEQ-0602)

Attachment D: Temporary Best Management Practices and Measures

1. There is no storm water that originates up gradient from the site and flows across the site through an onsite BMP. All upstream stormwater has been accounted for with previously approved and constructed permanent BMPs serving the existing subdivision.

2. Temporary BMPs will be installed prior to soil disturbing construction activity. Silt fencing will be placed along the down-gradient sides of the property and limits of construction to prevent silt from escaping the construction area during permanent BMP construction.

3. A gravel construction entrance exists on site to reduce vehicle "tracking" onto adjoining streets. A concrete washout pit may be used to collect all excess concrete during construction, if needed.

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

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

6. The temporary onsite BMPs will be used to treat stormwater runoff before it leaves the project and prevent pollutants from entering into surface streams or any sensitive features down gradient of the site.

Temporary Stormwater Section
(TCEQ-0602)

Attachment E:
Request to Temporarily Seal a Feature
Not Applicable

Temporary Stormwater Section (TCEQ-0602)

Attachment F: Structural Practices

Structural BMPs will be used to limit runoff discharge of pollutants from exposed areas of the site. BMPs will be installed prior to soil disturbing construction activity. Silt fencing will be placed along the down-gradient sides of the property to prevent silt from escaping the construction area. A temporary construction entrance will be placed at the site entry/exit point to reduce tracking onto adjoining streets. A construction staging area will be used onsite to perform all vehicle maintenance and for equipment and material storage. A concrete truck washout pit will be placed on site to provide containment and easier cleanup of waste from concrete operations. The location of all structural temporary BMPs are shown within the Site Plans.

Description of Temporary BMPs

Construction Entrance/Exit:
The purpose of a gravel construction entrance is to provide a stable entrance/exit condition from the construction site and keep mud and sediment off public roads. A stabilized construction entrance is a stabilized pad of crushed stone located at any point traffic will be entering or leaving the construction site from a public right-of-way. This practice should be used at all point of construction ingress and egress. Excessive amounts of mud can also present a safety hazard to roadway users. To minimize the amount of sediment loss to nearby roads, access to the construction site should be limited to as few points as possible and vegetation around the perimeter should be protected where access is not necessary. A rock stabilized construction entrance exists and will be used at all designated access points.

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

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

Triangular Sediment Filter Dikes
Triangular sediment filter dikes (18"x18"x18" filter material with 6" square folded wire mesh frame) will be installed downgradient of the AST construction area with filter cloth placed over any existing stormwater

collection drains. The dike and filter cloth will be held in place with cloth sandbags. The facility existing topography will not change as the AST will be placed on existing crushed rock.

Inlet Protection:

The purpose of inlet protection is to avoid the clogging of constructed storm sewer networks with sediment loading. Without this protection, the sewer capacity can be greatly reduced following construction and lead to flooding. Temporary protection shall be installed on- and off-site to impacted inlets during construction to avoid these potential issues. Types of protection include filter barrier protection, block and gravel protection, wire mesh and gravel protection, and excavated impoundment protection and will be implemented based on location as well as expected runoff volume.

Concrete Washout Area (if applicable)

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

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

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

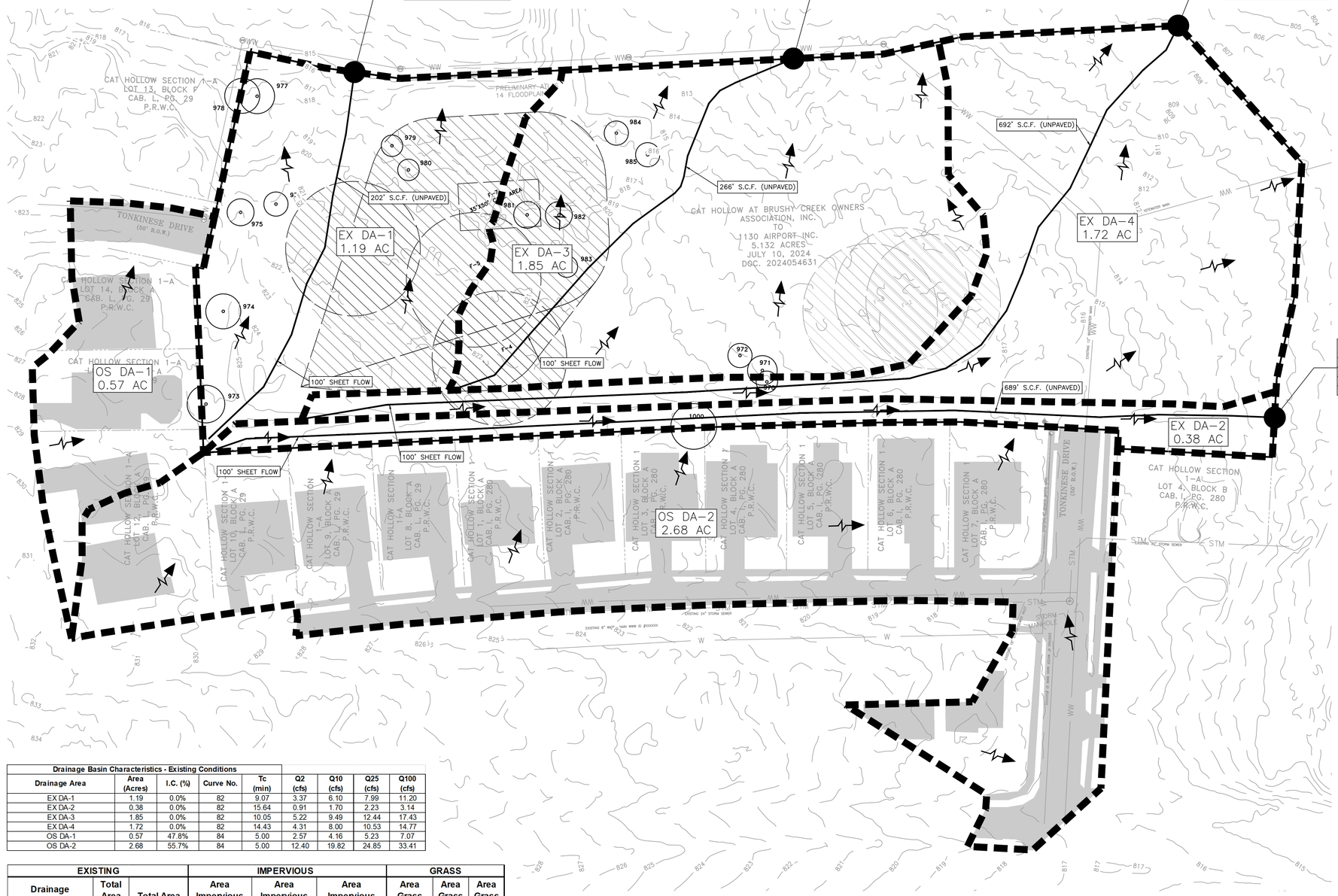
Temporary Stormwater Section
(TCEQ-0602)

Attachment G:
Drainage Area Map

Analysis Point 1		
2 YR	5.66	CFS
10 YR	9.99	CFS
25 YR	12.91	CFS
100 YR	17.82	CFS

Analysis Point 3		
2 YR	5.22	CFS
10 YR	9.49	CFS
25 YR	12.44	CFS
100 YR	17.43	CFS

Analysis Point 4		
2 YR	4.31	CFS
10 YR	8.00	CFS
25 YR	10.53	CFS
100 YR	14.77	CFS



0 20' 40' 80'

SCALE: 1" = 40'

IF DRAWING BAR DOES NOT MEASURE 2" THIS PRINT IS NOT TO SCALE

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
11/4/2024

EXISTING DRAINAGE LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- PROPOSED CURB & GUTTER
- DRAINAGE AREA BOUNDARY
- EX. DA-X XX.XX AC — DRAINAGE AREA DESIGNATION AND AREA DRAINED
- FLOW ARROW
- TIME OF CONCENTRATION LINE (SHEET FLOW)
- TIME OF CONCENTRATION LINE (SHALLOW CONCENTRATED FLOW)
- 750 — EXISTING CONTOURS
- 750 — PROPOSED CONTOURS

FLOW PATTERNS

OS DA-1	ANALYSIS POINT 1
EX DA-1	
OS DA-2	ANALYSIS POINT 2
EX DA-2	
EX DA-3	ANALYSIS POINT 3
EX DA-4	ANALYSIS POINT 4

Analysis Point 2		
2 YR	13.02	CFS
10 YR	21.03	CFS
25 YR	26.46	CFS
100 YR	35.69	CFS

Drainage Basin Characteristics - Existing Conditions

Drainage Area	Area (Acres)	I.C. (%)	Curve No.	Tc (min)	Q2 (cfs)	Q10 (cfs)	Q25 (cfs)	Q100 (cfs)
EX DA-1	1.19	0.0%	82	9.07	3.37	6.10	7.99	11.20
EX DA-2	0.38	0.0%	82	15.64	0.91	1.70	2.23	3.14
EX DA-3	1.85	0.0%	82	10.05	5.22	9.49	12.44	17.43
EX DA-4	1.72	0.0%	82	14.43	4.31	8.00	10.53	14.77
OS DA-1	0.57	47.8%	84	5.00	2.57	4.16	5.23	7.07
OS DA-2	2.68	55.7%	84	5.00	12.40	19.82	24.85	33.41

EXISTING			IMPERVIOUS			GRASS		
Drainage Area	Total Area (Ac)	Total Area (sf)	Area Impervious (sf)	Area Impervious (Ac)	Area Impervious (%)	Area Grass (sf)	Area Grass (Ac)	Area Grass (%)
EX DA-1	1.19	51,836	0	0.00	0.0%	51,836	1.19	100.0%
EX DA-2	0.38	16,553	0	0.00	0.0%	16,553	0.38	100.0%
EX DA-3	1.85	80,586	0	0.00	0.0%	80,586	1.85	100.0%
EX DA-4	1.72	74,923	0	0.00	0.0%	74,923	1.72	100.0%
OS DA-1	0.57	24,829	11,866	0.27	47.8%	12,963	0.30	52.2%
OS DA-2	2.68	116,741	65,068	1.49	55.7%	51,673	1.19	44.3%

Time of Concentration Calculations				Sheet Flow				Shallow Conc. Flow				Channel Flow			Total
Existing Flows			Area	Area	L	n	S	T_t	L	Surface Type	S	T_t	L	Vavg	T_t	T_c
From		To	(Ac)	(sf)	(ft)	-	(ft/ft)	(min)	(ft)	-	(ft/ft)	(min)	(ft)	(ft/s)	(min)	(min)
EX DA-1		ANALYSIS POINT 1	1.19	51,836	100	0.150	0.025	8.06	202	Unpaved	0.043	1.01	-	-	0.00	**9.07**
EX DA-2		ANALYSIS POINT 2	0.38	16,553	100	0.150	0.012	10.63	689	Unpaved	0.020	5.00	-	-	0.00	**15.64**
EX DA-3		ANALYSIS POINT 3	1.85	80,586	100	0.150	0.020	8.70	266	Unpaved	0.042	1.35	-	-	0.00	**10.05**
EX DA-4		ANALYSIS POINT 4	1.72	74,923	100	0.150	0.015	9.82	692	Unpaved	0.024	4.61	-	-	0.00	**14.43**
OS DA-1		ANALYSIS POINT 1	0.57	24,829	-	-	-	-	-	-	-	-	-	-	-	**5.00**
OS DA-2		ANALYSIS POINT 2	2.68	116,741	-	-	-	-	-	-	-	-	-	-	-	**5.00**

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

ENGINEERING | CONSULTING
SANDLIN
SERVICES, LLC
TBPELS FIRM #21356
9111 JOLLYVILLE RD. STE 212 AUSTIN, TX 78759

EXISTING DRAINAGE AREA MAP

PROJECT CASE: XXXXXX

TONKINESE DR SUBDIVISION

#	REVISION DESCRIPTION	SIGNATURE	DATE

G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-0129-002 Tonkinese Dr Subdivision\CAD\Construction Sheets\S_TNK EDAM.dwg-EXISTING DRAINAGE AREA MAP Plotted Nov 11, 2024 at 2:54pm by Engineer | Last Saved by: Engineer

Analysis Point 1					
	Existing Flows		Proposed Flows		Delta
2 YR	5.66	CFS	5.61	CFS	-0.9%
10 YR	9.99	CFS	9.89	CFS	-1.0%
25 YR	12.91	CFS	12.78	CFS	-1.0%
100 YR	17.82	CFS	17.63	CFS	-1.1%
NOTE: ALL FLOWS IN PROPOSED CONDITIONS LESS THAN EXISTING					

Analysis Point 3					
	Existing Flows		Proposed Flows		Delta
2 YR	5.22	CFS	4.88	CFS	-6.5%
10 YR	9.49	CFS	9.27	CFS	-2.3%
25 YR	12.44	CFS	12.37	CFS	-0.6%
100 YR	17.43	CFS	17.74	CFS	1.8%
NOTE: ALL FLOWS IN PROPOSED CONDITIONS LESS THAN EXISTING					

Analysis Point 4					
	Existing Flows		Proposed Flows		Delta
2 YR	4.31	CFS	4.05	CFS	-6.0%
10 YR	8.00	CFS	6.64	CFS	-17.0%
25 YR	10.53	CFS	8.41	CFS	-20.1%
100 YR	14.77	CFS	11.42	CFS	-22.7%
NOTE: ALL FLOWS IN PROPOSED CONDITIONS LESS THAN EXISTING					

Analysis Point 2					
	Existing Flows		Proposed Flows		Delta
2 YR	13.02	CFS	12.13	CFS	-6.8%
10 YR	21.03	CFS	19.47	CFS	-7.4%
25 YR	26.46	CFS	24.46	CFS	-7.6%
100 YR	35.69	CFS	32.95	CFS	-7.7%
NOTE: ALL FLOWS IN PROPOSED CONDITIONS LESS THAN EXISTING					

SCALE: 1" = 40'

IF DRAWING BAR DOES NOT MEASURE 2" THIS PRINT IS NOT TO SCALE

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
11/4/2024

PROPOSED DRAINAGE LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- PROPOSED CURB & GUTTER
- DRAINAGE AREA BOUNDARY
- PR. DA-X XX.XX AC — DRAINAGE AREA DESIGNATION AND AREA DRAINED
- FLOW ARROW
- TIME OF CONCENTRATION LINE (SHEET FLOW)
- TIME OF CONCENTRATION LINE (SHALLOW CONCENTRATED FLOW)
- EXISTING CONTOURS (750)
- PROPOSED CONTOURS (750)

FLOW PATTERNS

- OS DA-1 → ANALYSIS POINT 1
- PR DA-1 → ANALYSIS POINT 1
- OS DA-2 → ANALYSIS POINT 2
- PR DA-2 → ANALYSIS POINT 2
- OS DA-3 → POND
- PR DA-3 → POND
- POND → ANALYSIS POINT 3
- PR DA-4 → ANALYSIS POINT 4

Drainage Basin Characteristics - Proposed Conditions								
Drainage Area	Area (Acres)	I.C. (%)	Curve No.	Tc (min)	Q2 (cfs)	Q10 (cfs)	Q25 (cfs)	Q100 (cfs)
PR DA-1	1.17	0.00%	82	9.07	3.32	5.99	7.86	11.01
PR DA-2	0.38	25.75%	82	5.00	1.51	2.59	3.33	4.58
PR DA-3	2.65	24.40%	82	9.83	8.41	14.36	18.50	25.51
PR DA-4	0.93	46.90%	82	5.00	4.05	6.64	8.41	11.42
OS DA-1	0.57	47.79%	84	5.00	2.57	4.16	5.23	7.07
OS DA-2	2.27	59.02%	84	5.00	10.62	16.88	21.13	28.36
OS DA-3	0.41	37.58%	84	5.00	1.78	2.94	3.72	5.05
POND	-	-	-	-	4.88	9.27	12.37	17.74

PROPOSED			IMPERVIOUS			GRASS		
Drainage Area	Total Area (Ac)	Total Area (sf)	Area Impervious (sf)	Area Impervious (Ac)	Area Impervious (%)	Area Grass (sf)	Area Grass (Ac)	Area Grass (%)
PR DA-1	1.17	50,965	0	0.00	0.0%	50,965	1.17	100.0%
PR DA-2	0.38	16,553	4,262	0.10	25.7%	12,291	0.28	74.3%
PR DA-3	2.65	115,434	28,166	0.65	24.4%	87,268	2.00	75.6%
PR DA-4	0.93	40,511	19,000	0.44	46.9%	21,511	0.49	53.1%
OS DA-1	0.57	24,829	11,866	0.27	47.8%	12,963	0.30	52.2%
OS DA-2	2.27	98,881	58,357	1.34	59.0%	40,524	0.93	41.0%
OS DA-3	0.41	17,860	6,711	0.15	37.6%	11,148	0.26	62.4%

Time of Concentration Calculations																
Proposed Flows			Area	Area	Sheet Flow				Shallow Conc. Flow				Channel Flow			Total
					L	n	S	T_t	L	Surface Type	S	T_t	L	Vavg	T_t	T_c
From		To	(Ac)	(sf)	(ft)	-	(ft/ft)	(min)	(ft)	-	(ft/ft)	(min)	(ft)	(ft/s)	(min)	(min)
PR DA-1		ANALYSIS POINT 1	1.17	50,965	100	0.150	0.025	8.06	304	Unpaved	0.031	1.78	-	-	0.00	**9.83**
PR DA-2		ANALYSIS POINT 2	0.38	16,553	-	-	-	0.00	-	-	-	0.00	733	5.00	2.44	**5.00**
PR DA-3		ANALYSIS POINT 3	2.65	115,434	100	0.150	0.025	8.06	143	Unpaved	0.067	0.57	-	-	0.00	**8.63**
PR DA-4		ANALYSIS POINT 4	0.93	40,511	-	-	-	-	-	-	-	-	-	-	-	**5.00**
OS DA-1		ANALYSIS POINT 1	0.57	24,829	-	-	-	-	-	-	-	-	-	-	-	**5.00**
OS DA-2		ANALYSIS POINT 2	2.27	98,881	-	-	-	-	-	-	-	-	-	-	-	**5.00**
OS DA-3		ANALYSIS POINT 2	0.41	17,860	-	-	-	-	-	-	-	-	-	-	-	**5.00**

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

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9111 JOLLYVILLE RD. STE 212 AUSTIN, TX 78759

PROPOSED DRAINAGE AREA MAP

PROJECT CASE: XXXXXXX
TONKINESE DR SUBDIVISION

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 14 OF 26

G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-0129-002 Tonkinese Dr Subdivision\CAD\Construction Sheets\S_TNK_PDAM.dwg-PROPOSED DRAINAGE AREA MAP Plotted Nov 11, 2024 at 2:54pm by Engineer | Last Saved by: Engineer

Temporary Stormwater Section
(TCEQ-0602)

Attachment H:
Temporary Sediment Pond(s) Plans and Calculations
(NOT APPLICABLE)

Temporary Stormwater Section (TCEQ-0602)

Attachment I: Inspection and Maintenance for BMPs

Inspection and Maintenance Guidelines for Construction BMPs

Silt Fence – Section 1.4.3
(1) Inspect all fencing weekly, and after any rainfall.
(2) Remove sediment when buildup reaches 6 inches.
(3) Replace any torn fabric or install a second line of fencing parallel to the torn section.
(4) Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.
(5) When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

Rock Berms – Section 1.4.5
(1) Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made.
(2) Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.
(3) Repair any loose wire sheathing.
(4) The berm should be reshaped as needed during inspection.
(5) The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.
(6) The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

Temporary Construction Entrance/Exit – Section 1.4.2
(1) The entrance should be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.
(2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.
(3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.

(4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
(5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

Concrete Washout Area

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

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

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

Personnel Responsible for Inspections

The agent that performs the inspections should be knowledgeable of this general permit, familiar with the construction site, and knowledgeable of the SWPPP for the site. Documentation of the inspector's qualifications is to be included in the attached Inspector Qualifications Log.

Inspection Schedule

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

☐ **Option 1:** Once every seven calendar days. If this alternative schedule is developed, then the inspection must occur regardless of whether or not there has been a rainfall event since the previous inspection.

☐ **Option 2:** Once every 14 calendar days and within 24 hours of the end of a storm event of two inches or greater.

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

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

Personnel provided by the permittee must inspect:

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

Reductions in Inspection Frequency

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

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

Inspection Report Forms

Use the Inspection Report Forms given as a checklist to ensure that all required areas of the construction site are addressed. There is space to document the inspector's name as well as when the inspections regularly take place. The tables will document that the required area was inspected. (If there were any areas of concern, briefly describe them in this space with a more detailed description in the narrative section. Use the last table to document any discharges found during the inspections).

Describe how effective the installed BMPs are performing. Describe any BMP failures that were noted during the investigation and describe any maintenance required due to the failure. If new BMPs are needed as the construction site changes, the inspector can use the space at the bottom of the section to list BMPs to be implemented before the next inspection.

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

Whenever an inspection shows that BMP modifications are needed to better control pollutants in runoff, the changes must be completed within seven calendar days following the inspection. If existing BMPs are

modified or if additional BMPs are needed, you must describe your implementation schedule, and wherever possible, make the required BMP changes before the next storm event.

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

Corrective Action

Personnel Responsible for Corrective Actions

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

Corrective Action Forms

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

Inspector Qualifications Log*

Inspector Name: ____
Qualifications (Check as appropriate and provide description):
☐ Training Course ____
☐ Supervised Experience ____
☐ Other ____
Inspector Name: ____
Qualifications (Check as appropriate and provide description):
☐ Training Course ____
☐ Supervised Experience ____
☐ Other ____

Inspector Name: ____
Qualifications (Check as appropriate and provide description):
☐ Training Course ____
☐ Supervised Experience ____
☐ Other ____

Inspector Name: ____
Qualifications (Check as appropriate and provide description):
☐ Training Course ____
☐ Supervised Experience ____
☐ Other ____

Inspector Name: ____
Qualifications (Check as appropriate and provide description):
☐ Training Course ____
☐ Supervised Experience ____
☐ Other ____

Inspector Name: ____
Qualifications (Check as appropriate and provide description):
☐ Training Course ____
☐ Supervised Experience ____
☐ Other ____

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

Amendment Log

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

Construction Activity Sequence Log*

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

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

Stormwater Control Installation and Removal Log

Stormwater Control	Location On-Site	Installation Date	Removal Date

Stabilization Activities Log*

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

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

Inspection Frequency Log

Date	Frequency

Rain Gauge Log

Date	Location of Rain Gauge	Gauge Reading

General Information

Name of Project		**Tracking Number**		**Inspection Date**	
Inspector Name, Title & Contact Information					
Present Phase of Construction					
Inspection Location (if multiple inspections are required, specify location where this inspection is being conducted)					

Inspection Frequency

Standard Frequency: ☐ Weekly ☐Every 14 days and within 24 hours of a 0.25" rain

Increased Frequency: ☐ Every 7 days and within 24 hours of a 0.25" rain

Reduced Frequency:

☐ Once per month (for stabilized areas)

☐ Once per month and within 24 hours of a 0.25" rain (for arid, semi-arid, or drought-stricken areas during seasonally dry periods or during drought)

☐ Once per month (for frozen conditions where earth-disturbing activities are being conducted)

Was this inspection triggered by a 0.25" storm event? ☐ Yes ☐ No

If yes, how did you determine whether a 0.25" storm event has occurred?

☐ Rain gauge on site ☐Weather station representative of site. Specify weather station source.

Total rainfall amount that triggered the inspection (in inches):

Unsafe Conditions for Inspection

Did you determine that any portion of your site was unsafe for inspection? ☐ Yes ☐No

If "yes," complete the following:

- Describe the conditions that prevented you from conducting the inspection in this location:
- Location(s) where conditions were found:

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

Condition and Effectiveness of Pollution Prevention (P_2) Practices				
Type / Location of P_2 Practices	**Repairs or Other Maintenance Needed?**	**Corrective Action Required?**	**Identification Date**	**Notes**
1.	☐ Yes ☐ No	☐ Yes ☐ No		
2.	☐ Yes ☐ No	☐ Yes ☐ No		
3.	☐ Yes ☐ No	☐ Yes ☐ No		
4.	☐ Yes ☐ No	☐ Yes ☐ No		
5.	☐ Yes ☐ No	☐ Yes ☐ No		
6.	☐ Yes ☐ No	☐ Yes ☐ No		
7.	☐ Yes ☐ No	☐ Yes ☐ No		
8.	☐ Yes ☐ No	☐ Yes ☐ No		
9.	☐ Yes ☐ No	☐ Yes ☐ No		

Stabilization of Exposed Soil			
Stabilization Area	**Stabilization Method**	**Have you Initiated Stabilization?**	**Notes**

1.		☐ YES ☐ NO If yes, provide date:	
2.		☐ YES ☐ NO If yes, provide date:	
3.		☐ YES ☐ NO If yes, provide date:	
4.		☐ YES ☐ NO If yes, provide date:	

Description of Discharges

Was a stormwater discharge or other discharge occurring from any part of your site at the time of the inspection? ☐ YES ☐ NO
If "YES," provide the following information for each point of discharge:

Discharge Locations	**Observations**
1.	Describe the discharge: At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and / or sediment accumulation that can be attributed to your discharge? ☐ YES. ☐ NO If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue:
2.	Describe the discharge: At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and / or sediment accumulation that can be attributed to your discharge? ☐ YES. ☐ NO If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue:
3.	Describe the discharge: At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and / or sediment accumulation that can be attributed to your discharge? ☐ YES. ☐ NO If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue:

Contractor or Subcontractor Certification and Signature

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

Signature of Contractor or Subcontractor: _____ Date**:**

Printed Name and Affiliation:

Certification and Signature by Permittee

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

Signature of Permittee or
"Duly Authorized Representative": _____ **Date:**

Printed Name and Affiliation:

Section A – Initial Report **(Complete this section within 24 hours of discovering the condition that triggered corrective action.)**		
Name of Project:	Tracking Number:	Today's Date
Date Problem First Discovered:	Time Problem First Discovered:	
Name of Individual Completing this Form:	Contact Information:	

What site conditions triggered the requirement to conduct corrective action:

☐ A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements in Part 2 and/or Part 3

☐ The stormwater controls that have been installed and maintained are not effective enough for the discharge to meet applicable water quality standards

☐ A prohibited discharge has occurred or is occurring

Provide a description of the problem:

Deadline for completing corrective action (Enter date that is either: (1) no more than 7 calendar days after the date you discovered the problem, or (2) if it is infeasible to complete work within the first 7 days, enter the date that is as soon as practicable following the 7th day):

If your estimated date of completion falls after the 7-day deadline, explain (1) why you believe it is infeasible to complete work within 7 days, and (2) why the date you have established for making the new or modified stormwater control operational is the soonest practicable timeframe:

Section B – Corrective Action Progress

(Complete this section no later than 7 calendar days after discovering the condition that triggered corrective action.)

Section B.1 – Why the Problem Occurred

Cause(s) of Problem (Add an additional sheet if necessary)	How This Was Determined and the Date You Determined the Cause
1.	1.
2.	2.

Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem

List of Stormwater control Modification(s) Needed to Correct Problem (Add an additional sheet if necessary)	Completion Date	SWPPP Update Necessary?	Notes
1.		☐ Yes ☐ No Date:	
2.		☐ Yes ☐ No Date:	

Section A – Initial Report **(Complete this section within 24 hours of discovering the condition that triggered corrective action.)**		
Name of Project:	Tracking Number:	Today's Date
Date Problem First Discovered:	Time Problem First Discovered:	
Name of Individual Completing this Form:	Contact Information:	

What site conditions triggered the requirement to conduct corrective action:

☐ A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements in Part 2 and/or Part 3

☐ The stormwater controls that have been installed and maintained are not effective enough for the discharge to meet applicable water quality standards

☐ A prohibited discharge has occurred or is occurring

Provide a description of the problem:

Deadline for completing corrective action (Enter date that is either: (1) no more than 7 calendar days after the date you discovered the problem, or (2) if it is infeasible to complete work within the first 7 days, enter the date that is as soon as practicable following the 7th day):

If your estimated date of completion falls after the 7-day deadline, explain (1) why you believe it is infeasible to complete work within 7 days, and (2) why the date you have established for making the new or modified stormwater control operational is the soonest practicable timeframe:

Section B – Corrective Action Progress

(Complete this section no later than 7 calendar days after discovering the condition that triggered corrective action.)

Section B.1 – Why the Problem Occurred

Cause(s) of Problem (Add an additional sheet if necessary)	How This Was Determined and the Date You Determined the Cause
1.	1.
2.	2.

Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem

List of Stormwater control Modification(s) Needed to Correct Problem (Add an additional sheet if necessary)	Completion Date	SWPPP Update Necessary?	Notes
1.		☐ Yes ☐ No Date:	
2.		☐ Yes ☐ No Date:	

Contractor or Subcontractor Certification and Signature

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

Signature of Contractor or Subcontractor: _____ **Date:**

Printed Name and Affiliation:

Certification and Signature by Permittee

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

Signature of Permittee or
"Duly Authorized Representative": _____ **Date:**

Printed Name and Affiliation:

Temporary Stormwater Section
TCEQ-0602)

Attachment J:
Schedule of Interim and Permanent
Soil Stabilization Practices

Interim Vegetative Stabilization

Interim soil stabilization will not be required.

Permanent Vegetative Stabilization

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

1. Hydraulic Mulch and Seeding: Disturbed areas subject to erosion shall be stabilized with hydraulic mulch and/or seeded and watered to provide interim stabilization.

2. Sodding and Wood Mulch: As per the project landscaping plan, sodding and wood mulch will be applied to landscaped areas to provide permanent stabilization prior to project completion.

Records of the following shall be maintained:

1. The dates when major grading activities occur,

2. The dates when construction activities temporarily or permanently cease on a portion of the site, and

3. The dates when stabilization measures are initiated.

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

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

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

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

Permanent Stormwater Section

Texas Commission on Environmental Quality

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

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

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

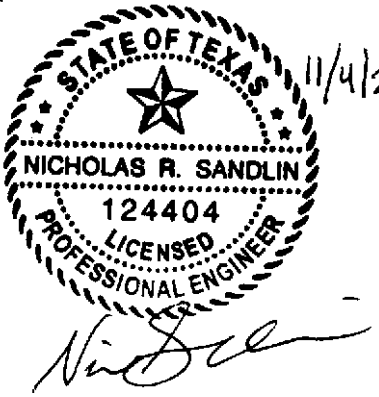
Signature

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

Print Name of Customer/Agent: Nicholas Sandlin, P.E.

Date: 11/4/2024

Signature of Customer/Agent



Regulated Entity Name: Tonkinese Dr Subdivision

Permanent Best Management Practices (BMPs)

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

1. ☒ Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.

   ☐ N/A

2. ☒ These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 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

3. ☒ 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

4. Where a site is used for low density single-family residential development and has 20 % or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

   ☐ The site will be used for low density single-family residential development and has 20% or less impervious cover.
   ☐ The site will be used for low density single-family residential development but has more than 20% impervious cover.
   ☒ The site will not be used for low density single-family residential development.

5. The executive director may waive the requirement for other permanent BMPs for multi-family residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

   ☐ **Attachment A - 20% or Less Impervious Cover Waiver**. The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.
   ☐ The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.
   ☒ The site will not be used for multi-family residential developments, schools, or small business sites.

6. ☒ **Attachment B - 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.

7. ☒ **Attachment C - BMPs for On-site Stormwater**.

☒ A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is attached.

☐ Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.

8. ☐ **Attachment D - BMPs for Surface Streams**. A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is attached. Each feature identified in the Geologic Assessment as sensitive has been addressed.

☒ N/A

9. ☒ The applicant understands that to the extent practicable, BMPs and measures must maintain flow to naturally occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.

☐ The permanent sealing of or diversion of flow from a naturally-occurring sensitive feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed.

☒ **Attachment E - Request to Seal Features**. A request to seal a naturally-occurring sensitive feature, that includes, for each feature, a justification as to why no reasonable and practicable alternative exists, is attached.

10. ☒ **Attachment F - Construction Plans**. All construction plans and design calculations for the proposed permanent BMP(s) and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. The plans are attached and, if applicable include:

☒ Design calculations (TSS removal calculations)

☒ TCEQ construction notes

☒ All geologic features

☒ All proposed structural BMP(s) plans and specifications

☐ N/A

11. ☒ **Attachment G - Inspection, Maintenance, Repair and Retrofit Plan**. A plan for the inspection, maintenance, repairs, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan includes all of the following:

    ☒ Prepared and certified by the engineer designing the permanent BMPs and measures
    ☒ Signed by the owner or responsible party
    ☒ Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit
    ☒ A discussion of record keeping procedures

    ☐ N/A

12. ☐ **Attachment H - Pilot-Scale Field Testing Plan**. Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.

    ☒ N/A

13. ☐ **Attachment I -Measures for Minimizing Surface Stream Contamination**. A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that results in water quality degradation.

    ☒ N/A

Responsibility for Maintenance of Permanent BMP(s)

Responsibility for maintenance of best management practices and measures after construction is complete.

14. ☒ The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.

    ☐ N/A

15. ☒ A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

    ☐ N/A

Permanent Stormwater Section
(TCEQ-0600)

Attachment A:
20% or Less Impervious Cover Waiver (if requested for multi-family, school, or small business site)

Permanent Stormwater Section
(TCEQ-0600)

Attachment B:
BMPs for Upgradient Stormwater

No upgradient and untreated stormwater will flow across the project site to the proposed permanent BMPs.

Permanent Stormwater Section
(TCEQ-0600)

Attachment C:
BMPs for On-Site Stormwater

This single-family subdivision will increase impervious cover (IC) and the volume of potential on-site stormwater. Batch Detention Pond and Vegetated Filter Strip BMPs are designed to capture and mitigate potential onsite stormwater flows.

Runoff from the WQ DA-1 (2.65 AC) developed area will convey to a Batch Detention Pond BMP that is designed to capture and detain the required water quality volume. Runoff from the fully developed WQ DA-2 (0.63 AC) will be conveyed to proposed Engineered Vegetated Filter Strips. Please refer to the approved water quality plan and calculations for details.

Permanent Stormwater Section
(TCEQ-0600)

Attachment D:
BMPs for Surface Streams
(NOT APPLICABLE)

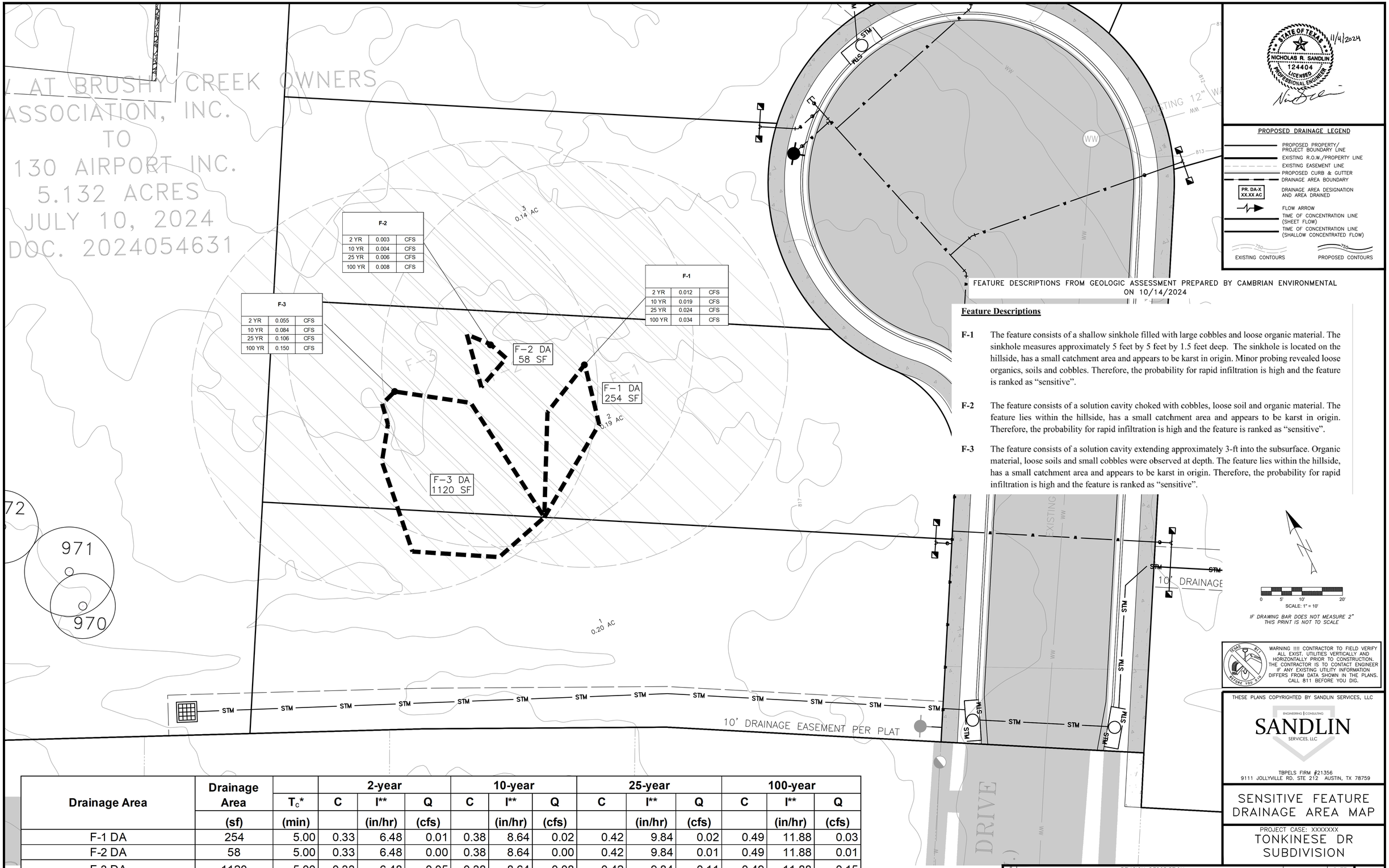
No surface streams flow across the property.

Permanent Stormwater Section
(TCEQ-0600)

Attachment E:
Request to Seal Features (if sealing a feature)

Considering the catchment area for features F-1, F-2, and F-3 are 254 sf, 58 sf, and 1120 sf, respectively. The amount of recharge (< 0.15 CFS) occurring at the orifice of the features is minimal and closer to background infiltration rates for the surrounding area of the site. Therefore, a majority (greater than 85%) of the surface water runoff within a 50-ft buffer will not infiltrate the feature opening. The proposed development of single-family residential homes in the vicinity of the features will have minimal impacts on the amount of recharge the features receive. However, the voids present a potential pathway for contaminants to enter the subsurface. Sealing these voids in accordance with TCEQ feature closure guidelines will not only prevent potential contaminants from entering the surface but will preserve the hydrogeologic environment in the subsurface.

Please refer to the attached exhibit depicting the drainage areas and flow rates of sensitive features F-1, F-2, and F-3.



STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
11/4/2024

PROPOSED DRAINAGE LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- PROPOSED CURB & GUTTER
- DRAINAGE AREA BOUNDARY
- PR. DA-X XX.XX AC — DRAINAGE AREA DESIGNATION AND AREA DRAINED
- FLOW ARROW
- TIME OF CONCENTRATION LINE (SHEET FLOW)
- TIME OF CONCENTRATION LINE (SHALLOW CONCENTRATED FLOW)
- EXISTING CONTOURS (780)
- PROPOSED CONTOURS (780)

FEATURE DESCRIPTIONS FROM GEOLOGIC ASSESSMENT PREPARED BY CAMBRIAN ENVIRONMENTAL ON 10/14/2024

Feature Descriptions

F-1 The feature consists of a shallow sinkhole filled with large cobbles and loose organic material. The sinkhole measures approximately 5 feet by 5 feet by 1.5 feet deep. The sinkhole is located on the hillside, has a small catchment area and appears to be karst in origin. Minor probing revealed loose organics, soils and cobbles. Therefore, the probability for rapid infiltration is high and the feature is ranked as "sensitive".

F-2 The feature consists of a solution cavity choked with cobbles, loose soil and organic material. The feature lies within the hillside, has a small catchment area and appears to be karst in origin. Therefore, the probability for rapid infiltration is high and the feature is ranked as "sensitive".

F-3 The feature consists of a solution cavity extending approximately 3-ft into the subsurface. Organic material, loose soils and small cobbles were observed at depth. The feature lies within the hillside, has a small catchment area and appears to be karst in origin. Therefore, the probability for rapid infiltration is high and the feature is ranked as "sensitive".

SCALE: 1" = 10'

IF DRAWING BAR DOES NOT MEASURE 2" THIS PRINT IS NOT TO SCALE

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

Drainage Area	Drainage Area		2-year			10-year			25-year			100-year		
	(sf)	T_c* (min)	C	I** (in/hr)	Q (cfs)	C	I** (in/hr)	Q (cfs)	C	I** (in/hr)	Q (cfs)	C	I** (in/hr)	Q (cfs)
F-1 DA	254	5.00	0.33	6.48	0.01	0.38	8.64	0.02	0.42	9.84	0.02	0.49	11.88	0.03
F-2 DA	58	5.00	0.33	6.48	0.00	0.38	8.64	0.00	0.42	9.84	0.01	0.49	11.88	0.01
F-3 DA	1120	5.00	0.33	6.48	0.05	0.38	8.64	0.08	0.42	9.84	0.11	0.49	11.88	0.15

*Most conservative Tc value of 5.0 minutes was assumed for each drainage area

**Atlas 14 IDF curve coefficients used to calculate intensity values

ENGINEERING | CONSULTING
SANDLIN
SERVICES, LLC
TBPELS FIRM #21356
9111 JOLLYVILLE RD. STE 212 AUSTIN, TX 78759

SENSITIVE FEATURE DRAINAGE AREA MAP

PROJECT CASE: XXXXXXX
TONKINESE DR SUBDIVISION

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 14 OF 26

G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-0129-002 Tonkinese Dr Subdivision\CAD\Exhibits\Sensitive Feature DAMs.dwg-CAVE DRAINAGE AREA MAP Plotted Nov 11, 2024 at 2:25pm by Engineer | Last Saved by: Engineer

Permanent Stormwater Section (TCEQ-0600)

Attachment F: Construction Plans

PROJECT CONTACTS

OWNER:

1130 AIRPORT INC
7102 AVIGNON DR
ROUND ROCK, TX 78681

ENGINEER:

SANDLIN SERVICES, LLC
9111 JOLLYVILLE RD, STE 212
AUSTIN, TEXAS 78759
806-679-7303
CONTACT: NICHOLAS SANDLIN, P.E.
WWW.SANDLINSERVICES.COM

LAND SURVEYOR:

TRIAD SURVEYING, INC.
PO BOX 1489
ROCKDALE, TX 76576
512-446-3457
BRAD@TRIADSURVEYING.COM

SURVEY AND BENCHMARK

ALL ELEVATIONS SHOWN HEREON ARE BASED ON THE FOLLOWING BENCHMARKS AND INFORMATION.

CONTACT SURVEYOR – INFORMATION THIS SHEET

BEARINGS ARE BASED ON THE TEXAS STATE PLAN COORDINATE SYSTEM OF 1983, TEXAS CENTRAL ZONE (NAD 83)

LEGAL DESCRIPTION

AW0425 AW0425 – MCQUEEN, J. SUR., ACRES 5.132

SEE PLAT SHEET

USE AND JURISDICTION

JURISDICTION:	ROUND ROCK ETJ
EXISTING LAND USE:	VACANT
PROPOSED LAND USE:	SINGLE FAMILY

WATERSHED

WATERSHED:	TURKEY CREEK–BRUSHY CREEK

EDWARDS AQUIFER

THIS PROJECT LIES WITHIN THE EDWARDS AQUIFER RECHARGE ZONE AS DEFINED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ)

FLOODPLAIN NOTE

NO PORTION OF THIS TRACT IS WITHIN THE BOUNDARIES OF THE 100–YEAR FLOODPLAIN OF ANY WATERWAY THAT IS WITHIN THE LIMITS OF THE STUDY OF THE FEDERAL INSURANCE ADMINISTRATION FIRM PANEL #48491C0488F, AND INCORPORATED AREAS EFFECTIVE DATE 12/20/2019 FOR WILLIAMSON COUNTY, TEXAS.

UTILITIES

WATER:	BRUSHY CREEK MUD
WASTEWATER:	BRUSHY CREEK MUD

FIRE DEMAND

FIRE FLOW:	1,500 GPM FOR DURATION OF 2 HOURS
HYDRANTS REQUIRED:	2
CODE OF RECORD:	2021 INTERNATIONAL FIRE CODE

SITE DATA	
	PROPOSED
TOTAL SITE AREA	5.13 AC / 223,517 SF
LOT COUNT	11
IMPERVIOUS COVER	9,666 SF = 0.22 AC = 4.3%

NOTES:

1. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF GEORGETOWN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.
2. THIS SITE IS LOCATED WITHIN THE CITY OF GEORGETOWN (ETJ) IN WILLIAMSON COUNTY AND SHALL CONFORM TO THE CURRENT STANDARDS, SPECIFICATIONS AND GENERAL CONDITIONS OF THE CITY.
3. RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION, AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY, AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.
4. ANY STREET CLOSURE REQUIRES PRIOR APPROVAL FROM WILLIAMSON COUNTY.
5. WPAP #: XXX, SCS #: XXX

TONKINESE DR.

SUBDIVISION IMPROVEMENT PLANS

ADDRESS: 0 TONKINESE DR., ROUND ROCK, TX 78681

SDPXXXX–XXX

THIS PROPOSED DEVELOPMENT WILL NOT RESULT IN ANY IDENTIFIABLE ADVERSE IMPACT TO OTHER PROPERTIES. SEE DRAINAGE AREA MAPS AND CALCULATIONS FOR DETAILED ANALYSIS.

ACCEPTED FOR CONSTRUCTION:

BRUSHY CREEK MUNICIPAL UTILITY DISTRICT DATE

REVIEWED FOR COMPLIANCE WITH COUNTY REQUIREMENTS:

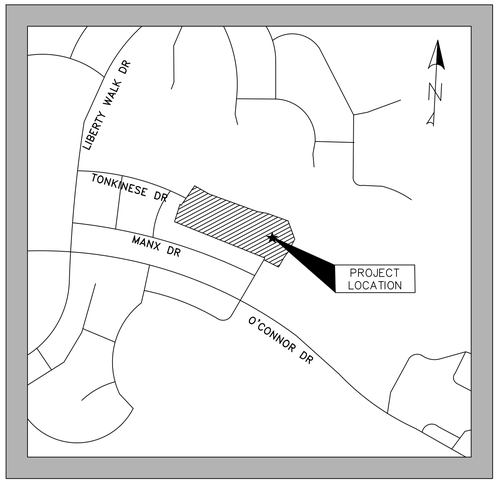
PERMIT NUMBER 2024–XXX–COC
APPROVED PER CERTIFICATE OF COMPLIANCE LETTER XXXXX, 2024

FOR WILLIAMSON COUNTY DATE

SHEET LIST	
NUMBER	TITLE
1	COVER PAGE
2	GENERAL NOTES (1 OF 3)
3	GENERAL NOTES (2 OF 3)
4	GENERAL NOTES (3 OF 3)
5	PRELIMINARY PLAT
6	EXISTING CONDITIONS AND DEMOLITION PLAN
7	EROSION CONTROL PLAN
8	SUBDVISION LAYOUT PLAN
9	TONKINESE DRIVE (1+00 TO END)
10	TONKINESE DRIVE CULDESAC (1+00 TO END)
11	FIRE PROTECTION PLAN
12	SUBDIVISION GRADING PLAN
13	EXISTING DRAINAGE AREA MAP
14	PROPOSED DRAINAGE AREA MAP
15	SUB DRAINAGE AREA MAP
16	STORM PROFILES
17	DETENTION POND PLAN
18	WATER QUALITY POND DETAILS
19	WATER QUALITY PLAN
20	WATER QUALITY CALCULATIONS
21	WATER DISTRIBUTION PLAN AND PROFILE
22	WASTEWATER COLLECTION PLAN AND PROFILE
23	EROSION CONTROL DETAILS
24	UTILITY DETAILS (1 OF 2)
25	UTILITY DETAILS (2 OF 2)
26	CONSTRUCTION DETAILS

CONTRACTOR NOTES:

1. THE CONTRACTOR SHALL OBTAIN A "NOTICE OF PROPOSED INSTALLATION OF UTILITY LINE" PERMIT FROM THE 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 COUNTY COMMISSIONERS COURT IF ANY ROAD CLOSURE IS INVOLVED.
2. BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE, HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.
3. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT THE AUSTIN AREA "ONE CALL" SYSTEM 1-800-245-4545, OR THE OWNER OF EACH INDIVIDUAL UTILITY, FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.
4. ENVIRONMENTAL INSPECTION HAS THE AUTHORITY TO MODIFY/CHANGE EROSION AND SEDIMENTATION CONTROLS TO KEEP THE PROJECT IN COMPLIANCE.
5. THE CONTRACTOR OR SURVEYOR WILL OBTAIN A DIGITAL COPY OF THE CAD FILES THAT REPRESENT THESE IMPROVEMENTS; SANDLIN SERVICES, LLC AND IT'S ASSOCIATES TAKE NO RESPONSIBILITY FOR THE LOCATION OF THESE IMPROVEMENTS IN ANY COORDINATE SYSTEM. DIGITAL FILES USED TO PRODUCE THESE PLANS WERE PARTIALLY CREATED BY PARTIES OTHER THAN SANDLIN SERVICES, LLC AND ARE NOT INTENDED FOR USE IN CONSTRUCTION STAKING. VERTICAL AND HORIZONTAL DATA SHALL BE INDEPENDENTLY VERIFIED BY CONTRACTOR'S R.P.L.S.
6. SANDLIN SERVICES, LLC HAS ENDEAVORED TO DESIGN THESE PLANS COMPLIANT WITH ADA/TDLR AND OTHER ACCESSIBILITY REQUIREMENTS. HOWEVER, THE CONTRACTOR SHALL NOT BE RELIEVED OF ANY RESPONSIBILITY FOR CONSTRUCTING THESE IMPROVEMENTS COMPLIANT WITH ALL APPLICABLE ACCESSIBILITY STANDARDS. IF THE CONTRACTOR NOTICES ANY DISCREPANCIES BETWEEN THESE PLANS AND ACCESSIBILITY LAWS/RULES, HE IS TO STOP WORK IN THE AREA OF CONFLICT AND NOTIFY THE ENGINEER IMMEDIATELY FOR A RESOLUTION AND/OR REVISION TO THESE PLANS. SANDLIN SERVICES, LLC SHALL NOT BE HELD RESPONSIBLE FOR CONSTRUCTING THIS SITE COMPLIANT WITH ACCESSIBILITY LAWS/RULES REGARDLESS OF WHAT IS SHOWN IN THESE PLANS.



PROJECT LOCATION MAP
1" = 500'

811 BEFORE YOU DIG

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

ENGINEERING | CONSULTING
SANDLIN
SERVICES, LLC

TBPELS FIRM #21356
9111 JOLLYVILLE RD. STE 212 AUSTIN, TX 78759

COVER PAGE

PROJECT CASE: XXXXXXX
TONKINESE DR SUBDIVISION

CORRECTIONS RECORD

NO.	DESCRIPTION	REVISE (R) ADD (D) VOID (V) SHEET NO.'s	TOTAL # SHEETS IN PLAN SET	NET CHANGE IMP. COVER (sq.ft.)	TOTAL SITE IMP. COVER (sq.ft.)/%	APPROVAL/ DATE	DATE IMAGED

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 1 OF 26

G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-0129-002 Tonkinese Dr Subdivision\CAD\Construction Sheets\S TNK CVR.dwg-COVER PAGE Plotted Nov 11, 2024 at 2:52pm by Engineer | Last Saved by: Engineer

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ABBREVIATIONS AND DEFINITIONS	
A	AREA
ADA	AMERICANS WITH DISABILITIES ACT
AWWA	AMERICAN WATER WORKS ASSOCIATION
B-B	BACK TO BACK
BC	BEGIN CURVE
BC	BACK OF CURB
BCR	BEGIN CURB RETURN
BMP	BEST MANAGEMENT PRACTICE
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
BW	BOTTOM OF WALL
CFS	CUBIC FEET PER SECOND
CITY	CITY, TOWN, OR OTHER LOCAL APPLICABLE JURISDICTION
CL	CENTERLINE
CONC	CONCRETE
CY	CUBIC YARD
DEMO	DEMOLITION
DG	DECOMPOSED GRANITE
EA	EACH
EC	END CURVE
ECR	END CURB RETURN
EG	EXISTING GROUND/GRADE
EL	ELEVATION
ELEC	ELECTRICAL/ELECTRICITY
EPA	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
ESMT	EASEMENT
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EX	EXISTING
F-F	FACE TO FACE
FG	FINISHED GRADE/GROUND
FH	FIRE HYDRANT
FL	FLOWLINE
FC	FACE OF CURB
FT	FEET
HGL	HYDRAULIC GRADE LINE
LF	LINEAR FEET
LT	LEFT
MH	MANHOLE
MN	MINUTE/MINIMUM
NOI	NOTICE OF INTENT, REF. TCEQ GENERAL PERMIT
NOT	NOTICE OF TERMINATION, REF. TCEQ GENERAL PERMIT
NTS	NOT TO SCALE
OC	ON CENTER
OFF	OFFSET
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PC	POINT OF CURVATURE
PCC	PORTLAND CEMENT CONCRETE/POINT OF COMPOUND CURVATURE
PG	PROPOSED GRADE
PI	POINT OF INFLECTION
PVMT	PAVEMENT
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
RT	RIGHT
SF	SQUARE FEET
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
STA	STATION
STD	STANDARD
SY	SQUARE YARD
TAS	ARCHITECTURAL BARRIERS TEXAS ACCESSIBILITY STANDARDS
TC	TOP OF CURB
TCEQ	TEXAS COMMISSION OF ENVIRONMENTAL QUALITY
TEMP	TEMPORARY
TXDOT	TEXAS DEPARTMENT OF TRANSPORTATION
TXMUTCD	TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
TW	TOP OF WALL
TYP	TYPICAL
VC	VERTICAL CURVE
WTR	WATER
WW	WASTEWATER

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

SAFETY

1. CONTRACTOR SHALL USE ALL NECESSARY SAFETY PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND POWER LINES. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, FEDERAL, AND UTILITY OWNER REGULATIONS PERTAINING TO WORK SETBACKS FROM POWER LINES.
2. ESTABLISH FIRE ZONES AS SHOWN ON SITE BY PAINTING CURB RED. STENCIL THE WORDS, "FIRE ZONE/TOW-AWAY ZONE", IN WHITE LETTERS AT LEAST 3 INCHES HIGH AT 35-FOOT INTERVALS ALONG THE CURB. ALSO, SIGNS SHALL BE POSTED AT BOTH ENDS OF A FIRE ZONE. ALTERNATE MARKING OF THE FIRE LANES MY BE APPROVED BY THE FIRE CHIEF PROVIDED THE FIRE LANES ARE CLEARLY IDENTIFIED AT BOTH ENDS AND AT INTERVALS NOT TO EXCEED 35 FEET.
3. WARNING ARE REQUIRED TO BE PLACED UNDER THE OVERHEAD ELECTRIC LINES TO MAKE ALL PERSONNEL AWARE OF THE ELECTRIC HAZARD.
4. ALL FDC'S TO BE TWO 2 ½ INCH SIAMESE CONNECTIONS.
5. THE CONTRACTOR SHALL FURNISH, ERECT, AND MAINTAIN MARKINGS AND ASSOCIATED HAZARD WARNING LIGHTS, DELINEATOR FENCE, AND OTHER ASSOCIATED FACILITIES AS REQUIRED FOR OPEN TRENCHES, EXCAVATIONS. TEMPORARY STOCK PILES, AND PARKED CONSTRUCTION EQUIPMENT THAT MAY POSE A POTENTIAL HAZARD AS PART OF THE DAILY OPERATIONS AT THIS SITE. CONTRACTOR IS SOLELY RESPONSIBLE FOR SITE SAFETY.

ACCESSIBLE PARKING NOTE:

1. BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE HANDICAPPED ROUTES (PER ADA) EXIST TO AND FROM DESIGNATED DOORS. IN NO CASE SHALL HANDICAP RAMP SLOPES EXCEED 1 VERTICAL TO 12 HORIZONTAL. IN NO CASE SHALL SIDEWALK CROSS SLOPES EXCEED 2.0 PERCENT. IN NO CASE SHALL LONGITUDINAL SIDEWALK SLOPES EXCEED 5.0 PERCENT. CONTRACTOR SHALL CONTACT ENGINEER PRIOR TO PAVING IF ANY EXCESSIVE SLOPES ARE ENCOUNTERED. NO CONTRACTOR CHANGE ORDERS WILL BE ACCEPTED FOR ADA COMPLIANCE ISSUES.
2. ALL ACCESSIBLE SPACES AND ACCESSIBLE ROUTES SHALL COMPLY WITH THE TEXAS ACCESSIBILITY STANDARDS (TAS) AND THE CITY REQUIREMENTS.
3. PARKING SPACES AND ACCESS AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 1:50 (2%) IN ALL DIRECTIONS. CURB RAMPS COMPLYING WITH TAS SHALL BE PROVIDED AT ALL PASSENGER LOADING ZONES.
4. EACH ACCESSIBLE PARKING SPACE SHALL BE DESIGNATED AS RESERVED BY A VERTICALLY MOUNTED OR SUSPENDED SIGN SHOWING THE SYMBOL OF ACCESSIBILITY PER TAS. SPACES COMPLYING WITH TAS SHALL HAVE AN ADDITIONAL SIGN "VAN ACCESSIBLE" MOUNTED BELOW THE SYMBOL OF ACCESSIBILITY WHEN REQUIRED.
   (A) CHARACTERS AND SYMBOLS ON SUCH SIGNS SHALL BE LOCATED 60" MINIMUM ABOVE THE GROUND, FLOOR, OR PAVING SURFACE SO THEY CANNOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE.
   (B) SIGNS LOCATED WITHIN AN ACCESSIBLE ROUTE SHALL COMPLY WITH TAS.
   (C) CHARACTERS AND SYMBOLS ON OVERHEAD SIGNS SHALL COMPLY WITH TAS.
5. SLOPES OF CURB RAMPS SHALL COMPLY WITH TAS. TRANSITIONS FROM RAMPS TO WALKS, GUTTERS, OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES. MAXIMUM SLOPES OF ADJOINING GUTTERS, ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP, OR ACCESSIBLE ROUTE SHALL NOT EXCEED 1:20.
6. SURFACES OF CURB RAMPS SHALL COMPLY WITH TAS.
   (A) TEXTURES SHALL CONSIST OF EXPOSED CRUSHED STONE AGGREGATE, ROUGHENED CONCRETE, RUBBER, RAISED ABRASIVE STRIPS, OR GROOVES EXTENDING THE FULL WIDTH AND DEPTH OF THE CURB RAMP. SURFACES THAT ARE RAISED, ETCHED, OR GROOVED IN A WAY THAT WOULD ALLOW WATER TO ACCUMULATE ARE PROHIBITED.
   (B) FOR PURPOSES OF WARNING, THE FULL WIDTH AND DEPTH OF CURB RAMPS SHALL HAVE A LIGHT REFLECTIVE VALUE AND TEXTURE THAT SIGNIFICANTLY CONTRASTS WITH THAT OF ADJOINING PEDESTRIAN ROUTES.
7. EVERY HANDICAP ACCESSIBLE PARKING SPACE SHALL BE IDENTIFIED BY A SIGN CENTERED 5 FEET ABOVE THE PARKING SURFACE, AT THE HEAD OF THE PARKING SPACE. THE SIGN MUST INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY. SUCH SIGNS SHALL NOT BE OBSCURED BY A VEHICLE PARKED THE SPACE AND SHALL MEET THE CRITERIA SET FORTH IN UBC AND ANSI.
8. SLOPES ON ACCESSIBLE ROUTES MAY NOT EXCEED 1:20 UNLESS DESIGNED AS A RAMP.
9. THE MAXIMUM SLOPE OF A RAMP IN NEW CONSTRUCTION IS 1:12. THE MAXIMUM RISE FOR ANY RAMP RUN IS 30 IN.
10. ACCESSIBLE ROUTES MUST HAVE A CROSS-SLOPE NO GREATER THAN 1:30.
11. GROUND SURFACES ALONG ACCESSIBLE ROUTES MUST BE STABLE, FIRM, AND SLIP RESISTANT.

TRAFFIC CONTROL NOTES:

1. ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
2. ALL FIRE DEPARTMENT ACCESS DRIVES/ROADS TO HAVE A MINIMUM 14' VERTICAL CLEARANCE.
3. ALL PARKING SPACES SHALL HAVE A MINIMUM 7'-0" VERTICAL CLEARANCE.
4. ALL LANDSCAPED AREAS ARE TO BE PROTECTED BY SIX-INCH WHEEL CURBS, WHEELSTOPS, OR OTHER APPROVED BARRIERS AS PER ECM.
5. ADEQUATE BARRIERS BETWEEN ALL VEHICULAR USE AREAS AND ADJACENT LANDSCAPE AREAS, SUCH AS A 6" CONCRETE CURB ARE REQUIRED. IF A STANDARD 6' CURB AND GUTTER ARE NOT PROVIDED FOR ALL VEHICULAR USE AREAS AND ADJACENT LANDSCAPE AREAS, COMPLY WITH ECM.
6. EACH COMPACT PARKING SPACE/AISLE WILL BE SIGNED "SMALL CAR ONLY".
7. PRIOR TO PERFORMING ANY WORK IN OR ON THE RIGHT OF WAY OF ANY CITY OR STATE ROADWAY, THE CONTRACTOR SHALL NOTIFY THE CITY/STATE TRAFFIC ENGINEER'S OFFICE. THE CONTRACTOR SHALL ERECT WARNING SIGNS AND BARRICADES TO PROTECT THE TRAVELING PUBLIC. THE SIGNING AND BARRICADING SHALL CONFORM TO THE APPROPRIATE APPLICATIONS OUTLINED IN THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES OR AS OTHERWISE DIRECTED BY THE CITY/STATE TRAFFIC ENGINEER. IF PERMITS ARE REQUIRED TO CONDUCT THE WORK, THE CONTRACTOR SHALL SECURE THE PERMITS AND SUPPLY THEM TO THE OWNER AT NO ADDITIONAL COST. ALL FULL WIDTH LANE CLOSURES, PARTIAL LANE CLOSURES, OR CONSTRUCTION ADJACENT TO PAVEMENT, SHALL BE IDENTIFIED, SIGNED, AND BARRICADES ERECTED IN CONFORMANCE WITH THE APPLICABLE ARTICLES OF THE STANDARD SPECIFICATIONS AND THE MUNICIPALITY'S REQUIREMENTS. ALL TRAFFIC PROTECTION, BOTH ONSITE AND OFFSITE SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

EARTHWORK NOTES AND REQUIREMENTS:

1. CONTRACTOR IS RESPONSIBLE FOR ALL MATERIALS TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL MATERIALS TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR AND COMPLY WITH CITY STANDARD SPECIFICATIONS AND GEOTECHNICAL REPORT. TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING MATERIALS. OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR MATERIALS TESTING.
2. ALL COPIES OF MATERIALS TEST RESULTS SHALL BE SENT TO THE OWNER, ENGINEER AND ARCHITECT DIRECTLY FROM THE TESTING AGENCY.
3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE MATERIALS, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS.
4. DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING, THE CONTRACTOR SHALL ADHERE TO THE GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING, IF NONE IS CURRENTLY EXISTING.
5. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL EROSION CONTROL AND WATER QUALITY REQUIREMENTS.
6. A RETAINING WALL OVER 4 FEET IN HEIGHT MEASURED FROM THE BOTTOM OF THE FOOTING TO THE TOP OF THE WALL SHALL BE ENGINEERED AND REQUIRE A SEPARATE BUILDING PERMIT.
7. CONTRACTOR SHALL REMOVE EARTHEN MATERIAL, EXISTING SURFACES, AND STRUCTURES AS REQUIRED. ALL WASTE MATERIAL SHALL BE PROPERLY DISPOSED OFF-SITE AND SHALL BE INCIDENTAL TO THE CONTRACT.
8. ALL AGGREGATE BASE COURSE SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY MAXIMUM DRY DENSITY WITHIN 2 PERCENT OF OPTIMUM MOISTURE CONTENT.

TRENCH EXCAVATION NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA, FOR ALL TRENCHES. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
2. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN / GEOTECHNICAL / SAFETY / EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS, AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS, AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
3. BRACING OF UTILITY POLES MAY BE REQUIRED WHEN TRENCHING OR EXCAVATING IN CLOSE PROXIMITY TO THE POLES AND IS THE RESPONSIBILITY OF THE CONTRACTOR.
4. ALL TRENCH BACKFILL SHALL BE IMPORTED GRANULAR MATERIAL UNLESS EXISTING GRANULAR MATERIALS ARE SPECIFICALLY APPROVED BY THE OWNER'S REPRESENTATIVE.

STORM WATER DISCHARGE AUTHORIZATION

THE CONTRACTOR AND WHERE APPLICABLE SUBCONTRACTORS ARE RESPONSIBLE FOR:

1. COMPLIANCE WITH ALL TCEQ AND EPA STORM WATER POLLUTION PREVENTION REQUIREMENTS.
2. ENSURING THAT ALL PRIMARY OPERATORS SUBMIT A NOI TO TCEQ AT LEAST 7 DAYS PRIOR CONSTRUCTION. AND THEY PROVIDE A COPY OF ALL SIGNED NOI'S TO THE OPERATOR OF ANY MS4 RECEIVING DISCHARGE FROM THE SITE.
3. IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP), IF IT APPLIES, IE. POST SITE NOTICE, INSPECTIONS, DOCUMENTATION AND SUBMISSION OF ANY INFORMATION, SUCH AS NOI, REQUIRED BY TCEQ AND EPA.
4. SIGNING THE REQUIRED CERTIFICATION STATEMENT ACKNOWLEDGING THEIR RESPONSIBILITIES AS STATED IN THE SWPPP IF PROVIDING SERVICES RELATED TO SWPPP.
5. SUBMITTING TO THE CITY, AND RETAINING ON SITE DURING CONSTRUCTION, A COPY OF THE SWPPP INCLUDING NOI, SITE NOTICE, CONTRACTOR CERTIFICATION, AND ANY REVISIONS.
6. PRIMARY OPERATOR IS RESPONSIBLE FOR SUBMITTING A NOTICE OF TERMINATION (NOT) TO TCEQ WITH 30 DAYS AFTER ALL SOIL DISTURBING ACTIVITIES HAVE BEEN COMPLETED AND A VEGETATIVE COVER HAS BEEN ESTABLISHED ON ALL UNPAVED AREA AND ALL AREAS NOT COVERED BY STRUCTURES, A TRANSFER OF OPERATIONAL CONTROL HAS OCCURRED, OR THE OPERATOR HAS AN ALTERNATIVE AUTHORIZATION UNDER A DIFFERENT PERMIT. A COPY OF THE NOT SHALL BE PROVIDED TO THE OPERATOR OF ANY MS4 RECEIVING DISCHARGE FROM THE SITE.

CONSTRUCTION MEANS, METHODS, & SAFETY PROTECTION NOTES:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL FEDERAL, STATE, AND LOCAL LAWS, INCLUDING OSHA STANDARDS AND WITH ANY OTHER APPLICABLE LAWS, ORDINANCES, RULES, REGULATIONS AND ORDERS OF ANY PUBLIC BODY HAVING JURISDICTION FOR THE SAFETY OF PERSONS OR PROPERTY OR TO PROTECT THEM FROM DAMAGE, INJURY OR LOSS. THE CONTRACTOR SHALL PROVIDE ALL SAFEGUARDS, SAFETY DEVICES, AND PROTECTIVE EQUIPMENT AND SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS UTILIZED BY THE CONTRACTOR AND HIS SUB-CONTRACTORS IN THE PERFORMANCE OF THEIR WORK AND SHALL TAKE ANY OTHER ACTIONS NECESSARY TO PROTECT THE LIFE AND HEALTH OF EMPLOYEES ON THE JOB AND THE SAFETY OF THE PUBLIC AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES OR PROCEDURES, EQUIPMENT, AND FOR SAFETY PRECAUTIONS OR PROGRAMS, UNLESS SUCH MEANS AND EQUIPMENT ARE SPECIFIED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL COMPLY WITH SECTION 108.06 LABOR, METHODS, AND EQUIPMENT OF THE "STANDARD SPECIFICATIONS".

INDEMNIFICATION

THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER, THE CITY, AND SANDLIN SERVICES, LLC. FROM AND AGAINST ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES INCLUDING ATTORNEY'S FEES ARISING OUT OF OR RESULTING FROM THE PERFORMANCE OF THE CONTRACTOR'S WORK. IN ANY AND ALL CLAIMS AGAINST THE OWNER OR SANDLIN SERVICES, LLC. BY ANY EMPLOYEE OF THE CONTRACTOR OR ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY THE CONTRACTOR OR ANYONE FOR WHOSE ACTS THE CONTRACTOR MAY LIABLE, THE INDEMNIFICATION OBLIGATION SHALL NOT BE LIMITED IN ANY WAY BY ANY LIMITATION ON THE AMOUNT OF DAMAGES, COMPENSATION, OR BENEFITS PAYABLE BY OR FOR THE CONTRACTOR UNDER WORKER'S COMPENSATION ACTS, DISABILITY BENEFIT ACTS OR OTHER EMPLOYEE BENEFIT ACTS.

GENERAL NOTES AND REQUIREMENTS:

1. ALL CONTRACTORS MUST CONFINE THEIR ACTIVITIES TO THE WORK AREA. NO ENCROACHMENTS OUTSIDE OF THE WORK AREA WILL BE ALLOWED. ANY DAMAGE RESULTING THEREFROM SHALL BE CONTRACTOR'S SOLE RESPONSIBILITY TO REPAIR.
2. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, UTILITIES, MANHOLES, POLES, GUY WIRES, VALVE COVERS, VAULT LIDS, FIRE HYDRANTS, COMMUNICATION BOXES/PEDESTALS, AND OTHER FACILITIES TO REMAIN, AND SHALL REPAIR ANY DAMAGES AT NO COST TO THE OWNER.
3. THE CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE ANY PHYSICAL DAMAGE TO PRIVATE PROPERTY OR PUBLIC IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO: FENCES, WALLS, SIGNS, PAVEMENT, CURBS, UTILITIES, SIDEWALKS, GRASS,TREES, LANDSCAPING, AND IRRIGATION SYSTEMS, ETC.... TO ORIGINAL CONDITION OR BETTER AT NO COST TO THE OWNER.
4. ALL AREAS IN EXISTING RIGHT-OF-WAY DISTURBED BY SITE CONSTRUCTION SHALL BE REPAIRED TO ORIGINAL CONDITION OR BETTER, INCLUDING AS NECESSARY, GRADING, LANDSCAPING, CULVERTS, AND PAVEMENT.
5. THE CONTRACTOR SHALL SALVAGE ALL EXISTING POWER POLES, SIGNS, WATER VALVES, FIRE HYDRANTS, METERS, ETC... THAT ARE TO BE RELOCATED DURING CONSTRUCTION.
6. CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
7. SITE SAFETY IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
8. THESE PLANS DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONTRACTOR OR ITS EMPLOYEES, AGENTS, OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE ENGINEER'S SEAL HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED SAFETY PROCEDURES AND PROGRAMS.
9. SIGNS RELATED TO SITE OPERATION OR SAFETY ARE NOT INCLUDED IN THESE PLANS.
10. CONTRACTOR OFFICE AND STAGING AREA SHALL BE AGREED ON BY THE OWNER AND CONTRACTOR PRIOR TO BEGINNING OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITTING REQUIREMENTS FOR THE CONSTRUCTION OFFICE, TRAILER, STORAGE, AND STAGING OPERATIONS AND LOCATIONS.
11. LIGHT POLES, SIGNS, AND OTHER OBSTRUCTIONS SHALL NOT BE PLACED IN ACCESSIBLE ROUTES.
12. TOP RIM ELEVATIONS OF ALL EXISTING AND PROPOSED MANHOLES SHALL BE COORDINATED WITH TOP OF PAVEMENT OR FINISHED GRADE AND SHALL BE ADJUSTED TO BE FLUSH WITH THE ACTUAL FINISHED GRADE AT THE TIME OF PAVING.
13. CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED VALVES, FIRE HYDRANTS, AND OTHER UTILITY APPURTENANCES TO MATCH ACTUAL FINISHED GRADES AT THE TIME OF PAVING.
14. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION SEQUENCING AND PHASING AND SHALL CONTACT THE APPROPRIATE CITY OFFICIALS, INCLUDING BUILDING OFFICIAL, ENGINEERING INSPECTOR, AND FIRE MARSHALL TO LEARN OF ANY REQUIREMENTS.
15. CONTRACTOR IS RESPONSIBLE FOR PREPARATION, SUBMITTAL, AND APPROVAL BY THE CITY OF A TRAFFIC CONTROL PLAN PRIOR TO THE START OF CONSTRUCTION, AND THEN THE IMPLEMENTATION OF THE PLAN.
16. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE EXISTING CONDITIONS.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT PLANS TO THE ENGINEER AND CITY IDENTIFYING ALL DEVIATIONS AND VARIATIONS FROM THESE PLANS MADE DURING CONSTRUCTION.
18. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL EROSION CONTROL AND WATER QUALITY REQUIREMENTS.
19. PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AFFECTING THEIR WORK WITH THE ACTUAL CONDITION AT THE PROJECT SITE. IN ADDITION, THE CONTRACTOR MUST VERIFY THE ENGINEER'S LINE AND GRADE STAKES. IF THERE ARE ANY DISCREPANCIES FROM WHAT IS SHOWN ON THE CONSTRUCTION PLANS, THE CONTRACTOR MUST IMMEDIATELY PROVIDE THE INFORMATION TO THE ENGINEER BEFORE DOING ANY WORK, OTHERWISE, THE CONTRACTOR ASSUMES FULL RESPONSIBILITY. IN THE EVENT OF A DISAGREEMENT BETWEEN THE CONSTRUCTION PLANS, STANDARD SPECIFICATIONS, AND/OR DETAILS. THE CONTRACTOR SHALL SECURE WRITTEN INSTRUCTIONS FROM THE ENGINEER PRIOR TO PROCEEDING WITH ANY PART OF THE WORK AFFECTED BY OMISSIONS OR DISCREPANCIES. IF THE CONTRACTOR FAILS TO SECURE WRITTEN INSTRUCTIONS FROM THE ENGINEER, THE CONTRACTOR WILL BE CONSIDERED TO HAVE PROCEEDED AT THEIR OWN RISK AND EXPENSE. IN THE EVENT OF ANY DOUBT OR QUESTION ARISING WITH RESPECT TO SPECIFICATIONS, THE DECISION OF THE ENGINEER SHALL BE FINAL.
20. THE CONTRACTOR SHALL COMPLY WITH JURISDICTIONAL "GENERAL NOTES" FOR CONSTRUCTION, JURISDICTIONAL NOTES SHALL SUPERCEDE ANY CONFLICT WITH THE SANDLIN SERVICES, LLC. NOTES.
21. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES WITH OR NEAR THE CONSTRUCTION AREA BEFORE COMMENCING WORK TO HAVE THEM LOCATE THEIR EXISTING UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL USE EXTREME CAUTION AS THE SITE CONTAINS VARIOUS KNOWN AND UNKNOWN PUBLIC AND PRIVATE UTILITIES.
22. CONTRACTOR SHALL COORDINATE ALL UTILITY LINE CROSSINGS TO ENSURE ALL PIPES MAINTAIN MINIMUM COVER, MINIMUM CLEARANCES, AND PROPER SEPARATION.
23. THE LOCATIONS, ELEVATIONS, DEPTH, AND DIMENSIONS OF EXISTING UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM AVAILABLE UTILITY COMPANY MAPS AND PLANS, AND ARE CONSIDERED APPROXIMATE. THE ENGINEER SHALL BE NOTIFIED WHEN A PROPOSED IMPROVEMENT CONFLICTS WITH AN EXISTING UTILITY.
24. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ANY ADJUSTMENTS AND RELOCATIONS OF EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS THAT MAY BE ENCOUNTERED THAT ARE UNKNOWN AT THIS TIME AND NOT SHOWN ON THESE PLANS. CONTRACTOR SHALL ARRANGE FOR OR PROVIDE, ALL GAS, TELECOMMUNICATIONS, CABLE, OVERHEAD AND UNDERGROUND POWER LINE, AND UTILITY POLE ADJUSTMENTS NEEDED. CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION OF FRANCHISE UTILITIES THAT ARE NECESSARY FOR ON-SITE AND OFF-SITE CONSTRUCTION, AND SERVICE TO THE PROPOSED DEVELOPMENT.
25. THE IMPLIED PRESENCE OR ABSENCE OF UTILITIES IS NOT TO BE CONSTRUED BY THE OWNER, ENGINEER, CONTRACTOR, OR SUBCONTRACTORS TO BE AN ACCURATE AND COMPLETE REPRESENTATION OF UTILITIES THAT MAY OR MAY NOT EXIST ON THE CONSTRUCTION SITE. BURIED AND ABOVE GROUND UTILITY LOCATION, IDENTIFICATION AND MARKING IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. REROUTING, DISCONNECTION, PROTECTION, ETC. OF ANY UTILITIES MUST BE COORDINATED BETWEEN THE CONTRACTOR, UTILITY COMPANY, AND OWNER. SITE SAFETY, INCLUDING THE AVOIDANCE OF HAZARDS ASSOCIATED WITH BURIED AND ABOVE GROUND UTILITIES, REMAINS THE SOLE RESPONSIBILITY OF THE THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY FROM CONSTRUCTION OPERATIONS.
26. THE CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
27. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL DAMAGES DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UTILITIES. THE OWNER OR ENGINEER WILL ASSUME NOT LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES.

21. ALL SHOP DRAWINGS AND OTHER DOCUMENTS THAT REQUIRE ENGINEER REVIEW SHALL BE SUBMITTED BY THE CONTRACTOR SUFFICIENTLY IN ADVANCE OF CONSTRUCTION OF THAT ITEM, SO THAT NO LESS THAN 10 BUSINESS DAYS FOR REVIEW AND RESPONSE IS AVAILABLE.
22. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES, JURISDICTIONAL AGENCIES, AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO USE OF THE FACILITY AND THE FINAL CONNECTION OF SERVICES.
23. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
24. CONTRACTOR'S BID PRICE SHALL INCLUDE ALL INSPECTION FEE.
25. ALL SYMBOLS SHOWN ON THESE PLANS ARE FOR PRESENTATION PURPOSES ONLY AND ARE NOT TO SCALE. CONTRACTOR SHALL COORDINATE FINAL SIZES AND LOCATIONS WITH APPROPRIATE CITY INSPECTOR.REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR ALL FINAL BUILDING DIMENSIONS.
26. COMPLIANCE WITH COMMERCIAL AND MULTI-FAMILY RECYCLING ORDINANCE IS MANDATORY FOR MULTI-FAMILY COMPLEXES WITH 100 OR MORE UNITS AND BUSINESSES WITH 100 OR MORE EMPLOYEES.
27. CONTRACTOR PARKING AND LAYDOWN AREAS SHALL BE COORDINATED WITH THE OWNER.
28. THE CONTRACTOR SHALL PROVIDE ANY FINANCIAL SURETIES REQUIRED AS PART OF ANY PERMIT.
29. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING AND SUBMITTING ELECTRONIC AS-BUILT DRAWINGS FOR UTILITIES AND DETENTION AREAS TO THE OWNER AND ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PROJECT ACCEPTANCE.
30. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL ITEMS INCORPORATED INTO THE WORK FOR ENGINEER REVIEW AND APPROVAL OF MINIMUM OF 4 WEEKS PRIOR TO ORDERING.
31. REFERENCES TO "INSPECTION" OR "INSPECTOR" IN THE SPECIFICATIONS SHALL NOT CREATE, IMPOSE, OR GIVE RISE TO ANY DUTY OWED BY THE OWNER OR ENGINEER TO THE CONTRACTOR, ANY SUBCONTRACTOR, OR ANY SUPPLIER. ALL IMPROVEMENTS SHALL BE SUBJECT TO INSPECTION BY A DULY AUTHORIZED AND QUALIFIED OWNER'S REPRESENTATIVE BOTH DURING THE COURSE OF CONSTRUCTION AND AFTER CONSTRUCTION IS COMPLETE. THE INSPECTOR SHALL HAVE AUTHORITY OVER MATERIALS OF CONSTRUCTION, METHODS OF CONSTRUCTION, AND WORKMANSHIP, TO ENSURE COMPLIANCE WITH WORKING DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR SHALL PROVIDE FOR REASONABLE TESTS AND PROOF OF QUALITY OF MATERIALS AS REQUESTED BY THE INSPECTOR. UPON DUE CAUSE, WHICH SHALL INCLUDE WEATHER CONDITION, WORKMANSHIP OR NON-ADHERENCE TO THE APPROVED PLANS AND SPECIFICATIONS, THE INSPECTOR SHALL HAVE THE AUTHORITY TO STOP CONSTRUCTION.
32. WHERE SECTION, SUB-SECTION, SUBDIVISION, OR PROPERTY MONUMENTS ARE ENCOUNTERED, THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND PRESERVE ALL PROPERTY MARKERS UNTIL AN OWNER OR AUTHORIZED SURVEYOR HAS WITNESSED OR REFERENCED THEIR LOCATION.
33. CONTRACTOR SHALL NOTIFY THE APPROPRIATE AGENCY A MINIMUM OF 48 HOURS PRIOR TO CONNECTING TO OR INSTALLING ANY PUBLIC SEWER OR WATER MAINS.

BUILDING COORDINATION & CONSTRUCTION NOTES:

1. THE SCOPE OF WORK FOR THE CIVIL IMPROVEMENTS SHOWN ON THESE PLANS TERMINATES 5-FEET FROM THE BUILDING. REFERENCE THE BUILDING PLANS (E.G. ARCHITECTURAL, STRUCTURAL, MEP) FOR AREAS WITH 5-FEET OF THE BUILDING AND WITHIN THE BUILDING FOOTPRINT.
2. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR ALL FINAL BUILDING DIMENSIONS.
3. THE PROPOSED BUILDING FOOTPRINT(S) SHOWN IN THESE PLANS WAS PROVIDED TO SANDLIN SERVICES, LLC. BY THE PROJECT ARCHITECT AT THE TIME THESE PLANS WERE PREPARED. IT MAY NOT BE THE FINAL CORRECT VERSION BECAUSE THE BUILDING DESIGN ONGOING. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONFIRMING THE FINAL CORRECT VERSION OF THE BUILDING FOOTPRINT WITH THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO LAYOUT. DIMENSIONS AND/OR COORDINATES SHOWN ON THESE PLANS WERE BASED ON THE ABOVE STATED ARCHITECTURAL FOOTPRINT, AND ARE THEREFORE A PRELIMINARY LOCATION OF THE BUILDING. THE CONTRACTOR IS SOLELY RESPONSIBLE TO VERIFY WHAT PART OF THE BUILDING THE ARCHITECT'S FOOTPRINT REPRESENTS (E.G. SLAB, OUTSIDE WALL, MASONRY LEDGE, ETC....) AND TO CONFIRM ITS FINAL POSITION ON THE SITE BASED ON THE FINAL ARCHITECTURAL FOOTPRINT, CIVIL DIMENSION CONTROL PLAN, SURVEY BOUNDARY AND/OR PLAT. ANY DIFFERENCES FOUND SHALL BE REPORTED TO SANDLIN SERVICES, LLC. IMMEDIATELY.
4. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THESE PLANS, LOCAL JURISDICTION STANDARD DETAILS AND SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT, AND ALL ISSUED ADDENDA, AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS. THE CITY SPECIFICATIONS SHALL GOVERN WHERE OTHER SPECIFICATIONS DO NOT EXIST. IN CASE OF CONFLICTING SPECIFICATIONS OR DETAILS, THE MORE SPECIFICATION AND DETAILS SHALL BE FOLLOWED.
5. THE CONTRACTOR SHALL FURNISH ALL MATERIAL AND LABOR TO CONSTRUCT THE FACILITY AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH ALL APPROPRIATE AUTHORITIES' SPECIFICATIONS AND REQUIREMENTS.
6. THE EXISTING CONDITIONS SHOWN ON THESE PLANS WERE PROVIDED BY THE TOPOGRAPHIC SURVEY PREPARED BY THE PROJECT SURVEYOR, AND ARE BASED ON THE BENCHMARKS SHOWN. THE CONTRACTOR SHALL REFERENCE THE SAME BENCHMARKS. THE CONTRACTOR SHALL REVIEW AND VERIFY THE EXISTING TOPOGRAPHIC SURVEY SHOWN ON THE PLANS REPRESENTS THE EXISTING FIELD CONDITIONS PRIOR TO CONSTRUCTION, AND SHALL REPORT ANY DISCREPANCIES FOUND TO THE OWNER AND ENGINEER IMMEDIATELY.
7. ALL CONSTRUCTION SURVEYING AND STAKING SHALL BE PROVIDED BY THE GENERAL CONTRACTOR.
8. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL CONTROL, INCLUDING BENCHMARKS, PRIOR TO COMMENCING CONSTRUCTION OR STAKING OF IMPROVEMENTS.
9. PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AFFECTING THEIR WORK WITH THE ACTUAL CONDITION AT THE PROJECT SITE. IN ADDITION, THE CONTRACTOR MUST VERIFY THE ENGINEER'S LINE AND GRADE STAKES. IF THERE ARE ANY DISCREPANCIES FROM WHAT IS SHOWN ON THE CONSTRUCTION PLANS, THE CONTRACTOR MUST IMMEDIATELY PROVIDE THE INFORMATION TO THE ENGINEER BEFORE DOING ANY WORK, OTHERWISE, THE CONTRACTOR ASSUMES FULL RESPONSIBILITY. IN THE EVENT OF A DISAGREEMENT BETWEEN THE CONSTRUCTION PLANS, STANDARD SPECIFICATIONS, AND/OR DETAILS. THE CONTRACTOR SHALL SECURE WRITTEN INSTRUCTIONS FROM THE ENGINEER PRIOR TO PROCEEDING WITH ANY PART OF THE WORK AFFECTED BY OMISSIONS OR DISCREPANCIES. IF THE CONTRACTOR FAILS TO SECURE WRITTEN INSTRUCTIONS FROM THE ENGINEER, THE CONTRACTOR WILL BE CONSIDERED TO HAVE PROCEEDED AT THEIR OWN RISK AND EXPENSE. IN THE EVENT OF ANY DOUBT OR QUESTION ARISING WITH RESPECT TO SPECIFICATIONS, THE DECISION OF THE ENGINEER SHALL BE FINAL.
10. THE CONTRACTOR SHALL REVIEW ALL DIMENSIONS, ELEVATIONS, AND FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER IMMEDIATELY.
11. NO FIELD CHANGES OR DEVIATION FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE ARCHITECT, ENGINEER, OWNER, AND IF APPLICABLE THE CITY,
12. THE CONTRACTOR SHALL THOROUGHLY CHECK COORDINATION OF CIVIL, LANDSCAPE, MEP, ARCHITECTURAL, AND OTHER PLANS, PRIOR TO COMMENCING CONSTRUCTION AND NOTIFY OWNER/ENGINEER OF ANY DISCREPANCY PRIOR TO COMMENCING WITH CONSTRUCTION.
13. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL REQUIRED CONSTRUCTION PERMITS, APPROVALS, AND BONDS PRIOR TO CONSTRUCTION.
14. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES A COPY OF THE CONTRACT DOCUMENTS INCLUDING PLANS, GEOTECHNICAL REPORT AND ADDENDA, PROJECT AND CITY SPECIFICATIONS, AND SPECIAL CONDITIONS, COPIES OF ANY REQUIRED CONSTRUCTION PERMITS, EROSION CONTROL PLANS, SWPPP, AND INSPECTION REPORTS.
15. THE CONTRACTOR SHALL KEEP A NEAT AND ACCURATE RECORD OF CONSTRUCTION, INCLUDING ANY DEVIATIONS OR VARIANCES FROM THE PLANS.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT PLANS TO THE ENGINEER AND CITY IDENTIFYING ALL DEVIATIONS AND VARIATIONS FROM THESE PLANS MADE DURING CONSTRUCTION.
17. THE CONTRACTOR TO COORDINATE WITH PROJECT ARBORIST TO TRIM TREES TO ENSURE VISIBILITY NEAR PARKING AREAS.
18. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
19. ALL RADII TO BE 2' UNLESS OTHERWISE NOTED.
20. ALL ON-SITE UTILITIES SHALL BE LOCATED UNDERGROUND UNLESS REQUIRED BY THE UTILITY TO BE OTHERWISE LOCATED.
21. SIDEWALKS CITY PARK ROAD ARE REQUIRED TO BE CONSTRUCTED BY THE PROPERTY OWNER AFTER THE ABUTTING ROADWAY IS IMPROVED AND CONCRETE CURBS ARE IN PLACE.
22. WHEN CONCRETE IS PLACED ABUTTING STRUCTURES, FOUNDATIONS OR EXISTING SIDEWALKS, A BOND BREAKER CONSISTING OF 1" PJF AND ELASTOMERIC SEALANT SHALL BE USED FULL DEPTH UNTIL OTHERWISE NOTED.
23. SIDEWALK RAMPS FOR ADA SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
24. CONSTRUCTION STAKING, LAYOUT, AND GRADING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR USING THE BASIC TOPOGRAPHIC SURVEY CONTROLS. CONTRACTOR SHALL VERIFY SURVEY CONTROLS PRIOR TO BEGINNING CONSTRUCTION. ANY DISCREPANCIES IN THE SURVEY CONTROLS SHALL BE REPORTED TO THE OWNER AND ENGINEER PRIOR TO CONSTRUCTION. ANY ADDITIONAL SURVEY CONTROLS REQUIRED FOR CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
25. ANY SIDEWALKS, FENCES, AND OTHER ITEMS NOT SHOWN TO BE REMOVED, BUT DAMAGED DURING CONSTRUCTION, SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.

WATER AND WASTEWATER NOTES:

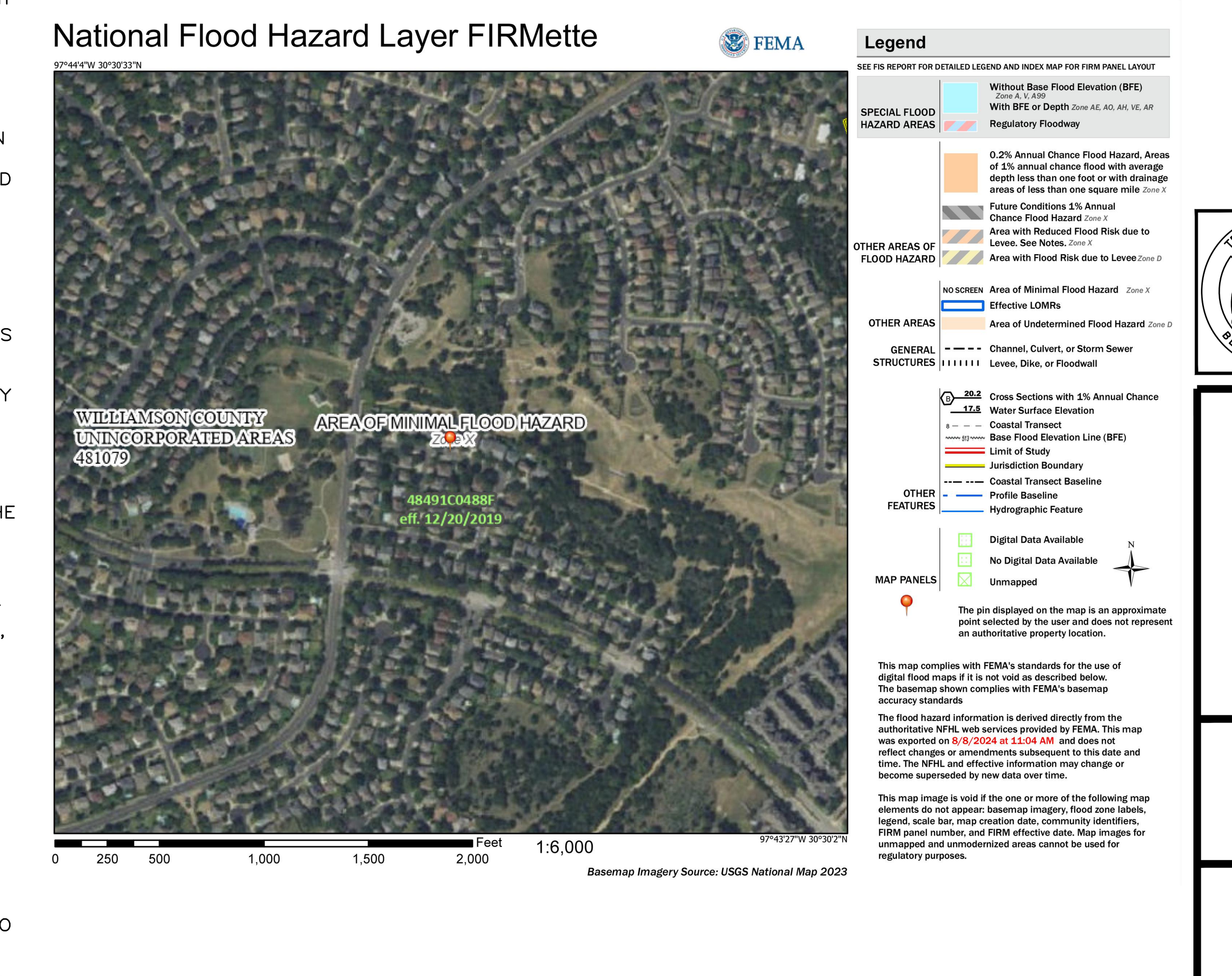
1. PIPE MATERIAL FOR WATER MAINS SHALL BE PVC (AWWA C-900, MIN. CLASS 200), OR DUCTILE IRON (AWWA C-100, MIN. CLASS 200). WATER SERVICES (2" OR LESS) SHALL BE POLYETHYLENE TUBING (BLACK, 200 PSI, DR 9).
2. PIPE MATERIAL FOR PRESSURE WASTEWATER MAINS SHALL BE PVC (AWWA C-900, MIN. CLASS 150), SDR26 HIGHER PRESSURE RATED (160 PSI), OR DUCTILE IRON (AWWA C-100, MIN. CLASS 200). PIPE MATERIAL FOR GRAVITY WASTEWATER MAINS SHALL BE SDR26 PVC, PVC (ASTM D2241 OR D3034, MAX. DR-26), DUCTILE IRON (AWWA C-100, MIN. CLASS 200).
3. UNLESS OTHERWISE ACCEPTED BY THE PLANNING AND DEVELOPMENT SERVICES DEPARTMENT, MINIMUM DEPTH OF COVER FOR ALL LINES OUTSIDE OF THE PAVED AREAS SHALL BE 42" BELOW FINISHED GRADE AND 30"BELOW SUBGRADE FOR ALL LINES LOCATED IN PAVED AREAS.
4. ALL FIRE HYDRANT AND SPRINKLER LEADS SHALL BE DUCTILE IRON PIPE (AWWA C-100, MIN. CLASS 200).
5. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE WRAPPED WITH A MINIMUM OF 8-MIL POLYETHYLENE AND SEALED WITH DUCT TAPE OR EQUAL ACCEPTED BY THE CITY OF ROUND ROCK CIVIL INSPECTOR.
6. THE CONTRACTOR SHALL CONTACT THE CITY OF ROUND ROCK INSPECTOR TO COORDINATE UTILITY TIE-INS AND NOTIFY THEM AT LEAST 48 HOURS PRIOR TO CONNECTING TO ANY EXISTING LINES.
7. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON RING AND COVER. ALL MANHOLES LOCATED OUTSIDE OF THE PAVEMENT SHALL HAVE BOLTED COVERS. CORE CONNECTIONS TO FIBERGLASS MANHOLES ARE PROHIBITED.
8. THE CONTRACTOR MUST OBTAIN A BULK WATER PERMIT OR PURCHASE AND INSTALL A WATER METER FOR ALL WATER USED DURING CONSTRUCTION. A COPY OF THIS PERMIT MUST ALWAYS BE POSSESSED BY ANY PARTIES WHO UTILIZE WATER. CONTACT WATER DISTRIBUTION AT (512) 801-4435 FOR ADDITIONAL INFORMATION.
9. LINE FLUSHING, OR ANY ACTIVITY USING A LARGE QUANTITY OF WATER, MUST BE SCHEDULED A MINIMUM (10) DAYS IN ADVANCE WITH THE CITY OF ROUND ROCK CIVIL INSPECTOR.
10. THE CONTRACTOR, AT HIS EXPENSE, SHALL PERFORM STERILIZATION OF ALL POTABLE WATER LINES CONSTRUCTED AND SHALL PROVIDE ALL EQUIPMENT (INCLUDING TEST GAUGES), SUPPLIES (INCLUDING CONCENTRATED CHLORINE DISINFECTING MATERIAL), AND NECESSARY LABOR REQUIRED FOR THE STERILIZATION PROCEDURE. THE STERILIZATION PROCEDURE SHALL BE MONITORED BY THE CITY OF ROUND ROCK CIVIL INSPECTOR. WATER SAMPLES WILL BE COLLECTED BY THE CITY OF ROUND ROCK TO VERIFY EACH TREATED LINE HAS ATTAINED AN INITIAL CHLORINE CONCENTRATION OF 50 PPM. WHERE MEANS OF FLUSHING IS NECESSARY, THE CONTRACTOR, AT HIS EXPENSE, SHALL PROVIDE FLUSHING DEVICES AND REMOVE SAID DEVICES PRIOR TO FINAL ACCEPTANCE BY THE CITY OF ROUND ROCK.
11. SAMPLING TAPS SHALL BE BROUGHT UP TO 3 FEET ABOVE GRADE AND SHALL BE EASILY ACCESSIBLE FOR CITY PERSONNEL. AT THE CONTRACTOR'S REQUEST, AND IN THEIR PRESENCE, SAMPLES FOR BACTERIOLOGICAL TESTING WILL BE COLLECTED BY THE CITY OF ROUND ROCK NOT LESS THAN (24) HOURS AFTER THE TREATED LINE HAS BEEN FLUSHED OF THE CONCENTRATED CHLORINE SOLUTION AND CHARGED WITH WATER APPROVED BY THE CITY. THE CONTRACTOR SHALL SUPPLY A CHECK OR MONEY ORDER, PAYABLE TO THE CITY OF ROUND ROCK, TO COVER THE FEE CHARGED FOR TESTING EACH WATER SAMPLE. FEE AMOUNTS MAY BE OBTAINED BY CONTACTING THE CITY OF ROUND ROCK ENVIRONMENTAL SERVICES LABORATORY AT (512) 218-5561 OR WATERLAB@ROUNDROCKTEXAS.GOV.
12. THE CONTRACTOR, AT THEIR EXPENSE, SHALL PERFORM QUALITY TESTING FOR ALL WASTEWATER PIPE INSTALLED AND PRESSURE PIPE HYDROSTATIC TESTING OF ALL WATERLINES CONSTRUCTED. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT (INCLUDING PUMPS AND GAUGES), SUPPLIES, AND LABOR NECESSARY TO PERFORM THESE TESTS. QUALITY AND PRESSURE TESTING SHALL BE MONITORED BY THE CITY OF ROUND ROCK CIVIL INSPECTOR.
13. THE CONTRACTOR SHALL COORDINATE TESTING WITH THE CITY OF ROUND ROCK CIVIL INSPECTOR AND PROVIDE NO LESS THAN 24 HOURS NOTICE PRIOR TO PERFORMING STERILIZATION, QUALITY TESTING OR PRESSURE TESTING.
14. THE CONTRACTOR SHALL NOT OPEN OR CLOSE ANY VALVES UNLESS AUTHORIZED BY THE CITY OF ROUND ROCK.
15. ALL VALVE BOXES AND COVERS SHALL BE CAST IRON.
16. ALL WATER SERVICE, WASTEWATER SERVICE AND VALVE LOCATIONS SHALL BE APPROPRIATELY MARKED THROUGH CHISELING AND PAINTING AS FOLLOWS:

    WATER SERVICE – "W" ON TOP OF CURB
    WASTEWATER SERVICE – "S" ON TOP OF CURB
    VALVE – "V" ON FACE OF CURB

17. TOOLS FOR MARKING THE CURB SHALL BE PROVIDED BY THE CONTRACTOR. OTHER APPROPRIATE MEANS OF MARKING SERVICE AND VALVE LOCATIONS SHALL BE PROVIDED IN AREAS WITHOUT CURBS. SUCH MEANS OF MARKING SHALL BE AS SPECIFIED BY THE ENGINEER AND ACCEPTED BY THE CITY OF ROUND ROCK.
18. CONTACT THE CITY OF ROUND ROCK UTILITIES AND ENVIRONMENTAL SERVICES (UES) DEPARTMENT FOR ASSISTANCE IN DETERMINING EXISTING WATER AND WASTEWATER LOCATIONS.
19. THE CITY OF ROUND ROCK FIRE DEPARTMENT SHALL BE NOTIFIED 48 HOURS PRIOR TO TESTING OF ANY BUILDING SPRINKLER PIPING IN ORDER THAT THE FIRE DEPARTMENT MAY MONITOR SUCH TESTING.
20. SAND, AS DESCRIBED IN SPECIFICATION ITEM 510 PIPE, SHALL NOT BE USED AS BEDDING FOR WATER AND WASTEWATER LINES. ACCEPTABLE BEDDING MATERIALS ARE PIPE BEDDING STONE, PEA GRAVEL AND IN LIEU OF SAND, A NATURALLY OCCURRING OR MANUFACTURED STONE MATERIAL CONFORMING TO ASTM C33 FOR STONE QUALITY AND MEETING THE FOLLOWING GRADATION SPECIFICATION:

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

21. THE CONTRACTOR IS HEREBY NOTIFIED THAT CONNECTING TO, SHUTTING DOWN, OR TERMINATING EXISTING UTILITY LINES MAY HAVE TO OCCUR AT OFF-PEAK HOURS. SUCH HOURS ARE USUALLY OUTSIDE NORMAL WORKING HOURS AND POSSIBLY BETWEEN 12 A.M. AND 6 A.M. ANY WATER SHUTDOWN OR TIE-IN MUST BE SCHEDULED TEN (10) DAYS IN ADVANCE.
22. ALL WASTEWATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS, 30 TAC CHAPTER 213 AND 217, AS APPLICABLE. WHENEVER TCEQ AND CITY OF ROUND ROCK SPECIFICATIONS CONFLICT, THE MORE STRINGENT SHALL APPLY.



STATE OF TEXAS — NICHOLAS R. SANDLIN — 124404 — LICENSED PROFESSIONAL ENGINEER — 11/4/2024

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

ENGINEERING | CONSULTING
SANDLIN
SERVICES, LLC
TBPELS FIRM #21356
9111 JOLLYVILLE RD. STE 212 AUSTIN, TX 78759

GENERAL NOTES (1 OF 3)

PROJECT CASE: XXXXXXX
TONKINESE DR SUBDIVISION

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 2 OF 26

PAVEMENT RECOMMENDATIONS PER REPORT #XXX CONDUCTED BY XXXX. ON XX/XX/2024

TRENCH SAFETY NOTES:

1. IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS, ALL TRENCHES OVER 5 FEET IN DEPTH, IN EITHER HARD AND COMPACT OR SOFT AND UNSTABLE SOIL, SHALL BE SLOPED, SHORED, SHEETED, BRACED OR OTHERWISE SUPPORTED. FURTHERMORE, ALL TRENCHES LESS THAN 5 FEET IN DEPTH SHALL ALSO BE EFFECTIVELY PROTECTED WHEN HAZARDOUS GROUND MOVEMENT MAY BE EXPECTED. TRENCH SAFETY SYSTEMS TO BE UTILIZED FOR THIS PROJECT SHALL BE PROVIDED AS PART OF A PACKAGE REQUIRED PRIOR TO THE PRE-CONSTRUCTION MEETING AND ANY CONSTRUCTION ACTIVITIES.

2. IN ACCORDANCE WITH THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, WHEN PERSONS ARE IN TRENCHES 4 FEET DEEP OR MORE, ADEQUATE MEANS OF EXIT, SUCH AS A LADDER OR STEPS, MUST BE PROVIDED AND LOCATED IN SUCH A MANNER 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 BUT, 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 DESIGN ENGINEER NOTIFIED IMMEDIATELY. CONSTRUCTION SHALL NOT RESUME UNTIL APPROPRIATE TRENCH SAFETY SYSTEM DETAILS, AS DESIGNED BY A PROFESSIONAL ENGINEER, ARE SUBMITTED TO THE CITY OF ROUND ROCK FOR REVIEW AND APPROVAL.

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 CITY INSPECTOR SHALL BE PRESENT DURING ALL TESTS. TESTING SHALL BE COORDINATED WITH THE CITY INSPECTOR, AND THEY SHALL BE GIVEN A MINIMUM 24-HOUR NOTICE PRIOR TO ANY TESTING.

2. PUBLIC ROADWAYS CONSTRUCTED AS PART OF ANY DEVELOPMENT PERMIT SHALL BE FREE FROM DEFECTS, PATCHES, OR REPAIRS PRIOR TO ACCEPTANCE BY THE CITY OF ROUND ROCK. ROADWAYS SHALL HAVE A CLEAR SURFACE FREE FROM ANY GOUGES, MARRING, OR CRACKING TO BE CONSIDERED SUITABLE TO THE CITY OF ROUND ROCK TRANSPORTATION DEPT. NO NEW ROADWAYS SHALL BE ACCEPTED UNTIL ALL CONSTRUCTION TRAFFIC RELATED TO THIS OR ANY ASSOCIATED PERMIT HAS CEASED, AND THE ROADWAY IS OPEN TO AND EXCLUSIVELY USED BY THE GENERAL PUBLIC.

3. 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 CLUMPS AND SUITABLE FOR SUSTAINING PLANT LIFE.

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

5. STREET RIGHTS-OF-WAY SHALL BE GRADED AT A SLOPE OF 1/4" PER FOOT TOWARD THE CURB UNLESS OTHERWISE INDICATED. HOWEVER, IN NO CASE SHALL THE WIDTH OF RIGHT-OF-WAY AT 1/4" PER FOOT SLOPE BE LESS THAN 10 FEET UNLESS A SPECIFIC REQUEST FOR AN ALTERNATE GRADING SCHEME IS SUBMITTED TO AND APPROVED BY THE CITY OF ROUND ROCK PLANNING AND DEVELOPMENT SERVICES DEPARTMENT.

6. BARRICADES, BUILT TO CITY OF ROUND ROCK STANDARDS, SHALL BE CONSTRUCTED ON ALL DEAD-END STREETS AND, AS NECESSARY, DURING CONSTRUCTION TO MAINTAIN JOB AND PUBLIC SAFETY.

7. ALL REINFORCED CONCRETE PIPE (RCP) SHALL BE MINIMUM CLASS III. ALL PUBLIC RCP SHALL BE A MINIMUM OF 18-INCHES IN DIAMETER.

8. THE SUBGRADE MATERIAL FOR THE STREETS SHOWN HEREIN WAS TESTED BY TERRADYNE ENGINEERING, INC ON 4/23/2024 AND THE PAVING SECTIONS DESIGNED IN ACCORDANCE WITH THE CURRENT CITY OF ROUND ROCK DESIGN CRITERIA. THE PAVING SECTIONS ARE TO BE CONSTRUCTED AS FOLLOWS: THE GEOTECHNICAL ENGINEER SHALL INSPECT THE SUBGRADE FOR COMPLIANCE WITH THE DESIGN ASSUMPTIONS MADE DURING PREPARATION OF THE ACCEPTED GEOTECHNICAL REPORT. ANY ADJUSTMENTS THAT ARE REQUIRED SHALL BE MADE THROUGH REVISION OF THE CONSTRUCTION PLANS AND ADDENDUM TO ANY ACCEPTED GEOTECHNICAL REPORT.

9. WHERE PLASTICITY INDEX (PI) IS OVER 20, SUBGRADES MUST BE STABILIZED UTILIZING A METHOD ACCEPTABLE TO THE PLANNING AND DEVELOPMENT SERVICES DEPARTMENT. THE GEOTECHNICAL ENGINEER SHALL RECOMMEND AN APPROPRIATE SUBGRADE STABILIZATION IF SULFATES ARE DETERMINED TO BE PRESENT. WHEN UTILIZING LIME FOR SOIL STABILIZATION, PLACEMENT SHALL BE IN THE FORM OF LIME SLURRY, NOT PELLETS.

10.

Field Density Control Requirements

Soil Description	Density, Percent	Moisture Content
	Tex-115-E	
PI<15	≥ 98% D_s* and ≤ 105% D_s	N/A
15 ≤ PI ≤ 35	≥ 98% D_s and ≤ 102% D_s	≥ W_{opt} + 3%
PI > 35	≥ 95% D_s and ≤100% D_s	≥ W_{opt} +3%

EROSION AND SEDIMENTATION CONTROL NOTES:

1. EROSION CONTROL MEASURES, SITE WORK, AND RESTORATION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF ROUND ROCK DESIGN AND CONSTRUCTION STANDARDS (DACS) AND CODE OF ORDINANCES.

2. ALL SLOPES SHALL BE SODDED OR SEEDED WITH APPROVED GRASS, GRASS MIXTURES, OR GROUND COVER THAT IS SUITABLE TO THE AREA AND THE 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. INSTALLATION AND CONDITION SHALL BE REGULARLY INSPECTED BY THE CITY OF ROUND ROCK FOR EFFECTIVENESS. ADDITIONAL MEASURES MAY BE REQUIRED IF, IN THE OPINION OF THE CITY ENGINEER, THEY ARE WARRANTED.

4. ALL TEMPORARY EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL REVEGETATION HAS BEEN ESTABLISHED AND APPROVAL RECEIVED FROM THE CIVIL INSPECTOR. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL TEMPORARY EROSION CONTROL STRUCTURES AND TO REMOVE ALL ONCE APPROVED TO DO SO BY THE CIVIL INSPECTOR.

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.

TRENCH MARKING NOTES:

1. ANY METHODS, STREET MARKINGS AND SIGNAGE NECESSARY FOR WARNING MOTORISTS, WARNING PEDESTRIANS, OR DIVERTING TRAFFIC DURING CONSTRUCTION SHALL CONFORM TO THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (TMUTCD), LATEST EDITION.

2. ALL PAVEMENT MARKINGS, MARKERS, PAINT, TRAFFIC BUTTONS, TRAFFIC CONTROLS, AND SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES AND, THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITIONS.

SEQUENCE OF CONSTRUCTION:

1. INSTALL ALL TREE PROTECTION FENCE, SILT FENCE, ROCK BERMS, CONSTRUCTION ENTRANCES, CONSTRUCTION FENCE, AND SPOILS AREAS IN ACCORDANCE WITH THE EROSION CONTROL PLANS.

2. ESTABLISH TRAIL AND NEIGHBORHOOD CONNECTION CENTERLINES.

3. CONSTRUCT PROPOSED TRAIL IMPROVEMENTS.

4. ESTABLISH HYDROMULCH SEEDING FOR ALL DISTURBED AREAS.

5. REPAIR TRAIL AS STATED IN SPECIAL NOTE 1 ABOVE.

6. REMOVE ALL TEMPORARY EROSION CONTROL DEVICES.

SPECIAL NOTES:

1. CONTRACTOR SHALL PERFORM WORK DESCRIBED IN THESE PLANS SO AS TO MINIMIZE CONSTRUCTION VEHICLE TRAFFIC ON FINISHED IMPROVEMENTS AND REPAIRED SECTIONS OF THE TRAIL.

2. ANY DAMAGED AREAS OF THE TRAIL OUTSIDE DESIGNATED AREAS OF IMPROVEMENTS WILL BE RETURNED TO SATISFACTORY CONDITION, AS DETERMINED BY BCMUD STAFF. WHEN THE CONTRACTOR FEELS THAT THEY HAVE COMPLETED WORK ON A SECTION OF TRAIL SUCH THAT THE SECTION OF TRAIL WILL NO LONGER SEE TRAFFIC FROM CONSTRUCTION VEHICLES, THE CONTRACTOR WILL SCHEDULE A WALK-THROUGH OF THAT SECTION OF TRAIL WITH BCMUD STAFF TO DETERMINE AREAS TO BE REPAIRED. THE LABOR AND MATERIALS REQUIRED SHALL BE PAID FOR BY THE LINE ITEM BID FOR "GRANITE GRAVEL HIKE & BIKE TRAIL (POST CONSTRUCTION TRAIL REPAIR, 2")" AND THE FINAL QUANTITY WILL BE CALCULATED AND AGREED UPON BY BOTH THE CONTRACTOR AND OWNER.

3. WHERE CONSTRUCTION VEHICLES MUST DRIVE OR OPERATE OVER THE CRITICAL ROOT ZONES OF TREES, PLYWOOD SHALL BE LAID IN VEHICLE PATH IN ADDITION TO MULCH REQUIRED BY DETAILS. COST OF PLYWOOD WILL BE SUBSIDIARY TO TREE PROTECTION MEASURES.

4. EROSION CONTROL LOG SHALL BE SUBSIDIARY TO THE LINE ITEM PAYMENT FOR SILT FENCE.

5. CONTRACTOR TO VERIFY AND DESIGNATE BOUNDARIES OF PRIVATE PROPERTY PRIOR TO CONSTRUCTION. NO WORK SHALL BE PERFORMED ON PRIVATE PROPERTY WITHOUT EASEMENTS. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICT BETWEEN PROPERTY LINES AND PROPOSED WORK.

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
11/4/2024

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

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GENERAL NOTES (2 OF 3)

PROJECT CASE: XXXXXXX
TONKINESE DR SUBDIVISION

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 3 OF 26

G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-0129-002 Tonkinese Dr Subdivision\CAD\Construction Sheets\S TNK CVR.dwg-GENERAL NOTES (2 OF 3) Plotted Nov 11, 2024 at 2:53pm by Engineer | Last Saved by: Engineer

Texas Commission on Environmental Quality
Water Pollution Abatement Plan
General Construction Notes

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director (ED), nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code (TAC), Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the ED, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, TAC, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the ED's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, TAC § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the ED to any part of Title 30 TAC, Chapters 213 and 217, or any other TCEQ applicable regulation

1. A written notice of construction must be submitted to the TCEQ regional office at least 48 hours prior to the start of any regulated activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.

2. All contractors conducting regulated activities associated with this project must be provided with complete copies of the approved Water Pollution Abatement Plan (WPAP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors are required to keep on-site copies of the approved plan and approval letter.

3. If any sensitive feature(s) (caves, solution cavity, sink hole, etc.) is discovered during construction, all regulated activities near the sensitive feature must be suspended immediately. The appropriate TCEQ regional office must be immediately notified of any sensitive features encountered during construction. Construction activities may not be resumed until the TCEQ has reviewed and approved the appropriate protective measures in order to protect any sensitive feature and the Edwards Aquifer from potentially adverse impacts to water quality.

4. No temporary or permanent hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.

5. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the approved plans and manufacturers specifications. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized.

6. Any sediment that escapes the construction site must be collected and properly disposed of before the next rain event to ensure it is not washed into surface streams, sensitive features, etc.

7. Sediment must be removed from the sediment traps or sedimentation basins not later than when it occupies 50% of the basin's design capacity.

8. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.

9. All spoils (excavated material) generated from the project site must be stored on-site with proper E&S controls. For storage or disposal of spoils at another site on the Edwards Aquifer Recharge Zone, the owner of the site must receive approval of a water pollution abatement plan for the placement of fill material or mass grading prior to the placement of spoils at the other site.

10. If portions of the site will have a temporary or permanent cease in construction activity lasting longer than 14 days, soil stabilization in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21st day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14th day, stabilization measures shall be initiated as soon as possible.

11. The following records shall be maintained and made available to the TCEQ upon request:
   - the dates when major grading activities occur;
   - the dates when construction activities temporarily or permanently cease on a portion of the site; and
   - the dates when stabilization measures are initiated.

12. The holder of any approved Edward Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:

   A. any physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;

   B. any change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;

   C. any development of land previously identified as undeveloped in the original water pollution abatement plan.

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

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

Texas Commission on Environmental Quality
Organized Sewage Collection System
General Construction Notes

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director, nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code, Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the Executive Director, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, Texas Administrative Code, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the Executive Director's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, Texas Administrative Code § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the Executive Director to any part of Title 30 Texas Administrative Code, Chapters 213 and 217, or any other TCEQ applicable regulation.

1. This Organized Sewage Collection System (SCS) must be constructed in accordance with 30 Texas Administrative Code (TAC) §213.5(c), the Texas Commission on Environmental Quality's (TCEQ) Edwards Aquifer Rules and any local government standard specifications.

2. All contractors conducting regulated activities associated with this proposed regulated project must be provided with copies of the SCS plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors must be required to keep on-site copies of the plan and the approval letter.

3. A written notice of construction must be submitted to the presiding TCEQ regional office at least 48 hours prior to the start of any regulated activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.

4. Any modification to the activities described in the referenced SCS application following the date of approval may require the submittal of an SCS application to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval.

5. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the manufacturers specifications. These controls must remain in place until the disturbed areas have been permanently stabilized.

6. If any sensitive features are discovered during the wastewater line trenching activities, all regulated activities near the sensitive feature must be suspended immediately. The applicant must immediately notify the appropriate regional office of the TCEQ of the feature discovered. A geologist's assessment of the location and extent of the feature discovered must be reported to that regional office in writing and the applicant must submit a plan for ensuring the structural integrity of the sewer line or for modifying the proposed collection system alignment around the feature. The regulated activities near the sensitive feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially adverse impacts to water quality while maintaining the structural integrity of the line.

7. Sewer lines located within or crossing the 5-year floodplain of a drainage way will be protected from inundation and stream velocities which could cause erosion and scouring of backfill. The trench must be capped with concrete to prevent scouring of backfill, or the sewer lines must be encased in concrete. All concrete shall have a minimum thickness of 6 inches.

8. Blasting procedures for protection of existing sewer lines and other utilities will be in accordance with the National Fire Protection Association criteria. Sand is not allowed as bedding or backfill in trenches that have been blasted. If any existing sewer lines are damaged, the lines must be repaired and retested.

9. All manholes constructed or rehabilitated on this project must have watertight size on size resilient connectors allowing for differential settlement. If manholes are constructed within the 100-year floodplain, the cover must have a gasket and be bolted to the ring. Where gasketed manhole covers are required for more than three manholes in sequence or for more than 1500 feet, alternate means of venting will be provided. Bricks are not an acceptable construction material for any portion of the manhole.

   The diameter of the manholes must be a minimum of four feet and the manhole for entry must have a minimum clear opening diameter of 30 inches. These dimensions and other details showing compliance with the commission's rules concerning manholes and sewer line/manhole inverts described in 30 TAC §217.55 are included on Plan Sheet __ of __.

   It is suggested that entrance into manholes in excess of four feet deep be accomplished by means of a portable ladder. The inclusion of steps in a manhole is prohibited.

10. Where water lines and new sewer line are installed with a separation distance closer than nine feet (i.e., water lines crossing wastewater lines, water lines paralleling wastewater lines, or water lines next to manholes) the installation must meet the requirements of 30 TAC §217.53(d) (Pipe Design) and 30 TAC §290.44(e) (Water Distribution).

11. Where sewers lines deviate from straight alignment and uniform grade all curvature of sewer pipe must be achieved by the following procedure which is recommended by the pipe manufacturer: _____.

    If pipe flexure is proposed, the following method of preventing deflection of the joint must be used: _____.

    Specific care must be taken to ensure that the joint is placed in the center of the trench and properly bedded in accordance with 30 TAC §217.54.

12. New sewage collection system lines must be constructed with stub outs for the connection of anticipated extensions. The location of such stub outs must be marked on the ground such that their location can be easily determined at the time of connection of the extensions. Such stub outs must be manufactured wyes or tees that are compatible in size and material with both the sewer line and the extension. At the time of original construction, new stub-outs must be constructed sufficiently to extend beyond the end of the street pavement. All stub-outs must be sealed with a manufactured cap to prevent leakage. Extensions that were not anticipated at the time of original construction or that are to be connected to an existing sewer line not furnished with stub outs must be connected using a manufactured saddle and in accordance with accepted plumbing techniques.

    If no stub-out is present an alternate method of joining laterals is shown in the detail on Plan Sheet __ of __. (For potential future laterals).

    The private service lateral stub-outs must be installed as shown on the plan and profile sheets on Plan Sheet __ of __ and marked after backfilling as shown in the detail on Plan Sheet __ of __.

13. Trenching, bedding and backfill must conform with 30 TAC §217.54. The bedding and backfill for flexible pipe must comply with the standards of ASTM D-2321, Classes IA, IB, II or III. Rigid pipe bedding must comply with the requirements of ASTM C 12 (ANSI A 106.2) classes A, B or C.

14. Sewer lines must be tested from manhole to manhole. When a new sewer line is connected to an existing stub or clean-out, it must be tested from existing manhole to new manhole. If a stub or clean-out is used at the end of the proposed sewer line, no private service attachments may be connected between the last manhole and the cleanout unless it can be certified as conforming with the provisions of 30 TAC §213.5(c)(3)(E).

15. All sewer lines must be tested in accordance with 30 TAC §217.57. The engineer must retain copies of all test results which must be made available to the executive director upon request. The engineer must certify in writing that all wastewater lines have passed all required testing to the appropriate regional office within 30 days of test completion and prior to use of the new collection system. Testing method will be:

(a) For a collection system pipe that will transport wastewater by gravity flow, the design must specify an infiltration and exfiltration test or a low-pressure air test. A test must conform to the following requirements:

(1) *Low Pressure Air Test.*

(A) A low pressure air test must follow the procedures described in American Society For Testing And Materials (ASTM) C-828, ASTM C-924, or ASTM F-1417 or other procedure approved by the executive director, except as to testing times as required in Table C.3 in subparagraph (C) of this paragraph or Equation C.3 in subparagraph (B)(ii) of this paragraph.

(B) For sections of collection system pipe less than 36 inch average inside diameter, the following procedure must apply, unless a pipe is to be tested as required by paragraph (2) of this subsection.

(i) A pipe must be pressurized to 3.5 pounds per square inch (psi) greater than the pressure exerted by groundwater above the pipe.

(ii) Once the pressure is stabilized, the minimum time allowable for the pressure to drop from 3.5 psi gauge to 2.5 psi gauge is computed from the following equation:

Equation C.3 $$T = \frac{0.085 \times D \times K}{Q}$$

Where:

T = time for pressure to drop 1.0 pound per square inch gauge in seconds
K = 0.000419 X D X L, but not less than 1.0
D = average inside pipe diameter in inches
L = length of line of same size being tested, in feet
Q = rate of loss, 0.0015 cubic feet per minute per square foot internal surface

(C) Since a K value of less than 1.0 may not be used, the minimum testing time for each pipe diameter is shown in the following Table C.3:

Pipe Diameter *(inches)*	Minimum Time *(seconds)*	Maximum Length for Minimum Time *(feet)*	Time for Longer Length *(seconds/foot)*
6	340	398	0.855
8	454	298	1.520
10	567	239	2.374
12	680	199	3.419
15	850	159	5.342
18	1020	133	7.693
21	1190	114	10.471
24	1360	100	13.676
27	1530	88	17.309
30	1700	80	21.369
33	1870	72	25.856

(D) An owner may stop a test if no pressure loss has occurred during the first 25% of the calculated testing time.

(E) If any pressure loss or leakage has occurred during the first 25% of a testing period, then the test must continue for the entire test duration as outlined above or until failure.

(F) Wastewater collection system pipes with a 27 inch or larger average inside diameter may be air tested at each joint instead of following the procedure outlined in this section.

(G) A testing procedure for pipe with an inside diameter greater than 33 inches must be approved by the executive director.

(2) *Infiltration/Exfiltration Test.*

(A) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch of diameter per mile of pipe per 24 hours at a minimum test head of 2.0 feet above the crown of a pipe at an upstream manhole.

(B) An owner shall use an infiltration test in lieu of an exfiltration test when pipes are installed below the groundwater level.

(C) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch diameter per mile of pipe per 24 hours at a minimum test head of two feet above the crown of a pipe at an upstream manhole, or at least two feet above existing groundwater level, whichever is greater.

(D) For construction within a 25-year flood plain, the infiltration or exfiltration must not exceed 10 gallons per inch diameter per mile of pipe per 24 hours at the same minimum test head as in subparagraph (C) of this paragraph.

(E) If the quantity of infiltration or exfiltration exceeds the maximum quantity specified, an owner shall undertake remedial action in order to reduce the infiltration or exfiltration to an amount within the limits specified. An owner shall retest a pipe following a remediation action.

(b) If a gravity collection pipe is composed of flexible pipe, deflection testing is also required. The following procedures must be followed:

(1) For a collection pipe with inside diameter less than 27 inches, deflection measurement requires a rigid mandrel.

(A) *Mandrel Sizing.*

(i) A rigid mandrel must have an outside diameter (OD) not less than 95% of the base inside diameter (ID) or average ID of a pipe, as specified in the appropriate standard by the ASTMs, American Water Works Association, UNI-BELL, or American National Standards Institute, or any related appendix.

(ii) If a mandrel sizing diameter is not specified in the appropriate standard, the mandrel must have an OD equal to 95% of the ID of a pipe. In this case, the ID of the pipe, for the purpose of determining the OD of the mandrel, must equal be the average outside diameter minus two minimum wall thicknesses for OD controlled pipe and the average inside diameter for ID controlled pipe.

(iii) All dimensions must meet the appropriate standard.

(B) *Mandrel Design.*

(i) A rigid mandrel must be constructed of a metal or a rigid plastic material that can withstand 200 psi without being deformed.

(ii) A mandrel must have nine or more odd number of runners or legs.

(iii) A barrel section length must equal at least 75% of the inside diameter of a pipe.

(iv) Each size mandrel must use a separate proving ring.

(C) *Method Options.*

(i) An adjustable or flexible mandrel is prohibited.

(ii) A test may not use television inspection as a substitute for a deflection test.

(iii) If requested, the executive director may approve the use of a deflectometer or a mandrel with removable legs or runners on a case-by-case basis.

(2) For a gravity collection system pipe with an inside diameter 27 inches and greater, other test methods may be used to determine vertical deflection.

(3) A deflection test method must be accurate to within plus or minus 0.2% deflection.

(4) An owner shall not conduct a deflection test until at least 30 days after the final backfill.

(5) Gravity collection system pipe deflection must not exceed five percent (5%).

(6) If a pipe section fails a deflection test, an owner shall correct the problem and conduct a second test after the final backfill has been in place at least 30 days.

16. All manholes must be tested to meet or exceed the requirements of 30 TAC §217.58.

(a) All manholes must pass a leakage test.

(b) An owner shall test each manhole (after assembly and backfilling) for leakage, separate and independent of the collection system pipes, by hydrostatic exfiltration testing, vacuum testing, or other method approved by the executive director.

(1) Hydrostatic Testing.

(A) The maximum leakage for hydrostatic testing or any alternative test methods is 0.025 gallons per foot diameter per foot of manhole depth per hour.

(B) To perform a hydrostatic exfiltration test, an owner shall seal all wastewater pipes coming into a manhole with an internal pipe plug, fill the manhole with water, and maintain the test for at least one hour.

(C) A test for concrete manholes may use a 24-hour wetting period before testing to allow saturation of the concrete.

(2) Vacuum Testing.

(A) To perform a vacuum test, an owner shall plug all lift holes and exterior joints with a non-shrink grout and plug all pipes entering a manhole.

(B) No grout must be placed in horizontal joints before testing.

(C) Stub-outs, manhole boots, and pipe plugs must be secured to prevent movement while a vacuum is drawn.

(D) An owner shall use a minimum 60 inch/lb torque wrench to tighten the external clamps that secure a test cover to the top of a manhole.

(E) A test head must be placed at the inside of the top of a cone section, and the seal inflated in accordance with the manufacturer's recommendations.

(F) There must be a vacuum of 10 inches of mercury inside a manhole to perform a valid test.

(G) A test does not begin until after the vacuum pump is off.

(H) A manhole passes the test if after 2.0 minutes and with all valves closed, the vacuum is at least 9.0 inches of mercury.

17. All private service laterals must be inspected and certified in accordance with 30 TAC §213.5(c)(3)(I). After installation of and, prior to covering and connecting a private service lateral to an existing organized sewage collection system, a Texas Licensed Professional Engineer, Texas Registered Sanitarian, or appropriate city inspector must visually inspect the private service lateral and the connection to the sewage collection system, and certify that it is constructed in conformity with the applicable provisions of this section. The owner of the collection system must maintain such certifications for five years and forward copies to the appropriate regional office upon request. Connections may only be made to an approved sewage collection system.

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THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
11/4/2024

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ENGINEERING | CONSULTING
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GENERAL NOTES (3 OF 3)

PROJECT CASE: XXXXXXX
TONKINESE DR SUBDIVISION

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 4 OF 26

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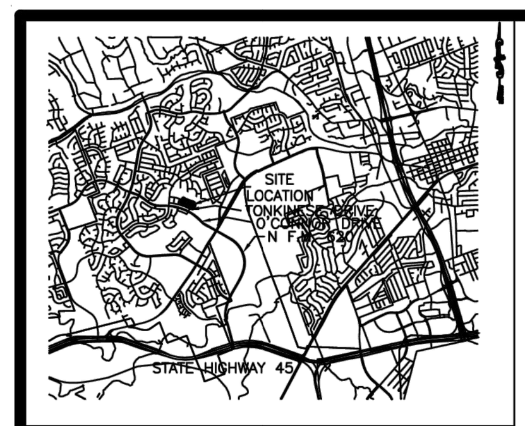
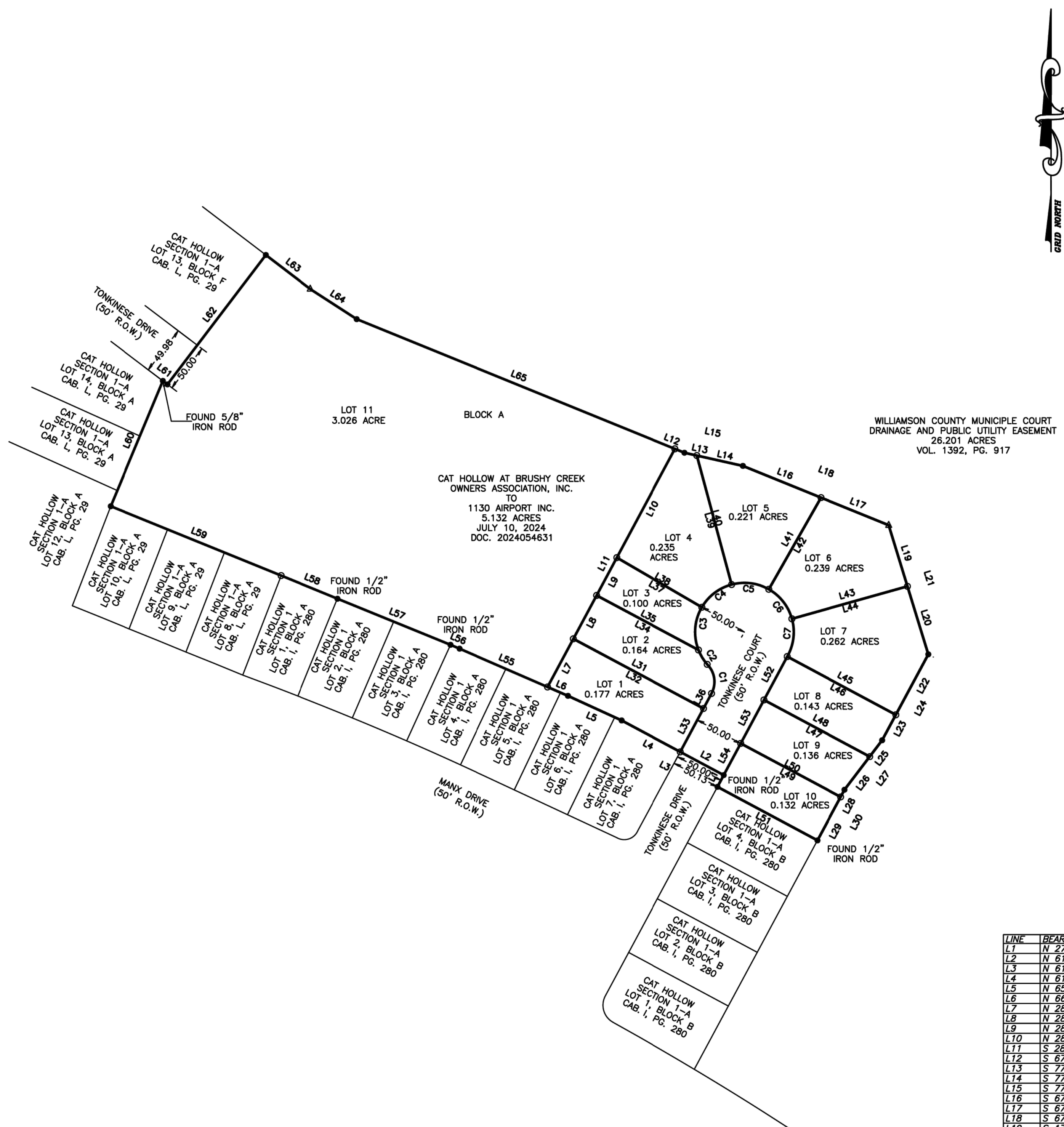
PRELIMINARY PLAT OF CAT HOLLOW SECTION ONE-B



VICINITY MAP
1"=10,000'



LINE	BEARING	DISTANCE
L1	N 27°52'05" E	13.48'
L2	N 61°51'05" W	50.00'
L3	N 61°51'05" W	117.69'
L4	N 61°51'05" W	67.69'
L5	N 65°20'15" W	59.89'
L6	N 66°29'36" W	22.60'
L7	N 28°08'55" E	55.47'
L8	N 28°08'55" E	50.00'
L9	N 28°08'55" E	43.51'
L10	N 28°08'55" E	125.33'
L11	S 28°08'55" W	274.31'
L12	S 67°49'27" E	10.49'
L13	S 77°18'02" E	12.89'
L14	S 77°18'02" E	47.88'
L15	S 77°18'02" E	60.76'
L16	S 67°51'32" E	85.54'
L17	S 67°51'32" E	74.41'
L18	S 67°51'32" E	159.94'
L19	S 17°01'20" E	64.89'
L20	S 17°01'20" E	72.22'
L21	S 17°01'20" E	137.12'
L22	S 28°11'28" W	69.67'
L23	S 28°11'29" W	29.40'
L24	S 28°11'28" W	99.06'
L25	S 37°14'06" W	20.87'
L26	S 37°14'06" W	42.23'
L27	S 37°14'06" W	63.10'
L28	S 28°17'11" W	8.30'
L29	S 28°17'11" W	50.17'
L30	S 28°17'11" W	58.47'
L31	S 61°51'05" E	150.00'
L32	N 61°51'05" W	150.00'
L33	S 28°08'55" W	50.00'
L34	N 61°51'05" W	117.50'
L35	S 61°51'05" E	117.50'
L36	S 28°08'55" W	17.29'
L37	N 59°44'58" W	100.10'
L38	S 59°44'58" E	100.10'
L39	N 15°03'32" W	135.71'
L40	S 15°03'32" E	135.71'
L41	N 29°37'55" E	107.12'
L42	S 29°37'55" W	107.12'
L43	N 74°19'21" E	122.00'
L44	S 74°19'21" W	122.00'
L45	S 61°51'05" E	125.26'
L46	N 61°51'05" W	125.26'
L47	N 61°51'05" W	121.94'
L48	S 61°51'05" E	121.94'
L49	N 61°51'05" W	115.25'
L50	S 61°51'05" E	115.25'
L51	N 61°46'03" W	115.07'
L52	N 28°08'55" E	50.00'
L53	N 28°08'55" E	50.00'
L54	N 28°08'55" E	36.52'
L55	N 66°29'36" W	97.56'
L56	N 67°10'33" W	10.01'
L57	N 67°46'50" W	123.81'
L58	N 67°44'07" W	61.99'
L59	N 67°51'17" W	186.83'
L60	N 22°37'18" E	137.99'
L61	S 52°37'10" E	5.86'
L62	N 37°11'00" E	165.02'
L63	S 52°37'25" E	57.09'
L64	S 57°00'46" E	56.11'
L65	S 67°49'27" E	349.04'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	25.00'	32.03'	29.88'	S 08°26'56" E	73°24'36"
C2	50.00'	17.16'	17.07'	S 31°08'45" E	19°39'37"
C3	50.00'	45.00'	43.50'	S 04°28'03" W	51°33'58"
C4	50.00'	39.00'	38.02'	S 52°35'45" W	44°41'27"
C5	50.00'	39.00'	38.02'	N 82°42'48" W	44°41'27"
C6	50.00'	39.00'	38.02'	N 38°01'22" W	44°41'27"
C7	50.00'	39.73'	38.70'	N 07°03'11" E	45°31'51"

GENERAL NOTES:

1. NO PORTION OF THIS TRACT IS ENCROACHED BY ANY SPECIAL FLOOD HAZARD AREAS INUNDATED BY THE 1% ANNUAL CHANCE FLOOD AS IDENTIFIED BY THE US FEDERAL EMERGENCY MANAGEMENT AGENCY BOUNDARY MAP (FLOOD INSURANCE RATE MAP) COMMUNITY PANEL NUMBER 48491C0488F, EFFECTIVE DATE DECEMBER 20, 2019, FOR WILLIAMSON COUNTY, TEXAS.
2. BUILDING SETBACKS SHALL BE IN ACCORDANCE WITH PART III, ZONING AND DEVELOPMENT CODE, CHAPTER 2, ZONING DISTRICTS AND USE REGULATIONS, CITY OF ROUND ROCK, TEXAS, 2018, AS AMENDED.
3. SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH PART III, ZONING AND DEVELOPMENT CODE, SECTION 6-26, CITY OF ROUND ROCK, TEXAS, 2018, AS AMENDED.
4. A TEN FOOT (10') PUE AND SIDEWALK EASEMENT ABUTTING AND ALONG THE STREET SIDE PROPERTY LINE IS HEREBY CONVEYED FOR ALL STREET SIDE PROPERTY LOTS SHOWN HEREON.

FIELD NOTE DESCRIPTION:

ALL THAT CERTAIN TRACT OR PARCEL OF LAND SITUATED IN WILLIAMSON COUNTY, TEXAS, BEING A PART OF THE JOHN MCQUEEN SURVEY, ABSTRACT NO. 425, BEING PART OF A CALLED 5.132 ACRE TRACT CONVEYED FROM CAT HOLLOW AT BRUSHY CREEK OWNERS ASSOCIATION, INC. TO 1130 AIRPORT INC. BY DEED DATED JULY 10, 2024 RECORDED IN DOCUMENT NO. 2022454631 OF THE OFFICIAL RECORDS OF WILLIAMSON COUNTY, TEXAS AND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS TO WIT:

BEGINNING AT A FOUND 5/8" IRON ROD CAPPED STAMPED "KONTUR TECH" AT THE NORTHEAST RIGHT-OF-WAY CORNER OF TONKINESE DRIVE, FOR AN INTERIOR CORNER OF THE SAID 5.132 ACRE TRACT AND THIS TRACT;

THENCE N 61°51'05" W - 117.69' ALONG THE COMMON NORTH LINE OF TONKINESE DRIVE AND A CALLED LOT 7, BLOCK A OF A CALLED CAT HOLLOW SECTION 1 RECORDED IN CABINET. I, PAGE 280, PLAT RECORDS OF WILLIAMSON COUNTY, TEXAS TO A FOUND 5/8" IRON ROD CAPPED STAMPED "KONTUR TECH", FOR THE COMMON INTERIOR CORNER OF THE SAID 5.132 ACRE TRACT AND THIS TRACT;

THENCE N 65°20'15" W - 59.89' ALONG THE NORTH LINE OF THE SAID LOT 7 AND A CALLED LOT 6, BLOCK A OF THE SAID CAT HOLLOW SECTION 1 TO A FOUND 5/8" IRON ROD CAPPED STAMPED "KONTUR TECH", FOR THE COMMON INTERIOR CORNER OF THE SAID 5.132 ACRE TRACT AND THIS TRACT ;

THENCE N 66°29'36" W - 120.16' ALONG THE COMMON NORTH LINE OF THE SAID LOT 6 AND A CALLED LOT 4, BLOCK A OF THE SAID CAT HOLLOW SECTION 1, AND A CALLED LOT 4 OF THE SAID CAT HOLLOW SECTION 1, TO A FOUND 5/8" IRON ROD CAPPED STAMPED "KONTUR TECH", FOR THE COMMON INTERIOR CORNER OF THE SAID 5.132 ACRE TRACT AND THIS TRACT;

THENCE N 67°10'33" W - 10.01' ALONG THE NORTH LINE OF THE SAID LOT 4 TO A FOUND 1/2" IRON ROD AT THE NORTHEAST CORNER OF A CALLED LOT 3, BLOCK A OF THE SAID CAT HOLLOW SECTION 1, FOR THE COMMON INTERIOR CORNER OF THE SAID 5.132 ACRE TRACT AND THIS TRACT;

THENCE N 67°46'50" W - 123.81' ALONG THE COMMON NORTH LINE OF THE SAID LOT 3 AND A CALLED LOT 2, BLOCK A OF THE SAID CAT HOLLOW CAT HOLLOW SECTION 1 TO A FOUND 1/2" IRON ROD AT THE NORTHEAST CORNER OF A CALLED LOT 1, BLOCK A OF THE SAID CAT HOLLOW SECTION , FOR THE COMMON INTERIOR CORNER OF THE SAID 5.132 ACRE TRACT AND THIS TRACT;

THENCE N 67°44'07" W - 61.99' ALONG THE NORTH LINE OF THE SAID LOT 1 TO A SET 1/2" IRON ROD WITH RED CAP STAMPED "TRIAD RPLS 5952" AT THE NORTHEAST CORNER OF A CALLED LOT 8, BLOCK A OF A CALLE CAT HOLLOW SECTION 1-A RECORDED IN CABINET I PAGE 280 PLAT RECORDS OF WILLIAMSON COUNTY TEXAS, FOR THE COMMON INTERIOR CORNER OF THE SAID 5.132 ACRE TRACT AND THIS TRACT;

THENCE N 67°51'17" W - 186.83' ALONG THE COMMON NORTH LONE OF THE SAID LOT 8 AND OF A CALLED LOT 9 AND 10 OF THE SAID CAT HOLLOW SECTION 1-A TO A FOUND 5/8" IRON ROD CAPPED STAMPED "KONTUR TECH" ON THE EAST LINE OF A CALLED LOT 12, BLOCK A OF THE SAID CAT HALLOW SECTION 1-A, FOR THE COMMON SOUTHWEST CORNER OF THE SAID 5.132 ACRE TRACT AND THIS TRACT;

THENCE N 22°37'18" E - 137.99' ALONG THE COMMON EAST LINE OF THE SAID LOT 12 AND A CALLED LOT 13 & LOT 14 OF THE SAID CAT HOLLOW SECTION 1A TO A FOUND 5/8" IRON ROD ON THE SOUTH RIGHT-OF-WAY LINE OF TONKINESE DRIVE, FOR THE COMMON EXTERIOR CORNER OF THE SAID 5.132 ACRE TRACT AND THIS TRACT;

THENCE S 52°37'10" E - 5.86' ALONG THE COMMON LINE OF THE SAID 5.132 ACRE TRACT AND TONKINESE DRIVE TO A FOUND 5/8" IRON ROD CAPPED STAMPED "KONTUR TECH", FOR AN INTERIOR CORNER OF THIS TRACT;

THENCE N 37°11'00" E - 165.02' ALONG THE COMMON EAST LINE OF TONKINESE DRIVE AND A CALLED LOT 13, BLOCK A OF THE SAID CAT HOLLOW SECTION 1-A TO A FOUND 5/8" IRON ROD CAPPED STAMPED "KONTUR TECH", AT THE COMMON NORTHWEST CORNER OF THE SAID 5.132 ACRE TRACT AND THIS TRACT;

THENCE ALONG THE COMMON LINE OF THE SAID 26.201 ACRE TRACT AND THE SAID 5.132 ACRE TRACT FOR THE FOLLOWING COURSES AND DISTANCES:

S 52°37'25" E - 57.09' TO A SET COTTON SPINDLE FOUND WITH WASHER STAMPED "TRIAD RPLS 5952", FOR AN INTERIOR CORNER OF THIS TRACT;
S 57°00'46" E - 56.11' TO A FOUND 5/8" IRON ROD CAPPED STAMPED "KONTUR TECH", FOR AN INTERIOR CORNER OF THIS TRACT
S 67°49'27" E - 359.53' TO A FOUND 5/8" IRON ROD CAPPED STAMPED "KONTUR TECH", FOR AN EXTERIOR CORNER OF THIS TRACT,
S 77°18'02" E - 60.76' TO A FOUND 5/8" IRON ROD CAPPED STAMPED "KONTUR TECH", FOR AN EXTERIOR CORNER OF THIS TRACT;
S 67°51'32" E - 159.94' TO A FOUND COTTON SPINDLE WASHER STAMPED "KONTUR TECH", FOR THE NORTHERNMOST NORTHEAST CORNER OF THIS TRACT;
S 17°01'20" E - 137.12' TO A FOUND 5/8" IRON ROD CAPPED STAMPED "KONTUR TECH", FOR THE EASTERNMOST NORTHEAST CORNER OF THIS TRACT;
S 28°11'28" W - 99.06' TO A FOUND 5/8" IRON ROD CAPPED STAMPED "KONTUR TECH", FOR AN EXTERIOR CORNER OF THIS TRACT;
S 37°14'06" W - 63.10' TO A FOUND 5/8" IRON ROD CAPPED STAMPED "KONTUR TECH", FOR AN INTERIOR CORNER OF THIS TRACT;
S 28°17'11" W - 58.47' TO A FOUND 1/2" IRON ROD AT THE NORTHEAST CORNER OF A CALLED LOT 4, BLOCK B OF A CALLED CAT HOLLOW SECTION 1-A RECORDED IN VOLUME L, PAGE 29 PLAT RECORDS OF WILLIAMSON COUNTY, TEXAS, FOR THE SOUTHEAST CORNER OF THIS TRACT;

THENCE N 61°46'03" W - 115.07' ALONG THE COMMON LINE OF THE SAID 5.132 ACRE TRACT AND THE SAID LOT 4 TO A FOUND 1/2" IRON ROD ON THE EAST LINE OF TONKINESE DRIVE, FOR AN EXTERIOR CORNER OF THIS TRACT;

THENCE N 27°52'09" E - 13.48' ALONG THE COMMON LINE OF THE SAID 5.132 ACRE TRACT AND TONKINESE DRIVE TO THE **POINT OF BEGINNING** CONTAINING WITHIN THESE METES AND BOUNDS 5.131 ACRES OF LAND.

LEGEND

- ● – 5/8" IRON ROD FOUND WITH CAP STAMPED "KONTUR TECH" (UNLESS OTHERWISE NOTED)
- ○ – 1/2" IRON ROD SET WITH RED CAP MARKED "TRIAD RPLS 5952"
- ▲ – – COTTON SPINDLE FOUND WITH WASHER STAMPED "TRIAD RPLS 5952"
- △ – COTTON SPINDLE SET WITH WASHER STAMPED "TRIAD RPLS 5952"

BEARINGS ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM OF 1983, TEXAS CENTRAL ZONE

50 0 50 100 150 200 250 300
SCALE: 1" = 100 FEET

TRIAD SURVEYING, INC.
SHEET 1 OF 2
FIRM REGISTRATION NO. 10007900
528 COUNTY ROAD 325 P.O. BOX 1489 ROCKDALE, TX. 76567

PRELIMINARY PLAT OF
CAT HOLLOW SECTION ONE-B
ALL OF A 5.132 ACRE TRACT IN THE
JOHN MCQUEEN SURVEY, A-425
CITY OF ROUND ROCK
WILLIAMSON COUNTY, TEXAS

Completion Date:	08/15/24	Drawn by:	TT
Scale:	1"=100'	Surveyed by:	CA/OK
PROJECT NO.	S24-286	Checked by:	BL

PRELIMINARY PLAT OF CAT HOLLOW SECTION ONE-B

STATE OF TEXAS §
§KNOW ALL MEN BY THESE PRESENTS
COUNTY OF TRAVIS §

I, NICHOLAS SANDLIN, REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THE INFORMATION CONTAINED ON THIS PLAT COMPLIES WITH CHAPTER 4 – SUBDIVISION DESIGN AND CONSTRUCTION, PART III ZONING AND DEVELOPMENT CODE, CODE OF ORDINANCES, CITY OF ROUND ROCK, 2018 EDITION AS AMENDED, AND THE DESIGN AND CONSTRUCTION STANDARDS ADOPTED BY THE CITY OF ROUND ROCK, TEXAS.

____
NICHOLAS SANDLIN DATE
REGISTERED PROFESSIONAL ENGINEER NO. 124404
STATE OF TEXAS

STATE OF TEXAS §
§KNOW ALL MEN BY THESE PRESENTS
COUNTY OF MILAM §

I, BRADLEY LIPSCOMB, REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT I PREPARED THIS PLAT FROM AN ACTUAL AND ACCURATE ON THE GROUND SURVEY OF THE LAND AND THAT THE CORNER MONUMENTS SHOWN THEREON WERE PROPERLY PLACED UNDER MY PERSONAL SUPERVISION, IN ACCORDANCE WITH CHAPTER 4, SUBDIVISIONS, PUBLIC IMPROVEMENTS, PART III – ZONING AND DEVELOPMENT CODE, CODE OF ORDINANCES, CITY OF ROUND ROCK, 2018 EDITION AS AMENDED. THIS TRACT IS NOT LOCATED WITHIN THE EDWARDS AQUIFER RECHARGE ZONE.

PRELIMINARY

____
BRADLEY L. LIPSCOMB
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 5952
STATE OF TEXAS

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

APPROVED THIS ______ DAY OF ________________, 20_____ BY THE CITY PLANNING AND ZONING COMMISSION OF THE CITY OF ROUND ROCK, TEXAS, AND AUTHORIZED TO BE FILED FOR RECORD BY THE COUNTY CLERK OF WILLIAMSON COUNTY, TEXAS

THE PROPERTY COVERED BY THIS PLAT IS WITHIN THE CORPORATE LIMITS OF THE CITY OF ROUND ROCK.

____________________ ________________
JENNIFER HENDERSON, CHAIR DATE
PLANNING DIRECTOR

BASED UPON THE ABOVE REPRESENTATIONS OF THE ENGINEER OR SURVEYOR WHOSE SEAL IS AFFIXED HERETO, AND AFTER A REVIEW OF THE SURVEY AS REPRESENTED BY THE SAID ENGINEER OR SURVEYOR, I FIND THAT THIS BLUE LINE (SURVEY) COMPLIES WITH THE REQUIREMENTS OF EDWARDS AQUIFER REGULATIONS FOR WILLIAMSON COUNTY AND WILLIAMSON COUNTY ON-SITE SEWAGE FACILITY REGULATIONS.
THIS CERTIFICATION IS MADE SOLELY UPON SUCH REPRESENTATIONS AND SHOULD NOT BE RELIED UPON FOR VERIFICATIONS OF THE FACTS ALLEGED. THE WILLIAMSON COUNTY ENGINEER'S OFFICE AND WILLIAMSON COUNTY DISCLAIM ANY RESPONSIBILITY TO ANY MEMBER OF THE PUBLIC FOR INDEPENDENT VERIFICATION OF THE REPRESENTATIONS, FACTUAL OR OTHERWISE, CONTAINED IN THIS BLUE LINE (SURVEY) AND THE DOCUMENTS ASSOCIATED WITH IT.

____________________ ________________
J. TERRON EVERTSON, PE, DR, CFM DATE
COUNTY ENGINEER

BASED UPON THE REPRESENTATIONS OF THE ENGINEER OR SURVEYOR WHOSE SEAL IS AFFIXED HERETO, AND AFTER REVIEW OF THE PLAT AS REPRESENTED BY THE SAID ENGINEER OR SURVEYOR, I FIND THAT THIS PLAT COMPLIES WITH THE WILLIAMSON COUNTY FLOODPLAIN REGULATIONS. THIS CERTIFICATION IS MADE SOLELY UPON SUCH REPRESENTATIONS AND SHOULD NOT BE RELIED UPON FOR VERIFICATIONS OF THE FACTS ALLEGED. WILLIAMSON COUNTY DISCLAIMS ANY RESPONSIBILITY TO ANY MEMBER OF THE PUBLIC FOR INDEPENDENT VERIFICATION OF THE REPRESENTATIONS, FACTUAL OR OTHERWISE, CONTAINED IN THIS PLAT AND THE DOCUMENTS ASSOCIATED WITHIN IT.

____________________ ________________
J. TERRON EVERTSON, PE, DR, CFM DATE
WILLIAMSON COUNTY FLOODPLAIN ADMINISTRATOR

ROAD NAME AND ADDRESS ASSIGNMENTS VERIFIED THIS THE ____ DAY OF ____________ , 20___ A.D.

____
WILLIAMSON COUNTY ADDRESSING COORDINATOR

OWNERS:	1130 AIRPORT, INC. 7100 AVIGNON DRIVE ROUND ROCK, TX 78681
ACREAGE:	5.131 ACRES
PATENT SURVEY:	JOHN MCQUEEN SURVEY, A-425
SUBMITTAL DATE:	08/19/2024
DATE OF PLANNING AND ZONING REVIEW:	________________
ENGINEER:	NICHOLAS SANDLIN, PE 124404 SANDLIN SERVICES, LLC 9111 JOLLYVILLE RD. STE. 212 AUSTIN, TX 78759 (806) 679 7303 TBPELS FIRM NO. 21356
SURVEYOR:	BRADLEY L. LIPSCOMB, RPLS 5952 TRIAD SURVEYING, INC. P.O. BOX 1489 ROCKDALE, TX 76567 TBPELS FIRM REGISTRATION NO. 10007900
BEARING BASIS:	TEXAS STATE PLANE COORDINATE SYSTEM CENTRAL ZONE 4203 NAD 83
NUMBER OF BLOCKS:	1
NUMBER OF LOTS:	11 (5.131 ACRES)
LINEAR FEET OF NEW STREETS:	181.30 FEET
ACREAGE BY LOT TYPE:	5.132 ACRES DEVELOPMENT
NUMBER OF LOTS BY TYPE:	11 LOT DEVELOPMENT
SITE BENCHMARK:	MARKED FIRE HYDRANT BOLT N:10156368.95 E:3117433.48 ELEV. = 818.83 NAVD88

STATE OF TEXAS §
§KNOW ALL MEN BY THESE PRESENTS
COUNTY OF WILLIAMSON §

I, AKBER ALI, DIRECTOR OF 1130 AIRPORT INC., IS THE OWNER OF THAT CALLED PART OF A 5.132 ACRE TRACT CONVEYED FROM CAT HOLLOW AT BRUSHY CREEK OWNERS ASSOCIATION, INC. TO 1130 AIRPORT INC., BY DEED DATED JULY 10, 2024 RECORDED IN DOCUMENT NO. 2024054631 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS DO HEREBY DEDICATE TO THE PUBLIC THE USE OF ALL STREETS, ALLEYS, EASEMENTS AND ALL OTHER LANDS INTENDED FOR PUBLIC DEDICATION AS SHOWN HEREON TO BE KNOWN AS "CAT HOLLOW SECTION ONE-B".

____
AKBER ALI, DIRECTOR
1130 AIRPORT INC.

STATE OF TEXAS
COUNTY OF WILLIAMSON

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS THE

________ DAY OF __________, 2_______, PERSONALLY

APPEARED AKBER ALI, DIRECTOR OF 1130 AIRPORT INC., KNOWN BY ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED ON THE FOREGOING INSTRUMENT AND SHE ACKNOWLEDGED BEFORE ME THAT SHE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED.

____
NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

____
PRINTED NAME

____
DATE NOTARY COMMISSION EXPIRES

STATE OF TEXAS §
§KNOW ALL MEN BY THESE PRESENTS
COUNTY OF WILLIAMSON §

I, NANCY E. RISTER, CLERK OF THE COUNTY COURT OF SAID COUNTY, DO HEREBY CERTIFY THAT THE FORGOING INSTUMENT

IN WRITING, WITH ITS CERTIFICATE OF AUTHENTICATION, WAS FILED FOR RECORD IN MY OFFICE ON THE _______ DATE OF __________, 20_____ A.D., AT _______ O'CLOCK, ____M., IN THE OFFICIAL PUBLIC RECORDS OF SAID COUNTY IN

INSTRUMENT NO. ________________

TO CERTIFY WHICH, WITNESS MY HAND AND SEAL AT THE COUNTY COURT OF SAID COUNTY, AT MY OFFICE IN GEORGETOWN,

TEXAS, THAT DATE LAST SHOWN ABOVE WRITTEN.

NANCY E. RISTER, CLERK COUNTY COURT OF WILLIAMSON COUNTY, TEXAS

BY: _________ __________, DEPUTY

TRIAD SURVEYING, INC.
SHEET 2 OF 2
FIRM REGISTRATION NO. 10007900
528 COUNTY ROAD 325 P.O. BOX 1489 ROCKDALE, TX. 76567

PRELIMINARY PLAT OF
CAT HOLLOW SECTION ONE-B
ALL OF A 5.132 ACRE TRACT IN THE
JOHN MCQUEEN SURVEY, A-425
CITY OF ROUND ROCK
WILLIAMSON COUNTY, TEXAS

Completion Date:	08/15/24	Drawn by:	TT
Scale:	1"=100'	Surveyed by:	CA/OK
PROJECT NO.	S24-286	Checked by:	BL

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

SANDLIN SERVICES, LLC — ENGINEERING | CONSULTING
TBPELS FIRM #21356
9111 JOLLYVILLE RD. STE 212 AUSTIN, TX 78759

PRELIMINARY PLAT

PROJECT CASE: XXXXXXX
TONKINESE DR SUBDIVISION

#	REVISION DESCRIPTION	SIGNATURE	DATE

WILLIAMSON COUNTY MUNICIPAL COURT
DRAINAGE AND PUBLIC UTILITY EASEMENT
26.201 ACRES
VOL. 1392, PG. 917
PRELIMINARY 817.45
14 FLOODPLAIN
CAT HOLLOW SECTION 1-A
LOT 13, BLOCK F
CAB. L, PG. 29
P.R.W.C.
TONKINESE DRIVE
(50' R.O.W.)
CAT HOLLOW SECTION 1-A
LOT 14, BLOCK A
CAB. L, PG. 29
P.R.W.C.
CAT HOLLOW SECTION 1-A
LOT 13, BLOCK A
CAB. L, PG. 29
P.R.W.C.
F-7
35'X50' CAVE AREA
F-6
F-5
F-4
CAT HOLLOW AT BRUSHY CREEK OWNERS
ASSOCIATION, INC.
TO
1130 AIRPORT INC.
5.132 ACRES
JULY 10, 2024
DOC. 2024054631
EXISTING BRUSHY CREEK MUD
WASTEWATER MAIN – CONTRACTOR
TO VERIFY LOCATION IN FIELD PRIOR
TO CONSTRUCTION AND NOTIFY
ENGINEER OF ANY DISCREPANCIES
PROPERTY LINE
SAWCUT EXISTING PAVEMENT FOR
DRIVE CONNECTION
EXISTING BRUSHY CREEK MUD WATER
MAIN AND STUB – CONTRACTOR TO
VERIFY LOCATION IN FIELD PRIOR TO
CONSTRUCTION AND NOTIFY ENGINEER
OF ANY DISCREPANCIES
TONKINESE DRIVE
(50' R.O.W.)
CAT HOLLOW SECTION 1-A
LOT 4, BLOCK B
CAB. I, PG. 280
P.R.W.C.
STORM MANHOLE
973
974
975
976
977
978
979
980
981
982
983
984
985
970
971
972
1000

![Texas Professional Engineer seal: STATE OF TEXAS, NICHOLAS R. SANDLIN, 124404, LICENSED, PROFESSIONAL ENGINEER]
11/4/2024

EXISTING CONDITIONS AND DEMOLITION PLAN LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- FIRE LANE
- STREET CENTERLINE
- FENCE
- EXISTING CONCRETE SIDEWALK
- EXISTING TRANSFORMER PAD
- EX. WATER LINE
- EX. WASTEWATER
- EX. STORM SEWER LINE
- FITTINGS AS NOTED
- GATE VALVE AS NOTED
- BFP BACK FLOW PREVENTER
- EX. FIRE HYDRANT
- EX. WATER METER
- EX. WASTEWATER MANHOLE
- WW CLEAN OUT
- UTILITY POLE
- EXISTING TREE (TO REMAIN)
- EXISTING TREE (TO BE REMOVED)
- EXISTING CONTOURS
- FLOW ARROW

0 10' 20' 40'
SCALE: 1" = 20'

IF DRAWING BAR DOES NOT MEASURE 2" THIS PRINT IS NOT TO SCALE

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

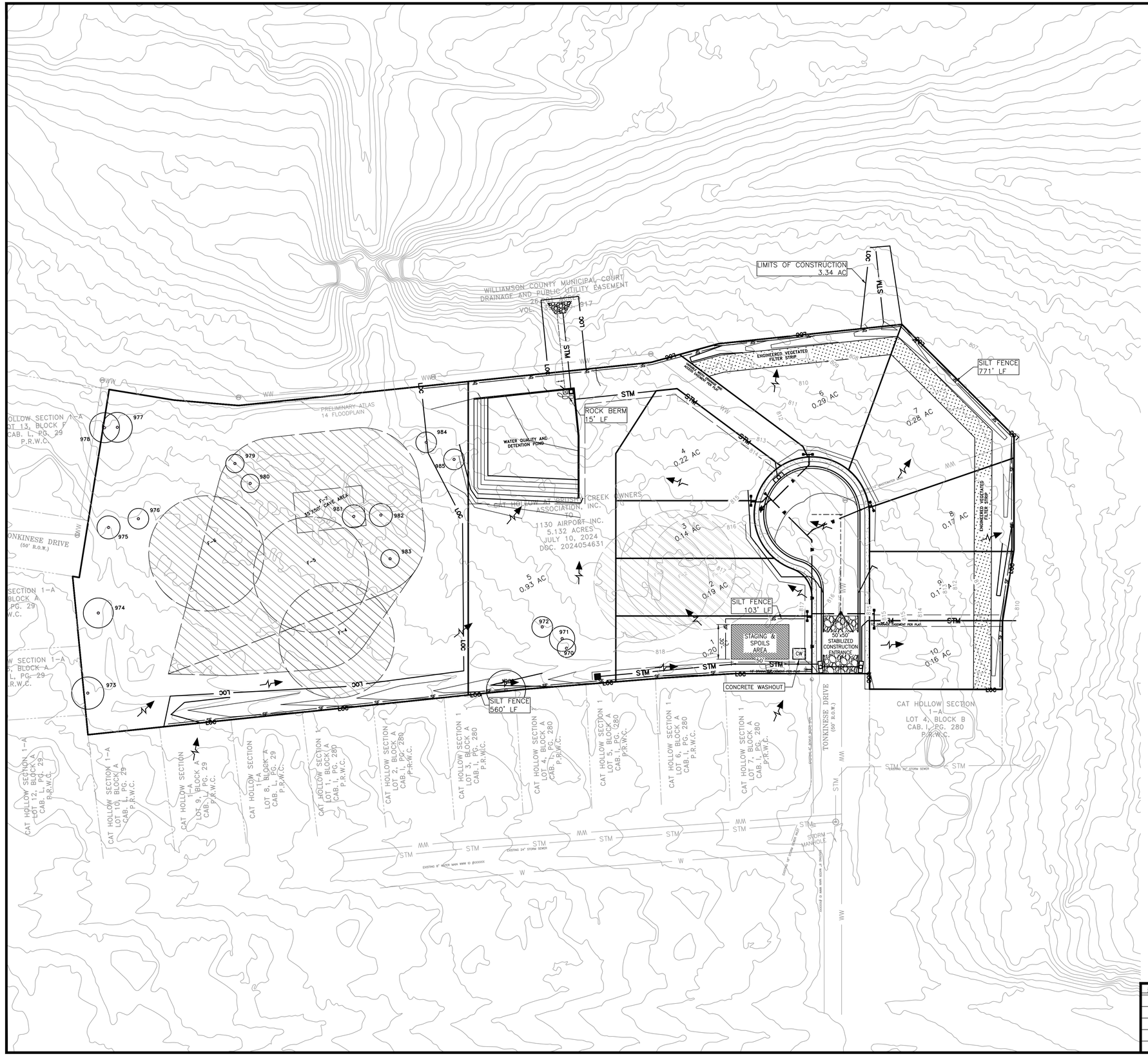
SANDLIN SERVICES, LLC
ENGINEERING | CONSULTING
TBPELS FIRM #21356
9111 JOLLYVILLE RD. STE 212 AUSTIN, TX 78759

EXISTING CONDITIONS AND DEMOLITION PLAN

PROJECT CASE: XXXXXXX

TONKINESE DR SUBDIVISION

#	REVISION DESCRIPTION	SIGNATURE	DATE



IF DRAWING BAR DOES NOT MEASURE 2"
THIS PRINT IS NOT TO SCALE

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
11/4/2024

EROSION CONTROL LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- PROPOSED CURB & GUTTER
- LOC — LOC — LOC — LIMITS OF CONSTRUCTION
- SF — SF — SF — SILT FENCE
- T — T — T — TREE PROTECTION FENCE
- STAGING & TEMPORARY SPOILS AREA
- STABILIZED CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT
- TEMPORARY ROCK BERM
- AREA INLET PROTECTION
- CURB INLET PROTECTION
- 750 EXISTING CONTOURS
- 755 PROPOSED CONTOURS
- 100 EXISTING TREE (TO REMAIN)
- 100 EXISTING TREE (TO BE REMOVED)

NOTE: ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY INSPECTOR AT TIME OF CONSTRUCTION.

EROSION CONTROL NOTES:

1. LIMITS OF CONSTRUCTION 3.34 AC (TOTAL DISTURBED ACREAGE)
2. ALL STAGING & STORAGE SHALL OCCUR WITHIN THE BOUNDARIES OF THE PROPERTY AND LIMITS OF CONSTRUCTION.
3. INSTALL EROSION CONTROLS PER PLAN. WITH THE APPROVAL OF THE ENVIRONMENTAL INSPECTOR, ADJUST AS NEEDED DURING CONSTRUCTION.
4. CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS FROM ALL EXISTING OR NEWLY PAVED SURFACES AT THE END OF CONSTRUCTION.
5. TEMPORARY STAGING & STORAGE AREA/TEMPORARY SPOILS AREA IS TO BE USED DURING NORMAL WORK HOURS (7 A.M. TO 7 P.M.). ONCE CONSTRUCTION IS COMPLETE, CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS FROM AREA AND RESTORE TO ORIGINAL CONDITION OR BETTER.
6. ALL INLETS SHALL HAVE INLET PROTECTION IN PLACE UNTIL THE COMPLETION OF GRADING AND REVEGETATION.
7. IN AREAS WHERE SILT FENCE IS TO BE INSTALLED CROSSING CONTOURS, J-HOOKS SHALL BE ADDED TO THE SILT FENCE EVERY 100 FEET.
8. STABILIZATION OF ALL SLOPES 3:1 OR GREATER, SUITABLE MATTING (TYPE I) WILL BE UTILIZED IN CONJUNCTION WITH REVEGETATIVE EFFORTS ONSITE. CHANNEL STABILIZATION WILL USE TYPE II.

TEXAS 811 BEFORE YOU DIG

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

ENGINEERING | CONSULTING
SANDLIN
SERVICES, LLC

TBPELS FIRM #21356
9111 JOLLYVILLE RD. STE 212 AUSTIN, TX 78759

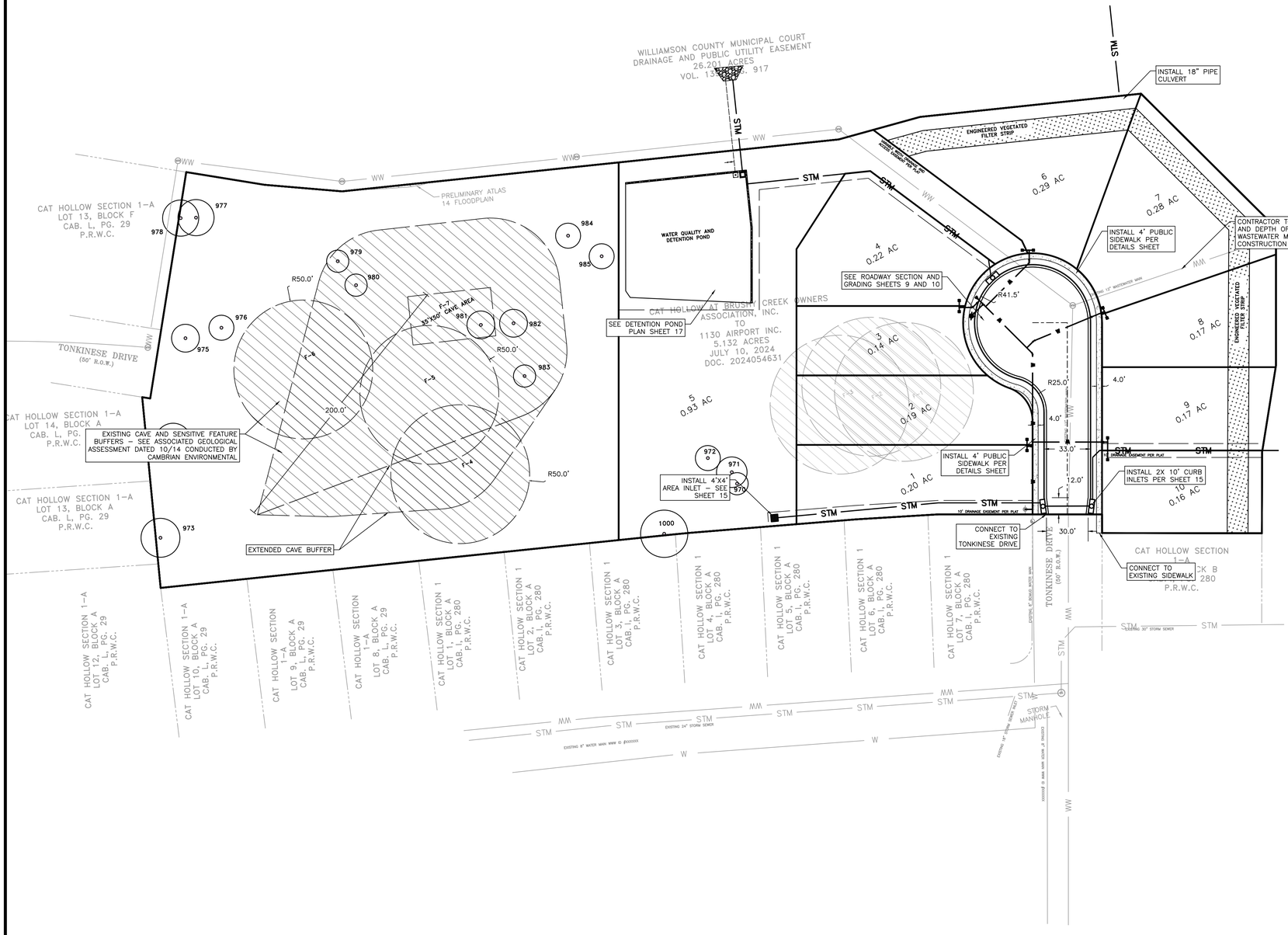
EROSION CONTROL PLAN

PROJECT CASE: XXXXXXX
TONKINESE DR SUBDIVISION

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 7 OF 26

G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-0129-002 Tonkinese Dr Subdivision\CAD\Construction Sheets\3 TNK ESC.dwg-EROSION CONTROL PLAN Plotted: Nov 11, 2024 at 2:53pm by Engineer | Last Saved by: Engineer



0 20' 40' 80'

SCALE: 1" = 40'

IF DRAWING BAR DOES NOT MEASURE 2" THIS PRINT IS NOT TO SCALE

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
11/4/2024

SITE PLAN LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- FIRE LANE
- PROPOSED CURB & GUTTER
- STREET CENTERLINE
- FENCE
- STRUCTURAL RETAINING WALL (BY OTHERS)
- PROPOSED CONCRETE SIDEWALK
- (R) PROPOSED PARKING SPACES
- (T) TRANSFORMER PAD
- SITE WALLS
- PHASING

TAS ACCESSIBLE ROUTE

TAS ACCESSIBLE ROUTES MAY NOT EXCEED A CROSS SLOPE OF 1:50 (2%) OR EXCEED A RUNNING SLOPE OF 1:20 (5%) UNLESS DESIGNED AS A RAMP. THE MAXIMUM RUNNING SLOPE OF A RAMP IN NEW CONSTRUCTION IS 1:12 (8.33%). THE MAXIMUM RISE FOR ANY RAMP RUN IS 30 INCHES. REFER TO GRADING SHEET(S).

- EX. WATER LINE / PR. WATER LINE
- EX. WASTEWATER / FIRE LINE
- EX. STORM SEWER LINE / PR. WASTEWATER
- PR. STORM SEWER LINE
- EX. FIRE HYDRANT / PR. FIRE HYDRANT
- EX. WATER METER / PR. WATER METER
- EX. WASTEWATER MANHOLE / PR. WASTEWATER MANHOLE
- FITTINGS AS NOTED
- GATE VALVE AS NOTED / FLOW ARROW
- WW CLEAN OUT
- BFP BACK FLOW PREVENTER / EX. UTILITY POLE

SITE DATA	
	PROPOSED
TOTAL SITE AREA	5.13 AC / 223,517 SF
LOT COUNT	11
IMPERVIOUS COVER	9,666 SF = 0.22 AC = 4.3%

SITE LEGEND

- A 6" CURB & GUTTER. SEE DETAIL SHEET.
- B RIBBON CURB. SEE DETAIL SHEET.
- C CASTELLATED CURB. SEE DETAIL SHEET.
- D STANDARD CITY TYPE II DRIVEWAY. SEE DETAIL SHEET
- E CONCRETE SIDEWALK. SEE DETAIL SHEET.
- F PEDESTRIAN CROSSWALK.
- G HANDICAP SPACE W/SIGN. SEE DETAIL SHEET.
- H PEDESTRIAN ADA RAMP OR AT GRADE ADA DOME PAVERS. SEE DETAIL SHEET.
- I CONCRETE WHEEL STOP. SEE DETAIL SHEET.
- J STANDARD CITY BIKE RACK. SEE DETAIL SHEET.
- K DUMPSTER ENCLOSURE WITH CONCRETE PAD PER GEOTECHNICAL REPORT AND CITY STANDARDS

TEXAS 811 BEFORE YOU DIG

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

ENGINEERING | CONSULTING
SANDLIN
SERVICES, LLC

TBPELS FIRM #21356
9111 JOLLYVILLE RD. STE 212 AUSTIN, TX 78759

SUBDVISION LAYOUT PLAN

PROJECT CASE: XXXXXXX

TONKINESE DR SUBDIVISION

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 8 OF 26

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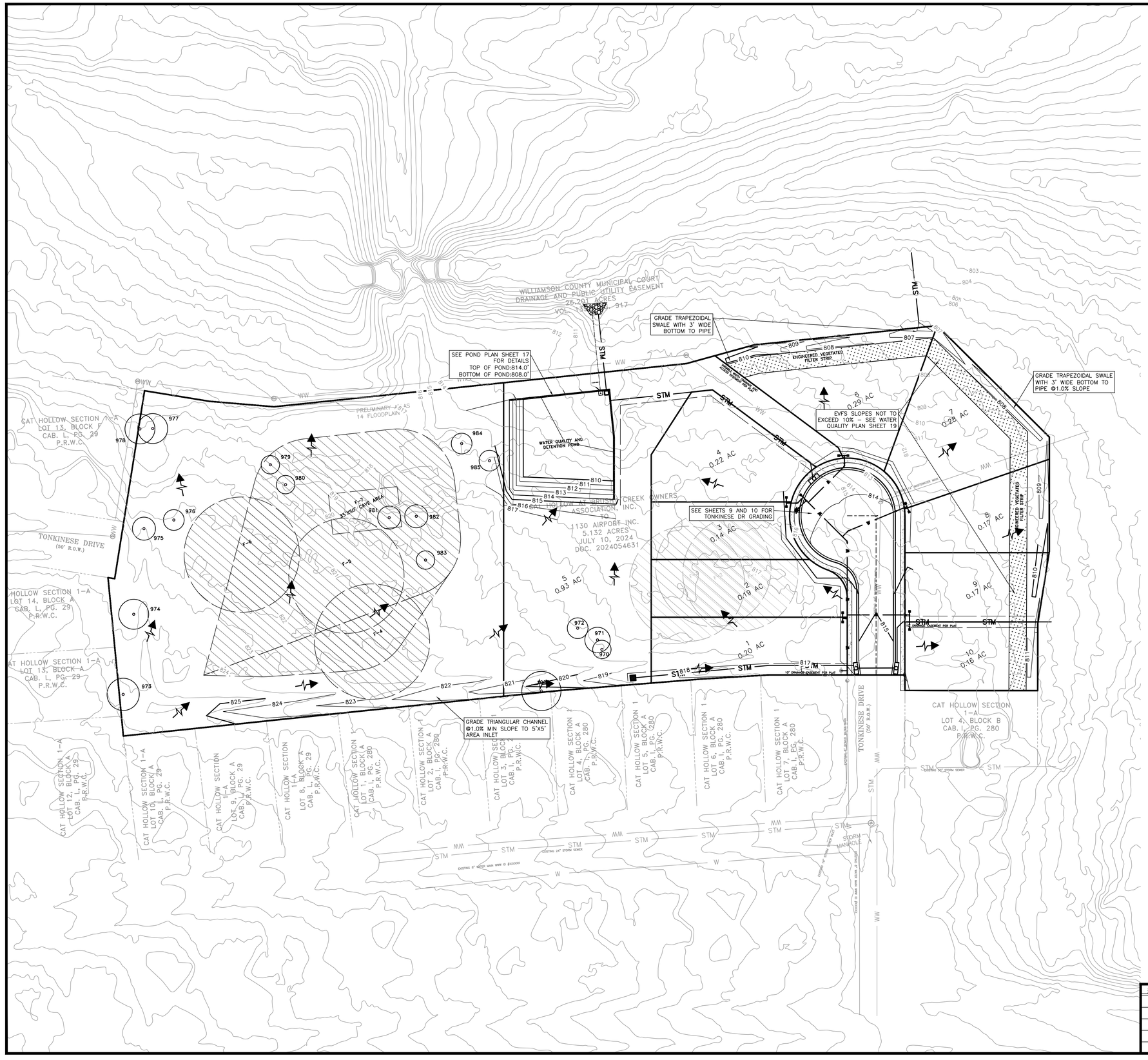

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
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PROFESSIONAL ENGINEER
11/4/2024

GRADING LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- GRADE CONTROL LINE
- PROPOSED CURB & GUTTER
- 750 EXISTING CONTOURS
- 755 PROPOSED CONTOURS
- W EX. WATER LINE / W PR. WATER LINE
- WW EX. WASTEWATER / WW PR. WASTEWATER
- STM EX. STORM SEWER LINE / STM PR. STORM SEWER LINE
- EX. FIRE HYDRANT / PR. FIRE HYDRANT
- WM EX. WATER METER / PR. WATER METER
- WW EX. WASTEWATER MANHOLE / WW PR. WASTEWATER MANHOLE
- 100 EXISTING TREE (TO REMAIN)
- 100 EXISTING TREE (TO BE REMOVED)
- EL:800.0 EXISTING GROUND ELEVATION
- TC:800.0 BC:800.0 PROPOSED CURB & GUTTER
- HP:800.0 HIGH POINT ELEVATION
- LP:800.0 LOW POINT ELEVATION
- TW:800.0 BW:800.0 PROPOSED TOP AND BOTTOM OF WALL
- FL:800.0 PROPOSED FLOW LINE
- 1.00% PROPOSED SLOPE (SLOPE DOWN)

GRADING NOTES

1. ALL MATERIALS AND CONSTRUCTION PROCEDURE WITHIN THE SCOPE OF THIS CONTRACT WHERE NO SPECIFICALLY COVERED IN THE CONSTRUCTION DOCUMENTS SHALL CONFORM TO ALL APPLICABLE CODES AND REGULATIONS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL CONDITION ANY DAMAGE DONE TO EXISTING IMPROVEMENTS OR UTILITIES.
3. EARTHWORK FOR THE BUILDING FOUNDATION, CONCRETE SLABS AND CONCRETE AND ASPHALT PAVEMENT SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
4. ADJUST PAVEMENT, CURB ELEVATIONS, AND/OR SIDEWALK ELEVATIONS AS NECESSARY TO ENSURE A CONTINUOUS GRADE WITH EXISTING ELEVATIONS.
5. EXISTING AND PROPOSED GRADE CONTOUR INTERVALS SHOWN ARE ONE FOOT (1').
6. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATIONS SHALL RECEIVE FOUR (4) INCHES OF TOPSOIL.
7. REFER TO GEOTECHNICAL REPORT FOR PAVING SECTION RECOMMENDATIONS.

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9111 JOLLYVILLE RD. STE 212 AUSTIN, TX 78759

SUBDIVISION GRADING PLAN

PROJECT CASE: XXXXXXX

TONKINESE DR SUBDIVISION

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 12 OF 26

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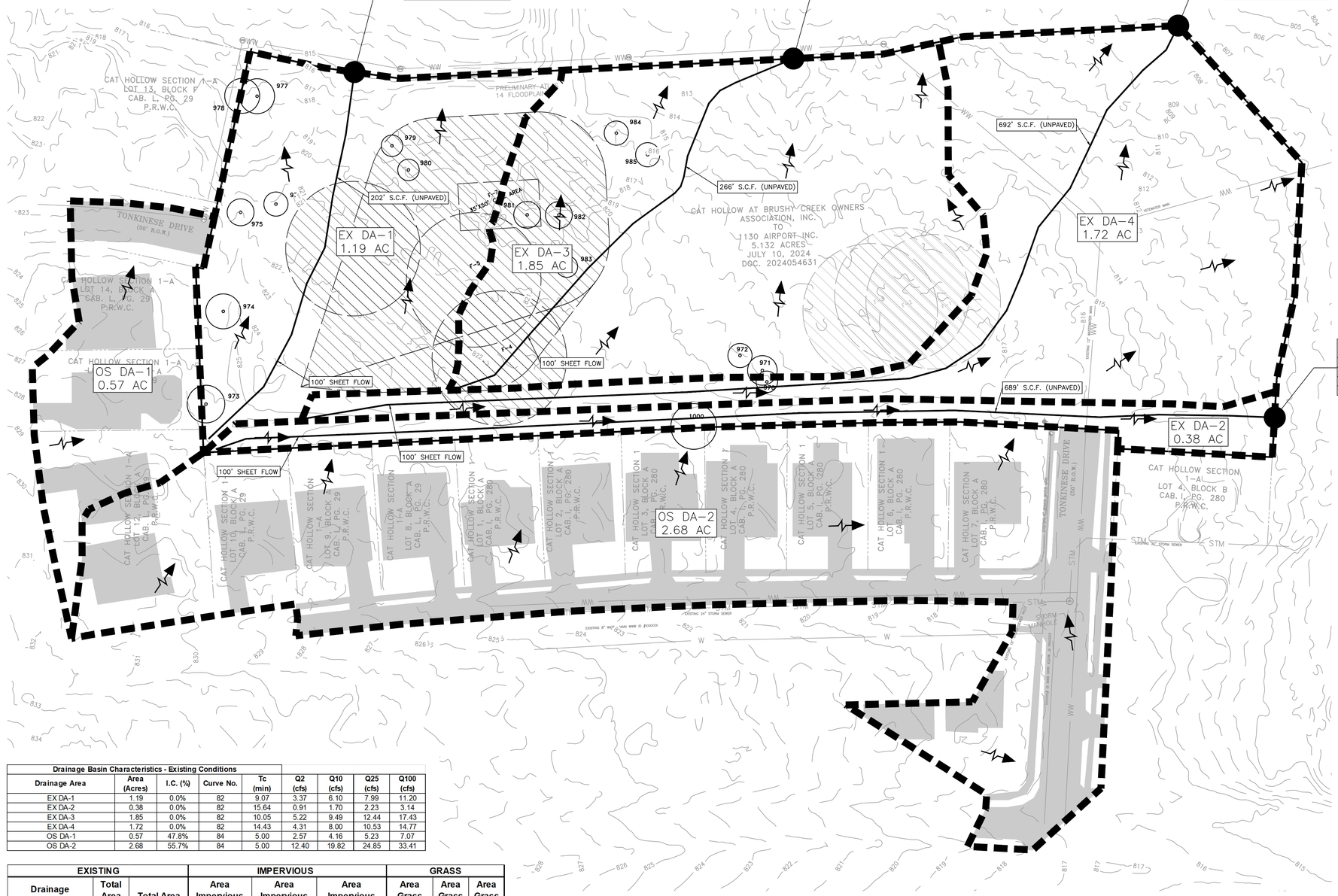
Analysis Point 1		
2 YR	5.66	CFS
10 YR	9.99	CFS
25 YR	12.91	CFS
100 YR	17.82	CFS

Analysis Point 3		
2 YR	5.22	CFS
10 YR	9.49	CFS
25 YR	12.44	CFS
100 YR	17.43	CFS

Analysis Point 4		
2 YR	4.31	CFS
10 YR	8.00	CFS
25 YR	10.53	CFS
100 YR	14.77	CFS



IF DRAWING BAR DOES NOT MEASURE 2" THIS PRINT IS NOT TO SCALE

Analysis Point 2		
2 YR	13.02	CFS
10 YR	21.03	CFS
25 YR	26.46	CFS
100 YR	35.69	CFS

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
11/4/2024

EXISTING DRAINAGE LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- PROPOSED CURB & GUTTER
- DRAINAGE AREA BOUNDARY
- EX. DA-X XX.XX AC — DRAINAGE AREA DESIGNATION AND AREA DRAINED
- FLOW ARROW
- TIME OF CONCENTRATION LINE (SHEET FLOW)
- TIME OF CONCENTRATION LINE (SHALLOW CONCENTRATED FLOW)
- 750 — EXISTING CONTOURS
- 750 — PROPOSED CONTOURS

FLOW PATTERNS

OS DA-1	ANALYSIS POINT 1
EX DA-1	
OS DA-2	ANALYSIS POINT 2
EX DA-2	
EX DA-3	ANALYSIS POINT 3
EX DA-4	ANALYSIS POINT 4

Drainage Basin Characteristics - Existing Conditions								
Drainage Area	Area (Acres)	I.C. (%)	Curve No.	Tc (min)	Q2 (cfs)	Q10 (cfs)	Q25 (cfs)	Q100 (cfs)
EX DA-1	1.19	0.0%	82	9.07	3.37	6.10	7.99	11.20
EX DA-2	0.38	0.0%	82	15.64	0.91	1.70	2.23	3.14
EX DA-3	1.85	0.0%	82	10.05	5.22	9.49	12.44	17.43
EX DA-4	1.72	0.0%	82	14.43	4.31	8.00	10.53	14.77
OS DA-1	0.57	47.8%	84	5.00	2.57	4.16	5.23	7.07
OS DA-2	2.68	55.7%	84	5.00	12.40	19.82	24.85	33.41

EXISTING			IMPERVIOUS			GRASS		
Drainage Area	Total Area (Ac)	Total Area (sf)	Area Impervious (sf)	Area Impervious (Ac)	Area Impervious (%)	Area Grass (sf)	Area Grass (Ac)	Area Grass (%)
EX DA-1	1.19	51,836	0	0.00	0.0%	51,836	1.19	100.0%
EX DA-2	0.38	16,553	0	0.00	0.0%	16,553	0.38	100.0%
EX DA-3	1.85	80,586	0	0.00	0.0%	80,586	1.85	100.0%
EX DA-4	1.72	74,923	0	0.00	0.0%	74,923	1.72	100.0%
OS DA-1	0.57	24,829	11,866	0.27	47.8%	12,963	0.30	52.2%
OS DA-2	2.68	116,741	65,068	1.49	55.7%	51,673	1.19	44.3%

Time of Concentration Calculations					Sheet Flow				Shallow Conc. Flow				Channel Flow			Total
Existing Flows			Area	Area	L	n	S	T_t	L	Surface Type	S	T_t	L	Vavg	T_t	T_c
From		To	(Ac)	(sf)	(ft)	-	(ft/ft)	(min)	(ft)	-	(ft/ft)	(min)	(ft)	(ft/s)	(min)	(min)
EX DA-1		ANALYSIS POINT 1	1.19	51,836	100	0.150	0.025	8.06	202	Unpaved	0.043	1.01	-	-	0.00	**9.07**
EX DA-2		ANALYSIS POINT 2	0.38	16,553	100	0.150	0.012	10.63	689	Unpaved	0.020	5.00	-	-	0.00	**15.64**
EX DA-3		ANALYSIS POINT 3	1.85	80,586	100	0.150	0.020	8.70	266	Unpaved	0.042	1.35	-	-	0.00	**10.05**
EX DA-4		ANALYSIS POINT 4	1.72	74,923	100	0.150	0.015	9.82	692	Unpaved	0.024	4.61	-	-	0.00	**14.43**
OS DA-1		ANALYSIS POINT 1	0.57	24,829	-	-	-	-	-	-	-	-	-	-	-	**5.00**
OS DA-2		ANALYSIS POINT 2	2.68	116,741	-	-	-	-	-	-	-	-	-	-	-	**5.00**

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SANDLIN
SERVICES, LLC
TBPELS FIRM #21356
9111 JOLLYVILLE RD. STE 212 AUSTIN, TX 78759

EXISTING DRAINAGE AREA MAP

PROJECT CASE: XXXXXX
TONKINESE DR SUBDIVISION

#	REVISION DESCRIPTION	SIGNATURE	DATE

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Analysis Point 1					
	Existing Flows		Proposed Flows		Delta
2 YR	5.66	CFS	5.61	CFS	-0.9%
10 YR	9.99	CFS	9.89	CFS	-1.0%
25 YR	12.91	CFS	12.78	CFS	-1.0%
100 YR	17.82	CFS	17.63	CFS	-1.1%
NOTE: ALL FLOWS IN PROPOSED CONDITIONS LESS THAN EXISTING					

Analysis Point 3					
	Existing Flows		Proposed Flows		Delta
2 YR	5.22	CFS	4.88	CFS	-6.5%
10 YR	9.49	CFS	9.27	CFS	-2.3%
25 YR	12.44	CFS	12.37	CFS	-0.6%
100 YR	17.43	CFS	17.74	CFS	1.8%
NOTE: ALL FLOWS IN PROPOSED CONDITIONS LESS THAN EXISTING					

Analysis Point 4					
	Existing Flows		Proposed Flows		Delta
2 YR	4.31	CFS	4.05	CFS	-6.0%
10 YR	8.00	CFS	6.64	CFS	-17.0%
25 YR	10.53	CFS	8.41	CFS	-20.1%
100 YR	14.77	CFS	11.42	CFS	-22.7%
NOTE: ALL FLOWS IN PROPOSED CONDITIONS LESS THAN EXISTING					

Analysis Point 2					
	Existing Flows		Proposed Flows		Delta
2 YR	13.02	CFS	12.13	CFS	-6.8%
10 YR	21.03	CFS	19.47	CFS	-7.4%
25 YR	26.46	CFS	24.46	CFS	-7.6%
100 YR	35.69	CFS	32.95	CFS	-7.7%
NOTE: ALL FLOWS IN PROPOSED CONDITIONS LESS THAN EXISTING					

SCALE: 1" = 40'

IF DRAWING BAR DOES NOT MEASURE 2" THIS PRINT IS NOT TO SCALE

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
11/4/2024

PROPOSED DRAINAGE LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- PROPOSED CURB & GUTTER
- DRAINAGE AREA BOUNDARY
- PR. DA-X XX.XX AC — DRAINAGE AREA DESIGNATION AND AREA DRAINED
- FLOW ARROW
- TIME OF CONCENTRATION LINE (SHEET FLOW)
- TIME OF CONCENTRATION LINE (SHALLOW CONCENTRATED FLOW)
- EXISTING CONTOURS (750)
- PROPOSED CONTOURS (750)

FLOW PATTERNS

- OS DA-1 → ANALYSIS POINT 1
- PR DA-1 → ANALYSIS POINT 1
- OS DA-2 → ANALYSIS POINT 2
- PR DA-2 → ANALYSIS POINT 2
- OS DA-3 → POND
- PR DA-3 → POND
- POND → ANALYSIS POINT 3
- PR DA-4 → ANALYSIS POINT 4

Drainage Basin Characteristics - Proposed Conditions								
Drainage Area	Area (Acres)	I.C. (%)	Curve No.	Tc (min)	Q2 (cfs)	Q10 (cfs)	Q25 (cfs)	Q100 (cfs)
PR DA-1	1.17	0.00%	82	9.07	3.32	5.99	7.86	11.01
PR DA-2	0.38	25.75%	82	5.00	1.51	2.59	3.33	4.58
PR DA-3	2.65	24.40%	82	9.83	8.41	14.36	18.50	25.51
PR DA-4	0.93	46.90%	82	5.00	4.05	6.64	8.41	11.42
OS DA-1	0.57	47.79%	84	5.00	2.57	4.16	5.23	7.07
OS DA-2	2.27	59.02%	84	5.00	10.62	16.88	21.13	28.36
OS DA-3	0.41	37.58%	84	5.00	1.78	2.94	3.72	5.05
POND	-	-	-	-	4.88	9.27	12.37	17.74

PROPOSED			IMPERVIOUS			GRASS		
Drainage Area	Total Area (Ac)	Total Area (sf)	Area Impervious (sf)	Area Impervious (Ac)	Area Impervious (%)	Area Grass (sf)	Area Grass (Ac)	Area Grass (%)
PR DA-1	1.17	50,965	0	0.00	0.0%	50,965	1.17	100.0%
PR DA-2	0.38	16,553	4,262	0.10	25.7%	12,291	0.28	74.3%
PR DA-3	2.65	115,434	28,166	0.65	24.4%	87,268	2.00	75.6%
PR DA-4	0.93	40,511	19,000	0.44	46.9%	21,511	0.49	53.1%
OS DA-1	0.57	24,829	11,866	0.27	47.8%	12,963	0.30	52.2%
OS DA-2	2.27	98,881	58,357	1.34	59.0%	40,524	0.93	41.0%
OS DA-3	0.41	17,860	6,711	0.15	37.6%	11,148	0.26	62.4%

Time of Concentration Calculations																
Proposed Flows			Area	Area	Sheet Flow				Shallow Conc. Flow				Channel Flow			Total
					L	n	S	T_t	L	Surface Type	S	T_t	L	Vavg	T_t	T_c
From		To	(Ac)	(sf)	(ft)	-	(ft/ft)	(min)	(ft)	-	(ft/ft)	(min)	(ft)	(ft/s)	(min)	(min)
PR DA-1		ANALYSIS POINT 1	1.17	50,965	100	0.150	0.025	8.06	304	Unpaved	0.031	1.78	-	-	0.00	**9.83**
PR DA-2		ANALYSIS POINT 2	0.38	16,553	-	-	-	0.00	-	-	-	0.00	733	5.00	2.44	**5.00**
PR DA-3		ANALYSIS POINT 3	2.65	115,434	100	0.150	0.025	8.06	143	Unpaved	0.067	0.57	-	-	0.00	**8.63**
PR DA-4		ANALYSIS POINT 4	0.93	40,511	-	-	-	-	-	-	-	-	-	-	-	**5.00**
OS DA-1		ANALYSIS POINT 1	0.57	24,829	-	-	-	-	-	-	-	-	-	-	-	**5.00**
OS DA-2		ANALYSIS POINT 2	2.27	98,881	-	-	-	-	-	-	-	-	-	-	-	**5.00**
OS DA-3		ANALYSIS POINT 2	0.41	17,860	-	-	-	-	-	-	-	-	-	-	-	**5.00**

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PROPOSED DRAINAGE AREA MAP

PROJECT CASE: XXXXXXX
TONKINESE DR SUBDIVISION

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 14 OF 26

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Area Inlet Calculations - INLET DA-1		
Area Inlet Equation - weir Q=Cw*L*H^(3/2)*Cf		
Cw	3	
Size of Inlet (length)	4	ft
Size of Inlet (width)	4	ft
L = total length of weir	16.0	ft
H= Head (ft) from inlet FL	1.0	ft
Cf = Clogging Factor	0.8	
Q25 from Drainage Calcs	3.9	cfs
Q100 from Drainage Calcs	5.0	cfs
Inlet Capacity	36.0	cfs

Curb Inlet Calculations - INLET DA-2		
Curb Inlet Equation - weir (without depression) Q=Cw*L*d		
	10' Curb Inlet	
Cw	3	
L, Length of Curb Opening (ft)	10	ft
d, Depth at Curb	0.5	ft
Q25 from Drainage Calcs	12.03	cfs
Q100 from Drainage Calcs	15.08	cfs
Inlet Capacity	**15.00**	cfs

Curb Inlet Calculations - INLET DA-3		
Curb Inlet Equation - weir (without depression) Q=Cw*L*d		
	10' Curb Inlet	
Cw	3	
L, Length of Curb Opening (ft)	10	ft
d, Depth at Curb	0.5	ft
Q25 from Drainage Calcs	1.51	cfs
Q100 from Drainage Calcs	1.88	cfs
Inlet Capacity	**15.00**	cfs

Curb Inlet Calculations - INLET DA-4		
Curb Inlet Equation - weir (without depression) Q=Cw*L*d		
	10' Curb Inlet	
Cw	3	
L, Length of Curb Opening (ft)	10	ft
d, Depth at Curb	0.5	ft
Q25 from Drainage Calcs	3.35	cfs
Q100 from Drainage Calcs	4.30	cfs
Inlet Capacity	**15.00**	cfs

Storm Drain Segment #1 Analysis - 24" RCP		
Q_{25} =	3.85	cfs
Q_{100} =	5.02	cfs
Pipe Diameter =	2.0	ft
Mannings "n"	0.012	-
Length =	192.0	ft
FL_{IN} =	812.89	-
FL_{OUT} =	810.97	-
Slope =	0.010	ft/ft
$Q_{CAPACITY}$ =	24.6	cfs
$Q_{CAPACITY}$ = (0.3117)*(1.49/n)*(D^(8/3))*(S^.5)		

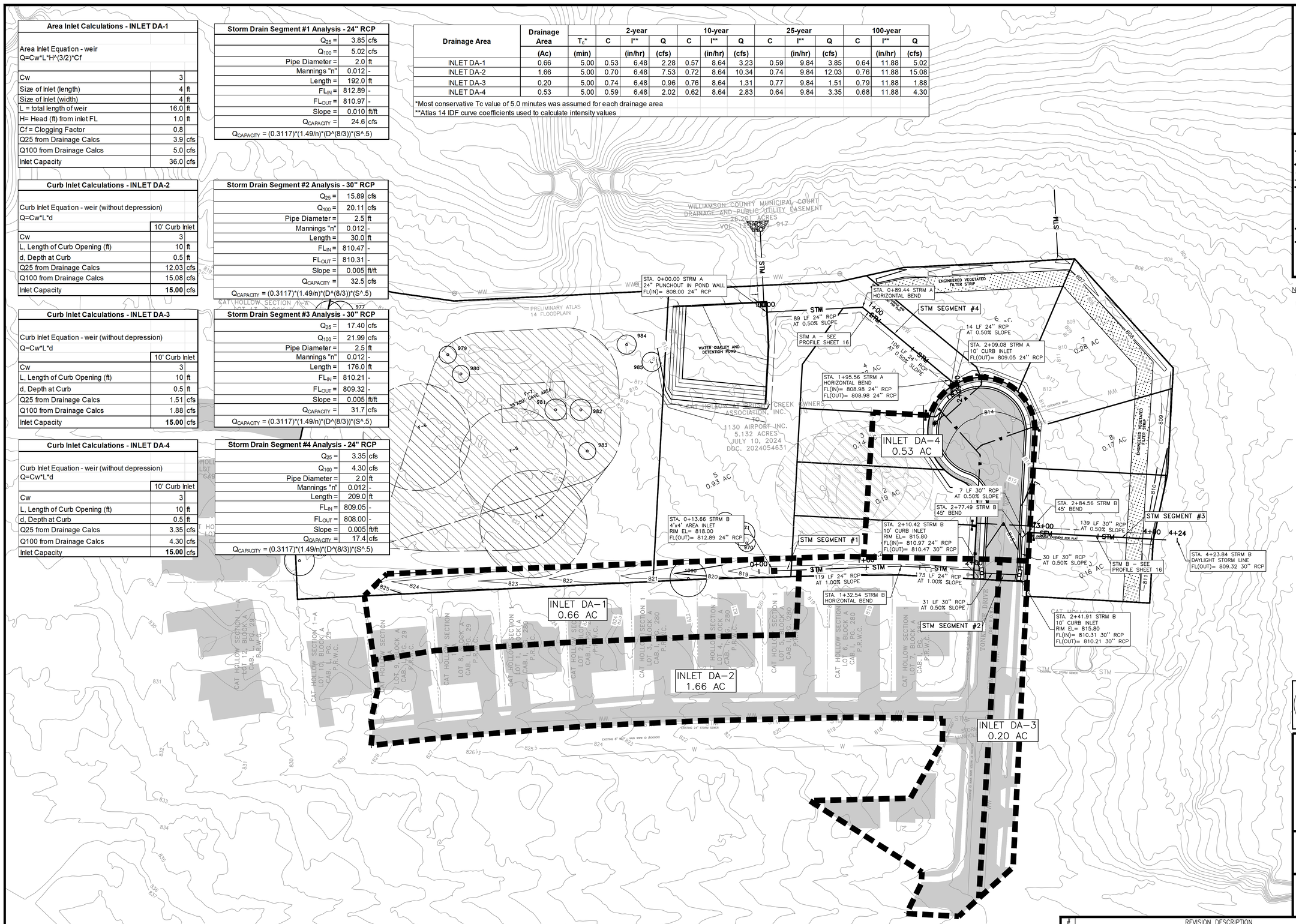
Storm Drain Segment #2 Analysis - 30" RCP		
Q_{25} =	15.89	cfs
Q_{100} =	20.11	cfs
Pipe Diameter =	2.5	ft
Mannings "n"	0.012	-
Length =	30.0	ft
FL_{IN} =	810.47	-
FL_{OUT} =	810.31	-
Slope =	0.005	ft/ft
$Q_{CAPACITY}$ =	32.5	cfs
$Q_{CAPACITY}$ = (0.3117)*(1.49/n)*(D^(8/3))*(S^.5)		

Storm Drain Segment #3 Analysis - 30" RCP		
Q_{25} =	17.40	cfs
Q_{100} =	21.99	cfs
Pipe Diameter =	2.5	ft
Mannings "n"	0.012	-
Length =	176.0	ft
FL_{IN} =	810.21	-
FL_{OUT} =	809.32	-
Slope =	0.005	ft/ft
$Q_{CAPACITY}$ =	31.7	cfs
$Q_{CAPACITY}$ = (0.3117)*(1.49/n)*(D^(8/3))*(S^.5)		

Storm Drain Segment #4 Analysis - 24" RCP		
Q_{25} =	3.35	cfs
Q_{100} =	4.30	cfs
Pipe Diameter =	2.0	ft
Mannings "n"	0.012	-
Length =	209.0	ft
FL_{IN} =	809.05	-
FL_{OUT} =	808.00	-
Slope =	0.005	ft/ft
$Q_{CAPACITY}$ =	17.4	cfs
$Q_{CAPACITY}$ = (0.3117)*(1.49/n)*(D^(8/3))*(S^.5)		

Drainage Area	Drainage Area	2-year				10-year				25-year				100-year			
		T_c*	C	I**	Q	C	I**	Q		C	I**	Q		C	I**	Q	
	(Ac)	(min)		(in/hr)	(cfs)		(in/hr)	(cfs)			(in/hr)	(cfs)			(in/hr)	(cfs)	
INLET DA-1	0.66	5.00	0.53	6.48	2.28	0.57	8.64	3.23		0.59	9.84	3.85		0.64	11.88	5.02	
INLET DA-2	1.66	5.00	0.70	6.48	7.53	0.72	8.64	10.34		0.74	9.84	12.03		0.76	11.88	15.08	
INLET DA-3	0.20	5.00	0.74	6.48	0.96	0.76	8.64	1.31		0.77	9.84	1.51		0.79	11.88	1.88	
INLET DA-4	0.53	5.00	0.59	6.48	2.02	0.62	8.64	2.83		0.64	9.84	3.35		0.68	11.88	4.30	

*Most conservative Tc value of 5.0 minutes was assumed for each drainage area
**Atlas 14 IDF curve coefficients used to calculate intensity values



STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
11/4/2024

STORM LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- PROPOSED CURB & GUTTER
- DRAINAGE AREA BOUNDARY
- SUB DA-X XX.XX AC — DRAINAGE AREA DESIGNATION AND AREA DRAINED
- FLOW ARROW
- TIME OF CONCENTRATION LINE (SHEET FLOW)
- TIME OF CONCENTRATION LINE (SHALLOW CONCENTRATED FLOW)
- EXISTING CONTOURS
- PROPOSED CONTOURS

NOTES:

1. PIPES TO BE CONSTRUCTED AS SPECIFIED BY THE OWNER AND/OR ENGINEER. ALL JOINTS, BENDS, AND STRUCTURES ARE TO BE SUITABLE TO THE PIPE USED AND BEDDING SHALL BE AS PER MANUFACTURER'S SPECIFICATIONS.
2. ALL STORMWATER WYES, BENDS, AND PIPE SIZE TRANSITIONS SHALL BE PREFABRICATED.
3. RATIONAL METHOD WITH COMPOSITE RUNOFF COEFFICIENT UTILIZED FOR SUB DRAINAGE AREA CALCULATIONS.

0 20' 40' 80'
SCALE: 1" = 40'

IF DRAWING BAR DOES NOT MEASURE 2" THIS PRINT IS NOT TO SCALE

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

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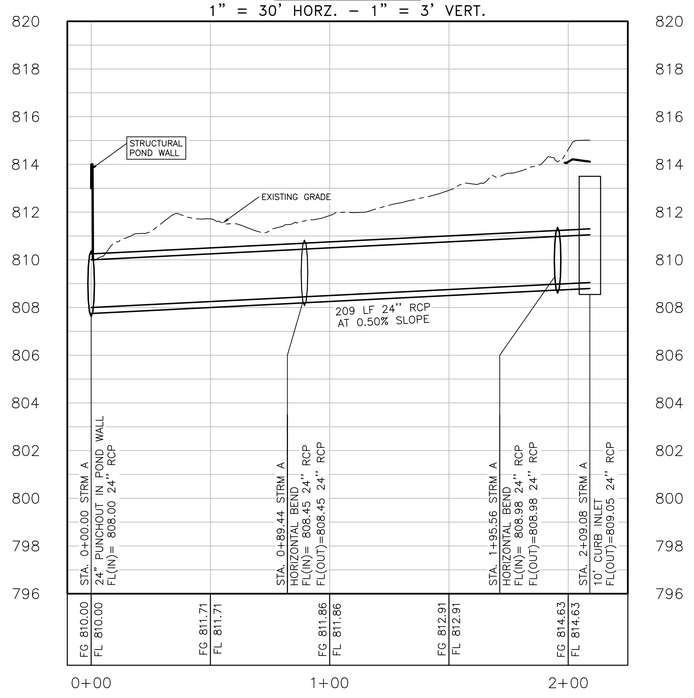
SUB DRAINAGE AREA MAP

PROJECT CASE: XXXXXXX
TONKINESE DR SUBDIVISION

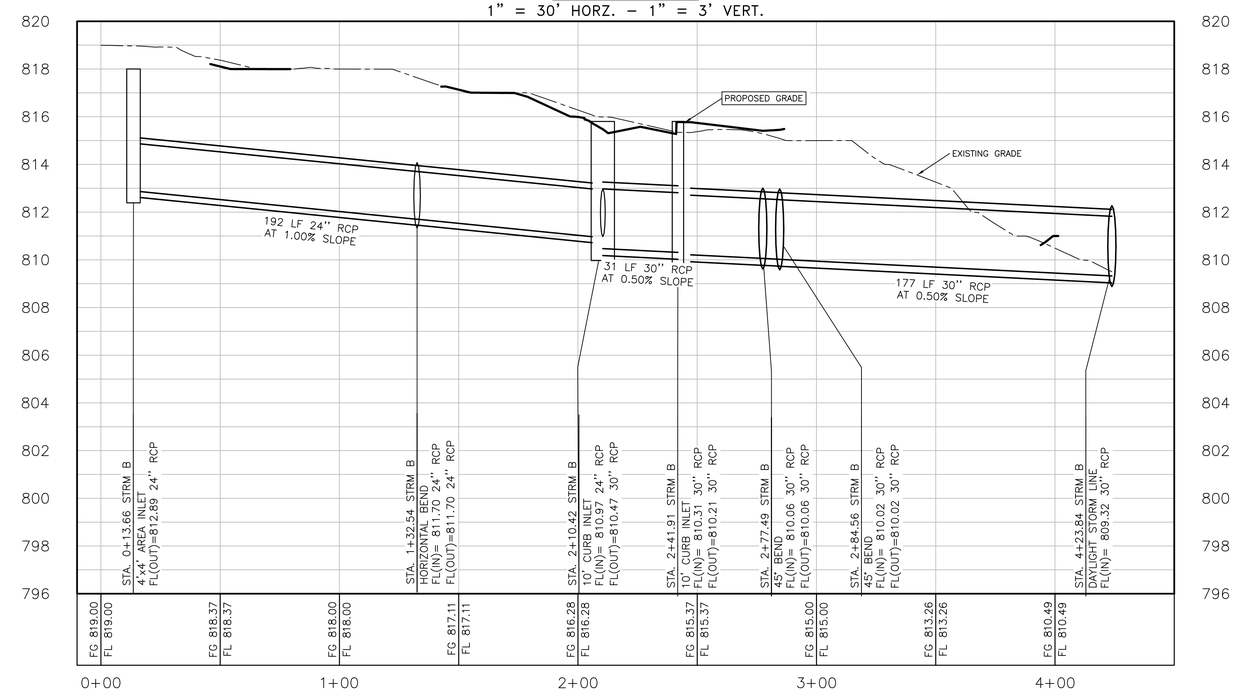
#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 15 OF 26

STRM A PROFILE
1" = 30' HORZ. – 1" = 3' VERT.



STRM B PROFILE
1" = 30' HORZ. – 1" = 3' VERT.



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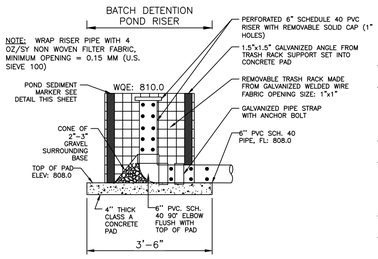
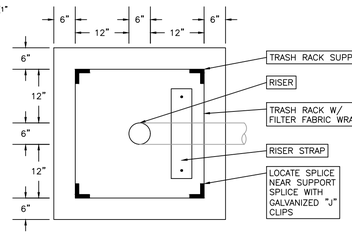
STORM PROFILES

PROJECT CASE: XXXXXXX
TONKINESE DR SUBDIVISION

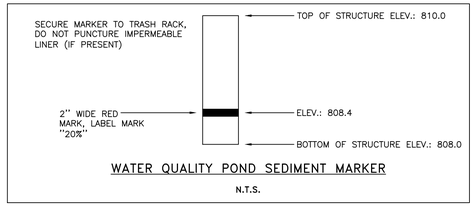
#	REVISION DESCRIPTION	SIGNATURE	DATE



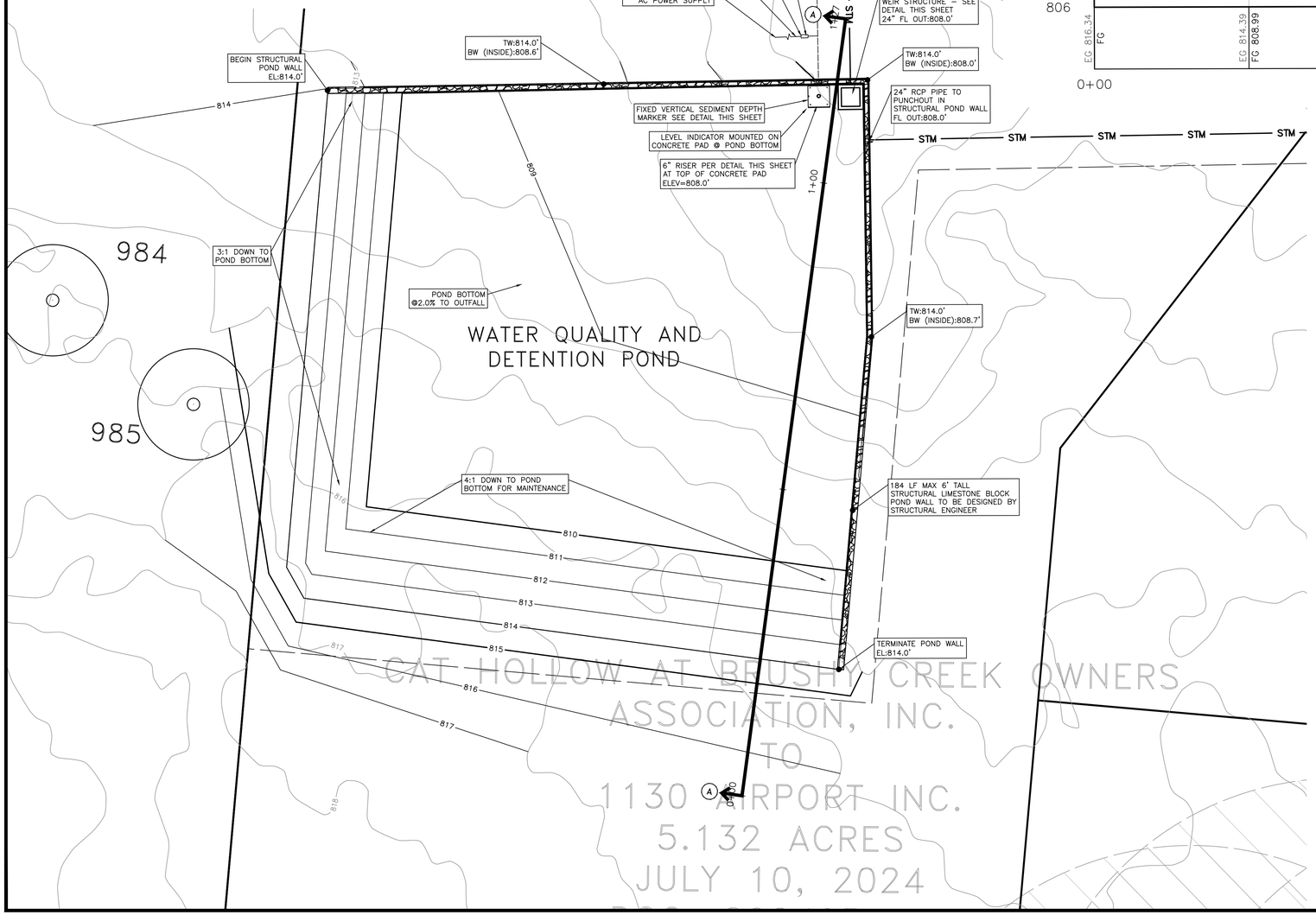
WATER QUALITY RISER PIPE SECTION
N.T.S.



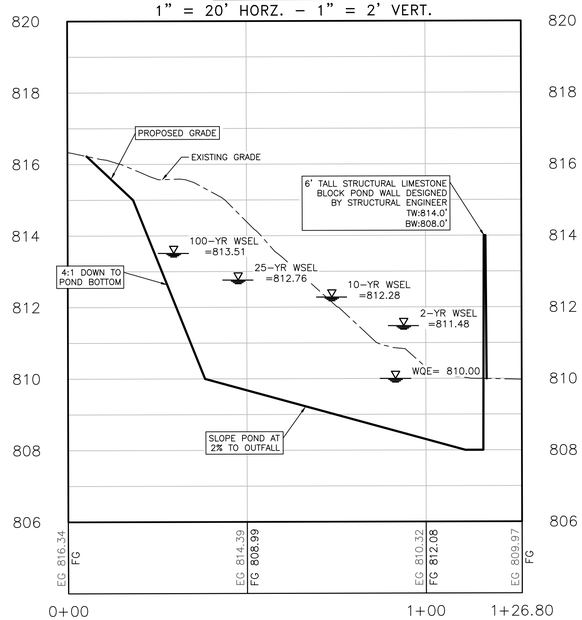
BATCH DETENTION POND RISER PIPE
N.T.S.



WATER QUALITY POND SEDIMENT MARKER
N.T.S.



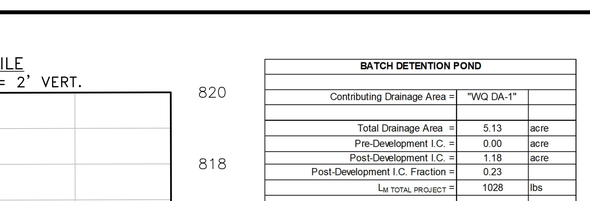
PND A–A PROFILE
1" = 20' HORZ. – 1" = 2' VERT.



BATCH DETENTION POND		
Contributing Drainage Area =	"WQ DA-1"	
Total Drainage Area =	5.13	acre
Pre-Development I.C. =	0.00	acre
Post-Development I.C. =	1.18	acre
Post-Development I.C. Fraction =	0.23	
$L_{M\ TOTAL\ PROJECT}$ =	1028	lbs
A_C =	**2.65**	acre
A_I =	**0.65**	acre
A_P =	**2.00**	acre
L_R =	**683**	lbs
Fraction of Annual Runoff (F) =	0.91	
Rainfall Depth =	1.80	inch
Post Development Runoff Coefficient =	0.23	
On-site Water Quality Volume =	3945	cubic ft
Off-site area draining to BMP =	0.00	acre
Off-site Impervious cover draining to BMP =	0.00	acre
Impervious fraction of off-site area =	-	
Off-site Runoff Coefficient =	-	
Off-site Water Quality Volume =	0	cubic ft
Storage for Sediment =	789	cubic ft
Total Capture Volume Required =	4734	cubic ft
Total Capture Volume Provided =	5158	cubic ft

DRAWDOWN CALCULATIONS PER FALLING HEAD ORIFICE EQUATION

Surface Area (sq. ft.)	5644
Orifice coefficient (use 0.6 per DCM)	0.6
h_1 (ft)	2
h_2 (ft)	0
t (hrs.)	48
A_o orifice area (sq. ft.)	0.019
Orifice diameter (in.)	1.88



POND LEGEND

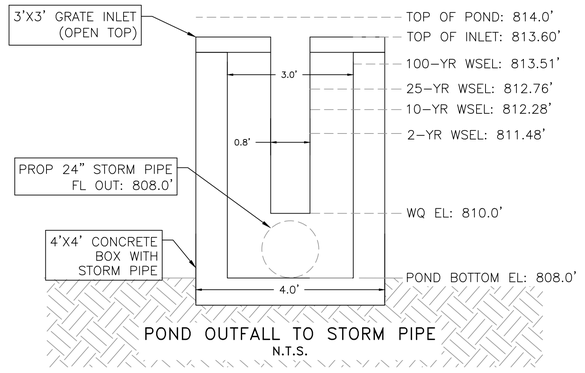
- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- PROPOSED CURB & GUTTER
- STRUCTURAL RETAINING WALL (BY OTHERS)
- SITE WALLS
- POND FENCE
- EXISTING CONTOURS (750)
- PROPOSED CONTOURS (755)
- W — EX. WATER LINE — W — PR. WATER LINE
- WW — EX. WASTEWATER — WW — PR. WASTEWATER
- STM — EX. STORM SEWER LINE — STM — PR. STORM SEWER LINE
- EX. FIRE HYDRANT — PR. FIRE HYDRANT
- WM — EX. WATER METER — PR. WATER METER
- WW — EX. WASTEWATER MANHOLE — WW — PR. WASTEWATER MANHOLE
- DETAIL NUMBER (A) — SECTION A–A
- SECTION LABEL WITH DETAIL CALLOUT REFERENCE WITH BUBBLE

NOTES:

1. POST THE FOLLOWING SIGN UNDER THE VISIBLE ALARM FOR EMERGENCY CONTACT:

   EMERGENCY CONTACT:
   OWNER: 512-928-1235
   TCEQ: 512-339-2929

2. POND BOTTOM SHALL BE VEGETATED PER THE SEEDING SPECIFICATION ON THE EROSION CONTROL PLAN SHEET.



POND OUTFALL TO STORM PIPE
N.T.S.

SCALE: 1" = 10'

IF DRAWING BAR DOES NOT MEASURE 2" THIS PRINT IS NOT TO SCALE

DETENTION STAGE-STORAGE TABLE						
	Contour Elevation (ft)	Contour Area (SF)	Contour Area (AC)	Depth (ft)	Incremental Vol. (ft^3)	Cumulative Vol. (ft^3)
	808.0	0.00	0.00	0	0.00	0.00
	809.0	2336.00	0.05	1.0	1168.00	1168.00
WQE	**810.0**	**5644.00**	**0.13**	**1.0**	**3990.00**	**5158.00**
	811.0	6175.00	0.14	1.0	5909.50	11067.50
	812.0	6728.00	0.15	1.0	6451.50	17519.00
	813.0	7305.00	0.17	1.0	7016.50	24535.50
	814.0	7906.00	0.18	1.0	7605.50	32141.00

Detention Analysis Summary - Pond							
	Analysis Point 3		Peak Flow Entering Pond (cfs)	Peak Flow Leaving Pond (cfs)	Peak Elevation (m.s.l.)	Freeboard (ft)	Peak Storage (ac-ft)
	Peak Pre-Dev Flows(cfs)	Peak Post-Dev Flows(cfs)					
2-YR	5.22	4.88	10.19	4.88	811.48	2.52	0.21
10-YR	9.49	9.27	17.30	9.27	812.28	1.72	0.32
25-YR	12.44	12.37	22.22	12.37	812.76	1.24	0.40
100-YR	17.43	17.74	30.56	17.74	813.51	0.49	0.53

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9111 JOLLYVILLE RD. STE 212 AUSTIN, TX 78759

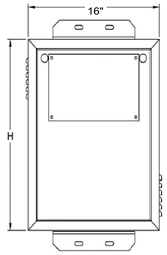
DETENTION POND PLAN

PROJECT CASE: XXXXXXX
TONKINESE DR SUBDIVISION

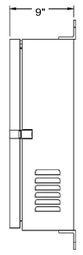
#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 17 OF 26

Ground Mount Controller and Battery Enclosure



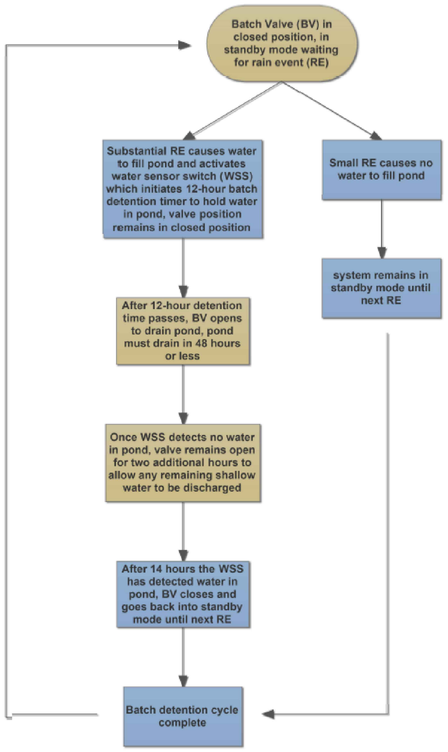
FRONT VIEW
DOOR REMOVED



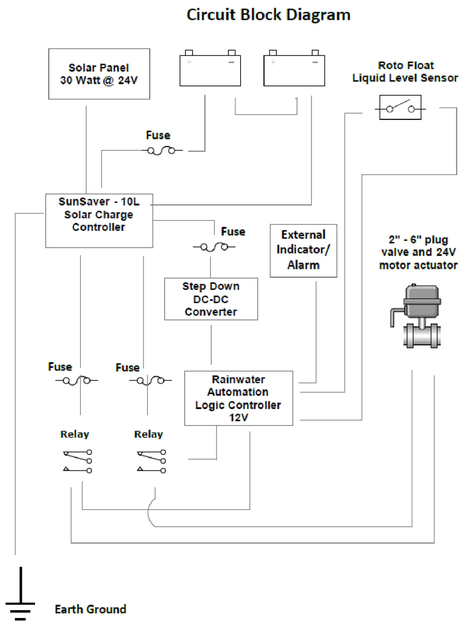
RIGHT SIDE VIEW

- Standard boxes are fabricated from .125" thick 5052--H32 aluminum
- Heavy--duty stainless steel continuous
- Heavy--duty stainless steel continuous hinge
- Seams are continuously welded and then sanded smooth
- Adjustable tension stainless steel padlock hasp
- Removable component mounting plate
- Standard finish is a bright white polyester powder--coat inside and out
- Two 7/8" diameter wire holes
- Built to NEMA 3R specifications
- Filtered or screened ventilation louvers
- Hinged front door with PORON door gasket
- Supplied with u--bolts (when pole specified)

Batch Valve Programmable Logic Flow Chart

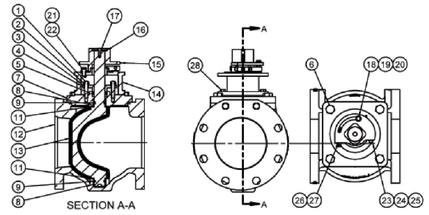


Circuit Block Diagram



800 SERIES MATERIAL LIST

2.5" to 12", 212F Max Temp., 175 psi Max Press, Bi-Directional



Item	Description	Material	Item	Description	Material
1	Gland Stud	Stainless Steel	15	Torque Collar	A536 GR 65-45-12
2	Hex Nut	Stainless Steel	16	Flat Washer	Q235-A Zinc Plated
3	Flat Washer	Stainless Steel	17	Socket Head Capscrew	Stainless Steel
4	Gland	ASTM A126 CL B	18	Hex Head Capscrew	Stainless Steel
5	V-Ring Set	NBR	19	Hex Nut	Stainless Steel
6	Hex Head Capscrew	Stainless Steel	20	Flat Washer	Stainless Steel
7	Cover	ASTM A126 CL B	21	Socket Head Capscrew	Stainless Steel
8	Bearing	SST, Sintered	22	Lock Washer	Stainless Steel
9	O-Ring	NBR	23	Socket Head Capscrew	Stainless Steel
10	O-Ring	NBR	24	Hex Nut	Stainless Steel
11	Thrust Washer	PTFE	25	Flat Washer	Stainless Steel
12	Body	ASTM A126 CL B	26	Hex Head Capscrew	Stainless Steel
13	Plug Molded	A536 GR 65-45-12 +NBR	27	Hex Nut	Stainless Steel
14	Torque Collar Adapter (Buried)	ASTM A126 CL B	28	Hex Head Capscrew	Stainless Steel

800 SERIES Cv Data (GPM@1PSI)

Size	2.5	3	4	5	6	8	10	12
Cv	425	680	1190	2000	2400	4600	5800	9100

Crispin/K-Flo Valves, 600 Fowler Ave., Berwick PA 18603 T: 800-247-VALV W: www.kflovalves.com

PROMATION ENGINEERING
Precision Actuation for Industry

Actuator Specifications	P4		P5		P6	
Torque "lb/Nm	3500"lbs/400Nm		4400"lbs/500Nm		5750"lbs/650Nm	
Supply Voltage	12vac/vdc	24vac/vdc	12vac/vdc	24vac/vdc	12vac/vdc	24vac/vdc
Max Inrush Current	16.1A	9.2A	13.5A	9.0A	12.5A	8.5A
Running Current	16.1A	8.5A	14.1A	7.5A	12.3A	7.0A
Motor	DC Brush Type					
Runtime (90°@60Hz/vdc)	16 sec		22 sec		28 sec	
Runtime (90°@50Hz)	16 sec		22 sec		28 sec	
Duty Cycle	75%					
Motor Starts	1200 per hour					
Weight	47lbs/22kg					
Mechanical Connections	ISO5211 F10 8pt 35mm					
Electrical Entry	(2) 3/4" NPT					
Electrical Terminations	12-16ga					
Environmental Rating	NEMA 4/4X					
Manual Override	7.6" Handwheel					
Control	On/Off-Jog, Proportional					
Actuator Case material	Aluminum Alloy, Powder coated					
Motor Protection	230°F/110°C Thermal F* Class *Totally Enclosed Non-Ventilated Motors					
Ambient Temperature Operating Range	-22°F to +125°F -30°C to +52°C					

POND LINER TO FOLLOW RG-348 SEC. 3.4.2. TABLE 3-7: GEOTEXTILE FABRIC SPECIFICATIONS OR APPROVED EQUAL

Property	Test Method	Unit	Specification (min)
Unit Weight	ASTM D-5261	oz/yd^2	8
Filtration Rate	ASTM D-4491	cm/sec	0.20
Puncture Strength	ASTM D-4833	lb	125
Mullen Burst Strength	ASTM D-3786	psi	400
Tensile Strength	ASTM D-4632	lb	200
Equiv. Opening Size	US Standard Sieve	No.	80

LINER NOTES:

1. GEOMEMBRANE LINER SHALL BE ULTRAVIOLET RESISTANT AND POSSESS MIN. THICKNESS OF 30 MILS.
2. FABRIC SHALL BE PLACED ON TOP AND BOTTOM OF MEMBRANE FOR PUNCTURE PROTECTION AND COVERED WITH MIN. 6" COMPACTED TOPSOIL.
3. GEOTEXTILE FABRIC SHALL BE STABILIZED WITH APPROPRIATE VEGATATION, AND NONWOVEN PER TABLE 3-7 SPECIFICATIONS.

STATE OF TEXAS
NICHOLAS R. SANDLIN
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11/4/2024

MORNINGSTAR PROFESSIONAL SERIES
World's Leading Solar Controllers & Inverters

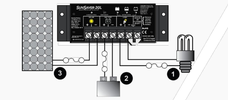
+1-215-321-4457
sales@morningstarcorp.com

Technical Specifications

Versions	SS-10L-24V, SS-10L-12V, SS-6-12V, SS-6L-12V, SS-20L-12V, SS-10-12V, SS-20L-24V	
Electrical		
Max. PV and load ratings	Shown to the right	
System voltage	12V or 24V	
Min. battery voltage	6V*	
Regulation voltage	12 volt	24 volt
Sealed battery	14.1 V	28.2 V
Flooded battery	14.6 V	29.2 V
Load disconnect	11.5 V	23.0 V
LVD reconnect	12.6 V	25.2 V
Max. solar voltage		
12V battery	30 volts	
24V battery	60 volts	
Load in-rush capability		
SunSaver-6	45 amps	
SunSaver-10	65 amps	
SunSaver-20	140 amps	
Self-consumption	< 8 mA	
Voltage accuracy	12V: +/- 25 mV (typical) 24V: +/- 48 mV (typical)	
Transient surge protection	1500W per connection	
Mechanical		
Wire size	5 mm² / #10 AWG	
Weight (unpacked)	0.23kg / 8 oz.	
Dimensions	15.2 x 5.5 x 3.2 cm 6.0 x 2.2 x 1.3 inch	
Environmental		
Ambient temperature	-40°C to +60°C	
Storage temperature	-55°C to +80°C	
Humidity	100% non-condensing	
Tropicalization	Epoxy encapsulation Marine rated terminals Anodized aluminum case	

WARRANTY: Five year warranty period.
Contact Morningstar or your authorized distributor for complete terms.

*In periods following excessive battery drain, provided the controller is not power cycled, the controller can self-recover from a battery voltage of 1V and provide intermittent charging operation up to 6V at which normal operation will resume.



SunSaver shown with included wire terminal cover.

Specification Summary

Ratings	SS-6/6L	SS-10/10L	SS-20L
System voltage	12V	12V or 24V	12V or 24V
Min. battery voltage	6V*	6V*	6V*
Max. solar voltage	30V	30V or 60V	30V or 60V
Max. solar current	6.5A	10A	20A
Max. load current	6A	10A	20A

Battery Charging
- Charging method: 4 stage series PWM
- Charging stages: Bulk, absorption, float, equalize
- Temperature compensation
  - » Coefficient: 12V: -30mV/°C; 24V: -60mV/°C
  - » Range: -30°C to +60°C
  - » Set points: Absorption, float, equalize

LED Indications
- Status LED (1): Charging or not charging; Solar error conditions
- Battery LED's (3): Battery level; Charging stage

Certifications
- Hazardous Locations:
  - » UL121201/CSA C22.2 #213 Class I, Div. 2 Groups A-D T5
  - » ATEX II 3G Ex ec IIC T4...T5 Gc
  - » IECEx Ex ec IIC T4...T5 Gc
- CE, RoHS and REACH Compliant
- IECEN 62109-1 Ed.1 2010
- UL 1604/ANSI/ISA 12.12.01-2000 (USA) and CSA C22.2 No. 213-M1987 (Reaffirmed 2004) (CANADA) Listed
- ETL Listed: UL 1741 (terminal cover required for compliance)
- FCCTitle 47 (CFR), Part 15 Subpart B for Class B Device
- Manufactured in a Certified ISO 9001 Facility

Electronic Protections
- Solar: Overload, short-circuit, high voltage
- Load: Overload, short-circuit, high voltage
- Battery: High voltage
- All: Reverse polarity, high temperature, lightning and transient surges
- Reverse current at night

8 Pheasant Run, Newtown, PA 18940 USA Control # MS-002634 REV 8/2022.EN www.morningstarcorp.com

Due to Morningstar's policy of continuous improvement, product availability, features and specifications are subject to change without notice. Information in this publication has been checked for accuracy; however, no responsibility is assumed for typos or errors. ©2022 Morningstar Corporation

NOTE: CONTRACTOR TO USE 30W @ 24V SOLAR PANEL WITH THIS CONTROLLER OR APPROVED EQUAL

TEXAS 811 BEFORE YOU DIG

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

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SANDLIN
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TBPELS FIRM #21356
9111 JOLLYVILLE RD. STE 212 AUSTIN, TX 78759

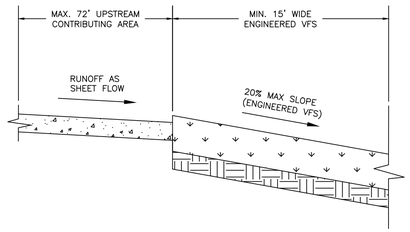
WATER QUALITY POND DETAILS

PROJECT CASE: XXXXXXX
TONKINESE DR SUBDIVISION

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 18 OF 26

DA Name	Drainage Area	Impervious Cover	PBMP	TSS Removal	Designed TSS Removal
WQ DA-1	2.65	0.65	Batch Detention	683	624
WQ DA-2	0.63	0.52	Vegetated Filter Strip	488	488



VEGETATIVE FILTER STRIP DETAIL
(NTS)

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
11/4/2024

PROPOSED DRAINAGE LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- PROPOSED CURB & GUTTER
- DRAINAGE AREA BOUNDARY
- PR. DA-X XX.XX AC — DRAINAGE AREA DESIGNATION AND AREA DRAINED
- FLOW ARROW
- TIME OF CONCENTRATION LINE (SHEET FLOW)
- TIME OF CONCENTRATION LINE (SHALLOW CONCENTRATED FLOW)
- 750 — EXISTING CONTOURS
- 750 — PROPOSED CONTOURS

WILLIAMSON COUNTY MUNICIPAL COURT
DRAINAGE AND PUBLIC UTILITY EASEMENT
26.201 ACRES
VOL. 1350, PG. 917

CAT HOLLOW AT BRUSHY CREEK OWNERS ASSOCIATION, INC.
TO
1130 AIRPORT INC.
5.132 ACRES
JULY 10, 2024
DOC. 2024054631

WQ DA-1
2.65 AC

WQ DA-2
0.63 AC

WATER QUALITY AND DETENTION POND

ENGINEERED VEGETATED FILTER STRIP

IMPERVIOUS COVER ASSUMPTIONS PER TCEQ STANDARDS UTILIZED FOR CALCULATIONS

POND OVERTREATMENT PROVIDED FOR RESIDENTIAL DRIVEWAYS

GRADE DOES NOT EXCEED 20% OVER EVFS

10' DRAINAGE EASEMENT PER PLAT

TONKINESE DRIVE
(50' R.O.W.)

CAT HOLLOW SECTION 1-A
LOT 10, BLOCK A
CAB. L, PG. 29
P.R.W.C.

CAT HOLLOW SECTION 1-A
LOT 9, BLOCK A
CAB. L, PG. 29
P.R.W.C.

CAT HOLLOW SECTION 1-A
LOT 8, BLOCK A
CAB. L, PG. 29
P.R.W.C.

CAT HOLLOW SECTION 1
LOT 1, BLOCK A
CAB. I, PG. 280
P.R.W.C.

CAT HOLLOW SECTION 1
LOT 2, BLOCK A
CAB. I, PG. 280
P.R.W.C.

CAT HOLLOW SECTION 1
LOT 3, BLOCK A
CAB. I, PG. 280
P.R.W.C.

CAT HOLLOW SECTION 1
LOT 4, BLOCK A
CAB. I, PG. 280
P.R.W.C.

CAT HOLLOW SECTION 1
LOT 5, BLOCK A
CAB. I, PG. 280
P.R.W.C.

CAT HOLLOW SECTION 1
LOT 6, BLOCK A
CAB. I, PG. 280
P.R.W.C.

CAT HOLLOW SECTION 1
LOT 7, BLOCK A
CAB. I, PG. 280
P.R.W.C.

CAT HOLLOW SECTION 1-A
LOT 4, BLOCK B
CAB. I, PG. 280
P.R.W.C.

SCALE: 1" = 30'

IF DRAWING BAR DOES NOT MEASURE 2"
THIS PRINT IS NOT TO SCALE

TEXAS 811 BEFORE YOU DIG

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

ENGINEERING | CONSULTING
SANDLIN
SERVICES, LLC

TBPELS FIRM #21356
9111 JOLLYVILLE RD. STE 212 AUSTIN, TX 78759

WATER QUALITY PLAN

PROJECT CASE: XXXXXXX
TONKINESE DR SUBDIVISION

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 19 OF 26

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: TONKINESE DR SUBDIVISION
Date Prepared: 10/30/2024

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

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

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

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

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

County =	Williamson	
Total project area included in plan * =	5.13	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	1.18	acres
Total post-development impervious cover fraction * =	0.23	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	1028	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 2

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

Drainage Basin/Outfall Area No. = 1 "WQ DA-1"

Total drainage basin/outfall area =	2.65	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.65	acres
Post-development impervious fraction within drainage basin/outfall area =	0.24	
$L_{M\ THIS\ BASIN}$ =	563	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

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

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

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

A_C =	2.65	acres
A_I =	0.65	acres
A_P =	2.00	acres
L_R =	683	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 624 lbs.

F = 0.91

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	1.80	inches
Post Development Runoff Coefficient =	0.23	
On-site Water Quality Volume =	3945	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	789	
Total Capture Volume (required water quality volume(s) x 1.20) =	4734	cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Tonkinese Dr Subdivision
Date Prepared: 10/30/2024

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance M
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1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

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

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

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

County =	Williamson	
Total project area included in plan * =	5.13	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	1.18	acres
Total post-development impervious cover fraction * =	0.23	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	1028	lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 2

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

Drainage Basin/Outfall Area No. = 2 "WQ DA-2"

Total drainage basin/outfall area =	0.63	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.52	acres
Post-development impervious fraction within drainage basin/outfall area =	0.82	
$L_{M\ THIS\ BASIN}$ =	450	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

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

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

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

A_C =	0.63	acres
A_I =	0.52	acres
A_P =	0.11	acres
L_R =	488	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 488 lbs.

F = 1.00

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	4.00	inches
Post Development Runoff Coefficient =	0.65	
On-site Water Quality Volume =	5966	cubic feet

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

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	1193	
Total Capture Volume (required water quality volume(s) x 1.20) =	7159	cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
11/4/2024

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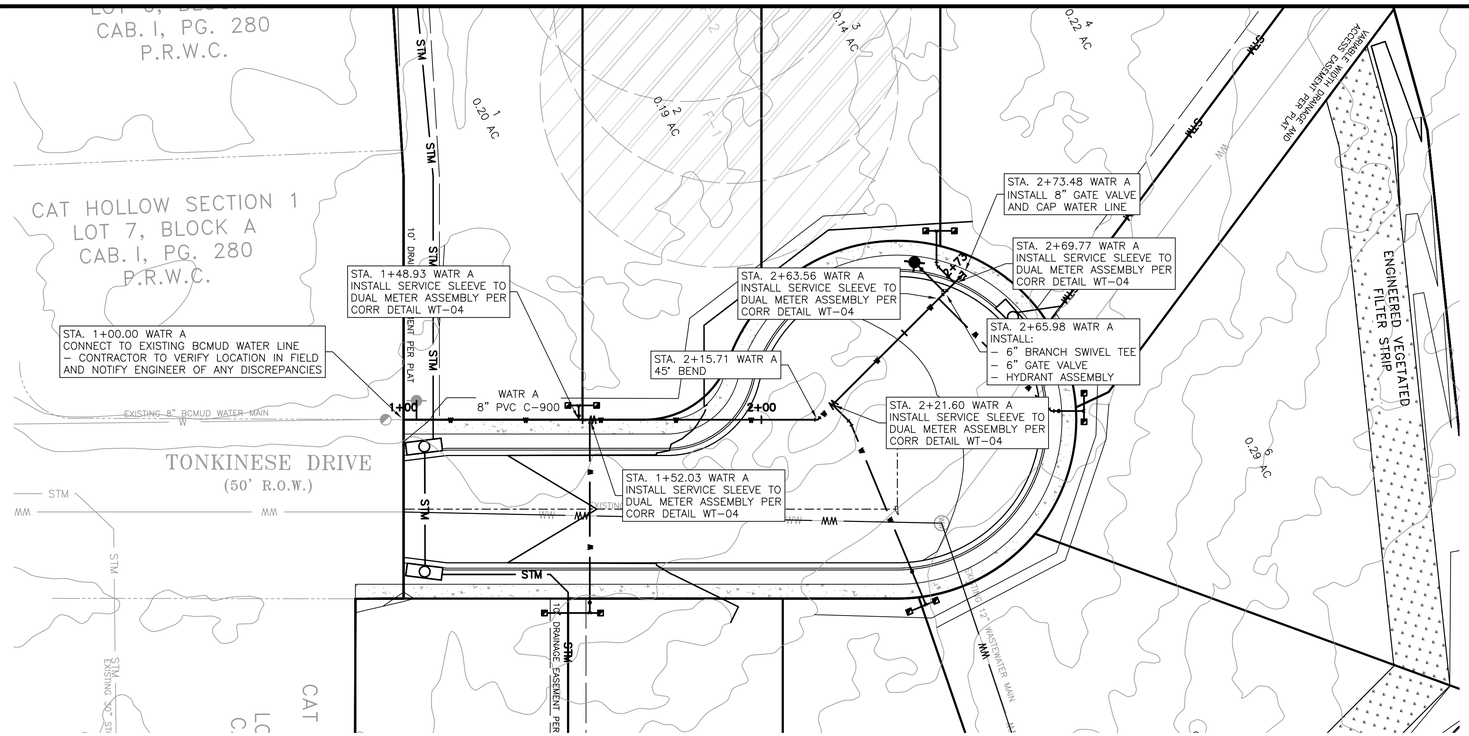
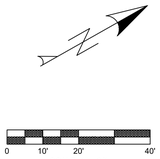
SANDLIN
SERVICES, LLC
TBPELS FIRM #21356
9111 JOLLYVILLE RD. STE 212 AUSTIN, TX 78759

WATER QUALITY CALCULATIONS

PROJECT CASE: XXXXXXX
TONKINESE DR SUBDIVISION

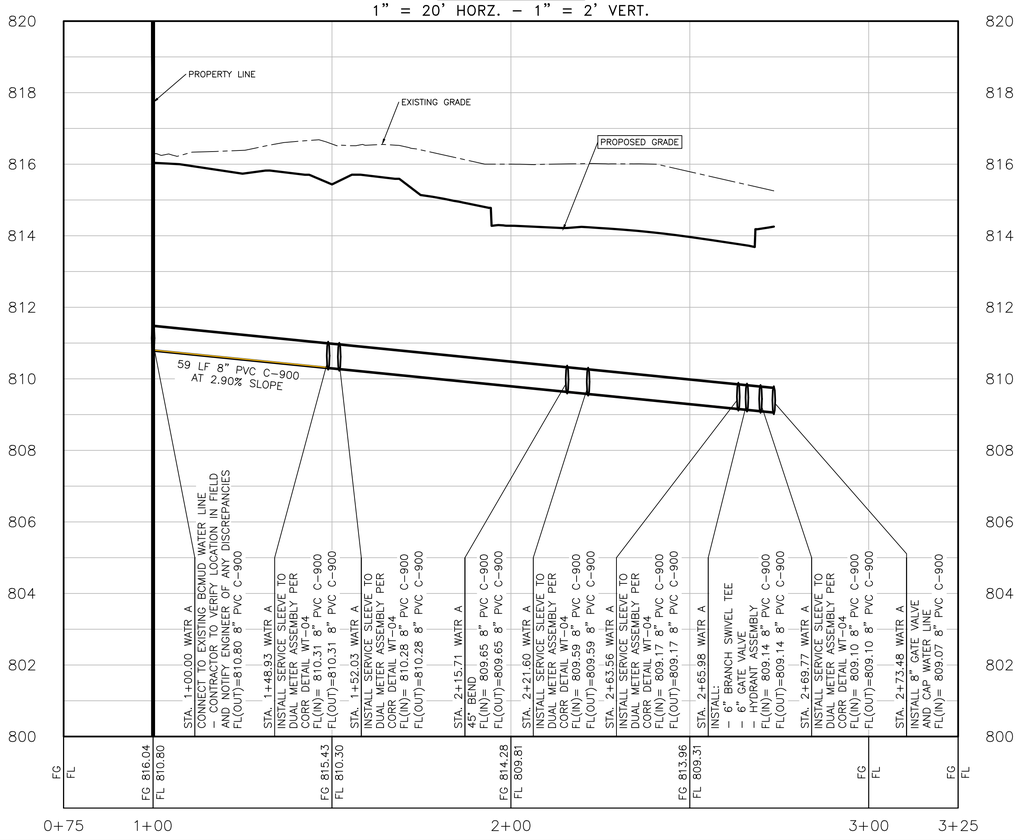
#	REVISION DESCRIPTION	SIGNATURE	DATE





IF DRAWING BAR DOES NOT MEASURE 2" THIS PRINT IS NOT TO SCALE

WATR A PROFILE
1" = 20' HORZ. – 1" = 2' VERT.



STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
11/4/2024

UTILITY LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- PROPOSED CURB & GUTTER
- EXISTING CONTOURS (750)
- PROPOSED CONTOURS (750)
- EX. WATER LINE (W) / PR. WATER LINE (W)
- EX. WASTEWATER (WW) / PR. WASTEWATER (WW)
- EX. STORM SEWER LINE (STM) / PR. STORM SEWER LINE (STM)
- EX. FIRE HYDRANT / PR. FIRE HYDRANT
- EX. WATER METER (WM) / PR. WATER METER
- EX. WASTEWATER MANHOLE (WW) / PR. WASTEWATER MANHOLE
- FITTINGS AS NOTED / FLOW ARROW
- GATE VALVE AS NOTED / ELECTRIC TRANSFORMER (T)
- WW CLEAN OUT / UTILITY POLE
- BFP BACK FLOW PREVENTER / FIRE LINE
- 100 EXISTING TREE (TO REMAIN)
- 100 EXISTING TREE (TO BE REMOVED)

NOTES:

1. WARNING:
   CONTRACTOR TO VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
2. IMPORTANT:
   A MINIMUM 24" SEPARATION DISTANCE IS REQUIRED AT ALL WATER AND WASTEWATER CROSSINGS. CENTER ONE JOINT OF WATER PIPE AT EACH CROSSING IN ACCORDANCE WITH TAC 290.44(e)(4)(B)(i). NOTIFY ENGINEER IMMEDIATELY IF NOT ABLE TO MAINTAIN.
3. IMPORTANT:
   WHERE A NINE FOOT SEPARATION DISTANCE BETWEEN WATER AND WASTEWATER CANNOT BE ACHIEVED, PVC WITH MINIMUM PRESSURE RATING OF 150 PSI SHALL BE USED, A MINIMUM SEPARATION DISTANCE OF 6 INCHES BETWEEN OUTSIDE DIAMETERS OF PIPES SHALL BE ACHIEVED, WASTEWATER SHALL BE BELOW WATER, AND JOINTS SHALL BE LOCATED AS FAR AS POSSIBLE FROM THE INTERSECTION, IN ACCORDANCE WITH TAC TITLE 30 217.53(d).
4. ALL NON–CITY INFRASTRUCTURE INCLUDING GAS, ELECTRICAL, CABLE AND TELECOMMUNICATIONS, SHALL TRAVERSE UNDERNEATH CITY INFRASTRUCTURE. THIS INCLUDES, BUT IS NOT LIMITED TO WATER LINES, WASTEWATER LINES AND STORM SEWER, WITH A MINIMUM OUTSIDE–TO–OUTSIDE CLEARANCE OF 18"
5. DRY UTILITIES ARE NOT PROPOSED OR DEPICTED WITHIN THIS PLAN SET.

TEXAS 811 BEFORE YOU DIG

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

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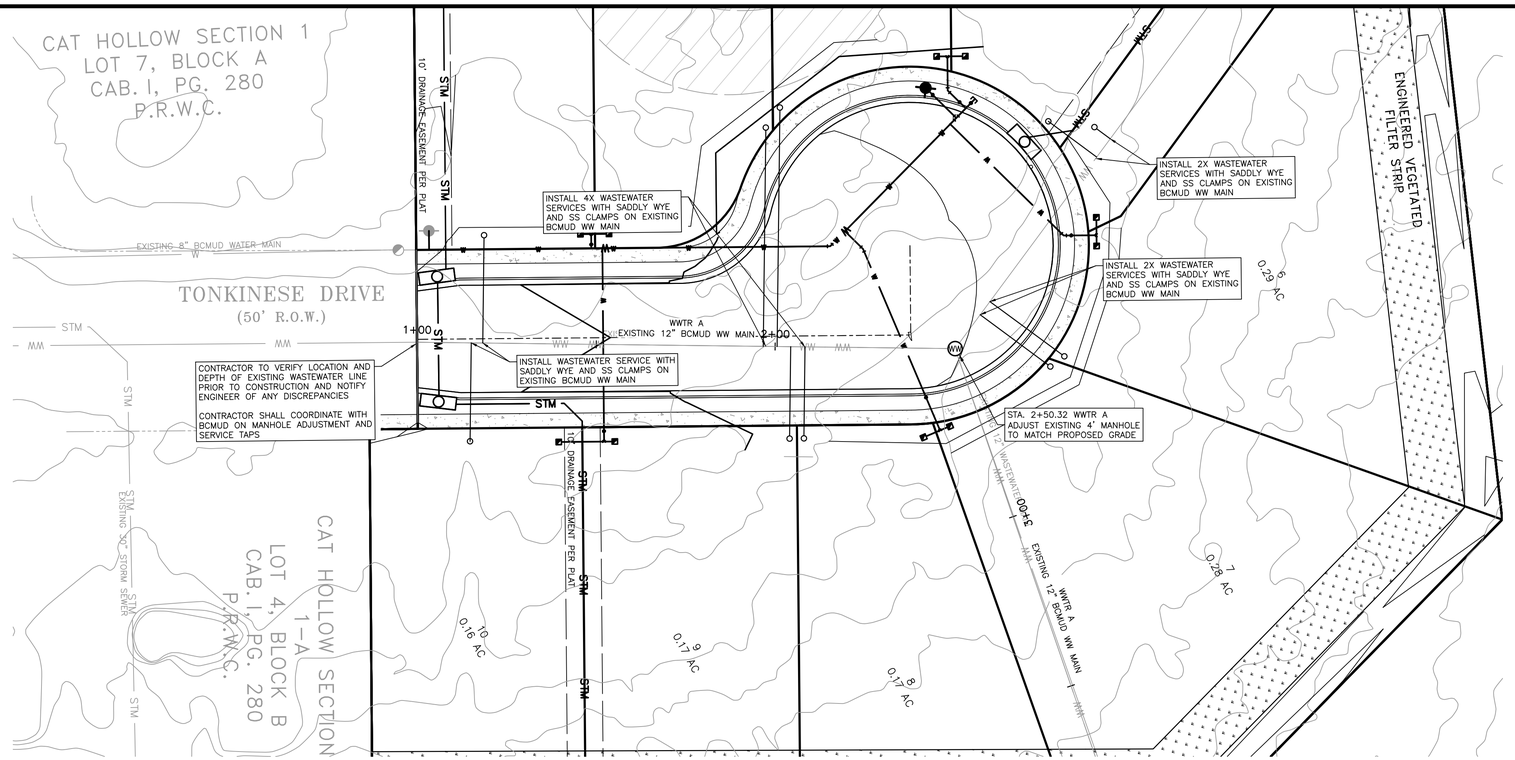
SANDLIN
SERVICES, LLC
TBPELS FIRM #21356
9111 JOLLYVILLE RD. STE 212 AUSTIN, TX 78759

WATER DISTRIBUTION PLAN AND PROFILE

PROJECT CASE: XXXXXXX
TONKINESE DR SUBDIVISION

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 21 OF 26



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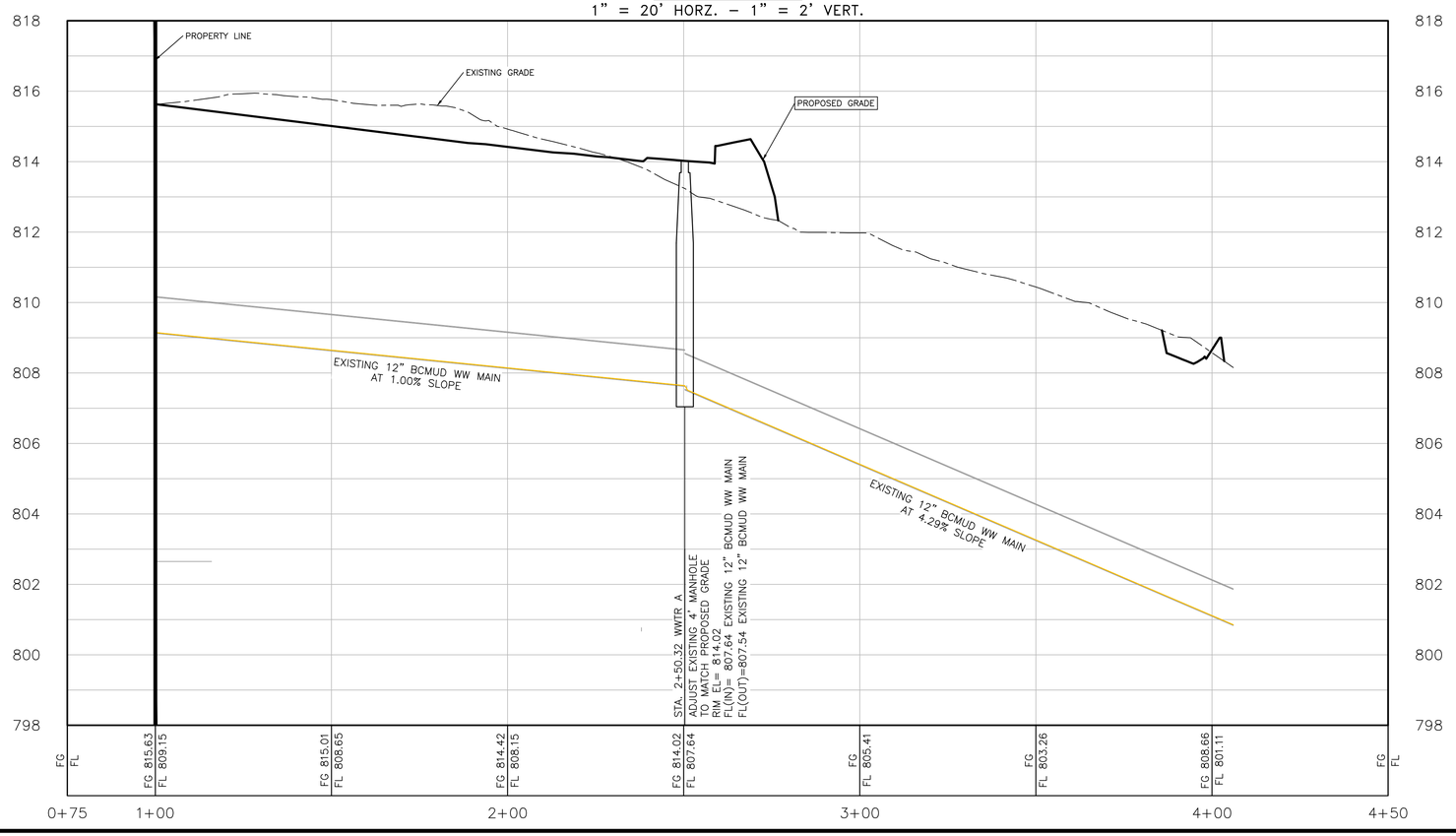
WWTR A PROFILE
1" = 20' HORZ. – 1" = 2' VERT.



STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
11/4/2024

UTILITY LEGEND

- PROPOSED PROPERTY/ PROJECT BOUNDARY LINE
- EXISTING R.O.W./PROPERTY LINE
- EXISTING EASEMENT LINE
- PROPOSED CURB & GUTTER
- EXISTING CONTOURS (750)
- PROPOSED CONTOURS (750)
- EX. WATER LINE / PR. WATER LINE
- EX. WASTEWATER / PR. WASTEWATER
- EX. STORM SEWER LINE / PR. STORM SEWER LINE
- EX. FIRE HYDRANT / PR. FIRE HYDRANT
- EX. WATER METER / PR. WATER METER
- EX. WASTEWATER MANHOLE / PR. WASTEWATER MANHOLE
- FITTINGS AS NOTED
- FLOW ARROW
- GATE VALVE AS NOTED
- ELECTRIC TRANSFORMER
- WW CLEAN OUT
- UTILITY POLE
- BFP BACK FLOW PREVENTER
- FIRE LINE
- 100 EXISTING TREE (TO REMAIN)
- 100 EXISTING TREE (TO BE REMOVED)

NOTES:

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3. IMPORTANT:
WHERE A NINE FOOT SEPARATION DISTANCE BETWEEN WATER AND WASTEWATER CANNOT BE ACHIEVED, PVC WITH MINIMUM PRESSURE RATING OF 150 PSI SHALL BE USED, A MINIMUM SEPARATION DISTANCE OF 6 INCHES BETWEEN OUTSIDE DIAMETERS OF PIPES SHALL BE ACHIEVED, WASTEWATER SHALL BE BELOW WATER, AND JOINTS SHALL BE LOCATED AS FAR AS POSSIBLE FROM THE INTERSECTION, IN ACCORDANCE WITH TAC TITLE 30 217.53(d).

4. ALL NON-CITY INFRASTRUCTURE INCLUDING GAS, ELECTRICAL, CABLE AND TELECOMMUNICATIONS, SHALL TRAVERSE UNDERNEATH CITY INFRASTRUCTURE. THIS INCLUDES, BUT IS NOT LIMITED TO WATER LINES, WASTEWATER LINES AND STORM SEWER, WITH A MINIMUM OUTSIDE-TO-OUTSIDE CLEARANCE OF 18"

5. DRY UTILITIES ARE NOT PROPOSED OR DEPICTED WITHIN THIS PLAN SET.

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WASTEWATER COLLECTION PLAN AND PROFILE

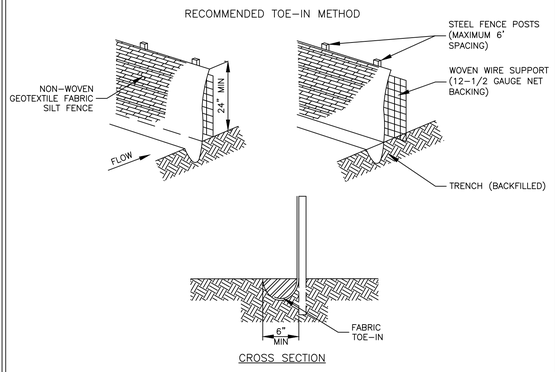
PROJECT CASE: XXXXXXX

TONKINESE DR SUBDIVISION

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 22 OF 26

G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-0129-002 Tonkinese Dr Subdivision\CAD\Construction Sheets\S TNK WWTR.dwg-WASTEWATER COLLECTION PLAN AND PROFILE Plotted Nov 11, 2024 at 2:55pm by $(++) | Last Saved by: Engineer

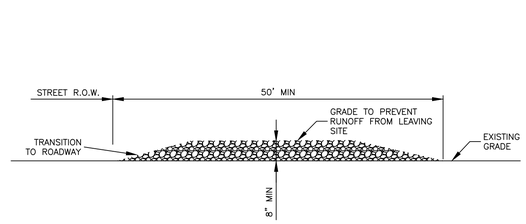


CROSS SECTION

NOTES:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MIN. OF ONE (1') FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G. PAVEMENT) WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHALL BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IN TURN IS SECURELY FASTENED TO THE STEEL FENCE POSTS.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.
8. SILT FENCE SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: EC–10
APPROVED 03–25–11 DATE	SILT FENCE DETAIL	ROUND ROCK, TEXAS PURPOSE, PASSION, PROSPERITY
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		

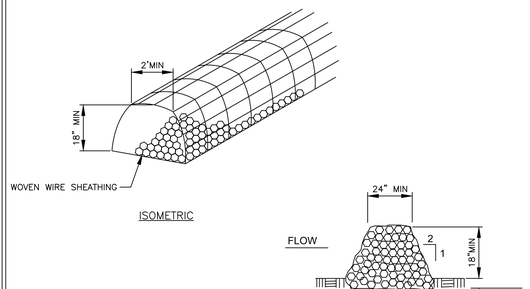


CROSS SECTION

NOTES:

1. STONE SIZE SHALL BE 3" – 8" OPEN GRADED ROCK.
2. THICKNESS OF CRUSHED STONE PAD TO BE NOT LESS THAN 8".
3. LENGTH SHALL BE A MINIMUM OF 50' FROM ACTUAL ROADWAY, AND WIDTH NOT LESS THAN FULL WIDTH OF INGRESS/EGRESS.
4. ENTRANCE SHALL BE PROPERLY GRADED TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
5. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY BY CONTRACTOR.
6. AS NECESSARY, WHEELS MUST BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT OF WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: EC–09
APPROVED 03–25–11 DATE	STABILIZED CONSTRUCTION ENTRANCE DETAIL	ROUND ROCK, TEXAS PURPOSE, PASSION, PROSPERITY
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



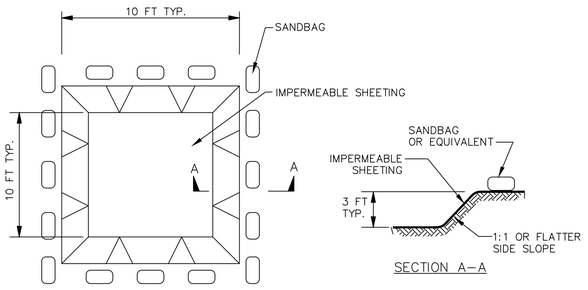
CROSS SECTION

NOTES:

1. USE ONLY OPEN GRADED ROCK (3 to 5") DIAMETER FOR ALL CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1" OPENING AND MINIMUM WIRE DIAMETER OF 20 GAUGE.
3. THE ROCK BERM SHALL BE INSPECTED DAILY OR AFTER EACH RAIN, AND THE STONE AND/ OR FABRIC CORE–WOVEN SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SEDIMENT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. 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.
5. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: EC–12
APPROVED 03–25–11 DATE	ROCK BERM DETAIL	ROUND ROCK, TEXAS PURPOSE, PASSION, PROSPERITY
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		

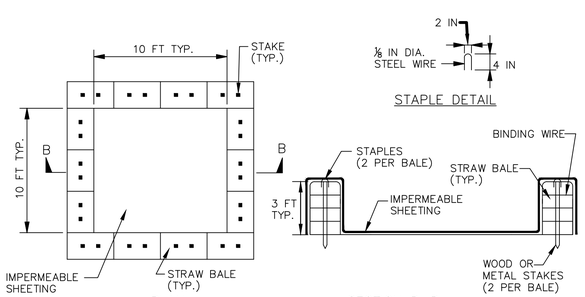
ONSITE CONCRETE WASHOUT STRUCTURE



PLAN

SECTION A–A

EXCAVATED WASHOUT STRUCTURE

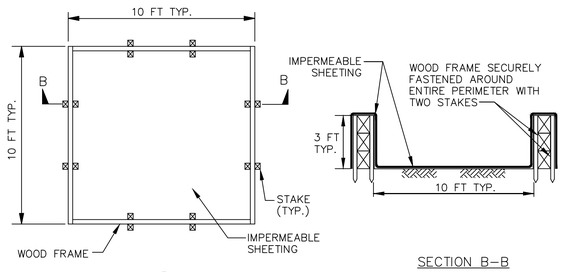


PLAN

SECTION B–B

NOTE: CAN BE TWO STACKED BALES OR PARTIALLY EXCAVATED TO REACH 3 FT DEPTH

WASHOUT STRUCTURE WITH STRAW BALES



PLAN

SECTION B–B

WASHOUT STRUCTURE WITH WOOD PLANKS

CONSTRUCTION SPECIFICATIONS

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET–VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
11/4/2024

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

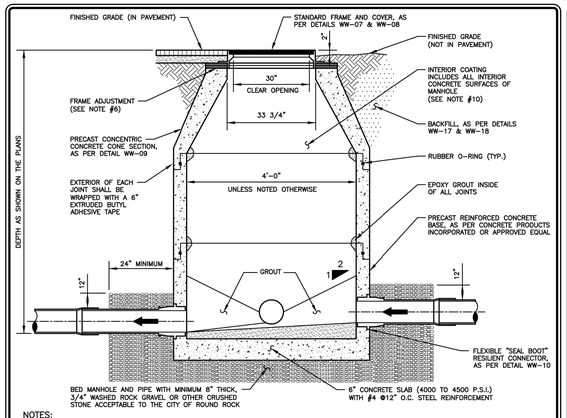
ENGINEERING | CONSULTING
SANDLIN SERVICES, LLC
TBPELS FIRM #21356
9111 JOLLYVILLE RD. STE 212 AUSTIN, TX 78759

EROSION CONTROL DETAILS

PROJECT CASE: XXXXXXX
TONKINESE DR SUBDIVISION

#	REVISION DESCRIPTION	SIGNATURE	DATE

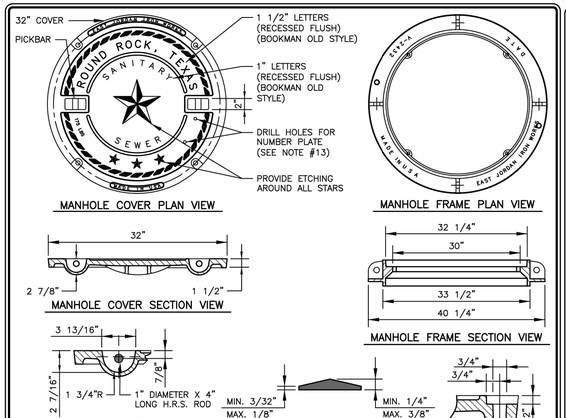
SHEET 23 OF 26



NOTES:

1. IF DROP IS SIX INCHES (6") TO TWO FEET (2'-0"), CONSTRUCTION OF DROP SHALL PROVIDE AN OVERSIZED INVERT TO EXTEND UNDER THE DROP CONNECTION.
2. SEE CONSTRUCTION PLANS FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZES AND TYPES.
3. MANHOLES SHALL BE PRECAST A.S.T.M. C478 BELL AND SPIGOT WITH "O" RING JOINTS.
4. MANHOLES TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR H20 TRAFFIC LOADING.
5. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETED, WHEN MANHOLES ARE LOCATED OUTSIDE OF PAVEMENT.
6. FRAME ADJUSTMENT HEIGHT SHALL CONSIST OF FIVE INCHES (5") MINIMUM TO EIGHTEEN INCHES (18") MAXIMUM. GRADE RINGS SHALL BE GROUTED WITH A NON-SHRINK GROUT INSIDE AND OUTSIDE. HDPE GRADE RINGS, MAY NOT BE USED.
7. FOR MANHOLES TO BE VENTED, SEE DETAILS WW-05 AND WW-06.
8. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO THE FLOW STREAM. ALL P.V.C. PIPE SHALL BE REMOVED FROM INVERT.
9. BASE SECTION SHALL BE DESIGNED FOR H20 LOADING, PLUS EARTH LOAD AT 130 PCF.
10. ENTIRE INTERIOR CONCRETE SURFACES OF WASTEWATER MANHOLES TO BE COATED WITH RAVEN 405, SPRAYWALL, OR APPROVED EQUAL, (WITH A UNIFORM THICKNESS OF 124 MILS AND A MINIMUM THICKNESS OF 100 MILS, APPLIED AFTER MANHOLE HAS PASSED THE VACUUM TEST). FOR REHABILITATING MANHOLES 1/2" MINIMUM THICKNESS CALCIUM ALUMINATE CEMENTITIOUS COATING AND OTHER INTERIOR SURFACES MAY BE COATED IF RECOMMENDED BY COATING MANUFACTURER. (IN LIEU OF INTERIOR COATINGS NEW PRECAST MANHOLES CONTAINING CONSHIELD WILL BE ACCEPTED PROVIDING THE MANUFACTURER STENCILS "CONSHIELD" ON THE INSIDE AND OUTSIDE OF ALL MANHOLE SECTIONS.)

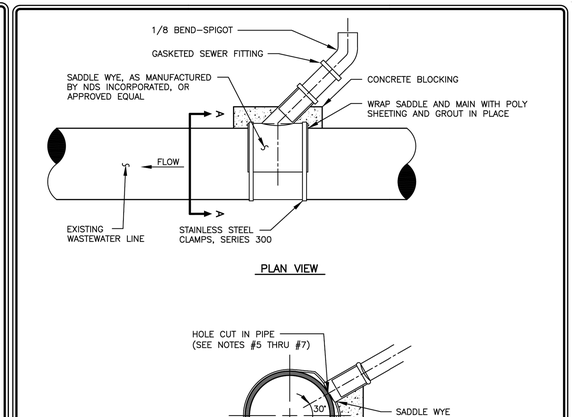
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WW-01
APPROVED 03-01-18 DATE	PRECAST CONCRETE WASTEWATER MANHOLE DETAIL	ROUND ROCK TEXAS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTES:

1. COVER AND FRAME SHALL COMPLY WITH STANDARD SPECIFICATIONS FOR DRAINAGE, SEWER, UTILITY AND RELATED CASTINGS: AASHTO DESIGNATION M306-04.
2. MANHOLE COVER SHALL BE MODEL NUMBER: V-2432-3 (PRODUCT NUMBER: 42432033), AS MANUFACTURED BY EAST JORDAN IRON WORKS INCORPORATED, OR APPROVED EQUAL.
3. MANHOLE FRAME SHALL BE MODEL NUMBER: V-2432 (PRODUCT NUMBER: 42432010), AS MANUFACTURED BY EAST JORDAN IRON WORKS INCORPORATED, OR APPROVED EQUAL.
4. MANHOLE COVER AND FRAME ASSEMBLY, IF ORDERED AS A SET, SHALL BE MODEL NUMBER: V-2432 (PRODUCT NUMBER: 42432073), AS MANUFACTURED BY EAST JORDAN IRON WORKS INCORPORATED, OR APPROVED EQUAL.
5. ALL CORNERS AND EDGES SHALL HAVE A 1/16" MINIMUM AND 1/8" MAXIMUM RADIUS.
6. MANHOLE COVERS SHALL BE CAST WITH TWO 1" DIAMETER STEEL PICKBARS.
7. MANHOLE COVER WEIGHT SHALL BE 175 LBS. FOR DUCTILE IRON. WEIGHT SHALL BE CAST ON BOTH TOP AND BOTTOM OF COVER.
8. MANUFACTURER SHALL CERTIFY THAT EACH MANHOLE COVER MEETS HS-20 LOADING.
9. FILLETS SHALL BE 1/4" RADIUS UNLESS OTHERWISE SPECIFIED.
10. MANUFACTURER SHALL REMOVE EXCESS IRON AND MACHINE FINISH SEATING SURFACES TO NOTED DIMENSIONS.
11. COVER SHALL BE DIPPED IN A WATER-BASED ASPHALTIC COATING, PRIOR TO SHIPMENT FROM FOUNDRY.
12. BOLTS SHALL BE 5/8"-11NC X 2" LONG HEX STAINLESS STEEL WITH WASHER.
13. MANUFACTURER SHALL DRILL 2-3/16" X 1/2" DEEP HOLES FOR A MANHOLE NUMBER PLATE TO BE PROVIDED BY THE CITY OF ROUND ROCK. THE TOP HOLE SHALL BE DRILLED 1" O.C. FROM THE BOTTOM OF THE PICKBAR AND THE BOTTOM HOLE SHALL BE DRILLED 4" O.C. FROM THE TOP HOLE.

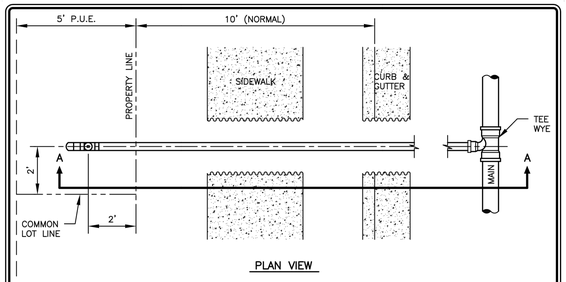
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WW-07
APPROVED 03-01-18 DATE	BOLTED WASTEWATER MANHOLE COVER AND FRAME DETAIL	ROUND ROCK TEXAS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		

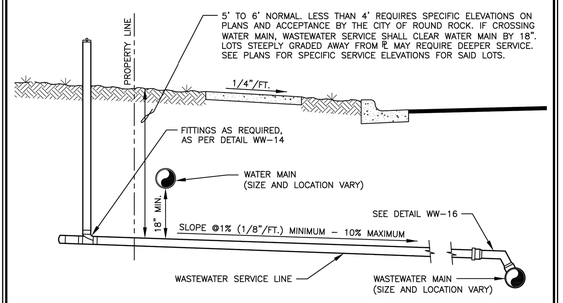


NOTES:

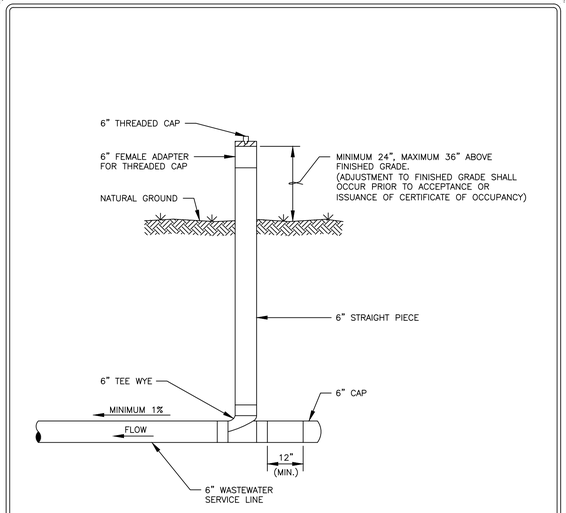
1. FLEXIBLE SADDLE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
2. EXCAVATE AROUND EXISTING WASTEWATER PIPE, EXPOSING SUFFICIENT ROOM FOR STAINLESS STEEL CLAMPS.
3. THOROUGHLY CLEAN AND DRY THE MATING SURFACE.
4. MARK THE SIZE OF THE HOLE TO BE CUT USING THE SADDLE ITSELF AS A TEMPLATE.
5. SAW CUT THE SECTION OF THE PIPE WHERE THE SADDLE WILL BE LOCATED, WITH A SABER OR KEY HOLE SAW. PIPE COUPONS SHALL BE REMOVED FROM EXISTING MAIN AND DISCARDED. PIPE CUTTINGS IN EXCESS OF 1" IN DIAMETER SHALL NOT BE LEFT IN EXISTING MAIN.
6. ENSURE SADDLE FITS HOLE PROPERLY.
7. PLACE GASKET SKIRT AND SADDLE OVER OPENING AND TIGHTEN BAND CLAMPS EVENLY UNTIL SADDLE IS FIRMLY ATTACHED TO THE PIPE. APPLY PRESSURE ON THE SADDLE AGAINST THE PIPE WHILE TIGHTENING THE CLAMPS AS INDICATED ABOVE. DO NOT OVER TIGHTEN AND DO NOT STRIP THREAD.
8. SERVICE PIPE SHALL BE INSERTED FULLY TO CONTACT SEAT FORMED IN FITTING.
9. REPLACE THE BEDDING AND BACKFILL IN ACCORDANCE WITH THE TRENCH EMBEDMENT DETAIL.

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WW-16
APPROVED 03-01-18 DATE	WASTEWATER LATERAL CONNECTION TO EXISTING WASTEWATER MAIN DETAIL	ROUND ROCK TEXAS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		





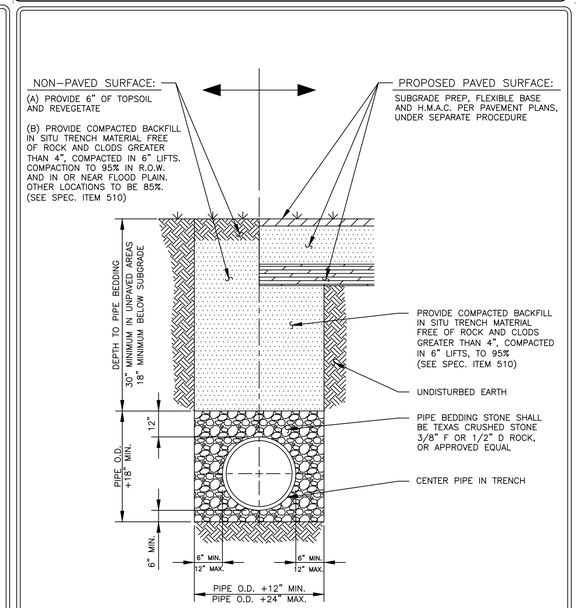
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WW-12
APPROVED 03-01-18 DATE	WASTEWATER SERVICE DETAIL	ROUND ROCK TEXAS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTES:

1. ALL PIPE TO BE SDR 26.
2. ALL FITTINGS TO BE SDR 35 SOLVENT WELD FITTINGS.

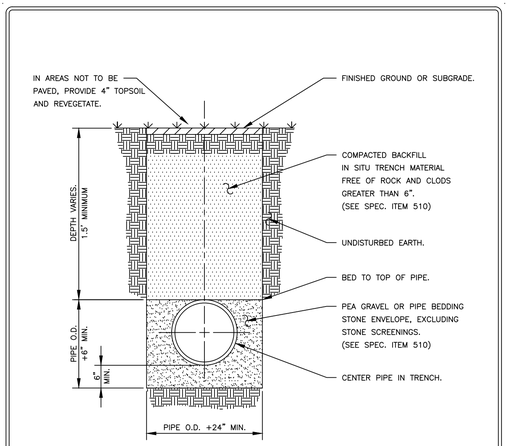
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WW-14
APPROVED 03-01-18 DATE	WASTEWATER SERVICE CLEAN-OUT DETAIL (NON-PAVED SURFACE)	ROUND ROCK TEXAS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTE:

ALL TRENCHING AND TRENCH SAFETY SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WW-18
APPROVED 03-01-18 DATE	WASTEWATER LINE BEDDING AND SURFACE REPAIR DETAIL (NON-PAVED & PROPOSED PAVED SURFACE)	ROUND ROCK TEXAS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTE:

ALL TRENCHING AND TRENCH SAFETY SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: DR-02
APPROVED 08-21-03 DATE	STORM SEWER LINE BEDDING DETAIL (NON-PAVED SURFACE)	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL.		

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
11/4/2024

TEXAS 811 BEFORE YOU DIG

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ENGINEERING | CONSULTING
SANDLIN
SERVICES, LLC
TBPELS FIRM #21356
9111 JOLLYVILLE RD. STE 212 AUSTIN, TX 78759

UTILITY DETAILS (1 OF 2)

PROJECT CASE: XXXXXXX
TONKINESE DR SUBDIVISION

#	REVISION DESCRIPTION	SIGNATURE	DATE

SHEET 24 OF 26

G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-0129-002 Tonkinese Dr Subdivision\CAD\Construction Sheets\5 TNK DTL.dwg-UTILITY DETAILS (2 OF 2) Plotted Nov 11, 2024 at 2:55pm by Engineer | Last Saved by: Engineer

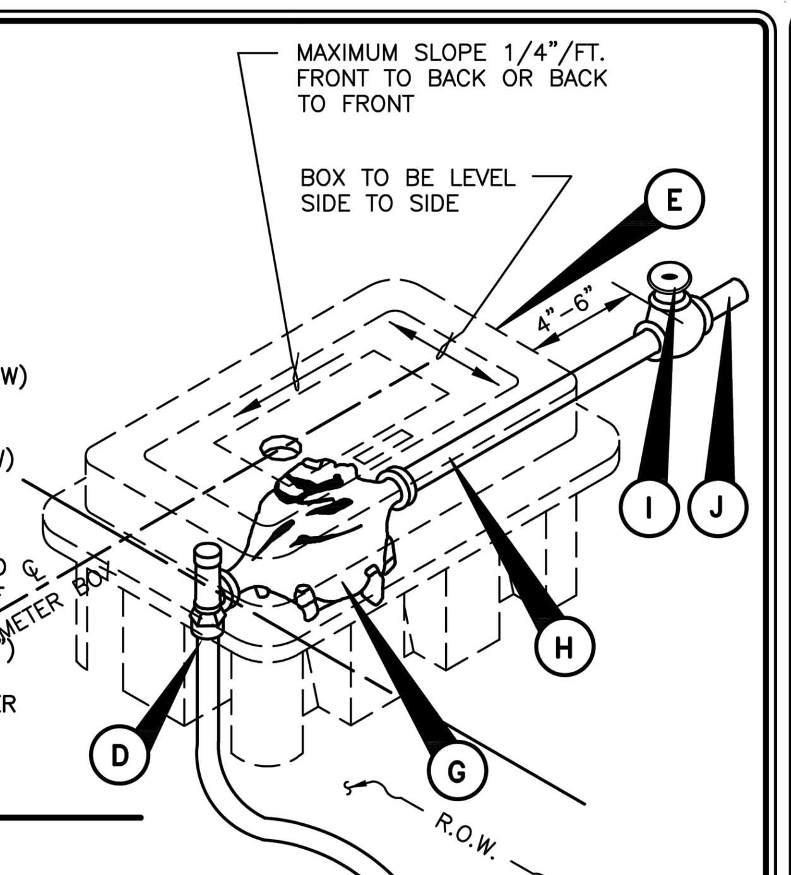
SINGLE 5/8", 3/4" OR 1" WATER METER DETAIL (WT-02)

MATERIAL LIST:

A. SERVICE SADDLE REQUIRED. SERVICE SADDLE TO BE EPOXY COATED WITH DUAL STAINLESS STEEL BANDS.
B. 1" CORPORATION STOP – SERVICE PIPE OUTLET. (SEE NOTE #2)
C. 1" SERVICE PIPE.
D. LOCKING ANGLE METER STOP; SERVICE PIPE INLET X SWIVEL COUPLING NUT OUTLET:
- FOR 5/8" AND 3/4" METERS: 1" X 3/4"
- FOR 1" METERS: 1" X 1"
- SEE NOTE #2

E. PLASTIC RECTANGULAR METER BOX. (SEE TABLE BELOW)
F. PIPE CASING WHERE APPLICABLE. (AS PER DETAIL WT-01)
G. WATER METER, CENTERED IN BOX. (SEE TABLE BELOW)
H. WATER METER COUPLING; MALE I.P.T. X SWIVEL COUPLING NUT:
- FOR 5/8" AND 3/4" METERS: 3/4" X 8 1/2" LONG.
- FOR 1" METERS: LENGTH OF PIPE TO BE DETERMINED BY CONTRACTOR. EXTEND PIPE TO 4"-6" OUTSIDE OF METER BOX.

I. BRONZE GATE VALVE: NON-RISING STEM (3/4" OR 1") FEMALE I.P.T. (PROPERTY OWNERS CUT-OFF OUTSIDE METER BOX IN SEPARATE VALVE CAN WITH LID AS PER CITY OF ROUND ROCK STANDARDS).
J. 3/4" OR 1" PIPE MEETING CITY OF ROUND ROCK PLUMBING CODE REQUIREMENTS.

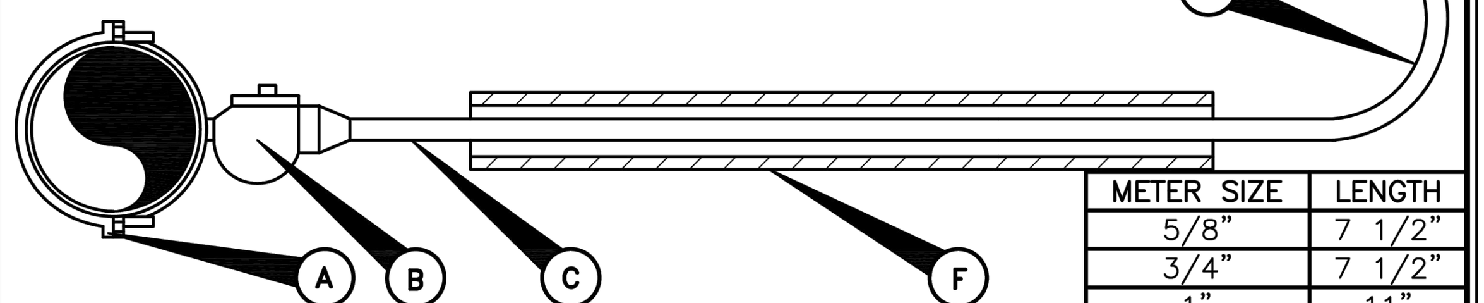


NOTES:

1. SERVICE PIPE SHALL BE COPPER TUBE SIZE. IT MAY BE 150 P.S.I. ANNEALED SEAMLESS TYPE "K" COPPER TUBING OR 200 P.S.I. BLACK COLORED POLYETHYLENE HAVING A DIMENSION RATIO OF 9 (DR9).
2. ALL STAINLESS STEEL INSERTS THAT COME WITH COMPRESSION FITTINGS SHALL NOT BE USED ON ANY CONNECTIONS.
3. SERVICE SADDLES SHALL BE WRAPPED COMPLETELY WITH 8 MIL. POLYETHYLENE FILM.
4. TOP OF BOXES SHALL BE 1" ABOVE FINISHED GRADE.
5. PIPING AND TUBING SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 510.3 OF THE STANDARD SPECIFICATIONS. SPECIAL ATTENTION IS CALLED TO "PIPE BEDDING ENVELOPE" AND "BACKFILLING", SECTIONS 510.3 (14) AND 510.3 (25), RESPECTIVELY.
6. AXIS OF METER ASSEMBLY (LINE THROUGH METER STOP, METER, PIPING AND OWNERS CUTOFF) SHALL BE 10" BELOW TOP OF BOX.
7. SLOTS PROVIDED IN METER BOX TO ACCOMMODATE PIPING INTO AND OUT OF BOX, SHALL NOT BE MODIFIED.
8. LOCATION OF METER BOXES SHALL BE SUBJECT TO THE APPROVAL OF THE C.O.R.R.

PART NUMBER	SERIES	COLOR	HEIGHT	WIDTH	LENGTH
DFW36C-12-BODY*	36C	BLACK	12"	TOP = 13-3/4"	TOP = 18-7/8"
DFW36C-AF1EQA-LID*	36C	BLACK	1-7/8"	LID = 10-3/16"	LID = 15-9/16"
DFW36C-12-AF1EQA*	36C	BLACK	12"	BASE = 10-1/2"	BASE = 18-7/8"

* MANUFACTURED BY DFW PLASTICS INCORPORATED OR APPROVED EQUAL.



METER SIZE	LENGTH
5/8"	7 1/2"
3/4"	7 1/2"
1"	11"

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT
APPROVED 03-01-18
DATE
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)

CITY OF ROUND ROCK — DRAWING NO: WT-02

SINGLE 5/8", 3/4" OR 1" WATER METER DETAIL

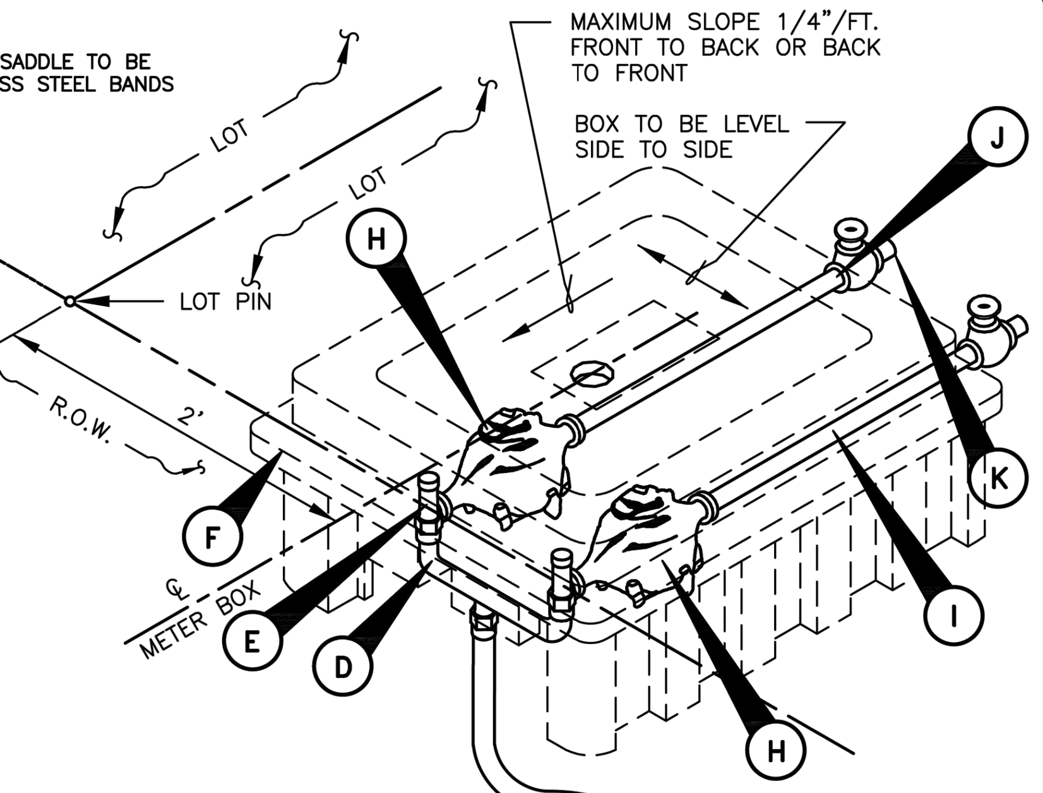
ROUND ROCK TEXAS

DUAL 5/8", 3/4" OR 1" WATER METERS DETAIL (WT-04)

MATERIAL LIST:

A. SERVICE SADDLE REQUIRED. SERVICE SADDLE TO BE EPOXY COATED WITH DUAL STAINLESS STEEL BANDS
B. 1 1/2" CORPORATION STOP (TYPICAL) – SERVICE PIPE OUTLET. (SEE NOTE #2)
C. 1 1/2" SERVICE PIPE (TYPICAL).
D. BRANCH CONNECTION: 1 1/2" OR 2" SERVICE PIPE INLET AND 2 3/4" MALE I.P.T. OUTLETS 7 1/2" O.C. (SEE NOTE #2)
E. 3/4" LOCKING ANGLE METER STOP; FEMALE I.P.T. INLET AND SWIVEL COUPLING NUT OUTLET.
F. PLASTIC RECTANGULAR METER BOX. (SEE TABLE BELOW)
G. PIPE CASING WHERE APPLICABLE. (AS PER DETAIL WT-01)
H. WATER METERS, CENTERED IN BOX. (SEE TABLE BELOW)
I. WATER METER COUPLING; MALE I.P.T. X SWIVEL COUPLING NUT.
- LENGTH OF PIPE TO BE DETERMINED BY CONTRACTOR.
- EXTEND PIPE TO 4"-6" OUTSIDE OF METER BOX.

J. BRONZE GATE VALVE: NON-RISING STEM (3/4" OR 1") FEMALE I.P.T. (PROPERTY OWNERS CUT-OFF OUTSIDE METER BOX IN SEPARATE VALVE CAN WITH LID AS PER CITY OF ROUND ROCK STANDARDS).
K. 3/4" OR 1" PIPE MEETING CITY OF ROUND ROCK PLUMBING CODE REQUIREMENTS.

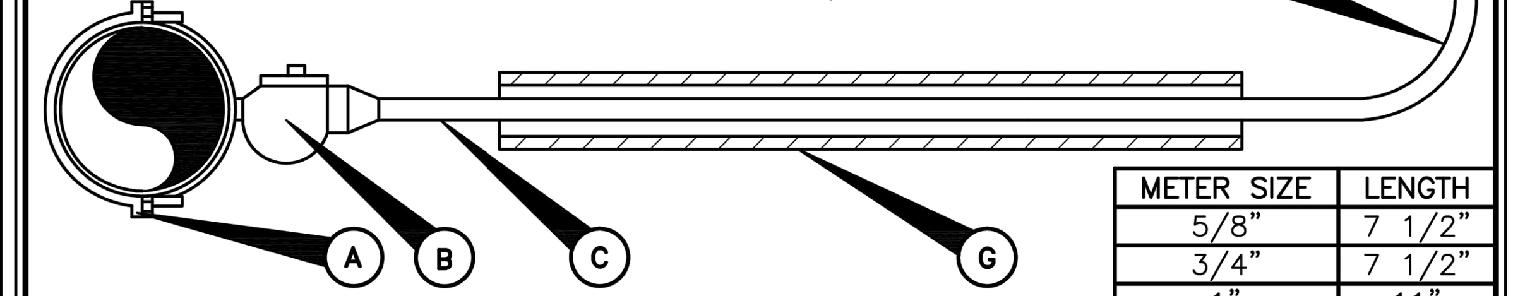


NOTES:

1. SERVICE PIPE SHALL BE COPPER TUBE SIZE. IT MAY BE 150 P.S.I. ANNEALED SEAMLESS TYPE "K" COPPER TUBING OR 200 P.S.I. BLACK COLORED POLYETHYLENE HAVING A DIMENSION RATIO OF 9 (DR9).
2. ALL STAINLESS STEEL INSERTS THAT COME WITH COMPRESSION FITTINGS SHALL NOT BE USED ON ANY CONNECTIONS.
3. SERVICE SADDLES SHALL BE WRAPPED COMPLETELY WITH 8 MIL. POLYETHYLENE FILM.
4. TOP OF BOXES SHALL BE 1" ABOVE FINISHED GRADE.
5. PIPING AND TUBING SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 510.3 OF THE STANDARD SPECIFICATIONS. SPECIAL ATTENTION IS CALLED TO "PIPE BEDDING ENVELOPE" AND "BACKFILLING", SECTIONS 510.3 (14) AND 510.3 (25), RESPECTIVELY.
6. AXIS OF METER ASSEMBLY (LINE THROUGH METER STOP, METER, PIPING AND OWNERS CUTOFF) SHALL BE 10" BELOW TOP OF BOX.
7. SLOTS PROVIDED IN METER BOX TO ACCOMMODATE PIPING INTO AND OUT OF BOX, SHALL NOT BE MODIFIED.
8. BRANCH CONNECTION AND BOTH ANGLE METER STOPS MUST BE INSTALLED PRIOR TO FIRST METER INSTALLATION EVEN THOUGH THE SECOND PROPERTY MAY NOT BE READY FOR SERVICE.
9. LOCATION OF METER BOXES SHALL BE SUBJECT TO THE APPROVAL OF THE C.O.R.R.

PART NUMBER	SERIES	COLOR	HEIGHT	WIDTH	LENGTH
DFW38C-14-BODY*	38C	BLACK	14"	TOP = 20-1/2"	TOP = 21-1/2"
DFW38C-AF1EQA-LID*	38C	BLACK	2"	LID = 17"	LID = 18"
DFW38C-14-AF1EQA*	38C	BLACK	14"	BASE = 17"	BASE = 21-1/2"

* MANUFACTURED BY DFW PLASTICS INCORPORATED OR APPROVED EQUAL.



METER SIZE	LENGTH
5/8"	7 1/2"
3/4"	7 1/2"
1"	11"

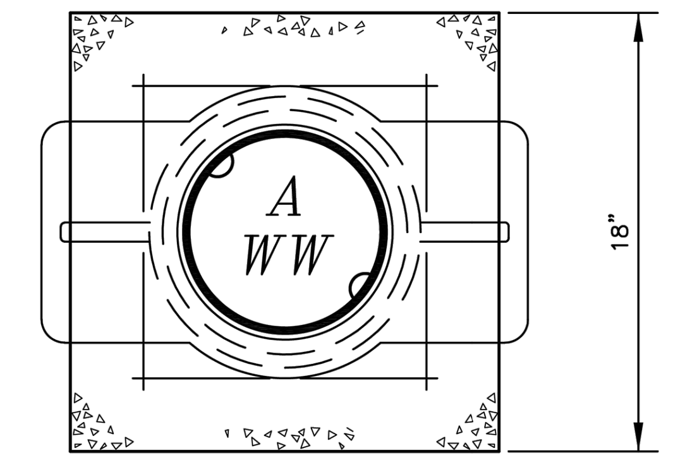
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT
APPROVED 03-01-18
DATE
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)

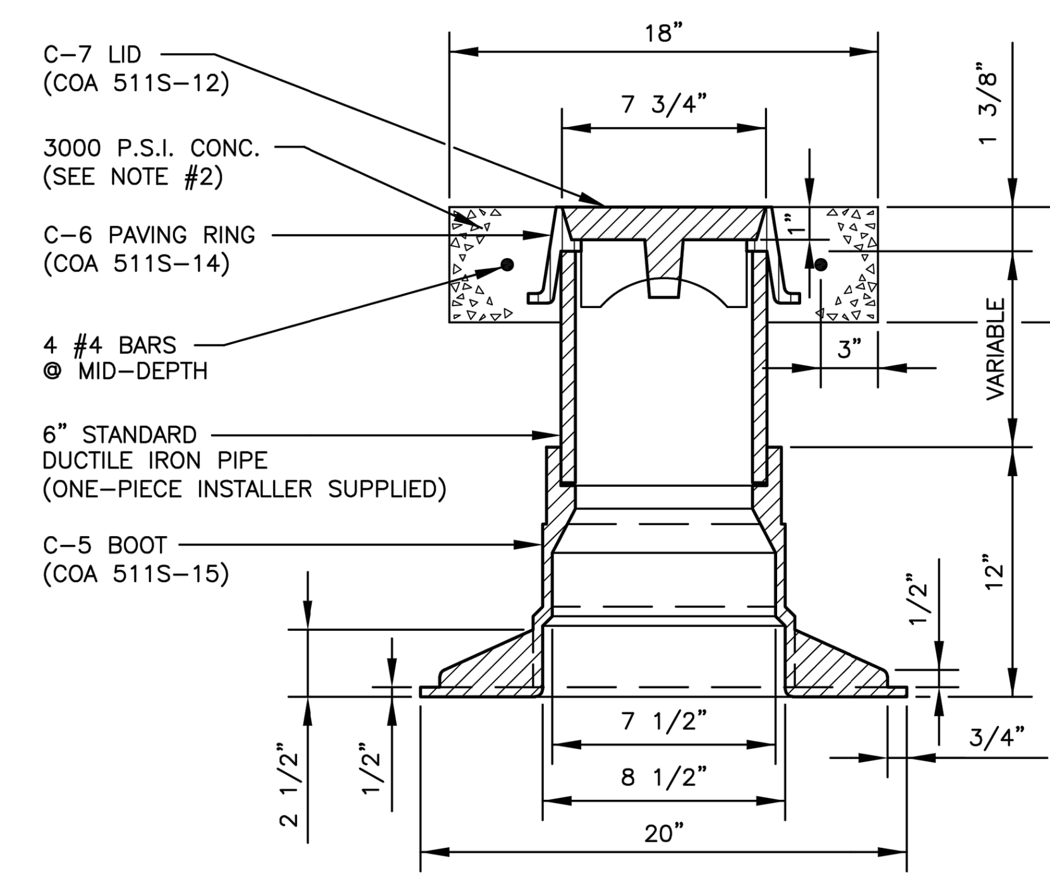
CITY OF ROUND ROCK — DRAWING NO: WT-04

DUAL 5/8", 3/4" OR 1" WATER METERS DETAIL

ROUND ROCK TEXAS

VALVE BOX ASSEMBLY DETAIL (WT-06)





NOTES:

1. NUMBERED CASTINGS STANDARDS SHOWN IN PARENTHESES ARE REFERENCES TO THE CITY OF AUSTIN STANDARDS CRITERIA MANUAL.
2. DELETE CONCRETE AND REBAR WHEN VALVE IS WITHIN PAVED STREET.

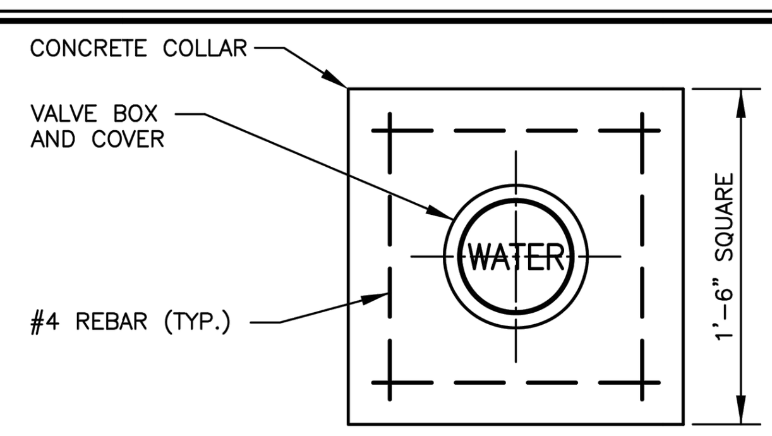
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT
APPROVED 03-01-18
DATE
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)

CITY OF ROUND ROCK — DRAWING NO: WT-06

VALVE BOX ASSEMBLY DETAIL

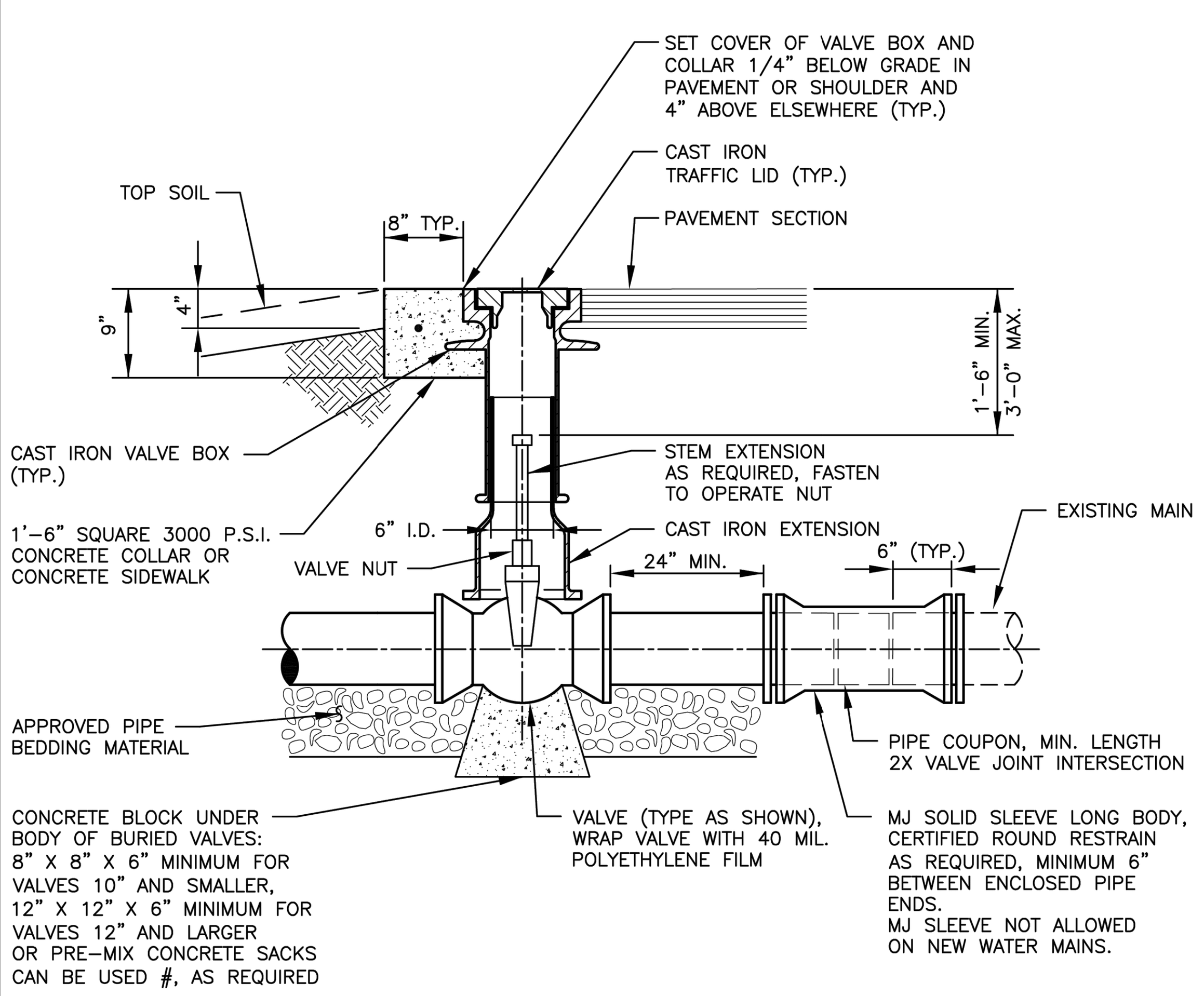
ROUND ROCK TEXAS

GATE VALVE DETAIL (WT-22)



PLAN VIEW

SEE DETAIL WT-06



RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT
APPROVED 03-01-18
DATE
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)

CITY OF ROUND ROCK — DRAWING NO: WT-22

GATE VALVE DETAIL

ROUND ROCK TEXAS

STANDARD FIRE HYDRANT ASSEMBLY

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

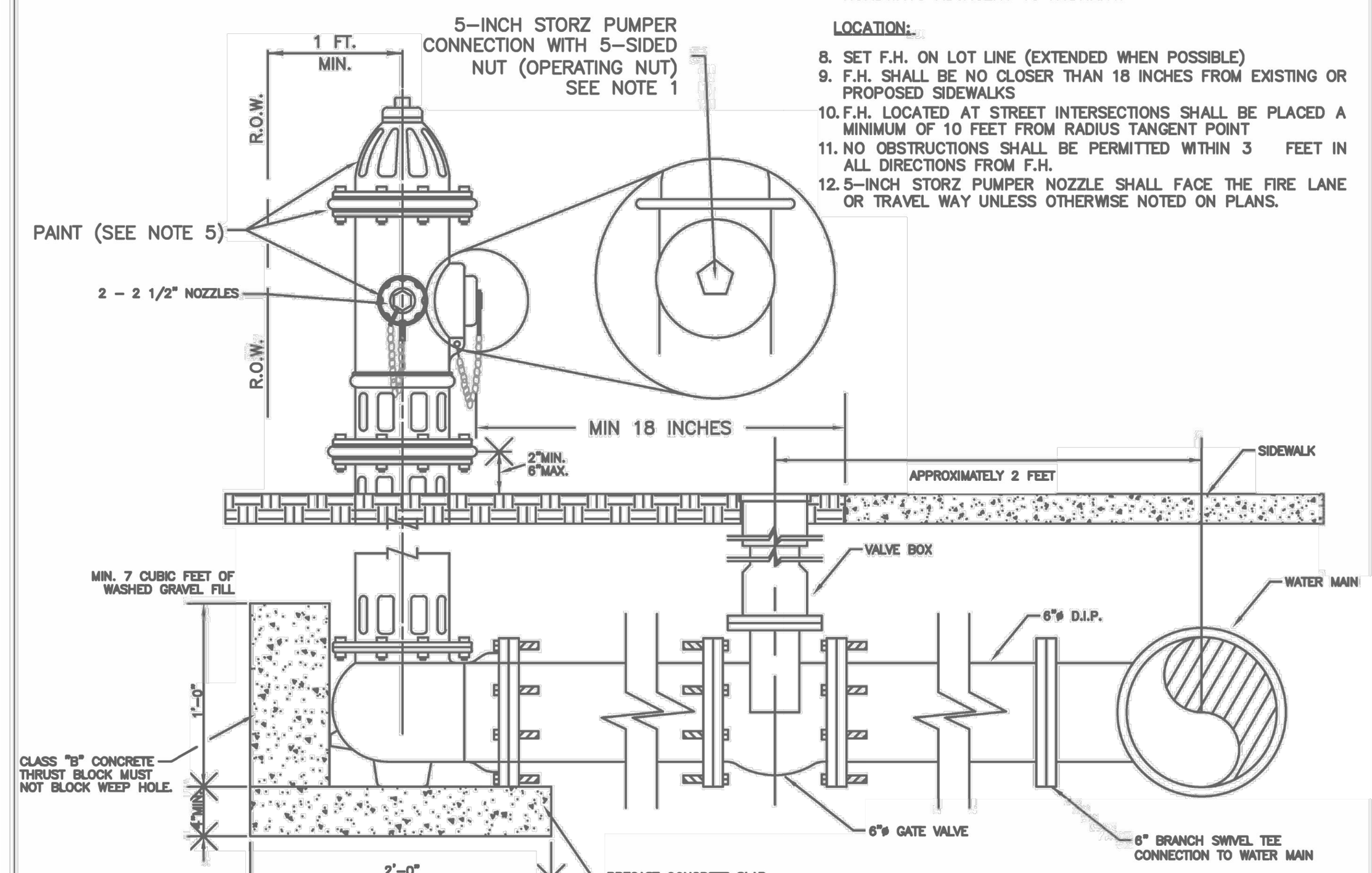
RATED FLOW	FIRE HYDRANT BONNET COLOR
1,500 G.P.M. +	LIGHT BLUE
1000 – 1499 G.P.M.	GREEN
500 – 999 G.P.M.	ORANGE
BELOW 500 G.P.M.	RED

NOTES:

1. FIRE HYDRANT BRAND AND MODEL SHALL BE APPROVED BY THE LOCAL WATER AUTHORITY DISTRICT. THE PRIMARY FEATURES REQUIRED INCLUDE: FACTORY INSTALLED INTEGRAL 5-INCH STORZ PUMPER NOZZLE; 1.5-INCH PENT OPERATING NUT ON NOZZLE CAP; OPEN LEFT; FACTORY PAINTED.
2. HYDRANTS SHALL BE ORDERED SILVER IN COLOR. HYDRANTS WILL NOT BE ACCEPTED IF PAINTED AFTER DELIVERY.
3. ALL DUCTILE OR CAST IRON FITTINGS AND/OR PIPE SHALL BE POLYWRAPPED.
4. ALL HYDRANTS SHALL BE EQUIPPED WITH A BREAKAWAY FLANGE. ALL FITTINGS SHALL BE EQUIPPED WITH JOINT RESTRAINT "MEGALUG" OR APPROVED EQUAL. ALL ANCHOR FITTING TO BE CONCRETE THRUST BLOCKED.
5. AFTER COMPLETION OF FIRE HYDRANT INSTALLATION, A FIRE FLOW TEST SHALL BE CONDUCTED BY A THIRD PARTY COMPANY. BASED ON FIRE FLOW TEST, THE FIRE HYDRANT BONNET SHALL BE PAINTED ACCORDING TO THE CHART ON THIS SHEET. THE HYDRANT BONNET TO FLANGE AND NOZZLE CAPS SHALL BE PAINTED THE APPROVED COLOR CORRESPONDING WITH THE APPROPRIATE FLOW RATE AS NOTED ON THE TABLE ON THIS SHEET.
6. BLUE, BI-DIRECTIONAL REFLECTIVE PAVEMENT MARKER, ULTIMATE WET NIGHT VISIBILITY SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATION AT THE CORRESPONDING ROADWAY STATION OFFSET 6 INCHES FROM CENTER OF STREET TO THE SIDE HYDRANT IS LOCATED. AT
7. INTERSECTIONS, MARKERS SHOULD BE PLACED ON BOTH ROADWAYS ADJACENT TO HYDRANT.

LOCATION:

8. SET F.H. ON LOT LINE (EXTENDED WHEN POSSIBLE)
9. F.H. SHALL BE NO CLOSER THAN 18 INCHES FROM EXISTING OR PROPOSED SIDEWALKS
10. F.H. LOCATED AT STREET INTERSECTIONS SHALL BE PLACED A MINIMUM OF 10 FEET FROM RADIUS TANGENT POINT
11. NO OBSTRUCTIONS SHALL BE PERMITTED WITHIN 3 FEET IN ALL DIRECTIONS FROM F.H.
12. 5-INCH STORZ PUMPER NOZZLE SHALL FACE THE FIRE LANE OR TRAVEL WAY UNLESS OTHERWISE NOTED ON PLANS.



N.T.S.

PER ORDER NO. 2007-01
(2) SECTION C105.2 INSTALLATION.
FIRE HYDRANTS MUST BE INSTALLED WITH THE 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.

NOTE: STANDARD FIRE HYDRANT ASSEMBLY INCLUDES ALL COMPONENTS SHOWN HEREIN, EXCEPT WATER MAIN, INSTALLED COMPLETE AND IN-PLACE.

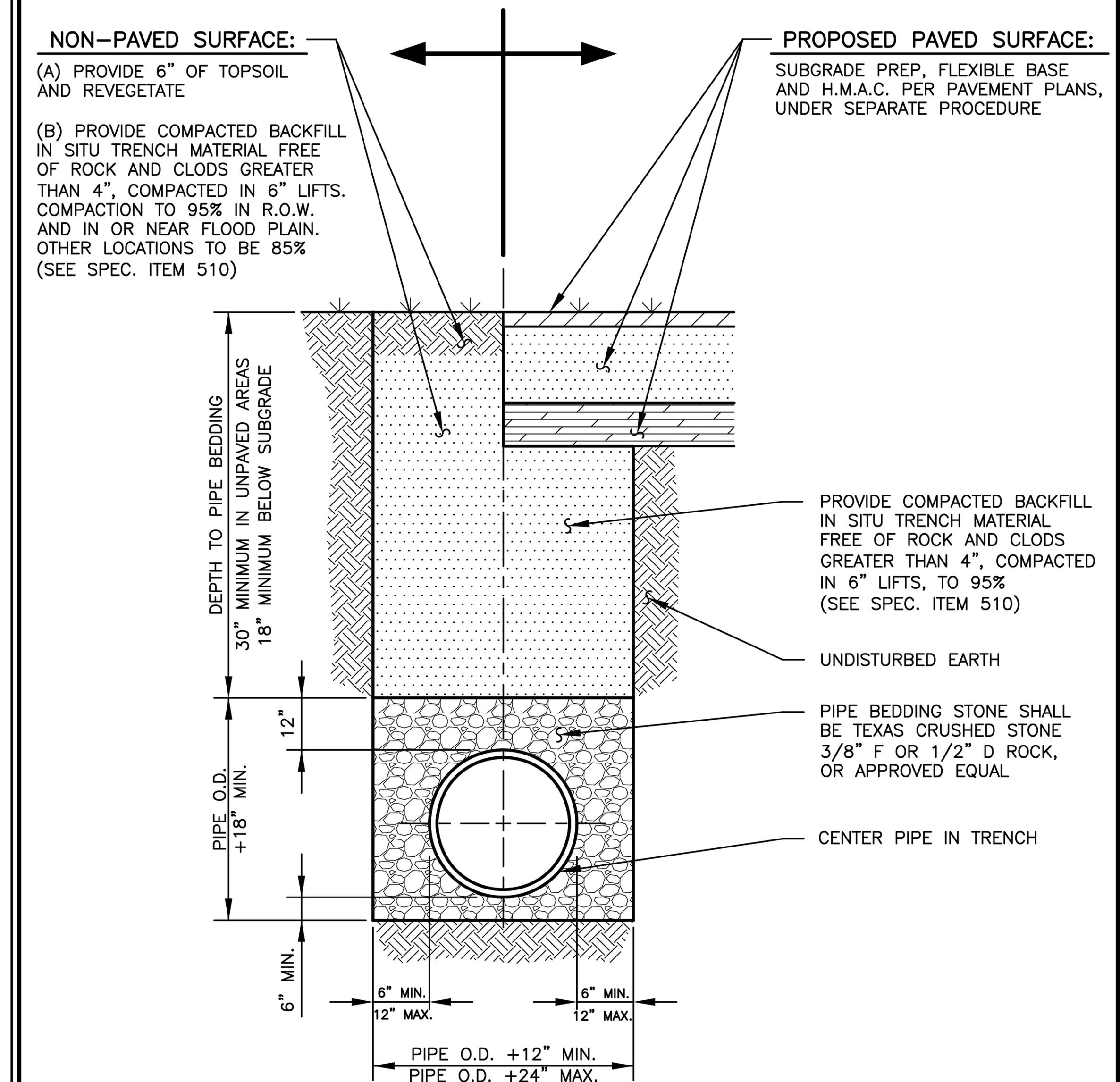
Williamson County Emergency Services District No. 4

STANDARD FIRE HYDRANT ASSEMBLY

WATERLINE BEDDING AND SURFACE REPAIR DETAIL (WT-08)

NON-PAVED SURFACE:
(A) PROVIDE 6" OF TOPSOIL AND REVEGETATE
(B) PROVIDE COMPACTED BACKFILL IN SITU TRENCH MATERIAL FREE OF ROCK AND CLODS GREATER THAN 4", COMPACTED IN 6" LIFTS. COMPACTION TO 95% IN R.O.W. AND IN OR NEAR FLOOD PLAIN. OTHER LOCATIONS TO BE 85% (SEE SPEC. ITEM 510)

PROPOSED PAVED SURFACE:
SUBGRADE PREP, FLEXIBLE BASE AND H.M.A.C. PER PAVEMENT PLANS, UNDER SEPARATE PROCEDURE



NOTE:

1. ALL TRENCHING AND TRENCH SAFETY SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT
APPROVED 03-01-18
DATE
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)

CITY OF ROUND ROCK — DRAWING NO: WT-08

WATERLINE BEDDING AND SURFACE REPAIR DETAIL (NON-PAVED & PROPOSED PAVED SURFACE)

ROUND ROCK TEXAS

STATE OF TEXAS — NICHOLAS R. SANDLIN — 124404 — LICENSED PROFESSIONAL ENGINEER — 11/4/2024

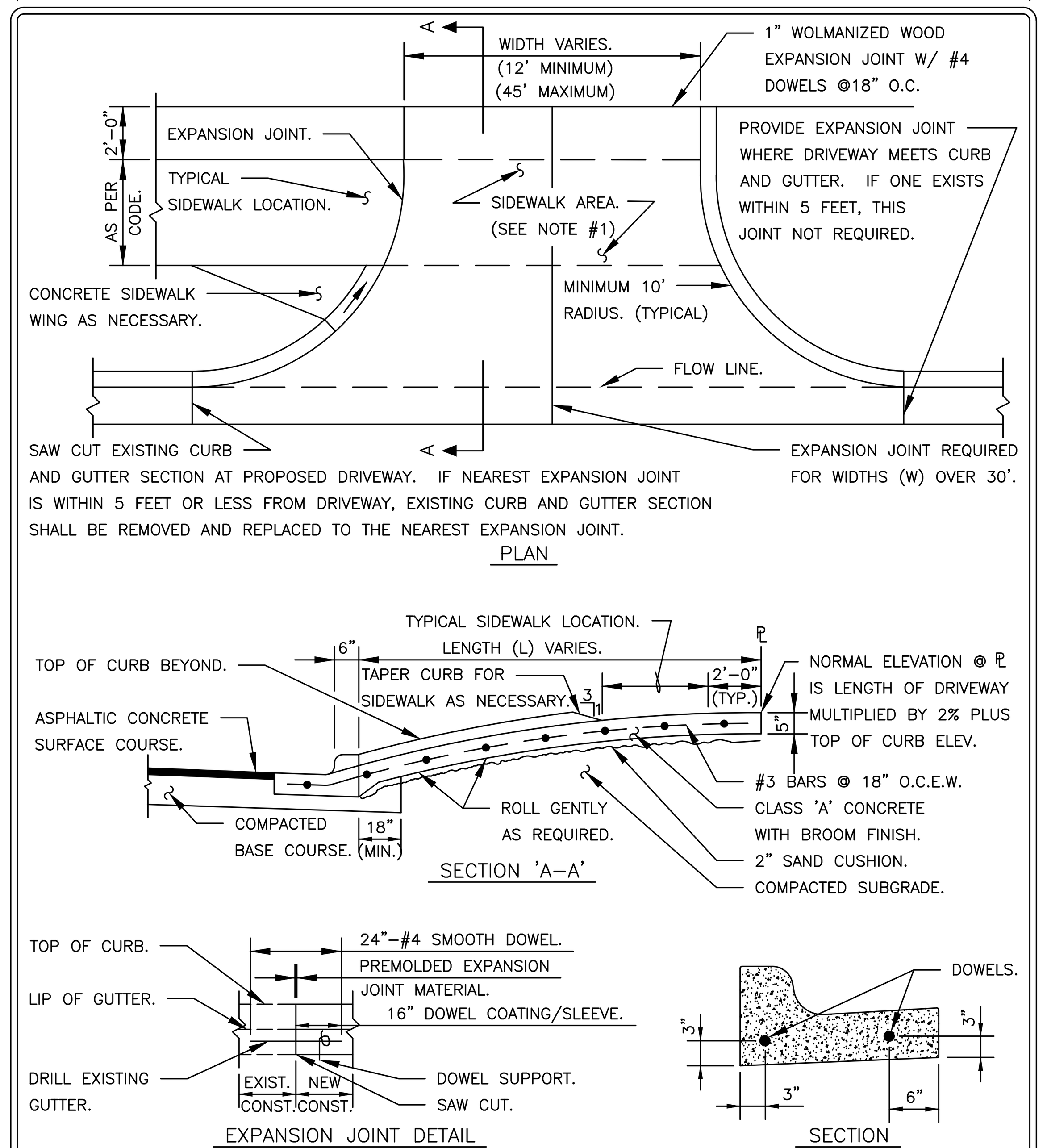
WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

ENGINEERING | CONSULTING
SANDLIN
SERVICES, LLC
TBPELS FIRM #21356
9111 JOLLYVILLE RD. STE 212 AUSTIN, TX 78759

UTILITY DETAILS (2 OF 2)

PROJECT CASE: XXXXXXX
TONKINESE DR SUBDIVISION

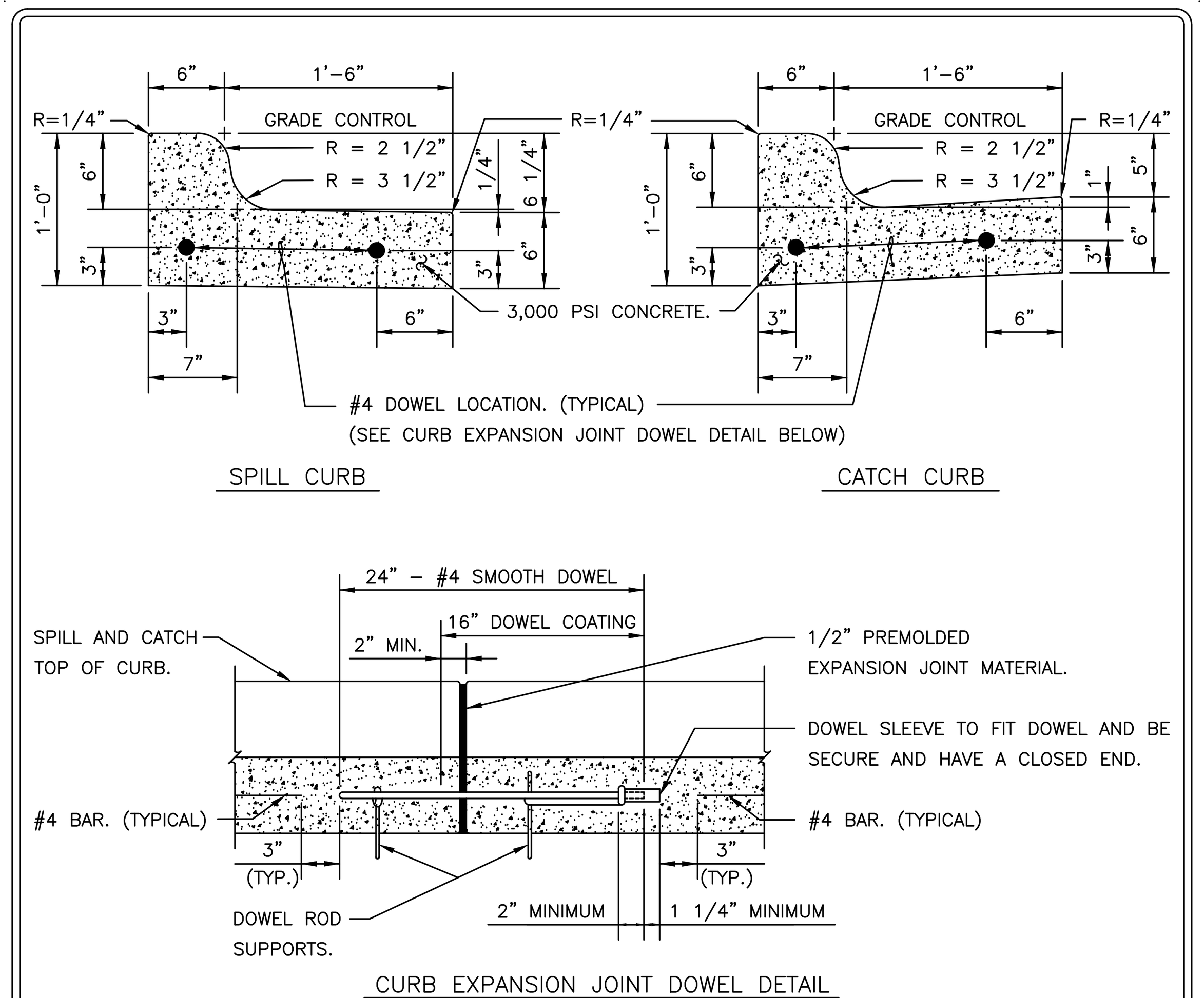
#	REVISION DESCRIPTION	SIGNATURE	DATE



NOTE:

1. THE SIDEWALK AREA OF THE DRIVEWAY SHALL SLOPE TOWARD THE STREET PAVING AT NO MORE THAN 2%.

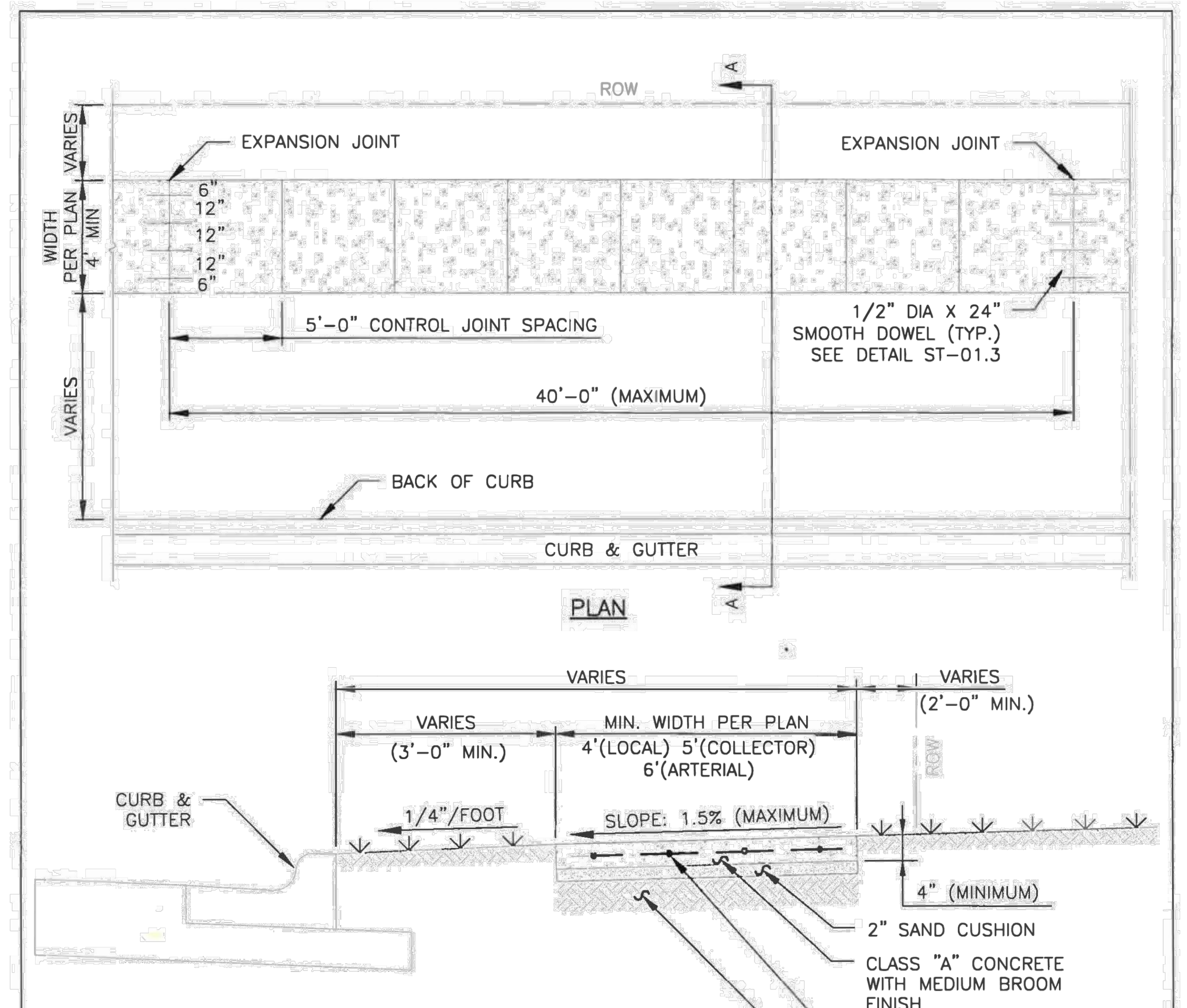
RECORD SIGNED COPY ON FILE AT PUBLIC WORKS APPROVED 11-08-01 DATE THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL.	CITY OF ROUND ROCK CONCRETE DRIVEWAY DETAIL (COMMERCIAL OR MULTI-FAMILY)	DRAWING NO: ST-03



NOTES:

1. ALL WORK AND MATERIAL SHALL CONFORM TO ASTM A615, A615M, C309 AND D1752. BROOM FINISH EXPOSED SURFACE.
2. CONTROL JOINT SPACING SHALL NOT EXCEED 10'-0'.
3. EXPANSION JOINTS AS PER STANDARD ASTM D-1752.
4. EXPANSION JOINT INTERVALS NOT TO EXCEED 40'-0" FOR ALL CURBS AND CONSTRUCTION METHODS.
5. ALL CURBS SHALL HAVE A MINIMUM OF 4" OF COMPACTED FLEXIBLE BASE BETWEEN BOTTOM OF CURB AND TOP SUBGRADE THAT SHALL EXTEND A MINIMUM OF 18" BEHIND BACK OF CURB. TOTAL DEPTH OF FLEXIBLE BASE UNDER AND BEHIND CURB SHALL BE: (TOTAL DEPTH OF FLEXIBLE BASE) LESS (6-INCHES).
6. ALL CURBS SHALL CONFORM TO THESE DETAILS INDEPENDANT OF THE CONSTRUCTION METHODS USED.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS APPROVED 08-21-03 DATE THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL.	CITY OF ROUND ROCK SPILL AND CATCH CURB DETAIL (WITH CURB EXPANSION JOINT DOWEL DETAIL)	DRAWING NO: ST-05



NOTES:

1. CONCRETE IS CLASS "A" BROOM FINISHED. (TXDOT ITEM 421 & 531)
2. REINFORCING IS #4 BARS PLACED AT 12 INCHES O.C.E.W. (SEE DETAIL) DO NOT USE W.W.F (WELDED WIRE FABRIC)
3. PLACE EXPANSION JOINT AT A MAXIMUM SPACING OF 40 FEET. TERMINATE WORKDAY PRODUCTION AT AN EXPANSION JOINT.
4. PLACE 1/2 INCH WIDE EXPANSION MATERIAL WHERE SIDEWALK ABUTS AN EXISTING STRUCTURE, DRIVEWAY, OR OBSTRUCTION PROTRUDING THROUGH THE SIDEWALK.
5. FORM CONTROL JOINTS, 1/4 INCH WIDE AND 3/4 INCH DEEP AT A MAXIMUM SPACING OF 5 FEET. JOINT SPACING SHALL BE PROPORTIONAL TO WIDTH OF SIDEWALK.
6. ROUND OUTER EDGES AND JOINTS TO A 1/4 INCH RADIUS
7. CONSTRUCT CURB RAMPS IN ACCORDANCE WITH TXDOT STANDARD "PEDESTRIAN FACILITIES CURB RAMPS".
8. WHEN SIDEWALK IS A DESIGNATED SHARED USE PATH, CURB RAMP CLEAR WIDTH SHALL MATCH THE WIDTH OF THE SHARED USE PATH.
9. SIDEWALKS SHALL BE CONSTRUCTED PER CURRENT ADA STANDARDS.
10. SIDEWALKS WITHIN 3'-0" OF CURB SHALL BE A MINIMUM OF 5 FEET WIDE.

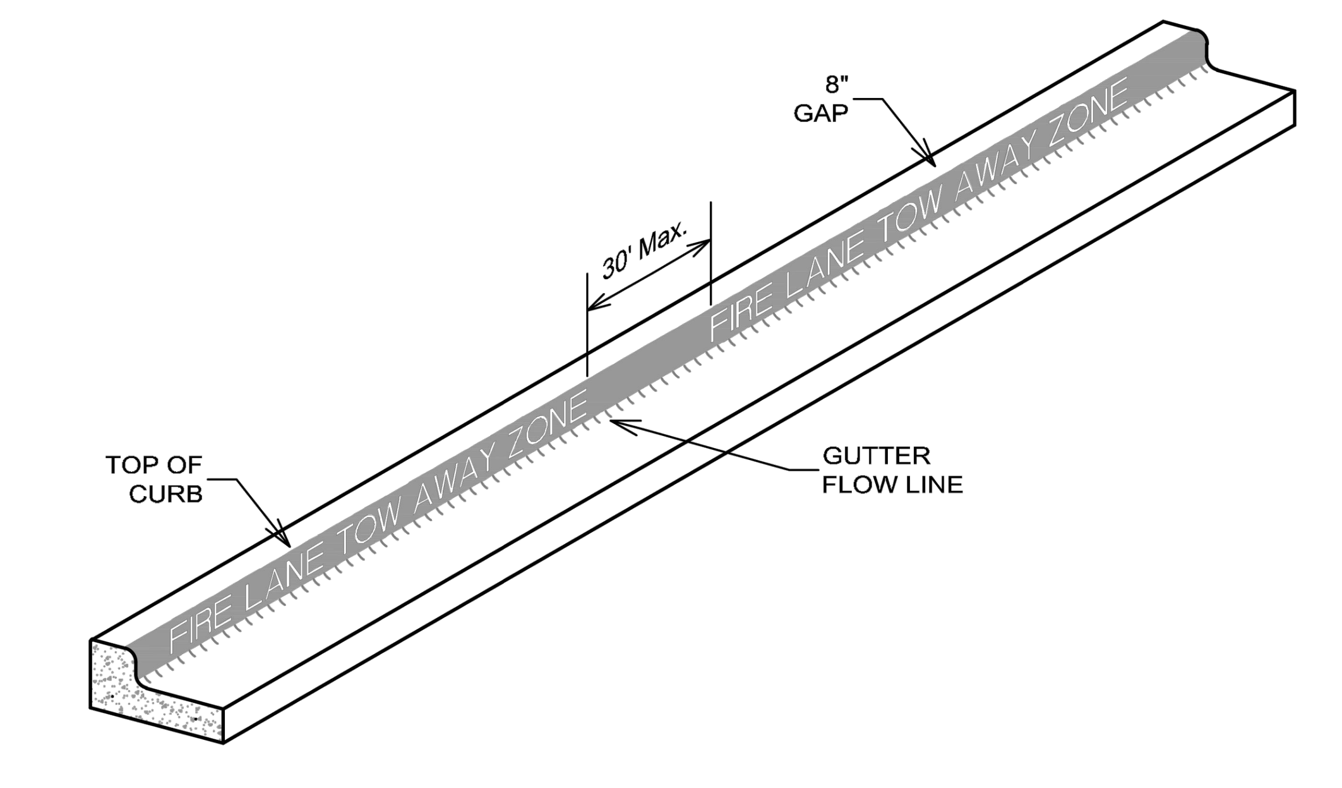
SCALE: NTS

RECORD SIGNED COPY ON FILE APPROVED 01-28-21 DATE THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL.	CITY OF ROUND ROCK SIDEWALK DETAIL	DRAWING NO: ST-01.1 SHEET 1 of 3 ROUND ROCK TEXAS

Williamson County Emergency Services District No. 4

Fire Lane Detail

NOTES:
FIRE LANE STRIPING TO BE 6" WIDE RED PAINT WITH "FIRE LANE TOW AWAY ZONE" IN 4" TALL WHITE LETTERS. WORDING MAY NOT BE SPACED GREATER THAN 30' APART. STRIPING TO BE PAINTED ON THE FACE OF CURB WHEN PRESENT AND PAINTED FLAT ON THE PARKING SURFACE WHEN IT IS NOT.



FIRE LANE STRIPING DETAIL

not to scale

ENGINEER	DATE	DRAWN BY	PROJECT NO.	DRAWING NO.
FRANK T. PHELAN, P.E.	04 - 25 - 19	JJD	01	1 OF 1

FIRE LANE STRIPING DETAIL

D:\Standards\Const-Stnds\Fire-Lane-Striping_Curb.dwg

STATE OF TEXAS
NICHOLAS R. SANDLIN
124404
LICENSED
PROFESSIONAL ENGINEER
11/4/2024

WARNING !!!! CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO CONTACT ENGINEER IF ANY EXISTING UTILITY INFORMATION DIFFERS FROM DATA SHOWN IN THE PLANS. CALL 811 BEFORE YOU DIG.

ENGINEERING | CONSULTING
SANDLIN
SERVICES, LLC

TBPELS FIRM #21356
9111 JOLLYVILLE RD. STE 212 AUSTIN, TX 78759

CONSTRUCTION DETAILS

PROJECT CASE: XXXXXXX
TONKINESE DR SUBDIVISION

#	REVISION DESCRIPTION	SIGNATURE	DATE

G:\Shared drives\Sandlin Services LLC\Sandlin Services Projects\Land Development Division\01-0129-002 Tonkinese Dr Subdivision\CAD\Construction Sheets\5 TNK DTL.dwg-CONSTRUCTION DETAILS Plotted Nov 11, 2024 at 2:55pm by Engineer | Last Saved by: Engineer

Permanent Stormwater Section
(TCEQ-0600)

Attachment G:
Inspection, Maintenance, Repair and Retrofit Plan

BATCH DETENTION BASIN BMP

Batch Detention Basins capture and temporarily detain the water quality volume. They capture the first flush of stormwater, allowing the solids fraction to settle, and they limit downstream erosion by controlling peak flow rates during erosive events. A Batch Detention Basin can be used in combination with grassy swales to achieve water quality and drainage goals. Batch Detention Basins may have moderate to somewhat higher maintenance requirements since they are active stormwater controls. There are many factors that may affect a Batch Detention Basin's operation and that will be periodically checked. These factors can include mowing, removal of accumulated bottom sediments, removal of debris from all inflow and outflow structures, unclogging of orifice perforations, and the upkeep of all physical structures that are within the Batch Detention Basin area.

Inspections

The Batch Detention Basin inspections should take place a minimum of twice a year. One inspection should take place during wet weather to determine if the basin is meeting the target detention time of 12 hours and a drawdown time of no more than 48 hours. The remaining inspection(s) should occur between storm events so that manual operation of the valve and controller can be verified. The level sensor in the pond should be inspected and any debris or sediment in the area should be removed. The outlet structure and the trash screen should be inspected for signs of clogging. Debris and sediment should be removed from the orifice and outlets(s) as described below. Debris obstructing the valve should be removed. During each inspection, erosion areas inside and downstream of the BMP should be identified and repaired/revegetated immediately.

Mowing

The pond, pond side-slopes, and embankment of the pond basin must be mowed to prevent woody growth 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. A gate and ladder will provide pond access for maintenance per the approved Site Construction Plans.

Litter and Debris Removal

Litter and debris removal should take place at least twice a year, as part of the periodic mowing operations and inspections. Debris and litter should be removed from the surface of the pond 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.

Erosion Control

The pond basin side slopes and embankment all may periodically suffer from slumping and erosion. To correct these problems, corrective action, such as regrading and revegetation, may be necessary. Correction of erosion control should take place whenever required based on the periodic inspections.

Nuisance Control

Standing water or soggy conditions may occur in the pond basin. Some standing water may occur after a storm event since the valve may close with 2 to 3 inches of water in the basin. Some flow into the pond basin may also occur between storms due to spring flow and residential water use that enters the storm sewer system. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.) particularly in areas of permanent standing water.

Structural Repairs and Replacement

With each inspection, any damage to the structural elements of the pond 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 pond basin will eventually deteriorate and must be replaced.

Sediment Removal

A professionally designed Batch Detention Basin will accumulate quantities of sediment over time. The accumulated sediment can detract from the appearance of the facility and reduce the pollutant removal performance of the facility. The sediment also tends to accumulate near the outlet structure and can interfere with the level sensor operation. Sediment shall be removed from the pond 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 pond basin lining during maintenance.

Logic Controller

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

VEGETATIVE FILTER STRIP (VFS) BMP

Vegetative Filter Strip (VFS) BMP Establishment

Establishment of Vegetative Filter Strips may require irrigation immediately after planting and during particularly dry periods to ensure proper function of the filter strips. Once vegetated strip areas are well established, minimal maintenance is generally needed to ensure continued function of the vegetated filter strips. Corrective maintenance, such as manual weeding or replanting should be done more frequently in the first two to three years after installation to ensure stabilization.

Recommended Maintenance Guidelines for Vegetative Filter Strips (VFS) BMP

Watering

Watering will be limited to the quantity and timing necessary to establish the VFS and to maintain the filter strips over time. Overwatering should be avoided to prevent runoff of irrigation water offsite. Water conservation measures and seasonal watering restrictions, if applicable, should be followed. Dense vegetation may require irrigation immediately after planting and during particularly dry periods, particularly as the vegetation is initially established.

Seasonal Mowing and Filter Strip Care

Vegetative filter strips planted in turf grass should be mowed, as needed, but at least once every 6 months to maintain a dense vegetative cover and to limit vegetation height to 18 inches, using a mulching mower. If a traditional mower is used, grass clippings should be removed. If native grasses are used, the filter may require less frequent mowing, but a minimum of twice annually. Grass clippings and brush debris should not be deposited on VFS areas.

Regular mowing should also include weed control practices; however, herbicide use should be kept to a minimum and follow Integrated Pest Management (IPM) practices. Healthy grass can be maintained without using fertilizers because runoff usually contains sufficient nutrients.

Integrated Pest Management (IPM)

If problem insects and weeds require management, they will be controlled with minimal or no use of insecticides and herbicides. Herbicide and/or pesticide use, if absolutely necessary, must follow Integrated Pest Management (IPM) practices. An Integrated Pest Management (IPM) Plan should be developed for vegetated areas. This plan should specify how problem insects and weeds will be controlled with minimal or no use of insecticides and herbicides. Manual weed control should be implemented and if herbicides or pesticides become necessary, they should be limited to organic-derived compounds with short half-lives. Any necessary herbicides or pesticides will be stored off-site and according to manufacturer recommendations. Healthy grass can typically be maintained without using fertilizers because runoff usually contains sufficient nutrients. The use of persistent and harmful petroleum-based herbicides and pesticides are prohibited. Any necessary use of approved IPM practices and organic-derived compounds will be minimally applied as recommended and follow local, state, and federal regulations for application, storage, and disposal of the chemicals.

Vegetative Filter Strip (VFS) Inspection

Vegetative filter strips will be inspected annually for erosion or damage to vegetation. Additional inspection after periods of heavy rainfall and runoff are necessary to identify erosion or vegetation damage. The VFS should be checked for uniformity of grass cover, debris and litter, and areas of sediment accumulation. More frequent inspections of the grass cover during the first few years after establishment will help to determine if any problems are developing, and to plan for repair and long-term restorative maintenance needs.

Vegetative Filter Strip (VFS) Repair

Bare spots and areas of erosion identified during semi-annual inspections must be replanted and restored to meet specifications. Damaged or thinning vegetation areas should be repaired and reseeded to maintain a dense vegetation cover. A healthy dense grass should be maintained on the filter strip. If areas are eroded, they should be filled, compacted, and reseeded so that the final grade is level. Sediment removal is not normally required in filter strips since the vegetation normally grows through it and binds it to the soil. However, sediment may accumulate along the upstream boundary of the strip preventing uniform overland flow. Excess sediment should be removed by hand or with flat-bottomed shovels. Grass damaged during the sediment removal process should be promptly replace using the same seed mix used during filter strip establishment. If possible, flow should be diverted from the damaged areas until the grass is firmly established. Bare spots and areas of erosion identified during annual inspections must be replanted and restored to meet specifications. A level, dense filter strip will reestablish shallow overland flow.

Debris and Trash Removal

The VFS should be kept free of obstructions to reduce floatables being flushed downstream, and for aesthetic reasons. The site will be inspected monthly (at a minimum quarterly) for the presence of trash and debris. Trash and debris on the site will be removed and disposed of properly in a solid waste container for subsequent removal by the City's solid waste collection service. No batteries or open/unopened containers of motor oil, antifreeze, petroleum products, or hazardous materials should be openly stored or left on the property. Used batteries are to be recycled. Used motor oil should be recycled.

Record Keeping

Maintenance and inspection records should be kept on file by the Owner of the permanent BMPs for a period of at least three (3) years. Repair and retrofit records should be kept on file by the Owner of the permanent BMPs for a period of at least five (5) years.

General Owner Responsibility

The OWNER or SUBSEQUENT OWNER shall bear all expenses for the operation and maintenance of this Permanent Water Quality Control (PWQC) system including but not limited to all general maintenance activities needed to keep this system in proper operational condition. If this system is abused or not maintained, then it may contribute to malfunction of the storm water system. All designated PWQC areas shall remain free of construction, development, and encroachments.

You as the OWNER of this property have a responsibility to provide any SUBSEQUENT OWNER or your real estate agent with a copy of this Best Management Practices (BMP) Maintenance Plan if this facility is sold so that the BMPs can be properly maintained and operated. The same rights, duties, and responsibilities borne by the current OWNER shall be borne by each subsequent OWNER.

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 for Maintenance:	1130 Airport Inc
Address:	7102 Avignon Dr
City, State, Zip:	Round Rock, Texas 78681
Telephone Number:	512-928-1235

OWNER ACKNOWLEDGEMENT AND ACCEPTANCE:

Barkat Ali

Print Name

owner

Title

DocuSigned by:

EBB944574C22402...

Signature

11/11/2024

Date

PREPARED AND CERTIFIED BY ENGINEER:

Nick Sandlin, P.E.

11/4/2024

Date

Permanent Stormwater Section
(TCEQ-0600)

Attachment H:
Pilot-Scale Field Testing Plan (if proposed)
(NOT APPLICABLE)

A pilot-scale field testing plan is not applicable. All BMP design and calculations are based on and comply with Edwards Aquifer Technical Guidance for Edwards Aquifer Rules (RG-348, revised July 2005).

Permanent Stormwater Section
(TCEQ-0600)

Attachment I:
Measures for Minimizing Surface Stream Contamination

No surface streams flow across the property.

Agent Authorization Form
(TCEQ-0599)

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

I BARKAT ALI,
Print Name

OWNER,
Title - Owner/President/Other

of 1130 AIRPORT INC,
Corporation/Partnership/Entity Name

have authorized NICK SANDLIN, P.E.
Print Name of Agent/Engineer

of SANDLIN SERVICES, LLC
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

11-19-2024
Date

THE STATE OF Texas §

County of Williamson §

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

GIVEN under my hand and seal of office on this 19th day of November, 2024

NOTARY PUBLIC

Ivan Diaz
Typed or Printed Name of Notary

Ivan M Diaz
My Commission Expires
6/26/2026
Notary ID
131621155

MY COMMISSION EXPIRES: 06/26/2026

Application Fee Form
(TCEQ-0574)

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Tonkinese Dr Subdivision
Regulated Entity Location: 0 Tonkinese Dr., Round Rock, TX 78681
Name of Customer: 1130 Airport Inc
Contact Person: Barkat Ali Phone: 512-928-1235
Customer Reference Number (if issued):CN _____
Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☐ Hays ☐ Travis ☒ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

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

☒ Austin Regional Office
☐ Mailed to: TCEQ - Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ San Antonio Regional Office
☐ Overnight Delivery to: TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

Site Location (Check All That Apply):

☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

Type of Plan	***Size***	***Fee Due***
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	5.13 Acres	$ 3,000
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	$
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: _____

Date: 11/4/2024

Application Fee Schedule

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	***Fee***
Extension of Time Request	$150

Core Data Form
(TCEQ-10400)

TCEQ Use Only

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. Reason for Submission (*If other is checked please describe in space provided.*)

☒ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.*)

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

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

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy)

☒ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)* — *If new Customer, enter previous Customer below:*

1130 AIRPORT INC

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
802478745	32060785121		

11. Type of Customer: ☒ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees
☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?
☒ **Yes** ☐ **No**

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☐ Owner ☐ Operator ☒ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant ☐ Other:

15. Mailing Address:	1130 Airport Blvd.						
	City	Austin	**State**	TX	**ZIP**	78702	**ZIP + 4**

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*
	barkat323@gmail.com

18. Telephone Number	**19. Extension or Code**	**20. Fax Number** *(if applicable)*

(913) 461-8318		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Tonkinese Dr Subdivision

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	0 Tonkinese Dr							
	City	Round Rock	**State**	TX	**ZIP**	78681	**ZIP + 4**	
24. County	Williamson							

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:					
26. Nearest City			**State**		**Nearest ZIP Code**

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:	30.503256		**28. Longitude (W) In Decimal:**	- 97.726475	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	30	11.72	-97	43	35.31

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
		n/a	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Single-Family Homes

34. Mailing Address:	**Tonkinese Dr**							
	City	**Round Rock**	**State**	**TX**	**ZIP**	**78681**	**ZIP + 4**	
35. E-Mail Address:	**barkat323@gmail.com**							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(512) 928-1235		( ) -

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.

☐ Dam Safety	☐ Districts	☒ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
		WPAP		
☐ 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:	Nick Sandlin, P.E.	**41. Title:**	Professional Engineer

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(806 **)** 679-7303		**( ) -**	operations@sandlinservices.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:	Sandlin Services, LLC	**Job Title:**	Principal & Profesional Engineer
Name *(In Print):*	Nick Sandlin, P.E.	**Phone:**	**(** 806 **)** 679- **7303**
Signature:		**Date:**	11/4/2024