MIGL
ENGINEERING
AND CONSULTING

EDWARDS AQUIFER WATER POLLUTION ABATEMENT PLAN (WPAP) AND ORGANIZED SEWAGE COLLECTION SYSTEM (SCS)

FREEDOM CHURCH

2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SITE LOCATED IN EDWARD'S AQUIFER RECHARGE ZONE

Prepared for
Freedom Church Austin
of the Assemblies of God, Inc.
2330 Dry Creek Drive
Round Rock, Texas 78681

Prepared by
Migl Engineering and Consulting, PLLC
9600 Escarpment Boulevard, Suite 745-174
Austin, Texas 78749

1/31/24

Project No. 0208.002
January 2024

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: Freedom Church						**2. Regulated Entity No.:** N/A			
3. Customer Name: Freedom Church						**4. Customer No.:** N/A			
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):**		6.63 acres	
9. Application Fee:	$5650.00		**10. Permanent BMP(s):**			Partial Sedimentation-Filtration			
11. SCS (Linear Ft.):	48		**12. AST/UST (No. Tanks):**			0			
13. County:	Williamson		**14. Watershed:**			Williamson 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.)	___	___	__X__
Region (1 req.)	___	___	__X__
County(ies)	___	___	__X__
Groundwater Conservation District(s)	___Edwards Aquifer Authority ___Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	___Barton Springs/ Edwards Aquifer	N/A
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 **X**__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	N/A	___San Antonio ETJ (SAWS)	N/A

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.
Kyle Quick, P.E.
Print Name of Customer/Authorized Agent
Signature of Customer/Authorized Agent 1/31/24 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

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.

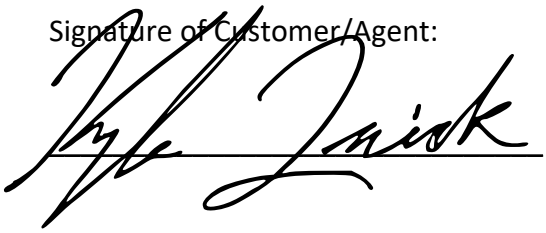
Signature

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: Kyle Quick, PE

Date: 1/31/24

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Freedom Church
2. County: Williamson
3. Stream Basin: Lake Creek
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: Pastor Benito Fresquez
Entity: Freedom Church Austin of the Assemblies of God, Inc.
Mailing Address: 2330 Dry Creek Drive
City, State: Round Rock, TX Zip: 78681
Telephone: (512) 255-0064 FAX: _____
Email Address: benito@freedomchurchrr.com

8. Agent/Representative (If any):

Contact Person: Kyle Quick, PE
Entity: Migl Engineering & Consulting, PLLC
Mailing Address: 9600 Escarpment Blvd, Suite 745-174
City, State: Austin, TX Zip: 78749
Telephone: (512) 965-2318 FAX: _____
Email Address: Kyle@miglengineering.com

9. Project Location:

☒ The project site is located inside the city limits of Round Rock.
☐ The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of _____.
☐ The project site is not located within any city's limits or ETJ.

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.

The site is located at the northwest corner of the intersection of Dry Creek Drive and Hesters Crossing.

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: 3/31/24

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:

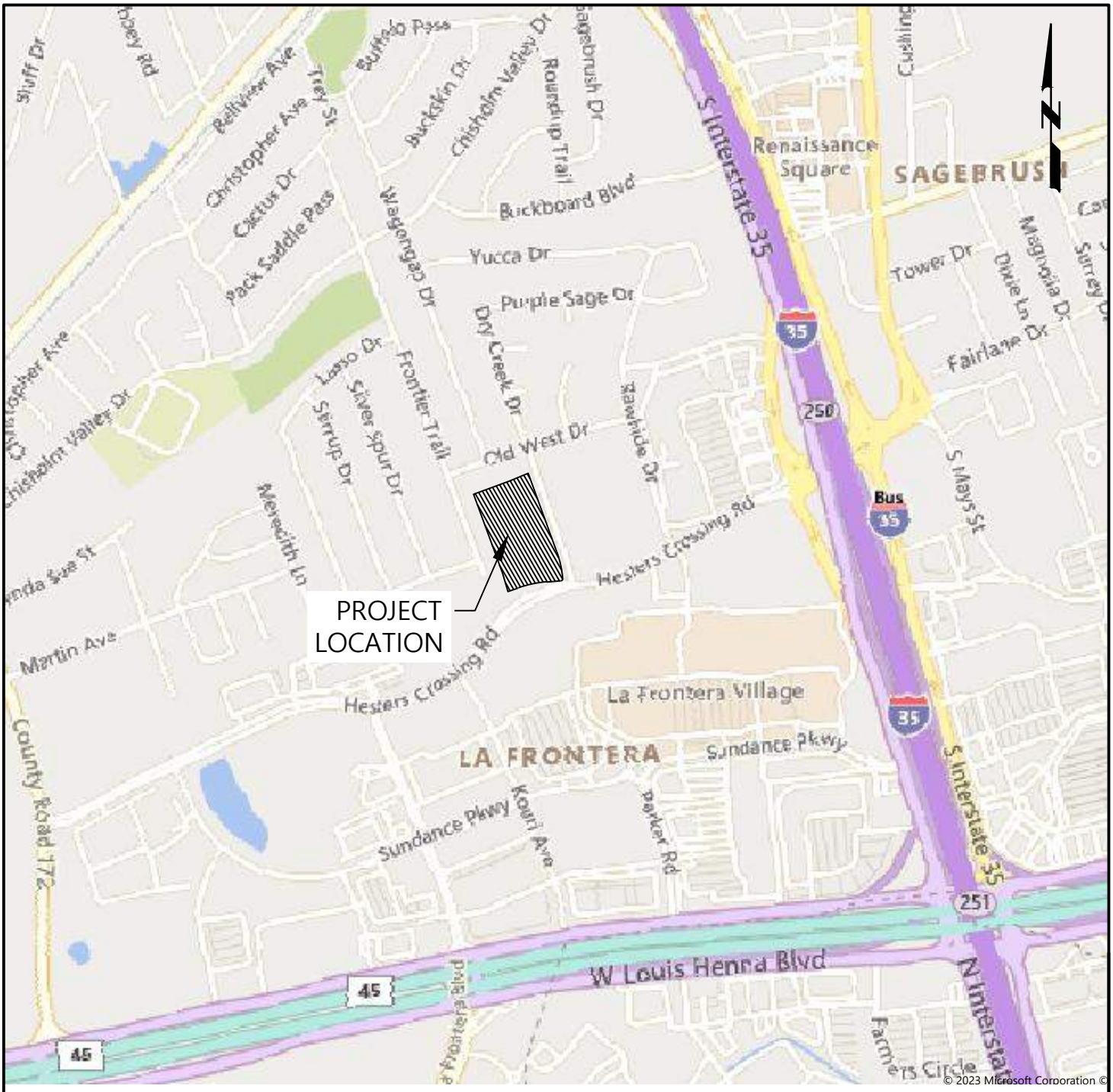
☒ For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
☒ For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
☐ For a UST Facility Plan or Modification or an AST Facility 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.



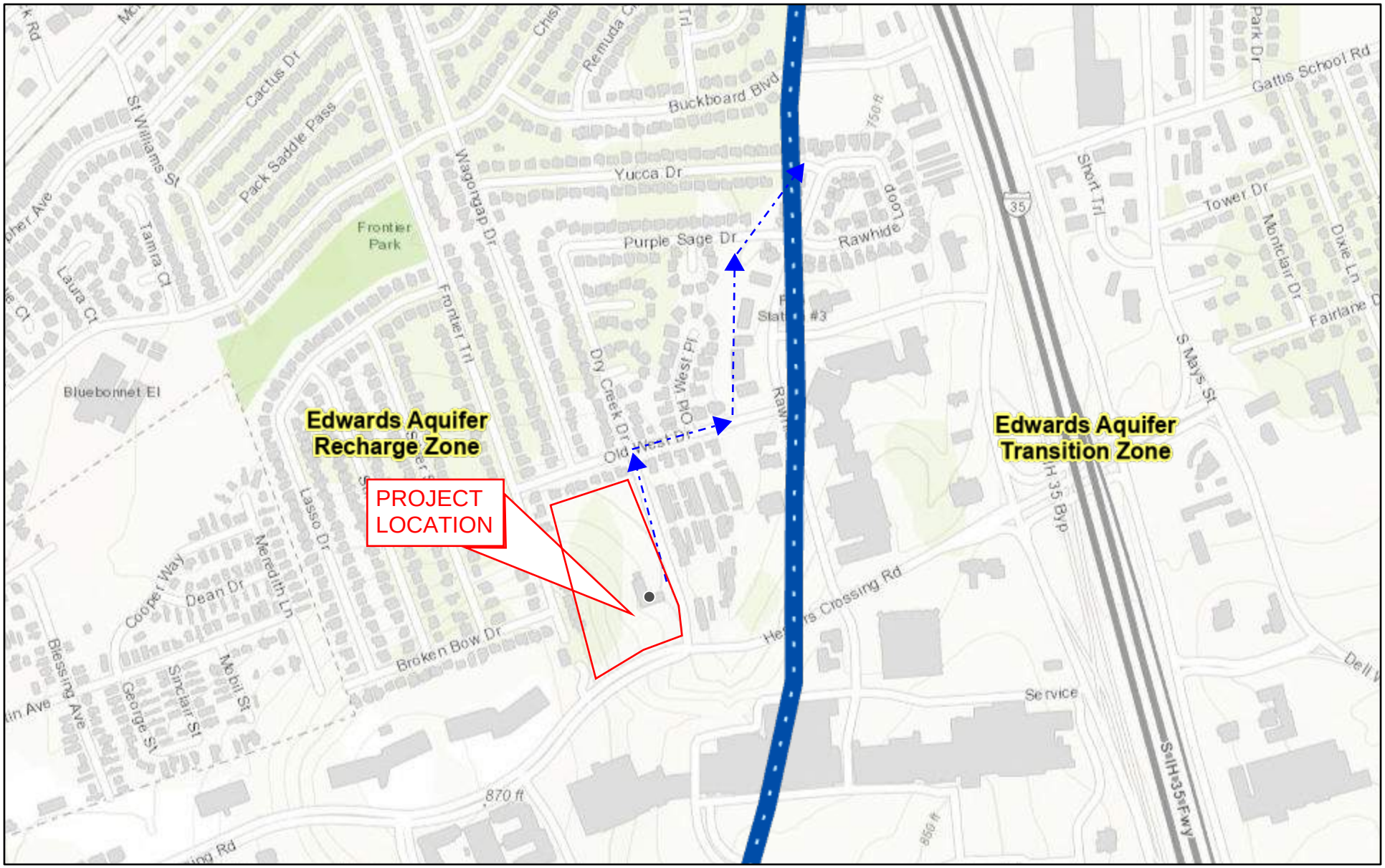
VICINITY MAP

1" = 1000'

MIGL ENGINEERING AND CONSULTING
9600 Escarpment Blvd, Suite 745-174
Austin, TX 78749 | 512 750 0440
Texas Registered Engineering Firm F-16967

CLIENT/PROJECT	PROJECT NO.
FREEDOM CHURCH 2330 DRY CREEK DRIVE ROUND ROCK, TEXAS 78681	0208-002
SHEET TITLE	SHEET NO.
VICINITY MAP	EX 1 1 OF 1

)UHHGRP &KXUFK ($ 0DS



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PL

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ATTACHMENT C – PROJECT DESCRIPTION

1.0 GENERAL PROJECT INFORMATION

The proposed project includes the construction of a church expansion with associated parking, utility and drainage improvements at 2330 Dry Creek Drive, Round Rock, Texas. The 6.63-acre site is located at the northwest corner of the intersection of Hesters Crossing Road and Dry Creek Drive.

2.0 SITE BACKGROUND

The property had been previously developed before the implementation of TCEQ regulations. The existing improvements include a multi-story church, playground, outdoor worship area, parking lot, and associated utilities and drainage infrastructure.

3.0 SITE IMPROVEMENTS

The site improvements include a 16,236 sf church expansion with a café patio, 190 parking spaces, water quality pond, detention pond, and new municipal water & wastewater services.

This project includes BMPs for all proposed impervious cover and future expansion. Impervious cover in place on the 6.63-acre parcel prior to 1986 totaled 57,055 square feet. This project proposes to demolish 46,236 sf of impervious cover and add 106,378 square feet. The BMP selected to treat this increase in impervious cover is a partial sedimentation-filtration pond. The BMP is designed to ultimately treat 132,459 sf of impervious cover with only 105,205 sf proposed to be treated with this project resulting in 27,254 sf of impervious cover remaining for future development.

Site impervious cover for the entire 6.63 acres after improvements will total 2.69 acres.

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: M. Kevin Denson Telephone: 512 442-1122

Date: July 11, 2023 Fax: _____

Representing: Terracon Consultants, Inc. (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:

Regulated Entity Name: Freedom Church, 2330 Dry Creek Drive, Round Rock, Texas

Project Information

1. Date(s) Geologic Assessment was performed: June 22, 2023
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)
ErE	D	0-1
FhF2	D	3-4
HedD3	D	3-4

** 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" = _'
   Site Geologic Map Scale: 1" = 40'
   Site Soils Map Scale (if more than 1 soil type): 1" = 125'

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.

NO FEATURES OBSERVED Attachment A

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Freedom Church, 2330 Dry Creek Drive, Round Rock, Texas

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	

* DATUM NAD27

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 Natural Resource Conservation Commission'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 213

Date 7/11/2023

TNRCC-0585-Table (Rev. 5-1-02)

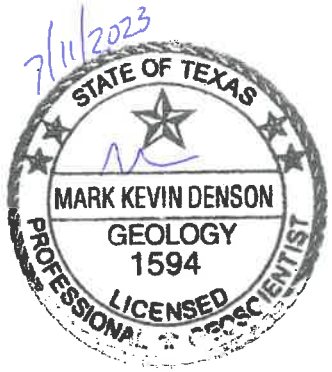
Sheet 1 of 1

ATTACHMENT B

Stratigraphic Column
Freedom Church
2330 Dry Creek Drive
Round Rock, Texas

HYDROGEOLOGIC SUBDIVISION	FORMATION	THICKNESS (feet)	LITHOLOGY
Confining Layer	Del Rio Clay	50	Calcareous, fossiliferous clay with pyrite and gypsum

Source: Senger, Collins and Kreitler, 1990



Terracon

ATTACHMENT C

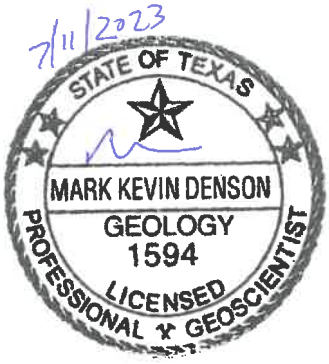
SITE-SPECIFIC GEOLOGY

The Geologic Assessment (GA) of the Freedom Church site was conducted by Kevin Denson, P.G., of Terracon Consultants, Inc. on June 22, 2023. The site consists of an approximate 6.63-acre tract of land located at 2330 Dry Creek Drive in Round Rock, Texas. Exhibit 1 (attached) is a site location map depicting the site in relation to the surrounding area. The areas immediately surrounding the site are a mix of residential and commercial properties. Site elevation ranges from about 845 feet above mean sea level (msl) to about 795 feet msl and slopes to the east-northeast.

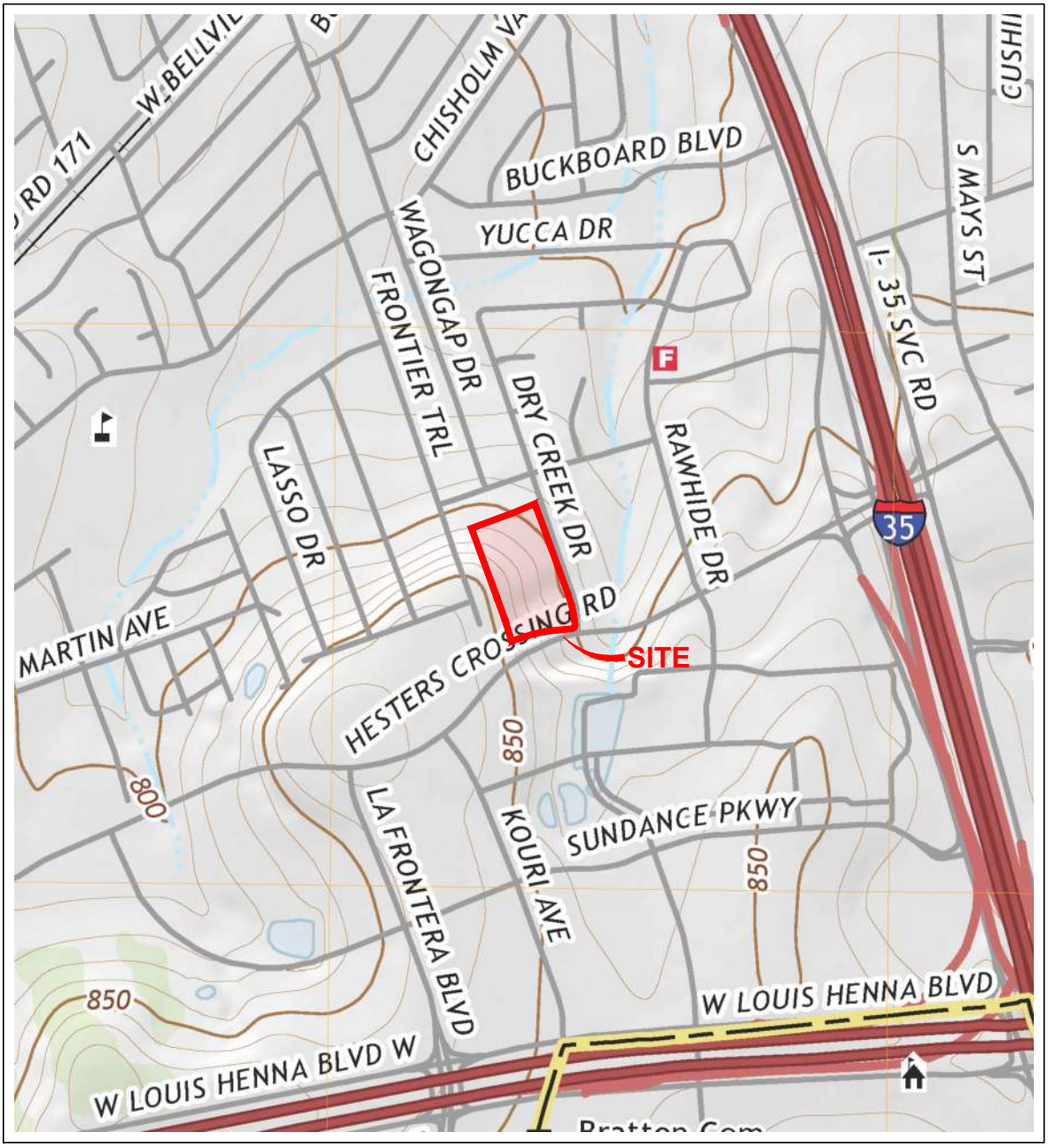
The surficial geologic unit present at the site has been identified as the Del Rio Formation. Exhibit 2 (attached) is a geologic map of the site. The Del Rio Formation consists of calcareous, fossiliferous clay that commonly contains pyrite and gypsum. The Del Rio is about 50 feet thick in the area, and is generally characterized as an aquitard forming part of the upper confining unit for the Edwards Aquifer. The unit is poorly exposed in slopes below the Buda and produces a distinct break in slope with the overlying Buda, and is obscured at the site by vegetation and soil cover. The site is located within the recharge zone, and the recharge zone boundary is located approximately 500 feet east of the site. Table 1 (attached) is a stratigraphic column prepared for the site. The completed Geologic Assessment form is attached. Table 1 (attached) is a stratigraphic column prepared for the site.

Based on a review of site topography, aerial photographs, and published geologic maps, there are no mapped faults located onsite and no field evidence of onsite faulting was observed. The nearest mapped fault is located approximately 50 feet southeast of the site. The fault is associated with the Balcones fault zone, which is comprised of en echelon, normal, high-angle faults that are representative of the dominant structural trend of the area.

No sensitive geologic features (feature score above 40 points) were observed on the site. Due to the lack of any sensitive recharge features observed on the site and the presence of a relatively impermeable soil cover present, the potential for fluid movement to the Edwards aquifer beneath the site is considered low.



UNITED STATES – DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY



SCALE 1:12,000

.5 .25 0 KILOMETERS .5 1

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MILES

500 0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000

CONTOUR INTERVAL 10 FEET

NATIONAL GEODETIC VERTICAL DATUM OF 1988

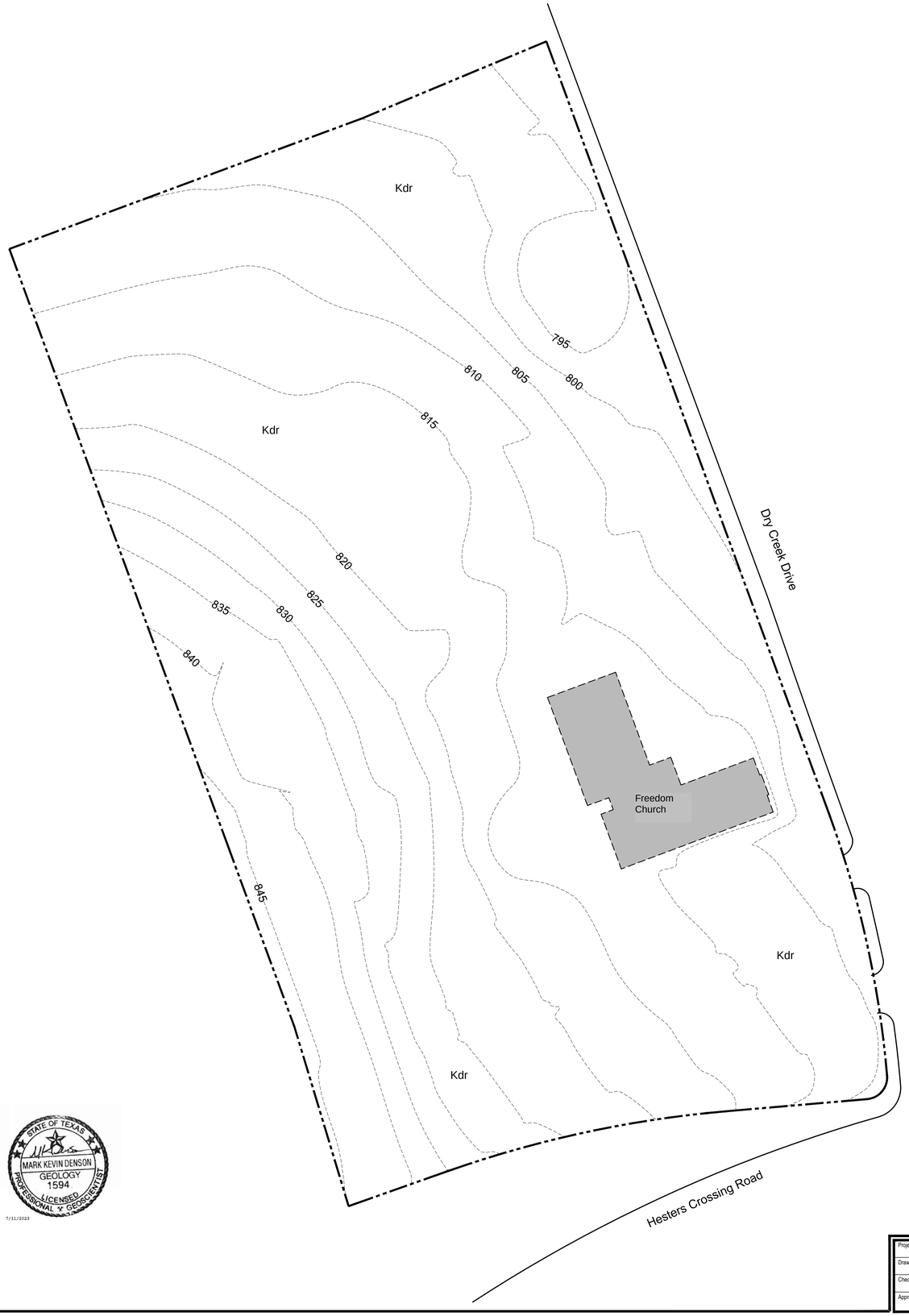
Pflugerville West, Texas

2019

7.5 MINUTE SERIES (TOPOGRAPHIC)

Project Mngr: KD	Project No. 96227292	Terracon Consulting Engineers and Scientists	TOPOGRAPHIC MAP
Drawn By: ATX Drafting	Scale: AS SHOWN	5307 INDUSTRIAL OAKS BLVD. - #160 AUSTIN, TX 78735	Freedom Church
Checked By: KD	File No. 96227292	PH. (512) 442-1122 FAX (512) 442-1181	2330 Dry Creek Drive
Approved By: KD	Date: Jun 20, 2023		Round Rock, Williamson County, Texas

EXHIBIT 1



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APPROXIMATE SCALE IN FEET

STATE OF TEXAS
MARK KEVIN DENSON
GEOLOGY
1594
LICENSED
PROFESSIONAL GEOSCIENTIST
7/11/2023

LEGEND

Site Boundary

800 Topographic Contours

Kdr Del Rio Formation

Project Mngr: KD	Project No. 96227292	Terracon Consulting Engineers and Scientists	SITE GEOLOGIC MAP
Drawn By: ATX Drafting	Scale: AS SHOWN	5307 INDUSTRIAL OAKS BLVD. - #160 AUSTIN, TX 78735	Freedom Church
Checked By: KD	File No. 96227292	PH. (512) 442-1122 FAX (512) 442-1181	2330 Dry Creek Drive
Approved By: KD	Date: Jun 20, 2023		Round Rock, Williamson County, Texas

EXHIBIT 2

Approximate Project Boundary

NRCS WSS Soils Data (with slopes)

- Eckrant-Rock outcrop association, 1-10% (ErE)
- Ferris-Heiden complex, 5-15% (FhF2)
- Georgetown stony clay loam, 1-3% (GsB)
- Heiden clay, 5-8% (HeiD3)

0 62.5 125 250 Feet

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap, FEMA Firm Panel: 48491C0635F, effective on 12/20/2019, City of Round Rock, TNRIS

Project No.:	96237292
Date:	Jun 2023
Drawn By:	RC
Reviewed By:	KD

Terracon
5307 Industrial Oaks Blvd. - #160 Austin, TX 78735
PH. (512) 442-1122 terracon.com

Site Specific Soils

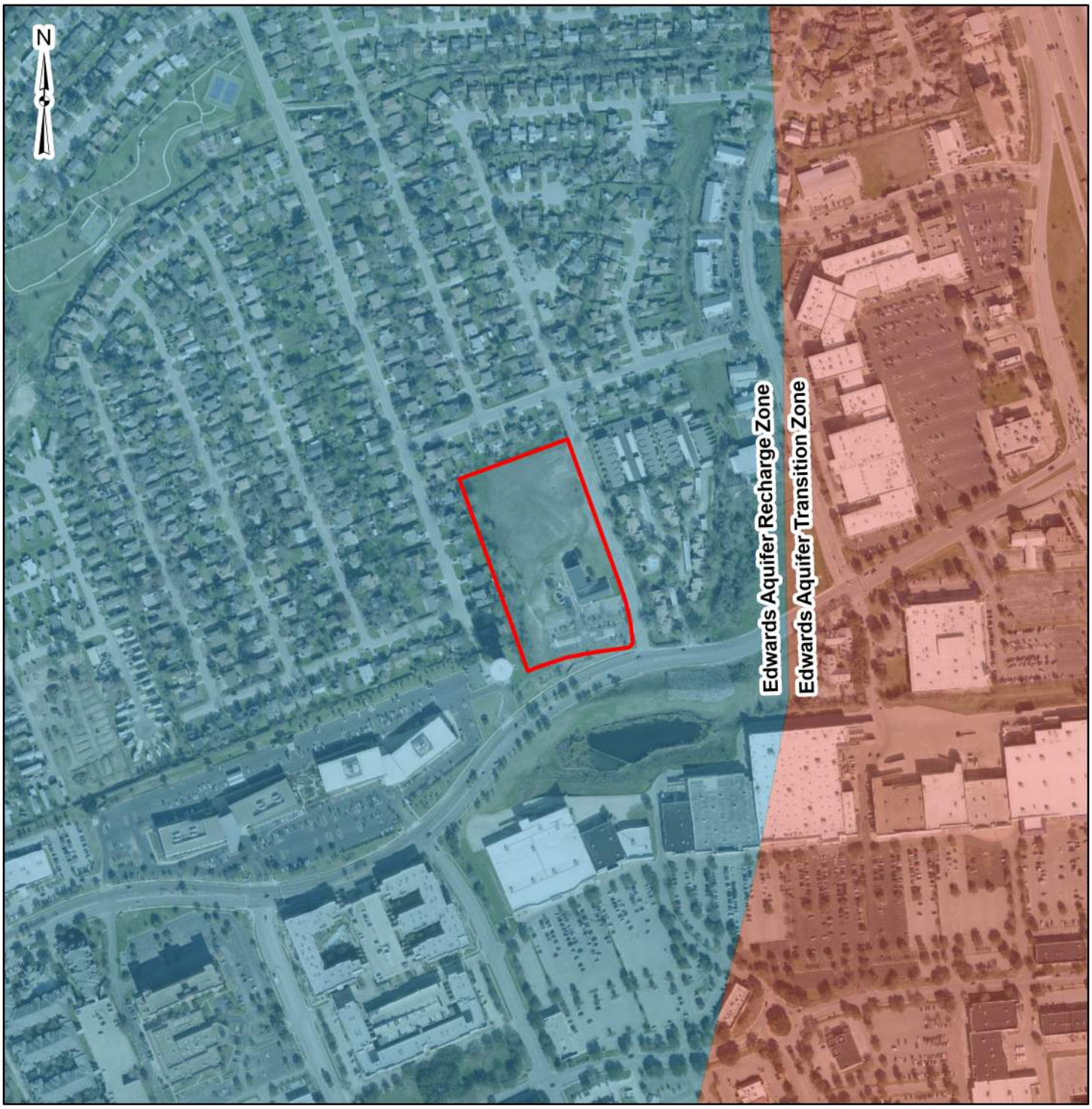
Freedom Church

2330 Dry Creek Drive
Round Rock, Williamson County, Texas

Exhibit

3.0

N:\GIS\Projects\2023\96237292\96237292.aprx



Approximate Project Boundary

TCEQ Edwards Aquifer Zone Data

Edwards Aquifer Recharge Zone

Edwards Aquifer Transition Zone

Feet
0 125 250 500

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap, FEMA Firm Panel: 48491C0635F, effective on 12/20/2019, City of Round Rock, TNRIS

Project No.:	96237292
Date:	Jun 2023
Drawn By:	RC
Reviewed By:	KD

Terracon
5307 Industrial Oaks Blvd. - #160 Austin, TX 78735
PH. (512) 442-1122 terracon.com

Edwards Aquifer Zones

Freedom Church

2330 Dry Creek Drive
Round Rock, Williamson County, Texas

Exhibit

4.0

N:\GIS\Projects\2023\96237292\96237292.aprx

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: Kyle Quick, PE

Date: 1/31/24

Signature of Customer/Agent:

Regulated Entity Name: Freedom Church

Regulated Entity Information

1. The type of project is:

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

2. Total site acreage (size of property):6.63

3. Estimated projected population:555

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	28,283	÷ 43,560 =	0.649
Parking	80,015	÷ 43,560 =	1.837
Other paved surfaces	8,899	÷ 43,560 =	0.204
Total Impervious Cover	117,197	÷ 43,560 =	2.690

Total Impervious Cover 2.690 **÷ Total Acreage** 6.632 **X 100 =** 40.57**% 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	_____Gallons/day
_____% Industrial	_____Gallons/day
_____% Commingled	
18,000Gallons/day	
TOTAL gallons/day 18,000	

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_____.

☒ 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 West (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" = 30'.

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): FIRM Panel 48491C0635F, 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.

ATTACHMENT A – FACTORS AFFECTING SURFACE WATER QUALITY

Factors affecting the quality of surface water and groundwater are the parking and use of motor vehicles on the site. This includes the emission of certain hydrocarbon based substances, as well as the tracking of silt. Run-off will include oils, grease, and other substances typically associated with roadways and vehicle use areas. Also, the maintenance of lawn areas could affect the quality of surface water and ground water through runoff of chemical fertilizers and pesticides. Proposed improvements will be treated by a retention-irrigation pond.

ATTACHMENT B – VOLUME AND CHARACTER OF STORMWATER

DRAINAGE AND RUNOFF

The site slopes east towards the front property line with drainage patterns remaining relatively unchanged by the site improvements. Stormwater that originates upgradient of the subject tract as shown in the existing and proposed drainage area maps will be conveyed across the site. The onsite proposed parking, drive aisle, and roof runoff is directed to a sedimentation-filtration pond designed to meet TCEQ water quality requirements. The property is predominantly of a Type D soil resulting in a CN of 80. During construction, the principal pollutant in stormwater will be sediment caused by the disturbance of construction. Temporary BMPs will control sediment and other pollutants during construction.

WATER QUALITY

After construction, there will be runoff from building surfaces, paved areas, and managed lawn/landscaped areas. This project includes BMPs for new impervious cover placed after 1986. Impervious cover in place on the 6.63-acre parcel prior to 1986 totaled 57,055 square feet. This project proposes to demolish 46,236 sf of impervious cover and add

106,378 square feet. The BMP selected to treat this increase in impervious cover is a partial sedimentation-filtration pond.

4.80 acres of the tract is contributing to the BMP, sized for a total TSS removal of 80% from proposed to existing conditions. A total of 2318 pounds of TSS removal is required while a removal of 2318 pounds is provided. The contributing area of the water quality control consists of the asphalt parking lot, drive aisles, and a portion of the buildings' roof runoff.

ATTACHMENT C – SUITABILITY LETTER FROM AUTHORIZED AGENT

NOT APPLICABLE

ATTACHMENT D – EXCEPTION TO THE GEOLOGIC ASSESSMENT

NOT APPLICABLE

Organized Sewage Collection System Application

Texas Commission on Environmental Quality

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

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

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

Regulated Entity Name: Freedom Church

1. ☒ **Attachment A – SCS Engineering Design Report**. This Engineering Design Report is provided to fulfill the requirements of 30 TAC Chapter 217, including 217.10 of Subchapter A, §§217.51 – 217.70 of Subchapter C, and Subchapter D as applicable, and is required to be submitted with this SCS Application Form.

Customer Information

2. The entity and contact person responsible for providing the required engineering certification of testing for this sewage collection system upon completion (including private service connections) and every five years thereafter to the appropriate TCEQ region office pursuant to 30 TAC §213.5(c) is:

   Contact Person: Pastor Benito Fresquez
   Entity: Freedom Church Austin of the Assemblies of God, Inc.
   Mailing Address: 2330 Dry Creek Drive
   City, State: Round Rock, TX Zip: 78681

   Telephone: (512) 255-0064 Fax: _____

   Email Address: benito@freedomchurchrr.com
   The appropriate regional office must be informed of any changes in this information within 30 days of the change.

3. The engineer responsible for the design of this sewage collection system is:

   Contact Person: Kyle Quick, PE
   Texas Licensed Professional Engineer's Number: 135951
   Entity: Migl Engineering & Consulting PLLC
   Mailing Address: 9600 Escarpment Blvd, Suite 745-174
   City, State:Austin, TX

Zip: 78749
Telephone:(512) 965-2318 Fax:_____

Email Address:Kyle@miglengineering.com

Project Information

4. Anticipated type of development to be served (estimated future population to be served, plus adequate allowance for institutional and commercial flows):

- ☐ Residential: Number of single-family lots: _____
- ☐ Multi-family: Number of residential units: _____
- ☒ Commercial
- ☐ Industrial
- ☐ Off-site system (not associated with any development)
- ☐ Other: _____

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

100% Domestic _____ gallons/day
_____% Industrial _____ gallons/day
_____% Commingled
18,000 gallons/day

Total gallons/day: 18,000

6. Existing and anticipated infiltration/inflow is 113 gallons/day. This will be addressed by: All gravity lines will be SDR-26 PVC to minimize infiltration, will be low pressure air tested, and all manholes will be hydrostatically tested.

7. A Water Pollution Abatement Plan (WPAP) is required for construction of any associated commercial, industrial or residential project located on the Recharge Zone.

- ☐ The WPAP application for this development was approved by letter dated _____. A copy of the approval letter is attached.
- ☒ The WPAP application for this development was submitted to the TCEQ on 1/12/24, but has not been approved.
- ☐ A WPAP application is required for an associated project, but it has not been submitted.
- ☐ There is no associated project requiring a WPAP application.

8. Pipe description:

Table 1 - Pipe Description

Pipe Diameter(Inches)	*Linear Feet (1)*	*Pipe Material (2)*	*Specifications (3)*
6	48	SDR-26 PVC	ASTM D3034

Pipe Diameter(Inches)	*Linear Feet (1)*	*Pipe Material (2)*	*Specifications (3)*

Total Linear Feet: 48

(1) Linear feet - Include stub-outs and double service connections. Do not include private service laterals.
(2) Pipe Material - If PVC, state SDR value.
(3) Specifications - ASTM / ANSI / AWWA specification and class numbers should be included.

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

☒ Existing
☐ Proposed

10. All components of this sewage collection system will comply with:

☒ The City of Round Rock standard specifications.
☐ Other. Specifications are attached.

11. ☒ No force main(s) and/or lift station(s) are associated with this sewage collection system.

☐ A force main(s) and/or lift station(s) is associated with this sewage collection system and the **Lift Station/Force Main System Application** form (TCEQ-0624) is included with this application.

Alignment

12. ☐ There are no deviations from uniform grade in this sewage collection system without manholes and with open cut construction.

13. ☒ There are no deviations from straight alignment in this sewage collection system without manholes.

☐ **Attachment B - Justification and Calculations for Deviation in Straight Alignment without Manholes**. A justification for deviations from straight alignment in this sewage collection system without manholes with documentation from pipe manufacturer allowing pipe curvature is attached.

☐ For curved sewer lines, all curved sewer line notes (TCEQ-0596) are included on the construction plans for the wastewater collection system.

Manholes and Cleanouts

14. ☒ Manholes or clean-outs exist at the end of each sewer line(s). These locations are listed below: (Please attach additional sheet if necessary)

Table 2 - Manholes and Cleanouts

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*

Line	*Shown on Sheet*	*Station*	*Manhole or Clean-out?*
WW LINE A	21 Of 32	1+00.00	Clean-Out
WW LINE A	21 Of 32	1+22.27	Manhole
WW LINE A	21 Of 32	1+47.82	Manhole
	Of		
	Of		
	Of		
	Of		
	Of		
	Of		
	Of		

15. ☒ Manholes are installed at all Points of Curvature and Points of Termination of a sewer line.

16. ☒ The maximum spacing between manholes on this project for each pipe diameter is no greater than:

Pipe Diameter (inches)	**Max. Manhole Spacing (feet)**
6 - 15	500
16 - 30	800
36 - 48	1000
≥54	2000

☐ **Attachment C – Justification for Variance from Maximum Manhole Spacing**. The maximum spacing between manholes on this project (for each pipe diameter used) is greater than listed in the table above. A justification for any variance from the maximum spacing is attached, and must include a letter from the entity which will operate and maintain the system stating that it has the capability to maintain lines with manhole spacing greater than the allowed spacing.

17. ☐ All manholes will be monolithic, cast-in-place concrete.

☒ The use of pre-cast manholes is requested for this project. The manufacturer's specifications and construction drawings, showing the method of sealing the joints, are attached.

Site Plan Requirements

Items 18 - 25 must be included on the Site Plan.

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

Site Plan Scale: 1" = 30'.

19. ☒ The Site Plan must include the sewage collection system general layout, including manholes with station numbers, and sewer pipe stub outs (if any). Site plan must be overlain by topographic contour lines, using a contour interval of not greater than ten feet and showing the area within both the five-year floodplain and the 100-year floodplain of any drainage way.

20. Lateral stub-outs:

☒ The location of all lateral stub-outs are shown and labeled.
☐ No lateral stub-outs will be installed during the construction of this sewer collection system.

21. Location of existing and proposed water lines:

☒ The entire water distribution system for this project is shown and labeled.
☐ If not shown on the Site Plan, a Utility Plan is provided showing the entire water and sewer systems.
☐ There will be no water lines associated with this project.

22. 100-year floodplain:

☒ After construction is complete, no part of this project will be in or cross a 100-year floodplain, either naturally occurring or manmade. (Do not include streets or concrete-lined channels constructed above of sewer lines.)
☐ After construction is complete, all sections located within the 100-year floodplain will have water-tight manholes. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

Table 3 - 100-Year Floodplain

Line	*Sheet*	*Station*
	of	to
	of	to
	of	to
	of	to

23. 5-year floodplain:

☒ After construction is complete, no part of this project will be in or cross a 5-year floodplain, either naturally occurring or man-made. (Do not include streets or concrete-lined channels constructed above sewer lines.)
☐ After construction is complete, all sections located within the 5-year floodplain will be encased in concrete or capped with concrete. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

Table 4 - 5-Year Floodplain

Line	*Sheet*	*Station*

Line	*Sheet*	*Station*
	of	to
	of	to
	of	to
	of	to

24. ☐ Legal boundaries of the site are shown.

25. ☒ The ***final plans and technical specifications*** are submitted for the TCEQ's review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.

Items 26 - 33 must be included on the Plan and Profile sheets.

26. ☒ All existing or proposed water line crossings and any parallel water lines within 9 feet of sewer lines are listed in the table below. These lines must have the type of pressure rated pipe to be installed shown on the plan and profile sheets. Any request for a variance from the required pressure rated piping at crossings must include a variance approval from 30 TAC Chapter 290.

☐ There will be no water line crossings.
☐ There will be no water lines within 9 feet of proposed sewer lines.

Table 5 - Water Line Crossings

Line	*Station or Closest Point*	*Crossing or Parallel*	*Horizontal Separation Distance*	*Vertical Separation Distance*
WW LINE A	1+00	Crossing		10'

27. Vented Manholes:

☒ **No part** of this sewer line is within the 100-year floodplain and vented manholes are not required by 30 TAC Chapter 217.

☐ **A portion** of this sewer line is within the 100-year floodplain and vented manholes will be provided at less than 1500 foot intervals. These water-tight manholes are listed in the table below and labeled on the appropriate profile sheets.

☐ **A portion** of this sewer line is within the 100-year floodplain and an alternative means of venting shall be provided at less than 1500 feet intervals. A description of the alternative means is described on the following page.

☐ **A portion** of this sewer line is within the 100-year floodplain; however, there is no interval longer than 1500 feet located within. No vented manholes will be used.

Table 6 - Vented Manholes

Line	*Manhole*	*Station*	*Sheet*

28. Drop manholes:

☒ There are no drop manholes associated with this project.

☐ Sewer lines which enter new or existing manholes or "manhole structures" higher than 24 inches above the manhole invert are listed in the table below and labeled on the appropriate profile sheets. These lines meet the requirements of 30 TAC §217.55(l)(2)(H).

Table 7 - Drop Manholes

Line	*Manhole*	*Station*	*Sheet*

29. Sewer line stub-outs (For proposed extensions):

☐ The placement and markings of all sewer line stub-outs are shown and labeled.

☒ No sewer line stub-outs are to be installed during the construction of this sewage collection system.

30. Lateral stub-outs (For proposed private service connections):

☒ The placement and markings of all lateral stub-outs are shown and labeled.

☐ No lateral stub-outs are to be installed during the construction of this sewage collection system.

31. Minimum flow velocity (From Appendix A)

☒ Assuming pipes are flowing full; all slopes are designed to produce flows equal to or greater than 2.0 feet per second for this system/line.

32. Maximum flow velocity/slopes (From Appendix A)

☒ Assuming pipes are flowing full, all slopes are designed to produce maximum flows of less than or equal to 10 feet per second for this system/line.

☐ **Attachment D – Calculations for Slopes for Flows Greater Than 10.0 Feet per Second.** Assuming pipes are flowing full, some slopes produce flows which are greater than 10 feet per second. These locations are listed in the table below. Calculations are attached.

Table 8 - Flows Greater Than 10 Feet per Second

Line	*Profile Sheet*	*Station to Station*	*FPS*	*% Slope*	*Erosion/Shock Protection*

33. Assuming pipes are flowing full, where flows are ≥ 10 feet per second, the provisions noted below have been made to protect against pipe displacement by erosion and/or shock under 30 TAC §217.53(l)(2)(B).

☐ Concrete encasement shown on appropriate Plan and Profile sheets for the locations listed in the table above.

☐ Steel-reinforced, anchored concrete baffles/retards placed every 50 feet shown on appropriate Plan and Profile sheets for the locations listed in the table above.

☒ N/A

Administrative Information

34. ☒ The final plans and technical specifications are submitted for TCEQ review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.

35. ☒ Standard details are shown on the detail sheets, which are dated, signed, and sealed by the Texas Licensed Professional Engineer, as listed in the table below:

Table 9 - Standard Details

Standard Details	*Shown on Sheet*
Lateral stub-out marking **[Required]**	N/A of N/A
Manhole, showing inverts comply with 30 TAC §217.55(l)(2) **[Required]**	27 of 32
Alternate method of joining lateral to existing SCS line for potential future connections **[Required]**	N/A of N/A
Typical trench cross-sections **[Required]**	27 of 32
Bolted manholes **[Required]**	N/A of N/A

Standard Details	*Shown on Sheet*
Sewer Service lateral standard details **[Required]**	27 of 32
Clean-out at end of line **[Required, if used]**	27 of 32
Baffles or concrete encasement for shock/erosion protection **[Required, if flow velocity of any section of pipe >10 fps]**	N/A of N/A
Detail showing Wastewater Line/Water Line Crossing **[Required, if crossings are proposed]**	27 of 32
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) **[Required, if Flexible Pipe is used]**	27 of 32
Drop manholes **[Required, if a pipe entering a manhole is more than 24 inches above manhole invert]**	N/A of N/A

36. ☒ All organized sewage collection system general construction notes (TCEQ-0596) are included on the construction plans for this sewage collection system.

37. ☒ All proposed sewer lines will be sufficiently surveyed/staked to allow an assessment prior to TCEQ executive director approval. If the alignments of the proposed sewer lines are not walkable on that date, the application will be deemed incomplete and returned.

    ☐ Survey staking was completed on this date: _____

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

39. ☒ Any modification of this SCS application will require TCEQ approval, prior to construction, and may require submission of a revised application, with appropriate fees.

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 **Organized Sewage Collection System Application** is hereby submitted for TCEQ review and executive director approval. The system was designed in accordance with the requirements of 30 TAC §213.5(c) and 30 TAC §217 and prepared by:

Print Name of Licensed Professional Engineer: Kyle Quick, PE

Date: 1/31/24

Place engineer's seal here:

Signature of Licensed Professional Engineer:

1/31/24

Appendix A-Flow Velocity Table

Flow Velocity (Flowing Full) All gravity sewer lines on the Edwards Aquifer Recharge Zone shall be designed and constructed with hydraulic slopes sufficient to give a velocity when flowing full of not less than 2.0 feet per second, and not greater than 10 feet per second. The grades shown in the following table are based on Manning's formula and an n factor of 0.013 and shall be the minimum and maximum acceptable slopes unless provisions are made otherwise.

Table 10 - Slope Velocity

Pipe Diameter(Inches)	*% Slope required for minimum flow velocity of 2.0 fps*	*% Slope which produces flow velocity of 10.0 fps*
6	0.50	12.35
8	0.33	8.40
10	0.25	6.23
12	0.20	4.88
15	0.15	3.62
18	0.11	2.83
21	0.09	2.30
24	0.08	1.93
27	0.06	1.65
30	0.055	1.43
33	0.05	1.26
36	0.045	1.12
39	0.04	1.01
>39	*	*

**For lines larger than 39 inches in diameter, the slope may be determined by Manning's formula (as shown below) to maintain a minimum velocity greater than 2.0 feet per second when flowing full and a maximum velocity less than 10 feet per second when flowing full.*

$$v = \frac{1.49}{n} \times R_h^{0.67} \times \sqrt{S}$$

Figure 1 - Manning's Formula

Where:

v = velocity (ft/sec)
n = Manning's roughness coefficient (0.013)
Rh = hydraulic radius (ft)
S = slope (ft/ft)

ATTACHMENT A – SCS ENGINEERING DESIGN REPORT

TABLE OF CONTENTS

A. SITE DESCRIPTION

1. Project Name: Freedom Church

2. Location: 2330 Dry Creek Drive, Round Rock, Texas 78681
   The subject tract is located on the northeast corner of Dry Creek Drive and Hesters Crossing Road.

3. Treatment Facility: Brushy Creek West Wastewater Treatment Plant will receive and treat flows from this project.

4. Project Summary: The proposed project includes a one-story, 16,236 sf church expansion, sidewalk, and associated parking, water quality pond, detention pond, and municipal water & wastewater services.

B. CAPACITY DESIGN

1. Basis for Average Flow:

   A living unit equivalent (LUE) method, based on the Uniform Plumbing Code, was utilized to determine the average daily flow for all proposed buildings and facilities. One LUE produces: 2.2 gpm (Peak Hour) of water flow, 1.3 gpm (Peak Day) of water flow, and 350 gpd (0.243 gpm) average dry weather flow.

2. Flow/Capacity Analysis:

   6" Wastewater Pipe

   Q_{max} (from Table 1) = 74.84 gpm Pipe Size = 6” n = 0.013

   For the specified pipe at the design slope of 5.00%, the Line Capacity (Q_{full}) = (1.49/n) * A * $R^{2/3}$ * $S^{1/2}$ = 932.40 gpm

   Q_{max} = 74.84 gpm < Q_{full} = 932.40 gpm

   Therefore, the line is of sufficient size to carry the peak flows.

Table 1:

FREEDOM CHURCH

WASTEWATER CALCULATIONS

1 LUE = 245 gpd

AVERAGE DRY WEATHER FLOW
F = LUEs x 245/1440 gpm

PEAK FLOW FACTOR (>= 4)

$$PFF = \frac{18+(0.0206 \times F)^{0.5}}{4+(0.0206 \times F)^{0.5}}$$

PEAK DRY WEATHER FLOW (gpm)

$Q_{pdwf} = PFF \times F$

INFLOW / INFILTRATION

(I/I) = 750 gpd/acre
0.521 gpm/acre

PEAK WET WEATHER FLOW (gpm)

$Q_{pwwf} = Q_{pdwf} + I/I$

WW LINE	STATION FROM	STATION TO	LUE	AVG DRY WEATHER FLOW Q (gpm)	PEAK FLOW FACTOR (PFF)	PEAK DRY WEATHER FLOW Q_{pdwf} (gpm)	INFLOW / INFLITRATION I/I (gpm)	PEAK WET WEATHER FLOW Q_{pwwf} (gpm)	PIPE SIZE (IN)	PIPE SLOPE (%)
A	1+00.00	1+22.27	109	18.55	4.03	74.77	0.08	74.84	6	4.50
A	1+22.27	1+47.82	109	18.55	4.03	74.77	0.03	74.80	6	4.50

3. Minimum/Maximum Slopes:

All pipe must be designed with a slope that will provide a minimum velocity of at least 2 fps and a maximum velocity of 10 fps when flowing full. All gravity pipes are 4, 6, or 8 inch.

6" Pipe, S = 4.50%, n = 0.013, V = 9.99 fps 2 fps < 9.99 fps < 10 fps

C. STRUCTURAL COMPONENTS

1. Type of Pipe:

6" SDR-26 ASTM D3034 Polyvinyl Chloride (PVC)

Product Standard: ASTM 3034
Pipe Compound: ASTM D1784 Cell Class 12454
Gasket: ASTM F477
Integral Bell Joint: ASTM D3212

Pipe Stiffness:	ASTM D2412 , F/ΔY = 115 psi
Installation:	ASTM D2321
Tensile Strength:	7000 psi
Modulus of Elasticity:	400,000 psi
Nominal Inside Diameter:	5.754 inches
Average Outside Diameter:	6.400 inches
Wall Thickness:	0.323 inches
Approximate Weight:	5.63 lbs/ft

2. Pipe Bedding Class:

The pipe bedding class must comply with ASTM D2321 class IA, IB, II, or III for materials and densification. No sand bedding will be allowed. A class III material is assumed to be used, since it has the most conservative value for the Modulus of Soil Reaction, E'.

From Table 7.3, Pg. 207 of the UNI-BELL Handbook of PVC PIPE, 3rd Edition
Coarse-grained Soils with Fines (Bedding Class III) and 85% to 95% Compaction
E_b = 1000 psi

3. Manholes:

Manholes and/or cleanouts are provided at all changes in size, grade and alignment of pipe at all feasible locations. The maximum distance between manholes is less than the maximum spacing requirement of 500 feet allowed for all pipe sizes less than 15 inches in diameter. All manholes will be coated per the City of Austin standard specifications. Item number WW-511 from the City's Standard Products list includes several products which will achieve the design life and corrosion protection required. The site plan process took into account the existing topography, trees, and the natural aesthetics of the site, thus attempting to limit the use of large construction equipment in areas with trees and other natural areas.

4. Buckling Analysis:

a) Allowable buckling pressure

$$R_w = 1 - 0.33 * (h_w / h)$$

$$B' = \frac{1}{1 + 4 * e^{-0.065H}}$$

$$I = (t^3 / 12) * (inches^4 / Linch)$$

$$q_a = 0.4 * \sqrt[2]{32 * R_w * B' * E_b * (E * I / D^3)}$$

q_a = Allowable buckling pressure (psi)
h = Height of soil surface above top of pipe (in)
h_w = Height of water surface above top of pipe (in) (groundwater elevation)
R_w = Water buoyancy factor. If $h_w = 0$, $R_w = 1$. If $0 \leq h_w \leq h$ (groundwater elevation is between the top of pipe and the ground surface), calculate R_w with Equation 2
H = Depth of burial (ft) from ground surface to crown of pipe
B' = Empirical coefficient of elastic support
E_b = Modulus of soil reaction for the bedding material (psi)
E = Modulus of elasticity of the pipe material (psi)
I = Moment of inertia of the pipe wall cross section per linear inch of pipe, $inch^4$/linear inch = $inch^3$. For solid wall pipe, it can be calculated with equation 4. If the pipe used is not solid wall pipe (for example a pipe with a ribbed cross section), the proper moment of inertia formula must be obtained from the manufacturer.
t = Pipe structural wall thickness (in)
D = Mean pipe diameter (in)

6" SDR-26 ASTM D3034 PVC

H = Deepest bury depth will not exceed 15' and is thus assumed for this calculation
h_w = 0 *(no ground water)*
I = $t^3/12 = (0.323)^3/12 = 0.00281$ in^4/in
$R_w = 1+0.33(h_w/H) = 1$
$B' = 1/(1+4e^{-0.065H}) = 1/(1+4e^{-0.065(15)}) = 0.399$
$q_a = 0.4*[32*1*0.399*1000*(400000*.00281/5.754^3)]^{0.5}$
q_a = 109.79 psi

b) Calculate pressure applied to pipe under installed conditions:

$$W_c = \gamma_s * H * (D+t)/144$$

$$q_p = \gamma_w * h_w + R_w * (W_c/D) + L_l$$

q_p = Pressure applied to pipe under installed conditions (psi)
γ_w = Specific Weight of water = 0.0361 pounds per cubic inch (pci),
γ_s = Specific Weight of soil (pcf)
W_c = vertical soil load on the pipe per unit length (lb/in)
L_l = Live load = 0 (All bury depths are greater than 3 feet)

6" SDR-26 ASTM D3034 PVC

W_c = 120*15*(5.754 + 0.323)/144 = 100.96 lb/in
q_p = (0.0361*0) + (1*(100.96/5.754)) + (0)
q_p = 13.2017 psi

$q_p < q_a$ 13.20 < 70.12
The buckling pressure under installed conditions is less than the allowable buckling pressure of the specified pipe.

5. Wall Crushing:

Wall crushing due to compressive stress can be calculated from the compressive stress formula, as referenced in *Plastic Pipe Design* Manual, page 14 published by Vylon Pipe.

6" SDR-26 ASTM D3034 PVC

D_o = Outside Pipe Diameter, in = 6.400 in.
P_c = Compressive Stress, lb/in^2 = T / A, for typical PVC pipe assume 4,000 psi
A = Surface Area of the pipe wall, in^2/ft = 0.323 in^2/ft
γ_s = Specific Weight of soil, pcf = 120 pcf
P_y = Vertical Soil Pressure, lb/in2 = γ_s * H / 144
T = Wall Thrust = P_y * D_o / 2
H = Depth of burial from ground surface to crown of pipe (ft)

Substituting the Thrust equation into the compressive strength equation:
P_c = P_y * D_o / 2A

Substitute the equation for Py shown above:
P_c = [(γ_s * H / 144) * D_o] / 2A

Solving for H, the equation becomes:
H = (288 * P_c * A) / (γ_s * D_o)
H = (288 * 4000 * 0.323) / (120 * 6.4)

H_a = 484.50 ft

$H_p < H_a$ 15.0 ft < 484.50 ft
The proposed maximum depth (H_p) is less than the maximum allowable depth (H_a) before wall crushing would occur.

6. Deflection Analysis: Zeta Factor

   Leonhard's Zeta Factor can be calculated using Equation 7.37 of the *UNI-BELL Handbook of PVC PIPE, 3rd Edition.*

$$zeta = \frac{1.44}{f + (1.44 - f) * (E_b / E_{n'})}$$

$$f = \frac{b/d_a - 1}{1.154 + 0.444 * (b/d_a - 1)}$$

   f = Pipe/trench width coefficient
   b_8 = Trench width = 2.70 ft = 32.4 in for 8" Wastewater Pipe
   b_6 = Trench width = 2.52 ft = 30.3 in for 6" Wastewater Pipe
   b_4 = Trench width = 2.35 ft = 32.4 in for 4" Wastewater Pipe
   d_{a8} = Pipe diameter = 8.40 in for 8" Wastewater Pipe
   d_{a6} = Pipe diameter = 6.28 in for 6" Wastewater Pipe
   d_{a4} = Pipe diameter = 4.22 in for 4" Wastewater Pipe
   E_b = Modulus of soil reaction for the bedding material (psi) = 1000
   E'_n = Modulus of soil reaction for the in-situ soil (psi) = 1000

   6" SDR-26 ASTM D3034 PVC

   f = (32.4/8.4-1) / (1.154 + 0.444*(32.4/6.28-1)) = 1.413
   zeta = 1.44 / [1.413 + (1.44-1.413) * (1000/1000)]
   zeta = 1.0

7. Pipe Stiffness:

   Using equation 7.1, from the Uni-Bell Handbook of PVC Pipe, 3rd Edition

$$P_s = \frac{EI}{0.149 * r^3}$$

   P_s = Pipe Stiffness (psi)
   E = Modulus of elasticity of the pipe material (psi)
   I = Moment of inertia of the pipe wall cross section per linear inch of pipe, inch4/linear inch = inch3. For solid wall pipe, I can be calculated with equation 4. If the pipe used is not solid wall pipe (for example a pipe with a ribbed cross section), the proper moment of inertia formula must be obtained from the manufacturer.

r = Mean radius (in)
P_s = (400000*0.00281) / (0.149*3.14^3) = **243.66 psi (6" SDR-26 ASTM D3034)**

8. Pipe Stiffness to Soil Stiffness Factor Ration (Ps / SSF):

   The Pipe Stiffness to Soil Stiffness Factor must be greater than 0.15

   P_s = Pipe Stiffness (psi)
   E_b = Modulus of soil reaction for the bedding material = 1,000 psi
   zeta = 1.0
   SSF = Soil Stiffness Factor = (0.061*zeta *E_b) = 61

   P_s/SSF = 129.36/61 = **2.12 (6" SDR-26 ASTM D3034)**

9. Predicted Pipe Deflection:

   Using equation 7.1, from the *Uni-Bell Handbook of PVC Pipe, 3rd Edition*

$$\frac{\%\Delta Y}{D} = \frac{D_L K P (100)}{0.149P_S + 0.061E'}$$

   %ΔY/D = Predicted % vertical deflection under load
   P = Prism Load (psi) = γ_s *H / 144
   K = Bedding angle constant. Assumed to be 0.1
   E' = Modulus of soil reaction = 1000 psi
   D_L = Deflection lag factor = 1.5
   γ_s = Unit weight of soil = 120 pcf
   H = Depth of burial (ft) from ground surface to crown of pipe

   P = 120*15.0/144 = 12.50 psi (8" SDR-26 ASTM D3034 PVC)
   P = 120*15.0/144 = 12.50 psi (6" SDR-26 ASTM D3034 PVC)
   P = 120*15.0/144 = 12.50 psi (4" SDR-26 ASTM D3034 PVC)

   6" SDR-26 ASTM D3034 PVC

   %ΔY/D = (1.5*0.1*12.50*100) / [(0.149*243.66) + (0.061*1000)] = **1.93%**

ATTACHMENT B – JUSTIFICATION AND CALCULATIONS FOR DEVIATION IN STRAIGHT ALIGNMENT WITHOUT MANHOLES

NOT APPLICABLE

ATTACHMENT C – JUSTIFICATION FOR VARIANCE FROM MAXIMUM MANHOLE SPACING

NOT APPLICABLE

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: Kyle Quick, PE

Date: 1/31/24

Signature of Customer/Agent:

Regulated Entity Name: Freedom Church

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: Lake 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.

ATTACHMENT A – SPILL RESPONSE ACTION

In Texas, upon determining that a reportable discharge or spill has occurred, the responsible person must notify the state. The threshold quantity that triggers the requirement to report a spill is called the reportable quantity (RQ). The reportable quantity depends on the type of substance released and where released (e.g. into water vs. on land); different kinds of spills are subject to different provisions of state and federal rules. Please visit https://www.tceq.texas.gov/response/spills/spill_rq.html for more information on how to report a spill.

The following steps will help reduce the stormwater impacts of leaks and spills:

Education

- 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.
- Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.
- Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings.)
- Establish a continuing education program to indoctrinate new employees.
- Have contractor's superintendent or representative oversee and enforce proper spill prevention and control measures.

General Measures

- 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.

- Store hazardous materials and wastes in covered containers and protect from vandalism.
- Place a stockpile of spill cleanup materials where it will be readily accessible.
- Train employees in spill prevention and cleanup.
- Designate responsible individuals to oversee and enforce control measures.
- Spills should be covered and protected from stormwater run-on during rainfall to the extent that it doesn't compromise clean up activities.
- Do not bury or wash spills with water.
- 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.
- Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.
- Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.
- 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.
- 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

- Clean up leaks and spills immediately.
- Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the

used cleanup materials are also hazardous and must be disposed of as hazardous waste.

- Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMPs in this section for specific information.

Minor Spills

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

Semi-Significant Spills

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

Spills should be cleaned up immediately:

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

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

- Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.
- For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110, 119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
- Notification should first be made by telephone and followed up with a written report.
- The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
- Other agencies which may need to be consulted include, but are not limited to, the City Police Department, Country Sheriff Office, Fire Departments, etc.

Vehicle and Equipment Maintenance

- If maintenance must occur onsite, use a designated area and a secondary containment, located away form drainage courses, to prevent the run-on of stormwater and the runoff of spills.
- Regularly inspect onsite vehicles and equipment for leaks and repair immediately.
- 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.
- Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
- Place drip pans or absorbent materials under paving equipment when not in use.

- Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.
- Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
- 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.
- Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think all the acid had 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.

Vehicle and Equipment Fueling

- If fueling must occur on site, use designated areas, located away from drainage courses, to prevent the run-on of stormwater and the runoff of spills.
- Discourage "topping off" of fuel tanks.
- Always use secondary containment, such as a drain pan, when fueling to catch spills/leaks.

ATTACHMENT B – POTENTIAL SOURCES OF CONTAMINATION

Potential sources of contamination at the site include:

- Oil and other engine fluids from vehicles and equipment during and after construction.
- On-site maintenance and fueling of construction equipment.
- Short-term storage of flexible-base material, asphaltic products, pipe bedding materials and miscellaneous soils, gravel, etc.
- Emissions from vehicles.
- Tracking silt onto paved surfaces by construction equipment.
- Erosion/siltation from the construction disturbance.
- Possible littering around the construction site.
- Short-term exposure of soil surface during construction prior to stabilization.
- Short-term storage and use of fertilizers for use in establishing vegetation.

ATTACHMENT C – SEQUENCE OF CONSTRUCTION ACTIVITIES

The following list of activities will be followed once construction begins.

Activity:	Area:
Installation of Temporary Erosion and Sedimentation Controls	1317 LF
Demolition Activities	1.365 AC
Utility Installation	966 LF
Grading	5.619 AC
Paving/ Infrastructure	1.837 AC
Remove Temporary Erosion and Sedimentation Controls	1317 LF
Revegetation	3.978 AC

ATTACHMENT D – TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

The temporary BMPs shall be designed and placed in accordance with City of Round Rock and TCEQ requirements. The temporary BMPs shall be installed prior to any site preparation work (clearing, grubbing, or excavation) and will be in place for all sequenced activities.

Silt Fence
Silt fence shall be installed immediately down gradient and where possible, up-gradient, of area of disturbance. See the construction plans for details on the construction and installation of silt fence.

Tree Protection
Tree protection shall be installed around trees to prevent tree damage and potential damage or disturbance of the tree's root zone. See the construction plans for details on the construction and installation of tree protection measures.

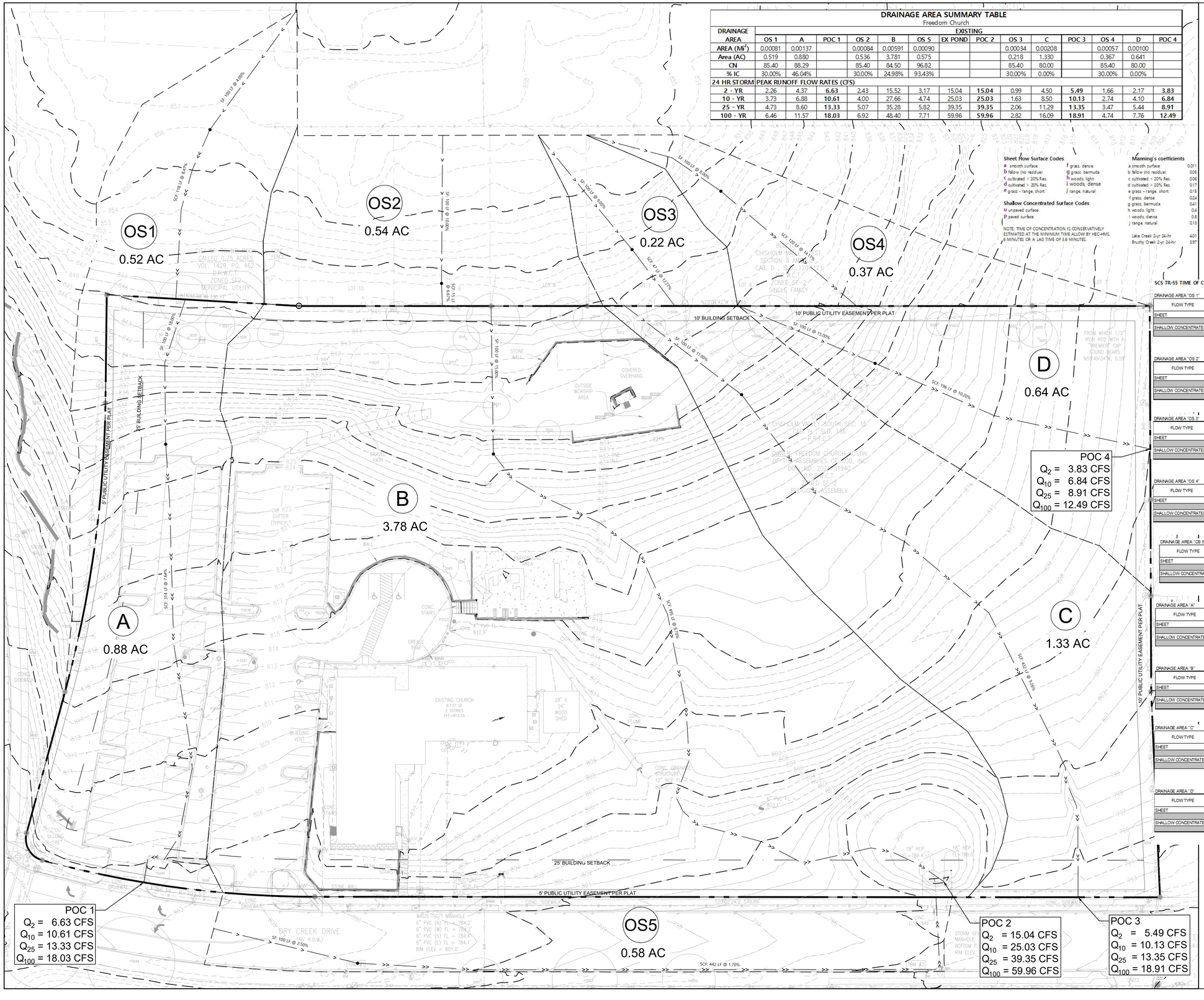
ATTACHMENT E – REQUEST TO TEMPORARILY SEAL A FEATURE

NOT APPLICABLE

ATTACHMENT F – STRUCTURAL PRACTICES

Silt fence shall be installed immediately down gradient of any exposed soils in order to limit the discharge of silt and pollutants from disturbed areas of the site. Silt fence will also be installed up-gradient of the Contractor Staging Area to limit runoff across the construction area.

ATTACHMENT G – DRAINAGE AREA MAP



POC 1
Q_2 = 6.63 CFS
Q_{10} = 10.61 CFS
Q_{25} = 13.33 CFS
Q_{100} = 18.03 CFS

POC 2
Q_2 = 15.04 CFS
Q_{10} = 25.03 CFS
Q_{25} = 39.35 CFS
Q_{100} = 59.96 CFS

POC 3
Q_2 = 5.49 CFS
Q_{10} = 10.13 CFS
Q_{25} = 13.35 CFS
Q_{100} = 18.91 CFS

POC 4
Q_2 = 3.83 CFS
Q_{10} = 6.84 CFS
Q_{25} = 8.91 CFS
Q_{100} = 12.49 CFS

DRAINAGE AREA SUMMARY TABLE
Freedom Church

DRAINAGE AREA	EXISTING													
	OS 1	A	POC 1	OS 2	B	OS 5	EX POND	POC 2	OS 3	C	POC 3	OS 4	D	POC 4
AREA (Mi^2)	0.00081	0.00137		0.00084	0.00591	0.00090			0.00034	0.00208		0.00057	0.00100	
Area (AC)	0.519	0.880		0.536	3.781	0.575			0.218	1.330		0.367	0.641	
CN	85.40	88.29		85.40	84.50	96.82			85.40	80.00		85.40	80.00	
% IC	30.00%	46.04%		30.00%	24.98%	93.43%			30.00%	0.00%		30.00%	0.00%	
24 HR STORM	PEAK RUNOFF FLOW RATES (CFS)													
2 - YR	2.26	4.37	**6.63**	2.43	15.52	3.17	15.04	**15.04**	0.99	4.50	**5.49**	1.66	2.17	**3.83**
10 - YR	3.73	6.88	**10.61**	4.00	27.66	4.74	25.03	**25.03**	1.63	8.50	**10.13**	2.74	4.10	**6.84**
25 - YR	4.73	8.60	**13.33**	5.07	35.28	5.82	39.35	**39.35**	2.06	11.29	**13.35**	3.47	5.44	**8.91**
100 - YR	6.46	11.57	**18.03**	6.92	48.40	7.71	59.96	**59.96**	2.82	16.09	**18.91**	4.74	7.76	**12.49**

Sheet Flow Surface Codes

a smooth surface	f grass, dense
b fallow (no residue)	g grass, bermuda
c cultivated < 20% Res.	h woods, light
d cultivated > 20% Res.	i woods, dense
e grass - range, short	j range, natural

Shallow Concentrated Surface Codes
- u unpaved surface
- p paved surface

NOTE: TIME OF CONCENTRATION IS CONSERVATIVELY ESTIMATED AT THE MINIMUM TIME ALLOW BY HEC-HMS, 6 MINUTES OR A LAG TIME OF 3.6 MINUTES.

Manning's coefficients

a smooth surface	0.011
b fallow (no residue)	0.05
c cultivated < 20% Res.	0.06
d cultivated > 20% Res.	0.17
e grass - range, short	0.15
f grass, dense	0.24
g grass, bermuda	0.41
h woods, light	0.4
i woods, dense	0.8
j range, natural	0.13
Lake Creek 2-yr 24-hr	4.01
Brushy Creek 2-yr 24-hr	3.97

0 15' 30' 60'
Scale: 1" = 30'

LEGEND

●——>——>——●	SHEET FLOW
●——>>——●	SHALLOW CONCENTRATED FLOW
●——>>>——●	CHANNEL FLOW
— — — —	EXISTING DRAINAGE AREA DELINEATION
←	FLOW DIRECTION
B 10.28 AC	DRAINAGE AREA

SCS TR-55 TIME OF CONCENTRATION AND TRAVEL TIME - EXISTING CONDITIONS

DRAINAGE AREA "OS 1"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.0400	e	0.15	n/a	n/a	n/a	0.111 hours
SHALLOW CONCENTRATED	118	0.0847	u	n/a	n/a	n/a	4.70	0.007 hours
							Time of Concentration	0.118 hours
							Lag Time	4.231

DRAINAGE AREA "OS 2"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.1000	e	0.15	n/a	n/a	n/a	0.077 hours
SHALLOW CONCENTRATED	15	0.0667	u	n/a	n/a	n/a	4.17	0.001 hours
							Time of Concentration	0.100 hours
							Lag Time	3.600

DRAINAGE AREA "OS 3"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.0900	e	0.15	n/a	n/a	n/a	0.080 hours
SHALLOW CONCENTRATED	47	0.1277	p	n/a	n/a	n/a	7.26	0.002 hours
							Time of Concentration	0.100 hours
							Lag Time	3.600

DRAINAGE AREA "OS 4"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.0800	a	0.011	n/a	n/a	n/a	0.010 hours
SHALLOW CONCENTRATED	120	0.1417	u	n/a	n/a	n/a	6.07	0.005 hours
							Time of Concentration	0.100 hours
							Lag Time	3.600

DRAINAGE AREA "OS 5"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.0250	a	0.011	n/a	n/a	n/a	0.016 hours
SHALLOW CONCENTRATED	442	0.0170	p	n/a	n/a	n/a	2.65	0.046 hours
							Time of Concentration	0.100 hours
							Lag Time	3.600

DRAINAGE AREA "A"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.1800	e	0.15	n/a	n/a	n/a	0.061 hours
SHALLOW CONCENTRATED	314	0.0764	p	n/a	n/a	n/a	5.62	0.016 hours
							Time of Concentration	0.100 hours
							Lag Time	3.600

DRAINAGE AREA "B"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.1500	e	0.15	n/a	n/a	n/a	0.065 hours
SHALLOW CONCENTRATED	495	0.0869	u	n/a	n/a	n/a	4.76	0.029 hours
							Time of Concentration	0.100 hours
							Lag Time	3.600

DRAINAGE AREA "C"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.1100	e	0.15	n/a	n/a	n/a	0.074 hours
SHALLOW CONCENTRATED	432	0.0926	u	n/a	n/a	n/a	4.91	0.024 hours
							Time of Concentration	0.100 hours
							Lag Time	3.600

DRAINAGE AREA "D"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.1500	e	0.15	n/a	n/a	n/a	0.065 hours
SHALLOW CONCENTRATED	196	0.1020	u	n/a	n/a	n/a	5.15	0.011 hours
							Time of Concentration	0.100 hours
							Lag Time	3.600

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Austin, TX 78749 | 512 750 0440
Texas Registered Engineering Firm F-16967

KYLE ... 135951
JANUARY 22, 2024

NO.	DATE	REVISIONS	RECOM'D

CLIENT
FREEDOM CHURCH

PROJECT
FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE
EXISTING DRAINAGE AREA MAP

PROJECT NO.
0208-002

SHEET NO.
C15

DRAINAGE AREA SUMMARY TABLE

Freedom Church

DRAINAGE AREA	PROPOSED													
	OS 1	A	POC 1	OS 2	OS 3	OS 5	B	C	POND	POC 2	POC 3	OS 4	D	POC 4
AREA (MI^2)	0.00081	0.00132		0.00084	0.00034	0.00090	0.00632	0.00190				0.00057	0.00082	
Area (AC)	0.519	0.847		0.536	0.218	0.575	4.044	1.219				0.367	0.523	
CN	85.40	88.91		85.40	85.40	96.82	92.53	81.22				85.40	80.00	
% IC	30.00%	49.53%		30.00%	30.00%	93.43%	69.60%	6.77%				30.00%	0.00%	
24 HR STORM	PEAK RUNOFF FLOW RATES (CFS)													
2 - YR	2.26	4.27	**6.53**	2.43	0.99	3.17	20.75	4.48	14.34	**14.34**	**0.00**	1.66	1.77	**3.43**
10 - YR	3.73	6.68	**10.41**	4.00	1.63	4.74	31.51	8.14	17.13	**17.13**	**0.00**	2.74	3.34	**6.08**
25 - YR	4.73	8.32	**13.06**	5.07	2.06	5.82	38.87	10.67	29.17	**29.17**	**0.00**	3.47	4.44	**7.91**
100 - YR	6.46	11.17	**17.64**	6.92	2.82	7.71	51.68	15.02	59.86	**59.86**	**0.00**	4.74	6.33	**11.06**

Sheet Flow Surface Codes

a smooth surface
b fallow (no residue)
c cultivated < 20% Res.
d cultivated > 20% Res.
e grass - range, short
f grass, dense
g grass, bermuda
h woods, light
i woods, dense
j range, natural

Shallow Concentrated Surface Codes

u unpaved surface
p paved surface

NOTE: TIME OF CONCENTRATION IS CONSERVATIVELY ESTIMATED AT THE MINIMUM TIME ALLOW BY HEC-HMS, 6 MINUTES OR A LAG TIME OF 36 MINUTES

Manning's coefficients

a smooth surface	0.01
b fallow (no residue)	0.05
c cultivated < 20% Res.	0.06
d cultivated > 20% Res.	0.17
e grass - range, short	0.15
f grass, dense	0.24
g grass, bermuda	0.41
h woods, light	0.4
i woods, dense	0.8
j range, natural	0.13
Lake Creek 2-yr 24-hr	4.01
Brushy Creek 2-yr 24-hr	3.97

0 15' 30' 60'
Scale: 1" = 30'

LEGEND

- SHEET FLOW
- SHALLOW CONCENTRATED FLOW
- CHANNEL FLOW
- PROPOSED DRAINAGE AREA DELINEATION
- FLOW DIRECTION
- A — DRAINAGE AREA 10.28 AC

OS1 0.52 AC
OS2 0.54 AC
OS3 0.22 AC
OS4 0.37 AC
OS5 0.58 AC
A 0.85 AC
B 4.04 AC
C 1.22 AC
D 0.52 AC

PROPOSED CHURCH EXPANSION
16,236 SF
ONE-STORY
FFE=813.55

PLAYGROUND
SPORT COURTS
WATER QUALITY POND
DETENTION POND

POC 1
Q_2 = 6.53 CFS
Q_{10} = 10.41 CFS
Q_{25} = 13.06 CFS
Q_{100} = 17.64 CFS

POC 2
Q_2 = 14.34 CFS
Q_{10} = 17.13 CFS
Q_{25} = 29.17 CFS
Q_{100} = 59.86 CFS

POC 4
Q_2 = 3.43 CFS
Q_{10} = 6.08 CFS
Q_{25} = 7.91 CFS
Q_{100} = 11.06 CFS

SCS TR-55 TIME OF CONCENTRATION AND TRAVEL TIME - PROPOSED CONDITIONS

DRAINAGE AREA "OS 1"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.0400	e	0.15	n/a	n/a	n/a	0.111 hours
SHALLOW CONCENTRATED	118	0.0847	u	n/a	n/a	n/a	4.70	0.007 hours
							Time of Concentration	0.118 hours
							Lag Time	4.231

DRAINAGE AREA "OS 2"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.1000	e	0.15	n/a	n/a	n/a	0.077 hours
SHALLOW CONCENTRATED	15	0.0667	u	n/a	n/a	n/a	4.17	0.001 hours
							Time of Concentration	0.100 hours
							Lag Time	3.800

DRAINAGE AREA "OS 3"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.0900	e	0.15	n/a	n/a	n/a	0.080 hours
SHALLOW CONCENTRATED	47	0.1277	u	n/a	n/a	n/a	5.76	0.002 hours
							Time of Concentration	0.100 hours
							Lag Time	3.800

DRAINAGE AREA "OS 4"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.0800	a	0.011	n/a	n/a	n/a	0.010 hours
SHALLOW CONCENTRATED	120	0.1417	u	n/a	n/a	n/a	6.07	0.005 hours
							Time of Concentration	0.100 hours
							Lag Time	3.800

DRAINAGE AREA "OS 5"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.0250	a	0.011	n/a	n/a	n/a	0.016 hours
SHALLOW CONCENTRATED	442	0.0170	p	n/a	n/a	n/a	2.65	0.046 hours
							Time of Concentration	0.100 hours
							Lag Time	3.800

DRAINAGE AREA "A"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.2100	e	0.15	n/a	n/a	n/a	0.057 hours
SHALLOW CONCENTRATED	304	0.0691	p	n/a	n/a	n/a	5.34	0.016 hours
							Time of Concentration	0.100 hours
							Lag Time	3.800

DRAINAGE AREA "B"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.0900	e	0.15	n/a	n/a	n/a	0.080 hours
SHALLOW CONCENTRATED	233	0.1116	p	n/a	n/a	n/a	6.79	0.010 hours
OPEN CHANNEL	401	0.0474	n/a	0.05	11	14	3.55	0.031 hours
							Time of Concentration	0.121 hours
							Lag Time	4.349

DRAINAGE AREA "C"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.0800	e	0.15	n/a	n/a	n/a	0.084 hours
SHALLOW CONCENTRATED	217	0.0553	u	n/a	n/a	n/a	3.79	0.016 hours
							Time of Concentration	0.100 hours
							Lag Time	3.800

DRAINAGE AREA "D"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.1500	e	0.15	n/a	n/a	n/a	0.065 hours
SHALLOW CONCENTRATED	195	0.1026	u	n/a	n/a	n/a	5.17	0.010 hours
OPEN CHANNEL	-	-	n/a	-	-	-	———	0.000 hours
							Time of Concentration	0.100 hours
							Lag Time	3.800

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STATE OF TEXAS
KYLE D. DUSIK
135951
LICENSED PROFESSIONAL ENGINEER
JANUARY 22, 2024

NO.	DATE	REVISIONS
		RECOM'D

CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: PROPOSED DRAINAGE AREA MAP

PROJECT NO. 0208-002

SHEET NO. C16
16 OF 30

IMAGES: "MIGL LOGO SPACE.png"
DWG'S: "0208-002 FC Area Map v0208-002 FC site-CIVIL-COMBINED.dwg" "0208-002 FC _EXPORTER.dwg" "0208-002 FC grps.dwg" "0208-002 FC pts.dwg"

ATTACHMENT H – TEMPORARY SEDIMENT POND PLAN AND CALCULATIONS

NOT APPLICABLE

ATTACHMENT I – INSPECTION AND MAINTENANCE FOR BMPS

Silt Fences:
Inspect all silt fencing weekly and after any rainfall. Remove sediment when buildup reaches 6 inches. Replace any torn silt fence fabric or install a second line of fencing parallel to the torn section. Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of silt 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. Fences shall be checked for structural damage from stormwater flows immediately after a significant (0.5") rainfall as soon as ground conditions make fences accessible (usually within 24 hours). Should there be prolonged rainfall, inspections should be conducted without vehicles and temporary repairs made until equipment can be brought in without major surface damage. Adjust fence configuration, if necessary, after rainfall events to accommodate conditions defined by stormwater flows. 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.

Record keeping:
Project superintendent shall have a log for entering site inspections for both weekly and rainfall events. Results of inspections including damage and recommended repairs shall be noted, along with inspection personnel data and date of remedial action taken.

ATTACHMENT J – SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES

Interim soil stabilization shall be instituted as soon as practicable in portions of the site where construction activities have been temporarily or permanently ceased, but in no case more than fourteen (14) days; however, areas that will be redisturbed within twenty-one (21) days do not have to be stabilized. Records must be kept of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and as to when each soil stabilization measure was initiated in each area.

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: Kyle Quick, PE

Date: 1/31/24

Signature of Customer/Agent

Regulated Entity Name: Freedom Church

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

ATTACHMENT A – 20% OR LESS IMPERVIOUS COVER WAIVER

NOT APPLICABLE

ATTACHMENT B – BMPs FOR UPGRADIENT STORMWATER

The proposed development is located in the Lake Creek Watershed. There is approximately 1.65 acres of stormwater runoff originating upgradient of the site on developed residential lots as shown on the Existing and Proposed Drainage Area Maps. Due to this relatively small offsite area, no permanent BMPs are proposed to divert this runoff around the project site as it currently is not concentrated and cross the property line in a sheet flow pattern. During construction, silt fences will be installed to keep onsite flows from traveling across the limits of construction.

ATTACHMENT C – BMPs FOR ON-SITE STORMWATER

The 6.63-acre tract was previously developed for the church. This proposed expansion project includes BMPs for all impervious cover placed after 1986. Impervious cover in place prior to 1986 totaled 57,055 square feet. This project proposes to demolish 46,236 sf of impervious cover and add 106,378 square feet. The BMP is designed to ultimately treat 132,459 sf of impervious cover with only 105,205 sf proposed to be treated with this project resulting in 27,254 sf of impervious cover remaining for future development. The BMP selected to treat this increase in impervious cover is a partial sedimentation-filtration pond.

4.80 acres of the tract is contributing to the BMP, sized for a total TSS removal of 80% from proposed to existing conditions. A total of 2318 pounds of TSS removal is required while a removal of 2318 pounds is provided. The contributing area of the water quality control consists of the asphalt parking lot, drive aisles, and a portion of the buildings' roof runoff.

ATTACHMENT D – BMPs FOR SURFACE STREAMS

Lake Creek is protected by the proposed BMP. There are areas of concentrated runoff for which the design has accounted for both during and after construction. The proposed BMP discharges to a detention pond that is connected to the municipal drainage system which is also designed to protect the nearby Lake Creek.

ATTACHMENT E – REQUEST TO SEAL FEATURES

NOT APPLICABLE

ATTACHMENT F – CONSTRUCTION PLANS

The construction plans have been attached as part of this submittal.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Freedom Church
Date Prepared: 1/2/2024

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the
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 * =	6.63	acres
Predevelopment impervious area within the limits of the plan * =	0.65	acres
Total post-development impervious area within the limits of the plan * =	3.32	acres
Total post-development impervious cover fraction * =	0.50	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	2318	lbs.

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

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

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

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	4.80	acres
Predevelopment impervious area within drainage basin/outfall area =	0.23	acres
Post-development impervious area within drainage basin/outfall area =	3.04	acres
Post-development impervious fraction within drainage basin/outfall area =	0.63	
$L_{M\ THIS\ BASIN}$ =	2450	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Sand Filter
Removal efficiency = 89 percent

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: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

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 =	4.80	acres
A_I =	3.04	acres
A_P =	1.76	acres
L_R =	3024	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	**2318**	lbs.
F =	**0.77**	

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

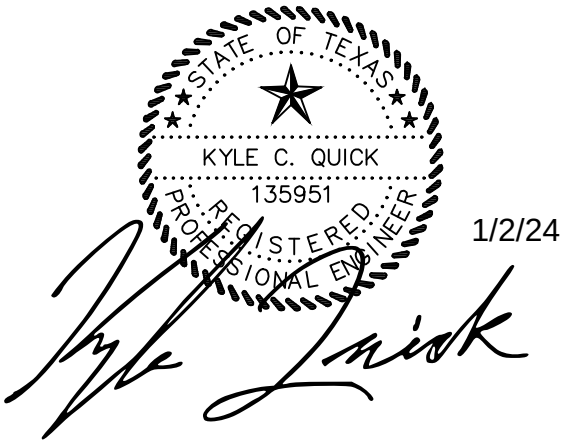
Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	**0.97**	inches
Post Development Runoff Coefficient =	**0.45**	
On-site Water Quality Volume =	**7552**	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 =	**1510**	
Total Capture Volume (required water quality volume(s) x 1.20) =	**9062**	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.



1/2/24

INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN

1.0 SEDIMENTATION/ FILTRATION POND

Regular, routine maintenance is essential to effective, long-lasting performance of sand filters. Neglect or failure to service the filters on a regular basis will lead to poor performance and eventual costly repairs. It is recommended that sand filter BMPs be inspected on a quarterly basis and after large storms for the first year of operation. This intensive monitoring is intended to ensure proper operation and provide maintenance personnel with a feel for the operational characteristics of the filter. Subsequent inspections can be limited to semi-annually or more often if deemed necessary (Young et al., 1996).

Certain construction and maintenance practices are essential to efficient operation of the filter. The biggest threat to any filtering system is exposure to heavy sediment loads that clog the filter media. Construction within the watershed should be complete prior to exposing the filter to stormwater runoff. All exposed areas should be stabilized to minimize sediment loads. Runoff from any unstabilized construction areas should be treated via a separate sediment system that bypasses the filter media.

Another important consideration in constructing the filter bed is to ensure that the top of the media is completely level. The filter design is based on the use of the entire filter media surface area; a sloped filter surface would result in disproportionate use of the filter media.

Other recommended maintenance guidelines include:

1.1 Inspections:

BMP facilities must be inspected at least twice a year (once during or immediately following wet weather) to evaluate facility operation. During each inspection, erosion areas inside and downstream of the BMP must be identified and repaired or revegetated immediately. With each inspection, any damage to the structural elements of the system (pipes, concrete drainage structures, retaining walls, etc.) must be identified and repaired immediately. Cracks, voids, and undermining should be patched/filled to prevent additional structural damage. Trees and root systems should be removed to prevent growth in cracks and joints that can cause structural damage.

1.2 Sediment Removal:
Remove sediment from the inlet structure and sedimentation chamber when sediment buildup reaches a depth of 6 inches or when the proper functioning of inlet and outlet structures is impaired. Sediment should be cleared from the inlet structure at least every year and from the sedimentation basin at least every 5 years.

1.3 Media Replacement:
Maintenance of the filter media is necessary when the draw-down time exceeds 48 hours. When this occurs, the upper layer of sand should be removed and replaced with new material meeting the original specifications. Any discolored sand should also be removed and replaced. In filters that have been regularly maintained, this should be limited to the top 2 to 3 inches.

1.4 Debris and Litter Removal:
Debris and litter will accumulate near the sedimentation basin outlet device and should be removed during regular mowing operations and inspections. Particular attention should be paid to floating debris that can eventually clog the control device.

1.5 Filter Underdrain:
Clean underdrain piping network to remove any sediment buildup as needed to maintain design drawdown time.

1.6 Mowing:
Grass areas in and around sand filters must be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. Vegetation on the pond embankments should be mowed as appropriate to prevent the establishment of woody vegetation.

RESPONSIBLE PARTY FOR MAINTENANCE:
Freedom Church Austin of the Assemblies of God, Inc.
2330 Dry Creek Drive
Round Rock, Texas 78681
Benito@freedomchurchrr.com
(512) 255-0064

SIGNATURE OF RESPONSIBLE PARTY:

PRINTED NAME OF RESPONSIBLE PARTY: Pastor Benito Fresquez

ATTACHMENT H – PILOT SCALE FIELD TESTING

NOT APPLICABLE

ATTACHMENT I – MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

All flows generated by the existing and proposed improvements will be conveyed through the water quality or detention pond which will minimize surface stream contamination and post-construction stream flashing.

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

I **Pastor Benito Fresquez**,
Print Name

Pastor,
Title - Owner/President/Other

of **Freedom Church Austin of the Assemblies of God, Inc.**,
Corporation/Partnership/Entity Name

have authorized **Kyle Quick, P.E.**
Print Name of Agent/Engineer

of **Migl Engineering and Consulting, PLLC**
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

1/30/2024
Date

THE STATE OF Texas §

County of Williamson §

BEFORE ME, the undersigned authority, on this day personally appeared Benito Fresquez 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 30 day of January, 2024.

NOTARY PUBLIC

TRACY MARIE GARCIA
Notary ID #128580757
My Commission Expires
September 21, 2025

Tracy Marie Garcia
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: September 21, 2025

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Freedom Church
Regulated Entity Location: 2330 Dry Creek Drive, Round Rock, Texas 78681
Name of Customer: Freedom Church
Contact Person: Kyle Quick, PE Phone: (512) 965-2318
Customer Reference Number (if issued):CN _____
Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☐ Hays ☒ Williamson
☐ Travis

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

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

☒ Austin Regional Office ☐ San Antonio Regional Office

☐ Mailed to: TCEQ - Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ 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	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	6.63 Acres	$ 5000
Sewage Collection System	48 L.F.	$ 650
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$

Type of Plan	Size	Fee Due
Extension of Time	Each	$

Signature: _____ Date: 1/31/24

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

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

1. Reason for Submission (*If other is checked please describe in space provided.*)

☒ 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:*

Freedom Church Austin of the Assemblies of God, 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)*
		26-4061154	

11. Type of Customer: ☒ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ 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 ☐ Voluntary Cleanup Applicant ☐ Other:

15. Mailing Address:

Freedom Church, c/o Pastor Benito Fresquez
2330 Dry Creek Drive

City	Round Rock	State	TX	ZIP	78681	ZIP + 4	

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*
	benito@freedomchurchrr.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(512) 225-0064		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information (*If 'New Regulated Entity" is selected below this form should be accompanied by a permit application*)

☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name (*Enter name of the site where the regulated action is taking place.*)

Freedom Church

23. Street Address of the Regulated Entity: *(No PO Boxes)*	2330 Dry Creek Drive							
	City	RoundRock	**State**	TX	**ZIP**	78681	**ZIP + 4**	
24. County	Williamson							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:								
26. Nearest City					**State**		**Nearest ZIP Code**	

27. Latitude (N) In Decimal:	30.4879			**28. Longitude (W) In Decimal:**	97.6836			
Degrees	Minutes		Seconds	Degrees		Minutes		Seconds
30	29		16.56	97		41		0.95

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)
8661		813110	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Religious Assembly

34. Mailing Address:	**Freedom Church, c/o Pastor Benito Fresquez**							
	2330 Dry Creek Drive							
	City	**Round Rock**	**State**	**TX**	**ZIP**	**78681**	**ZIP + 4**	
35. E-Mail Address:	**benito@freedomchurchrr.com**							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** ***(if applicable)***
(512) 225-64		**( ) -**

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
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

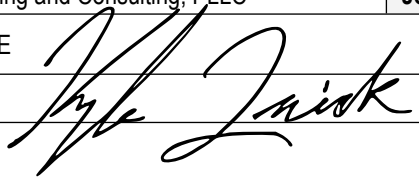
SECTION IV: Preparer Information

40. Name:	Kyle Quick, P.E.	**41. Title:**	Project Manager

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512) 965-2318		( ) -	Kyle@miglengineering.com

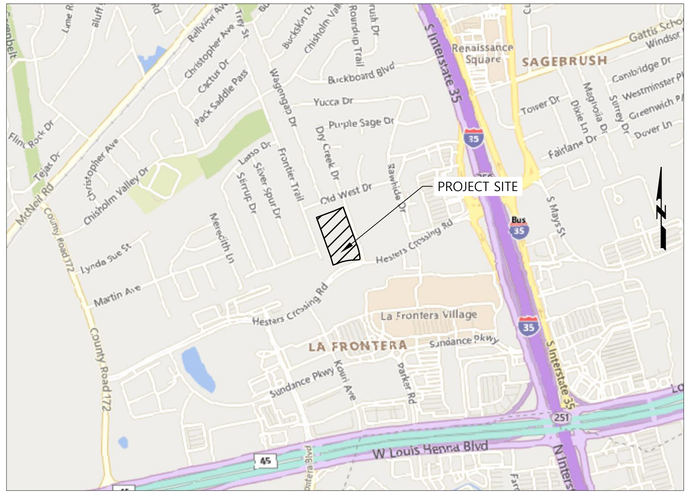
SECTION V: Authorized Signature

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:	Migl Engineering and Consulting, PLLC	**Job Title:**	Project Manager
Name *(In Print):*	Kyle Quick, PE	**Phone:**	(512) 965- **2318**
Signature:		**Date:**	1/31/24

SITE DEVELOPMENT PLANS FOR FREEDOM CHURCH 2330 DRY CREEK DRIVE ROUND ROCK, TEXAS 78681

OWNER:	FREEDOM CHURCH AUSTIN OF THE ASSEMBLIES OF GOD, INC. 2330 DRY CREEK DRIVE ROUND ROCK, TEXAS 78681
LANDSCAPE ARCHITECT:	COLEMAN AND ASSOCIATES 9890 SILVER MOUNTAIN DRIVE AUSTIN, TEXAS 78737
CIVIL ENGINEER:	KYLE QUICK, P.E. MIGL ENGINEERING AND CONSULTING 9600 ESCARPMENT BLVD, SUITE 745-174 AUSTIN, TEXAS 78749 KYLE@MIGLENGINEERING.COM (512) 965-2318
SUBMITTAL DATE:	MONTH DD, YYYY
LEGAL DESCRIPTION:	CHISHOLM VALLEY SOUTH SECTION 15, LOT 1, ACRES 6.619
ADDRESS:	2330 DRY CREEK DRIVE ROUND ROCK, TEXAS 78681
TAX PARCEL NUMBER:	R305446
EDWARDS AQUIFER:	THIS PROJECT IS LOCATED OVER THE EDWARDS AQUIFER RECHARGE ZONE PER TCEQ MAPS.
WATERSHED:	LAKE CREEK
FLOODPLAIN INFORMATION:	ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 2% ANNUAL CHANCE FLOOD PLAIN, AS SHOWN ON THE FEMA FIRM MAP 48491C0635F DATED DECEMBER 20, 2019.
JURISDICTION:	CITY OF ROUND ROCK
ZONING:	SF-2 - SINGLE FAMILY - STANDARD LOT
BUILDING COVERAGE:	28,283 SF
TOTAL SITE AREA:	6.63 AC
TABS/TDLR:	



VICINITY MAP
1" = 1000'

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PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF THE CONSTRUCTION OF A CHURCH BUILDING EXPANSION AND ASSOCIATED PARKING AND UTILITIES ON A 6.63 AC SITE

NOTES TO CONTRACTOR

1. BY THE ACT OF SUBMITTING A BID FOR THE PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, ALL SUBCONTRACTORS, AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS AND SPECIFICATIONS AND 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.
2. THE LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND NOTIFY THE ENGINEER ON ANY CONFLICTS IMMEDIATELY. ANY DAMAGE BY THE CONTRACTOR TO THE EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
3. ALL EXISTING PUBLIC UTILITY LINES (WATER, WASTEWATER, AND STORM SEWER) SHALL BE LOCATED, POTHOLED, AND FIELD VERIFIED VIA SUE LEVEL A PRIOR TO CONSTRUCTION WITH A CITY OF ROUND ROCK EMPLOYEE PRESENT.
4. THE INTENT OF THIS SITE DESIGN IS TO MEET LOCAL, STATE AND FEDERAL DEVELOPMENT CODES AND REGULATIONS. A CONCURRENCE LETTER IS REQUIRED FROM MIGL ENGINEERING AND CONSULTING UPON COMPLETION OF THE CONSTRUCTION AS PERMITTED. ANY CHANGES MADE DURING CONSTRUCTION MUST BE SHOWN ON THE DRAWINGS IN THE FORM OF A REVISION OR CORRECTION BY THE CITY PRIOR TO THE ISSUANCE OF THE CONCURRENCE LETTER.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMMEDIATELY NOTIFYING THE DESIGNER OR ENGINEER OF ANY APPARENT DISCREPANCY OR DESIGN CONFLICTS, AND RESOLVE SUCH SITUATIONS PRIOR TO PROCEEDING WITH CONSTRUCTION.
6. SHOULD THERE BE ANY CONFLICT IN SPECIFICATIONS OR REQUIREMENTS FOR MATERIALS OR INSTALLATION THE MOST STRINGENT WILL APPLY. IF THE DECISION IS NOT CLEAR, DIRECT YOUR QUESTIONS TO THE DESIGNER OR ENGINEER.
7. THE CITY APPROVED, SIGNED AND SEALED PLAN SET SHALL TAKE PRECEDENCE OVER ANY CAD FILES PROVIDED TO THE CONTRACTOR.
8. EXCAVATION IS UNCLASSIFIED, WHICH INCLUDES ANY NECESSARY METHODS REQUIRED TO DEWATER OR DRY OUT EXCAVATIONS AND FOR THE IMPORTING OF BASE OR NATIVE MATERIALS NECESSARY TO FACILITATE CONSTRUCTION OF EMBANKMENTS, STRUCTURES, OR PAVEMENT.
9. THE LATEST APPROVED, SIGNED AND SEALED LANDSCAPE ARCHITECTURAL PLANS SHOULD BE CONSULTED FOR THE ACTUAL SIZE, CONFIGURATION AND LOCATION OF EACH SHADE STRUCTURE, FENCE, AND SITE FURNISHINGS.
10. APPROVAL OF SITE PLAN DOES NOT ALLOW FOR ANY WORK IN THE RIGHT OF WAY TO BE CONDUCTED WITHOUT TEMPORARY USE OF RIGHT OF WAY PERMIT.
    10.1. EXCAVATION FOR UTILITY WORK WILL REQUIRE AN EXCAVATION PERMIT
    10.2. ALL DRIVEWAYS AND CONCRETE WORK WILL REQUIRE A DRIVEWAY/ SIDEWALK PERMIT
    10.3. ALL TRAFFIC CONTROL AND PEDESTRIAN PROTECTION WILL REQUIRE A TEMPORARY USE OF ROW PERMIT
    10.4. ALL OTHER PERMITS SUCH AS THE BUILDING PERMIT MUST BE APPROVED BEFORE USE OF THE ROW WILL BE ALLOWED.
11. THE DISTURBED AREAS WITHIN THIS PROJECT SHALL BE REVEGETATED AND ALL PERMANENT EROSION/SEDIMENTATION CONTROLS COMPLETED PRIOR TO THE RELEASE OF FISCAL SURETY FOR THAT PHASE. TEMPORARY EROSION/SEDIMENTATION CONTROLS SHALL BE ADJUSTED AS NEEDED PRIOR TO THIS RELEASE TO ENSURE THAT SUBSEQUENT PHASE DISTURBED AREAS ARE ADEQUATELY COVERED. ANY AREA WITHIN THE LIMIT OF DISTURBANCE OF THE PROJECT WHICH IS NOT ADEQUATELY REVEGETATED SHALL BE BROUGHT INTO COMPLIANCE PRIOR TO THE RELEASE OF THE FINAL PHASE.
12. UNDERGROUND MAINS FEEDING PRIVATE HYDRANTS MUST BE INSTALLED, INSPECTED, AND TESTED IN ACCORDANCE WITH NFPA 24 AND THE FIRE CODE.
13. THE CONTRACTOR SHALL OBTAIN A "NOTICE OF PROPOSED INSTALLATION OF UTILITY LINE" PERMIT FROM WILLIAMSON COUNTY FOR ANY WORK PERFORMED IN THE EXISTING COUNTY RIGHT-OF-WAY (DRIVEWAY APRON, WATER MAIN TIE-IN, ETC.) THIS PERMIT APPLICATION WILL REQUIRE A LIABILITY AGREEMENT, A CONSTRUCTION COST ESTIMATE FOR WORK WITHIN THE RIGHT-OF-WAY INCLUDING PAVEMENT REPAIR (IF NEEDED), A PERFORMANCE BOND, CONSTRUCTION PLANS AND, IF NECESSARY, A TRAFFIC CONTROL PLAN. AN INSPECTION FEE, AND A PRE-CONSTRUCTION MEETING MAY ALSO BE REQUIRED, DEPENDING ON THE SCOPE OF WORK. THE PERMIT WILL BE REVIEWED AND APPROVED BY THE COUNTY ENGINEER, AND MUST ALSO BE APPROVED BY THE WILLIAMSON COUNTY COMMISSIONERS COURT IF ANY ROAD CLOSURE IS INVOLVED.

NOT FOR CONSTRUCTION-UNTIL APPROVED

THESE DOCUMENTS ARE NOT APPROVED FOR CONSTRUCTION, AND SHALL NOT BE USED FOR CONSTRUCTION UNTIL APPROVED BY THE CITY OF ROUND ROCK, UNTIL A DEVELOPMENT PERMIT IS ISSUED BY THE CITY OF ROUND ROCK, AND UNTIL ALL REQUIRED OTHER CITY, COUNTY, AND STATE PERMITS ARE OBTAINED.

APPROVAL OF THESE PLANS BY THE CITY OF ROUND ROCK INDICATES COMPLIANCE WITH APPLICABLE CITY REGULATIONS ONLY. APPROVAL BY OTHER GOVERNMENTAL ENTITIES MAY BE REQUIRED PRIOR TO THE START OF CONSTRUCTION. THE APPLICANT IS RESPONSIBLE FOR DETERMINING WHAT ADDITIONAL APPROVALS MAY BE NECESSARY.

REVISIONS/CORRECTIONS

No.	Description	Revise (R) Add (A) Void (V) Sheet No.'s	Total # Sheets in Plan Set	Net Change Imp. Cover (sq. ft.)	Total Site Imp. Cover (sq. ft.) (%)	City of ROUND ROCK Approval/Date	Date Imaged

JOB NO. 0208.002

ALL RESPONSIBILITY FOR THE ACCURACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF ROUND ROCK MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

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.

ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION." (OSHA STANDARDS MAY BE PURCHASED FROM THE GOVERNMENT PRINTING OFFICE; INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, 611 EAST 6TH STREET,

PRIVATE FIRE HYDRANT NOTE:

THIS PROJECT HAS PRIVATE HYDRANTS LOCATED WITHIN THE PROPERTY. THE PROPERTY OWNER IS REQUIRED TO COMPLY WITH ROUND ROCK FIRE CODE. FAILURE TO COMPLY MAY RESULT IN CIVIL AND/OR CRIMINAL REMEDIES AVAILABLE TO THE CITY. THE PERFORMANCE OF THIS OBLIGATION SHALL ALWAYS REST WITH THE OWNER OF RECORD. FIRE HYDRANTS ON PRIVATE PROPERTY ARE REQUIRED TO BE SERVICED, MAINTAINED AND FLOWED ANNUALLY, USING A CONTRACTOR REGISTERED WITH THE CITY TO PROVIDE THE SERVICE. THIS PROJECT INCLUDES 3 PRIVATE HYDRANTS.

ACCEPTED FOR CONSTRUCTION:

_____

CITY OF ROUND ROCK, TEXAS DATE
ENGINEERING AND DEVELOPMENT SERVICES DEPARTMENT

Know what's **below.** **Call** before you dig.

CAUTION - ELECTRICITY PRESENT

THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS THAT ENTER OR WORK ON THIS PROJECT ARE RESPONSIBLE FOR LOCATING, USING ONE-CALL OR THE ELECTRIC UTILITIES THEMSELVES, ALL OVERHEAD AND UNDERGROUND ELECTRICAL OF ANY NATURE AND FOR SAFEGUARDING ALL PERSONNEL ON THIS PROJECT, INCLUDING ANY OFF-SITE WORK AREAS SHOWN ON THE PLAN, FROM ANY INTERFERENCE WITH THE ELECTRIC LINES OR FROM DAMAGING, DIGGING UP OR UNCOVERING THE ELECTRIC LINES. GETTING A LADDER IN HARMS WAY OR ANY OTHER ACTIVITY OF ANY NATURE THAT COULD HARM ANY INDIVIDUAL IN ANY MANNER. THIS RESPONSIBILITY HEREBY REMOVES MIGL ENGINEERING AND CONSULTING AND THE OWNER FROM ANY LIABILITY OF ANY NATURE.

MIGL ENGINEERING AND CONSULTING
9600 Escarpment Blvd, Suite 745-174
Austin, TX 78749 | 512 750 0440
Texas Registered Engineering Firm F-16967

STATE OF TEXAS
KYLE P. QUICK
135951
LICENSED PROFESSIONAL ENGINEER
JANUARY 22, 2024

NO.	DATE	REVISIONS	RECOM'TD

CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: COVER

PROJECT NO. 0208-002

SHEET NO. C1
1 OF 30

IMAGES: *.MIGLlogo (SPACE).png
XREF: *.MIGLlogo (SPACE).png, *.0208-002 FC_BORDER.dwg

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF ROUND ROCK STANDARD SPECIFICATIONS MANUAL.
2. ANY EXISTING UTILITIES, PAVEMENT, CURBS, SIDEWALKS, STRUCTURES, TREES, ETC., NOT PLANNED FOR DESTRUCTION OR REMOVAL THAT ARE DAMAGED OR REMOVED SHALL BE REPAIRED OR REPLACED AT HIS EXPENSE.
3. THE CONTRACTOR SHALL VERIFY ALL DEPTHS AND LOCATIONS OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES WITH THE CONSTRUCTION PLANS FOUND IN THE FIELD SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE ENGINEER WHO SHALL BE RESPONSIBLE FOR REVISING THE PLANS ARE APPROPRIATE.
4. MANHOLE FRAMES, COVERS, VALVES, CLEANOUTS, ETC. SHALL BE RAISED TO FINISHED GRADE PRIOR TO FINAL PAVING CONSTRUCTION.
5. THE CONTRACTOR SHALL GIVE THE CITY OF ROUND ROCK 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION. TELEPHONE 218-5555 (ENGINEERING AND DEVELOPMENT SERVICES DEPARTMENT).
6. ALL AREAS DISTURBED OR EXPOSED DURING CONSTRUCTION SHALL BE REVEGETATED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. REVEGETATION OF ALL DISTURBED OR EXPOSED AREAS SHALL CONSIST OF SODDING OR SEEDING, AT THE CONTRACTOR'S OPTION. HOWEVER, THE TYPE OF REVEGETATION MUST EQUAL OR EXCEED THE TYPE OF VEGETATION PRESENT BEFORE CONSTRUCTION.
7. PRIOR TO ANY CONSTRUCTION, THE ENGINEER SHALL CONVENE A PRECONSTRUCTION CONFERENCE BETWEEN THE CITY OF ROUND ROCK, HIMSELF, THE CONTRACTOR, OTHER UTILITY COMPANIES, ANY AFFECTED PARTIES AND ANY OTHER ENTITY THE CITY OR ENGINEER MAY REQUIRE.
8. THE CONTRACTOR AND THE ENGINEER SHALL KEEP ACCURATE RECORDS OF ALL CONSTRUCTION THAT DEVIATES FROM THE PLANS. THE ENGINEER SHALL FURNISH THE CITY OF ROUND ROCK ACCURATE "AS-BUILT" DRAWINGS FOLLOWING COMPLETION OF ALL CONSTRUCTION. THESE "AS BUILT" DRAWINGS SHALL MEET WITH THE SATISFACTION OF THE ENGINEERING AND DEVELOPMENT SERVICES DEPARTMENT PRIOR TO FINAL ACCEPTANCE.
9. THE ROUND ROCK CITY COUNCIL SHALL NOT BE PETITIONED FOR ACCEPTANCE UNTIL ALL NECESSARY EASEMENT DOCUMENTS HAVE BEEN SIGNED AND RECORDED.
10. WHEN CONSTRUCTION IS BEING CARRIED OUT WITHIN EASEMENTS, THE CONTRACTOR SHALL CONFINE HIS WORK TO WITHIN THE PERMANENT AND ANY TEMPORARY EASEMENTS. PRIOR TO FINAL ACCEPTANCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TRASH AND DEBRIS WITHIN THE PERMANENT AND TEMPORARY EASEMENTS. CLEAN-UP SHALL BE TO THE SATISFACTION OF THE CITY ENGINEER.
11. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL APPLY FOR AND SECURE ALL PROPER PERMITS FROM THE APPROPRIATE AUTHORITIES.
12. AVAILABLE BENCHMARKS (CITY OF ROUND ROCK DATUM) THAT MAY BE UTILIZED FOR THE CONSTRUCTION OF THIS PROJECT ARE DESCRIBED AS FOLLOWS:

TRENCH SAFETY NOTES:

1. IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U. S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, ALL TRENCHES OVER 5 FEET IN 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 (WILL BE PROVIDED BY THE CONTRACTOR; ARE ON SHEET _____, ETC.).
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 SO AS TO REQUIRE NO MORE THAN 25 FEET OF LATERAL TRAVEL.
3. IF TRENCH SAFETY SYSTEM DETAILS WERE NOT PROVIDED IN THE PLANS BECAUSE TRENCHES WERE ANTICIPATED TO BE LESS THAN 5 FEET IN DEPTH AND DURING CONSTRUCTION IT IS FOUND THAT TRENCHES ARE IN FACT 5 FEET OR MORE IN DEPTH OR TRENCHES LESS THAN 5 FEET IN DEPTH ARE IN AN AREA WHERE HAZARDOUS GROUND MOVEMENT IS EXPECTED, ALL CONSTRUCTION SHALL CEASE, THE TRENCHED AREA SHALL BE BARRICADED AND THE ENGINEER NOTIFIED IMMEDIATELY. CONSTRUCTION SHALL NOT RESUME UNTIL APPROPRIATE TRENCH SAFETY SYSTEM DETAILS, AS DESIGNED BY A PROFESSIONAL ENGINEER, ARE RETAINED AND COPIES SUBMITTED TO THE CITY OF ROUND ROCK.

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 HE SHALL BE GIVEN A MINIMUM OF 24 HOURS NOTICE PRIOR TO ANY TESTING. TELEPHONE 218-5555 (INSPECTIONS).
2. BACKFILL BEHIND THE CURB SHALL BE COMPACTED TO OBTAIN A MINIMUM OF 95% MAXIMUM DENSITY TO WITHIN 3" OF TOP OF CURB. MATERIAL USED SHALL BE PRIMARILY GRANULAR WITH NO ROCKS LARGER THAN 6" IN THE GREATEST DIMENSION. THE REMAINING 3" SHALL BE CLEAN TOPSOIL FREE FROM ALL CLODS AND SUITABLE FOR SUSTAINING PLANT LIFE.
3. DEPTH OF COVER FOR ALL CROSSINGS UNDER PAVEMENT INCLUDING GAS, ELECTRIC, TELEPHONE, CABLE TV, WATER SERVICES, ETC., SHALL BE A MINIMUM OF 30" BELOW SUBGRADE.
4. 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 MADE TO AND ACCEPTED BY THE CITY OF ROUND ROCK ENGINEERING AND DEVELOPMENT SERVICES DEPARTMENT.
5. 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.
6. ALL R.C.P. SHALL BE MINIMUM CLASS III.
7. THE SUBGRADE MATERIAL FOR THE STREETS SHOWN HEREIN WAS TESTED BY _____ 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:

STREET	STATION	FLEX. BASE THICKNESS	HMAC THICKNESS	LIME STAB.THICKNESS

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

8. WHERE PI'S ARE OVER 20, SUBGRADES MUST BE STABILIZED UTILIZING A METHOD ACCEPTABLE TO THE CITY ENGINEER. THE GEOTECHNICAL ENGINEER SHALL RECOMMEND AN APPROPRIATE SUBGRADE STABILIZATION IF SULFATES ARE DETERMINED TO BE PRESENT.

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), OR DUCTILE IRON (AWWA C-100, MIN. CLASS 200). PIPE MATERIAL FOR GRAVITY WASTEWATER MAINS SHALL BE PVC (ASTM D2241 OR D3034, MAX. DR-26), DUCTILE IRON (AWWA C-100, MIN. CLASS 200).
3. UNLESS OTHERWISE ACCEPTED BY THE CITY ENGINEER, DEPTH OF COVER FOR ALL LINES OUT OF THE PAVEMENT SHALL BE 42" MIN., AND DEPTH OF COVER FOR ALL LINES UNDER PAVEMENT SHALL BE A MIN. OF 30" BELOW SUBGRADE.
4. ALL FIRE HYDRANT LEADS SHALL BE DUCTILE IRON PIPE (AWWA C-100, MIN. CLASS 200).
5. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED WITH MINIMUM 8-MIL POLYETHYLENE AND SEALED WITH DUCT TAPE OR EQUAL ACCEPTED BY THE CITY ENGINEER.
6. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR AT 218-5555 TO COORDINATE UTILITY TIE-INS AND NOTIFY HIM AT LEAST 48 HOURS PRIOR TO CONNECTING TO 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. TAPPING OF FIBERGLASS MANHOLES SHALL NOT BE ALLOWED.
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 BE CARRIED AT ALL TIMES BY ALL WHO USE WATER.
9. LINE FLUSHING OR ANY ACTIVITY USING A LARGE QUANTITY OF WATER MUST BE SCHEDULED WITH THE WATER & WASTEWATER SUPERINTENDENT, TELEPHONE 218-5555.
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 CITY OF ROUND ROCK PERSONNEL. 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 HIS 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. CITY OF ROUND ROCK FEE AMOUNTS MAY BE OBTAINED BY CALLING THE ENGINEERING AND DEVELOPMENT SERVICES DEPARTMENT AT 218-5555.
12. THE CONTRACTOR, AT HIS EXPENSE, SHALL PERFORM QUALITY TESTING FOR ALL WASTEWATER PIPE INSTALLED AND PRESSURE PIPE HYDROSTATIC TESTING OF ALL WATER LINES CONSTRUCTED AND SHALL PROVIDE ALL EQUIPMENT (INCLUDING PUMPS AND GAUGES), SUPPLIES AND LABOR NECESSARY TO PERFORM THE TESTS. QUALITY AND PRESSURE TESTING SHALL BE MONITORED BY CITY OF ROUND ROCK PERSONNEL.
13. THE CONTRACTOR SHALL COORDINATE TESTING WITH THE CITY OF 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 AS FOLLOWS:

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

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.

17. CONTACT CITY OF ROUND ROCK ENGINEERING AND DEVELOPMENT SERVICES DEPARTMENT AT 218-5555 FOR ASSISTANCE IN OBTAINING EXISTING WATER AND WASTEWATER LOCATIONS.
18. 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.
19. 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

20. 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.
21. ALL WASTEWATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS, 30 TAC CHAPTER 213 AND 317, AS APPLICABLE. WHENEVER TCEQ AND CITY OF ROUND ROCK SPECIFICATIONS CONFLICT, THE MORE STRINGENT SHALL APPLY.

TRAFFIC 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, LATEST EDITION.
2. ALL PAVEMENT MARKINGS, MARKERS, PAINT, TRAFFIC BUTTONS, TRAFFIC CONTROLS AND SIGNSHALL 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.

EROSION AND SEDIMENTATION CONTROL NOTES:

1. EROSION CONTROL MEASURES, SITE WORK AND RESTORATION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF ROUND ROCK EROSION AND SEDIMENTATION CONTROL ORDINANCE.
2. ALL SLOPES SHALL BE SODDED OR SEEDED WITH APPROVED GRASS, GRASS MIXTURES OR GROUND COVER SUITABLE TO THE AREA AND SEASON IN WHICH THEY ARE APPLIED.
3. SILT FENCES, ROCK BERMS, SEDIMENTATION BASINS AND SIMILARLY RECOGNIZED TECHNIQUES AND MATERIALS SHALL BE EMPLOYED DURING CONSTRUCTION TO PREVENT POINT SOURCE SEDIMENTATION LOADING OF DOWNSTREAM FACILITIES. SUCH INSTALLATION SHALL BE REGULARLY INSPECTED BY 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 FINAL INSPECTION AND APPROVAL OF THE PROJECT BY THE ENGINEER. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL TEMPORARY EROSION CONTROL STRUCTURES AND TO REMOVE EACH STRUCTURE AS APPROVED BY THE ENGINEER.
5. ALL MUD, DIRT, ROCKS, DEBRIS, ETC., SPILLED, TRACKED OR OTHERWISE DEPOSITED ON EXISTING PAVED STREETS, DRIVES AND AREAS USED BY THE PUBLIC SHALL BE CLEANED UP IMMEDIATELY

WATER			
PIPIE SIZE	TYPE	LENGTH (LF)	VOL. (GAL)

WASTEWATER			
PIPIE SIZE	TYPE	LENGTH (LF)	VOL. (GAL)

STORMSEWER		
PIPIE SIZE	TYPE	LENGTH (LF)

CONCRETE VALLEY GUTTERS	
TOTAL	
	LF

HMAC	
TOTAL	
	LF

CURB AND GUTTER	
TOTAL	
	LF

WASTEWATER MANHOLES	
SIZE	QTY
4'-0"	
5'-0"	

STORMSEWER MANHOLES	
SIZE	QTY
4'-0"	
5'-0"	

SIDEWALK	
TOTAL	LF
4'-0"	
5'-0"	

VALVES	
SIZE	QTY

INLETS	
SIZE	QTY
3' x 3'	

FIRE HYDRANTS	
TOTAL	BRAND

EXISTING LEGEND

- EXISTING MONUMENT FOUND
- BM EXISTING BENCHMARK
- PP EXISTING POWER POLE
- GW EXISTING GUY WIRE
- PB EXISTING ELECTRIC PULLBOX
- LP EXISTING LIGHT POLE
- EMH EXISTING ELECTRIC MANHOLE
- GMRK EXISTING GAS LINE MARKER
- GM EXISTING GAS METER
- FH EXISTING FIRE HYDRANT
- WV EXISTING WATER VALVE
- WM EXISTING WATER METER
- CO EXISTING WASTEWATER CLEANOUT
- WWMH EXISTING WASTEWATER MANHOLE
- SSMH EXISTING STORM SEWER MANHOLE
- SIGN EXISTING SIGN
- MB EXISTING MAILBOX
- 1811 TREE TO BE SAVED

EXISTING LINETYPES

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EXISTING EDGE OF PAVEMENT
- OHE EXISTING OVERHEAD ELECTRIC LINE
- W EXISTING WATER LINE
- WW EXISTING WASTEWATER LINE
- X EXISTING WIRE FENCE
- EXISTING WOOD FENCE

MIGL ENGINEERING AND CONSULTING
9600 Escarpment Blvd, Suite 745-174
Austin, TX 78749 | 512 750 0440
Texas Registered Engineering Firm F-16967

STATE OF TEXAS
KYLE D. DUNSK
135951
LICENSED
PROFESSIONAL ENGINEER

JANUARY 22, 2024

NO.	DATE	REVISIONS	RECOM'D

CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: GENERAL NOTES

PROJECT NO. 0208-002

SHEET NO. C2
2 OF 30

IMAGES: *MISC/LOGO_SPACE.JPG
XREFS: *MISC/LOGO_SPACE.dwg

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.

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
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(e) (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

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Austin, TX 78749 | 512 750 0440
Texas Registered Engineering Firm F-16967

STATE OF TEXAS
KYLE L. DUNK
135951
LICENSED
PROFESSIONAL ENGINEER
JANUARY 22, 2024

NO.	DATE	REVISIONS
		RECOM'D

CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: TCEQ NOTES

PROJECT NO. 0208-002

SHEET NO. C3
3 OF 30

IMAGES: "MIGL Logo_SPACE.png"
"Kyle L. Dunk_2023.png"

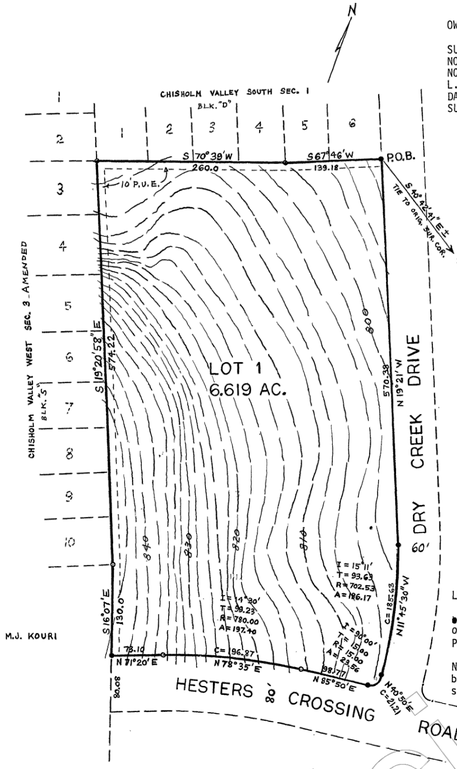
Cab H, Slide 186

CHISHOLM VALLEY SOUTH SEC. 15

OWNER: Hyde Park Baptist Church
(Dan Gardner, Trustee)
SURVEY: Jacob M. Harrell
NO. OF BLOCKS: 1
NO. OF LOTS: 1
L.F. OF NEW ST.: None
DATE: Feb. 21, 1986
SURVEYOR & ENGINEER: James T. Watson

19125

FILED FOR RECORD
at 10:45 o'clock A M
MAY 16 1986
JAMES N. BOYDSTON
Clerk County Court, Williamson Co., Texas
By Barbara Schuffield Deputy



BUILDING LINES:

Front: 25'
Side: 10'(corner)
5'(other)
Rear: 5'

LEGEND:

● = Pin Found
O = Pin Set
PUE = Public Utility Esmt.

No fences or other obstructions shall be installed in any drainage easement shown hereon.

THE STATE OF TEXAS:
COUNTY OF WILLIAMSON: Know All Men By These Presents:

That Hyde Park Baptist Church, acting herein and through Dan Gardner, Trustee, owner of 6.619 acres described hereon, conveyed to it by deed recorded in Vol. 1284, pages 299-300, Williamson County Deed Records, does hereby adopt this plat to be known as "CHISHOLM VALLEY SOUTH SEC. 15", and does hereby dedicate to the public use the streets and easements shown hereon.

WITNESS MY HAND, this 21 day of Feb A.D.1986.

HYDE PARK BAPTIST CHURCH
Dan Gardner
Dan Gardner, Trustee

THE STATE OF TEXAS:
COUNTY OF WILLIAMSON:

This instrument was acknowledged before me on the 21st day of February A.D. 1986.

My commission expires:
5-7-88

Peggy B. Miller
Notary Public, State of Texas
Printed name: PEGGY B. MILLER
NOTARY PUBLIC
TEXAS EXPIRES 5-7-88

APPROVED THIS 20 DAY OF MARCH, A.D. 1986 BY THE PLANNING COMMISSION OF THE CITY OF ROUND ROCK, TEXAS, AND AUTHORIZED TO BE FILED FOR RECORD BY WILLIAMSON COUNTY, TEXAS.

CHAIRMAN JAMES S. HISLOP, JR.

SECRETARY JAMES L. DUNHAM

PASSED AND APPROVED ON THE 20 DAY OF MARCH, A.D. 1986.

ATTEST: Joanne Land
SECRETARY, CITY OF ROUND ROCK, TEXAS
JOANNE LAND

APPROVED: Mike Robinson
MAYOR, CITY OF ROUND ROCK, TEXAS
MIKE ROBINSON

THE STATE OF TEXAS:
COUNTY OF WILLIAMSON:

I, James N. Boydston, Clerk of the County Court of said County, do hereby certify that the foregoing instrument of writing, with its Certificate of Authentication was filed for record in my office on the 16th day of May A.D. 1986, at 10:45 o'clock A M., and was duly recorded on the 16th day of May A.D. 1986, at 11:00 o'clock A M. in the plat records of said County, in Cabinet H Slides 186.

Witness My Hand and Seal of the County Court of said County, at office in Georgetown, Texas, the date last written above.

COUNTY COURT OF WILLIAMSON COUNTY, TEXAS

JAMES N. BOYDSTON, Clerk County Court, Williamson County, Texas

BY: Barbara Schuffield DEPUTY

FIELD NOTES: 6.619 acres out of the Jacob M. Harrell Survey, Williamson County, Texas:

BEGINNING at the southeast corner of Lot 6, Block "D", Chisholm Valley South Sec. 1;
THENCE with the south line of said Block "D", S67°46'W 139.18 ft and S70°39'W 260.0 ft for corner;
THENCE with the east line of Block "S", Chisholm Valley West Sec. 3 Amended, S19°20'58"E 574.22 ft to the southeast corner of Lot 10 in said Block "S" for angle;
THENCE S16°07'E 130.0 ft to the north line of Hesters Crossing Road for corner;
THENCE with the north line of Hesters Crossing Road the following 3 courses: 1) N71°20'E 73.1 ft;
2) Around a curve to the right, having a radius of 780 ft, a chord which bears N78°35'E 196.87 ft;
3) N85°50'E 98.77 ft to beginning of a curve;
THENCE around a curve to the left, having a radius of 15 ft, a chord which bears N40°50'E 21.21 ft;
THENCE with the west line of Dry Creek Drive the following 2 courses: 1) Around a curve to the left, having a radius of 702.53 ft, a chord which bears N11°45'30"W 185.63 ft to end of curve;
2) N19°21'W 570.38 ft to the place of BEGINNING.

SIDEWALK NOTE:
Install sidewalks on the north side of Hesters Crossing Road and on the west side of Dry Creek Drive.

EASEMENT NOTE:
A 5 FT. P.U.E. IS DEDICATED AJACENT TO ALL STREETS.

LOCATION SKETCH

STATE OF TEXAS
JAMES T. WATSON
14298
REGISTERED PROFESSIONAL ENGINEER

The undersigned does hereby certify that this plat was prepared from an accurate on-the-ground survey of this tract and that the corner monuments shown hereon were properly placed under my supervision, in accordance with the subdivision regulations of the City of Round Rock, Texas.

I also hereby certify that the information contained on this plat complies with the subdivision ordinances and storm water drainage policies adopted by the City of Round Rock, Texas. This subdivision is not in a 25 or 100 year flood plain.

James T. Watson
James T. Watson, P.E. 14298, RPS 290

STATE OF TEXAS
JAMES T. WATSON
14298
REGISTERED PROFESSIONAL ENGINEER

MIGL ENGINEERING AND CONSULTING
9600 Escarpment Blvd. Suite 745-174
Austin, TX 78749 | 512 750 0440
Texas Registered Engineering Firm F-16967

STATE OF TEXAS
KYLE D. DUNSK
135951
LICENSED PROFESSIONAL ENGINEER
JANUARY 22, 2024

NO.	DATE	REVISIONS	RECOM'D

CLIENT: FREEDOM CHURCH

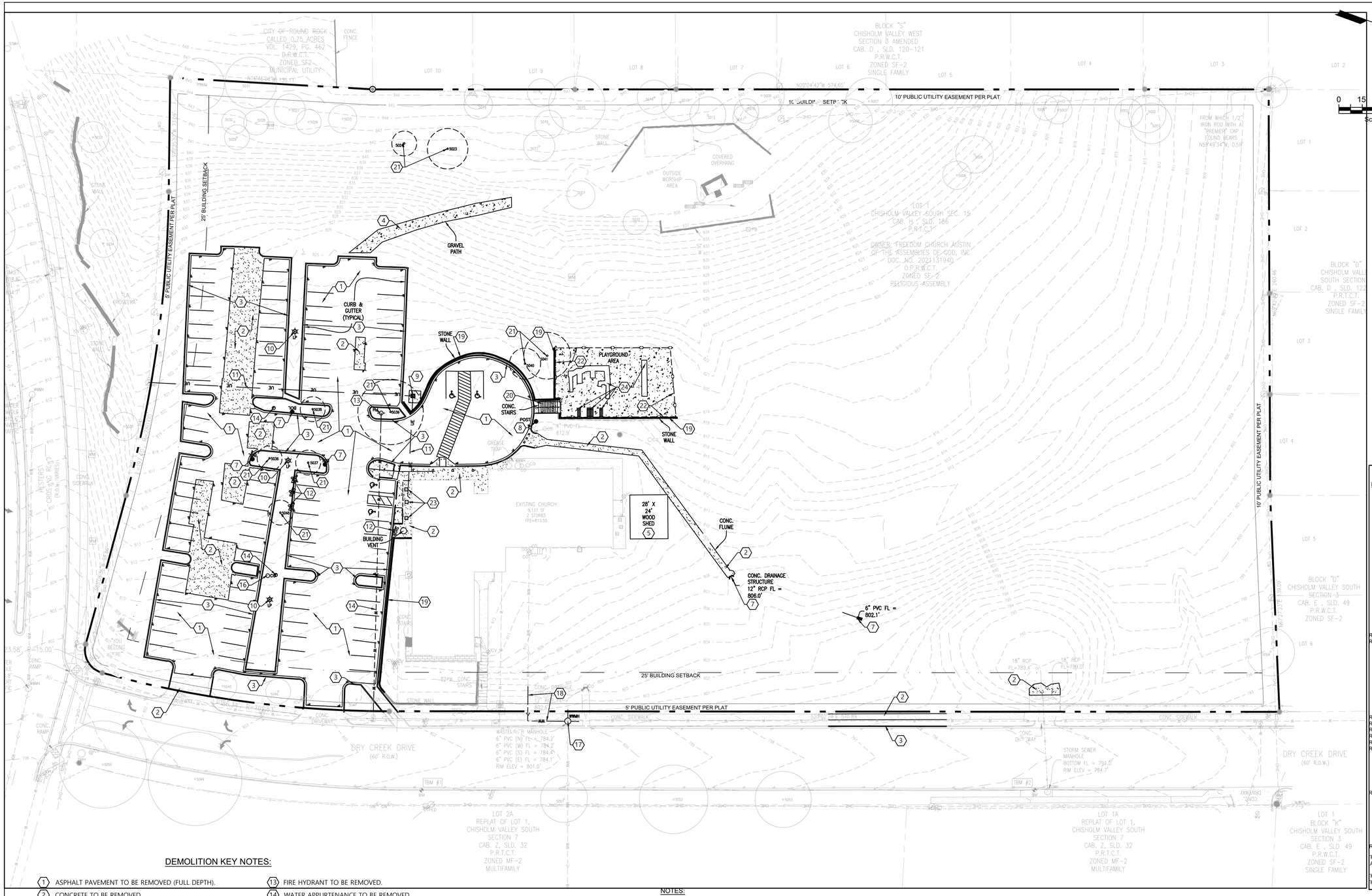
PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: PLAT

PROJECT NO. 0208-002

SHEET NO. C4
4 OF 30

IMAGES: "MISSLOOP_SPACE.png"
"MISSLOOP_PLANET.png"



DEMOLITION KEY NOTES:

1. ASPHALT PAVEMENT TO BE REMOVED (FULL DEPTH).
2. CONCRETE TO BE REMOVED.
3. CURB AND GUTTER TO BE REMOVED.
4. GRAVEL LOT/ DRIVEWAY TO BE REMOVED.
5. BUILDING/STRUCTURE TO BE REMOVED.
6. PAVEMENT MARKINGS TO BE REMOVED.
7. STORMSEWER PIPE AND STRUCTURES TO BE REMOVED.
8. BOLLARD OR POST TO BE REMOVED.
9. TRANSFORMER AND PAD TO BE REMOVED. REFER TO ELECTRICAL DESIGN.
10. LIGHT POLE TO BE REMOVED.
11. UNDERGROUND ELECTRIC TO BE REMOVED.
12. SIGN TO BE REMOVED
13. FIRE HYDRANT TO BE REMOVED.
14. WATER APPURTENANCE TO BE REMOVED.
15. WATER PIPE TO BE REMOVED.
16. WASTEWATER CLEANOUT TO BE REMOVED.
17. WASTEWATER MANHOLE TO BE REMOVED.
18. WASTEWATER PIPE TO BE REMOVED.
19. CONCRETE OR STONE WALL TO BE REMOVED.
20. CONCRETE STAIRS AND HANDRAILS TO BE REMOVED.
21. TREE TO BE REMOVED.
22. FENCE TO BE REMOVED.
23. AC UNIT TO BE REMOVED.
24. PLAYGROUND EQUIPENT TO BE REMOVED.

NOTES:

1. LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES MATERIAL, SIZE AND EXACT LOCATION, HORIZONTALLY AND VERTICALLY, PRIOR TO BEGINNING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR PROTECTING EXISTING UTILITIES AND FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.
2. SHOULD THE CONTRACTOR FIND DISCREPANCIES WITH RECORD INFORMATION DRAWN/ NOTED ON THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF SUCH CONDITIONS.
3. THE CONTRACTOR SHALL CONTACT THE AREA "ONE CALL" SYSTEM AT 1-800-344-8377 FOR EXISTING UTILITY LOCATIONS PRIOR TO ANY EXCAVATION IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES TO BE EXTENDED, TIED TO, OR ALTERED, OR SUBJECT TO DAMAGE/INCONVENIENCE BY THE CONSTRUCTION OPERATIONS.
4. ANY DAMAGE TO EXISTING IMPROVEMENTS SUCH AS PAVEMENT, SIDEWALKS, CURB AND GUTTERS CAUSED BY THE INSTALLATION OF IMPROVEMENTS SHALL BE REPAIRED TO LIKE NEW CONDITION.
5. ALL DIRT, MUD, ROCKS, DEBRIS, ETC SPILLED, TRACKED, OR OTHERWISE DEPOSITED ON ANY EXISTING PAVED STREETS, DRIVES AND AREAS USED BY THE PUBLIC SHALL BE CLEANED UP IMMEDIATELY BY CONTRACTOR.
6. EROSION CONTROLS SHALL BE IN PLACE PRIOR TO ANY SITE DISTURBANCE.
7. ALL DISTURBED NATURAL AREAS SHALL BE REVEGETATED.
8. A PRECONSTRUCTION MEETING WITH THE ENVIRONMENTAL INSPECTOR IS REQUIRED PRIOR TO ANY SITE DISTURBANCE.

TREE LIST

NUMBER	DESCRIPTION
5000	12" HACKBERRY
5001	13" HACKBERRY
5002	9" HACKBERRY
5003	9" HACKBERRY
5004	8" HACKBERRY
5005	12" CEDAR ELM
5006	9" CEDAR
5007	15" CHINABERRY 10-10
5008	14" BUMELIA
5009	15" HACKBERRY 10-9
5010	8" HACKBERRY
5011	8" HACKBERRY
5012	12" CHINABERRY 8-7
5013	12" CHINABERRY 9-6
5014	11" BUMELIA
5015	18" HACKBERRY
5016	9" HACKBERRY
5017	10" HACKBERRY
5018	9" HACKBERRY
5019	9" AMERICAN ELM
5020	8" MULBERRY
5021	9" HACKBERRY
5022	8" HACKBERRY
R 5023	13" AMERICAN ELM
R 5024	8" HACKBERRY
5025	9" CHINABERRY
5026	8" AMERICAN ELM
5027	10" HACKBERRY
5028	8" AMERICAN ELM
5029	8" BOIS D' ARC
5030	8" CHINABERRY
5031	16" BOIS D' ARC 11-11
5032	17" CHINABERRY
5033	10" LIVE OAK
5034	9" LIVE OAK
5035	9" LIVE OAK
R 5036	8" LIVE OAK
R 5037	8" LIVE OAK
R 5038	8" LIVE OAK
R 5039	21" LIVE OAK 14-14
R 5040	10" CEDAR ELM
R 5041	15" LIVE OAK 9-5-7
5042	21" LIVE OAK 9-7-7-7
5043	17" LIVE OAK 9-8-8
5044	10" RED OAK
5045	9" LIVE OAK
5046	8" LIVE OAK
5047	11" LIVE OAK
R 5048	8" CEDAR ELM
5049	30" ASH
5050	28" ASH
5051	15" ASH
5052	22" ASH
5053	18" ASH
5054	16" HACKBERRY 9-7-6
5055	10" HACKBERRY

R* DENOTES TREE TO BE REMOVED

*REE SURVEY COMPLETED BY 4WARD AND SURVEYING IN APRIL 2023.

*HERE ARE NO MONARCH TREES ON *HIS PROPERTY.

MIGL ENGINEERING AND CONSULTING
9600 Escarpment Blvd, Suite 745-174
Austin, TX 78749 | 512 750 0440
Texas Registered Engineering Firm F-16967

STATE OF TEXAS
KYLE J. DUSEK
135951
LICENSED PROFESSIONAL ENGINEER
JANUARY 22, 2024

NO.	DATE	REVISIONS	RECOM'TD

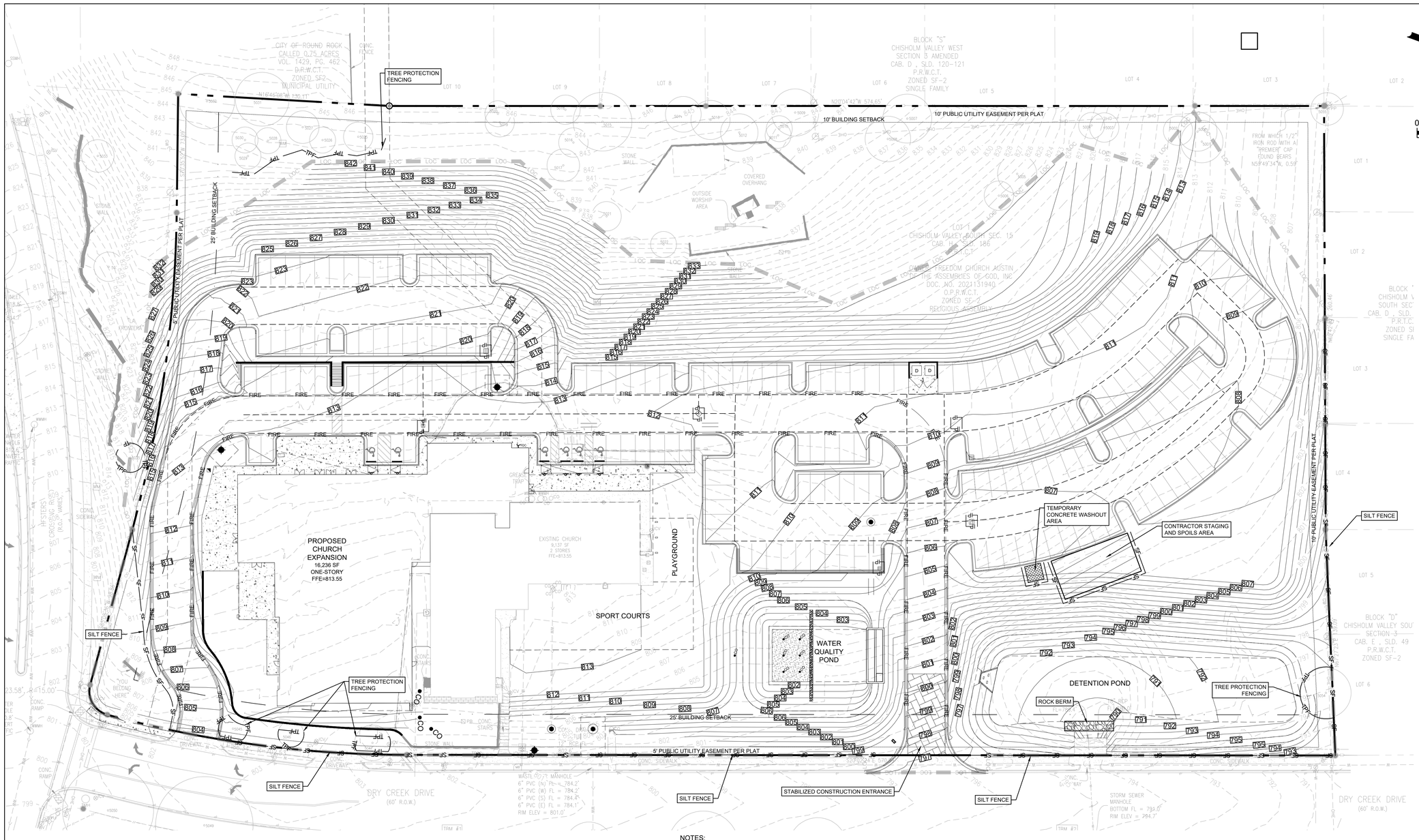
CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: EXISTING CONDITIONS AND DEMO PLAN

PROJECT NO. 0208-002

SHEET NO. C5
5 OF 30



EROSION AND SEDIMENTATION CONTROL LEGEND

- LOC — LOC — LIMITS OF CONSTRUCTION
- SF — SF — SILT FENCE
- TFD — TRINGULAR FILTER DIKE
- ECL — EROSION CONTROL LOG
- TPF — TPF — TREE PROTECTION FENCE
- IP — IP — INLET PROTECTION
- ROCK BERM
- STABILIZED CONSTRUCTION ENTRANCE
- CONTRACTOR STAGING AND SPOILS AREA
- CONCRETE WASHOUT AREA

NOTES:

1. A TREE AND TOPOGRAPHIC SURVEY WAS PERFORMED BY 4WARD LAND SURVEYING IN APRIL 2023.
2. LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES MATERIAL, SIZE AND EXACT LOCATION, HORIZONTALLY AND VERTICALLY, PRIOR TO BEGINNING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR PROTECTING EXISTING UTILITIES AND FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.
3. SHOULD THE CONTRACTOR FIND DISCREPANCIES WITH RECORD INFORMATION DRAWN/NOTED ON THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF SUCH CONDITIONS.
4. A PRECONSTRUCTION CONFERENCE WITH THE ENVIRONMENTAL INSPECTOR IS REQUIRED PRIOR TO ANY SITE DISTURBANCE.
5. EROSION CONTROLS SHALL BE IN PLACE PRIOR TO ANY SITE DISTURBANCE.
6. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 5 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP, OR REVEGETATION MATTING.
7. ALL DIRT, MUD, ROCKS, DEBRIS, ETC, SPILLED, TRACKED, OR OTHERWISE DEPOSITED ON ANY EXISTING PAVED STREETS, DRIVES AND AREAS USED BY THE PUBLIC SHALL BE CLEANED UP IMMEDIATELY BY CONTRACTOR.
8. SEE SHEET C7 FOR EROSION/SEDIMENTATION CONTROL AND TREE PROTECTION NOTES AND DETAILS.
9. SEE SHEET C7 FOR REQUIREMENTS FOR MAINTAINING E/S CONTROLS.
10. SEE SHEET C7 FOR REVEGETATION SPECIFICATIONS.
11. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ANY SEDIMENT TRANSPORTED FROM THE LOC TO THE DETENTION POND.
12. ALL DISTURBED NATURAL AREAS SHALL BE REVEGETATED.

TREE LIST

NUMBER	DESCRIPTION
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5053	18" ASH
5054	16" HACKBERRY 9-7-6
5055	10" HACKBERRY

*"R" DENOTES TREE TO BE REMOVED

TREE SURVEY COMPLETED BY 4WARD LAND SURVEYING IN APRIL 2023.

THERE ARE NO MONARCH TREES ON THIS PROPERTY.

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STATE OF TEXAS
KYLE D. DUSEK
135951
LICENSED
PROFESSIONAL ENGINEER
JANUARY 22, 2024

NO.	DATE	REVISIONS	RECOM'D

CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: EROSION AND SEDIMENTATION CONTROL PLAN

PROJECT NO. 0208-002

SHEET NO. C6
6 OF 30

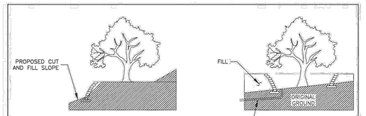
IMAGES: * MIGL LOGO SPACE.jpg
XREFS: * 0208-002 FC title.dwg * 0208-002 FC ets.dwg * 0208-002 FC .BORDER.dwg * 0208-002 FC plot.dwg * 0208-002 FC pln.dwg * 0208-002 FC pld.dwg

1. ALL TREES NOT LOCATED WITHIN THE LIMITS OF CONSTRUCTION AND OUTSIDE OF DISTURBED AREAS SHALL BE PRESERVED. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL TREES TO BE PRESERVED FROM HIS ACTIVITIES.
2. ALL TREES SHOWN TO BE RETAINED ON THE PLANS, SHALL BE PROTECTED DURING CONSTRUCTION WITH FENCING. SEE: TREE PROTECTION TREE WELLS (EC-02), TREE PROTECTION TREE LOCATION (EC-03) AND TREE PROTECTION FENCE-CHAIN LINK (EC-04).
3. TREE PROTECTION FENCES SHALL BE ERECTED ACCORDING TO CITY STANDARDS FOR TREE PROTECTION, INCLUDING TYPES AND LOCATIONS OF FENCES.
4. TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING, OR GRADING) AND SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE CONSTRUCTION PROJECT.
5. EROSION AND SEDIMENTATION CONTROL BARRIERS SHALL BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILD-UP WITHIN TREE DRIP LINES.
6. FENCES SHALL COMPLETELY SURROUND THE TREE, OR CLUSTERS OF TREES, LOCATED AT THE OUTERMOST LIMITS OF THE TREE BRANCHES (DRIPLINE) OR CRITICAL ROOT ZONE (CRZ), WHICHEVER IS GREATER; AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT IN ORDER TO PREVENT THE FOLLOWING:
   6A. SOIL COMPACTION IN CRZ AREA RESULTING FROM VEHICULAR TRAFFIC OR STORAGE OF EQUIPMENT OR MATERIAL.
   6B. CRZ DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 6 INCHES CUT OR FILL) OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE FORESTRY MANAGER.
   6C. WOUNDS TO EXPOSED ROOTS, TRUNK OR LIMBS BY MECHANICAL EQUIPMENT.
   6D. OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CONCRETE TRUCK CLEANING, AND FIRES.
7. EXCEPTIONS TO INSTALLING TREE FENCES AT THE TREE DRIPLINES OR CRZ, WHICHEVER IS GREATER, MAY BE PERMITTED IN THE FOLLOWING CASES:
   7A. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, OR TREE WELL;
   7B. WHERE PERMEABLE PAVING IS TO BE INSTALLED. ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA;
   7C. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN 6 FEET TO THE BUILDING.
   7D. WHERE THERE ARE SEVERE SPACE CONSTRAINTS DUE TO TRACT SIZE, OR OTHER SPECIAL REQUIREMENTS, CONTACT THE CITY ARBORIST AT 974-1876 TO DISCUSS ALTERNATIVES.
8. WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN A FENCE THAT IS CLOSER THAN 5 FEET TO A TREE TRUNK, THE TRUNK SHALL BE PROTECTED BY STRAPPED-ON PLANKING TO A HEIGHT OF 8 FEET (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE REDUCED FENCING PROVIDED.
9. WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN AREAS OF UNPROTECTED ROOT ZONES UNDER THE DRIPLINE OR CRZ, WHICHEVER IS GREATER, THOSE AREAS SHOULD BE COVERED WITH 4 INCHES OF ORGANIC MULCH TO MINIMIZE SOIL COMPACTION.
10. ANY TRENCHING WITHIN CRZ AREAS SHALL BE DONE BY HAND OR WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE. PRIOR TO GRADING, RELOCATE PROTECTIVE FENCING TO 2 FEET BEHIND THE GRADE CHANGE AREA.
11. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL AND BACKFILLED WITH GOOD QUALITY TOP SOIL WITHIN TWO DAYS. IF EXPOSED ROOT AREAS CANNOT BE BACKFILLED WITHIN 2 DAYS, AN ORGANIC MATERIAL WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION SHALL BE PLACED TO PROTECT THE ROOTS UNTIL BACKFILLING OCCURS.
12. PRIOR TO EXCAVATION OR GRADE CUTTING WITHIN TREE DRIPLINES, A CLEAN CUT SHALL BE MADE BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT, IN A LOCATION AND TO A DEPTH APPROVED BY THE FORESTRY MANAGER, TO MINIMIZE DAMAGE TO REMAINING ROOTS.
13. TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES WILL BE WATERED DEEPLY ONCE A WEEK DURING PERIODS OF HOT, DRY WEATHER. TREE CROWNS ARE TO BE SPRAYED WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON LEAVES.
14. WHEN INSTALLING CONCRETE ADJACENT TO THE ROOT ZONE OF A TREE, A PLASTIC VAPOR BARRIER SHALL BE PLACED BEHIND THE CONCRETE TO PREVENT LEACHING OF LIME INTO THE CRZ.
15. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.
16. NO LANDSCAPE TOPSOIL DRESSING GREATER THAN FOUR (4) INCHES SHALL BE PERMITTED WITHIN THE DRIPLINE OR CRZ OF TREES. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
17. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND CONSTRUCTION EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS. ALL PRUNING MUST BE DONE ACCORDING TO CITY STANDARDS AND AS OUTLINED IN LITERATURE PROVIDED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA PRUNING TECHNIQUES).
18. ALL OAK TREE CUTS, INTENTIONAL OR UNINTENTIONAL, SHALL BE SEALED WITH AN APPROVED PRUNING SEALER IMMEDIATELY (WITHIN 20 MINUTES). PRUNING SEAL OR TREE PAINT MUST BE KEPT ON SITE AT ALL TIMES.
19. THE FORESTRY MANAGER HAS THE AUTHORITY TO REQUIRE ADDITIONAL TREE PROTECTION BEFORE OR DURING CONSTRUCTION.
20. TREES APPROVED FOR REMOVAL SHALL BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED. REFER TO THE CITY OF ROUND ROCK ROOT TREE TECHNICAL MANUAL FOR APPROPRIATE REMOVAL METHODS.
21. PRIOR TO CONSTRUCTION, ALL LOWER TREE LIMBS OVER ROADWAYS MUST BE PRUNED TO A HEIGHT OF 14 FEET USING THE TECHNIQUES DESCRIBED IN THE CITY OF ROUND ROCK TREE TECHNICAL MANUAL.
22. TREE SURVEYS SHALL INCLUDE NOTES THAT MAY BE CONSIDERED ORDINANCE VIOLATIONS IF THERE IS NON COMPLIANCE OR IF A TREE SUSTAINS DAMAGE AS A RESULT.

FOR QUESTIONS CONCERNING THIS DETAIL, PLEASE CONTACT THE FORESTRY MANAGER.

SCALE: NTS

RECORD SIGNED COPY ON FILE	CITY OF ROUND ROCK	DRAWING NO: EC-01
APPROVED 01-28-21 DATE	TREE PROTECTION NOTES	SHEET 1 of 1
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS

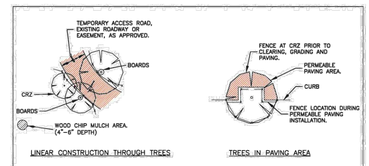


NOTE:
LOCATION, TYPE, DEPTHS AND CONSTRUCTION SPECIFICATIONS OF FILL, DRAINS AND WALLS SHALL BE SUBJECT TO THE APPROVAL OF THE FORESTRY MANAGER.

FOR QUESTIONS CONCERNING THIS DETAIL, PLEASE CONTACT THE FORESTRY MANAGER.

SCALE: NTS

RECORD SIGNED COPY ON FILE	CITY OF ROUND ROCK	DRAWING NO: EC-02
APPROVED 01-28-21 DATE	TREE PROTECTION TREE WELLS	SHEET 1 of 1
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS

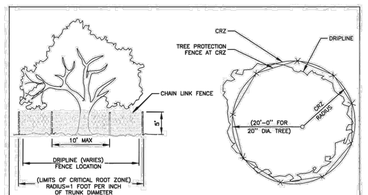


NOTE:
LIMITS OF MULCH AREAS AND DISTANCE FROM TRUNKS TO WORK/ PERMEABLE PAVING AREAS SHALL BE SUBJECT TO THE APPROVAL OF THE FORESTRY MANAGER.

FOR QUESTIONS CONCERNING THIS DETAIL, PLEASE CONTACT THE FORESTRY MANAGER.

SCALE: NTS

RECORD SIGNED COPY ON FILE	CITY OF ROUND ROCK	DRAWING NO: EC-03
APPROVED 01-28-21 DATE	TREE PROTECTION FENCE LOCATIONS	SHEET 1 of 1
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS



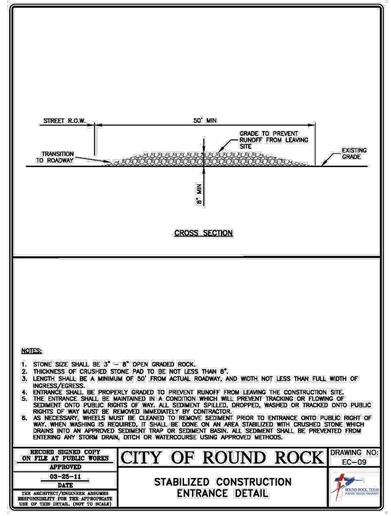
NOTE:
LIMITS OF WOOD CHIP MULCH AREA AND DISTANCE FROM TRUNK TO WORK AREA SHALL BE SUBJECT TO THE APPROVAL OF THE FORESTRY MANAGER.

*AS NEEDED TO PROVIDE NECESSARY WORK SPACE. IF LESS THAN 5', THEN ADD BOARDS STRAPPED TO TRUNK.

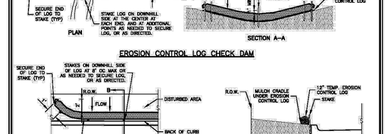
FOR QUESTIONS CONCERNING THIS DETAIL, PLEASE CONTACT THE FORESTRY MANAGER.

SCALE: NTS

RECORD SIGNED COPY ON FILE	CITY OF ROUND ROCK	DRAWING NO: EC-04
APPROVED 01-28-21 DATE	TREE PROTECTION FENCE CHAIN LINK	SHEET 1 of 1
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS

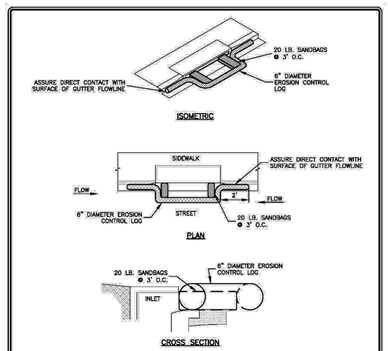


RECORDED SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: EC-09
APPROVED 03-25-11 DATE	STABILIZED CONSTRUCTION ENTRANCE DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS



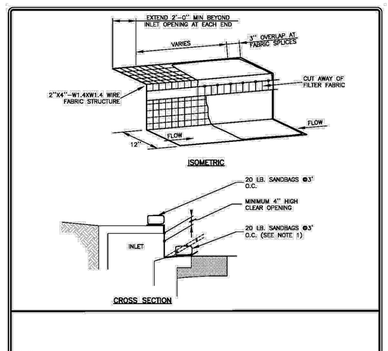
NOTES:
1. DIKES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING.
2. FABRIC COVER AND SKIRT SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE. THE SKIRT SHALL BE A CONTINUOUS EXTENSION OF THE UPSTREAM FACE FABRIC.
3. DIKES AND SKIRT SHALL BE SECURELY ANCHORED IN PLACE WITH WIRE STAPLES AT 2' INTERVALS ON BOTH EDGES AND SKIRT OR WITH 3/8" DIAMETER REBAR WITH TEE ENDS.
4. FILTER MATERIAL SHALL BE LAPPED OVER ENDS 6" TO COVER DIKE-TO-DIKE JOINTS. JOINTS SHALL BE FASTENED WITH GALVANIZED SHOAT RINGS.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS REQUIRED.
6. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 4" AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.
7. AFTER THE DEVELOPMENT SITE IS COMPLETELY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DISPOSED OF AS INDICATED IN NOTE #6 ABOVE.

RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: EC-11
APPROVED 03-25-11 DATE	TRIANGULAR SEDIMENT FILTER DIKE DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS



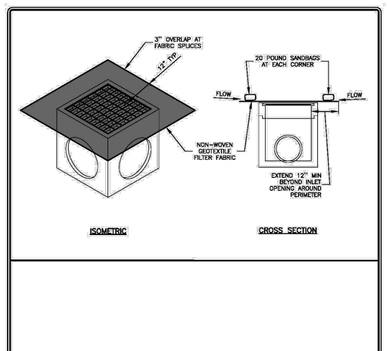
NOTES:
1. EROSION CONTROL LOG CONTAINMENT MESH SHALL BE 100% BIODEGRADABLE, PHOTODEGRADABLE OR RECYCLABLE AND FILL MATERIAL SHALL CONSIST OF MULCH, ASPEN EXCELSIOR FIBERS, CHIPPED SITE VEGETATION, COCONUT FIBERS, 100% RECYCLABLE FIBERS, OR ANY OTHER ACCEPTABLE MATERIAL EXCLUDING TYPES WITH COCONUT FIBERS.
2. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 6".
3. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY REMOVE THE INLET PROTECTIONS IF THE STORM WATER BEGINS TO OVERTOP THE CURB.
4. INLET PROTECTIONS 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-13
APPROVED 03-25-11 DATE	CURB INLET PROTECTION WITH EROSION CONTROL LOG DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS



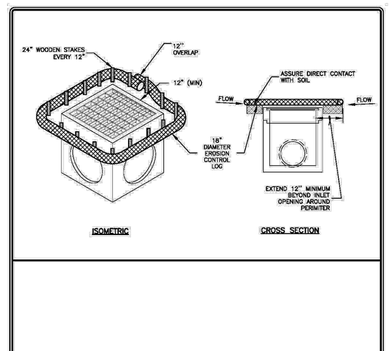
NOTES:
1. WHERE MINIMUM CLEARANCES CAUSE TRAFFIC TO DRIVE IN THE GUTTER, THE CONTRACTOR MAY SUBSTITUTE A 1" X 4" BOARD SECURED WITH CONCRETE NAILS 3" O.C. NAILED INTO THE GUTTER IN LIEU OF SANDBAGS TO HOLD THE FILTER DIKE IN PLACE. UPON REMOVAL, CLEAN ANY DIRT/DEBRIS FROM NAILING LOCATIONS. APPLY CHEMICAL SANDING AGENT AND APPLY NON-SHRINK GROUT FLUSH WITH SURFACE OF GUTTER.
2. A SECTION OF FILTER FABRIC SHALL BE REMOVED AS SHOWN ON THIS DETAIL OR AS DIRECTED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR HOG RINGS AT THIS LOCATION.
3. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 6".
4. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY REMOVE THE INLET PROTECTIONS IF THE STORM-WATER BEGINS TO OVERTOP THE CURB.
5. INLET PROTECTIONS 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-14
APPROVED 03-25-11 DATE	CURB INLET PROTECTION DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS



NOTES:
1. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 6".
2. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY CLEAN THE INLET PROTECTION IF EXCESSIVE PONDING OCCURS.
3. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

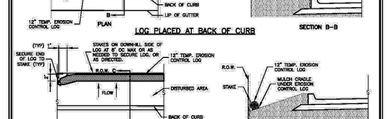
RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: EC-15
APPROVED 03-25-11 DATE	AREA INLET PROTECTION DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS



NOTES:
1. EROSION CONTROL LOG CONTAINMENT MESH SHALL BE 100% BIODEGRADABLE, PHOTODEGRADABLE OR RECYCLABLE AND FILL MATERIAL SHALL CONSIST OF MULCH, ASPEN EXCELSIOR FIBERS, CHIPPED SITE VEGETATION, COCONUT FIBERS, 100% RECYCLABLE FIBERS, OR ANY OTHER ACCEPTABLE MATERIAL EXCLUDING TYPES WITH COCONUT FIBERS.
2. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 6".
3. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY CLEAN THE INLET PROTECTION IF EXCESSIVE PONDING OCCURS.
4. INLET PROTECTIONS 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-16
APPROVED 03-25-11 DATE	AREA INLET PROTECTION WITH EROSION CONTROL LOG DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS

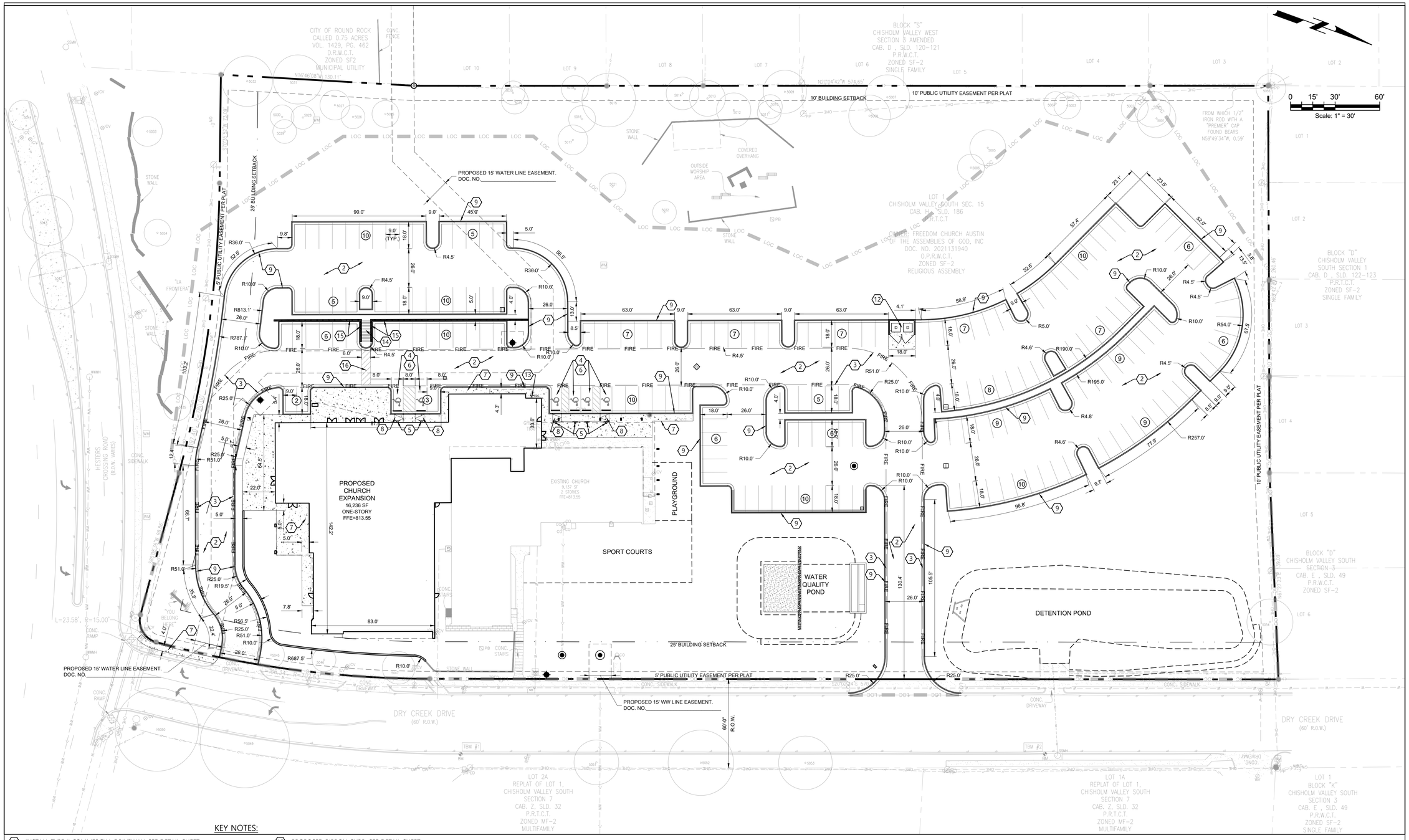
NOTES:
1. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 6".
2. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF LOGS DURING RAINFALL EVENT FOR PROPER PERFORMANCE.
3. LOGS SHALL CONSIST OF 100% BIODEGRADABLE, PHOTODEGRADABLE OR RECYCLABLE CONTAINMENT MESH STUFFED WITH FILTER MATERIAL.
4. STUFF LOGS WITH SUFFICIENT FILTER MATERIAL TO ACHIEVE DENSITY THAT WILL HOLD SHAPE WITHOUT EXCESSIVE DEFORMATION. FILTER MATERIAL SHALL CONSIST OF MULCH, ASPEN EXCELSIOR WOOD FIBERS, CHIPPED SITE VEGETATION, COCONUT FIBERS, FOOD RECYCLABLE FIBERS, OR ANY OTHER ACCEPTABLE MATERIAL.
5. STAKES SHALL BE 2" X 2" WOOD, 4' LONG, EMBEDDED SUCH THAT 2" PROTRUDES ABOVE LOG, OR AS DIRECTED.



RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: EC-17
APPROVED 03-25-11 DATE	EROSION CONTROL LOG DETAIL	
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS

APPENDIX P-1 - EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR EXCAVATION).
2. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE ENVIRONMENTAL CRITERIA MANUAL AND THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN. THE COA ESC PLAN SHALL BE CONSULTED AND USED AS THE BASIS FOR THE TPDES REQUIRED SWPPP. IF A SWPPP IS REQUIRED, IT SHALL BE AVAILABLE FOR REVIEW BY THE CITY OF AUSTIN ENVIRONMENTAL INSPECTOR AT ALL TIMES DURING CONSTRUCTION, INCLUDING AT THE PRE-CONSTRUCTION MEETING.
3. THE PLACEMENT OF TREE/NATURAL AREA PROTECTIVE FENCING SHALL BE IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD NOTES FOR TREE AND NATURAL AREA PROTECTION AND THE APPROVED GRADING/TREE AND NATURAL AREA PLAN.
4. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD ON-SITE WITH THE CONTRACTOR, DESIGN ENGINEER/PERMIT APPLICANT AND ENVIRONMENTAL INSPECTOR AFTER INSTALLATION OF THE EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTION MEASURES AND PRIOR TO BEGINNING ANY SITE PREPARATION WORK. THE OWNER OR OWNER'S REPRESENTATIVE SHALL NOTIFY THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT, 974-2278, AT LEAST THREE DAYS PRIOR TO THE MEETING DATE. COA APPROVED ESC PLAN AND TPDES SWPPP (IF REQUIRED) SHOULD BE REVIEWED BY COA EV INSPECTOR AT THIS TIME.
5. ANY MAJOR VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS WILL REQUIRE A REVISION AND MUST BE APPROVED BY THE REVIEWING ENGINEER, ENVIRONMENTAL SPECIALIST OR CITY ARBORIST AS APPROPRIATE. MAJOR REVISIONS MUST BE APPROVED BY AUTHORIZED COA STAFF. MINOR CHANGES TO BE MADE AS FIELD REVISIONS TO THE EROSION AND SEDIMENTATION CONTROL PLAN MAY BE REQUIRED BY THE ENVIRONMENTAL INSPECTOR DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES.
6. THE CONTRACTOR IS REQUIRED TO PROVIDE A CERTIFIED INSPECTOR WITH EITHER A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC), CERTIFIED EROSION, SEDIMENT AND STORMWATER- INSPECTOR (CESSWI) OR CERTIFIED INSPECTOR OF SEDIMENTATION AND EROSION CONTROLS (CISEC) CERTIFICATION TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.
7. PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF IN APPROVED SPOIL DISPOSAL SITES.
8. ALL WORK MUST STOP IF A VOID IN THE ROCK SUBSTRATE IS DISCOVERED WHICH IS; ONE SQUARE FOOT IN TOTAL AREA; BLOWS AIR FROM WITHIN THE SUBSTRATE AND/OR CONSISTENTLY RECEIVES WATER DURING ANY RAIN EVENT. AT THIS TIME IT IS THE RESPONSIBILITY OF THE PROJECT MANAGER TO IMMEDIATELY CONTACT A CITY OF AUSTIN ENVIRONMENTAL INSPECTOR FOR FURTHER INVESTIGATION.
9. TEMPORARY AND PERMANENT EROSION CONTROL: ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW:
   A. ALL DISTURBED AREAS TO BE REVEGETATED ARE REQUIRED TO PLACE A MINIMUM OF SIX (6) INCHES OF TOPSOIL [SEE STANDARD SPECIFICATION ITEM NO. 601S.3(A)]. DO NOT ADD TOPSOIL WITHIN THE CRITICAL ROOT ZONE OF EXISTING TREES.
      • TOPSOIL SALVAGED FROM THE EXISTING SITE IS ENCOURAGED FOR USE, BUT IT SHOULD MEET THE STANDARDS SET FORTH IN 601S.
      AN OWNER/ENGINEER MAY PROPOSE USE OF ONSITE SALVAGED TOPSOIL WHICH DOES NOT MEET THE CRITERIA OF STANDARD SPECIFICATION 601S BY PROVIDING A SOIL ANALYSIS AND A WRITTEN STATEMENT FROM A QUALIFIED PROFESSIONAL IN SOILS, LANDSCAPE ARCHITECTURE, OR AGRONOMY INDICATING THE ONSITE TOPSOIL WILL PROVIDE AN EQUIVALENT GROWTH MEDIA AND SPECIFYING WHAT, IF ANY, SOIL AMENDMENTS ARE REQUIRED.
      • SOIL AMENDMENTS S



KEY NOTES:

1. INSTALL TYPE II COMMERCIAL DRIVEWAY. SEE DETAIL SHEET.
2. CONCRETE PAVEMENT. SEE DETAIL SHEET.
3. FIRE LANE; STRIPING AND SIGNAGE PER DETAIL SHEET. FIRE LANE SHALL BE HEAVY DUTY PAVEMENT PER DETAIL WHICH HAS BEEN DESIGNED TO SUPPORT LOADS EXCEEDING 75,000 POUNDS.
4. ADA PARKING SPACE LAYOUT. SEE DETAIL SHEET.
5. INSTALL ACCESSIBLE PARKING SIGNS (TYP.). SEE DETAIL SHEET.
6. INSTALL CONCRETE WHEEL STOP (TYP.). SEE DETAIL SHEET.
7. INSTALL CONCRETE SIDEWALK, DIMENSION AS SHOWN. SEE DETAIL SHEET.
8. INSTALL SIDEWALK CURB RAMP. SEE DETAIL SHEET.
9. INSTALL CURB AND GUTTER (TYP). SEE DETAIL SHEET.
10. PROPOSED RIBBON CURB. SEE DETAIL SHEET.
11. TRANSITION CURB AND GUTTER TO RIBBON CURB.
12. DUMPSTER PAD AND ENCLOSURE. SEE DETAIL SHEET.
13. FIRE DEPARTMENT CONNECTION.
14. CONCRETE STAIRS (12" TREAD, 6"RISE).
15. INSTALL HANDRAIL.
16. INSTALL CROSSWALK.

NOTES:

1. ALL DIMENSIONS TO PARKING LOTS AND DRIVEWAYS ARE TO FACE OF CURB. ALL RADII ARE TO FACE OF CURB. RIBBON CURB RADII ARE TO BACK OF RIBBON CURB. ALL CURB RETURN RADII ARE 3.0' (F.O.C.)FOR CURB AND GUTTER AND 2.5' (B.O.C.) FOR RIBBON CURB UNLESS OTHERWISE NOTED.
2. ALL PARKING SPACES ARE 9.0' x 18.0' UNLESS OTHERWISE NOTED.
3. A CURB LAY DOWN OR CURB RAMP IS REQUIRED AT ALL POINTS WHERE THE PROPOSED SIDEWALK INTERSECTS THE CURB.
4. EVERY ACCESSIBLE PARKING SPACE MUST BE IDENTIFIED BY A SIGN, CENTERED AT THE HEAD OF THE PARKING SPACE. THE SIGN MUST INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AND STATE RESERVED, OR EQUIVALENT LANGUAGE. SIGNS IDENTIFYING VAN PARKING SPACES SHALL CONTAIN THE DESIGNATION "VAN ACCESSIBLE". SIGNS SHALL BE 60" MINIMUM ABOVE THE GROUND MEASURED TO THE BOTTOM OF THE SIGN.
5. THE RUNNING SLOPE OF AN ACCESSIBLE ROUTE SHALL NOT BE STEEPER THAN 1:20 UNLESS DESIGNED AS A RAMP. THE CROSS SLOPE OF AN ACCESSIBLE ROUTE SHALL NOT BE STEEPER THAN 1:50.
6. THE MAXIMUM SLOPE OF A RAMP IN NEW CONSTRUCTION IS 1:12. THE MAXIMUM RISE FOR ANY RAMP RUN IS 30 INCHES.
7. ACCESSIBLE ROUTES TO BE CONCRETE WITH SLIP RESISTANT FINISH.
8. WATER AND WASTEWATER SERVICES WILL BE PROVIDED BY THE CITY OF ROUND ROCK.
9. ALL EXISTING AND PROPOSED EASEMENTS ARE SHOWN ON THIS SITE PLAN.
10. CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.

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Texas Registered Engineering Firm F-16967

STATE OF TEXAS
KYLE D. DUSEK
135951
LICENSED
PROFESSIONAL ENGINEER
JANUARY 22, 2024

NO.	DATE	REVISIONS	RECOM'TD

CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: SITE PLAN

PROJECT NO. 0208-002

SHEET NO. C8
8 OF 30

IMAGES: "MIGL-Logo_SPACE.jpg"
INDEX: "X:\0208-002 FC Exhibits.dwg" \u2022 0208-002 FC site.dwg \u2022 0208-002 FC_BORDER.dwg \u2022 0208-002 FC site.dwg \u2022 0208-002 FC psd.dwg

DENSITY CALCULATIONS
FREEDOM CHURCH
GROSS SITE AREA = 6.632 ACRES 288,902 SF
NET SITE AREA = 6.632 ACRES 288,902 SF

	IMPERVIOUS COVER			BUILDING COVERAGE[1]			FLOOR AREA[2]	FAR[3]
	SF	AC	%	SF	AC	%	SF	
ALLOWABLE OF NSA	-	-	-	-	-	-	-	-
EXISTING	57,055	1.310	19.75	10,934	0.251	3.78	14,953	0.05:1
EXISTING TO BE DEMOLISHED	46,236	1.061	16.00	1,769	0.041	0.61	1,769	0.01:1
PROPOSED	106,378	2.442	36.82	19,118	0.439	6.62	16,236	0.06:1
TOTAL AFTER DEVELOPMENT	**117,197**	**2.690**	**40.57%**	**28,283**	**0.649**	**9.79%**	**29,420**	**0.10:1**

[1] Building Coverage includes buildings, covered patios, and covered sidewalks
[2] Floor Area includes the total enclosed area of all floors in all buildings
[3] Floor to Area Ratio (FAR) is the ratio of gross floor area to gross site area

BUILDING SUMMARY TABLE
Freedom Church

Building	**Multi-Use**	**Worship Center**
Status	Existing	Proposed
Construction Type	II-B	II-B
Occupancy Type	A-3	A-3
Sprinklered	No	Yes
Foundation Type	Slab on Grade	Slab on Grade
Area (Total) (sf)	9,165	16,236
Building Height	34'-3"	24'-4"
Eave Height	24'-3"	24'-4"
Stories	2	1
FFE	813.55	813.55
Zoning	SF-2	SF-2
Primary Use	Assembly	Assembly

PARKING CALCULATION

USE	CAPACITY (SEATS)	PARKING RATIO	REQUIRED PARKING	PROVIDED PARKING				
				STANDARD	ACCESSIBLE			TOTAL PARKING
					Standard	Van	Total	
Religious Assembly	555	1 : 3 seats	**185**	184	4	2	6	**190**

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PROFESSIONAL ENGINEER
JANUARY 22, 2024

NO.	DATE	REVISIONS
		RECOM'TD

CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: SITE PLAN CALCULATIONS

PROJECT NO. 0208-002

SHEET NO. C9
9 OF 30

NOTES:

1. LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES MATERIAL, SIZE AND EXACT LOCATION, HORIZONTALLY AND VERTICALLY, PRIOR TO BEGINNING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR PROTECTING EXISTING UTILITIES AND FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.
2. SHOULD THE CONTRACTOR FIND DISCREPANCIES WITH RECORD INFORMATION DRAWN/ NOTED ON THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF SUCH CONDITIONS.
3. THE CONTRACTOR SHALL CONTACT THE AREA "ONE CALL" SYSTEM AT 1-800-344-8377 FOR EXISTING UTILITY LOCATIONS PRIOR TO ANY EXCAVATION IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES TO BE EXTENDED, TIED TO, OR ALTERED, OR SUBJECT TO DAMAGE/INCONVENIENCE BY THE CONSTRUCTION OPERATIONS.
4. ANY DAMAGE TO EXISTING IMPROVEMENTS SUCH AS PAVEMENT, SIDEWALKS, CURB AND GUTTERS CAUSED BY THE INSTALLATION OF IMPROVEMENTS SHALL BE REPAIRED TO LIKE NEW CONDITION.
5. THE CURRENT CITY OF ROUND ROCK STANDARD CONSTRUCTION SPECIFICATIONS SHALL COVER MATERIAL AND METHODS USED TO DO THIS WORK.
6. ALL DISTURBED NATURAL AREAS SHALL BE REVEGETATED.
7. SLEEVES UNDER PAVING FOR IRRIGATION LINES MAY BE REQUIRED.
8. THE MAXIMUM LONGITUDINAL SLOPE OF 1:20 SHALL BE USED ON ALL SIDEWALKS.
9. THE MAXIMUM CROSS SLOPE OF 1:50 SHALL BE USED ON ALL SIDEWALKS AND ACCESSIBLE AREAS.

LEGEND

LOC LIMITS OF CONSTRUCTION

SPOT ELEVATION LEGEND

BC	BACK OF CURB
EG	EXISTING GROUND
FG	FINISHED GRADE
FL	FLOWLINE
HP	HIGH POINT
TB	TOP OF BERM
TC	TOP OF CONCRETE
TG	TOP OF GRATE
TW	TOP OF WALL

0 15' 30' 60'
Scale: 1" = 30'

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LICENSED PROFESSIONAL ENGINEER
JANUARY 22, 2024

NO.	DATE	REVISIONS	RECOM'D

CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: OVERALL GRADING PLAN

PROJECT NO. 0208-002

SHEET NO. C10
10 OF 30

IMAGES: * MIGL-Logo (EPMC).png
XREFs: * 0208-002 FC ets.dwg * 0208-002 FC - BORDER.dwg * 0208-002 FC alph.dwg * 0208-002 FC pln.dwg * 0208-002 FC pvt.dwg

MATCHLINE GRADING PLAN B

MATCHLINE GRADING PLAN C

PROPOSED CHURCH EXPANSION
16,236 SF
ONE-STORY
FFE=813.55

EXISTING CHURCH
8,137 SF
2 STORIES
FFE=813.55

SPORT COURT

GREASE TRAP

FDC

"YOU BELONG HERE"

CONC. DRIVEWAY

CONC. STAIRS

STONE WALL

DRY CREEK DRIVE

Scale: 1" = 10'

LEGEND

LOC LIMITS OF CONSTRUCTION

SPOT ELEVATION LEGEND

BC	BACK OF CURB
EG	EXISTING GROUND
FG	FINISHED GRADE
FL	FLOWLINE
HP	HIGH POINT
TB	TOP OF BERM
TC	TOP OF CONCRETE
TG	TOP OF GRATE
TW	TOP OF WALL

IMAGES: * MIGL-Logo-SPACE.jpg
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CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: GRADING PLAN A

PROJECT NO. 0208-002

SHEET NO. C11
11 OF 30

0 5' 10' 20'
Scale: 1" = 10'

LEGEND

LOC LIMITS OF CONSTRUCTION

SPOT ELEVATION LEGEND

BC	BACK OF CURB
EG	EXISTING GROUND
FG	FINISHED GRADE
FL	FLOWLINE
HP	HIGH POINT
TB	TOP OF BERM
TC	TOP OF CONCRETE
TG	TOP OF GRATE
TW	TOP OF WALL

25' BUILDING SETBACK

5' PUBLIC UTILITY EASEMENT PER PLAT

MATCHLINE GRADING PLAN C

MATCHLINE GRADING PLAN A

GRADE BREAK

GREASE TRAP

FDC

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Austin, TX 78749 | 512 750 0440
Texas Registered Engineering Firm F-16967

STATE OF TEXAS
KYLE D. DUSK
135951
LICENSED
PROFESSIONAL ENGINEER

JANUARY 22, 2024

NO.	DATE	REVISIONS	RECOM'D

CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: GRADING PLAN B

PROJECT NO. 0208-002

SHEET NO. C12
12 OF 30

IMAGES: "MIGL Logo SPACE.png"
XREFS: "0208-002 FC ets.dwg" "0208-002 FC - BORDER.dwg" "0208-002 FC pbs.dwg" "0208-002 FC pts.dwg" "0208-002 FC pst.dwg"

LEGEND

LOC LIMITS OF CONSTRUCTION

SPOT ELEVATION LEGEND

BC	BACK OF CURB
EG	EXISTING GROUND
FG	FINISHED GRADE
FL	FLOWLINE
HP	HIGH POINT
TB	TOP OF BERM
TC	TOP OF CONCRETE
TG	TOP OF GRATE
TW	TOP OF WALL

LOT 1
CHISHOLM VALLEY SOUTH SEC. 12
CAB. H , SLD. 186
P.R.T.C.T.

OWNER: FREEDOM CHURCH AUSTIN OF THE ASSEMBLIES OF GOD, INC
DOC. NO. 2021131940
O.P.R.W.C.T.
ZONED: SF-2
RELIGIOUS ASSEMBLY

0 5' 10' 20'
Scale: 1" = 10'

MATCHLINE GRADING PLAN B

MATCHLINE GRADING PLAN D

MATCHLINE G

GRADE BREAK

PLAYGROUND

EXISTING CHURCH
9,137 SF
2 STORIES
FFE=813.55

AC

FIRE

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STATE OF TEXAS
KYLE D. DUSEK
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JANUARY 22, 2024

NO.	DATE	REVISIONS	RECOM'D

CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: GRADING PLAN C

PROJECT NO. 0208-002

SHEET NO. C13
13 OF 30

MATCHLINE GRADING PLAN C

0 5' 10' 20'
Scale: 1" = 10'

GRADE BREAK

10' PUBLIC UTILITY EASEMENT PER PLAT

0 5' 10' 20'
Scale: 1" = 10'

GRADE BREAK

LEGEND

LOC LIMITS OF CONSTRUCTION

SPOT ELEVATION LEGEND

BC	BACK OF CURB
EG	EXISTING GROUND
FG	FINISHED GRADE
FL	FLOWLINE
HP	HIGH POINT
TB	TOP OF BERM
TC	TOP OF CONCRETE
TG	TOP OF GRATE
TW	TOP OF WALL

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STATE OF TEXAS
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PROFESSIONAL ENGINEER
JANUARY 22, 2024

NO.	DATE	REVISIONS	RECOM'D

CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: GRADING PLAN D

PROJECT NO. 0208-002

SHEET NO. C14
14 OF 30

DRAINAGE AREA SUMMARY TABLE

Freedom Church

DRAINAGE AREA	EXISTING														
	OS 1	A	POC 1	OS 2	B	OS 5	EX POND	POC 2	OS 3	C	POC 3	OS 4	D	POC 4
AREA (MI^2)	0.00081	0.00137		0.00084	0.00591	0.00090			0.00034	0.00208		0.00057	0.00100	
Area (AC)	0.519	0.880		0.536	3.781	0.575			0.218	1.330		0.367	0.641	
CN	85.40	88.29		85.40	84.50	96.82			85.40	80.00		85.40	80.00	
% IC	30.00%	46.04%		30.00%	24.98%	93.43%			30.00%	0.00%		30.00%	0.00%	
24 HR STORM	PEAK RUNOFF FLOW RATES (CFS)													
2 - YR	2.26	4.37	**6.63**	2.43	15.52	3.17	15.04	**15.04**	0.99	4.50	**5.49**	1.66	2.17	**3.83**
10 - YR	3.73	6.88	**10.61**	4.00	27.66	4.74	25.03	**25.03**	1.63	8.50	**10.13**	2.74	4.10	**6.84**
25 - YR	4.73	8.60	**13.33**	5.07	35.28	5.82	39.35	**39.35**	2.06	11.29	**13.35**	3.47	5.44	**8.91**
100 - YR	6.46	11.57	**18.03**	6.92	48.40	7.71	59.96	**59.96**	2.82	16.09	**18.91**	4.74	7.76	**12.49**

0 15' 30' 60'

Scale: 1" = 30'

LEGEND

- SHEET FLOW
- SHALLOW CONCENTRATED FLOW
- CHANNEL FLOW
- EXISTING DRAINAGE AREA DELINEATION
- FLOW DIRECTION
- B — DRAINAGE AREA
- 10.28 AC

Sheet Flow Surface Codes

a smooth surface
b fallow (no residue)
c cultivated < 20% Res.
d cultivated > 20% Res.
e grass - range, short
f grass, dense
g grass, bermuda
h woods, light
i woods, dense
j range, natural

Shallow Concentrated Surface Codes

u unpaved surface
p paved surface

NOTE: TIME OF CONCENTRATION IS CONSERVATIVELY ESTIMATED AT THE MINIMUM TIME ALLOW BY HEC-HMS, 6 MINUTES OR A LAG TIME OF 3.6 MINUTES.

Manning's coefficients

a smooth surface	0.011
b fallow (no residue)	0.05
c cultivated < 20% Res.	0.06
d cultivated > 20% Res.	0.17
e grass - range, short	0.15
f grass, dense	0.24
g grass, bermuda	0.41
h woods, light	0.4
i woods, dense	0.8
j range, natural	0.13
Lake Creek 2-yr 24-hr	4.01
Brushy Creek 2-yr 24-hr	3.97

OS1 — 0.52 AC
OS2 — 0.54 AC
OS3 — 0.22 AC
OS4 — 0.37 AC
OS5 — 0.58 AC
A — 0.88 AC
B — 3.78 AC
C — 1.33 AC
D — 0.64 AC

POC 1
Q_2 = 6.63 CFS
Q_{10} = 10.61 CFS
Q_{25} = 13.33 CFS
Q_{100} = 18.03 CFS

POC 2
Q_2 = 15.04 CFS
Q_{10} = 25.03 CFS
Q_{25} = 39.35 CFS
Q_{100} = 59.96 CFS

POC 3
Q_2 = 5.49 CFS
Q_{10} = 10.13 CFS
Q_{25} = 13.35 CFS
Q_{100} = 18.91 CFS

POC 4
Q_2 = 3.83 CFS
Q_{10} = 6.84 CFS
Q_{25} = 8.91 CFS
Q_{100} = 12.49 CFS

10' BUILDING SETBACK
10' PUBLIC UTILITY EASEMENT PER PLAT
25' BUILDING SETBACK
5' PUBLIC UTILITY EASEMENT PER PLAT
50' PUBLIC UTILITY EASEMENT PER PLAT

SCS TR-55 TIME OF CONCENTRATION AND TRAVEL TIME - EXISTING CONDITIONS

DRAINAGE AREA "OS 1"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.0400	e	**0.15**	n/a	n/a	n/a	0.111 hours
SHALLOW CONCENTRATED	118	0.0847	u	n/a	n/a	n/a	**4.70**	0.007 hours
							Time of Concentration	**0.118 hours**
							Lag Time	4.231

DRAINAGE AREA "OS 2"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.1000	e	**0.15**	n/a	n/a	n/a	0.077 hours
SHALLOW CONCENTRATED	15	0.0667	u	n/a	n/a	n/a	**4.17**	0.001 hours
							Time of Concentration	**0.100 hours**
							Lag Time	3.600

DRAINAGE AREA "OS 3"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.0900	e	**0.15**	n/a	n/a	n/a	0.080 hours
SHALLOW CONCENTRATED	47	0.1277	p	n/a	n/a	n/a	**7.26**	0.002 hours
							Time of Concentration	**0.100 hours**
							Lag Time	3.600

DRAINAGE AREA "OS 4"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.0800	a	**0.011**	n/a	n/a	n/a	0.010 hours
SHALLOW CONCENTRATED	120	0.1417	u	n/a	n/a	n/a	**6.07**	0.005 hours
							Time of Concentration	**0.100 hours**
							Lag Time	3.600

DRAINAGE AREA "OS 5"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.0250	a	**0.011**	n/a	n/a	n/a	0.016 hours
SHALLOW CONCENTRATED	442	0.0170	p	n/a	n/a	n/a	**2.65**	0.046 hours
							Time of Concentration	**0.100 hours**
							Lag Time	3.600

DRAINAGE AREA "A"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.1800	e	**0.15**	n/a	n/a	n/a	0.061 hours
SHALLOW CONCENTRATED	314	0.0764	p	n/a	n/a	n/a	**5.62**	0.016 hours
							Time of Concentration	**0.100 hours**
							Lag Time	3.600

DRAINAGE AREA "B"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.1500	e	**0.15**	n/a	n/a	n/a	0.065 hours
SHALLOW CONCENTRATED	495	0.0869	u	n/a	n/a	n/a	**4.76**	0.029 hours
							Time of Concentration	**0.100 hours**
							Lag Time	3.600

DRAINAGE AREA "C"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.1100	e	**0.15**	n/a	n/a	n/a	0.074 hours
SHALLOW CONCENTRATED	432	0.0926	u	n/a	n/a	n/a	**4.91**	0.024 hours
							Time of Concentration	**0.100 hours**
							Lag Time	3.600

DRAINAGE AREA "D"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.1500	e	**0.15**	n/a	n/a	n/a	0.065 hours
SHALLOW CONCENTRATED	196	0.1020	u	n/a	n/a	n/a	**5.15**	0.011 hours
							Time of Concentration	**0.100 hours**
							Lag Time	3.600

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STATE OF TEXAS
KYLE S. DUNK
135951
LICENSED PROFESSIONAL ENGINEER
JANUARY 22, 2024

NO.	DATE	REVISIONS	RECOM'D

CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: EXISTING DRAINAGE AREA MAP

PROJECT NO. 0208-002

SHEET NO. C15
15 OF 30

DRAINAGE AREA SUMMARY TABLE

Freedom Church

DRAINAGE AREA	PROPOSED													
	OS 1	A	POC 1	OS 2	OS 3	OS 5	B	C	POND	POC 2	POC 3	OS 4	D	POC 4
AREA (MI^2)	0.00081	0.00132		0.00084	0.00034	0.00090	0.00632	0.00190				0.00057	0.00082	
Area (AC)	0.519	0.847		0.536	0.218	0.575	4.044	1.219				0.367	0.523	
CN	85.40	88.91		85.40	85.40	96.82	92.53	81.22				85.40	80.00	
% IC	30.00%	49.53%		30.00%	30.00%	93.43%	69.60%	6.77%				30.00%	0.00%	
24 HR STORM	PEAK RUNOFF FLOW RATES (CFS)													
2 - YR	2.26	4.27	**6.53**	2.43	0.99	3.17	20.75	4.48	14.34	**14.34**	**0.00**	1.66	1.77	**3.43**
10 - YR	3.73	6.68	**10.41**	4.00	1.63	4.74	31.51	8.14	17.13	**17.13**	**0.00**	2.74	3.34	**6.08**
25 - YR	4.73	8.32	**13.06**	5.07	2.06	5.82	38.87	10.67	29.17	**29.17**	**0.00**	3.47	4.44	**7.91**
100 - YR	6.46	11.17	**17.64**	6.92	2.82	7.71	51.68	15.02	59.86	**59.86**	**0.00**	4.74	6.33	**11.06**

Sheet Flow Surface Codes

- a smooth surface
- b fallow (no residue)
- c cultivated < 20% Res.
- d cultivated > 20% Res.
- e grass - range, short
- f grass, dense
- g grass, bermuda
- h woods, light
- i woods, dense
- j range, natural

Shallow Concentrated Surface Codes

- u unpaved surface
- p paved surface

NOTE: TIME OF CONCENTRATION IS CONSERVATIVELY ESTIMATED AT THE MINIMUM TIME ALLOW BY HEC-HMS, 6 MINUTES OR A LAG TIME OF 36 MINUTES.

Manning's coefficients

a smooth surface	0.01
b fallow (no residue)	0.05
c cultivated < 20% Res.	0.06
d cultivated > 20% Res.	0.17
e grass - range, short	0.15
f grass, dense	0.24
g grass, bermuda	0.41
h woods, light	0.4
i woods, dense	0.8
j range, natural	0.13
Lake Creek 2-yr 24-hr	4.01
Brushy Creek 2-yr 24-hr	3.97

0 15' 30' 60'

Scale: 1" = 30'

LEGEND

- SHEET FLOW
- SHALLOW CONCENTRATED FLOW
- CHANNEL FLOW
- PROPOSED DRAINAGE AREA DELINEATION
- FLOW DIRECTION
- A — DRAINAGE AREA 10.28 AC

OS1 0.52 AC

OS2 0.54 AC

OS3 0.22 AC

OS4 0.37 AC

D 0.52 AC

B 4.04 AC

A 0.85 AC

PROPOSED CHURCH EXPANSION 16,236 SF ONE-STORY FFE=813.55

C 1.22 AC

OS5 0.58 AC

PLAYGROUND

SPORT COURTS

WATER QUALITY POND

DETENTION POND

SCF: 100 LF @ 4.00%

SCF: 118 LF @ 4.67%

SF: 100 LF @ 21.00%

SF: 100 LF @ 8.00%

SCF: 100 LF @ 10.00%

SCF: 100 LF @ 9.00%

SCF: 41 LF @ 12.20%

SF: 100 LF @ 8.00%

SCF: 100 LF @ 14.17%

SF: 100 LF @ 15.00%

SCF: 195 LF @ 10.26%

SCF: 304 LF @ 4.93%

SCF: 233 LF @ 11.16%

SF: 100 LF @ 2.50%

SCF: 442 LF @ 1.70%

CH: 401 LF @ 4.74%

SCF: 171 LF @ 1.53%

POC 1
Q_2 = 6.53 CFS
Q_{10} = 10.41 CFS
Q_{25} = 13.06 CFS
Q_{100} = 17.64 CFS

POC 2
Q_2 = 14.34 CFS
Q_{10} = 17.13 CFS
Q_{25} = 29.17 CFS
Q_{100} = 59.86 CFS

POC 4
Q_2 = 3.43 CFS
Q_{10} = 6.08 CFS
Q_{25} = 7.91 CFS
Q_{100} = 11.06 CFS

SCS TR-55 TIME OF CONCENTRATION AND TRAVEL TIME - PROPOSED CONDITIONS

DRAINAGE AREA "OS 1"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.0400	e	**0.15**	n/a	n/a	n/a	0.111 hours
SHALLOW CONCENTRATED	118	0.0847	u	n/a	n/a	n/a	**4.70**	0.007 hours
							Time of Concentration	**0.118 hours**
							Lag Time	4.231

DRAINAGE AREA "OS 2"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.1000	e	**0.15**	n/a	n/a	n/a	0.077 hours
SHALLOW CONCENTRATED	15	0.0667	u	n/a	n/a	n/a	**4.17**	0.001 hours
							Time of Concentration	**0.100 hours**
							Lag Time	3.800

DRAINAGE AREA "OS 3"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.0900	e	**0.15**	n/a	n/a	n/a	0.080 hours
SHALLOW CONCENTRATED	47	0.1277	u	n/a	n/a	n/a	**5.76**	0.002 hours
							Time of Concentration	**0.100 hours**
							Lag Time	3.800

DRAINAGE AREA "OS 4"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.0800	a	**0.011**	n/a	n/a	n/a	0.010 hours
SHALLOW CONCENTRATED	120	0.1417	u	n/a	n/a	n/a	**6.07**	0.005 hours
							Time of Concentration	**0.100 hours**
							Lag Time	3.800

DRAINAGE AREA "OS 5"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.0250	a	**0.011**	n/a	n/a	n/a	0.016 hours
SHALLOW CONCENTRATED	442	0.0170	p	n/a	n/a	n/a	**2.65**	0.046 hours
							Time of Concentration	**0.100 hours**
							Lag Time	3.800

DRAINAGE AREA "A"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.2100	e	**0.15**	n/a	n/a	n/a	0.057 hours
SHALLOW CONCENTRATED	304	0.0691	p	n/a	n/a	n/a	**5.34**	0.016 hours
							Time of Concentration	**0.100 hours**
							Lag Time	3.800

DRAINAGE AREA "B"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.0900	e	**0.15**	n/a	n/a	n/a	0.080 hours
SHALLOW CONCENTRATED	233	0.1116	p	n/a	n/a	n/a	**6.79**	0.010 hours
OPEN CHANNEL	401	0.0474	n/a	0.05	11	14	**3.55**	0.031 hours
							Time of Concentration	**0.121 hours**
							Lag Time	4.349

DRAINAGE AREA "C"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.0800	e	**0.15**	n/a	n/a	n/a	0.084 hours
SHALLOW CONCENTRATED	217	0.0553	u	n/a	n/a	n/a	**3.79**	0.016 hours
							Time of Concentration	**0.100 hours**
							Lag Time	3.800

DRAINAGE AREA "D"

FLOW TYPE	LENGTH (FT)	SLOPE (ft/ft)	SURFACE	MANNINGS "N"	AREA (SF)	WP (FT)	VELOCITY (FPS)	TRAVEL TIME
SHEET	100	0.1500	e	**0.15**	n/a	n/a	n/a	0.065 hours
SHALLOW CONCENTRATED	195	0.1026	u	n/a	n/a	n/a	**5.17**	0.010 hours
OPEN CHANNEL	-	-	n/a	-	-	-	———	0.000 hours
							Time of Concentration	**0.100 hours**
							Lag Time	3.800

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STATE OF TEXAS
KYLE D. DUSIK
135951
LICENSED PROFESSIONAL ENGINEER
JANUARY 22, 2024

RECOM'D

NO.	DATE	REVISIONS

CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

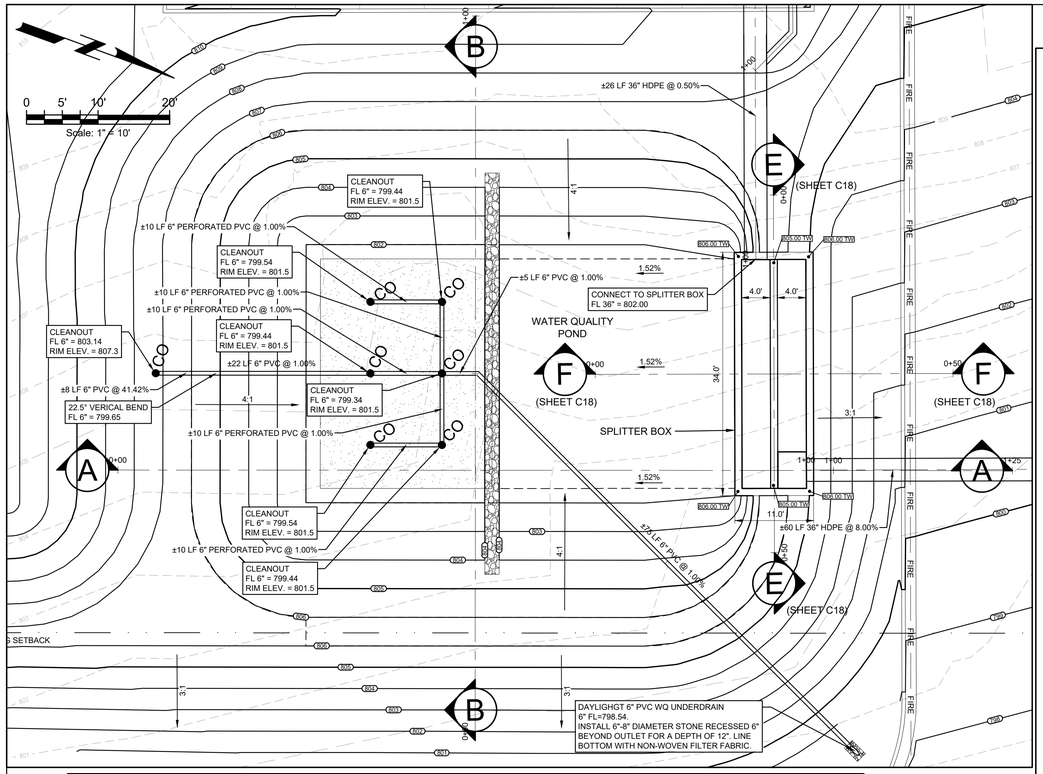
SHEET TITLE: PROPOSED DRAINAGE AREA MAP

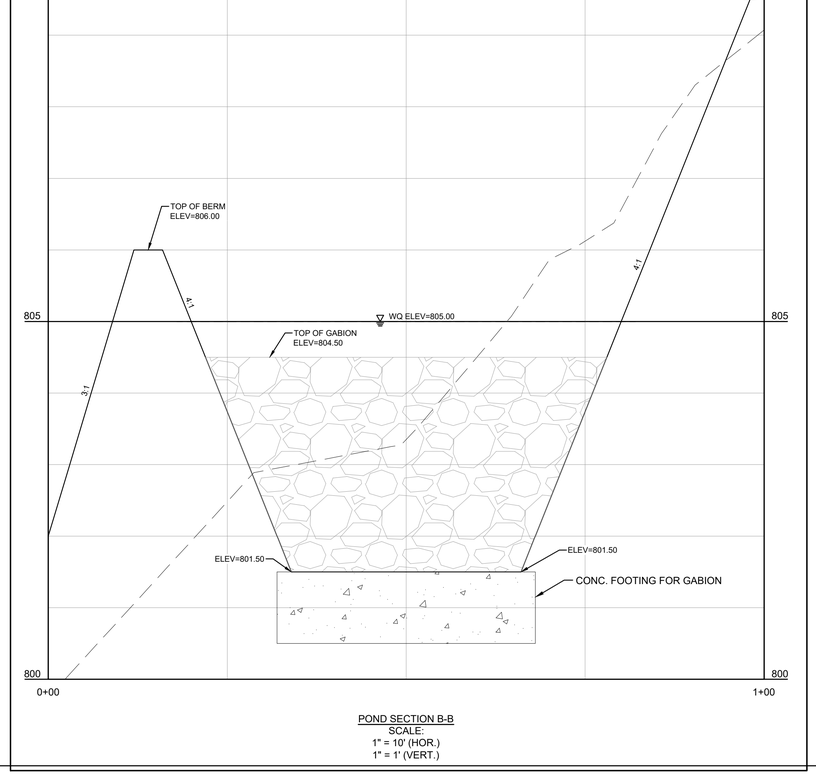
PROJECT NO. 0208-002

SHEET NO. C16

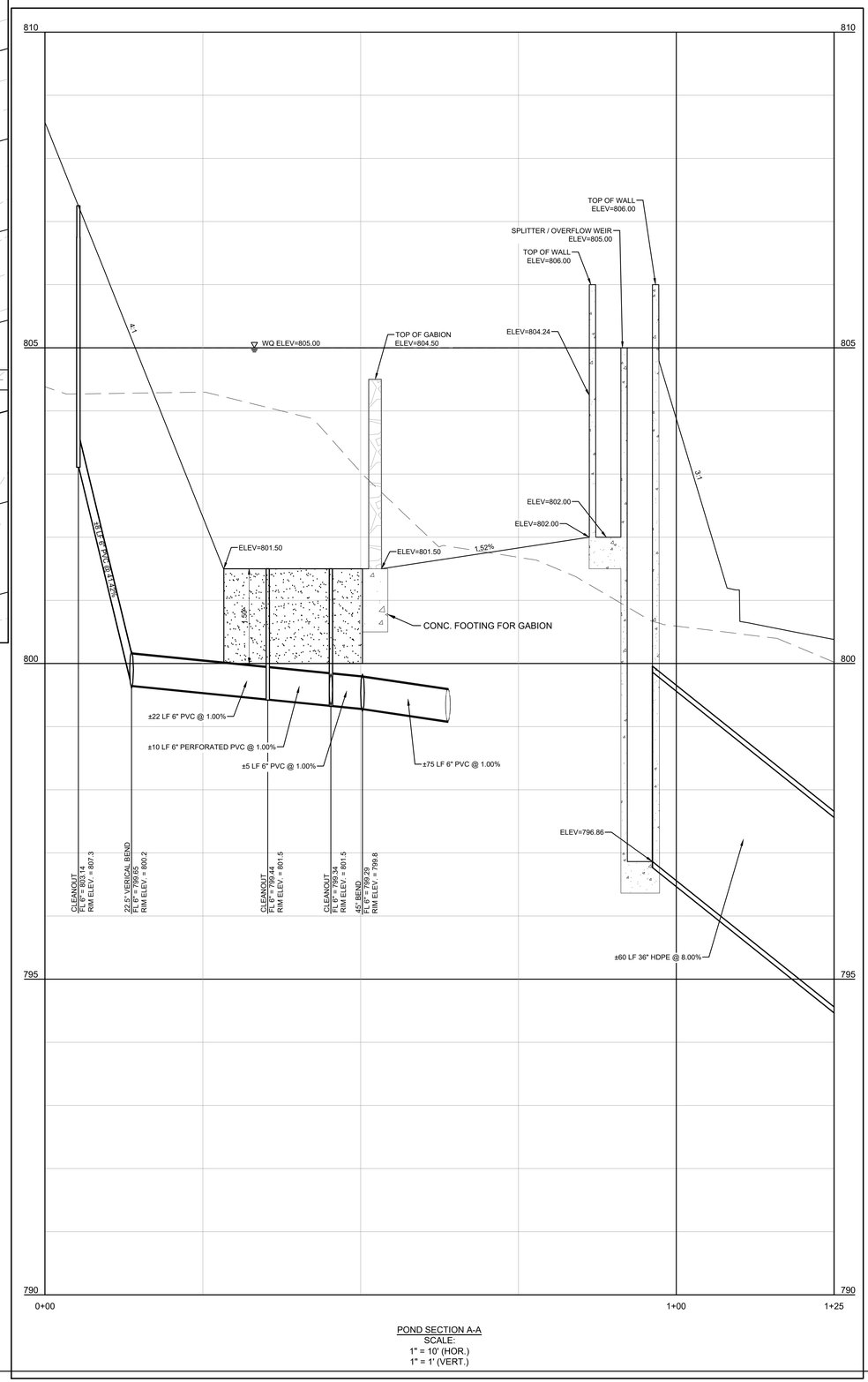
16 OF 30

IMAGES: "MIGL LOGO SPACE.png"
IMAGES: "0208-002 FC Area Map - v0206-002 FC site-DWG-COMBINED.dwg * 0208-002 FC _EXPORTER.dwg * 0208-002 FC style.dwg * v0206-002 FC pln.dwg





POND SECTION B-B
SCALE:
1" = 10' (HOR.)
1" = 1' (VERT.)



POND SECTION A-A
SCALE:
1" = 10' (HOR.)
1" = 1' (VERT.)

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STATE OF TEXAS
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PROFESSIONAL ENGINEER
JANUARY 22, 2024

NO.	DATE	REVISIONS	RECOM'D

CLIENT: FREEDOM CHURCH

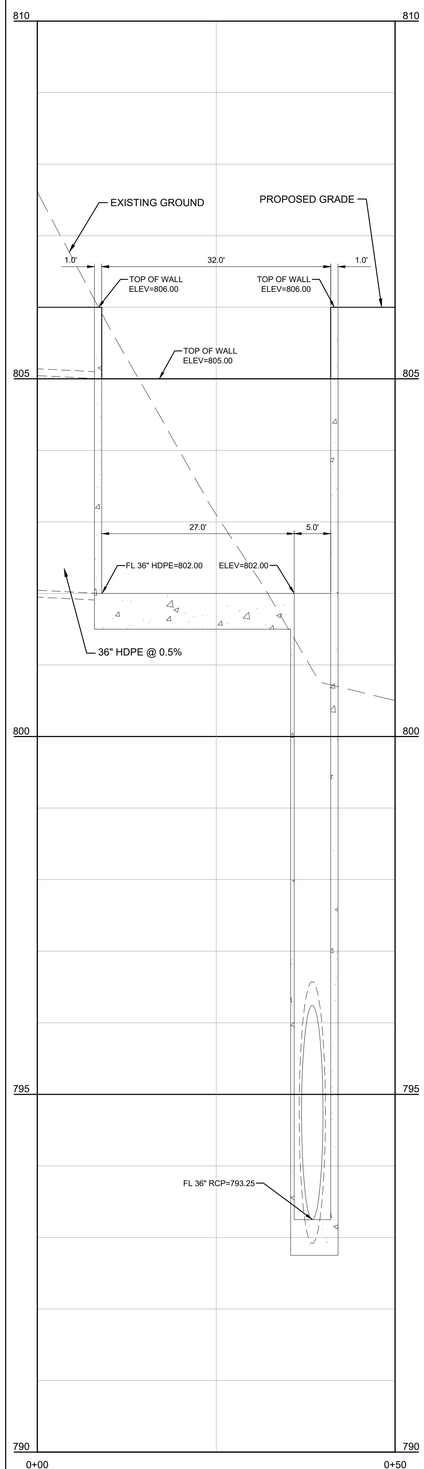
PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: WATER QUALITY POND
PLAN AND PROFILE

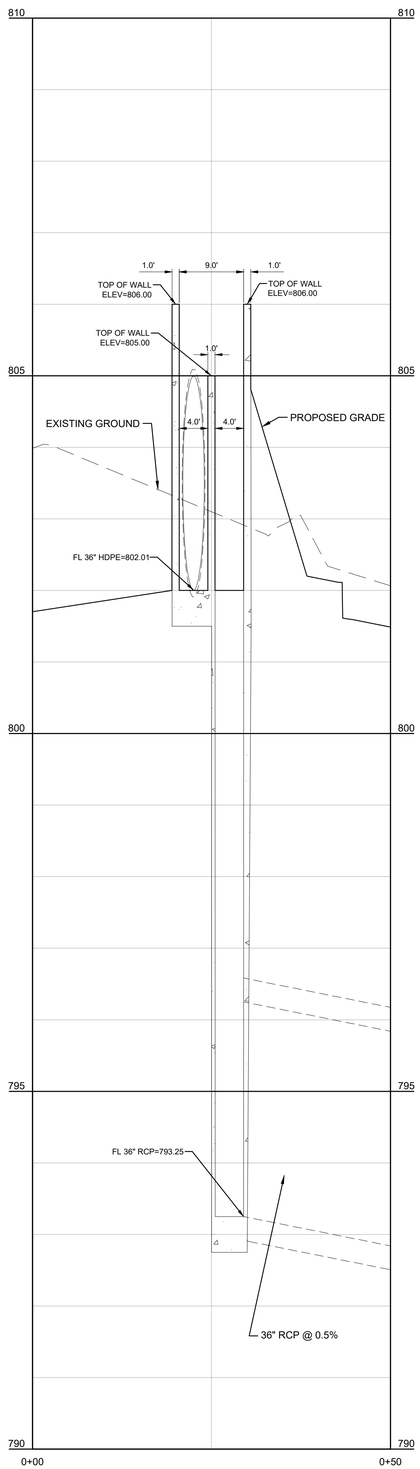
PROJECT NO.
0208-002

SHEET NO.
C17
17 OF 30

IMAGES: * MIGL-Logo-SPACE.png
XREFs: * 0208-002 FC ebs.dwg * 0208-002 FC _BORDER.dwg * 0208-002 FC pln.dwg * 0208-002 FC prf.dwg * 0208-002 FC pvt.dwg



SPLITTER BOX SECTION E-E
SCALE:
1" = 10' (HOR.)
1" = 1' (VERT.)



SPLITTER BOX SECTION F-F
SCALE:
1" = 10' (HOR.)
1" = 1' (VERT.)

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Freedom Church
Date Prepared: 1/2/2024

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor ove
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 * =	**6.63**	acres
Predevelopment impervious area within the limits of the plan * =	**0.65**	acres
Total post-development impervious area within the limits of the plan* =	**3.32**	acres
Total post-development impervious cover fraction * =	**0.50**	
P =	**32**	inches
$L_{M\ TOTAL\ PROJECT}$ =	**2318**	lbs.

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

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

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

Drainage Basin/Outfall Area No. = **1**

Total drainage basin/outfall area =	**4.80**	acres
Predevelopment impervious area within drainage basin/outfall area =	**0.23**	acres
Post-development impervious area within drainage basin/outfall area =	**3.04**	acres
Post-development impervious fraction within drainage basin/outfall area =	**0.63**	
$L_{M\ THIS\ BASIN}$ =	**2450**	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Sand Filter**
Removal efficiency = **89** percent

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 =	**4.80**	acres
A_I =	**3.04**	acres
A_P =	**1.76**	acres
L_R =	**3024**	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = **2318** lbs.

F = **0.77**

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 =	**0.97**	inches
Post Development Runoff Coefficient =	**0.45**	
On-site Water Quality Volume =	**7552**	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 =	**1510**	
Total Capture Volume (required water quality volume(s) x 1.20) =	**9062**	cubic feet

PARTIAL SEDIMENTATION/FILTRATION POND CALCULATIONS

PROJECT NAME: FREEDOM CHURCH
POND 1 PARTIAL SEDIMENTATION-FILTRATION

DRAINAGE AREA DATA

Drainage Areas - OS 2, OS 3, & B	4.80 ac
Total Treated Impervious Cover	132,459 sf
Impervious Cover Percentage	63.37 %
25-yr Peak Flow Rate to Control (Q_{25})	46.00 cfs
100-yr Peak Flow Rate to Control (Q_{100})	61.42 cfs

WATER QUALITY CONTROL CALCULATIONS	Required	Provided
The Water Quality Control is PARTIAL SEDIMENTATION/FILTRATION		
Water Quality Volume	9,062 cf	9,221 cf
Maximum Ponding Depth above Sand Bed (H)		3.50 ft
Sedimentation Pond Area A_S = 12.5% WQV - A_F	189 sf	1,500 sf
Sedimentation Pond Volume		4,157 cf
Filtration Pond Area A_F = 10% WQV	755 sf	770 sf
Filtration Pond Volume		5,064 cf
Water Quality Elevation		805.00 ft msl
Elevation of Splitter/Overflow Weir	min WQ elev ft msl	805.00 ft msl
Height of Gabion Wall	WQ elev - 0.5' ft msl	804.50 ft msl
Length of Splitter Weir		32 ft
Required Head to Pass Q_{100}	Max 1.0 ft	0.74 ft
Pond Freeboard Provided To Pass Q_{100}	Min 0.25 ft	0.26 ft
48 Hour Drawdown Time Orifice Opening Diameter (inches)		1 1/4 in

Sedimentation Basin Volume

Stage (ft. msl)	Area (sf)	Height (ft)	Avg. End Area (s	Volume (cf)	Cumul. Vol. (cf)
801.5	0	----	0	0	0
802	770	0.50	385	193	193
803	1110	1.00	940	940	1133
804	1500	1.00	1305	1305	2438
805	1939	1.00	1720	1720	4157
806	2429	1.00	2184	2184	6341
807	0	1.00	1215	1215	7556

Filtration Basin Volume

Stage (ft. msl)	Area (sf)	Height (ft)	Avg. End Area (s	Volume (cf)	Cumul. Vol. (cf)
801.5	770	----	0	0	0
802	938	0.50	854	427	427
803	1315	1.00	1127	1127	1554
804	1743	1.00	1529	1529	3083
805	2220	1.00	1982	1982	5064
806	2746	1.00	2483	2483	7547
807	0	1.00	1373	1373	8920

Water Quality Pond Volume

Stage (ft. msl)	Area (sf)	Height (ft)	Avg. End Area	Volume (cf)	Cumul. Vol. (cf)
801.5	770	----	0	0	0
802	1708	0.50	1239	620	620
803	2425	1.00	2067	2067	2686
804	3243	1.00	2834	2834	5520
805	4159	1.00	3701	3701	9221
806	5175	1.00	4667	4667	13888
807	0	1.00	2588	2588	16476

MIGL ENGINEERING AND CONSULTING
9600 Escarpment Blvd Suite 745-174
Austin, TX 78749 | 512 750 0440
Texas Registered Engineering Firm F-16967

STATE OF TEXAS
KYLE D. DUNSK
135951
LICENSED
PROFESSIONAL ENGINEER
JANUARY 22, 2024

RECOM'TD
REVISIONS
DATE
NO.

CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: WATER QUALITY POND CALCULATIONS

PROJECT NO. 0208-002

SHEET NO. C18
18 OF 30

0 5' 10' 20'

Scale: 1" = 10'

POND SECTION C-C
SCALE:
1" = 10' (HOR.)
1" = 1' (VERT.)

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STATE OF TEXAS
KYLE D. QUISK
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JANUARY 22, 2024

NO.	DATE	REVISIONS
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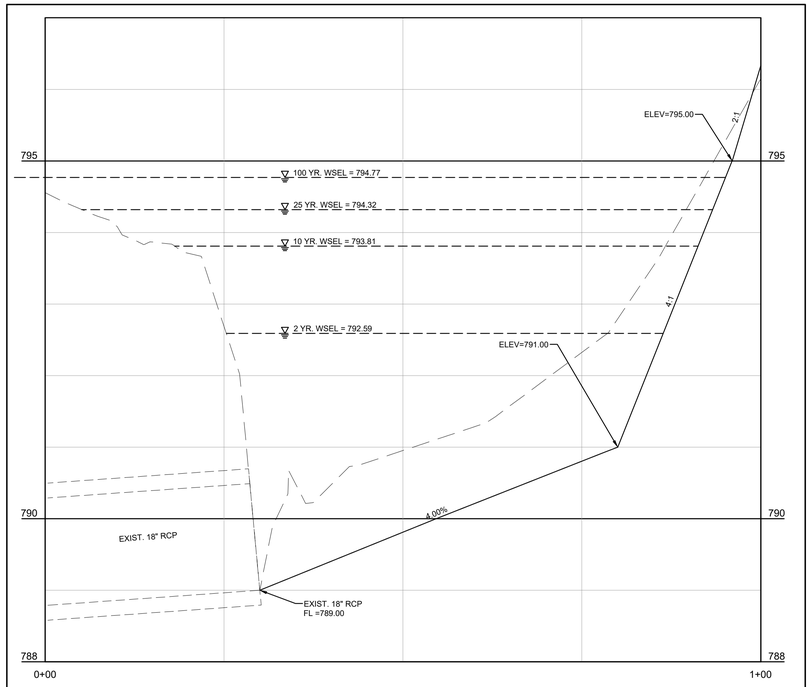
CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: DETENTION POND PLAN

PROJECT NO. 0208-002

SHEET NO. C19
19 OF 30



POND SECTION D-D
SCALE:
1" = 10' (HOR.)
1" = 1' (VERT.)

DETENTION POND - Depth vs Storage vs Discharge Table

Elevation (ft)	Depth (ft)	Storage Volume (ft^3)	Storage Volume (ac-ft)	Discharge Rate (cfs)*			
AMSL	Detention Pond	Prop Detention Pond	Total	**Outflow Bottom Outlet	***Outflow Overflow Weir	Total Outlet Flow	Comments
789.00	0	1	0.0000	0.00	0.00	0.00	2-YR DETENTION POND VOL. WSEL = 792.59, 14.34 CFS
790.0	1.00	309	0.0071	4.25	0.00	4.25	
791.0	2.00	1,947	0.0447	9.51	0.00	9.51	10-YR DETENTION POND VOL. WSEL = 793.81, 17.13 CFS
792.0	3.00	4,993	0.1146	12.76	0.00	12.76	
793.0	4.00	8,766	0.2012	15.34	0.00	15.34	25-YR DETENTION POND VOL. WSEL = 794.32, 29.17 CFS
794.0	5.00	11,832	0.2716	17.54	0.00	17.54	
795.0	6.00	13,858	0.3181	19.50	72.00	91.50	100-YR DETENTION POND VOL. WSEL = 794.77, 59.86 CFS

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STATE OF TEXAS
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JANUARY 22, 2024

NO.	DATE	REVISIONS
		RECOM'TD

CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE,
ROUND ROCK, TEXAS 78681

SHEET TITLE: DETENTION POND SECTIONS AND CALCULATIONS

PROJECT NO. 0208-002

SHEET NO. C20
20 OF 30

IMAGES: "..\IMAGES\LOGO_SPACE.png"
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NOTES:
1. THE EXISTING WATERLINE IS ASBESTOS CONCRETE PER CORR GIS. FOR WATER CONNECTION TO ASBESTOS CONCRETE PIPE, REMOVE THE EXISTING ASBESTOS CONCRETE PIPE TO THE NEAREST BELL. IF THE NEAREST BELL IS LESS THAN THREE FEET FROM THE CONNECTION, THEN REMOVE IT UP TO THE SECOND NEAREST BELL. INSTALL HYMAX2 LONG BODY STAINLESS STEEL COUPLING FROM NEW PIPING TO AC PIPING AT BOTH ENDS.

PROPOSED UTILITY LEGEND
- LOC LOC — LIMITS OF CONSTRUCTION
- W — PROPOSED WATER LINE
- WW — PROPOSED WASTEWATER LINE
- PROPOSED STORMSEWER LINE
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED METER
- PROPOSED MANHOLE
- CO — PROPOSED WASTEWATER CLEANOUT
- PROPOSED GRATE INLET

0 15' 30' 60'
Scale: 1" = 30'

APPROXIMATE LOCATION OF EXISTING 12" WATER MAIN. CONTRACTOR TO VERIFY LOCATION, DEPTH, SIZE AND MATERIAL IN FIELD AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.

STA. 8+45.39 WATERLINE A
INSTALL:
12" x 12" x 12" TEE
1 - 12" GATE VALVE
APPROX. FL 12" = 852.00

8+00
±169 LF 12" C-900 PVC

CITY OF ROUND ROCK
CALLED 0.75 ACRES
VOL. 1429, PG. 462
D.R.W.C.T.
ZONED SF2
MUNICIPAL UTILITY

CONC. FENCE

LOT 10 LOT 9 LOT 8 LOT 7 LOT 6 LOT 5 LOT 4 LOT 3 LOT 2 LOT 1

BLOCK "S"
CHISHOLM VALLEY WEST
SECTION 3 AMENDED
CAB. D , SLD. 120-121
P.R.W.C.T.
ZONED SF-2
SINGLE FAMILY

10' BUILDING SETBACK
10' PUBLIC UTILITY EASEMENT PER PLAT
EXISTING OVERHEAD ELECTRIC

FROM WHICH 1/2" IRON ROD WITH A "PREMIER" CAP FOUND BEARS N59°49'34"W, 0.59'

STA. 6+76.61 WATERLINE A
INSTALL:
45° BEND
FL 12" = 831.33

7+00
±50 LF 12" C-900 PVC

PROPOSED 15' WATER LINE EASEMENT.
DOC. NO._____

STONE WALL
COVERED OVERHANG
OUTSIDE WORSHIP AREA

EXISTING OVERHEAD ELECTRIC
25' BUILDING SETBACK
5' PUBLIC UTILITY EASEMENT PER PLAT

STA. 3+15.04 WATERLINE A
INSTALL:
45° BEND
FL 12" = 808.16

STA. 6+20.70 WATERLINE A
INSTALL:
VERTICAL BEND
FL 12" = 817.88

STA. 5+45.51 WATERLINE A
INSTALL:
45° BEND
FL 12" = 809.53

±40 LF 12" C-900 PVC

STA. 4+92.58 WATERLINE A
INSTALL:
FIRE SERVICE CONNECTION
12" x 12" x 6" TEE
6" GATE VALVE
±20 LF OF 6" D.I. PIPE
AND REQUIRED THRUST BLOCKING
FL 12" (IN) = 807.49
FL 12" (OUT) = 807.49
FL 6" (OUT) = 807.69

UTILITY CROSSING
STA. 5+25.28 WATERLINE A
FL 8" W = 808.75
STA. 1+51.29 STORMSEWER LINE A LAT 4
FL 18" SS = 811.33

±19 LF 12" C-900 PVC

STA. 4+83.05 WATERLINE A
INSTALL:
FIRE HYDRANT ASSEMBLY
PER C.O.R.R. DETAIL WT-05
12" x 12" x 6" TEE
6" GATE VALVE
±13 LF OF 6" D.I. PIPE
AND REQUIRED THRUST BLOCKING
FL 12" (IN) = 807.12
FL 12" (OUT) = 807.12
FL 6" (OUT) = 807.74

STA. 5+05.26 WATERLINE A
INSTALL:
45° BEND
FL 12" = 807.98

STA. 2+95.81 WATERLINE A
INSTALL:
FIRE HYDRANT ASSEMBLY
PER C.O.R.R. DETAIL WT-05
12" x 12" x 6" TEE
6" GATE VALVE
±17 LF OF 6" D.I. PIPE
AND REQUIRED THRUST BLOCKING
FL 12" (IN) = 808.16
FL 12" (OUT) = 808.16
FL 6" (OUT) = 808.41

±375 LF 12" C-900 PVC

4+00 5+00 ±168 LF 12" C-900 PVC ±10 LF 12" C-900 PVC ±8 LF 12" C-900 PVC

FIRE

±19 LF 12" C-900 PVC

STA. 2+76.70 WATERLINE A
INSTALL:
45° BEND
FL 12" = 808.16

±11 LF 12" C-900 PVC

WASTEWATER MANHOLE
RIM ELEV = 812.6'
UNABLE TO INVERT
DUE TO TRAFFIC

STA. 4+97.76 WATERLINE A
INSTALL:
45° BEND
FL 12" = 807.69

±5 LF 12" C-900 PVC

GREASE TRAP

STA. 2+65.75 WATERLINE A
INSTALL:
DOMESTIC SERVICE
12" x 12" x 2" TEE
2" GATE VALVE
1" DOMESTIC METER
±43 LF OF 6" PVC, PIPE
FL 12" (IN) = 807.53
FL 12" (OUT) = 807.53
FL 2" (OUT) = 807.97

HESTERS CROSSING ROAD (R.O.W. VARIES)

2+00 ±106 LF 12" C-900 PVC

3+00 2+00 1+00

EXISTING CHURCH
9,137 SF
2 STORES
FFE=813.55

EXISTING WATER LINE
EXISTING 6" PVC WASTEWATER

STA. 1+59.85 WATERLINE A
INSTALL:
11.25° BEND
FL 12" = 801.37

±60 LF 12" C-900 PVC

STA. 2+47.85 WASTEWATER LINE A
INSTALL:
CLEANOUT
FL 6" = 807.06
RIM ELEV. = 813.43

±10 LF 6" SDR-26 PVC @ 10.00%

STA. 2+21.77 WASTEWATER LINE A
INSTALL:
CLEANOUT
FL 6" = 801.82
RIM ELEV. = 810.30

STA. 1+47.82 WASTEWATER LINE A
INSTALL:
4' DIA WWMH
FL 6" (IN) = 794.43
FL 6" (OUT) = 794.43
RIM ELEV. = 805.7

±26 LF 6" SDR-26 PVC @ 10.00%

STA. 1+22.27 WASTEWATER LINE A
INSTALL:
5' DIA DROP WWMH
FL 6" (IN) = 791.87
FL 6" (OUT) = 785.10
RIM ELEV. = 804.7

±16 LF 6" SDR-26 PVC @ 10.00%

STA. 2+31.67 WASTEWATER LINE A
INSTALL:
CLEANOUT
FL 6" = 805.44
RIM ELEV. = 811.47

"YOU BELONG HERE"

WASTEWATER MANHOLE
RIM ELEV = 800.8'
UNABLE TO INVERT
DUE TO TRAFFIC

±22 LF 6" SDR-26 PVC @ 4.50%

5' PUBLIC UTILITY EASEMENT PER PLAT

PROPOSED 15' WATER LINE EASEMENT.
DOC. NO._____

±74 LF 6" SDR-26 PVC @ 10.00%

PROPOSED 15' WW LINE EASEMENT.
DOC. NO._____

STA. 1+00.00 WASTEWATER LINE A
CUT AND PLUG EXISTING WW LINES AND REMOVE EXISTING WW MANHOLE.
CONNECT TO EXISTING 6" STUB
FL 6" = 784.10

WASTEWATER MANHOLE
6" PVC (N) FL = 784.2'
6" PVC (W) FL = 784.2'
6" PVC (S) FL = 784.4'
6" PVC (E) FL = 784.1'
RIM ELEV = 801.0'

DRY CREEK DRIVE
(60' R.O.W.)

60.0' R.O.W.

STA. 1+00.00 WATERLINE A
CONNECT TO EXISTING WATER LINE
INSTALL:
8" x 8" x 12" TEE
2 - 8" GATE VALVES
1 - 12" GATE VALVE
CONNECT GATE VALVES TO
TEE WITH FOSTER ADAPTERS
FL 12" = 797.90
CONTRACTOR TO VERIFY EXISTING PIPE LOCATION.
SEE NOTE 1, THIS SHEET.

EXISTING FIRE HYDRANT TO REMAIN

APPROXIMATE LOCATION OF EXISTING 8" WATER MAIN. CONTRACTOR TO VERIFY LOCATION, DEPTH, SIZE AND MATERIAL IN FIELD AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.

APPROXIMATE LOCATION OF EXISTING 6" WASTEWATER. CONTRACTOR TO VERIFY LOCATION, DEPTH, SIZE AND MATERIAL IN FIELD AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.

LOT 2A
REPLAT OF LOT 1,
CHISHOLM VALLEY SOUTH
SECTION 7
CAB. Z, SLD. 32
P.R.T.C.T.
ZONED MF-2
MULTIFAMILY

LOT 1A
REPLAT OF LOT 1,
CHISHOLM VALLEY SOUTH
SECTION 7
CAB. Z, SLD. 32
P.R.T.C.T.
ZONED MF-2
MULTIFAMILY

LOT 1
BLOCK "K"
CHISHOLM VALLEY SOUTH
SECTION 3
CAB. E , SLD. 49
P.R.W.C.T.
ZONED SF-2
SINGLE FAMILY

LOT 1
CHISHOLM VALLEY SOUTH SEC. 15
CAB. H, SLD. 186
P.R.T.C.T
OWNER: FREEDOM CHURCH AUSTIN OF THE ASSEMBLIES OF GOD, INC
DOC. NO. 2021131940
O.P.R.W.C.T.
ZONED SF-2
RELIGIOUS ASSEMBLY

BLOCK "D"
CHISHOLM VALLEY
SOUTH SECTION 1
CAB. D , SLD. 122-123
P.R.T.C.T.
ZONED SF-2
SINGLE FAMILY

16' PUBLIC UTILITY EASEMENT PER PLAT

BLOCK "D"
CHISHOLM VALLEY SOUTH
SECTION 3
CAB. E , SLD. 49
P.R.W.C.T.
ZONED SF-2

TBM #1
TBM #2

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STATE OF TEXAS
KYLE D. DUSEK
135951
LICENSED PROFESSIONAL ENGINEER
JANUARY 22, 2024

NO.	DATE	REVISIONS	RECOM'D

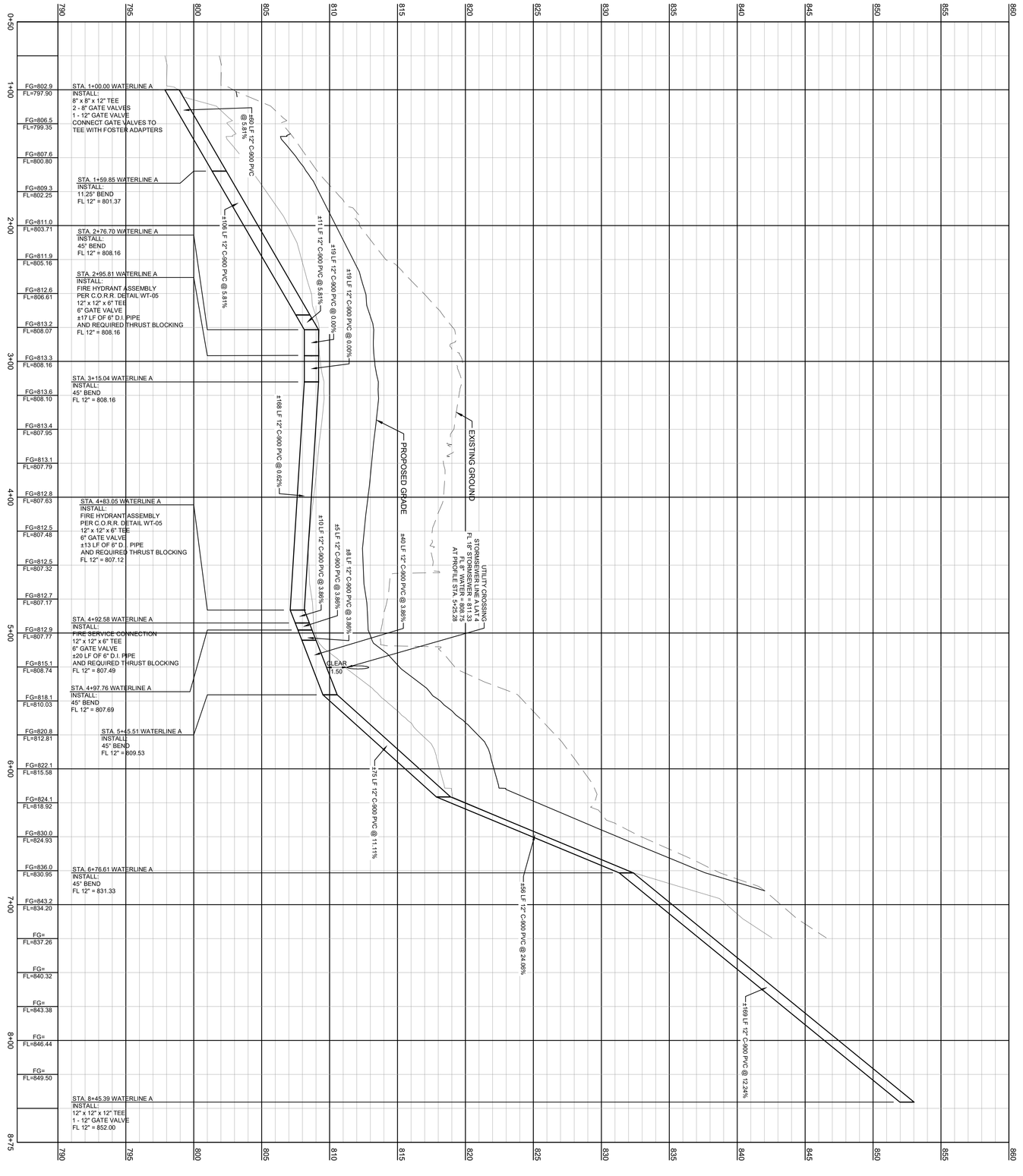
CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: UTILITY PLAN

PROJECT NO. 0208-002

SHEET NO. C21
21 OF 30



SHEET TITLE	CLIENT		
WATER LINE PROFILE	FREEDOM CHURCH		
PROJECT			
FREEDOM CHURCH 2330 DRY CREEK DRIVE ROUND ROCK, TEXAS 78681			
	NO.	DATE	REVISIONS / RECOM'D

JANUARY 22, 2024

MIGL ENGINEERING AND CONSULTING
9600 Escarpment Blvd, Suite 745-174
Austin, TX 78749 | 512 750 0440
Texas Registered Engineering Firm F-16967

PROJECT NO. 0208-002
SHEET NO. C22
22 OF 30

WASTEWATER LINE A
STA. 0+50.00 - STA. 3+00.00
SCALE:
1" = 40' (HOR.)
1" = 4' (VERT.)

MIGL ENGINEERING AND CONSULTING
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STATE OF TEXAS
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JANUARY 22, 2024

NO.	DATE	REVISIONS	RECOM'TD

CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: WASTEWATER LINE PROFILE

PROJECT NO.
0208-002

SHEET NO.
C23
23 OF 30

NOTES:
1. THE EXISTING WATERLINE IS ASBESTOS CONCRETE PER CORR GIS. FOR WATER CONNECTION TO ASBESTOS CONCRETE PIPE, REMOVE THE EXISTING ASBESTOS CONCRETE PIPE TO THE NEAREST BELL. IF THE NEAREST BELL IS LESS THAN THREE FEET FROM THE CONNECTION, THEN REMOVE IT UP TO THE SECOND NEAREST BELL. INSTALL HYMAX2 LONG BODY STAINLESS STEEL COUPLING FROM NEW PIPING TO AC PIPING AT BOTH ENDS.

PROPOSED UTILITY LEGEND

- LOC LOC — LIMITS OF CONSTRUCTION
- W — PROPOSED WATER LINE
- WW — PROPOSED WASTEWATER LINE
- PROPOSED STORMSEWER LINE
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED METER
- PROPOSED MANHOLE
- CO — PROPOSED WASTEWATER CLEANOUT
- PROPOSED GRATE INLET

0 15' 30' 60'
Scale: 1" = 30'

STA. 1+64.70 STORMSEWER LINE A LAT 4
INSTALL:
18" 45° BEND
FL 18" = 812.27

STA. 1+81.95 STORMSEWER LINE A LAT 4
INSTALL:
30" x 30" GRATE INLET
FL 18" (OUT) = 813.48
RIM ELEV. = 819.6

±17 LF 18" HDPE @ 7.00%

UTILITY CROSSING
STA. 5+25.28 WATERLINE A
FL 8" W = 808.75
STA. 1+51.29 STORMSEWER LINE A LAT 4
FL 18" SS = 811.33

STA. 3+82.86 STORMSEWER LINE A
INSTALL:
24" x 24" x 18" WYE
FL 24" = 807.24
FL 18" = 807.74

±12 LF 24" HDPE @ 1.00%

±90 LF 12" HDPE @ 1.00%

±75 LF 24" HDPE @ 1.00%

STA. 1+09.95 STORMSEWER LINE A LAT 3
INSTALL:
30" x 30" GRATE INLET
FL 18" (OUT) = 807.99
RIM ELEV. = 811.7

±10 LF 18" HDPE @ 10.00%

STA. 3+08.21 STORMSEWER LINE A
INSTALL:
24" x 24" x 18" WYE
FL 24" = 806.49
FL 18" = 806.99

±12 LF 24" HDPE @ 1.00%

STA. 2+95.93 STORMSEWER LINE A
INSTALL:
24" 45° BEND
FL 24" = 806.37

±20 LF 24" HDPE @ 1.00%

STA. 2+75.93 STORMSEWER LINE A
INSTALL:
24" 45° BEND
FL 24" = 806.17

STA. 1+66.11 STORMSEWER LINE A
INSTALL:
4' DIA SSMH
FL 24" (IN) = 803.33
FL 24" (IN) = 802.26
FL 36" (OUT) = 802.33
RIM ELEV. = 808.8

STA. 2+01.50 STORMSEWER LINE A LAT 2
INSTALL:
30" x 30" GRATE INLET
FL 18" (OUT) = 804.65
RIM ELEV. = 809.0

±40 LF 18" HDPE @ 4.00%

STA. 1+61.92 STORMSEWER LINE A LAT 2
INSTALL:
30" x 30" GRATE INLET
FL 18" (IN) = 803.07
FL 24" (OUT) = 802.57
RIM ELEV. = 806.4

STA. 4+84.70 STORMSEWER LINE A
INSTALL:
2' x 2' GRATE INLET
FL 12" (OUT) = 809.26
RIM ELEV. = 812.3

STA. 3+94.70 STORMSEWER LINE A
INSTALL:
12" x 24" REDUCER
FL 12" = 808.36

±32 LF 24" HDPE @ 1.00%

STA. 2+44.21 STORMSEWER LINE A
INSTALL:
24" 45° BEND
FL 24" = 805.85

±58 LF 24" HDPE @ 4.00%

±62 LF 24" HDPE @ 0.50%

±20 LF 24" HDPE @ 1.00%

STA. 2+24.21 STORMSEWER LINE A
INSTALL:
24" 45° BEND
FL 24" = 805.65

±14 LF 36" HDPE @ 0.50%

STA. 1+51.97 STORMSEWER LINE A
INSTALL:
30" x 30" x 18" WYE
FL 36" = 802.26

STA. 1+13.44 STORMSEWER LINE A LAT 1
INSTALL:
2' x 2' GRATE INLET
FL 12" (OUT) = 804.48
RIM ELEV. = 808.1

±6 LF 12" HDPE @ 10.00%

±26 LF 36" HDPE @ 0.50%

STA. 1+26.36 STORMSEWER LINE A
INSTALL:
30" x 30" x 12" WYE
FL 12" = 803.13
FL 36" = 802.13

±26 LF 36" HDPE @ 0.50%

STA. 1+07.44 STORMSEWER LINE A LAT 1
INSTALL:
12" 45° BEND
FL 12" = 803.88

±7 LF 12" HDPE @ 10.00%

±60 LF 36" HDPE @ 8.00%

STA. 1+60.22 POND OUTLET
INSTALL:
36" HEADWALL
PER COA STD DETAIL 508S-13
WITH ENERGY DISIPATORS.
FL 36" = 792.04

STA. 1+00.00 STORMSEWER LINE A
CONNECT TO SPLITTER BOX
FL 36" = 802.00

STA. 1+00.00 POND OUTLET
CONNECT TO SPLITTER BOX
FL 36" = 796.86

PROPOSED 15' WATER LINE EASEMENT, DOC. NO.

PROPOSED 15' WATER LINE EASEMENT. DOC. NO.

PROPOSED 15' WW LINE EASEMENT. DOC. NO.

10' BUILDING SETBACK

10' PUBLIC UTILITY EASEMENT PER PLAT

25' BUILDING SETBACK

5' PUBLIC UTILITY EASEMENT PER PLAT

CITY OF ROUND ROCK CALLED 0.75 ACRES VOL. 1429, PG. 462 D.R.W.C.T. ZONED SF-2 MUNICIPAL UTILITY

BLOCK "S" CHISHOLM VALLEY WEST SECTION 5 AMENDED CAB. D , SLD. 120-121 P.R.W.C.T. ZONED SF-2 SINGLE FAMILY

LOT 1 CHISHOLM VALLEY SOUTH SEC. 15 CAB. H , SLD. 186 P.R.T.C.T. ZONED SF-2 RELIGIOUS ASSEMBLY

CHURCH: FREEDOM CHURCH AUSTIN OWNER: THE ASSEMBLIES OF GOD, INC DOC. NO. 2023131940 O.P.R.W.C.T. ZONED SF-2 RELIGIOUS ASSEMBLY

BLOCK "D" CHISHOLM VALLEY SOUTH SECTION 1 CAB. D , SLD. 122-123 P.R.T.C.T. ZONED SF-2 SINGLE FAMILY

BLOCK "D" CHISHOLM VALLEY SOUTH SECTION 3 CAB. E , SLD. 49 P.R.W.C.T. ZONED SF-2

EXISTING CHURCH 9,137 SF 2 STORIES FFE=813.55

LOT 2A REPLAT OF LOT 1, CHISHOLM VALLEY SOUTH SECTION 7 CAB. Z, SLD. 32 P.R.T.C.T. ZONED MF-2 MULTIFAMILY

LOT 1A REPLAT OF LOT 1, CHISHOLM VALLEY SOUTH SECTION 7 CAB. Z, SLD. 32 P.R.T.C.T. ZONED MF-2 MULTIFAMILY

LOT 1 BLOCK "K" CHISHOLM VALLEY SOUTH SECTION 3 CAB. E , SLD. 49 P.R.W.C.T. ZONED SF-2 SINGLE FAMILY

DRY CREEK DRIVE (60' R.O.W.)

60.0' R.O.W.

WASTEWATER MANHOLE 6" PVC (N) FL = 784.2' 6" PVC (W) FL = 784.2' 6" PVC (S) FL = 784.4' 6" PVC (E) FL = 784.1' RIM ELEV = 801.0'

WASTEWATER MANHOLE RIM ELEV = 815.5' UNABLE TO INVERT DUE TO TRAFFIC

WASTEWATER MANHOLE RIM ELEV = 800.8' UNABLE TO INVERT DUE TO TRAFFIC

TBM #1

TBM #2

MIGL ENGINEERING AND CONSULTING
9600 Escarpment Blvd, Suite 745-174
Austin, TX 78749 | 512 750 0440
Texas Registered Engineering Firm F-16967

STATE OF TEXAS KYLE D. DUSK 135951 LICENSED PROFESSIONAL ENGINEER
JANUARY 22, 2024

NO.	DATE	REVISIONS	RECOM'D

CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: STORM SEWER PLAN

PROJECT NO. 0208-002

SHEET NO. C24
24 OF 30

IMAGES: * MIGL.dgn (SPACE.png
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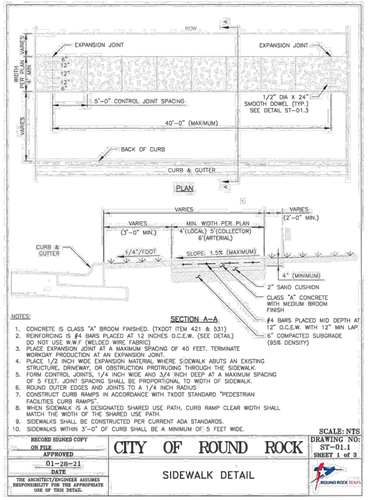
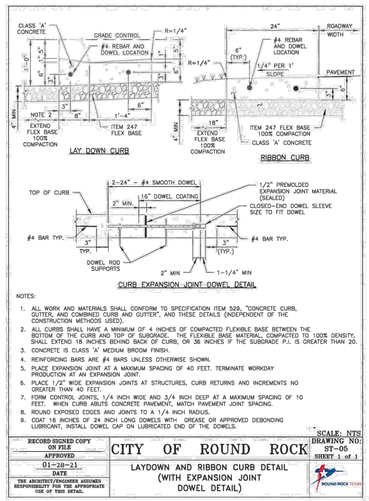


NOTES:
1. CONCRETE IS CLASS "A" BROOM FINISHED. (TXDOT ITEM 421 & 531)
2. REINFORCING IS #4 BARS PLACED AT 12 INCHES O.C.E.W. (SEE DETAIL) DO NOT USE WELDED WIRE FABRIC.
3. CONTROL JOINTS @ A MAXIMUM SPACING OF 40 FEET. TERMINATE WORKDAY PRODUCTION AT AN EXPANSION JOINT.
4. PLACE 1/2 INCH WIDE EXPANSION 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

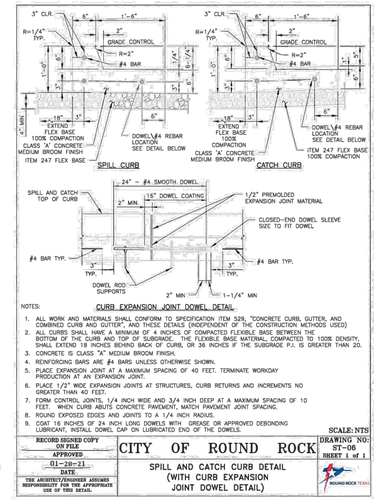
RECORD SIGNED COPY ON FILE	CITY OF ROUND ROCK	DRAWING NO: ST-01.1
APPROVED 01-28-21 DATE	SIDEWALK DETAIL	SHEET 1 of 9
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL.		ROUND ROCK TEXAS



NOTES:
1. ALL WORK AND MATERIALS SHALL CONFORM TO SPECIFICATION ITEM 529, "CONCRETE CURB, GUTTER, AND COMBINED CURB AND GUTTER", AND THESE DETAILS (INDEPENDENT OF THE CONSTRUCTION METHODS USED).
2. ALL CURBS SHALL HAVE A MINIMUM OF 4 INCHES OF COMPACTED FLEXIBLE BASE BETWEEN THE BOTTOM OF THE CURB AND TOP OF SUBGRADE. THE FLEXIBLE BASE MATERIAL, COMPACTED TO 100% DENSITY, SHALL EXTEND 18 INCHES BEHIND BACK OF CURB, OR 36 INCHES IF THE SUBGRADE P.I. IS GREATER THAN 20.
3. CONCRETE IS CLASS "A" MEDIUM BROOM FINISH.
4. REINFORCING BARS ARE #4 BARS UNLESS OTHERWISE SHOWN.
5. PLACE EXPANSION JOINT AT A MAXIMUM SPACING OF 40 FEET. TERMINATE WORKDAY PRODUCTION AT AN EXPANSION JOINT.
6. PLACE 1/2" WIDE EXPANSION JOINTS AT STRUCTURES, CURB RETURNS AND INCREMENTS NO GREATER THAN 40 FEET.
7. FORM CONTROL JOINTS, 1/4 INCH WIDE AND 3/4 INCH DEEP AT A MAXIMUM SPACING OF 10 FEET. WHEN CURB ABUTS CONCRETE PAVEMENT, MATCH PAVEMENT JOINT SPACING.
8. ROUND EXPOSED EDGES AND JOINTS TO A 1/4 INCH RADIUS.
9. COAT 18 INCHES OF 24 INCH LONG DOWELS WITH GREASE OR APPROVED DEBONDING LUBRICANT, INSTALL DOWEL CAP ON LUBRICATED END OF THE DOWELS.

SCALE: NTS

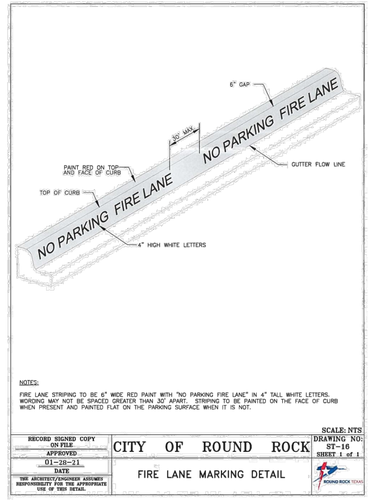
RECORD SIGNED COPY ON FILE	CITY OF ROUND ROCK	DRAWING NO: ST-05
APPROVED 01-28-21 DATE	LAYDOWN AND RIBBON CURB DETAIL (WITH EXPANSION JOINT DOWEL DETAIL)	SHEET 1 of 1
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL.		ROUND ROCK TEXAS



NOTES:
1. ALL WORK AND MATERIALS SHALL CONFORM TO SPECIFICATION ITEM 529, "CONCRETE CURB, GUTTER, AND COMBINED CURB AND GUTTER", AND THESE DETAILS (INDEPENDENT OF THE CONSTRUCTION METHODS USED)
2. ALL CURBS SHALL HAVE A MINIMUM OF 4 INCHES OF COMPACTED FLEXIBLE BASE BETWEEN THE BOTTOM OF THE CURB AND TOP OF SUBGRADE. THE FLEXIBLE BASE MATERIAL, COMPACTED TO 100% DENSITY, SHALL EXTEND 18 INCHES BEHIND BACK OF CURB, OR 36 INCHES IF THE SUBGRADE P.I. IS GREATER THAN 20.
3. CONCRETE IS CLASS "A" MEDIUM BROOM FINISH.
4. REINFORCING BARS ARE #4 BARS UNLESS OTHERWISE SHOWN.
5. PLACE EXPANSION JOINT AT A MAXIMUM SPACING OF 40 FEET. TERMINATE WORKDAY PRODUCTION AT AN EXPANSION JOINT.
6. PLACE 1/2" WIDE EXPANSION JOINTS AT STRUCTURES, CURB RETURNS AND INCREMENTS NO GREATER THAN 40 FEET.
7. FORM CONTROL JOINTS, 1/4 INCH WIDE AND 3/4 INCH DEEP AT A MAXIMUM SPACING OF 10 FEET. WHEN CURB ABUTS CONCRETE PAVEMENT, MATCH PAVEMENT JOINT SPACING.
8. ROUND EXPOSED EDGES AND JOINTS TO A 1/4 INCH RADIUS.
9. COAT 18 INCHES OF 24 INCH LONG DOWELS WITH GREASE OR APPROVED DEBONDING LUBRICANT, INSTALL DOWEL CAP ON LUBRICATED END OF THE DOWELS.

SCALE: NTS

RECORD SIGNED COPY ON FILE	CITY OF ROUND ROCK	DRAWING NO: ST-06
APPROVED 01-28-21 DATE	SPILL AND CATCH CURB DETAIL (WITH CURB EXPANSION JOINT DOWEL DETAIL)	SHEET 1 of 1
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL.		ROUND ROCK TEXAS

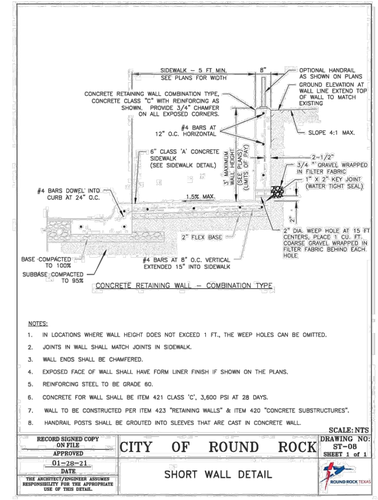


NOTES:

FIRE LANE STRIPING TO BE 6" WIDE RED PAINT WITH "NO PARKING FIRE LANE" 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.

SCALE: NTS

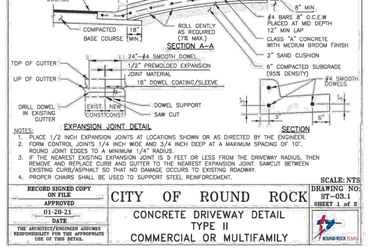
RECORD SIGNED COPY ON FILE	CITY OF ROUND ROCK	DRAWING NO: ST-16
APPROVED 01-28-21 DATE	FIRE LANE MARKING DETAIL	SHEET 1 of 1
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL.		ROUND ROCK TEXAS



NOTES:
1. IN LOCATIONS WHERE WALL HEIGHT DOES NOT EXCEED 1 FT., THE WEEP HOLES CAN BE OMITTED.
2. JOINTS IN WALL SHALL MATCH JOINTS IN SIDEWALK.
3. WALL ENDS SHALL BE CHAMFERED.
4. EXPOSED FACE OF WALL SHALL HAVE FORM LINER FINISH IF SHOWN ON THE PLANS.
5. REINFORCING STEEL TO BE GRADE 60.
6. CONCRETE FOR WALL SHALL BE ITEM 421 CLASS 'C', 3,600 PSI AT 28 DAYS.
7. WALL TO BE CONSTRUCTED PER ITEM 423 "RETAINING WALLS" & ITEM 420 "CONCRETE SUBSTRUCTURES".
8. HANDRAIL POSTS SHALL BE GROUTED INTO SLEEVES THAT ARE CAST IN CONCRETE WALL.

SCALE: NTS

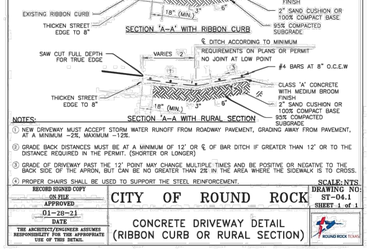
RECORD SIGNED COPY ON FILE	CITY OF ROUND ROCK	DRAWING NO: ST-08
APPROVED 01-28-21 DATE	SHORT WALL DETAIL	SHEET 1 of 1
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL.		ROUND ROCK TEXAS



NOTES:
1. PLACE 1/2 INCH EXPANSION JOINTS AT LOCATIONS SHOWN OR AS DIRECTED BY THE ENGINEER.
2. FORM CONTROL JOINTS 1/4 INCH WIDE AND 3/4 INCH DEEP AT A MAXIMUM SPACING OF 10'. ROUND JOINT EDGES TO A MINIMUM 1/4" RADIUS.
3. WHEN NEAREST EXISTING EXPANSION JOINT IS 15 FEET OR LESS FROM THE DRIVEWAY RADIUS, THEN REMOVE CONCRETE TO NEAREST EXPANSION JOINT. SAWCUT BETWEEN EXISTING CURB/ASPHALT SO THAT NO DAMAGE OCCURS TO EXISTING ROADWAY.
4. PROPER CHAIRS SHALL BE USED TO SUPPORT STEEL REINFORCEMENT.

SCALE: NTS

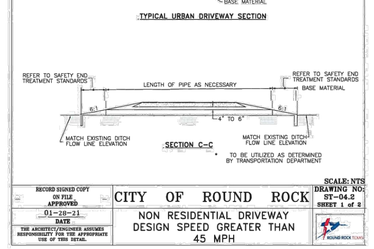
RECORD SIGNED COPY ON FILE	CITY OF ROUND ROCK	DRAWING NO: ST-03.1
APPROVED 01-28-21 DATE	CONCRETE DRIVEWAY DETAIL TYPE II COMMERCIAL OR MULTIFAMILY	SHEET 1 of 2
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL.		ROUND ROCK TEXAS



NOTES:
1. NEW DRIVEWAY MUST ACCEPT STORM WATER RUNOFF FROM ROADWAY PAVEMENT, GRADING AWAY FROM PAVEMENT, AT A MINIMUM -2%, MAXIMUM -12%.
2. GRADE BACK DISTANCES MUST BE AT A MINIMUM OF 12' OR ¢ OF BAR DITCH IF GREATER THAN 12' OR TO THE DISTANCE REQUIRED IN THE PERMIT. (SHORTER OR LONGER)
3. GRADE OF DRIVEWAY PAST THE 12' POINT MAY CHANGE MULTIPLE TIMES AND BE POSITIVE OR NEGATIVE TO THE BACK SIDE OF THE APRON, BUT CAN BE NO GREATER THAN 12% IN THE AREA WHERE THE SIDEWALK IS TO CROSS.
4. PROPER CHAIRS SHALL BE USED TO SUPPORT THE STEEL REINFORCEMENT.

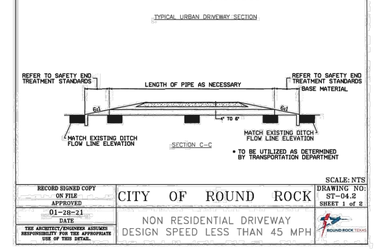
SCALE: NTS

RECORD SIGNED COPY ON FILE	CITY OF ROUND ROCK	DRAWING NO: ST-03.2
APPROVED 01-28-21 DATE	CONCRETE DRIVEWAY DETAIL (RIBBON CURB OR RURAL SECTION)	SHEET 1 of 1
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL.		ROUND ROCK TEXAS



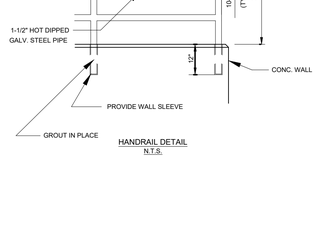
SCALE: NTS

RECORD SIGNED COPY ON FILE	CITY OF ROUND ROCK	DRAWING NO: ST-04.1
APPROVED 01-28-21 DATE	NON RESIDENTIAL DRIVEWAY DESIGN SPEED GREATER THAN 45 MPH	SHEET 1 of 2
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL.		ROUND ROCK TEXAS

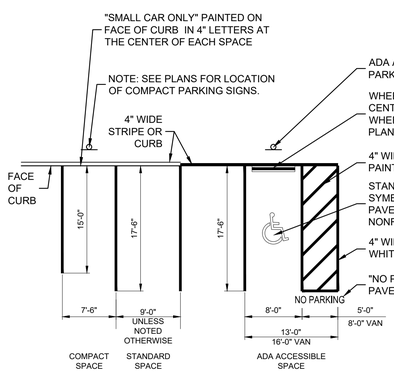


SCALE: NTS

RECORD SIGNED COPY ON FILE	CITY OF ROUND ROCK	DRAWING NO: ST-04.2
APPROVED 01-28-21 DATE	NON RESIDENTIAL DRIVEWAY DESIGN SPEED LESS THAN 45 MPH	SHEET 1 of 2
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL.		ROUND ROCK TEXAS

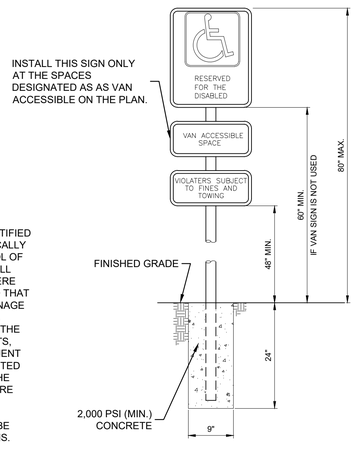


HANDRAIL DETAIL
N.T.S.



TYPICAL PARKING SPACE LAYOUT
N.T.S.

NOTES:
1. ACCESSIBLE PARKING SPACES SHALL BE IDENTIFIED AND RESERVED FOR THE DISABLED BY VERTICALLY MOUNTED SIGNS INCORPORATING THE SYMBOL OF ACCESSIBILITY AND PLACED SO THAT THEY WILL NOT BE OBSCURED BY PARKED VEHICLES. THERE SHALL BE A SUFFICIENT NUMBER OF SIGNS SO THAT EACH SPACE IS CLEARLY IDENTIFIED. THE SIGNAGE SHALL BE SUCH SIZE THAT IS LEGIBLE FROM A DISTANCE THAT WOULD BE REASONABLE FOR THE CONDITION. SIGNS MAY BE MOUNTED ON POSTS, WALL, FENCES, COLUMNS, OR OTHER PERMANENT VERTICAL SURFACES. THEY SHOULD BE MOUNTED BETWEEN 48 INCHES AND 80 INCHES ABOVE THE GROUND OR FLOOR SURFACE UNLESS THEY ARE PART OF AN ACCESSIBLE ROUTE.
2. WHERE NOTED ON THE DRAWINGS-SIGN MAY BE MOUNTED ON A WALL-USING SAME DIMENSIONS.
3. SIGNS AND POSTS FOR HADICAPPED SHALL BE PAINTED GREEN, BACK AND FRONT, WITH WHITE LETTERING.



ACCESSIBLE PARKING SIGNAGE
N.T.S.

ADA/TAS DESIGN - GENERAL

THE CONTRACTOR IS FULLY RESPONSIBLE FOR CONSTRUCTION OF SIDEWALKS, LANDINGS, PORCHES, RAMPS & PARKING SPACES THAT MEET ADA/TAS REQUIREMENTS. THE CONTRACTOR SHALL HAVE FULL KNOWLEDGE OF THE DETAILS ON THESE PLANS AND OF ADA/TAS REGULATIONS. SHOULD THE CONTRACTOR FIND AN ELEVATION OR CONDITION THAT IS DIFFERENT THAN SHOWN ON THE PLANS, IT IS THE CONTRACTORS FINAL RESPONSIBILITY TO CONTACT THE CIVIL DESIGNER AND WORK OUT A DESIGN THAT MEETS ADA & TAS, PRIOR TO CONSTRUCTION, NOT AFTER THE WORK IS COMPLETED.

ADA SIDEWALK RAMP SLOPES

DETERMINE THE LENGTH OF A RAMP BY CHECKING THE ELEVATIONS AT THE TOP AND BOTTOM ELEVATION OF THE RAMPS. THE DESIGN SHALL BE FOR A RUNNING SLOPE OF 8.3%

ADA CURB RAMP SLOPES

THE DESIGN SHALL BE FOR A RAMP SLOPE OF 8.3%. IT IS IMPOSSIBLE TO HAVE A 6' LONG RAMP WITHOUT THE TOP AND BOTTOM OF RAMP BEING NO MORE THAN 6" DIFFERENCE IN ELEVATION. DETERMINE THE LENGTH BY CHECKING THE TOP AND BOTTOM ELEVATIONS OF THE RAMP.

ADA HANDICAP PARKING SPACES

NO SLOPE WITHIN A PARKING SPACE OR A STRIPED AISLE SHALL EXCEED 2% IN EITHER DIRECTION.

ADA CROSSWALKS, SIDEWALKS, AND ACCESSIBLE ROUTES

NO CROSS SLOPE SHALL EXCEED 2%. NO RUNNING SLOPE SHALL EXCEED 5%.

MAKER: \\MIGL-SVR\JOBS\FREEDOM CHURCH\DRAWINGS\C25_DETAILS.dwg
MAKE: 1/29/2024 10:47:29 AM

MIGL ENGINEERING AND CONSULTING
9600 Escarpment Blvd Suite 745-174
Austin, TX 78749 | 512 750 0440
Texas Registered Engineering Firm F-16967

STATE OF TEXAS
KYLE J. DUSIK
135951
LICENSED PROFESSIONAL ENGINEER
JANUARY 22, 2024

NO.	DATE	REVISIONS
		RECOM'D

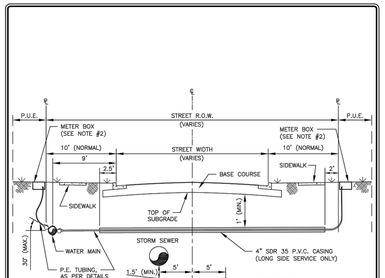
CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: DETAILS (1 OF 3)

PROJECT NO. 0208-002

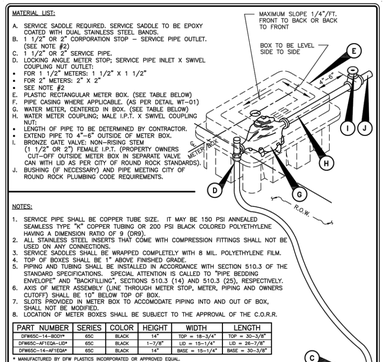
SHEET NO. C25
25 OF 30



NOTES:

1. REFER TO "STANDARD INSTALLATION DETAIL FOR ONE OR TWO METERS" FOR SERVICE SPECIFICS.
2. METER BOXES SHALL BE SET AS CLOSE TO R.O.W. (℄) AS POSSIBLE, WITH NO PART OF BOX WITHIN R.O.W. METER BOXES SHALL BE LEVEL FROM SIDE TO SIDE AND NO MORE THAN 1/4"/FT. SLOPE FROM FRONT TO BACK (OR BACK TO FRONT). GRADING IN P.U.E. AROUND METER BOX SHALL BE 3:1 MAXIMUM AND SHALL BLEND TO OTHER UTILITY APPURTENANCES WITHOUT ABRUPT ELEVATION CHANGES.

RECORD SIGNED COPY ON FILE AT UARS DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WT-01
APPROVED 03-01-18 DATE	WATER SERVICE CASING DETAIL	ROUND ROCK TEXAS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



MATERIAL LIST:

A. SERVICE SADDLE REQUIRED. SERVICE SADDLE TO BE EPOXY COATED WITH DUAL STAINLESS STEEL BANDS.
B. 1 1/2" OR 2" CORPORATION STOP – SERVICE PIPE OUTLET. (SEE NOTE #2)
C. 1 1/2" OR 2" SERVICE PIPE.
D. LOCKING ANGLE METER STOP; SERVICE PIPE INLET X SWIVEL COUPLING NUT OUTLET.
   - FOR 1 1/2" METERS: 1 1/2" X 1 1/2"
   - FOR 2" METERS: 2" X 2"
   - SEE NOTE #3.
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.
   - LENGTH OF PIPE TO BE DETERMINED BY CONTRACTOR.
   - EXTEND PIPE TO 4"–6" OUTSIDE OF METER BOX.
I. BRONZE GATE VALVE; NON–RISING STEM (1 1/2" OR 2") 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. BUSHING (IF NECESSARY) AND PIPE MEETING CITY OF ROUND ROCK PLUMBING CODE REQUIREMENTS.

NOTES:

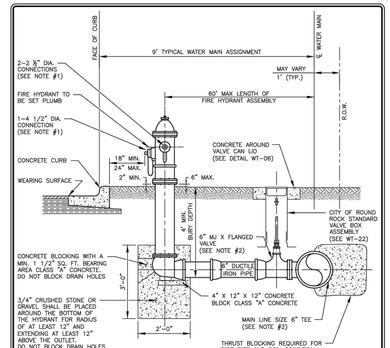
1. SERVICE PIPE SHALL BE COPPER TUBE SIZE. IT MAY BE 150 PSI ANNEALED SEAMLESS TYPE "K" COPPER TUBING OR 200 PSI BLACK COLORED POLYETHYLENE HAVING A DIMENSION RATIO OF 9 (DR9).
2. ALL STAINLESS STEEL INSERTS THAT COME WITH COMPRESSION FITTINGS SHALL NOT BE USED ON ANY CONNECTIONS.
3. ALL METER BOXES 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 ACCOMODATE 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
DFB650-14-BODY*	650	BLACK	14"	TOP = 18–3/4"	TOP = 30–3/8"
DFB650-14*LID-LOK*	650	BLACK	1–7/8"	LID = 15–1/4"	LID = 36–7/8"
DFB650-14-MYTEDM*	650	BLACK	14"	BASE = 15–1/4"	BASE = 30–3/8"

* MANUFACTURED BY DFW PLASTICS INCORPORATED OR APPROVED EQUAL.

METER SIZE	LENGTH
1–1/2"	13"
2"	13"

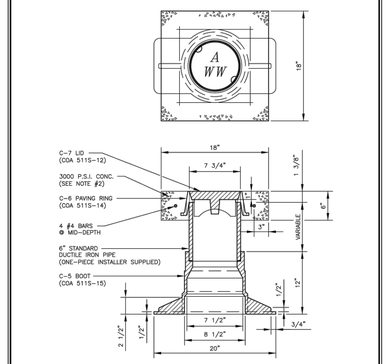
RECORD SIGNED COPY ON FILE AT UARS DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WT–03
APPROVED 03–01–18 DATE	SINGLE 1–1/2" OR 2" WATER METER DETAIL	ROUND ROCK TEXAS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTES:

1. THREADS ON OUTLET NOZZLES SHALL BE NATIONAL STANDARD THREAD.
2. TEE MAY HAVE FLANGED OUTLET FOR MJ X FLANGED GATE VALVE OR, ANCHOR (SWIVEL) TEE MAY BE USED WITH MJ X MJ GATE VALVE.
3. A BLUE REFLECTIVE DELINEATOR OF TYPE APPROVED BY THE ENGINEER SHALL BE PLACED 2 TO 3 FEET OFFSET FROM THE CENTERLINE OF PAVED STREETS OR PAVED ACCESS WAYS, ON THE SIDE OF AND IN LINE WITH THE NEWLY INSTALLED FIRE HYDRANTS.
4. ALL VALVES AND HYDRANT BARRELS SHALL BE WRAPPED IN 8 MM POLY.
5. FIRE HYDRANT LEADS SHALL NOT CONTAIN ANY HORIZONTAL OR VERTICAL BENDS EXCEPT FOR WHAT IS SHOWN IN THE DETAIL.
6. FIRE HYDRANT LEAD AND ASSEMBLY SHALL BE RESTRAINED AND THRUST BLOCKED.

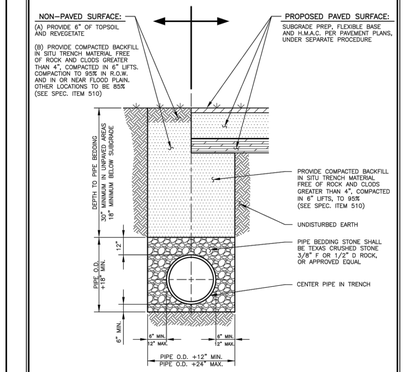
RECORD SIGNED COPY ON FILE AT UARS DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WT–05
APPROVED 03–01–18 DATE	FIRE HYDRANT ASSEMBLY DETAIL	ROUND ROCK TEXAS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



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 UARS DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WT–06
APPROVED 03–01–18 DATE	VALVE BOX ASSEMBLY DETAIL	ROUND ROCK TEXAS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		



NOTE:

1. ALL TRENCHING AND TRENCH SAFETY SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

RECORD SIGNED COPY ON FILE AT UARS DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WT–08
APPROVED 03–01–18 DATE	WATERLINE 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)		

NOTES:

1. ALL VALVES AND VALVE CANS SHALL BE ACCESSIBLE FOR OPERATION ONCE THE NEW WATERLINE IS PUT INTO SERVICE. BURYING LINE VALVES IS PROHIBITED.
2. ALL VALVE LOCATIONS SHALL BE APPROPRIATELY MARKED "V" ON FACE OF CURB.

RECORD SIGNED COPY ON FILE AT UARS DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WT–11
APPROVED 03–01–18 DATE	VERTICAL VALVE INSTALLATION 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 UARS DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WT–22
APPROVED 03–01–18 DATE	GATE VALVE DETAIL	ROUND ROCK TEXAS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		

THRUST BLOCK DESIGN AS FOLLOWS:

A. PRESSURE OF 150 P.S.I. (ACTUAL IF HIGHER) + 50% SURGE ALLOWANCE
B. MAXIMUM SOIL BEARING:

SOIL TYPE	PRESSURE
LIMESTONE	4000 LBS./SQ. FT.
UNDISTURBED SOIL, CALICHE	2000 LBS./SQ. FT.
LOOSE OR SPONGY SOIL	1500 LBS./SQ. FT.

C. ALL PIPE & FITTING TO BE WRAPPED WITH 40 PLASTIC MIL.

RECORD SIGNED COPY ON FILE AT UARS DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WT–25
APPROVED 03–01–18 DATE	THRUST BLOCK DETAIL	ROUND ROCK TEXAS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		

MIGL ENGINEERING AND CONSULTING
9600 Escarpment Blvd Suite 745-174
Austin, TX 78749 | 512 750 0440
Texas Registered Engineering Firm F-16967

STATE OF TEXAS
KYLE D. DUNK
135951
LICENSED
PROFESSIONAL ENGINEER
JANUARY 22, 2024

NO.	DATE	REVISIONS
		RECOM'D

CLIENT: FREEDOM CHURCH

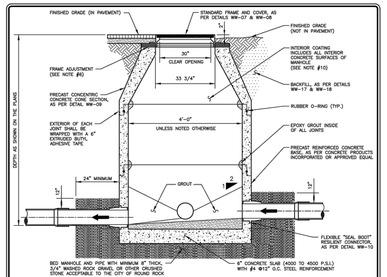
PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: DETAILS (2 OF 3)

PROJECT NO. 0208-002

SHEET NO. C26
26 OF 30

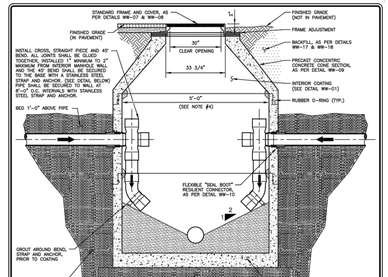
IMAGES: *.WMS;LOGO*;IMAGE.EPS
XREFS: *.DWG;*.DGN;*.DWG;*.dwg

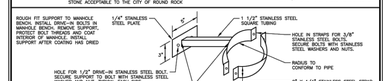


NOTES:

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.B.S. OR P.V.C. PIPE TO 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:
APPROVED 03-01-18 DATE	PRECAST CONCRETE WASTEWATER MANHOLE DETAIL	WW-01
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS

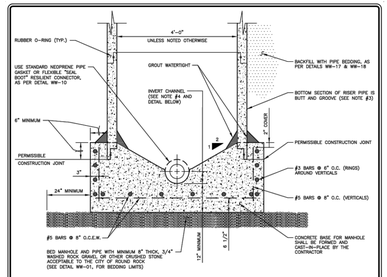




NOTES:

1. SEE NOTES #2 THROUGH #10 ON DETAIL WW-01.
2. DROP SERVICES SHALL BE REQUIRED WHENEVER AN INFLUENT SEWER SERVICE IS LOCATED MORE THAN TWO FEET (2'-0") ABOVE THE MAIN INVERT CHANNEL.
3. WHEN P.V.C. PIPE IS USED IN SANITARY SEWER LINES, SOLVENT TYPE JOINT P.V.C. FITTINGS TO BE UTILIZED IN THE DROP ASSEMBLY ONLY. FITTINGS TO BE P.V.C. SCH-35 WITH A TWO PART WATER RESISTANT GLUE AT ALL JOINTS.
4. A 5'-0" MANHOLE IS REQUIRED FOR 1 OR 2 DROP SERVICES. IF THERE ARE MORE THAN 2 DROP SERVICES, A 6'-0" DIAMETER MANHOLE IS REQUIRED.

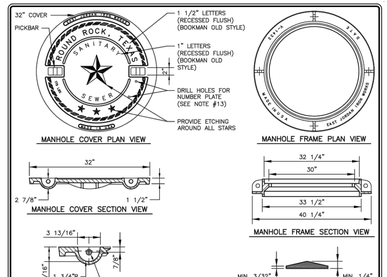
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO:
APPROVED 03-01-18 DATE	PRECAST CONCRETE WASTEWATER MANHOLE WITH DROP SERVICE DETAIL	WW-03
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS



NOTES:

1. CAST-IN-PLACE BASE SHALL BE 4000 TO 4500 P.S.I. CONCRETE, 28 DAY STRENGTH.
2. STEEL SHALL BE GRADE 60.
3. MANHOLE RISER PIPE FURNISHED IN LENGTHS OF ONE (1), TWO (2), THREE (3), FOUR (4) OR SIX (6) FEET AND SHALL BE IN ACCORDANCE WITH A.S.T.M. C478.
4. INVERT CHANNEL SHALL BE PROVIDED THAT AS MUCH AS POSSIBLE, FORMS A SMOOTH CONTINUATION OF INLET AND OUTLET PIPES.
5. BASE SHALL BE PROPERLY FORMED IN THE FIELD WITH WOOD OR OTHER APPROVED FORMS.
6. VERTICAL BARS MAY BE EXTENSIONS OF BOTTOM STEEL OR SEPARATE FROM, BUT TIED TO BOTTOM HORIZONTAL STEEL.

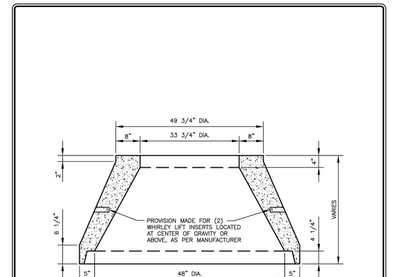
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO:
APPROVED 03-01-18 DATE	CAST-IN-PLACE BASE FOR CONCRETE WASTEWATER MANHOLE DETAIL	WW-04
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS



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-1432-3 (PRODUCT NUMBER: 41432059), AS MANUFACTURED BY EAST JORDAN IRON WORKS INCORPORATED, OR APPROVED EQUAL.
3. MANHOLE FRAME SHALL BE MODEL NUMBER: V-1432 (PRODUCT NUMBER: 41432010), 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-1432 (PRODUCT NUMBER: 41432080), 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 COVER 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. 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.

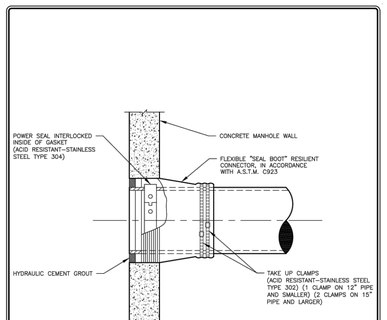
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO:
APPROVED 03-01-18 DATE	NON-BOLTED WASTEWATER MANHOLE COVER AND FRAME DETAIL	WW-08
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS



NOTE:

CONCENTRIC CONCRETE CONE SECTION SHALL BE MANUFACTURED USING 4000 TO 4500 P.S.I. CONCRETE, 28 DAY STRENGTH AND IN ACCORDANCE WITH A.S.T.M. C478, AS MANUFACTURED BY CONCRETE PRODUCTS INCORPORATED, OR APPROVED EQUAL.

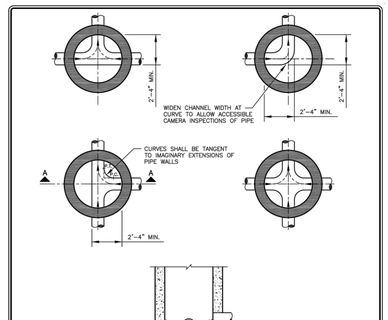
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO:
APPROVED 03-01-18 DATE	PRECAST 48" CONCENTRIC CONCRETE CONE SECTION DETAIL	WW-09
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS



NOTE:

1. FLEXIBLE "SEAL BOOT" RESILIENT CONNECTOR TO BE A MINIMUM OF 12 INCHES (12") FROM A MANHOLE JOINT.

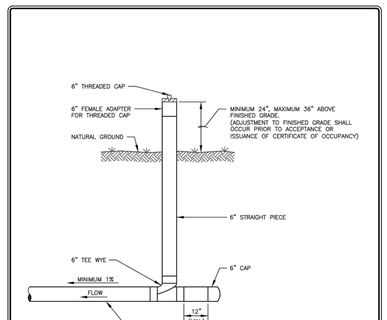
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO:
APPROVED 03-01-18 DATE	FLEXIBLE "SEAL BOOT" RESILIENT CONNECTOR DETAIL	WW-10
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS



NOTES:

1. MINIMUM DROP FROM INLET TO OUTLET OF MANHOLE IS 0.1 FEET AND MAXIMUM DROP IS 2 FEET, UNLESS SPECIAL APPROVAL IS OBTAINED FROM THE CITY OF ROUND ROCK.
2. INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS.
3. SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING FOR SMOOTH FLOW.
4. CHANNELS FOR FUTURE CONSTRUCTIONS, SHALL BE CONSTRUCTED WITH PIPE EXTENDING 3' BEYOND EXTERIOR OF MANHOLE WALL, WITH GLUED PLUG.
5. SLOPE MANHOLE BENCH AT 2:1 SLOPE FROM MANHOLE WALL TO CHANNEL.
6. INVERT CHANNEL SHALL BE A MINIMUM OF 1/2 THE DIAMETER OF THE LARGEST PIPE OR FOUR INCHES (4") DEEP.

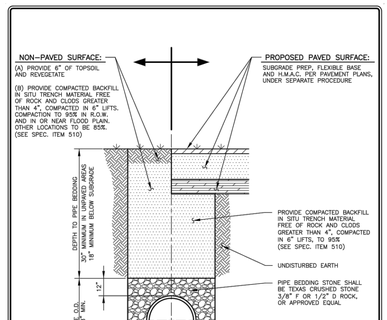
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO:
APPROVED 03-01-18 DATE	WASTEWATER FLOW PATTERNS FOR INVERT CHANNELS DETAIL	WW-11
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS



NOTES:

1. ALL PIPE TO BE SDR 26.
2. ALL FITTINGS TO BE SDR 35 SOLVENT WELD FITTINGS.

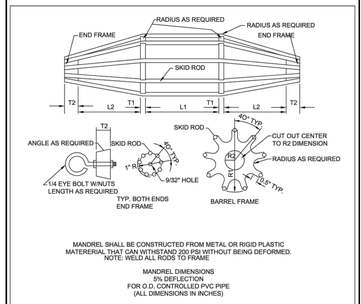
RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO:
APPROVED 03-01-18 DATE	WASTEWATER SERVICE CLEAN-OUT DETAIL (NON-PAVED SURFACE)	WW-14
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS



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:
APPROVED 03-01-18 DATE	WASTEWATER LINE BEDDING AND SURFACE REPAIR DETAIL (NON-PAVED & PROPOSED PAVED SURFACE)	WW-15
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		ROUND ROCK TEXAS



MANDREL SHALL BE CONSTRUCTED FROM METAL OR RIGID PLASTIC MATERERIAL THAT CAN WITHSTAND 200 PSI WITHOUT BEING DEFORMED.
NOTE: WELD ALL RODS TO FRAME

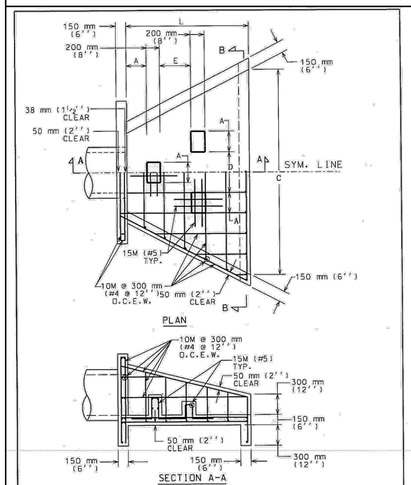
MANDREL DIMENSIONS
5% DEFLECTION
FOR O.D. CONTROLLED PVC PIPE
(ALL DIMENSIONS IN INCHES)

SIZE	TYPE	O.D. AVERAGE	MIN. WALL THICKNESS	L1	L2	R1	R2	T1	T1	ROD DIA.
6"	D3034 SDR35	6.275	0.180	4.50	6	2.81	0.75	0.375	1.0	0.375
8"	D3034 SDR35	8.400	0.240	6.00	6	3.76	1.25	0.375	1.0	0.375
10"	D3034 SDR35	10.500	0.300	7.50	6	4.70	1.50	0.375	1.0	0.375
12"	D3034 SDR26	12.500	0.481	9.00	6	5.50	1.75	0.375	1.0	0.375
15"	D3034 SDR35	15.300	0.437	11.25	6	6.85	2.00	0.375	1.0	0.375
18"	F679 T-1	18.701	0.536	13.50	9	8.37	2.50	0.500	1.5	0.500
21"	F679 T-1	22.047	0.632	15.75	9	9.87	3.00	0.500	1.5	0.500
24"	F679 T-1	24.803	0.711	18.00	9	11.11	3.50	0.500	1.5	0.500
27"	F679 T-1	27.953	0.801	20.25	9	12.52	4.00	0.500	1.5	0.500

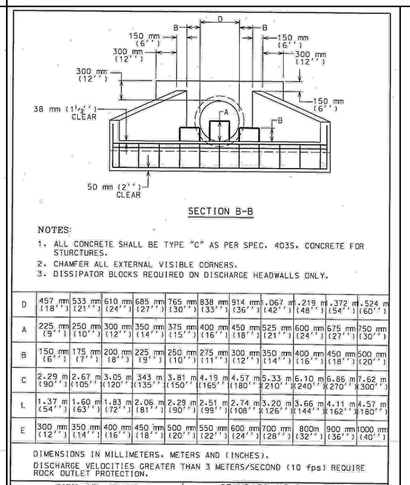
MANDREL DETAIL

NOT TO SCALE

DET 130



CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	STANDARD HEADWALL AND ENERGY DISSIPATORS	STANDARD NO.
Bill Gardner 8/20/07 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	508S-13 1 OF 2



NOTES:

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

D	457 mm (18")	533 mm (21")	610 mm (24")	685 mm (27")	765 mm (30")	838 mm (33")	914 mm (36")	1.067 m (42")	1.219 m (48")	1.372 m (54")	1.524 m (60")	
A	225 mm (9")	250 mm (10")	300 mm (12")	350 mm (14")	375 mm (15")	400 mm (16")	450 mm (18")	525 mm (21")	600 mm (24")	675 mm (27")	750 mm (30")	
B	150 mm (6")	175 mm (7")	200 mm (8")	225 mm (9")	250 mm (10")	275 mm (11")	300 mm (12")	350 mm (14")	400 mm (16")	450 mm (18")	500 mm (20")	
C	2.29 m (90")	2.67 m (105")	3.05 m (120")	343 m (135")	3.81 m (150")	4.19 m (165")	4.57 m (180")	5.33 m (210")	6.10 m (240")	6.86 m (270")	7.62 m (300")	
L	1.37 m (54")	1.60 m (63")	1.83 m (72")	2.06 m (81")	2.29 m (90")	2.51 m (99")	2.74 m (108")	3.20 m (126")	3.66 m (144")	4.11 m (162")	4.57 m (180")	
E	300 mm (12")	350 mm (14")	400 mm (16")	450 mm (18")	500 mm (20")	550 mm (22")	600 mm (24")	700 mm (28")	800m (32")	900 mm (36")	1000 mm (40")	

DIMENSIONS IN MILLIMETERS, METERS AND (INCHES).
DISCHARGE VELOCITIES GREATER THAN 3 METERS/SECOND (10 fps) REQUIRE ROCK OUTLET PROTECTION.

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	STANDARD HEADWALL AND ENERGY DISSIPATORS	STANDARD NO.
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IMAGES: "MCCLOSKEY SPACER.DWG"
XREF'S: "GRADING-PLAN.dwg"

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STATE OF TEXAS
KYLE J. DUSIK
135951
LICENSED PROFESSIONAL ENGINEER

JANUARY 22, 2024

NO.	DATE	REVISIONS	RECOM'D

CLIENT: FREEDOM CHURCH

PROJECT: FREEDOM CHURCH
2330 DRY CREEK DRIVE
ROUND ROCK, TEXAS 78681

SHEET TITLE: DETAILS (3 OF 3)

PROJECT NO. 0208-002

SHEET NO. C27
27 OF 30