Water Pollution Abatement Plan:

Hope Center Church
4545 N Loop 1604 W
San Antonio, TX 78249

PREPARED BY:

FELUX ENGINEERING

July 2025
Firm Number 25020

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: Hope Center Church						**2. Regulated Entity No.:**			
3. Customer Name: Hope Center Church Inc						**4. Customer No.:**			
5. Project Type: **(Please circle/check one)**	(New)		Modification			Extension		Exception	
6. Plan Type: **(Please circle/check one)**	(WPAP)	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		(Non-residential)			**8. Site (acres):**		8.499	
9. Application Fee:	$5,000		**10. Permanent BMP(s):**			Batch Detention/Detention Pond			
11. SCS (Linear Ft.):	0		**12. AST/UST (No. Tanks):**			0			
13. County:	Bexar		**14. Watershed:**			Upper SAR Watershed			

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.

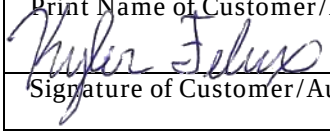
Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	__	__	__
Region (1 req.)	__	__	__
County(ies)	__	__	__
Groundwater Conservation District(s)	__Edwards Aquifer Authority __Barton Springs/ Edwards Aquifer __Hays Trinity __Plum Creek	__Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	__Austin __Buda __Dripping Springs __Kyle __Mountain City __San Marcos __Wimberley __Woodcreek	__Austin __Bee Cave __Pflugerville __Rollingwood __Round Rock __Sunset Valley __West Lake Hills	__Austin __Cedar Park __Florence __Georgetown __Jerrell __Leander __Liberty Hill __Pflugerville __Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	__	__	__	__	__
Region (1 req.)	__	__	__	__	__
County(ies)	__	__	__	__	__
Groundwater Conservation District(s)	X 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 X San Antonio (SAWS) __Shavano Park	__Bulverde __Fair Oaks Ranch __Garden Ridge __New Braunfels __Schertz	NA	__San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review.

Kyler Felux

Print Name of Customer/Authorized Agent



7-22-2025

Signature of Customer/Authorized Agent Date

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

General Information Form

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.

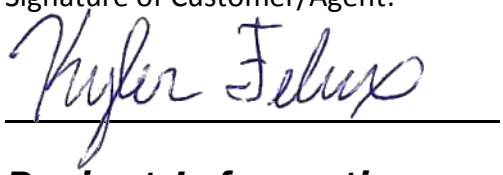
Signature

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: Kyler Felux

Date: 7/22/2025

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Hope Center Church
2. County: Bexar
3. Stream Basin: Olmos Creek
4. Groundwater Conservation District (If applicable): Edwards Aquifer Authority
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

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

7. Customer (Applicant):

Contact Person: Budde Rule
Entity: Hope Center Church
Mailing Address: 4545 N Loop 1604 W
City, State: San Antonio, Texas Zip: 78249
Telephone: 210-842-8686 FAX: _____
Email Address: budde54@yahoo.com

8. Agent/Representative (If any):

Contact Person: Kyler Felux
Entity: Felux Engineering
Mailing Address: 400 N. Storts St.
City, State: Poth, Texas Zip: 78147
Telephone: 210-818-3340 FAX: _____
Email Address: feluxeng@gmail.com

9. Project Location:

☒ The project site is located inside the city limits of San Antonio
☐ 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 project is located at the address 4545 N Loop 1604 W, San Antonio, TX 78249. The property takes access off of Loop 1604 and is behind the commercial retail spaces directly off of Loop 1604.

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: 8/11/2025

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

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

15. Existing project site conditions are noted below:

- ☒ Existing commercial site
- ☐ Existing industrial site
- ☐ Existing residential site
- ☐ Existing paved and/or unpaved roads
- ☐ Undeveloped (Cleared)
- ☐ Undeveloped (Undisturbed/Uncleared)
- ☐ Other: _____

Prohibited Activities

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

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

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

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

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

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

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

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

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

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

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

Administrative Information

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

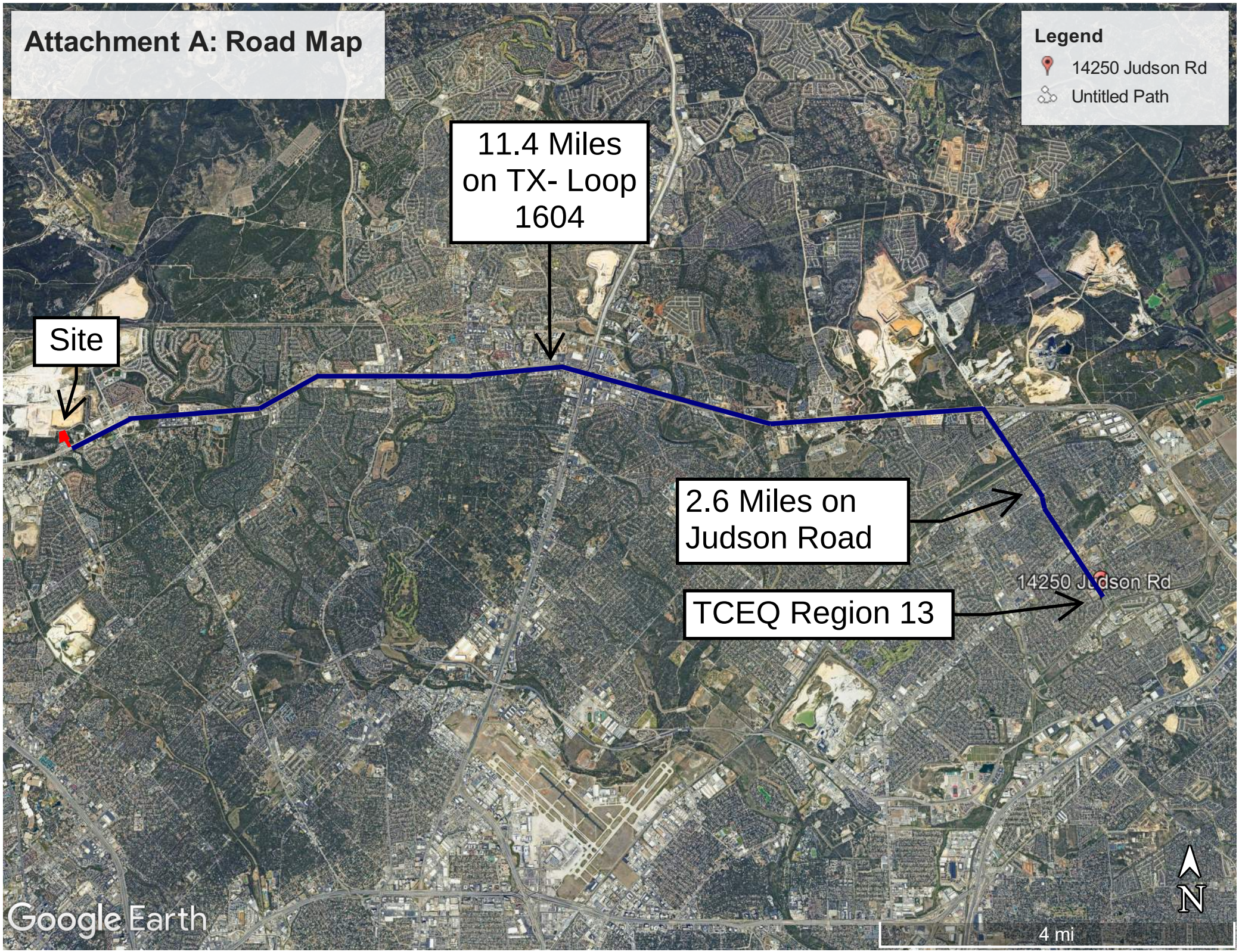
- [X] For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
- [ ] For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
- [ ] For a UST Facility Plan or Modification 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. [X] 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)
- [X] San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

20. [X] 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. [X] 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.

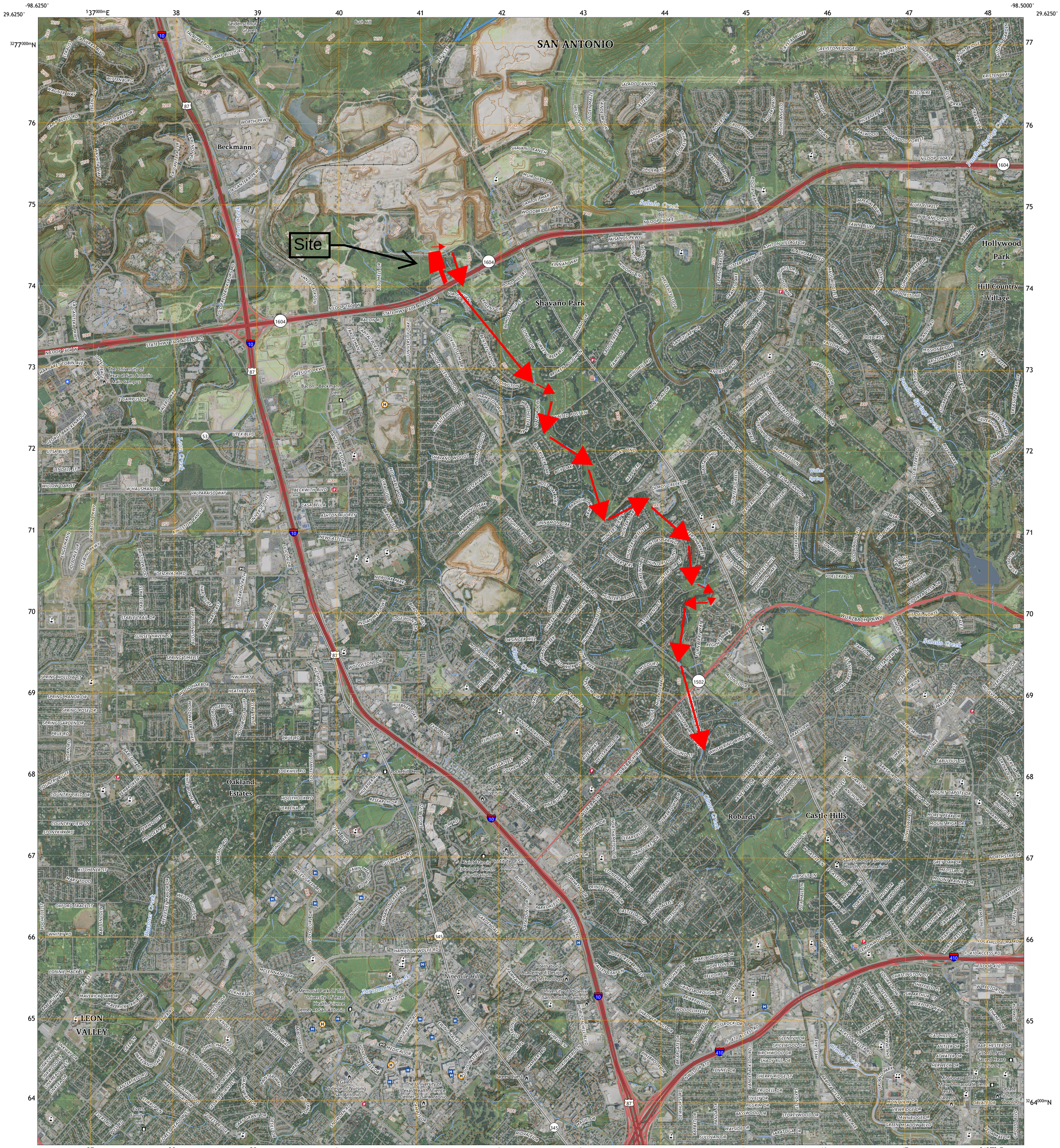

Attachment A: Road Map
Legend
14250 Judson Rd
Untitled Path
11.4 Miles on TX- Loop 1604
Site
2.6 Miles on Judson Road
14250 Judson Rd
TCEQ Region 13
N
Google Earth
4 mi

USGS
science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map
US Topo

CASTLE HILLS QUADRANGLE
TEXAS - BEXAR COUNTY
7.5-MINUTE SERIES



-98.6250° 29.6250° -98.5000° 29.5000°

$^{5}37^{000m}$E 38 39 40 41 42 43 44 45 46 47 $^{5}48^{000m}$E

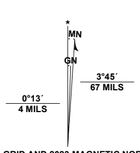
$^{32}77^{000m}$N 76 75 74 73 72 71 70 69 68 67 66 65 $^{32}64^{000m}$N

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 14R

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, September 2016 - November 2016
Roads..... U.S. Census Bureau, 2015 - 2019
Names.....GNIS, 1979 - 2023
Hydrography.....National Hydrography Dataset, 2003 - 2022
Contours.....National Elevation Dataset, 2019
Boundaries.....Multiple sources; see metadata file 2020 - 2022

Wetlands.....FWS National Wetlands Inventory Not Available



UTM GRID AND 2023 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000 - m Square ID
NT
Grid Zone Designation
14R

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard.

QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

ADJOINING QUADRANGLES

1 Van Raub
2 Camp Bullis
3 Bulverde
4 Helotes
5 Longhorn
6 Culebra Hill
7 San Antonio West
8 San Antonio East

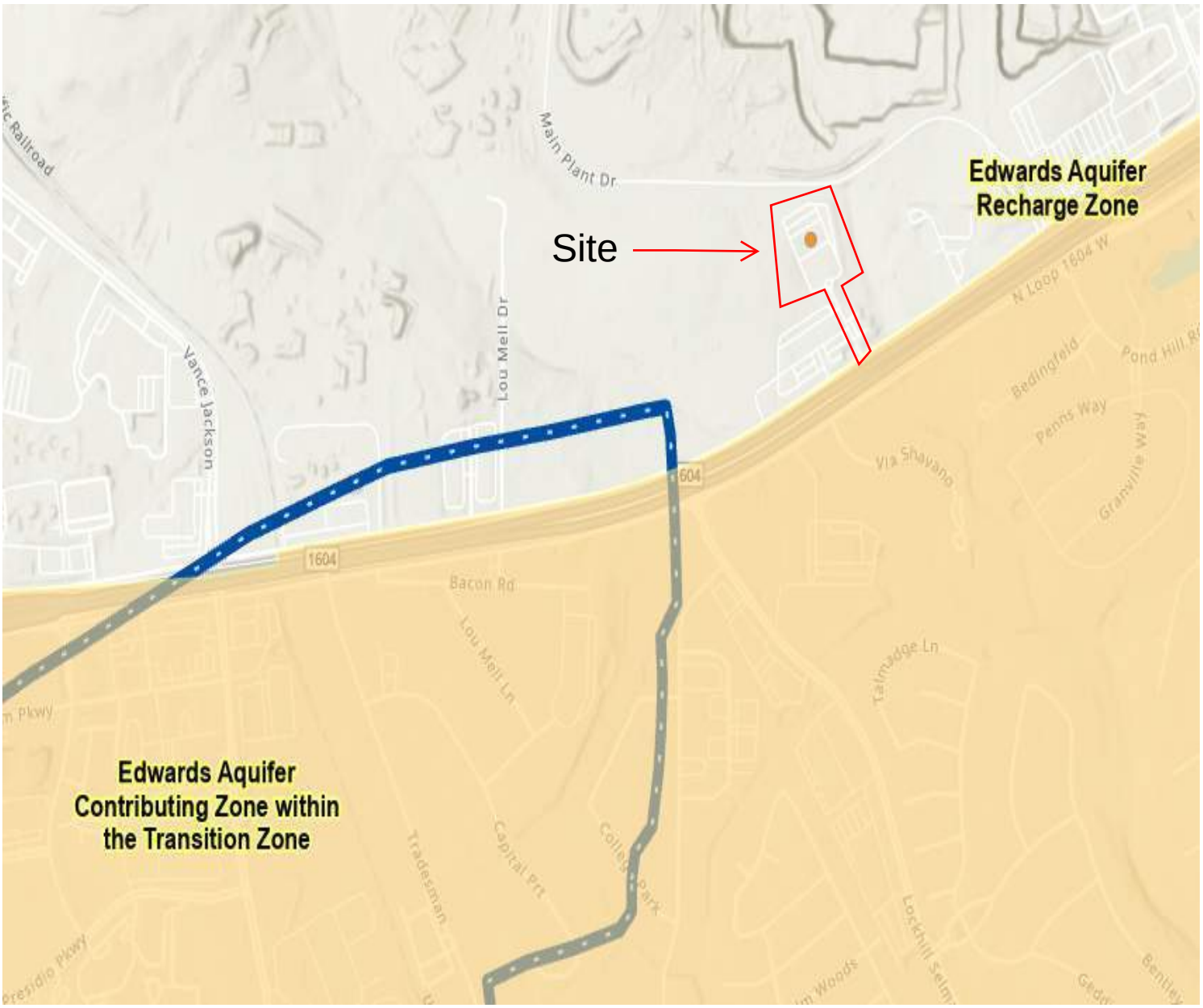
ROAD CLASSIFICATION

Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

CASTLE HILLS, TX
2023

NSN, 7643016395432
NGA REF NO. USGSX24K7582

Attachment B:
USGS/Edwards Recharge Zone Map



General Information Form

Attachment C

Project Description

Currently, the site is developed as an existing church including a building, parking facilities, playground with open spaces, trees, and an existing water quality pond, totaling approximately 8.499 acres. The site is located on the north side of San Antonio, north of Loop 1604 between Lockhill Selma Road and NW Military Highway. The site is located in the Edwards Aquifer Recharge Zone and within the city limits of San Antonio.

The site has had a previous Water Pollution Abatement Plan completed, Castle Hills Pentecostal Church, Project No. 1208, on May 4, 1999. The site currently has 4.60 acres of existing impervious cover.

Drainage for the site goes from the northwest to the southeast. Offsite areas include natural range land that drains to the site. As part of the platting process through the City of San Antonio, all offsite drainage will be diverted around the site, avoiding proposed BMPs.

The proposed development will be an additional building with associated parking and utilities. The existing septic system will be taken off line and connected to the public system. Portions of the existing asphalt will be demolished for utility installations but will be replaced to match existing conditions. Other miscellaneous demolitions will include parking islands, curbs, playground, and several other small recreational features. The proposed BMP will be a batch detention pond for TSS removal. The water quality volume required per the TCEQ worksheet is approximately 3,504 cubic feet. The water quality volume provided for the site is 3,534 cubic feet and will be detained for 12 hours and released over 48 hours as described in TCEQ RG-348. Detention will be provided to mitigate the increase in runoff.

Geologic Assessment

Hope Center Church
4545 N Loop 1604 W
San Antonio, Bexar County, Texas 78249

Prepared For

Felux Engineering
PO Box 964
Poth, Texas 78147

May 12, 2025

UES
14731 Pebble Bend Dr
Houston, Texas, 77068
281.580.8892 | TeamUES.com

At UES, we are experts in the areas of environmental and earth sciences, sustainable infrastructure solutions, and geophysical technologies. Our nationwide network of nearly 4,000 engineers and technical professionals identify and solve complex engineering and construction challenges by providing specialized engineering, environmental, testing and inspection services. We strive to serve as trusted partners, providing our clients with innovative, technology-based solutions.

UES has engaged a third-party environmental firm, SQ Environmental, LLC, to conduct a Geologic Assessment on the subject property. The following activities were completed as part of the Geologic Assessment to investigate the property for the presence of geologic and manmade features, and to identify potential pathways for contaminant movement to the Edwards Aquifer, pursuant to Texas rules for regulated activities within the Recharge Zone (30 Texas Administrative Code [TAC] §213). The Geologic Assessment included evaluating the property for the potential presence of the following features:

- Bedrock
- Caves
- Faults
- Water wells
- Streams or springs
- Fractures or solution zones

Based on the Geologic Assessment, no sensitive features, with the exception of a non-karst closed depression (detention pond), were identified at ground surface on the subject property. If potentially sensitive geologic features are encountered during development activities, work should stop immediately, and the feature be investigated by a Texas registered Professional Geologist. Specifically, if evidence of potential faulting, including offset features, scarps, slickensides, gouge, or breccia, is observed during the development of the proposed detention pond, additional evaluation is recommended. Attached are the detailed findings from this assessment.

Respectfully,

Leah Parker
Due Diligence Manager
Environmental Services – Texas Region

UES
Texas Registered Geoscience Firm No. 50041
Texas Registered Engineering Firm No. F-2430

ATTACHMENT: GEOLOGIC ASSESSMENT

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

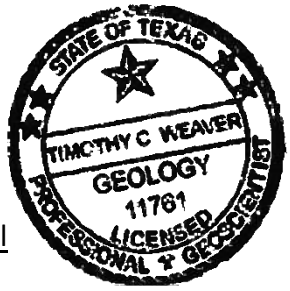
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: Clint Weaver Telephone: 806-773-9326

Date: 5/7/25 Fax: --

Representing: SQ Environmental LLC; F-50464 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: Castle Hills United Pentecostal

Project Information

1. Date(s) Geologic Assessment was performed: 4/20/25
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)
Cb	D	4.17

** 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" = 120'
   Site Geologic Map Scale: 1" = 120'
   Site Soils Map Scale (if more than 1 soil type): 1" = Not Applicable; 1 soil type'

9. Method of collecting positional data:

   ☐ Global Positioning System (GPS) technology.
   ☒ Other method(s). Please describe method of data collection: Google Earth

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.

ATTACHMENT A

GEOLOGIC ASSESSMENT TABLE — **PROJECT NAME:** 4545 N Loop 1604 W, San Antonio, Texas 78249

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	
POND-1	29.597028	-98.573556	CD	5	Soil	50	25	3	--	0	--	--	F	5	10	X			X	Drainage

* DATUM: Google Earth

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

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

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Date 5/7/2025

Sheet 1 of 1

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

ATTACHMENT B

GENERAL STRATIGRAPHIC COLUMN

4545 N Loop 1604 W

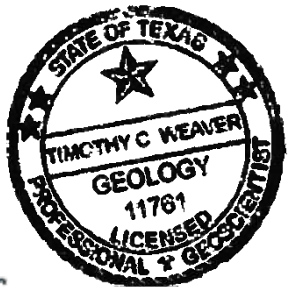
San Antonio, Texas 78249

Lower Cretaceous	Edwards Limestone; 300 - 500 feet thick
	Upper member of Glen Rose Limestone; 400 feet thick
	Lower member of Glen Rose Limestone; 500 feet thick

NOTES:

Source: USGS Bureau of Economic Geology, Texas Geology Mapper.

Shaded blue cell represents the uppermost and observed unit located on the subject property.



Timothy Weaver, P.G. No. 11761 5/7/2025

ATTACHMENT C
SITE GEOLOGIC DESCRIPTION

4545 N Loop 1604 W
San Antonio, Texas 78249

PROPERTY DESCRIPTION

The approximately 8.499-acre subject property is comprised of one Bexar Appraisal District (BAD) parcel located within the city limits of San Antonio, Texas. Based on a review of historical records, the subject property was undeveloped prior to 2000, when an approximately 24,900 square foot (ft^2) church building was constructed, in addition to 136,000 ft^2 of asphalt parking area. A layout of the subject property is shown on **Attachment D-2**.

The property is located within the Edwards Aquifer Recharge Zone (TCEQ, 2025). The Edwards Aquifer Recharge Zone is defined by areas where surface water enters the subsurface through exposed limestone bedrock containing faults, fractures, sinkholes, or caves. The boundary of the Edwards Aquifer Recharge and Transition Zones, relative to the subject property, are shown on **Attachment D-1**.

Two Edwards Aquifer Permit Applications (ID Nos. 13-99020401 and 13-99020401A) were previously submitted and approved in 1999. As discussed below, no sensitive geologic features were observed at ground surface on the subject property, although a non-karst closed depression (stormwater detention pond) is present on the subject property, and an additional detention pond is planned. The layout of the subject property including the locations of the detention ponds are shown on **Attachment D-2**. The completed Geologic Assessment Table is provided as **Attachment A** and includes the existing detention pond.

GEOLOGIC AND SOIL DESCRIPTION

The geology at ground surface on the subject property and in the immediate surrounding area consists of the Edwards Limestone (Ked) of the Lower Cretaceous, which is a unit comprised of fine to coarse grained limestone ranging from 300 ft to 500 ft in thickness. Based on the Geologic Atlas of Texas (San Antonio Sheet), the Edwards Limestone in this area is underlain by the Upper Glen Rose Formation (limestone that is 400 ft thick) and the Lower Glen Rose Formation (limestone that is 500 ft thick), both of the Lower Cretaceous (USGS, 2025). A general stratigraphic column of the units in the area of the subject property is provided as **Attachment B**. A fault, as mapped by the United States Geological Survey (USGS), is located on the southern portion of the subject property. No evidence of this fault, such as offset features, scarps, slickensides, gouge, or breccia, was visible at the ground surface on the subject property during site reconnaissance. A Site Geologic Map the same scale as the Site Plan is provided as **Attachment D-3**.

The onsite soil is Crawford, stony and Bexar soils (Cb), classified as hydrologic soil group D, which is characterized by a very slow infiltration rate (USDA, 2025). The soil profile consists of stony clay up to 34 inches in depth, followed by bedrock between 34 and 50 inches deep. This soil is residuum weathered from limestone that originates on hillslopes.

GEOLOGIC ASSESSMENT SUMMARY

The following activities were completed as part of the Geologic Assessment to investigate the property for the presence of geologic and manmade features, and to identify potential pathways for contaminant movement to the Edwards Aquifer, pursuant to Texas rules for regulated activities within the Recharge Zone (30 Texas Administrative Code [TAC] §213). The Geologic Assessment included evaluating the property for the potential presence of the following features:

- Bedrock
- Caves

- Faults
- Water wells
- Streams or springs
- Fractures or solution zones

Prior to completing the field survey, research was conducted from available literature and online resources, including the United States Geological Survey (USGS) Bureau of Economic Geology Texas Geologic Atlas, United States Department of Agriculture (USDA) Web Soil Survey Mapper, Texas Water Development Board (TWDB) Groundwater Data Viewer, Texas Railroad Commission (RRC) Well Viewer, and Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps. Additionally, historical aerial photographs were also examined. No sensitive geologic or manmade features were identified on the subject property or within 100 ft of the property during the research activities. No portion of the site is located within the 100-year floodplain (FEMA, 2010). No oil/gas wells are located on or adjacent to the site (RRC, 2025). No water wells were identified on or within 500 ft of the subject property (TWDB, 2025).

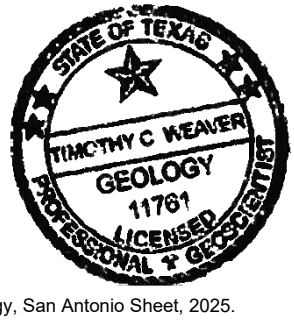
A field survey was conducted on 20 April 2025. The entire subject property was walked on foot to survey the ground surface for the presence of geologic features. No sensitive geologic features, including caves, streams, or springs were observed at ground surface on the subject property during the site assessment. Limestone bedrock outcrops were observed on the eastern, northern, and western portions of the subject property; however, no fractures, solution zones, vugs, or cavities were observed at the ground surface in this bedrock or other areas of the subject property.

No surface water features are present on the subject property. Stormwater that falls on the subject property travels by sheet flow primarily to the southeast via the asphalt parking areas, to an onsite stormwater detention pond in the southeast corner of the property before ultimately traveling to an offsite, concrete drainage easement located adjacent east and south.

The existing detention pond (POND-1) is considered a non-karst closed depression, which is a natural or non-natural topographic depression that is not formed by karst processes and is not bedrock floored, and larger than 6 ft in at least one direction and with 6 inches or more of topographic relief. The detention pond currently onsite is approximately 50 ft by 25 ft by 3 ft deep. The floor of the pond is compacted clay-rich sediment and has a low infiltration rate, as it was intended and constructed in 2000.

Based on the current Site Plan provided as **Attachment D-4**, a building will be constructed in the center of the subject property that is currently cleared and covered with crushed rock. Additional asphalt parking areas will be constructed on the western portion of the subject property, in addition to a second stormwater detention pond near the southern property boundary. As planned, the additional detention pond will also have a compacted clay-rich sediment floor.

Based on the Geologic Assessment, no sensitive features, with the exception of a non-karst closed depression (detention pond), were identified at ground surface on the subject property. If potentially sensitive geologic features are encountered during development activities, work should stop immediately, and the feature be investigated by a Texas registered Professional Geologist. Specifically, if evidence of potential faulting, including offset features, scarps, slickensides, gouge, or breccia, is observed during the development of the proposed detention pond, additional evaluation is recommended.



_____ 5/7/2025

Timothy Weaver, P.G. No. 11761

Sources:
1. TCEQ Edwards Aquifer Viewer, 2025.
2. Texas Water Development Board, 2025.
3. US Department of Agriculture Web Soil Survey, 2025.
4. Railroad Commission of Texas, 2025.
5. USGS Geologic Atlas of Texas - Bureau of Economic Geology, San Antonio Sheet, 2025.

LEGEND

SUBJECT PROPERTY BOUNDARY, APPROXIMATE

SOURCE: GOOGLE EARTH, IMAGERY DATED 1/10/2025

5/7/25

STATE OF TEXAS
TIMOTHY C WEAVER
GEOLOGY
11761
LICENSED
PROFESSIONAL GEOSCIENTIST

N

0 100 200

SCALE IN FEET

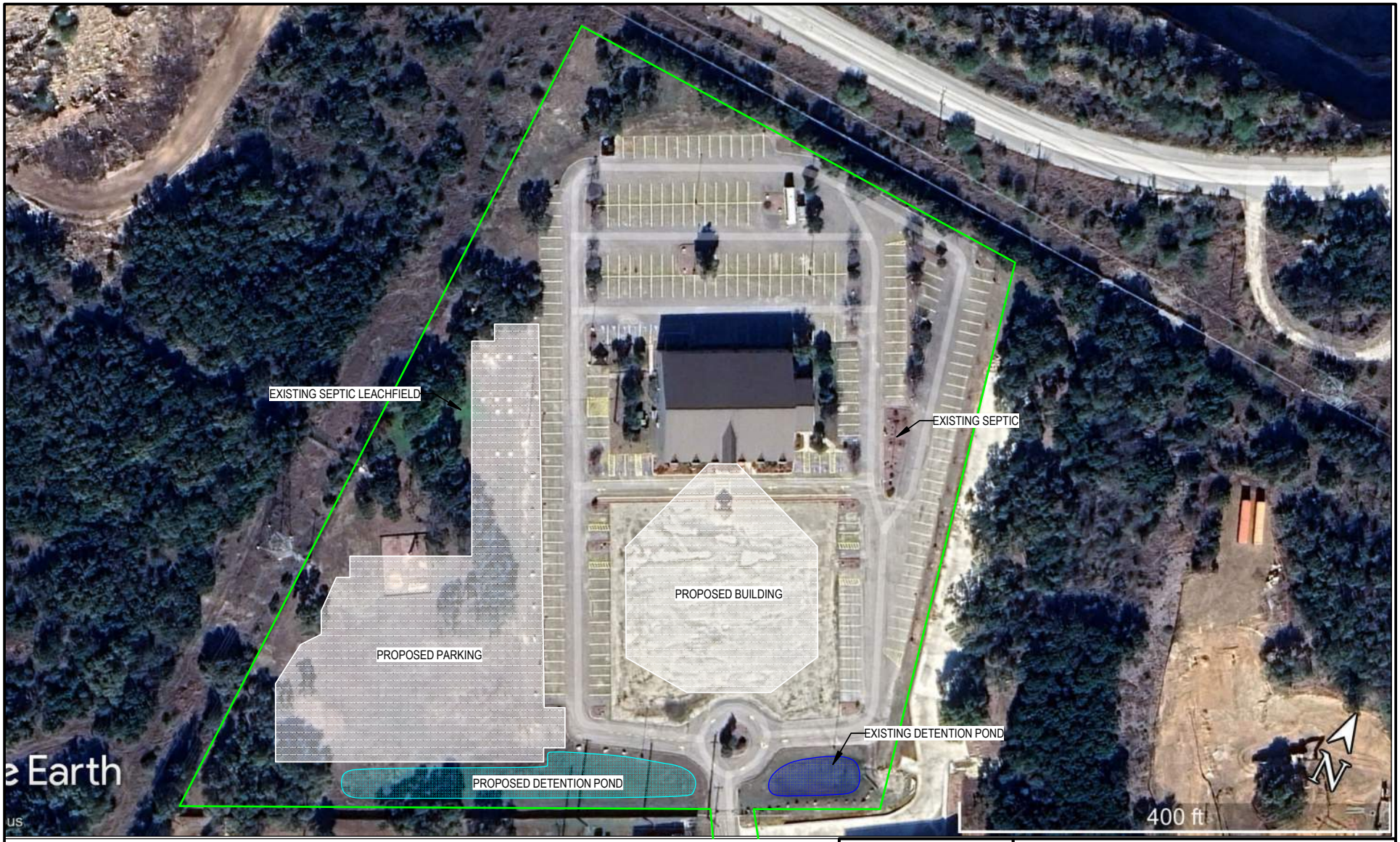
SQ Environmental, LLC

ATTACHMENT D-1

PROPERTY LOCATION MAP

4545 N LOOP 1604 W
SAN ANTONIO, TEXAS 78249

SCALE:	DATE:	PN:
1 IN = 200 FT	MAY 2025	1131.017.001



LEGEND

- SUBJECT PROPERTY BOUNDARY, APPROXIMATE
- EXISTING STORMWATER DETENTION POND
- PROPOSED STORMWATER DETENTION POND

SOURCE: GOOGLE EARTH, IMAGERY DATED 1/10/2025

STATE OF TEXAS
TIMOTHY C WEAVER
GEOLOGY
11761
LICENSED
PROFESSIONAL GEOSCIENTIST

5/7/25

N

0 60 120
SCALE IN FEET

NOTE: SOIL COVER OVER ENTIRE PROPERTY IS CRAWFORD, STONY AND BEXAR SOILS (Cb).

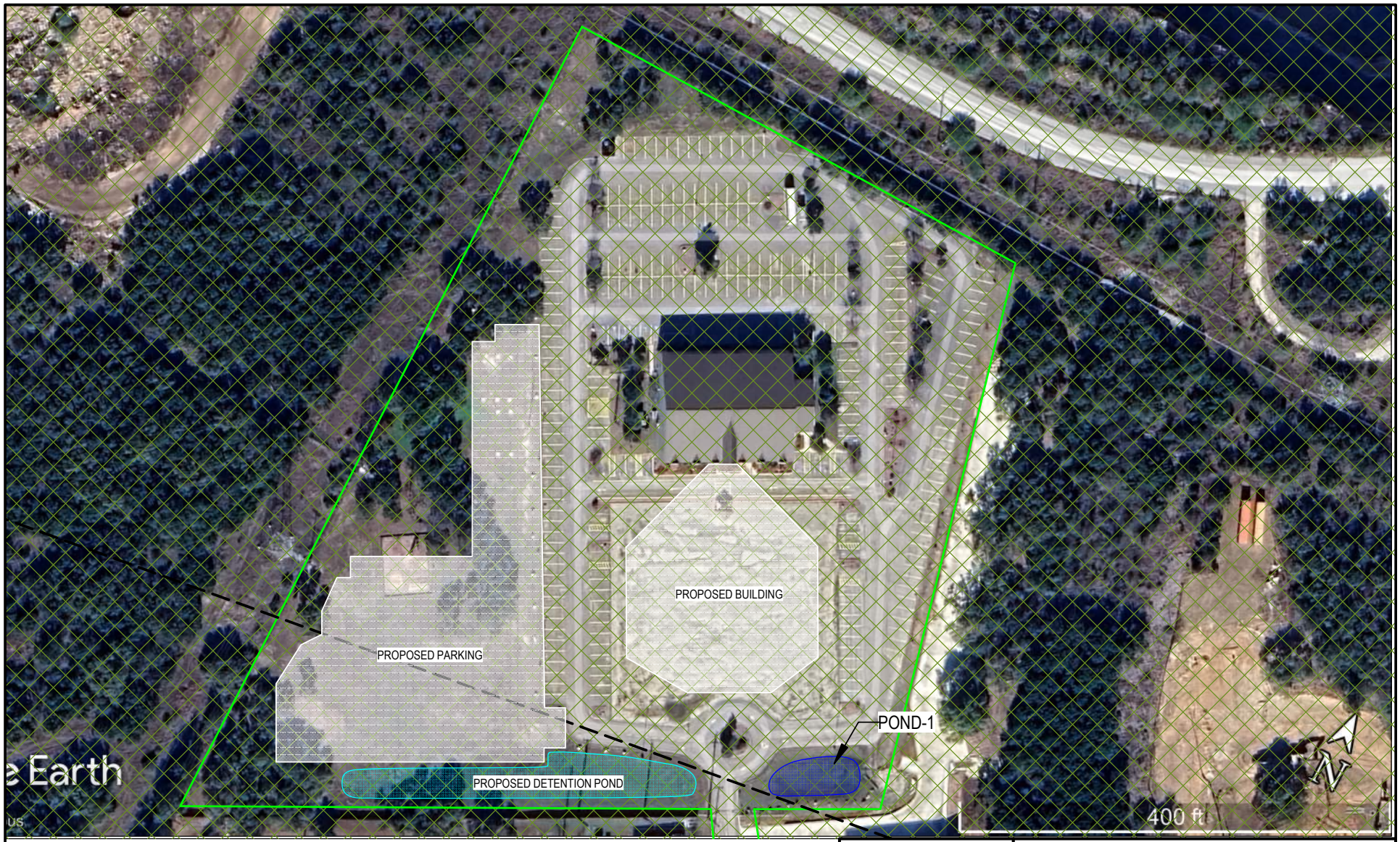
SQ Environmental, LLC

ATTACHMENT D-2

PROPERTY LAYOUT MAP

4545 N LOOP 1604 W
SAN ANTONIO, TEXAS 78249

SCALE:	DATE:	PN:
1 IN = 120 FT	MAY 2025	1131.017.001



LEGEND

- SUBJECT PROPERTY BOUNDARY, APPROXIMATE
- Ked - EDWARDS LIMESTONE
- FAULT (AS MAPPED BY USGS)
- EXISTING STORMWATER DETENTION POND
- PROPOSED STORMWATER DETENTION POND

SOURCE: USGS TX GEOLOGY VIEWER, ACCESSED 5/5/25

STATE OF TEXAS
TIMOTHY C WEAVER
GEOLOGY
11761
LICENSED
PROFESSIONAL GEOSCIENTIST

N

0 60 120
SCALE IN FEET

5/7/25

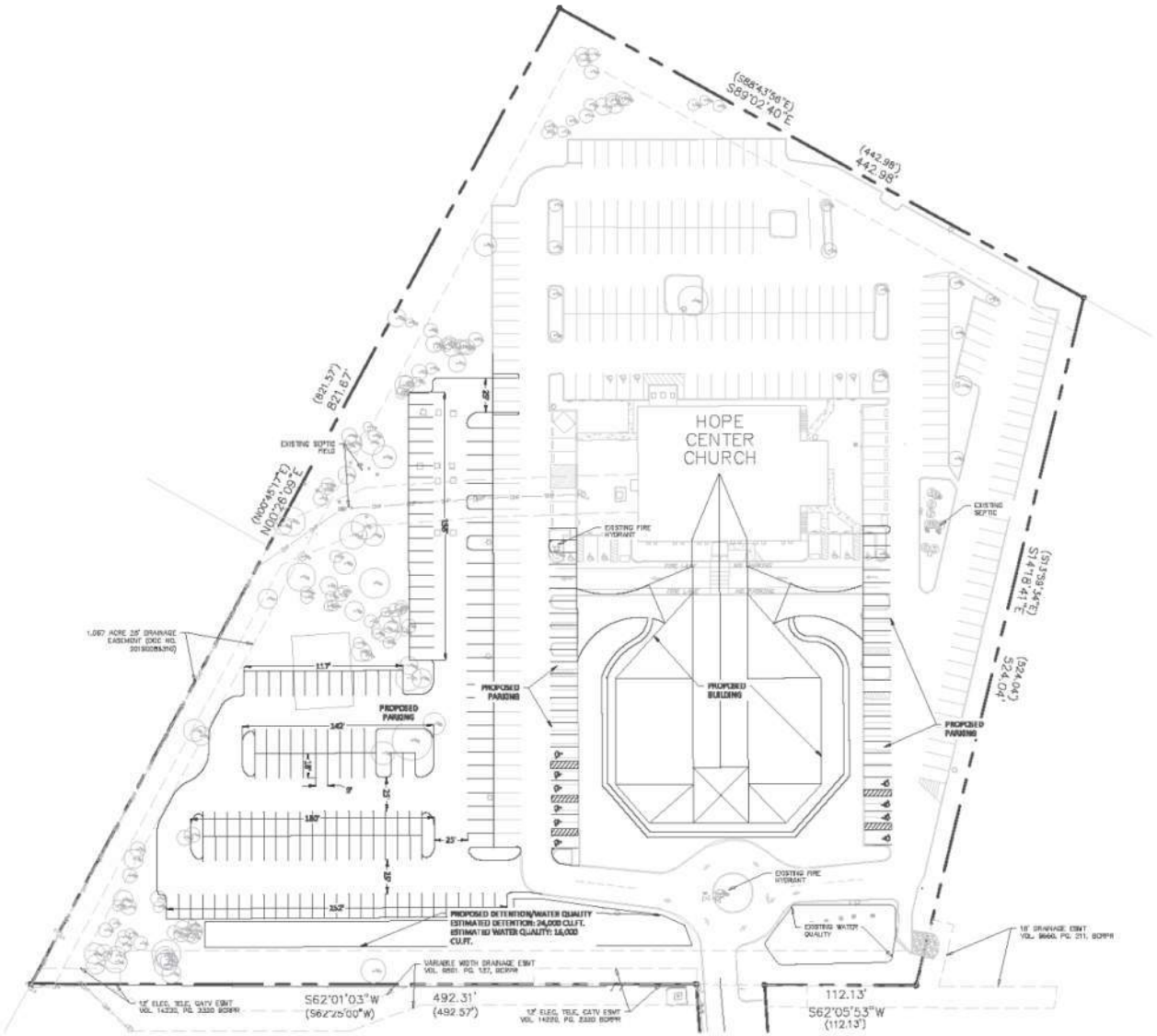
SQ Environmental, LLC

ATTACHMENT D-3

SITE GEOLOGIC MAP

4545 N LOOP 1604 W
SAN ANTONIO, TEXAS 78249

SCALE:	DATE:	PN:
1 IN = 120 FT	MAY 2025	1131.017.001



SOURCE: FELUX ENGINEERING SITE PLAN EXHIBIT DATED 7/2/2024

N

0 60 120

SCALE IN FEET

SQ Environmental, LLC

ATTACHMENT D-4

SITE PLAN

4545 N LOOP 1604 W
SAN ANTONIO, TEXAS 78249

SCALE:	DATE:	PN:
1 IN = 120 FT	MAY 2025	1131.017.001

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.

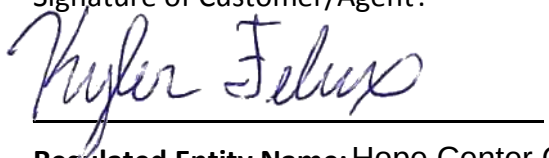
Signature

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: Kyler Felux

Date: 7/22/2025

Signature of Customer/Agent:



Regulated Entity Name: Hope Center Church

Regulated Entity Information

1. The type of project is:

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

2. Total site acreage (size of property): 8.499

3. Estimated projected population: 1200

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	41594.43	÷ 43,560 =	0.955
Parking	204356.6	÷ 43,560 =	4.691
Other paved surfaces	1824.44	÷ 43,560 =	0.042
Total Impervious Cover	247775.47	÷ 43,560 =	5.688

Total Impervious Cover 5.688 **÷ Total Acreage** 8.499 **X 100 =** 66.926 **% 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	6000 Gallons/day
0 % Industrial	0 Gallons/day
0 % Commingled	0 Gallons/day
TOTAL gallons/day 6000	

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 SAWS (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" = 1-60 '.

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 48029C0230G, eff date: 9/29/2010

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

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

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

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

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

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

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

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

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

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

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

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

26. ☐ Surface waters (including wetlands).

    ☒ N/A

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

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

28. ☒ Legal boundaries of the site are shown.

Administrative Information

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

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

Water Pollution Abatement Plan Application

Attachment A

Factors Affecting Surface Water Quality

Sources of potential pollution during construction consists of:

- Soil erosion from site clearing and earthwork.
- Contamination sources from construction equipment, vehicles, fuel, oil, and grease.
- Hydrocarbons from asphalt paving.
- Trash and litter from material wrappers and construction workers.
- Concrete truck washout.
- Potential spills from portable waste facilities.

Water Pollution Abatement Plan Application

Attachment B

Volume and Character of Stormwater

The stormwater runoff from the site will not increase because of the development. From TCEQ TSS calculation worksheet, the required volume by the BMP type for the on-site water quality volume is 3,517 cubic feet, and volume provided is approximately 3,533 cubic feet. Discharge runoff from the site is managed through two BMPs, an existing storm water treatment system that captures an area of approximately 4.81 acres and a proposed Batch Detention Pond that captures approximately 2.00 acres. The existing water quality pond was sized to capture the first ½ inch of storm water run-off from 4.88 acres, providing a total capture volume of 9,088 cubic feet plus freeboard. The proposed detention pond is designed to capture the 100-year storm event. The total overall existing 100-year storm event is approximately 109.13 cubic feet per second (cfs), and the proposed 100-year storm event is approximately 102.63 cfs. All values are based on the Rational Method using runoff coefficients from the San Antonio Unified Development Code.

Water Pollution Abatement Plan Application

Attachment C

Suitability Letter from Authorized Agent

The site currently has an existing septic system that will be removed and connected to a public system. Suitability Letter is not required for this project.

Water Pollution Abatement Plan Application

Attachment D

Exception to the Required Geologic Assessment

No exception for the Geologic Assessment is being made. A Geological Assessment has been provided.

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.

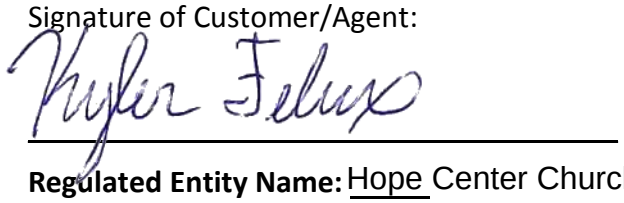
Signature

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: Kyler Felux

Date: 7/22/2025

Signature of Customer/Agent:



Regulated Entity Name: Hope Center 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: Olmos Creek

Temporary Best Management Practices (TBMPs)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

    ☐ N/A

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

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

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

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

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

Soil Stabilization Practices

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

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

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

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

Administrative Information

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

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

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

Temporary Stormwater Section Form

Attachment A

Spill Response Actions

Significant/Hazardous Spills

- A reportable discharge or spill is a discharge or spill of oil, petroleum product, used oil, hazardous substances, industrial solid waste, or other substances into the environment in a quantity equal to or greater than the reportable quantity listed in §327.4 of this title (relating to Reportable Quantities) in any 24-hour period.
- Information required in initial notification, to the extent known, shall contain:
    - Name, address, and telephone number of the person making the telephone report.
    - Date, time, and location of the spill or discharge.
    - Specific description or identification of the oil, petroleum product, hazardous substances or other substances discharged or spilled.
    - Estimate of the quantity discharged or spilled.
    - Duration of the incident.
    - Name of the surface water or a description of the waters in the state affected or threatened by the discharge or spill.
    - Source of the discharge or spill.
    - A description of the extent of actual or potential water pollution or harmful impacts to the environment and an identification of any environmentally sensitive areas or natural resources at risk.
    - If different from paragraph (1) of this subsection, the names, addresses, and telephone numbers of the person responsible and the contact person at the location of the discharge or spill.
    - A description of any actions that have been taken, are being taken, and will be taken to contain and respond to the discharge or spill.
    - Any known or anticipated health risks.
    - The identity of any governmental representatives, including local authorities or third parties, responding to the discharge or spill.
    - Any other information that may be significant to the response action.
- The national response center number is 800-424-8802.
- Method of notification. The person responsible shall notify the agency in any reasonable manner including by telephone, in person, or by any other method approved by the agency. In all cases, the initial notification shall provide, to the extent known, the information listed in subsection (d) of this section. Notice provided under this section satisfies the federal requirement to notify the State Emergency Response Commission in the State of Texas. The person responsible shall notify one of the following:
    - State Emergency Response Center at 1-800-832-8224.

    - During normal business hours, the regional office for the agency region in which the discharge or spilled occur. Normal business hours at the San Antonio and Austin TCEQ offices are 8 AM to 5 PM Monday through Friday.
    - Austin TCEQ office number is 512-239-100 and the San Antonio office number is 210-490-3096.
    - The agency at the agency 24-hour spill reporting number.

- The reportable quantities for hazardous substances shall be:
    - For spills or discharges onto land--the quantity designated as the Final Reportable Quantity (RQ) in Table 302.4 in 40 CFR §302.4; or
    - For spills or discharges into waters in the state--the quantity designated as the Final RQ in Table 302.4 in 40 CFR §302.4, except where the Final RQ is greater than 100 pounds in which case the RQ shall be 100 pounds.
- 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 then followed up with a written report.
- The services of a spill contractor, or a Haz-Mat team, should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staff have arrived at the job site.
- Other agencies which may need to be contacted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.
- The person responsible shall submit a monthly summary by the 20th day of the month for each accidental discharge or spill that occurred during the previous month. The summary must include, at a minimum, the:
    - Location, volume and content of the accidental discharge or spill.
    - Description of the accidental discharge or spill.
    - Cause of the accidental discharge or spill.
    - Dates and times of the accidental discharge or spill.
    - Steps taken to reduce, eliminate, and prevent recurrence of the accidental discharge or spill.

- The responsible person must use one of the following methods for determining the volume of the discharge or spill.
    - Visual estimate. If the accidental discharge or spill is less than 55 gallons, using a standard five-gallon bucket for reference, estimate the number of buckets that the discharge or spill would fill then multiply by five to obtain the number of gallons discharged or spilled. If the accidental discharge or spill is larger than 55 gallons, using a standard 55 gallon barrel for reference, estimate the number of barrels that the discharge or spill would fill and then multiply by 55 to obtain the number of gallons discharged or spilled.
    - Measured volume. Identify the length, width, and depth of the contained accidental discharge or spill in feet and calculate the volume by multiplying length by width by depth by 7.5 (the conversion factor from cubic feet to gallons).

- Duration and flow rate. Identify separate estimates for the duration and the flow rate of the accidental discharge or spill. The estimated volume is calculated by multiplying the duration (hours or days) by the flow rate (gallons/hour or gallons/day).
- Other methods. The responsible person may use other volumetric calculation methodologies rather than those listed in paragraphs (1) - (3) of this subsection, so long as such methodologies include procedures to identify a duration, flow rate, depth, affected area, and total quantity of each spill (including, as appropriate, reference to estimation tools such as barrels, for example), and such methodology is consistent with standard and accepted industry practices. Such alternative methodologies must be identified in the responsible person's monthly report.

The executive director may require more frequent reporting based on the responsible person's history of noncompliance.

Education of Employees or Subcontractors Who Handle Materials Which Can Cause Pollution

- Employees should know 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 the potential dangers to humans and the environment from spills and leaks and provide training in spill prevention and cleanup.
- Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
- Establish a continuing education program to indoctrinate new employees, who will use and/or handle potential pollutants.
- Provide for a superintendent or representative to oversee and enforce proper spill prevention and control measures.

General Measures

- To the extent that work can be accomplished safely, spills of oil, petroleum products, and 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 waste in covered containers and protect them from vandalism.
- Place spill cleanup materials where it will be readily accessible.
- Spills should be covered and protected from stormwater runoff during rainfall to the extent that it does not compromise clean-up activities.
- Do not bury spills onsite.
- 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 watercourse. Collect and dispose of contaminated water in accordance with applicable regulations.

- Contain contaminated 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. Perimeters controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

- Clean up leaks and spills immediately, or as soon as it is safely practical.
- Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent materials 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 it properly.

Minor Spills

- Minor spills such as small quantities of oil, gasoline, paint, etc., should 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.

Vehicle and Equipment Maintenance

- If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the runoff 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 onsite.
- Always use secondary containment, such as drain pans 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. Do not 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 recycled. As 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 has drained out. If you drop a battery, treat it as if it is cracked. Put into the containment area until you are sure it is not leaking.

Vehicle and Equipment Maintenance

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

For spills, TCEQ spill response can be contacted through the State Watch Office (SWO) at 512-239-2507, or by submitting a report online via the TCEQ website. For emergencies requiring immediate action, always dial 911 first.

Temporary Stormwater Section Form

Attachment B

Potential Sources of Containment

Asphalt products used on this project

- Preventative Measures
    - After placement of asphalt, emulsion or coatings, the contractor will be responsible for immediate cleanup should an unexpected rain occur.
    - For the duration of the asphalt product curing time, the contractor will maintain standby personnel and equipment to contain any asphalt wash-off should unexpected rainfall occur.
    - The contractor will be instructed not to place asphalt products on the ground within 48 hours of forecasted rain.

Oil, grease fuel and hydrocarbon fluid contamination from construction equipment and vehicle drippings.

- Preventative Measures:
    - Vehicle maintenance, when possible, will be performed within the construction staging area.
    - Construction vehicles and equipment should be checked regularly for leaks and repaired immediately.

Accidental leaks or spills of oil, petroleum products and substances listed under 40 CFR parts 110, 117, and 302 used or stored temporarily on site.

- Preventative Measures:
    - Contractor to incorporate regular safety meetings, a discussion of spill prevention and appropriate disposal procedures.
    - Contractor's superintendent or representative overseer should enforce proper spill prevention and control measures.
    - Hazardous material and waste shall be stored in covered containers and protected from vandalism.
    - A stockpile of spill cleanup materials should be stored on-site where it will be readily available.

Miscellaneous trash and litter from construction workers and material wrappings.

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

Construction Debris

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

Spills/Overflow of waste from portable toilets

- Preventative Measures
    - Portable toilets will be placed away from high traffic vehicular areas and storm drain inlets.
    - Portable toilets will need to be placed on a level ground surface.
    - Portable toilets will be inspected regularly for leaks and will be serviced and sanitized at time intervals that will maintain sanitary conditions.

Temporary Stormwater Section Form

Attachment C

Sequence of Major Activities

The sequence of major activities which will disturb soils during the construction process of the proposed site is shown below.

1. Temporary erosion and sedimentation controls are to be installed as indicated on the approved site plan and in accordance with the Stormwater Pollution Prevention Plan (SWPPP) that is required to be posted on the site. Install tree protection, initiate tree mitigation measures as needed.
2. Rough grade the pond(s) at 100% proposed capacity. Either the permanent outlet structure or a temporary outlet must be constructed prior to development of embankment or excavation that leads to ponding conditions. The outlet system shall be protected from erosion and shall be maintained throughout the course of construction until installation of the permanent water quality pond(s).
3. Begin site clearing/construction (or demolition) activities, roughly 4.51 acres.
4. Complete construction and start revegetation of the site and installation of landscaping.
5. Clean up site and clear any temporary BMPs that were installed.

Temporary Stormwater Section

Attachment D

Temporary Best Management Practices and Measures

Upgradient stormwater from offsite will be treated by onsite temporary BMPs. Before any of this work can begin, the clearing and grading contractor will be responsible for the installation of all on-site control measures. The methodology for pollution prevention of on-site stormwater will include:

- Erection of silt fence along downgradient boundary of construction activities for temporary erosion and sedimentation controls.
- Installation of rock berms with silt fencing downgradient from areas of concentrated stormwater flow for temporary erosion control.
- Installation of stabilized construction entrance/exits to reduce the dispersion of sediment from the site.
- Installation of concrete truck washout.
- Installation of construction staging areas.

Prior to the initiation of construction, all previously installed control measures will be repaired or reestablished for their designed purpose. The construction contractor will be responsible for the installation of the remaining on-site control measures that includes installation of the concrete truck washouts.

The temporary measures are intended to give a method on how to slow the flow of runoff from the site to allow the sediment and other solids to settle away from the runoff. Containing the sediment and other solids within the site will prevent them from entering the aquifer, surface streams, and/or any sensitive features that are present downstream of the site.

The natural flow of stormwater or runoff will flow across the site and will exit at the same location. Features discovered during construction will be reported and assessed in accordance with applicable regulations.

Temporary Stormwater Section

Attachment E

Request to Temporarily Seal a Feature

There is no request to temporarily seal any features.

Temporary Storm Water Section Form

Attachment F

Structural Practices

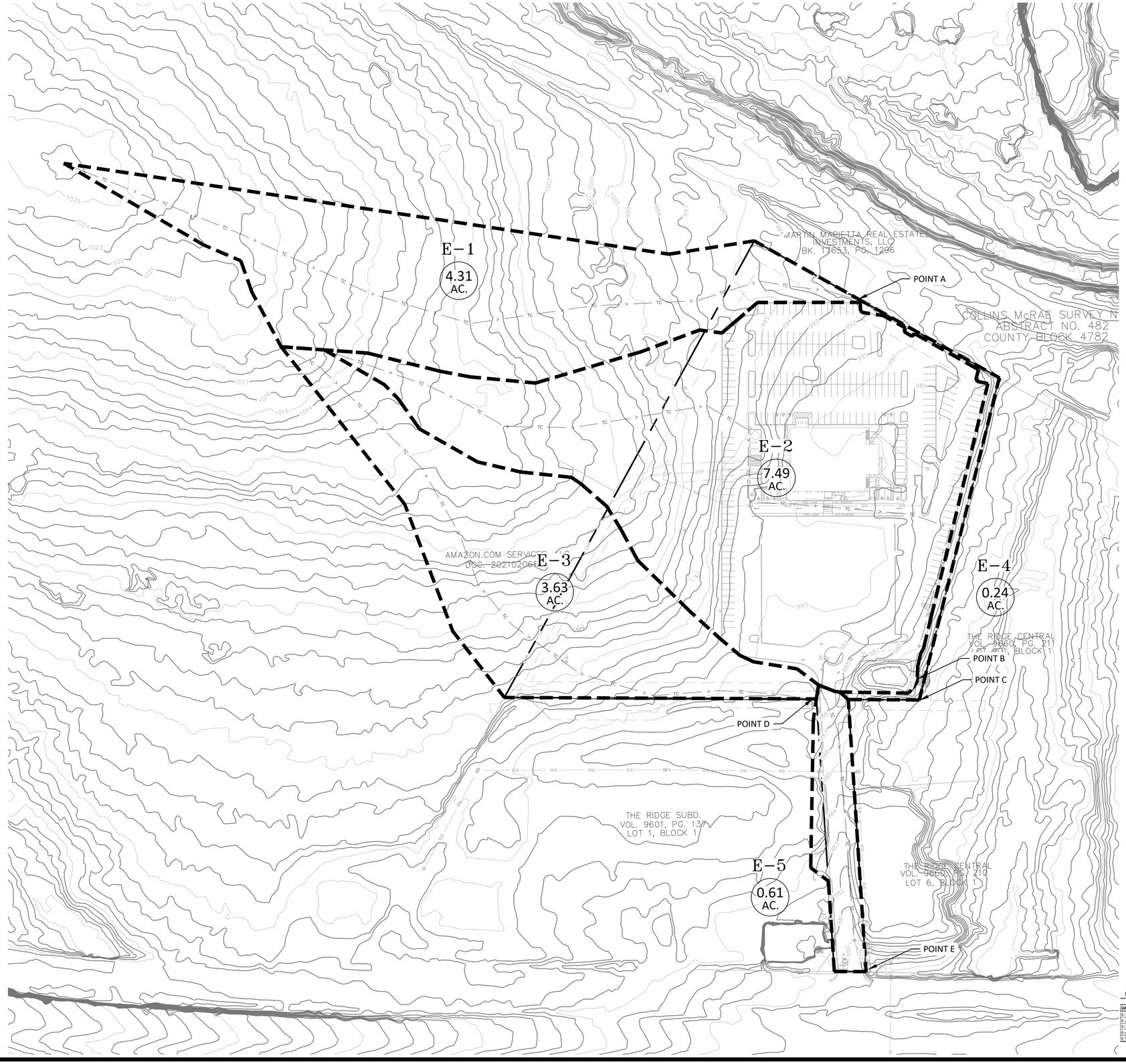
The structural practices listed below are shown in the SWPPP and SWPPP Detail Sheets.

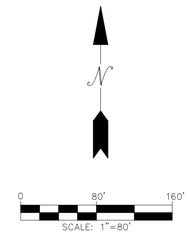
- A stabilized construction entrance with a washout pit will be constructed at all locations where vehicular traffic will enter and exit the site. This will reduce the number of sediments which leave the site and are tracked or fall onto adjacent roadways.
- A concrete truck washout will be located next to the stabilized construction entrance to prevent pollutants from stormwater from the concrete waste.
- Silt fencing will be installed adjacent to any drainage way which receives sheet flow from side slope perimeter of disturbed areas.
- Sandbags filled with washed pea gravel will be used at proposed storm drainage inlets prior to stabilization of the drainage areas.
- Rock filter dams will be placed at areas of concentrated flows to trap sediment leaving the site.

Temporary Storm Water Section Form

Attachment G

Drainage Area Maps





LEGEND

- PROPERTY LINE
- DRAINAGE AREA LIMITS
- TC — > — TIME OF CONCENTRATION
- XXX — DRAINAGE AREA LABEL
- 0.00 AC. — DRAINAGE AREA
- DRAINAGE FLOW DIRECTION

NOTES:
1. CONTOUR DATA USED FOR OFFSITE ANALYSIS IS 2017 LIDAR DATA PULLED FROM THE SAN ANTONIO RIVER AUTHORITY'S DATA BASE.
2. XXX CU.FT. OF TREATMENT HAS BEEN PROVIDED DURING PREVIOUS CONSTRUCTION ACTIVITIES.

EXISTING DEVELOPMENT DRAINAGE CALCULATIONS

DRAINAGE AREA	TOTAL ACRES	LARGE LOT RESIDENTIAL AREA slope (%)			RANGE (GRASS COVER >75% OF slope (%)			EXISTING ASPHALT PAVEMENT slope (%)			COMPOSITE RUNOFF COEFFICIENT
		C	C	C	C	C	C	C	C	C	
		0.57	0.62	0.64	0.39	0.47	0.52	0.96	0.97	0.97	
E-1	4.31					4.31					0.47
E-2	7.49					3.36		4.31			0.76
E-3	3.63					3.63					0.47
E-4	0.24					0.24					0.47
E-5	0.61				0.14			0.47			0.83

Tc (Pre Development)

Note
*Minimum Overland Flow Time of Concentration is 5 minutes per City of San Antonio Design Manual.

DA	Area (ac.)	L_total (ft)	Overland Flow Up to 100 feet n_1	S_1 ft/ft	Tc_1 (min)	Flow beyond 100 ft L_2 (ft)	K (constant)	S_2 ft/ft	Tc_2 (min)	Tc_total
E-1	4.31	1315	100	0.13	0.01	9.79	1215	16.13	0.03	7.92	17.7
E-2	7.49	1398	100	0.13	0.03	6.31	1298	20.32	0.02	6.78	13.1
E-3	3.63	1080	100	0.13	0.05	5.14	980	16.13	0.03	6.34	11.5
E-4	0.24	126	100	0.13	0.06	5.00	26	16.13	0.06	0.11	5.1
E-5	0.61	463	100	0.01	0.02	5.00	363	20.32	0.02	2.09	7.0

FLOWS (Pre Development)

DA	Tc (min)	Area (ac.)	C	I_2, in/hr	I_5, in/hr	I_10, in/hr	I_25, in/hr	I_100, in/hr	Q_2, in/hr	Q_5, in/hr	Q_10, in/hr	Q_25, in/hr	Q_100, in/hr
E-1	17.3	4.31	0.47	3.94	4.90	5.67	6.78	8.42	7.98	9.92	11.49	13.73	17.07
E-2	13.1	7.49	0.76	4.52	5.64	6.58	7.89	9.82	25.71	32.13	37.44	44.76	55.90
E-3	11.5	3.63	0.47	4.77	5.97	6.98	8.35	10.44	8.16	10.19	11.91	14.24	17.82
E-4	5.1	0.24	0.47	6.26	7.83	9.15	10.94	13.70	0.71	0.88	1.03	1.23	1.55
E-5	7.0	0.61	0.83	5.65	7.10	8.32	9.94	12.47	2.86	3.59	4.21	5.03	6.33

DATE	REVISIONS	APP. BY

STATE OF TEXAS
KYLER J. FELUX
150019
LICENSED
PROFESSIONAL ENGINEER

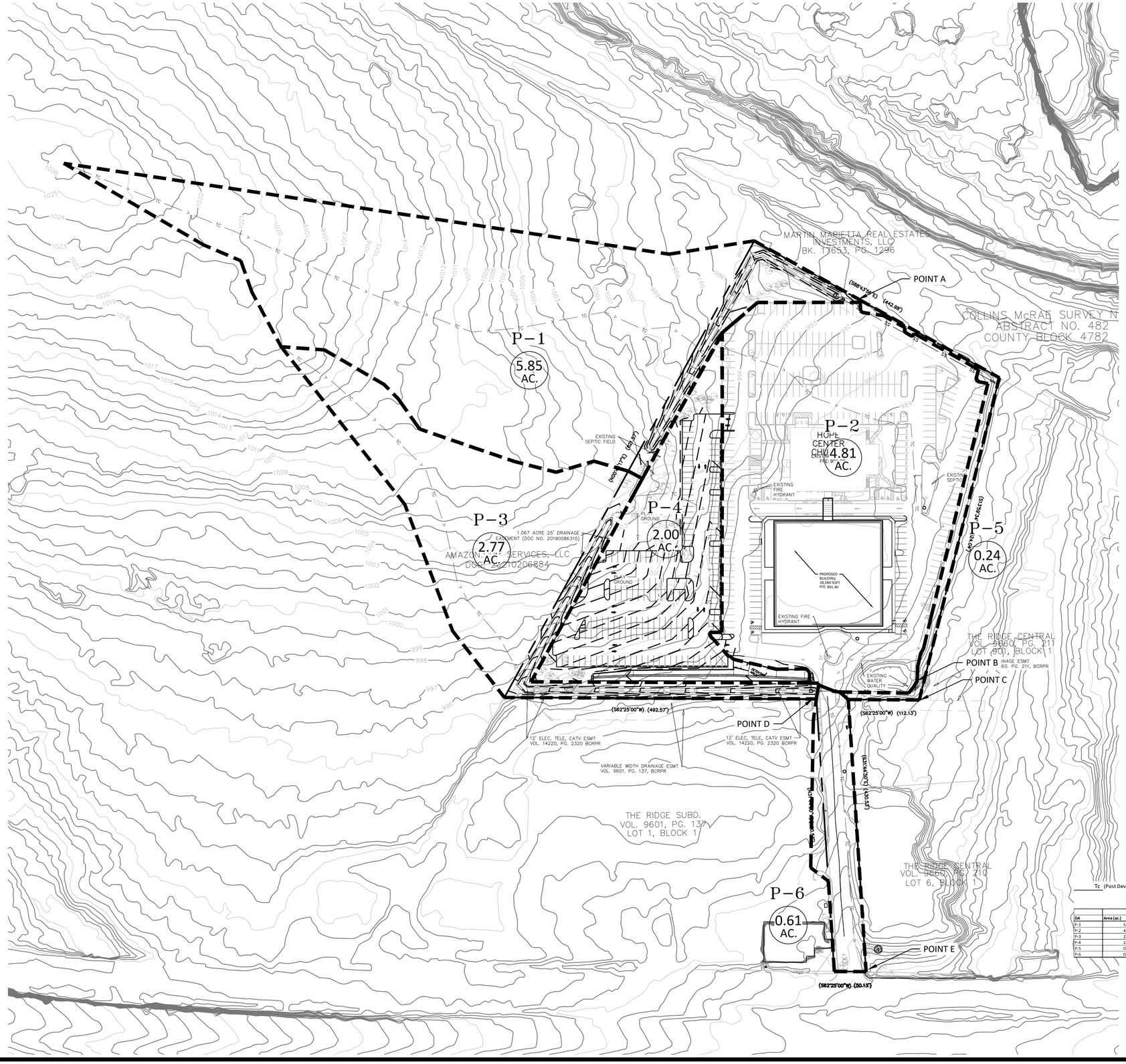
7-22-2025

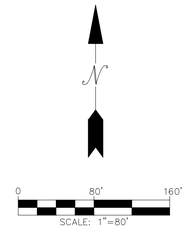
FELUX ENGINEERING
FIRM NO. 23020
P.O. BOX 641, BOERNE, TX 78147
210-818-3340

4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

EXISTING DRAINAGE AREA MAP

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
PAGE:





LEGEND

- PROPERTY LINE
- DRAINAGE AREA LIMITS
- TC > TIME OF CONCENTRATION
- XXX DRAINAGE AREA LABEL
- 0.00 AC. DRAINAGE AREA
- DRAINAGE FLOW DIRECTION

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PROPOSED DEVELOPMENT DRAINAGE CALCULATIONS

DRAINAGE AREA	TOTAL ACRES	LARGE LOT RESIDENTIAL AREA slope (%)			RANGE (GRASS COVER >75% OF slope (%)			ASPHALT PAVEMENT slope (%)			COMPOSITE RUNOFF COEFFICIENT
		C	C	C	C	C	C	C	C	C	
		0.57	0.62	0.64	0.39	0.47	0.52	0.96	0.97	0.97	
P-1	5.98					5.98					0.47
P-2	4.81					0.50		4.31			0.91
P-3	2.64					2.64					0.47
P-4	2.00					0.78			1.22		0.78
P-5	0.24					0.24					0.47
P-6	0.61				0.14			0.47			0.83

Tc (Post Development)

Note
*Minimum Overland Flow Time of Concentration is 5 minutes per City of San Antonio Design Manual.

			Overland Flow Up to 100 feet				Flow beyond 100 ft				Channel Flow				
DA	Area (ac.)	L_total (ft)	L_1 (ft)	n_1	Slope_1 ft/ft	Tc_1 (min)	L_2 (ft)	K (constant)	Slope_2 ft/ft	Tc_2 (min)	L (ft)	R (in)	S (ft/ft)	Tc_3 (min)	Tc_total
P-1	5.98	1330	100	0.13	0.01	9.79	998	16.13	0.03	6.34	232	6.90	0.01	0.98	17.1
P-2	4.78	778	100	0.01	0.04	5.00	673	20.32	0.01	4.53					9.5
P-3	2.64	1148	100	0.13	0.05	5.14	570	16.13	0.01	5.89	475	4.90	0.01	3.97	11.0
P-4	2.03	383	100	0.13	0.07	5.00	283	20.32	0.02	1.53					6.5
P-5	0.24	126	100	0.13	0.06	5.00	26	16.13	0.06	0.13					5.1
P-6	0.61	463	100	0.01	0.02	5.00	363	20.32	0.02	2.03					7.0

FLOWS (Post Development)

DA	Tc (min)	Area (ac.)	C	I_2_in/hr	I_5_in/hr	I_10_in/hr	I_25_in/hr	I_100_in/hr	Q_2_in/hr	Q_5_in/hr	Q_10_in/hr	Q_25_in/hr	Q_100_in/hr
P-1	17.1	5.98	0.47	3.96	4.92	5.70	6.82	8.47	11.13	13.84	16.03	19.16	23.85
P-2	9.5	4.81	0.86	5.11	6.41	7.52	8.98	11.26	21.14	26.53	31.09	37.16	46.58
P-3	11.0	2.64	0.47	4.84	6.07	7.10	8.49	10.62	6.01	7.53	8.81	10.53	13.18
P-4	6.5	1.99	0.78	5.79	7.27	8.52	10.18	12.77	8.99	11.28	13.22	15.80	19.81
P-5	5.1	0.24	0.47	6.26	7.83	9.15	10.94	13.70	0.71	0.88	1.03	1.23	1.55
P-6	7.0	0.61	0.83	5.65	7.10	8.32	9.94	12.47	2.86	3.59	4.21	5.03	6.33

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STATE OF TEXAS
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LICENSED
PROFESSIONAL ENGINEER
7-22-2025

FELUX ENGINEERING
FIRM NO. 23020
P.O. BOX 780, ADKINS, TX 78147
210-818-3340

4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

PROPOSED DRAINAGE AREA MAP

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
PAGE:

24 OF 43

Temporary Storm Water Section Form

Attachment H

Temporary Sediment Pond(s) Plans and Calculations

The proposed detention pond will be utilized as temporary sediment pond. See the drainage area maps and detention pond sheets for calculations.

Temporary Stormwater Section Form

Attachment I

Inspection and Maintenance for BMPs

The following list of items outlines and dictates Inspection and Maintenance for BMPs practices. Inspections and maintenance guidelines come from TCEQ RG-348.

In addition to these measures, the contractor will be subject to the provisions of the TCEQ General Permit Number TXR 150000 relating to discharges from construction activities.

Interceptor Swale

- Interceptor swales should be inspected weekly and after each rain event to locate and repair any damage to the channel or clear debris or other obstruction so as not to diminish the flow capacity.
- Damage from storms or normal construction activities such as tire ruts or disturbance of swale stabilization should be repaired as soon as it is practical.

Temporary Construction Entrance/Exit

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

Silt Fence

- Inspect all the fencing weekly, and after any rainfall.
- Remove sediment when buildup reaches 6 inches.
- Replace any torn fabric or install a second line of fencing parallel to the torn section.
- Replace or repair any sections crushed or collapsed during construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.

- When construction is completed, the sediment should be disposed of in a manner that will not cause additional siltation, and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

Inlet Protection Barrier

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

Rock Filter Dam

- Inspection should be made weekly and after each rainfall. Repairs or replacement should be made promptly as needed by the contractor.
- Remove sediment when buildup reaches a depth of 6 inches. Removed sediment should be deposited in a suitable area and in such a manner that it will not eventually erode.
- The rock filter dam should be left in place until all upstream areas are stabilized and accumulated silt removal; removal should be done by hand.

Temporary Stormwater Section Form

Attachment J

Schedule of Interim and Permanent Soil Stabilization Practices

On-site construction activities shall be conducted in accordance with the SWPPP for the project.

Interim on-site stabilization measures will include minimizing soil disturbances by exposing the smallest practical area of land required for the shortest period of time and maximizing the use of natural vegetation. All disturbed soil will be stabilized as per project specifications in accordance with pages 1-35 to 1-60 of TCEQ Technical Guidance Manuel RG-348 (2005).

Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently cease is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activities on a portion of the site are temporarily ceased, and earth disturbing activities will be resumed within 21 days, temporary stabilization measures do not have to be initiated on that portion of the site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is preclude by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.

Interim Stabilization Measures will include one or more of the following methods:

- Temporary vegetation
- Installation of blankets or matting material
- Hydraulic mulch
- Sod

The interim and permanent stabilization will be installed in accordance with the standard specifications for the county or city having jurisdiction over the project, which ever is more stringent. If the governing entity does not have specifications for these items, the work shall be completed in compliance with the procedures and specifications outlined in the current Technical Guidance Manual published by the TCEQ.

Permanent Stabilization measures will include one or more of the following methods.

- Permanent Vegetation including landscape planting with trees, shrubs, or ground cover
- Installation of blankets or matting materials
- Hydromulch
- Grass sodding
- Rock or concrete riprap

Stormwater Pollution Prevention Plan

A full size copy of the Stormwater Pollution Prevention Plan (SWPPP) follows this page.

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: Kyler Felux

Date: 7/22/2025

Signature of Customer/Agent

Kyler Felux

Regulated Entity Name: Hope Center Church Addition

Permanent Best Management Practices (BMPs)

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

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

   ☐ N/A

2. ☒ These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.

   ☒ The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

☐ A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is: _____

☐ N/A

3. ☒ Owners must insure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.

   ☐ N/A

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

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

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

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

6. ☒ **Attachment B - BMPs for Upgradient Stormwater**.

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

☐ No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.

☐ Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.

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

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

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

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

☒ N/A

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

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

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

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

☒ Design calculations (TSS removal calculations)

☒ TCEQ construction notes

☒ All geologic features

☒ All proposed structural BMP(s) plans and specifications

☐ N/A

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

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

    ☐ N/A

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

    ☒ N/A

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

    ☐ N/A

Responsibility for Maintenance of Permanent BMP(s)

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

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

    ☐ N/A

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

    ☐ N/A

Permanent Stormwater Section Form

Attachment A

20% or Less Impervious Cover Waiver

The site will not be used for multi-family residential developments, schools, or small business sites.

Permanent Stormwater Section

Attachment B

BMPs for Upgradient Stormwater

All upgradient stormwater will be routed around the permanent BMP with proposed earthen swales. Therefore, no BMPs for upgradient stormwater will be required.

Permanent Stormwater Section

Attachment C

BMPs for On-Site Stormwater

PBMPs consists of one (1) Batch Detention Pond designed in accordance with TCEQ's Technical Guidance Manual (TGM) RG-348 (rev. 2005) and one (1) existing storm water treatment system that was sized to capture the first ½ inch of storm water run-off from 4.88 acres, which provided a total capture volume of 9,088 cubic feet plus freeboard. The existing stormwater treatment system was approved in WPAP Castle Hills United Pentecostal Church, project number 1208. The proposed Batch Detention Pond with 91% efficiency of TSS removal, was sized to treat the impervious cover of the proposed Hope Center Church addition.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Hope Center Church
Date Prepared: 6.6.2025

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

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

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

where:

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

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

County =	Bexar	
Total project area included in plan * =	16.28	acres
Predevelopment impervious area within the limits of the plan * =	4.60	acres
Total post-development impervious area within the limits of the plan * =	5.69	acres
Total post-development impervious cover fraction * =	0.35	
P =	30	inches
$L_{M\ TOTAL\ PROJECT}$ =	889	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):

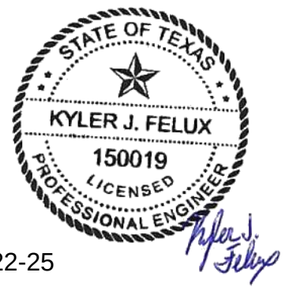
Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	16.28	acres
Predevelopment impervious area within drainage basin/outfall area =	4.60	acres
Post-development impervious area within drainage basin/outfall area =	5.69	acres
Post-development impervious fraction within drainage basin/outfall area =	0.35	
$L_{M\ THIS\ BASIN}$ =	889	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

Aqualogic Cartridge Filter



7-22-25

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

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

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:

A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	**2.00**	acres
A_I =	**1.22**	acres
A_P =	**0.78**	acres
L_R =	**1164**	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	**889**	lbs.
F =	**0.76**	

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 =	**0.94**	inches
Post Development Runoff Coefficient =	**0.43**	
On-site Water Quality Volume =	**2931**	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 = **586**

Total Capture Volume (required water quality volume(s) x 1.20) = **3517** cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

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

Required Water Quality Volume for retention basin = **NA** cubic feet

Irrigation Area Calculations:

Soil infiltration/permeability rate = **0.1** in/hr **Enter determined permeability rate or assumed value of 0.1**
Irrigation area = **NA** square feet
NA acres

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

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

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

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin = **NA** cubic feet

Minimum filter basin area = **NA** square feet

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

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins = **NA** cubic feet

Minimum filter basin area = **NA** square feet

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

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

Required Water Quality Volume for Bioretention Basin = **NA** cubic feet

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

Required capacity of Permanent Pool = **NA** cubic feet **Permanent Pool Capacity is 1.20 times the WQV**
Required capacity at WQV Elevation = **NA** cubic feet **Total Capacity should be the Permanent Pool Capacity**

Permanent Stormwater Section Form

Attachment D

BMPs for Surface Streams

No measures required for surface streams, sensitive features, or the aquifer are attached.

Permanent Stormwater Section Form

Attachment E

Request to Seal Features

No request to seal sensitive features.

Permanent Stormwater Section Form

Attachment F

Construction Plans

HOPE CENTER CHURCH

PAVING, STORM, AND GRADING
FOR
HOUSE OF PRAYER EVANGELISM

25002-01 - PAVING, STORM, AND GRADING - June 18, 2025

OWNER:

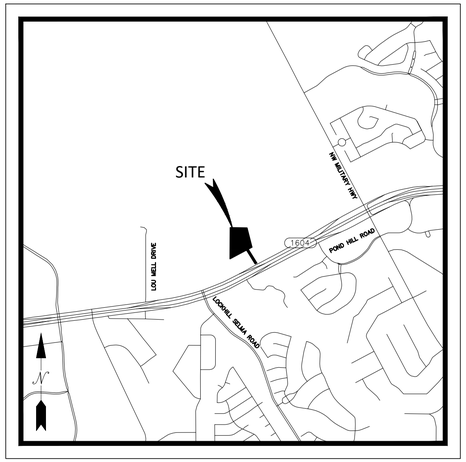
BUDDE RULE
HOPE CENTER CHURCH
4545 N LOOP 1604 W,
SAN ANTONIO, TX 78249
210-842-8686

CONTRACTOR:

NAME: TBD
COMPANY
ADDRESS
PHONE NO.

ENGINEER:

KYLER FELUX, PE
FELUX ENGINEERING
400 N. STORTS ST.
POTH, TX78147
210-818-3340



LOCATION MAP
SCALE: 1"=2000'

Sheet List Table

Sheet Number	Sheet Title
1	COVER SHEET
2	GENERAL CONSTRUCTION NOTES
3	PLAT
4	EXISTING CONDITIONS & DEMOLITION
5	SWPPP
6	SWPPP DETAILS
7	OVERALL SITE PLAN
8	DIMENSION CONTROL & SITE PLAN (1 OF 4)
9	DIMENSION CONTROL & SITE PLAN (2 OF 4)
10	DIMENSION CONTROL & SITE PLAN (3 OF 4)
11	DIMENSION CONTROL & SITE PLAN (4 OF 4)
12	OVERALL UTILITY PLAN
13	UTILITY PLAN (1 OF 4)
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15	UTILITY PLAN (3 OF 4)
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22	DETENTION POND
23	EXISTING DRAINAGE AREA MAP
24	PROPOSED DRAINAGE AREA MAP
25	CONSTRUCTION DETAILS
26	CONSTRUCTION DETAILS
27	L0.00 TREE PRESERVATION NOTES
28	L1.01 TREE PRESERVATION PLAN
29	L1.02 TREE PRESERVATION PLAN
30	L1.03 TREE PRESERVATION PLAN
31	L1.04 TREE PRESERVATION PLAN
32	L1.05 LANDSCAPE PLAN
33	L1.06 LANDSCAPE PLAN
34	L1.07 LANDSCAPE PLAN
35	L1.08 LANDSCAPE PLAN
36	L1.09 LANDSCAPE SPECS AND DETAILS
37	L2.00 IRRIGATION NOTES
38	L2.01 IRRIGATION PLAN
39	L2.02 IRRIGATION PLAN
40	L2.03 IRRIGATION PLAN
41	L2.04 IRRIGATION PLAN
42	L2.05 IRRIGATION SPECS AND DETAILS
43	L2.06 IRRIGATION SPECS AND DETAILS

FELUX ENGINEERING

FIRM NO. 25020
P.O. BOX 964, POTH, TX 78147
210-818-3340

STATE OF TEXAS
KYLER J. FELUX
150019
LICENSED
PROFESSIONAL ENGINEER

7-22-2025

FLOODPLAIN INFORMATION:

THE SUBJECT PROPERTY IS LOCATED ENTIRELY OUTSIDE SHADED ZONE 'X', AREA DETERMINED TO BE OUTSIDE THE 0.2%ANNUAL CHANCE FLOODPLAIN, PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP NUMBER 48029C0230G, BEXAR COUNTY, TEXAS, DATED SEPTEMBER 29, 2010.

BENCHMARK INFORMATION:

TBM:

LEGAL DESCRIPTION:

PLAT OF 8.49 ACRES OF LAND OUT OF THE COLLINS MCRAE SURVEY NO. 391, ABSTRACT NO. 482, COUNTY BLOCK 4782, BEXAR COUNTY, TEXAS AND BEING THE LAND DESCRIBED IN A CONVEYANCE TO THE HOUSE OF PRAYER EVANGELISM CENTER, INC. IN THE DEED OF RECORD IN VOLUME 8306, PAGE 214 OF THE OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY, TEXAS.

DATE	REVISIONS	APP. BY

TRENCH EXCAVATION NOTE:
CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT/, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTORS IMPLEMENTATION OF THESE SYSTEMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION, SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

Texas 811

June 18, 2025

THIS PROJECT IS WITHIN THE EDWARDS RECHARGE ZONE

C:\Users\Kevin\Desktop\New Engineering Projects\25002-01 Hope Center Church Phase 2\Design\CAD\1 - Cover Sheet.dwg

GENERAL CONSTRUCTION NOTES:

1. CONTRACTOR SHALL COMPLY WITH ALL LOCAL BUILDING CODES AND REGULATIONS, AS WELL AS OTHER SAFETY CODES AND INSPECTION PROVISIONS APPLICABLE TO THIS PROJECT.

2. CONTRACTOR WILL BE RESPONSIBLE FOR SECURING ALL REQUIRED PERMITS FOR THE PROPOSED CONSTRUCTION AND SHALL NOTIFY ALL RESPECTIVE GOVERNMENTAL OR UTILITY AGENCIES AFFECTED BY CONSTRUCTION.

3. CONTRACTOR MUST COORDINATE ALL WORK THROUGH THE OWNER, ENGINEER, AND WITH ALL OTHER TRADE CONTRACTORS WHO MAY BE WORKING ON-SITE SIMULTANEOUSLY.

4. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES WITH FACILITIES ADJACENT TO OR IN THE VICINITY OF THE PROPOSED CONSTRUCTION AND HAVE EACH FACILITY LOCATED PRIOR TO BEGINNING CONSTRUCTION.

5. LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF SAME DURING CONSTRUCTION.

6. CONTRACTOR TO PROTECT EXISTING FACILITIES INCLUDING BUT NOT LIMITED TO UTILITIES, STREETS, CURBS, SIDEWALKS, LANDSCAPING, SPRINKLER SYSTEMS, FENCES, ETC. ADJACENT TO WORK AREA. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION, EXISTING FACILITIES DAMAGED BY CONTRACTOR. (NO SEPARATE PAY ITEM)

7. CONTRACTOR SHALL PROTECT EXISTING TREES WITHIN THE CONSTRUCTION AREA WHICH ARE NOT IDENTIFIED ON THE PLANS TO BE REMOVED OR IDENTIFIED IN THE FIELD TO BE PRESERVED. CONTRACTOR SHALL CONTACT OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO CLEARING AND REMOVAL OF TREES.

8. CONSTRUCTION AREAS SHOULD BE STRIPPED OF ALL VEGETATION, LOOSE TOPSOIL, AND DEBRIS, EXCEPT AS SHOWN ON THE PLANS. THE EXPOSED SUBGRADE SHOULD BE CLEANED OF DEBRIS AND ORGANICS AND THEN PROOF-ROLLED WITH AT LEAST A 20 TON PNEUMATIC ROLLER TO DETECT WEAK AREAS. SUCH AREAS SHOULD BE REMOVED AND REPLACED WITH SOILS EXHIBITING SIMILAR CLASSIFICATION, MOISTURE CONTENT, AND DENSITY AS THE ADJACENT IN-PLACE SOILS. THERE WILL BE NO SEPARATE PAY FOR THIS WORK UNLESS SPECIFICALLY IDENTIFIED IN THE BID DOCUMENTS.

9. CONTRACTOR SHALL MAINTAIN UNRESTRICTED DRAINAGE OF THE PROJECT SITE AND ADJACENT AREAS DURING CONSTRUCTION. UNDER NO CIRCUMSTANCES SHALL CONTRACTOR ALLOW STORM WATER TO POND AND SATURATE ANY PREPARED SUBGRADE, EXCAVATION OR EMBANKMENT SOILS. CONTRACTOR SHALL IMMEDIATELY PUMP ALL WATER OUT OF AREAS WHICH CANNOT DRAIN BY GRAVITY FLOW WITH SPECIAL ATTENTION REQUIRED TO THE BUILDING PAD AND PAVEMENT SUBGRADE AREAS. ANY LAYER DETERMINED TO BE SATURATED MUST BE DRIED OUT, RE-COMPACTED OR REMOVED AND REPLACED PRIOR TO CONTINUING CONSTRUCTION OF NEXT EMBANKMENT LAYER.

10. IF GROUNDWATER OR SEEPAGE IS ENCOUNTERED DURING CONSTRUCTION, CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY.

11. ALL EMBANKMENT, BASES AND SUBGRADE'S SHOULD BE PROPERLY PLACED WITH COMPACTION TO BE OBTAINED UTILIZING THE "DENSITY CONTROL" METHOD. THE DENSITIES SHALL BE DETERMINED IN ACCORDANCE WITH THE TXDOT'S TEST METHOD TEX-113-E. THE REQUIRED DENSITIES ARE OUTLINED AS FOLLOWS:

    EMBANKMENT/FILL 95% MAXIMUM DRY DENSITY
    PAVEMENT SUB-GRADE 95% MAXIMUM DRY DENSITY

12. ANY EXCESS EXCAVATION WHICH IS NOT USED ON SITE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF OFFSITE IN CONFORMANCE WITH ALL GOVERNMENTAL RULES RELATED TO SUCH DISPOSAL. THERE WILL BE NO SEPARATE PAYMENT FOR THIS WORK.

13. THE CONTRACTOR WILL BE RESPONSIBLE FOR FILING A N.O.I. WITH THE T.C.E.Q. OR LOCAL MS4 AT THE START OF THE PROJECT AND FILING THE N.O.T. AT THE END OF CONSTRUCTION.

14. ALL WATER PIPE SHALL BE C900 DR14 MATERIAL UNLESS NOTED OTHERWISE IN THESE PLANS OR REQUIRED BY GOVERNING PARTIES.

15. ALL WASTEWATER PIPE SHALL BE SDR 26 MATERIAL UNLESS NOTED OTHERWISE IN THESE PLANS OR REQUIRED BY GOVERNING PARTIES.

16. ALL STORM PIPING UNDER 15 INCHES SHALL BE SCH 40 PVC MATERIAL AND PIPES ABOVE 15 INCHES SHOULD BE HDPE OR REINFORCED CONCRETE UNLESS OTHERWISE NOTED IN THESE PLANS OR REQUIRED BY GOVERNING PARTIES.

17. AT A MINIMUM, THE CONTRACTOR SHALL SEED AND/OR MULCH ALL DISTURBED AREAS. 85% SUFFICIENT GRASS COVERAGE IS TO BE ESTABLISHED BEFORE THE END OF CONSTRUCTION. CONTRACTOR SHOULD BE AWARE OF ANY OTHER VEGETATION REQUIREMENTS POSED BY THE GOVERNING PARTY AND SHOULD FOLLOW THOSE REQUIREMENTS AS NEEDED.

SAWS CONSTRUCTION NOTES
COUNTER PERMIT AND GENERAL CONSTRUCTION PERMIT

GENERAL SECTION

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE:
    A. CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM", TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND "PUBLIC DRINKING WATER", TAC TITLE 30 PART 1 CHAPTER 290.
    B. CURRENT TXDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE".
    C. CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION".
    D. CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION".
    E. CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL" (UECM).

2. THE CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL THEY OBTAIN A COPY OF THE APPROVED COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT (GCP) FROM THE CONSULTANT AND HAS BEEN NOTIFIED BY SAWS CONSTRUCTION INSPECTION DIVISION TO PROCEED WITH THE WORK AND HAS ARRANGED A MEETING WITH THE INSPECTOR AND CONSULTANT FOR THE WORK REQUIREMENTS. WORK COMPLETED BY THE CONTRACTOR WITHOUT AN APPROVED COUNTER PERMIT AND/OR A GCP WILL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE EXPENSE OF THE CONTRACTORS AND/OR THE DEVELOPER.

3. THE CONTRACTOR SHALL OBTAIN THE SAWS STANDARD DETAILS FROM THE SAWS WEBSITE, HTTP://WWW.SAWS.ORG/BUSINESS_CENTER/SPECS. UNLESS OTHERWISE NOTED WITHIN THE DESIGN PLANS.

4. THE CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT

    (210) 233-2973, ON NOTIFICATION PROCEDURES THAT WILL BE USED TO NOTIFY AFFECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO BEGINNING ANY WORK.

5. LOCATION AND DEPTH OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR AT LEAST 1

    WEEK PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO SAWS.

6. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES AT LEAST 1-2 WEEKS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT. PLEASE ALLOW UP TO 7 BUSINESS DAYS FOR LOCATES REQUESTING PIPE LOCATION MARKERS ON SAWS FACILITIES. THE FOLLOWING CONTACT INFORMATION ARE SUPPLIED FOR VERIFICATION PURPOSES:
    - SAWS UTILITY LOCATES: HTTP://WWW.SAWS.ORG/SERVICE/LOCATES
    - COSA DRAINAGE (210) 207-0724 OR (210) 207-6026
    - COSA TRAFFIC SIGNAL OPERATIONS (210) 206-8480
    - COSA TRAFFIC SIGNAL DAMAGES (210) 207-3951
    - TEXAS STATE WIDE ONE CALL LOCATOR 1-800-545-6005 OR 811

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING AND STRUCTURES TO ITS ORIGINAL OR BETTER CONDITION IF DAMAGES ARE MADE AS A RESULT OF THE PROJECT'S CONSTRUCTION.

8. ALL WORK IN TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) AND/OR BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT REQUIREMENTS.

9. THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.

10. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.

11. HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON SAWS RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.

    WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE SAWS INSPECTION CONSTRUCTION DEPARTMENT 48 HOURS IN ADVANCE TO REQUEST WEEKEND WORK. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.

    ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.

12. COMPACTION NOTE (ITEM 804): THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING THE COMPACTION REQUIREMENTS ON ALL TRENCH BACKFILL AND FOR PAYING FOR THE TESTS PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED, OR AS INDICATED BY THE SAWS INSPECTOR AND/OR THE TEST ADMINISTRATOR, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

13. A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO SAWS CONSTRUCTION INSPECTION DIVISION.

WATER SECTION

1. PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT LEAST ONE WEEK IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS; THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.
    - FOR WATER MAINS 12" OR HIGHER: SAWS EMERGENCY OPERATIONS CENTER (210) 233-2014

2. ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSITE PIPE WHICH IS KNOWN TO CONTAIN ASBESTOS- CONTAINING MATERIAL (ACM), MAY BE LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF THIS PIPE OCCURS. SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO. 3000, "SPECIAL SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE".

3. VALVE REMOVAL: WHERE THE CONTRACTOR IS TO ABANDON A WATER MAIN, THE CONTROL VALVE LOCATED ON THE ABANDONING BRANCH WILL BE REMOVED AND REPLACED WITH A CAP/PLUG. (NSPI)

4. SUITABLE ANCHORAGE/THRUST BLOCKING OR JOINT RESTRAINT SHALL BE PROVIDED AT ALL OF THE FOLLOWING MAIN LOCATIONS: DEAD ENDS, PLUGS, CAPS, TEES, CROSSES, VALVES, AND BENDS, IN ACCORDANCE WITH THE STANDARD DRAWINGS DD-839 SERIES AND ITEM NO. 839, IN THE SAWS STANDARD SPECIFICATIONS FOR CONSTRUCTION.

5. ALL VALVES SHALL READ "OPEN RIGHT".

6. PRVS REQUIRED: CONTRACTOR TO VERIFY THAT NO PORTION OF THE TRACT IS BELOW GROUND ELEVATION OF

    _____FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS WHERE THE GROUND LEVEL IS BELOW_____FEET, THE DEVELOPER OR BUILDER SHALL INSTALL AT EACH LOT, ON THE CUSTOMER'S SIDE OF THE METER, AN APPROVED TYPE PRESSURE REGULATOR IN CONFORMANCE WITH THE PLUMBING CODE OF THE CITY OF SAN ANTONIO. NO DUAL SERVICES ALLOWED FOR ANY LOT(S) IF

    *PRV IS/ARE REQUIRED FOR SUCH LOT(S), ONLY SINGLE SERVICE CONNECTIONS SHALL BE ALLOWED.

    *NOTE: A PRESSURE REGULATOR IS ALSO KNOWN AS A PRESSURE REDUCING VALVE (PRV).

7. PIPE DISINFECTION WITH DRY HTH FOR PROJECTS LESS THAN 800 LINEAR FEET. (ITEM NO. 847.3); MAINS SHALL BE DISINFECTED WITH DRY HTH WHERE SHOWN IN THE CONTRACT DOCUMENTS OR AS DIRECTED BY THE INSPECTOR, AND SHALL NOT EXCEED A TOTAL LENGTH OF 800 FEET. THIS METHOD OF DISINFECTION WILL ALSO BE FOLLOWED FOR MAIN REPAIRS. THE CONTRACTOR SHALL UTILIZE ALL APPROPRIATE SAFETY MEASURE TO PROTECT HIS PERSONNEL DURING DISINFECTION OPERATIONS.

8. BACKFLOW PREVENTION DEVICES:
    - ALL IRRIGATION SERVICES WITHIN RESIDENTIAL AREAS ARE REQUIRED TO HAVE BACKFLOW PREVENTION DEVICES.
    - ALL COMMERCIAL BACKFLOW PREVENTION DEVICES MUST BE APPROVED BY SAWS PRIOR TO INSTALLATION.

9. FINAL CONNECTION TO THE EXISTING WATER MAIN SHALL NOT BE MADE UNTIL THE WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED, AND SAWS HAS RELEASED THE MAIN FOR TIE-IN AND USE.

10. DIVISION VALVES: DIVISION VALVES SHOWN ON PLANS OR NOT SHOWN ON PLANS BUT FOUND IN THE FIELD SHALL ONLY BE OPERATED BY SAWS DISTRIBUTION AND COLLECTION STAFF AND ONLY WITH PRIOR WRITTEN APPROVAL OF THE SAWS DIRECTOR OF PRODUCTION AND OPERATIONS AND PROPER COORDINATION WITH ALL SAWS DEPARTMENTS. CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE INSPECTOR A MINIMUM OF TWO WEEKS IN ADVANCE TO START THE COORDINATION PROCESS AND WILL BE INFORMED BY THE INSPECTOR WHEN THE DIVISION VALVE WILL BE OPERATED BY THE SAWS DISTRIBUTION AND COLLECTION STAFF. THE DIVISION VALVE CAN ONLY BE OPERATED BY SAWS DISTRIBUTION AND COLLECTION STAFF MEMBER NOT THE INSPECTOR OR THE CONTRACTOR. OPERATION OF A DIVISION VALVE WITHOUT THE EXPRESS PRIOR WRITTEN APPROVAL OF THE SAWS DISTRIBUTION AND COLLECTION STAFF WILL CONSTITUTE A MATERIAL BREACH OF ANY WRITTEN SAWS CONTRACT OR PERMIT IN ADDITION TO SUBJECTING THE CONTRACTOR TO LIABILITY FOR ANY AND ALL FINES, FEES, OR OTHER DAMAGES, DIRECT OR CONSEQUENTIAL, THAT MAY ARISE FROM OR BE CAUSED BY THE OPERATION OF THE VALVE WITHOUT PRIOR WRITTEN PERMISSION. PLEASE BE INFORMED THAT THE APPROVAL OF THE OPERATION OR OPENING OR CLOSING OF A DIVISION VALVE CAN TAKE SEVERAL WEEKS FOR APPROVAL. DIVISION VALVES WILL ALSO HAVE A VALVE LID LABELED DIVISION VALVE AND A LOCKING MECHANISM

    INSTALLED WITH A KEY. THE LOCK AND KEY MECHANISM WILL BE PAID FOR BY THE CONTRACTOR BUT WILL BE INSTALLED BY SAWS DISTRIBUTION AND COLLECTION STAFF.

SEWER NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NO SANITARY SEWER OVERFLOW (SSO) OCCURS AS A RESULT OF THEIR WORK. ALL CONTRACTOR PERSONNEL RESPONSIBLE FOR SSO PREVENTION AND CONTROL SHALL BE TRAINED ON PROPER RESPONSE. SHOULD AN SSO OCCUR, THE CONTRACTOR SHALL:
    A. IDENTIFY THE SOURCE OF THE SSO AND NOTIFY SAWS EMERGENCY OPERATIONS CENTER (EOC) IMMEDIATELY AT (210) 233-2014. PROVIDE THE ADDRESS OF THE SPILL AND AN ESTIMATED VOLUME OR FLOW.
    B. ATTEMPT TO ELIMINATE THE SOURCE OF THE SSO.
    C. CONTAIN SEWAGE FROM THE SSO TO THE EXTENT OF PREVENTING A POSSIBLE CONTAMINATION OF WATERWAYS.
    D. CLEAN UP SPILL SITE (RETURN CONTAINED SEWAGE TO THE COLLECTION SYSTEM IF POSSIBLE) AND PROPERLY DISPOSE OF CONTAMINATED SOIL/MATERIALS.
    E. CLEAN THE AFFECTED SEWER MAINS AND REMOVE ANY DEBRIS.
    F. MEET ALL POST-SSO REQUIREMENTS AS PER THE EPA CONSENT DECREE, INCLUDING LINE CLEANING AND TELEVISING THE AFFECTED SEWER MAINS (AT SAWS DIRECTION) WITHIN 24 HOURS.

    SHOULD THE CONTRACTOR FAIL TO ADDRESS AN SSO IMMEDIATELY AND TO SAWS SATISFACTION, THEY WILL BE RESPONSIBLE FOR ALL COSTS INCURRED BY SAWS, INCLUDING ANY FINES FROM EPA, TCEQ AND/OR ANY OTHER FEDERAL, STATE OR LOCAL AGENCIES.

    NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR THIS WORK. ALL WORK SHALL BE DONE ACCORDING TO GUIDELINES SET BY THE TCEQ AND SAWS.

2. IF BYPASS PUMPING IS REQUIRED, THE CONTRACTOR SHALL PERFORM SUCH WORK IN ACCORDANCE WITH SAWS STANDARD SPECIFICATION FOR WATER AND SANITARY SEWER CONSTRUCTION, ITEM NO. 864, "BYPASS PUMPING".

3. PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING FORCE MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT (210) 233-2973 AT LEAST ONE WEEK IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS; THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.

4. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 PSI AND MEET THE REQUIREMENTS OF ASTM D2241, TAC 217.53 AND TCEQ 290.44(E)(4)(B). CONTRACTOR SHALL CENTER A 20' JOINT OF 160 PSI PRESSURE RATED PVC AT THE PROPOSED WATER CROSSING.

5. ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY: IT SHALL

    BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ALLOWANCES AND ADJUSTMENTS FOR TOP OF MANHOLES TO MATCH THE FINISHED GRADE OF THE PROJECT'S IMPROVEMENTS. (NSPI)

6. SPILLS, OVERFLOWS, OR DISCHARGES OF WASTEWATER: ALL SPILLS, OVERFLOWS, OR DISCHARGES OF WASTEWATER, RECYCLED WATER, PETROLEUM PRODUCTS, OR CHEMICALS MUST BE REPORTED IMMEDIATELY TO THE SAWS INSPECTOR ASSIGNED TO THE COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT (GCP). THIS REQUIREMENT APPLIES TO EVERY SPILL, OVERFLOW, OR DISCHARGE REGARDLESS OF SIZE.

7. MANHOLE AND ALL PIPE TESTING (INCLUDING THE TV INSPECTION) MUST BE PERFORMED AND PASSED PRIOR TO FINAL FIELD ACCEPTANCE BY SAWS CONSTRUCTION INSPECTION DIVISION, AS PER THE SAWS SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION.

8. ALL PVC PIPE OVER 14 FEET OF COVER SHALL BE EXTRA STRENGTH WITH MINIMUM PIPE STIFFNESS OF 115 PSI.

DATE	REVISIONS	APP. BY

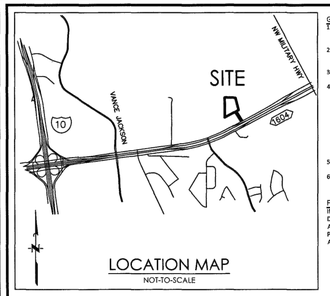
STATE OF TEXAS
KYLER J. FELUX
150019
LICENSED
PROFESSIONAL ENGINEER
7-22-2025

FELUX ENGINEERING
FIRM NO. 23020
P.O. BOX 64, BOERNE, TX 78147
210-818-3340

4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

GENERAL CONSTRUCTION NOTES

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
PAGE:



LOCATION MAP
NOT-TO-SCALE

LEGEND

BCDR ----------	BEXAR COUNTY DEED RECORDS
BCRPR ----------	BEXAR COUNTY REAL PROPERTY RECORDS
BCDPR ----------	BEXAR COUNTY DEED AND PLAT RECORDS
ESMT ----------	EASEMENT
VOL. ----------	VOLUME
PG. ----------	PAGE NUMBER
ELEC ----------	ELECTRIC
TELE ----------	TELEPHONE
CATV ----------	CABLE TV
----------	FLOOD ZONE
----------	EASEMENT LINES
————	SUBJECT PROPERTY LINE
————	OTHER PROPERTY LINE
——-℄——-	ROW CENTERLINE
•	½" IRON ROD
▪	PK NAIL

TCEQ- EDWARDS AQUIFER RECHARGE ZONE NOTE:

THIS SUBDIVISION IS WITHIN THE EDWARDS RECHARGE ZONE. DEVELOPMENT WITHIN THIS SUBDIVISION IS SUBJECT TO CHAPTER 34, ARTICLE VI, DIVISION 6 OF THE SAN ANTONIO CITY CODE ENTITLED "AQUIFER RECHARGE ZONE AND WATERSHED PROTECTION," OR LATEST REVISIONS THEREOF.
NO PERSON SHALL COMMENCE THE CONSTRUCTION OF ANY REGULATED ACTIVITY UNTIL AN EDWARDS AQUIFER PROTECTION PLAN ("WATER POLLUTION ABATEMENT PLAN" (WPAP)) OR MODIFICATION TO AN APPROVED PLAN AS REQUIRED BY 30 TAC §213.5 OF THE TEXAS ADMINISTRATIVE CODE, OR LATEST REVISION THEREOF, HAS BEEN FILED WITH THE APPROPRIATE REGIONAL TCEQ OFFICE, AND THE APPLICATION HAS BEEN APPROVED BY THE EXECUTIVE DIRECTOR OF THE TCEQ.

CPS/SAWS/COSA UTILITY NOTES:

1. THE CITY OF SAN ANTONIO AS PART OF ITS ELECTRIC, GAS, WATER, AND WASTEWATER SYSTEMS - CITY PUBLIC SERVICE BOARD (CPS ENERGY) AND SAN ANTONIO WATER SYSTEM (SAWS) - IS HEREBY DEDICATED EASEMENTS AND RIGHTS-OF-WAY FOR UTILITY, TRANSMISSION AND DISTRIBUTION INFRASTRUCTURE AND SERVICE FACILITIES IN THE AREAS DESIGNATED ON THIS PLAT AS "ELECTRIC EASEMENT," "ANCHOR EASEMENT," "SERVICE EASEMENT," "OVERHANG EASEMENT," "UTILITY EASEMENT," "GAS EASEMENT," "TRANSFORMER EASEMENT," "WATER EASEMENT," "SANITARY SEWER EASEMENT" AND/OR "RECYCLED WATER EASEMENT" FOR THE PURPOSE OF INSTALLING, CONSTRUCTING, RECONSTRUCTING, MAINTAINING, REMOVING, INSPECTING, PATROLLING, AND ERECTING UTILITY INFRASTRUCTURE AND SERVICE FACILITIES FOR THE REASONS DESCRIBED ABOVE. CPS ENERGY AND SAWS SHALL ALSO HAVE THE RIGHT TO RELOCATE SAID INFRASTRUCTURE AND SERVICE FACILITIES WITHIN EASEMENT AND RIGHT-OF-WAY AREAS, TOGETHER WITH THE RIGHT OF INGRESS AND EGRESS OVER GRANTOR'S ADJACENT LANDS FOR THE PURPOSE OF ACCESSING SUCH INFRASTRUCTURE AND SERVICE FACILITIES AND THE RIGHT TO REMOVE FROM SAID LANDS ALL TREES OR PARTS THEREOF, OR OTHER OBSTRUCTIONS WHICH ENDANGER OR MAY INTERFERE WITH THE EFFICIENCY OF WATER, SEWER, GAS, AND/OR ELECTRIC INFRASTRUCTURE AND SERVICE FACILITIES. NO BUILDINGS, STRUCTURES, CONCRETE SLABS, OR WALLS WILL BE PLACED WITHIN EASEMENT AREAS WITHOUT AN ENCROACHMENT AGREEMENT WITH THE RESPECTIVE UTILITY.

2. ANY CPS ENERGY OR SAWS MONETARY LOSS RESULTING FROM MODIFICATIONS REQUIRED OF CPS ENERGY OR SAWS INFRASTRUCTURE AND SERVICE FACILITIES LOCATED WITHIN SAID EASEMENTS, DUE TO GRADE CHANGES OR GROUND ELEVATION ALTERATIONS SHALL BE CHARGED TO THE PERSON OR PERSONS DEEMED RESPONSIBLE FOR SAID GRADE CHANGES OR GROUND ELEVATION ALTERATIONS.

3. THIS PLAT DOES NOT AMEND, ALTER, RELEASE OR OTHERWISE AFFECT ANY EXISTING ELECTRIC, GAS, WATER, SEWER, DRAINAGE, TELEPHONE, CABLE TV EASEMENTS OR ANY OTHER EASEMENTS FOR UTILITIES UNLESS THE CHANGES TO SUCH EASEMENTS ARE DESCRIBED HEREON.

STATE OF TEXAS
COUNTY OF BEXAR

I HEREBY CERTIFY THAT PROPER ENGINEERING CONSIDERATION HAS BEEN GIVEN THIS PLAT TO THE MATTERS OF STREETS, LOTS AND DRAINAGE LAYOUT. TO THE BEST OF MY KNOWLEDGE THIS PLAT CONFORMS TO ALL REQUIREMENTS OF THE UNIFIED DEVELOPMENT CODE, EXCEPT FOR THOSE VARIANCES GRANTED BY THE SAN ANTONIO PLANNING COMMISSION.

LICENSED PROFESSIONAL ENGINEER

STATE OF TEXAS
COUNTY OF BEXAR

I HEREBY CERTIFY THAT THE ABOVE PLAT CONFORMS TO THE MINIMUM STANDARDS SET FORTH BY THE TEXAS BOARD OF PROFESSIONAL LAND SURVEYING ACCORDING TO AN ACTUAL SURVEY MADE ON THE GROUND BY: JONES & CARTER, INC.

REGISTERED PROFESSIONAL LAND SURVEYOR

GENERAL NOTES:

1. ALL EXTERIOR BOUNDARY LINES OF THIS SUBDIVISION WHICH ARE COMMON WITH THE ORIGINAL SURVEY BOUNDARY ARE MONUMENTED ON THE GROUND WITH 1/2"-DIAMETER IRON RODS (UNLESS OTHERWISE NOTED).
2. THE BEARINGS & DISTANCES SHOWN HEREON ARE TEXAS STATE PLANE COORDINATE SYSTEM GRID, SOUTH CENTRAL ZONE, AS ESTABLISHED BY GLOBAL POSITIONING SYSTEM. THE GRID TO SURFACE SCALE FACTOR IS 1.00016994.
3. NORTH AND EAST COORDINATES SHOWN HEREON ARE TEXAS STATE PLANE, SOUTH CENTRAL ZONE AS ESTABLISHED BY GLOBAL POSITIONING SYSTEM.
4. THE GRAPHIC LOCATION OF THE SUBJECT TRACT SUPERIMPOSED UPON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 48029C0280G, EFFECTIVE DATE SEPTEMBER 29, 2010, AMENDED BY LOMR 14-06-3621P, EFFECTIVE DATE FEBRUARY 12, 2015, INDICATES THAT THE SUBJECT TRACT IS LOCATED WITHIN ZONE "X" (UN-SHADED) WHICH IS DEFINED BY FEMA AS "AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN," COMMONLY KNOWN AS THE 500-YEAR FLOODPLAIN. ZONE "X" (UN-SHADED) IS OUTSIDE OF ANY FEMA ESTABLISHED FLOOD HAZARD ZONE. THIS STATEMENT DOES NOT IMPLY THAT ANY PORTION OF THE SUBJECT TRACT IS TOTALLY FREE OF POTENTIAL FLOOD HAZARD. LOCALIZED FLOODING CAN OCCUR DUE TO NATURAL AND/OR MAN-MADE INFLUENCES. THIS FLOOD STATEMENT SHALL NOT CREATE ANY LIABILITY ON THE PART OF JONES|CARTER OR THE UNDERSIGNED.
5. SETBACKS IMPOSED ON THIS PLAT ARE AT THE DISCRETION OF THE DEVELOPER OR BEXAR COUNTY AND ARE NOT SUBJECT TO ENFORCEMENT BY THE CITY OF SAN ANTONIO.
6. BEXAR COUNTY WILL NOT MAINTAIN PRIVATE STREETS, DRAINS, PARKS, LANDSCAPE BUFFERS, EASEMENTS OF ANY KIND, GREENBELTS, OPEN SPACES, TRAFFIC ISLANDS, ETC. LOT OWNER, THEIR SUCCESSOR OR ASSIGNS SHALL BE RESPONSIBLE FOR MAINTAINING THESE AREAS.

FIRE:
INGRESS AND EGRESS SHALL BE PROVIDED BETWEEN ALL ADJACENT LOTS FOR ADEQUATE FIRE DEPARTMENT VEHICLE ACCESS PER THE CITY OF SAN ANTONIO FIRE PREVENTION CODE. ANY CROSS ACCESS SHALL NOT BE LOCKED NOR MAY THIS NOTE BE REMOVED FROM THE PLAT WITHOUT WRITTEN PERMISSION FROM THE CITY OF SAN ANTONIO DIRECTOR OF DEVELOPMENT SERVICES AND THE SAN ANTONIO FIRE DEPARTMENT FIRE MARSHAL.

SAWS UTILITY NOTES:

1. IMPACT FEE PAYMENT NOTE: WATER AND/OR WASTEWATER IMPACT FEES WERE NOT PAID AT THE TIME OF PLATTING FOR THIS PLAT. ALL IMPACT FEES MUST BE PAID PRIOR TO THE WATER METER SET AND/OR THE WASTEWATER SERVICE CONNECTION.
2. WASTEWATER EDU NOTE: THE NUMBER OF WASTEWATER EQUIVALENT DWELLING UNITS (EDUs) PAID FOR THIS SUBDIVISION PLAT ARE KEPT ON FILE AT THE SAN ANTONIO WATER SYSTEM UNDER THE PLAT NUMBER ISSUED BY THE DEVELOPMENT SERVICES DEPARTMENT.
3. SAWS DEDICATION: THE OWNER DEDICATES THE SANITARY SEWER AND/OR WATER MAINS TO THE SAN ANTONIO WATER SYSTEM UPON COMPLETION BY THE DEVELOPER AND ACCEPTANCE BY THE SAN ANTONIO WATER SYSTEM.

SAWS HIGH PRESSURE NOTE:
A PORTION OF THE TRACT IS BELOW THE GROUND ELEVATION OF 985 FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS, THE DEVELOPER OR BUILDER SHALL INSTALL AT EACH LOT, ON THE CUSTOMER'S SIDE OF THE METER, AN APPROVED TYPE PRESSURE REGULATOR IN CONFORMANCE WITH THE PLUMBING CODE OF THE CITY OF SAN ANTONIO.

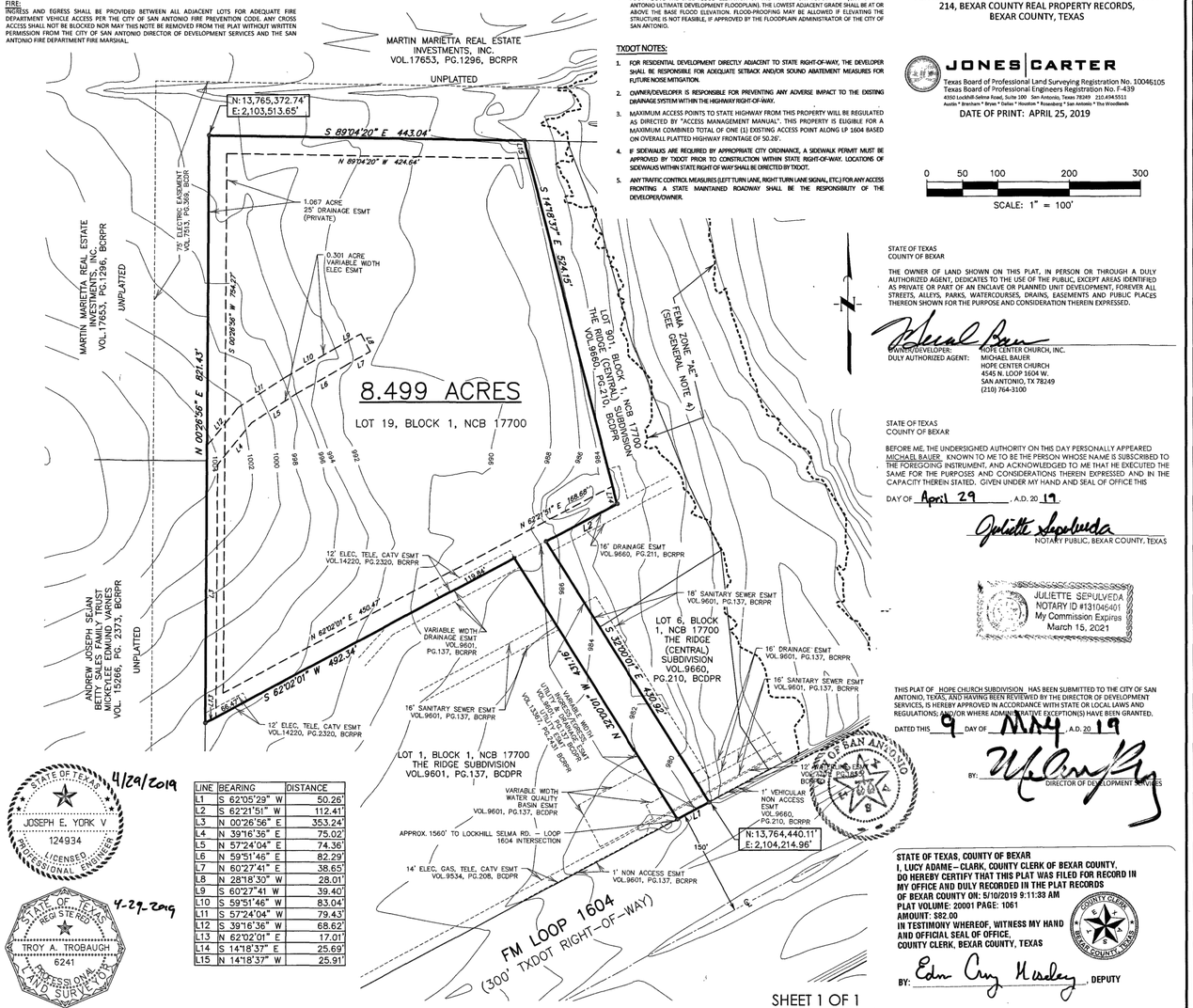
SAWS AQUIFER NOTE:
THIS SUBDIVISION IS WITHIN THE EDWARDS AQUIFER RECHARGE ZONE. DEVELOPMENT WITHIN THIS SUBDIVISION IS SUBJECT TO CHAPTER 34, ARTICLE VI, DIVISION 6 OF THE SAN ANTONIO CITY CODE ENTITLED "AQUIFER RECHARGE ZONE AND WATERSHED PROTECTION" OR LATEST REVISIONS THEREOF. ANY REGULATED ACTIVITY MUST COMPLY WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS RELATING TO DEVELOPMENT WITHIN THE EDWARDS AQUIFER RECHARGE ZONE.

DRAINAGE NOTES:

1. THE MAINTENANCE OF ALL PRIVATE STREETS, OPEN SPACE, GREENBELTS, PARKS, TREE SAVE AREAS, INCLUDING LOT 19, BLOCK 1, CB OR NCB 17700, DRAINAGE EASEMENTS AND EASEMENTS OF ANY OTHER NATURE WITHIN THIS SUBDIVISION SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNERS, OR THE PROPERTY OWNERS' ASSOCIATION, OR ITS SUCCESSORS OR ASSIGNS AND NOT THE RESPONSIBILITY OF THE CITY OF SAN ANTONIO OR BEXAR COUNTY.
2. NO PORTION OF THE FEMA 1% ANNUAL CHANCE (100-YEAR) FLOODPLAIN EXISTS WITHIN THIS PLAT AS VERIFIED BY FEMA MAP PANEL: 48029C0230G, EFFECTIVE 09/29/2010. FLOODPLAIN INFORMATION IS SUBJECT TO CHANGE AS A RESULT OF FUTURE FEMA MAP REVISIONS AND/OR AMENDMENTS.
3. NO STRUCTURE, FENCES, WALLS OR OTHER OBSTRUCTIONS THAT IMPEDE DRAINAGE SHALL BE PLACED WITHIN THE LIMITS OF THE DRAINAGE EASEMENTS SHOWN ON THIS PLAT. NO LANDSCAPING OR OTHER TYPE OF MODIFICATIONS, WHICH ALTER THE CROSS-SECTIONS OF THE DRAINAGE EASEMENTS, AS APPROVED, SHALL BE ALLOWED WITHOUT THE APPROVAL OF THE DIRECTOR OF TCI OR DIRECTOR OF PUBLIC WORKS. THE CITY OF SAN ANTONIO AND BEXAR COUNTY SHALL HAVE THE RIGHT OF INGRESS AND EGRESS OVER THE GRANTOR'S ADJACENT PROPERTY TO REMOVE ANY IMPEDING OBSTRUCTIONS PLACED WITHIN THE LIMITS OF SAID DRAINAGE EASEMENT AND TO MAKE ANY MODIFICATIONS OR IMPROVEMENTS WITHIN SAID DRAINAGE EASEMENTS.
4. FINISHED FLOOR ELEVATIONS FOR NON-RESIDENTIAL STRUCTURES SHALL BE NO LESS THAN ONE FOOT ABOVE THE BASE FLOOD ELEVATION OF THE REGULATORY FLOODPLAIN (CITY OF SAN ANTONIO ULTIMATE DEVELOPMENT FLOODPLAIN). THE LOWEST ADJACENT GRADE SHALL BE AT OR ABOVE THE BASE FLOOD ELEVATION. FLOOD-PROOFING MAY BE ALLOWED IF ELEVATING THE STRUCTURE IS NOT FEASIBLE, IF APPROVED BY THE FLOODPLAIN ADMINISTRATOR OF THE CITY OF SAN ANTONIO.

TXDOT NOTES:

1. FOR RESIDENTIAL DEVELOPMENT DIRECTLY ADJACENT TO STATE RIGHT-OF-WAY, THE DEVELOPER SHALL BE RESPONSIBLE FOR ADEQUATE SETBACK AND/OR SOUND ABATEMENT MEASURES FOR FUTURE NOISE MITIGATION.
2. OWNER/DEVELOPER IS RESPONSIBLE FOR PREVENTING ANY ADVERSE IMPACT TO THE EXISTING DRAINAGE SYSTEM WITHIN THE HIGHWAY RIGHT-OF-WAY.
3. MAXIMUM ACCESS POINTS TO STATE HIGHWAY FROM THIS PROPERTY WILL BE REGULATED AS DIRECTED BY "ACCESS MANAGEMENT MANUAL". THIS PROPERTY IS ELIGIBLE FOR A MAXIMUM COMBINED TOTAL OF ONE (1) EXISTING ACCESS POINT ALONG LP 1604 BASED ON OVERALL PLATTED HIGHWAY FRONTAGE OF 50.26'.
4. IF SIDEWALKS ARE REQUIRED BY APPROPRIATE CITY ORDINANCE, A SIDEWALK PERMIT MUST BE APPROVED BY TXDOT PRIOR TO CONSTRUCTION WITHIN STATE RIGHT-OF-WAY. LOCATIONS OF SIDEWALKS WITHIN STATE RIGHT OF WAY SHALL BE DIRECTED BY TXDOT.
5. ANY TRAFFIC CONTROL MEASURES (LEFT TURN LANE, RIGHT TURN LANE SIGNAL, ETC.) FOR ANY ACCESS FRONTING A STATE MAINTAINED ROADWAY SHALL BE THE RESPONSIBILITY OF THE DEVELOPER/OWNER.


MARTIN MARIETTA REAL ESTATE INVESTMENTS, INC. VOL.17653, PG.1296, BCRPR
UNPLATTED
N:13,765,372.74'
E:2,103,513.65'
S 89°24'20" E 443.04'
N 89°24'20" W 424.64'
75' ELECTRIC EASEMENT VOL.7515, PG.366, BCDPR
1.067 ACRE 25' DRAINAGE ESMT (PRIVATE)
0.301 ACRE VARIABLE WIDTH ELEC ESMT
MARTIN MARIETTA REAL ESTATE INVESTMENTS, INC. VOL.17653, PG.1296, BCRPR
UNPLATTED
S 14°18'37" E 524.15'
LOT 901, BLOCK 1, NCB 17700 THE RIDGE (CENTRAL) SUBDIVISION VOL.9661, PG.210, BCDPR
FEMA ZONE "AE" (SEE GENERAL NOTE 4)
N 00°26'56" E 821.43'
8.499 ACRES
LOT 19, BLOCK 1, NCB 17700
N 62°51'51" E 168.68'
16' DRAINAGE ESMT VOL.9660, PG.211, BCRPR
12' ELEC, TELE, CATV ESMT VOL.14220, PG.2320, BCRPR
18' SANITARY SEWER ESMT VOL.9601, PG.137, BCRPR
ANDREW JOSEPH SEJAN BETTY SALES FAMILY TRUST MARTHA SALES SEJAN VOL. 15266, PG. 2373, BCRPR
UNPLATTED
N 62°02'01" E 450.47'
119.66'
VARIABLE WIDTH DRAINAGE ESMT VOL.9601, PG.137, BCRPR
S 62°02'01" W 492.34'
66.47'
LOT 6, BLOCK 1, NCB 17700 THE RIDGE (CENTRAL) SUBDIVISION VOL.9660, PG.210, BCDPR
S 27°00'01" E 410.92'
N 40°04'25" W 431.16'
16' DRAINAGE ESMT VOL.9601, PG.137, BCRPR
16' SANITARY SEWER ESMT VOL.9601, PG.137, BCRPR
16' SANITARY SEWER ESMT VOL.9601, PG.137, BCRPR
12' ELEC, TELE, CATV ESMT VOL.14220, PG.2320, BCRPR
VARIABLE WIDTH DRAINAGE ESMT VOL.13567, PG.2431, BCRPR
LOT 1, BLOCK 1, NCB 17700 THE RIDGE SUBDIVISION VOL.9601, PG.137, BCDPR
VARIABLE WIDTH WATER QUALITY BASIN ESMT VOL.9601, PG.137, BCDPR
APPROX. 1560' TO LOCKHILL SELMA RD. – LOOP 1604 INTERSECTION
1' VEHICULAR NON ACCESS ESMT VOL.9660, PG.210, BCDPR
N:13,764,440.11'
E:2,104,214.96'
14' ELEC, GAS, TELE, CATV ESMT VOL.9534, PG.208, BCDPR
1' NON ACCESS ESMT VOL.9601, PG.137, BCRPR
150'
℄
FM LOOP 1604
(300' TXDOT RIGHT-OF-WAY)
CITY OF SAN ANTONIO
VOL.10018, PG.1853, BCRPR
B-2
B-1
B-3
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B-5
B-6
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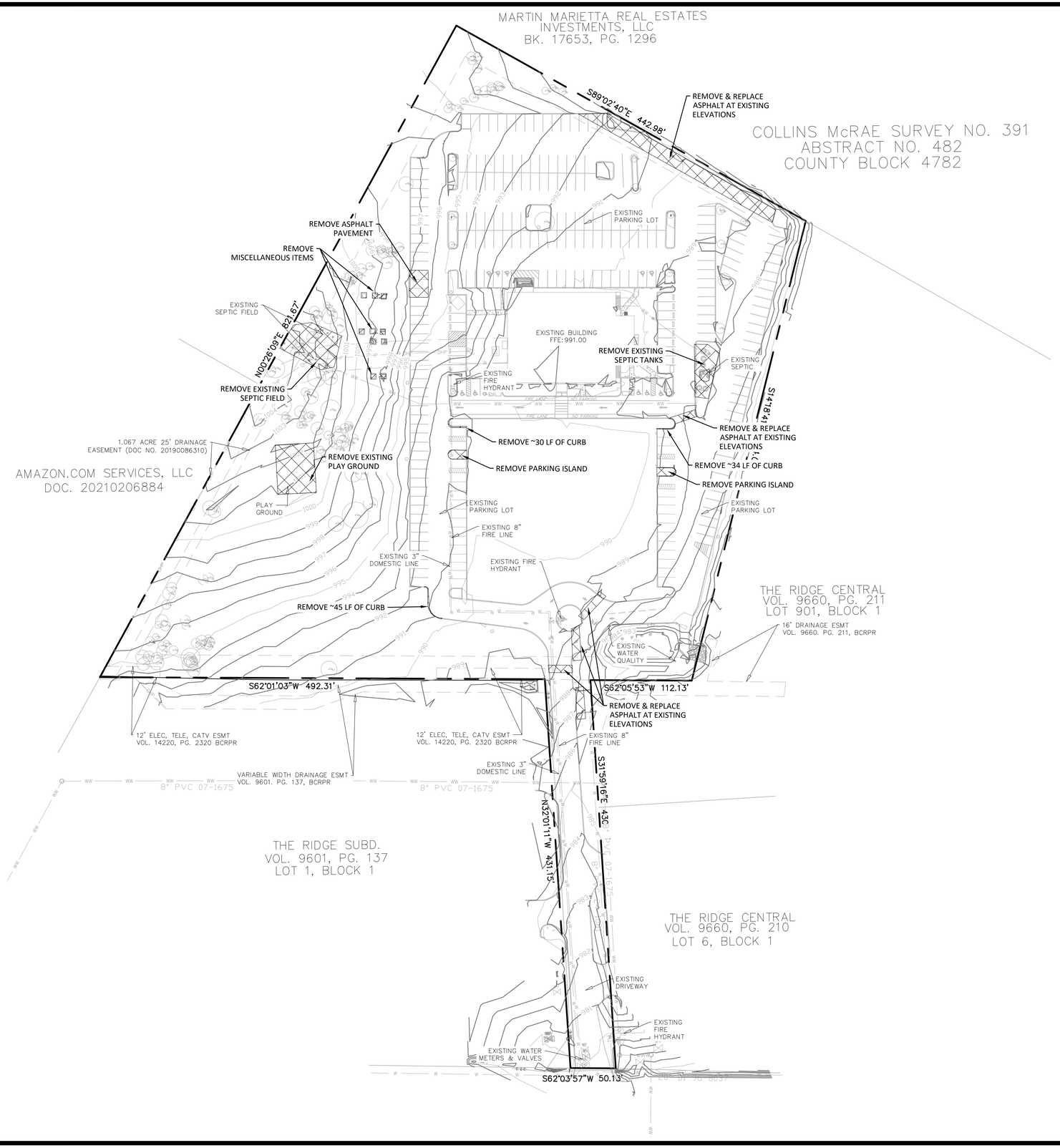

0 30' 60'
SCALE: 1"=30'

LEGEND

- PROPERTY LINE
- EXISTING EASEMENT LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING WATER LINE
- EXISTING WASTEWATER PIPE
- EXISTING STORM WATER PIPE
- EXISTING GAS PIPE
- EXISTING UNDERGROUND UTILITY
- EXISTING OVERHEAD POWER
- EXISTING DATA UTILITY
- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- DEMOLITION AREA

NOTE:

1. SURVEY WAS COMPLETED BY POLLOK & SONS ON 6/27/2024. FELUX ENGINEERING SHOULD NOT BE RESPONSIBLE FOR THE CONTENTS OR ACCURACY.
2. EXISTING FINISHED FLOOR WILL NEED TO BE FIELD VERIFIED BY CONTRACTOR.
3. EXITING UTILITIES ARE APPROXIMATE LOCATIONS AND WILL NEED TO BE VERIFIED BY THE CONTRACTOR.
4. COORDINATE DEMOLITION AND SALVAGE OF MATERIAL WITH THE SPECIFICATIONS. PROVIDE OWNER OR OWNER'S REPRESENTATIVE WITH AN ITEMIZED LIST OF SALVAGED MATERIAL AND DISCUSS WITH OWNER HOW SALVAGED ITEMS ARE TO BE HANDLED.
5. EROSION CONTROL MEASURE MUST BE IN PLACE PRIOR TO STARTING DEMOLITION AND EARTH MOVING OPERATIONS. REFER TO STORM WATER POLLUTION PREVENTION PLAN (SWPPP), SHEET 5.
6. WHERE EXISTING PAVEMENT IS TO PARTIALLY REMOVED SAW-CUT PAVEMENT FULL DEPTH TO PROVIDE A SMOOTH JOINT WITH PROPOSED PAVEMENT.
7. PERFORM CLEARING, GRUBBING, STUMP REMOVAL, AND STOCKPILING IN ACCORDANCE WITH THE PROJECT DOCUMENTS AND SPECIFICATIONS.
8. NO ATTEMPT IS MADE TO STIPULATE EVERY REQUIRED ITEM OF REMOVAL AND DEMOLITION EITHER ON DRAWINGS OR IN SPECIFICATIONS. THE CONTRACTOR MUST VISIT THE SITE AND STUDY EXISTING PHYSICAL CONDITIONS, REVIEW DRAWINGS , AND REACH THEIR OWN CONCLUSIONS ON WORK NECESSARY TO ACCOMPLISH INTENDED RESULTS DESCRIBED BY THE PROJECT DOCUMENTS.
9. COMPLETELY RESTORE ALL DISTURBED AREAS TO A CONDITION EQUAL TO OR BETTER THAN THE EXISTING CONDITIONS AND TO THE SATISFACTION OF THE OWNER AND THE CITY OF SAN ANTONIO PUBLIC WORKS. ALL COSTS FOR CLEAN-UP, RESTORATION WORK AND OTHER IMMEDIATE OPERATIONS SUCH AS, BUT NOT LIMITED TO, CONSTRUCTION SIGNS, STREET SWEEPING, AND MAINTAINING EXISTING UTILITIES SHALL BE THE CONTRACTOR'S RESPONSIBILITY. PERFORM RESTORATION WORK WITHIN FIVE (5) DAYS AFTER THE COMPLETION OF FINAL GRADING.

DATE	REVISIONS	APP. BY

STATE OF TEXAS
KYLER J. FELUX
150019
LICENSED
PROFESSIONAL ENGINEER
7-22-2025

FELUX ENGINEERING
FIRM NO. 25020
P.O. BOX 781147, SAN ANTONIO, TX 78147
210-818-3340

4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

EXISTING CONDITIONS & DEMOLITION

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
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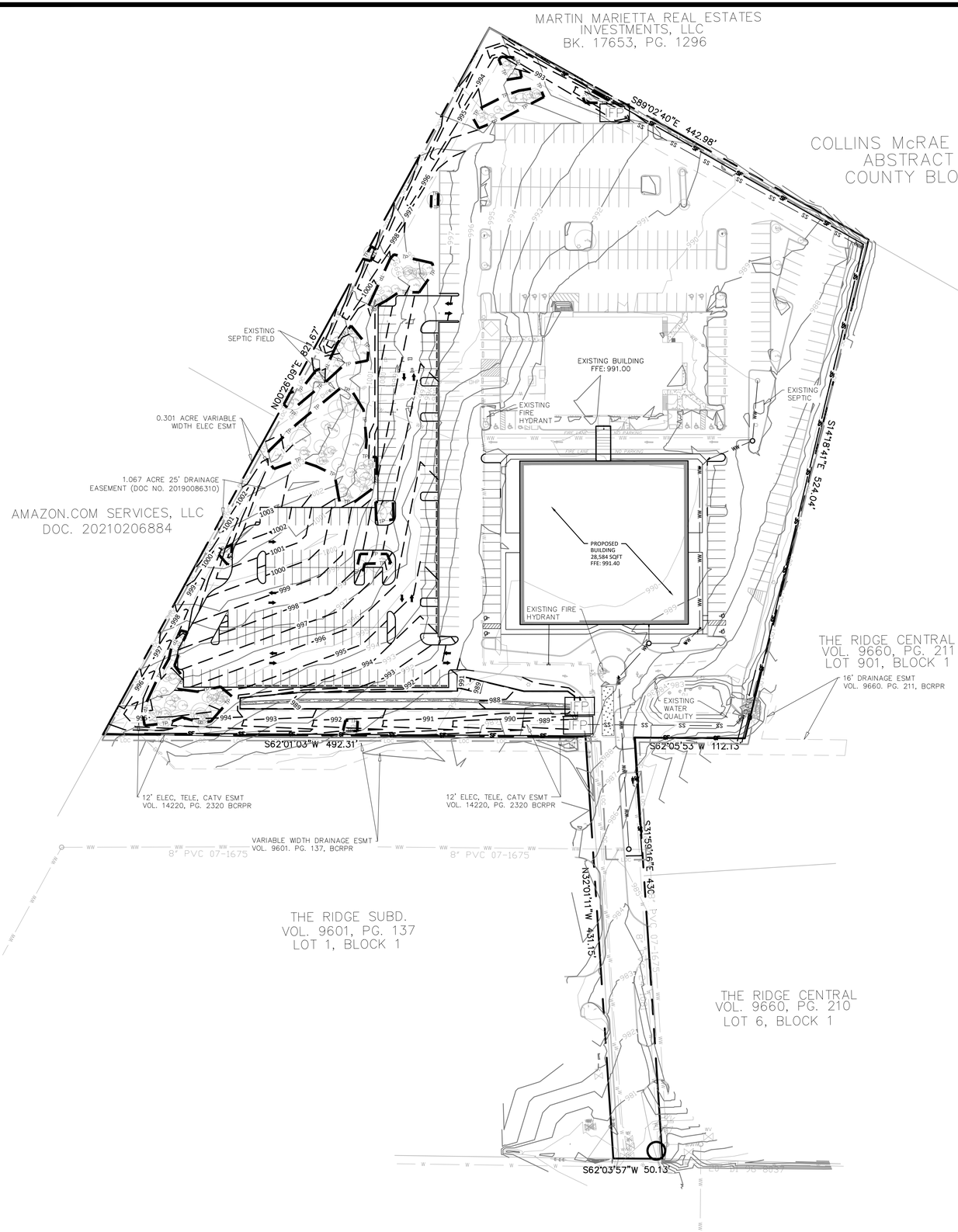


NOTES:

1. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
   - THE NAME OF THE APPROVED PROJECT;
   - THE ACTIVITY START DATE; AND
   - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN (WPAP) AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.
3. IF ANY SENSITIVE FEATURE(S) (CAVES, SOLUTION CAVITY, SINK HOLE, ETC.) IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. CONSTRUCTION ACTIVITIES MAY NOT BE RESUMED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE APPROPRIATE PROTECTIVE MEASURES IN ORDER TO PROTECT ANY SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.
4. NO TEMPORARY OR PERMANENT HAZARDOUS SUBSTANCE STORAGE TANK SHALL BE INSTALLED WITHIN 150 FEET OF A WATER SUPPLY SOURCE, DISTRIBUTION SYSTEM, WELL, OR SENSITIVE FEATURE.
5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND MANUFACTURERS SPECIFICATIONS. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
6. ANY SEDIMENT THAT ESCAPES THE CONSTRUCTION SITE MUST BE COLLECTED AND PROPERLY DISPOSED OF BEFORE THE NEXT RAIN EVENT TO ENSURE IT IS NOT WASHED INTO SURFACE STREAMS, SENSITIVE FEATURES, ETC.
7. SEDIMENT MUST BE REMOVED FROM THE SEDIMENT TRAPS OR SEDIMENTATION BASINS NOT LATER THAN TCEQ-0592 (REV. JULY 15, 2015) PAGE 2 OF 2 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. 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.

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

0 30' 60'
SCALE: 1"=30'

LEGEND

- PROPERTY LINE
- EXISTING EASEMENT LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- W — EXISTING WATER LINE
- WW — EXISTING WASTEWATER PIPE
- SS — EXISTING STORM WATER PIPE
- GAS — EXISTING GAS PIPE
- UGE — EXISTING UNDERGROUND UTILITY
- OHP — EXISTING OVERHEAD POWER
- COMM — EXISTING DATA UTILITY
- EXISTING TREE TO REMAIN
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- W — PROPOSED WATER LINE
- WW — PROPOSED WASTEWATER PIPE
- SS — PROPOSED STORM WATER PIPE
- GAS — PROPOSED GAS PIPE
- UGE — PROPOSED UNDERGROUND UTILITY
- OHP — PROPOSED OVERHEAD POWER
- COMM — PROPOSED DATA UTILITY
- LOC — LIMITS OF CONSTRUCTION
- SF — PROPOSED SILT FENCE
- TP — PROPOSED TREE PROTECTION
- RFD — PROPOSED ROCK FILTER DAM
- IFP — PROPOSED INLET FILTER PROTECTION
- PROPOSED CONSTRUCTION ENTRANCE
- CW — PROPOSED CONCRETE WASHOUT
- PROPOSED SWPPP SIGNAGE

NOTES:

1. CONTRACTOR TO INSTALL EROSION CONTROL BEFORE CONSTRUCTION ACTIVITIES BEGIN IN ACCORDANCE WITH TCEQ AND LOCAL JURISDICTION REQUIREMENTS.
2. CONTRACTOR TO MAINTAIN A CLEAN PROJECT SITE AND ENSURE THAT ALL DEBRIS AND SPOIL MATERIAL IS DISPOSED OF PROPERLY. ALL SPOIL MATERIAL GENERATED FROM FROM CONSTRUCTION ACTIVITY TO BE HAULED OFFSITE AND DISPOSED IN ACCORDANCE WITH LOCAL LAWS, RULES, AND REGULATIONS.
3. CONTRACTOR MUST PICK UP AND DISPOSE OF ALL SEDIMENT CONTROLS, INCLUDING SILT FENCE, ONCE PERMANENT EROSION CONTROLS ARE ESTABLISHED OR CONSTRUCTION HAS CONCLUDED.

DATE	REVISIONS	APP. BY

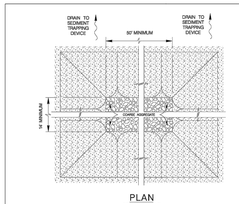
STATE OF TEXAS
KYLER J. FELUX
150019
LICENSED
PROFESSIONAL ENGINEER
7-22-2025

FELUX ENGINEERING
FIRM NO. 23020
P.O. BOX 781147, SAN ANTONIO, TX 78247
210-818-3340

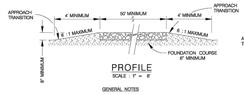
4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

SWPPP

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
PAGE:



PLAN
SCALE : 1" = 4'

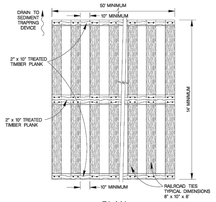


PROFILE
SCALE : 1" = 4'

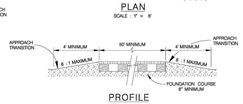
GENERAL NOTES

1. THE LENGTH OF THE TYPE 1 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS BUT NOT LESS THAN 50'.
2. THE COARSE AGGREGATE SHOULD BE OPEN GRADED WITH A SIZE OF 4" TO 8".
3. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6 : 1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
4. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT SHALL BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

CONSTRUCTION EXIT – TYPE 1



PLAN
SCALE : 1" = 4'

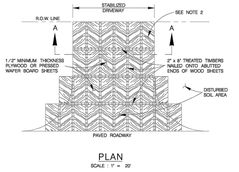


PROFILE
SCALE : 1" = 4'

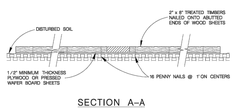
GENERAL NOTES

1. THE LENGTH OF THE TYPE 2 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS BUT NOT LESS THAN 50'.
2. THE TREATED TIMBER PLANKS SHALL BE ATTACHED TO THE RAILROAD TIES WITH 1-1/2" x 8" MIN LAG BOLTS. OTHER FASTENERS MAY BE USED AS APPROVED BY THE ENGINEER.
3. THE TREATED TIMBER PLANKS SHALL BE #2 GRADE MIN. AND SHOULD BE FREE FROM LARGE AND LOOSE KNOTS.
4. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6 : 1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
6. THE CONSTRUCTION EXIT SHOULD BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
7. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

CONSTRUCTION EXIT – TYPE 2



PLAN
SCALE : 1" = 20'

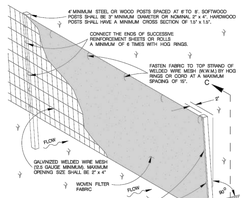


SECTION A–A
SCALE : 1" = 2'

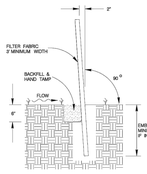
GENERAL NOTES

1. THE LENGTH OF THE TYPE 3 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
2. THE TYPE 3 CONSTRUCTION EXIT MAY BE CONSTRUCTED FROM OPEN GRADED CRUSHED STONE WITH A SIZE OF 2 TO 4 INCHES SPREAD A MINIMUM OF 4 INCHES THICK TO THE LIMITS SHOWN ON THE PLANS.
3. THE TREATED TIMBER PLANKS SHALL BE #2 GRADE MIN., AND SHOULD BE FREE FROM LARGE AND LOOSE KNOTS.
4. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

CONSTRUCTION EXIT – TYPE 3



ISOMETRIC VIEW
SCALE : 1" = 2'



SECTION C–C
SCALE : 1" = 2'

SEDIMENT CONTROL FENCE USAGE GUIDELINES

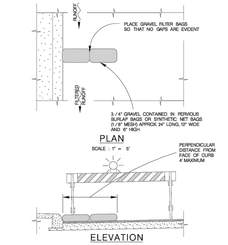
A SEDIMENT CONTROL FENCE MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM SHEAR RUN-OFF. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED.

SEDIMENT CONTROL FENCE SHOULD BE SIZED TO FILTER A MINIMUM FLOW THRU RATE OF 0.5 GPM / FT SQUARED. SEDIMENT CONTROL FENCE IS NOT RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA LARGER THAN 0.2 ACRES.

GENERAL NOTES

1. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

TEMPORARY SEDIMENT CONTROL FENCE

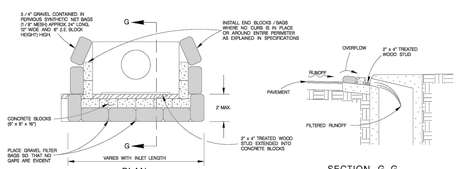


PLAN
SCALE : 1" = 2'

ELEVATION
SCALE : 1" = 2'

NOTE:
PROVIDE GRAVEL FILTER BAGS WITH TYPE 1 BARRICADES MOUNTED WITH TYPE 'A' FLASHING WARNING LIGHT. SEE BARRICADE CONSTRUCTION SIGN DETAILS. PLACE FLASHING LIGHTS AWAY FROM GUTTER, FLUSH WITH OUTSIDE EDGE OF BAG CONFIGURATION.

GRAVEL FILTER BAGS



PLAN
SCALE : 1" = 4'

NOTE:
GRAVEL FILTERS CAN BE USED ON PAVEMENT OR BARE GROUND.

SECTION G–G
SCALE : 1" = 4'

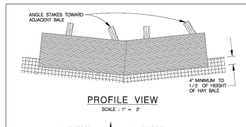
CURB INLET GRAVEL FILTER

JANUARY 2005

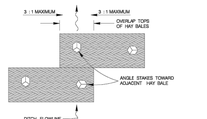
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 1

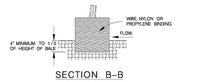
_____ % SUBMITTAL PROJECT NO.:_____ DATE:_____
DRAWN BY: V. VASQUEZ DSGN. BY:_____ CHKD. BY:_____ SHEET NO.:___OF___



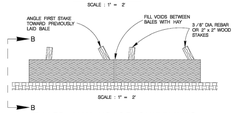
PROFILE VIEW
SCALE : 1" = 2'



PLAN VIEW
SCALE : 1" = 2'



SECTION B–B
SCALE : 1" = 2'



SCALE : 1" = 2'

BALED HAY USAGE GUIDELINES

A BALED HAY INSTALLATION MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF. A TWO YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED. THE INSTALLATION SHOULD BE SIZED TO FILTER A MINIMUM FLOW THRU RATE OF 5 GPM / FT SQUARED OF CROSS SECTIONAL AREA. BALED HAY MAY BE USED AT THE FOLLOWING LOCATIONS:

1. WHERE THE RUNOFF APPROACHING THE BALED HAY FLOWS OVER DISTURBED SOIL FOR A MAXIMUM OF 100 FEET TO THE BALED HAY INSTALLATION, AND THE % & THE LENGTH OF SLOPE UPSTREAM OF THE BALED HAY SHOULD BE LESS THAN 50'.
2. WHERE THE INSTALLATION WILL BE REQUIRED FOR LESS THAN 3 MONTHS.
3. WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 1/2 ACRE.

FOR BALED HAY INSTALLATIONS IN SMALL DITCHES, THE FOLLOWING ADDITIONAL CONSIDERATIONS APPLY:

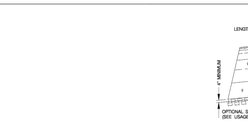
1. THE DITCH SIDESLOPES SHOULD BE GRADED AS FLAT AS POSSIBLE TO MAXIMIZE THE DRAINAGE FLOW RATE THRU THE HAY.
2. THE DITCH SHOULD BE GRADED LARGE ENOUGH TO CONTAIN THE OVERLAPPING DRAINAGE WHEN SEDIMENT HAS FILLED TO THE TOP OF THE BALED HAY.

BALES SHOULD BE REPLACED LEGALLY EVERY 2 MONTHS OR MORE OFTEN DURING WET WEATHER WHEN LOSS OF STRUCTURAL INTEGRITY IS ACCELERATED

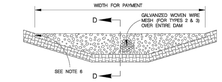
GENERAL NOTES

1. HAY BALES SHALL BE A MINIMUM OF 30" IN LENGTH AND WEIGH A MINIMUM OF 50 LBS.
2. HAY BALES SHALL BE BOUND BY EITHER WIRE OR NYLON OR POLYPROPYLENE STRING. THE BALES SHALL BE COMPOSED ENTIRELY OF VEGETABLE MATTER.
3. HAY BALES SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4" AND, WHERE POSSIBLE, ONE-HALF THE HEIGHT OF THE BALE.
4. HAY BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES. THE BALES SHALL BE PLACED WITH BINDINGS PARALLEL TO THE GROUND.
5. HAY BALES SHALL BE SECURELY ANCHORED IN PLACE WITH 2 / 4" DIA. REBAR OR 2" x 2" WOOD STAKES DRIVEN THROUGH THE BALES. THE FIRST STAKE SHALL BE ANGLED TOWARDS THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

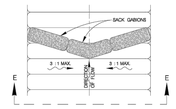
BALED HAY FOR EROSION CONTROL



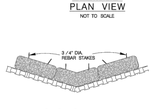
TYPE 1 & 2 FILTER DAM AT SEDIMENT TRAP
SCALE : 1" = 10'



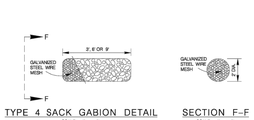
TYPE 1, 2 & 3 FILTER DAM AT CHANNEL SECTIONS
SCALE : 1" = 4'



PLAN VIEW
SCALE : 1" = 10'



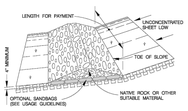
SECTION E–E
SCALE : 1" = 10'



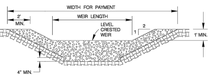
TYPE 4 SACK GABION DETAIL
SCALE : 1" = 6'

SECTION F–F
SCALE : 1" = 6'

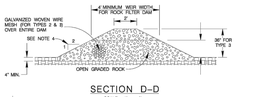
TYPE 4 FILTER DAM AT DITCHES & SMALLER CHANNELS PLAN VIEW



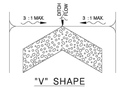
TYPE 1 FILTER DAM AT TOE OF SLOPE
SCALE : 1" = 10'



PROFILE OF TYPE 1 & 2 FILTER DAM AT SEDIMENT TRAP
SCALE : 1" = 6'



SECTION D–D
SCALE : 1" = 6'



"V" SHAPE PLAN VIEW
NOT TO SCALE

ROCK FILTER DAM USAGE GUIDELINES

ROCK FILTER DAMS SHOULD BE CONSTRUCTED DOWNSTREAM FROM DISTURBED AREAS TO INTERCEPT SEDIMENT FROM OVERLOAD RUNOFF AND / OR CONCENTRATED FLOW. THE DAMS SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 60 GPM / FT SQUARED OF CROSS SECTIONAL AREA. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE.

TYPE 1 (36" HIGH, WITH NO WIRE MESH):

TYPE 1 MAY BE USED AT THE TOE OF SLOPES AROUND INLETS, IN SMALL DITCHES AND AT DRE OR SWALE OUTLETS. THIS TYPE OF DAM IS RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA OF 5 ACRES OR LESS. TYPE 1 MAY NOT BE USED IN CONCENTRATED HIGH VELOCITY FLOWS (APPROXIMATELY 8 FT. / SEC. OR MORE) IN WHICH AGGREGATE WILL BE WASHED AWAY. THE AGGREGATE SIZE SHALL BE SELECTED BASED ON THE FLOW RATE AND MAY HAVE TO BE SMALL FOR BETTER FILTERING EFFICIENCY OF LOW FLOWS IF CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

TYPE 2 (36" HIGH, WITH WIRE MESH):

TYPE 2 MAY BE USED IN DITCHES AND AT DRE OR SWALE OUTLETS.

TYPE 3 (36" HIGH, WITH WIRE MESH):

TYPE 3 MAY BE USED IN STREAM FLOW AND SHOULD BE SECURED TO THE STREAM BED.

TYPE 4 (SACK GABIONS):

TYPE 4 MAY BE USED IN DITCHES AND SMALLER CHANNELS TO FORM AN EROSION CONTROL DAM.

GENERAL NOTES

1. IF SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, FILTER DAMS SHOULD BE PLACED NEAR THE TOE OF SLOPES WHERE EROSION IS ANTICIPATED, UPSTREAM, AND / OR DOWNSTREAM AT DRAINAGE STRUCTURES, AND IN ROADWAY DITCHES AND CHANNELS TO COLLECT SEDIMENT.
2. MATERIALS (AGGREGATE, WIRE MESH, SANDBAGS, ETC.) SHALL BE AS INDICATED BY THE SPECIFICATION FOR ROCK FILTER DAMS FOR EROSION AND SEDIMENTATION CONTROL.
3. THE ROCK FILTER DAM DIMENSIONS SHALL BE AS INDICATED ON THE STORM WATER POLLUTION PREVENTION PLANS.
4. SIDE SLOPES SHOULD BE 2 : 1 OR FLATTER. DAMS WITH IN THE SAFETY ZONE SHALL HAVE SIDE SLOPES OF 6 : 1 OR FLATTER.
5. MAINTAIN A MINIMUM OF 1' BETWEEN TOP OF ROCK FILTER DAM WEIR AND TOP OF EMBANKMENT FOR FILTER DAMS AT SEDIMENT TRAPS.
6. FILTER DAMS SHOULD BE EMBEDDED A MINIMUM OF 4" INTO THE EXISTING GROUND.
7. THE SEDIMENT TRAP FOR PONDING OF SEDIMENT LADEN RUNOFF SHALL BE OF THE DIMENSIONS SHOWN ON THE PLANS.
8. ROCK FILTER DAM TYPES 2 & 3 SHALL BE SECURED WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1" DIAMETER HEXAGONAL OPENINGS. THE AGGREGATE SHALL BE PLACED ON THE MESH TO THE HEIGHT AND SLOPES SPECIFIED. THE MESH SHALL BE FOLDED OVER THE AGGREGATE AT THE TOP AND DOWNSTREAM SIDE AND SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS. IN STREAM USE, THE MESH SHOULD BE SECURED OR STAKED TO THE STREAM BED PRIOR TO AGGREGATE PLACEMENT.
9. SACK GABIONS SHOULD BE STAKED DOWN WITH 3 /4" DIA REBAR STAKES.
10. FLOW OUTLET SHOULD BE ONTO A STABILIZED AREA (VEGETATION, ROCK, ETC.).
11. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

JANUARY 2005

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 2

_____ % SUBMITTAL PROJECT NO.:_____ DATE:_____
DRAWN BY: V. VASQUEZ DSGN. BY:_____ CHKD. BY:_____ SHEET NO.:___OF___

ROCK FILTER DAMS

DATE | REVISIONS | APP. BY

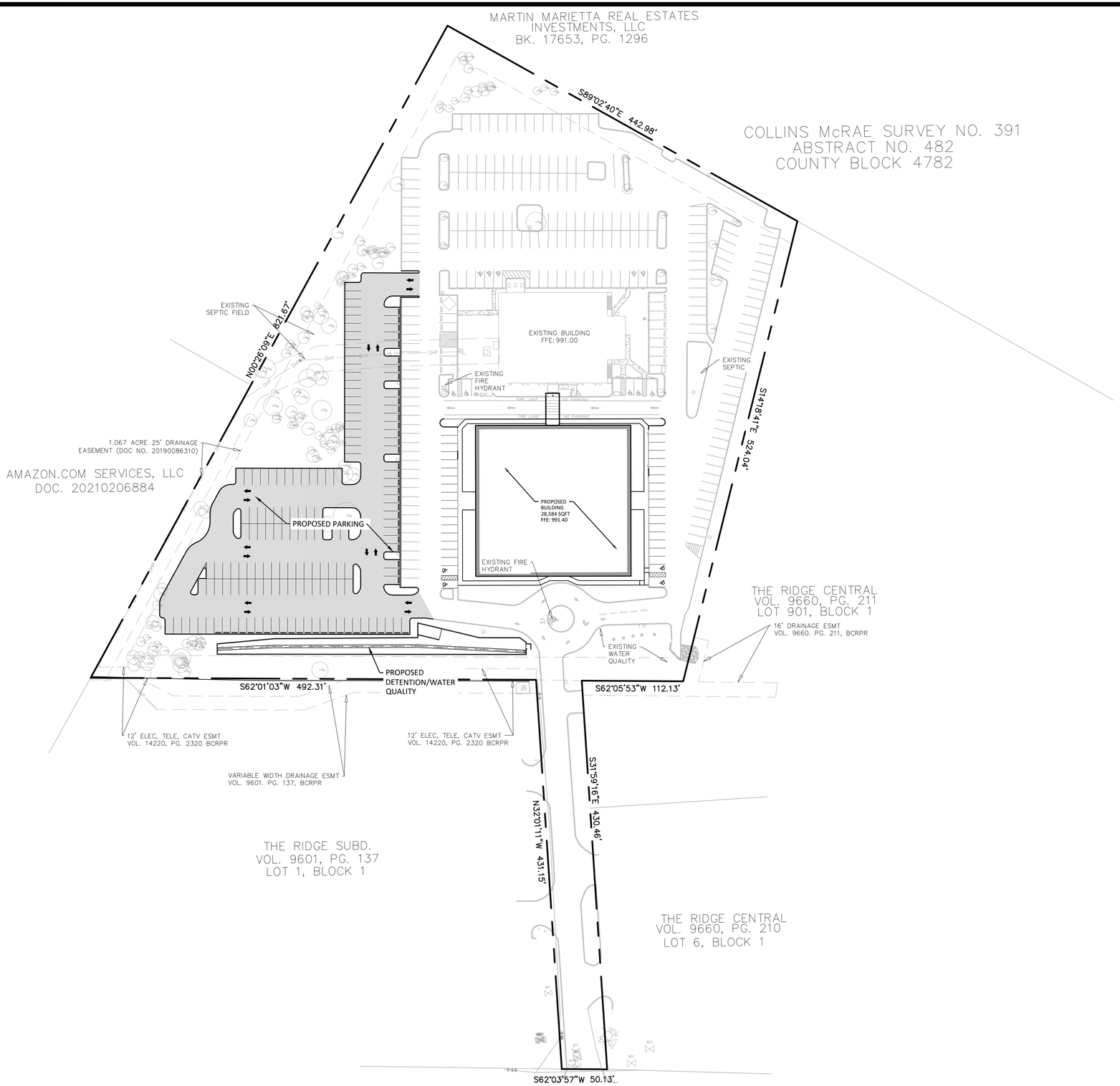
STATE OF TEXAS
KYLER J. FELUX
150019
LICENSED
PROFESSIONAL ENGINEER
7-22-2025

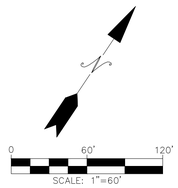
FELUX ENGINEERING
FIRM NO. 23020
P.O. BOX 65, ATOKA, OK 74525
210-818-3340

4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

SWPPP DETAILS

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
PAGE:





LEGEND

- PROPERTY LINE
- PROPOSED FACE OF CURB
- PROPOSED BACK OF CURB
- PROPOSED PAVEMENT
- EXISTING TREE TO REMAIN

Existing Parking Spaces	
Handicap Space	11
Staff Member Space	16
Parking Space	239
Total Existing Parking Spaces	266
Proposed Parking Spaces	
Handicap Space	15
Staff Member Space	16
Parking Space	399
Total Proposed Parking Spaces	430
Parking Requirements	
ADA Parking Minimum	9
COSA Minimum (1 per 8 seats)	125
COSA Maximum (1per 1.5 seat)	667
Based on 1000 seats	

NOTES:

1. DIMESNIONS SHOWN ARE FACE OF CURB TO FACE OF CURB UNLESS OTHERWISE NOTED.
2. SEE THE GEOTECHNICAL REPORT COMPLETED BY ECS SOUTHWEST ON 4-14-2025 FOR PAVEMENT RECOMMENDATIONS.
3. SIDEWALKS WILL BE ADA ACCESSIBLE AND SHOULD NOT HAVE CROSS SLOPES GREATER THAN 2.00%.
4. ADA PARKING SPACES WILL NEED TO COMPLY WITH ADA STANDARDS FOR MARKINGS AND SLOPES.

APP. BY

REVISIONS

DATE

STATE OF TEXAS
KYLER J. FELUX
150019
LICENSED
PROFESSIONAL ENGINEER

7-22-2025

FELUX ENGINEERING
FIRM NO. 23020
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210-818-3340

4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

OVERALL SITE PLAN

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
PAGE:

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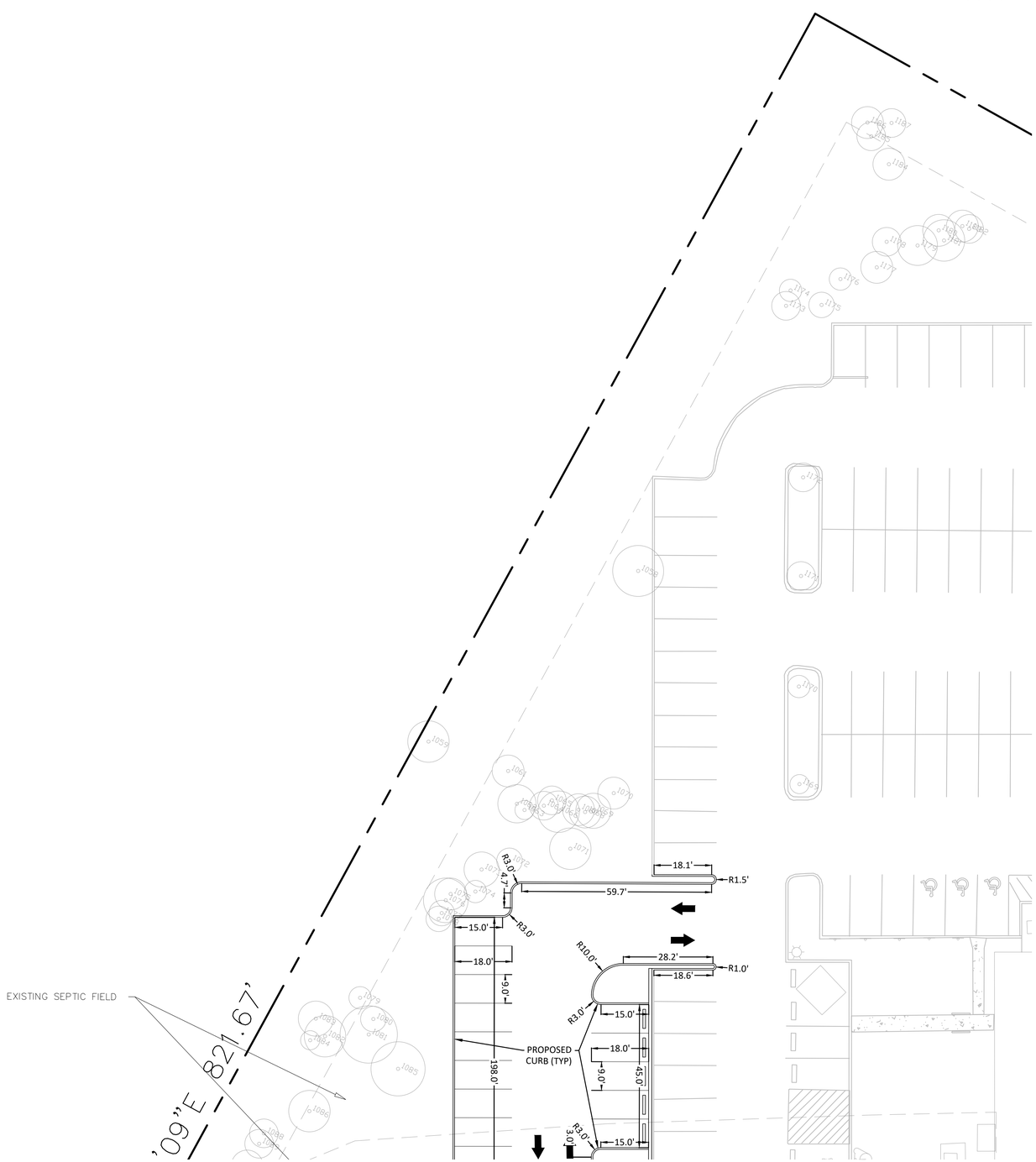

0 20' 40'

SCALE: 1"=20'

LEGEND

- PROPERTY LINE
- PROPOSED FACE OF CURB
- PROPOSED BACK OF CURB
- PROPOSED PAVEMENT
- xxx — EXISTING TREE TO REMAIN

Existing Parking Spaces	
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APP. BY | REVISIONS | DATE

STATE OF TEXAS
KYLER J. FELUX
150019
LICENSED
PROFESSIONAL ENGINEER
7-22-2025

FELUX ENGINEERING
FIRM NO. 23020
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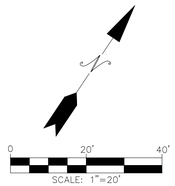
4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

DIMENSION CONTROL & SITE PLAN (1 OF 4)

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
PAGE:

8 OF 43



LEGEND

- PROPERTY LINE
- PROPOSED FACE OF CURB
- PROPOSED BACK OF CURB
- PROPOSED PAVEMENT
- EXISTING TREE TO REMAIN

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APP. BY | REVISIONS | DATE

STATE OF TEXAS
KYLER J. FELUX
150019
LICENSED
PROFESSIONAL ENGINEER

7-22-2025

FELUX ENGINEERING
FIRM NO. 23020
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4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

DIMENSION CONTROL & SITE PLAN (2 OF 4)

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
PAGE:

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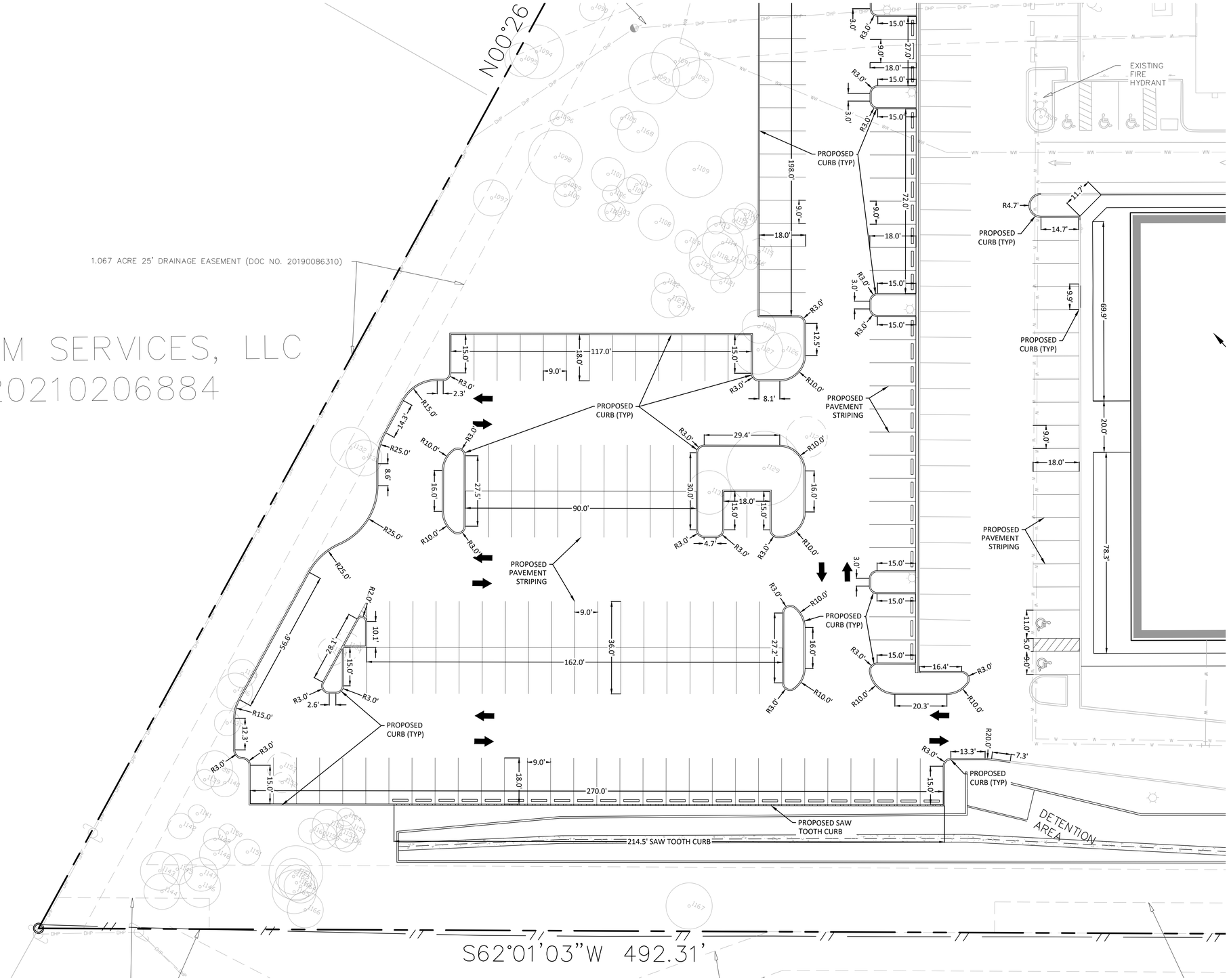

0 20' 40'
SCALE: 1"=20'

LEGEND

- PROPERTY LINE
- PROPOSED FACE OF CURB
- PROPOSED BACK OF CURB
- PROPOSED PAVEMENT
- EXISTING TREE TO REMAIN

Existing Parking Spaces	
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APP. BY

REVISIONS

DATE

STATE OF TEXAS
KYLER J. FELUX
150019
LICENSED
PROFESSIONAL ENGINEER
7-22-2025

FELUX ENGINEERING
FIRM NO. 25020
P.O. BOX 460069, SAN ANTONIO, TX 78246-0069
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4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

DIMENSION CONTROL & SITE PLAN (3 OF 4)

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
PAGE:

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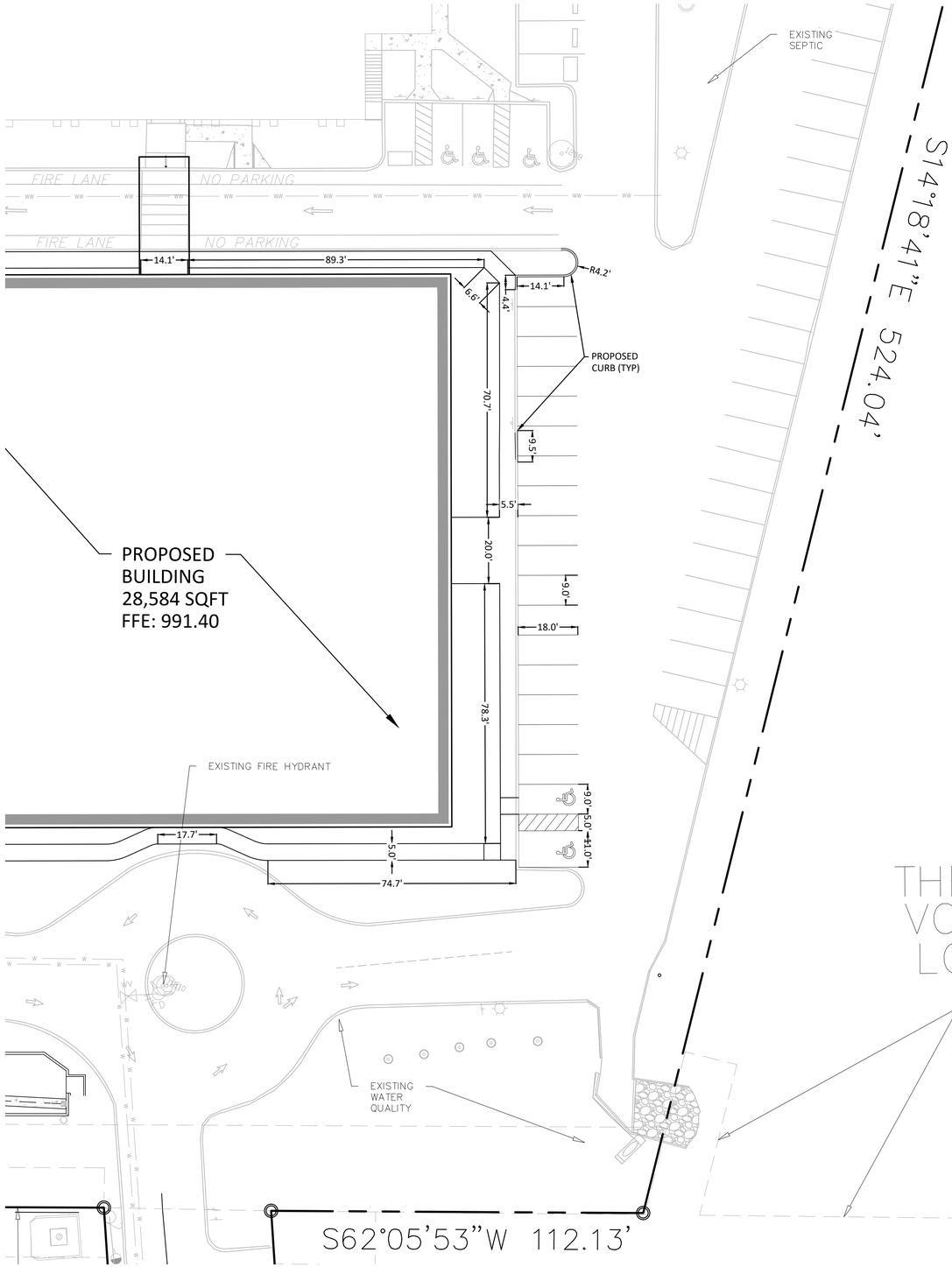

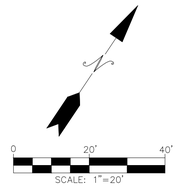

LEGEND

- PROPERTY LINE
- PROPOSED FACE OF CURB
- PROPOSED BACK OF CURB
- PROPOSED PAVEMENT
- EXISTING TREE TO REMAIN

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APP. BY | REVISIONS | DATE

STATE OF TEXAS
KYLER J. FELUX
150019
LICENSED
PROFESSIONAL ENGINEER
7-22-2025

FELUX ENGINEERING
FIRM NO. 23020
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210-818-3340

4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

DIMENSION CONTROL & SITE PLAN (4 OF 4)

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
PAGE:

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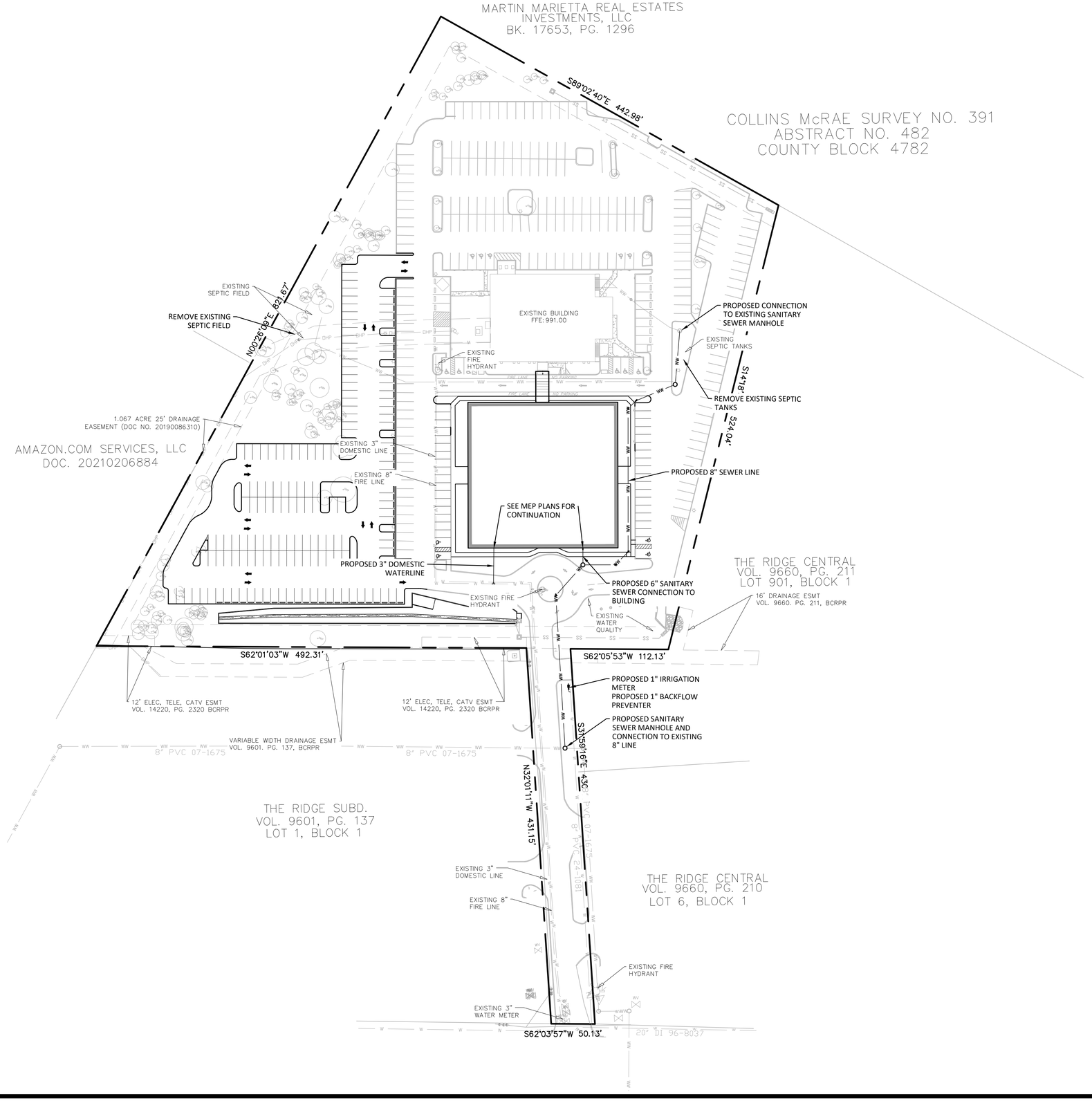

0 60' 120'
SCALE: 1"=60'

LEGEND

- PROPERTY LINE
- PROPOSED WATER LINE
- PROPOSED FIRE HYDRANT
- PROPOSED WASTEWATER PIPE
- PROPOSED GAS PIPE
- PROPOSED UNDERGROUND UTILITY
- PROPOSED OVERHEAD POWER
- PROPOSED DATA UTILITY
- EXISTING WATER LINE
- EXISTING FIRE HYDRANT
- EXISTING WASTEWATER PIPE
- EXISTING GAS PIPE
- EXISTING UNDERGROUND UTILITY
- EXISTING OVERHEAD POWER
- EXISTING DATA UTILITY

NOTES:

1. CONTRACTOR MUST FOLLOW SAWS REQUIREMENTS AND STANDARDS.
2. ALL WATER LINES MUST HAVE A MINIMUM OF 4' OF COVER.
3. PIPE WILL BE DR 14 C900 PIPE UNLESS OTHERWISE SPECIFIED.
4. EXISTING LINES WILL NEED TO BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
5. PROVIDE MEGA LUG JOINT RESTRAINT OR APPROVED EQUAL. RL = RESTRAINT LENGTH IN FEET.

DATE	REVISIONS	APP. BY

STATE OF TEXAS
KYLER J. FELUX
150019
LICENSED
PROFESSIONAL ENGINEER
7-22-2025

FELUX ENGINEERING
FIRM NO. 23020
P.O. BOX 34067, SAN ANTONIO, TX 78147
210-818-3340

4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

OVERALL UTILITY PLAN

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
PAGE:

12 OF 43

0 20' 40'

SCALE: 1"=20'

LEGEND

- PROPERTY LINE
- W — PROPOSED WATER LINE
- PROPOSED FIRE HYDRANT
- WW — PROPOSED WASTEWATER PIPE
- GAS — PROPOSED GAS PIPE
- UGE — PROPOSED UNDERGROUND UTILITY
- OHP — PROPOSED OVERHEAD POWER
- COMM — PROPOSED DATA UTILITY
- W — EXISTING WATER LINE
- EXISTING FIRE HYDRANT
- WW — EXISTING WASTEWATER PIPE
- GAS — EXISTING GAS PIPE
- UGE — EXISTING UNDERGROUND UTILITY
- OHP — EXISTING OVERHEAD POWER
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6. CONTRACTOR TO FOLLOW SAN ANTONIO WATER SYSTEMS RULES AND REGULATIONS
7. MANHOLES ARE TO BE SET AT LEAST 4" ABOVE FINISHED GRADES. CONTRACTOR SHALL VERIFY ELEVATIONS.

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PROFESSIONAL ENGINEER

7-22-2025

FELUX ENGINEERING
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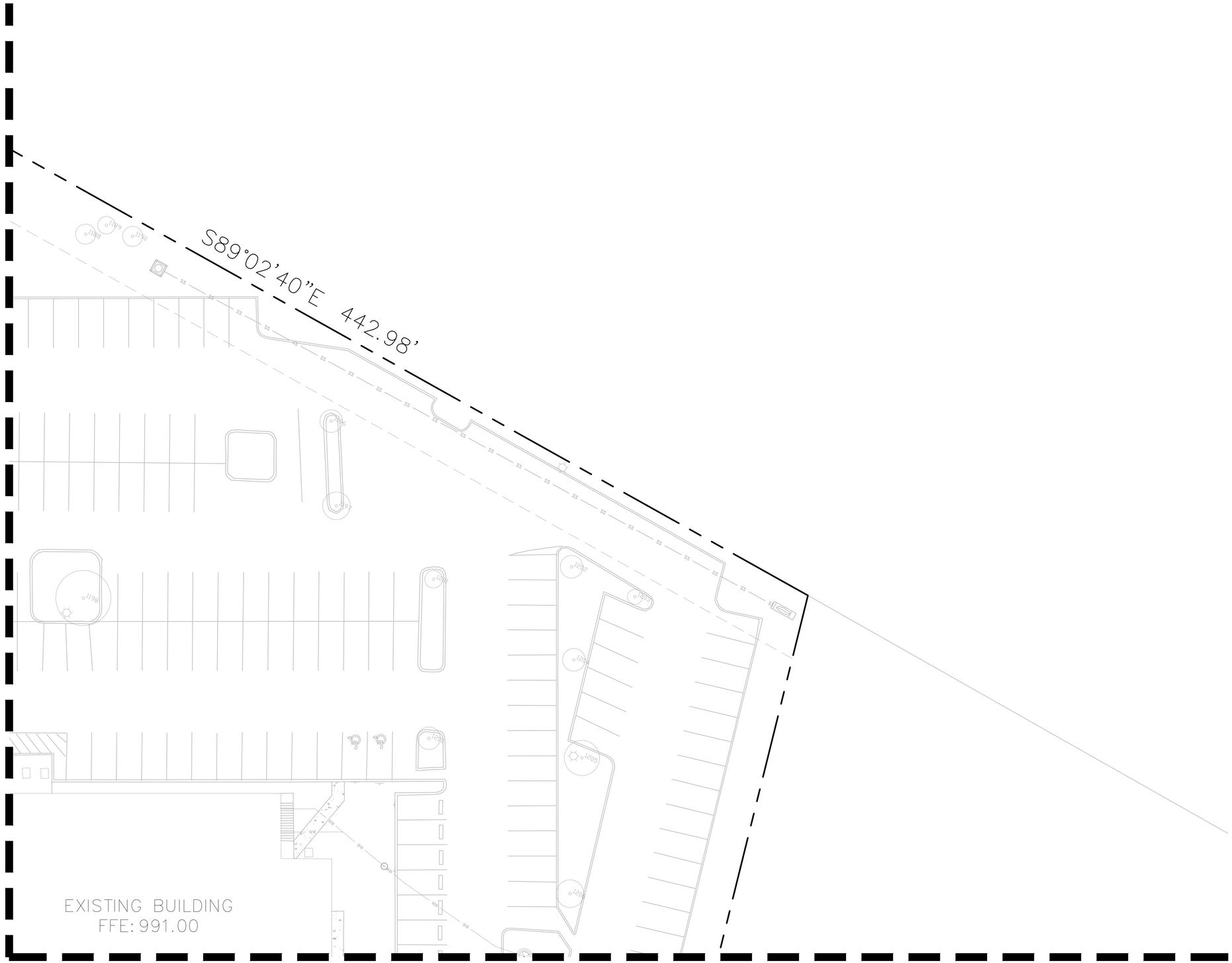
P.O. BOX 64, ADKINS, TX 78147
210-818-3340

4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

UTILITY PLAN (1 OF 4)

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
PAGE:

13 OF 43



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

LEGEND

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- PROPOSED FIRE HYDRANT
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- PROPOSED GAS PIPE
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UTILITY PLAN (2 OF 4)

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DRAWN BY: kjf
PAGE:

14 OF 43

MATCH LINE - SHEET 13

N00°26'

EXISTING FORCE MAIN SEWER LINE (UNKNOWN SIZE)

EXISTING FIRE HYDRANT

CUT AND CAP EXISTING FORCE MAIN AT THE EXISTING PAVEMENT

EXISTING 3" DOMESTIC LINE

EXISTING 6" FIRE LINE LINE

1.067 ACRE 25' DRAINAGE EASEMENT (DOC NO. 20190086310)

MATCH LINE - SHEET 16

±41 LF 3" C900 WATER LINE

TAP AND SADDLE CONNECTION INTO EXISTING 3" DOMESTIC LINE

S62°01'03"W 492.31'

0 20' 40'

SCALE: 1"=20'

LEGEND

	PROPERTY LINE
W	PROPOSED WATER LINE
	PROPOSED FIRE HYDRANT
WW	PROPOSED WASTEWATER PIPE
GAS	PROPOSED GAS PIPE
UGE	PROPOSED UNDERGROUND UTILITY
OHP	PROPOSED OVERHEAD POWER
COMM	PROPOSED DATA UTILITY
W	EXISTING WATER LINE
	EXISTING FIRE HYDRANT
WW	EXISTING WASTEWATER PIPE
GAS	EXISTING GAS PIPE
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COMM	EXISTING DATA UTILITY

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7-22-2025

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UTILITY PLAN (3 OF 4)

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
PAGE:

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MATCH LINE - SHEET 14

MATCH LINE - SHEET 15

MATCH LINE - THIS SHEET

MATCH LINE - THIS SHEET

CONNECT TO EXISTING MH FL OUT (SW): 979.19

EXISTING SEPTIC

REMOVE EXISTING SEPTIC TANKS

CUT AND CAP EXISTING FORCE MAIN AT THE EXISTING PAVEMENT

±62 LF 8" SDR 26 PIPE @ 0.50%

INSTALL 4' SSMH TOP: 989.05 FL IN (NW): 978.88 FL OUT (SW): 978.78

22.5° WYE W/ CLEANOUT FL: 978.53

±49 LF 8" SDR 26 PIPE @ 0.50%

45° WYE W/ CLEANOUT FL: 978.46

±13 LF 8" SDR 26 PIPE @ 0.50%

FIRE LANE NO PARKING

FIRE LANE NO PARKING

EXISTING FORCE MAIN SEWER LINE (UNKNOWN SIZE)

S14°18'41"E 524.04'

PROPOSED BUILDING 28,584 SQFT FFE: 991.40

±164 LF 8" SDR 26 PIPE @ 0.50%

SEE MEP PLANS FOR CONTINUATION

EXISTING 3" DOMESTIC LINE

DOUBLE CLEANOUT FL:987.40

±37 LF 8" SDR 26 PIPE @ 0.50%

45° WYE W/ CLEANOUT FL: 977.64

EXISTING 6" FIRE LINE

±18 LF 6" SDR 26 PIPE @ 1.00%

±21 LF 8" SDR 26 PIPE @ 0.50%

INSTALL 4' SSMH TOP: 988.60 FL IN (NW): 987.22 FL IN (NE):977.34 FL OUT (SW): 977.24

45° WYE W/ CLEANOUT FL: 977.53

EXISTING FIRE HYDRANT

±68 LF 8" SDR 26 PIPE @ 0.50%

45° WYE W/ CLEANOUT FL: 977.60

±175 LF 8" SDR 26 PIPE @ 0.50%

16' DRAINAGE ESMT VOL. 9660, PG. 211, BCRPR

S62°05'53"W 112.13'

PROPOSED 1" IRRIGATION METER

PROPOSED 1" DCVA

EXISTING 3" DOMESTIC LINE

EXISTING 6" FIRE LINE

EXISTING 8" DOMESTIC LINE

±175 LF 8" SDR 26 PIPE @ 0.50%

8" PVC 07-1675

PROPOSED SSMH CONNECTING TO EXISTING 8" SEWER MAIN TOP: 986.25 FL: 976.72

8" PVC 24-1081

8" PVC 07-1675

0 20' 40'

SCALE: 1"=20'

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7-22-2025

FELUX ENGINEERING

FIRM NO. 23020
P.O. BOX 66, ADKINS, TX 78147
210-818-3340

4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

UTILITY PLAN (4 OF 4)

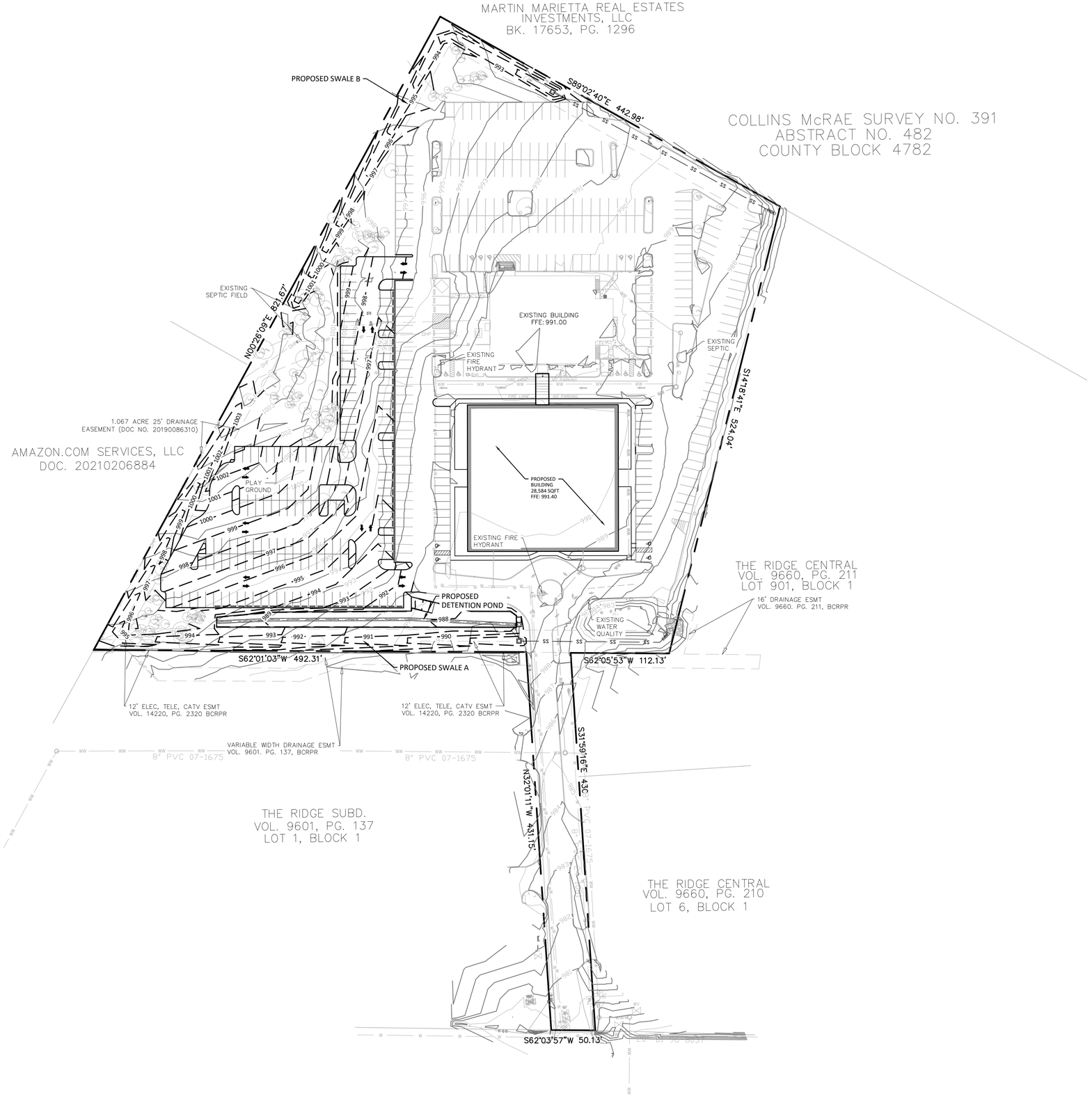
DATE: 3/25/2025

JOB NO.: 25002-01

DRAWN BY: kjf

PAGE:

16 OF 43



0 60' 120'
SCALE: 1"=60'

LEGEND

- PROPERTY LINE
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED STORM WATER PIPE
- PROPOSED GRADE BREAK
- PROPOSED SWALE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING STORM WATER PIPE

ABB.

TC - TOP OF CURB
TP - TOP OF PAVEMENT
FG - FINISHED GROUND
FFE - FINISHED FLOOR ELEVATION
FL - FLOWLINE
TG - TOP OF GRATE
ME - MATCH EXISTING

NOTES:

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DATE	REVISIONS	APP. BY

STATE OF TEXAS
KYLER J. FELUX
150019
LICENSED
PROFESSIONAL ENGINEER
7-22-2025

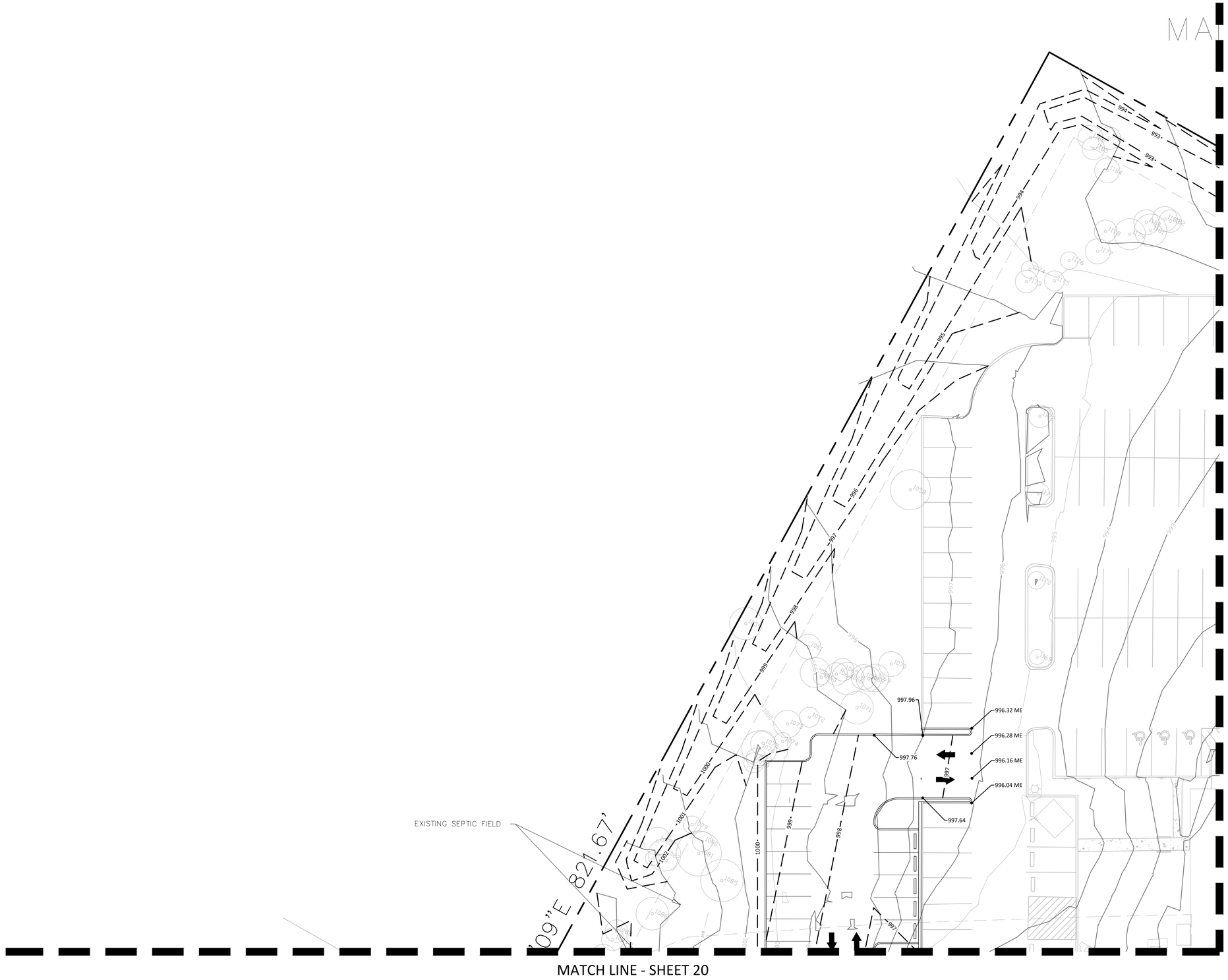
FELUX ENGINEERING
FIRM NO. 23020
P.O. BOX 781147, SAN ANTONIO, TX 78147
210-818-3340

4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

OVERALL GRADING PLAN

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
PAGE:

17 OF 43



0 20' 40'

SCALE: 1"=20'

LEGEND

- PROPERTY LINE
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED STORM WATER PIPE
- PROPOSED GRADE BREAK
- PROPOSED SWALE
- EXISTING MAJOR CONTOUR
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STATE OF TEXAS
KYLER J. FELUX
150019
LICENSED
PROFESSIONAL ENGINEER

7-22-2025

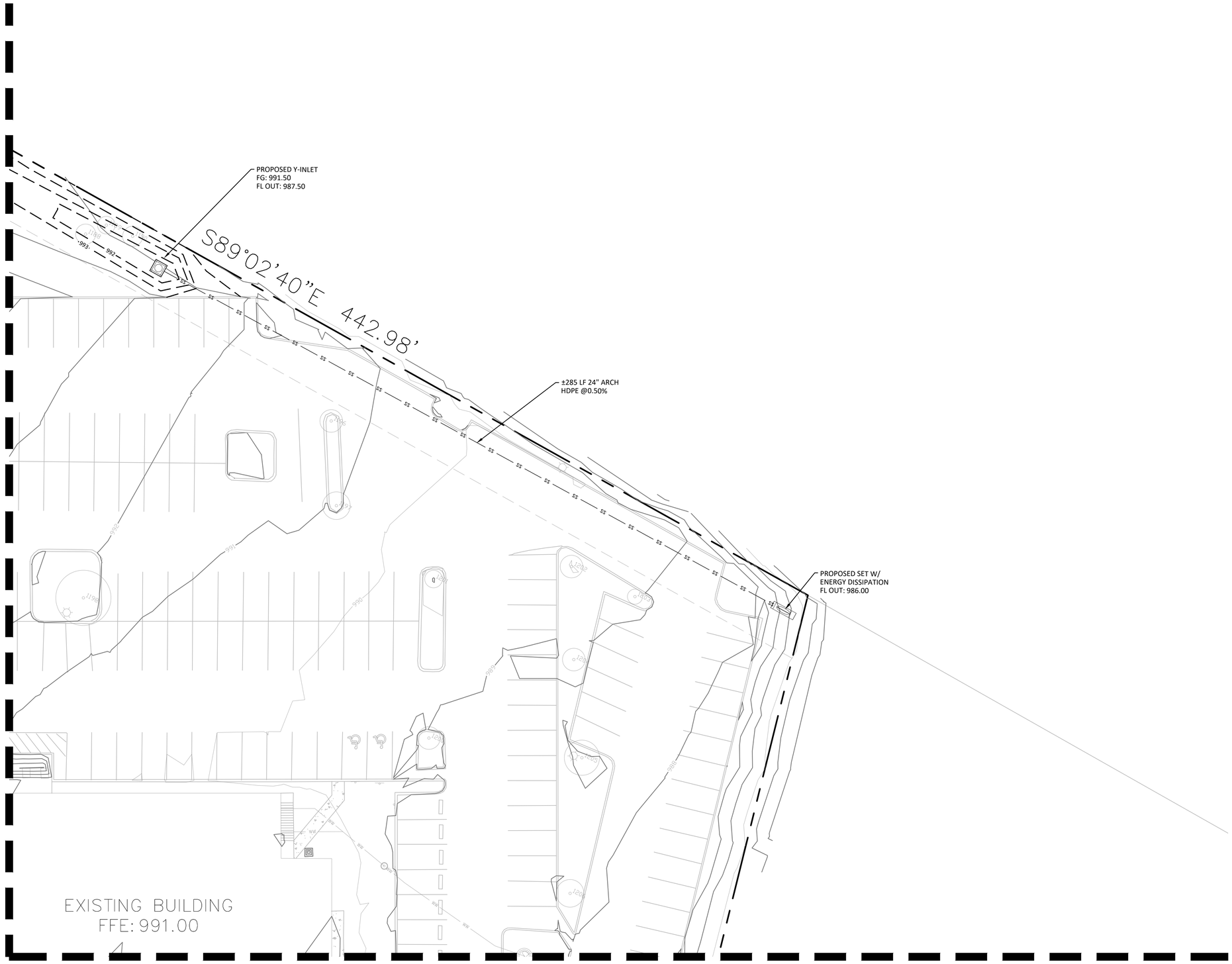
FELUX ENGINEERING
FIRM NO. 25020
P.O. BOX 4, DEVINE, TX 78147
210.818.3340

4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

DRAINAGE & GRADING PLAN (1 OF 4)

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
PAGE:

18 OF 43



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

LEGEND

- PROPERTY LINE
- PROPOSED MAJOR CONTOUR
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- PROPOSED STORM WATER PIPE
- PROPOSED GRADE BREAK
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DRAINAGE & GRADING PLAN (2 OF 4)

DATE: 3/25/2025
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PAGE:

19 OF 43

MATCH LINE - SHEET 18

N00°26'

1.067 ACRE 25' DRAINAGE EASEMENT (DOC NO. 20190086310)

OM SERVICES, LLC
20210206884

EXISTING FIRE HYDRANT

MATCH LINE - SHEET 21

TW 993.95
FG 993.70

TW 993.95
FG 989.57

992.40

TW 992.40
FG 988.99

TW 991.50
FG 988.47

991.62

991.50

TW 991.50
FG 988.48

988.37

TW 991.50
FG 987.88

TW 991.50
FG 988.20

DETENTION

TW 993.95
FG 989.57

TW 992.25
FG 988.83

TW 991.75
FG 988.65

TW 991.50
FG 988.46

TW 993.95
FG 993.70

TW 993.25
FG 993.00

TW 992.25
FG 992.00

TW 991.75
FG 991.50

TW 991.50
FG 991.00

±17 LF 6" PVC

S62°01'03"W 492.31'

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

LEGEND

- PROPERTY LINE
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- SS — PROPOSED STORM WATER PIPE
- HP — PROPOSED GRADE BREAK
- PROPOSED SWALE
- EXISTING MAJOR CONTOUR
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7-22-2025

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210.818.3340

4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

DRAINAGE & GRADING PLAN (3 OF 4)

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
PAGE:

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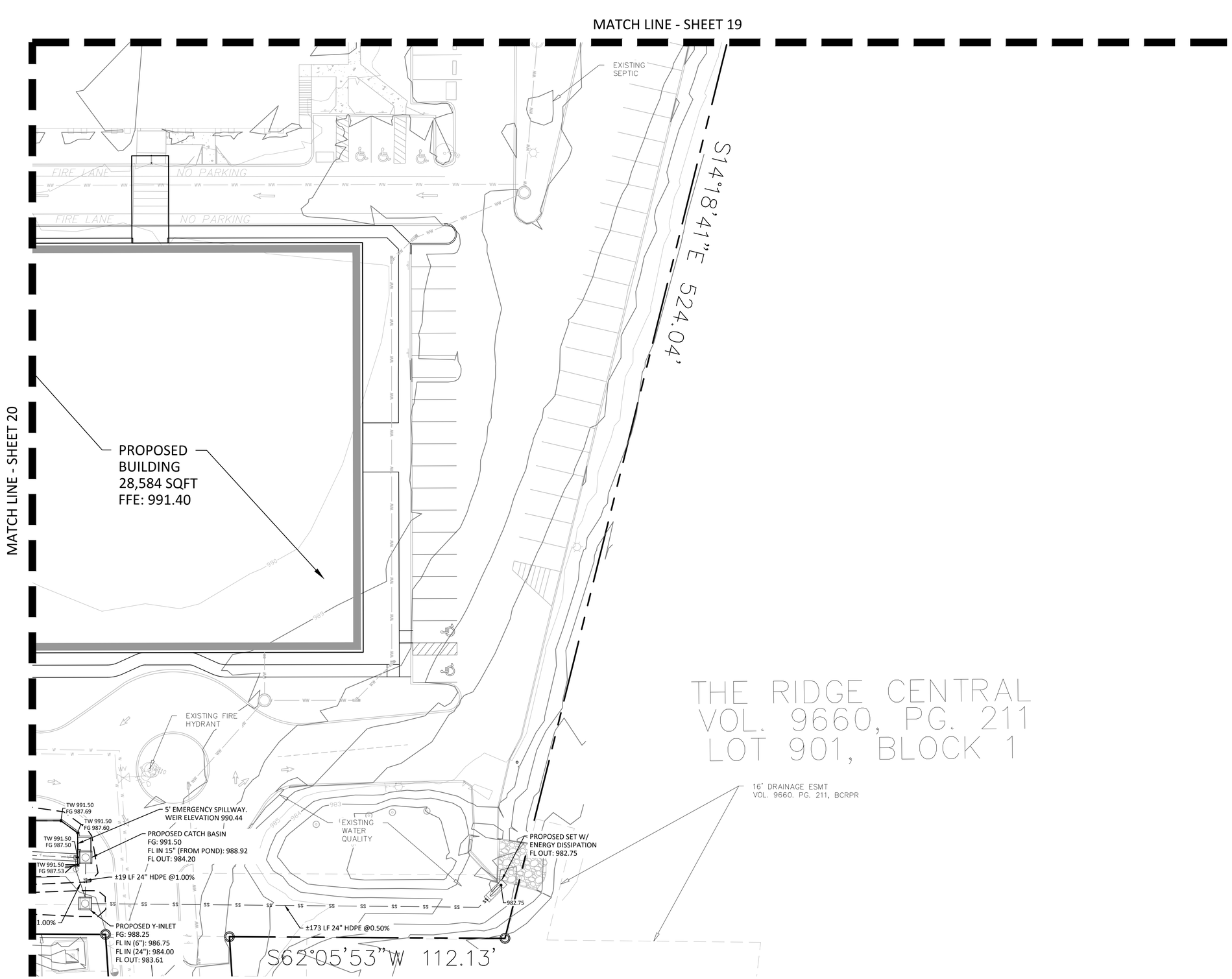

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DRAINAGE & GRADING PLAN (4 OF 4)

DATE: 3/25/2025
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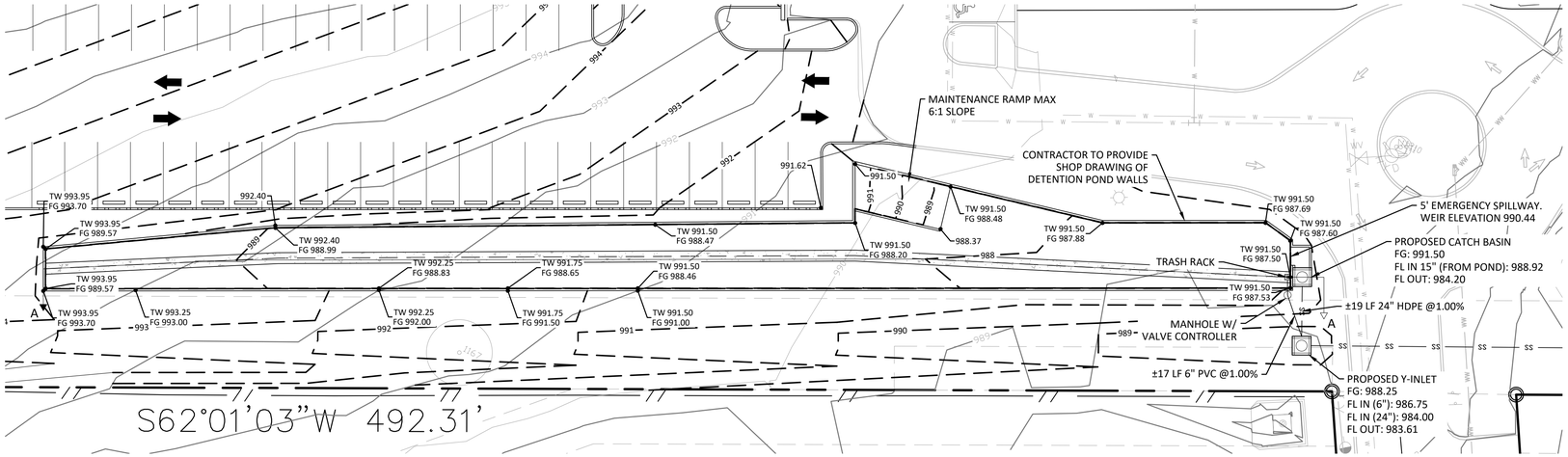
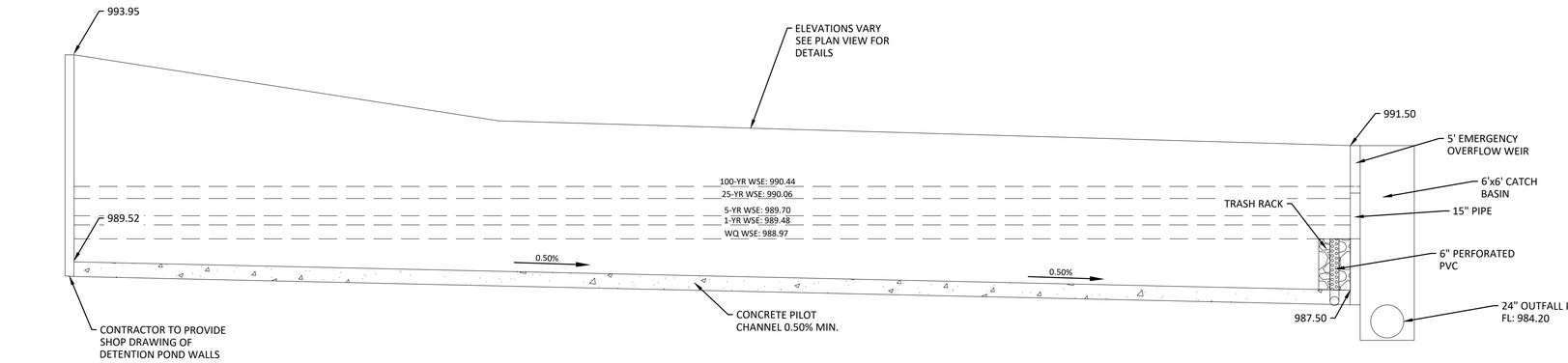
DRAWN BY: kjf
PAGE:

21 OF 43





SECTION A-A

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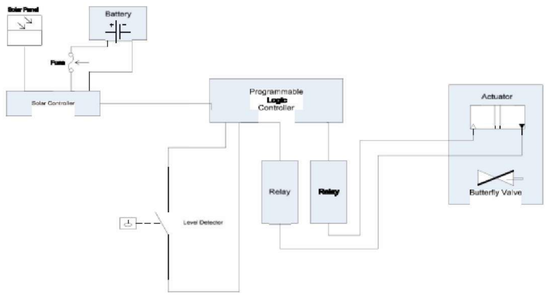
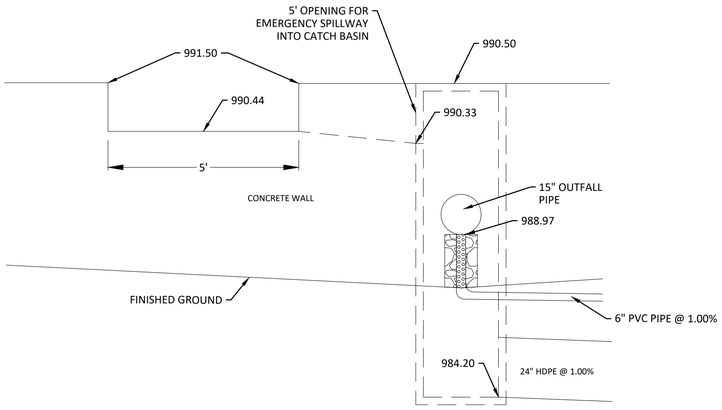


CIRCUIT RELAY

N.T.S.



OUTFALL DETAIL

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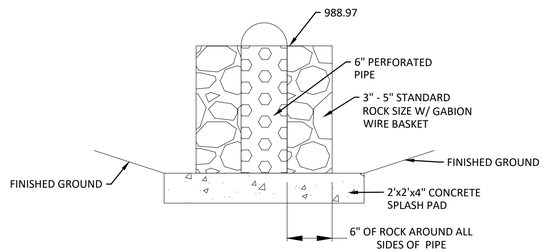
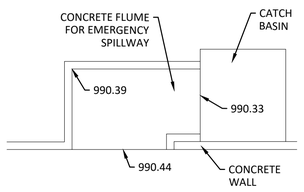


TRASH RACK DETAIL

N.T.S.

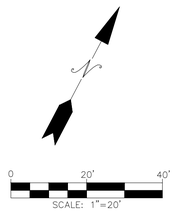


EMERGENCY SPILLWAY

Solve For: Discharge

Discharge:	18.57	cfs	Headwater Height Above Centroid:	0.53	ft
Headwater Elevation:	991.50	ft	Tailwater Height Above Centroid:	-0.53	ft
Centroid Elevation:	990.97	ft	Flow Area:	5.3	ft²
Tailwater Elevation:	990.44	ft	Velocity:	3.50	ft/s
Discharge Coefficient:	0.600				
Opening Width:	5.00	ft			
Opening Height:	1.1	ft			

25-YR EVENT = 18.21 CFS



LEGEND

- PROPERTY LINE
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED STORM WATER PIPE
- PROPOSED GRADE BREAK
- PROPOSED SWALE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING STORM WATER PIPE

ABB.

TC - TOP OF CURB
TP - TOP OF PAVEMENT
FG - FINISHED GROUND
FFE - FINISHED FLOOR ELEVATION
FL - FLOWLINE
TG - TOP OF GRATE
ME - MATCH EXISTING

NOTES:

1. CONTRACTOR TO PROVIDE HYDROMULCH AND TEMPORARY WATERING FOR AREAS IN THE R.O.W. ALL DISTURBED AREAS ARE REQUIRED TO BE HYDROMULCHED AND RESTORED AS REQUIRED PER TPDES REQUIREMENTS.
2. LOCATION OF EXISTING UTILITIES ARE APPROXIMATE AND WILL NEED TO BE FIELD VERIFIED BY CONTRACTOR.
3. ALL EXISTING ELEVATION DATA IS BASED ON SURVEY DATA COLLECTED BY POLLOK & SONS SURVEYING. FELUX ENGINEERING DOES NOT CERTIFY AND DID NOT VERIFY THE ELEVATION SURVEY DATA PROVIDED.
4. CONTRACTOR SHALL VERIFY BENCHMARK, SURVEY AND ELEVATION DATA.
5. CONTRACTOR SHALL PHASE CONSTRUCTION AND/OR PROVIDE NECESSARY BMPS TO MITIGATE INTERIM CONDITIONS RUNOFF DURING CONSTRUCTION DUE TO CLEARING, GRADING, SUBGRADE PREPARATION, PAVING, BUILDINGS, ETC., AND TO PREVENT ADVERSE IMPACTS TO OTHER PROPERTY, STRUCTURES, AND INFRASTRUCTURE DURING CONSTRUCTION.
6. DETENTION POND EXCAVATION AND/OR EMBANKMENT NECESSARY FOR PROVIDING STORAGE MUST BE SUBSTANTIALLY COMPLETE PRIOR TO CITY INSPECTION OF STREET SUBGRADE, CURB, FLEX BASE, AND PAVEMENT WITHIN THE WATERSHED DRAINING TO THE DETENTION POND.
7. DETENTION POND WALLS CAN BE EITHER CAST IN PLACE CONCRETE WALLS OR MECHANICALLY STABILIZED BLOCKS. CONTRACTOR TO PROVIDE SHOP DRAWINGS OF WALLS BEFORE CONSTRUCTION.
8. BATCH DETENTION CONTROLS SHALL BE IN ACCORDANCE WITH TCEQ RG-348. SEE TCEQ RG-348 FOR DESIGN CRITERIA.

APP. BY

REVISIONS

DATE

STATE OF TEXAS
KYLER J. FELUX
150019
LICENSED
PROFESSIONAL ENGINEER

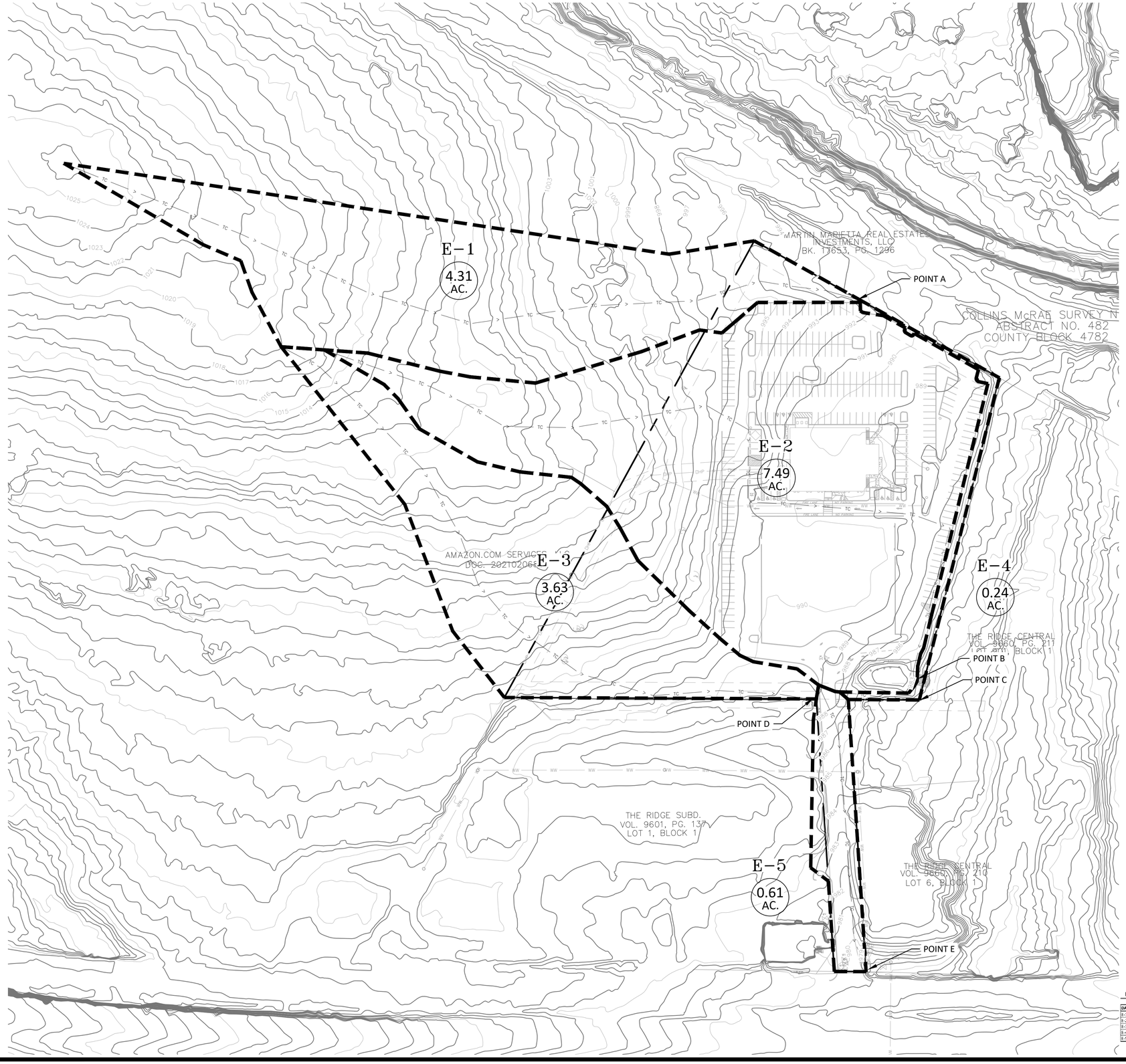
7-22-2025

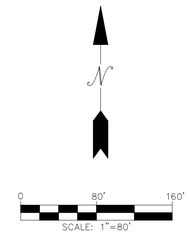
FELUX ENGINEERING
FIRM NO. 25020
P.O. BOX 65076 SAN ANTONIO, TX 78147
210.818.3340

4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

DETENTION POND

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
PAGE:





LEGEND

- PROPERTY LINE
- DRAINAGE AREA LIMITS
- TC — > — TIME OF CONCENTRATION
- XXX — DRAINAGE AREA LABEL
- 0.00 AC. — DRAINAGE AREA
- DRAINAGE FLOW DIRECTION

NOTES:
1. CONTOUR DATA USED FOR OFFSITE ANALYSIS IS 2017 LIDAR DATA PULLED FROM THE SAN ANTONIO RIVER AUTHORITY'S DATA BASE.
2. XXX CU.FT. OF TREATMENT HAS BEEN PROVIDED DURING PREVIOUS CONSTRUCTION ACTIVITIES.

EXISTING DEVELOPMENT DRAINAGE CALCULATIONS

DRAINAGE AREA	TOTAL ACRES	LARGE LOT RESIDENTIAL AREA slope (%)			RANGE (GRASS COVER >75% OF slope (%)			EXISTING ASPHALT PAVEMENT slope (%)			COMPOSITE RUNOFF COEFFICIENT
		C	C	C	C	C	C	C	C	C	
		0.57	0.62	0.64	0.39	0.47	0.52	0.96	0.97	0.97	
E-1	4.31					4.31					0.47
E-2	7.49					3.36		4.31			0.76
E-3	3.63					3.63					0.47
E-4	0.24					0.24					0.47
E-5	0.61				0.14			0.47			0.83

Tc (Pre Development)

Note
*Minimum Overland Flow Time of Concentration is 5 minutes per City of San Antonio Design Manual.

DA	Area (ac.)	L_total (ft)	Overland Flow Up to 100 feet n_1	S_1 ft/ft	Tc_1 (min)	Flow beyond 100 ft L_2 (ft)	K (constant)	S_2 ft/ft	Tc_2 (min)	Tc_total
E-1	4.31	1315	100	0.13	0.01	9.79	1215	16.13	0.03	7.92	17.7
E-2	7.49	1398	100	0.13	0.03	6.31	1298	20.32	0.02	6.78	13.1
E-3	3.63	1080	100	0.13	0.05	5.14	980	16.13	0.03	6.34	11.5
E-4	0.24	126	100	0.13	0.06	5.00	26	16.13	0.06	0.11	5.1
E-5	0.61	463	100	0.01	0.02	5.00	363	20.32	0.02	2.09	7.0

FLOWS (Pre Development)

DA	Tc (min)	Area (ac.)	C	I_2, in/hr	I_5, in/hr	I_10, in/hr	I_25, in/hr	I_100, in/hr	Q_2, in/hr	Q_5, in/hr	Q_10, in/hr	Q_25, in/hr	Q_100, in/hr
E-1	17.3	4.31	0.47	3.94	4.90	5.67	6.78	8.42	7.98	9.92	11.49	13.73	17.07
E-2	13.1	7.49	0.76	4.52	5.64	6.58	7.89	9.82	25.71	32.13	37.44	44.76	55.90
E-3	11.5	3.63	0.47	4.77	5.97	6.98	8.35	10.44	8.16	10.19	11.91	14.24	17.82
E-4	5.1	0.24	0.47	6.26	7.83	9.15	10.94	13.70	0.71	0.88	1.03	1.23	1.55
E-5	7.0	0.61	0.83	5.65	7.10	8.32	9.94	12.47	2.86	3.59	4.21	5.03	6.33

DATE	REVISIONS	APP. BY

STATE OF TEXAS
KYLER J. FELUX
150019
LICENSED
PROFESSIONAL ENGINEER

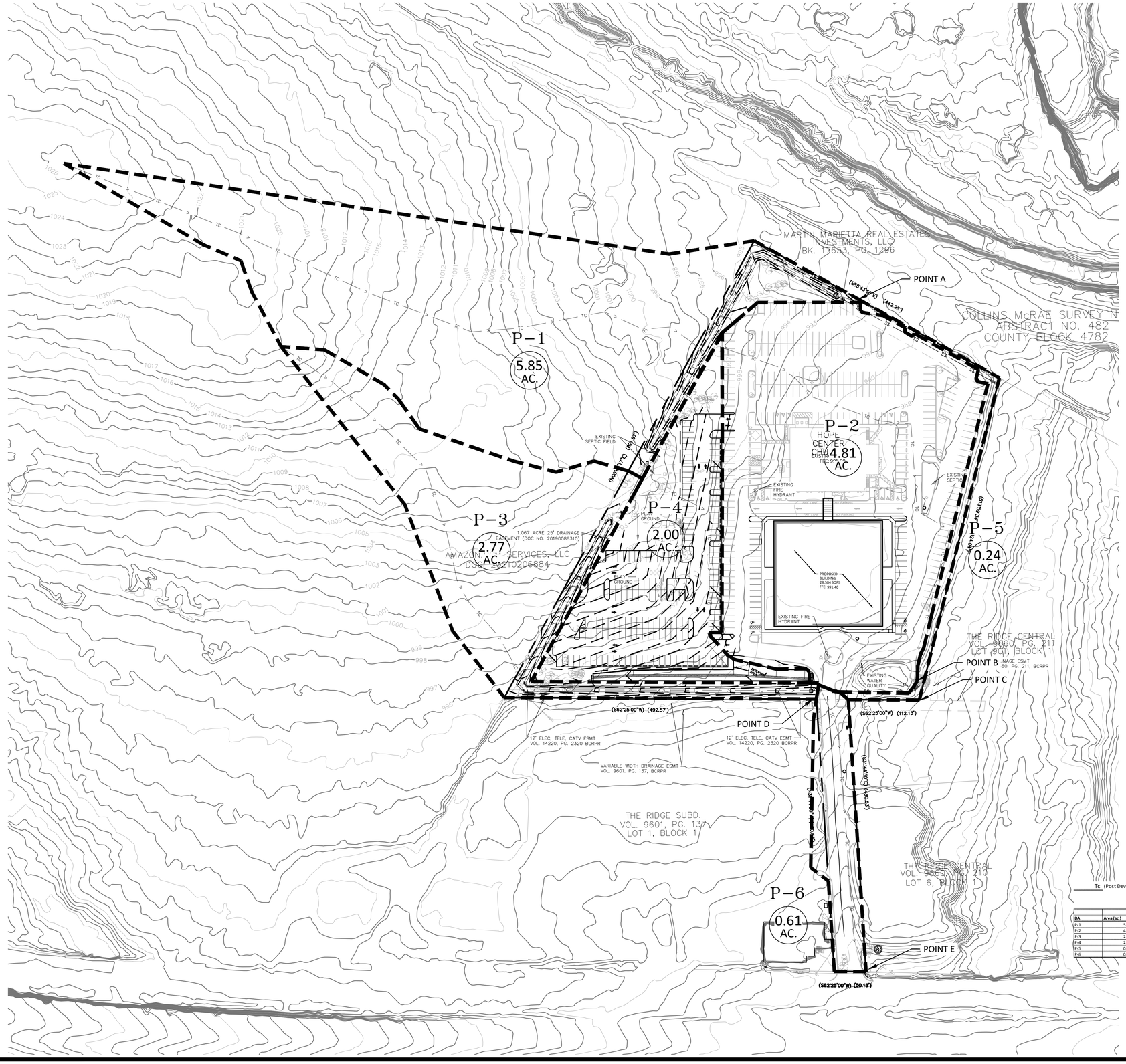
7-22-2025

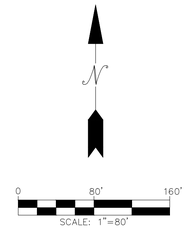
FELUX ENGINEERING
FIRM NO. 23020
P.O. BOX 641, BOERNE, TX 78147
210-818-3340

4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

EXISTING DRAINAGE AREA MAP

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
PAGE:





LEGEND

- PROPERTY LINE
- DRAINAGE AREA LIMITS
- TC > TIME OF CONCENTRATION
- XXX DRAINAGE AREA LABEL
- 0.00 AC. DRAINAGE AREA
- DRAINAGE FLOW DIRECTION

NOTES:
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2. XXX CU.FT. OF TREATMENT HAS BEEN PROVIDED DURING PREVIOUS CONSTRUCTION ACTIVITIES.

PROPOSED DEVELOPMENT DRAINAGE CALCULATIONS

DRAINAGE AREA	TOTAL ACRES	LARGE LOT RESIDENTIAL AREA slope (%)			RANGE (GRASS COVER >75% OF slope (%)			ASPHALT PAVEMENT slope (%)			COMPOSITE RUNOFF COEFFICIENT
		C	C	C	C	C	C	C	C	C	
		0.57	0.62	0.64	0.39	0.47	0.52	0.96	0.97	0.97	
P-1	5.98					5.98					0.47
P-2	4.81					0.50		4.31			0.91
P-3	2.64					2.64					0.47
P-4	2.00					0.78			1.22		0.78
P-5	0.24					0.24					0.47
P-6	0.61				0.14			0.47			0.83

Tc (Post Development)

Note
*Minimum Overland Flow Time of Concentration is 5 minutes per City of San Antonio Design Manual.

			Overland Flow Up to 100 feet				Flow beyond 100 ft				Channel Flow				
DA	Area (ac.)	L_total (ft)	L_1 (ft)	n_1	Slope_1 ft/ft	Tc_1 (min)	L_2 (ft)	K (constant)	Slope_2 ft/ft	Tc_2 (min)	L (ft)	R (in)	S (ft/ft)	Tc_3 (min)	Tc_total
P-1	5.98	1330	100	0.13	0.01	9.79	998	16.13	0.03	6.34	232	6.90	0.01	0.98	17.1
P-2	4.78	778	100	0.01	0.04	5.00	673	20.32	0.01	4.53					9.5
P-3	2.64	1148	100	0.13	0.05	5.14	570	16.13	0.01	5.89	475	4.90	0.01	3.97	11.0
P-4	2.03	383	100	0.13	0.07	5.00	283	20.32	0.02	1.53					6.5
P-5	0.24	126	100	0.13	0.06	5.00	26	16.13	0.06	0.13					5.1
P-6	0.61	463	100	0.01	0.02	5.00	363	20.32	0.02	2.03					7.0

FLOWS (Post Development)

DA	Tc (min)	Area (ac.)	C	I_2_in/hr	I_5_in/hr	I_10_in/hr	I_25_in/hr	I_100_in/hr	Q_2_in/hr	Q_5_in/hr	Q_10_in/hr	Q_25_in/hr	Q_100_in/hr
P-1	17.1	5.98	0.47	3.96	4.92	5.70	6.82	8.47	11.13	13.84	16.03	19.16	23.85
P-2	9.5	4.81	0.86	5.11	6.41	7.52	8.98	11.26	21.14	26.53	31.09	37.16	46.58
P-3	11.0	2.64	0.47	4.84	6.07	7.10	8.49	10.62	6.01	7.53	8.81	10.53	13.18
P-4	6.5	1.99	0.78	5.79	7.27	8.52	10.18	12.77	8.99	11.28	13.22	15.80	19.81
P-5	5.1	0.24	0.47	6.26	7.83	9.15	10.94	13.70	0.71	0.88	1.03	1.23	1.55
P-6	7.0	0.61	0.83	5.65	7.10	8.32	9.94	12.47	2.86	3.59	4.21	5.03	6.33

DATE | REVISIONS | APP. BY

STATE OF TEXAS
KYLER J. FELUX
150019
LICENSED
PROFESSIONAL ENGINEER
7-22-2025

FELUX ENGINEERING
FIRM NO. 23020
P.O. BOX 780, ADKINS, TX 78147
210-818-3340

4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

PROPOSED DRAINAGE AREA MAP

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
PAGE:

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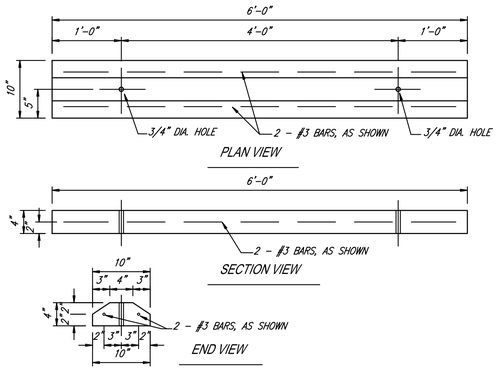
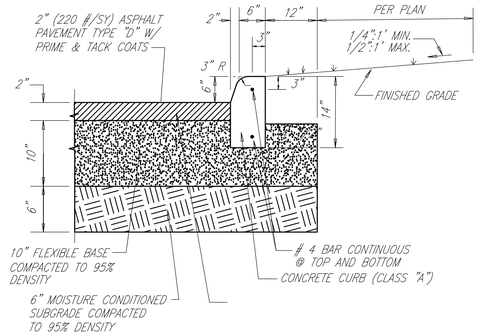
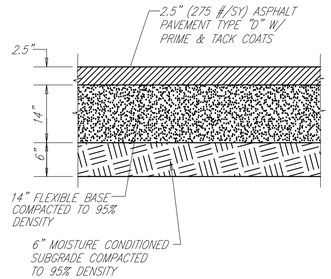


1 CONCRETE WHEEL STOP

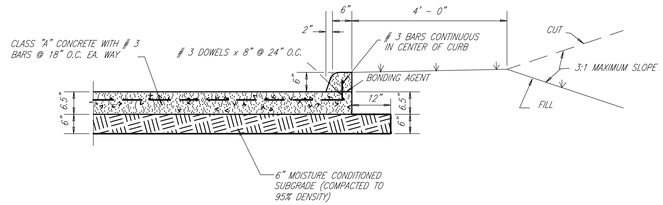
N.T.S.



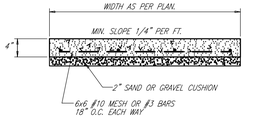
2 LIGHT-DUTY ASPHALT PAVING



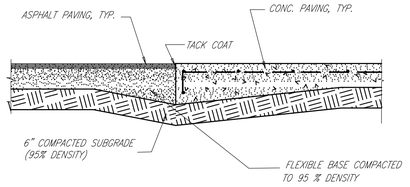
3 HEAVY-DUTY ASPHALT PAVING



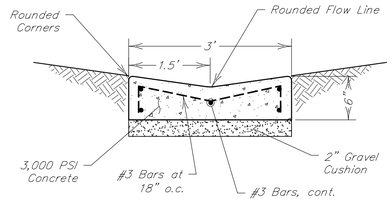
4 CONCRETE PAVEMENT WITH CURB SECTION



5 CONCRETE SIDEWALK

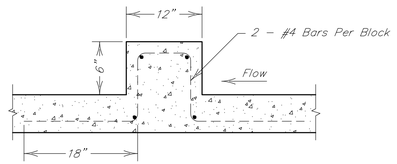


6 ASPHALT/CONCRETE PAVEMENT JUNCTION



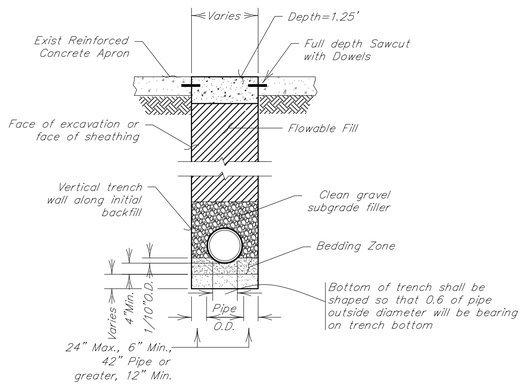
7 CONCRETE PILOT CHANNEL

(NTS)



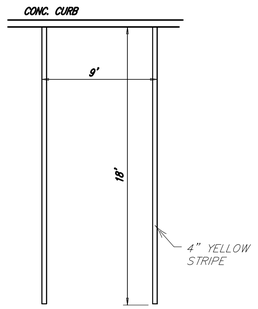
8 ENERGY DISSIPATOR

(NTS)

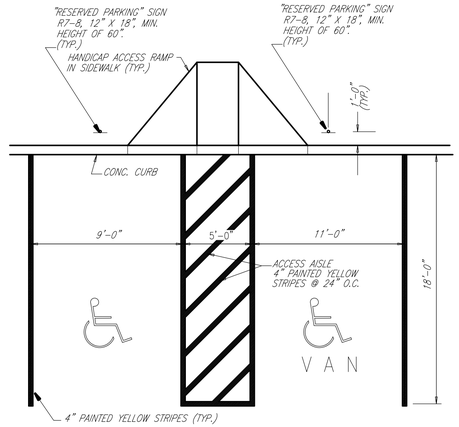


9 PIPE BEDDING & BACKFILL

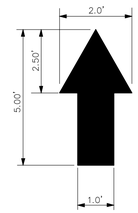
NOT TO SCALE



10 90° PARKING SPACE



11 HANDICAP ACCESS PARKING



NOTE:
ALL TRAFFIC FLOW ARROWS TO BE 4" YELLOW REFLECTIVE TRAFFIC PAINT OUTLINE AS ILLUSTRATED BELOW.

11 TRAFFIC ARROW

APP. BY

REVISIONS

DATE

STATE OF TEXAS
KYLER J. FELUX
150019
LICENSED
PROFESSIONAL ENGINEER

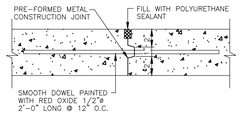
7-22-2025

FELUX ENGINEERING
FIRM NO. 23020
P.O. BOX 1604 #2000, TX 78147
210-818-3340

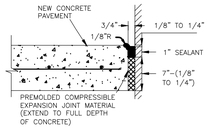
4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

CONSTRUCTION DETAILS

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
PAGE:



CONSTRUCTION JOINT
N.T.S.



EXPANSION JOINT AT CONCRETE PAVEMENT AND PROPOSED BUILDING
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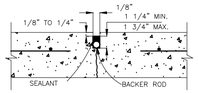
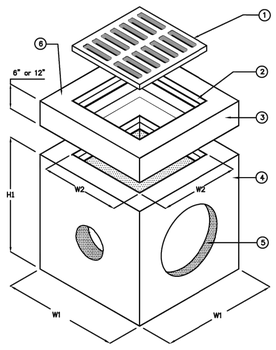
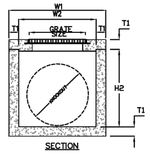


CONCRETE PAVEMENT SAW JOINT (CJ)
N.T.S.

1 *PAVEMENT JOINTS*
N.T.S.



ISOMETRIC

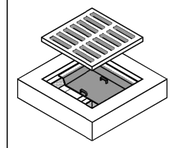


SECTION

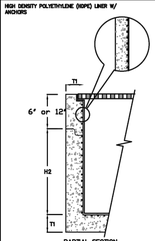
KEYED NOTES		
MARK	QTY	DESCRIPTION
1	1	GRATE OR COVER AS REQUESTED, SEE OPTIONS
2	1	CAST-IN STEEL FRAME
3	1	OPTIONAL TOP/EXTENSION 6" TO 18"
4	1	PRECAST CONCRETE BASIN SECTION
5	4	KNOCKOUTS (STD) AND PENETRATIONS (OPT) AS REQUIRED, SEE KO DIMENSION FOR MAXIMUM PIPE O.D.*
6	1	NAMEPLATE INDICATING: MFG: PARKUSA 888-611-PARK WWW.PARKUSA.COM MODEL: CB-01 DATE MANUFACTURED

ADDITIONAL OPTIONS

REMOVABLE DEBRIS SCREEN w/ (2) LIFT HANDLES, 304 STAINLESS STEEL, ¼" HOLES @ ⅝" O.C. (50% FREE OPEN AREA)



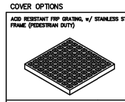
HIGH DENSITY POLYETHYLENE (HDPE) LINER W/ ANCHORS



PARTIAL SECTION

COVER OPTIONS

ADA RESISTANT FRP GRATING, w/ STAINLESS STEEL FRAME (PEDESTRIAN DUTY)



GRATING: GRATING SHALL BE SLIP RESISTANT HIGHLIGHS GRATING W/ STAINLESS STEEL ANGLE FRAME.

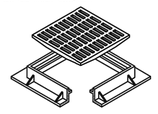
SKID-RESISTANT STEEL PEDESTRIAN DUTY STD.

D.I. CASTINGS: MANHOLE FRAMES, COVERS OR GRATES ARE MANUFACTURED OF DUCTILE IRON CONFORMING TO ASTM A536, AASHTO M306, & AASHTO M103 STANDARDS.

TRAFFIC DUTY CAST IRON GRATE

D.I. CASTINGS: MANHOLE FRAMES, COVERS OR GRATES ARE MANUFACTURED OF DUCTILE IRON CONFORMING TO ASTM A536, AASHTO M306, & AASHTO M103 STANDARDS.

CAST IRON FRAME & GRATE V5600-SERIES

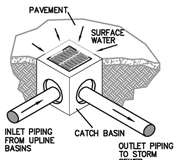


D.I. CASTINGS: MANHOLE FRAMES, COVERS OR GRATES ARE MANUFACTURED OF DUCTILE IRON CONFORMING TO ASTM A536, AASHTO M306, & AASHTO M103 STANDARDS.

NOTE: KNOCKOUTS–STD. PENETRATIONS–OPTIONAL

MODEL	W1	W2	H1	H2	T1	T2	KO	GRATE SIZE	OPEN AREA	WEIGHT LBS
CB–12	15"	10"	21"	18"	3"	2"	10"	12"x12"x1"	90	180
CB–14	20"	12"	28"	24"	4"	4"	12"	14"x14"x1½"	120	600
CB–18	24"	16"	34"	30"	4"	4"	15"	18"x18"x1½"	168	1,000
CB–20	28"	18"	34"	30"	4"	4"	17"	20"x20"x1½"	170	1,335
CB–24	32"	22"	41"	36"	5"	5"	22"	24"x24"x2"	288	2,245
CB–27	37"	25"	42"	36"	6"	6"	24"	27"x27"x2"	350	2,675
CB–30	42"	30"	42"	36"	6"	6"	30"	32"x32"x2"	490	3,675
CB–36	48"	36"	42"	36"	6"	6"	32"	38"x38"x2"	693	4,585
CB–48	60"	48"	54"	48"	6"	6"	48"	38"x38"x2"	693	7,250
*CB–60	72"	60"	66"	60"	6"	6"	60"	38"x38"x2"	693	10,500
*CB–72	84"	72"	78"	72"	6"	6"	72"	38"x38"x2"	693	15,350
*CB–84	96"	84"	78"	72"	6"	6"	72"	38"x38"x2"	693	19,500

*KNOCKOUTS NOT AVAILABLE



SPECIFICATIONS

CONCRETE : CLASS I/II CONCRETE WITH OF DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNIT IS OF MONOLITHIC CONSTRUCTION AT FLOOR AND FIRST STAGE OF WALL WITH SECTIONAL RISER TO REQUIRED DEPTH.

REINFORCEMENT: GRADE 60 REINFORCED. STEEL REBAR CONFORMING TO ASTM A615 ON REQUIRED CENTERS OR EQUAL.

C.I. CASTINGS: CAST IRON FRAMES AND GRATES ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48–76 CLASS 30.

REV	DATE	BY	DESCRIPTION
A	.	.	.

PROJECT: .
CUSTOMER: .
ENGINEER: .
ORDER #: . PROJ #: .
DATE: . LOCATION: .

PARK USA
A Northwest Pipe Company

CATCH BASIN
MODEL CB – 12" THRU 84"

PM	PC	DRN	ENG	DWG. NO.	REV.
.	.	.	.	CB–1	A
DATE .					

MARK: –
LINE: –
STA: –
SHEET: –
DATE: –

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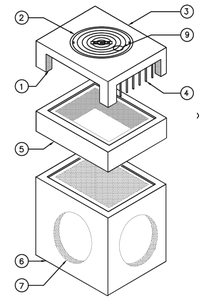
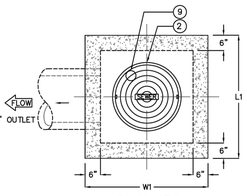
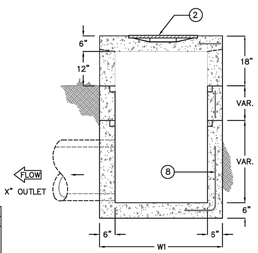


ISOMETRIC



PLAN VIEW

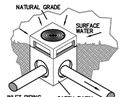
NAME PLATE



ELEVATION

KEYED NOTES		
MARK	QTY	DESCRIPTION
1	4	OPENING ALL FOUR SIDES (VERTICAL REBAR GRATE IF REQUIRED)
2	1	20" CAST–IN RING AND COVER
3	1	TOP SECTION
4	1	SAFETY BARS (OPTIONAL)
5	1	MID SECTION
6	1	BASIN SECTION
7	2	THINWALL KNOCKOUT PIPE OPENING "K" DIAMETER
8	–	REBAR AS REQUIRED
9	1	NAMEPLATE INDICATING: MFG: PARKUSA 888–611–PARK WWW.PARKUSA.COM MODEL: CBY–1 DATE MANUFACTURED

TYPE	L1	W1	K
CBY–36	4'–0"	4'–0"	32"
CBY–48	5'–0"	5'–0"	48"
CBY–60	6'–0"	6'–0"	60"
CBY–72	7'–0"	7'–0"	72"



SPECIFICATIONS

CONCRETE: CLASS I/II CONCRETE WITH OF DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNIT IS OF MONOLITHIC CONSTRUCTION AT FLOOR AND FIRST STAGE OF WALL WITH SECTIONAL RISER TO REQUIRED DEPTH. RATED FOR H–20 LOADING.

REINFORCEMENT: GRADE 60 REINFORCED. NO. 4 STEEL REBAR TO CONFORM TO ASTM A615 ON REQUIRED CENTERS OR EQUAL.

C.I. CASTINGS: CAST IRON FRAMES AND GRATES ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48–76 CLASS 30.

PARK USA
A Northwest Pipe Company

TYPE Y CURB INLET
MODEL CBY 36" THRU 72"

PM	PC	DRN	ENG	DWG. NO.	REV.
.	.	.	.	CBY–1	A
DATE 2023					

PLOTTED ON 4/9/2024 3:33 PM BY ML, G:\Users\kjvs\Desktop\Park replacement website\CBY–1

DRAFTED ON 4/9/2024 BY ——
LAST MODIFIED ON 4/9/2024 3:15 PM BY kjvs

DATE	REVISIONS	APP. BY

STATE OF TEXAS
KYLER J. FELUX
150019
LICENSED
PROFESSIONAL ENGINEER
7-22-2025

FELUX ENGINEERING
FIRM NO. 23020
P.O. BOX 1604 78147
210-818-3340
4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

CONSTRUCTION DETAILS

DATE: 3/25/2025
JOB NO.: 25002-01
DRAWN BY: kjf
PAGE:

EXISTING TREE										
NO.	CALIPER	TREE SPECIES	REMAIN/REMOVE	CLASSIFICATION	REMOVAL"	PRESERVATION "	CANOPY CREDIT	PARKING CREDIT	POINTS	NOTES
1058	16	Oak	To remain	Significant		16	1200		6	
1059	13	Oak	To remain	Significant		13	1200		6	
1060	6	Cedar Tree	To remain							
1061	10	Oak	To remain	Significant		10	1200		4	
1062	12	Oak	To remain	Significant		12	1200		6	
1063	6	Oak	To remain	Significant		6	1200		4	
1064	9	Oak	To remain	Significant		9	1200		4	
1065	9	Oak	To remain	Significant		9	1200		4	
1066	13	Cedar Tree	To remain	Significant		13				
1067	10	Oak	To remain	Significant		10	1200		4	
1068	10	Oak	To remain	Significant		10	1200		4	
1069	11	Oak	To remain	Significant		11	1200		4	
1070	10	Oak	To remain	Significant		10	1200		4	
1071	15	Cedar Cluster	To remain	Significant		15				
1072	8	Cedar Tree	To remain							
1073	11	Cedar Cluster	To remain	Significant		11				
1074	7	Cedar Tree	To remain							
1075	10	Oak	To remain	Significant		10	1200		4	
1076	14	Cedar Tree	To remain	Significant		14				
1077	8	Oak	To remain	Significant		8	1200		4	
1078	8	Oak	To remain	Significant		8	1200		4	
1079	7	Oak	To remain	Significant		7	1200		4	
1080	8	Oak	To remain	Significant		8	1200		4	
1081	18	Cedar Cluster	To remain	Significant		18				
1082	13	Oak	To remain	Significant		13	1200		6	
1083	11	Cedar Tree	To remain	Significant		11				
1084	6	Cedar Tree	To remain							
1085	17	Oak	To remain	Significant		17	1200		6	
1086	13	Cedar Tree	To remain	Significant		13				
1088	9	Cedar Tree	To remain							
1089	9	Oak	To remain	Significant		9	1200		4	
1090	10	Oak	To remain	Significant		10	1200		4	
1091	19	Oak	To remain	Significant		19	1200		8	
1092	13	Cedar Cluster	To remain	Significant		13				
1093	21	Oak Cluster	To remain	Significant		21			8	
1094	21	Oak	To remain	Significant		21	1200		8	
1095	13	Cedar Tree	To remain	Significant		13				
1096	6	Oak	To remain	Significant		6	1200		4	
1097	14	Cedar Tree	To remain	Significant		14				
1098	21	Oak	To remain	Significant		21	1200		8	
1099	8	Cedar Tree	To remain							
1100	9	Cedar Tree	To remain							
1101	13	Cedar Tree	To remain	Significant		13				
1102	7	Oak	To remain	Significant		7	1200		4	
1103	8	Oak	To remain	Significant		8	1200		4	
1104	10	Oak	To remain	Significant		10	1200		4	
1106	7	Oak	To remain	Significant		7	1200		4	
1107	8	Oak	To remain	Significant		8	1200		4	
1108	9	Cedar Tree	To remain	Significant		9				
1108	14	Oak	To remain	Significant		14	1200		6	
1109	22	Oak	To remain	Significant		22	1200		8	
1110	9	Oak	To remain	Significant		9	1200		4	
1111	8	Oak	To remain	Significant		8	1200		4	
1112	10	Oak	To remain	Significant		10	1200		4	
1113	7	Oak	To remain	Significant		7	1200		4	
1114	16	Oak	To remain	Significant		16	1200		6	
1115	10	Oak	To be removed	Significant	10					
1116	6	Oak	To be removed	Significant	6					
1117	19	Oak	To remain	Significant		19	1200		8	
1118	19	Oak	To remain	Significant		19	1200		8	
1119	9	Oak	To remain	Significant		9	1200		4	
1120	7	Oak	To remain	Significant		7	1200		4	
1121	8	Oak	To remain	Significant		8	1200		4	
1122	8	Oak	To remain	Significant		8	1200		4	
1123	14	Oak	To remain	Significant		14	1200		6	
1124	8	Oak	To remain	Significant		8	1200		4	
1125	13	Oak	To remain	Significant		13	1200		6	
1126	14	Oak	To remain	Significant		14	1200	1200	6	
1127	19	Oak	To remain	Significant		19	1200	1200	8	
1128	16	Oak	To be removed	Significant	16					
1129	29	Oak	To remain	Heritage		29	1200	1200	8	
1130	17	Oak	To remain	Significant		17	1200	1200	6	
1131	14	Oak	To remain	Significant		14	1200		6	
1132	16	Oak	To remain	Significant		16	1200		6	
1133	11	Oak	To be removed	Significant	11					
1134	11	Oak	To be removed	Significant	11					
1135	11	Oak	To remain	Significant		11	1200		4	
1136	14	Oak Cluster	To be removed	Significant	14					
1137	10	Oak	To be removed	Significant	10					
1138	14	Oak	To remain	Significant		14	1200		6	
1139	8	Oak	To remain	Significant		8	1200		4	
1140	11	Oak	To remain	Significant		11	1200	1200	4	
1141	7	Oak	To remain	Significant		7	1200		4	
1142	10	Oak	To remain	Significant		10	1200		4	
1143	15	Oak	To remain	Significant		15	1200		6	
1144	14	Oak	To remain	Significant		14	1200		6	
1145	12	Oak	To remain	Significant		12	1200		6	

NO.	CALIPER	TREE SPECIES	REMAIN/REMOVE	CLASSIFICATION	REMOVAL"	PRESERVATION "	CANOPY CREDIT	PARKING CREDIT	POINTS	NOTES
1146	15	Oak	To remain	Significant		15	1200		6	
1147	13	Oak	To remain	Significant		13	1200		6	
1148	12	Oak	To remain	Significant		12	1200		6	
1149	9	Oak	To remain	Significant		9	1200		4	
1150	7	Oak	To remain	Significant		7	1200		4	
1151	10	Oak	To remain	Significant		10	1200		4	
1152	8	Oak	To be removed	Significant	8					
1153	11	Oak	To be removed	Significant	11					
1154	7	Oak	To remain	Significant		7	1200		4	
1155	11	Oak	To remain	Significant		11	1200		4	
1156	9	Oak	To remain	Significant		9	1200		4	
1157	11	Oak	To remain	Significant		11	1200		4	
1158	12	Oak	To remain	Significant		12	1200		6	
1159	10	Oak	To remain	Significant		10	1200		4	
1160	10	Oak	To remain	Significant		10	1200		4	
1161	21	Oak	To remain	Significant		21	1200		8	
1162	14	Oak	To remain	Significant		14	1200		6	
1163	14	Oak	To remain	Significant		14	1200		6	
1164	13	Oak	To remain	Significant		13	1200		6	
1165	17	Oak	To remain	Significant		17	1200		6	
1166	14	Oak	To remain	Significant		14	1200		6	
1167	18	Oak	To remain	Significant		18	1200		8	
1168	16	Oak	To remain	Significant		16	1200		6	
1169	6	Oak	To remain	Significant		6	1200	1200	4	
1170	7	Oak	To remain	Significant		7	1200	1200	4	
1171	9	Oak	To remain	Significant		9	1200	1200	4	
1172	9	Oak	To remain	Significant		9	1200	1200	4	
1173	9	Oak	To remain	Significant		9	1200		4	
1174	7	Oak	To remain	Significant		7	1200		4	
1175	8	Oak	To remain	Significant		8	1200		4	
1176	7	Oak	To remain	Significant		7	1200		4	
1177	10	Cedar Cluster	To remain	Significant		10				
1178	10	Cedar Cluster	To remain	Significant		10				
1179	15	Cedar Cluster	To remain	Significant		15				
1180	10	Cedar Tree	To remain	Significant		10				
1181	13	Oak	To remain	Significant		13	1200		6	
1182	9	Cedar Tree	To remain							
1183	10	Oak	To remain	Significant		10	1200		4	
1184	10	Cedar Elm	To remain	Significant		10	875			
1185	9	Oak	To remain	Significant		9	1200		4	
1186	10	Oak	To remain	Significant		10	1200		4	
1187	9	Oak	To remain	Significant		9	1200		4	
1188	8	Oak	To remain	Significant		8	1200		4	
1189	7	Oak	To remain	Significant		7	1200		4	
1190	8	Cedar Tree	To remain							
1196	11	Texas Mountain Laurel	To remain	Significant		11	275	275	4	
1197	11	Texas Mountain Laurel	To remain	Significant		11	275	275	4	
1198	22	Oak	To remain	Significant		22	1200	1200	8	
1200	9	Oak	To remain	Significant		9	1200	1200	4	
1201	7	Oak	To remain	Significant		7	1200	1200	4	
1202	9	Oak	To remain	Significant		9	1200	1200	4	
1203	6	Oak	To remain	Significant		6	1200	1200	4	
1204	9	Oak	To remain	Significant		9	1200	1200	4	
1205	14	Oak	To remain	Significant		14	1200	1200	6	
1206	11	Cedar Elm	To remain	Significant		11	875	875	4	
1208	8	Oak	To remain	Significant		8	1200	1200	4	
1209	6	Oak	To remain	Significant		6	1200	1200	4	
1210	6	Oak	To remain	Significant		6	1200		4	
1211	6	Oak	To remain	Significant		6	1200		4	

TOTAL CALIPER INCHES ON SITE			1641
CANOPY CREDIT			130700
POINTS (MAX OF 40 TO BE USED)			550
SIGNIFICANT TREES 136 trees, 1542 inches	REQUIRED	PROVIDED PRES.	PERCENT
TOTAL REQUIRED TO BE MAINTAINED (SIGNIFICANT) 40%	617	1445	93.71%
HERITAGE TREES 1 tree; 29 inches	TOTAL ON SITE	TOTAL TO BE PRES.	PERCENT
TOTAL REQUIRED TO BE MAINTAINED 100%	29	29	100%

AWR Designs, LLC
P.O. Box 1746
Aledo, Texas 76008
amanda@awr-designs.com
c. 512.517.5589

APP. BY

REVISIONS

DATE

REGISTERED LANDSCAPE ARCHITECT
AMANDA W. RICHARDSON
2754
STATE OF TEXAS

FELUX ENGINEERING
FIRM NO. 23520
P.O. BOX 1645, BOERNE, TX 78147
210-818-3340

4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

L1.00 TREE PRESERVATION NOTES

DATE: 6/9/2025

JOB NO.: 25002-01

DRAWN BY:

PAGE:

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TREE PRESERVATION NOTES

CONSTRUCTION METHODS:

BORING: BORING OF UTILITIES UNDER PROTECTED TREES MAY BE REQUIRED. WHEN REQUIRED, THE MINIMUM LENGTH OF THE BORE SHALL BE THE WIDTH OF THE CRITICAL ROOT ZONE AND SHALL BE A MINIMUM DEPTH OF FORTY (48) INCHES.

TRENCHING: ALL TRENCHING SHALL BE DESIGNED TO AVOID TRENCHING ACROSS CRITICAL ROOT ZONES OF ANY PROTECTED TREE. THE PLACEMENT OF UNDERGROUND UTILITY LINES SUCH AS ELECTRIC, PHONE, GAS, ETC., IS ENCOURAGED TO BE LOCATED OUTSIDE THE CRITICAL ROOT ZONE. TRENCHING FOR IRRIGATION SYSTEMS SHALL BE PLACED OUTSIDE THE CRITICAL ROOT ZONE EXCEPT THE MINIMUM REQUIRED SINGLE HEAD SUPPLY LINE. THIS LINE IS ALLOWED TO EXTEND INTO THE CRITICAL ROOT ZONE PERPENDICULAR TO THE TREE TRUNK WITH THE LEAST POSSIBLE DISTURBANCE.

TREES TO BE REMOVED: ALL TREES TO BE REMOVED FROM THE SITE SHALL BE FLAGGED BY THE CONTRACTOR WITH BRIGHT RED VINYL TAPE WRAPPED AROUND THE MAIN TRUNK AT A HEIGHT OF FOUR (4) FEET ABOVE GRADE.

TREES TO REMAIN: ALL TREES TO REMAIN, AS NOTED ON DRAWINGS, SHALL HAVE PROTECTIVE FENCING LOCATED AT THE TREE'S DRIP LINE. THE PROTECTIVE FENCING SHALL BE LOCATED AS INDICATED ON THE TREE PROTECTION DETAIL.

EXISTING TREES NOTED TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION FROM DAMAGE AND COMPACTION OF SOIL UNDER AND AROUND DRIP LINE OF TREE.

UNDER NO CIRCUMSTANCE SHALL THE CONTRACTOR PRUNE ANY PORTION OF THE DAMAGED TREE WITHOUT THE PRIOR APPROVAL BY THE OWNER'S AUTHORIZED REPRESENTATIVE.

PROHIBITED ACTIVITIES IN CRITICAL ROOT ZONE:
THE FOLLOWING ACTIVITIES ARE PROHIBITED IN THE AREAS NOTED AS THE CRITICAL ROOT ZONE.

MATERIAL STORAGE: NO MATERIALS INTENDED FOR USE IN CONSTRUCTION, OR WASTE MATERIALS ACCUMULATED DUE TO EXCAVATION OR DEMOLITION, SHALL BE PLACED WITHIN THE LIMITS OF THE CRITICAL ROOT ZONE OF ANY PROTECTED TREE.

EQUIPMENT CLEANING/LIQUID DISPOSAL: NO EQUIPMENT SHALL BE CLEANED, OR OTHER LIQUIDS DEPOSITED OR ALLOWED WITHIN THE LIMITS OF THE CRITICAL ROOT ZONE OF A PROTECTED TREE. THIS INCLUDES, WITHOUT LIMITATION: PAINT, OIL, SOLVENTS, ASPHALT, CONCRETE, MORTAR OR SIMILAR MATERIALS.

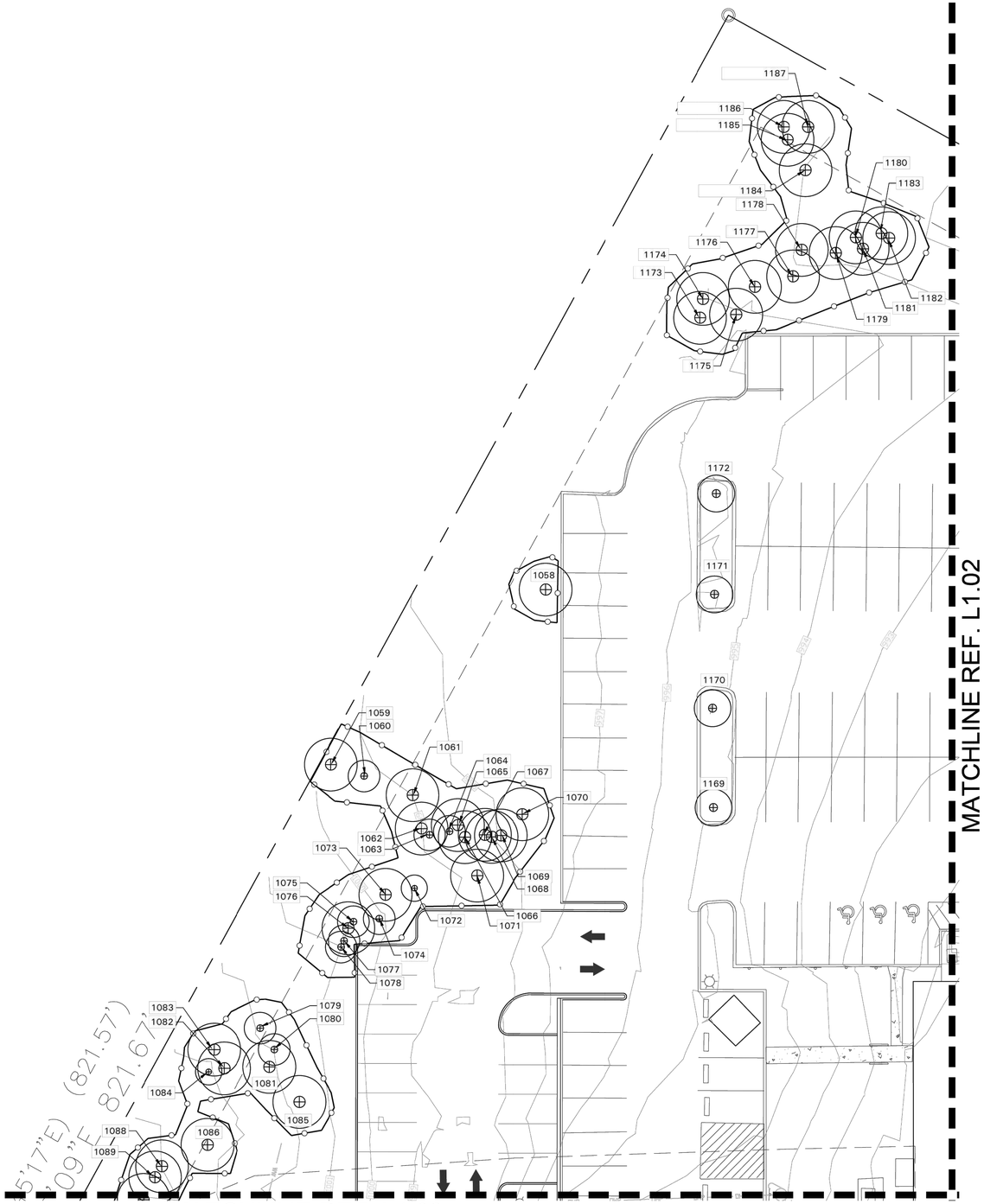
TREE ATTACHMENTS: NO SIGNS, WIRES, OR OTHER ATTACHMENTS, OTHER THAN THOSE OF A PROTECTIVE NATURE, SHALL BE ATTACHED TO ANY PROTECTED TREE.

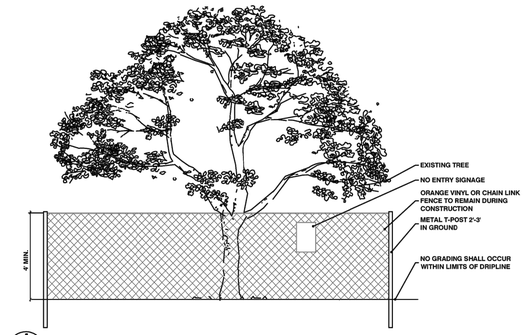
VEHICULAR TRAFFIC: NO VEHICULAR AND/OR CONSTRUCTION, EQUIPMENT, TRAFFIC, OR PARKING SHALL TAKE PLACE WITHIN THE LIMITS OF THE CRITICAL ROOT ZONE OF ANY PROTECTED TREE OTHER THAN ON EXISTING STREET PAVEMENT.

GRADE CHANGES: A MINIMUM OF 75% OF THE DRIP LINE AND ROOT ZONE SHALL BE PRESERVED AT NATURAL GRADE. ANY FINE GRADING DONE WITHIN THE CRITICAL ROOT ZONES OF THE PROTECTED TREES MUST BE DONE WITH LIGHT MACHINERY SUCH AS A BOBCAT OR LIGHT TRACTOR. NO EARTH MOVING EQUIPMENT WITH TRACKS IS ALLOWED WITHIN THE CRITICAL ROOT ZONE OF THE TREES.

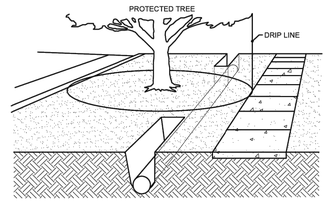
PROCEDURES REQUIRED PRIOR TO CONSTRUCTION:
PROTECTIVE FENCING: PRIOR TO CONSTRUCTION, THE CONTRACTOR OR SUBCONTRACTOR SHALL CONSTRUCT AND MAINTAIN, FOR EACH PROTECTED TREE ON A CONSTRUCTION SITE, A PROTECTIVE FENCING WHICH ENCIRCLES THE OUTER LIMITS OF THE CRITICAL ROOT ZONE OF THE TREE TO PROTECT IT FROM CONSTRUCTION ACTIVITY. ALL PROTECTIVE FENCING SHALL BE IN PLACE PRIOR TO COMMENCEMENT OF ANY SITE WORK, AND REMAIN IN PLACE UNTIL ALL EXTERIOR WORK HAS BEEN COMPLETED.

BARK PROTECTION: IN SITUATIONS WHERE A PROTECTED TREE REMAINS IN THE IMMEDIATE AREA OF INTENDED CONSTRUCTION, AND THE LANDSCAPE ARCHITECT OR OWNERS'S REPRESENTATIVE DETERMINES THE TREE BARK TO BE IN DANGER OF DAMAGE BY CONSTRUCTION EQUIPMENT OR OTHER ACTIVITY, THE CONTRACTOR OR SUBCONTRACTOR SHALL PROTECT THE TREE BY ENCLOSING THE ENTIRE CIRCUMFERENCE OF THE TREE WITH 2"X4" LUMBER ENCIRCLED WITH WIRE OR OTHER MEANS THAT DO NOT DAMAGE THE TREE. THE INTENT IS TO PROTECT THE BARK OF THE TREE AGAINST INCIDENTAL CONTACT BY LARGE CONSTRUCTION EQUIPMENT.

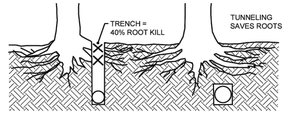




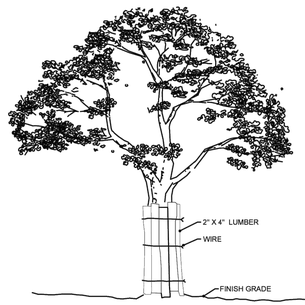
1 TREE PROTECTION FENCING
N.T.S.



BORING:
BORING OF UTILITIES UNDER PROTECTED TREES SHALL BE REQUIRED IN CIRCUMSTANCES WHERE IT IS NOT POSSIBLE TO TRENCH AROUND THE CRITICAL ROOT ZONE OF THE PROTECTED TREE. WHERE REQUIRED, THE LENGTH OF THE BORE SHALL BE THE WIDTH OF THE CRITICAL ROOT ZONE AT A MINIMUM AND SHALL BE A MINIMUM DEPTH OF FORTY EIGHT (48") INCHES.



2 BORING AND TUNNELING
N.T.S.



WHERE A PROTECTED TREE REMAINS IN THE IMMEDIATE AREA OF INTENDED CONSTRUCTION, AND THE TREE MAY BE IN DANGER OF BEING DAMAGED BY CONSTRUCTION EQUIPMENT OR OTHER ACTIVITY, THE CONTRACTOR OR SUBCONTRACTOR SHALL PROTECT THE TREE WITH 2" X 4" LUMBER ENCIRCLED WITH WIRE OR OTHER MEANS THAT DO NOT DAMAGE THE BARK OF THE TREE. THE INTENT IS TO PROTECT THE TRUNK OF THE TREE AGAINST INCIDENTAL CONTACT BY LARGE CONSTRUCTION EQUIPMENT.

3 BARK PROTECTION
N.T.S.

REF. L1.00 FOR TREE PRESERVATION CHART

TREE PRESERVATION LEGEND

TREE TO BE REMOVED

TREE TO REMAIN

TREE PRESERVATION FENCING

GRAPHIC SCALE
0 20 40 FEET
Scale 1"=20' - 0"

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DATE REVISIONS APP. BY

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L1.01 TREE PRESERVATION PLAN

DATE: 6/9/2025
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PAGE:

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MARTIN MARIETTA REAL ESTATES
INVESTMENTS, LLC
BK. 17653, PG. 1296

(S88°43'56"E)
S89°02'40"E (442.98')
442.98'

COLLINS McRAE SURVEY NO. 391
ABSTRACT NO. 482
COUNTY BLOCK 4782

MATCHLINE REF. L1.01

1188 1189 1190 1196 1197 1198 1201 1200 1202 1203 1204 1205 1206

HOPE
CENTER
CHURCH

MATCHLINE REF. L1.04

TREE PRESERVATION LEGEND

TREE TO BE REMOVED

TREE TO REMAIN

TREE PRESERVATION FENCING

REF. L1.00 FOR TREE PRESERVATION CHART

GRAPHIC SCALE
0 20 40 FEET
Scale 1"=20' - 0"

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DATE REVISIONS APP. BY

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L1.02 TREE PRESERVATION PLAN

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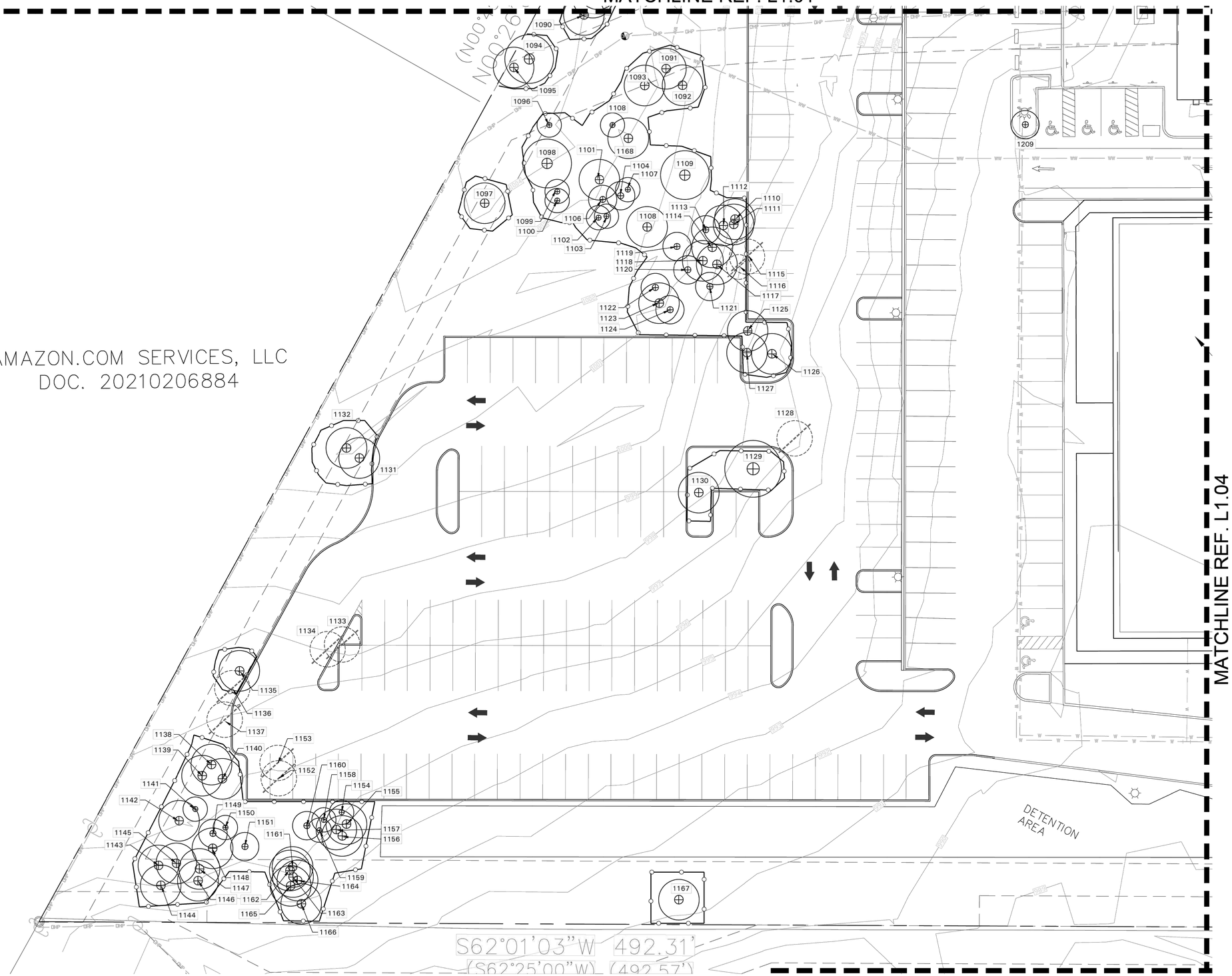

MATCHLINE REF. L1.04

MATCHLINE REF. L1.04-B

TREE PRESERVATION LEGEND

- TREE TO BE REMOVED
- TREE TO REMAIN
- TREE PRESERVATION FENCING

REF. L1.00 FOR TREE PRESERVATION CHART

GRAPHIC SCALE
0 20 40 FEET
Scale 1"=20' - 0"

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L1.03 TREE PRESERVATION PLAN

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MATCHLINE REF. L1.02

MATCHLINE REF. L1.04-A (THIS SHEET)

MATCHLINE REF. L1.04-B (THIS SHEET)

MATCHLINE REF. L1.03

FIRE LANE NO PARKING

FIRE LANE NO PARKING

1208

PROPOSED BUILDING 28,584 SQFT

1211
1210

(S13°59'34"E) S14°18'41"E (524.04') 524.04'

THE RIDG
VOL. 96
LOT 90

S62°05'53"W 112.13'

(S62°25

THE
VOL.
LO

(S31°44'50"E) (430.53')

S31°59'16"E 430.46'

N32°01'11"W 431.15'

(N31°44'50"W) (430.53')

BD.
137
1

S62°05'57"W 50.13'

(S62°25'00"W) (50.13')

MATCHLINE REF. L1.04-C (THIS SHEET)

MATCHLINE REF. L1.04-B (THIS SHEET)

A TREE PRESERVATION

B TREE PRESERVATION

C TREE PRESERVATION

TREE PRESERVATION LEGEND

TREE TO BE REMOVED

TREE TO REMAIN

TREE PRESERVATION FENCING

REF. L1.00 FOR TREE PRESERVATION CHART

GRAPHIC SCALE

0 20 40 FEET

Scale 1"=20' - 0"

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L1.04 TREE PRESERVATION PLAN

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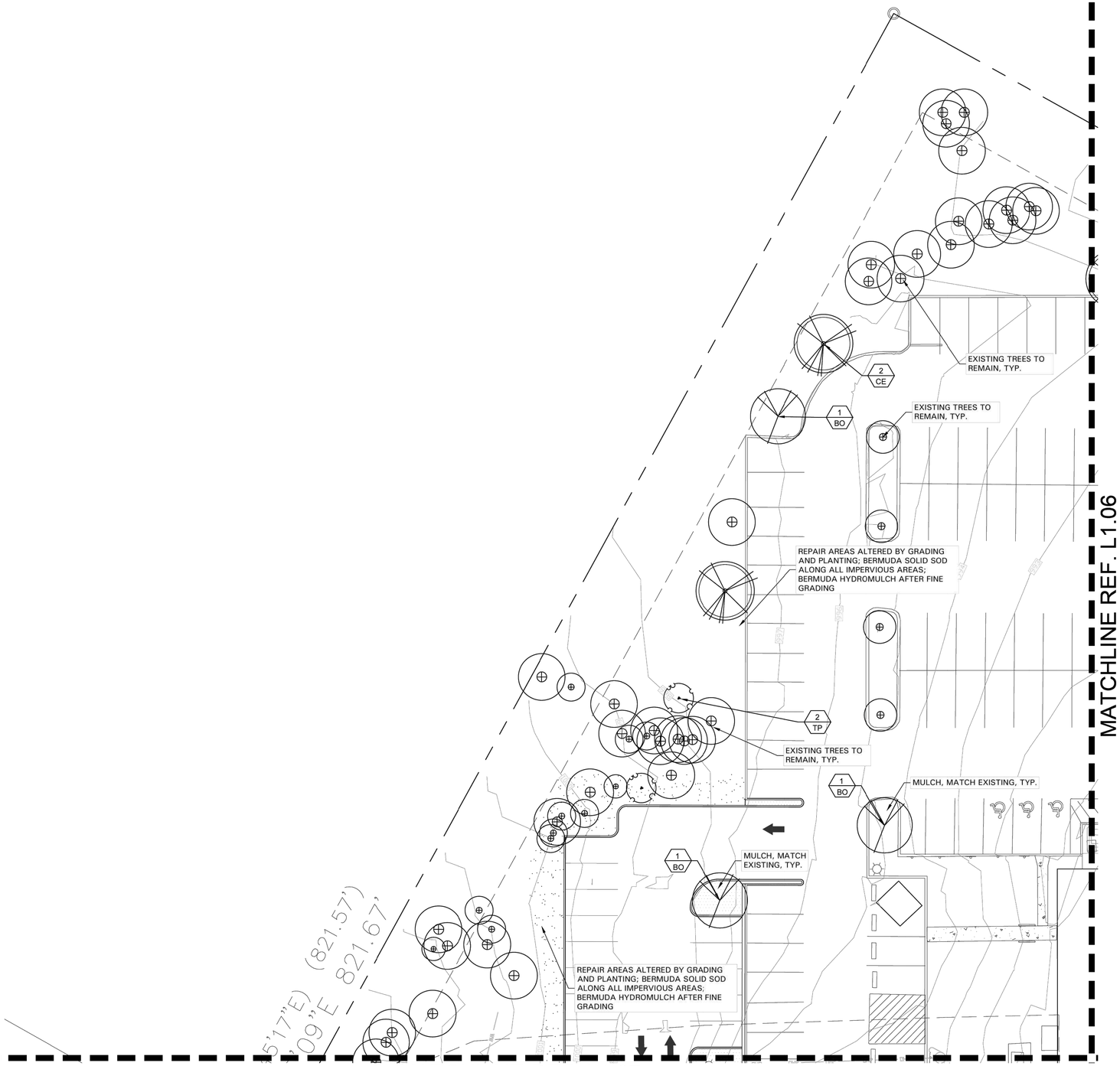

GENERAL LAWN NOTES

1. CONTRACTOR SHALL COORDINATE OPERATIONS AND AVAILABILITY OF EXISTING TOPSOIL WITH ON-SITE CONSTRUCTION MANAGER
2. LAWN AREAS SHALL BE LEFT 1" BELOW FINAL FINISHED GRADE PRIOR TO TOPSOIL INSTALLATION.
3. CONTRACTOR TO FIND GRADE AREAS TO ACHIEVE FINAL CONTOURS AS SHOWN ON CIVIL DRAWINGS. POSITIVE DRAINAGE SHALL BE PROVIDED AWAY FROM ALL BUILDINGS. ROUNDING AT TOP AND BOTTOM OF SLOPES SHALL BE PROVIDED AND IN OTHER BREAKS IN GRADE. CORRECT AREAS WHERE STANDING WATER MAY OCCUR.
4. ALL LAWN AREAS SHALL BE FINE GRADED, IRRIGATION TRENCHES COMPLETELY SETTLED AND FINISH GRADE APPROVED BY THE OWNERS CONSTRUCTION MANAGER OR LANDSCAPE ARCHITECT PRIOR TO LAWN INSTALLATION.
5. CONTRACTOR SHALL REMOVE ALL ROCKS 3/4" IN DIAMETER AND LARGER. REMOVE ALL DIRT CLODS, STICKS, CONCRETE SPOILS, TRASH ETC PRIOR TO PLACING TOPSOIL AND GRASS INSTALLATION.
6. CONTRACTOR SHALL MAINTAIN ALL LAWN AREAS UNTIL FINAL ACCEPTANCE.
7. CONTRACTOR SHALL GUARANTEE ESTABLISHMENT OF ACCEPTABLE TURF AREA AND SHALL PROVIDE REPLACEMENT IF NECESSARY.

SOLID SOD:

1. SOLID SOD SHALL BE PLACED ALONG ALL IMPERVIOUS EDGES, AT A MINIMUM. THIS SHALL INCLUDE CURBS, WALKS, INLETS, MANHOLES AND PLANTING BED AREAS. SOD SHALL COVER OTHER AREAS COMPLETELY AS INDICATED BY PLAN.
2. SOD SHALL BE STRONGLY ROOTED DROUGHT RESISTANT SOD, NOT LESS THAN 2 YEARS OLD, FREE OF WEEDS AND UNDESIRABLE NATIVE GRASS AND MACHINE CUT TO PAD THICKNESS OF 3/4" (+1/4"), EXCLUDING TOP GROWTH AND THATCH.
3. LAY SOD BY HAND TO COVER INDICATED AREAS COMPLETELY, ENSURING EDGES ARE TOUCHING WITH TIGHTLY FITTING JOINTS. NO OVERLAPS WITH STAGGERED STRIPS TO OFFSET JOINTS.
4. TOP DRESS JOINTS IN SOD BY HAND WITH TOPSOIL TO FILL VOIDS IF NECESSARY
5. SOD SHALL BE ROLLED TO CREATE A SMOOTH EVEN SURFACE. SOD SHOULD BE WATERED THOROUGHLY DURING INSTALLATION PROCESS.
6. SHOULD INSTALLATION OCCUR BETWEEN OCTOBER 1ST AND MARCH 1ST, OVERSEED BERMUDAGRASS SOD WITH WINTER RYEGRASS AT A RATE OF 4 POUNDS PER 1000 S.F.

HYDROMULCH:

1. SCARIFY AND LOOSEN ALL AREAS TO BE HYDROMULCHED TO A MINIMUM DEPTH OF 4" PRIOR TO TOPSOIL AND HYDROMULCH INSTALLATION.
2. BERMUDA GRASS SEED SHALL BE EXTRA HULLED, TREATED LAWN TYPE. SEED SHALL BE DELIVERED TO THE SITE IN ITS ORIGINAL UNOPENED CONTAINER AND SHALL MEET ALL STATE/LOCAL LAW REQUIREMENTS.
3. FIBER SHALL BE 100% WOOD CELLULOSE FIBER, DELIVERED TO THE SITE IN ITS ORIGINAL UNOPENED CONTAINER AS MANUFACTURED BY "CONWEB' OR EQUAL.
4. FIBER TACK SHALL BE DELIVERED TO THE SITE IN ITS UNOPENED CONTAINER AND SHALL BE 'TERRO-TACK ONE', AS MANUFACTURED BY GROWERS, INC OR APPROVED EQUAL.
5. HYDROMULCH WITH BERMUDA GRASS SEED AT A RATE OF 2 POUNDS PER 1000 S.F.
6. USE A BATTER BOARD AGAINST ALL BED AREAS TO PREVENT OVER SPRAY.
7. IF INADEQUATE MOISTURE IS PRESENT IN SOIL, APPLY WATER AS NECESSARY FOR OPTIMUM MOISTURE FOR SEED APPLICATION.
8. IF INSTALLATION OCCURS BETWEEN SEPTEMBER 1ST AND MAY 1ST, ALL HYDORMULCH AREAS SHALL BE OVER-SEEDED WITH WINTER RYE GRASS AT A RATE OF FOUR POUNDS PER ONE THOUSAND SQUARE FEET. CONTRACTOR SHALL BE REQUIRED TO RE-HYDROMULCH WITH BERMUDA GRASS THE FOLLOWING GROWING SEASON AS PART OF THIS CONTRACT.
9. AFTER APPLICATION, NO EQUIPMENT SHALL OPERATE OVER APPLIED AREAS. WATER SEEDED AREAS IMMEDIATELY AFTER INSTALLATION TO SATURATION.
10. ALL LAWN AREAS TO BE HYDROMULCHED SHALL ACHIEVE 100% COVERAGE PRIOR TO FINAL ACCEPTANCE.

LANDSCAPE NOTES

1. CONTRACTOR TO VERIFY AND LOCATE ALL PROPOSED AND EXISTING ELEMENTS. NOTIFY LANDSCAPE ARCHITECT OR DESIGNATED REPRESENTATIVE FOR ANY LAYOUT DISCREPANCIES OR ANY CONDITION THAT WOULD PROHIBIT THE INSTALLATION AS SHOWN. SURVEY DATA OF EXISTING CONDITIONS WAS SUPPLIED BY OTHERS
2. CONTRACTOR SHALL CALL 811 TO VERIFY AND LOCATE ANY AND ALL UTILITIES ON SITE PRIOR TO COMMENCING WORK. LANDSCAPE ARCHITECT SHOULD BE NOTIFIED OF ANY CONFLICTS. CONTRACTOR TO EXERCISE EXTREME CAUTION WHEN WORKING NEAR UNDERGROUND UTILITIES.
3. A MINIMUM OF 2% SLOPE SHALL BE PROVIDED AWAY FROM ALL STRUCTURES.
4. CONTRACTOR SHALL FINE GRADE AREAS TO ACHIEVE FINAL CONTOURS AS INDICATED. LEAVE AREAS TO RECEIVE TOPSOIL 3" BELOW FINAL FINISHED GRADE IN PLANTING AREAS AND 1" BELOW FINAL FINISHED GRADE IN LAWN AREAS.
5. LANDSCAPE ISLANDS SHALL BE CROWNED, AND UNIFORM THROUGHOUT THE SITE.
6. PLANTING AREAS AND SOD TO BE SEPARATED BY STEEL EDGING. NO STEEL EDGING SHALL BE INSTALLED ADJACENT TO BUILDINGS, WALKS OR CURBS. EDGING NOT TO BE MORE THAN 1/2" ABOVE FINISHED GRADE.
7. EDGING SHALL BE CUT AT 45 DEGREE ANGLE WHERE IT INTERSECTS WALKS AND/OR CURBS.
8. MULCH SHALL BE INSTALLED AT 1/2" BELOW THE TOPS OF SIDEWALKS AND CURBING.
9. QUANTITIES ON THESE PLANS ARE FOR REFERENCE ONLY. THE SPACING OF PLANTS SHOULD BE AS INDICATED ON PLANS OR OTHERWISE NOTED. ALL TREES AND SHRUBS SHALL BE PLANTED PER DETAILS.
10. CONTAINER GROWN PLANT MATERIAL IS PREFERRED HOWEVER BALL AND BURLAP PLANT MATERIAL CAN BE SUBSTITUTED IF NEED BE AND IS APPROPRIATE TO THE SIZE AND QUALITY INDICATED ON THE PLANT MATERIAL LIST.
11. TREES SHALL BE PLANTED AT A MINIMUM OF 5' FROM ANY UTILITY LINE, SIDEWALK OR CURB. TREES SHALL ALSO BE 10' CLEAR FROM FIRE HYDRANTS.
12. 4" OF SHREDDED HARDWOOD MULCH (2" SETTLED THICKNESS) SHALL BE PLACED OVER WEED BARRIER FABRIC. MULCH SHALL BE SHREDDED HARDWOOD MULCH OR APPROVED EQUAL. PINE STRAW MULCH IS PROHIBITED.
13. WEED BARRIER FABRIC SHALL BE USED IN PLANT BEDS AND AROUND ALL TREES AND SHALL BE MIRAFI 1405 WEED BARRIER OR APPROVED EQUAL.
14. CONTRACTOR TO PROVIDE UNIT PRICING OF LANDSCAPE MATERIALS AND BE RESPONSIBLE FOR OBTAINING ALL LANDSCAPE AND IRRIGATION PERMITS.

IRRIGATION:

1. ALL REQUIRED LANDSCAPE AREAS SHALL HAVE AN AUTOMATIC IRRIGATION SYSTEM WITH A FREEZE/RAIN SENSOR. SYSTEM SHALL ALSO HAVE AN ET WEATHER BASED CONTROLLER AND BE DESIGNED AND INSTALLED BY A LICENSED IRRIGATOR.

MAINTENANCE REQUIREMENTS:

1. VEGETATION SHOULD BE INSPECTED REGULARLY TO ENSURE THAT PLANT MATERIAL IS ESTABLISHING PROPERLY AND REMAINS IN A HEALTHY GROWING CONDITION APPROPRIATE FOR THE SEASON. IF DAMAGED OR REMOVED, PLANTS MUST BE REPLACED BY A SIMILAR VARIETY AND SIZE.
2. MOWING, TRIMMING, EDGING AND SUPERVISION OF WATER APPLICATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNTIL THE OWNER OR OWNER'S REPRESENTATIVE ACCEPTS AND ASSUMES REGULAR MAINTENANCE.
3. ALL LANDSCAPE AREAS SHOULD BE CLEANED AND KEPT FREE OF TRASH, DEBRIS, WEEDS AND OTHER MATERIAL.

MISCELLANEOUS MATERIALS:

1. STEEL EDGING SHALL BE 3/16" X 4 X 16' DARK GREEN DURAEDGE STEEL LANDSCAPE EDGING UNLESS NOTED OTHERWISE ON PLANS/DETAILS.
2. RIVER ROCK SHALL BE ARIZONA RIVER ROCK, 2" - 4" DIAMETER. RIVER ROCK SHALL BE COMPACTED TO A MINIMUM OF 3" DEPTH OVER FIL TER FABRIC.
3. DECOMPOSED GRANITE SHALL CONSIST OF A NATURAL MIX OF GRANITE AGGREGATE NOT TO EXCEED 1/8" IN DIAMETER AND COMPOSED OF VARIOUS STAGES OF DECOMPOSED EARTH BASE. DG SHALL BE PLACED OVER FILTER FABRIC AT A MINIMUM OF 3" DEPTH.
4. BOULDERS SHALL BE ON AVERAGE 36" X 24" X 24" AND A MIN. OF 500LBS. BOULDER TO BE SET IN GROUND ON A 1" SAND SETTING BED. APPROXIMATELY 2" BELOW FINISH GRADE. BOULDER SHOULD HAVE A WEATHERED FINISH. EACH BOULDER HAS A NATURAL TOP AND BOTTOM. ENSURE THAT THE BOULDER IS POSITIONED CORRECTLY BEFORE INSTALLATION.

PRUNING AND TRIMMING NOTES

1. CONTRACTOR SHALL PRUNE ALL EXISTING TREES ON-SITE USING STANDARD GUIDELINES IN THE INDUSTRY.
2. ALL TREES SHALL BE TRIMMED SO THAT NATURAL SHAPES OF THE PLANTS ARE RETAINED.
3. DO NOT 'TOP' OR 'HEAD' TREES.
4. IF BALLING OR SHEARING OF TREES HAS OCCURRED IN THE PAST, DISCONTINUE THIS PRACTICE AND ALLOW PLANTS TO GROW INTO NATURAL SHAPE.
5. REMOVE SUCKERS, DEAD, DYING, DISEASED, BROKEN AND / OR WEAK BRANCHES FROM ALL TREES ALONG THE MAIN TRUNK STRUCTURE AND WITHIN THE BRANCHING AREA.
6. CONTRACTOR SHALL PRUNE EXISTING DECIDUOUS HARDWOOD BY REMOVING LOWER LIMBS TO RAISE THE CANOPY. THE BOTTOM OF THE CANOPY SHALL BE RAISED TO 12'-0" ABOVE GRADE FOR DECIDUOUS HARDWOOD TREES, WHEN POSSIBLE. THE INTEGRITY OF THE CANOPY AND STRUCTURE OF THE TREE SHALL BE MAINTAINED. DO NOT CUT OR PRUNE CENTRAL LEADERS.
7. CONTRACTOR SHALL THIN THE CANOPY BY ONE-FOURTH. PRUNE TREE TO EVENLY SPACE BRANCHES WITHIN THE CANOPY WHENEVER POSSIBLE. REMOVE THOSE LIMBS THAT CROSS OTHERS, DOUBLE LEADERS AND THOSE THAT EXCESSIVELY EXTEND BEYOND THE NATURAL CROWN OF THE TREE.
8. CONTRACTOR SHALL PROVIDE DEEP ROOT FEEDING AND INVIGORATION OF EXISTING TREES. THIS SHALL BE ORGANIC BASED NUTRIENTS BASED FOR ROOT GROWTH AND LEAF GROWTH STIMULATION.
9. CONTRACTOR SHALL BE REQUIRED TO CHIP ALL REMOVED BRANCHES, LEAFS, ETC.

GRAPHIC SCALE

0 20 40 FEET

Scale 1"=20' - 0"

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L1.05 LANDSCAPE PLAN

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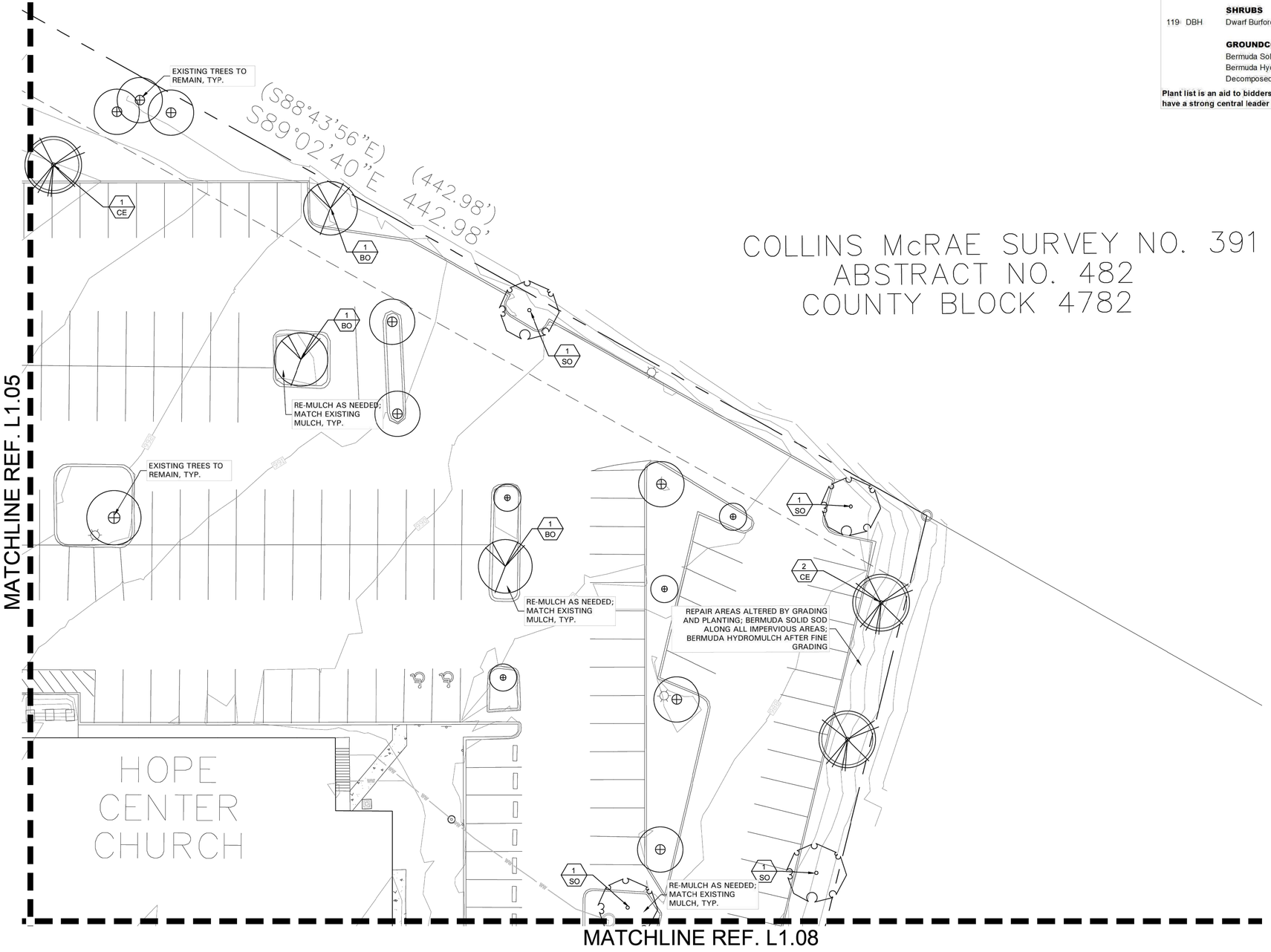

PLANT SCHEDULE

QTY	LABEL	COMMON NAME	SCIENTIFIC NAME	SIZE	NOTES
		SHADE TREES			
13	BO	Bur Oak (1200)	*Quercus macrocarpa*	3" cal.	12' ht., 4' spread, matching
11	CE	Cedar Elm (875)	*Ulmus crassifolia*	3" cal.	12' ht., 4' spread, matching
17	SO	Shumard Oak (1200)	*Quercus shumardii*	3" cal.	12' ht., 5' spread
		ORNAMENTAL TREES			
12	RB	Mexican Redbud (275)	*Cercus mexicana*	30 gal.	8' ht., 4' spread, multi trunk, 3 cane min.
6	TP	Texas Persimmon (275)	*Diospyros texana*	30 gal.	8' ht., 4' spread min.
		SHRUBS			
119	DBH	Dwarf Burford Holly	*Ilex cornuta ' Burford Nana'*	5 gal.	full, 20" spread, 36" o.c.
		GROUNDCOVER/VINES/GRASS			
		Bermuda Solid Sod	*Cynodon dactylon*		
		Bermuda Hydromulch	*Cynodon dactylon*		
		Decomposed Granite			

Plant list is an aid to bidders only. Contractor shall verify all quantities on plan. All heights and spreads are minimums. Trees shall have a strong central leader and be of matching specimens. All plant material shall meet or exceed remarks as indicated.

City of San Antonio Shading Calculations

153,677 sf - total parking lot area
38,419 sf - area to be shaded (25% of parking area)

	Value	Situation	Quantity	Shade %		Credit	
Large	1,200	All		100%	*1,200*	0	sf
Med.	875	All		100%	*875*	0	sf
Small	275	All		100%	*275*	0	sf
Existing Trees		island	21	100%	*0*	23,025	
Large	1,200	island	25	75%	*900*	22,500	sf
		w/in 12' of edge	5	50%	*600*	3,000	sf
Medium	875	island		75%	*656*	0	sf
		w/in 12' of edge	11	50%	*438*	4,813	sf
Small	275	island		75%	*206*	0	sf
		w/in 12' of edge	12	50%	*138*	1,650	sf
			53			54,988	sf total shading

54,988 sf total shading
16,568 sf total over or (under)

City of San Antonio Canopy Calculations

370,177 sf - total site area
92,544 sf - canopy coverage (25% of gross site area)

	Value	Quantity	Credit	
existing tree canopy			130,700	
Large	1,200	30	32,400	sf (90%)
Medium	875	11	8,663	sf (90%)
Small	275	18	4,455	sf (90%)
		59	176,218	sf total coverage

176,218 sf total coverage
83,673 sf total over or (under)

LANDSCAPE TABULATIONS for San Antonio, Texas

ELECTIVE REQUIREMENTS

REQUIRED	PROVIDED		
70 points	parking lot shading	=	15 pts
	understory preservation	=	15 pts
	existing tree points	=	40 pts
	TOTAL	=	70 pts

GRAPHIC SCALE
0 20 40 FEET
Scale 1"=20' - 0"

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L1.06 LANDSCAPE PLAN

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MATCHLINE REF. L1.05

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DOC. 20210206884

(N00°20'
N00°20

1 BO
1 BO
1 BO
MULCH, MATCH EXISTING, TYP.
EXISTING TREES TO REMAIN, TYP.
3 RB
SHRUB BED AREA, TYP.
1 BO
2 SO
4 TP
REPAIR AREAS ALTERED BY GRADING AND PLANTING; BERMUDA SOLID SOD ALONG ALL IMPERVIOUS AREAS; BERMUDA HYDROMULCH AFTER FINE GRADING
MULCH, MATCH EXISTING, TYP.
EXISTING TREES TO REMAIN, TYP.
1 CE
2 SO
MULCH, MATCH EXISTING, TYP.
1 SO
2 SO
2 SO
SHRUB BED AREA, TYP.
3 RB
1 BO
2 SO
MULCH, MATCH EXISTING, TYP.
1 BO
MULCH, MATCH EXISTING, TYP.
BERMUDA SOLID SOD IN DETENTION AREA; SHOULD DETENTION AREA HAVE WALLS, PLACE LARGE ROCKS IN THE BOTTOM IN LIEU OF SOD.
EXISTING TREES TO REMAIN, TYP.
119 DBH
DETENTION AREA

S62°01'03"W 492.31'
(S62°25'00"W) (492.57')

MATCHLINE REF. L1.08

MATCHLINE REF. L1.08-B

GRAPHIC SCALE
0 20 40 FEET
Scale 1"=20' - 0"

AWR Designs, LLC
P.O. Box 1746
Aledo, Texas 76008
amanda@awr-designs.com
c. 512.517.5589

DATE | REVISIONS | APP. BY

REGISTERED LANDSCAPE ARCHITECT
AMANDA W. RICHARDSON
2754
STATE OF TEXAS

FELUX ENGINEERING
FIRM NO. 25020
P.O. BOX 64, BOERNE, TX 78147
210-316-3340

4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

L1.07 LANDSCAPE PLAN

DATE: 6/9/2025
JOB NO.: 25002-01
DRAWN BY:
PAGE:

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MATCHLINE REF. L1.06

MATCHLINE REF. L1.07

MATCHLINE REF. L1.08-A (THIS SHEET)

MATCHLINE REF. L1.08-B (THIS SHEET)

MATCHLINE REF. L1.08-C (THIS SHEET)

FIRE LANE NO PARKING

FIRE LANE NO PARKING

SHRUB BED AREA, TYP.

3 RB

REPAIR AREAS ALTERED BY GRADING AND PLANTING; BERMUDA SOLID SOD ALONG ALL IMPERVIOUS AREAS; BERMUDA HYDROMULCH AFTER FINE GRADING

2 SO

5 CE

(S13°59'34"E) S14°18'41"E (524.04') 524.04'

PROPOSED BUILDING 28,584 SQFT

3 RB

SHRUB BED AREA, TYP.

1 BO

EXISTING TREES TO REMAIN, TYP.

DECOMPOSED GRANITE, TYP.

BERMUDA SOLID SOD, TYP.

MULCH, MATCH EXISTING, TYP.

S62°05'53"W 112.13'

THE RIDG
VOL. 96
LOT 90

(S62°25

THE
VOL.
LO

(S31°44'50"E) (430.53')

S31°59'16"E 430.46'

N32°01'11"W 431.15'

(N31°44'50"W) (430.53')

BD.
137
1

S62°05'57"W 50.13'

(S62°25'00"W) (50.13')

A LANDSCAPE PLAN

B LANDSCAPE PLAN

C LANDSCAPE PLAN

GRAPHIC SCALE

0 20 40 FEET

Scale 1"=20' - 0"

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APP. BY

REVISIONS

DATE

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L1.08 LANDSCAPE PLAN

DATE: 6/9/2025

JOB NO.: 25002-01

DRAWN BY:

PAGE:

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SECTION 32 9300 - LANDSCAPE

PART 1 - GENERAL

1.1 QUALIFICATIONS OF THE LANDSCAPE CONTRACTOR.

A. ALL LANDSCAPE WORK SHOWN ON THESE PLANS SHALL BE PERFORMED BY A SINGLE FIRM SPECIALIZING IN LANDSCAPE PLANTING

1.2 REFERENCE DOCUMENTS

A. REFER TO LANDSCAPE PLANS, NOTES, SCHEDULES AND DETAILS FOR ADDITIONAL REQUIREMENTS

1.3 SCOPE OF WORK / DESCRIPTION OF WORK

A. WORK COVERED BY THESE SECTIONS INCLUDES: FURNISH ALL SUPERVISIONS, LABOR, MATERIALS, SERVICES, EQUIPMENT AND APPLIANCES REQUIRED TO COMPLETE THE WORK COVERED IN CONJUNCTION WITH THE LANDSCAPING COVERED IN LANDSCAPE PLANS AND SPECIFICATIONS INCLUDING:
   1. PLANTING (TREES, SHRUBS, GRASSES)
      1. BED PREP AND FERTILIZATION
      3. NOTIFICATION OF SOURCES
      4. WATER AND MAINTENANCE UNTIL ACCEPTANCE
      5. GUARANTEE

B. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION OVER SUCH WORK, INCLUDING ALL INSPECTIONS AND PERMITS REQUIRED BY FEDERAL, STATE AND LOCAL AUTHORITIES IN SUPPLY, TRANSPORTATION AND INSTALLATION OF MATERIALS.

C. THE LANDSCAPE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITY LINES (WATER, SEWER, ELECTRICAL, TELEPHONE, GAS, CABLE, TELEVISION, ETC.) PRIOR TO THE START OF ANY WORK

1.4 REFERENCES

A. AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY AMERICAN ASSOCIATION OF NURSERYMEN; 27 OCTOBER 1980, EDITION; BY AMERICAN NATIONAL STANDARDS INSTITUTE (Z60.1) - PLANT MATERIAL

B. AMERICAN JOINT COMMITTEE ON HORTICULTURE NOMENCLATURE; 1942 EDITION OF STANDARDIZED PLANT NAMES.

C. TEXAS ASSOCIATION OF NURSERYMEN, GRADES AND STANDARDS

1.5 SUBMITTALS

A. PROVIDE REPRESENTATIVE QUANTITIES OF EACH SOIL, MULCH, BED MIX, GRAVEL AND STONE BEFORE INSTALLATION. SAMPLES TO BE APPROVED BY OWNER'S REPRESENTATIVE BEFORE USE.

B. SOIL AMENDMENTS AND FERTILIZERS SHOULD BE RESEARCHED AND BASED ON THE SOILS IN THE AREA.

C. BEFORE INSTALLATION, SUBMIT DOCUMENTATION THAT PLANT MATERIALS ARE AVAILABLE AND HAVE BEEN RESERVED. FOR ANY PLANT MATERIAL NOT AVAILABLE, SUBMIT REQUEST FOR SUBSTITUTION.

1.6 JOB CONDITIONS, DELIVERY, STORAGE AND HANDLING

A. GENERAL CONTRACTOR TO COMPLETE WORK BEFORE LANDSCAPE CONTRACTOR TO COMMENCE.

B. ALL PLANTING BED AREAS SHALL BE LEFT THREE INCHES BELOW FINAL GRADE OF SIDEWALKS, DRIVES AND CURBS. ALL AREAS TO RECEIVE SOLID SOD SHALL BE LEFT ONE INCH BELOW THE FINAL GRADE OF WALKS, DRIVES AND CURBS. CONSTRUCTION DEBRIS SHALL BE REMOVED PRIOR TO LANDSCAPE CONTRACTOR BEGINNING WORK

C. STORAGE OF MATERIALS AND EQUIPMENT AT THE JOB SITE WILL BE AT THE RISK OF THE LANDSCAPE CONTRACTOR. THE OWNER CANNOT BE HELD RESPONSIBLE FOR THEFT OR DAMAGE.

1.7 SEQUENCING

A. INSTALL TREES, SHRUBS, AND LINER STOCK PLANT MATERIALS PRIOR TO INSTALLATION OF LAWN/SOLID SOD.

B. WHERE EXISTING TURF AREAS ARE BEING CONVERTED TO PLANTING BEDS, THE TURF SHALL BE CHEMICALLY ERADICATED TO MINIMIZE RE-GROWTH IN THE FUTURE. AREAS SHALL BE PROPERLY PREPARED WITH AMENDED ORGANIC MATTER.

1.8 MAINTENANCE AND GUARANTEE

MAINTENANCE:

A. THE LANDSCAPE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE MAINTENANCE OF ALL WORK FROM THE TIME OF PLANTING UNTIL FINAL ACCEPTANCE BY OWNER.

B. NO TREES, GRASS, GROUNDCOVER OR GRASS WILL BE ACCEPTED UNLESS THEY SHOW HEALTHY GROWTH AND SATISFACTORY FOLIAGE CONDITIONS.

C. MAINTENANCE SHALL INCLUDE WATERING OF TREES AND PLANTS, CULTIVATION, WEED SPRAYING, EDGING, PRUNING OF TREES, MOWING OF GRASS, CLEANING UP AND ALL OTHER WORK NECESSARY FOR MAINTENANCE.

D. A WRITTEN NOTICE REQUESTING FINAL INSPECTION AND ACCEPTANCE SHOULD BE SUBMITTED TO THE OWNER AT LEAST 7 DAYS PRIOR TO COMPLETION. AN ON SITE INSPECTION BY THE OWNERS AUTHORIZED REPRESENTATIVE WILL BE COMPLETED PRIOR TO WRITTEN ACCEPTANCE.

E. NOTIFY OWNER OR OWNERS REPRESENTATIVE SEVEN DAYS PRIOR TO THE EXPIRATION OF THE WARRANTY PERIOD.

F. REMOVE DEAD, UNHEALTHY AND UNSIGHTLY PLANTS DURING WARRANTY PERIOD

G. REMOVE GUYING AND STAKING MATERIALS AFTER ONE YEAR

H. ALL LANDSCAPE MUST BE MAINTAINED AND GRASS MOWED/EDGED ON A WEEKLY SCHEDULE UNTIL ACCEPTANCE BY OWNER. REMOVE CLIPPINGS AND DEBRIS FROM SITE PROMPTLY.

I. REMOVE TRASH, DEBRIS, AND LITTER. WATER, PRUNE, RESTAKE TREES, FERTILIZE, WEED AND APPLY HERBICIDES AND FUNGICIDES AS REQUIRED.

J. COORDINATE THE OPERATION OF IRRIGATION SYSTEM TO ENSURE THAT PLANTS ARE ADEQUATELY WATERED. HAND WATER AREAS NOT RECEIVING ADEQUATE WATER FROM AN IRRIGATION SYSTEM.

K. THE LANDSCAPE CONTRACTOR SHALL MAINTAIN THE IRRIGATION SYSTEM IN ACCORDANCE TO THE MAINTENANCE SERVICE TO ENSURE THE SYSTEM IS IN PROPER WORKING ORDER WITH SCHEDULING ADJUSTMENTS BY SEASON TO MAXIMIZE WATER CONSERVATION.

L. REAPPLY MULCH TO BARE AND THIN AREAS.

M. SHOULD SEEDED AND/OR SODDED AREAS NOT BE COVERED BY AN AUTOMATIC IRRIGATION SYSTEM, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING THESE AREAS AND OBTAINING A FULL, HEALTHY STAND OF GRASS AT NO ADDITIONAL COST TO THE OWNER.

N. TO ACHIEVE FINAL ACCEPTANCE AT THE END OF THE MAINTENANCE PERIOD, ALL OF THE FOLLOWING CONDITIONS MUST OCCUR:
   a. THE LANDSCAPE SHALL SHOW ACTIVE, HEALTHY GROWTH (WITH EXCEPTIONS MADE FOR SEASONAL DORMANCY). ALL PLANTS NOT MEETING THIS CONDITION SHALL BE REJECTED AND REPLACED BY HEALTHY PLANT MATERIAL PRIOR TO FINAL ACCEPTANCE.
   b. ALL HARDSCAPE SHALL BE CLEANED PRIOR TO FINAL ACCEPTANCE.
   c. SODDED AREAS MUST BE ACTIVELY GROWING AND MUST REACH A MINIMUM HEIGHT OF 1 1/2 INCHES BEFORE FIRST MOWING. HYDROMULCHED AREAS SHALL SHOW ACTIVE, HEALTHY GROWTH. BARE AREAS LARGER THAN TWELVE SQUARE INCHES MUST BE RESODDED OR RESEEDED (AS APPROPRIATE) PRIOR TO FINAL ACCEPTANCE. ALL SODDED TURF SHALL BE NEATLY MOWED.

GUARANTEE:

A. TREES, SHRUBS, GROUNDCOVER SHALL BE GUARANTEED (IN WRITING) FOR A 12 MONTH PERIOD (365 DAYS FOR ANNUAL PLANTING OR AT THE END OF THE SEASONAL COLOR GROWING SEASON, WHICHEVER COMES SOONER) AFTER FINAL ACCEPTANCE. THE CONTRACTOR SHALL REPLACE ALL DEAD MATERIALS AS SOON AS WEATHER PERMITS AND UPON NOTIFICATION OF THE OWNER.

B. PLANTS INCLUDING TREES, WHICH HAVE PARTIALLY DIED SO THAT SHAPE, SIZE OR SYMMETRY SHALL BE SERIOUSLY IMPAIRED ARE CONSIDERED SUBJECT TO REPLACEMENT. IN SUCH CASES, THE OPINION OF THE OWNER SHALL BE FINAL.

C. PLANTS USED FOR REPLACEMENT SHALL BE OF THE SAME SIZE AND KIND AS THOSE ORIGINALLY PLANTED OR SPECIFIED. ALL WORK INCLUDING MATERIALS, LABOR AND EQUIPMENT USED IN REPLACEMENTS SHALL CARRY A 12 MONTH GUARANTEE, AND DAMAGE INCLUDING RUTS IN LAWN OR BED AREAS INCURRED AS A RESULT OF MAKING REPLACEMENTS SHALL BE IMMEDIATELY REPAIRED.

D. WHEN PLANT REPLACEMENTS ARE MADE, PLANTS, SOIL MIX, FERTILIZER AND MULCH ARE TO BE UTILIZED AS ORIGINALLY SPECIFIED AND RE-INSPECTED FOR FULL COMPLIANCE WITH THE CONTRACT REQUIREMENTS. ALL REPLACEMENTS ARE INCLUDED UNDER "WORK" OF THIS SECTION.

E. THE OWNER AGREES THAT FOR THE ONE YEAR WARRANTY PERIOD TO BE EFFECTIVE, HE WILL WATER PLANTS AT LEAST TWICE A WEEK DURING DRY PERIODS.

F. THE ABOVE GUARANTEE SHALL NOT APPLY WHERE PLANTS DIE AFTER ACCEPTANCE BECAUSE OF DAMAGE DUE TO ACTS OF GOD, VANDALISM, INSECTS, DISEASE, INJURY BY HUMANS, MACHINES, THEFT OR NEGLIGENCE BY OWNER.

G. ACCEPTANCE FOR ALL LANDSCAPE WORK SHALL BE GIVEN AFTER FINAL INSPECTION BY THE OWNER PROVIDED THE JOB IS IN A COMPLETE, UNDAMAGED CONDITION AND THERE IS A STAND OF GRASS IN ALL LAWN AREAS, AT THAT TIME, THE OWNER WILL ASSUME MAINTENANCE ON THE ACCEPTED WORK.

1.9 QUALITY ASSURANCE

A. COMPLY WITH ALL FEDERAL, STATE, COUNTY AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK.

B. EMPLOY PERSONNEL EXPERIENCED AND FAMILIAR WITH THE REQUIRED WORK AND SUPERVISION BY A FOREMAN.

C. MAKE CONTACT WITH SUPPLIERS IMMEDIATELY UPON OBTAINING NOTICE OF CONTRACT ACCEPTANCE TO SELECT AND BOOK MATERIALS.

D. DEVELOP A PROGRAM OF MAINTENANCE (PRUNING AND FERTILIZATION) WHICH WILL ENSURE THE PURCHASED MATERIALS WILL MEET AND/OR EXCEED PROJECT SPECIFICATIONS.

E. DO NOT MAKE PLANT MATERIAL SUBSTITUTIONS. IF THE LANDSCAPE MATERIAL SPECIFIED IS NOT READILY AVAILABLE, SUBMIT PROOF TO LANDSCAPE ARCHITECT ALONG WITH THE PROPOSED MATERIAL TO BE USED IN LIEU OF THE SPECIFIED PLANT.

F. AT THE TIME BIDS ARE SUBMITTED, THE CONTRACTOR IS ASSUMED TO HAVE LOCATED THE MATERIALS NECESSARY TO COMPLETE THE JOB AS SPECIFIED.

G. OWNERS REPRESENTATIVE SHALL INSPECT ALL PLANT MATERIAL AND RETAINS THE RIGHT TO INSPECT MATERIALS UPON ARRIVAL TO THE SITE AND DURING INSTALLATION. OWNERS REPRESENTATIVE MAY ALSO REJECT ANY MATERIALS HE/SHE FEELS TO BE UNSATISFACTORY OR DEFECTIVE DURING THE WORK PROCESS. ALL PLANTS DAMAGED IN TRANSIT OR AT THE JOB SITE SHALL BE REJECTED.

1.10 PRODUCT DELIVERY, STORAGE AND HANDLING

A. PREPARATION
   1. BALLED AND BURLAPPED B&B PLANTS); DIG AND PREPARE SHIPMENT IN A MANNER THAT WILL NOT DAMAGE ROOTS, BRANCHES, SHAPE AND FUTURE DEVELOPMENT.
   2. CONTAINER GROWN PLANTS: DELIVER PLANTS IN RIGID CONTAINER TO HOLD BALL SHAPE AND PROTECT ROOT MASS.

B. DELIVERY
   1. DELIVER PACKAGED MATERIALS IN SEALED CONTAINERS SHOWING WEIGHT, ANALYSIS AND NAME OF MANUFACTURER. PROTECT MATERIALS FROM DETERIORATION DURING DELIVERY AND WHILE STORED ON SITE.
   2. DELIVER ONLY PLANT MATERIALS THAT CAN BE PLANTED IN ONE DAY UNLESS ADEQUATE STORAGE AND WATERING FACILITIES ARE AVAILABLE ON SITE
   3. PROTECT ROOT BALLS BY HEELING IN WITH SAWDUST OR OTHER APPROVED MOISTURE RETAINING MATERIAL IF NOT PLANTED WITHIN 24 HOURS OF DELIVERY.
   4. PROTECT PLANTS DURING DELIVERY TO PREVENT DAMAGE TO ROOT BALL OR DESICCATION OF LEAVES.
   5. KEEP PLANTS MOIST AT ALL TIMES. COVER ALL MATERIALS DURING TRANSPORT.
   6. NOTIFY OWNERS REPRESENTATIVE OF DELIVERY 72 HOURS PRIOR TO DELIVERY OF PLANT MATERIAL AT JOB SITE.
   7. REMOVE REJECTED PLANT MATERIAL IMMEDIATELY FROM JOB SITE.
   8. TO AVOID DAMAGE OR STRESS, DO NOT LIFT, MOVE, ADJUST TO PLUMB, OR OTHERWISE MANIPULATE PLANTS BY TRUNK OR STEMS.

PART 2 - PRODUCTS

2.1 PLANT MATERIALS

A. GENERAL: WELL FORMED NO. 1 GRADE OR BETTER NURSERY GROWN STOCK. LISTED PLANT HEIGHTS ARE FROM TOPS OF FOOT BALLS TO NOMINAL TOPS OF PLANTS. PLANT SPREAD REFERS TO NOMINAL OUTER WIDTH OF THE PLANT. THE LARGER OF THE TWO PLANTS SHALL BE INDIVIDUALLY APPROVED BY THE OWNERS REPRESENTATIVE AND THEIR DECISION AS TO SUITABILITY SHALL BE FINAL.

B. QUANTITIES: THE DRAWINGS AND SPECIFICATIONS ARE COMPLIMENTARY. ANYTHING CALLED FOR ON ONE AND NOT THE OTHER IS AS BINDING AS IF SHOWN AND CALLED FOR ON BOTH. THE PLANT SCHEDULE IS AN AID TO BIDDERS ONLY. CONFIRM ALL QUANTITIES ON PLAN.

C. QUANTITIES AND SIZE: PLANT MATERIALS SHALL CONFORM TO THE SIZE GIVEN ON THE PLAN AND SHALL BE HEALTHY, WELL SHAPED, FULL BRANCHED AND WELL ROOTED. DRAWINGS ALSO IMPERATIVE. PLANTS SHALL BE FREE FROM INSECTS, INJURY, DISEASE, BROKEN BRANCHES, DISFIGUREMENTS, INSECT EGGS AND ARE TO BE OF SPECIMEN QUALITY.

D. APPROVAL: ALL PLANTS WHICH ARE FOUND UNSUITABLE IN GROWTH OR ARE UNHEALTHY, BADLY SHAPED OR UNDERSIZED WILL BE REJECTED BY THE OWNERS REPRESENTATIVE EITHER BEFORE OR AFTER PLANTING AND SHALL BE REMOVED AT THE EXPENSE OF THE LANDSCAPE CONTRACTOR AND REPLACED WITH ACCEPTABLE SPECIMENS.

E. TREES SHALL BE HEALTHY, FULL BRANCHED, WELL SHAPED AND SHALL MEET THE MINIMUM REQUIREMENTS AS SPECIFIED ON THE PLANT SCHEDULE. ALL TREES SHALL BE OBTAINED FROM SOURCES WITHIN 200 MILES OF THE PROJECT SITE IF POSSIBLE, AND WITH SIMILAR CLIMACTIC CONDITIONS.

F. PRUNING: ALL PRUNING OF TREES AND SHRUBS SHALL BE EXECUTED BY THE LANDSCAPE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER, PRIOR TO FINAL ACCEPTANCE.

G. PLANTS SHALL CONFORM TO THE MEASUREMENTS SPECIFIED, EXCEPT THE PLANTS LARGER THAN THOSE SPECIFIED MAY BE USED. USE OF LARGER PLANTS SHALL NOT INCREASE THE CONTRACT PRICE.

H. WHERE MATERIALS ARE PLANTED IN MASSES, PROVIDE PLANTS OF UNIFORM SIZE.

I. ROOT SYSTEMS SHALL BE HEALTHY, DENSELY BRANCHED, FIBROUS ROOT SYSTEMS, NON-POT-BOUND, FREE FROM ENCIRCLING AND/OR GIRDLING ROOTS, AND FREE FROM ANY OTHER ROOT DEFECTS (SUCH AS J-SHAPED ROOTS).

J. ALL TREES SHALL BE STANDARD IN FORM, UNLESS OTHERWISE SPECIFIED. TREES WITH CENTRAL LEADERS WILL NOT BE ACCEPTED IF LEADER IS DAMAGED OR REMOVED. PRUNE ALL DAMAGED TWIGS AFTER PLANTING

K. TREE TRUNKS TO BE STURDY, EXHIBIT HARDENED SYSTEMS AND VIGOROUS AND FIBROUS ROOT SYSTEMS, NOT ROOT OR POT BOUND.

L. TREES WITH DAMAGED OR CROOKED LEADERS, BARK ABRASIONS, SUNSCALD, DISFIGURING KNOTS, OR/INSECT DAMAGE WILL BE REJECTED.

M. CALIPER MEASUREMENTS FOR STANDARD (SINGLE TRUNK) TREES SHALL BE AS FOLLOWS: SIX INCHES ABOVE THE ROOT FLARE FOR TREES UP TO AND INCLUDING FOUR INCHES IN CALIPER, AND TWELVE INCHES ABOVE THE ROOT FLARE FOR TREES EXCEEDING FOUR INCHES IN CALIPER

N. MULTI-TRUNK TREES SHALL BE MEASURED BY THEIR OVERALL HEIGHT, MEASURED FROM THE TOP OF THE ROOT BALL.

O. ANY TREE OR SHRUB SHOWN TO HAVE EXCESS SOIL PLACED ON TOP OF THE ROOT BALL, SO THAT THE ROOT FLARE HAS BEEN COMPLETELY COVERED, SHALL BE REJECTED.

P. SOD: PROVIDE WELL-ROOTED SOD OF THE VARIETY NOTED ON THE PLANS. SOD SHALL BE CUT FROM HEALTHY, MATURE TURF WITH SOIL THICKNESS OF 3/4" TO 1". EACH PALLET OF SOD SHALL BE ACCOMPANIED BY A CERTIFICATE FROM SUPPLIER STATING THE COMPOSITION OF THE SOD.

2.2 SOIL PREPARATION

A. SANDY LOAM:
   1. FRIABLE, FERTILE, DARK, LOAMY SOIL, FREE OF CLAY LUMPS, SUBSOIL, STONES AND OTHER EXTRANEOUS MATERIAL AND REASONABLY FREE OF WEEDS AND FOREIGN GRASSES. LOAM CONTAINING DALLASGRASS OR NUTGRASS SHALL BE REJECTED.
   2. PHYSICAL PROPERTIES AS FOLLOWS:
      a. CLAY – BETWEEN 7-27%
      b. SILT – BETWEEN 15-25%
      c. SAND – LESS THAN 52%
   3. ORGANIC MATTER SHALL BE 3%-10% OF TOTAL DRY WEIGHT.
   4. IF REQUESTED, LANDSCAPE CONTRACTOR SHALL PROVIDE A CERTIFIED SOIL ANALYSIS CONDUCTED BY AN APPROVED SOIL TESTING LABORATORY VERIFYING THAT SANDY LOAM MEETS THE ABOVE REQUIREMENTS.

B. ORGANIC MATERIAL: COMPOST WITH A MIXTURE OF 80% VEGETATIVE MATTER AND 20% ANIMAL WASTE. INGREDIENTS SHOULD BE A MIX OF COURSE AND FINE TEXTURED MATERIAL.

C. PREMIXED BEDDING SOIL AS SUPPLIED BY VITAL EARTH RESOURCES, GLADEWATER, TEXAS; PROFESSIONAL BEDDING SOIL AS SUPPLIED BY LIVING EARTH TECHNOLOGY, DALLAS, TEXAS OR ACID GRO MUNICIPAL MIX AS SUPPLIED BY SOIL BUILDING SYSTEMS, DALLAS, TEXAS OR APPROVED EQUAL.

D. SHARP SAND: SHARP SAND MUST BE FREE OF SEEDS, SOIL PARTICLES AND WEEDS.

E. MULCH: DOUBLE SHREDDED HARDWOOD MULCH, PARTIALLY DECOMPOSED, DARK BROWN IN COLOR, FREE FROM PIECES LARGER THAN 2" IN ANY DIMENSION, FREE FROM ANY OTHER PLANT MATERIAL.

F. ORGANIC FERTILIZER: FERTILAID, SUSTANE, OR GREEN SENSE OR EQUAL AS RECOMMENDED FOR REQUIRED APPLICATIONS. FERTILIZER SHALL BE DELIVERED TO THE SITE IN ORIGINAL UNOPENED CONTAINERS, EACH BEARING THE MANUFACTURER'S GUARANTEED STATEMENT OF ANALYSIS.

G. COMMERCIAL FERTILIZER: 10-20-10 OR SIMILAR ANALYSIS. NITROGEN SOURCE TO BE A MINIMUM 50% SLOW RELEASE ORGANIC NITROGEN (SCU OR UF) WITH A MINIMUM 8% SULFUR AND 4% IRON, PLUS MICRONUTRIENTS.

H. PEAT: COMMERCIAL SPHAGNUM PEAT MOSS OR PARTIALLY DECOMPOSED SHREDDED PINE BARK OR OTHER APPROVED ORGANIC MATERIAL.

2.3 MISCELLANEOUS MATERIALS

A. STEEL EDGING - SHALL BE 3/16" X 4" X 16" DARK GREEN LANDSCAPE EDGING. DURAEDGE STEEL OR APPROVED EQUAL.

B. TREE STAKING - TREE STAKING SOLUTIONS OR APPROVED SUBSTITUTE; REFER TO DETAILS.

C. FILTER FABRIC - MIRAFI 140S BY MIRAFI INC. OR APPROVED SUBSTITUTE. AVAILABLE AT LONE STAR PRODUCTS, INC. (469-523-0444)

D. SAND - UNIFORMLY GRADED, WASHED, CLEAN, BANK RUN SAND.

E. GRAVEL: WASHED NATIVE PEA GRAVEL, GRADED 1" TO 1.5"

F. DECOMPOSED GRANITE - BASE MATERIAL OF NATURAL MATERIAL MIX OF GRANITE AGGREGATE NOT TO EXCEED 1/8" IN DIAMETER COMPOSED OF VARIOUS STAGES OF DECOMPOSED EARTH BASE.

G. RIVER ROCK - LOCALLY AVAILABLE NATIVE RIVER ROCK BETWEEN 2"-4" IN DIAMETER.

H. PRE-EMERGENT HERBICIDES. ANY GRANULAR, NON-STAINING PRE-EMERGENT HERBICIDE THAT IS LABELED FOR THE SPECIFIC ORNAMENTALS OR TURF ON WHICH IT WILL BE UTILIZED. PRE-EMERGENT HERBICIDES SHALL BE APPLIED PER THE MANUFACTURER'S LABELED RATES.

PART 3 - EXECUTION

3.1 PREPARATION

A. LANDSCAPE CONTRACTOR TO INSPECT ALL EXISTING CONDITIONS AND REPORT ANY DEFICIENCIES TO THE OWNER.

B. ALL PLANTING AREAS SHALL BE CONDITIONED AS FOLLOWS:
   1. PREPARE NEW PLANTING BEDS BY SCRAPING AWAY EXISTING GRASS AND WEEDS AS NECESSARY. TILL EXISTING SOIL TO A DEPTH OF SIX (6") INCHES PRIOR TO PLACING COMPOST AND FERTILIZER. APPLY FERTILIZER AS PER MANUFACTURER'S RECOMMENDATIONS. ADD SPECIFIED DEPTH OF COMPOST AND TILL INTO A DEPTH OF SIX (6") INCHES OF SPECIFIED MULCH (SETTLED THICKNESS).
   2. BACKFILL FOR TREE PITS SHALL BE AS FOLLOWS: USE EXISTING TOP SOIL ON SITE (USE IMPORTED TOPSOIL AS NEEDED) FREE FROM LARGE CLUMPS, ROCKS, DEBRIS, CALICHE, SUBSOILS, ETC., PLACED IN NINE (9") INCH LAYERS AND WATERED IN THOROUGHLY.

C. GRASS AREAS:
   1. BLOCKS OF SOD SHOULD BE LAID JOINT TO JOINT (STAGGERED JOINTS) AFTER FERTILIZING THE GROUND FIRST. ROLL GRASS AREAS TO ACHIEVE A SMOOTH, EVEN SURFACE. THE JOINTS BETWEEN THE BLOCKS OF SOD SHOULD BE FILLED WITH TOPSOIL WHERE THEY ARE GAPED OPEN, THEN WATERED THOROUGHLY.

3.2 INSTALLATION

A. MAINTENANCE OF PLANT MATERIALS SHALL BEGIN IMMEDIATELY AFTER EACH PLANT IS DELIVERED TO THE SITE AND SHALL CONTINUE UNTIL ALL CONSTRUCTION HAS BEEN SATISFACTORILY ACCOMPLISHED.

B. PLANT MATERIALS SHALL BE DELIVERED TO THE SITE ONLY AFTER THE BEDS ARE PREPARED AND AREAS ARE READY FOR PLANTING. ALL SHIPMENTS OF NURSERY MATERIALS SHALL BE THOROUGHLY PROTECTED FROM THE WINDS DURING TRANSIT. ALL PLANTS WHICH CANNOT BE PLANTED AT ONCE, AFTER DELIVERY TO THE SITE, SHALL BE WELL PROTECTED AGAINST THE POSSIBILITY OF DRYING BY WIND AND BALLS OF EARTH OR B & B PLANTS SHALL BE KEPT COVERED WITH SOIL OR OTHER ACCEPTABLE MATERIAL. ALL PLANTS REMAIN THE PROPERTY OF THE CONTRACTOR UNTIL FINAL ACCEPTANCE.

C. POSITION THE TREES AND SHRUBS IN THEIR INTENDED LOCATION AS PER PLAN.

D. NOTIFY THE OWNER'S AUTHORIZED REPRESENTATIVE FOR INSPECTION AND APPROVAL OF ALL POSITIONING OF PLANT MATERIALS.

E. EXCAVATE PITS WITH VERTICAL SIDES AND HORIZONTAL BOTTOM. TREE PITS SHALL BE LARGE ENOUGH TO PERMIT HANDLING AND PLANTING WITHOUT INJURY TO BALLS OF EARTH OR ROOTS AND SHALL BE OF SUCH DEPTH THAT WHEN PLANTED AND SETTLED, THE CROWN OF THE PLANT SHALL BEAR THE SAME RELATIONSHIP TO THE FINISH GRADE AS IT DID TO SOIL SURFACE IN ORIGINAL PLACE OF GROWTH. THE SIDES OF THE HOLE SHOULD BE ROUGH AND JAGGED, NEVER SLICK OR GLAZED.

F. SHRUB AND TREE PITS SHALL BE NO LESS THAN TWENTY-FOUR (24") INCHES WIDER THAN THE LATERAL DIMENSION OF THE EARTH BALL AND SIX (6") INCHES DEEPER THAN IT'S VERTICAL DIMENSION. REMOVE AND HAUL FROM SITE ALL ROCKS AND STONES OVER THREE-QUARTER (¾") INCH IN DIAMETER. PLANTS SHOULD BE THOROUGHLY MOIST BEFORE REMOVING CONTAINERS.

G. PERCOLATION TEST: FILL THE HOLE WITH WATER. IF THE WATER LEVEL DOES NOT PERCOLATE WITHIN 24 HOURS, THE TREE NEEDS TO MOVE TO ANOTHER LOCATION OR HAVE DRAINAGE ADDED. INSTALL A PVC STAND PIPE PER TREE IF THE PERCOLATION TEST FAILS.

H. BACKFILL ONLY WITH 5 PARTS EXISTING SOIL OR SANDY LOAM AND 1 PART BED PREPARATION. WHEN THE HOLE IS DUG IN SOLID ROCK, TOPSOIL FROM THE SAME AREA SHOULD NOT BE USED. CAREFULLY SETTLE BY WATERING TO PREVENT AIR POCKETS. REMOVE THE BURLAP FROM THE TOP ⅓ OF THE BALL, AS WELL AS ALL NYLON, PLASTIC STRING AND WIRE. CONTAINER TREES WILL USUALLY BE ROOT BOUND, IF SO FOLLOW STANDARD NURSERY PRACTICE OF 'ROOT SCORING'.

I. DO NOT WRAP TREE.

J. DO NOT OVER PRUNE.

K. REMOVE NURSERY TAGS AND STAKES FROM ALL PLANTS

L. REMOVE BOTTOM OF PLANT BOXES PRIOR TO PLACING PLANTS. REMOVE SIDES AFTER PLACEMENT AND PARTIAL BACKFILLING.

M. REMOVE UPPER THIRD OF BURLAP FROM BALLED AND BURLAPPED TREES AFTER PLACEMENT.

N. PLACE PLANT UPRIGHT AND PLUMB IN CENTER OF HOLE. ORIENT PLANTS FOR BEST APPEARANCE.

O. MULCH THE TOP OF THE BALL. DO NOT PLANT GRASS ALL THE WAY TO THE TRUNK OF THE TREE. LEAVE THE AREA ABOVE THE TOP OF THE BALL AND MULCH WITH AT LEAST TWO (2") INCHES OF SPECIFIED MULCH.

P. ALL PLANT BEDS AND TREES TO BE MULCHED WITH A MINIMUM SETTLED THICKNESS OF TWO (2") INCHES OVER THE ENTIRE BED OR PIT.

Q. OBSTRUCTION BELOW GROUND: IN THE EVENT THAT ROCK, OR UNDERGROUND CONSTRUCTION WORK OR OBSTRUCTIONS ARE ENCOUNTERED IN ANY PLANT PIT EXCAVATION WORK TO BE DONE UNDER THIS SECTION, ALTERNATE LOCATIONS MAY BE SELECTED BY THE OWNER. WHERE LOCATIONS CANNOT BE CHANGED, THE OBSTRUCTIONS SHALL BE REMOVED TO A DEPTH OF NOT LESS THAN THREE (3') FEET BELOW GRADE AND NO LESS THAN SIX (6") INCHES BELOW THE BOTTOM OF BALL WHEN PLANT IS PROPERLY SET AT THE REQUIRED GRADE. THE WORK OF THIS SECTION SHALL INCLUDE THE REMOVAL FROM THE SITE OF SUCH ROCK OR UNDERGROUND OBSTRUCTIONS ENCOUNTERED AT THE COST OF THE LANDSCAPE CONTRACTOR.

R. TREES AND LARGE SHRUBS SHALL BE STAKED AS SITE CONDITIONS REQUIRE. POSITION STAKES TO SECURE TREES AGAINST SEASONAL PREVAILING WINDS.

S. PRUNING AND MULCHING: PRUNING SHALL BE DIRECTED BY THE LANDSCAPE ARCHITECT AND SHALL BE PRUNED IN ACCORDANCE WITH STANDARD HORTICULTURAL PRACTICE. FOLLOWING FINE PRUNING, CLASS I PRUNING STANDARDS PROVIDED BY THE NATIONAL ARBORIST ASSOCIATION.
   1. DEAD WOOD, SUCKERS, BROKEN AND BADLY BRUISED BRANCHES SHALL BE REMOVED. GENERAL TIPPING OF THE BRANCHES IS NOT PERMITTED. DO NOT CUT TERMINAL BRANCHES.
   2. PRUNING SHALL BE DONE WITH CLEAN, SHARP TOOLS.
   3. IMMEDIATELY AFTER PLANTING OPERATIONS ARE COMPLETED, ALL TREE PITS SHALL BE COVERED WITH A LAYER OF ORGANIC MATERIAL TWO (2") INCHES IN DEPTH. THIS LIMIT OF THE ORGANIC MATERIAL FOR TREES SHALL BE THE DIAMETER OF THE PLANT PIT.

Q. STEEL EDGE INSTALLATION: EDGE SHALL BE ALIGNED AS INDICATED ON PLANS. LAY OUT LIMITS OF TEEL CURBING AND OBTAIN OWNERS APPROVAL PRIOR TO INSTALLATION.
   1. ALL STEEL CURBING SHALL BE FREE OF KINKS AND ABRUPT BENDS.
   2. TOP OF EDGING SHALL BE ½" MAXIMUM HEIGHT ABOVE FINAL FINISHED GRADE.
   3. STAKES ARE TO BE INSTALLED ON THE PLANTING BED SIDE OF THE CURBING, AS OPPOSED TO THE GRASS SIDE.
   4. DO NOT INSTALL STEEL EDGING ALONG SIDEWALKS OR CURBS.
   5. CUT STEEL EDGING AT 45 DEGREE ANGLE WHERE EDGING MEETS SIDEWALKS OR CURBS.

3.3 CLEANUP AND ACCEPTANCE

A. CLEANUP: DURING THE WORK, THE PREMISES SHALL BE KEPT NEAT AND ORDERLY AT ALL TIMES. STORAGE AREAS FOR ALL MATERIALS SHALL BE SO ORGANIZED SO THAT THEY, TOO, ARE NEAT AND ORDERLY. ALL TRASH AND DEBRIS SHALL BE REMOVED FROM THE SITE AS WORK PROGRESSES. KEEP PAVED AREAS CLEAN BY SWEEPING OR HOSING THEM AT END OF EACH WORK DAY.

B. REPAIR RUTS, HOLES AND SCARES IN GROUND SURFACES.

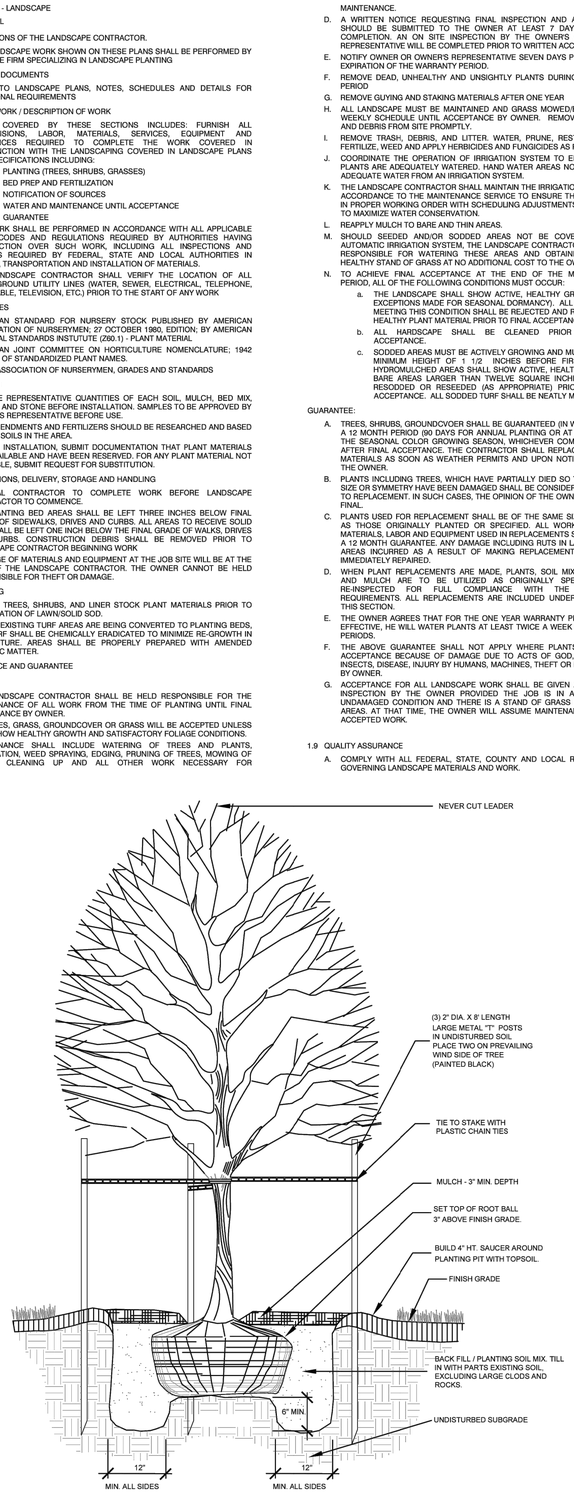
C. ENSURE THAT ALL PLANTS AND PLANT MATERIALS ARE IN VIGOROUS AND HEALTHY GROWING CONDITION.

D. UPON COMPLETION OF THE WORK, THE LANDSCAPE CONTRACTOR SHALL PROVIDE THE SITE CLEAN, FREE OF DEBRIS AND TRASH, AND SUITABLE FOR USE AS INTENDED. THE LANDSCAPE CONTRACTOR SHALL THEN REQUEST AN INSPECTION BY THE OWNER TO DETERMINE FINAL ACCEPTABILITY.

E. WHENEVE THE INSPECTED PLANTING WORK DOES NOT COMPLY WITH THE CONTRACT DOCUMENTS, THE LANDSCAPE CONTRACTOR SHALL REPLACE AND/OR REPAIR THE REJECTED WORK TO THE OWNERS SATISFACTION WITHIN 24 HOURS.

F. THE LANDSCAPE MAINTENANCE PERIOD WILL NOT COMMENCE UNTIL THE LANDSCAPE WORK HAS BEEN RE-INSPECTED BY THE OWNER AND FOUND TO BE ACCEPTABLE. AT THAT TIME, A WRITTEN NOTICE OF FINAL ACCEPTANCE WILL BE ISSUED BY THE OWNER, AND THE MAINTENANCE AND GUARANTEE PERIODS WILL COMMENCE.

END OF SECTION


NEVER CUT LEADER
(3) 2" DIA. X 8' LENGTH LARGE METAL "T" POSTS IN UNDISTURBED SOIL PLACE TWO ON PREVAILING WIND SIDE OF TREE (PAINTED BLACK)
TIE TO STAKE WITH PLASTIC CHAIN TIES
MULCH - 3" MIN. DEPTH
SET TOP OF ROOT BALL 3" ABOVE FINISH GRADE.
BUILD 4" HT. SAUCER AROUND PLANTING PIT WITH TOPSOIL.
FINISH GRADE
BACK FILL / PLANTING SOIL MIX. TILL IN WITH PARTS EXISTING SOIL, EXC

Rotors	DESIRED HEAD PRESSURE (psi):				35	
ZONE#						
Loss #/	Length	Flow	Diameter	Loss/100'	Individual Loss	Cumulative Loss
Type						
18' Head Allowance					7.75	7.75
Lateral Allowance					2.00	9.75
Valve		20	1.5		1.50	11.25
Main 1	1500	20	1.5	0.33	4.95	16.20
Valve		20	2		1.50	17.70
Backflow		20	1.5		10.00	27.70
Meter		20	1		2.20	29.90
		Grand Total Loss			29.90	29.90
		Starting psi:			65	
		Total Losses:			29.90	
		Actual Head Pressure:			35.10	
		Designed Pressure:			64.90	
		Difference of Start and Actual:			0.10	

Water Schedule- Hope Church

Zone #	Description	Head Type	GPM	Precip Rate (inch/hour)	Run Time (total min.)	Gal/Cycle	Gal/Cycle (70% Seasonal Adjustment)	Gal/Cycle (50% Seasonal Adjustment)
T1	Trees	Tree Bubblers	14.00	0.50 per nozzle	8.00	112.00	78.40	56.00
T2	Trees	Tree Bubblers	7.00	0.50 per nozzle	8.00	56.00	39.20	28.00
T3	Trees	Tree Bubblers	12.00	0.50 per nozzle	8.00	96.00	67.20	48.00
T4	Trees	Tree Bubblers	10.00	0.50 per nozzle	8.00	80.00	56.00	40.00
D1	Shrubs	Drip	9.80	0.64	28.00	274.40	192.08	137.20
D2	Shrubs	Drip	18.50	0.64	28.00	518.00	362.60	259.00
D3	Shrubs	Drip	18.10	0.64	28.00	506.80	354.76	253.40
S1	Turf	Sprays	13.10	1.60	12.50	163.75	114.63	81.88
S2	Turf	Sprays	16.80	1.60	12.50	210.00	147.00	105.00
R1	Turf	Rotor/Rotary	15.00	0.60	25.00	375.00	262.50	187.50
R2	Turf	Rotor/Rotary	20.80	0.60	25.00	520.00	364.00	260.00
R3	Turf	Rotor/Rotary	20.00	0.60	25.00	500.00	350.00	250.00
R4	Turf	Rotor/Rotary	19.50	0.60	25.00	487.50	341.25	243.75
R5	Turf	Rotor/Rotary	13.20	0.60	25.00	330.00	231.00	165.00
R6	Turf	Rotor/Rotary	16.50	0.60	25.00	412.50	288.75	206.25
Note: Run time calculated to apply 1 inch of water per week in three watering events.								
Season adjustment and rain/wind sensor available at controller.					Cycle	4,641.95	3,249.37	2,320.98
					Weekly	13,925.85	9,748.10	6,962.93
					Monthly	55,703.40	38,992.38	27,851.70

NOTE TO CONTRACTOR:
1. PLAN SHEETS DO NOT SHOW EXISTING AND PROPOSED UTILITIES FOR CLARITY ONLY. CONTRACTOR TO LOCATE ALL UTILITIES PRIOR TO INSTALLATION. CONTRACTOR IS TO USE EXTREME CAUTION IN DIGGING AND TRENCHING TO AVOID EXISTING AND PROPOSED UTILITIES.

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

IRRIGATION LEGEND

SYMBOL	DESCRIPTION	MANUFACTURER	MODEL NO.
10	SPRAYS WITH PRO ADJ. NOZZLES	HUNTER	PROS-04-PRS30 (SEE PLAN FOR RADIUS)
R20	MP ROTATORS	HUNTER	PROS-04 (SEE PLAN FOR RADIUS)
25R	ROTORS WITH MPR NOZZLES	HUNTER	PGP-04 (SEE PLAN FOR RADIUS)
	MULTI-STREAM BUBBLERS	HUNTER	PROS-06-PRS30 W/ MSBN50H NOZZLES
	REMOTE CONTROL VALVE	HUNTER	ICV
	1.5" REDUCED PRESSURE ZONE	FEBCO	860 SERIES
	HDL DRIPLINE	HUNTER	HDL-06-12-CV
	LINE FLUSHING VALVE	HUNTER	AFV-B
	PRESSURE OPERATOR INDICATOR	HUNTER	ECO-ID
	DRIP CONTROL VALVE	HUNTER	ICZ-101-LF-40

IRRIGATION LEGEND

SYMBOL	DESCRIPTION
	1" IRRIGATION METER
A	HUNTER - ICC2 CONTROLLER WITH RAIN AND FREEZE SENSORS
	ISOLATION VALVE
	LATERAL PIPING — REFER TO PLAN — CLASS 200 PVC
	MAINLINE PIPING — REFER TO PLAN — SCH. 40 PVC, SIZED AS SHOWN (INSTALL THRUST BLOCKS AND AIR/VACUUM RELIEF VALVES AS NECESSARY TO PROTECT MAINLINE SYSTEM)
	IRRIGATION SLEEVE, SCH. 40 PVC, MIN. TWICE SIZE OF PIPE TO BE INSERTED, ONE SLEEVE PER PIPE
	CONTROL WIRING SLEEVE, 2" SCH. 40 PVC
D1 1" 8.8	VALVE STATION # (WHERE D = DRIP TUBING, S = SPRAY, R = ROTOR, T = TREE DRIP) VALVE SIZE GPM

NOTE:
1. ENTIRE SYSTEM SHALL BE INSTALLED PER TCEQ STANDARDS, MANUFACTURER'S SPECIFICATIONS AND ALL CITY CODES.

2. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, AND OTHER EQUIPMENT SHOWN WITHIN PAVED AREAS OR OUT OF PROPERTY BOUNDARIES ARE FOR DESIGN CLARIFICATION ONLY, AND SHALL BE INSTALLED IN PLANTING AREAS WITHIN THE PROPERTY LINES OR LIMITS INDICATED ON PLAN. THE IRRIGATION CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL ABOVE GROUND IRRIGATION EQUIPMENT WITH THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION. OR IRRIGATION CONTRACTOR MAY BE REQUIRED TO MOVE SUCH ITEMS AT HIS OWN COST.

3. VARIOUS AREAS ON PLAN ARE SHOWING SINGLE HEAD COVERAGE. IF OWNER SHOULD ELECT FOR FULL COVERAGE, CONTRACTOR TO PROCURE THE PROPER PERMITS AND BID ALTERNATE FOR THESE ADDITIONAL SPRAY HEADS, ZONES, AND CONTROLLER EXPANSION FOR THE SYSTEM.

4. IRRIGATION CONTRACTOR IS TO COORDINATE LOCATION AND PLACEMENT OF ALL IRRIGATION ITEMS WITH THE GENERAL CONTRACTOR. CONTRACTOR IS TO USE EXTREME CAUTION IN TRENCHING TO AVOID EXISTING AND PROPOSED UTILITIES. CONTRACTOR TO LOCATE ALL UTILITIES PRIOR TO IRRIGATION INSTALLATION.

5. IRRIGATION SPRAY NOZZLES TO BE ADJUSTED TO AVOID PAVEMENT, BUILDING, WALLS, FENCES, UTILITIES, EQUIPMENT, SIGNAGE, AND CALL BOX

6. REFERENCE LANDSCAPE PLAN FOR LOCATION OF GRAVEL, STEEL EDGING AND ALL PROPOSED PLANT MATERIAL.

7. IN TURF AREAS (BOTH SOD AND HYDROMULCH AREAS) OUTSIDE OF IRRIGATION PERMANENT COVERAGE, CONTRACTOR TO PROVIDE TEMPORARY IRRIGATION UNTIL ESTABLISHED, TYP

8. CONTRACTOR TO TAKE ALL NECESSARY MEASURES TO PREVENT WATER HAMMER AND SYSTEM COLLAPSE BY DISCHARGING AIR DURING STARTUP AND ALLOWING AIR TO ENTER DURING SHUTDOWN. INSTALL THRUST BLOCKS AND AIR/VACUUM RELIEF VALVES AS NECESSARY TO PROTECT MAINLINE SYSTEM. FOR 3 INCH AND LARGER MAINLINE, INSTALL JOINT RESTRAINTS AT TURNS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

9. ALL MAINLINE PIPING 3 INCHES AND LARGER SHALL BE BELL AND GASKETED CLASS 200 PVC PIPE, SDR 21. INSTALL PER MANUFACTURER'S RECOMMENDATIONS, CONTACT MANUFACTURER OR DISTRIBUTOR FOR PRODUCT DEMONSTRATION.

10. GROUP VALVES IN FIELD AS NECESSARY FOR MAINLINE SIZING. CENTER FEED LATERALS WHEN POSSIBLE.

SLEEVING NOTES

1. PIPING AND CONTROL WIRES SHALL BE INSTALLED IN SEPARATE SLEEVES UNDER PAVING. REFERENCE DRAWINGS FOR SLEEVE SIZE AND LOCATION.
2. SLEEVES SHALL BE FURNISHED AND INSTALLED BY GENERAL CONTRACTOR.
3. INSTALLATION OF SLEEVES SHALL BE TWENTY - FOUR (24") BELOW TOP OF PAVEMENT OR FINISHED GRADE.
4. SLEEVES SHALL EXTEND ONE (1') FOOT BEYOND EDGE OF ALL PAVEMENT AND STAKED FOR LOCATION.
5. ALL SLEEVES SHALL BE SCHEDULE 40 PVC PIPE, CAPPED ON BOTH ENDS AND SIZED AT LEAST TWO TIMES LARGER THAN THE DIAMETER OF THE PIPE INSIDE THE SLEEVE.
6. SLEEVE LOCATIONS SHALL BE MARKED ONTO THE CURB WITH A SAWCUT OF TWO PARALLEL LINES THAT ARE TWO (2") INCHES LONG AND ONE (1") APART.
7. CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF SLEEVES AND SHALL ALSO BE RESPONSIBLE FOR LOCATING ANY SLEEVE THAT CANNOT BE FOUND DURING THE INSTALLATION OF THE SYSTEM.
8. CONTRACTOR SHALL FURNISH OWNER AND IRRIGATION CONTRACTOR WITH AN 'AS-BUILT' DRAWING SHOWING ALL SLEEVE LOCATIONS.

IRRIGATION GENERAL NOTES

1. THE IRRIGATION CONTRACTOR SHALL COORDINATE INSTALLATION OF THE IRRIGATION SYSTEM WITH THE LANDSCAPE CONTRACTOR SO THAT ALL PLANT MATERIAL WILL BE WATERED IN ACCORDANCE WITH THE INTENT OF THE PLANS AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY THE IRRIGATION DESIGNER OF SITE CONDITIONS OR ASSUME FULL RESPONSIBILITY FOR ANY AND ALL ON SITE REVISIONS NECESSARY.
3. CONTRACTOR TO VERIFY DESIGN AND ITS INTENT TO PROVIDE FULL COVERAGE TO ALL NEW PLANTING MATERIAL.
4. NOTIFY IRRIGATION DESIGNER OF ANY LAYOUT DISCREPANCIES PRIOR TO BIDDING.
5. LOCATE ALL UTILITIES AND SITE LIGHTING CONDUITS BEFORE IRRIGATION INSTALLATION BEGINS.
6. IRRIGATION CONTRACTOR TO PROCURE ALL PERMITS, LICENSES AND GIVE ALL NECESSARY NOTICES THROUGHOUT THE DURATION OF THE PROJECT.
7. THE CONTRACTOR SHALL BE A REGISTERED LICENSED IRRIGATOR IN GOOD STANDING WITH THE STATE OF TEXAS BOARDS AND REGULATORS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL PLANT MATERIAL UPON ACCEPTANCE AND THROUGH THE WARRANTY PERIOD FOR DAMAGE DUE TO IRRIGATION SYSTEM FAILURE.
9. ALL ASPECTS OF THE IRRIGATION INSTALLATION SHALL CONFORM WITH THE PROPER GOVERNING AUTHORITIES, CODES AND ORDINANCES.
10. SLEEVES SHALL BE FURNISHED AND INSTALLED BY GENERAL CONTRACTOR. SLEEVE MATERIAL SHALL BE SCHEDULE 40, SIZE AS INDICATED ON PLAN. REFER TO SLEEVING NOTES.
11. ALL MAIN LINE AND LATERAL LINE PIPING IN PLANTING AND LAWN AREAS SHALL HAVE A MINIMUM OF 12 INCHES OF COVER. ALL PIPING UNDER PAVING SHALL HAVE A MINIMUM OF 18 INCHES OF COVER. CONTRACTOR TO VERIFY LOCAL FREEZE DEPTHS AND ADJUST DEPTH OF COVER ACCORDINGLY.
12. ZONE VALVES SHALL NOT BE LOCATED WITHIN THREE (3') FEET OF ANY DRIVEWAY, TRAFFIC AISLE, ISLAND ETC. WHERE THEY WILL BE DAMAGED BY VEHICLES DRIVING OVER CURBS.
13. ALL NOZZLES IN PARKING LOT ISLANDS AND PLANTING BEDS SHALL BE LOW ANGLE NOZZLES TO MINIMIZE OVER SPRAY ON PAVEMENT SURFACES.
14. AUTOMATIC CONTROLLER SHALL BE INSTALLED AT LOCATION SHOWN. POWER (120V) SHALL BE LOCATED IN A JUNCTION BOX WITHIN FIVE (5') FEET OF CONTROLLER, LOCATION BY OTHER TRADES. RAIN AND FREEZE SENSORS SHALL BE INSTALLED WITH EACH CONTROLLER.
15. ELECTRICAL SPLICES SHOULD BE LOCATED AT EACH VALVE AND CONTROLLER ONLY.
16. PROVIDE A 3/4" BLOW DOWN DRAIN TEE TO ALLOW WATER TO BE BLOWN FROM THE IRRIGATION LINES/SYSTEM.
17. DISTURBED AREAS IN NEED OF TURF ESTABLISHMENT MAY EXIST BEYOND COVERAGE LIMITS OF THE PERMANENT IRRIGATION SYSTEM. IN THESE AREAS, CONTRACTOR TO DETERMINE A TEMPORARY MEANS TO ESTABLISH NECESSARY TURF. CONTRACTOR IS ENCOURAGED TO BEGIN TURF ESTABLISHMENT IMMEDIATELY UPON FINAL GRADE IN ACCORDANCE WITH AND TO SATISFY SWPPP.
18. PROVIDE WITH OWNER A COPY OF ALL INSTALLED EQUIPMENT AND LINES (AS BUILT PLANS.)
19. PLACE COPY OF ZONE MAP WITH ALL ZONE VALVE LOCATIONS SHOWN AND APPROVED IRRIGATION PLAN IN PROTECTIVE JACKET IN MAIN CONTROL PANEL.
20. IRRIGATION IN TEXAS IS REGULATED BY:
THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ)
MC-178 / P.O. BOX 13087
AUSTIN, TEXAS 78711-3087
WWW.TECQ.STATE.TX.US.

SUGGESTED LATERAL PIPE SIZE, CLASS 200 PVC	
FLOW RANGE GPM	PIPE SIZE
0 - 8 GPM	3/4"
8 - 12 GPM	1"
12 - 22 GPM	1-1/4 "
22 - 28 GPM	1-1/2"
28 + GPM	2"

IRRIGATION PROJECT NOTES

1. THE LOCATION OF MAINLINE AND VALVES ON THIS PLAN MAY BE SHOWN IN PAVED AREAS FOR DESIGN CLARITY ONLY. IRRIGATION ELEMENTS HAVE BEEN SHOWN ON THIS PLAN AS ACCURATELY AS POSSIBLE WITHOUT THE FORFEIT OF DESIGN CLARITY AND INTENT. ALL PIPES AND VALVES SHALL BE INSTALLED WITHIN PERVIOUS AREAS. ALL PIPE AND WIRES THAT CROSS UNDER PAVING SHALL BE INSTALLED IN SEPARATE SLEEVES AS SPECIFIED.
2. ALL SPRINKLER EQUIPMENT NUMBERS REFERENCE THE HUNTER EQUIPMENT CATALOG UNLESS OTHERWISE INDICATED.
3. TEN DAYS PRIOR TO START OF CONSTRUCTION, IRRIGATION CONTRACTOR SHALL VERIFY STATIC WATER PRESSURE. THE IRRIGATION SYSTEM FOR THIS SITE IS DESIGNED TO OPERATE WITH A PRESSURE OF SIXTY FIVE (65 PSI) POUNDS PER SQUARE INCH. SHOULD THE DESIGN PRESSURE FOR THE SYSTEM BE HIGHER THAN THE EXISTING PRESSURE, THE IRRIGATION CONTRACTOR SHALL NOTIFY THE IRRIGATION DESIGNER IMMEDIATELY.
4. IRRIGATION CONTRACTOR SHALL COORDINATE THE LOCATION OF THE CONTROLLER AND SENSORS WITH THE GENERAL CONTRACTOR AND OWNER. A 110 VOLT ELECTRICAL SERVICE TO POWER THE IRRIGATION CONTROLLER SHALL BE PROVIDED BY THE GENERAL CONTRACTOR AT THE LOCATION SHOWN ON THIS PLAN.
5. WATER SERVICE TAP, METER AND LEAD FOR THE IRRIGATION SYSTEM SHALL BE PROVIDED AND INSTALLED BY THE GENERAL CONTRACTOR. SERVICE LINE AND METER SHALL BE SIZED AS NOTED ON THIS PLAN.
6. TYPE AND INSTALLATION OF THE WATER METER AND BACK FLOW PREVENTION DEVICE SHALL BE DETERMINED BY THE GOVERNING AUTHORITY. AN ISOLATION VALVE SHALL BE PROVIDED BETWEEN THE WATER METER AND BACK FLOW DEVICE.
7. ALL CALCULATIONS FOR THIS IRRIGATION SYSTEM ARE BASED ON PRODUCTS AND EQUIPMENT INFORMATION PROVIDED BY HUNTER. INSTALLATION OF THESE PRODUCTS SHALL NOT EXCEED MANUFACTURERS RECOMMENDATIONS.
8. REFERENCE HUNTER GUIDELINES AND SPECIFICATIONS PRIOR TO INSTALLATION. CONFIRM REQUIREMENTS FOR CONTROLLER, WATERPROOF CONNECTIONS, GROUNDING, SURGE PROTECTORS, DECODERS, VALVES, AND WIRING PRIOR TO INSTALLATION. HUNTER TECHNICAL SERVICES (760) 591-7383. WWW.HUNTERINDUSTRIES.COM
9. SPRAY HEADS LOCATED IN TURF AREAS SHALL BE HUNTER PROS-04-PRS30 SPRAY BODIES WITH PRO ADJUSTABLE NOZZLES, FIXED ARC NOZZLES, AND STRIP PATTERN NOZZLES. SEE RADIUS AS INDICATED ON THE PLAN.
10. MP ROTATOR HEADS SHALL BE PROS-04 SPRAY BODIES WITH MP1000, MP2000, MP3000, MP3500, MPRSS530, MPRCS515, AND MPLCS515 NOZZLES. RADIUS LESS THAN 12 FEET SHALL BE PRS30 AND PRS40 SPRAY BODIES WITH MPB00SR. MP ROTATOR AREAS WITH LESS THAN 90 DEGREES SHALL BE MP CORNER NOZZLES. SEE RADIUS AS INDICATED ON THE PLAN.
11. IRRIGATION ROTOR HEADS SHALL BE PGP ULTRA MODELS PGP-04 WITH MPR NOZZLES. SEE RADIUS AS INDICATED ON THE PLAN.
12. IRRIGATION REMOTE CONTROL VALVES SHALL BE 1" AND/OR 1.5" HUNTER ICV AS INDICATED, PRIOR TO ALL REMOTE CONTROL VALVES, INSTALL A NOMINALLY SIZED BALL VALVE WITHIN THE SAME BOX.
13. SIZE OF VALVES ARE AS SHOWN ON PLAN. VALVES SHALL BE INSTALLED IN APPROVED BOXES WITH COVERS LARGE ENOUGH TO PERMIT MANUAL OPERATION, REMOVAL OF SOLENOID AND / OR VALVE COVER WITHOUT ANY EARTH EXCAVATION. OWNERS MAY ELECT LOCKING BOXES ON A PROJECT BY PROJECT BASIS.
14. QUICK COUPLING VALVES SHALL BE HUNTER INSTALLED PER DETAIL SHOWN. SWING JOINTS SHALL BE CONSTRUCTED USING ¾" SCHEDULE 80 ELBOWS. CONTRACTOR SHALL SUPPLY OWNER WITH TWO (2) HQ-3-RC COUPLERS WITH (2) HK-33 KEYS AND TWO (2) HS-0 HOSE SWIVELS AS PART OF THIS CONTRACT.
15. IRRIGATION SYSTEM AUTOMATIC CONTROLLER SHALL BE HUNTER ICC2 IN METAL WALL MOUNT (I2C-8-M). USE TWO-WIRE EZDM DECODER SYSTEM. USE EZ-1 SINGLE-STATION DECODER WITH STATUS LED PER ZONE. INSTALL RAIN AND FREEZE SENSORS. INSTALL PER MANUFACTURERS RECOMMENDATIONS. USE HUNTER MODEL DUAL-S SURGE ARRESTORS AND CONNECT THE SURGE ARRESTOR GROUND WIRE TO EARTH GROUND HARDWARE. CONFIRM WIRING, GROUNDING AND SURGE PROTECTION REQUIREMENTS BEFORE INSTALLING.
16. DRIP IRRIGATION REMOTE CONTROL VALVES SHALL BE HUNTER ICZ-101-LF-40 AS INDICATED. DRIP TUBING SHALL BE HUNTER HDL-06-12-CV.
17. INSTALL DRIP TUBING/LINES PER MANUFACTURER'S RECOMMENDATIONS. USE PLD-LOC FITTINGS PLD-LOC 075, PLD-LOC 050, PLD-LOC ELB, PLD-LOC CPL, PLD-LOC CAP, PLD-LOC TEE, PLD-LOC OR USE FHS BARB FITTINGS PLD-075, PLD-050, PLD-ELB, PLD-CPL, PLD-CAP, PLD-TEE. PLD-075-TBTEE, PLD-BV. USE ECO-INDICATOR ECO-ID. USE LINE FLUSHING VALVE HUNTER AFV-B.
18. DRIP TUBING SHALL BE SPACED 18" APART IN SHRUB AREAS. REFER TO MANUFACTURERS RECOMMENDATIONS.
19. PATIO PLANTER DRIP TUBING SHALL BE HUNTER MLD-05-06-BL WITH 1/4" BARBED FITTINGS. USE FILTER REGULATORS HY-100. SEE DETAIL OTHER SHEET. PRIOR COORDINATE SLEEVING INSTALLATION PRIOR TO FLATWORK.
20. TREE BUBBLERS SHALL USE HUNTER PROS-06-PRS30 BODIES WITH HUNTER MULTI-STREAM BUBBLERS MODEL MSBN-50H NOZZLES. SEE DETAIL FOR TREE DRIP RINGS NEAR OTHER DRIP ZONES.
21. ALL VALVE CONTROL WIRE SHALL BE SIZED PER MANUFACTURERS GUIDELINES BY THE CONTRACTOR ACCORDING TO THE ACTUAL FIELD DISTANCE. ALL CONNECTIONS SHALL BE WATER-PROOF, KEPT TO A MINIMUM, AND LOCATED IN AN APPROVED BOX.
22. USE HUBBELL HOT BOX DROP OVER ENCLOSURE AND POLYMER CONCRETE MOUNTING PAD FOR BACKFLOW DEVICE. PRODUCT LP0100260237.

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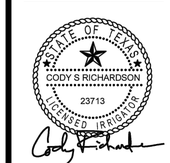
c. 512.517.5589

APP. BY

REVISIONS

DATE



FELUX ENGINEERING
FIRM NO. 23020
P.O. BOX 1746 ALEDO, TX 76147
210-818-3340

4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

L2.00 IRRIGATION NOTES

DATE: 6/9/2025
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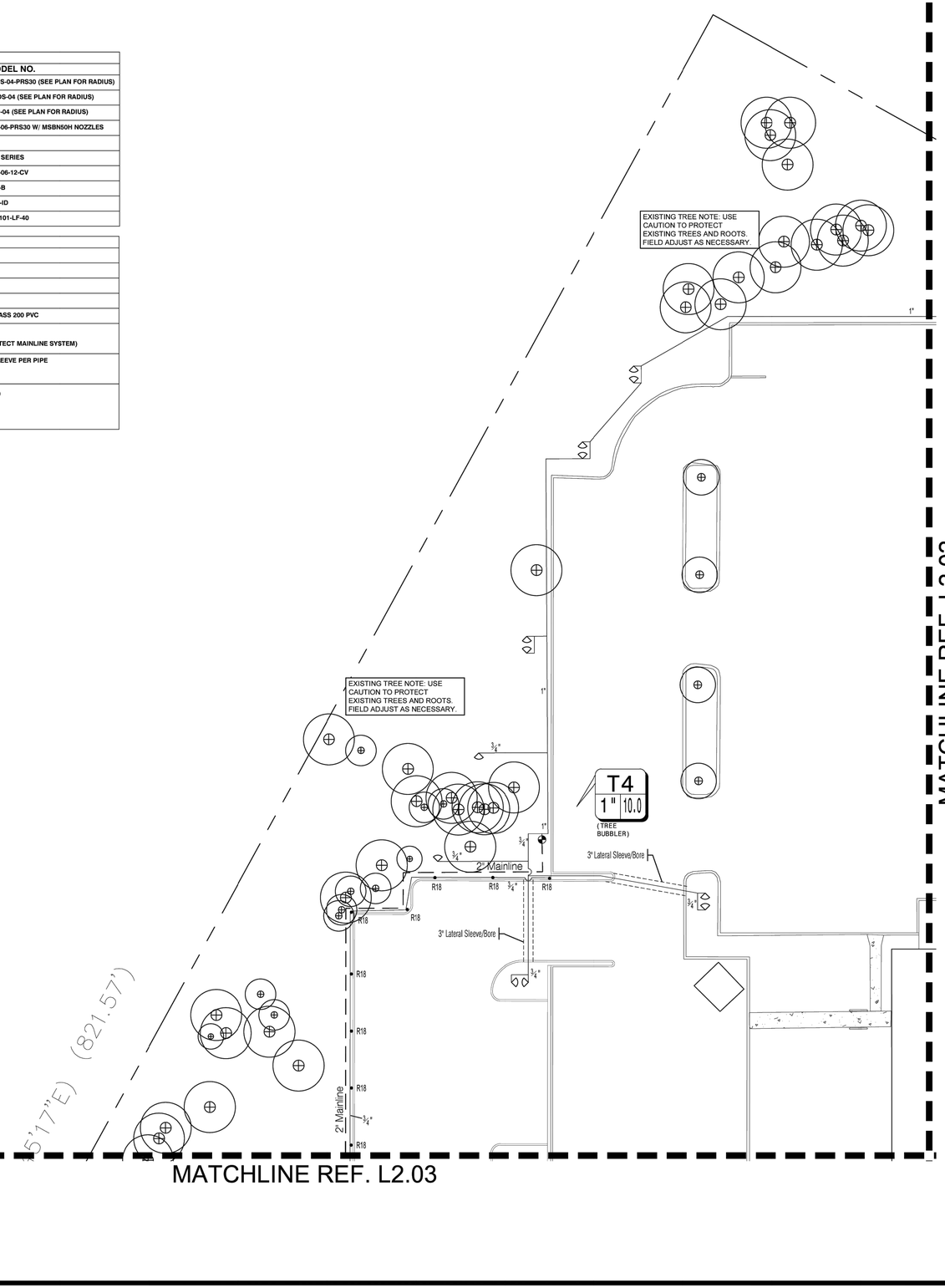
IRRIGATION LEGEND			
SYMBOL	DESCRIPTION	MANUFACTURER	MODEL NO.
10	SPRAYS WITH PRO ADJ. NOZZLES	HUNTER	PROS-04-PRS30 (SEE PLAN FOR RADIUS)
R20	MP ROTATORS	HUNTER	PROS-04 (SEE PLAN FOR RADIUS)
25R	ROTORS WITH MPR NOZZLES	HUNTER	PGP-04 (SEE PLAN FOR RADIUS)
	MULTI-STREAM BUBBLERS	HUNTER	PROS-06-PRS30 W/ MSBN50H NOZZLES
	REMOTE CONTROL VALVE	HUNTER	ICV
	1.5" REDUCED PRESSURE ZONE	FEBCO	860 SERIES
	HDL DRIPLINE	HUNTER	HDL-06-12-CV
F	LINE FLUSHING VALVE	HUNTER	AFV-B
	PRESSURE OPERATOR INDICATOR	HUNTER	ECO-ID
	DRIP CONTROL VALVE	HUNTER	ICZ-101-LF-40

IRRIGATION LEGEND	
SYMBOL	DESCRIPTION
	1" IRRIGATION METER
A	HUNTER - ICC2 CONTROLLER WITH RAIN AND FREEZE SENSORS
	ISOLATION VALVE
	LATERAL PIPING REFER TO PLAN CLASS 200 PVC
	MAINLINE PIPING REFER TO PLAN SCH. 40 PVC, SIZED AS SHOWN (INSTALL THRUST BLOCKS AND AIR/VACUUM RELIEF VALVES AS NECESSARY TO PROTECT MAINLINE SYSTEM)
	IRRIGATION SLEEVE, SCH. 40 PVC, MIN. TWICE SIZE OF PIPE TO BE INSERTED, ONE SLEEVE PER PIPE CONTROL WIRING SLEEVE, 2" SCH. 40 PVC
D1 1" 8.8	VALVE STATION # (WHERE D = DRIP TUBING, S = SPRAY, R = ROTOR, T = TREE DRIP) VALVE SIZE GPM



NOTE TO CONTRACTOR:
1. PLAN SHEETS DO NOT SHOW EXISTING AND PROPOSED UTILITIES FOR CLARITY ONLY. CONTRACTOR TO LOCATE ALL UTILITIES PRIOR TO INSTALLATION. CONTRACTOR IS TO USE EXTREME CAUTION IN DIGGING AND TRENCHING TO AVOID EXISTING AND PROPOSED UTILITIES.

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

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STATE OF TEXAS
CODY S RICHARDSON
23713
LICENSED IRRIGATOR

FELUX ENGINEERING
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L2.01 IRRIGATION PLAN

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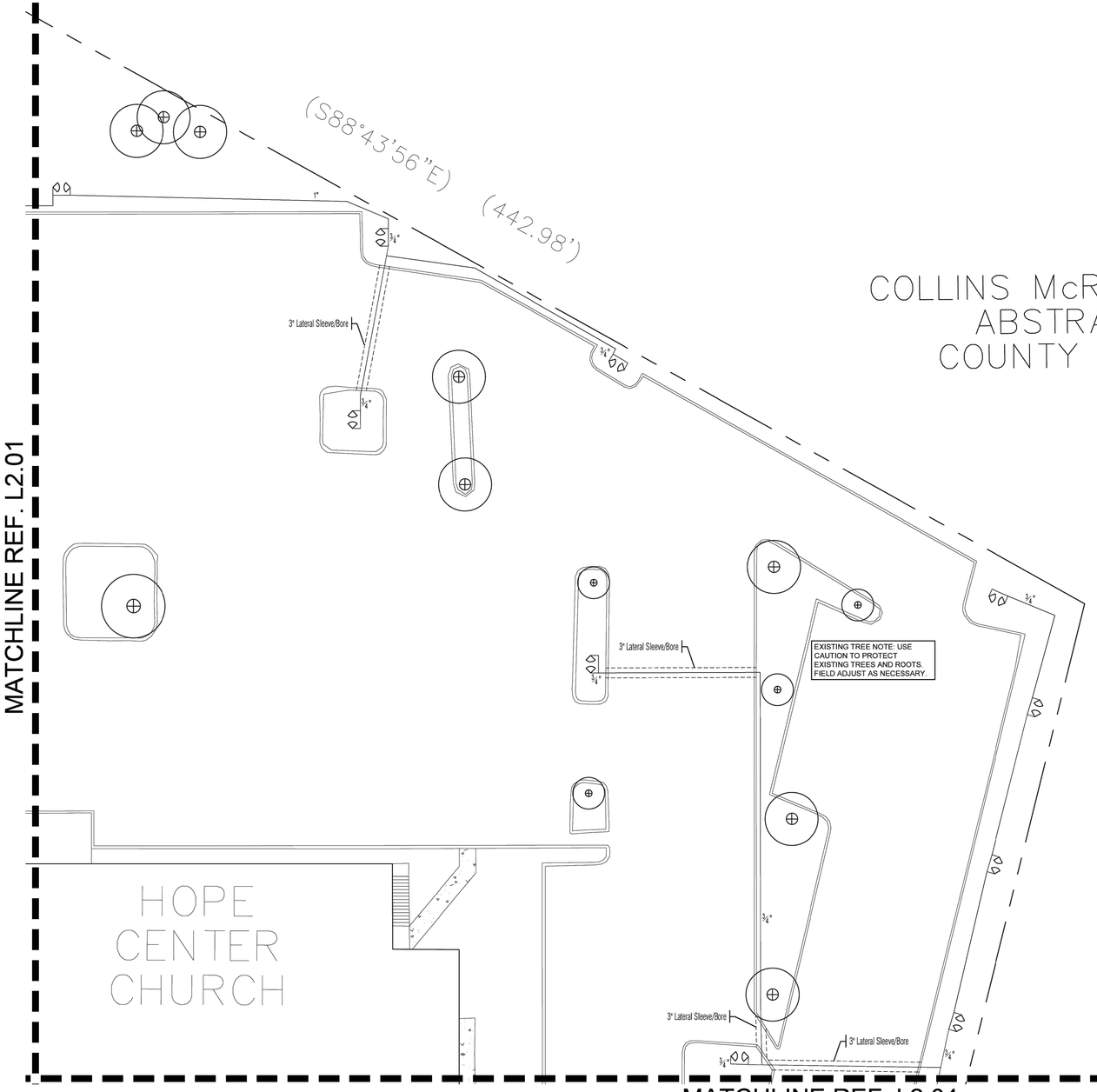
MARTIN MARIETTA REAL ESTATES
INVESTMENTS, LLC
BK. 17653, PG. 1296

COLLINS McRAE SURVEY NO. 391
ABSTRACT NO. 482
COUNTY BLOCK 4782



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IRRIGATION LEGEND			
SYMBOL	DESCRIPTION	MANUFACTURER	MODEL NO.
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R20	MP ROTATORS	HUNTER	PROS-04 (SEE PLAN FOR RADIUS)
25R	ROTORS WITH MPR NOZZLES	HUNTER	PGP-04 (SEE PLAN FOR RADIUS)
	MULTI-STREAM BUBBLERS	HUNTER	PROS-06-PRS30 W/ MSBN50H NOZZLES
	REMOTE CONTROL VALVE	HUNTER	ICV
	1.5" REDUCED PRESSURE ZONE	FEBCO	860 SERIES
	HDL DRIPLINE	HUNTER	HDL-06-12-CV
F	LINE FLUSHING VALVE	HUNTER	AFV-B
P	PRESSURE OPERATOR INDICATOR	HUNTER	ECO-ID
	DRIP CONTROL VALVE	HUNTER	ICZ-101-LF-40

IRRIGATION LEGEND	
SYMBOL	DESCRIPTION
	1" IRRIGATION METER
A	HUNTER - ICC2 CONTROLLER WITH RAIN AND FREEZE SENSORS
	ISOLATION VALVE
	LATERAL PIPING REFER TO PLAN CLASS 200 PVC
	MAINLINE PIPING REFER TO PLAN SCH. 40 PVC, SIZED AS SHOWN (INSTALL THRUST BLOCKS AND AIR/VACUUM RELIEF VALVES AS NECESSARY TO PROTECT MAINLINE SYSTEM)
=======	IRRIGATION SLEEVE, SCH. 40 PVC, MIN. TWICE SIZE OF PIPE TO BE INSERTED, ONE SLEEVE PER PIPE CONTROL WIRING SLEEVE, 2" SCH. 40 PVC
D1 / 1" / 8.8	VALVE STATION # (WHERE D = DRIP TUBING, S = SPRAY, R = ROTOR, T = TREE DRIP) VALVE SIZE GPM

GRAPHIC SCALE
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STATE OF TEXAS
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FELUX ENGINEERING
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L2.02 IRRIGATION PLAN

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MATCHLINE REF. L2.01

IRRIGATION LEGEND			
SYMBOL	DESCRIPTION	MANUFACTURER	MODEL NO.
10R	SPRAYS WITH PRO ADJ. NOZZLES	HUNTER	PROS-04-PRS30 (SEE PLAN FOR RADIUS)
R20	MP ROTATORS	HUNTER	PROS-04 (SEE PLAN FOR RADIUS)
25R	ROTORS WITH MPR NOZZLES	HUNTER	PGP-04 (SEE PLAN FOR RADIUS)
	MULTI-STREAM BUBBLERS	HUNTER	PROS-06-PRS30 W/ MSBN50H NOZZLES
	REMOTE CONTROL VALVE	HUNTER	ICV
	1.5" REDUCED PRESSURE ZONE	FEBCO	860 SERIES
	HDL DRIPLINE	HUNTER	HDL-06-12-CV
F	LINE FLUSHING VALVE	HUNTER	AFV-B
O	PRESSURE OPERATOR INDICATOR	HUNTER	ECO-ID
	DRIP CONTROL VALVE	HUNTER	ICZ-101-LF-40

IRRIGATION LEGEND	
SYMBOL	DESCRIPTION
	1" IRRIGATION METER
A	HUNTER - ICC2 CONTROLLER WITH RAIN AND FREEZE SENSORS
	ISOLATION VALVE
	LATERAL PIPING REFER TO PLAN CLASS 200 PVC
	MAINLINE PIPING REFER TO PLAN SCH. 40 PVC, SIZED AS SHOWN (INSTALL THRUST BLOCKS AND AIR/VACUUM RELIEF VALVES AS NECESSARY TO PROTECT MAINLINE SYSTEM)
=======	IRRIGATION SLEEVE, SCH. 40 PVC, MIN. TWICE SIZE OF PIPE TO BE INSERTED, ONE SLEEVE PER PIPE
	CONTROL WIRING SLEEVE, 2" SCH. 40 PVC
D1 / 1" / 8.8	VALVE STATION # (WHERE D = DRIP TUBING, S = SPRAY, R = ROTOR, T = TREE DRIP) / VALVE SIZE / GPM

AMAZON.COM SERVICES, LLC
DOC. 20210206884

NOTE: THE LIMITS OF THE OSSF DISPOSAL AREA WAS NOT KNOW AT THE TIME OF DESIGN. ALL COMPONENTS OF THE IRRIGATION INSTALLATION SHALL COMPLY WITH TCEQ REGULATIONS REGARDING ON-SITE SEWAGE FACILITIES. COORDINATE WITH THE GENERAL CONTRACTOR FOR MINIMUM REQUIRED SEPARATION DISTANCES. ZONES OVERLAPPING OSSF DISPOSAL AREAS SHOULD BE ZONED SEPARATELY. VERIFY IN THE FIELD AND ADJUST IF NECESSARY.

EXISTING TREE NOTE: USE CAUTION TO PROTECT EXISTING TREES AND ROOTS. FIELD ADJUST AS NECESSARY.

R6 — 1" | 16.5 — ROTOR/ROTARY (TURF)

T3 — 1" | 12.0 — (TREE BUBBLER)

R5 — 1" | 13.2 — ROTOR/ROTARY (TURF)

R4 — 1.5" | 19.5 — ROTOR/ROTARY (TURF)

D1 — 1" | 9.8 — DRIP (SHRUBS) 18" LINE SPACING

T2 — 1" | 7.0 — (TREE BUBBLER)

R3 — 1.5" | 20.0 — ROTOR/ROTARY (TURF)

R1 — 1" | 15.0 — ROTOR/ROTARY (TURF)

D2 — 1" | 18.5 — DRIP (SHRUBS) 18" LINE SPACING

S2 — 1" | 16.8 — SPRAYS (TURF)

2" Mainline

3" Lateral Sleeve/Bore

IRRIGATION CONTROLLER WITH ON-SITE WEATHER MONITOR. WEATHER SENSORS LOCATED PER MANUFACTURER'S SPECIFICATIONS, VERIFY LOCATION IN THE FIELD WITH OWNER AND CONTRACTOR

LARGE TREE DRIP RING

SMALL TREE DRIP RING

DRIP ZONE #1

DRIP ZONE #2

NOTE: REFERENCE MANUFACTURER OR DETAIL FOR DRIP ZONE'S LATERAL CONNECTIONS.

4" Main Sleeve/Bore
3" Lateral Sleeve/Bore
2" Wire Sleeve/Bore

DETENTION AREA

(S62°25'00"W) (492.57')

MATCHLINE REF. L2.04-B

MATCHLINE REF. L2.04

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CODY S RICHARDSON
23713
LICENSED IRRIGATOR

FELUX ENGINEERING
FIRM NO. 23020
P.O. BOX 4300, #200, TX 78147
210-818-3340

4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

L2.03 IRRIGATION PLAN

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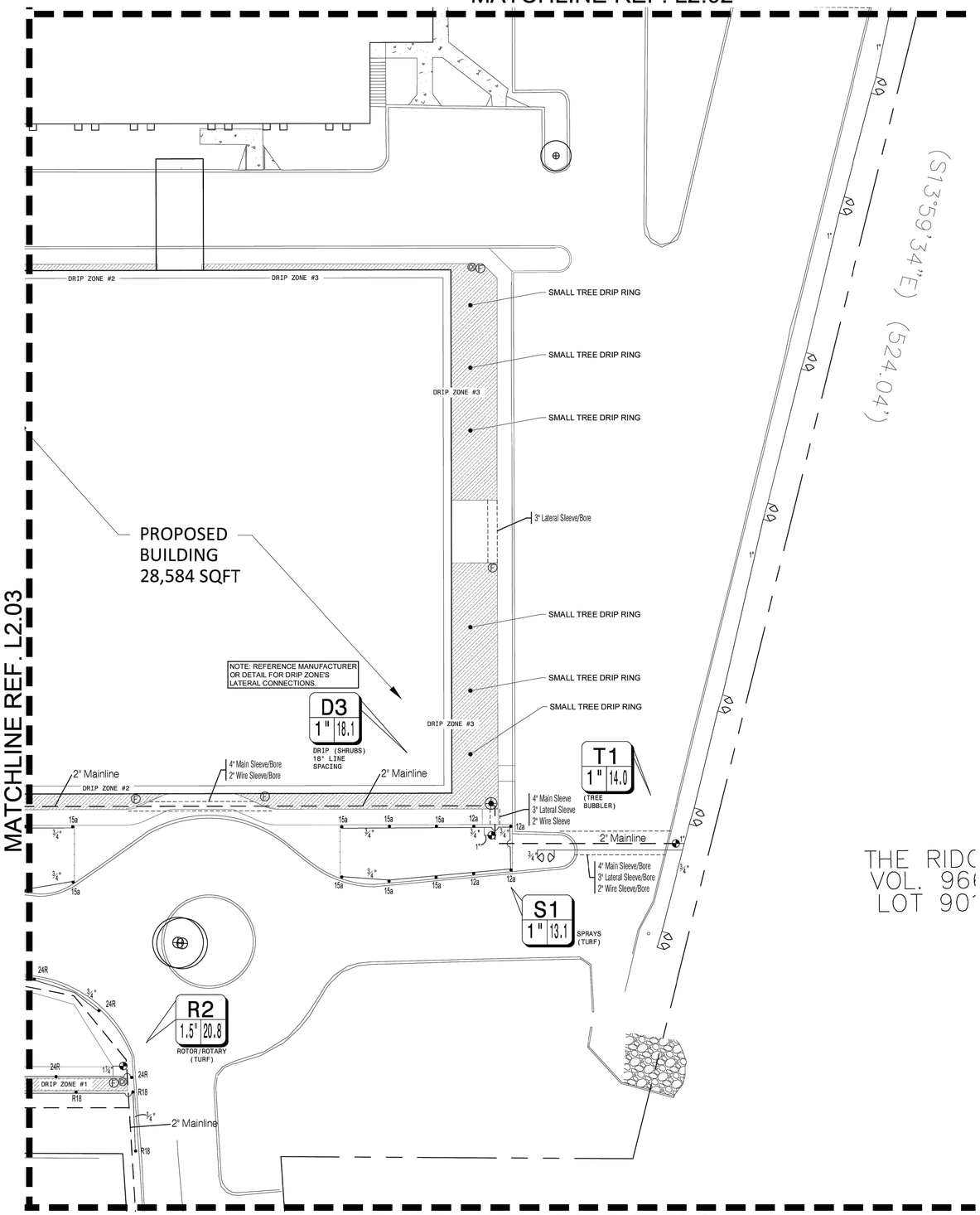
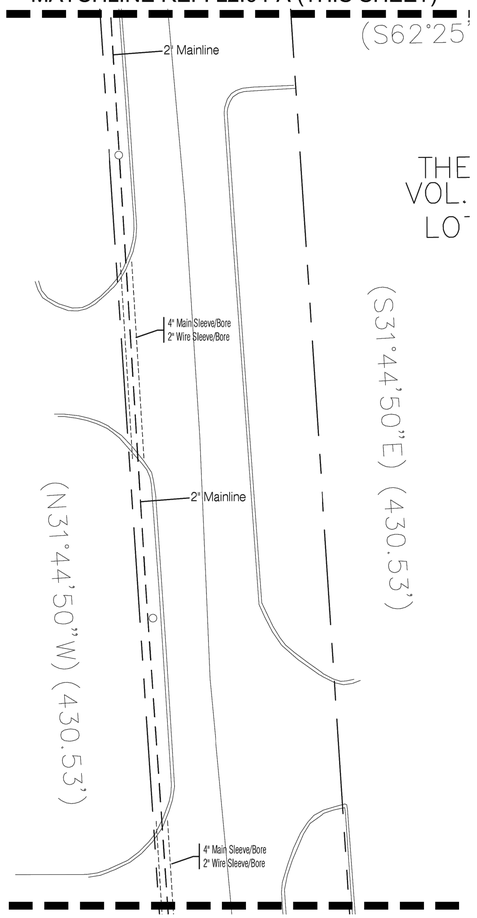
MATCHLINE REF. L2.02

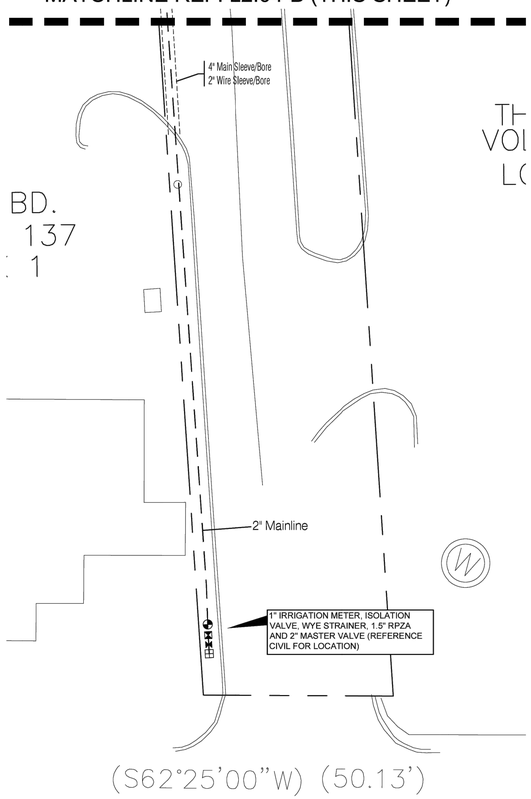
MATCHLINE REF. L2.03



MATCHLINE REF. L2.04-A (THIS SHEET)



MATCHLINE REF. L2.04-B (THIS SHEET)



MATCHLINE REF. L2.04-C (THIS SHEET)

IRRIGATION LEGEND			
SYMBOL	DESCRIPTION	MANUFACTURER	MODEL NO.
10a	SPRAYS WITH PRO ADJ. NOZZLES	HUNTER	PROS-04-PRS30 (SEE PLAN FOR RADIUS)
R20	MP ROTATORS	HUNTER	PROS-04 (SEE PLAN FOR RADIUS)
25R	ROTORS WITH MPR NOZZLES	HUNTER	PGP-04 (SEE PLAN FOR RADIUS)
	MULTI-STREAM BUBBLERS	HUNTER	PROS-06-PRS30 W/ MSBN50H NOZZLES
	REMOTE CONTROL VALVE	HUNTER	ICV
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	DRIP CONTROL VALVE	HUNTER	ICZ-101-LF-40

IRRIGATION LEGEND	
SYMBOL	DESCRIPTION
	1" IRRIGATION METER
A	HUNTER - ICC2 CONTROLLER WITH RAIN AND FREEZE SENSORS
	ISOLATION VALVE
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23713
LICENSED IRRIGATOR

FELUX ENGINEERING
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L2.04 IRRIGATION PLAN

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GENERAL IRRIGATION SPECIFICATIONS

SECTION 32 8423 - UNDERGROUND IRRIGATION SLEEVES AND UTILITY CONDUITS

PART 1 - GENERAL

1.1 DESCRIPTION

A. PROVIDE UNDERGROUND IRRIGATION SLEEVES AS INDICATED ON THE DRAWINGS.

1.2 RELATED WORK

A. SECTION 32 8424 - IRRIGATION SYSTEM.

1.3 REFERENCE STANDARDS

A. AMERICAN STANDARD FOR TESTING AND MATERIALS (ASTM) - LATEST EDITION.

PART 2 - MATERIALS

2.1 GENERAL

A. POLYVINYL CHLORIDE PIPE (PVC) - SCHEDULE 40 SHALL BE USED FOR ALL SLEEVING PURPOSES.

B. PVC PIPES SHALL BE MARKED WITH SDR NUMBER, ASTM STANDARD NUMBER, AND THE NSF SEAL.

C. SOLVENT SHALL BE USED AS RECOMMENDED BY MANUFACTURER TO MAKE SOLVENT WELDED JOINTS. PIPE AND FITTINGS SHOULD BE CLEANED BEFORE APPLYING SOLVENT.

PART 3 - EXECUTION

3.1 INSTALLATION

A. A MINIMUM OF TWENTY FOUR (24) INCHES COVER SHALL BE PROVIDED OVER THE TOP OF SLEEVE FROM FINISH GRADE.

B. SLEEVES SHALL BE EXTENDED ONE (1) FOOT PAST THE EDGE OF PAVEMENT OF WALLS. INSTALL A NINETY DEGREE ELBOW ON EACH SLEEVE AND ADD ADDITIONAL LENGTH TO EXTEND ABOVE FINISH GRADE BY TWELVE (12) INCHES. CAP PIPE ENDS.

3.2 BACKFILL

A. BACKFILL SHALL BE PLACED OVER SLEEVES IN SIX (6) INCH LIFTS. SOIL SHALL BE TAMPED INTO PLACE, TAKING CARE TO NOT DAMAGE SLEEVE.

B. REPAIR ANY DAMAGE FROM IMPROPER COMPACTION.

END OF SECTION

SECTION 32 8424 - IRRIGATION SYSTEM

PART 1 - GENERAL

1.1 DESCRIPTION

A. PROVIDE A COMPLETE IRRIGATION SYSTEM INSTALLATION AS DETAILED AND SPECIFIED. THIS SHALL INCLUDE FURNISHING ALL LABOR, MATERIAL, EQUIPMENT AND SERVICES NECESSARY TO PROVIDE COMPLETE INSTALLATION. WORK INCLUDES:

a. TRENCHING

b. BACKFILL

c. AUTOMATIC CONTROLLED SYSTEM

d. AS BUILT DRAWINGS

B. SLEEVING AS SHOWN SHALL BE FURNISHED BY THE GENERAL CONTRACTOR.

C. METER AND POWER SHALL BE PROVIDED BY THE GENERAL CONTRACTOR.

1.2 RELATED WORK

C. REFERENCE IRRIGATION PLANS FOR CONTROLLER, HEAD AND ALL VALVE LOCATIONS.

D. REFERENCE LANDSCAPE PLANS, NOTES, DETAILS FOR ADDITIONAL REQUIREMENTS.

E. SECTION 32 9300 - LANDSCAPE

F. SECTION 32-8423 - UNDERGROUND IRRIGATION SLEEVE AND UTILITY CONDUITS

1.3 REFERENCE STANDARDS

A. AMERICAN STANDARD FOR TESTING AND MATERIALS (ASTM) - LATEST EDITION.

1.4 QUALITY ASSURANCE AND REQUIREMENTS

A. PERMITS AND FEES: THE CONTRACTOR SHALL OBTAIN AND PAY FOR ANY PERMITS NECESSARY AND ALL OBSERVATIONS AS REQUIRED.

B. MANUFACTURER'S DIRECTIONS: MANUFACTURER'S DIRECTIONS AND DETAILED DRAWINGS SHALL BE FOLLOWED IN ALL CASES WHERE THE MANUFACTURERS OF ARTICLES USED IN THIS CONTRACT FURNISH DIRECTIONS COVERING POINTS NOT SHOWN IN THE DRAWINGS AND SPECIFICATIONS.

C. ORDINANCES, CODES, AND REGULATIONS: ALL LOCAL, MUNICIPAL AND STATE LAWS, AND RULES AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS, AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR. ANYTHING CONTAINED IN THESE SPECIFICATIONS SHALL NOT BE CONSTRUED TO CONFLICT WITH ANY OF THE ABOVE RULES AND REGULATIONS AND REQUIREMENTS OF THE SAME.

D. HOWEVER, WHEN THESE SPECIFICATIONS AND DRAWINGS CALL FOR OR DESCRIBE MATERIALS, WORKMANSHIP, OR CONSTRUCTION OF A BETTER QUALITY, HIGHER STANDARD OR LARGER SIZE THAN IS REQUIRED BY THE ABOVE RULES AND REGULATIONS, THESE SPECIFICATIONS AND DRAWINGS SHALL TAKE PRECEDENCE.

1.5 SCHEDULE OF MATERIALS

A. MATERIALS LIST:

a. ALL EQUIPMENT MANUFACTURERS AND MODEL NUMBERS SHALL BE AS NOTED ON THE PLANS.

b. THE CONTRACTOR SHALL FURNISH THE ARTICLES, EQUIPMENT, MATERIALS, OR PROCESSES SPECIFIED BY NAME IN THE DRAWINGS AND SPECIFICATIONS. NO SUBSTITUTION WILL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT.

c. A COMPLETE MATERIAL LIST OF EQUIPMENT SHALL BE SUBMITTED BEFORE PERFORMING ANY WORK. SUBMITTAL SHOULD INCLUDE ALL MANUFACTURERS' SPECIFICATIONS AND LITERATURE FOR APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

d. EQUIPMENT OR MATERIALS INSTALLED OR FURNISHED WITHOUT PRIOR APPROVAL OF THE LANDSCAPE ARCHITECT MAY BE REJECTED.

e. APPROVAL OF ANY ITEM, ALTERNATE OR SUBSTITUTE INDICATES ONLY THAT THE PRODUCT OR PRODUCTS APPARENTLY MEET THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS ON THE BASIS OF THE INFORMATION OR SAMPLES SUBMITTED.

f. MANUFACTURER'S WARRANTIES SHALL NOT RELIEVE THE CONTRACTOR OF HIS LIABILITY UNDER THE GUARANTEE. SUCH WARRANTIES SHALL ONLY SUPPLEMENT THE GUARANTEE.

1.4 RECORD AND AS BUILT DRAWINGS/SUBMITTALS

A. CONTRACTOR SHALL PROVIDE AND KEEP UP TO DATE AND COMPLETE "AS-BUILT" RECORD SET OF PRINTS.

B. CONTRACTOR SHOULD USE ALL SYMBOLS AND NOTATIONS CONSISTENT WITH THE ORIGINAL DRAWINGS.

C. IN "AS-BUILT" DRAWINGS, CONTRACTOR SHALL LOCATE:

a. CONNECTION TO EXISTING WATER LINES

b. CONNECTION TO ELECTRICAL POWER

c. GATE VALVES

d. ROUTING OF SPRINKLER PRESSURE LINES

e. SPRINKLER CONTROL VALVES

f. QUICK COUPLING VALVES

g. OTHER RELATED EQUIPMENT

D. SUBMIT COMPLETED TRACINGS PRIOR TO FINAL ACCEPTANCE. DATE AND SIGN ALL DRAWINGS.

E. EQUIPMENT TO BE FURNISHED:

a. SUPPLY AS PART OF THIS CONTRACT THE FOLLOWING TOOLS:

i. QUICK COUPLING KEYS, THREE (3) WITH BOILER DRAINS ATTACHED USING BRASS REDUCER.

ii. THREE (3) KEYS FOR EACH AUTOMATIC CONTROLLER

b. THE ABOVE MENTIONED EQUIPMENT SHALL BE TURNED OVER TO THE OWNER AT THE CONCLUSION OF THE PROJECT.

F. THE IRRIGATION CONTRACTOR SHOULD DEMONSTRATE THAT THE FINAL INSTALLED SYSTEM WILL OPERATE ACCORDING TO THE INTENT OF THE DESIGNED AND SPECIFIED SYSTEM. IRRIGATION CONTRACTOR SHALL GUARANTEE 100% COVERAGE TO ALL AREAS TO BE IRRIGATION.

1.5 MAINTENANCE AND GUARANTEE

A. MAINTENANCE AND WORKMANSHIP SHALL BE GUARANTEED FULLY FOR ONE (1) YEAR AFTER FINAL ACCEPTANCE.

B. PROVIDE MAINTENANCE OF SYSTEM, CLEANING AND ADJUSTMENT OF THE HEADS, FOR ONE (1) YEAR AFTER COMPLETION OF INSTALLATION.

C. GUARANTEE IS LIMITED TO REPAIR AND REPLACEMENT OF DEFECTIVE MATERIALS AND WORKMANSHIP, INCLUDING THE REPAIR OF BACKFILL SETTLEMENT.

1.6 TESTING

A. PERFORM TESTING REQUIRED WITH OTHER TRADES INCLUDING EARTHWORK, PAVING, PLUMBING, ETC. TO AVOID CUTTING, PATCHING OR BORING.

B. WATER PRESSURE SHOULD BE FOUND PRIOR TO STARTING CONSTRUCTION. DETERMINE/CONFIRM THAT STATIC WATER PRESSURE IS MORE THAN THE WATER PRESSURE NEEDED FOR THE SYSTEM TO FUNCTION PROPERTY. IF STATIC PRESSURE IS LESS THAN THE DESIGN PRESSURE NEEDED, DO NOT START WORK UNTIL THE LANDSCAPE ARCHITECT IS NOTIFIED.

1.7 COORDINATION

A. COORDINATE INSTALLATION OF ALL PRODUCTS, INCLUDING EARTHWORK, PAVING AND PLUMBING.

B. COORDINATE TO ENSURE THAT ELECTRICAL POWER SOURCE IS IN PLACE.

C. COORDINATE INSTALLATION WITH WORK SPECIFIED IN OTHER SECTIONS.

D. COORDINATE WITH THE LANDSCAPE CONTRACTOR TO ENSURE PLANT MATERIAL IS UNIFORMLY WATERED IN ACCORDANCE WITH INTENT SHOWN ON DRAWINGS.

PART 2 - PRODUCTS

2.1 MATERIALS

A. REFER TO CONSTRUCTION DRAWINGS AND NOTES.

B. SPRINKLER HEADS IN LAWN AREAS AS SPECIFIED ON PLAN

C. PVC PIPE: CLASS 200 SPR 21

D. COPPER TUBING (FOR CITY CONNECTIONS): TYPE "M"

E. WIRING: THE WIRE PATHS SHALL BE TWISTED PAIR, SOLID-CORE, COLOR-CODED RED/BLUE PAIRS, ENCLOSED IN A PE SLEEVE AVAILABLE IN 6 DIFFERENT COLORS FOR IN-GROUND IDENTIFICATION. ALL CONNECTIONS IN THE TWO-WIRE PATHS (OUTSIDE THE CONTROLLER ENCLOSURE) SHALL BE MADE WITH 3M DBRY-6 WATERPROOF, STRAIN-RELIEVING DIRECT BURIAL CONNECTORS, OR EXACT EQUALS.

F. ELECTRIC VALVES TO BE ALL PLASTIC CONSTRUCTION AS INDICATED ON PLANS.

G. REFER TO DRAWING FOR BACKFLOW PREVENTION LOCATION - COORDINATE EXACT LOCATION WITH THE GENERAL CONTRACTOR.

PART 3 - EXECUTION

3.1 INSPECTION:

A. SITE CONDITIONS:

a. ALL SCALED DIMENSIONS ARE APPROXIMATE. THE CONTRACTOR SHALL CHECK AND VERIFY ALL SIZE DIMENSIONS.

b. EXERCISE EXTREME CARE IN EXCAVATING AND WORKING NEAR UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO UTILITIES WHICH ARE CAUSED BY ANY OF HIS OPERATIONS OR NEGLECT.

c. COORDINATE INSTALLATION OF IRRIGATION MATERIALS, INCLUDING PIPE, SO THERE SHALL BE NO INTERFERENCE WITH UTILITIES OR OTHER CONSTRUCTION DIFFICULTY IN PLANTING TREES, SHRUBS, AND GROUNDCOVERS. COORDINATE WORK WITH OTHER SITE CONTRACTORS.

3.2 PREPARATION

A. PHYSICAL LAYOUT:

a. PIPING AND HEAD LAYOUT AS SHOWN ON PLANS IS SCHEMATIC ONLY. ALL PIPES TO BE INSTALLED DIRECTLY BEHIND CURBS, WALKS AND WALLS WHEREVER POSSIBLE.

b. PRIOR TO INSTALLATION CONTRACTOR SHALL STAKE OUT ALL PRESSURE SUPPLY LINES, ROUTING AND LOCATION OF SPRINKLER HEADS.

c. ALL LAYOUTS SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

B. WATER SUPPLY:

a. IRRIGATION SYSTEM SHALL BE CONNECTED TO WATER SUPPLY POINTS OF CONNECTION AS INDICATED ON THE DRAWINGS.

b. CONNECTIONS SHOULD BE MADE AT APPROXIMATE LOCATIONS AS SHOWN ON DRAWINGS. CONTRACTOR SHALL VERIFY IN FIELD AND BE RESPONSIBLE FOR MINOR CHANGES CAUSED BY ACTUAL SITE CONDITIONS.

3.3 INSTALLATION

A. TRENCHING

a. DIG TRENCHES STRAIGHT 6" WIDE WITH NEAR VERTICAL SIDE AND SUPPORT PIPE CONTINUOUSLY ON BOTTOM OF TRENCH. REMOVE LUMBER, RUBBISH, LARGE ROCKS ETC. FROM TRENCHES. LAY PIPE TO AN EVEN GRADE - WITH A FIRM, UNIFORM BEARING FOR ENTIRE LENGTH OF PIPE.

b. REMOVE FOREIGN MATTER OR DIRT FROM INSIDE OF PIPE BEFORE WELDING AND KEEP PIPING CLEAN BY ANY MEANS POSSIBLE DURING AND AFTER LAYING OF PIPE.

c. PROVIDE A MINIMUM OF EIGHTEEN (18) INCHES OF COVER FOR ALL PRESSURE SUPPLY LINES.

d. PROVIDE A MINIMUM OF TWELVE (12) INCHES OF COVER FOR ALL NON-PRESSURE LINES.

e. PROVIDE A MINIMUM COVER OF EIGHTEEN (18) INCHES FOR ALL CONTROL WIRING.

f. NO MACHINE TRENCHING, UNLESS APPROVED BY THE LANDSCAPE ARCHITECT, SHALL BE DONE WITHIN DRIP LINE OF EXISTING TREES. TRENCHING SHOULD BE DONE BY HAND, TUNNELING OR BORING OR OTHER METHODS APPROVED BY THE LANDSCAPE ARCHITECT. IT SHOULD BE UNDERSTOOD THAT PIPING LAYOUT IS DIAGRAMMATIC AND PIPING SHALL BE ROUTED AROUND TREES AND SHRUBS IN SUCH A MANNER TO AVOID DAMAGE TO PLANTS.

B. BACKFILL

a. TRENCHES SHALL NOT BE BACKFILLED UNTIL ALL REQUIRED TESTS ARE PERFORMED. TRENCHES SHALL BE CAREFULLY BACKFILLED WITH THE EXCAVATED MATERIALS APPROVED FOR BACKFILLING, CONSISTING OF EARTH, LOAM, SANDY CLAY, SAND OR OTHER APPROVED MATERIALS, FREE FROM LARGE CLODS, STONES OR STICKS.

b. IF SETTLEMENT OCCURS AND SUBSEQUENT ADJUSTMENTS IN PIPE, VALVES, SPRINKLER HEADS, LAWN OR PLANTING OR OTHER CONSTRUCTION ARE NECESSARY, THE CONTRACTOR SHALL MAKE ALL REQUIRED ADJUSTMENTS WITHOUT THE COST TO THE OWNER.

C. TRENCHING AND BACKFILL UNDER PAVING:

a. ALL IRRIGATION MAIN LINE AND LATERAL LINES OR WIRING LOCATED UNDER AREAS WHERE PAVING, ASPHALTIC PAVING, OR CONCRETE SHALL BE INSTALLED IN SCHEDULE 40 PVC SLEEVES OF ADEQUATE SIZE. SEE SECTION 32 8423.

D. ASSEMBLIES

a. INSTALL ALL ASSEMBLIES SPECIFIED HEREIN IN ACCORDANCE WITH RESPECTIVE DETAILS. IN ABSENCE OF DETAIL DRAWINGS OR SPECIFICATIONS, PERFORM SUCH WORK IN ACCORDANCE WITH BEST STANDARD PRACTICES OR MANUFACTURER'S RECOMMENDATIONS AS APPROVED BY THE LANDSCAPE ARCHITECT.

b. MAKE SOLVENT WELDED JOINTS USING ONLY THE SOLVENT RECOMMENDED BY THE MANUFACTURER. PIPES AND FITTINGS SHOULD BE CLEANED OF ALL DIRT AND DUST AND MOISTENED BEFORE APPLYING SOLVENT.

c. ON PVC TO METAL CONNECTIONS, THE CONTRACTOR SHALL WORK METAL CONNECTIONS FIRST. USE NON HARDENING PIPE DOPE OR TEFLON TAPE ON THREADED PVC ADAPTERS INTO WHICH PIPE MAY BE WELDED. LIGHT WRENCH PRESSURE IS ALL THAT IS REQUIRED, USE THREADED PVC ADAPTERS INTO WHICH THE PIPE MAY BE WELDED.

E. LINE CLEARANCE: ALL LINES SHALL HAVE A MINIMUM CLEARANCE OF SIX (6) INCHES FROM EACH OTHER AND FROM OTHER TRADES. PARALLEL LINES SHALL NOT BE DIRECTLY INSTALLED ONE OVER THE OTHER.

F. WIRING: INSTALL AS PER MANUFACTURER'S SPECIFICATIONS AND PER MANUFACTURER'S WIRING DISTANCE CALCULATIONS/INSTRUCTIONS. MAKE SPLICES PER MANUFACTURER'S SPECIFICATIONS.

G. AUTOMATIC CONTROLLER AND DECODERS: INSTALL AS PER MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS. REMOVE CONTROL VALVES SHALL BE CONNECTED TO CONTROLLER IN NUMERICAL SEQUENCE AS SHOWN ON THE DRAWINGS. EACH REMOVE CONTROL VALVE SHALL BE WIRED TO ONE STATION OF THE CONTROLLER.

H. REMOTE CONTROL VALVES:

a. INSTALL WHERE SHOWN ON DRAWINGS AND DETAILS. VALVES SHALL BE SIZED ACCORDING TO THE DRAWINGS.

b. INSTALL IN A LEVEL POSITION IN ACCORDANCE TO MANUFACTURER'S SPECIFICATIONS.

c. WHEN GROUPED TOGETHER, ALLOW AT LEAST TWELVE (12) INCHES BETWEEN VALVES. INSTALL EACH REMOTE CONTROL VALVE IN A SEPARATE VALVE BOX. EACH VALVE NUMBER AND ITS CONTROLLER LETTER SHALL BE STENCILED INSIDE VALVE BOX TOP WITH EXTERIOR PAINT.

I. FLUSHING OF SYSTEM:

a. AFTER ALL NEW SPRINKLER PIPE LINES AND RISERS ARE IN PLACE AND CONNECTED, ALL NECESSARY WORK HAS BEEN COMPLETED, AND PRIOR TO INSTALLATION OF SPRINKLER HEADS, THE CONTROL VALVES SHALL BE OPENED AND A FULL HEAD OF WATER USED TO FLUSH OUT THE SYSTEM.

b. SPRINKLER HEADS SHALL BE INSTALLED ONLY AFTER FLUSHING OF THE SYSTEM HAS BEEN ACCOMPLISHED.

J. SPRINKLER HEADS:

a. INSTALL HEADS AS DESIGNED ON THE DRAWINGS. MAKE APPROPRIATE ADJUSTMENTS TO HEAD LAYOUT TO ACCOMMODATE FOR ACTUAL FIELD CONDITIONS.

b. SPACING OF HEADS SHALL NOT EXCEED THE MAXIMUM INDICATED ON THE DRAWINGS. IN NO CASE SHALL THE SPACING EXCEED THE MAXIMUM RECOMMENDED BY THE MANUFACTURER.

c. ALL SPRINKLERS TO ATTACH TO LATERAL LINES WITH FLEXIBLE CONNECTORS. REFERENCE DETAILS ON DRAWINGS.

3.4 TESTING

A. THE CONTRACTOR SHALL TEST SPRINKLER MAIN FOR TWELVE TO FOURTEEN HOURS UNDER NORMAL PRESSURE. IF LEAKS ARE PRESENT, REPLACE JOINT OR JOINS AND REPEAT TEST.

B. A COMPLETE TEST SHALL BE MADE PRIOR TO BACKFILLING. BACKFILLING MATERIALS MAY BE PLACED IN TRENCHES IN LIFTS TO ENSURE STABILITY OF THE LINE UNDER THE PRESSURE OF BACKFILL. IN EACH CASE, LEAVE FITTINGS AND COUPLINGS OPEN TO VISUALLY INSPECT FOR FULL PERIOD OF TEST.

C. WHEN SYSTEM IS COMPLETE, A COVERAGE TEST SHALL BE PERFORMED IN THE PRESENCE OF THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. IT SHALL BE DETERMINED IF THE WATER COVERAGE FOR ALL PLANTING AREAS IS COMPLETE AND ADEQUATE. FURNISH ALL MATERIALS AND PERFORM ALL WORK REQUIRED TO CORRECT ANY INADEQUACIES OF COVERAGE.

D. UPON COMPLETION OF EACH PHASE OF WORK, THE ENTIRE SYSTEM SHOULD BE TESTED AND ADJUSTED TO MEET SITE REQUIREMENTS.

END OF SECTION

ADDITIONAL TWO-WIRE INFORMATION

HUNTER TECHNICAL HOTLINE

PLEASE CALL THE HUNTER TECHNICAL HOTLINE NUMBER AT (760) 591-7383

HUNTER RESOURCE GUIDES

GUIDES, INFORMATION, AND MATERIALS FOR IRRIGATION COMPONENTS ARE LOCATED AT HTTPS://WWW.HUNTERINDUSTRIES.COM/RESOURCE-GUIDE

REFERENCE HUNTER DECODER SYSTEMS DESIGN GUIDE, SPECIFICATIONS AND PUBLICATIONS PRIOR TO INSTALLATION. CONFIRM REQUIREMENTS FOR CONTROLLER, WATERPROOF CONNECTIONS, GROUNDING, SURGE PROTECTORS, DECODERS, VALUES, AND WIRING PRIOR TO INSTALLATION. HUNTER TECHNICAL SERVICES (760) 591-7383. WWW.HUNTERINDUSTRIES.COM

EZ DECODER

THE EZ DECODER SYSTEM IS A UNIQUE TWO-WIRE OUTPUT OPTION FOR HUNTER ICC2 AND HCC CONTROLLER MODELS ONLY.

- DO NOT ATTEMPT TO USE THIS SYSTEM WITH ANY OTHER MODEL OR BRAND OF CONTROLLER.
- DO NOT ATTEMPT TO USE EZ-1 DECODERS WITH ANY OTHER DECODER CONTROLLER.

EZ DECODERS ARE DESIGNED TO BE EASY. THEY DO NOT REQUIRE SPECIAL WIRE.

- THEY DO REQUIRE DIRECT BURIAL WIRE OF ADEQUATE SIZE FOR THE DISTANCE OF EACH WIRE RUN (SEE CHART). IT IS EVEN POSSIBLE TO USE EXISTING WIRE FROM "CONVENTIONAL" INSTALLATIONS TO CREATE A TWO- WIRE PATH FOR EZ DECODERS.
- THE EZ DECODER SYSTEM DOES NOT REQUIRE WATERPROOF CONNECTIONS IN ORDER TO OPERATE. HOWEVER, JUST AS IN CONVENTIONAL SYSTEMS, WATERPROOF CONNECTORS SHOULD BE USED TO MAINTAIN THE INTEGRITY OF THE SPLICE AND THE WIRE.

INSTALLING THE EZ-DM IN HUNTER ICC2 AND HCC CONTROLLERS

IF THE WHOLE SYSTEM WILL BE TWO-WIRE, INSTALL THE EZ-DM MODULE IN THE FIRST SLOT IN THE CONTROLLER.

PRESS THE RESET BUTTON ON THE BACK OF THE CONTROLLER FACE PANEL FOR THE NEW MODULE TO BE RECOGNIZED.

- OPEN BLUE LOCK LEVER.
- INSERT MODULE TABS INTO END OF SLOT, AND TIP INTO PLACE.
- CLOSE LOCKING LEVER.
- PRESS CONTROLLER RESET BUTTON. CONTROLLER WILL THEN RECOGNIZE THE NEW MODULE, AND THE CONTROLLER SIZE WILL CHANGE TO 54 STATIONS.

EZ-DM MAY ALSO BE COMBINED WITH ICM-800 AND ICM-400 MODULES FOR "HYBRID" OPERATION. THEY CAN USE "CONVENTIONAL" SOLENOID WIRING AND TWO-WIRE TECHNOLOGY AT THE SAME TIME, UP TO 54 STATIONS MAXIMUM.

IT IS RECOMMENDED TO INSTALL ALL CONVENTIONAL MODULES IN THE LOWER- NUMBERED SLOTS, AND INSTALL THE EZ-DM IN THE NEXT AVAILABLE SLOT.

- THE CONVENTIONAL MODULES WILL OPERATE THE STATION NUMBERS THAT ARE SHOWN ON THE BACKPLANE OF THE CONTROLLER, NEXT TO THE SLOT.
- THE EZ-DM MODULE CAN OPERATE REMAINING STATION NUMBERS UP TO 54 VIA THE TWO-WIRE PATHS.
- DO NOT PROGRAM DUPLICATE STATION NUMBERS WHEN COMBINING CONVENTIONAL MODULES AND THE EZ-DM. IF AN EZ DECODER IS PROGRAMMED TO STATION 1, AND THERE IS A CONVENTIONAL MODULE IN THE FIRST OUTPUT SLOT WITH STATION 1, BOTH STATION "ONES" WILL TURN ON AT THE SAME TIME. THIS MAY CAUSE A STATION ERROR IF IT CAUSES AN OVERLOADED CURRENT CONDITION.
- ONLY PROGRAM DECODER STATION NUMBERS THAT ARE NOT IN USE ON CONVENTIONAL OUTPUT MODULES.

DECODER PROGRAMMING

- EACH EZ-1 DECODER MUST BE PROGRAMMED WITH A STATION NUMBER (OR AS THE P/MV) BEFORE USE.
- INSERT EZ-1 RED AND BLUE WIRES INTO PORTS ON THE EZ-DM OUTPUT MODULE. IT DOES NOT MATTER WHICH COLOR GOES IN WHICH HOLE. USE THE CONTROLLER FACE PANEL (OR REMOTE CONTROL, IF SO EQUIPPED) TO START THE STATION NUMBER YOU WANT TO PROGRAM INTO THE DECODER.
- WHEN THE STATION IS SHOWN RUNNING IN THE CONTROLLER DISPLAY, PRESS THE PRG BUTTON ON THE EZDM. WHEN THE LED ILLUMINATES ON THE DECODER, THE DECODER IS PROGRAMMED WITH THAT STATION'S NUMBER. WRITE THE STATION NUMBER ON THE DECODER LABEL WITH A PERMANENT MARKER. IT IS NOW READY TO INSTALL IN THE TWO-WIRE PATH AT A VALVE LOCATION.

P/MV (PUMP/MASTER VALVE)

TO PROGRAM P/MV OUTPUT FOR DECODER: WITH NO STATIONS RUNNING, CONNECT THE DECODER TO THE PORT, AND PRESS THE PRG BUTTON ON THE EZDM. WHEN THE DECODER LED ILLUMINATES, THE DECODER IS PROGRAMMED AS THE P/MV OUTPUT.

IMPORTANT: CONNECT A JUMPER WIRE FROM THE P/MV TERMINAL ON THE CONTROLLER POWER MODULE, TO THE P/MV TERMINAL ON THE DECODER OUTPUT MODULE, FOR DECODER OPERATION OF P/MV. IF THE P/ MV OUTPUT WILL NOT BE USED, OR IF THE P/MV IS NEARBY AND WILL BE WIRED DIRECTLY TO THE CONTROLLER WITHOUT A DECODER, DO NOT INSTALL A JUMPER WIRE. THE P/MV OUTPUT ON THE CONTROLLER POWER MODULE WILL OPERATE NORMALLY IF THE JUMPER WIRE IS NOT CONNECTED.

TWO-WIRE PATH CONNECTIONS AND RULES

- THE OUTPUT OF THE EZ-DM WIRE PATHS IS 24VAC, 50/60 HZ. VOLTAGE IS ONLY PRESENT ON THE PATHS WHEN STATIONS ARE ACTIVE.
- THE RED AND BLUE WIRE PATH TERMINALS ON THE EZ-DM INDICATE THAT THEY ARE CONNECTED TO THE EZ-1 DECODER RED AND BLUE WIRES, BUT THE WIRE THAT EXTENDS THE TWO-WIRE PATH DOES NOT NEED TO BE COLOR-CODED. IT DOES NOT MATTER IF THE DECODER "RED" CONNECTS TO THE TERMINAL "BLUE."
- THERE IS NO POLARITY ON THE EZ DECODER SYSTEM. USE DIRECT BURIAL-RATED IRRIGATION WIRE.
- THE SIZE OF THE WIRE DETERMINES THE EFFECTIVE DISTANCE OF THE TWO-WIRE PATH.
- SEE THE WIRING TABLE FOR DISTANCE SPECIFICATIONS WITH VARIOUS WIRE SIZES.
- USE IRRIGATION-GRADE WIRE CONNECTORS FOR ALL SPLICES. THEY CAN BE OF THE SAME TYPE USED FOR SOLENOID CONNECTIONS.

CONVERTING EXISTING WIRING

IT IS POSSIBLE TO CONVERT AN EXISTING CONVENTIONALLY WIRED SYSTEM TO EZ DECODER OPERATION BY USING EXISTING WIRE BUNDLES TO CREATE A TWO-WIRE PATH TO EACH VALVE LOCATION AND ADDING AN EZ-1 DECODER AT EACH VALVE.

TEE-SPLICING THE TWO-WIRE PATHS

TEE-SPLICING THE TWO-WIRE PATH IS PERMISSIBLE. USE WATERPROOF CONNECTORS IN A VALVE BOX, AND ADEQUATE SLACK AT THE SPLICES (5 FT/1.5 M) TO INSURE A RELIABLE CONNECTION. SIZE THE WIRE FOR THE MOST DISTANT DECODER FROM THE CONTROLLER.

EARTH GROUNDING

EARTH GROUNDING IS NOT REQUIRED IN THE TWO-WIRE PATH. HOWEVER, IT MAY BE ADDED IN HIGH-LIGHTNING AREAS FOR ADDITIONAL PROTECTION. USE HUNTER MODEL DUAL-S SURGE ARRESTORS AND CONNECT THE SURGE ARRESTOR GROUND WIRE TO EARTH GROUND HARDWARE. EARTH GROUNDING HARDWARE SHOULD CONSIST OF A 8' (2.5 M) COPPER-CLAD STEEL ROD, OR A COPPER PLATE, INSTALLED AT LEAST 8' (2.5 M) AWAY FROM THE TWO-WIRE PATH. PLEASE NOTE PROJECTS IN TEXAS AND OKLAHOMA ARE CONSIDERED HIGH-LIGHTNING AREAS. FOR PROJECTS IN TEXAS AND OKLAHOMA, USE HUNTER MODEL DUAL-S SURGE ARRESTORS EVERY 10 DECODERS OR EVERY 1000' AND AT THE ENDS OF EACH WIRE PATH.

THE ICC2 OR HCC CONTROLLER SHOULD BE GROUNDED TO EARTH WITH THE GROUND ATTACHMENT ON SIDE OF THE TRANSFORMER COVER, TO APPROVED EARTH GROUND HARDWARE, IDEALLY TO A RESISTANCE OF 10 OHMS OR LESS, AS SHOWN IN THE CONTROLLER INSTALLATION INSTRUCTIONS.

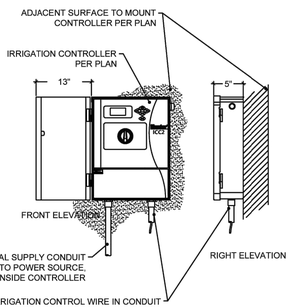
OPERATION

EZ DECODERS DO NOT REQUIRE SPECIAL OPERATING PROCEDURES, AND THE PROGRAMMED DECODERS WILL OPERATE EXACTLY LIKE CONVENTIONALLY- WIRED STATIONS. WHEN A DECODER STATION BEGINS TO OPERATE, THE EZ-DM LIGHT WILL BLINK RAPIDLY WHILE FIRST COMMUNICATING, THEN BLINK AT APPROXIMATELY ONE-SECOND INTERVALS DURING THE STATION RUN TIME. WHEN THE EZ-1 DECODER IS ACTIVELY RUNNING, THE DECODER LED WILL ALSO BLINK AT APPROXIMATELY ONE-SECOND INTERVALS. IF THE DECODER LIGHT DOES NOT BLINK WHEN THE CONTROLLER DISPLAY INDICATES THE STATION IS RUNNING, THE DECODER MAY BE EITHER DISCONNECTED OR DAMAGED.

EZ DECODER WIRE CHART

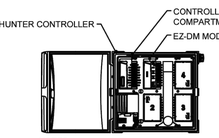
American Wire Gauge	Distance Feet	International Wire mm²	Distance meters
18 AWG	908	0.8 mm²	267
16 AWG	1446	1 mm²	333
14 AWG	2292	1.5 mm²	500
12 AWG	3650	2.5 mm²	833
		4 mm²	1333

NOTE: Distances in the Wiring Table are calculated based on 60 Hz for American Wire Gauge, and 50 Hz for International, with wire temperature of 122 °F (50 °C), and a 10% safety factor.



NOTES:
1. MOUNT CONTROLLER LCD SCREEN AT EYE LEVEL, CONTROLLER SHALL BE HARD-WIRED TO GROUNDED 110 VAC POWER SOURCE
2. CONFIRM PROPER GROUNDING AND SURGE PROTECTION.

1 ICC2 IRRIGATION CONTROLLER
N.T.S.



NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. CONTROLLER ACCEPTS 120 VOLTS A.C. OR 230 VOLTS A.C.
3. SEE PLAN LEGEND FOR MODEL NUMBER AND SPECIFICATIONS.
4. ALWAYS REFER TO PRODUCT INSTALLATION NOTES PRIOR TO INSTALLATION.

2 EZ-DM MODULE IN WIRING COMPARTMENT
N.T.S.

EZDS WRITTEN SPECIFICATIONS

PART 1 - GENERAL

1.1 THE IRRIGATION CONTROL SYSTEM SHALL FEATURE A TWO-WIRE OUTPUT MODULE FOR CONTROL OF UP TO 54 STANDARD 24VAC SOLENOID VALVES OVER A SINGLE PAIR OF WIRES. THE TWO-WIRE OUTPUT MODULE SHALL FIT INTO A PRE-EXISTING MODULE SLOT IN THE CONTROLLER BACKPLANE, AND MAY COEXIST WITH "CONVENTIONAL" OUTPUT MODULES FEATURING INDIVIDUAL WIRES PER SOLENOID VALVES. THE MAXIMUM CAPACITY OF THE CONTROLLER SHALL BE 54 VALVES, IN ANY COMBINATION OF TWO-WIRE AND CONVENTIONALLY WIRED CONTROL WIRING.

PART 2 - TWO-WIRE OUTPUT MODULE

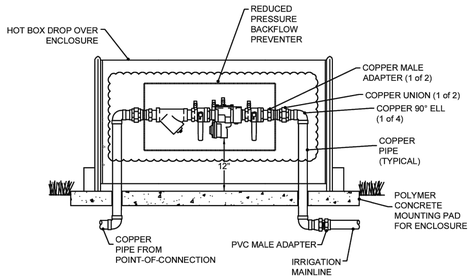
2.1 THE TWO-WIRE OUTPUT MODULE SHALL BE MANUFACTURED BY THE SAME MANUFACTURER AS THE CONTROLLER AND SHALL CARRY ALL THE SAME NECESSARY APPROVALS AND COMPLIANCE AS THE HOST CONTROLLER.

A. OUTPUT MODULE CHARACTERISTICS

i. THE OUTPUT OF THE OUTPUT MODULES, INCLUDING THE TWO-WIRE OUTPUT MODULE, SHALL NOT EXCEED 29VAC (NOMINAL 24VAC~) AT 50 OR 60 HZ, SUITABLE FOR DIRECT-BURIAL WIRING IN LANDSCAPE IRRIGATION APPLICATIONS.

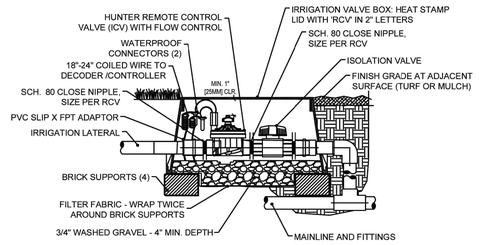
ii. THE TWO-WIRE OUTPUT MODULE SHALL INCLUDE TWO SEPARATE, CLEARLY LABELED, HEAVY-DUTY TWO-WIRE PATH SCREW TERMINALS FOR WIRING IN DIFFERENT DIRECTIONS.

iii. THE TWO-WIRE OUTPUT MODULE SHALL ALSO PERMIT OPERATION OF A PU



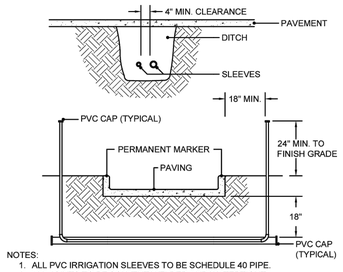
NOTE:
1. INSTALL BACKFLOW PREVENTER AS REQUIRED BY LOCAL CODES AND HEALTH DEPARTMENT. VERIFY LOCAL REQUIREMENTS PRIOR TO INSTALLATION.
2. INSTALL PER MANUFACTURE'S SPECIFICATIONS.
3. INSTALL HUBBELL HOT BOX DROP OVER ENCLOSURE AND POLYMER CONCRETE MOUNTING PAD FOR BACKFLOW DEVICE. PRODUCT LP0100260237.

1 REDUCED PRESSURE ASSEMBLY
N.T.S.



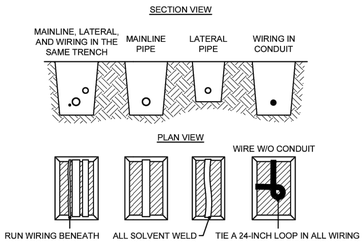
NOTE:
1. INSTALL WITH CORRECT DECODER AND GROUNDING AND SURGE PROTECTION PER MANUFACTURES RECOMMENDATION

2 IN-LINE VALVE (ICV) WITH ISOLATION VALVE
N.T.S.



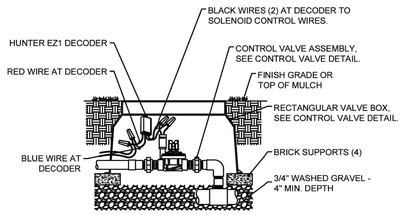
NOTES:
1. ALL PVC IRRIGATION SLEEVES TO BE SCHEDULE 40 PIPE.
2. ALL JOINTS TO BE SOLVENT WELDED AND WATERTIGHT.
3. WHERE THERE IS MORE THAN ONE SLEEVE, EXTEND THE SMALLER SLEEVE TO 24-INCHES MINIMUM ABOVE FINISH GRADE.
4. MECHANICALLY TAMP TO 95% PROCTOR.
5. SLEEVE LOCATIONS SHALL BE MARKED ONTO THE TOP OF CURB WITH A SAWCUT OF TWO PARALLEL LINES THAT ARE 2" LONG AND 1" APART.

3 IRRIGATION PVC SLEEVES
N.T.S.



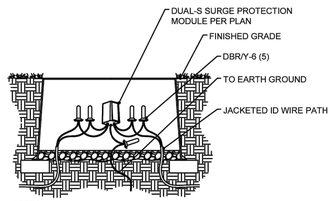
NOTES:
1. SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH SCH 40 PVC TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE WITHIN.
2. FOR PIPE AND WIRE BURIAL DEPTHS, SEE SPECIFICATIONS. MINIMUM - 12"
3. BACKFILL AND COMPACT TRENCHES TO ORIGINAL GRADE.

4 PIPE AND WIRING TRENCHING
N.T.S.



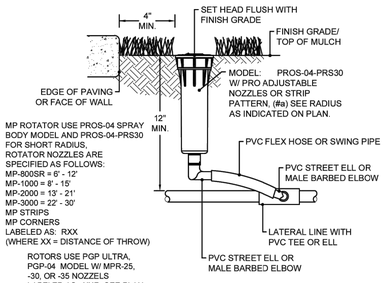
NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. CONTROLLER ACCEPTS 120 VOLTS A.C. OR 230 VOLTS A.C.
3. SEE PLAN LEGEND FOR MODEL NUMBER AND SPECIFICATIONS.
4. ALWAYS REFER TO PRODUCT INSTALLATION NOTES PRIOR TO INSTALLATION.

5 EZ-1 DECODER AT CONTROL VALVE
N.T.S.



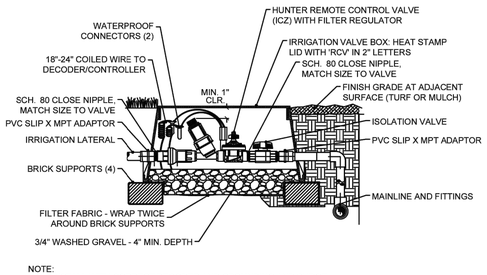
NOTES:
1. EARTH GROUND TO BE A MINIMUM OF 8' AWAY FROM DUAL-S AND AT A RIGHT ANGLE TO THE TWO WIRE PATH

6 DUAL-S SURGE PROTECTION MODULE
N.T.S.



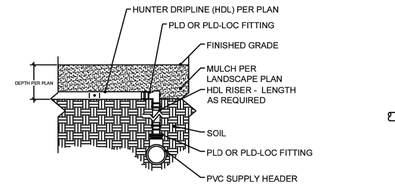
NOTE:
1. MAY NOT BE USED IN LANDSCAPE AREAS LESS THAN FORTY-EIGHT INCHES (48") IN LENGTH OR WIDTH.

7 POP-UP SPRAY BODY OR POP-UP ROTOR
N.T.S.

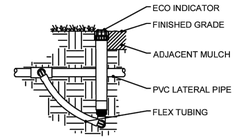


NOTE:
1. INSTALL WITH CORRECT DECODER AND GROUNDING AND SURGE PROTECTION PER MANUFACTURES RECOMMENDATION

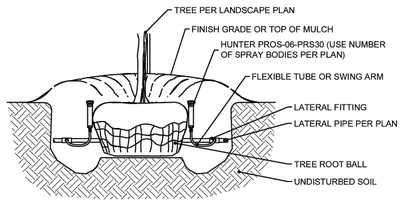
8 DRIP CONTROL ZONE KIT W/ ISOLATION VALVE
N.T.S.



9 HUNTER DRIPLINE CONNECTION W/DRIPLINE AND ELBOW
N.T.S.



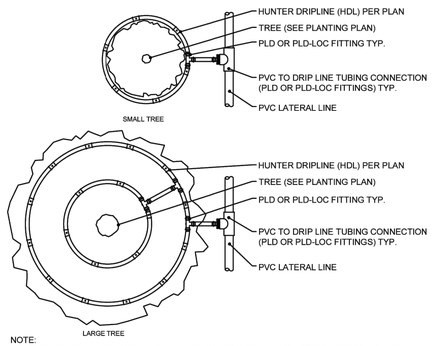
10 ECO INDICATOR- FLEX TUBING
N.T.S.



SECTION VIEW

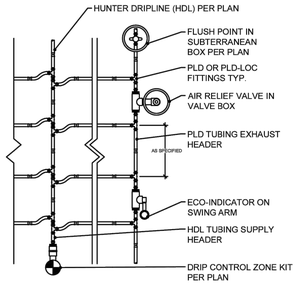
NOTE:
1. PLACE POP-UP BUBBLER DIRECTLY AT THE EDGE OF THE ROOT BALL. ENSURE THAT THE STREAM BUBBLERS SPRAYS DIRECTLY ONTO THE ROOT BALL TO WET THOROUGHLY.
2. SPACE REQUIRED NUMBER OF SPRAY BODIES EQUIDISTANT AROUND EDGE OF ROOT BALL.
2. USE NUMBER OF SPRAY BODIES PER PLAN.

11 TREE BUBBLER ASSEMBLY WITH HUNTER PROS-06-PRS30
N.T.S.



NOTE:
1. AIR RELIEF VALVE INSTALLED IN VALVE BOX AT OPTIMAL HIGHEST POINT FROM CONTROL ZONE KIT. MULTIPLE AIR RELIEF VALVES MAY BE NEEDED TO ACCOMMODATE DIFFERENCES IN GRADE.
2. ECO-INDICATOR TO BE INSTALLED AT OPTIMAL FURTHEST POINT FROM CONTROL ZONE KIT IN CLEAR VIEW WHEN POPPED UP.
3. FLUSH POINT TO BE INSTALLED AT OPTIMAL FURTHEST POINT FROM CONTROL ZONE KIT TO ALLOW FOR MAXIMUM DEBRIS FLUSH IN SYSTEM.

12 HUNTER DRIPLINE- TREE RING
N.T.S.



NOTE:
1. AIR RELIEF VALVE INSTALLED IN VALVE BOX AT OPTIMAL HIGHEST POINT FROM CONTROL ZONE KIT. MULTIPLE AIR RELIEF VALVES MAY BE NEEDED TO ACCOMMODATE DIFFERENCES IN GRADE.
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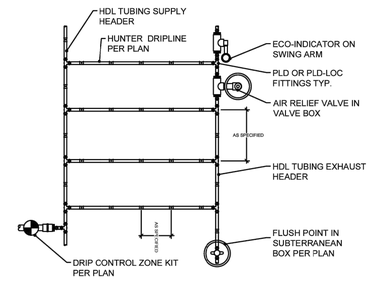
3. FLUSH POINT TO BE INSTALLED AT OPTIMAL FURTHEST POINT FROM CONTROL ZONE KIT TO ALLOW FOR MAXIMUM DEBRIS FLUSH IN SYSTEM.

13 HUNTER DRIPLINE- PLANTING BED CENTER FEED
N.T.S.



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14 HUNTER DRIPLINE- PLANTING BED
N.T.S.

APP. BY

REVISIONS

DATE

STATE OF TEXAS
CODY S RICHARDSON
23713
LICENSED IRRIGATOR

FFELUX ENGINEERING
FIRM NO. 23020
P.O. BOX 1746, AUSTIN, TX 78147
210-818-3340

4545 N LOOP 1604 W, SAN ANTONIO, TX 78249

L2.06 IRRIGATION SPECS AND DETAILS

DATE: 6/9/2025
JOB NO.: 25002-01
DRAWN BY:
PAGE:

43 OF 43

AWR Designs, LLC
P.O. Box 1746
Aledo, Texas 76008
amanda@awr-designs.com
c. 512.517.5589

S:\awr\jobs\25025\25052_Hope Church, San Antonio\Acad\Details\25052_Irrigation Series.dwg

Permanent Stormwater Section Form

Attachment G

Inspection, Maintenance, Repair, and Retrofit Plan

Maintenance to the Batch Detention Basin should have record and kept on site. The detention pond is part of the water quality pond and will be subject to the same inspection and maintenance requirements. City of San Antonio and Texas Commission of Environmental Quality (TCEQ) shall be followed for the inspection and maintenance of the detention and batch detention pond. Below is a list of TCEQ guidelines for the Batch Detention Basin.

Inspections. Inspections should take place a minimum of twice a year. One inspection should take place during wet weather to determine if the basin is meeting the target detention time of 12 hours and a drawdown time of no more than 48 hours. The remaining inspections should occur between storm events so that manual operation of the valve and controller can be verified. The level sensor in the basin should be inspected and any debris or sediment in the area should be removed. The outlet structure and the trash screen should be inspected for signs of clogging. Debris and sediment should be removed from the orifice and outlet(s) as described in previous sections. Debris obstructing the valve should be removed. During each inspection, erosion areas inside and downstream of this BMP should be identified and repaired/revegetated immediately.

Mowing. The basin, basin side-slopes, and embankment of the basin must be mowed to prevent woody growth and control weeds. A mulching mower should be used, or the grass clippings should be caught and removed. Mowing should take place at least twice a year, or more frequently if vegetation exceeds 18 inches in height. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas.

Litter and Debris Removal. Litter and debris removal should take place at least twice a year, as part of the periodic mowing operations and inspections. Debris and litter should be removed from the surface of the basin. Particular attention should be paid to floatable debris around the outlet structure. The outlet should be checked for possible clogging or obstructions and any debris removed.

Erosion control. The basin side slopes and embankment all may periodically suffer from slumping and erosion. To correct these problems, corrective action, such as regrading and revegetation, may be necessary. Correction of erosion control should take place whenever required based on the periodic inspections.

Nuisance Control. Standing water or soggy conditions may occur in the basin. Some standing water may occur after a storm event since the valve may close with 2 to 3 inches of water in the basin. Some flow into the basin may also occur between storms due to spring flow and residential water use that enters the storm sewer system. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.).

Structural Repairs and Replacement. With each inspection, any damage to structural elements of the basin (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired

immediately. An example of this type of repair can include patching of cracked concrete, sealing of voids, removal of vegetation from cracks and joints. The various inlet/outlet structures in a basin will eventually deteriorate and must be replaced.

Sediment Removal. A properly designed batch detention basin will accumulate quantities of sediment over time. The accumulated sediment can detract from the appearance of the facility and reduce the pollutant removal performance of the facility. The sediment also tends to accumulate near the outlet structure and can interfere with the level sensor operation. Sediment shall be removed from the basin at least every 5 years, when sediment depth exceeds 6 inches, when the sediment interferes with the level sensor or when the basin does not drain within 48 hours. Care should be taken not to compromise the basin lining during maintenance.

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

Region 13, San Antonio Office
14250 Judson Rd
San Antonio TX 78233-4480
Main Phone: 210-545-4329
Spill Response (24 hour): 800-832-8224

Nathan Scoggins

Nathan Scoggins

7/14/25

Date

Permanent Stormwater Section Form

Attachment H

Pilot-Scale Field Testing Plan

No pilot-scale field testing plan will be used.

Permanent Stormwater Section Form

Attachment I

Measures for Minimizing Surface Stream Contamination

Any points where discharge from the site is concentrated and erosive velocities exist will include appropriately sized energy dissipaters or rock rip rap to reduce velocities to non-erosive levels.

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

I Nathan Scoggins,
Print Name

Lead Parishioner,
Title - Owner/President/Other

of Hope Center Church,
Corporation/Partnership/Entity Name

have authorized Kyler Felux
Print Name of Agent/Engineer

of Felux Engineering
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:

Nathan Scoggins
Applicant's Signature

7/14/25
Date

THE STATE OF Texas §

County of Bexar §

IRMA T RAMIREZ
Notary ID #5778161
My Commission Expires
March 21, 2028

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

GIVEN under my hand and seal of office on this 14 day of July, 2025.

Irma T Ramirez
NOTARY PUBLIC

IRMA T. RAMIREZ
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: March 21, 2028

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Hope Center Church
Regulated Entity Location: San Antonio, TX
Name of Customer: Nathan Scoggins
Contact Person: Nathan Scoggins Phone: 210-842-8686
Customer Reference Number (if issued):CN _____
Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☐ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362)

☒ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

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

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

☒ San Antonio Regional Office
☒ Overnight Delivery to: TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

Site Location (Check All That Apply):

☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

Type of Plan	***Size***	***Fee Due***
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	8.499 Acres	$ 5000
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: Kyler Felux Date: 7-22-2025

Application Fee Schedule

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

☒ New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application.)*

☐ Renewal *(Core Data Form should be submitted with the renewal form)*

☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN		**RN**

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy)

☒ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership

☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)* — *If new Customer, enter previous Customer below:*

Hope Center Church 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)*
0156603501	17423561335		

11. Type of Customer: ☒ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees

☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?

☐ Yes ☐ No

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☒ Owner ☐ Operator ☐ Owner & Operator ☐ Other:

☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant

15. Mailing Address:	4545 N Loop 1604 W						
	City	San Antonio	**State**	TX	**ZIP**	78249	**ZIP + 4**

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*
	budde54@yahoo.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(210)842-8686		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If "New Regulated Entity" is selected, a new permit application is also required.)*

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

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

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

Hope Center Church Addition

23. Street Address of the Regulated Entity: *(No PO Boxes)*	4545 N Loop 1604 W							
	City	San Antonio	**State**	TX	**ZIP**	78249	**ZIP + 4**	
24. County								

If no Street Address is provided, fields 25-28 are required.

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

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:			**28. Longitude (W) In Decimal:**		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

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.)*

Church for worship and educational purposes

34. Mailing Address:	4545 N Loop 1604 W							
	City	San Antonio	**State**	TX	**ZIP**	78249	**ZIP + 4**	
35. E-Mail Address:	hopecenterchurchsanantonio@gmail.com							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(210)764-3100		( ) -

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	☐ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Kyler Felux	41. Title:	Project Manager

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(210)818-3340		( ) -	feluxeng@gmail.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:	Hope Center Church	**Job Title:**	Pastor
Name *(In Print)*:	Nathan Scoggins	**Phone:**	(210) 764-3100
Signature:	Nathan Scoggins	**Date:**	7/14/25