OAK HAVEN KENTWOOD PH 2

Recharge Zone Plan Exception Request

PAPE-DAWSON ENGINEERS

Transportation | Water Resources | Land Development | Surveying | Environmental

PAPE-DAWSON ENGINEERS

February 27, 2025

Ms. Monica Reyes
Texas Commission on Environmental Quality (TCEQ)
Region 13
14250 Judson Road
San Antonio, Texas 78233-4480

Re: Oak Haven (Kenwood Ph 2)
Recharge Zone Exception Application

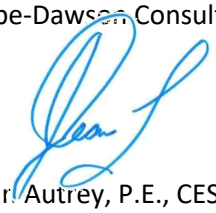
Dear Ms. Reyes:

Please find included herein the Oak Haven (Kenwood Ph 2)Recharge Zone Exception Application. This Recharge Zone Exception Application has been prepared in accordance with the Texas Administrative Code (30 TAC 213) and current policies for development over the Edwards Aquifer Recharge Zone.

This Recharge Zone Exception Application applies to an approximate 8.93-acre site as identified by the project limits. Please review the plan information for the items it is intended to address. If acceptable, please provide a written approval of the plan in order that construction may begin at the earliest opportunity.

Appropriate review fees ($500) and fee application are included. If you have questions or require additional information, please do not hesitate to contact me at your earliest convenience.

Sincerely,
Pape-Dawson Consulting Engineers, LLC



Jean Autrey, P.E., CESSWI
Program Manager

Attachments

P:\131\60\00\Word\Reports\WPAP-Exception\250224a1.docx

OAK HAVEN KENTWOOD PH 2

Recharge Zone Plan Exception Request

PAPE-DAWSON ENGINEERS

EDWARDS AQUIFER APPLICATION COVER PAGE (TCEQ-20705)

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 if not withdrawn the application will be denied and 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 to you:

- You can withdraw your application, and your fees will be refunded or credited for a resubmittal.
- 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 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 effected 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: Oak Haven (Kenwood Ph 2)						**2. Regulated Entity No.:**			
3. Customer Name: City of San Antonio						**4. Customer No.:** 600130652			
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):**		8.93	
9. Application Fee:	$500		**10. Permanent BMP(s):**			N/A			
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Bexar		**14. Watershed:**			Salado Creek			

Application Distribution

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

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

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	___	___	___
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)	✔ Edwards Aquifer Authority ___Trinity-Glen Rose	___Edwards Aquifer Authority	___Kinney	___EAA ___Medina	___EAA ___Uvalde
City(ies) Jurisdiction	___Castle Hills ___Fair Oaks Ranch ___Helotes ___Hill Country Village ___Hollywood Park ✔San Antonio (SAWS) ___Shavano Park	___Bulverde ___Fair Oaks Ranch ___Garden Ridge ___New Braunfels ___Schertz	NA	___San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. Jean Autrey P.E.
Print Name of Customer/Authorized Agent 2/28/2025
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 (TCEQ-0587)

General Information Form

Texas Commission on Environmental Quality

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

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

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

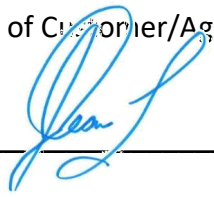
Signature

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

Print Name of Customer/Agent: Jean Autrey, P.E.

Date: 02/28/2025

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Oak Haven (Kenwood Ph 2)
2. County: Bexar
3. Stream Basin: Salado 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: Sean D. Strong, P.E.
Entity: City of San Antonio
Mailing Address: P.O. Box 839966
City, State: San Antonio, Texas Zip: 78283
Telephone: (210) 207-8037 FAX: (210) 207-7196
Email Address: Sean.Strong@sanantonio.gov

8. Agent/Representative (If any):

Contact Person: Jean Autrey, P.E.
Entity: Pape-Dawson Consulting Engineers, LLC.
Mailing Address: 2000 NW Loop 410
City, State: San Antonio, Texas Zip: 78213
Telephone: (210) 375-9000 FAX: (210) 375-9010
Email Address: JAutrey@pape-dawson.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.

From TCEQ's regional office, head north on Judson Road approximately 2.5 miles to Loop 1604. Travel west approximately 4.6 miles to US 281 and travel south. Take the turnaround at Donella Dr. and travel approx 0.1 miles to Parhaven Dr. The project site is located along Parhaven Dr, Parkstone Blvd and Copper Hill Dr

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: <u>when advised by TCEQ of site visit</u>

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

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

15. Existing project site conditions are noted below:

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

Prohibited Activities

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

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

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

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

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

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

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

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

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

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

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

Administrative Information

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

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

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

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

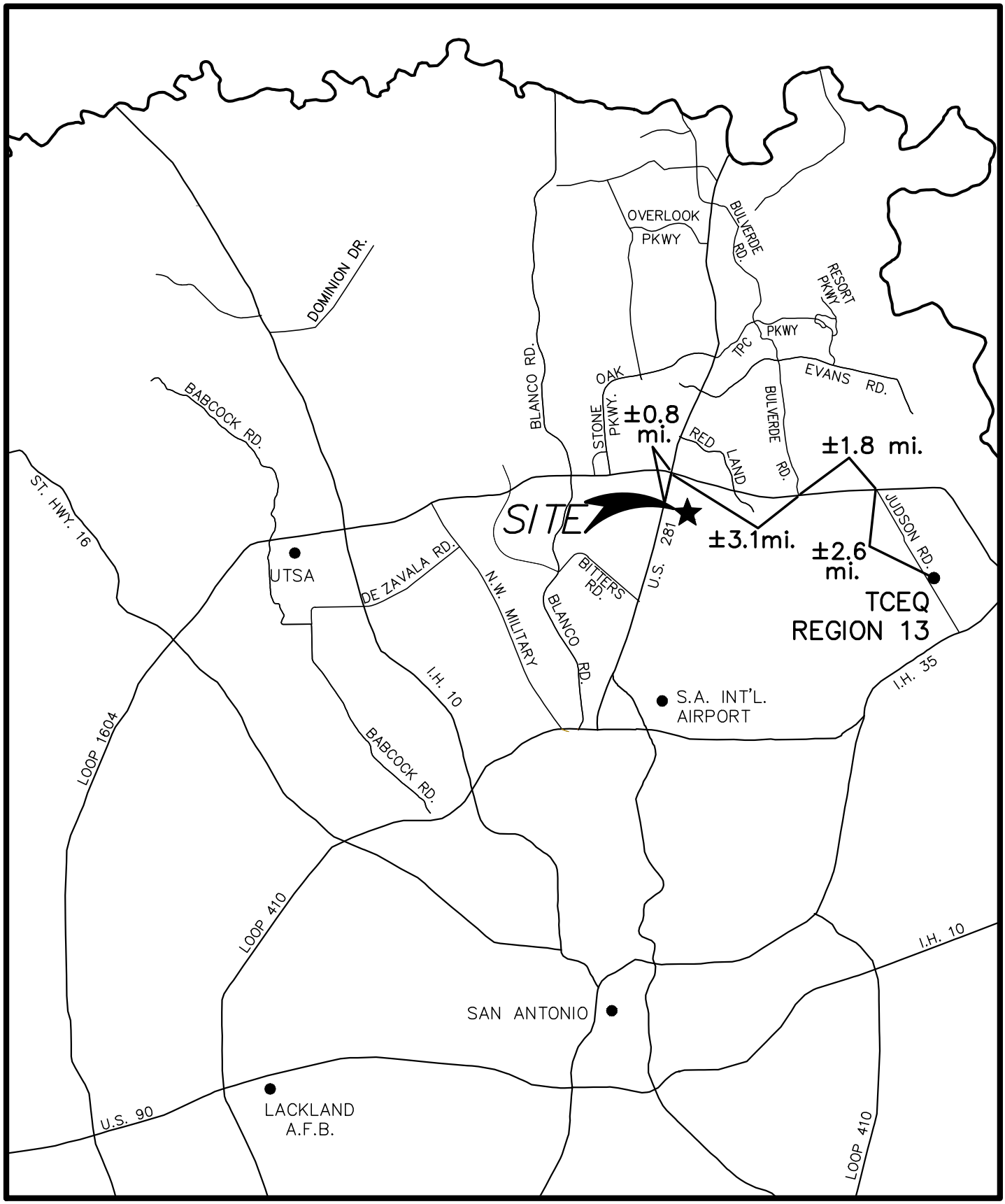
20. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies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

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

ATTACHMENT A

OAKHAVEN STREETS AND DRAINAGE
RECHARGE ZONE EXCEPTION REQUEST

N
NOT TO SCALE



ATTACHMENT A
Road Map

Pape-Dawson Engineers, Inc.

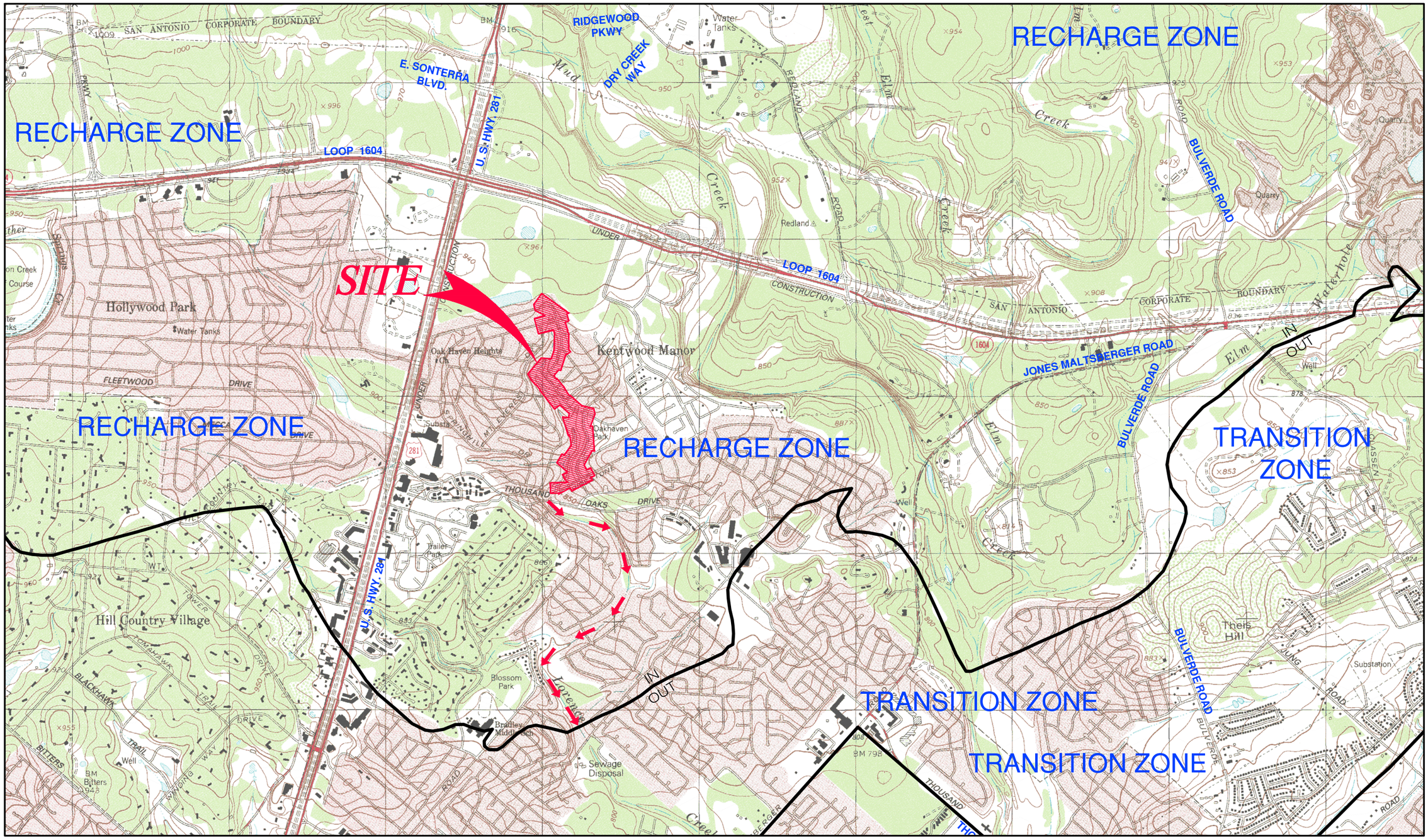
Date: Feb 28, 2025, 9:18am User ID: RobertJones
File: P:\131\60\00\Design\Environmental\Recharge Zone Exception Request\RM-643573.dwg

ATTACHMENT B

OAKHAVEN STREETS AND DRAINAGE
RECHARGE ZONE EXCEPTION REQUEST

N

SCALE: 1" = 2000'



Date: Feb 28, 2025, 9:19am User ID: RobertJones
File: P:\151\60\00\Design\Environmental\Recharge Zone Exception Request\00643573.dwg

GENERAL LOCATION MAP - LONGHORN, TX QUAD

DRAINAGE FLOW → →

Pape–Dawson Engineers, Inc.

USGS/EDWARDS RECHARGE ZONE MAP

ATTACHMENT B

ATTACHMENT C

OAK HAVEN (KENTWOOD PH 2)
Recharge Zone Exception Application

Attachment C – Project Narrative

The CoSA Oak Haven (Kentwood Ph 2) is a City of San Antonio roadway improvements project, located in the Oak Haven subdivision at the southeast quadrant of US Hwy 281 N and Loop 1604 intersection. The project is located within the city limits of San Antonio in Bexar County, Texas and lies entirely over the Edwards Aquifer Recharge Zone. While this single-family residential neighborhood predates the effective date of the rule no addition regulated impervious cover is proposed with this plan. No sensitive features were found in the Geologic Assessment.

The City of San Antonio is proposing to install storm drain within existing street to allow adequate drainage for the single-family residences. The total project area of 8.93 acres is within the boundaries of the existing streets, drain channels, and adjacent ROW.

Regulated activities proposed are demolition of street sections, grading, excavation for installation of storm drain and drainage improvements, utilities, and reconstruction of streets. Minimal street widen of approximately 1 foot within existing ROW will be required in some areas to tie into existing grades, not to exceed an additional ½ lane width allowed in 30 TAC 213.

As the proposed regulated activity of storm drain installation is within existing paved streets, an exception to the Water Pollution Abatement Plan (WPAP) is requested by submitting this application. No equivalent protection is required as there is no increase in the regulated impervious cover.

GEOLOGIC ASSESSMENT FORM (TCEQ-0585)

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

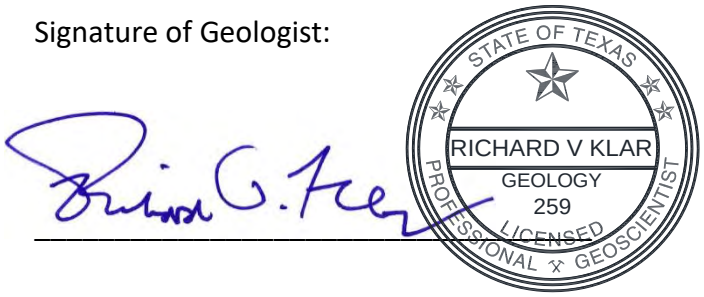
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: Richard V. Klar, P.G. Telephone: 210-699-9090

Date: May 17, 2024 Fax: 210-699-6426

Representing: Raba Kistner, Inc., TBPG Firm #50220 / TBPE Firm #3257 for Bain Medina Bain, Inc. (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



5/17/24

Regulated Entity Name: Oak Haven Area Street & Drainage (Kentwood Phase 2)

Project Information

1. Date(s) of Geologic Assessment was performed: April 10, 2024
2. Type of Project:

☐ WPAP ☐ AST

☒ SCS ☐ 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)
Crawford and Bexar stony soils (Cb)	D	Veneer to 3

**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 thickness 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" = 200'
   Site Geologic Map Scale: 1" = 200'
   Site Soils Map Scale (if more than 1 soil type): 1" = See ***Site Geologic Map***

9. Method of collecting positional data:

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

10. ☒ The project site 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 5 test holes present on the project site and the location is shown and and labeled. (Check all of the following that apply.)
- ☒ The test holes are not in use and have been properly abandoned.
- ☐ The well is 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

☒ 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.

ATTACHMENTS

ATTACHMENT A

GEOLOGIC ASSESSMENT TABLE
(TCEQ-0585-TABLE)

COMMENTS TO GEOLOGIC ASSESSMENT TABLE

SOIL PROFILE

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: ***Oak Haven Area Street & Drainage (Kentwood Phase 2), San Antonio, Texas*** *(**RKI** Project No. ASF23-058-00)*

LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
S-1	29°35'44.35"N	98°27'40.01"W	CD	5	Qal	9.2	3.1	1.0	NE-SW				C/F	6	11	✓			✓	Streambed
S-2	29°35'44.37"N	98°27'40.04"W	CD	5	Qal	7.1	2.5	0.8	E-W				C/F	6	11	✓			✓	Streambed
S-3	29°36'6.24"N	98°27'45.77"W	MB (SS)	30	Qal, Kep	1,017.0	3.0	~8-10					X	8	38	✓			✓	Hilltop, Streambed
S-4	29°36'3.90"N	98°27'44.66"W	MB (W)	30	Qal, Kep	3,680.0	2.0	~4-6					X	6	36	✓			✓	Hilltop, Streambed
S-5	29°36'6.12"N	98°27'47.92"W	MB (FOC)	30	Kep	40.0	2.0	~2-4					X	6	36	✓		✓		Hilltop
S-6	29°36'5.73"N	98°27'45.02"W	MB (FOC)	30	Kep	578.0	2.0	~2-4					X	6	36	✓		✓		Hilltop
S-7	29°36'3.11"N	98°27'46.83"W	MB (FOC)	30	Kep	130.0	2.0	~2-4					X	6	36	✓		✓		Hilltop
S-8	29°36'3.03"N	98°27'46.32"W	MB (FOC)	30	Kep	2,558.0	2.0	~2-4					X	6	36	✓			✓	Hilltop, Streambed
S-9	29°36'3.28"N	98°27'44.42"W	MB (TEL)	30	Kep	561.0	2.0	~2-4					X	8	38	✓		✓		Hilltop
S-10	29°36'3.47"N	98°27'43.99"W	MB (FOC)	30	Kep	63.0	2.0	~2-4					X	6	36	✓		✓		Hilltop
S-11	29°35'54.59"N	98°27'44.24"W	MB (SS)	30	Kep	1,364.0	3.0	~8-10					X	6	36	✓			✓	Hilltop, Streambed
S-12	29°35'53.24"N	98°27'45.47"W	MB (FOC)	30	Kep	109.0	2.0	~2-4					X	6	36	✓		✓		Hilltop
S-13	29°35'52.90"N	98°27'45.76"W	MB (TEL)	30	Kep	383.0	2.0	~2-4					X	6	36	✓		✓		Hilltop
S-14	29°35'34.15"N	98°27'39.07"W	MB (SS)	30	Kep	675.0	3.0	~8-10					X	8	38	✓		✓		Hilltop
S-15	29°35'32.49"N	98°27'39.84"W	MB (FOC)	30	Kep	416.0	2.0	~2-4					X	6	36	✓		✓		Hilltop
S-16	29°35'31.91"N	98°27'40.08"W	MB (TEL)	30	Kep	320.0	2.0	~2-4					X	6	36	✓		✓		Hilltop
S-17	29°35'30.68"N	98°27'38.81"W	MB (G)	30	Kep	108.0	2.0	~2-4					X	6	36	✓		✓		Hilltop
S-18	29°36'3.19"N	98°27'45.84"W	MB (PTH, C-1)	30	Kep	0.3		13.6					Y	6	36	✓		✓		Hilltop
S-19	29°35'52.75"N	98°27'46.11"W	MB (PTH, B-2)	30	Kep	0.3		10.0					Y	6	36	✓		✓		Hilltop
S-20	29°35'47.99"N	98°27'43.59"W	MB (PTH, B-3)	30	Kep	0.3		8.8					Y	6	36	✓		✓		Hilltop
S-21	29°35'44.43"N	98°27'39.88"W	MB (PTH, C-2)	30	Kep	0.3		19.2					Y	6	36	✓		✓		Hilltop
S-22	29°35'33.05"N	98°27'39.92"W	MB (PTH, B-4)	30	Kep	0.3		8.6					Y	6	36	✓		✓		Hilltop

*** DATUM:** ***NAD83***

Formation: Qal = Alluvium; Kep = Person Formation

Features: FOC = fiber optic cable; G - natural gas; PTH = plugged geotechnical test hole, designation; SS = sanitary sewer; TEL = telephone; W = potable water line.

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	***Granular bedding material for utility lines (Features S-3 through S-17)***
Y	***The test holes were plugged to ground surface with soil cuttings and granular bentonite.***

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

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

STATE OF TEXAS
RICHARD V. KLAR
GEOLOGY
259
LICENSED
PROFESSIONAL GEOSCIENTIST

Date: ***5/17/2024***

Sheet 1 of 1

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

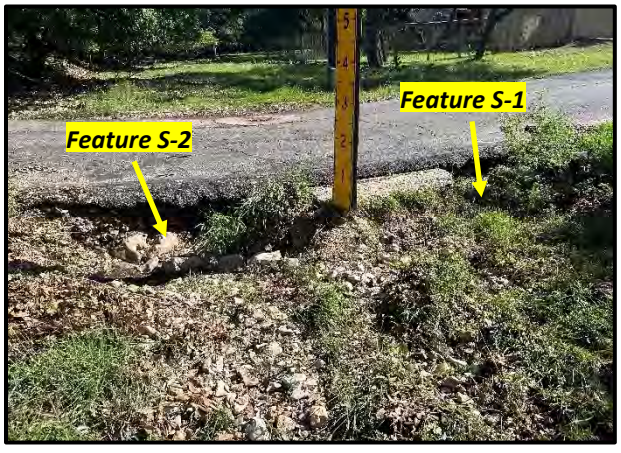
COMMENTS TO GEOLOGIC ASSESSMENT TABLE
Oak Haven Area Street & Drainage (Kentwood Phase 2)
San Antonio, Bexar County, Texas

The locations of the following features are indicated on the ***Site Geologic Map*** provided as ***Attachment D*** of this report.

Non-Karst Closed Depressions

Feature S-1. View to the northeast.

Feature S-2. View to the east.



Features S-1 and S-2 (CD) are located on the south side of Copper Hill Drive along the Lorence Creek Tributary within Study Area 2. These features were formed by erosional scour in the creek channel near the pavement edge. A flood gauge separates the features. The dimensions for ***Feature S-1*** are 9.2 x 3.1 x 1.0 feet in length, width and depth, respectively. The long axis of this feature is oriented NW-SE. ***Feature S-2*** measurements are 7.1 x 2.5 x 0.8 feet in length, width and depth, respectively. The long axis of this feature is oriented E-W.

The features are rimmed by weathered limestone float rock and are soil lined. At the time field activities were conducted, there was no evidence of direct or indirect capacity for rapid infiltration for either feature.

Manmade Features in Bedrock

Sanitary Sewer Utilities

The following San Antonio Water System (SAWS) sanitary sewer utility locations were identified based on review of utility plans provided in electronic format by Bain Medina Bain, Inc. (BMBI, 2024), in addition to observations of manholes and utility paint markings throughout the overall Project area (i.e., Study Areas 1, 2, and 3). Sanitary sewer trenches are estimated to be installed to depths approximately 8-10 feet, terminating in limestone bedrock.

Feature S-3 consists of a utility trench hosting an 8 to 10-inch sanitary sewer line within Study Area 1. The utility trench extends along the north and east sides of Parhaven Drive and extends to the west of Town Oak Drive and then to the south along Drainage Channel A. The length of the utility trench within the project area is approximately 1,017 feet.

Typical sanitary sewer manhole. View to the south along to Copper Hill Drive.

Feature S-11 consists of a utility trench hosting an 8-inch sanitary sewer line. The utility trench ties into at a manhole located at 2207 Parhaven Drive and extends to the southwest through the Project limits (i.e., Study Area 2) along Parhaven Drive to Copper Hill Drive, terminating at Drainage Channel B. The length of the utility trench within the Project area is approximately 1,364 feet.

Feature S-14 consists of a utility trench segment hosting an 8 inch sanitary sewer line within Study Area 3, which extends from Rest Haven Drive along the east side of Parkstone Boulevard. The length of the utility trench within the Project area is approximately 675 feet.

Water Utility

The following locations of the potable utility and associated 2 to 6 inch lateral owned by SAWS were identified based on review of utility plans provided in electronic format by BMBI (2024), in addition to observations of manways, fire hydrants, valves, and paint markings within the Project area (i.e., Study Areas 1, 2, and 3). The potable water trench is estimated to be installed to depths approximately 4-6 feet, terminating in limestone bedrock.

Feature S-4 follows the length of Parhaven Drive, extending along Copper Hill Drive to Parkstone Boulevard. The utility trench extends along Parkstone Boulevard beyond the Project area at Pipestone. The length of the utility trench within the Project area (i.e., Study Areas 1, 2, and 3) is approximately 3,680 feet.

Valve manway located parallel to Copper Hill Drive. View to the west.

Valve caps along Copper Hill Drive. View to the west.

<u>Communication Utilities (i.e., telephone and fiber optic cable)</u>

The following communication utility line locations owned by AT&T and others were based on review of the utility plans provided by BMBI (2024), in addition to observations of utility manways, junction and pedestal boxes, and paint markings throughout the Project area. The telephone and fiber optic cable trenches are estimated to be installed to depths approximately 2-4 feet, terminating in limestone bedrock.

Underground communications (AT&T) utility, parallel to Parkstone Boulevard. View to the south.

Fiber optic line running parallel to Copper Hill Drive toward Parhaven Drive.

Feature S-5 consists of a utility trench hosting a trench hosting a fiber optic cable. This utility trench is within the project limits (i.e., Study Area 1) on the south side of Parhaven Drive near the parcel addressed at 1918 Parhaven Drive. The length of the utility trench within the project area is approximately 40 feet.

Feature S-6 consists of a utility trench hosting a trench hosting a fiber optic cable. This utility trench extends along the north and east sides of Parhaven Drive extending to Town Oak Drive within Study Area 1. The length of the utility trench within the project area is approximately 578 feet.

Feature S-7 consists of a utility trench hosting a fiber optic cable. The utility trench extends into the Project Area (i.e., Study Area 1) along the north side of Town Oak Drive near the parcel addressed at 1923 Town Oak Drive. The length of the utility trench within the project area is approximately 130 feet.

Feature S-8 consists of a utility trench hosting a fiber optic cable is located on south side of Town Oak Drive (i.e., Study Area 1) extending to south along Parhaven Drive to Copper Hill Drive (i.e., Study Area 2) and terminating beyond the assessment area (i.e., Study Area 3) at along Parkstone Boulevard. The length of the utility trench within the project area is approximately 2,558 feet.

Feature S-9 consists of a utility trench hosting a telephone line within Study Area 1. The utility trench is located on east side of Parhaven Drive and extends to the southwest along Town Oak Drive. The length of the utility trench within the project area is approximately 561 feet.

Feature S-10 consists of a utility trench hosting a fiber optic cable within Study Area 1. This trench is located at the southeast corner at the intersection of the Parhaven Drive and Town Oak Drive. The length of the utility trench within the project area is approximately 63 feet.

Feature S-12 consists of a utility trench hosting a fiber optic cable. This trench extends along the southeast side of Parhaven Drive through the Project limits (i.e., Study Area 2) near the parcel addressed as 2215 Parhaven Drive and terminates adjacent to 2219 Parhaven Drive. The length of the utility trench within the project area is approximately 109 feet.

Feature S-13 consists of a utility trench hosting a telephone line located within Study Area 2. Similar to ***Feature S-12***, this trench extends along the southeast side through near the parcel addressed as 2215 Parhaven Drive and extends along Copper Hill Drive, terminating at 2218 Copper Hill Drive. The length of the utility trench within the project area is approximately 383 feet.

Feature S-15 consists of a utility trench hosting a fiber optic cable, which extends within Study Area 3 from Rest Haven Drive and along the east side of Parkstone Drive, terminating beyond the assessments area at Parkstone Boulevard and Pipestone Drive. The length of the utility trench within the project area is approximately 416 feet.

Feature S-16 consists of a utility trench hosting a telephone line within Study Area 3. This utility trench is located near the parcel addressed as 16411 Parkstone Boulevard and extends along the southwest side of the roadway through Study Area 3 and beyond at the assessment limits at the intersection of Pipestone Drive and Parkstone Boulevard. The length of the utility trench within the project area is approximately 320 feet.

Natural Gas Utility

The location of the following natural gas line owned by City Public Service (CPS) Energy is based on review of the utility plans (BMBI, 2024) and observed utility paint markings during field reconnaissance. The natural gas utility trench is estimated to be installed approximately 2-4 feet below the ground surface, terminating in limestone bedrock.

Feature S-16 consists of a utility trench hosting a 4-inch natural gas line located within Study Area 3 along the intersection at Pipestone Drive and Parkstone Boulevard. The length of the utility trench within the project area is approximately 108 feet.

Gas line paint markings (i.e., yellow). View to the northwest from Pipestone Drive.

Test Holes

Features S-18 through S-22 consist of five test holes drilled from August 9 to 11, 2023 for a geotechnical engineering study prepared by **Raba Kistner, Inc (RKI)**. The borings were installed to evaluate soil conditions within the pavement area for the proposed roadway reconstruction low water crossing improvements and installation of an underground storm drain system. These test holes were reportedly installed to depths on the order of 8.6-19.2 feet below ground surface. Based on our interpretation of the boring log data, the borings were terminated in the Person Formation (Kep). Based on the referenced geotechnical boring logs the test holes were effectively plugged and abandoned following completion of drilling activities using soil cuttings with granular bentonite.

SOIL PROFILE
Oak Haven Area Street & Drainage (Kentwood Phase 2)
San Antonio, Bexar County, Texas

SOIL SERIES	THICKNESS ON SITE	DESCRIPTION
Crawford	**Veneer to 3 feet**	***Crawford and Bexar stony soils (Cb):*** These soils occur as large areas and form a nearly continuous belt extending to the west from the northeast portion of Bexar County to south of Helotes. Crawford Soils comprise approximately 51% of the series. The surface layer of Crawford soils is comprised of dark gray to dark reddish-brown, non-calcareous clay and is typically 8-9 inches thick. The subsoil contains chert fragments and limestone flags. Hard limestone below depth of 24-36 inches. Bexar soils comprise approximately 36% of the series. The surface layer is comprised of cherty clay loam and is on the order of 14-22 inches in thickness. The subsoil is cherty clay and is approximately 6-14 inches thick.

The preceding table was prepared based on *Soil Survey of Bexar County, Texas (1962, reissued June 1991)* in addition to field observations. As presented on the attached ***Site Geologic Map***, native soils mapped at the SITE are classified as Crawford and Bexar stony soils (Cb). These soils are weakly-developed and relatively thin, occurring over weathered limestone units of the Person Formation (Kep). Cb soils have the ability to impede rather than transmit fluids to the subsurface. Cb soils have a measured permeability of 1.0 to 1.5 in./hr. and are described as “slow”. The Crawford Series is further described as having a high shrink-swell potential.

Reported test hole data (**Raba Kistner, Inc.**, 2024) indicates the presence of 3.5 feet of dark brown clay overlying the limestone rock units of the Kep in the upland area (i.e., Study Area 1) of the Project. Alluvial soils consisting of dark brown to brown clay ranging in thickness from 1 foot to 3.25 feet and approximately 6 feet of reddish-tan sand overlying the Kep is reported in proximity to the creek channels within Study Areas 1 and 3.

ATTACHMENT B

STRATIGRAPHIC COLUMN

STRATIGRAPHIC COLUMN
Oak Haven Area Street & Drainage (Kentwood Phase 2)
San Antonio, Bexar County, Texas

STRATIGRAPHIC FORMATION	THICKNESS	DESCRIPTION
Alluvium (Qal)	Variable, ~1–6 feet	Unit consists of floodplain deposits comprised of clay, sand, silt, and gravel. ***Exposed in the Lorence Creek Tributary (i.e., Drainage Channels A and B).***
Edwards Limestone (Ked) Person Formation (Kep)	180-224 feet	
Cyclic and Marine Member, undivided	*80-100 feet*	Unit consists of massive mudstone to packstone; *miliolid* grainstone; and chert. Identified in the field by cycles of massive beds to relatively thin beds. ***Limited exposures and float rock were observed in open areas (i.e., not landscaped) throughout the south portion of the Project, within Oak Haven Park, and along the southern segments of the Lorence Creek Tributary.***
Leached and Collapsed Member, undivided	*50-60 feet*	Unit consists of highly altered crystalline limestone, chalky mudstone and chert. Identified in the field by boxwork voids with neospar and travertine frame. ***Not exposed. Inferred to be present in the shallow subsurface within the north portion of the Project.***
Regional Dense Member	*20–24 feet*	Unit consists of dense, argillaceous mudstone. Identified in the field by wispy iron-oxide stains. ***Not exposed. Inferred to be present in the shallow subsurface.***

Note: Stratigraphic Column for the SITE is adapted from Stein and Ozuna (1996) and Collins (2000).

ATTACHMENT C

NARRATIVE OF PROJECT SPECIFIC GEOLOGY

SITE GEOLOGY NARRATIVE
Oak Haven Area Street & Drainage (Kentwood Phase 2)
San Antonio, Bexar County, Texas

Introduction

The following is a project-specific discussion of existing geological conditions and potential recharge features identified for the Oak Haven Area Street and Drainage improvements project. The subject improvements will include street reconstruction, driveway upgrades, and installation of an underground storm drain system consisting of 24-, 30-, and 36-inch reinforced concrete pipes (RCP) with associated inlets. In addition, single and multi-box culverts will be installed at low water crossings associated with the Lorence Creek Tributary channels. The improvements will also include rehabilitation of water and sanitary sewer utility line segments, in addition to installation and rehabilitation of the sanitary sewer manholes.

This assessment was performed by **Raba Kistner, Inc. (RKI)** for Bain Medina Bain, Inc., pursuant to applicable Edwards Aquifer Protection Program Rules as specified in *Title 30 of the Texas Administrative Code, Section 213 (30 TAC §213*, *effective April 24, 2008).* This assessment report is in the format required by the Texas Commission on Environmental Quality (TCEQ) for the Geologic Assessment portion of a Sewage Collection System (SCS) Plan submittal, and was prepared in accordance with the revised *Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones (TCEQ-0585)*, which are applicable to submittals received by the TCEQ after October 1, 2004. This geologic assessment report documents conditions observed by **RKI** within the Project boundaries on April 10, 2024.

Site Description

Site Location. The subject project is contained within an existing residential neighborhood (i.e., Oak Haven Heights/Kenwood Manor), which is located east of Highway 281 between Henderson Pass and Thousand Oaks Drive in north San Antonio, Bexar County, Texas (hereinafter referred to as Project). Based on review of official maps published by the Texas Commission on Environmental Quality (TCEQ), the Project is fully located within the Edwards Aquifer Recharge Zone (EARZ). As such, the performance of a geologic assessment is required to facilitate construction activities for the planned sanitary sewer utility in accordance with applicable provisions set forth in the EAPP rules as specified in *Title 30 of the Texas Administrative Code, Section 213 (30 TAC 213, effective April 24, 2008).* The locations of the sanitary sewer utility were provided by Bain Medina Bain, Inc. (BMBI) on March 26, 2024.

Planned improvements will include the rehabilitation of the sanitary sewer utility, which comprises approximately 2,254 linear feet. For purposes of this Geologic Assessment, the SCS segments are grouped within the following Study Areas: (i) Area 1 is located along Parhaven Drive, north of Town Oak Drive; (ii) Area 2 includes the southmost portion of Parhaven Drive and Copper Hill Drive northwest of Parkstone Boulevard, in addition to a minimal portion of Drainage Channel A; (iii) Area 3 is located along Parkstone Boulevard between Rest Haven and Pipestone Drive. In accordance with TCEQ requirements, special attention was paid to the proposed alignment and surrounding 50-foot buffer zone in conjunction with Geologic Assessment activities. The proposed sewer segments and associated buffer zone for this project are depicted on the attached ***Site Geologic Maps***.

Topography and Drainage. Topographic contours on the U.S. Geological Survey (USGS) 7.5-minute topographic map (i.e., Longhorn Quadrangle, USGS, 2022) was reviewed to evaluate the general surface conditions and drainage patterns**.** The Project area generally consists of gently sloping hilltop topography transected by drainages associated with an unnamed tributary to Lorence Creek. Based on topographic information reviewed, the ground surface elevations range from approximately 930 to 875 feet above mean sea level (amsl) at the north (i.e., Study Area 1) and south (i.e., Study Area 3) portions of the Project, respectively. As depicted on ***Site Geologic Map***, a low elevation of approximately 860 feet amsl is present near the central portion of the Project, associated with a segment of the Lorence Creek tributary channel (i.e., Drainage Channel B). A review of Flood Insurance Rate Map (FEMA, 2010) indicates that no portion of the assessment areas located within the 100-year floodplain.

Historical Property Use. Although research pertaining to past Project operations and historical land use activities was beyond the scope of this assessment, historical aerial imagery was reviewed to evaluate historical land use and the presence of lineations that could indicate the presence of normal faulting. The following aerial photographs from United Aerial Mapping (UAM) and Google Earth™ were reviewed: 1967, 1979, 1981, 1985, 1995, 2002 - 2006, 2008, 2010, and 2012 - 2024. The aerial images indicate that the Project area has remained an undeveloped part of the surrounding residential subdivision since 1967. The Project conditions appear essentially unchanged over this timeframe with the exception of additional residential structures and landscaping improvements. The following photographs depict existing conditions.

View to the northeast at Parhaven and Hill Rise intersection.

View to the west along Copper Hill Dr. near Parkstone Blvd.

View to the northwest of Parkstone Blvd. from Pipestone.

Undeveloped portion of Oak Haven Park.

Classification of Recharge Features: As further described herein, a total of 22 recharge features were identified within Project boundaries including non-karst closed depressions and manmade features (i.e., communications, water, sanitary sewer, and gas utilities, and former geotechnical test holes). The significance of these features was assessed using definitions and guidance provided in *Instructions to Geologists (TCEQ-0585-Instructions, revised October 1, 2004)*. All features within the SITE that met the criteria presented in this reference were mapped. The characteristics of all mapped features and the assessments of these features, as defined by the TCEQ, are presented in the attached ***Geologic Assessment Table (TCEQ-0585)***.

Stratigraphy

As presented in the attached ***Stratigraphic Column***, information pertaining to the lithologies and thickness of geologic units underlying the Project area was primarily taken from Collins (2000) and Stein and Ozuna (1996). Collective published data referenced that the majority of the Project is underlain by the Upper Edwards Limestone (i.e., Person Formation [Kep]) although portions of Drainage Channels A and B host Quaternary Alluvium (Qal) deposits associated with the Lorence Creek Tributary. The Kep, which comprises the uppermost portion of the Edwards Limestone, is commonly subdivided into three discrete members as follows: (i) Cyclic and Marine Member, undivided (Kpcm) – mudstone to packstone, grainstone, and chert; (ii) Leached and Collapsed Member, undivided (Kplc) - unit includes crystalline limestone, mudstone to grainstone, and chert; and (iii) Regional Dense Member - unit consists of dense, carbonate mudstone.

Outcrop of Kep along the east side of Parkstone Boulevard.

Float rock along the northwest section of Copper Hill Drive.

Past geological mapping studies for the Project vicinity conducted by Stein and Ozuna (1996) indicate that the geologic formation underlying the north and south portions (i.e., Study Areas 1 and 3, respectively) of the Project is the Kpcm. The thickness of the Kpcm unit ranges between 80 and 100 feet. The central portion of the Project area (i.e., Study Area 2) along Copper Hill Drive, south of Sugar Crest and a small portion of Parkstone Boulevard is mapped as Kplc. The thickness of the Kplc unit ranges between 50 and 60 feet. Due to impervious cover and landscaping improvements, limited exposures of the Kpcm were observed along the east side of Parkstone Boulevard and within Oak Haven Park. No direct evidence of the Kplc was identified in conjunction within **RKI**'s field mapping effort.

Structure

This Project is located within the Balcones Fault Zone, which possesses a distinct structural trend. This zone generally consists of a northeast-southwest trending, *en echelon* normal fault system, which juxtaposes Upper Cretaceous lithologies in the southeast with Lower Cretaceous lithologies in the northwest. As a result of this larger-scale, regional faulting, minor internal fault sequences and fractures exist within this zone which follow the same structural trend and accommodate localized displacement.

Based on review of published maps, two inferred faults were mapped (Stein and Ozuna, 1996) within the Project. Based on a more recent mapping effort by Collins (2000), there are no normal faults crossing the Project. Although subtle indications of lineations are evident in the 1967 orthoimagery (UAM), no evidence of normal faulting was identified within the Project boundaries during field reconnaissance (i.e., changes in soil or rock type, fractures, lines of vegetation, etc.).

Karst Features

Although patchy exposures of limestone bedrock were identified within Oak Haven Park and along Drainage Channels A and B, the results of field mapping activities within Project boundaries did not reveal the presence of any features that could be attributed to karstification of the underlying limestone terrain. Soil cover of approximately 3 to 3.5 feet is generally present throughout the upland portions of the Project area,

but ranging in 1 to 1.75 feet in thickness in proximity to the drainage channels as indicated by geotechnical boring log data.

Non-Karst Closed Depressions

Features S-1 and S-2 are located on the south side of Copper Hill Drive near the pavement's edge within Drainage Channel B (i.e., Study Area 2). These features were formed by erosional scour. The non-karst closed depressions were observed to be bordered with weathered limestone float rock and soil lined**.** No ponding of water was observed.

The non-karst closed depression features have a low potential of transmitting fluids to the subsurface and are therefore considered not sensitive based upon the point assignment criteria set forth in the ***Geologic Assessment Table (TCEQ-0585)*** and professional judgment.

Manmade Features

As presented on the ***Site Geologic Maps***, a total of 20 manmade features were identified that may potentially serve to enhance the transmission of surface runoff to the subsurface. The features consist of communications, potable water, sanitary sewer, and natural gas utilities, in addition to a storm drain system and plugged test holes, which meet the criteria for assessment as manmade features in bedrock. Information regarding the locations of the existing utility trenches was gleaned from utility plans provided in electronic form BMBI (2024), in addition to field observations of hydrants, manway access points or valves, junction boxes, and utility paint markings. The specific utility trench features identified are listed below:

> ***Features S-3, S-11, and S-14*** consist of sanitary sewer utility trenches owned by San Antonio Water System (SAWS) located within Study Areas 1, 2, and 3.
> ***Feature S-4*** consists of a potable water utility trench owned by SAWS located within Study Areas 1, 2, and 3.
> ***Features S-5, S-6, S-7, S-8, S-10, S-12, and S-15*** consist of fiber optic cable utility trenches located within Study Areas 1, 2, and 3.
> ***Features S-9, S-13, and S-16*** consist of telephone utility trenches located within Study Areas 1, 2, and 3.
> ***Feature S-17*** consists of a natural gas utility trench owned by City Public Service (CPS) Energy located within Study Area 3.

Although not directly observable, it is inferred that the trenches for these subgrade installations are backfilled in accordance with standard construction practices that include the use of structural fill soils (e.g., base course materials, limestone gravel, compacted clay soils, etc.) overlain by native or fill soils, depending upon location and surface improvements. The trenches were not observed in conjunction with any naturally-occurring recharge features. Although the backfilled trenches may exhibit somewhat greater relative infiltration rate than the surrounding soil/rock strata underlying the project boundaries, these manmade features are collectively classified as not sensitive, having a low potential of preferentially transmitting fluids into the Edwards Aquifer. This classification is based upon the point assignment criteria presented in the ***Geologic Assessment Table (TCEQ-0585)*** and professional judgment.

Features S-18 through S-22 are geotechnical soil borings installed within Study Areas 1, 2, and 3 by **RKI** from August 9-11, 2023 to evaluate soil and rock conditions as necessary to develop structural and pavement recommendations for the proposed commercial building development. These borings were reportedly drilled to depths on the order of 8.6 to 19.2 feet, terminating in limestone bedrock. No shallow groundwater was observed during drilling operations. These features were properly plugged and are no longer existing, and therefore collectively classified as not sensitive. The former locations of these features are included on the ***Site Geologic Map***.

Potential for Fluid Migration to the Edwards Aquifer

Based on our review of Project geology, topography and drainage conditions, and the results of our mapping efforts, the overall potential for fluid movement (i.e., surface-derived flow) to the Edwards Aquifer via infiltration is considered to be low to moderate. The following assessment findings support this conclusion:

- The Project is underlain by the Crawford and Bexar soils, with an average thickness of 3 feet based on published data and field observations, and are classified as Hydrologic Soil Group D, having a high runoff potential when thoroughly wet and slow to moderate infiltration rate. Due to the lower permeability of surface soils and presence of impervious cover associated with the paved roadways and landscaping improvements throughout the residential area, there is limited exposure of limestone bedrock within the majority of the Project area, reducing the potential for rapid infiltration.

- No features were identified within the Study Areas 1 through 3 encompass the planned SCS improvements that can be attributed to karstification of limestone terrain. There were no natural karst features observed in the vicinity of any the observed manmade features including the existing utility corridors, which would increase the potential for rapid infiltration of storm water.

- Manmade (geotechnical test holes) features were installed throughout the Project, but effectively plugged to ground surface. Collectively, these and the trenches associated with existing underground utilities are classified as not sensitive based on application of point assignment criteria and professional judgment.

References

Bain Medina Bain, Inc. (BMBI), 2024,*70pct Utility Layout OAK Haven 2024-03-26.pdf* and a Microstation CAD file, *OH-EX-UT 2024-03-28.dgn*, provided to **RKI** via email correspondence on March 26, 2024 and April 22, 2024, respectively.

Barnes, V. L., 1983, Geologic Atlas of Texas San Antonio Sheet; Bureau of Economic Geology, The University of Texas at Austin, Austin, Texas.

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ATTACHMENT D

FEATURE POSITION TABLE
(GPS COORDINATES)

PROJECT GEOLOGIC MAP (NORTH SECTION), SHEET 1

PROJECT GEOLOGIC MAP (SOUTH SECTION), SHEET 2

FEATURE POSITION TABLE

Oak Haven Area Street & Drainage (Kentwood Phase 2)

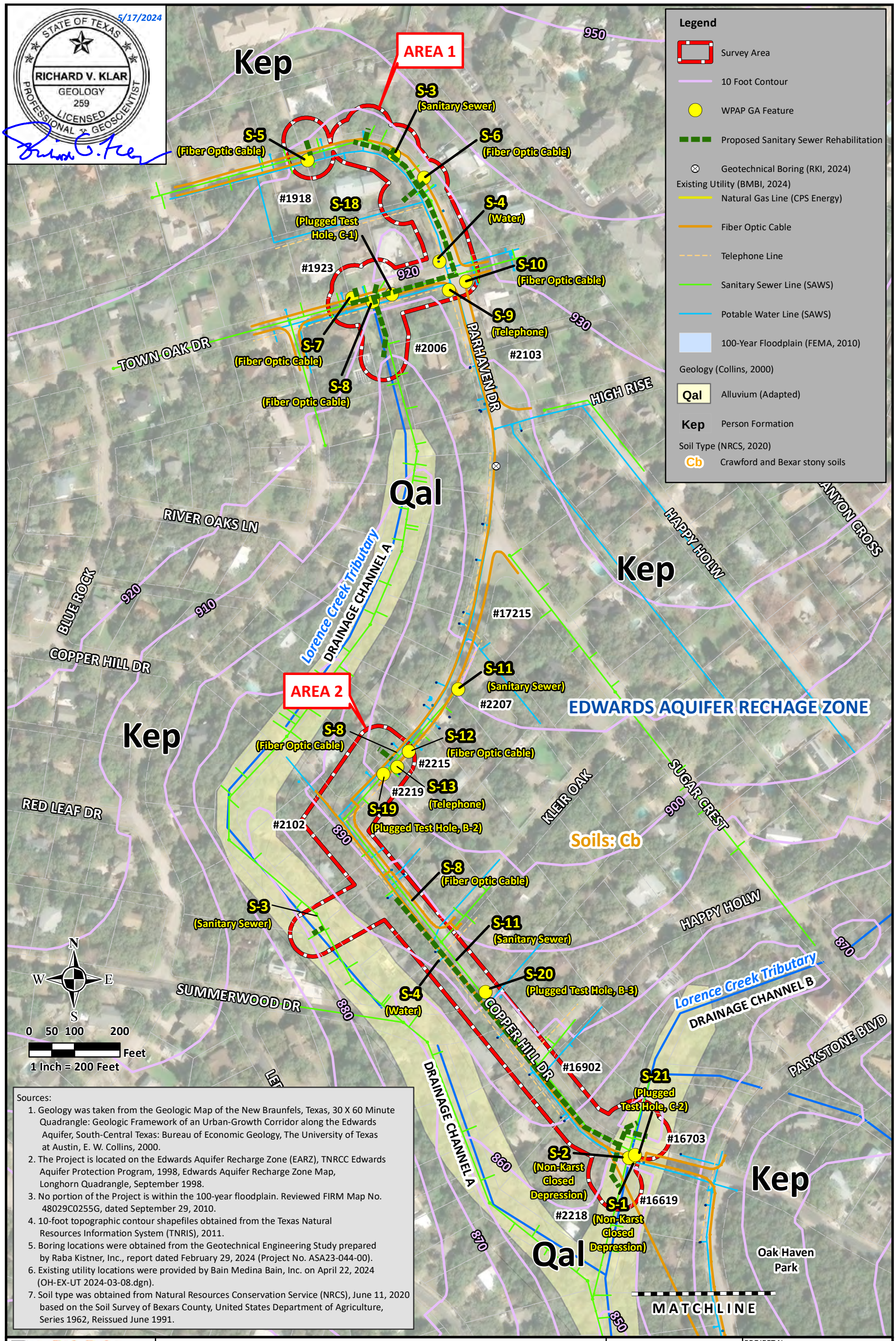
San Antonio, Texas

RKI Project No. ASF23-058-00

Feature Designation	Feature Type	Date Collected	North Latitude	West Longitude	UTM Northing (meters)	UTM Easting (meters)
S-1	Non-karst Closed Depression	4/10/2024	29°35'44.35"N	98°27'40.01"W	3274103	552185
S-2	Non-karst Closed Depression	4/10/2024	29°35'44.37"N	98°27'40.04"W	3274104	552183
S-3	Manmade Feature in Bedrock (Sanitary Sewer Utility Line)	4/10/2024	29°36'6.24"N	98°27'45.77"W	3274776	552026
S-4	Manmade Feature in Bedrock (Potable Water Utility Line)	4/10/2024	29°36'3.90"N	98°27'44.66"W	3274704	552056
S-5	Manmade Feature in Bedrock (Fiber Optic Cable Utility Line)	4/10/2024	29°36'6.12"N	98°27'47.92"W	3274772	551968
S-6	Manmade Feature in Bedrock (Fiber Optic Cable Utility Line)	4/10/2024	29°36'5.73"N	98°27'45.02"W	3274760	552046
S-7	Manmade Feature in Bedrock (Fiber Optic Cable Utility Line)	4/10/2024	29°36'3.11"N	98°27'46.83"W	3274680	551998
S-8	Manmade Feature in Bedrock (Fiber Optic Cable Utility Line)	4/10/2024	29°36'3.03"N	98°27'46.32"W	3274677	552012
S-9	Manmade Feature in Bedrock (Telephone Utility Line)	4/10/2024	29°36'3.28"N	98°27'44.42"W	3274685	552063
S-10	Manmade Feature in Bedrock (Fiber Optic Cable Utility Line)	4/10/2024	29°36'3.47"N	98°27'43.99"W	3274691	552074
S-11	Manmade Feature in Bedrock (Sanitary Sewer Utility Line)	4/10/2024	29°35'54.59"N	98°27'44.24"W	3274418	552069
S-12	Manmade Feature in Bedrock (Fiber Optic Cable Utility Line)	4/10/2024	29°35'53.24"N	98°27'45.47"W	3274376	552036
S-13	Manmade Feature in Bedrock (Telephone Utility Line)	4/10/2024	29°35'52.90"N	98°27'45.76"W	3274365	552028
S-14	Manmade Feature in Bedrock (Sanitary Sewer Utility Line)	4/10/2024	29°35'34.15"N	98°27'39.07"W	3273789	552211
S-15	Manmade Feature in Bedrock (Fiber Optic Cable Utility Line)	4/10/2024	29°35'32.49"N	98°27'39.84"W	3273738	552190
S-16	Manmade Feature in Bedrock (Telephone Utility Line)	4/10/2024	29°35'31.91"N	98°27'40.08"W	3273720	552184
S-17	Manmade Feature in Bedrock (Natural Gas Utility Line)	4/10/2024	29°35'30.68"N	98°27'38.81"W	3273682	552218
S-18	Manmade Feature in Bedrock (Plugged Geotechnical Test Hole, C-1)	8/11/2023	29°36'3.19"N	98°27'45.84"W	3274682	552025
S-19	Manmade Feature in Bedrock (Plugged Geotechnical Test Hole, B-2)	8/9/2023	29°35'52.75"N	98°27'46.11"W	3274361	552019
S-20	Manmade Feature in Bedrock (Plugged Geotechnical Test Hole, B-3)	8/10/2023	29°35'47.99"N	98°27'43.59"W	3274215	552087
S-21	Manmade Feature in Bedrock (Plugged Geotechnical Test Hole, C-2)	8/10/2023	29°35'44.43"N	98°27'39.88"W	3274105	552188
S-22	Manmade Feature in Bedrock (Plugged Geotechnical Test Hole, B-4)	8/11/2023	29°35'33.05"N	98°27'39.92"W	3273755	552188

NOTES:

1. Geographic coordinates are presented Degrees, Minutes, Decimal Seconds
2. Reference Datum is NAD 83
3. Data were collected utilizing a Garmin GPS 60cx Global Positioning System.
4. Horizontal Accuracy: RMS Value < 3 meter ground resolution
5. GPS data was collected by Anthony Krupa (**RKI** Project Professional).
6. Plugged test hole GPS data was collected by R. Boatright (**RKI** Project Professional).
7. GPS coordinates correlate to the points on the map for each feature.



Sources:

1. Geology was taken from the Geologic Map of the New Braunfels, Texas, 30 X 60 Minute Quadrangle: Geologic Framework of an Urban-Growth Corridor along the Edwards Aquifer, South-Central Texas: Bureau of Economic Geology, The University of Texas at Austin, E. W. Collins, 2000.
2. The Project is located on the Edwards Aquifer Recharge Zone (EARZ), TNRCC Edwards Aquifer Protection Program, 1998, Edwards Aquifer Recharge Zone Map, Longhorn Quadrangle, September 1998.
3. No portion of the Project is within the 100-year floodplain. Reviewed FIRM Map No. 48029C0255G, dated September 29, 2010.
4. 10-foot topographic contour shapefiles obtained from the Texas Natural Resources Information System (TNRIS), 2011.
5. Boring locations were obtained from the Geotechnical Engineering Study prepared by Raba Kistner, Inc., report dated February 29, 2024 (Project No. ASA23-044-00).
6. Existing utility locations were provided by Bain Medina Bain, Inc. on April 22, 2024 (OH-EX-UT 2024-03-08.dgn).
7. Soil type was obtained from Natural Resources Conservation Service (NRCS), June 11, 2020 based on the Soil Survey of Bexars County, United States Department of Agriculture, Series 1962, Reissued June 1991.

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SITE GEOLOGIC MAP (NORTH SECTION)

OAK HAVEN AREA STREET AND DRAINAGE
(KENTWOOD PHASE 2)
±3,475 LINEAR FEET (PROPOSED STORM DRAIN)
SAN ANTONIO, BEXAR COUNTY, TEXAS

REVISIONS:

No.	DATE	DESCRIPTION

PROJECT No.:	ASF23-058-00
ISSUE DATE:	5/17/2024
DRAWN BY:	LAW
CHECKED BY:	AJK
REVIEWED BY:	RVK

NOTE: This Drawing is Provided for Illustration Only, May Not be to Scale and is Not Suitable for Design or Construction Purposes

5/17/2024

STATE OF TEXAS
RICHARD V. KLAR
GEOLOGY
259
LICENSED
PROFESSIONAL GEOSCIENTIST

MATCHLINE

EDWARDS AQUIFER
RECHAGE ZONE

Oak Haven
Park

Soils: Cb

Kep

#16515

MOUNT JOY DR

850

890

#16503

AREA 3

REST HAVEN

S-4
(Water)

S-14
(Sanitary Sewer)

Qal

S-23
(Plugged Test Hole, B-4)

#16411

#16418

S-8
(Fiber Optic Cable)

S-15
(Fiber Optic Cable)

LEDGESTONE DR

S-16
(Telephone)

S-17
(Gas)

#2104

PIPESTONE

#2034

PARKSTONE BLVD

880

900

LEDGE OAKS

LEDGE SAGE

LEDGE VW

PIPESTONE

LEDGE VW

870

CARDIGAN HILL

860

Qal

THOUSAND OAKS

Qt

Kep

840

830

BROKEN OAK DR

N
W
E
S

0 50 100 200
Feet
1 Inch = 200 Feet

ADOBE TRL

Kep

820

HEIMER RD

Legend

- Survey Extent
- 10 Foot Contour
- WPAP GA Feature
- Proposed Sanitary Sewer Rehabilitation
- Geotechnical Boring (RKI, 2024)
- Natural Gas Line (CPS Energy)

Existing Utility (BMBI, 2024)

- Fiber Optic Cable
- Telephone Line
- Sanitary Sewer Line (SAWS)
- Potable Water Line (SAWS)
- 100-Year Floodplain (FEMA, 2010)

Geology (Collins, 2000)

- Qal — Alluvium (Adapted)
- Qt — Terrace Deposits (Adapted)
- Kep — Person Formation

Soil Type (NRCS, 2020)

- Cb — Crawford and Bexar stony soils

Sources:

1. Geology was taken from the Geologic Map of the New Braunfels, Texas, 30 X 60 Minute Quadrangle: Geologic Framework of an Urban-Growth Corridor along the Edwards Aquifer, South-Central Texas: Bureau of Economic Geology, The University of Texas at Austin, E. W. Collins, 2000.
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SITE GEOLOGIC MAP (SOUTH SECTION)

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(KENTWOOD PHASE 2)
±3,475 LINEAR FEET (PROPOSED STORM DRAIN)
SAN ANTONIO, BEXAR COUNTY, TEXAS

REVISIONS:

No.	DATE	DESCRIPTION

PROJECT No.:	ASF23-058-00
ISSUE DATE:	5/17/2024
DRAWN BY:	LAW
CHECKED BY:	AJK
REVIEWED BY:	RVK

SHEET 2 OF 2

NOTE: This Drawing is Provided for Illustration Only, May Not be to Scale and is Not Suitable for Design or Construction Purposes

RECHARGE AND TRANSITION ZONE EXCEPTION REQUEST FORM (TCEQ-0628)

Recharge and Transition Zone Exception Request Form

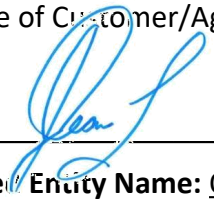
Texas Commission on Environmental Quality
30 TAC §213.9 Effective June 1, 1999

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 **Recharge and Transition Zone Exception Request Form** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Jean Autrey, P.E.
Date: 02/28/2025
Signature of Customer/Agent:



Regulated Entity Name: Oak Haven (Kenwood Ph 2)

Exception Request

1. ☒ **Attachment A - Nature of Exception**. A narrative description of the nature of each exception requested is attached. All provisions of 30 TAC §213 Subchapter A for which an exception is being requested have been identified in the description.
2. ☒ **Attachment B - Documentation of Equivalent Water Quality Protection**. Documentation demonstrating equivalent water quality protection for the Edwards Aquifer is attached.

Administrative Information

3. ☒ 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.
4. ☒ The applicant understands that no exception will be granted for a prohibited activity in Chapter 213.
5. ☒ The applicant understands that prior approval under this section must be obtained from the executive director for the exception to be authorized.

ATTACHMENT A

OAK HAVEN (KENTWOOD PH 2)
Recharge Zone Exception Application

Attachment A – Nature of Exception

The CoSA Oak Haven (Kentwood Ph 2) is a City of San Antonio roadway improvements project, located in the Oak Haven Heights subdivision at the southeast quadrant of US Hwy 281 N and Loop 1604 intersection. The project is located within the city limits of San Antonio in Bexar County, Texas and lies entirely over the Edwards Aquifer Recharge Zone. While this single-family residential neighborhood predates the effective date of the rule no addition regulated impervious cover is proposed with this plan. No sensitive features were found in the Geologic Assessment.

The City of San Antonio is proposing to install storm drain within existing streets to allow adequate drainage for the single-family residences. The total project area of 8.93 acres is within the boundaries of the existing streets, drain channels, and adjacent ROW. The three primary streets affected are Parhaven Dr., Parkstone Blvd, and Copper Hill Dr., San Antonio TX 78232

Regulated activities proposed are demolition of street sections, grading, excavation for installation of storm drain and drainage improvements, utilities, and reconstruction of streets. Minimal street widen of approximately 1 foot within existing ROW will be required in some areas to tie into existing grades, not to exceed an additional ½ lane width allowed in 30 TAC 213.

As the proposed regulated activity of storm drain installation is within existing paved streets, an exception to the Water Pollution Abatement Plan (WPAP) is requested by submitting this application. No equivalent protection is required as there is no increase in the regulated impervious cover.

ATTACHMENT B

OAK HAVEN (KENTWOOD PH 2)
Recharge Zone Exception Application

Attachment B – Equivalent Water Quality Protection

The CoSA Oak Haven (Kentwood Ph 2) is a City of San Antonio roadway improvements project, located in the Oak Haven subdivision at the southeast quadrant of US Hwy 281 N and Loop 1604 intersection. The project is located within the city limits of San Antonio in Bexar County, Texas and lies entirely over the Edwards Aquifer Recharge Zone. While this single-family residential neighborhood predates the effective date of the rule no addition regulated impervious cover is proposed with this plan. No sensitive features were found in the Geologic Assessment.

The City of San Antonio is proposing to install storm drain within existing street to allow adequate drainage for the single-family residences. The total project area of 8.93 acres is within the boundaries of the existing streets, drain channels, and adjacent ROW.

Regulated activities proposed are demolition of street sections, grading, excavation for installation of storm drain and drainage improvements, utilities, and reconstruction of streets. Minimal street widen of approximately 1 foot within existing ROW will be required in some areas to tie into existing grades, not to exceed an additional ½ lane width allowed in 30 TAC 213.

As the proposed regulated activity of storm drain installation is within existing paved streets, an exception to the Water Pollution Abatement Plan (WPAP) is requested by submitting this application. No equivalent protection is required as there is no increase in the regulated impervious cover.

TEMPORARY STORMWATER SECTION (TCEQ-0602)

Temporary Stormwater Section

Texas Commission on Environmental Quality

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

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

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

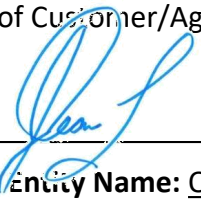
Signature

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

Print Name of Customer/Agent: Jean Autrey, P.E.

Date: 02/28/2025

Signature of Customer/Agent:



Regulated Entity Name: Oak Haven (Kenwood Ph 2)

Project Information

Potential Sources of Contamination

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

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: Construction Staging Area

   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: Lorrance Creek

Temporary Best Management Practices (TBMPs)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☒ N/A

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

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

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

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

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

Soil Stabilization Practices

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

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

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

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

Administrative Information

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

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

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

ATTACHMENT A

Spill Response Actions

In the event of an accidental leak or spill:

- Spill must be contained and cleaned up immediately.
- Spills will not be merely buried or washed with water.
- Contractor shall take action to contain spill. Contractor may use sand or other absorbent material stockpiled on site to absorb spill. Absorbent material should be spread over the spill area to absorb the spilled product.
- In the event of an uncontained discharge the contractor shall utilize onsite equipment to construct berms downgradient of the spill with sand or other absorbent material to contain and absorb the spilled product.
- Spill containment/absorbent materials along with impacted media must be collected and stored in such a way so as not to continue to affect additional media (soil/water). Once the spill has been contained, collected material should be placed on poly or plastic sheeting until removed from the site. The impacted media and cleanup materials should be covered with plastic sheeting and the edges weighed down with paving bricks or other similarly dense objects as the material is being accumulated. This will prevent the impacted media and cleanup materials from becoming airborne in windy conditions or impacting runoff during a rain event. The stockpiled materials should not be located within an area of concentrated runoff such as along a curb line or within a swale.
- Contaminated soils and cleanup materials will be sampled for waste characterization. When the analysis results are known the contaminated soils and cleanup materials will be removed from the site and disposed in a permitted landfill in accordance with applicable regulations.
- The contractor will be required to notify the owner, who will in turn contact TCEQ to notify them in the event of a significant hazardous/reportable quantity spill. Additional notifications as required by the type and amount of spill will be conducted by owner or owner's representative.

In the event of an accidental significant or hazardous spill:

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

- Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

- Contaminated soils will be sampled for waste characterization. When the analysis results are known the contaminated soils will be removed from the site and disposed in a permitted landfill in accordance with applicable regulations.

Additional guidance can be obtained from TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) Section 1.4.16. Contractor shall review this section.

ATTACHMENT B

Attachment B – Potential Sources of Contamination

Other potential sources of contamination during construction include:

Potential Source	Preventative Measure
Asphalt products used on this project.	▪ 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 an unexpected rain occur. The contractor will be instructed not to place asphalt products on the ground within 48 hours of a forecasted rain.
Oil, grease, fuel, and hydraulic fluid contamination from construction equipment and vehicle dripping.	▪ Vehicle maintenance, when possible, will be performed within the construction staging area. ▪ Construction vehicles and equipment shall 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.	▪ Contractor to incorporate into regular safety meetings, a discussion of spill prevention and appropriate disposal procedures. ▪ Contractor's superintendent or representative overseer shall enforce proper spill prevention and control measures. ▪ Hazardous materials and wastes shall be stored in covered containers and protected from vandalism. ▪ A stockpile of spill cleanup materials shall be stored on site where it will be readily accessible.
Miscellaneous trash and litter from construction workers and material wrappings.	▪ Trash containers will be placed throughout the site to encourage proper trash disposal.
Construction debris.	▪ Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case-by-case basis.
Spills/Overflow of waste from portable toilets	▪ Portable toilets will be placed away from high-traffic vehicular areas and storm drain inlets. ▪ Portable toilets will 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.

ATTACHMENT C

Attachment C – Sequence of Major Activities

The sequence of major activities which disturb soil during construction on this site consists of installation of TBMPs as illustrated on included exhibits, demolition of existing road sections, grading to include a grassy swale, and construction of a right turn lane extension, VIA Bus stop pad, sidewalk box and sidewalk. This will disturb approximately 0.66 acres. Additional grading for construction of the proposed grassy swale is located approximately 2,000 feet south of the turn lane improvements.

ATTACHMENT D

Attachment D – Temporary Best Management Practices and Measures

a. 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.

Upgradient stormwater from adjacent roadways will cross the project limits. All other TBMPs are adequate for the drainage areas they serve.

b. 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.

Site preparation, which is the initiation of all activity on the project, will disturb the largest amount of soil. Therefore, 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: (1) erection of silt fences along the downgradient boundary of construction activities for temporary erosion and sedimentation controls, (2) installation of gravel filter bags at the downgradient boundary of construction activities for temporary erosion and sedimentation controls, and (3) installation of construction staging area(s).

Prior to the initiation of construction, all previously installed control measures will be repaired or reestablished for their designed or intended purpose. Construction activities, which is the remainder of all activity on the project, may also disturb additional soil. The construction contractor will be responsible for the installation of all remaining on-site control measures that includes installation of the concrete truck washout pit(s), as construction phasing warrants.

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

There are no surface streams or naturally occurring sensitive features on, or immediately adjacent to, the project site.

Temporary measures are intended to provide a method of slowing the flow of runoff from the construction site in order to allow sediment and suspended solids to settle out of the runoff. By containing the sediment and solids within the site, they will not enter surface streams and/or sensitive features.

d. 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.

There are no surface streams or naturally occurring sensitive features on, or immediately adjacent to, the project site.

BMP measures utilized in this plan are intended to allow stormwater to continue downstream after passing through the BMPs. This will allow stormwater runoff to continue downgradient to streams or features that may exist downstream of the site.

ATTACHMENT F

Attachment F – Structural Practices

The following structural measures will be installed prior to the initiation of site preparation activities:

- Erection of silt fences along the downgradient boundary of construction activities, as located on Sht. C1.00 – C1.11 and illustrated on Sht. C2.00-C.2.01.
- Installation of inlet protection at downgradient inlets of construction activities, as located on located on Sht. C1.00 – C1.11 and illustrated on Sht. C2.00-C.2.01.
- Installation of gravel filter bags along the downgradient boundary of construction activities, located on Sht. C1.00 – C1.11 and illustrated on Sht. C2.00-C.2.01.

ATTACHMENT G

Attachment G – Drainage Area Map

Please refer to the Exhibits Section of this application.

ATTACHMENT I

INSPECTIONS

Designated and qualified person(s) shall inspect Pollution Control Measures weekly and within 24 hours after a storm event. An inspection report that summarizes the scope of the inspection, names and qualifications of personnel conducting the inspection, date of the inspection, major observations, and actions taken as a result of the inspection shall be recorded and maintained as part of Storm Water TPDES data for a period of three years after the date of the inspection. A copy of the Inspection Report Form is provided in this Storm Water Pollution Prevention Plan.

As a minimum, the inspector shall observe: (1) significant disturbed areas for evidence of erosion, (2) storage areas for evidence of leakage from the exposed stored materials, (3) structural controls (rock berm outlets, silt fences, drainage swales, etc.) for evidence of failure or excess siltation (over 6 inches deep), (4) vehicle exit point for evidence of off-site sediment tracking, (5) vehicle storage areas for signs of leaking equipment or spills, (6) concrete truck rinse-out pit for signs of potential failure, (7) embankment, spillways, and outlet of sediment basin (where applicable) for erosion damage, and (8) sediment basins (where applicable) for evidence that basin has accumulated 50% of its volume in silt. Deficiencies noted during the inspection will be corrected and documented within seven calendar days following the inspection or before the next anticipated storm event if practicable.

Contractor shall review Sections 1.3 and 1.4 of TCEQ's Technical Guidance Manual for additional BMP inspection and maintenance requirements.

Pollution Prevention Measure	Inspected	Corrective Action	
		Description	Date Completed
General			
Revegetation			
Erosion/sediment controls			
Vehicle exits			
Material areas			
Equipment areas			
Concrete rinse			
Construction debris			
Trash receptacles			
Infrastructure			
Roadway clearing			
Utility clearing			
Roadway grading			
Utility construction			
Drainage construction			
Roadway base			
Roadway surfaces			
Site cleanups			
Building			
Clearing for building			
Foundation grading			
Utility construction			
Foundation construction			
Building construction			
Site grading			
Site cleanup			

Indicate N/A where measure does not apply.

By my signature below, I certify that all items are acceptable and the project site is in compliance with SWPPP.

Inspector's Name _____ Inspector's Signature _____

Name of Owner/Operator (Firm) _____ Date _____

Note: Inspector is to attach a brief statement of his qualifications to this report.

OAK HAVEN (KENTWOOD PH 2)
Recharge and Transition Zone Exception Application

PROJECT MILESTONE DATES

Date when major site grading activities begin:

Construction Activity	Date

Dates when construction activities temporarily or permanently cease on all or a portion of the project:

Construction Activity	Date

Dates when stabilization measures are initiated:

Stabilization Activity	Date

ATTACHMENT J

Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices

Interim on-site stabilization measures, which are continuous, will include minimizing soil disturbances by exposing the smallest practical area of land required for the shortest period of time and maximizing use of natural vegetation. As soon as practical, all disturbed soil will be stabilized as per project specifications in accordance with pages 1-35 to 1-60 of TCEQ's Technical Guidance Manual (TGM) RG-348 (2005). Mulching, netting, erosion blankets and seeding are acceptable.

Stabilization measures will be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and except as provided below, will be initiated no more than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonably arid conditions, stabilization measures must be initiated as soon as practicable. Stabilization measures in this instance shall comply with temporary stabilization as defined in TXR150000 or as defined otherwise in the landscape plans where applicable.

AGENT AUTHORIZATION FORM (TCEQ-0599)

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

I ***Sean D. Strong, P.E.***,
Print Name

Authorized Signatory,
Title - Owner/President/Other

of ***City of San Antonio***,
Corporation/Partnership/Entity Name

have authorized ***Pape-Dawson Consulting Engineers, LLC.***
Print Name of Agent/Engineer

of ***Pape-Dawson Consulting Engineers, LLC.***
Print Name of Firm

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

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to $10,000 per day per violation.

2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.

3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.

4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.

5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

Sean D. Strong, PE
Applicant's Signature

2/26/25
Date

THE STATE OF Texas §

County of Bexar §

BEFORE ME, the undersigned authority, on this day personally appeared Sean D. Strong 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 26th day of February, 2025.

SAN JUANA GARCIA
Notary ID #6430891
My Commission Expires
July 10, 2026

San Juana Garcia
NOTARY PUBLIC

San Juana Garcia
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: July 10, 2026

APPLICATION FEE FORM (TCEQ-0574)

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Oak Haven (Kenwood Ph 2)
Regulated Entity Location: Along Parhaven Dr, Parkstone Blvd and Copper Hill Dr., SATX 78232
Name of Customer: City of San Antonio
Contact Person: Sean D. Strong, P.E. Phone: (210) 207-8037
Customer Reference Number (if issued):CN 600130652
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	Acres	$
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	1 Each	$ 500
Extension of Time	Each	$

Signature: _____ Date: 2/28/2025

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

CORE DATA FORM
(TCEQ-10400)

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

- [■] New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.*)
- [ ] Renewal (*Core Data Form should be submitted with the renewal form*)
- [ ] Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number *(if issued)*
CN 600130652		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:*

City of San Antonio

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number (*if applicable*)

11. Type of Customer:

- [ ] Corporation
- [ ] Individual
- Partnership: [ ] General [ ] Limited
- Government: [ ] City [ ] County [ ] Federal [ ] State [ ] Other
- [ ] Sole Proprietorship
- [ ] Other:

12. Number of Employees
[ ] 0-20 [ ] 21-100 [ ] 101-250 [ ] 251-500 [ ] 501 and higher

13. Independently Owned and Operated?
[ ] Yes [ ] No

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following:*

- [ ] Owner
- [ ] Operator
- [ ] Owner & Operator
- [ ] Occupational Licensee
- [ ] Responsible Party
- [ ] Voluntary Cleanup Applicant
- [ ] Other:

15. Mailing Address:

P.O. Box 839966

City	State	ZIP	ZIP + 4
San Antonio	TX	78283	3966

16. Country Mailing Information (*if outside USA*)	17. E-Mail Address (*if applicable*)
	Sean.Strong@sanantonio.gov

18. Telephone Number	19. Extension or Code	20. Fax Number (*if applicable*)
(210) 207-8037		(210) 207 7196

SECTION III: Regulated Entity Information

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

- [■] New Regulated Entity
- [ ] Update to Regulated Entity Name
- [ ] Update to Regulated Entity Information

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

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

Oak Haven (Kenwood Ph 2)

23. Street Address of the Regulated Entity: *(No PO Boxes)*							
	City		**State**		**ZIP**		**ZIP + 4**
24. County	Bexar						

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	Along Parhaven Dr, Parkstone Blvd and Copper Hill Dr

26. Nearest City	**State**	**Nearest ZIP Code**
San Antonio	Texas	78232

27. Latitude (N) In Decimal:	29.597802		**28. Longitude (W) In Decimal:**	-98.463064	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	35	52.2	98	27	47.0

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)
1611		237310	

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

Road improvements

34. Mailing Address:	P.O. Box 839966						
	City	San Antonio	**State**	TX	**ZIP**	78283	**ZIP + 4**	3966

35. E-Mail Address:	Sean.Strong@sanantonio.gov

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(210)207- 8037		(210)207-7196

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

☐ Dam Safety	☐ Districts	■ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

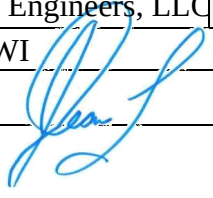
SECTION IV: Preparer Information

40. Name:	Jean Autrey, P.E., CESSWI	**41. Title:**	Program Manager

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(210) 375 - 9000		(210) 375-9010	jautrey@pape-dawson.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:	Pape-Dawson Consulting Engineers, LLC	**Job Title:**	Program Manager
Name*(In Print)* **:**	Jean Autrey, P.E., CESSWI	**Phone:**	(210) 375- 9000
Signature:		**Date:**	02/28/2025

EXHIBITS

STORMWATER POLLUTION PREVENTION PLAN (SWP3):

This SWP3 has been developed in accordance with the TPDES Construction General Permit TXR150000 (CGP). The City of San Antonio (COSA) ensures that project specifications include adequate best management practices (BMPs) for this project.

For all projects with any soil disturbing activities, the Contractor will maintain a SWP3 with all pertinent records, correspondence, environmental documents, etc. at the project field office. If no field office is available, then this SWP3 shall be kept in the Contractors local Office.

This SWP3 is consistent with requirements specified in applicable stormwater plans and the projects environmental permits, issues, and commitments (EPICs). A copy of the CGP is included in the SWP3 binder.

1.0 SITE/PROJECT DESCRIPTION

COSA Project No.: _____

1.2 PROJECT LIMITS:

From: PARHAVEN

To: PARKSTONE BLVD

1.3 PROJECT COORDINATES:

BEGIN: (Lat) 29°36'5.75" ,(Long) 98°27'49.32"

END: (Lat) 29°35'28.80 ,(Long) 98°27'37.85"

1.4 TOTAL PROJECT AREA (Acres): 8.93

1.5 TOTAL AREA TO BE DISTURBED (Acres): 5.37

1.6 NATURE OF CONSTRUCTION ACTIVITY:

ROADWAY, DRAINAGE, WATER AND SEWER IMPROVEMENTS

1.7 MAJOR SOIL TYPES:

Soil Type	Description
CB	CRAWFORD, STONY AND BEXAR SOILS, 0 TO 5 PERCENT SLOPES

1.8 PROJECT SPECIFIC LOCATIONS (PSLs):

PSLs must be depicted on the Environmental Layout Sheets in this SWP3. PSLs may be identified during preconstruction meetings or during the construction process. Please choose from the options below:

- ☐ PSLs determined during preconstruction meeting
- ☒ PSLs determined during construction
- ☐ No PSLs planned for construction

Type	Sheet #s
Storage/Staging Areas	TBD

All off-ROW PSLs required by the Contractor are the Contractor's responsibility. The Contractor shall secure all permits required by local, state, federal laws for off-ROW PSLs. The contractor shall provide diagrams, areas of disturbance, acreage, and BMPs for all off-ROW PSLs within one mile of the project.

1.9 CONSTRUCTION ACTIVITIES:

(Use the following list as a starting point when developing the Construction Activity Schedule and Ceasing Record)

- ☒ Mobilization
- ☒ Install sediment and erosion controls
- ☐ Blade existing topsoil into windrows, prep ROW, clear and grub
- ☒ Remove existing pavement
- ☐ Grading operations, excavation, and embankment
- ☒ Excavate and prepare subgrade for proposed pavement widening
- ☐ Remove existing culverts, safety end treatments (SETs)
- ☐ Remove existing metal beam guard fence (MBGF), bridge rail
- ☒ Install proposed pavement per plans
- ☐ Install culverts, culvert extensions, SETs
- ☐ Install mow strip, MBGF, bridge rail
- ☐ Place flex base
- ☐ Rework slopes, grade ditches
- ☐ Blade windrowed material back across slopes
- ☒ Revegetation of unpaved areas
- ☒ Achieve site stabilization and remove sediment and erosion control measures
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

1.10 POTENTIAL POLLUTANTS AND SOURCES:

- ☒ Sediment laden stormwater from stormwater conveyance over disturbed area
- ☒ Fuels, oils, and lubricants from construction vehicles, equipment, and storage
- ☒ Solvents, paints, adhesives, etc. from various construction activities
- ☒ Transported soils from offsite vehicle tracking
- ☒ Construction debris and waste from various construction activities
- ☐ Contaminated water from excavation or dewatering pump-out water
- ☒ Sanitary waste from onsite restroom facilities
- ☒ Trash from various construction activities/receptacles
- ☐ Long-term stockpiles of material and waste
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

1.11 RECEIVING WATERS:

Receiving waters must be depicted on the Environmental Layout Sheets in this SWP3. Include Segment # for receiving waters.

Tributaries	Classified Waterbody
LORENCE CREEK	1910F_02 UPPER SALADO CREEK

* Add (*) for impaired waterbodies with pollutant in ().

1.12 ROLES AND RESPONSIBILITIES: COSA

- ☒ Development of plans and specifications
- ☐ Submit Notice of Intent (NOI) to TCEQ (≥5 acres)
- ☐ Post Construction Site Notice
- ☒ Submit NOI/CSN to local MS4
- ☐ Perform SWP3 inspections
- ☐ Maintain SWP3 records and update to reflect daily operations
- ☐ Complete and submit Notice of Termination to TCEQ
- ☒ Maintain SWP3 records for 3 years
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

1.13 ROLES AND RESPONSIBILITIES: CONTRACTOR

- ☒ Day To Day Operational Control
- ☒ Submit Notice of Intent (NOI) to TCEQ (≥5 acres)
- ☒ Post Construction Site Notices
- ☒ Submit NOI/CSN to local MS4
- ☒ Maintain schedule of major construction activities
- ☒ Install, maintain and modify BMPs
- ☒ Complete and submit Notice of Termination to TCEQ
- ☒ Maintain SWP3 records for 3 years
- ☒ Other: Perform SWP3 Inspections
- ☐ Other: _____
- ☐ Other: _____

1.14 LOCAL MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) OPERATOR COORDINATION:

MS4 Entity
San Antonio Water System (SAWS)

JEAN L. AUTREY
128687
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
02/28/2025

STORMWATER POLLUTION PREVENTION PLAN (SWP3)

CITY OF SAN ANTONIO
PUBLIC WORKS DEPARTMENT

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
STATE	STATE DIST.	COUNTY	
TEXAS			
CONT.	SECT.	JOB	HIGHWAY NO.

STORMWATER POLLUTION PREVENTION PLAN (SWP3):

2.0 BEST MANAGEMENT PRACTICES (BMPs) AND CONTROLS, INSPECTION, AND MAINTENANCE

The Contractor shall be the responsible party for implementing the BMPs described herein and for complying with the SWP3 for control of erosion and sedimentation during day-to-day operations. The Contractor shall implement changes to this SWP3 approved by the COSA within the times specified in this SWP3 or the CGP.

2.1 EROSION CONTROL AND SOIL STABILIZATION BMPs:

T / P

- ☐ ☒ Protection of Existing Vegetation
- ☐ ☐ Vegetated Buffer Zones
- ☐ ☐ Soil Retention Blankets
- ☐ ☐ Geotextiles
- ☐ ☐ Mulching/ Hydromulching
- ☐ ☐ Soil Surface Treatments
- ☐ ☐ Temporary Seeding
- ☐ ☒ Permanent Planting, Sodding or Seeding
- ☐ ☐ Biodegradable Erosion Control Logs
- ☐ ☐ Rock Filter Dams/ Rock Check Dams
- ☐ ☐ Vertical Tracking
- ☐ ☐ Interceptor Swale
- ☐ ☐ Riprap
- ☐ ☐ Diversion Dike
- ☐ ☐ Temporary Pipe Slope Drain
- ☐ ☐ Embankment for Erosion Control
- ☐ ☐ Paved Flumes
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____

2.2 SEDIMENT CONTROL BMPs:

T / P

- ☐ ☐ Biodegradable Erosion Control Logs
- ☐ ☐ Dewatering Controls
- ☒ ☐ Inlet Protection
- ☐ ☐ Rock Filter Dams/ Rock Check Dams
- ☐ ☐ Sandbag Berms
- ☒ ☐ Sediment Control Fence
- ☒ ☐ Stabilized Construction Exit
- ☐ ☐ Floating Turbidity Barrier
- ☐ ☐ Vegetated Buffer Zones
- ☐ ☐ Vegetated Filter Strips
- ☒ ☐ Other: Disturbed areas shall be stabalized within 14 days unless construction activities will resume within 21 days.
- ☐ ☐ Other: _____

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in this SWP3

Sediment control BMPs requiring design capacity calculations (See SWP3):

T / P

- ☐ ☐ Sediment Trap
  - ☐ Calculated volume runoff from 2-year, 24-hour storm for each acre of disturbed area
  - ☐ 3,600 cubic feet of storage per acre drained
- X Sedimentation Basin
  - ☒ Not required (<10 acres disturbed)
  - ☐ Required (>10 acres) and implemented.
    - ☐ Calculated volume runoff from 2-year, 24-hour storm for each acre of disturbed area
    - ☐ 3,600 cubic feet of storage per acre drained
  - ☐ Required (>10 acres), but not feasible due to:
    - ☐ Available area/Site geometry
    - ☐ Site slope/Drainage patterns
    - ☐ Site soils/Geotechnical factors
    - ☐ Public safety
    - ☐ Other: _____

2.3 PERMANENT CONTROLS:

(Coordinate post-construction BMPs with appropriate COSA maintenance sections.)

BMPs To Be Left In Place Post Construction:

Type	Stationing	
	From	To
N/A		

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in this SWP3

2.4 OFFSITE VEHICLE TRACKING CONTROLS:

- ☒ Excess dirt/mud on road removed daily
- ☐ Haul roads dampened for dust control
- ☒ Loaded haul trucks to be covered with tarpaulin
- ☒ Stabilized construction exit
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

2.5 POLLUTION PREVENTION MEASURES:

- ☒ Chemical Management
- ☒ Concrete and Materials Waste Management
- ☒ Debris and Trash Management
- ☒ Dust Control
- ☒ Sanitary Facilities
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

2.6 VEGETATED BUFFER ZONES:

Natural vegetated buffers shall be maintained as feasible to protect adjacent surface waters. If vegetated natural buffer zones are not feasible due to site geometry, the appropriate additional sediment control measures have been incorporated into this SWP3.

Type	Stationing	
	From	To
N/A		

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in this SWP3

2.7 ALLOWABLE NON-STORMWATER DISCHARGES:

- ☒ Fire hydrant flushings
- ☒ Irrigation drainage
- ☒ Pavement washwater (where spills or leaks have not occurred, and detergents are not used)
- ☒ Potable water sources
- ☒ Springs
- ☒ Uncontaminated groundwater
- ☒ Water used to wash vehicles or control dust
- ☒ Other allowable non-stormwater discharges as allowed by TPDES GP TXR150000.

2.8 DEWATERING:

Dewatering discharges of accumulated stormwater, groundwater, and surface water including discharges from dewatering of trenches, excavations, foundations, vaults, and other points of accumulation are prohibited unless managed by appropriate controls to prevent and minimize the offsite discharge of sediment and other pollutants.

2.9 INSPECTIONS:

All disturbed areas and erosion and sediment control devices shall be inspected at least once every seven (7) days. Inspections shall be performed by the Contractor, documented on the field inspection report form, and retained in this SWP3.

2.10 MAINTENANCE:

Control measures shall be properly installed according to specifications. If it is determined that a BMP or control measure is not operating effectively, maintenance must be accomplished as soon as possible and before the next anticipated rain event, but in no case later than 7 calendar days after being able to access the site. Maintenance shall be performed by the Contractor, documented on the field inspection report form, and retained in this SWP3.

STATE OF TEXAS
JEAN L. AUTREY
128687
LICENSED
PROFESSIONAL ENGINEER

02/28/2025

STORMWATER POLLUTION PREVENTION PLAN (SWP3)

CITY OF SAN ANTONIO
PUBLIC WORKS DEPARTMENT

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
STATE	STATE DIST.	COUNTY	
TEXAS			
CONT.	SECT.	JOB	HIGHWAY NO.

EPA & TCEQ Construction General Permit - Checklist of Record Keeping Responsibilities
City of San Antonio (COSA) - January-2015

ENGINEER

Pre Construction

- Design of structural controls
- Development of SWP3
- Development of SWP3 site diagram(s) including grading plans/contours anticipated at initial, interim and final grade
- Development of project phasing schedule
- Water Pollution Abatement Plan (WPAP) (Edwards Aquifer)
- AST Plan (Edwards Aquifer)
- Environmental Preconstruction Meeting

During Construction

- Evaluation of BMP effectiveness
- Review of SWP3 Modifications

Post Construction

- Close Out Inspection
  - o Ensure removal of temporary BMPs,
  - o Verify correct installation of permanent BMPs,
  - o Assess final stabilization achieved to allow Notice of Termination

COSA CONSTRUCTION PROJECT MANAGER

Pre Construction

- Review SWP3 Plans
- Environmental Preconstruction Meeting
- Conduct SWP3 Training (EPA only)

Construction

- Ensure inspection are performed and document every 7 days
- Ensure maintenance of up to date copies of SWP3 and associated records
  - o Corrective Action Documentation- within 7 days of time of discovery (EPA)
  - o Maintenance- document if unable to fix/install item within 7 days. (EPA)
- Ensure records of rainfall events are being maintained
  - o Rainfall during normal business hours that measures 0.25 inches or greater (EPA)
    - o Rainfall- record of total rainfall measured and the approximate beginning and ending dates of winter or drought conditions resulting in monthly frequency of inspections (TCEQ)
- Follow Up on incidents and spill reports to ensure proper corrective actions
  - o Construction Manager would be responsible for notifying COSA Environmental of a Reportable Quantity Release (e.g., sheen on water, 25 gallons of "oil" to land, etc.)
  - o Provide a description of spills and incidents & information obtained regarding quality and quantity of stormwater discharges to COSA Environmental.
- Ensure completing of the Grading Log (dates when activities start and end) and Construction Activities Log (daily)
  - o Ensure Construction Activities Log includes dates when construction activities temporarily or permanently cease on site (TCEQ) and dates when stabilization measures are initiated
- Ensure upkeep of the on-site Material Inventory
- Coordinate between Contractor, COSA, and Engineer when the SWP3 requires modification and/or when BMPs are not effective, are missing, or need maintenance/repair
- Ensure contractor is noting SWP3 accordingly (Dates of installment of BMPs, removal of BMPs, maintenance of BMPS, concrete washout pits date of install and removal, etc.)

Post Construction

- Close Out Inspection
  - o Ensure removal of temporary BMPs,
  - o Verify correct installation of permanent BMPs,
  - o Assess final stabilization achieved to allow Notice of Termination

COSA ENVIRONMENTAL GROUP

Pre Construction

Review SWP3 Plans
- File Notice of Intent
- Environmental Preconstruction Meeting
- Conduct SWP3 Training (EPA only)
- File Secondary Operator Construction Site Notice with SAWS
- Ensure the SW3P inspector is certified in accordance with COSA Ordinance Sec. 34-805 (q)
- Post Construction Site Notice

Construction

- Ensure inspection are performed and document every 7 days
- Ensure maintenance of up to date copies of SWP3 and associated records
  - o Corrective Action Documentation- within 7 days of time of discovery (EPA)
  - o Maintenance- document if unable to fix/install item within 7 days. (EPA)
- Ensure records of rainfall events are being maintained
  - o Rainfall during normal business hours that measures 0.25 inches or greater (EPA)
  - o Rainfall- record of total rainfall measured and the approximate beginning and ending dates of winter or drought conditions resulting in monthly frequency of inspections (TCEQ)
- Follow Up on incidents and spill reports to ensure proper corrective actions
  - o Conduct TCEQ notification as required for spills above a reportable quantity (e.g., sheen on water, 25 gallons of "oil" to land, etc.)
- Ensure completion of the Grading Log (dates when activities start and end) and Construction Activities Log (daily)
  - o Ensure Construction Activities Log includes dates when construction activities temporarily or permanently cease on site (TCEQ) and dates when stabilization measures are initiated
- Ensure upkeep of the on-site Material Inventory
- Coordinate between Construction Project Manager, Contractor, and Engineer when the SWP3 requires modification and/or when BMPs are not effective, are missing, or need maintenance/repair
- Ensure contractor is noting SWP3 accordingly (Dates of installment of BMPs, removal of BMPs, maintenance of BMPS, concrete washout pits date of install and removal, etc.)

Post Construction

- Close Out Inspection
  - o Ensure removal of temporary BMPs,
  - o Verify correct installation of permanent BMPs,
  - o Ensure removal of posted SWP3 documents,
  - o Assess final stabilization achieved to allow Notice of Termination
- Obtain and file all records associated with the TPDES/NPDES Permit activities at the project for 3 years
- File Notice of Termination, when appropriate
- File Copy of Notice of Termination with SAWS

CONTRACTOR

Pre Construction

- **Review SWP3 Plans**
- **File Notice of Intent**
- **Environmental Preconstruction Meeting**
- **File Primary Operator Construction Site Notice with SAWS**
- **Provide name and certification of the stormwater inspector [COSA Sec. 34-805 (q)]**
- **Conduct SWP3 Training (EPA only)**
- **Post Construction Site Notice**

Construction

- **Conduct inspections every 7 days and maintain records of inspections and corrective actions**
- **Maintain up to date copies of SWP3 and associated records**
  - **o Corrective Action Documentation- within 7 days of time of discovery (EPA)**
  - **o Maintenance- document if unable to fix/install item within 7 days. (EPA)**
- **Record rainfall events and maintain documentation with the SWP3**
  - **o Rainfall during normal business hours that measures 0.25 inches or greater (EPA)**
  - **o Rainfall- record of total rainfall measured and the approximate beginning and ending dates of winter or drought conditions resulting in monthly frequency of inspections (TCEQ)**
- **Conduct and record environmental monitoring-**
  - **o Retain all related records including: TSS (Once per week), Turbidity (Twice per day upstream and downstream) (EPA)**
  - **o Sampling-(onsite batch plant) document if sampling is not completed within the first 30 minutes of discharge (TCEQ).**
- **Follow Up on incidents and spill reports to ensure proper corrective actions**
  - **o Notify Construction Site Project Manager immediately of spills above a reportable quantity (e.g., sheen on water, 25 gallons of "oil" to land, etc.)**
  - **o Provide a description of spills and incidents & information obtained regarding quality and quantity of stormwater discharges to the Project Manager, as necessary.**
- **Complete the Grading Log (dates when activities start and end) and Construction Activities Log (daily)**
  - **o Ensure Construction Activities Log includes dates when construction activities temporarily or permanently cease on site (TCEQ) and dates when stabilization measures are initiated**

CONTRACTOR (Cont'd)

- **Maintain an on-site Material Inventory**
- **Update SWP3 to depict actual locations and types of BMPs, potential pollutant sources, etc., as the project proceeds.**
- **Coordinate between Construction Project Manager, COSA Environmental, and Engineer when the SWP3 requires modification and/or when BMPs are not effective, are missing, or need maintenance/repair**
- **Ensure SWP3 is being noted accordingly (Dates of installment of BMPs, removal of BMPs, maintenance of BMPS, concrete washout pits date of install and removal, etc.)**

Post Construction

- **Close Out Inspection**
  - **o Ensure removal of temporary BMPs,**
  - **o Verify correct installation of permanent BMPs,**
  - **o Ensure removal of posted SWP3 documents**
  - **o Assess final stabilization achieved to allow Notice of Termination**
- **Obtain and file all records associated with the TPDES/NPDES Permit activities at the project for 3 years**
- **File Notice of Termination, when appropriate**
- **File Copy of Notice of Termination with SAWS**

STATE OF TEXAS
JEAN L. AUTREY
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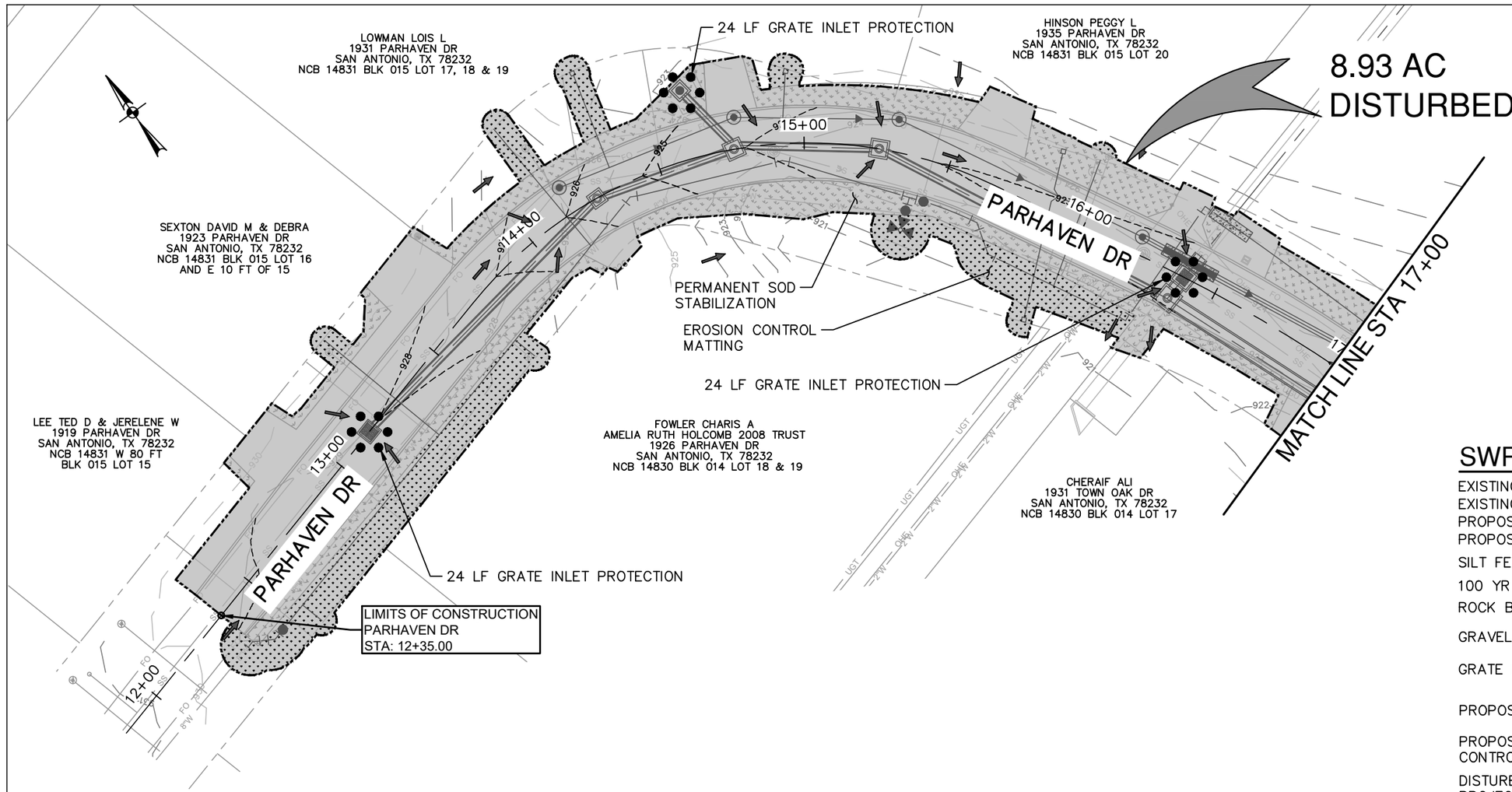
LICENSED
PROFESSIONAL ENGINEER
02/28/2025

JANUARY 2015

CITY OF SAN ANTONIO
PUBLIC WORKS DEPARTMENT

STORM WATER POLLUTION GENERAL NOTES

100% SUBMITTAL	PROJECT NO.: _____		DATE: _____
DRWN. BY: _____	DSGN. BY: _____	CHKD. BY: _____	SHEET NO.:C0.03



LOCATION MAP
NOT-TO-SCALE

SWPPP LEGEND

- EXISTING MAJOR CONTOUR — 100
- EXISTING MINOR CONTOUR — 99
- PROPOSED MAJOR CONTOUR — 100
- PROPOSED MINOR CONTOUR — 99
- SILT FENCE
- 100 YR FLOODPLAIN
- ROCK BERM
- GRAVEL FILTER BAGS
- GRATE INLET PROTECTION
- PROPOSED STONE RIPRAP
- PROPOSED EROSION CONTROL MATTING
- DISTURBED AREA/ PROJECT LIMITS
- FLOW ARROW
- ORDINARY HIGH WATER MARK
- LIMESTONE BLOCKS

SCALE:
HORZ 1"=40' 0 20 40
VERT 1"=10' 0 5 10

SWP3 MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

REV	DATE	DESCRIPTION	BY

BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
TBPE F-001712 TBPLS 10020900
7073 San Pedro, San Antonio, Texas, 78216
Phone: 210-494-7223 Fax: 210-490-5120 WWW.BMBI.COM

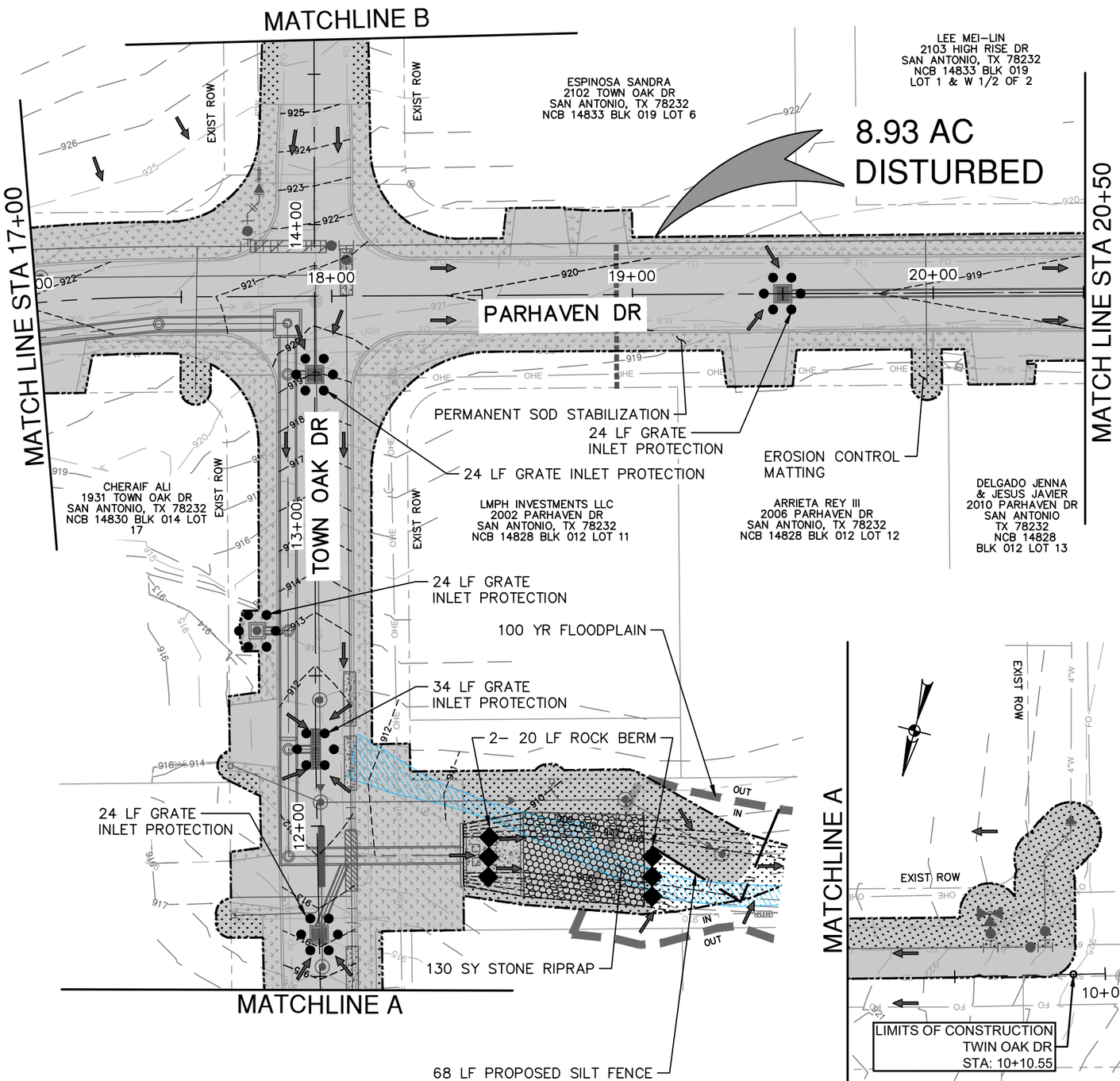
CITY OF SAN ANTONIO
PUBLIC WORKS DEPARTMENT

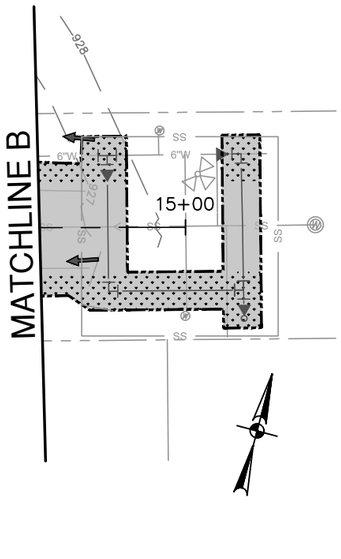
STATE OF TEXAS
JEAN L. AUTREY
128687
LICENSED
PROFESSIONAL ENGINEER
02/28/2025

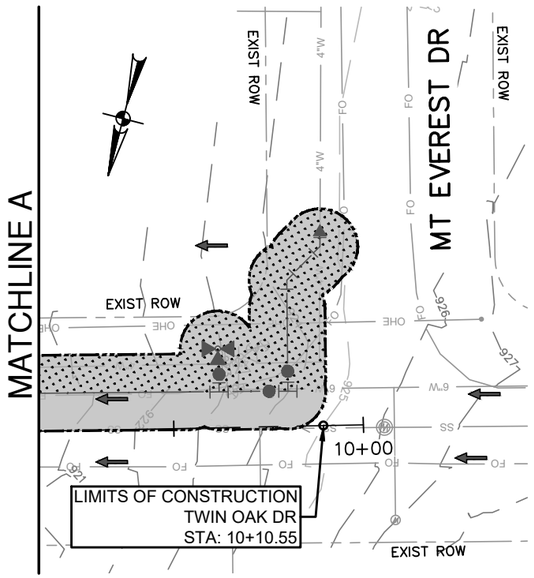
PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

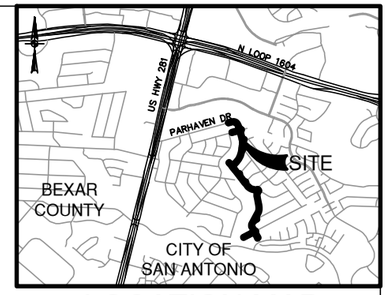
OAK HAVEN STREETS AND DRAINAGE
(KENTWOOD PH 2)
STORMWATER POLLUTION PREVENTION PLAN
PARHAVEN DRIVE
STA 13+00 TO STA 17+00

100% DESIGN	PROJECT NO: C-1628.05		DATE: JAN 2025
DRWN BY: MC/CDA/AJ	DSGN BY: CC/RR	CHKD BY: CB	SHEET: C1.00









LOCATION MAP
NOT-TO-SCALE

SWP3 MODIFICATIONS		
DATE	SIGNATURE	DESCRIPTION

SWPPP LEGEND

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- FLOW ARROW
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- LIMESTONE BLOCKS

SCALE:
HORZ 1"=40' 0 20 40
VERT 1"=10' 0 5 10

REV	DATE	DESCRIPTION	BY

BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
TBPE F-001712 TBPLS 10020900
7073 San Pedro, San Antonio, Texas, 78216
Phone: 210-494-7223 Fax: 210-490-5120 WWW.BMBI.COM

CITY OF SAN ANTONIO
PUBLIC WORKS DEPARTMENT

STATE OF TEXAS
JEAN L. AUTREY
128687
LICENSED PROFESSIONAL ENGINEER
02/28/2025

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

OAK HAVEN STREETS AND DRAINAGE
(KENTWOOD PH 2)
STORMWATER POLLUTION PREVENTION PLAN
PARHAVEN DRIVE
STA 17+00 TO STA 20+50

100% DESIGN	PROJECT NO: C-1628.05		DATE: JAN 2025
DRWN BY: MC/CDA/AJ	DSGN BY: CC/RR	CHKD BY: CB	SHEET: C1.01

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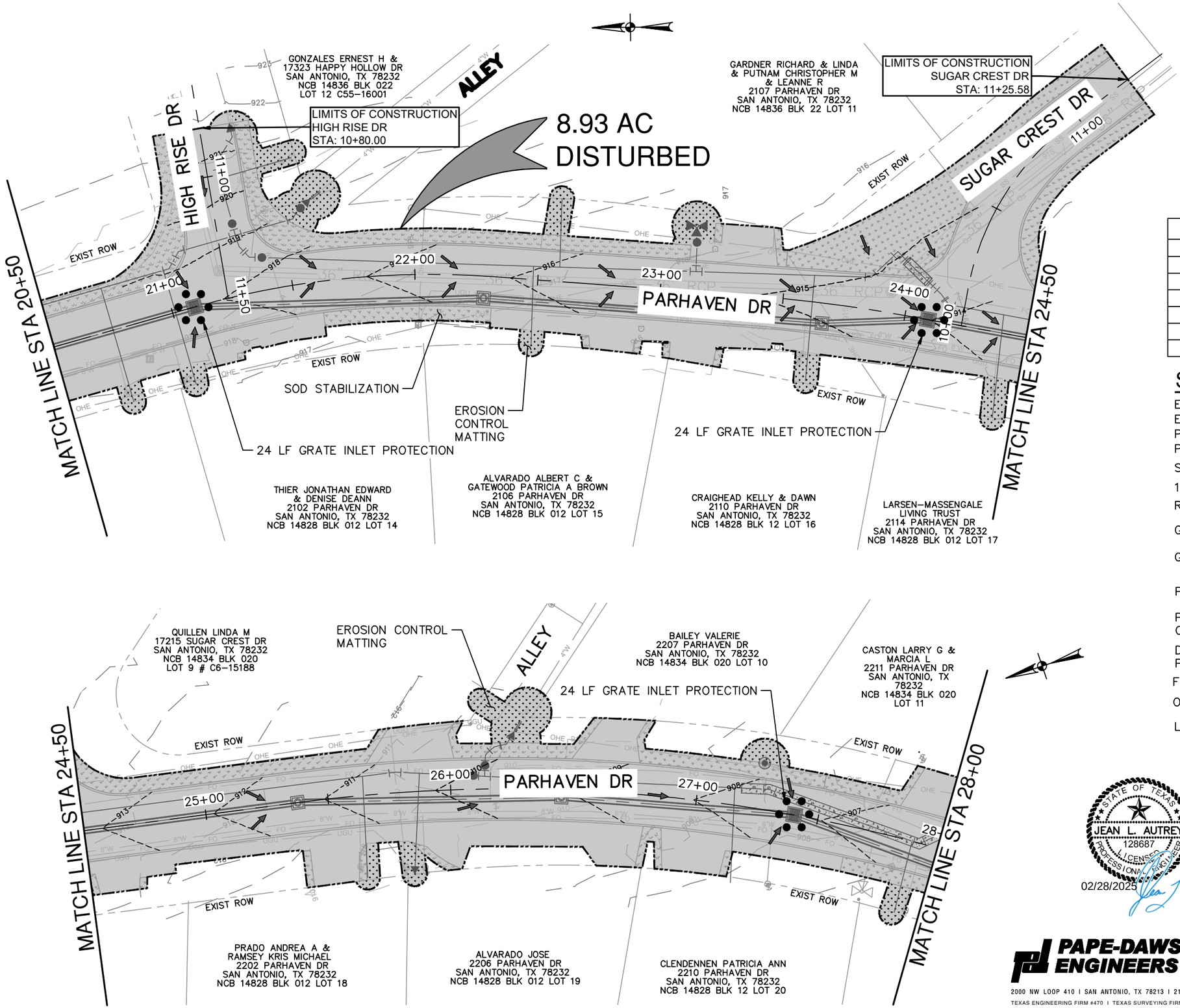

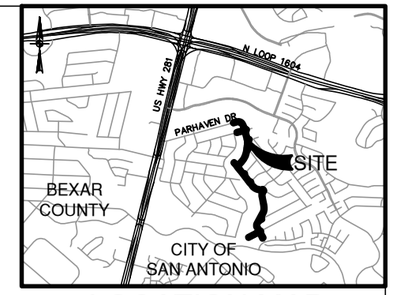

LOCATION MAP
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SWP3 MODIFICATIONS		
DATE	SIGNATURE	DESCRIPTION

SWPPP LEGEND

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SCALE:
HORZ 1"=40' 0 20 40
VERT 1"=10' 0 5 10

STATE OF TEXAS
JEAN L. AUTREY
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02/28/2025

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2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

REV	DATE	DESCRIPTION	BY

BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
TBPE F–001712 TBPLS 10020900
7073 San Pedro, San Antonio, Texas, 78216
Phone: 210–494–7223 Fax: 210–490–5120 WWW.BMBI.COM

CITY OF SAN ANTONIO
PUBLIC WORKS DEPARTMENT

OAK HAVEN STREETS AND DRAINAGE
(KENTWOOD PH 2)
STORMWATER POLLUTION PREVENTION PLAN
PARHAVEN DRIVE
STA 20+50 TO STA 28+00

100% DESIGN	PROJECT NO: C–1628.05		DATE: JAN 2025
DRWN BY: MC/CDA/AJ	DSGN BY: CC/RR	CHKD BY: CB	SHEET: C1.02

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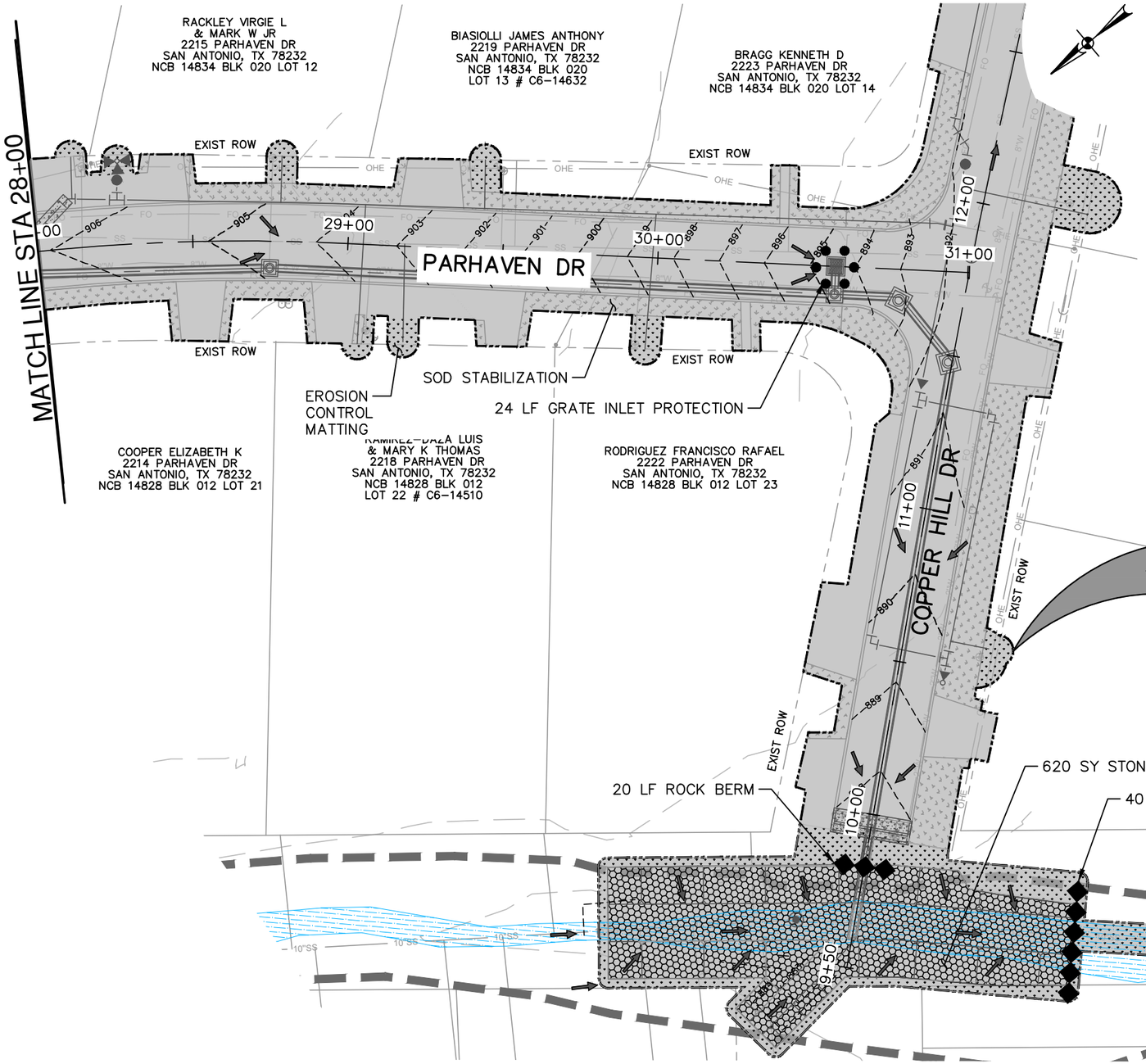

SWPPP LEGEND

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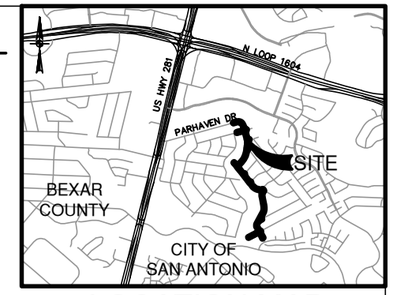

LOCATION MAP
NOT-TO-SCALE

SCALE:
HORZ 1"=40' 0 20 40
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SWP3 MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

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STATE OF TEXAS
JEAN L. AUTREY
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02/28/2025

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CITY OF SAN ANTONIO
PUBLIC WORKS DEPARTMENT

OAK HAVEN STREETS AND DRAINAGE
(KENTWOOD PH 2)
STORMWATER POLLUTION PREVENTION PLAN
PARHAVEN DRIVE
STA 28+00 TO STA 31+00

100% DESIGN	PROJECT NO: C-1628.05		DATE: JAN 2025
DRWN BY: MC/CDA/AJ	DSGN BY: CC/RR	CHKD BY: CB	SHEET: C1.03

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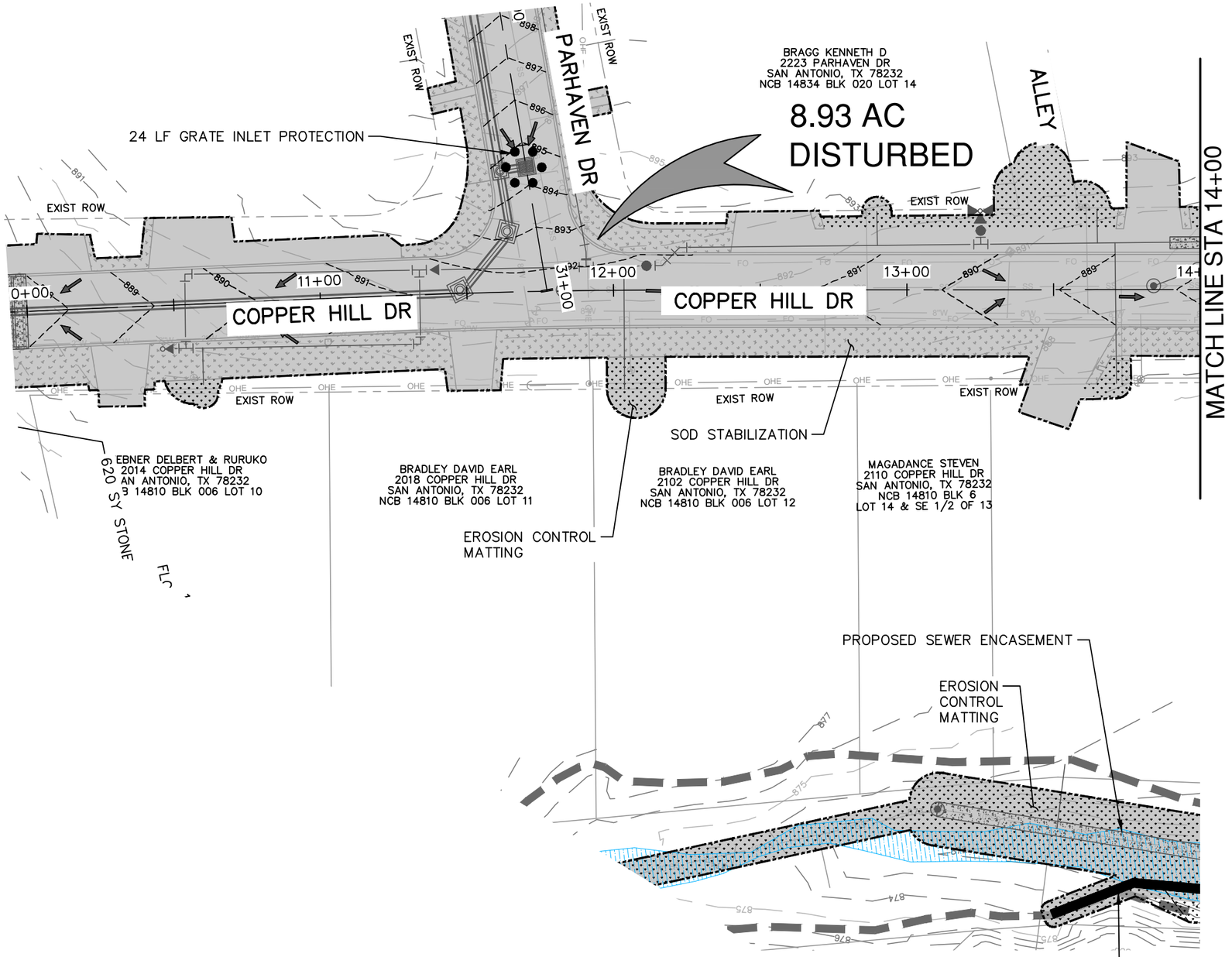

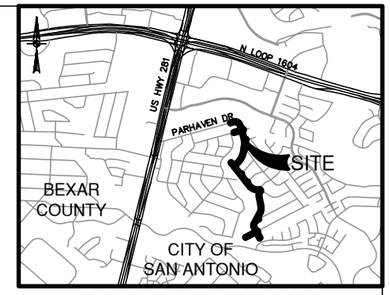

LOCATION MAP
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SCALE:
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SWP3 MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

REV	DATE	DESCRIPTION	BY

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ENGINEERS & SURVEYORS
TBPE F-001712 TBPLS 10020900
7073 San Pedro, San Antonio, Texas, 78216
Phone: 210-494-7223 Fax: 210-490-5120 WWW.BMBI.COM

STATE OF TEXAS
JEAN L. AUTREY
128687
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02/28/2025

PAPE-DAWSON ENGINEERS
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TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

CITY OF SAN ANTONIO
PUBLIC WORKS DEPARTMENT

OAK HAVEN STREETS AND DRAINAGE
(KENTWOOD PH 2)
STORMWATER POLLUTION PREVENTION PLAN
COPPER HILL DRIVE
STA 10+00 TO STA 14+00

100% DESIGN	PROJECT NO: C-1628.05		DATE: JAN 2025
DRWN BY: MC/CDA/AJ	DSGN BY: CC/RR	CHKD BY: CB	SHEET: C1.04

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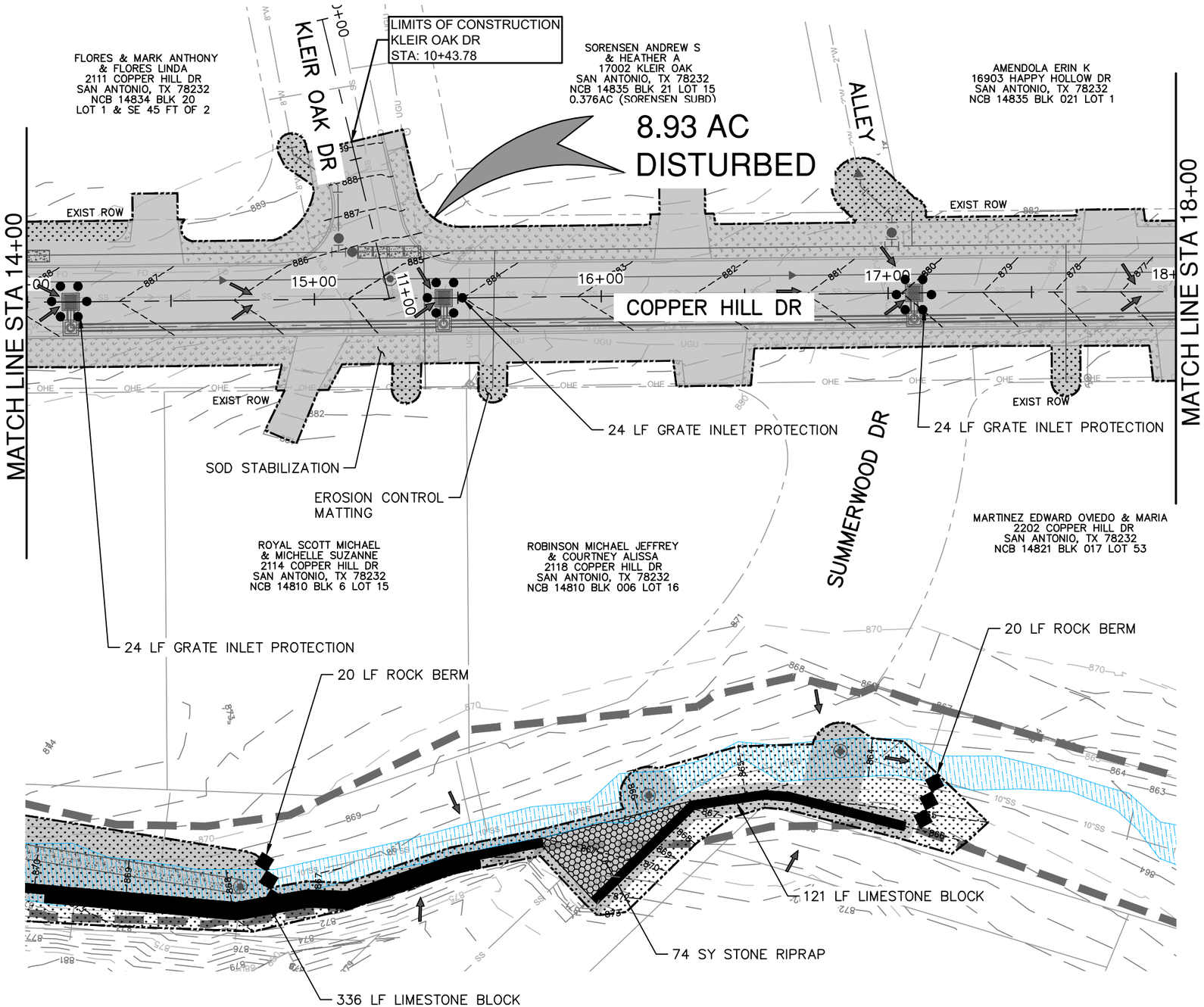
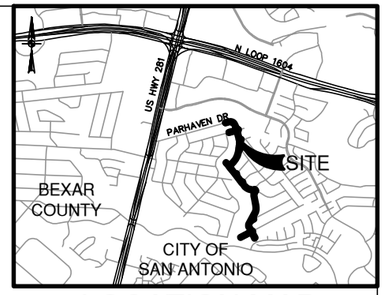




LOCATION MAP
NOT-TO-SCALE

SWP3 MODIFICATIONS		
DATE	SIGNATURE	DESCRIPTION

SWPPP LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- ROCK BERM
- SILT FENCE
- 100 YR FLOODPLAIN
- ROCK BERM
- GRAVEL FILTER BAGS
- GRATE INLET PROTECTION
- PROPOSED STONE RIPRAP
- PROPOSED EROSION CONTROL MATTING
- DISTURBED AREA/ PROJECT LIMITS
- FLOW ARROW
- ORDINARY HIGH WATER MARK
- LIMESTONE BLOCKS

SCALE:
HORZ 1"=40' 0 20 40
VERT 1"=10' 0 5 10

STATE OF TEXAS
JEAN L. AUTREY
128687
LICENSED
PROFESSIONAL ENGINEER
02/28/2025

REV	DATE	DESCRIPTION	BY

BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
TBPE F-001712 TBPLS 10020900
7073 San Pedro, San Antonio, Texas, 78216
Phone: 210-494-7223 Fax: 210-490-5120 WWW.BMBI.COM

CITY OF SAN ANTONIO
PUBLIC WORKS DEPARTMENT

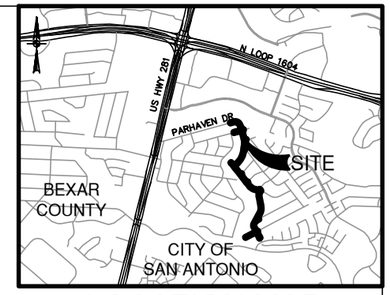
OAK HAVEN STREETS AND DRAINAGE
(KENTWOOD PH 2)
STORMWATER POLLUTION PREVENTION PLAN
COPPER HILL DRIVE
STA 14+00 TO STA 18+00

100% DESIGN	PROJECT NO: C-1628.05		DATE: JAN 2025
DRWN BY: MC/CDA/AJ	DSGN BY: CC/RR	CHKD BY: CB	SHEET: C1.05

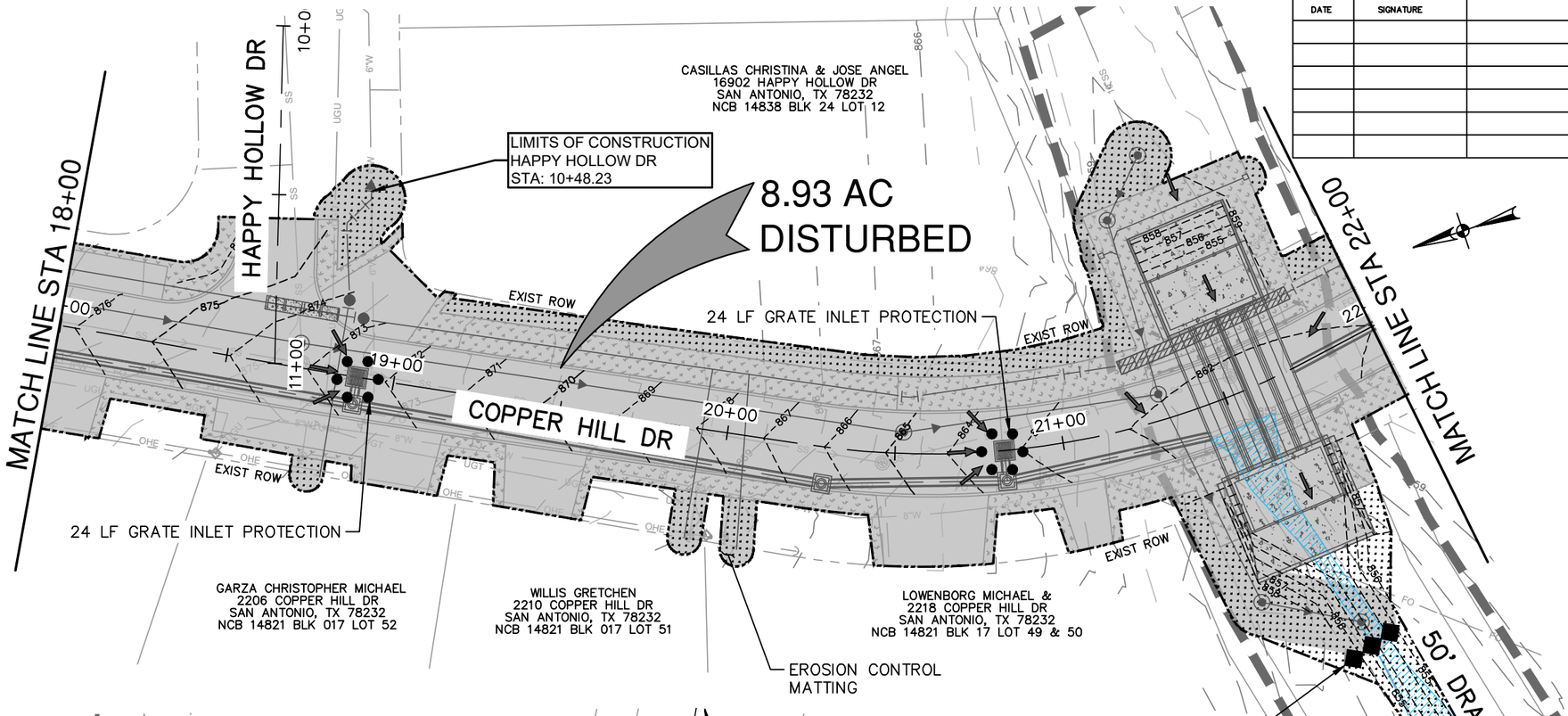
PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

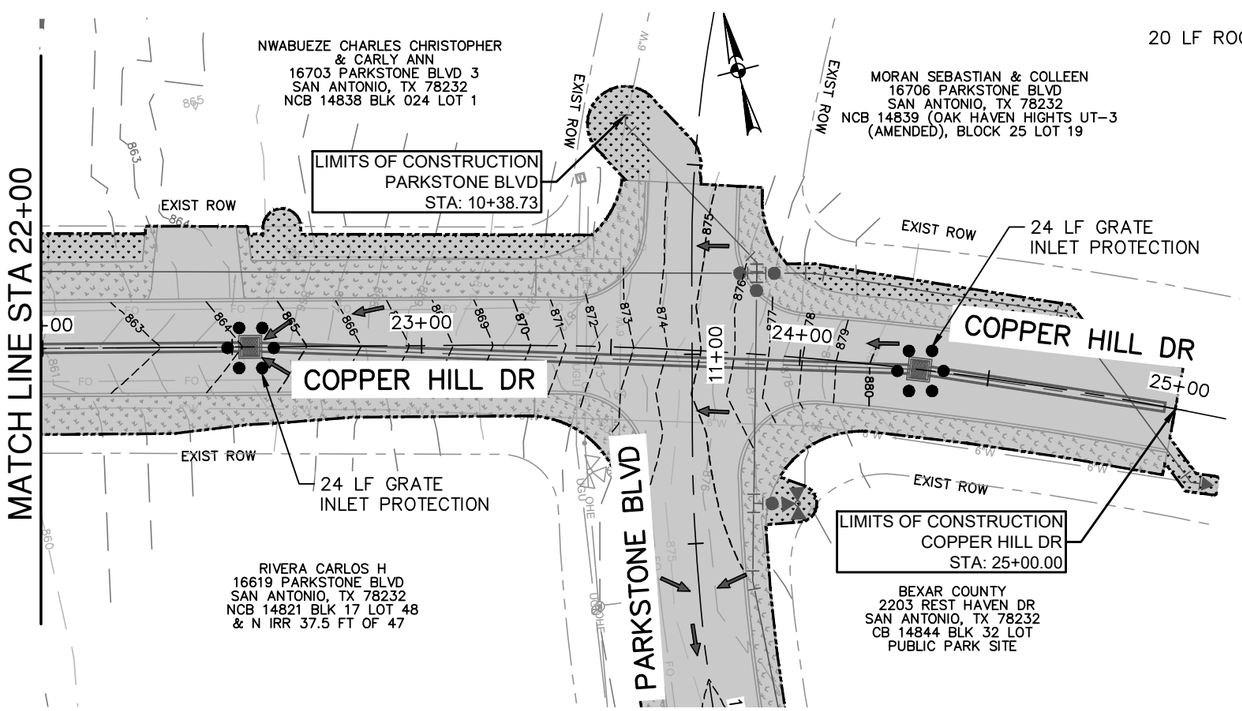
Date: July 26, 2024, 2:30 PM - User ID: robertjones
File: P:\131\60\00\Design\Civil\Base Plan 1316000.dwg

SWP3 MODIFICATIONS		
DATE	SIGNATURE	DESCRIPTION



LOCATION MAP
NOT-TO-SCALE





SWPPP LEGEND

- EXISTING MAJOR CONTOUR — 100
- EXISTING MINOR CONTOUR — 99
- PROPOSED MAJOR CONTOUR — 100
- PROPOSED MINOR CONTOUR — 99
- SILT FENCE
- 100 YR FLOODPLAIN
- ROCK BERM
- GRAVEL FILTER BAGS
- GRATE INLET PROTECTION
- PROPOSED STONE RIPRAP
- PROPOSED EROSION CONTROL MATTING
- DISTURBED AREA/ PROJECT LIMITS
- FLOW ARROW
- ORDINARY HIGH WATER MARK
- LIMESTONE BLOCKS

SCALE:
HORZ 1"=40'
VERT 1"=10'
0 20 40
0 5 10

REV	DATE	DESCRIPTION	BY

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CITY OF SAN ANTONIO
PUBLIC WORKS DEPARTMENT

OAK HAVEN STREETS AND DRAINAGE
(KENTWOOD PH 2)
STORMWATER POLLUTION PREVENTION PLAN
COPPER HILL DRIVE
STA 18+00 TO STA 24+50

STATE OF TEXAS
JEAN L. AUTREY
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02/28/2025

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

100% DESIGN	PROJECT NO: C-1628.05	DATE: JAN 2025
DRWN BY: MC/CDA/AJ	DSGN BY: CC/RR	CHKD BY: CB	SHEET: C1.06

Date: July 26, 2024, 2:30 PM – User ID: robertjones
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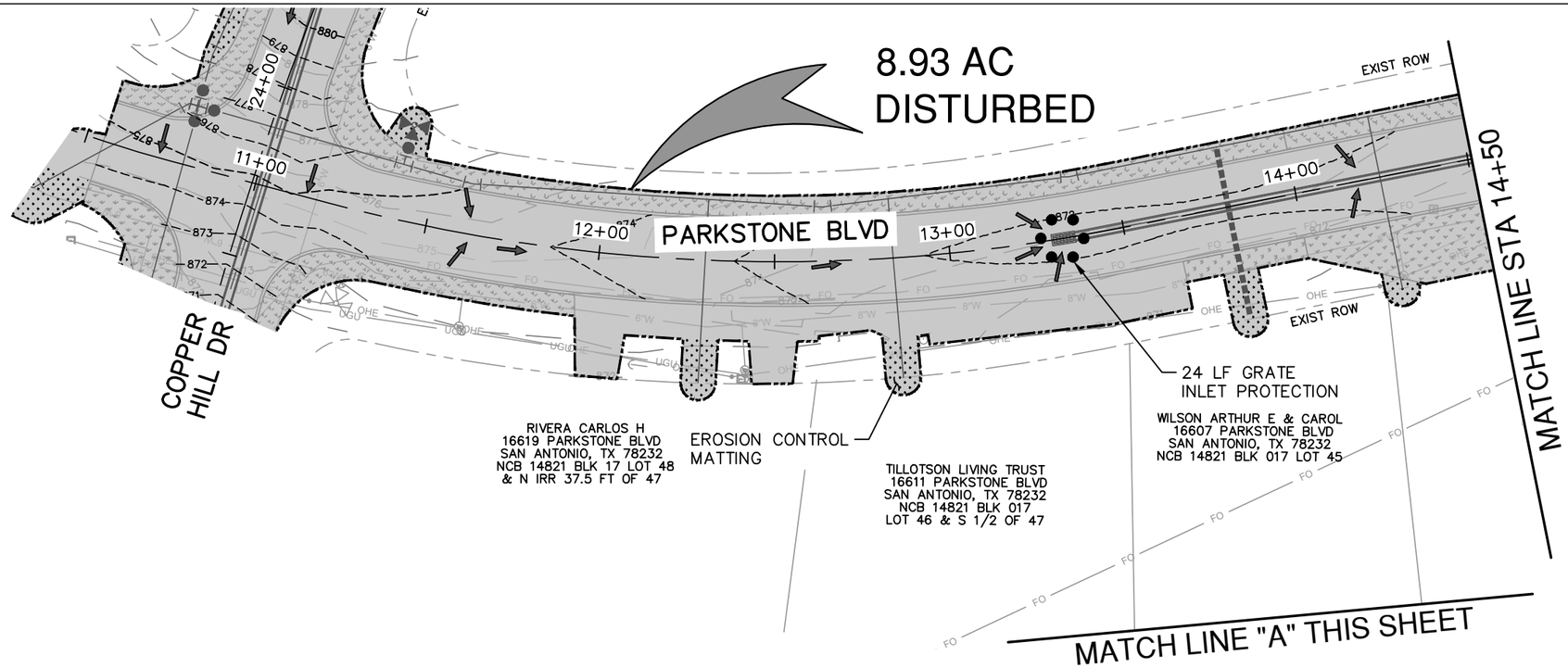

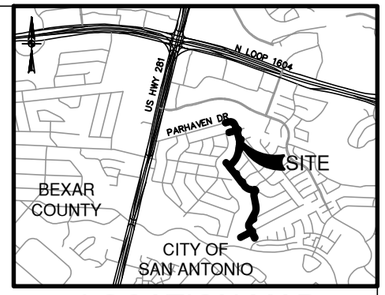

LOCATION MAP
NOT-TO-SCALE

SWPPP LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
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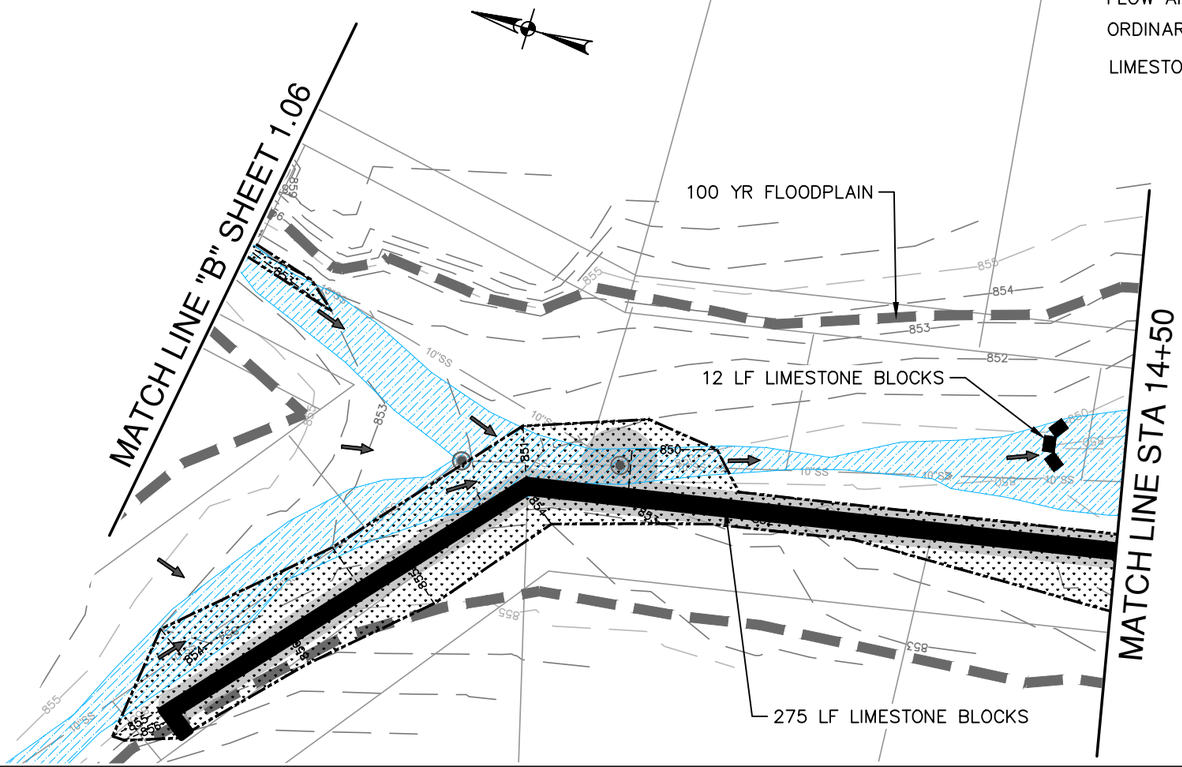

STATE OF TEXAS
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02/28/2025

SWP3 MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

SCALE:
HORZ 1"=40' 0 20 40
VERT 1"=10' 0 5 10

REV	DATE	DESCRIPTION	BY

BAIN MEDINA BAIN, INC.
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CITY OF SAN ANTONIO
PUBLIC WORKS DEPARTMENT

OAK HAVEN STREETS AND DRAINAGE
(KENTWOOD PH 2)
STORMWATER POLLUTION PREVENTION PLAN
PARKSTONE BLVD
STA 10+00 TO STA 14+50

100% DESIGN	PROJECT NO: C-1628.05	DATE: JAN 2025
DRWN BY: MC/CDA/AJ	DSGN BY: CC/RR CHKD BY: CB	SHEET: C1.07

Date: July 26, 2024, 2:31 PM - User ID: robertjones
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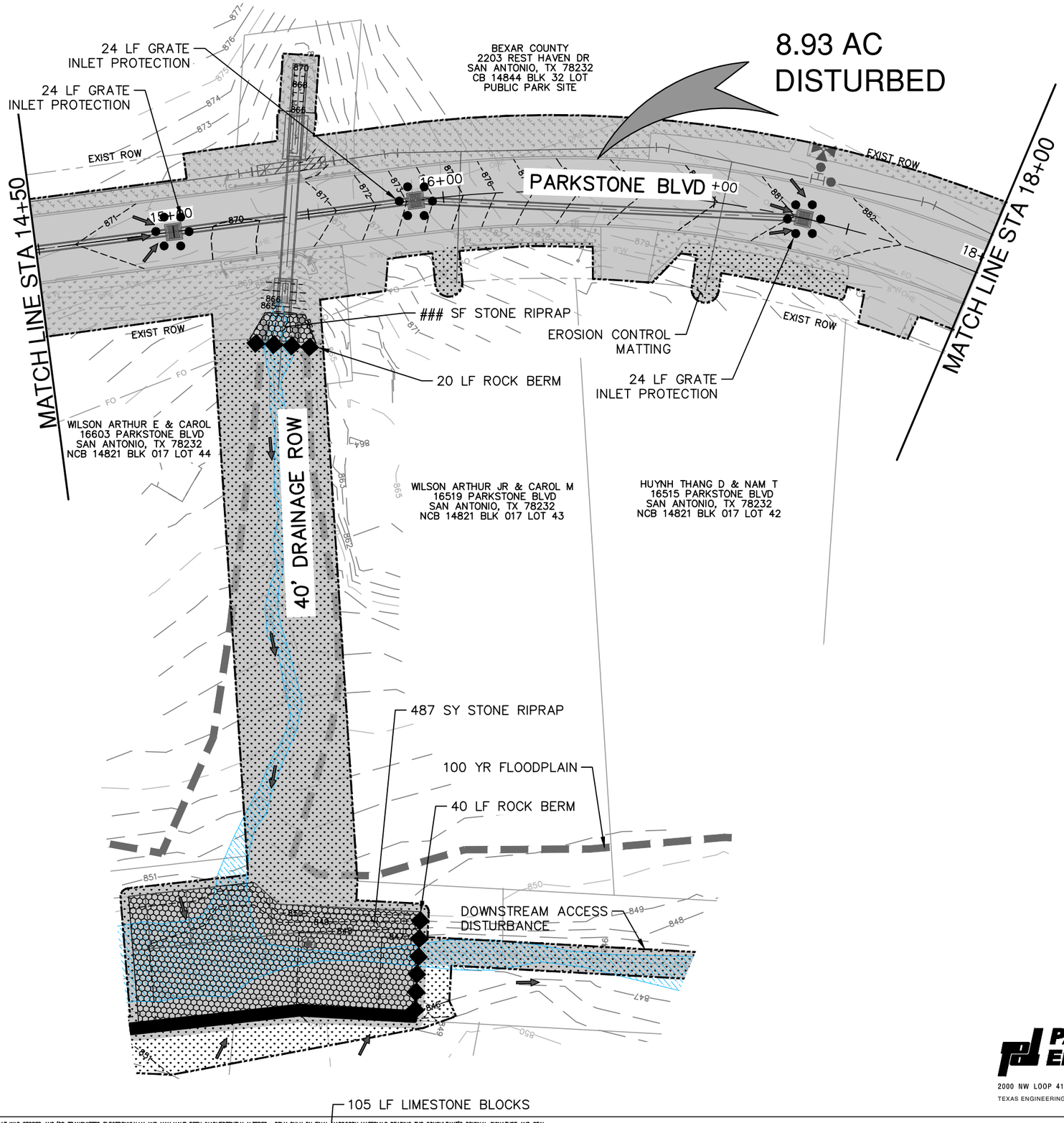

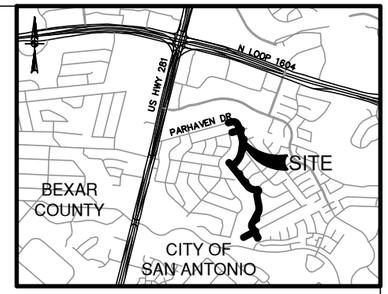

LOCATION MAP
NOT-TO-SCALE

SWP3 MODIFICATIONS		
DATE	SIGNATURE	DESCRIPTION

SWPPP LEGEND

- EXISTING MAJOR CONTOUR — 100
- EXISTING MINOR CONTOUR — 99
- PROPOSED MAJOR CONTOUR — 100
- PROPOSED MINOR CONTOUR — 99
- SILT FENCE
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- DISTURBED AREA/ PROJECT LIMITS
- FLOW ARROW
- ORDINARY HIGH WATER MARK
- LIMESTONE BLOCKS

SCALE:
HORZ 1"=40' 0 20 40
VERT 1"=10' 0 5 10

STATE OF TEXAS
JEAN L. AUTREY
128687
LICENSED
PROFESSIONAL ENGINEER
02/28/2025

REV	DATE	DESCRIPTION	BY

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CITY OF SAN ANTONIO
PUBLIC WORKS DEPARTMENT

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

OAK HAVEN STREETS AND DRAINAGE
(KENTWOOD PH 2)
STORMWATER POLLUTION PREVENTION PLAN
PARKSTONE BLVD
STA 14+50 TO STA 18+00

100% DESIGN	PROJECT NO: C-1628.05		DATE: JAN 2025
DRWN BY: MC/CDA/AJ	DSGN BY: CC/RR	CHKD BY: CB	SHEET: C1.08

Date: July 26, 2024, 2:31 PM - User ID: robertjones
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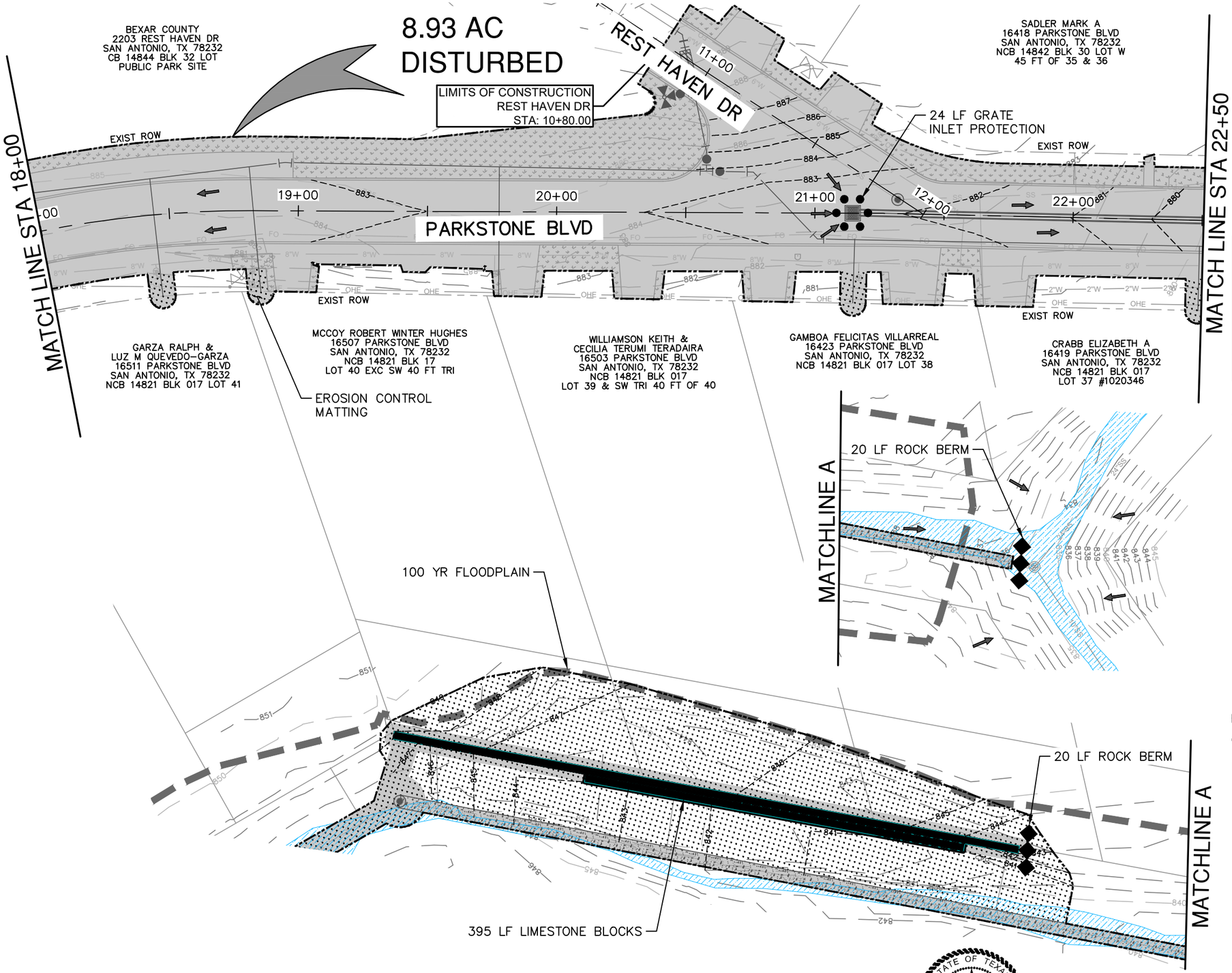

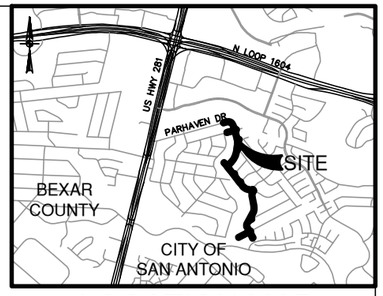

LOCATION MAP
NOT-TO-SCALE

SWP3 MODIFICATIONS		
DATE	SIGNATURE	DESCRIPTION

SWPPP LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- SILT FENCE
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- DISTURBED AREA/ PROJECT LIMITS
- FLOW ARROW
- ORDINARY HIGH WATER MARK
- LIMESTONE BLOCKS

SCALE:
HORZ 1"=40'
VERT 1"=10'
0 20 40
0 5 10

REV	DATE	DESCRIPTION	BY

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CITY OF SAN ANTONIO
PUBLIC WORKS DEPARTMENT

OAK HAVEN STREETS AND DRAINAGE
(KENTWOOD PH 2)
STORMWATER POLLUTION PREVENTION PLAN
PARKSTONE BLVD
STA 18+00 TO STA 22+50

100% DESIGN	PROJECT NO: C-1628.05		DATE: JAN 2025
DRWN BY: MC/CDA/AJ	DSGN BY: CC/RR	CHKD BY: CB	SHEET: C1.09

STATE OF TEXAS
JEAN L. AUTREY
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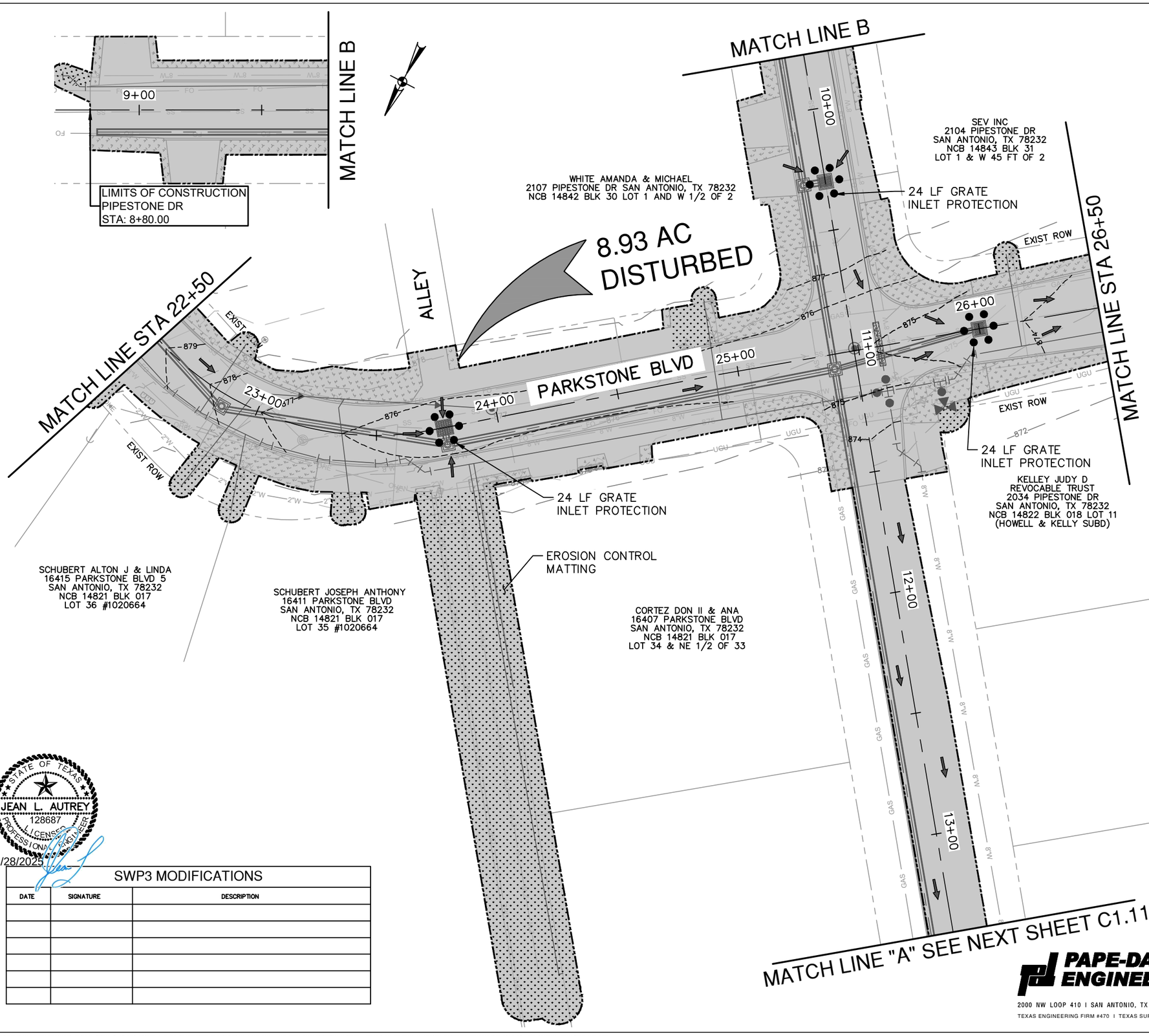
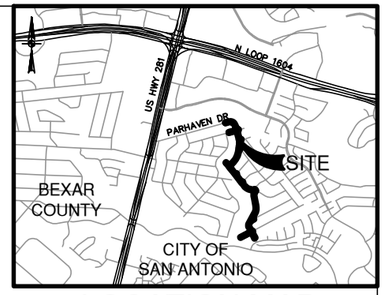
LICENSED
PROFESSIONAL ENGINEER
02/28/2025

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800





LOCATION MAP
NOT-TO-SCALE

SWPPP LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- SILT FENCE
- 100 YR FLOODPLAIN
- ROCK BERM
- GRAVEL FILTER BAGS
- GRATE INLET PROTECTION
- PROPOSED STONE RIPRAP
- PROPOSED EROSION CONTROL MATTING
- DISTURBED AREA/ PROJECT LIMITS
- FLOW ARROW
- ORDINARY HIGH WATER MARK
- LIMESTONE BLOCKS

SCALE:
HORZ 1"=40'
VERT 1"=10'
0 20 40
0 5 10

STATE OF TEXAS
JEAN L. AUTREY
128687
LICENSED
PROFESSIONAL ENGINEER
02/28/2025

SWP3 MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

REV	DATE	DESCRIPTION	BY

BAIN MEDINA BAIN, INC.
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7073 San Pedro, San Antonio, Texas, 78216
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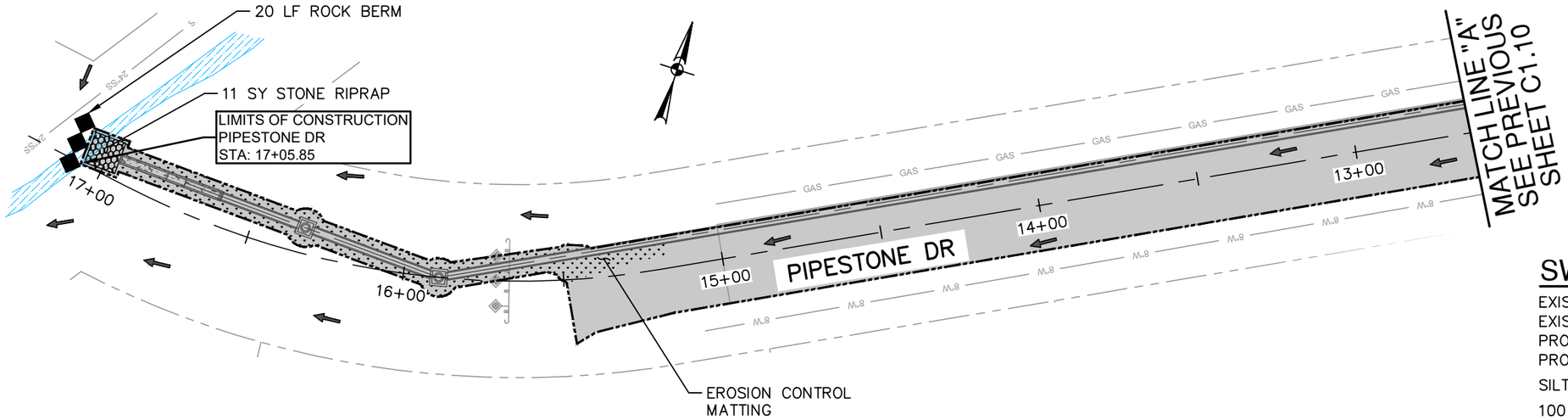
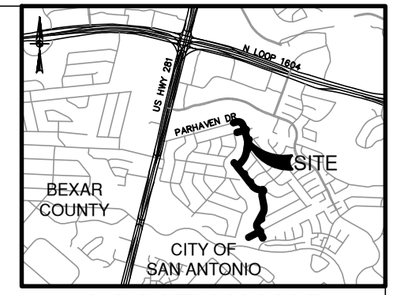
CITY OF SAN ANTONIO
PUBLIC WORKS DEPARTMENT

OAK HAVEN STREETS AND DRAINAGE
(KENTWOOD PH 2)
STORMWATER POLLUTION PREVENTION PLAN
PARKSTONE BLVD
STA 22+50 TO STA 26+50

100% DESIGN	PROJECT NO: C-1628.05	DATE: JAN 2025
DRWN BY: MC/CDA/AJ	DSGN BY: CC/RR CHKD BY: CB	SHEET: C1.10

PAPE-DAWSON ENGINEERS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

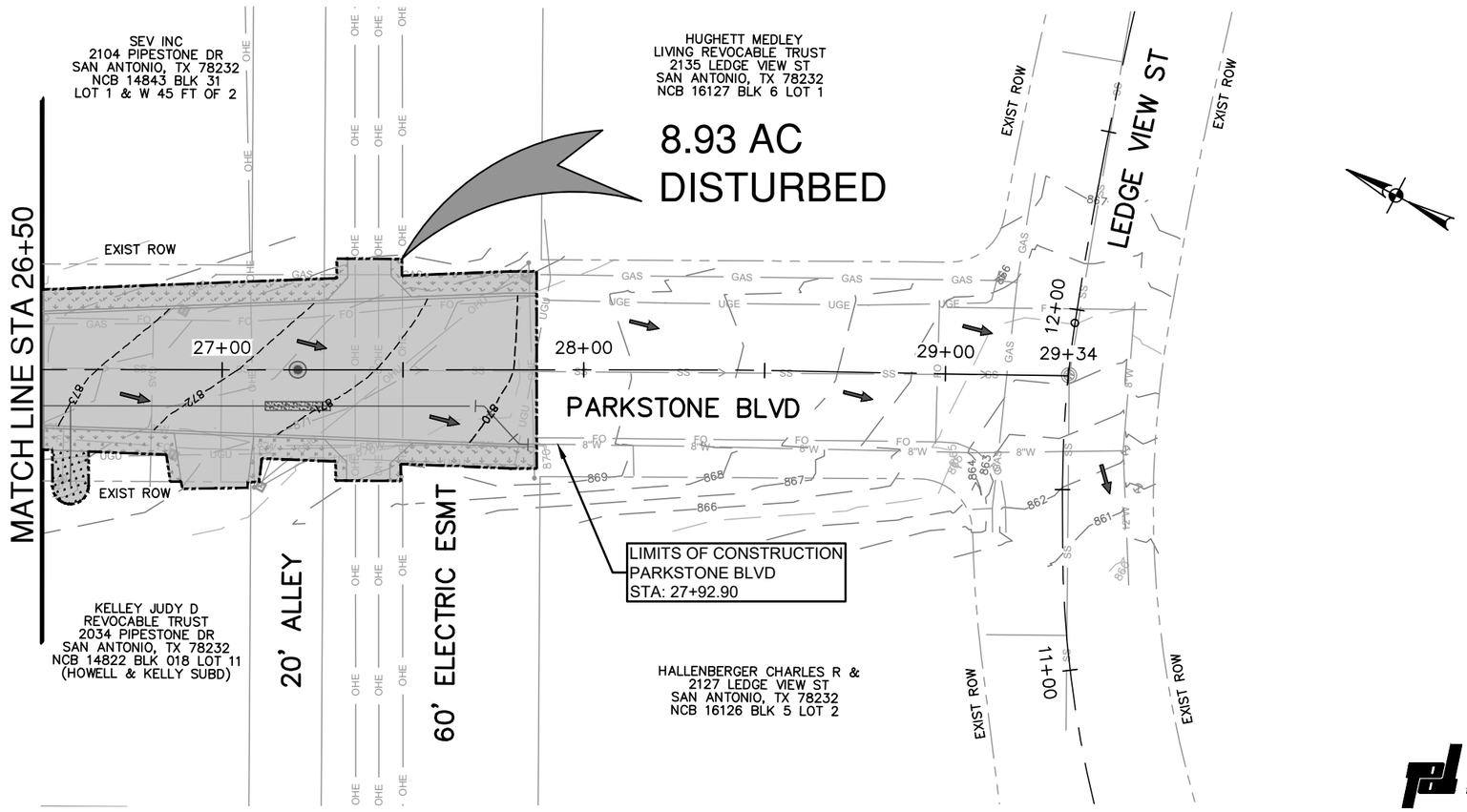




LOCATION MAP
NOT-TO-SCALE

SWPPP LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- SILT FENCE
- 100 YR FLOODPLAIN
- ROCK BERM
- GRAVEL FILTER BAGS
- GRATE INLET PROTECTION
- PROPOSED STONE RIPRAP
- PROPOSED EROSION CONTROL MATTING
- DISTURBED AREA/ PROJECT LIMITS
- FLOW ARROW
- ORDINARY HIGH WATER MARK
- LIMESTONE BLOCKS



SWP3 MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

SCALE:
HORZ 1"=40'
VERT 1"=10'
0 20 40
0 5 10

STATE OF TEXAS
JEAN L. AUTREY
128687
LICENSED
PROFESSIONAL ENGINEER
02/28/2025

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CITY OF SAN ANTONIO
PUBLIC WORKS DEPARTMENT

OAK HAVEN STREETS AND DRAINAGE
(KENTWOOD PH 2)
STORMWATER POLLUTION PREVENTION PLAN
PARKSTONE BLVD
STA 26+50 TO STA 29+34

100% DESIGN	PROJECT NO: C-1628.05		DATE: JAN 2025
DRWN BY: MC/CDA/AJ	DSGN BY: CC/RR	CHKD BY: CB	SHEET: C1.11

GENERAL NOTES

1. DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.

2. CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASH-OUT PIT, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD TO BE DETERMINED IN THE FIELD.

3. STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.

4. RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.

5. ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.

6. FOR A COMPLETE LISTING OF TEMPORARY STORM WATER POLLUTION PREVENTION CONTROLS REFER TO THE TPDES STORM WATER POLLUTION PREVENTION PLAN.

7. STORM WATER POLLUTION PREVENTION STRUCTURES SHOULD BE CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL CLARITY.

8. AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.

9. BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADIENT AREAS.

10. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES REQUIREMENTS.

11. UPON COMPLETION OF THE PROJECT, INCLUDING SITE STABILIZATION, AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK BERMS AND LIMESTONEBLOCKS IN DRAINAGE FEATURES.

12. WHERE VEGETATED FILTER STRIPS ARE INDICATED, CONTRACTOR SHALL VERIFY THAT SUFFICIENT VEGETATION EXISTS, OTHERWISE CONTRACTOR SHALL PLACE SILT FENCING IN LIEU OF VEGETATED FILTER STRIP.

13. SHADED AREA DENOTES LIMITS OF DISTURBED AREAS. OTHER AREAS WITHIN THE PROJECT LIMITS, WITH THE EXCEPTION OF A CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD, ARE NOT A PART OF THIS TPDES STORM WATER POLLUTION PREVENTION PLAN (SWP3) AND WILL NOT BE DISTURBED BY CIVIL CONSTRUCTION ACTIVITIES.

SCALE:
HORZ 1"=40'
VERT 1"=10'
0 20 40
0 5 10

REV	DATE	DESCRIPTION	BY

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02/28/2025

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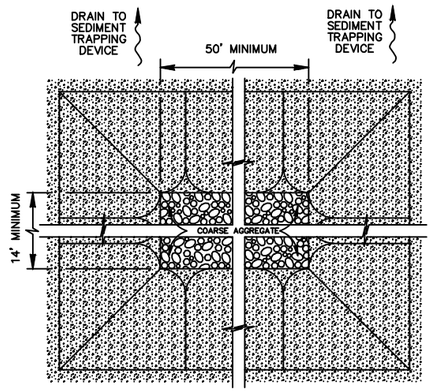
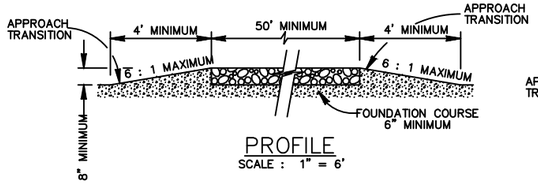
OAK HAVEN STREETS AND DRAINAGE
(KENTWOOD PH 2)
STORMWATER POLLUTION PREVENTION PLAN
GENERAL NOTES

100% DESIGN	PROJECT NO: C-1628.05		DATE: JAN 2025
DRWN BY: MC/CDA/AJ	DSGN BY: CC/RR	CHKD BY: CB	SHEET: C2.00



PLAN

SCALE : 1" = 6'



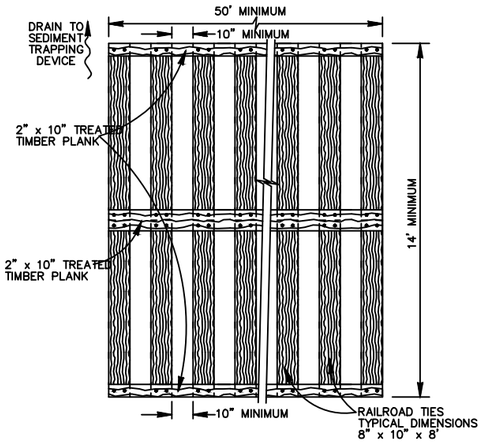
PROFILE

SCALE : 1" = 6'

GENERAL NOTES

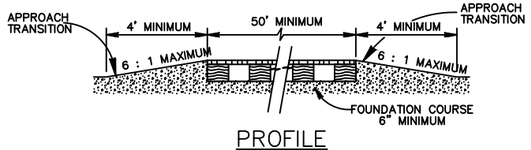
1. THE LENGTH OF THE TYPE 1 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'.
2. THE COARSE AGGREGATE SHOULD BE OPEN GRADED WITH A SIZE OF 4" TO 8".
3. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6 : 1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
4. THE CONSTRUCTION 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" = 6'



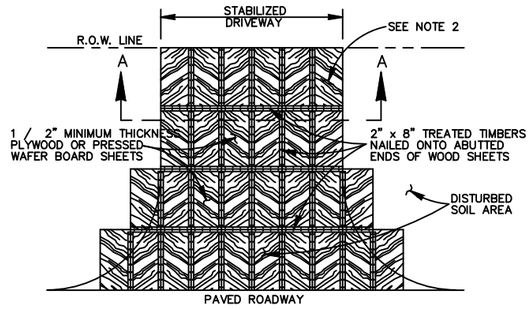
PROFILE

SCALE : 1" = 6'

GENERAL NOTES

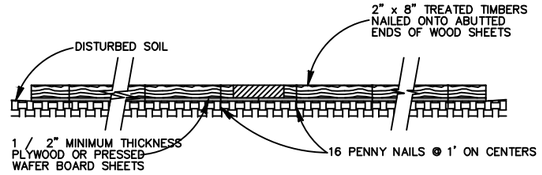
1. THE LENGTH OF THE TYPE 2 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'.
2. THE TREATED TIMBER PLANKS SHALL BE ATTACHED TO THE RAILROAD TIES WITH 1 / 2" x 6" MIN. LAG BOLTS. OTHER FASTENERS MAY BE USED AS APPROVED BY THE ENGINEER.
3. THE TREATED TIMBER PLANKS SHALL BE #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'



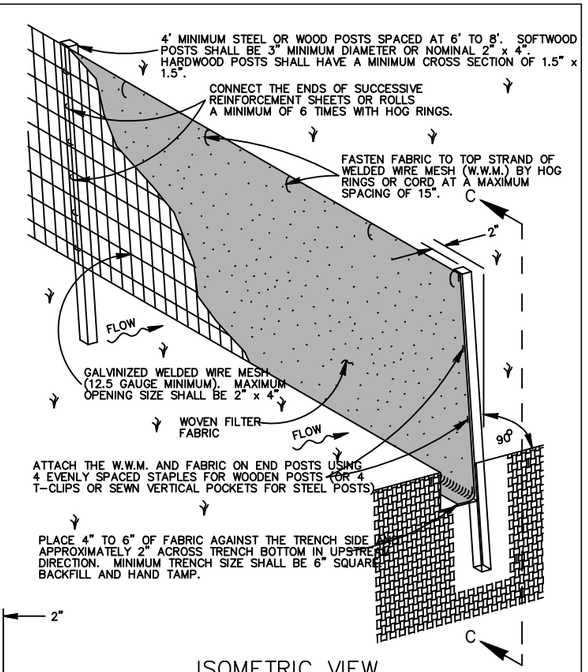
SECTION A–A

SCALE : 1" = 2'

GENERAL NOTES

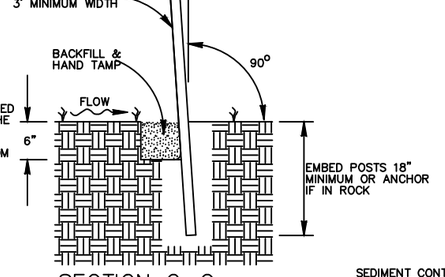
1. THE LENGTH OF THE TYPE 3 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
2. THE TYPE 3 CONSTRUCTION EXIT MAY BE CONSTRUCTED FROM OPEN GRADED CRUSHED STONE WITH A SIZE OF 2 TO 4 INCHES SPREAD A MINIMUM OF 4 INCHES THICK TO THE LIMITS SHOWN ON THE PLANS.
3. THE 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 OVERLAND RUN–OFF. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED.

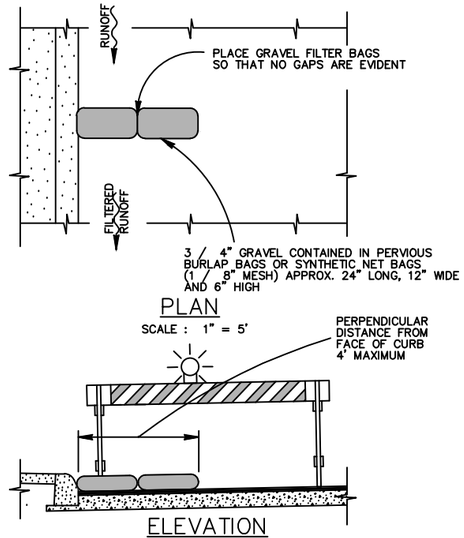
SEDIMENT CONTROL FENCE SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 100 GPM / FT SQUARED. SEDIMENT CONTROL FENCE IS NOT RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA LARGER THAN 2 ACRES.

GENERAL NOTES

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

SCALE: HORZ: 1"=10' (0, 20, 40) VERT: 1"=10' (0, 5, 10)

TEMPORARY SEDIMENT CONTROL FENCE



PLAN

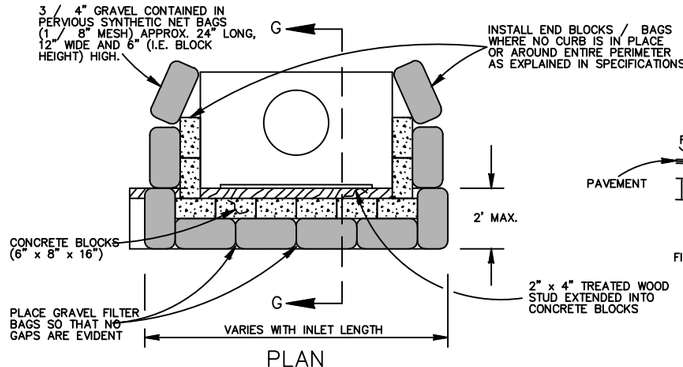
SCALE : 1" = 5'

ELEVATION

SCALE : 1" = 5'

NOTE:
STRADDLE 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.

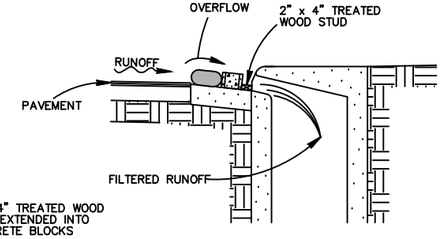
GRAVEL FILTER BAGS



PLAN

SCALE : 1" = 5'

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



SECTION G–G

SCALE : 1" = 5'

CURB INLET GRAVEL FILTER

STATE OF TEXAS
JEAN L. AUTREY
128687
LICENSED
PROFESSIONAL ENGINEER

02/28/2025

REV	DATE	DESCRIPTION	BY

BAIN MEDINA BAIN, INC.
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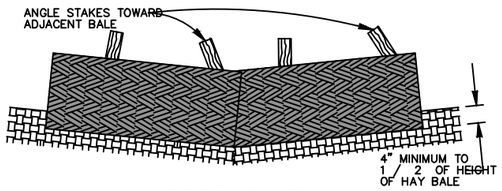
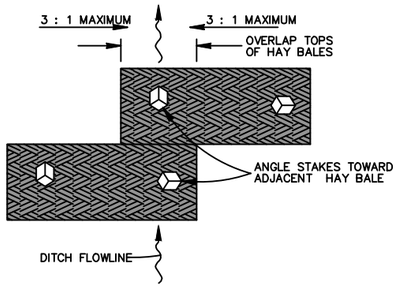
CITY OF SAN ANTONIO
PUBLIC WORKS DEPARTMENT

OAK HAVEN STREETS AND DRAINAGE
(KENTWOOD PH 2)
STORMWATER POLLUTION PREVENTION PLAN
DETAILS 1

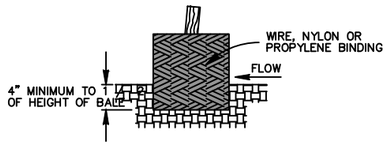
100% DESIGN	PROJECT NO: C–1628.05	DATE: JAN 2025
DRWN BY: MC/CDA/AJ	DSGN BY: CC/RR	CHKD BY: CB
		SHEET: C2.01



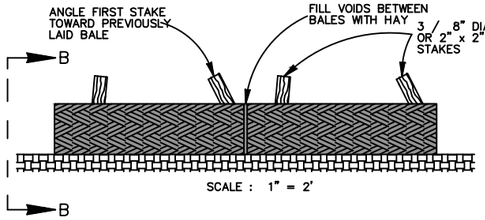
PROFILE VIEW
SCALE : 1" = 2'



PLAN VIEW
SCALE : 1" = 2'



SECTION B–B
SCALE : 1" = 2'



SCALE : 1" = 2'

BALED HAY USAGE GUIDELINES

A BAILED 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 MAXIMUM 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 LESS THAN 100'. IF THE SLOPE OF THE DISTURBED SOIL EXCEEDS 10 %, THE LENGTH OF SLOPE UPSTREAM OF THE BAILED 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 CONDITIONAL CONSIDERATIONS APPLY:

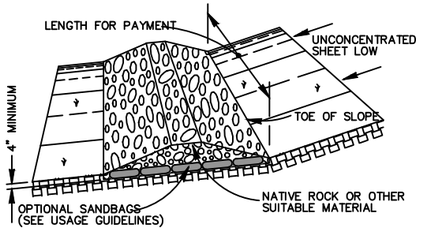
1. THE DITCH SIDESLOPES SHOULD BE GRADED AS FLAT AS POSSIBLE TO MAXIMIZE THE DRAINAGE FLOW RATE THRU THE HAY.
2. THE DITCH SHOULD BE GRADED LARGE ENOUGH TO CONTAIN THE OVERLAPPING DRAINAGE WHEN SEDIMENT HAS FILLED TO THE TOP OF THE BAILED HAY.

BALES SHOULD BE REPLACED USUALLY EVERY 2 MONTHS OR MORE OFTEN DURING WET WEATHER WHEN LOSS OF STRUCTURAL INTERGRITY IS ACCELERATED.

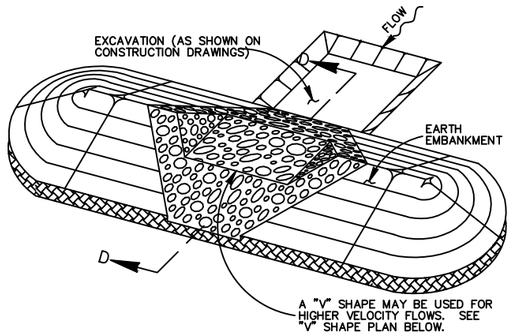
GENERAL NOTES

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 MININMUM 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 3 / 8" 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.

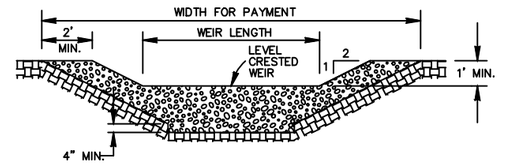
BALED HAY FOR EROSION CONTROL



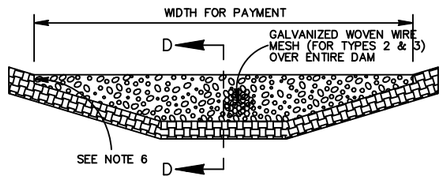
TYPE 1 FILTER DAM AT TOE OF SLOPE
SCALE : 1" = 10'



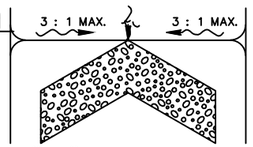
TYPE 1 & 2 FILTER DAM AT SEDIMENT TRAP
SCALE : 1" = 10'



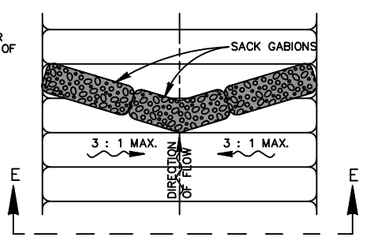
PROFILE OF TYPE 1 & 2 FILTER DAM AT SEDIMENT TRAP
SCALE : 1" = 6'



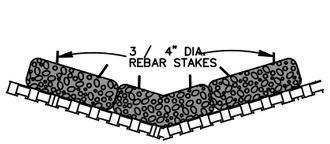
TYPE 1, 2 & 3 FILTER DAM AT CHANNEL SECTIONS
SCALE : 1" = 6'



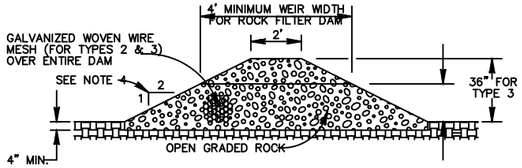
"V" SHAPE PLAN VIEW
NOT TO SCALE



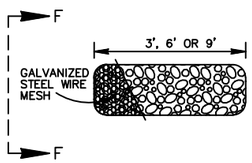
PLAN VIEW
SCALE : 1" = 10'



SECTION E–E
SCALE : 1" = 10'



SECTION D–D
SCALE : 1" = 6'



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

SECTION F–F
SCALE : 1" = 6'

TYPE 4 FILTER DAM AT DITCHES & SMALLER CHANNELS PLAN VIEW

ROCK FILTER DAMS

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 (18" HIGH WITH NO WIRE MESH) :

TYPE 1 MAY BE USED AT THE TOE OF SLOPES, AROUND INLETS, IN SMALL DITCHES AND AT DIKE 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 WASH OUT MAY OCCUR. SANDBAGS MAY BE USED AT THE EMBEDDED FOUNDATION (4" DEEP MIN.) FOR BETTER FILTERING EFFICIENCY OF LOW FLOWS IF CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

TYPE 2 (18" HIGH WITH WIRE MESH) :

TYPE 2 MAY BE USED IN DITCHES AND AT DIKE 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 WITHIN 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 AT THE UPSTREAM SIDE OVER THE AGGREGATE AND TIGHTLY 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.

SCALE:
HORZ 1"=40' 0 20 40
VERT 1"=10' 0 5 10

REV	DATE	DESCRIPTION	BY

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CITY OF SAN ANTONIO
PUBLIC WORKS DEPARTMENT

OAK HAVEN STREETS AND DRAINAGE
(KENTWOOD PH 2)
STORMWATER POLLUTION PREVENTION PLAN
DETAILS 2

100% DESIGN	PROJECT NO: C–1628.05		DATE: JAN 2025
DRWN BY: MC/CDA/AJ	DSGN BY: CC/RR	CHKD BY: CB	SHEET: C2.02

STATE OF TEXAS
JEAN L. AUTREY
128687
LICENSED
PROFESSIONAL ENGINEER
02/28/2025