MHR Engineering, LLC.
Development . Transportation . Water Resources . Civil . Environmental . Surveying

WATER POLLUTION ABATEMENT PLAN MODIFICATION

ARIA TOWNHOMES

City of San Antonio
Bexar County, Texas



05/09/2025

16845 Blanco Road, Suite 106, San Antonio, TX 78232
Tel: 210.641.0543 Fax: 210.497.2227 www.mhreng.com

Modification of a Previously Approved Plan Checklist

X **Edwards Aquifer Application Cover Page (TCEQ-20705)**

X **General Information Form (TCEQ-0587)**

Attachment A - Road Map
Attachment B - USGS / Edwards Recharge Zone Map
Attachment C - Project Description

X **Geologic Assessment Form (TCEQ-0585)**

Attachment A - Geologic Assessment Table, TCEQ-0585-Table
Comments to the Geologic Assessment Table
Attachment B - Soil Profile and Narrative of Soil Units
Attachment C - Stratigraphic Column
Attachment D - Narrative of Site Specific Geology
Site Geologic Map(s)
Table or list for the position of features' latitude/longitude (if mapped using GPS)

X **Modification of a Previously Approved Plan (TCEQ-0590)**

ATTACHMENT A - Original Approval Letter and Approved Modification Letters
ATTACHMENT B - Narrative of Proposed Modification
ATTACHMENT C - Current Site Plan of the Approved Project

X **Application Form (appropriate for the modification):**

Aboveground Storage Tank Facility Plan (TCEQ-0575)
Organized Sewage Collection System Application (TCEQ-0582)
Underground Storage Tank Facility Plan (TCEQ-0583)
Water Pollution Abatement Plan Application (TCEQ-0584)
Lift Station / Force Main System Application (TCEQ-0624)

X **Temporary Stormwater Section (TCEQ-0602), if necessary**

Attachment A - Spill Response Actions
Attachment B - Potential Sources of Contamination
Attachment C - Sequence of Major Activities
Attachment D - Temporary Best Management Practices and Measures
Attachment E - Request to Temporarily Seal a Feature, if sealing a feature
Attachment F - Structural Practices
Attachment G - Drainage Area Map
Attachment H - Temporary Sediment Pond(s) Plans and Calculations
Attachment I - Inspection and Maintenance for BMPs
Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices

X **Permanent Stormwater Section (TCEQ-0600), if necessary**

Attachment A - 20% or Less Impervious Cover Declaration, if project is multi-family residential, a school, or a small business and 20% or less impervious cover is proposed for the site
Attachment B - BMPs for Upgradient Stormwater
Attachment C - BMPs for On-site Stormwater
Attachment D - BMPs for Surface Streams
Attachment E - Request to Seal Features, if sealing a feature
Attachment F - Construction Plans
Attachment G - Inspection, Maintenance, Repair and Retrofit Plan
Attachment H - Pilot-Scale Field Testing Plan, if BMPs not based on Complying with the Edwards Aquifer Rules: Technical Guidance for BMPs
Attachment I -Measures for Minimizing Surface Stream Contamination

X **Agent Authorization Form (TCEQ-0599), if application submitted by agent**

X **Application Fee Form (TCEQ-0574)**

X **Check Payable to the "Texas Commission on Environmental Quality"**

X **Core Data Form (TCEQ-10400)**

Edwards Aquifer Application Cover

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 will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited**.
4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: Aria Townhomes						**2. Regulated Entity No.:** RN107600454			
3. Customer Name: Aria Property Group LLC						**4. Customer No.:** CN603724477			
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):**			3.277
9. Application Fee:	4,000		**10. Permanent BMP(s):**			Existing Partial Sedimentation Basin A			
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Bexar		**14. Watershed:**			Salado			

Application Distribution

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

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

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	___	___	___
Region (1 req.)	___	___	___
County(ies)	___	___	___
Groundwater Conservation District(s)	___Edwards Aquifer Authority ___Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	___Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	___Austin ___Buda ___Dripping Springs ___Kyle ___Mountain City ___San Marcos ___Wimberley ___Woodcreek	___Austin ___Bee Cave ___Pflugerville ___Rollingwood ___Round Rock ___Sunset Valley ___West Lake Hills	___Austin ___Cedar Park ___Florence ___Georgetown ___Jerrell ___Leander ___Liberty Hill ___Pflugerville ___Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	___	___	___	___	___
Region (1 req.)	___	___	___	___	___
County(ies)	___	___	___	___	___
Groundwater Conservation District(s)	X_ Edwards Aquifer Authority ___Trinity-Glen Rose	___Edwards Aquifer Authority	___Kinney	___EAA ___Medina	___EAA ___Uvalde
City(ies) Jurisdiction	___Castle Hills ___Fair Oaks Ranch ___Helotes ___Hill Country Village ___Hollywood Park X_San Antonio (SAWS) ___Shavano Park	___Bulverde ___Fair Oaks Ranch ___Garden Ridge ___New Braunfels ___Schertz	NA	___San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. Harun Rashid, P.E., RPLS
Print Name of Customer/Authorized Agent  05/09/25
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: Harun Rashid, P.E., RPLS

Date: 05/09/24

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Aria Townhomes
2. County: Bexar
3. Stream Basin: Trib 1 to Elm Waterhole 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: Reza Fakhri
   Entity: Aria Property Group LLC
   Mailing Address: 20711 Cactus Loop
   City, State: San Antonio, Texas Zip: 78258
   Telephone: 210-317-2590 FAX: _____
   Email Address: ariatownhomes@gmail.com

8. Agent/Representative (If any):
   Contact Person: Harun Rashid, P.E., RPLS
   Entity: MHR Engineering
   Mailing Address: 16845 Blanco Rd, Suite #106
   City, State: San Antonio, Texas Zip: 78232
   Telephone: 210-641-0543 FAX: _____
   Email Address: hrashid@mhreng.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.

    390' Northeast from the intersection on Bulverde Rd and Roseheart

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: _____

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)

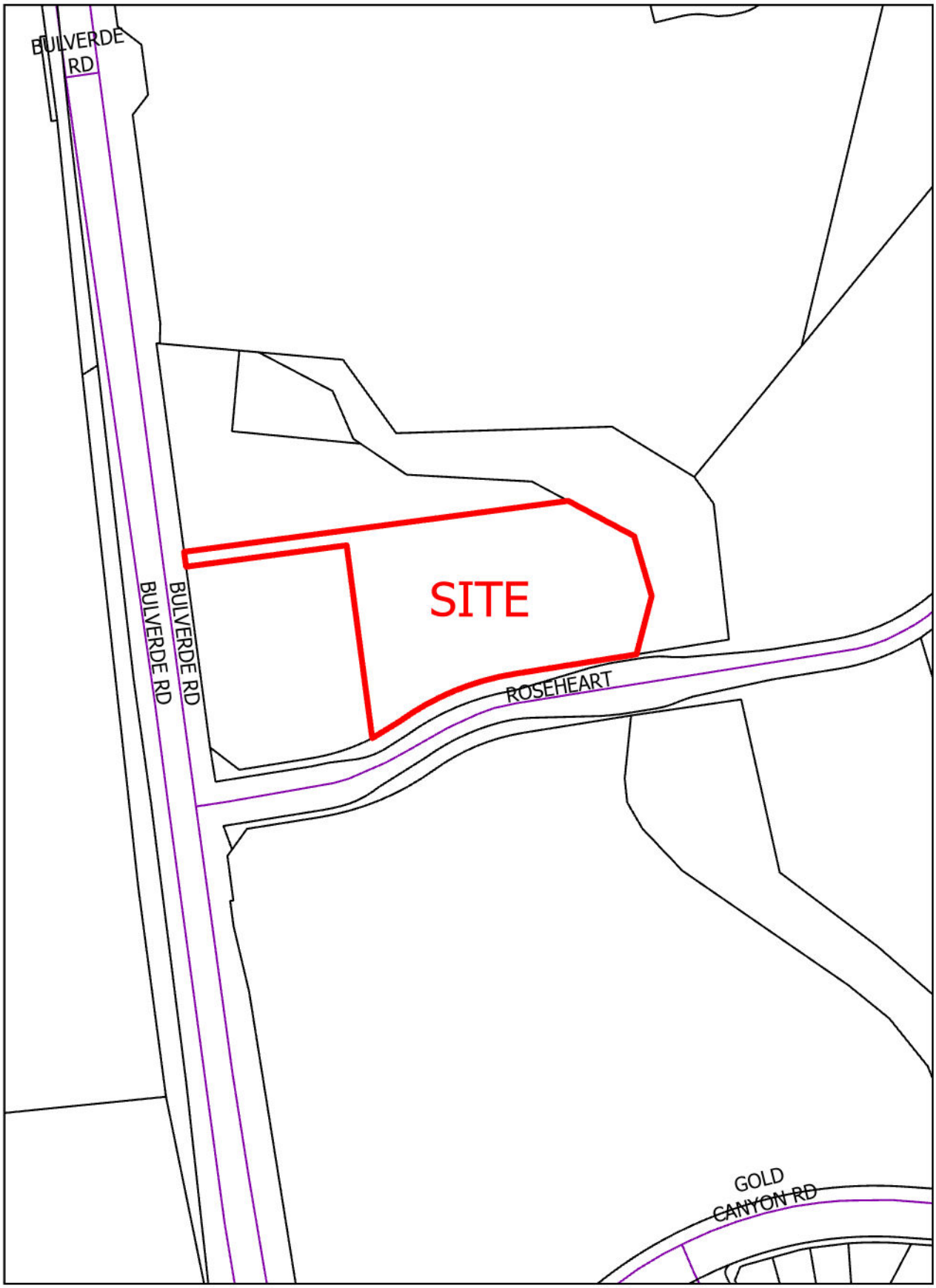
20. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies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

ROAD MAP

ROAD MAP



MHR ENGINEERING

0 70 140 280 420 560
Feet

ATTACHMENT- B

USGS MAP

USGS/LONGHORN, TX MAP

N

Recharge Zone

SITE

DOWNSTREAM TO EXISTING POND

Artesian Zone

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MHR ENGINEERING

0 500 1,000 2,000 3,000 4,000 Feet

ATTACHMENT- C
Project Descriptions

Proposed development of "Aria Townhomes" will be developed on a 3.277-acre property described as Lot 2, Block 12, NCB 17728, "Bulverde Road at Roseheart" Subdivision recorded in Volume 9691, Page 25, Deed and Plat Records, Bexar County, Texas. Property is located at 19330 Bulverde Road.

Proposed development will include site clearing, grading, installation of water mains and sanitary sewer lateral.

A partial sedimentation water quality basin has been installed at the eastside of said Lot 2 as the permanent BMP under Edwards Aquifer Regulated Entity No. RN107600454 (Bulverde Self Storage project) and the Customer Number CN604712315.

Proposed development of said 3.277-acre property will be treated by the existing Basin A. This basin had been approved for a total impervious cover of 4.11 acres on 7.662-acre property. Development on Lot 3 has a separate sedimentation and filtration basin.

Existing permanent BMP has the capacity to treat Total Suspended Solids (TSS) generated by the proposed development on said 3.277-acre property. These BMPs have been designed to remove 89% of the increased TSS for the entire development in accordance with the TCEQ Technical Guidance Manual RG-348 (2005).

Geologic Assessment Form

TCEQ-0585

GEOLOGIC ASSESSMENT (WPAP)

ARIA TOWNHOMES
+/- 3.277 ACRES
SAN ANTONIO, TEXAS

FROST GEOSCIENCES, INC. PROJECT NO.: FGS-E25171
JUNE 30, 2025

Prepared exclusively for

Aria Property Group, LLC.
20711 Cactus Loop
San Antonio, Texas 78258

Frost GeoSciences
Geotechnical ▪ Construction Materials
Geologic ▪ Environmental

Frost GeoSciences
Geotechnical ▪ Construction Materials
Geologic ▪ Environmental

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www.frostgeosciences.com
TBPE Firm Registration # F-9227
TBPG Firm Registration # 50040

June 30, 2025

Aria Property Group, LLC.
20711 Cactus Loop
San Antonio, Texas 78258

Attn: Mr. Reza Fakhri

SUBJECT:
Geologic Assessment (WPAP)
for the Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
Aria Townhomes
+/- 3.277 Acres
San Antonio, Texas
FGS Project No FGS-E25171

Dear Mr. Fakhri:

Frost GeoSciences, Inc., (FGS) is pleased to submit the enclosed Geologic Assessment completed for the above referenced project site as it relates to 30 TAC §213.5(b)(3), effective June 1, 1999. Our investigation was conducted, and this report was prepared in general accordance with the Texas Commission on Environmental Quality (TCEQ) "Instructions to Geologists", TCEQ-0585-Instructions (Rev. 10-1-04).

If you have any questions regarding this report, or if Frost GeoSciences, Inc. may be of additional assistance to you on this project, please feel free to call our office. It has been a pleasure to work with you, and we wish to thank you for the opportunity to be of service to you on this project. We look forward to being of continued service.

We appreciate the opportunity to perform these services for Aria Property Group, LLC. Please contact the undersigned if you have questions regarding this report.

Respectfully submitted,
Frost GeoSciences, Inc.

Ethan Levine
Project Geologist

Steve Frost, C.P.G., P.G.
President,
Principal Geologist

Copies Submitted: (1) Mr. Reza Fakhri; Aria Property Group, LLC.
(1) Electronic (pdf) Copy

TABLE OF CONTENTS

GEOLOGIC ASSESSMENT 1

STRATIGRAPHIC COLUMN 4

GEOLOGIC ASSESSMENT TABLE 5

LOCATION 6

METHODOLOGY 6

RESEARCH & OBSERVATIONS 7
- ***7.5 Minute Quadrangle Map Review*** 7
- ***Bexar County Watersheds Map*** 7
- ***Recharge/Transition Zone*** 7
- *100-Year Floodplain* 7
- ***Soils*** 7
- ***Narrative Description of the Site Geology*** 8

BEST MANAGEMENT PRACTICES 10

DISCLAIMER 10

REFERENCES 11

APPENDIX A - SITE LOCATION FIGURES
- ***Figure 1: Site Layout***
- ***Figure 2: Street Map***
- ***Figure 3: USGS Topographic Map***
- ***Figure 4: Bexar County Watersheds Map***
- ***Figure 5: E.A.A. Edwards Aquifer Recharge Zone and Contributing Zone Map***
- ***Figure 6: FEMA Flood Map***
- ***Figure 7: USDA Soil Survey Aerial Photograph, 1 inch = 500 feet***
- ***Figure 8: U.S. Geological Survey WRI - 95-4030 Bexar County***
- ***Figure 8A: BEG Geologic Atlas of Texas, San Antonio Sheet***
- ***Figure 9: 2025 Aerial Photograph, 1 inch = 500 feet***
- ***Figure 10: 2025 Aerial Photograph with PRFs, 1 inch = 200 feet***

APPENDIX B - SITE PHOTOGRAPHS

APPENDIX C - GEOLOGIC MAP

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: Steve Frost, C.P.G., P.G. Telephone: (210) 372-1315

Date: June 30, 2025 Fax: (210) 372-1318

Representing: Frost GeoSciences, Inc. #50040

Signature of the Geologist:



Regulated Entity Name: Aria Townhomes

Project Information

1. Date(s) Geologic Assessment was performed: May 28, 2025
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)
Cb	D	0-3

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 thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.

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

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

   Applicant's Site Plan Scale: 1" = 40'
   Site Geologic Map Scale: 1" = 40'
   Site Soils Map Scale (if more than 1 soil type): 1" = 500'

9. Method of collecting positional data:

   ☒ Global Positioning System (GPS) technology.
   ☒ Other method(s). Please describe method of data collection: 2025 Aerial Photograph

10. ☒ The project site and boundaries are clearly shown and labeled on the Site Geologic Map.

11. ☒ Surface geologic units are shown and labeled on the Site Geologic Map.

12. ☒ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.

    ☐ Geologic or manmade features were not discovered on the project site during the field investigation.

13. ☒ The Recharge Zone boundary is shown and labeled, if appropriate.

14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.

    ☐ There are ___0___ wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)

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

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

Administrative Information

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

STRATIGRAPHIC COLUMN

[Hydrogeologic subdivisions modified from Maclay and Small (1976); groups, formations, and members modified from Rose (1972); lithology modified from Dunham (1962); and porosity type modified from Choquette and Pray (1970). CU, confining unit; AQ, aquifer]

Hydrogeologic subdivision			Group, formation, or member			Hydrologic function	Thickness (feet)	Lithology	Field identification	Cavern development	Porosity/ permeability type
Upper Cretaceous	Upper confining units		Eagle Ford Group			CU	30 – 50	Brown, flaggy shale and argillaceous limestone	Thin flagstones; petroliferous	None	Primary porosity lost/ low permeability
			Buda Limestone			CU	40 – 50	Buff, light gray, dense mudstone	Porcelaneous limestone with calcite-filled veins	Minor surface karst	Low porosity/low permeability
			Del Rio Clay			CU	40 – 50	Blue-green to yellow-brown clay	Fossiliferous; *Ilymatogyra arietina*	None	None/primary upper confining unit
Lower Cretaceous	I	Edwards aquifer	Georgetown Formation			Karst AQ; not karst CU	2 – 20	Reddish-brown, gray to light tan marly limestone	Marker fossil; *Waconella wacoensis*	None	Low porosity/low permeability
	II		Edwards Group	Person Formation	Cyclic and marine members, undivided	AQ	80 – 90	Mudstone to packstone; *miliolid* grainstone; chert	Thin graded cycles; massive beds to relatively thin beds; crossbeds	Many subsurface; might be associated with earlier karst development	Laterally extensive; both fabric and not fabric/water-yielding
	III				Leached and collapsed members, undivided	AQ	70 – 90	Crystalline limestone; mudstone to grainstone; chert; collapsed breccia	Bioturbated iron-stained beds separated by massive limestone beds; stromatolitic limestone	Extensive lateral development; large rooms	Majority not fabric/one of the most permeable
	IV				Regional dense member	CU	20 – 24	Dense, argillaceous mudstone	Wispy iron-oxide stains	Very few; only vertical fracture enlargement	Not fabric/low permeability; vertical barrier
	V				Grainstone member	AQ	50 – 60	*Miliolid* grainstone; mudstone to wackestone; chert	White crossbedded grainstone	Few	Not fabric/ recrystallization reduces permeability
	VI			Kainer Formation	Kirschberg evaporite member	AQ	50 – 60	Highly altered crystalline limestone; chalky mudstone; chert	Boxwork voids, with neospar and travertine frame	Probably extensive cave development	Majority fabric/one of the most permeable
	VII				Dolomitic member	AQ	110 – 130	Mudstone to grainstone; crystalline limestone; chert	Massively bedded light gray, *Toucasia* abundant	Caves related to structure or bedding planes	Mostly not fabric; some bedding plane-fabric/water-yielding
	VIII				Basal nodular member	Karst AQ; not karst CU	50 – 60	Shaly, nodular limestone; mudstone and *miliolid* grainstone	Massive, nodular and mottled, *Exogyra texana*	Large lateral caves at surface; a few caves near Cibolo Creek	Fabric; stratigraphically controlled/large conduit flow at surface; no permeability in subsurface
	Lower confining unit		Upper member of the Glen Rose Limestone			CU; evaporite beds AQ	350 – 500	Yellowish tan, thinly bedded limestone and marl	Stair-step topography; alternating limestone and marl	Some surface cave development	Some water production at evaporite beds/relatively impermeable

Frost GeoSciences

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Aria Townhomes **PROJECT NUMBER:** FGS-E25171

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-5	29° 37.2138'	98° 25.3104'	CD	5	Kek	6	4	1					O,C,V,F	10	15	X		X		Hilltop
S-6	29° 37.2276'	98° 25.2744'	SC	20	Kek	1.5	1	1.25					O,V,C,F	10	30	X		X		Hilltop
S-7	29° 37.2102'	98° 25.2906'	F	20	Kek/Kep	750+			65°	10			O,C,V,F	8	38	X		X		Hillside
S-9	29° 37.2272'	98° 25.2587'	MB	30	Kek	2	2						O,F	5	35	X		X		Hillside
S-10	29° 37.237'	98° 25.2433'	MB	30	Kek	62	57						O,V,C,F	5	35	X			X	Hillside

Datum: NAD 83

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

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

12 TOPOGRAPHY
Cliff, Hilltop, Hillside, Floodplain, Streambed



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

Steve Frost, C.P.G., P.G.

Date: June 30, 2025

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

LOCATION

The project site is an approximately 3.277-acre tract of commercial land located along and north of Roseheart near the intersection of Bulverde Road and Roseheart in San Antonio, Bexar County, Texas. An overall view of the area is shown on copies of the site plan, a street map, the U.S.G.S. Topographic Map, the EAA-Edwards Aquifer Recharge Zone and Contributing Zone Map, the FIRM Map, the U.S. Geological Survey: Water Resources Investigations Report (WRI) 95-4030 Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Recharge Zone, Bexar County, Texas, a NRCS Web Soil Survey aerial photograph at a scale of 1"=500', and a 2025 Google Earth aerial photograph at a scale of 1"=500' and 1"=200'. These figures are included as Figures 1 through 10 in Appendix A.

METHODOLOGY

The Geologic Assessment was performed by Steve Frost, C.P.G., P.G., President and Principal Geologist, and Ethan Levine, Project Geologist, with Frost GeoSciences, Inc. Mr. Frost is a Licensed Professional Geoscientist in the State of Texas (License #315) and is a Certified Professional Geologist with the American Institute of Professional Geologists (AIPG) License #10176.

Frost GeoSciences, Inc. researched the geology of the area north of Roseheart near the intersection of Bulverde Road and Roseheart. The research included, but was not limited to, the FEMA maps, Edwards Aquifer Recharge Zone Maps, U.S.G.S. 7.5 Minute Quadrangle Maps, the U.S. Geological Survey, Geologic Framework and Hydrostratigraphy of the Edwards and Trinity Aquifers within Northern Bexar and Comal Counties, Texas, Science Investigations Map 3366, the Bureau of Economic Geology Geologic Atlas of Texas, San Antonio Sheet (1982), the Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle, the U.S.G.S. Water-Resources Investigations Report 95-4030, and the U.S.D.A. Soil Survey of Bexar County, Texas.

After reviewing the available information, a field investigation was performed to identify any geologic or man-made Potential Recharge Features (PRFs). A transect spacing of approximately 50 feet, or less depending on vegetation thickness, was used to inspect the project area. A 2025 aerial photograph, in conjunction with a hand-held Garmin GPS 72H Global Positioning System with an Estimated Potential Error ranging from 10 to 14 feet, was used to navigate around the property and identify the locations of PRFs, as recommended in the "Instructions to Geologists", TCEQ-0585-Instructions (Rev. 10-1-04). The locations of any PRFs noted in the field were marked with blue and white flagging. The flagging is numbered with the same potential recharge feature identification number that is used on the Site Geologic Map. The Site Geologic Map, indicating the limits of the project site, and the locations of PRFs and rock outcrops noted on the project site, is included in Appendix C at the end of this report. A copy of a 2025 aerial photograph at an approximate scale of 1" = 500' (Figure 9) and 1" =200' (Figure 10) indicating the limits of the project site, and the locations of PRFs noted on the project site, is included in Appendix A. The Geologic Assessment Form TCEQ-0585, (Rev. 2-11-15), Stratigraphic Column, and the Geologic Assessment Table have been filled with the appropriate information for this project site and are included on pages 1 through 5.

RESEARCH & OBSERVATIONS

7.5 Minute Quadrangle Map Review

According to the U.S.G.S. 7.5 Minute Quadrangle Map, Longhorn, Texas (1992), the elevation across the project site ranges from 890 to 950 feet above mean sea level. The project site has a total relief of approximately 60 feet. Runoff from the project site flows to the east into an unnamed tributary of East Elm Creek. Bulverde Road is located along the western boundary of the project site. A copy of the U.S.G.S. 7.5 Minute Quadrangle Map indicating the location of the project site is included on Figure 3 in Appendix A.

Bexar County Watersheds Map

According to the Bexar County Watersheds Map (2003), the project site is located within the Upper Salado Creek Watershed Area. A copy of the Bexar County Watersheds Map indicating the location of the project site is included on Figure 4 in Appendix A.

Recharge/Transition Zone

According to the E.A.A. Edwards Aquifer Recharge Zone and Contributing Zone Map, Longhorn, Texas (2014), the Official Edwards Aquifer Recharge Zone Map, Longhorn, Texas Sheet (1992), and the TCEQ website: Edwards Aquifer Viewer – https://tceq.maps.arcgis.com/apps/webappviewer/index.html, the project site is located within the Recharge Zone of the Edwards Aquifer. A copy of the E.A.A. Edwards Aquifer Recharge Zone and Contributing Zone Map indicating the location of the project site is included in Figure 5 in Appendix A.

100-Year Floodplain

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for the Flood Insurance Map, Community Panel Number 48029C0260G, dated September 29, 2010, was reviewed to determine if the project site is located in areas prone to flooding. A review of the above-mentioned Panel No. indicates that the project site is located within "Zone X". According to the Panel Legend, Zone X represents areas determined to be outside the 0.2% annual chance floodplain. A copy of the FIRM panel indicating the location of the project site is included in Figure 6 in Appendix A.

Soils

According to the United States Department of Agricultural (USDA) Natural Resources Conservation Service (NRCS) Soil Survey of Bexar County (1966) and the USDA NRCS Web Soil Survey (WSS) website: https://websoilsurvey.nrcs.usda.gov, the Site is located on the Crawford and Bexar Stony Soils (Cb). A copy of the 2018 aerial photo (approximate scale: 1" =500') obtained from the Web Soil Survey (WSS) website: https://websoilsurvey.nrcs.usda.gov has been included on Figure 7 in Appendix A

- The Crawford and Bexar Stony Soils (Cb) are very dark grayish brown to reddish brown clay. They are stony clay in texture and are shallow to moderately deep over hard limestone. These soils are extensive in the northern part of the county. The surface layer is noncalcareous, about 8 inches thick, and very dark grayish brown or very dark brown. It has fine, subangular, blocky, and granular structure. When moist, this layer is very firm but breaks easily to a mass of fine clods. When dry, it is very hard and contains many large cracks. Angular fragments of chert and limestone are common. These fragments may range in size from a quarter of an inch to 24 inches in diameter. The subsurface

layer is dense, angular blocky clay. This layer is neutral or slightly acidic, but it may be limy in the lower parts. It is about 26 inches thick and either overlies a thin layer of yellowish red to pale brown, limy clay or, if the limy layer is lacking, rests on hard, fractured limestone. Crawford soils are naturally well drained. Internal drainage and permeability vary according to moisture content. Water moves rapidly when the soil is dry and cracked, but very slowly when the soil is wet. This soil has a USDA Texture Classification of Cherty Clay Loam to Loam. The Unified Classification is CG or CL. The AASHO Classification is A-2, A-4, or A-6. This soil has an average permeability from 1.0 to 1.5 inches/hour.

Narrative Description of the Site Geology

Based on a visual inspection of the ground surface, the overall potential for fluid flow from the project site into the Edwards Aquifer appears to be low. The locations of the PRFs are identified on the 2025 aerial photograph on Figure 10 in Appendix A, and on the Site Geologic Map provided in Appendix C. Color photos of the project site and some of the PRFs are included in Appendix B.

Potential Recharge Feature S-5 is a non-karst closed depression that measures approximately 6 feet long by 4 feet wide by 1 foot deep. This feature appears to be the result of a boulder pluck or downed tree. Frost GeoSciences, Inc. rates this feature as low on Figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). The feature scores a 15 on the sensitivity scale, column 9 of the Geologic Assessment Table included on page 5 of this report. Frost GeoSciences, Inc. does not consider this to be a sensitive feature.

Potential Recharge Feature S-6 is a solution cavity that measures approximately 1.5 feet long by 1 foot wide, by 1.25 feet deep. The feature was sealed with leaf litter and fine clay. Frost GeoSciences, Inc. rates this feature as low on Figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). The feature scores 30 on the sensitivity scale, column 9 of the Geologic Assessment Table included on page 5 of this report. Frost GeoSciences, Inc. does not consider this to be a sensitive feature.

Potential Recharge Feature S-7 is a mapped fault that crosses the project site. An approximately 750 feet long potion of the fault crosses the site on a bearing of N65°E. There were no obvious visual indications of the fault or related fractures on the site at the time of our site inspection. Frost GeoSciences rates this feature as low on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). The feature scores 38 on the sensitivity scale, column 9 of the Geologic Assessment Table included on page 5 of this report. Frost GeoSciences, Inc. does not consider this to be a sensitive feature.

Potential Recharge Feature S-9 is a manhole cover for a storm drain in the eastern portion of the project site immediately upgradient of the detention basin. Frost GeoSciences rates this feature as low on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). The feature scores 35 on the sensitivity scale, column 9 of the Geologic Assessment Table included on page 5 of this report. Frost GeoSciences, Inc. does not consider this to be a sensitive feature.

Potential Recharge Feature S-10 is an excavated detention basin in the eastern portion of the project site. Frost GeoSciences rates this feature as low on figure 1 of the TCEQ-0585-Instructions (Rev. 10-01-04). The feature scores a 35 on the sensitivity scale, column 9 of the Geologic Assessment Table included on page 5 of this report. Frost GeoSciences, Inc. does not consider this to be a sensitive feature.

The project site is covered by moderate to dense stand of vegetative cover with numerous open grassy areas. Site visit photos indicating the condition of the property at the time of the on-site inspection are included in Appendix B. Portions of the site appears to have been partially cleared to install drainage pipes and a detention basin. Overall vegetation on the project site consists of ashe juniper (Juniperus ashei), live oak (Quercus virginiana), and cedar elm (Ulmus crassifolia), with Texas persimmon (Diospyros texana), agarita (Berberis trifoliolata), yucca (Yucca treculeana), and prickly pear cactus (Opuntia lindheimeri). The variations in the vegetative cover on the property are visible in the 2025 aerial photograph on Figures 9 and 10 in Appendix A. A copy of the site layout indicating the boundary of the project site and the elevations is included on the Site Geologic Map in Appendix C of this report.

According to the U.S. Geological Survey: Water Resources Investigations Report (WRI) 95-4030 Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Recharge Zone, Bexar County, Texas, the project site is located primarily on the Grainstone Member of the Cretaceous Edwards Kainer Limestone (Kek), with small portions of the project site located on the Leached and Collapsed Member and the Regional Dense Member of the Cretaceous Edwards Person Formation (Kep). A copy of the WRI map is included on Figure 8 in Appendix A. A copy of the Stratigraphic Column highlighting the outcropping formations is included on Page 3 of this report.

The Cretaceous Edwards Kainer Formation (Kek) consists of massively bedded limestone, dolomitic limestone, dolomite, and lessor argillaceous limestone. The formation is light gray with abundant fossils of Toucasia. Karst features within this member are typically related to structure or bedding planes. Overall thickness of the formation ranges from 110 to 130 feet.

The Cretaceous Edwards Person Formation (Kep) consists of limestone, dolomitic limestone, dolomite, and lesser argillaceous limestone. It is approximately equivalent to the Segovia Formation of the eastern Edwards Plateau. Overall thickness of the formation varies from 70 to 90 feet.

According to the site plan provided by MBC Engineers, the surveyed elevations on the project site range from 902 to 962 feet. According to this survey, the total relief on the project site is approximately 60 feet. A copy of the site plan indicating the boundary of the project site and the elevations is included on the Site Plan on Figure 1 in Appendix A and the Site Geologic Map in Appendix C of this report.

BEST MANAGEMENT PRACTICES

Based on a visual inspection of the ground surface, the overall potential for fluid flow from the project site into the Edwards Aquifer appears to range be low. The potential always exists to encounter solution cavities within the subsurface during excavating activities. Frost GeoSciences, Inc. is of the opinion that it is very important for construction personnel to be informed of the potential to encounter cavities in the subsurface that lack a surface expression. Construction personnel should also be informed of the proper protocol to follow in the event a karst feature is encountered during the development of the project site.

DISCLAIMER

This report has been prepared in general accordance with the "Instructions to Geologists", TCEQ-0585-Instructions (Rev. 2-11-15) by a Licensed Texas Professional Geoscientist. All areas of the project site were carefully inspected for features that could contribute to the recharge of the Edwards Aquifer; however, this survey cannot preclude the presence of subsurface karst features that lack surface expression. This report is not intended to be a definitive investigation of all possible geologic or karst features at this site. All conclusions, opinions, and recommendations for Best Management Practices (BMP's) in this report are based on information obtained while researching the project and on the site conditions at the time of our field investigation.

This report has been prepared for the exclusive use of Aria Property Group, LLC. This report is based on available known records, a visual inspection of the project site, and the work generally accepted for a Geologic Assessment for Regulated Activities / Developments on the Edwards Aquifer Recharge / Transition Zone, relating to 30 TAC §213.5(b)(3), effective June 1, 1999.

REFERENCES

1. USGS - 7.5 Minute Topographic Quadrangle Map, Longhorn, Texas Sheet, 1992

2. E.A.A. Edwards Aquifer Recharge Zone and Contributing Zone Map, Longhorn, Texas Sheet (2014).

3. Official Edwards Aquifer Recharge Zone Map, Longhorn, Texas Sheet, 1992

4. The Texas Commission on Environmental Quality (TCEQ) website: Edwards Aquifer Viewer – https://tceq.maps.arcgis.com/apps/webappviewer/index.html.

5. Clark, A.K., Golab, J.A. and Morris, R.R., 2016, Geologic Framework and Hydrostratigraphy of the Edwards and Trinity Aquifers within Northern Bexar and Comal Counties, Texas, Science Investigations Map 3366, United States Geological Survey.

6. Clark, A.K., Golab, J.A. and Morris, R.R., 2016, Geologic Framework and Hydrostratigraphy of the Edwards and Trinity Aquifers within Northern Bexar and Comal Counties, Texas, United States Geological Survey.

7. Collins, Edward, W., Geologic Map of the New Braunfels 30 X 60 Minute Quadrangle, Bureau of Economic Geology, The University of Texas at Austin, Texas (2000).

8. Stein, W.G. and Ozuna, G.B., 1995, Geologic Framework and Hydrogeologic Characteristics of the Edwards Aquifer Recharge Zone, Bexar County, Texas, U.S. Geological Survey Water Resources Investigations 95-4030.

9. Barnes, V.L., 1982, Geologic Atlas of Texas San Antonio Sheet, Bureau of Economic Geology and University of Texas at Austin, Geologic Atlas of Texas.

10. Federal Emergency Management Agency, Federal Insurance Administration, National Flood Insurance Program, Flood Insurance Map, Community Panel Number 48029C0260G, dated September 29, 2010

11. United States Department of Agriculture Soil Conservation Service Soil Survey of Bexar County June 1966.

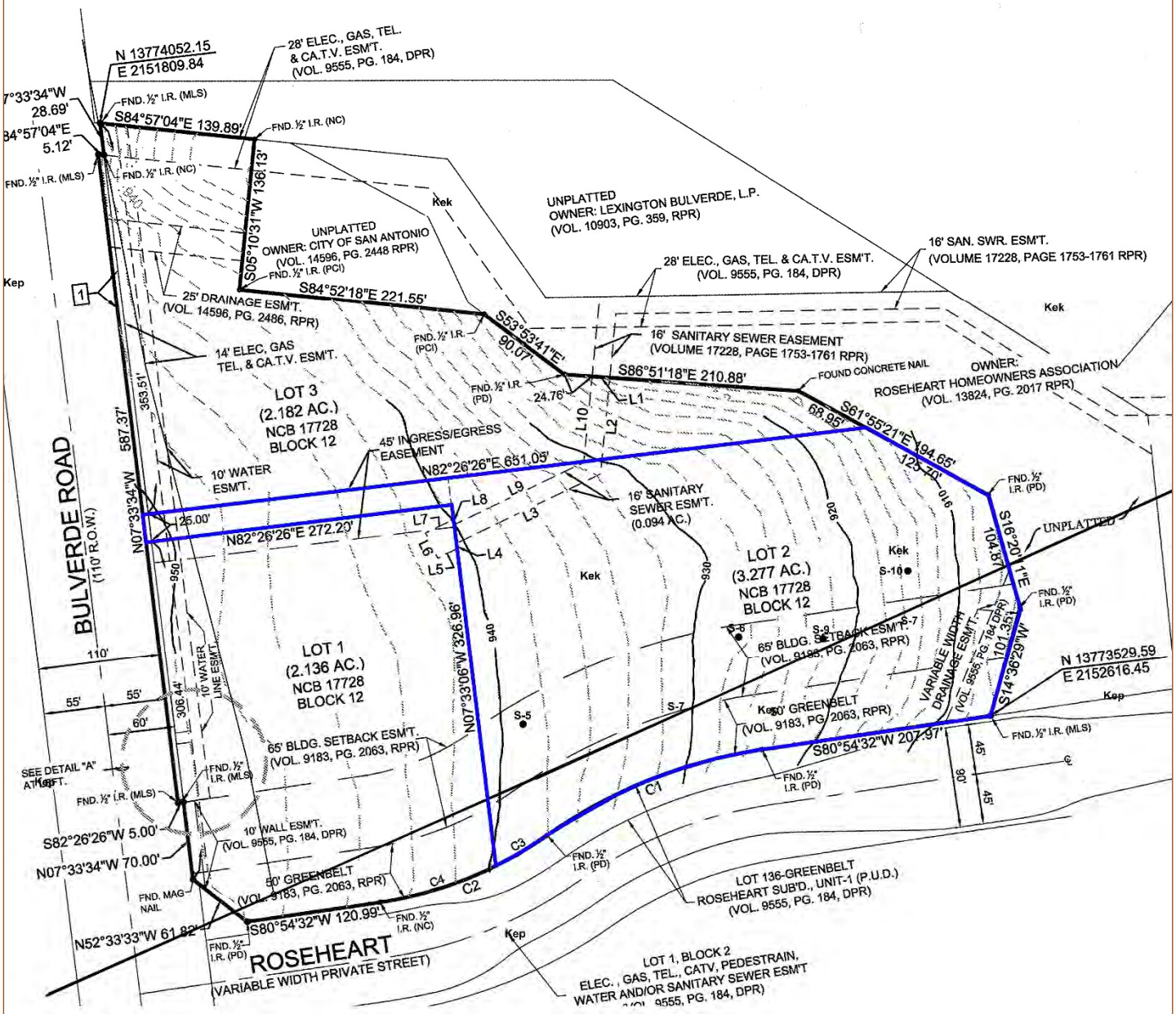
12. USDA NRCS Web Soil Survey (WSS) website: https://websoilsurvey.nrcs.usda.gov (2014)

13. TCEQ-0585-Instructions (Rev. 10-1-04), “Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zone”.

14. San Antonio Water Systems, Bexar County Watersheds Map, 2004.

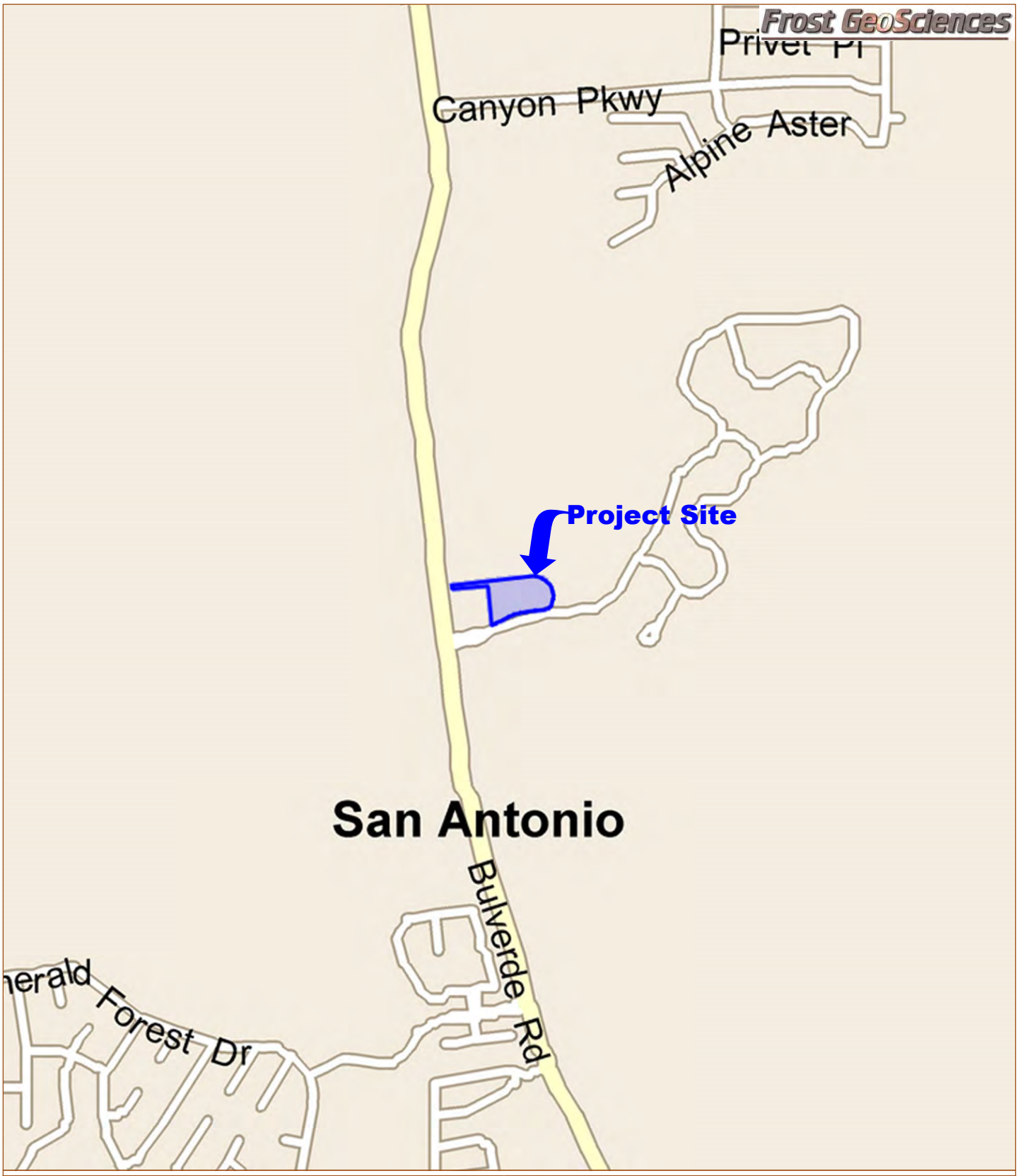
APPENDIX A

SITE LOCATION FIGURES

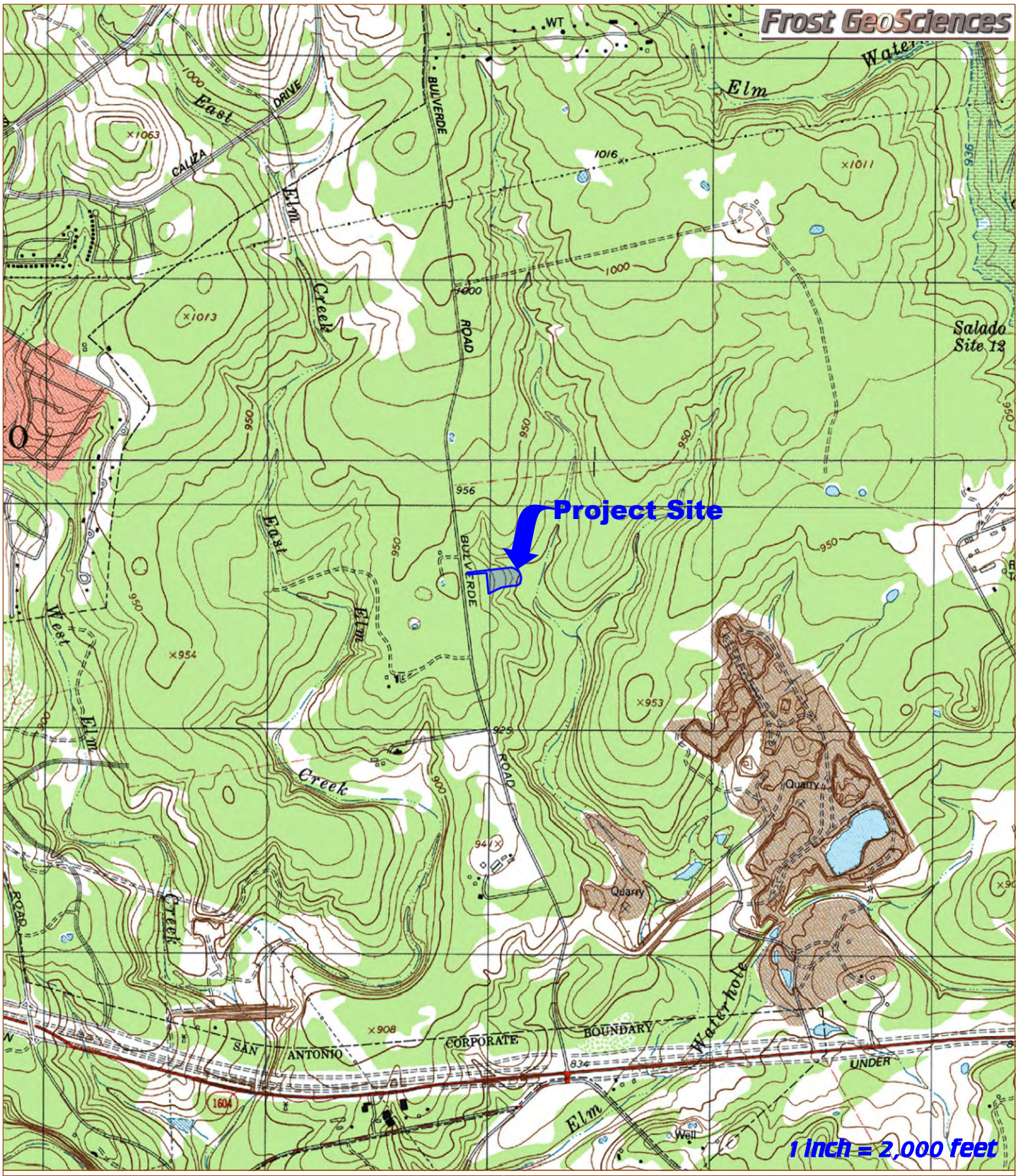


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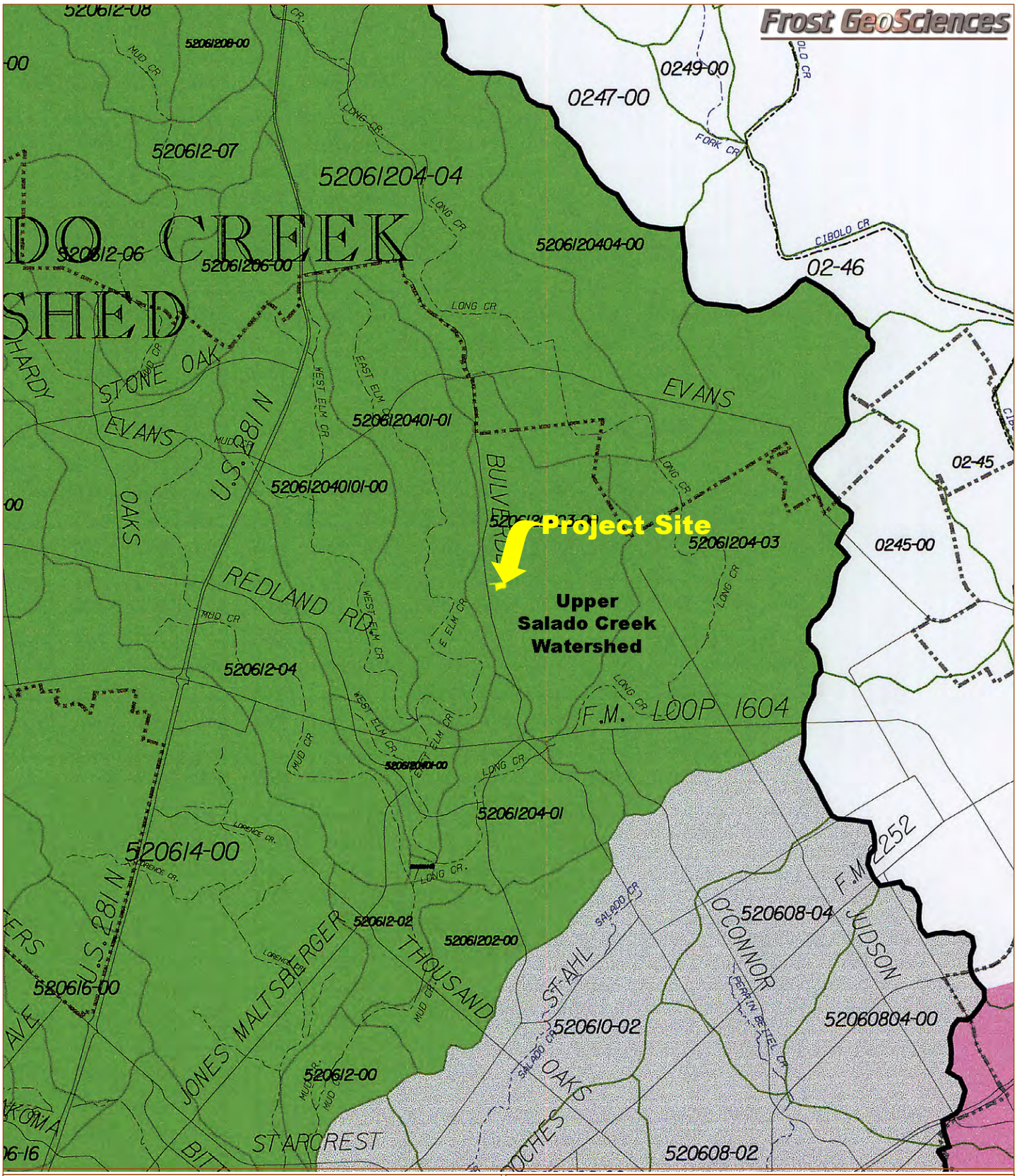
PROJECT NAME: Geologic Site Assessment (WPAP) for Regulated Activities/Development on the Edwards Aquifer Recharge/Transition Zone Aria Townhomes San Antonio, Texas	Site Layout
	PROJECT No.: FGS-E25171 / **DATE:** June 30, 2025



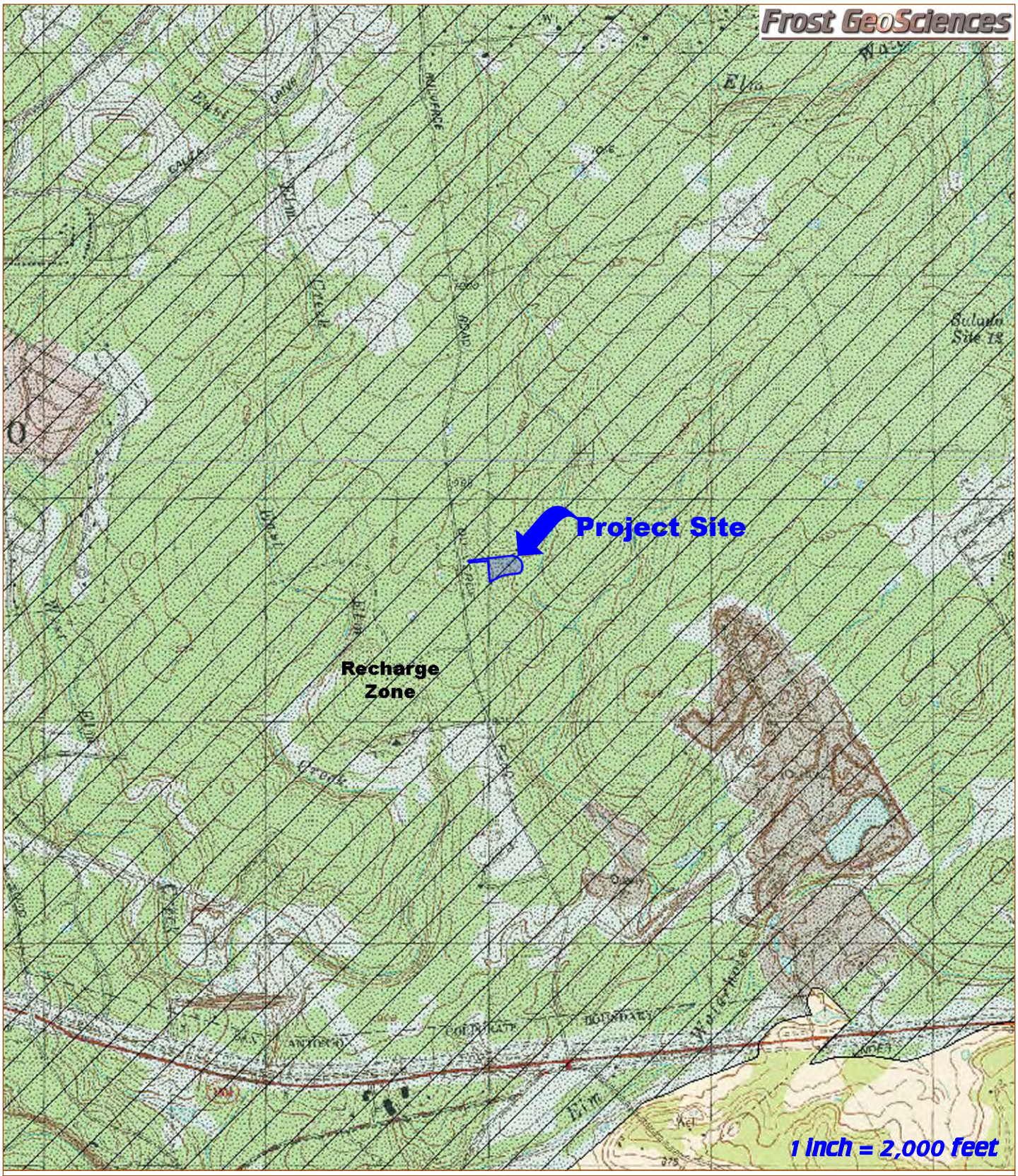
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	PROJECT No.: FGS-E25171 / **DATE:** June 30, 2025



PROJECT NAME: Geologic Site Assessment (WPAP) for Regulated Activities/Development on the Edwards Aquifer Recharge/Transition Zone Aria Townhomes San Antonio, Texas	U.S.G.S. 7.5 Minute Quadrangle Map Longhorn, TX Sheet (1992)
	PROJECT No.: FGS-E25171 / **DATE:** June 30, 2025



PROJECT NAME: Geologic Site Assessment (WPAP) for Regulated Activities/Development on the Edwards Aquifer Recharge/Transition Zone Aria Townhomes San Antonio, Texas	Bexar County Watersheds Map San Antonio Water Systems (2004)
PROJECT No.: FGS-E25171	**DATE:** June 30, 2025

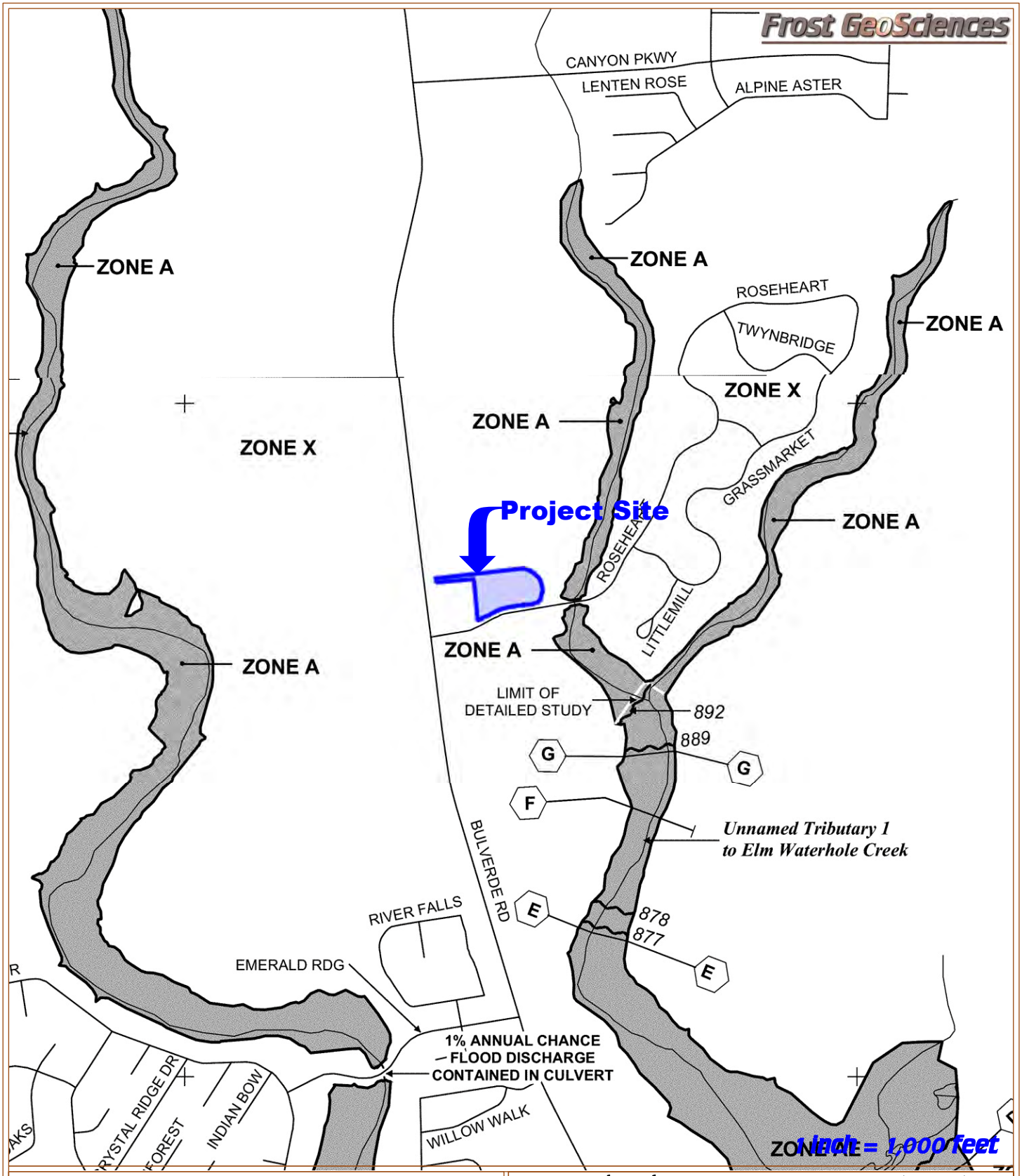


PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities/Development on the
Edwards Aquifer Recharge/Transition Zone
Aria Townhomes
San Antonio, Texas

EAA Recharge & Contributing Zone Map
Longhorn, Texas Sheet (2014)

PROJECT No.: FGS-E25171

DATE: June 30, 2025



PROJECT NAME:
Geologic Site Assessment (WPAP)
for Regulated Activities/Development on the
Edwards Aquifer Recharge/Transition Zone
Aria Townhomes
San Antonio, Texas

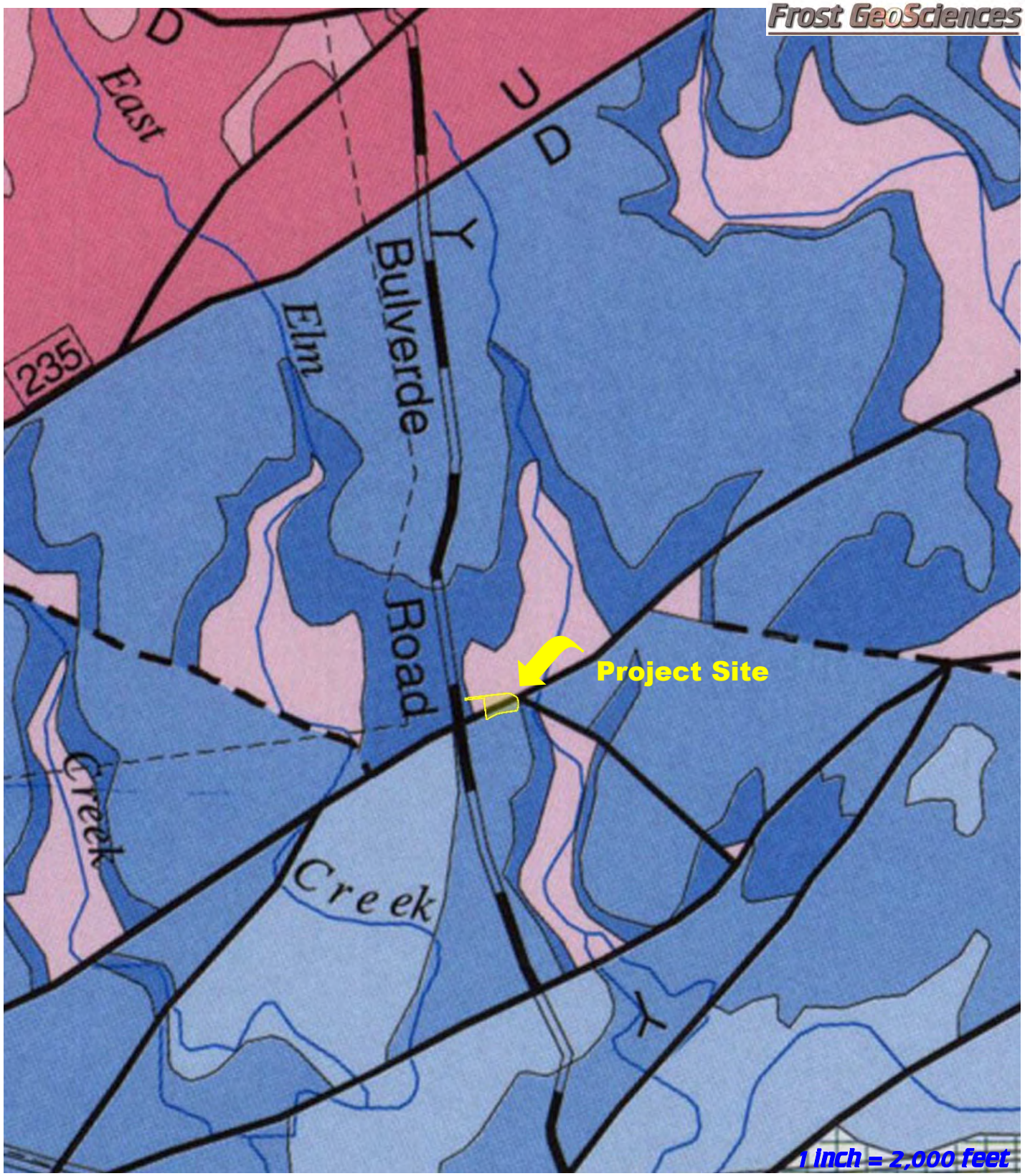
Flood Insurance Rate Map (FIRM)
Community Panel # 48029C0260G
Revised 10/29/2010

PROJECT No.: FGS-E25171

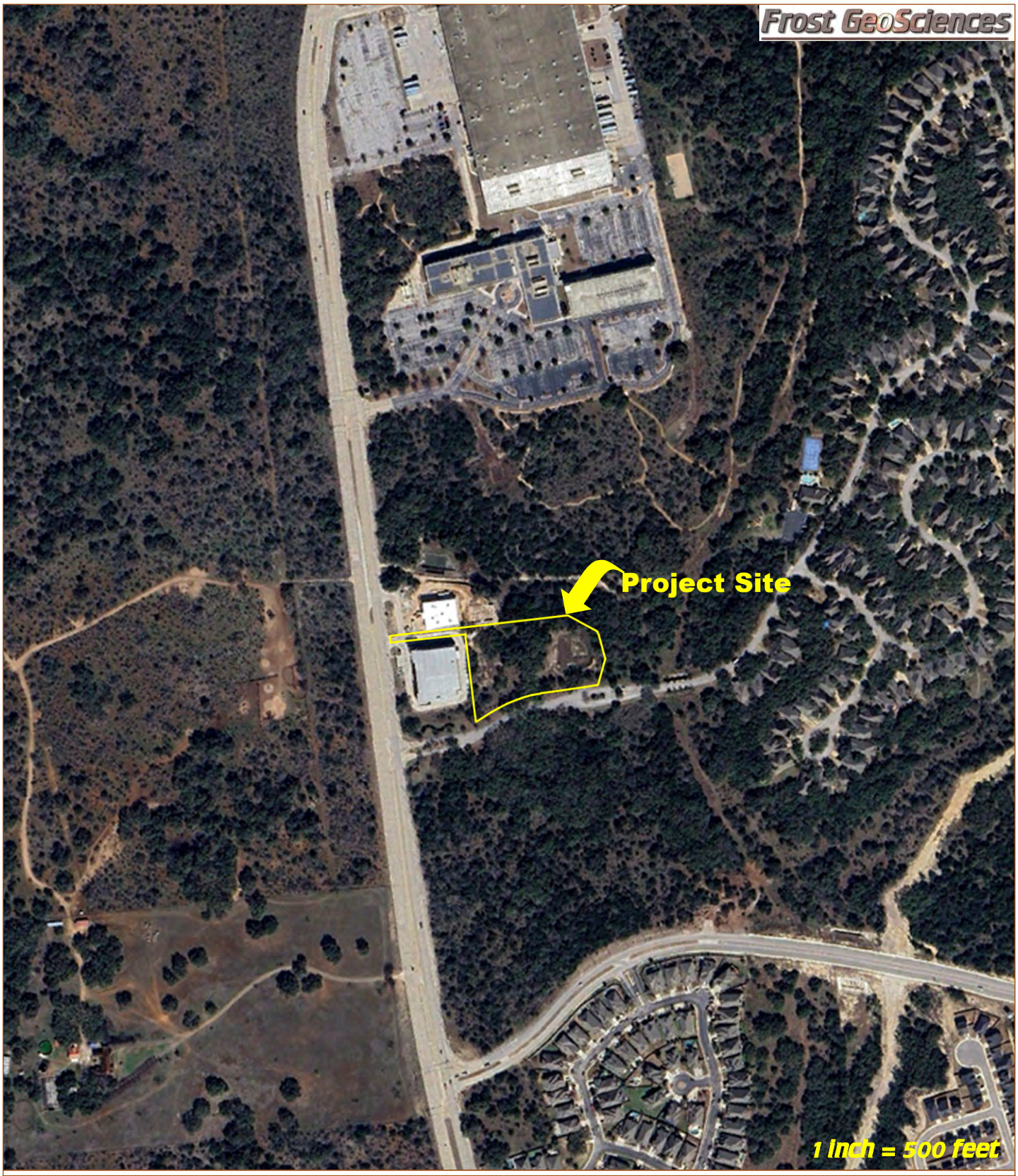
DATE: June 30, 2025



PROJECT NAME: Geologic Site Assessment (WPAP) for Regulated Activities/Development on the Edwards Aquifer Recharge/Transition Zone Aria Townhomes San Antonio, Texas	Soils Map USDA Soil Survey NRCS website: websoilsurvey.nrcs.usda.gov
	PROJECT No.: FGS-E25171 / **DATE:** June 30, 2025



PROJECT NAME: Geologic Site Assessment (WPAP) for Regulated Activities/Development on the Edwards Aquifer Recharge/Transition Zone Aria Townhomes San Antonio, Texas	United States Geological Survey Water Resource Investigation Report 95-4030 San Antonio, Texas (1995)
	PROJECT No.: FGS-E25171 / **DATE:** June 30, 2025



PROJECT NAME: Geologic Site Assessment (WPAP) for Regulated Activities/Development on the Edwards Aquifer Recharge/Transition Zone Aria Townhomes San Antonio, Texas	2025 Aerial Photograph Google Earth
	PROJECT No.: FGS-E25171 / **DATE:** June 30, 2025



PROJECT NAME: Geologic Site Assessment (WPAP) for Regulated Activities/Development on the Edwards Aquifer Recharge/Transition Zone Aria Townhomes San Antonio, Texas	2025 Aerial Photograph with PRFs Google Earth
PROJECT No.: FGS-E25171	**DATE:** June 30, 2025

APPENDIX B

SITE PHOTOGRAPHS

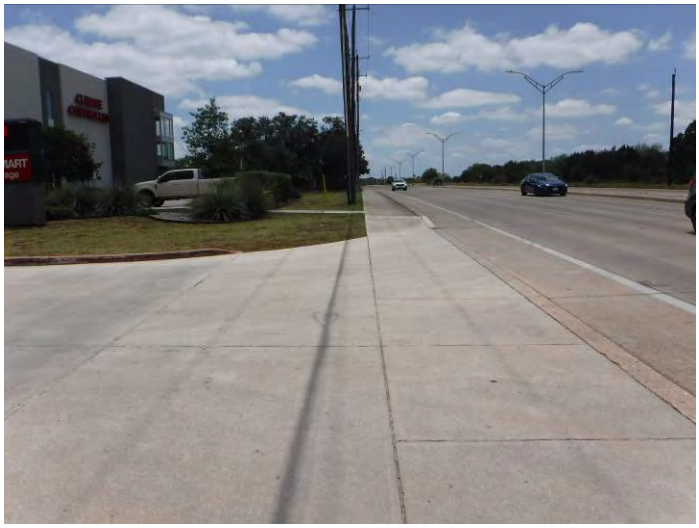
	
Photo #1 – View to the east in the northwestern corner of the Site.	Photo #2 – View to the south along Bulverde Road from the northwestern corner of the Site.
	
Photo #3 – View to the north along Bulverde Road from the northwestern corner of the Site.	Photo #4 – View to the east, from the southwestern corner, along the southern boundary of the Site.

	
Photo #5 – View to the north, from the southwestern corner, along the western boundary of the Site.	Photo #6 – View to the south, from the southwestern corner, across Roseheart Road south of the Site.
	
Photo #7 – Typical view, to the east, of vegetative cover in the southwestern portion of the Site at the location of potential recharge feature S-5.	Photo #8 – Typical view, to the west, of vegetative cover in the southwestern portion of the Site. Former location of potential recharge feature S-5.

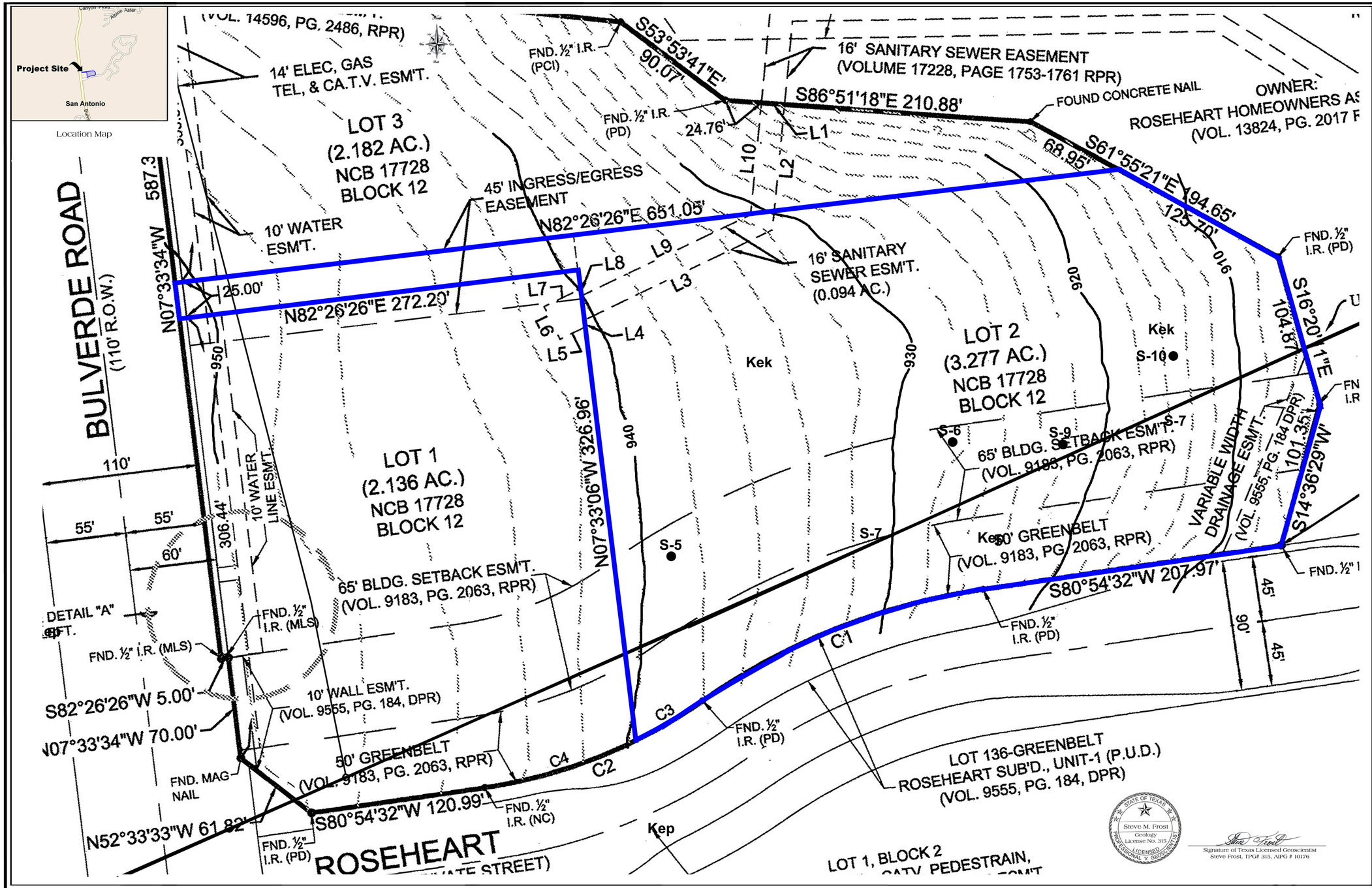
	
Photo #9 – View of potential recharge feature S-6 observed in the central portion of the Site.	Photo #10 – Additional view of potential recharge feature S-6 observed in the central portion of the Site.
	
Photo #11 – View to the east of typical vegetative cover observed at potential recharge feature S-6.	Photo #12 – View to the east of a stormwater detention pond observed in the eastern portion of the Site.

	
Photo #13 – View to the south in the eastern portion of the Site.	Photo #14 – View to the north in the eastern portion of the Site.
	
Photo #15 – View to the northeast along potential recharge feature S-7 in the southeastern portion of the Site.	Photo #16 – View to the southwest along potential recharge feature S-7 in the southeastern portion of the Site.

	
Photo #17 – View to the northeast along potential recharge feature S-7 in the southwestern portion of the Site.	Photo #18 – View to the southwest along potential recharge feature S-7 in the southwestern portion of the Site.
	
Photo #19 – View to the south in the northwestern portion of the Site.	Photo #20 – View to the east in the northwestern portion of the Site.

APPENDIX C

GEOLOGIC MAP



Frost GeoSciences
Geotechnical • Construction Materials
Environmental & Geologic Consulting
WBE - ESBE - SBE
13406 Western Oak Dr. • Helotes, Texas 78023
Phone: 210-372-1315 • Fax 210-372-1318

Site Geologic Map

Geologic Site Assessment (WPAP)
for Regulated Activities / Development on the
Edwards Aquifer Recharge / Transition Zone
for
Aria Townhomes
3.277 Acres
San Antonio, Texas

Frost GeoSciences, Inc. Control # FGS-E25171

Legend

Fill	-	Fill Material
Qal	-	Alluvium
Kau	-	Austin Chalk
Kef	-	Eagle Ford Shale
Kbu	-	Buda Limestone
Kdr	-	Del Rio Clay
Kgt	-	Georgetown Limestone
Kep	-	Edwards Person Limestone
Kek	-	Edwards Kainer Limestone
Kgr	-	Glen Rose Formation
S-#	-	Potential Recharge Feature (PRF)
	-	Formation Contact
	-	100-Year Floodplain - Zone A
	-	100-Year Floodplain - Zone AE
	-	Other Flood Hazard Area - Zone X (shaded)

Floodplain Information Obtained From
FIRM: Flood Insurance Rate Map
Bexar County, Texas: Panel # 48029C0260G, Revised 10-29-2010

Fault Information Obtained From:
Bureau of Economic Geology, Geologic Atlas of Texas, San Antonio Sheet (1983)
U.S. Geological Survey, Water Resources Investigations Report 95-4030 (1995)
Geologic Map of the New Braunfels, Texas 30 X 60 Minute Quadrangle (2000)

North
NW NE
West East
SW SE
South

Graphic Scale
40 0 40 80
(In Feet)

1 inch = 40 feet
Representative Fraction 1:480

Contour Interval - 2 feet

Modification of a Previously Approved Plan

TCEQ-0590

Modification of a Previously Approved Plan

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Transition Zone and Relating to 30 TAC 213.4(j), 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 request for a **Modification of a Previously Approved Plan** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Harun Rashid, P.E., RPLS

Date: 05/09/25

Signature of Customer/Agent:



Project Information

1. Current Regulated Entity Name: Aria Townhomes
   Original Regulated Entity Name: Bulverde Rd Storage
   Regulated Entity Number(s) (RN): 107600454
   Edwards Aquifer Protection Program ID Number(s): _____
   ☐ The applicant has not changed and the Customer Number (CN) is: _____
   ☐ The applicant or Regulated Entity has changed. A new Core Data Form has been provided.

2. ☒ **Attachment A: Original Approval Letter and Approved Modification Letters**. A copy of the original approval letter and copies of any modification approval letters are attached.

3. A modification of a previously approved plan is requested for (check all that apply):
   - ☐ Physical or operational modification of any water pollution abatement structure(s) including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;
   - ☒ Change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;
   - ☐ Development of land previously identified as undeveloped in the original water pollution abatement plan;
   - ☐ Physical modification of the approved organized sewage collection system;
   - ☐ Physical modification of the approved underground storage tank system;
   - ☐ Physical modification of the approved aboveground storage tank system.

4. [X] Summary of Proposed Modifications (select plan type being modified). If the approved plan has been modified more than once, copy the appropriate table below, as necessary, and complete the information for each additional modification.

WPAP Modification Summary	***Approved Project***	***Proposed Modification***
Acres	7.66	5.415
Type of Development	Commercial	Commercial + Townhomes
Number of Residential Lots		
Impervious Cover (acres)	4.11	2.612
Impervious Cover (%	53.65	48.23
Permanent BMPs		
Other		

SCS Modification Summary	***Approved Project***	***Proposed Modification***
Linear Feet		
Pipe Diameter		
Other		

AST Modification Summary	*Approved Project*	*Proposed Modification*
Number of ASTs	_____	_____
Volume of ASTs	_____	_____
Other	_____	_____

UST Modification Summary	*Approved Project*	*Proposed Modification*
Number of USTs	_____	_____
Volume of USTs	_____	_____
Other	_____	_____

5. [X] **Attachment B: Narrative of Proposed Modification**. A detailed narrative description of the nature of the proposed modification is attached. It discusses what was approved, including any previous modifications, and how this proposed modification will change the approved plan.

6. [X] **Attachment C: Current Site Plan of the Approved Project**. A current site plan showing the existing site development (i.e., current site layout) at the time this application for modification is attached. A site plan detailing the changes proposed in the submitted modification is required elsewhere.
   - [X] The approved construction has not commenced. The original approval letter and any subsequent modification approval letters are included as Attachment A to document that the approval has not expired.
   - [ ] The approved construction has commenced and has been completed. Attachment C illustrates that the site was constructed as approved.
   - [ ] The approved construction has commenced and has been completed. Attachment C illustrates that the site was **not** constructed as approved.
   - [ ] The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was constructed as approved.
   - [ ] The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was **not** constructed as approved.

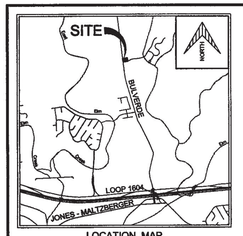
7. [ ] The acreage of the approved plan has increased. A Geologic Assessment has been provided for the new acreage.
   [X] Acreage has not been added to or removed from the approved plan.

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

ATTACHMENT- A

ORIGINAL APPROVAL LETTER

Reference the attached WPAP approval letter dated November 03, 2014 for the "Bulverde Road Project"



LOCATION MAP
NOT TO SCALE

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY WATER POLLUTION ABATEMENT PLAN GENERAL CONSTRUCTION NOTES

1. WRITTEN CONSTRUCTION NOTIFICATION MUST BE GIVEN TO THE APPROPRIATE TCEQ REGIONAL OFFICE NO LATER THAN 48 HOURS PRIOR TO COMMENCEMENT OF THE REGULATED ACTIVITY. INFORMATION MUST INCLUDE THE DATE ON WHICH THE REGULATED ACTIVITY WILL COMMENCE, THE NAME OF THE APPROVED PLAN FOR THE REGULATED ACTIVITY, AND THE NAME OF THE PRIME CONTRACTOR AND THE NAME AND TELEPHONE NUMBER OF THE CONTACT PERSON.

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROJECT MUST BE PROVIDED WITH COMPLETE COPIES OF THE APPROVED WATER POLLUTION ABATEMENT PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS ARE REQUIRED TO KEEP ON-SITE COPIES OF THE APPROVED PLAN AND APPROVAL LETTER.

3. IF ANY SENSITIVE FEATURE IS DISCOVERED DURING CONSTRUCTION, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPROPRIATE TCEQ REGIONAL OFFICE MUST BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE TCEQ HAS REVIEWED AND APPROVED THE SITE-SPECIFIC PROPOSALS TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY.

4. NO TEMPORARY ABOVEGROUND HYDROCARBON AND HAZARDOUS SUBSTANCE STORAGE TANK SYSTEM IS INSTALLED WITHIN 150 FEET OF A DOMESTIC, INDUSTRIAL, IRRIGATION, OR PUBLIC WATER SUPPLY WELL, OR OTHER SENSITIVE FEATURE.

5. PRIOR TO COMMENCEMENT OF CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS' SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. CONTROLS SPECIFIED IN THE TEMPORARY STORM WATER SECTION OF THE APPROVED EDWARDS AQUIFER PROTECTION PLAN ARE REQUIRED DURING CONSTRUCTION. IF INSPECTIONS INDICATE CONTROL IS INADEQUATE OR FAILING, OR IF CONTROL IS NOT IN PLACE, THE CONTRACTOR MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THE CONTROLS MUST REMAIN IN PLACE UNTIL DISTURBED AREAS ARE REVEGETATED AND THE AREAS HAVE BECOME PERMANENTLY STABILIZED.

6. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS TO WATER QUALITY (E.G., FUGITIVE SEDIMENT IN STREET BEING WASHED INTO SURFACE STREAMS OR SENSITIVE FEATURES BY THE NEXT RAIN).

7. SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS OR SEDIMENTATION PONDS NOT LATER THAN WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%. A PERMANENT STAKE MUST BE PROVIDED THAT CAN INDICATE WHEN THE SEDIMENT OCCUPIES 50% OF THE WASH VOLUME.

8. 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).

9. ALL SPOILS (EXCAVATED MATERIAL) GENERATED FROM THE PROJECT SITE MUST BE STORED ON-SITE WITH PROPER E&S CONTROLS. FOR STORAGE OR DISPOSAL OF SPOILS AT ANOTHER SITE ON THE EDWARDS AQUIFER RECHARGE ZONE, THE OWNER OF THE SITE MUST RECEIVE APPROVAL OF A WATER POLLUTION ABATEMENT PLAN FOR THE PLACEMENT OF FILL MATERIAL OR MASS GRADING PRIOR TO THE PLACEMENT OF SPOILS AT THE OTHER SITE.

10. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARY OR PERMANENTLY CEASE IS PRECLUDED BY WEATHER CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 21 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF 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 SEASONAL AND CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.

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

12. THE HOLDER OF ANY APPROVED EDWARDS AQUIFER PROTECTION PLAN MUST NOTIFY THE APPROPRIATE REGIONAL OFFICE IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:

A. ANY PHYSICAL OR OPERATIONAL MODIFICATION OF ANY WATER POLLUTION ABATEMENT STRUCTURE(S), INCLUDING BUT NOT LIMITED TO PONDS, DAMS, BERMS, SEWAGE TREATMENT PLANTS, AND DIVERSIONARY STRUCTURES;

B. ANY CHANGE IN THE NATURE OR CHARACTER OF THE REGULATED ACTIVITY FROM THAT WHICH WAS ORIGINALLY APPROVED OR A CHANGE WHICH WOULD SIGNIFICANTLY IMPACT THE ABILITY OF THE PLAN TO PREVENT POLLUTION OF THE EDWARDS AQUIFER;

C. ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

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

13. A TPDES STORMWATER POLLUTION PREVENTION PLAN (SWPPP) WILL ALSO BE PREPARED FOR THIS PROJECT. THE SWPPP WILL BE PREPARED AFTER DESIGN HAS PROGRESSED. IF THERE ARE DISCREPANCIES BETWEEN THIS PLAN AND THE SPECIFIC SWPPP, THE CONTRACTOR SHOULD INSTALL BMPs IN ACCORDANCE WITH THE SWPPP AND INCLUDE A NOTE ON THIS SHEET REFERRING TO THE SWPPP FOR BMPs AND REVISIONS TO SUCH.

GENERAL NOTES:

1. 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.

2. AS SOON AS PRACTICAL, ALL DISTURBED SOIL WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.

3. ALL TEMPORARY BMP's WILL BE REMOVED ONCE WATERSHED IS STABILIZED.

4. MUD OR DIRT INADVERTENTLY TRACKED OFF-SITE AND ONTO EXISTING STREETS SHALL BE REMOVED IMMEDIATELY BY HAND OR MECHANICAL BROOM SWEEPING.

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

6. PRIOR TO INITIATION OF SUBSEQUENT PHASES OF CONSTRUCTION, TEMPORARY BMPS INCLUDING SILT FENCING, CONSTRUCTION ENTRANCE/EXIT, AND CONSTRUCTION STAGING AREA SHALL BE FIELD LOCATED AS APPROPRIATE FOR THE AREA OF CONSTRUCTION.

7. CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION SEQUENCING AND REMOVAL OF TEMPORARY POLLUTION ABATEMENT MEASURES IN CONJUNCTION WITH CONSTRUCTION OF IMPROVEMENTS SUCH AS LANDSCAPING AND FENCES SO AS TO PREVENT SEDIMENT FROM ESCAPING THE PROJECT SITE.

8. CONTRACTOR TO NOTE THAT SITE IS SUBJECT TO A TPDES SWPPP AND A WATER POLLUTION ABATEMENT PLAN. ALL NECESSARY REPORTS AND DOCUMENTS TO BE MAINTAINED ON-SITE .

TEMPORARY POLLUTION ABATEMENT NOTES:

1. CONSTRUCTION OF PARKING LOT AND DRAINAGE STRUCTURES WILL PRECEDE BUILDING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR PLACING SILT FENCE ALONG THE DOWN GRADIENT SIDE OF THE DISTURBED AREA PERPENDICULAR TO THE DRAINAGE FLOW.

2. CONSTRUCTION OF BUILDINGS WITHIN THE DEVELOPMENT MAY NOT BE CONTINUOUS. THE CONTRACTOR IS RESPONSIBLE FOR PLACING SILT FENCE ALONG THE DOWN GRADIENT SIDE OF EACH PAD DURING BUILDING CONSTRUCTION. ALL SILT FENCE SHALL BE PLACED PERPENDICULAR TO DRAINAGE FLOW AS SHOWN ON EXHIBIT 3.

3. ROCK BERMS SHALL BE PLACED IN AREAS WHERE DRAINAGE FLOW IS CONCENTRATED DUE TO NATURAL CONDITIONS OR CONSTRUCTION ACTIVITIES SUCH AS AT DRAINAGE STRUCTURES. THESE BERMS WILL BE MAINTAINED UNTIL THEY ARE NO LONGER NEEDED OR UNTIL THEY ARE REPLACED WITH PERMANENT POLLUTION ABATEMENT MEASURES.

SWPPP 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 WASHOUT 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.

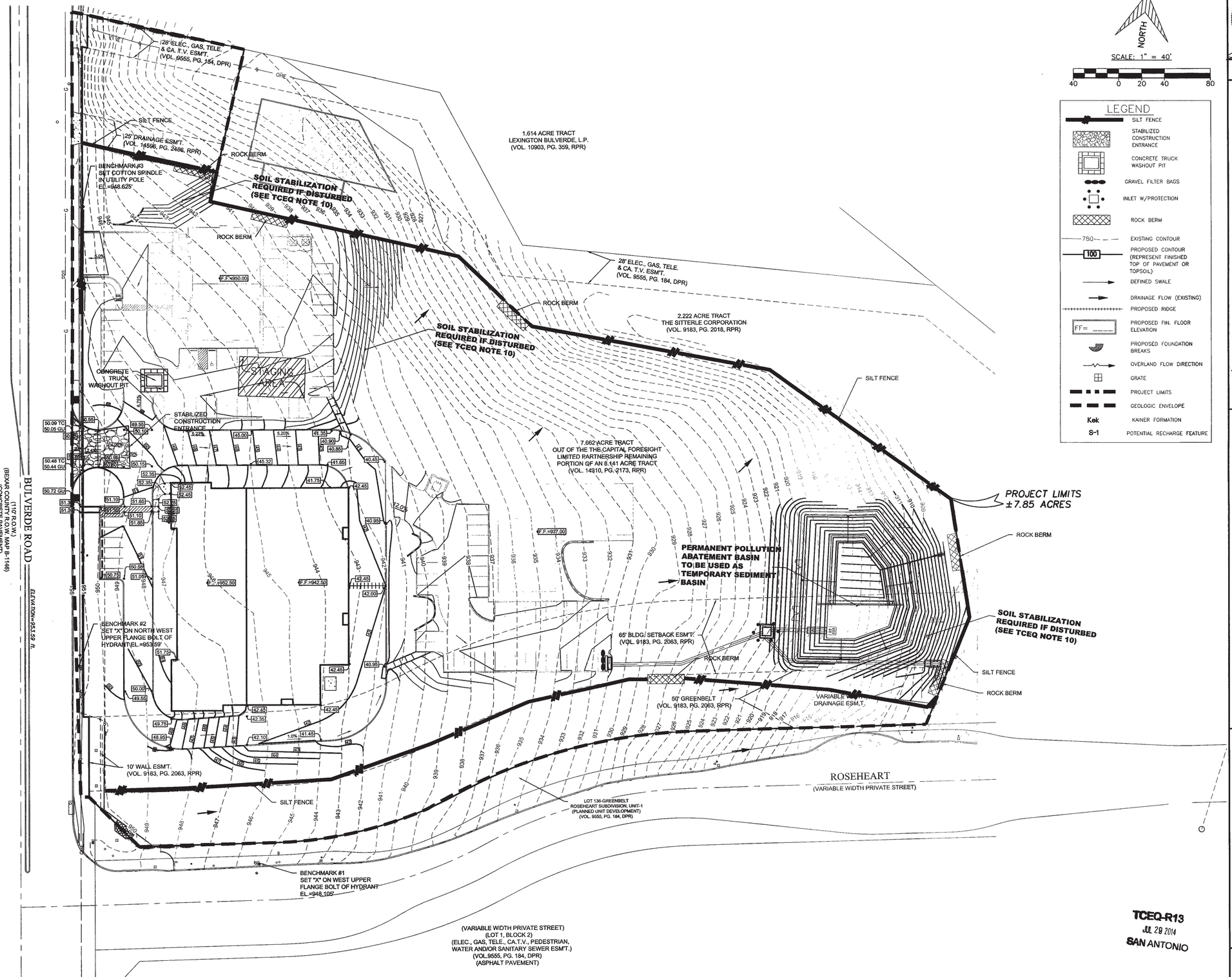
8. AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.

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 WATER SHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES REQUIREMENTS.

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

12. GRADING SHOWN HEREON IS APPROXIMATE ONLY. REFER TO DETAILED GRADING PLANS INCLUDED IN THE CONSTRUCTION DOCUMENTS.



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

LEGEND

- SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- CONCRETE TRUCK WASHOUT PIT
- GRAVEL FILTER BAGS
- INLET W/PROTECTION
- ROCK BERM
- 780 — EXISTING CONTOUR
- 100 — PROPOSED CONTOUR (REPRESENT FINISHED TOP OF PAVEMENT OR TOPSOIL)
- DEFINED SWALE
- DRAINAGE FLOW (EXISTING)
- PROPOSED RIDGE
- FF= ____ PROPOSED FIN. FLOOR ELEVATION
- PROPOSED FOUNDATION BREAKS
- OVERLAND FLOW DIRECTION
- GRATE
- PROJECT LIMITS
- GEOLOGIC ENVELOPE
- Kek KAINER FORMATION
- S-1 POTENTIAL RECHARGE FEATURE

TCEQ-R13
JUL 28 2014
SAN ANTONIO

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET FOR THE CONSTRUCTION STAGING AREA ONLY. ALL OTHER INFORMATION IS FROM TCEQ'S TECHNICAL GUIDANCE MANUAL.

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT SIZING AND TREATMENT REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT – 1

ISSUED FOR CONSTRUCTION
00-00-00

STATE OF TEXAS
S. RAO VASAMSETTI
104346
LICENSED PROFESSIONAL ENGINEER
7/31/14

PRIMARY CONTACT:
RAO VASAMSETTI, P.E.

MACINA • BOSE • COPELAND & ASSOC., INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
1035 Central Parkway North, San Antonio, Texas 78232
(210) 545-1122 Fax (210) 545-9302 www.mbcengineers.com
TEXAS REGISTERED ENGINEERING FIRM F-784
mbc ENGINEERS

BULVERDE ROAD STORAGE
SAN ANTONIO, TX.

TEMPORARY POLLUTION PREVENTION PLAN

REVISIONS: DATE	No.	DESCRIPTION	BY

PLAT ID#
A/P#
DESIGN RSV
DRAWN ADG
CHECKED RSV
DATE 07-16-14
JOB NO. 31017-1577
SHT. C0 OF 6

Date: Jul 19, 2014, 6:58pm User ID: rvasamsetti Layout: Layout1
File: P:\1577\31017-Bulverde Oaks-Tract 9\Design\Design Civil\wh-temporary pollution prevention plan-31017.dwg Layout name: Layout1

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Zak Covar, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 3, 2014

Mr. Naty Saidoff
Capital Foresight LP
2980 N. Beverly Glen Cir, Ste. 300
Los Angeles, California 90077-1703

Re: Edwards Aquifer, Bexar County

Name of Project: Bulverde Road Storage; Located on the northeastern corner of Bulverde Road and Roseheart Road; San Antonio, Texas

Type of Plan: Request for Approval of a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter A Edwards Aquifer

Investigation No. 1186355; Regulated Entity No. RN107600454; Additional ID No. 13-14072901

Dear Mr. Saidoff,

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP application for the above-referenced project submitted to the San Antonio Regional Office by Macina Bose Copeland & Associates, Inc. on behalf of Capital Foresight LP on July 29, 2014. Final review of the WPAP was completed after additional material was received on October 30, 2014. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were selected and prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. The planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

PROJECT DESCRIPTION

The proposed commercial development will have an area of approximately 7.85 acres. The project will be developed in two (2) phases. The first phase will consist of mass grading and the construction of one (1) three-story self-storage building with, drive lanes and one (1) sedimentation/sand filter basin. The second phase includes the construction of two (2) office

buildings and associated parking. The total impervious cover will be 4.107 acres (53.6 percent) that includes 0.057 acres of uncaptured impervious cover. Project wastewater will be disposed of by conveyance to the existing Dos Rios Water Recycling Center owned and operated by the San Antonio Water System (SAWS).

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, one single chamber sedimentation/sand filter basin, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 3,351 pounds of TSS generated from the 4.107 acres of impervious cover. The approved measure meets the required 80 percent removal of the increased load in TSS caused by the project.

The treatment measure will consist of one (1) sedimentation/sand filter basin with a concrete liner, designed water quality volume of 30,496 ft^3 (23,044 ft^3 required), and a designed sand filter area of 2,615 ft^2 (1,920 ft^2 required). The water quality basin is designed to remove 3,351 pounds (3,351 pounds required) of TSS annually. The sedimentation/sand filter basin will provide overtreatment for 46 pounds of TSS generated from 0.057 acres of uncaptured impervious cover.

The sedimentation/sand filter basin includes an 18-inch (18") sand filter layer and a 6-inch (6") gravel layer that are separated by a geotextile filter fabric. The sand filter material will be ASTM C33 (#40 Sieve) washed sand. The underdrain is a 6-inch (6") perforated PVC discharge pipe sloped at 1.00 % grade.

GEOLOGY

According to the geologic assessment included with the application, the majority of the site is within the grainstone member of the Kainer Formation. The regional dense member of the Person Formation extends the length of the western boundary of the site and the leached and collapsed members of the Person Formation are located along the southern boundary of the site. The geologic assessment indicated that there were seven geologic features and one manmade feature within the project site but none of the features were assessed as sensitive. The San Antonio Regional Office site assessment conducted on October 16, 2014 revealed the site was generally as described in the geologic assessment.

SPECIAL CONDITIONS

I. The permanent pollution abatement measure shall be operational prior to occupancy of the facility.

II. All sediment and/or media removed from the water quality basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.

3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.
5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.
6. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.
8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.
9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.
12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.
13. There are no wells on site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. If sediment escapes the construction site, the 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). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.
16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

18. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of site completion.
19. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director

through San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer Protection Plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.
21. An Edwards Aquifer Protection Plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.
22. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Mr. Ricardo A. Macias of the Edwards Aquifer Protection Program, San Antonio Regional Office at (210) 403-4065.

Sincerely,

Lynn M. Bumguardner, Water Section Manager
San Antonio Region Office
Texas Commission on Environmental Quality

LMB/RAM/eg

Enclosure: Deed Recordation Affidavit, Form TCEQ-0625
Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Mr. Rao Vasamsetti, P.E., Macina Bose Copeland & Associated, Inc.
Ms. Renee Green, P.E., Bexar County Public Works
Mr. George Wissmann, Trinity Glen Rose GCD
Mr. Roland Ruiz, Edwards Aquifer Authority
Mr. Scott Halty, San Antonio Water System
TCEQ Central Records, Building F, MC 212

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Bulverde Storage W/Ovt
Date Prepared: 7/19/2014

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

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

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

where:

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

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

County =	Bexar	
Total project area included in plan * =	7.66	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	4.11	acres
Total post-development impervious cover fraction * =	0.54	
P =	30	inches
$L_{M\ TOTAL\ PROJECT}$ =	3351	lbs.

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

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

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

Drainage Basin/Outfall Area No. =	1	
Total drainage basin/outfall area =	4.27	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	4.05	acres
Post-development impervious fraction within drainage basin/outfall area =	0.95	
$L_{M\ THIS\ BASIN}$ =	3305	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	Sand Filter	
Removal efficiency =	89	percent

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

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

RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:

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

A_C =	4.27	acres
A_I =	4.05	acres
A_P =	0.22	acres
L_R =	3745	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 3351 lbs.

F = 0.89

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth = 1.60 inches
Post Development Runoff Coefficient = 0.77
On-site Water Quality Volume = 19204 cubic feet

Calculations from RG-348 Pages 3-36 to 3-37

Off-site area draining to BMP = 0.00 acres
Off-site Impervious cover draining to BMP = 0.00 acres
Impervious fraction of off-site area = 0
Off-site Runoff Coefficient = 0.00
Off-site Water Quality Volume = 0 cubic feet

Storage for Sediment = 3841
Total Capture Volume (required water quality volume(s) x 1.20) = 23044 cubic feet

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

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

Required Water Quality Volume for retention basin = NA cubic feet

Irrigation Area Calculations:

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

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

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

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

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin = 23044 cubic feet

Minimum filter basin area = 1067 square feet

Maximum sedimentation basin area = 9602 square feet For minimum water depth of 2 feet
Minimum sedimentation basin area = 2400 square feet For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins = 23044 cubic feet

Minimum filter basin area = 1920 square feet

Maximum sedimentation basin area = 7681 square feet For minimum water depth of 2 feet
Minimum sedimentation basin area = 480 square feet For maximum water depth of 8 feet



Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Bulverde -B(Uncap)
Date Prepared: 7/19/2014

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

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

Page 3-29 Equation 3 3: $L_M = 27\ 2(A_N \times P)$

where:

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

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

County =	Bexar	
Total project area included in plan * =	7.66	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	4.11	acres
Total post-development impervious cover fraction * =	0.60	
P =	30	inches
$L_{M\ TOTAL\ PROJECT}$ =	3351	lbs.

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

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

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

Drainage Basin/Outfall Area No. =	1	
Total drainage basin/outfall area =	0.02	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.02	acres
Post-development impervious fraction within drainage basin/outfall area =	0.95	
$L_{M\ THIS\ BASIN}$ =	17	lbs.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Bulverde- C(Uncap)
Date Prepared: 7/19/2014

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

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

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

where:

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

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

County =	Bexar	
Total project area included in plan * =	7.66	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	4.11	acres
Total post-development impervious cover fraction * =	0.60	
P =	30	inches
$L_{M\ TOTAL\ PROJECT}$ =	3351	lbs.

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

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

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

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	0.04	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.04	acres
Post-development impervious fraction within drainage basin/outfall area =	0.95	
$L_{M\ THIS\ BASIN}$ =	29	lbs



ATTACHMENT B

NARRATIVE OF PROPOSED MODIFICATION

The WPAP for *Bulverde Road Storage* (RN107600454) was approved in 2014. A partial sedimentation and filtration basin was constructed on Lot 2 to accommodate the development flows from Lots 1, 2, and 3. Subsequently, the owner of Lot 3 elected to construct a separate sedimentation and filtration basin.

The total impervious cover approved under the WPAP is 4.11 acres. Of this, only 2.61 acres of impervious cover are treated by the existing basin. Therefore, no modification to the existing basin will be required for the proposed development.

Water Pollution Abatement Plan Application

TCEQ-0584

Water Pollution Abatement Plan Application

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Harun Rashid, PE, RPLS

Date: 05/09/24

Signature of Customer/Agent:



Regulated Entity Name: Aria Townhomes

Regulated Entity Information

1. The type of project is:

   ☐ Residential: Number of Lots:_____
   ☒ Residential: Number of Living Unit Equivalents: 20
   ☐ Commercial
   ☐ Industrial
   ☐ Other:_____

2. Total site acreage (size of property): 3.277

3. Estimated projected population: 50

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

Table 1 - Impervious Cover Table

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	21,588	÷ 43,560 =	0.50
Parking		÷ 43,560 =	
Other paved surfaces	33,274	÷ 43,560 =	0.76
Total Impervious Cover	54,862	÷ 43,560 =	1.26

Total Impervious Cover 1.26 **÷ Total Acreage** 3.277 **X 100 =** 38.53 **% Impervious Cover**

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

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

For Road Projects Only

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

7. Type of project:

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

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

   ☐ Concrete
   ☐ Asphaltic concrete pavement
   ☐ Other: _____

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

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

10. Length of pavement area: _____ feet.

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

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

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

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

Stormwater to be generated by the Proposed Project

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

Wastewater to be generated by the Proposed Project

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

100 % Domestic	2,600 Gallons/day
_____ % Industrial	_____ Gallons/day
_____ % Commingled	_____ Gallons/day
TOTAL gallons/day _____	

15. Wastewater will be disposed of by:

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

- ☐ **Attachment C - Suitability Letter from Authorized Agent**. An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's (authorized agent) written approval is attached. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities.
- ☐ Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.

☑ Sewage Collection System (Sewer Lines):

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

- ☐ The SCS was previously submitted on_____.
- ☐ The SCS was submitted with this application.
- ☐ The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to Executive Director approval.

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

☑ Existing.
☐ Proposed.

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

Site Plan Requirements

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

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

Site Plan Scale: 1" = 30' '.

18. 100-year floodplain boundaries:

☐ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
☑ No part of the project site is located within the 100-year floodplain.
The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA: Flood Insurance Rate Map for Bexar County, Texas/ Panel# 48029C0260G, Dated September 29, 2010

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

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

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

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

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

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

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

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

22. ☑ The drainage patterns and approximate slopes anticipated after major grading activities.
23. ☑ Areas of soil disturbance and areas which will not be disturbed.
24. ☑ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
25. ☐ Locations where soil stabilization practices are expected to occur.
26. ☐ Surface waters (including wetlands).

    ☑ N/A
27. ☐ Locations where stormwater discharges to surface water or sensitive features are to occur.

    ☑ There will be no discharges to surface water or sensitive features.
28. ☑ Legal boundaries of the site are shown.

Administrative Information

29. ☑ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.
30. ☑ Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

ATTACHMENT A

Factors Affecting Water Quality:

Potential Sources of Pollution that may reasonably be expected to affect the quality of Storm Water discharges from the site during construction include:

- Soil erosion due to the clearing of the site
- Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle drippings
- Hydrocarbons from asphalt paving operations
- Miscellaneous trash and litter from construction workers and materials wrappings
- Concrete truck washout
- Potential overflow/spills from portable toilets

Potential sources of pollution that may reasonably be expected to affect the quality of storm water discharges from the site after development include:

- Oil, grease, fuel and hydraulic fluid contamination from vehicle drippings
- Dirt and dust may fall off vehicles
- Miscellaneous trash and litter

ATTACHMENT B

Stormwater Runoff to be Generated by the Proposed Project:

For a 25-year storm event, the entire 3.277-acre site generates approximately 16.69 cfs prior to development and 30.55 cfs after development based on "C" values (runoff coefficient) of 0.53 and 0.97 respectively. Rational Method has been used for the hydrologic calculation.

Permanent Stormwater Section

TCEQ-0600

Permanent Stormwater Section

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Harun Rashid, P.E., RPLS

Date: 05/09/25

Signature of Customer/Agent



Regulated Entity Name: Aria Townhomes

Permanent Best Management Practices (BMPs)

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

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

   [ ] N/A

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

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

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

☐ N/A

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

   ☐ N/A

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

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

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

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

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

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

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

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

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

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

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

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

☒ N/A

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

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

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

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

☒ Design calculations (TSS removal calculations)
☒ TCEQ construction notes
☒ All geologic features
☒ All proposed structural BMP(s) plans and specifications

☐ N/A

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

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

    ☐ N/A

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

    ☒ N/A

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

    ☒ N/A

Responsibility for Maintenance of Permanent BMP(s)

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

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

    ☐ N/A

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

    ☑ N/A

ATTACHMENT B

BMPs for Upgradient Stormwater.

Proposed development will not receive any offsite runoff and there will not be any need to have any BMPs for the upgradient stormwater.

ATTACHMENT C

BMPs for Onsite Stormwater:

Existing Water Quality Basin (a partial sedimentation/filtration basin) located at the east side of Lot 2 (Aria Townhomes site) will treat runoff from 5.45 acres with total impervious cover of 2.61 acres. Approved WPAP includes 7.66 acre project area (Lots 1, 2 and 3 of "Bulverde Road at Roseheart") for 4.11-acre impervious cover. Development on Lot 3 (2.182 acres) has the separate sedimentation and filtration basin (RN107600454; Additional ID No. 13001286).

Existing sedimentation and filtration basin will have excess capacity to treat additional 2.50 acres.

ATTACHMENT F

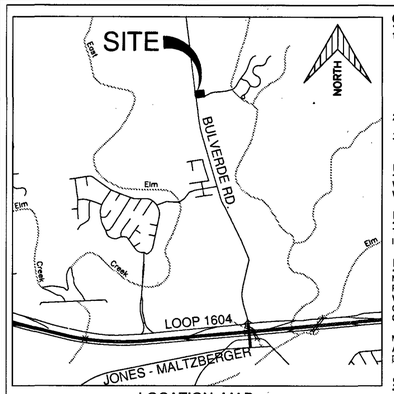
Construction Plans for BMPs are being accompanied with this report.

RECORDER'S MEMORANDUM
AT THE TIME OF RECORDATION, THIS
INSTRUMENT WAS FOUND TO BE INADEQUATE
FOR THE BEST PHOTOGRAPHIC REPRODUCTION
BECAUSE OF ILLEGIBILITY, CARBON OR PHOTO
COPY, DISCOLORED PAPER ETC.

Doc# 20150204959 Fees: $82.00
10/13/2015 11:09AM # Pages 4
Filed & Recorded in the Official
Public Records of BEXAR COUNTY
GERRARD C. RICKHOFF COUNTY CLERK

Book 9691 Page 25 4pgs

P12-20150204959-4



LOCATION MAP
NOT TO SCALE

LEGEND:

ELEC.	-----	ELECTRIC
TEL.	-----	TELEPHONE
CATV	-----	CABLE TELEVISION
SAN. SWR.	-----	SANITARY SEWER
ESM'T.	-----	EASEMENT
R.O.W.	-----	RIGHT-OF-WAY
N.C.B.	-----	NEW CITY BLOCK
VOL.	-----	VOLUME
PG.	-----	PAGE
FND ½" I.R. (PD)	-----	FOUND ½" IRON ROD W/CAP (PAPE DAWSON ENGINEERING)
FND ½" I.R. (PCI)	-----	FOUND ½" IRON ROD W/CAP (POZNECKI CAMARILLO, INC.)
FND ½" I.R. (MLS)	-----	FOUND ½" IRON ROD W/CAP (MAVERICK LAND SURVEYING CO.)
FND ½" I.R. (NC)	-----	FOUND ½" IRON ROD W/CAP (NO CAP)
RPR	-----	REAL PROPERTY RECORDS OF BEXAR COUNTY
DPR	-----	DEED & PLAT RECORDS OF BEXAR COUNTY
1	-----	5' R.O.W. DEDICATION TO THE CITY OF SAN ANTONIO (0.067 AC.)

CPS NOTES:

1. THE CITY OF SAN ANTONIO AS A PART OF ITS ELECTRIC AND GAS SYSTEM (CITY PUBLIC SERVICE BOARD) IS HEREBY DEDICATED THE EASEMENTS AND RIGHTS-OF-WAY FOR ELECTRIC AND GAS DISTRIBUTION AND SERVICE FACILITIES IN THE AREAS DESIGNATED ON THIS PLAT AS "ELECTRIC EASEMENT", "GAS EASEMENT", "ANCHOR EASEMENT", "SERVICE EASEMENT", "OVERHANG EASEMENT", "UTILITY EASEMENT", AND "TRANSFORMER EASEMENT" FOR THE PURPOSE OF INSTALLING, CONSTRUCTING, RECONSTRUCTING, MAINTAINING, REMOVING, INSPECTING, PATROLLING, AND ERECTING POLES, HANGING OR BURYING WIRES, CABLES, CONDUITS, PIPELINES OR TRANSFORMERS, EACH WITH ITS NECESSARY APPURTENANCES; TOGETHER WITH THE RIGHT OF INGRESS AND EGRESS OVER GRANTOR'S ADJACENT LAND, THE RIGHT TO RELOCATE SAID FACILITIES WITHIN SAID EASEMENT AND RIGHT-OF-WAY AREAS, AND THE RIGHT TO REMOVE FROM SAID LANDS ALL TREES OR PARTS THEREOF, OR OTHER OBSTRUCTIONS WHICH ENDANGER OR MAY INTERFERE WITH THE EFFICIENCY OF SAID LINES OR APPURTENANCES THERETO. IT IS AGREED AND UNDERSTOOD THAT NO BUILDINGS, CONCRETE SLABS, OR WALLS WILL BE PLACED WITHIN SAID EASEMENT AREAS.
2. ANY CPS MONETARY LOSS RESULTING FROM MODIFICATIONS REQUIRED OF CPS EQUIPMENT, LOCATED WITHIN SAID EASEMENT, DUE TO GRADE CHANGES OR GROUND ELEVATION ALTERATION SHALL BE CHARGED TO THE PERSON OR PERSONS DEEMED RESPONSIBLE FOR SAID GRADE CHANGES OR GROUND ELEVATION ALTERATION.
3. THIS PLAT DOES NOT AMEND, ALTER, RELEASE OR OTHERWISE AFFECT ANY EXISTING ELECTRIC, GAS, WATER, SEWER, DRAINAGE, TELEPHONE, CABLE EASEMENTS OR ANY OTHER EASEMENTS FOR UTILITIES UNLESS THE CHANGES TO SUCH EASEMENTS ARE DESCRIBED BELOW:

IMPACT FEE PAYMENT DUE:

WATER AND/OR WASTEWATER IMPACT FEES WERE NOT PAID AT THE TIME OF PLATTING FOR THIS PLAT. ALL IMPACT FEES MUST BE PAID PRIOR TO WATER METER SET AND/OR WASTE WATER SERVICE CONNECTION.

EDU NOTE:

THE NUMBER OF EQUIVALENT DWELLING UNITS (EDU's) PAID FOR THIS SUBDIVISION PLAT ARE KEPT ON FILE AT THE SAN ANTONIO WATER SYSTEM UNDER THE PLAT NUMBER ISSUED BY THE DEVELOPMENT SERVICES DEPARTMENT.

DRAINAGE NOTES:

NO STRUCTURE, FENCES, WALLS OR OTHER OBSTRUCTIONS THAT IMPEDE DRAINAGE SHALL BE PLACED WITHIN THE LIMITS OF THE DRAINAGE EASEMENTS SHOWN ON THIS PLAT. NO LANDSCAPING OR OTHER TYPE OF MODIFICATIONS, WHICH ALTER THE CROSS-SECTIONS OF THE DRAINAGE EASEMENTS, AS APPROVED, SHALL BE ALLOWED WITHOUT THE APPROVAL OF THE DIRECTOR OF PUBLIC WORKS. THE CITY OF SAN ANTONIO AND BEXAR COUNTY SHALL HAVE THE RIGHT OF INGRESS AND EGRESS OVER GRANTOR'S ADJACENT PROPERTY TO REMOVE ANY IMPEDING OBSTRUCTIONS PLACED WITHIN THE LIMITS OF SAID DRAINAGE EASEMENT AND TO MAKE ANY MODIFICATIONS OR IMPROVEMENTS WITHIN SAID DRAINAGE EASEMENT.

NOTES: FINISHED FLOOR ELEVATIONS MUST BE A MINIMUM OF EIGHT (8) INCHES ABOVE FINAL ADJACENT GRADE. MINIMUM FINISHED FLOOR ELEVATIONS FOR RESIDENTIAL AND COMMERCIAL LOTS SHALL BE ELEVATED AT LEASE ONE (1) FOOT HIGHER THAN THE COMPUTED WATER SURFACE ELEVATION FOR THE 100-YEAR ULTIMATE DEVELOPMENT.

SAWS HIGH PRESSURE NOTE:

A PORTION OF THE TRACT IS BELOW THE GROUND ELEVATION OF 940 FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS, THE DEVELOPER OR BUILDER SHALL INSTALL AT EACH LOT, ON THE CUSTOMER'S SIDE OF THE METER, AN APPROVED TYPE PRESSURE REGULATOR IN CONFORMANCE WITH THE PLUMBING CODE OF THE CITY OF SAN ANTONIO.

GENERAL NOTES:

1. BASED ON A MAP TO MAP TRANSFER (BY VISUAL INSPECTION OR SCALING ONLY) THE SUBJECT PROPERTY HEREON IS LOCATED IN FLOOD ZONE "X" (UNSHADED), ON MAP NUMBER 48029C0280G DATED SEPTEMBER 29, 2010, OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP.
2. 1/2" IRON ROD SET AT ALL CORNERS FOR THE PERIMETER BOUNDARY, UNLESS OTHERWISE NOTED.
3. STATE PLANE COORDINATES AS SHOWN HEREON WERE DERIVED FROM G.P.S. OBSERVATION BY M.B.C., INC.
4. SETBACKS IMPOSED ON THIS PLAT ARE AT THE DISCRETION OF THE DEVELOPER OR BEXAR COUNTY AND ARE NOT SUBJECT TO ENFORCEMENT BY THE CITY OF SAN ANTONIO.

SAWS AQUIFER NOTE:

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

THE SAN ANTONIO WATER SYSTEM IS HEREBY GRANTED THE RIGHT OF INGRESS AND EGRESS ACROSS GRANTOR'S ADJACENT PROPERTY TO ACCESS THE WASTEWATER EASEMENT(S) SHOWN ON THIS PLAT.

SAN ANTONIO FIRE DEPARTMENT NOTE:

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

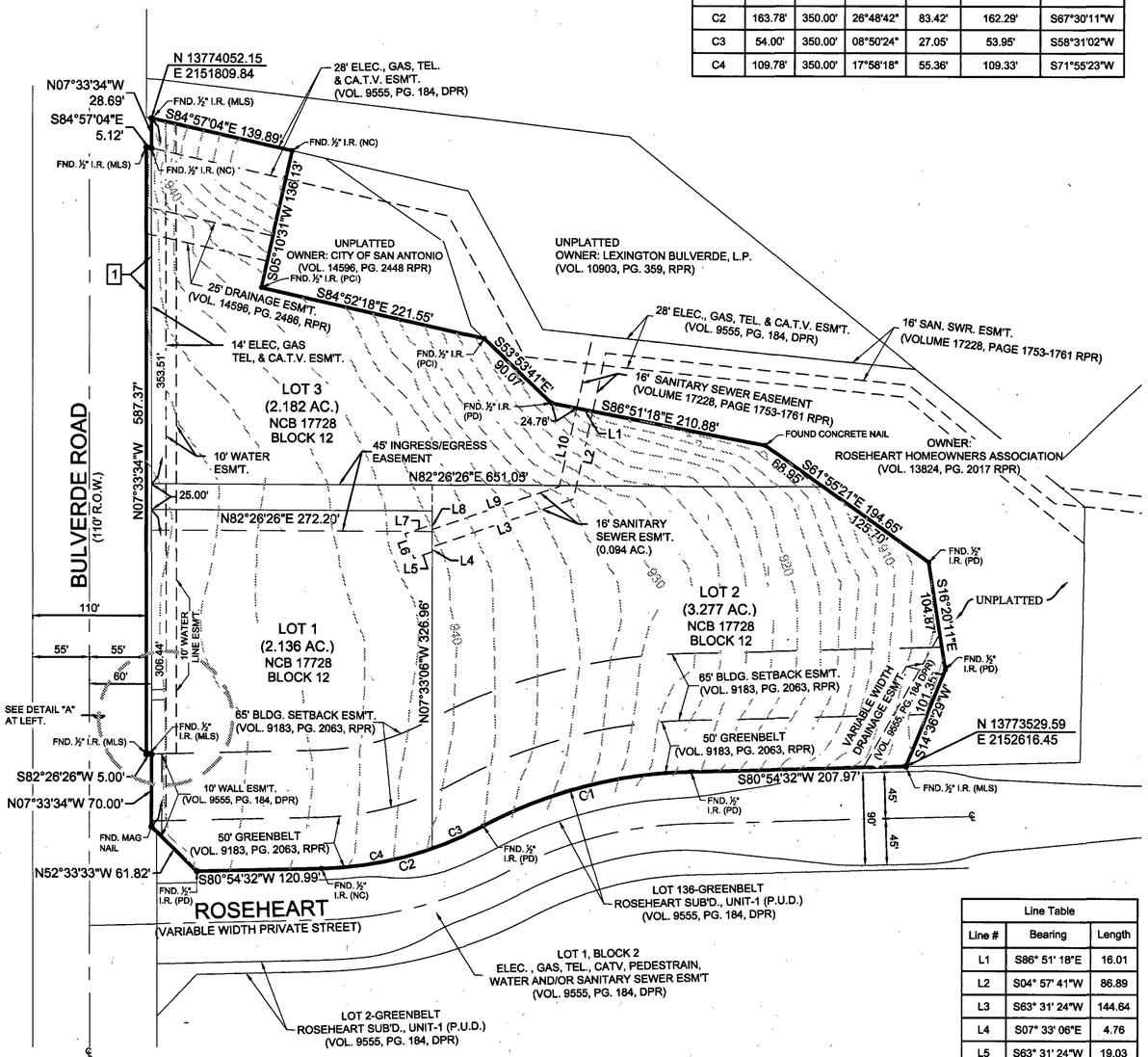
MAINTENANCE NOTE:

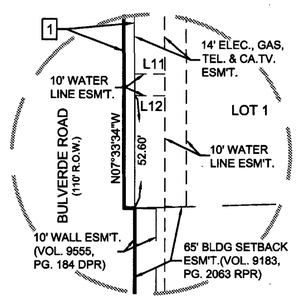
THE MAINTENANCE OF DRAINAGE EASEMENTS, GREENBELTS, AND OPEN PERMEABLE SPACES SHOWN HEREON SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER OR HOMEOWNERS ASSOCIATION AND THEIR SUCCESSORS OR ASSIGNEES AND NOT THE RESPONSIBILITY OF THE CITY OF SAN ANTONIO OR BEXAR COUNTY.

SURVEYORS NOTES:

1. THE TWO SETS OF COORDINATE VALUES SHOWN HEREON ARE IN THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE 4204, NAD 83 (2011).
2. ALL DIMENSIONS SHOWN HEREON ARE SURFACE AND THE COMBINED SCALE FACTOR (SURFACE TO GRID) IS 0.99983418.
3. ALL BEARINGS SHOWN HEREON ARE GRID BEARINGS.
4. UNLESS OTHERWISE NOTED, ALL LOT CORNERS ARE MONUMENTED WITH 1/2" IRON RODS WITH ORANGE PLASTIC CAPS MARKED "MLS CO RPLS 4612" SET AFTER COMPLETION OF CONSTRUCTION.

Curve Table						
Curve #	Length	Radius	Delta	Tangent	Chord Length	Chord Bearing
C1	210.58'	450.00'	26°48'43"	107.25'	208.66'	S67°30'12"W
C2	163.78'	350.00'	26°48'42"	83.42'	162.29'	S67°30'11"W
C3	54.00'	350.00'	08°50'24"	27.05'	53.95'	S58°31'02"W
C4	109.78'	350.00'	17°58'18"	55.36'	109.33'	S71°55'23"W





DETAIL "A"
N.T.S.

Line Table		
Line #	Bearing	Length
L1	S86° 51' 18"E	16.01
L2	S04° 57' 41"W	86.89
L3	S63° 31' 24"W	144.64
L4	S07° 33' 06"E	4.76
L5	S63° 31' 24"W	19.03
L6	N26° 28' 36"W	25.00
L7	N63° 31' 24"E	27.60
L8	S07° 33' 06"E	4.76
L9	N63° 31' 24"E	130.19
L10	N04° 57' 41"E	77.41
L11	N82° 26' 26"E	14.00
L12	S82° 26' 26"W	14.00

STATE OF TEXAS
COUNTY OF BEXAR

I HEREBY CERTIFY THAT THE ABOVE PLAT CONFORMS TO THE MINIMUM STANDARDS SET FORTH BY THE TEXAS BOARD OF PROFESSIONAL LAND SURVEYING ACCORDING TO AN ACTUAL SURVEY MADE ON THE GROUND BY: Maverick Land Surveying Co.

REGISTERED PROFESSIONAL LAND SURVEYOR NO. 6527

STATE OF TEXAS
REGISTERED
ERIC J. SNELL
6527
PROFESSIONAL
LAND SURVEYOR

STATE OF TEXAS
COUNTY OF BEXAR

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

LICENSED PROFESSIONAL ENGINEER NO. 70868

STATE OF TEXAS
ROBERT A. COPELAND JR.
70868
LICENSED
PROFESSIONAL ENGINEER

PLAT NO. 140459

SUBDIVISION PLAT ESTABLISHING BULVERDE RD. AT ROSEHEART

BEING 7.662 ACRES ESTABLISHING LOTS 1-3 (7.595 AC.), BLOCK 12, NEW CITY BLOCK 17728, AND RIGHT-OF-WAY DEDICATION (0.067 AC.) OUT OF THE A. HOUSTON SURVEY NO. 341, ABSTRACT 354, RECORDED IN VOLUME 14310, PAGE 2173, REAL PROPERTY RECORDS OF BEXAR COUNTY, TEXAS.

NORTH

SCALE: 1" = 100'

0' 50' 100' 200' 300'

MACINA • BOSE • COPELAND & ASSOC., INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
1035 Central Parkway North, San Antonio, Texas 78232
(210) 545-1122 Fax (210) 545-9302 www.mbcengineers.com
FIRM REGISTERED NUMBER: T.B.P.E. F-784 & T.B.P.L.S. 10011700

DATE: 06/04/2014 JOB NO.: 31017/1577

Maverick Land Surveying Co.
1856 Lockhill Selma, Suite 105, San Antonio, Texas 78213
(210) 342-9455, Fax 342-9524
TBPLS FIRM NO. 10132700
MLS JOB NO. 48709-01

STATE OF TEXAS
COUNTY OF BEXAR

THE OWNER OF LAND SHOWN ON THIS PLAT, IN PERSON OR THROUGH A DULY AUTHORIZED AGENT, DEDICATES TO THE USE OF THE PUBLIC, EXCEPT AREAS IDENTIFIED AS PRIVATE OR PART OF AN ENCLAVE OR PLANNED UNIT DEVELOPMENT, FOREVER ALL STREETS, ALLEYS, PARKS, WATERCOURSES, DRAINS, EASEMENTS AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSE AND CONSIDERATION THEREIN EXPRESSED.

OWNER/DEVELOPER: BULVERDE SELF STORAGE, LTD.
5606 N. NAVARRO, SUITE 200E
VICTORIA, TEXAS 77904
TEL. NO. (210) 822-2424

OWNER

DULY AUTHORIZED AGENT

STATE OF TEXAS
COUNTY OF BEXAR

BEFORE ME, THE UNDERSIGNED AUTHORITY ON THIS DAY PERSONALLY APPEARED Brian Cizerle KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS 26th DAY OF June, 2015.

NOTARY PUBLIC
BEXAR COUNTY, TEXAS

NOTARY PUBLIC STATE OF TEXAS
JESSE H. VALDEZ, JR.
Notary Public
State of Texas
My Commission Expires
08 - 18 - 2016

THIS PLAT OF BULVERDE RD. AT ROSEHEART HAS BEEN SUBMITTED TO AND CONSIDERED BY THE PLANNING COMMISSION OF THE CITY OF SAN ANTONIO, TEXAS, IS HEREBY APPROVED BY SUCH COMMISSION IN ACCORDANCE WITH STATE OR LOCAL LAWS AND REGULATIONS; AND/OR WHERE ADMINISTRATIVE EXCEPTION(S) AND/OR VARIANCE(S) HAVE BEEN GRANTED.

DATED THIS 8 DAY OF July, A.D., 2015.

BY: CHAIRMAN

BY: SECRETARY

CITY OF SAN ANTONIO

STATE OF TEXAS
COUNTY OF BEXAR

I, Gerrard Rickhoff COUNTY CLERK OF SAID COUNTY, DO HEREBY CERTIFY THAT THIS PLAT WAS FILED FOR RECORD IN MY OFFICE ON THE 13rd DAY OF October A.D., 2015 AT 11:09 AM, AND DULY RECORDED THE 13rd DAY OF October, A.D., 2015 AT 11:09 AM, IN THE RECORDS OF Deed AND Plat OF SAID COUNTY, IN BOOK VOLUME 9691 ON PAGE 25.

IN TESTIMONY WHEREOF, WITNESS MY HAND AND OFFICIAL SEAL OF OFFICE, THIS 13rd DAY OF October, A.D., 2015.

COUNTY CLERK, BEXAR COUNTY, TEXAS
BY: DEPUTY

SHEET 1 OF 1

Date: Jun 26, 2015, 1:20pm User ID: tgonzalez
File: P:\1577\31017-Bulverde Oaks-Tract 9\Design\Plats\31017-Plat 01.dwg

Bulverde @ Rosehart
Page 1 of 2
#140459

TAX CERTIFICATE

RECEIVED
15 JUN 22 PM 3:24
LAND DEVELOPMENT SERVICES DIVISION

ALBERT URESTI, MPA, PCC
BEXAR COUNTY TAX ASSESSOR-COLLECTOR
P O BOX 839950
SAN ANTONIO, TX 78283-3950

Issued To:
MACINA BOSE COPELAND & ASSOCIATES
1035 CENTRAL PARKWAY NORTH
SAN ANTONIO , TX 78232-0000

Legal Description
NCB 34956 BLK LOT P-2H (5.30) & P-2K
(2.365) TOTAL: 7.665 AC

Fiduciary Number: 531564

Parcel Address: BULVERDE RD
Legal Acres: 7.6650

Account Number: **34956-000-0024**

Certificate No: 10840800
Certificate Fee: $10.00

Print Date: 04/06/2015
Paid Date:
Issue Date: 04/06/2015
Operator ID: LHER

TAX CERTIFICATES ARE ISSUED WITH THE MOST CURRENT INFORMATION AVAILABLE. ALL ACCOUNTS ARE SUBJECT TO CHANGE PER SECTION 26.15 OF THE TEXAS PROPERTY TAX CODE. THIS IS TO CERTIFY THAT ALL TAXES DUE ON THE ABOVE DESCRIBED PROPERTY HAVE BEEN EXAMINED, UP TO AND INCLUDING THE YEAR 2014. ALL TAXES ARE PAID IN FULL

Exemptions:

Certified Owner:
BULVERDE SELF STORAGE LTD
5606 N NAVARRO STE 200E
VICTORIA , TX 77904

2014 Value:	1,168,610
2014 Levy:	$32,306.59
2014 Levy Balance:	$0.00
Prior Year Levy Balance:	$0.00
Total Levy Due:	$0.00
P&I + Attorney Fee:	$0.00
Total Amount Due:	$0.00

Certified Tax Unit(s):
8 FLOOD FUND
9 ALAMO COMM COLLEGE
10 HOSPITAL DISTRICT
11 BEXAR COUNTY
19 S A RIVER AUTHORITY
21 CITY / SAN ANTONIO
55 NORTH EAST ISD

DUE TO ITS ASSIGNED USAGE, THE ABOVE LEGAL PROPERTY MAY HAVE RECEIVED SPECIAL VALUATION, AND ADDITIONAL ROLLBACK TAXES MAY BECOME DUE BASED ON THE PROVISIONS OF THE SPECIAL VALUATION.

ALBERT URESTI, MPA, PCC
BEXAR COUNTY TAX ASSESSOR-COLLECTOR

Reference (GF) No: N/A

20150204959

delinquent_tax_certificate.rdf v1.78

#140459

TAX CERTIFICATE

ALBERT URESTI, MPA, PCC
BEXAR COUNTY TAX ASSESSOR-COLLECTOR
P O BOX 839950
SAN ANTONIO, TX 78283-3950

RECEIVED
15 JUN 22 PM 3:24
LAND DEVELOPMENT
SERVICES DIVISION

Account Number: 34956-000-0024

Certificate No: 10840800

Account Number	Year(s)	Amount Due	Cause Number
04921-000-0031	No Years	0.00	
04922-000-0021	No Years	0.00	
17728-000-0072	No Years	0.00	

RECEIVED

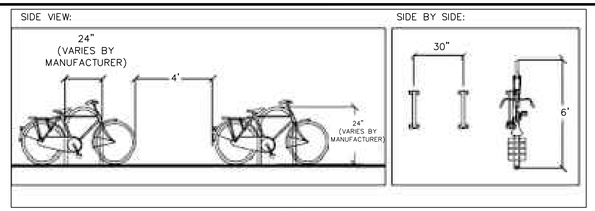
15 JUN 22 PM 3:21

Any provision herein which restricts the sale, or use of the described real property because of race is invalid and unenforceable under Federal law
STATE OF TEXAS, COUNTY OF BEXAR
I hereby Certify that this instrument was FILED in File Number Sequence on this date and at the time stamped hereon by me and was duly RECORDED in the Official Public Record of Real Property of Bexar County, Texas on:

OCT 23 2015

COUNTY CLERK BEXAR COUNTY, TEXAS

Doc# 20150204959 Fees: $82.00
10/23/2015 11:09AM # Pages 4
Filed & Recorded in the Official
Public Records of BEXAR COUNTY
GERARD C. RICKHOFF COUNTY CLERK



BICYCLE "U" RACK DETAIL
NOT TO SCALE:

CAUTION:

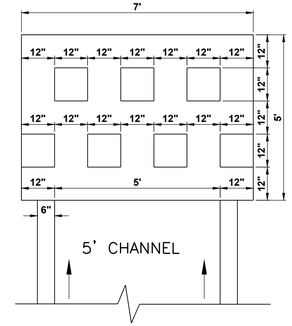
EXISTING UTILITIES ARE SHOWN IN APPROXIMATE HORIZONTAL AND VERTICAL LOCATION. CONTRACTOR SHALL CALL TX811 FOR UTILITY LINE LOCATES TO FIELD VERIFY ALL UNDERGROUND UTILITIES BEFORE COMMENCING WORK. ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY SIGNIFICANT DISCREPANCIES OR REQUIRED DESIGN CHANGES. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION. DAMAGES TO ANY EXISTING OVERHEAD OR UNDERGROUND UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE PAID FOR BY CONTRACTOR AT NO EXTRA COST.

BENCHMARK:
BM #1
DISC; TOP OF EXISTING MH
ELEV = 940.62
N:13773681.1800
E:2152123.4130

LEGAL DESCRIPTIONS:
3.277 ACRES LOT 2, BLOCK 12, NCB 17728 OUT OF 7.662 ACRES, BULVERDE RD AT ROSEHEART PLAT RECORDED IN VOLUME 9691, PAGE 25, REAL PROPERTY RECORDS OF BEXAR COUNTY, TEXAS

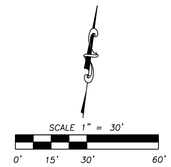
ADDRESS:
BULVERDE ROAD
SAN ANTONIO, TEXAS 78259

BLDG.	TYPE	REQD.	TOTAL REQD.	TOTAL AVAILABLE
21,403 SF	TOWN HOMES	40 (2 PKG PER DRIVE)	40	50



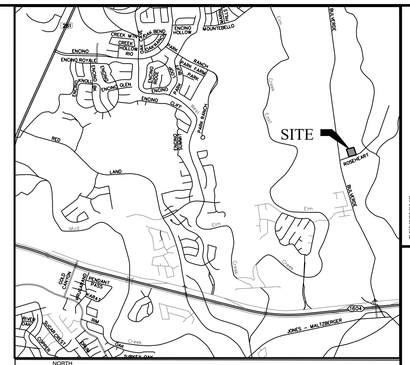
DISSIPATOR CONCRETE END TREATMENT
N.T.S.

PLAT NUMBER: 140459



LEGEND

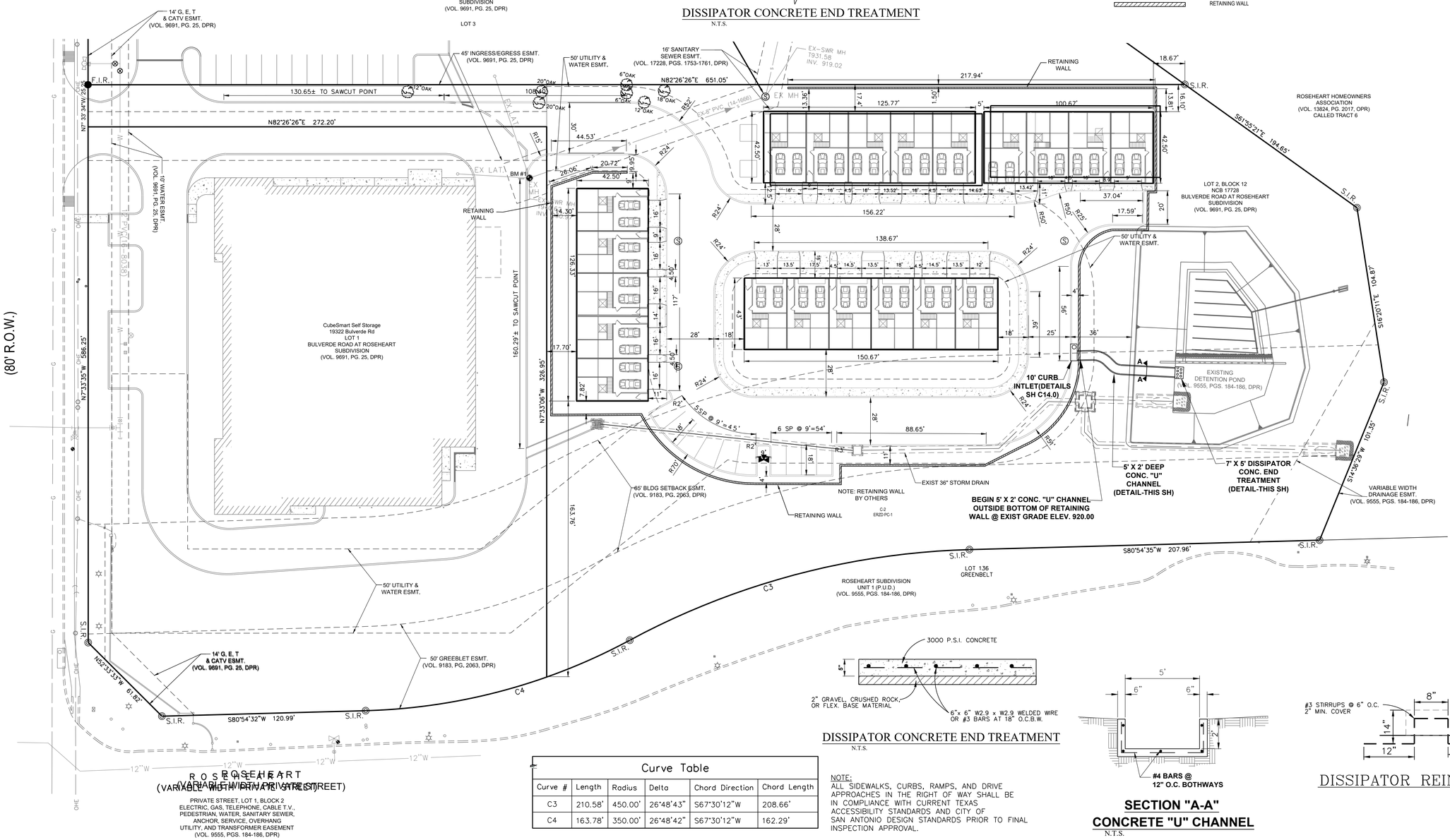
- BOUNDARY
- S — EXISTING 8" SANITARY SEWER LINE
- W — EXISTING WATER LINE
- OHE — EXISTING OVERHEAD ELECTRIC
- PP — EXISTING POWER POLE
- EX MH — EXISTING SEWER MANHOLE
- EXISTING FIRE HYDRANT
- RETAINING WALL



LOCATION MAP

REVISIONS:

STATE OF TEXAS
HARUN RASHID
89773
REGISTERED
PROFESSIONAL ENGINEER
07-24-25



Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C3	210.58'	450.00'	26°48'43"	S67°30'12"W	208.66'
C4	163.78'	350.00'	26°48'42"	S67°30'12"W	162.29'

NOTE:
ALL SIDEWALKS, CURBS, RAMPS, AND DRIVE APPROACHES IN THE RIGHT OF WAY SHALL BE IN COMPLIANCE WITH CURRENT TEXAS ACCESSIBILITY STANDARDS AND CITY OF SAN ANTONIO DESIGN STANDARDS PRIOR TO FINAL INSPECTION APPROVAL.

DISSIPATOR CONCRETE END TREATMENT
N.T.S.

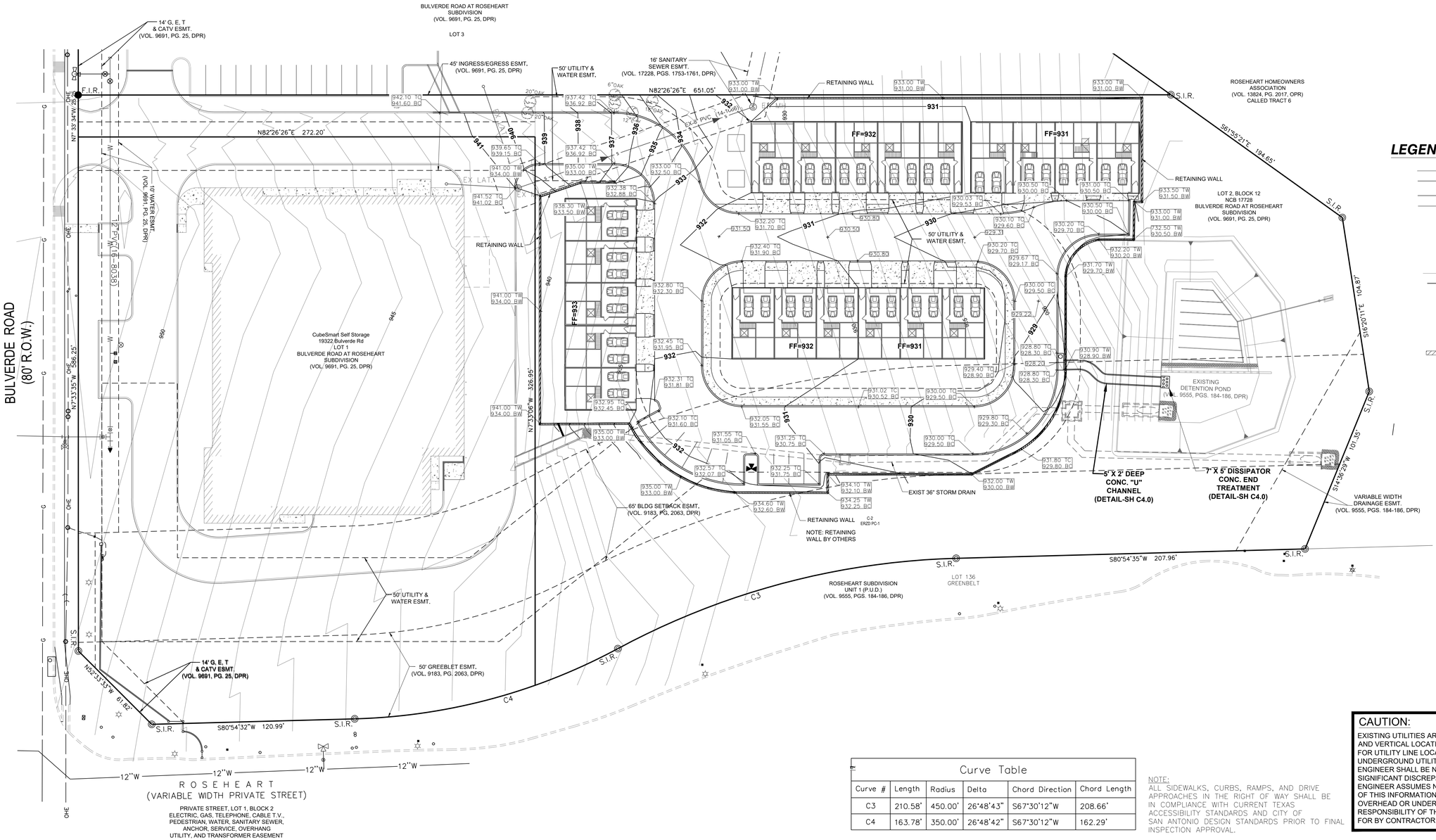
SECTION "A-A"
CONCRETE "U" CHANNEL
N.T.S.

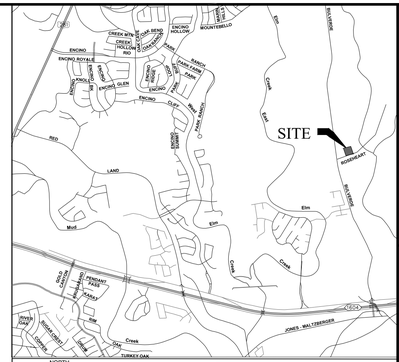
DISSIPATOR REINFORCEMENT

MHR Engineering, LLC.
TBPE REGISTRATION NO. F-12026
TBPLS REGISTRATION NO. F-1013913
16845 BLANCO ROAD, SUITE 106, TX-78232
PH: (210)641-0543, FAX: 210-497-2227
www.mhreng.com

SITE PLAN
ARIA TOWNHOMES
19330 BULVERDE ROAD
CITY OF SAN ANTONIO
BEXAR COUNTY, TEXAS

JOB NO. 24-P017
DATE: 8/1/24
DRAWN: AG CHK: HR
SHEET
C4.0





LEGEND

- BOUNDARY
- S — EXISTING 8" SANITARY SEWER LINE
- W — EXISTING WATER LINE
- OHE — EXISTING OVERHEAD ELECTRIC
- PP — EXISTING POWER POLE
- S EX MH — EXISTING SEWER MANHOLE
- EXISTING FIRE HYDRANT
- 930 — EXISTING CONTOURS
- 925 — PROPOSED CONTOURS
- 928.80 TC / 928.30 BC — TOP OF CURB ELEVATION / BOTTOM OF CURB ELEVATION
- 930.90 TW / 928.90 BW — TOP OF RETAINING WALL ELEVATION / BOTTOM OF RETAINING WALL ELEVATION
- 931.50 — SPOT ELEVATION
- RETAINING WALL

Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C3	210.58'	450.00'	26°48'43"	S67°30'12"W	208.66'
C4	163.78'	350.00'	26°48'42"	S67°30'12"W	162.29'

NOTE:
ALL SIDEWALKS, CURBS, RAMPS, AND DRIVE APPROACHES IN THE RIGHT OF WAY SHALL BE IN COMPLIANCE WITH CURRENT TEXAS ACCESSIBILITY STANDARDS AND CITY OF SAN ANTONIO DESIGN STANDARDS PRIOR TO FINAL INSPECTION APPROVAL.

CAUTION:
EXISTING UTILITIES ARE SHOWN IN APPROXIMATE HORIZONTAL AND VERTICAL LOCATION. CONTRACTOR SHALL CALL TX811 FOR UTILITY LINE LOCATES TO FIELD VERIFY ALL UNDERGROUND UTILITIES BEFORE COMMENCING WORK. ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY SIGNIFICANT DISCREPANCIES OR REQUIRED DESIGN CHANGES. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION. DAMAGES TO ANY EXISTING OVERHEAD OR UNDERGROUND UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE PAID FOR BY CONTRACTOR AT NO EXTRA COST.

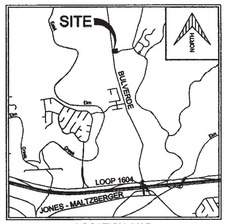
REVISIONS:

STATE OF TEXAS
HARUN RASHID
89773
REGISTERED PROFESSIONAL ENGINEER
07-24-25

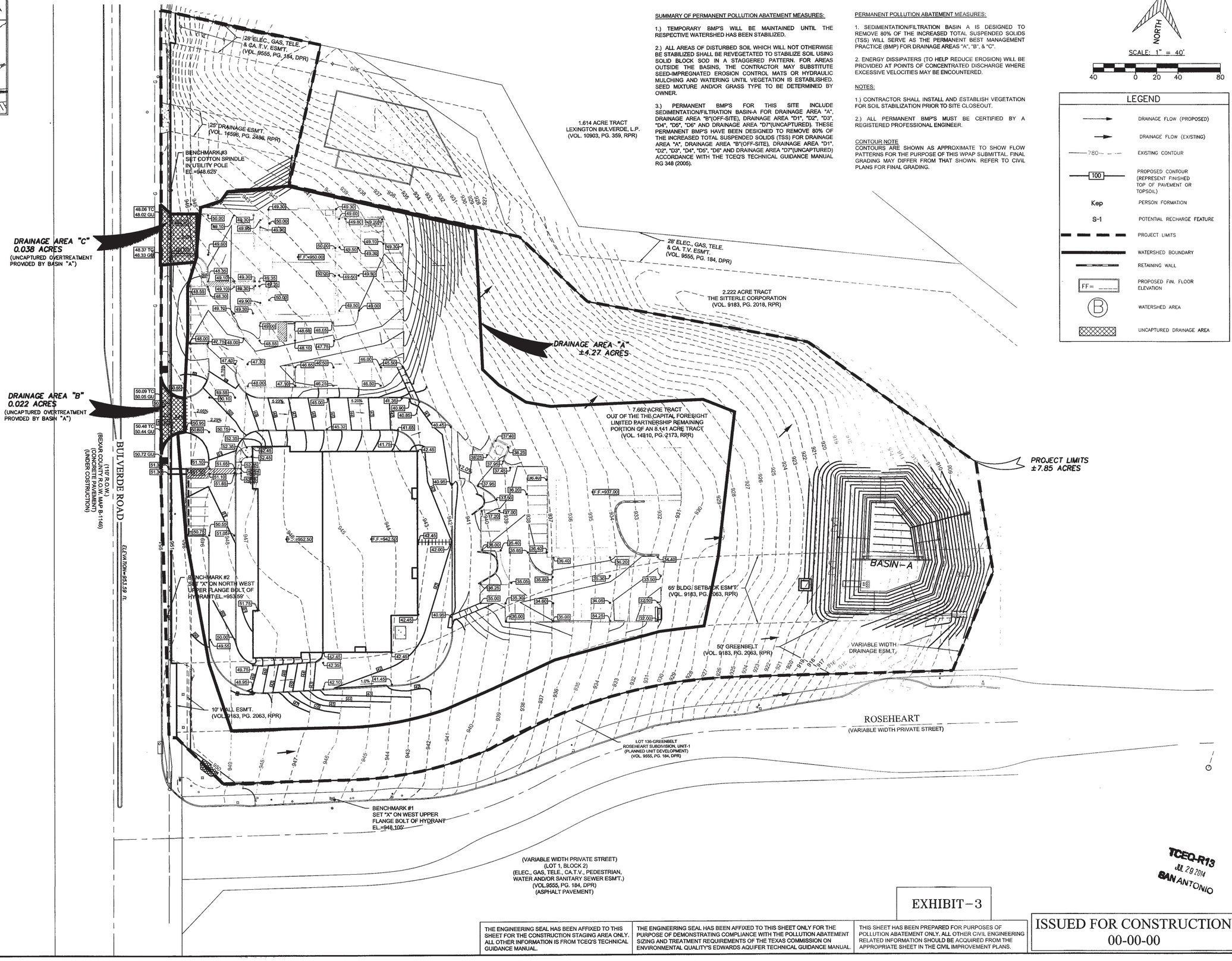
MHR Engineering, LLC.
TBPE REGISTRATION NO. F-12026
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16845 BLANCO ROAD, SUITE 106, TX-78232
PH: (210)641-0543, FAX: 210-497-2227
www.mhreng.com

GRADING PLAN
ARIA TOWNHOMES
19330 BULVERDE ROAD
CITY OF SAN ANTONIO
BEXAR COUNTY, TEXAS

JOB NO. 24-P017
DATE: 08-02-24
DRAWN: AG CHK: HR
SHEET
C9.0



LOCATION MAP
NOT TO SCALE



SUMMARY OF PERMANENT POLLUTION ABATEMENT MEASURES:

1.) TEMPORARY BMP'S WILL BE MAINTAINED UNTIL THE RESPECTIVE WATERSHED HAS BEEN STABILIZED.

2.) ALL AREAS OF DISTURBED SOIL WHICH WILL NOT OTHERWISE BE STABILIZED SHALL BE REVEGETATED TO STABILIZE SOIL USING SOLID BLOCK SOD IN A STAGGERED PATTERN. FOR AREAS OUTSIDE THE BASINS, THE CONTRACTOR MAY SUBSTITUTE SEED-IMPREGNATED EROSION CONTROL MATS OR HYDRAULIC MULCHING AND WATERING UNTIL VEGETATION IS ESTABLISHED. SEED MIXTURE AND/OR GRASS TYPE TO BE DETERMINED BY OWNER.

3.) PERMANENT BMP'S FOR THIS SITE INCLUDE SEDIMENTATION/FILTRATION BASIN-A FOR DRAINAGE AREA "A", DRAINAGE AREA "B"(OFF-SITE), DRAINAGE AREA "D1", "D2", "D3", "D4", "D5", "D6" AND DRAINAGE AREA "D7"(UNCAPTURED). THESE PERMANENT BMP'S HAVE BEEN DESIGNED TO REMOVE 80% OF THE INCREASED TOTAL SUSPENDED SOLIDS (TSS) FOR DRAINAGE AREA "A", DRAINAGE AREA "B"(OFF-SITE), DRAINAGE AREA "D1", "D2", "D3", "D4", "D5", "D6" AND DRAINAGE AREA "D7"(UNCAPTURED) ACCORDANCE WITH THE TCEQ'S TECHNICAL GUIDANCE MANUAL RG 348 (2005).

PERMANENT POLLUTION ABATEMENT MEASURES:

1. SEDIMENTATION/FILTRATION BASIN A IS DESIGNED TO REMOVE 80% OF THE INCREASED TOTAL SUSPENDED SOLIDS (TSS) WILL SERVE AS THE PERMANENT BEST MANAGEMENT PRACTICE (BMP) FOR DRAINAGE AREAS "A", "B", & "C".

2. ENERGY DISSIPATERS (TO HELP REDUCE EROSION) WILL BE PROVIDED AT POINTS OF CONCENTRATED DISCHARGE WHERE EXCESSIVE VELOCITIES MAY BE ENCOUNTERED.

NOTES:

1.) CONTRACTOR SHALL INSTALL AND ESTABLISH VEGETATION FOR SOIL STABILIZATION PRIOR TO SITE CLOSEOUT.

2.) ALL PERMANENT BMP'S MUST BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER.

CONTOUR NOTE
CONTOURS ARE SHOWN AS APPROXIMATE TO SHOW FLOW PATTERNS FOR THE PURPOSE OF THIS WPAP SUBMITTAL. FINAL GRADING MAY DIFFER FROM THAT SHOWN. REFER TO CIVIL PLANS FOR FINAL GRADING.

NORTH

SCALE: 1" = 40'

40 0 20 40 80

LEGEND

- DRAINAGE FLOW (PROPOSED)
- DRAINAGE FLOW (EXISTING)
- 780 EXISTING CONTOUR
- 100 PROPOSED CONTOUR (REPRESENT FINISHED TOP OF PAVEMENT OR TOPSOIL)
- Kep PERSON FORMATION
- S-1 POTENTIAL RECHARGE FEATURE
- PROJECT LIMITS
- WATERSHED BOUNDARY
- RETAINING WALL
- FF= PROPOSED FIN. FLOOR ELEVATION
- (B) WATERSHED AREA
- UNCAPTURED DRAINAGE AREA

EXHIBIT – 3

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET FOR THE CONSTRUCTION STAGING AREA ONLY. ALL OTHER INFORMATION IS FROM TCEQ'S TECHNICAL GUIDANCE MANUAL.

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE POLLUTION ABATEMENT SIZING AND TREATMENT REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL.

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

ISSUED FOR CONSTRUCTION
00-00-00

TCEQ-R13
JUL 29 2014
SAN ANTONIO

STATE OF TEXAS
S. RAO VASAMSETTI
104346
LICENSED
PROFESSIONAL ENGINEER
07/29/14

PRIMARY CONTACT:
RAO VASAMSETTI, P.E.

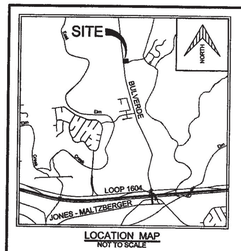
MACINA • BOSE • COPELAND & ASSOC., INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
1035 Central Parkway North, San Antonio, Texas 78232
(210) 545-1122 Fax: (210) 545-8302 www.mbcengineers.com
TEXAS REGISTERED ENGINEERING FIRM F-784

BULVERDE ROAD STORAGE
SAN ANTONIO, TX.
PERMANENT POLLUTION PREVENTION PLAN

REVISIONS:	No.	DESCRIPTION	BY
DATE			

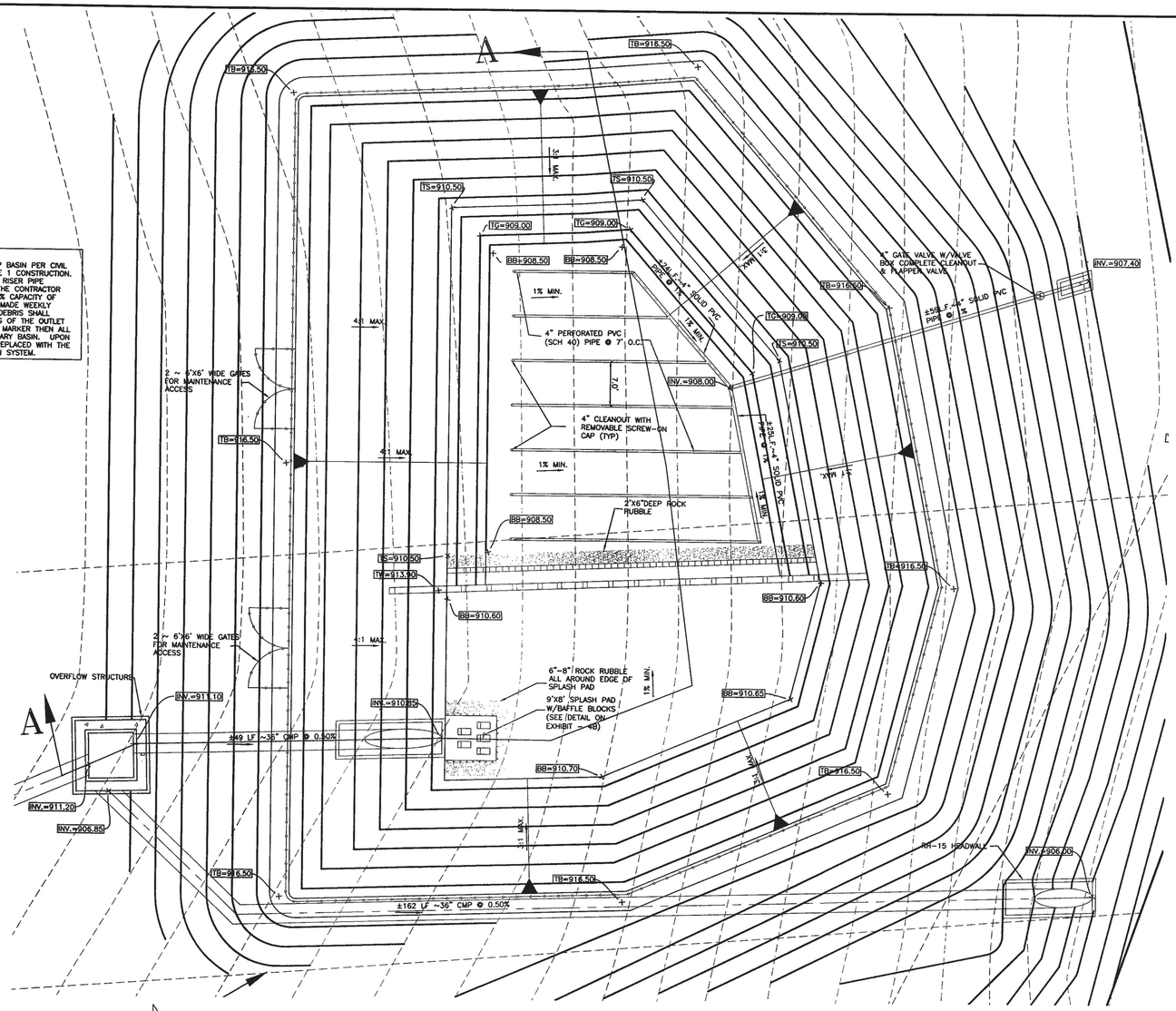
PLAT ID#
A/P#
DESIGN RSV
DRAWN ADG
CHECKED RSV
DATE 07-16-14
JOB NO. 31017-1577
SHT. C0 OF 6

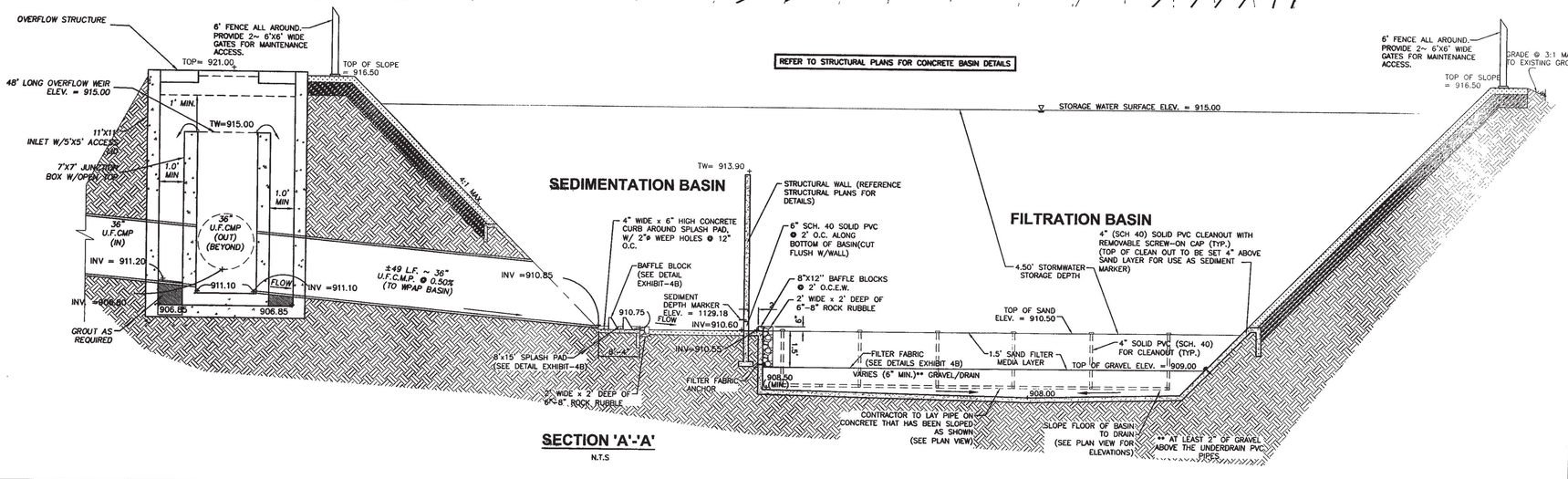
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LOCATION MAP
NOT TO SCALE

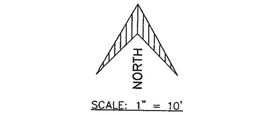
NOTE:
CONTRACTOR SHALL INSTALL THE PERMANENT BMP BASIN PER CIVIL AND STRUCTURAL PLANS AT THE START OF PHASE 1 CONSTRUCTION. IN PLACE OF THE FILTRATE AND UNDER DRAIN, A RISER PIPE SHALL BE INSTALLED AS SHOWN ABOVE. ALSO, THE CONTRACTOR IS TO INSTALL A SEDIMENT DEPTH MARKER AT 50% CAPACITY OF THE TEMPORARY BASIN. INSPECTIONS SHALL BE MADE WEEKLY AND AFTER EACH RAINFALL. TRASH AND OTHER DEBRIS SHALL BE REMOVED WHEN FOUND TO PREVENT CLOGGING OF THE OUTLET STRUCTURE. ONCE SEDIMENT REACHES THE 50% MARKER THEN ALL SEDIMENT SHALL BE REMOVED FROM THE TEMPORARY BASIN. UPON COMPLETION OF PHASE 1 THE RISER SHALL BE REPLACED WITH THE REQUIRED PERMANENT FILTRATE AND UNDER DRAIN SYSTEM.





REFER TO STRUCTURAL PLANS FOR CONCRETE BASIN DETAILS

SECTION 'A'-'A'
N.T.S



SCALE: 1" = 10'

10 0 5 10 20

NOTES TO CONTRACTOR:

1. THIS SHEET HAS BEEN PREPARED FOR THE PURPOSES OF POLLUTION ABATEMENT ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS. CONTRACTOR IS ADVISED THAT TCEQ DOES NOT ALLOW CHANGES TO PERMANENT POLLUTION ABATEMENT MEASURES WITHOUT THEIR PRIOR APPROVAL.
2. CONTRACTOR SHALL NOTIFY CERTIFYING ENGINEER WHEN BASIN CONSTRUCTION HAS PROGRESSED TO THE FOLLOWING MILESTONES:
   - A.) REINFORCING STEEL FOR BASIN WALL HAS BEEN SET, CONCRETE HAS NOT BEEN PLACED AND DRAIN PIPE IS IN PLACE.
   - B.) CONCRETE WALLS IN PLACE AND UNDER DRAIN SYSTEM IS IN PLACE WITHOUT GRAVEL.
   - C.) GRAVEL AROUND UNDER DRAIN SYSTEM IS IN PLACE ANDFILTER FABRIC IS INSTALLED AND ATTACHED TO WALLS OR.
   - D.) SAND FILTER MEDIA HAS BEEN PLACED AND BASIN HAS BEEN COMPLETELY FINISHED.
3. ELEVATIONS SHOWN INSIDE BASIN ARE AT BASIN FLOOR UNLESS NOTED OTHERWISE.
4. DIMENSIONS ARE FROM FACE OF WALL. WALL THICKNESS TO BE DETERMINED BY A STRUCTURAL ENGINEER.
5. WORK SHALL NOT CONTINUE ON THE BASIN UNTIL THE ENGINEER HAS HAD AN OPPORTUNITY TO OBSERVE THE STATUS OF CONSTRUCTION AT EACH STAGE. CONTRACTOR SHALL PROVIDE ENGINEER A MINIMUM OF 24 HOURS ADVANCE NOTICE PRIOR TO TIME THE BASIN WILL BE AT THE REQUIRED STAGE.
6. PRIOR TO PROCEEDING TO NEXT STAGE OF CONSTRUCTION, CONTRACTOR TO PROVIDE CERTIFYING ENGINEER WITH FIELD SHOTS VERIFYING ELEVATIONS OF THE FOLLOWING:
   - -TOP OF BLANK AT EACH CORNER OF BASIN
   - -TOE OF SLOPE AT EACH CORNER OF BASIN (INSIDE BASIN TOE)
   - -SPLASH PAD/INLET PIPES
   - -OVERFLOW WEIRS
7. UPON COMPLETION OF CONSTRUCTION AND IN ACCORDANCE WITH TCEQ REGULATIONS, ALL PERMANENT BMP'S (BASIN) MUST BE CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER.
8. BEFORE FINAL ACCEPTANCE OF CONSTRUCTION BY THE OWNER, THE CONTRACTOR WILL REMOVE ALL TRASH, DEBRIS, AND ACCUMULATED SILT FROM THE BASIN AND REESTABLISH IT TO THE PROPER OPERATING CONDITION.
9. THE MINIMUM DRAIN TIME FOR A FULL BASIN IS 24 HOURS. THE CONTRACTOR SHALL RESTRICT THE FLOW THROUGH THE BASIN BY ADJUSTING THE GATE VALVE ON THE DISCHARGE PIPE SO AS TO PROVIDE THE MINIMUM 24 HOUR DRAW DOWN TIME.
10. ALL AREAS DISTURBED AS PART OF CONSTRUCTION OF BASIN SHALL BE REVEGETATED PRIOR TO COMPLETION.

LEGEND

TW	=	TOP OF WALL ELEVATION
FL	=	TOP OF CONCRETE (FLOOR) ELEVATION
TG	=	TOP OF GRAVEL ELEVATION
WSEL	=	WATER SURFACE ELEVATION
GND	=	TOP OF GROUND
TS	=	TOP OF SAND ELEVATION
TB	=	TOP OF BASIN
BB	=	BOTTOM OF BASIN

GENERAL NOTES :

1. CONTRACTOR TO SUBMIT STRUCTURAL DESIGN FOR POND SEALED BY LICENSED PROFESSIONAL ENGINEER.
2. CONTRACTOR TO CONTACT THE SAWS WATERSHED PROTECTION AND MANAGEMENT DEPARTMENT @ (210) 704-7392 PRIOR TO PLACING THE BASIN IN TO FULL OPERATION.
3. THE STORM DRAIN SYSTEM MUST BE CLEAN OF ALL SEDIMENT FOR FINAL ACCEPTANCE AND PRIOR TO REQUEST FOR RETAINAGE.
4. CONTRACTOR TO CONTACT CIVIL ENGINEER AFTER FORMS HAVE BEEN SET & PRIOR TO CONCRETE PLACEMENT AT (210) 545-1122.
5. BASIN TO BE FENCED AT ALL EXPOSED TOP OF WALLS W/GATES PROVIDED FOR ENTRANCE RAMPS AND MAINTENANCE.
6. SEE STRUCTURAL PLANS FOR WALL OVER 2'.

BASIN DESIGN DATA

WATERSHED AREA	=	7.662 AC
REQUIRED CAPTURE VOLUME	=	23,044 CF
WATER STORAGE DEPTH	=	4.5 FT
BASIN CAPTURE VOLUME	=	30,496 CF (DESIGNED)
BASIN SAND AREA	=	2,615 SF (DESIGNED)
OVERFLOW HEIGHT	=	5.66 INCHES X 48 FT
Q25	=	48 CFS

NOTE:
BASIN DRAWDOWN IS CONTROLLED BY THE DISCHARGE PIPE. THE DRAWDOWN FOR A 4" PVC PIPE @ 1.0% IS 394,226 GPD. BASIN DRAWDOWN IS 32.87 HOURS.

TCEQ-R13
JUL 29 2014
SAN ANTONIO

EXHIBIT-4A

ISSUED FOR CONSTRUCTION
00-00-00

STATE OF TEXAS
S. RAO VASAMSETTI
104346
LICENSED
PROFESSIONAL ENGINEER

PRIMARY CONTACT:
RAO VASAMSETTI, P.E.

MACINA • BOSE • COPELAND & ASSOC., INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
1035 Central Parkway North, San Antonio, Texas 78232
(210) 545-1122 Fax (210) 545-9302 www.mbcengineers.com
TEXAS REGISTERED ENGINEERING FIRM F-784

BULVERDE ROAD STORAGE
SAN ANTONIO, TX.
WATER POLLUTION ABATEMENT PLAN

REVISIONS: DATE	No.	DESCRIPTION	BY

PLAT ID#
A/P#
DESIGN RSV
DRAWN ADG
CHECKED RSV
DATE 07-16-14
JOB NO. 31017-1577
SHT. C0 OF 6

Date: Jul 15, 2014, 6:40pm User ID: masamsett Layout: C10
File: P:\1577\31017-1577\Civil\Cad Files\Storage\Storage Civil\Exhibit\water pollution abatement plan-31017.dwg Layout name: C10

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Bulverde Storage W/Ovt
Date Prepared: 7/19/2014

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

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

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

where:

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

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

County =	Bexar	
Total project area included in plan * =	7.66	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	4.11	acres
Total post-development impervious cover fraction * =	0.54	
P =	30	inches
$L_{M\ TOTAL\ PROJECT}$ =	3351	lbs.

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

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

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

Drainage Basin/Outfall Area No. =	1	
Total drainage basin/outfall area =	4.27	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	4.05	acres
Post-development impervious fraction within drainage basin/outfall area =	0.95	
$L_{M\ THIS\ BASIN}$ =	3305	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	Sand Filter	
Removal efficiency =	89	percent

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

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

RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:

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

A_C =	4.27	acres
A_I =	4.05	acres
A_P =	0.22	acres
L_R =	3745	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 3351 lbs.

F = 0.89

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth = 1.60 inches
Post Development Runoff Coefficient = 0.77
On-site Water Quality Volume = 19204 cubic feet

Calculations from RG-348 Pages 3-36 to 3-37

Off-site area draining to BMP = 0.00 acres
Off-site Impervious cover draining to BMP = 0.00 acres
Impervious fraction of off-site area = 0
Off-site Runoff Coefficient = 0.00
Off-site Water Quality Volume = 0 cubic feet

Storage for Sediment = 3841
Total Capture Volume (required water quality volume(s) x 1.20) = 23044 cubic feet

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

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

Required Water Quality Volume for retention basin = NA cubic feet

Irrigation Area Calculations:

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

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

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

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

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin = 23044 cubic feet

Minimum filter basin area = 1067 square feet

Maximum sedimentation basin area = 9602 square feet For minimum water depth of 2 feet
Minimum sedimentation basin area = 2400 square feet For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins = 23044 cubic feet

Minimum filter basin area = 1920 square feet

Maximum sedimentation basin area = 7681 square feet For minimum water depth of 2 feet
Minimum sedimentation basin area = 480 square feet For maximum water depth of 8 feet



Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Bulverde -B(Uncap)
Date Prepared: 7/19/2014

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
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where:

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
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Site Data: Determine Required Load Removal Based on the Entire Project

County =	Bexar	
Total project area included in plan * =	7.66	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	4.11	acres
Total post-development impervious cover fraction * =	0.60	
P =	30	inches
$L_{M\ TOTAL\ PROJECT}$ =	3351	lbs.

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

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

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

Drainage Basin/Outfall Area No. =	1	
Total drainage basin/outfall area =	0.02	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.02	acres
Post-development impervious fraction within drainage basin/outfall area =	0.95	
$L_{M\ THIS\ BASIN}$ =	17	lbs.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Bulverde- C(Uncap)
Date Prepared: 7/19/2014

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

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

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

where:

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

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

County =	Bexar	
Total project area included in plan * =	7.66	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	4.11	acres
Total post-development impervious cover fraction * =	0.60	
P =	30	inches
$L_{M\ TOTAL\ PROJECT}$ =	3351	lbs.

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

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

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

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	0.04	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.04	acres
Post-development impervious fraction within drainage basin/outfall area =	0.95	
$L_{M\ THIS\ BASIN}$ =	29	lbs



Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Aria Townhomes
Date Prepared: 09/10/25

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

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

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

where:

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

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

County =	Bexar	
Total project area included in plan * =	5.42	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	1.26	acres
Total post-development impervious cover fraction * =	0.23	
P =	30	inches
$L_{M\ TOTAL\ PROJECT}$ =	1027	lbs.



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

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

09/10/25

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

Drainage Basin/Outfall Area No. = A

Total drainage basin/outfall area =	5.42	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres

Post-development impervious area within drainage basin/outfall area = **1.26** acres
Post-development impervious fraction within drainage basin/outfall area = **0.23**
$L_{M\ THIS\ BASIN}$ = **1027** lbs.

3. Indicate the proposed BMP Code for this basin.

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

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

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

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

where:

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

A_C = **5.42** acres
A_I = **1.26** acres
A_P = **4.16** acres
L_R = **1223** lbs

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

Desired $L_{M\ THIS\ BASIN}$ = **1027** lbs.

F = **0.84**

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	**1.26**	inches
Post Development Runoff Coefficient =	**0.22**	
On-site Water Quality Volume =	**5476**	cubic feet

Calculations from RG-348 Pages 3-36 to 3-37

Off-site area draining to BMP =	**0.00**	acres
Off-site Impervious cover draining to BMP =	**0.00**	acres
Impervious fraction of off-site area =	**0**	
Off-site Runoff Coefficient =	**0.00**	
Off-site Water Quality Volume =	**0**	cubic feet
Storage for Sediment =	**1095**	
Total Capture Volume (required water quality volume(s) x 1.20) =	**6571**	cubic feet

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

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

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

Irrigation Area Calculations:

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

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

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

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

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin =	**6571**	cubic feet	
Minimum filter basin area =	**304**	square feet	
Maximum sedimentation basin area =	**2738**	square feet	**For minimum water depth of 2 feet**
Minimum sedimentation basin area =	**685**	square feet	**For maximum water depth of 8 feet**

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	**6571**	cubic feet	
Minimum filter basin area =	**548**	square feet	
Maximum sedimentation basin area =	**2190**	square feet	**For minimum water depth of 2 feet**
Minimum sedimentation basin area =	**137**	square feet	**For maximum water depth of 8 feet**

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

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

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

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

12. Constructed Wetlands — Designed as Required in RG-348 — Pages 3-71 to 3-73

Required Water Quality Volume for Constructed Wetlands =	**NA**	cubic feet

13. AquaLogic™ Cartridge System — Designed as Required in RG-348 — Pages 3-74 to 3-78

**** 2005 Technical Guidance Manual (RG-348) does not exempt the required 20% increase with maintenance contract with AquaLogic™.**

Required Sedimentation chamber capacity =	**NA**	cubic feet
Filter canisters (FCs) to treat WQV =	**NA**	cartridges
Filter basin area (RIA_F) =	**NA**	square feet

ATTACHMENT G

INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN

ATTACHMENT "G" Maintenance Plan and Schedule for Sedimentation and Filtration Basin

PROJECT NAME *Bulverde Road Storage*

ADDRESS *Northeast corner of Bulverde Road and Rose Heart*

CITY, STATE ZIP *San Antonio, Texas 78247*

SEDIMENTATION BASIN

Monthly — Inspect structural integrity and silt accumulation of the sedimentation basin in each of the four water quality ponds. Any vegetative growth shall be removed.

Quarterly — The level of accumulated silt shall be checked. If depth of silt exceeds 6 inches, or is such that it impedes the capture volume of the basins, it shall be removed and disposed of.

The sedimentation basin in the water quality pond shall be checked for accumulation of debris and trash. The debris and trash shall be removed if excessive.

Bi-Annually — The sedimentation basin in the water quality pond shall be inspected at least twice a year (once during or immediately following wet weather) to evaluate the facility operation. With each inspection, any damage to the structural elements of the system must be identified and repaired immediately.

All debris and trash shall be removed at least every six months.

Annually

Sediment shall be removed from the inlet when it is impaired and at least once a year.

Five Years

All sediment shall be removed at a minimum of every 5 years.

FILTRATION BASIN

Monthly

The filtration basin in the water quality pond shall be visually inspected for any areas of excessive surface deposits and/or disruptions in the uniformity of the sand layer. Such problem areas shall be promptly repaired or corrected.

The vegetative growth shall be checked and shall not exceed 15 inches in height.

Quarterly

The level of accumulated silt shall be checked. If depth of

silt pollutants exceeds ½ inch, it shall be removed and disposed of "properly".

The accumulation of pollutants/oils shall be checked. If the pollutants have significantly reduced the designed capacity of the sand filter, the pollutants shall be removed.

The filtration basin in the water quality pond shall be checked for accumulation of debris and trash. The debris and trash shall be removed if excessive.

Bi Annually

The filtration basin in the water quality ponds shall be inspected at least twice a year (once during or immediately following wet weather) to evaluate the facility operation. With each inspection, any damage to the structural elements of the system must be identified and repaired immediately.

All trash and debris shall be removed at least every six months.

Two Years

The filter under drain network shall be cleaned at least every two years to remove any sediment buildup or cleaned to maintain design drawdown.

SEDIMENTATION AND FILTRATION BASIN

After Rainfall

The water quality pond shall be checked after each rainfall occurrence to insure that it drains within 24 to 48 hours after the rain event. If it does not drain within this time, corrective measures shall be undertaken. At a minimum such measures shall include removal of silt build-up on the surface of the sand. If draw-down time exceeds 48 hours, more extensive remediation measures are likely required and the condition of the filtration media should be investigated. In addition, if the basin fails to drain properly the owner must notify the SAWS Aquifer Protection at (210)-233-3537.

Following any required maintenance, the surface in each of the filtration basin shall be raked and leveled to restore the system to its designed condition.

With each inspection, any damage to the structural elements of the system (pipes retaining walls, etc.) must be identified and repaired immediately.

"Proper" disposal of accumulated silt shall be accomplished following Texas Commission on Environmental Quality specifications. BMP maintenance frequently requires the disposal of accumulated sediment and other material. These materials are normally classified as special wastes when disposed of in municipal landfills. A Type 1 Municipal Solid Waste (MSW) landfill can accept household waste; anything else is a special waste as defined in 30TAC 330.2 (137). Special waste is a waste that requires special handling at a Type 1 MSW landfill. Labeling a filter media or sediment as a waste is not a waste characterization. The process to obtain

authorization to dispose of a special waste begins with a request for approval called the "Request for Authorization for Disposal Waste, TCEQ Form 0152." The request is completed by the generator and submitted to the MSW permits section of the TCEQ for Executive Director review/approval. The MSW permits section performs the review described in 30 TAC 330.136.

An amended copy of this document will be provided to the Texas Commission on Environmental Quality within thirty (30) days of any changes in the following information.

After all inspections results shall be written and records maintained and made available on request by TCEQ officials.

Upon transfer of ownership or maintenance responsibility: The seller must inform the buyer of all requirements of the basin maintenance. TCEQ must be notified and receive the form "TCEQ - 10623 change in responsibility for maintenance on permanent Best Management Practices and Measures". In addition, TCEQ and SAWS Resource Protection Division shall receive a signed, dated copy of this maintenance plan from the new owner.

Responsible Party for Maintenance *The Capital Foresight Limited Partnership*

Address *2980 N. Beverly Glen Cir, STE 300*

City, State Zip *Los Angeles, CA 90077-1703*

Telephone Number (310)-234-9598

Signature of Responsible Party X.

Print name of Responsible Party *Netanel Saidoff*

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 Reza Fakhri,
Print Name

Owner,
Title - Owner/President/Other

of Aria Property Group LLC,
Corporation/Partnership/Entity Name

have authorized Harun Rashid, P.E., RPLS
Print Name of Agent/Engineer

of MHR Engineering
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

R. A.
Applicant's Signature

9/8/25
Date

THE STATE OF Texas §

County of Bexar §

BEFORE ME, the undersigned authority, on this day personally appeared Reza Fakri 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 8th day of September, 2025.

MARI C FLORES
NOTARY PUBLIC
STATE OF TEXAS
ID 125752185
EXPIRES 07/30/2026

Mari C. Flores
NOTARY PUBLIC

Mari C Flores
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 7/30/2026

Application Fee Form

TCEQ-0574

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Aria Townhomes
Regulated Entity Location: 19330 Bulverde Rd, San Antonio, Tx 78259
Name of Customer: Aria Property Group LLC
Contact Person: Harun Rashid, P.E., RPLS Phone: 210-641-0543
Customer Reference Number (if issued):CN 603724477
Regulated Entity Reference Number (if issued):RN 107600454

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	3.277 Acres	$ 4,000
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: _____ Date: 12/06/24

Application Fee Schedule

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

Project	*Cost per Linear Foot*	*Minimum Fee-Maximum Fee*
Sewage Collection Systems	$0.50	$650 - $6,500

Underground and Aboveground Storage Tank System Facility Plans and Modifications

Project	*Cost per Tank or Piping System*	*Minimum Fee-Maximum Fee*
Underground and Aboveground Storage Tank Facility	$650	$650 - $6,500

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

Core Data Form

TCEQ-10400

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

☒ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.*)

☐ Renewal *(Core Data Form should be submitted with the renewal form)*

☒ Other **WPAP**

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 603724477		**RN 107600454**

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:

Aria Property Group, LLC

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
0801364419	32082458228	92-2346967	

11. Type of Customer: ☒ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees

☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?

☒ **Yes** ☐ **No**

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

☐ Owner ☐ Operator ☒ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant ☐ Other:

15. Mailing Address:	20711 Cactus Loop						
	City	San Antonio	**State**	Tx	**ZIP**	78258	**ZIP + 4**

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

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(210) 317-2590		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

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

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

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

Aria Townhomes

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	19330 Bulverde Rd							
	City	San Antonio	**State**	TX	**ZIP**	78259	**ZIP + 4**	
24. County	Bexar County							

If no Street Address is provided, fields 25-28 are required.

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

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:	29.62085		**28. Longitude (W) In Decimal:**	-98.42174	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	37	15.06	-98	25	18.2634

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)
6514		236117	

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

Townhomes

34. Mailing Address:	**20711 Cactus Loop**							
	City	**San Antonio**	**State**	**Tx**	**ZIP**	**78258**	**ZIP + 4**	
35. E-Mail Address:	**ariatownhomes@gmail.com**							

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(210) 317-2590		( ) -

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

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

SECTION IV: Preparer Information

40. Name:	Harun Rashid, RPLS, PE	**41. Title:**	President

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(210 **)** 641-0543		**( )** -	hrashid@mhreng.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:	MHR Engineering, LLC	**Job Title:**	President
Name *(In Print):*	Harun Rashid	**Phone:**	**(** 210 **)** 641- **0543**
Signature:		**Date:**	9/22/2025