WATER POLLUTION ABATEMENT PLAN

FOR

VERAMENDI SUBSTATION WPAP

DECEMBER 10TH, 2024

Prepared For: Veramendi PE-Darwin, LLC 387 W Mill St, Ste 108 New Braunfels, TX, 78130



Prepared By:

LJA ENGINEERING, INC. TBPE Firm Registration No. F-1386 9830 Colonnade Blvd Ste 300 San Antonio, Texas 78256 Phone (210) 503-2700

LJA FILE NO. SA3856-0404-460

FIELD NOTE DESCRIPTION 7.626 ACRE (332,192 SQUARE FEET) DRAINAGE AND ACCESS EASEMENT

BEING A 7.626 ACRE (332,192 SQUARE FEET) TRACT OF LAND, LOCATED IN THE J.M. VERAMENDI SURVEY, ABSTRACT NO. 3, SITUATED IN COMAL COUNTY, TEXAS, BEING OUT OF A REMAINDER OF A CALLED 129.369 ACRE TRACT OF LAND CONVEYED TO VERAMENDI PE – DARWIN, LLC, RECORDED IN DOCUMENT NO. 202006025702, IN THE OFFICIAL PUBLIC RECORDS REAL PROPERTY OF COMAL COUNTY, TEXAS (O.P.R.R.P.C.C.T.), ALSO BEING OUT OF A REMAINDER OF A CALLED 57.95 ACRE TRACT OF LAND CONVEYED TO VERAMENDI PE – DARWIN, LLC, RECORDED IN DOCUMENT NO. 201706024109, O.P.R.R.P.C.C.T.T., SAID 7.626 ACRE TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT A 1/2-INCH IRON ROD WITH YELLOW CAP STAMPED "PAPE DAWSON" FOUND AT THE COMMON CORNER OF SAID REMAINDER OF A CALLED 129.369 ACRE TRACT AND REMAINDER OF A CALLED 2,086 ACRE TRACT OF LAND CONVEYED TO WORD-BORCHERS RANCH REAL ESTATE LIMITED PARTNERSHIP, RECORDED IN DOCUMENT NO. 201006024825 O.P.R.R.P.C.C.T.;

THENCE NORTH 55°02'47" EAST, ALONG SAID COMMON LINE OF SAID REMAINDER OF A CALLED 129.369 ACRE TRACT AND SAID REMAINDER OF A CALLED 2,086 ACRE TRACT, A DISTANCE OF 275.08 FEET TO A POINT FOR CORNER AND THE **POINT OF BEGINNING** OF THE HEREIN DESCRIBED EASEMENT TRACT HAVING SURFACE COORDINATE VALUES OF NORTHING: 13,817,529.84 AND EASTING: 2,244,475.99;

THENCE NORTH 55°02'47" EAST, CONTINUING ALONG THE COMMON LINE OF SAID REMAINDER OF A CALLED 129.369 ACRE TRACT AND SAID REMAINDER OF A CALLED 2,086 ACRE TRACT, A DISTANCE OF 192.07 FEET TO A 1/2-INCH IRON ROD WITH YELLOW CAP STAMPED "PAPE DAWSON" FOUND FOR COMMON CORNER OF SAID REMAINDER OF A CALLED 129.369 ACRE TRACT AND LOT 1, BLOCK 77 OF THE VERAMENDI PRECINCT 22A UNIT 1 SUBDIVISION, RECORDED IN DOCUMENT NO. 202106006261 O.P.R.R.P.C.C.T., AND CORNER OF THE HEREIN DESCRIBED EASEMENT TRACT;

THENCE SOUTH 34°57'13" EAST, ALONG THE COMMON LINE OF SAID LOT 1, SAID REMAINDER OF A CALLED 129.369 ACRE TRACT, AND SAID REMAINDER OF A CALLED 57.95 ACRE TRACT, A DISTANCE OF 460.00 FEET 1/2-INCH IRON ROD WITH YELLOW CAP STAMPED "PAPE DAWSON" FOUND COMMON CORNER OF SAID LOT 1 AND SAID REMAINDER OF A CALLED 57.97 ACRE TRACT, SAME BEING A POINT OF CURVATURE OF A CURVE TO THE LEFT, AND CORNER OF THE HEREIN DESECRIBED EASEMENT TRACT;

THENCE ALONG THE COMMON LINE OF SAID LOT 1 AND SAID REMAINDER OF A CALLED 57.97 ACRE TRACT, AND SAID CURVE TO THE LEFT, HAVING A RADIUS OF 25.00 FEET, AN ARC LENGTH OF 39.32 FEET, A DELTA ANGLE OF 90°06'45, AND A CHORD WHICH BEARS SOUTH 80°00'58" EAST, A DISTANCE OF 35.39 FEET TO A 1/2-INCH IRON ROD WITH YELLOW CAP STAMPED "PAPE DAWSON" FOUND FOR COMMON CORNER OF SAID LOT 1 AND SAID REMAINDER OF A CALLED 57.95 ACRE TRACT TO A POINT OF TANGENCY, AND CORNER OF THE HEREIN DESCRIBED EASEMENT TRACT;

THENCE NORTH 54°55'17" EAST, ALONG THE COMMON LINE OF SAID LOT 1, SAID REMAINDER OF A CALLED 57.95 ACRE TRACT, AND THE WESTERLY RIGHT-OF-WAY (R.O.W.) OF RIVER ROAD (VARIABLE WIDTH R.O.W.), A DISTANCE OF 454.98 FEET TO A 5/8-INCH IRON ROD WITH CAP STAMPED "LJA SURVEYING" SET FOR AN ANGLE POINT IN THE WESTERLY R.O.W. OF SAID RIVER ROAD, AND CORNER OF THE HEREIN DESCRIBED EASEMENT TRACT; **THENCE** NORTH 51°59'00" EAST, ALONG THE NORTHERLY LINE OF SAID REMAINDER OF A CALLED 57.95 ACRE TRACT, AND WESTERLY R.O.W. LINE OF SAID RIVER ROAD, A DISTANCE OF 10.00 FEET TO A POINT FOR A CORNER OF THE HEREIN DESCRIBED EASEMENT TRACT, FROM WHICH A FOUND 1/2-INCH IRON ROD WITH YELLOW "PAPE DAWSON" CAP BEARS NORTH 51°59'00" EAST, A DISTANCE OF 20.03 FEET FOR CORNER OF SAID REMAINDER OF A CALLED 57.95 ACRE TRACT, AND ANGLE POINT IN THE WESTERLY R.O.W. OF SAID RIVER ROAD;

THENCE SOUTH 34°57'13" EAST, ALONG THE PROPOSED EASEMENT LINE, OVER AND ACROSS SAID REMAINDER OF A CALLED 57.95 ACRE TRACT, A DISTANCE OF 564.02 FEET TO A POINT ON THE COMMON LINE OF SAID REMAINDER OF A CALLED 57.95 ACRE TRACT AND A REMAINDER OF A CALLED 5.00 ACRE TRACT CONVEYED TO VERAMENDI PE – DARWIN, LLC, RECORDED IN DOCUMENT NO. 201906005873 O.P.R.R.P.C.C.T., AND CORNER OF THE HEREIN DESCRIBED EASEMENT TRACT, FROM WHICH A FOUND 1/2-INCH IRON ROD WITH YELLOW "PAPE DAWSON" CAP BEARS NORTH 55°02'47" EAST, A DISTANCE OF 19.94 FEET FOR COMMON CORNER OF SAID REMAINDER OF A CALLED 57.95 ACRE TRACT, AND REMAINDER OF A CALLED 5.00 ACRE TRACT, ON THE WESTERLY R.O.W. LINE OF SAID RIVER ROAD;

THENCE SOUTH 55°02'47" WEST, ALONG THE COMMON LINE OF SAID REMAINDER OF A CALLED 57.95 ACRE TRACT, AND SAID REMAINDER OF A CALLED 5.00 ACRE, A DISTANCE OF 176.36 FEET TO A POINT FOR A CORNER OF THE HEREIN DESCRIBED EASEMENT TRACT, FROM WHICH A FOUND 1/2-INCH IRON ROD WITH YELLOW "PAPE DAWSON" CAP BEARS SOUTH 55°02'47" WEST, A DISTANCE OF 253.70 FEET FOR COMMON CORNER OF SAID REMAINDER OF A CALLED 57.95 ACRE TRACT AND SAID REMAINDER OF A CALLED 5.00 ACRE TRACT;

THENCE ALONG THE SOUTHWESTERLY PROPOSED EASEMENT LINE, OVER AND ACROSS SAID REMAINDER OF A CALLED 57.95 ACRE TRACT AND SAID REMAINDER OF A CALLED 129.369 ACRE TRACT THE FOLLOWING SEVEN (7) COURSES AND DISTANCES;

- 1. SOUTH 85° 26' 27" WEST, A DISTANCE OF 103.54 FEET TO A POINT FOR A CORNER OF THE HEREIN DESCRIBED EASEMENT TRACT;
- 2. NORTH 65° 00' 17" WEST, A DISTANCE OF 162.42 FEET TO A POINT FOR A CORNER OF THE HEREIN DESCRIBED EASEMENT TRACT;
- 3. NORTH 68° 48' 40" WEST, A DISTANCE OF 191.51 FEET TO A POINT FOR A CORNER OF THE HEREIN DESCRIBED EASEMENT TRACT;
- 4. NORTH 72° 54' 49" WEST, A DISTANCE OF 220.32 FEET TO A POINT FOR A CORNER OF THE HEREIN DESCRIBED EASEMENT TRACT;
- 5. NORTH 57° 04' 26" WEST, A DISTANCE OF 418.76 FEET TO A POINT FOR A CORNER OF THE HEREIN DESCRIBED EASEMENT TRACT;
- 6. NORTH 64° 07' 41" WEST, A DISTANCE OF 95.02 FEET TO A POINT FOR A CORNER OF THE HEREIN DESCRIBED EASEMENT TRACT;
- 7. NORTH 30° 27' 13" EAST, A DISTANCE OF 122.23 FEET TO THE **POINT OF BEGINNING**, CONTAINING 7.626 ACRES (332,192 SQUARE FEET) OF LAND.

GENERAL NOTES:

ALL BEARINGS AND COORDINATES SHOWN HEREON ARE REFERENCED TO THE TEXAS STATE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204), NORTH AMERICAN DATUM OF 1983 (2011 ADJUSTMENT) EPOCH 2010.00. COORDINATES SHOWN HEREON ARE IN SURFACE VALUES, AND MAY BE CONVERTED TO GRID BY MULTIPLYING THE SCALE FACTOR OF 0.9998600196. DISTANCES SHOWN HEREON ARE IN U.S. SURVEY FEET DISPLAYED IN SURFACE VALUES.

THE TITLE INFO SHOWN HEREIN IS BASED OFF THE CURRENT RECORD INFORMATION SHOWN ON THE COMAL COUNTY APPRAISAL DISTRICT.

THIS SURVEYOR'S FIELD NOTE DESCRIPTION IS BEING SUBMITTED ALONG WITH A PLAT OF THE HEREON DESCRIBED TRACT.



DATE: November 22, 2024

JACOB GOEBEL REGISTERED PROFESSIONAL LAND SURVEYOR NO. 6734 LJA SURVEYING, INC. 9830 COLONNADE BOULEVARD SUITE 300 SAN ANTONIO, TX 78230 (210) 503-2700 TBPELS NO. 10194382



NOTES:

- 1. ALL BEARINGS AND COORDINATES SHOWN HEREON ARE REFERENCED TO THE TEXAS STATE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204), NORTH AMERICAN DATUM OF 1983 (2011 ADJUSTMENT) EPOCH 2010.00. COORDINATES SHOWN HEREON ARE IN SURFACE VALUES, AND MAY BE CONVERTED TO GRID BY MULTIPLYING THE SCALE FACTOR OF 0.9998600196. DISTANCES SHOWN HEREON ARE IN U.S. SURVEY FEET DISPLAYED IN SURFACE VALUES.
- 2. THE TITLE INFO SHOWN HEREIN IS BASED OFF THE CURRENT RECORD INFORMATION SHOWN ON THE COMAL COUNTY APPRAISAL DISTRICT.
- 3. THIS PLAT IS BEING SUBMITTED ALONG WITH A SURVEYOR'S FIELD NOTE DESCRIPTION OF THE HEREON DESCRIBED TRACT.



LINE TABLE								
LINE #	BEARING	DISTANCE						
L1	N55°02'47"E	192.07'						
L2	N51° 59' 00"E	10.00'						
L3	S55°02'47"W	176.36'						
L4	S85°26'27"W	103.54						
L5	N65°00'17"W	162.42'						
L6	N68°48'40"W	191.51'						
L7	N57°04'26"W	418.76'						
L8	N64°07'41"W	95.02'						
L9	N30°27'13"E	122.23'						
L10	S55 02' 47"W	253.70'						

DATE:

DRWN BY:

CHKD BY:

PROJ NO.

page 5

OF

5

11/22/2024

S001-SA3856-2402

ATL

JG

7.626 ACRES (332,192 SQ. FT.)

J.M. VERAMENDI SURVEY, ABSTRACT NO. 3 COMAL COUNTY, TEXAS

DRAINAGE AND ACCESS EASEMENT



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 <u>30 TAC 213</u>.

Administrative Review

1. <u>Edwards Aquifer applications</u> 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: <u>http://www.tceq.texas.gov/field/eapp</u>.

- 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: Veramendi Substation WPAP						2. Regulated Entity No.:				
3. Customer Name: Veramendi PE-Darwin, Ll					LLC	4. Customer No.: CN 605543875				
5. Project Type: (Please circle/check one)	New		Modif	icatior	1	Exter	xtension 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)	Resider	ntial	Non-r	residen	tial	8. Site		e (acres):	7.626 AC	
9. Application Fee:	\$5,0	000	10. Permanent BMP(s):			s):	Batch Detention Pond			
11. SCS (Linear Ft.):			12. AST/UST (No. Tanks):			nks):				
13. County:	Com	al	14. W	aters	hed:			Comal River-Guadalupe River		

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 Kegion									
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 Crook	Barton Springs/ Edwards Aquifer	NA						
City(ies) Jurisdiction	Prum Creek 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.)		<u>X</u> _							
Region (1 req.)		<u>_X</u>							
County(ies)		<u>X</u>							
Groundwater Conservation District(s)	Edwards Aquifer Authority Trinity-Glen Rose	Edwards Aquifer Authority	Kinney	EAA Medina	EAA Uvalde				
City(ies) Jurisdiction	Castle Hills Fair Oaks Ranch Helotes Hill Country Village Hollywood Park San Antonio (SAWS) Shavano Park	Bulverde Fair Oaks Ranch Garden Ridge X_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.

Nicholas Gower, PE.

Print Name of Customer/Authorized Agent

11/19/2024

Signature of Customer/Authorized Agent

Date

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

General Information Form

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Nicholas Gower, PE. / LJA Engineering Inc.

Date: 12/10/2024

Signature of Customer/Agent:

Michols Louer

Project Information

- 1. Regulated Entity Name: Veramendi Substation WPAP
- 2. County: Comal
- 3. Stream Basin: Blieders Creek
- 4. Groundwater Conservation District (If applicable): _____
- 5. Edwards Aquifer Zone:

X	Recharge Zone
	Transition Zone

6. Plan Type:

X WPAP	AST
scs	🗌 UST
Modification	Exception Request

7. Customer (Applicant):

Contact Person:Garrett MechlerEntity:Veramendi Substation WPAPMailing Address:2168 Oak Run Parkway, Suite 101City, State:New Braunfels, TXZip: 78132Telephone:830-481-1980FAX:Email Address:garrett.mechler@asaproperties.us.com

8. Agent/Representative (If any):

Contact Person: Nicholas Gower, PE.Entity: LJA Engineering, LLCMailing Address: 9830 Colonnade Blvd, Ste 300City, State: San Antonio, TXZip: 78230Telephone: 210-503-2700FAX: _____Email Address: ngower@lja.com

9. Project Location:

The project site is located inside the city limits of _____.

X The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of <u>New Braunfels</u>

- The project site is not located within any city's limits or ETJ.
- 10. X 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.

1600 LF north of the intersection between Loop 337 and River Rd

- 11. X 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. X 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:
 - X Project site boundaries.
 - X USGS Quadrangle Name(s).
 - X Boundaries of the Recharge Zone (and Transition Zone, if applicable).

X Drainage path from the project site to the boundary of the Recharge Zone.

- 13. X 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.
 - X Survey staking will be completed by this date: <u>11/2</u>2/2024

- 14. X 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
 N/A Area(s) to be demolished
 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. X I am aware that the following activities are prohibited on the Transition Zone and are not proposed for this project:
 - (1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);
 - (2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and

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

Administrative Information

- 18. The fee for the plan(s) is based on:
 - X For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
 - For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
 - For a UST Facility Plan or Modification or an AST Facility Plan or Modification, the total number of tanks or piping systems.
 - A request for an exception to any substantive portion of the regulations related to the protection of water quality.
 - A request for an extension to a previously approved plan.
- 19. X Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:

- Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
- X San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)
- 20. X Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.
- 21. X No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the Executive Director.

ATTACHMENT 'A' - ROAD MAP



AERIAL PHOTOGRAPH: 2024 NEARMAP

THIS PRODUCT IS FOR INFORMATIONAL PURPOSES AND MAY NOT HAVE BEEN PREPARED FOR OR BE SUITABLE FOR LEGAL, ENGINEERING, OR SURVEYING PURPOSES. IT DOES NOT REPRESENT AN ON-THE-GROUND SURVEY AND REPRESENTS ONLY THE APPROXIMATE RELATIVE LOCATION OF PROPERTY BOUNDARIES.



9830 Colonnade Boulevard, Suite 300 San Antonio, Texas 78230 Phone 210.503.2700 LJA.com



ATTACHMENT 'B' - USGS/EDWARDS RECHARGE ZONE





TCEQ | City of New Braunfels, BCAD, Comal County, Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA |

Attachment C – Project Narrative

The proposed site is located along River Road, approximately 1600 LF North of the intersection with Loop 337 with the ETJ of New Braunfels, Comal County, TX. Proposed use for the development will be a Commercial. The total impervious cover for the overall 16.43-acre drainage area will be 7.81 acres (47.5%). We are treating the impervious cover with an extended batch detention water quality pond. The proposed improvements addressed by this Water Pollution Abatement Plan (WPAP) are:

(1) Extended Batch Detention Ponds

The proposed project site consists of 7.626 acres of commercial use, roads, and parks/open space. There is approximately 8.81 acres of upgradient storm water that drains towards the project site. Approximately 5.34 acres of the upgradient drainage area will be an electrical transmission substation for New Braunfels Utilities (NBU).

The site consist of 2 drainage areas. Drainage area 1 consists of 14.19 acres which consists of 7.08 acres of impervious cover and 6351 lbs of TSS. Drainage area 2 consists of approximately 2.24 acres which consists of 0.73 acres of impervious cover and 655 lbs of TSS. Drainage area 2 will be uncaptured and untreated. The extended batch detention pond will treat approximately 7.060 lbs which exceeds the required 7,006 lbs.

Potable water and wastewater disposal are provided New Braunfels Wastewater Treatment Plan. Wastewater is disposed of by conveyance to the existing treatment center operated by New Braunfels Wastewater Treatment Plan.

Geologic Assessment

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Geologist: Richard V. Klar, P.G.

Telephone: 210-699-9090

Date: October 4, 2024

Fax: 210-699-6426

Representing: Raba Kistner, Inc., TBPG Firm #50220 / TBPE Firm #3257 for Veramendi PE-Darwin, LLC (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: Veramendi Substation WPAP

Project Information

- Date(s) of Geologic Assessment was performed: September 26, 2024 1.
- 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.
- 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)
Comfort Rock Outcrop Complex, 1-8% slopes (CrD)	D	Veneer to 1.5
Lewisville silty clay, 1 to 3% slopes (LeB)	В	4-5

*Soil Group Definitions (Abbreviated)

- A. Soils having a high infiltration rate when thoroughly wetted.
- B. Soils having a moderate infiltration rate when thoroughly wetted.
- C. Soils having a slow infiltration rate when thoroughly wetted.
- D. Soils having a very slow infiltration rate when thoroughly wetted
- 6. Attachment B Stratigraphic Column. A stratigraphic column showing formations, members, and thickness is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.
- 7. Attachment C Site Geology. A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.
- 8. Attachment D Site Geologic Map(s). The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1":400'.

Applicant's Site Plan Scale: 1'' = 100'Site Geologic Map Scale: 1'' = 100'Site Soils Map Scale (if more than 1 soil type): 1'' = 200'

- 9. Method of collecting positional data:
 - Global Positioning System (GPS) technology.
 - Other method(s). Please describe method of data collection: _____
- 10. The project site boundaries are clearly shown and labeled on the Site Geologic Map.
- 11. X 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 is	(#) well present on the project site and the location is shown and
	labeled.	(Check all of the following that apply.)

- The well is not in use and has been properly abandoned.
- The well is not in use and will be properly abandoned.
- The wells are in use and comply with 16 TAC Chapter 76.
- \boxtimes There are no wells or test holes of any kind known to exist on the project site.

Administrative Information

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

ATTACHMENTS

R A B A K I S T N E R

ATTACHMENT A

GEOLOGIC ASSESSMENT TABLE (TCEQ-0585-TABLE)

COMMENTS TO GEOLOGIC ASSESSMENT TABLE

SOIL PROFILE

SOILS MAP

R A B A K I S T N E R

GEOLOGIC ASSESSMENT TABLE					PROJ	ECT N	AME:	Veramendi Substation WPAP, New Braunfels, Comal County, Texas (RKI Project No. ASF24-141-00)												
LOCATION FEATURE CHARACTER					ARACTER	ISTICS	\$								EVA	LUAT	ION	PHY	SICA	L SETTING
1A	1B *	1C*	2A	2B	3		4		5	5A	6	7	8A	8B	9	1	0	1	1	12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIM	ENSIONS (FEET)	TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENS	ITIVITY	CATCH AR (ACF	HMENT EA RES)	TOPOGRAPHY
						Х	Y	Z		10						<40	<u>>40</u>	<1.6	<u>>1.6</u>	
S-1	N 29.73420	W 98.12897	SC	20	Кер	3.5	0.8	1.25	NE-SW	10			F	8	38	\checkmark		\checkmark		Hilltop
S-2	N 29.73417	W 98.12888	SC	20	Кер	2.5	1.5	1.5	N-S				F	8	28	\checkmark		\checkmark		Hilltop
S-3	N 29.73404	W 98.12854	MB (W)	30	Кер	1,073	2.0	~2.5-4	NW-SE				F/X	5	35	\checkmark		\checkmark		Hilltop

* DATUM: <u>NAD83</u>

Formation: Kep = Person Formation

Feature: W = potable water line

2A TYF	PE TYPE	2B POINTS	
С	Cave	30	
SC	Solution cavity	20	
SF	Solution-enlarged fracture(s)	20	
F	Fault	20	
0	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				
Ν	None, exposed bedrock				
С	Coarse - cobbles, breakdown, sand, gravel				
0	Loose or soft mud or soil, organics, leaves, sticks, dark colors				
F	Fines, compacted clay-rich sediment, soil profile, gray or red colors				
V	Vegetation. Give details in narrative description				
FS	Flowstone, cements, cave deposits				
Х	Other materials: Granular bedding materials for utility line (Feature S-3).				
	12 TOPOGRAPHY				
Cliff,	Hilltop, Hillside, Drainage, Floodplain, Streambed				

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



Date:	October 9, 2024			
Sheet	1	of	1	

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

COMMENTS TO GEOLOGIC ASSESSMENT TABLE Veramendi Substation WPAP New Braunfels, Comal County, Texas

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

Karst Features

Feature S-1 (SC):



Feature S-1 consists of a vertical solution cavity formed by dissolution of limestone bedrock apparently associated with root growth of an adjacent large oak tree located along the northeast property boundary. The dimensions of this feature are approximately $3.5 \times 0.75 \times 1.25$ feet in length, width, and depth, respectively. The feature is fully-contained within a single limestone bedding unit. Orientation of the long axis of this feature in planview is approximately 60° (NE-SW). The solution cavity was fully delineated by probing and limited hand excavation and was determined to terminate in compact clay soil. The feature does not extend below the uppermost epikarst horizon. There was no evidence of focused recharge or surface drainage. At the time assessment activities were conducted, common cave spiders were observed in the feature opening.

Feature S-2 (SC):



Feature S-2 is similar to **Feature S-1** and consists of a vertical solution cavity formed by dissolution of limestone bedrock apparently associated with tree root growth. The feature appears to have been enlarged as the result of erosion and burrowing animals. The dimensions of this feature are approximately $2.5 \times 1.5 \times 1.5 \text{ feet}$ in length, width, and depth, respectively. The orientation of the long axis of this feature in planview is approximately 15° (N-S). This feature is located in the northeast section of the subject property. The solution cavity was fully delineated by probing and limited hand excavation and was determined to terminate in compact clay soils. The feature does not extend below the uppermost epikarst horizon. No air flow was detected from this feature. There was no indications of focused recharge or surface drainage towards the feature. At the time field activities were conducted, common cave spiders were observed in the feature opening.

Manmade Features in Bedrock

Feature S-3 (MB):



Feature S-3. View to the southeast.

Feature S-3. View to the northwest.

Feature S-3 consists of a backfilled utility trench associated with an existing 16-in water main that appears to have been recently installed along the northeast property boundary adjacent to River Road. It is inferred that the trench is installed 2.5-5.0 feet or more into the underlying Person Formation of Edwards Limestone. The location of this trench was determined based on review of existing utility plan and profile sheets (LIA Engineering, Inc., 2024), field reconnaissance, and the observed locations of hydrants and valve access points. The length of the utility trench within the assessment area is estimated on the order of 1,073 linear feet.

SOIL PROFILE Veramendi Substation WPAP New Braunfels, Comal County, Texas

SOIL SERIES	THICKNESS ON SITE	DESCRIPTION		
Comfort-Rock	Veneer to 1.5 feet	Comfort-Rock outcrop complex, undulating (CrD): This complex comprises shallow clayey soils and limestone outcrop on side slopes, hilltops, and ridge tops in the Edwards Plateau. On average, Comfort soils make of 70% of the complex. Areas of limestone outcrop form narrow horizontal bands, and Comfort soils occur between the bands. The surface layer of the Comfort soil is dark brown, extremely stony clay, typically about 6 inches thick. Cobbles to 4 inches in diameter are abundant. Subsoil is dark reddish-brown clay, extremely stony and occurs to depths of about 13 inches.		
Lewisville	4-5 feet	<i>Lewisville silty clay, 1 to 3% slopes (LeB):</i> This soil is deep, gently sloping on stream terraces. The surface layer is a dark grayish brown silty clay approximately 15 inches thick. The subsoil consists of light brown silty clay to approximately 33 inches in depth and reddish-brown yellow silty clay to a depth of approximately 63 inches. This soil is well drained, moderately alkaline and calcareous throughout.		

The preceding table was prepared on the basis of information provided in the *Soils Survey of Comal and Hays Counties, Texas (June 1984)* in addition to field observations. As presented on the attached *Site Geologic Map*, native soils mapped at the northwest and northeast sections of the SITE are classified as Comfort-Rock outcrop complex, undulating (CrD). The Lewisville silty clay soils, 1 to 3% slopes (LeB) are mapped in the southeast and southwest sections of the SITE. CrD soils are weakly-developed and relatively thin, occurring over weathered limestone units of the Person Formation. CrD soil unit exhibits low permeability (0.2-0.6 inches/hour), which accounts for its Soil Group classification of "D". The CrD soils are also reported as having low to moderate shrink-swell potential. LeB soils consist of silty clays that are deep soil cover over stream deposits. Permeability for LeB soils is considered to be moderate at 0.6-2.0 inches/hour and reported to have a high shrink-swell potential.



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

ATTACHMENT B

STRATIGRAPHIC COLUMN

STRATIGRAPHIC COLUMN Veramendi Substation WPAP New Braunfels, Comal County, Texas

STRATIGRAPHIC FORMATION	THICKNESS	DESCRIPTION
Edwards Limestone (Ked)		
Person Formation (Kep)	180-224 feet	
Cyclic and Marine Member, undivided	80-100 feet	Unit consists of massive mudstone to packstone; <i>miliolid</i> grainstone; and chert. Identified in the field by cycles of massive beds to relatively thin beds. <i>Limited</i> <i>exposures and float rock were present</i> <i>within the north portion of the subject</i> <i>property above an elevation of</i> <i>approximately 700 feet.</i>
Leached and Collapsed Member, undivided	50-60 feet	Unit consists of highly altered crystalline limestone; chalky mudstone and chert. Identified in the field by boxwork voids with neospar and travertine frame. <i>Limited</i> <i>exposures were present within the central</i> <i>and south portions of the property below</i> <i>an elevation of approximately 700 feet.</i>
Regional Dense Member	20–24 feet	Unit consists of dense, argillaceous mudstone. Identified in the field by wispy iron-oxide stains. <i>Not exposed at the SITE.</i>

Note: Stratigraphic Column for the SITE is adapted from Collins (2000).

ATTACHMENT C

NARRATIVE OF SITE SPECIFIC GEOLOGY

SITE GEOLOGY NARRATIVE Veramendi Substation WPAP New Braunfels, Comal County, Texas

Introduction

The following discussion is a site-specific assessment of existing geological conditions and potential recharge features identified for the Veramendi Substation WPAP project site. This assessment was performed by **Raba Kistner, Inc. (RKI)** on behalf of Veramendi PE-Darwin, LLC, pursuant to applicable Edwards Aquifer Protection Program Rules as specified in *Title 30 of the Texas Administrative Code, Section 213 (30 TAC §213, effective April 24, 2008)*. This assessment report is in the format required by the Texas Commission on Environmental Quality (TCEQ) for the Geologic Assessment portion of the referenced Water Pollution Abatement Plan (WPAP) submittal and was prepared in accordance with the revised *Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones (TCEQ-0585),* which are applicable to submittals received by the TCEQ after October 1, 2004.

This geologic assessment report documents conditions observed by **RKI** within the project boundaries on September 26, 2024.

Site Description

Site Location. The subject project comprises a 7.69-acre tract of undeveloped land located to the west of the River Road and Edwards Boulevard intersection in New Braunfels, Comal County, Texas (hereinafter referred to as SITE). The subject property is currently vacant. Based on review of official maps published by the Texas Commission on Environmental Quality (TCEQ), the SITE is fully located within the Edwards Aquifer Recharge Zone (EARZ). As such, the performance of a geologic assessment is required to facilitate planned WPAP construction activities in accordance with applicable provisions set forth in the EAPP rules as specified in *Title 30 of the Texas Administrative Code, Section 213 (30 TAC 213, effective April 24, 2008).*

Topography and Drainage. Topographic contours on the U.S. Geological Survey (USGS, 2005) 7.5-minute topographic map (i.e. New Braunfels West Quadrangle) were reviewed to evaluate the general surface conditions and drainage patterns, are included on the *Site Geologic Map.* The SITE area generally consists of gently sloping land characterized by hilltop topography. The maximum elevation for the subject property is approximately 718 feet above mean sea level (msl) and slopes to the southeast to an elevation of approximately 662 feet msl. As indicated by topographic contours presented on the *Site Geologic Map*, the surface drainage pattern for the SITE is primarily from northwest to southeast but a small ephemeral drainage feature is present that focuses drainage within the southwest portion of the SITE. A review of the Flood Insurance Rate Map (FEMA, 2009) indicates that no portion of the SITE is located within 100-year floodplain as depicted on official maps, though the limits of the Blieders Creek floodplain are adjacent to the southeast of the SITE.

Historical Property Use. Although research pertaining to past SITE operations and historical land use activities was beyond the scope of this assessment, historical aerial imagery was reviewed to evaluate historical land use and the presence of lineations that could indicate the presence of normal faulting. The

R A B A K I S T N E R

following aerial photographs from Google Earth[™] were reviewed: 1995, 2005, 2008, 2012, 2014, 2016, 2018, 2019, 2020, 2021, and 2023. The aerial images from 1995 to 2023 indicate that the SITE was undeveloped as part of a larger ranch property. A caliche road is visually present across the western section of the SITE in all aerial imagery reviewed. The SITE conditions appear essentially unchanged with negligible differences in vegetation based on review of previous aerial imagery. As presented on the attached *Site Geologic Map*, current adjacent properties include vacant land to the northwest, southwest, and southeast, and River Road with River City Church to the northeast.

Classification of Recharge Features: As further described herein, three recharge features were identified within SITE boundaries including two solution cavities and a manmade feature in bedrock. The significance of these features was assessed using definitions and guidance provided in *Instructions to Geologists (TCEQ-0585-Instructions, revised October 1, 2004)*. All features within the SITE that met the criteria presented in this reference were mapped. The characteristics of all mapped features and the assessments of these features, as defined by the TCEQ, are presented in the attached **Geologic Assessment Table (TCEQ-0585)**.

Stratigraphy

As presented in the attached *Stratigraphic Column*, information pertaining to the lithologies and thickness of geologic units underlying the SITE was taken from Collins (2000). The published reference indicates that the SITE is underlain by the Person Formation (Kep). As reported by Collins (2000) and presented on the *Site Geologic Map*, Qt (terrace deposits) are mapped in the southeast section of the SITE, but no significant deposits were observed in conjunction with field mapping efforts. The Kep, which comprises the uppermost portion of the Edwards Limestone, is commonly subdivided into three discrete members as follows: (i) Cyclic and Marine Member, undivided – mudstone to packstone, grainstone, and chert; (ii) Leached and Collapsed Member, undivided - unit includes crystalline limestone, mudstone to grainstone, and chert; and (iii) Regional Dense Member - unit consists of dense, carbonate mudstone.

Based on field reconnaissance efforts, limited exposures and float rock of the Cyclic and Marine Member of the Kep (Kpcm) were observed above an elevation of approximately 700 feet within the northwest portions of the SITE. Exposures of the Leached and Collapsed Member of the Person Formation (Kplc) were observed within the central and south portions of the SITE below an elevation of approximately 700 feet.

<u>Structure</u>

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

No faults are mapped within the SITE, and based on review of historical aerial photographs, published maps, and in conjunction with field mapping efforts, no indications of lineations that could be associated with normal faulting were identified within the SITE boundaries.

R A B A K I S T N E R

Karst Features

Two solution cavities were identified during this assessment within the Person Formation (Kplc) that appear to have formed as the result of tree root activities that have been enlarged as the result of surface erosional processes and/or burrowing animals. The features are located along the northeast boundary of the SITE and are further described as follows:

- Feature S-1 is approximately 3.5 x 0.75 x 1.25 feet in length, width, and depth, respectively.
- *Feature S-2* is approximately 2.5 x 1.5 x 1.5 feet in length, width, and depth, respectively.

These features are primarily limited to the soil and epikarst zone and were found to extend no more than approximately 1.5 feet vertically into the subsurface. Each solution cavity was delineated by probing the full extent of the feature in addition to limited hand-excavation activities and determined to terminate in compact soils. Collective field observations confirm that the features are limited to the uppermost weathered limestone/soil horizon (epikarst zone) and do not connect to a larger subsurface karst features or open void.

These features are classified as not sensitive owing to the inferred surface erosional origin, position within the epikarst zone with no connection to underlying limestone, and estimated low relative infiltration rates (i.e., no evidence of rapid infiltration capacity or preferred drainage toward features).

Manmade Features

As presented on the *Site Geologic Map*, one manmade feature, designated *S-3*, was identified that may potentially serve to enhance the transmission of surface runoff to the subsurface. The feature consists of a backfilled utility trench for a 16-in potable water main that meets the criteria for assessment as a manmade feature in bedrock. Information regarding the location of the existing utility trench was gleaned from a base map provided by LJA Engineering, Inc. on September 20, 2024, field observations of hydrants, and observed access points or valves.

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

Potential for Fluid Migration to the Edwards Aquifer

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

- The majority of the SITE is overlain by surface soils ranging in thickness from a veneer to approximately 1.5 feet with reported moderate to slow infiltration rates.
- The SITE is directly underlain by the Cyclic Marine and Leached and Collapsed Members of the Person Formation. In particular, the Kplc is documented to be prone to karst weathering processes and is represented at the SITE by vuggy limestone bedding units.
- No sensitive features were identified throughout SITE boundaries attributed to karstification of limestone terrain. Solution cavities identified as the result of this assessment were fully assessed by probing and/or hand-excavation and determined to be limited to the epikarst zone with no evidence of rapid infiltration capacity or focused recharge.

References

- Barnes, V. L., 1983, Geologic Atlas of Texas San Antonio Sheet; Bureau of Economic Geology, The University of Texas at Austin, Austin, Texas.
- Collins, Edward W., 2000, Geologic Map of the New Braunfels, Texas, 30 X 60 Minute Quadrangle: Geologic Framework of an Urban-Growth Corridor along the Edwards Aquifer, South-Central Texas: Bureau of Economic Geology, The University of Texas at Austin, Austin, Texas.
- Google Earth[™], January 1995, October 2005, February 2008, April 2012, November 2014, October 2016, January 2018, November 2019, December 2020, October 2021, and January 2023 aerial photographs.
- LGA Engineering, Inc., 2024, Veramendi Substation WPAP Existing Utilities.pdf provided to **RKI** via email correspondence on September 5, 2024.
- National Flood Insurance Program, 2009, Flood Insurance Rate Map, Comal County, Texas and Incorporated Areas; Federal Emergency Management Agency, Map 48091C0435F.
- TCEQ Edwards Aquifer Protection Program, 2005, Edwards Aquifer Recharge Zone Map, New Braunfels West Quadrangle; TNRCC, September 1998.
- Texas Water Development Board, Water Data Interactive (WDI) Groundwater Data Viewer, <u>https://www2.twdb.texas.gov/apps/WaterDataInteractive/GroundwaterDataViewer/?map=</u> <u>sdr</u>, accessed October 3, 2024.

United States Geological Survey (USGS), 2013, New Braunfels West Quadrangle; USGS, Denver, Colorado.

4

R A B A K I S T N E R

United States Department of Agriculture (USDA), 1984, Soil Survey of Comal and Hays Counties, Texas; USDA / Soil Conservation Service / Texas Agricultural Experiment Station.

United States Department of Agriculture (USDA), 1986, Urban Hydrology for Small Watersheds; USDA / Natural Resource Conservation Service, Technical Release (TR-) 55, June 1986.
ATTACHMENT D

FEATURE POSITION TABLE (GPS COORDINATES)

SITE GEOLOGIC MAP

FEATURE POSITION TABLE

Veramendi Substation WPAP

New Braunfels, Texas

RKI Project No. ASF24-141-00

Feature Designation	Feature Type	Date Collected	North Latitude	West Longitude	UTM Northing (meters)	UTM Easting (meters)
S-1	Solution cavity	9/26/2024	N 29.73420	W 98.12897	3289651	584233
S-2	Solution cavity	9/26/2024	N 29.73417	W 98.12888	3289647	584242
S-3	Manmade feature in bedrock (Potable Water Line)	9/26/2024	N 29.73404	W 98.12854	3289633	584275

NOTES:

1) Geographic coordinates are presented Decimal Degrees

2) Reference Datum is NAD 83

3) Data were collected utilizing a Garmin GPS 60cx Global Positioning System.

4) Horizontal Accuracy: RMS Value < 3 meter ground resolution

5) GPS data was collected by Anthony Krupa (RKI Project Professional).

6) GPS coordinates correlate to the points on the map for each feature.



Water Pollution Abatement Plan Application

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Nicholas Gower, PE / LJA Engineering Inc.

Date: 11/18/2024

Signature of Customer/Agent:

Micholas Hour

Regulated Entity Name: Veramendi Substation WPAP

Regulated Entity Information

- 1. The type of project is:
 - Residential: Number of Lots:_____
 -] Residential: Number of Living Unit Equivalents:_____
 - X Commercial
 - Industrial
 - Other:_____
- 2. Total site acreage (size of property): 7.626 AC
- 3. Estimated projected population:
- 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		÷ 43,560 =	
Parking		÷ 43,560 =	
Other paved surfaces	340,204	÷ 43,560 =	7.81
Total Impervious Cover	340,204	÷ 43,560 =	7.81

Total Impervious Cover $\underline{7.81}$ ÷ Total Acreage $\underline{16.43}$ X 100 = $\underline{47.5}$ % Impervious Cover

- 5. X 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. X 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 = _____ $Ft^2 \div 43,560 Ft^2/Acre = _____ acres.$

10. Length of pavement area: _____ feet.

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

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. X 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:

% Domestic	Gallons/day
<u>100</u> % 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.

X Sewage Collection System (Sewer Lines):

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

 X
 The sewage collection system will convey the wastewater to the _____ (name)

 Treatment Plant. The treatment facility is:

New Braunfels

Х	Existing.
	Proposed.

16. X 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. X The Site Plan must have a minimum scale of 1'' = 400'.

Site Plan Scale: 1" = <u>100</u> '.

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.	

X 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): <u>4809</u>1C0435G

19. X 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.

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

X N/A

- 27. Locations where stormwater discharges to surface water or sensitive features are to occur.
 - \mathbf{X} There will be no discharges to surface water or sensitive features.
- 28. X Legal boundaries of the site are shown.

Administrative Information

- 29. 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.
- 30. X Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

Attachment A – Factors Affecting Surface Water Quality

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 material wrappings
- Concrete truck washout
- Spills/Overflow 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 which may fall off vehicles
- Miscellaneous trash and litter

Attachment B – Volume and Character of Stormwater

The site is currently undeveloped, with slopes from 2%-10%. The overall runoff coefficient prior to development of the 7.626 acre lot is estimated to be 0.48 based on the existing terrain and slopes. The existing storm water sheet flows naturally from northwest to southeast of the subject property. The proposed development will match these drainage patterns by collecting the upgradient & onsite storm water runoff, generated from the impervious cover, into an earthen drainage swale and directing it into the extended batch detention basin, and eventually into Blieders Creek.

The proposed use for this property is for a local street designed by others consisting of 1.49 acres which 1.34 acres is impervious cover. A 30% of impervious cover will be used on the remaining 6.14 acres. A proposed composite c-value of 0.65 was calculated based on the run off coefficient from City of New Braunfels.

Attachment C – Suitability Letter from Authorized Agent

No OSSF will be used with this project.

Attachment D – Exception to the Requiered Geologic Assessment

N/A – No sensitive geologic or manmade features were identified in the Geologic Assesment.

Texas Commission on En	vironmental Quality				Texas Commission on Enviro	nmental Quality	
TSS Removal Calculations 04	4-20-2009		Project Name: Veramendi Substation WF Date Prepared: 11/18/2024	PAP	TSS Removal Calculations 04-20	2009	
Additional information is prov Text shown in blue indicate loca Characters shown in red are Characters shown in black (E	vided for cells with a red triangle ation of instructions in the Technical data entry fields. Bold) are calculated fields. Chai	e in the upper right corn I Guidance Manual - RG-34 nges to these fields will	er. Place the cursor over the cell. ^{48.} remove the equations used in the sprea	dsheet.	Additional information is provide Text shown in blue indicate location Characters shown in red are data Characters shown in black (Bold	d for cells with a red triangle of instructions in the Technical entry fields. are calculated fields. Chan	e in the upper rig Guidance Manua nges to these fie
1. The Required Load Reduction fo	or the total project:	Calculations from RG-348	Pages 3-27 to 3-30		1. The Required Load Reduction for the	total project: C	Calculations from RG
	Page 3-29 Equation 3.3: $L_M = 2$	27.2(A _N x P)				Page 3-29 Equation 3.3: $L_M = 2$	7.2(A _N x P)
where:	L _{M TOTAL PROJECT} = F A _N = 1 P = A	Required TSS removal resulting Net increase in impervious area Average annual precipitation, in	from the proposed development = 80% of increased for the project ches	load	where:	$L_{M \text{ total project}} = R$ $A_{N} = N$ $P = A$	Required TSS remove Net increase in imper Average annual preci
Site Data: Determine Required Le	oad Removal Based on the Entire Project County = Total project area included in plan * = ious area within the limits of the plan * = _	t Comal 16.43 acres 0.00 acres			Site Data: Determine Required Load F Tot: Predevelopment impervious a	emoval Based on the Entire Project County = I project area included in plan * = ea within the limits of the plan * =	Comal 16.43 acres 0.00 acres
Total post-development imperv Total post-de	vious area within the limits of the plan* = levelopment impervious cover fraction * = P = 	7.81 acres 0.48 inches			Total post-development impervious Total post-develop	rea within the limits of the plan* = ment impervious cover fraction * = P =	7.81 acres 0.48 33 inches
* The values entered in these field	ds should be for the total project area.				* The values entered in these fields sho	LM TOTAL PROJECT = uld be for the total project area.	7006 IDS.
Number of drainage basins	ns / outfalls areas leaving the plan area =	2			Number of drainage basins / ou	falls areas leaving the plan area =	2
2. Drainage Basin Parameters (This	is information should be provided for e	each basin):			2. Drainage Basin Parameters (This info	rmation should be provided for e	ach basin):
	Drainage Basin/Outfall Area No. =	1			Dr	iinage Basin/Outfall Area No. =	2
Predevelopment impervious a Post-development impervious a Post-development impervious frac	Total drainage basin/outfall area = area within drainage basin/outfall area = area within drainage basin/outfall area = ction within drainage basin/outfall area = L _{M THIS BASIN} =	14.19 acres 0.00 acres 7.08 acres 0.50 6351			Predevelopment impervious area Post-development impervious area Post-development impervious fraction	Total drainage basin/outfall area = ithin drainage basin/outfall area = ithin drainage basin/outfall area = ithin drainage basin/outfall area = Lutrus pasus =	2.24 acres 0.00 acres 0.73 acres 0.33 655 lbs.
3. Indicate the proposed BMP Code	e for this basin.						
	Proposed BMP = I Removal efficiency =	Extended Detention Sp 91 percent	preadsheet wont let me change it				
4. Calculate Maximum TSS Load R	Removed (L _R) for this Drainage Basin b	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:	$A_{\rm C} = -$ $A_{\rm I} = -$ $A_{\rm P} = -$ $L_{\rm R} = -$	Total On-Site drainage area in t Impervious area proposed in the Pervious area remaining in the I TSS Load removed from this ca	he BMP catchment area 9 BMP catchment area 3MP catchment area tchment area by the proposed BMP				
	A _C = A _I = A _P = L _P =	14.19 acres 7.08 acres 7.11 acres 7472 lbs					
5. Calculate Fraction of Annual Ru	noff to Treat the drainage basin / outfa	all area					
	Lm this basin =	7060 Ibs.					
6. Calculate Capture Volume requi	F = ired by the BMP Type for this drainage	0.94 e basin / outfall area. Cal	culations from RG-348 Pages 3-34 to 3-3	6			
	Rainfall Depth = Post Development Runoff Coefficient = On-site Water Quality Volume =	2.40 inches 0.36 44124 cubic feet					
	(Calculations from RG-348 Pag	ges 3-36 to 3-37				
Off-	Off-site area draining to BMP = -site Impervious cover draining to BMP =	0.00 acres 0.00 acres					
C	Impervious fraction of off-site area = Off-site Runoff Coefficient =	0 0.00					
	Off-site Water Quality Volume =	0 cubic feet					
	Storage for Sediment =	8825					
Total Canture Volume (require	ired water quality volume(e) v 1 20) –	52.948 cubic feet					
		BAICHD					c - l

BATCH	DETEN	NTION	'A'

				REQUIF	RED T	SS F	REMOVAL F	OR ENTI	RE S	SITE			
		TOTA ACREA	L GE	PRE-DEVELO	PRE-DEVELOPMENT		POST-DEVELOPMENT IM IMPERVIOUS COVER AP		POST-DEVELOPMENT IMPERVIOUS COVER TREATED BY EX APPROVED PONDS*		Lm-REQUIRED TSS REMOVAL		
		16.43 ACRE	} :S	0.00 ACRES			7.81 ACRES	0.00	ACRE	S	7,0	DO6 LBS	
	BR	EAKD	OW	N OF TSS	BEIN	g tf	REATED BY	PERMAN	IEN	T BMP'	S		
PROPOSED BMP	DRA AREA	INAGE TO BMP	IN CO	/IPERVIOUS VER TO BPM	BMI EFFICIE	P NCY	F	REQUIRED TO BE TREA (LBS)	TSS TED	TSS BE REMOVE BMP (L	ING ED BY .BS)	ACTUAL TS REMOVED (LBS	S BEING BY BMP)
BATCH DETENTION 'A'	14.19	ACRES	7	.08 ACRES	91%		0.94	6,351 LB	LBS 6,351		6,351 LBS		LBS
UNCAPTURED BASIN 'A2'	2.24	ACRES	C).73 ACRES				655 LBS		0 LB	S	O LB	S
TOTAL	16.43	B ACRES	7	.81 ACRES				7,006 LB	s	0 LB	S	7,060	LBS

42 , 0

K: \S User Last Plot

Project Name: Veramendi Substation WPAP Date Prepared: 11/18/2024 Texas Commission on Environmental Quality Water Pollution Abatement Plan General Construction Notes le in the upper right corner. Place the cursor over the cell. I Guidance Manual - RG-348. Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director (ED), nor do they constitute a comprehensive listing of rules or conditions to be followed using construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code (TAC), Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed" construction notes" restricts the powers of the ED, the commission or any other governmental entity to prevent, correct, or curali activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, TAC, Chapters 213 or any other applicable TCEC regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the ED's approval, whether or not in contradiction day "construction notes," is a violation of TCEQ regulations and any violation is subject to daministrative nues, corres, and panellines as provided under Title 30, TAC, 211.01 (prelating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the ED to any part of Title 30 TAC, Chapters 213 or any other TCEQ applicable regulations nges to these fields will remove the equations used in the spreadsheet. Calculations from RG-348 Pages 3-27 to 3-30 27.2(A_N x P) Required TSS removal resulting from the proposed development = 80% of increased load Net increase in impervious area for the project Average annual precipitation, inches A written notice of construction must be submitted to the TCEQ regional office at least 48 hours prior to the start of any regulated activities. This notice must include: the name of the approved project; the activity start date; and the contact information of the prime contractor. t Comal 16.43 acres 0.00 acres 7.81 acres 0.48 33 inches 2. All contractors conducting regulated activities associated with this project must be provided with complete copies of the approved Water Pollution Abatement Plan (WPAP) and the TCEQ lefter 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 approved plan. 7006 Ibs. approval letter. 3. If any sensitive feature(s) (caves, solution cavity, sink hole, etc.) is discovered during In any sensure real/recapitation (caves, soundance any, sink noise, etc.) is discovered outline construction, all regulated activities near the sensitive feature must be suspended immediately. The appropriate TCEQ regional office must be immediately notfield of any sensitive features encountered during construction. Construction activities may not be resumed until the TCEQ has reviewed and approved the appropriate protective measures in order to protect any sensitive feature and the Edwards Aquifer from potentially adverse impacts to water quality. 2 each basin):

TCEQ-0592 (Rev. July 15, 2015)

- No temporary or permanent hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature. 5. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the approved plans and manufacturers specifications. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized. Any sediment that escapes the construction site must be collected and properly disposed of before the next rain event to ensure it is not washed into surface streams, sensitive features,
- 7. Sediment must be removed from the sediment traps or sedimentation basins not later than

- when it occupies 50% of the basin's design capacity. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.
- All spoils (excavated material) generated from the project site must be stored on-site with proper E&S controls. For storage or disposal of spoils at another site on the Edwards Aquifer Recharge Zone, the owner of the site must receive approval of a water pollution abatement plan for the placement of fill material or mass grading prior to the placement of spoils at the other site.
- 10. If portions of the site will have a temporary or permanent cease in construction activity lasting longer than 14 days, soil stabilization in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21th day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14th day, stabilization measures shall be initiated as soon as possible.
- 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.
- The holder of any approved Edward Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:
- A. any physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures
- B. any change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer; C. any development of land previously identified as undeveloped in the original water pollution abatement plan.
- Austin Regional Office
 San Antonio Regional Office

 12100 Park 35 Circle, Building A
 14250 Judson Road

 Austin, Texas 78753-1808
 San Antonio, Texas 78233-4480

 Phone (512) 339-3292
 Phone (210) 490-3096

 Fax
 (512) 339-3795

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

TCEQ-0592 (Rev. July 15, 2015)

Page 1 of 2

Page 2 of 2







EXISTING CONTOUR PROPOSED CONTOUR FLOW ARROWS ROCK BERM TEMP. SPOILS & STORAGE AREA CONCRETE TRUCK WASHOUT PIT CONSTRUCTION ENTRANCE LIMITS OF CONSTRUCTION/ SILT FENCE INLET PROTECTION VEGETATED FILTER TRIPS





NBU SUB-STATION LOCATION (67% IMPERVIOUS COVER)

COLLECTIOR LOCATION (90% IMPERVIOUS COVER)

TBD (30% IMPERVIOUS COVER ASSUMPTION)

PROPERTY BOUNDARY



Study			Sheet Flo	w (max leng	th = 150')			Shallow (Concentrate	d Flow			Channel Flo	w	Total	Total	
Point	Drainage Area	n	L _t (ft)	P ₂ (in)	S _t % ⁻	T _t (min)	Paved/Unpaved	L _{sc} (ft) S _{sc} %	k	T _{sc} (min)	L(ft)	V(ft/sec) T _{ch} (min)	T _c (min)	Lag(mi	n)
	۸4	0.24	100	4.00	6.0	0.4	Unpaved	497	5.2	16.13	2.3		6	0.0			
1	AI	0.24	100	4.08	0.0	Ö. I	Paved	584	4.8	20.32	2.2		0	0.0	12.6	7.6	
2	A2																
2	A1+A2				CARI	RY OVE	R FROM A1	•		•	12.6	262	6	0.7	13.3	8.0	
3	A3	0.016	75	4.08	1.0	5.0	Unpaved	508	4.8	16.13	2.4	0	6	0.0	10.0	6.0	
		Eg. 5.4.1					Ea 5.4.2					Ea 5.4.3			Eg 5.4		
		T _t	$=\frac{0.007(nL_{t})}{(P_2)^{0.5}S_t^{0.4}}$	0.8			T _{sc} =	L _{sc} 3600KS _s	0.5 c			T _{ch}	$=\frac{L_{ch}}{3600 * V}$	_	T _t +T _{sc} +T _{ch}		
				VEF	RAMENDI	PE-DAR	WIN, LLC Atlas	14 Propo	osed Q Flo	w Table I	PA_NB	•			•		
Study	Drainage Area		Coefficient	Coefficient	Coefficient	Coefficie	ent Coefficient			Intensity					Flow		
Point	Area(s)	A (ac.)	C ₂	C ₁₀	C ₂₅	C ₅₀	C ₁₀₀ I	₂(in/hr)	l ₁₀ (in/hr) l ₂	25(in/hr) I	₅₀ (in/hr) I ₁₀	₀₀ (in/hr)	Q ₂ (ft ³ /s)	Q ₁₀ (ft ³ /s)	Q ₂₅ (ft ³ /s)	Q ₅₀ (ft ³ /s)	Q 100
1	A1	11.98	0.55	0.62	0.66	0.70	0.74	4.60	6.82	8.26	9.39	10.58	30.1	50.5	65.6	78.7	
2	A2	2.27	0.51	0.35	0.39	0.42	0.46										
2	A1+A2	14.25	0.51	0.58	0.62	0.65	0.70	4.50	6.65	8.04	9.15	10.30	32.4	54.5	71.0	85.3	
3	A3	2.24	0.31	0.37	0.41	0.44	0.48	5.05	7.50	9.12	10.38	11.70	3.5	6.2	8.4	10.2	



LEGEND AREA (BASIN) ACREAGE А X.X EXISTING CONTOUR **—____740**—___ PROPOSED CONTOUR DRAINAGE AREA LIMITS TIME OF CONCENTRATION PATH — TC — TC — TC — FLOW ARROWS PROPOSED BOUNDARY 200 EXISTING LOT LINES SCALE IN FEET PROPOSED LOT LINES SCALE: 1"=100' REFERENCE POINT





Name	Q100	Q25
BEGIN STA	1+00.00	1+00.00
END STA	4+00.00	4+00.00
Q ₁₀₀ (cfs)	102.70	71.00
h (ft)	2.00'	2.00'
b _w (ft)	6.00'	6.00'
z (_):1 left	3	3
z (_):1 right	3	3
t _w (ft)	18	18
n	0.035	0.035
Slope (%)	2.22%	2.22%
d _n (ft)	1.51'	1.25'
V (fps)	6.44	5.81

DRAINAGE & GRADING NOTES:

- . THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES HORIZONTALLY AND VERTICALLY PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATION FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
- ALL CONCRETE FOR TXDOT DRAINAGE STRUCTURES SHALL MEET TXDOT SPECIFICATIONS. ALL OTHER CONCRETE SHALL BE CLASS "A" CONCRETE AND MEET
- MINIMUM COMPRESIVE STRENGTH OF 3,000 PSI IN 28 DAYS. REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING
- AND EXCAVATION LIMITS. 4. CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO PROVIDE
- FOR POSITIVE DRAINAGE. EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATIUON BEFORE THE CITY OF
- NEW BRAUNFELS WILL ACCEPT. 6. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A
- MINIMUM CHANNEL DEPTH "D" AS SHOWN IN THE PROFILE. 7. ALL RCP SHALL BE AASHTO M170 CLASS III RCP. 8. ALL WORK SHALL BE PERFORMED WITHIN SITE LIMITS OF CONSTRUCTION.
- 9. CONTRACTOR TO PROOF ROLL BOTTOM AND SIDES OF POND TO ENSURE FIRM BOTTOM. IF BOTTOM APPEARS FRACTURED CONTRACTOR TO NOTIFY ENGINEER PRIOR TO PLACEMENT OF SAND BED ON TOPSOIL.
- 10. THE CONTRACTOR WILL BE REQUIRED TO PERFORM TESTING REQUIREMENTS TO SATISFY CITY OF NEW BRAUFNELS INSPECTIONS. THIS SHALL INCLUDE BUT NOT LIMITED TO PROVIDING NECESSARY WATER AS REQUESTED BY INSPECTOR.
- 11. THE CONTRACTOR WILL BE RESPONSIBLE FOR POSITIVE DRAINAGE IN BASIN AREA. 12. ALL DISTURBED AREAS TO BE STABILIZED WITH HYDROMULCH IMMEDIATELY AFTER ESTABLISHING FINAL GRADES UNLESS OTHERWISE NOTED.
- 13. UPON COMPLETION OF THE PROPOSED STORMWATER DETENTION, AND PRIOR TO THE RELEASE OF THE CERTIFICATE OF ACCEPTANCE OR OCCUPANCY BY THE PERMIT CENTER, THE DESIGN ENGINEER SHALL CERTIFY IN WRITING THAT THE PROPOSED STRUCTURAL CONTROL(S) WAS INSPECTED (INCLUDING DATE AND TIME OF THE
- INSPECTION) AND CONSTRUCTED IN CONFORMANCE WITH THE APPROVED PLANS. 14. ALL CONCRETE LINING SHALL BE A MINIMUM OF SIX (6) INCHES THICK AND REINFORCED WITH NO. 4 ROUND BARS @ 18 INCHES ON CENTER EACH WAY OR WELDED WIRE FABRIC OF 6" x 6"-W/D6 x W/D6. THE DEPTH OF ALL TOEDOWNS SHALL BE 36 INCHES UPSTREAM, 24 INCHES DOWNSTREAM, AND 18 INCHES FOR SIDE SI OPES
- 15. CONTRACTOR TO FILL AND COMPACT TO 95% DENSITY IN FILL SECTIONS OVER STORM SEWER LINES. 2.0'(MIN) COVER OVER WATER PRIOR TO CONSTRUCTION.
- 16. ALL PIPE SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF NEW BRAUNFELS SPECIFICATIONS.
- 17. ALL BENDS AND FITTINGS SHALL BE PREFABRICATED BY MANUFACTURER. NO FIELD FABRICATION OF FITTINGS IS ALLOWED.

PROPOSED 18.0' WIDE SWALE. REFER TO OVERALL **GRADING SHEET 2**

PROPOSED VARIABLE WIDTH-DRAINAGE ESM'T

LEGEND

	EXISTING	PROPOSED
CONTOUR	580	<u> </u>
FLOW ARRO	2%	2%
GRASSED DF	- · ~ -	
GROUND ELI	∑ 580.25	∑ 580.25

2WC ORAIN FLOW EVATION

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ARWIN,

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AMENDI

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WATI

CAUTION: CONTRACTOR TO NOTIFY TEXAS ONE CALL AT 1-800-245-4545 48 HOURS PRIOR TO CONSTRUCTION FOR UTILITY LINE LOCATE. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES || THE EXACT LOCATION OF ALL PRIOR TO CONSTRUCTION. ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY SIGNIFICANT DISCREPANCIES OR REQUIRED BEGINNING WORK AND SHALL BE DESIGN CHANGES. EXISTING UTILITIES SHOWN HEREON ARE FOR INFORMATIONAL PURPOSES ONLY. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.

UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE EXISTING UTILITIES PRIOR TO FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

LOCATION OF EXISTING

NOTES:

- 1. CONTRACTOR SHALL INSTALL AND ESTABLISH VEGETATION IN BASINS PER BASIN DETAIL SHEET PRIOR TO SITE CLOSEOUT.
- 2. UPON COMPLETION OF CONSTRUCTION, AND IN ACCORDANCE WITH TCEQ REGULATIONS, ALL PERMANENT BMP'S (FILTERSTRIPS AND BASINS) MUST BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER.
- 3. ALL AREAS DISTURBED AS PART OF CONSTRUCTION OF BASINS SHALL BE REVEGATATED PRIOR TO COMPLETION.

SEQUENCE OF OPERATION

- 1. UPON ACTIVATION OF FLOAT SWITCH, DDC CONTROLLER TO START DETENTION TIMER #1.
- 2. DETENTION TIMER #1 TO BE MANUALLY SET TO 12 HOURS AND TO BE USER ADJUSTABLE VALUE.
- 3. WHEN DETENTION TIMER #1 HAS ELAPSED, A 8" BUTTERFLY VALVE IS TO OPEN AND RELEASE DETAINED WATER BASIN.
- 4. UPON DEACTIVATION OF FLOAT SWITCH, DDC CONTROL TO START DETENTION TIMER #2.
- 5. DETENTION TIMER #2 TO BE MANUALLY SET TO 19-48 HOURS AND TO BE USER ADJUSTABLE.
- 6. WHEN DETENTION TIMER #2 HAS ELAPSED, THE 8" BUTTERFLY VALVE IS TO CLOSE.
- 7. VALVE TO BE ACTUATED PERIODICALLY TO SHOW ACTIVE REGARDLESS OF FLOAT SWITCH OPERATION.

NOTES TO CONTRACTOR (EACH PHASE OF BASIN CONSTRUCTION)

- 1. 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:
- REINFORCING STEEL FOR BASIN WALL OR RIPRAP LINER HAS BEEN SET, CONCRETE HAS NOT BEEN PLACED AND DRAIN PIPE AND RISER PIPE IS IN PLACE.
- 3. WORK SHALL NOT CONTINUE ON THE BASIN UNTIL THE ENGINEER HAS HAD AN OPPORTUNITY TO OBSERVE THE STATUS OF CONSTRUCTION. CONTRACTOR SHALL PROVIDE ENGINEER A MINIMUM OF 24 HOURS ADVANCE NOTICE PRIOR TO TIME THE BASIN WILL BE AT THE REQUIRED STAGE.
- 4. UPON SUBSTANTIAL COMPLETION, OR AS REQUESTED BY ENGINEER, CONTRACTOR TO PROVIDE CERTIFYING ENGINEER WITH FIELD SHOTS VERIFYING ELEVATIONS OF THE FOLLOWING:
- TOP OF BANK/WALL AT EACH CORNER OF BASIN - TOE OF SLOPE AT EACH CORNER OF BASIN (INSIDE BASIN TOE) - SPLASH PAD/INLET PIPES - OVERFLOW WEIRS
- 5. BEFORE FINAL ACCEPTANCE OF CONSTRUCTION BY THE OWNER, THE CONTRACTOR WILL REMOVE ALL TRASH, DEBRIS, AND ACCUMULATED SILT FROM THE BASINS AND REESTABLISH THEM TO THE PROPER OPERATING CONDITION.

	VERAMENDI PE_DARWIN II C			BASIN DETAILS				
	DATE							
	BΥ							
REVISIONS	. DESCRIPTION							
	DATE: 11/18/2024	DESIGNED BY: NG		DRAWN BY: TM	CHECKED BY: PF	DBAWING NAME:	sh_Basin Details.dwg	
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Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Veramendi Substation WPAP Date Prepared: 11/18/2024

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell. Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348. Characters shown in red are data entry fields.

Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30 Page 3-29 Equation 3.3: L_M = 27.2(A_N x P) L_{M TOTAL PROJECT} = Required TSS removal resulting from the proposed development = 80% of increased load where: 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 = Total project area included in plan * = Comal 16.43 acres Predevelopment impervious area within the limits of the plan * = Total post-development impervious area within the limits of the plan * = 0.00 acres acres Total post-development impervious cover fraction * = P = 0.48 inches 33 L_{M TOTAL PROJECT} = 7006 lbs. * The values entered in these fields should be for the total project area. Number of drainage basins / outfalls areas leaving the plan area = 2

2

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

Drainage Basin/Outfall Area No. =

Total drainage basin/outfall area =	2.24	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.73	acres
Post-development impervious fraction within drainage basin/outfall area =	0.33	
L _{M THIS BASIN} =	655	lbs.

Temporary Stormwater Section

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Nicholas Gower, PE / LJA Engineering Inc.

Date: 11/18/2024

Signature of Customer/Agent:

Micholas Hour

Regulated Entity Name: Veramendi Substation WPAP

Project Information

Potential Sources of Contamination

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

1. Fuels for construction equipment and hazardous substances which will be used during construction:

The following fuels and/or hazardous substances will be stored on the site: _____

These fuels and/or hazardous substances will be stored in:

Aboveground storage tanks with a cumulative storage capacity of less than 250 gallons will be stored on the site for less than one (1) year.

Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.

- Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.
- X Fuels and hazardous substances will not be stored on the site.
- 2. X Attachment A Spill Response Actions. A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.
- 3. X Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.
- 4. X Attachment B Potential Sources of Contamination. A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

Sequence of Construction

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

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

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

6. X Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: <u>Blieders Creek</u>

Temporary Best Management Practices (TBMPs)

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

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

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

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

 \overline{X} A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.

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

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

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

 \boxed{X} There will be no temporary sealing of naturally-occurring sensitive features on the site.

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

10. 🔀 Attachment G - Drainage /	rea Map. A drainage area map supporting the following
requirements is attached:	

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

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

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

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

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

- 11. Attachment H Temporary Sediment Pond(s) Plans and Calculations. Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.
 - X N/A
- 12. X Attachment I Inspection and Maintenance for BMPs. A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.
- 13. X All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.
- 14. X If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
- 15. X Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.
- 16. X Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

Soil Stabilization Practices

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

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

- 18. X Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
- 19. X Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

Administrative Information

- 20. X All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.
- 21. X If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.
- 22. X Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

Temporary Stormwater Section

Attachment A – Spill Response Actions

Spill Prevention and Control

The objective of this section is to describe measures to prevent or reduce the discharge of pollutants to drainage systems or watercourses from leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials, and training employees.

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

Education

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

General Measures

- (1) To the extent that the work can be accomplished safely, spills of oil, petroleum products, and substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
- (2) Store hazardous materials and wastes in covered containers and protect from vandalism.
- (3) Place a stockpile of spill cleanup materials where it will be readily accessible.
- (4) Train employees in spill prevention and cleanup.
- (5) Designate responsible individuals to oversee and enforce control measures.

- (6) Spills should be covered and protected from stormwater runoff during rainfall to the extent that it doesn't compromise cleanup activities.
- (7) Do not bury or wash spills with water.
- (8) Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.
- (9) Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.
- (10) Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.
- (11) Place Material Safety Data Sheets (MSDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.
- (12) Keep waste storage areas clean, well organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

- (1) Clean up leaks and spills immediately.
- (2) Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be disposed of as hazardous waste.
- (3) Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMPs in this section for specific information.

Minor Spills

- (1) Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.
- (2) Use absorbent materials on small spills rather than hosing down or burying the spill.
- (3) Absorbent materials should be promptly removed and disposed of properly.

- (4) Follow the practice below for a minor spill:
 - a) Contain the spread of the spill.
 - b) Recover spilled materials.
 - c) Clean the contaminated area and properly dispose of contaminated materials.

Semi-significant Spills

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

Spills should be cleaned up immediately:

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

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

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

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

More information on spill rules and appropriate responses is available on the TCEQ website at: http://www.tnrcc.state.tx.us/enforcement/emergency_response.html.

Vehicle and Equipment Maintenance

- (1) If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the runon of stormwater and the runoff of spills.
- (2) Regularly inspect onsite vehicles and equipment for leaks and repair immediately.
- (3) Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.
- (4) Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
- (5) Place drip pans or absorbent materials under paving equipment when not in use.
- (6) Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.
- (7) Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
- (8) Oil filters disposed of in trashcans or dumpsters can leak 03 and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters.
- (9) Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you & think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Vehicle and Equipment Fueling

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

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

Spill Response Actions

In the event that a spill of hydrocarbons or hazardous substances does occur, the contractor shall be required to maintain a sufficient stockpile of sand material in the staging area. This sand material shall be used to immediately isolate and provide containment of the spill by constructing dikes. Furthermore, this sand material shall act as an absorbent material that can be disposed of offsite and out of the Recharge Zone during clean-up operations. The contractor, in the event of a spill, shall also notify the owner who shall contact TCEQ. All contaminated soils resulting from an accidental release will be required to be removed and disposed of in accordance with all local, state and federal regulations.

Attachment B – Potential Sources Contamination

Potential Source	Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle dripping.
Preventive Measure	Vehicle maintenance, when possible, will be performed within a construction staging area specified by the General Contractor.
Potential Source	Miscellaneous trash and litter from construction workers and material wrappings.
Preventive Measure	Trash containers will be placed throughout the site to encourage proper trash disposal.
Potential Source	Construction debris.
Preventive Measure	Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.
Potential Source	Stormwater contamination from excess application of fertilizers, herbicides and pesticides.
Preventive Measure	Fertilizers, herbicides and pesticides will be applied only when necessary and in accordance with manufacturer's directions.

Potential Source the site.	Soil and mud from construction vehicle tires as they leave
Preventive Measure	A temporary construction entrance/exit shall be utilized as vehicles leave the site. Any soil, mud, etc. carried from the project onto public roads shall be cleaned up within 24 hours.
Potential Source	Sediment from soil, sand, gravel and excavated materials stockpiled on site.
Preventive Measure	Silt fence shall be installed on the down gradient side of all stockpiled materials. Reinforced rock berms shall be installed at all downstream discharge locations.
Potential Source	Portable toilet spill.
Preventive Measure	Toilets on the site will be emptied on a regular basis by the contracted toilet company.

Attachment C – Sequence of Major Activities

The sequence of major activities which disturb soil during construction on this site will be divided into stages. The first stage is site preparation that will include clearing and grubbing of vegetation, where applicable. The second is construction that will include installation of the water quality basin and proposed buildings, streets, landscaping and site clean up.

Sequence	
Item	Description
1.	Install TBMP's as required. (Silt Fence, etc.)
2.	Clearing of Disturbed Areas
3.	Grading of Disturbed Areas
4.	Construction of Permanent BMP's /Storm Drains
5.	Complete Construction
6.	Soil Stabilization and/or re-vegetation
7.	Clean site
8.	Remove TBMP's

Attachment D – Temporary Best Management Practices and Measures

- Temporary Construction Entrance/Exit A stabilized pad of crushed stone located at any point where traffic will be entering or leaving the construction site from a public R.O.W., street, alley, sidewalk or parking area. It shall be a minimum of 50 feet long, 12 feet wide and 8 inches thick. The rock shall be 4" to 8" in size.
- 2. Silt Fence A barrier consisting of geotextile fabric supported by metal posts to prevent soil and sediment loss from a site. Silt fences shall be installed on the down gradient side of the proposed areas to be disturbed that have a drainage area of ¼ acres per 100 feet of fence.
- 3. Rock Berms A sediment trap consisting of 3" to 5" diameter rock wrapped in a woven wire sheathing. The berm shall have a minimum height of 36" and a minimum top width of 2 feet. A rock berm shall be placed at locations of the concentrated flows where the drainage area is between 2 and 5 acres.
- 4. Inlet Protection Placed around inlets to catch and stop sediment from entering the storm drain system before filtration system are in place.
- 5. Concrete Washout Pit Designed to trap and store waste from concrete and similar activities. This allows for safe storage and removal from the site by not allowing contaminants to enter the storm water. Contaminants can be kept in a location that will not allow storm water to mix and flow off the site.

Sequence of installation during construction process

- 1. The Temporary Construction Entrance/Exit (Item 1) shall be installed prior to disturbing any soil except at the location of the Temporary Construction Entrance/Exit. It shall stay in place and be maintained until the end of the infrastructure construction.
- 2. Silt fence (Item 2) shall be installed along the western boundary of the site prior to any disturbance of the site
- 3. Rock berms (Item 4) shall be installed around the perimeter of the project at natural low points following rough grading of the site and shall be removed once grading to the on-site stormwater drainage system with bagged gravel inlet filters in sump is complete. Rock berms will also be utilized at the outlet of the pond while it is being constructed.

The TBMPs and measures utilized for the proposed project to prevent pollution of storm water, groundwater, and surface water during the construction phase are the following:

- Temporary Construction Entrance/Exit
 Silt Fence
- 3. Concrete Washout Pit
- 4. Rock Berm
- 5. Inlet Protection

Attachment D – Temporary Best Management Practices and Measures

Stormwater originating from upgradient.

• Stormwater originating from upgradient from the east site of the property will be routed around the site by proposed grading.

Stormwater originating from onsite.

• Stormwater originating from onsite will be maintained by the proposed TMBPs (Silt fence, rock berms, etc.) to stay within the project limits and treated by the proposed PBMP.

Prevent stormwater from entering surface water, sensitive features and aquifer.

• No stormwater is expected to enter any surface water, sensitive feature or directly to the aquifer.

Will maintain flow to naturally occurring sensitive features.

• No naturally occurring sensitive features are documented on the geological assessment table.

1.4.2 <u>Temporary Construction Entrance/Exit</u>

The purpose of a temporary gravel construction entrance is to provide a stable entrance/exit condition from the construction site and keep mud and sediment off public roads. A stabilized construction entrance is a stabilized pad of crushed stone located at any point traffic will be entering or leaving the construction site from a public right-of-way, street, alley, sidewalk or parking area. The purpose of a stabilized construction entrance is to reduce or eliminate the tracking or flowing of sediment onto public rights-of-way. This practice should be used at all points of construction ingress and egress. Schematic diagrams of a construction entrance/exit are shown in Figure 1-24 and Figure 1-25.

Excessive amounts of mud can also present a safety hazard to roadway users. To minimize the amount of sediment loss to nearby roads, access to the construction site should be limited to as few points as possible and vegetation around the perimeter should be protected were access is not necessary. A rock stabilized construction entrance should be used at all designated access points.

Figure 1-24 Schematic of Temporary Construction Entrance/Exit (after NC, 1993)

Figure 1-25 Cross-section of a Construction Entrance/Exit (NC, 1993)

Materials:

- (1) The aggregate should consist of 4 to 8 inch washed stone over a stable foundation as specified in the plan.
- (2) The aggregate should be placed with a minimum thickness of 8 inches.
- (3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd^2 , a mullen burst rating of 140 lb/in², and an equivalent opening size greater than a number 50 sieve.
- (4) If a washing facility is required, a level area with a minimum of 4 inch diameter washed stone or commercial rack should be included in the plans. Divert wastewater to a sediment trap or basin.

Installation: (North Carolina, 1993)

- (1) Avoid curves on public roads and steep slopes. Remove vegetation and other objectionable material from the foundation area. Grade crown foundation for positive drainage.
- (2) The minimum width of the entrance/exit should be 12 feet or the full width of exit roadway, whichever is greater.
- (3) The construction entrance should be at least 50 feet long.
- (4) If the slope toward the road exceeds 2%, construct a ridge, 6 to 8 inches high with 3:1 (H:V) side slopes, across the foundation approximately 15 feet from the entrance to divert runoff away from the public road.
- (5) Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated.
- (6) Place stone to dimensions and grade shown on plans. Leave surface smooth and slope for drainage.
- (7) Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.
- (8) Install pipe under pad as needed to maintain proper public road drainage.

Common trouble points

- (1) Inadequate runoff control sediment washes onto public road.
- (2) Stone too small or geotextile fabric absent, results in muddy condition as stone is pressed into soil.
- (3) Pad too short for heavy construction traffic extend pad beyond the minimum 50 foot length as necessary.
- (4) Pad not flared sufficiently at road surface, results in mud being tracked on to road and possible damage to road edge.
- (5) Unstable foundation use geotextile fabric under pad and/or improve foundation drainage.

Inspection and Maintenance Guidelines:

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

1.4.3 Silt Fence

A silt fence is a barrier consisting of geotextile fabric supported by metal posts to prevent soil and sediment loss from a site. When properly used, silt fences can be highly effective at controlling sediment from disturbed areas. They cause runoff to pond, allowing heavier solids to settle out. If not properly installed, silt fences are not likely to be effective. A schematic illustration of a silt fence is shown in Figure 1-26.

Figure 1-26 Schematic of a Silt Fence Installation (NCTCOG, 1993b)

The purpose of a silt fence is to intercept and detain water-borne sediment from unprotected areas of a limited extent. Silt fence is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Silt fence should not be used where there is a concentration of water in a channel or drainage way. If concentrated flow occurs after installation, corrective action must be taken such as placing a rock berm in the areas of concentrated flow. Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.

Materials:

- (1) Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in², ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.
- (2) Fence posts should be made of hot rolled steel, at least 4 feet long with Tee or Ybar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft², and Brindell hardness exceeding 140.
- (3) Woven wire backing to support the fabric should be galvanized 2" x 4" welded wire, 12 gauge minimum.

Installation:

- (1) Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Post must be embedded a minimum of 1-foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet.
- (2) Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is ¹/₄ acre/100 feet of fence.
- (3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from seeping under fence.
- (4) The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.
- (5) Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There should be a 3-foot overlap, securely fastened where ends of fabric meet.

(6) Silt fence should be removed when the site is completely stabilized so as not to block or impede storm flow or drainage.

Common Trouble Points:

- (1) Fence not installed along the contour causing water to concentrate and flow over the fence.
- (2) Fabric not seated securely to ground (runoff passing under fence)
- (3) Fence not installed perpendicular to flow line (runoff escaping around sides)
- (4) Fence treating too large an area, or excessive channel flow (runoff overtops or collapses fence)

Inspection and Maintenance Guidelines:

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

The purpose of a rock berm is to serve as a check dam in areas of concentrated flow, to intercept sediment-laden runoff, detain the sediment and release the water in sheet flow. The rock berm should be used when the contributing drainage area is less than 5 acres. Rock berms are used in areas where the volume of runoff is too great for a silt fence to contain. They are less effective for sediment removal than silt fences, particularly for fine particles, but are able to withstand higher flows than a silt fence. As such, rock berms are often used in areas of channel flows (ditches, gullies, etc.). Rock berms are most effective at reducing bed load in channels and should not be substituted for other erosion and sediment control measures farther up the watershed.

Materials:

- (1) The berm structure should be secured with a woven wire sheathing having maximum opening of 1 inch and a minimum wire diameter of 20 gauge galvanized and should be secured with shoat rings.
- (2) Clean, open graded 3- to 5-inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5- to 8-inch diameter rocks may be used.

Installation:

- (1) Lay out the woven wire sheathing perpendicular to the flow line. The sheathing should be 20 gauge woven wire mesh with 1 inch openings.
- (2) Berm should have a top width of 2 feet minimum with side slopes being 2:1 (H:V) or flatter.
- (3) Place the rock along the sheathing as shown in the diagram (Figure 1-28), to a height not less than 18".
- (4) Wrap the wire sheathing around the rock and secure with tie wire so that the ends of the sheathing overlap at least 2 inches, and the berm retains its shape when walked upon.
- (5) Berm should be built along the contour at zero percent grade or as near as possible.
- (6) The ends of the berm should be tied into existing upslope grade and the berm should be buried in a trench approximately 3 to 4 inches deep to prevent failure of the control.







Common Trouble Points:

- (1) Insufficient berm height or length (runoff quickly escapes over the top or around the sides of berm)
- (2) Berm not installed perpendicular to flow line (runoff escaping around one side)

Inspection and Maintenance Guidelines:

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

1.4.18 Concrete Washout Areas

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

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

- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
- Avoid mixing excess amounts of fresh concrete.
- Perform washout of concrete trucks in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped onsite, except in designated areas.

For onsite washout:

- Locate washout area at least 50 feet from sensitive features, storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.

Below grade concrete washout facilities are typical. These consist of a lined excavation sufficiently large to hold expected volume of washout material. Above grade facilities are used if excavation is not practical. Temporary concrete washout facility (type above grade) should be constructed as shown on the details at the end of this section, with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations. Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.

When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and disposed of. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and disposed of. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.



Figure 1-43 Schematics of Concrete Washout Areas

1.4.11 Inlet Protection

Storm sewers that are made operational prior to stabilization of the associated drainage areas can convey large amounts of sediment to natural drainage ways. In case of extreme sediment loading, the storm sewer itself may clog and lose a major portion of its capacity. To avoid these problems, it is necessary to prevent sediment from entering the system at the inlets. The following guidelines for inlet protection are based primarily on recommendations by the Virginia Dept. of Conservation and Recreation (1992) and the North Central Texas Council of Governments (NCTCOG, 1993b).

In developments for which drainage is to be conveyed by underground storm sewers (i.e., streets with curbs and gutters), all inlets that may receive storm runoff from disturbed areas should be protected. Temporary inlet protection is a series of different measures that provide protection against silt transport or accumulation in storm sewer systems. This clogging can greatly reduce or completely stop the flow in the pipes. The different measures are used for different site conditions and inlet types.

Care should be taken when choosing a specific type of inlet protection. Field experience has shown that inlet protection that causes excessive ponding in an area of high construction activity may become so inconvenient that it is removed or bypassed, thus transmitting sediment-laden flows unchecked. In such situations, a structure with an adequate overflow mechanism should be utilized.

It should also be noted that inlet protection devices are designed to be installed on construction sites and not on streets and roads open to the public. When used on public streets these devices will cause ponding of runoff, which can cause minor flooding and can present a traffic hazard. An example of appropriate siting would be a new subdivision where the storm drain system is installed before the area is stabilized and the streets open to the general public. When construction occurs adjacent to active streets, the sediment should be controlled on site and not on public thoroughfares. Occasionally, roadwork or utility installation will occur on public roads. In these cases, inlet protection is an appropriate temporary BMP.

The following inlet protection devices are for drainage areas of one acre or less. Runoff from larger disturbed areas should be routed to a temporary sediment trap or basin.

Filter barrier protection using silt fence is appropriate when the drainage area is less than one acre and the basin slope is less than five percent. This type of protection is not applicable in paved areas.

Block and gravel protection is used when flows exceed 0.5 cubic feet per second and it is necessary to allow for overtopping to prevent flooding. This form of protection is also useful for curb type inlets as it works well in paved areas.

Wire mesh and gravel protection is used when flows exceed 0.5 cubic feet per second and construction traffic may occur over the inlet. This form of protection may be used with both curb and drop inlets.

Excavated impoundment protection around a drop inlet may be used for protection against sediment entering a storm drain inlet. With this method, it is necessary to install weep holes to allow the impoundment to drain completely. If this measure is implemented, the impoundment should be sized such that the volume of excavation is 3,600 cubic feet per acre (equivalent to 1 inch of runoff) of disturbed area entering the inlet.

Materials:

- Filter fabric should be a nylon reinforced polypropylene fabric which meets the following minimum criteria: Tensile Strength, 90 lbs.; Puncture Rating, 60 lbs.; Mullen Burst Rating, 280 psi; Apparent Opening Size, U.S. Sieve No. 70.
- (2) Posts for fabric should be 2" x 4" pressure treated wood stakes or galvanized steel, tubular in cross-section or they may be standard fence "T" posts.
- (3) Concrete blocks should be standard 8" x 8" x 16" concrete masonry units.
- (4) Wire mesh should be standard hardware cloth or comparable wire mesh with an opening size not to exceed 1/2 inch.

Guidelines for installation:

Silt Fence Drop Inlet Protection

- (1) Silt fence should conform to the specifications listed above and should be cut from a continuous roll to avoid joints.
- (2) For stakes, use 2 x 4-inch wood or equivalent metal with a minimum length of 3 feet.
- (3) Space stakes evenly around the perimeter of the inlet a maximum of 3 feet apart, and securely drive them into the ground, approximately 18 inches deep (Figure 1-33).
- (4) To provide needed stability to the installation, a frame with 2 x 4-inch wood strips around the crest of the overflow area at a maximum of $1\frac{1}{2}$ feet above the drop inlet crest should be provided.



Figure 1-33 Filter Fabric Inlet Protection (NCTCOG, 1993)

- (5) Place the bottom 12 inches of the fabric in a trench and backfill the trench with 12 inches of compacted soil.
- (6) Fasten fabric securely by staples or wire to the stakes and frame. Joints must be overlapped to the next stake.
- (7) It may be necessary to build a temporary dike on the down slope side of the structure to prevent bypass flow.

If the drop inlet is above the finished grade, the grate may be completely covered with filter fabric. The fabric should be securely attached to the entire perimeter of the inlet using 1"x 2" wood strips and appropriate fasteners.

Gravel and Wire Mesh Drop Inlet Sediment Filter

(1) Wire mesh should be laid over the drop inlet so that the wire extends a minimum of 1 foot beyond each side of the inlet structure. Wire mesh with 1/2-inch openings should be used. If more than one strip of mesh is necessary, the strips should be overlapped (see Figure 1-34).



Figure 1-34 Wire Mesh and Gravel Inlet Protection (NCTCOG, 1993)

- (2) Coarse aggregate should be placed over the wire mesh as indicated in Figure 1-34. The depth of stone should be at least 12 inches over the entire inlet opening. The stone should extend beyond the inlet opening at least 18 inches on all sides.
- (3) If the stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stones must be pulled away from the inlet, cleaned and/or replaced.

<u>Note</u>: This filtering device has no overflow mechanism; therefore, ponding is likely especially if sediment is not removed regularly. This type of device should never be used where overflow may endanger an exposed fill slope. Consideration should also be given to the possible effects of ponding on traffic movement, nearby structures, working areas, adjacent property, etc.

Block and Gravel Drop Inlet Sediment Filter

- (1) Place concrete blocks lengthwise on their sides in a single row around the perimeter of the inlet, with the ends of adjacent blocks abutting. The height of the barrier can be varied, depending on design needs, by stacking combinations of 4-inch, 8-inch and 12-inch wide blocks. The barrier of blocks should be between 12 and 24 inches high.
- (2) Wire mesh should be placed over the outside vertical face (webbing) of the concrete blocks to prevent stone from being washed through the holes in the blocks. Wire mesh with 1/2-inch openings should be used.
- (3) Stone should be piled against the wire to the top of the block barrier, as shown in Figure 1-35.
- (4) If the stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stone must be pulled away from the blocks, cleaned and replaced.

Block and Gravel Curb Inlet Sediment Filter

- (1) Two concrete blocks should be placed on their sides abutting the curb at either side of the inlet opening.
- (2) A 2-inch x 4-inch stud should be cut and placed through the outer holes of each spacer block to help keep the front blocks in place.
- (3) Concrete blocks should be placed on their sides across the front of the inlet and abutting the spacer blocks as depicted in Figure 1-35.
- (4) Wire mesh should be placed over the outside vertical face (webbing) of the concrete blocks to prevent stone from being washed through the holes in the blocks. Wire mesh with 1/2-inch openings should be used.
- (5) Coarse aggregate should be piled against the wire to the top of the barrier as shown in Figure 1-35.
- (6) If the stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stone must be pulled away from the blocks, cleaned and/or replaced.



Figure 1-35 Block and Gravel Inlet Protection (NCTCOG, 1993)

Excavated Drop Inlet Sediment Trap

(1) The excavated trap should be sized to provide a minimum storage capacity calculated at 3,600 cubic feet per acre of drainage area. A trap should be no less than 1-foot nor more than 2 feet deep measured from the top of the inlet structure. Side slopes should not be steeper than 2:1 (see Figure 1-36).



Figure 1-36 Excavated Inlet Protection (NCTCOG, 1993)

(2) The slope of the basin may vary to fit the drainage area and terrain. Observations must be made to check trap efficiency and modifications should be made as necessary to ensure satisfactory trapping of sediment. Where an inlet is located so as to receive concentrated flows, such as in a highway median, it is recommended that the basin have a rectangular shape in a 2:1 (length/width) ratio, with the length oriented in the direction of the flow.

(3) Sediment should be removed and the trap restored to its original dimensions when the sediment has accumulated to one-half the design depth of the trap. Removed sediment should be deposited in a suitable area and in a manner such that it will not erode.

Curb Inlet Protection with 2-inch x 4-inch Wooden Weir

- (1) Attach a continuous piece of wire mesh (30-inch minimum width x inlet throat length plus 4 feet) to the 2-inch x 4-inch wooden weir (with a total length of throat length plus 2 feet) as shown in Figure 1-37. Wood should be "construction grade" lumber.
- (2) Place a piece of approved filter cloth of the same dimensions as the wire mesh over the wire mesh and securely attach to the 2-inch x 4-inch weir.
- (3) Securely nail the 2-inch x 4-inch weir to the 9-inch long vertical spacers which are to be located between the weir and inlet face at a maximum 6-foot spacing.
- (4) Place the assembly against the inlet throat and nail 2-foot (minimum) lengths of 2-inch x 4-inch board to the top of the weir at spacer locations. These 2-inch x 4inch anchors should extend across the inlet tops and be held in place by sandbags or alternate weight.
- (5) The assembly should be placed so that the end spacers are a minimum 1 foot beyond both ends of the throat opening.
- (6) Form the wire mesh and filter cloth to the concrete gutter and against the face of curb on both sides of the inlet. Place coarse aggregate over the wire mesh and filter fabric in such a manner as to prevent water from entering the inlet under or around the filter cloth.
- (7) This type of protection should be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
- (8) Assure that storm flow does not bypass inlet by installing temporary earth or asphalt dikes directing flow into inlet.



Figure 1-37 Wooden Weir Curb Inlet Protection (VA Dept of Conservation, 1992)

Common Trouble Points:

- (1) Gaps between the inlet protection and the curb (flows bypass around side of filter).
- (2) Filter fabric skirt not anchored to pavement (flows pass under filter).

Bagged Gravel Inlet Filter

Sandbags filled with pea gravel can also be used to construct a sediment barrier around curb and drain inlets. The sandbags should be filled with washed pea gravel and stacked to form a continuous barrier about 1 foot high around the inlets. The bags should be tightly abutted against each other to prevent runoff from flowing between the bags. This measure should be installed as shown in Figure 1-38.



Figure 1-38 Diagram of Bagged Gravel Grate Inlet Protection (Pape - Dawson)



Figure 1-39 Diagram of Bagged Gravel Curb Inlet Protection (Pape - Dawson).

Inspection and Maintenance Guidelines:

- (1) Inspection should be made weekly and after each rainfall. Repair or replacement should be made promptly as needed by the contractor.
- (2) Remove sediment when buildup reaches a depth of 3 inches. Removed sediment should be deposited in a suitable area and in such a manner that it will not erode.
- (3) Check placement of device to prevent gaps between device and curb.
- (4) Inspect filter fabric and patch or replace if torn or missing.

(5) Structures should be removed and the area stabilized only after the remaining drainage area has been properly stabilized.

Attachment E – Request to Temporarily Seal a Feature

No sensitive features will be sealed in this project site.

Attachment F – Structural Practices

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

- Erection of silt fences along the downgradient boundary of construction activities and rock berms with silt fence for secondary protection, as located on WPAP SITE PLAN
- Installation of stabilized construction entrance/exit(s) and construction staging area(s), as located on WPAP SITE PLAN

The following structural measures will be installed at the initiation of construction activities or as appropriate based on the construction sequencing:

 Installation of concrete truck washout pit(s), as required and located on WPAP SITE PLAN

Attachment G – Drainage Area Map

See Sheet WPAP Drainage Area Map attached at the end of these attachments.

Attachment H – Temporary Sediment Pond(s) Plans and Calculations

No Temporary Sediment Pond will be utilized with this project.

Attachment I – Inspection and Maintenance for TBMPs

Inspections

Designated and qualified person(s) shall inspect Pollution Control Measures weekly and within 24 hours after a storm event greater than 0.5 inches of rainfall. An inspection report that summarizes the scope of the inspection, names and qualifications of personnel conducting the inspection, date of the inspection, major observations, and actions taken as a result of the inspection shall be recorded and maintained as part of Storm Water TPDES data for a period of three years after the date o the inspection. A copy of the Inspection Report Form is provided in this Storm Water Pollution Prevention Plan.

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

Pollution	Inspecte d	Corrective Action	
Prevention Measure		Description	Date Completed
General			
Revegetation			
Erosion/Sediment Controls			
Vehicle Exits			
Material Areas			
Equipment Areas			
Concrete Rinse			
Construction Debris			
Trash Receptacles			
Infrastructure			
Roadway Clearing			
Utility Clearing			
Roadway Grading			
Utility Construction			
Drainage Construction			
Roadway Base			
Roadway Surfaces			
Site Cleanups			
Building			
Clearing for Building			
Foundation Grading			
Utility Construction			
Foundation Construction			
Building Construction			
Site Grading			
Site Cleanup			

*Indicate N/A where measure does not apply.

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

Inspector's Name

Inspector's Signature

Name of Owner/Operator (Firm)

Date

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

PROJECT MILESTONE DATES

Date when major site grading activities begin:

Construction Activity	Date
Dates when construction activities temporarily or perma of the project:	anently cease on all or a portion
Construction Activity	Date
Date when stabilization measures are initiated:	
Stabilization Activity	Date

Attachment I (con't) – Inspection and Maintenance for TBMPs

Temporary Sediment Control Fences

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

Rock Berm/High Service Rock Berm

- 1. Inspections should be made weekly and after each rainfall by the responsible party.
- 2. Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt of in an approved manner.
- 3. Repair any loose wire sheathing.
- 4. The berm should be reshaped as needed during inspection.
- 5. The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.
- 6. The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

Temporary Construction Entrance and Exits

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

Bagged Gravel Inlet Filters

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

Temporary Sedimentation Basin

- Inspection should be made weekly and after each rainfall. Check the embankment, spillways, and outlet for erosion damage, and inspect the embankment for piping and settlement. Repair should be made promptly as needed by contractor.
- 2. Trash and other debris should be removed after each rainfall to prevent clogging out fo the outlet structure.
- 3. Accumulated silt should be removed and the basin should be re-graded to its original dimensions at such point that the capacity of the impoundment has been reduced to 75% of its original storage capacity.
- 4. The removed sediment should be stockpiled or redistributed in areas that are protected from erosion.

Documentation Procedures

- 1. A copy of the inspection report is located on the following page.
- 2. The inspection report must be maintained on site at all times.
- 3. The inspection report is incorporated as part of the WPAP. The contractor is responsible for completing and updating the form in compliance with TCEQ rules.

Attachment J – Schedule of Interim and Permanent Soil Stabilization

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

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

Permanent Stormwater Section

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Nicholas Gower, PE / LJA Engineering Inc.

Date: 11/18/2024

Signature of Customer/Agent

Micholas Louer

Regulated Entity Name: Veramendi Substation WPAP

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.



- 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. X 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.
 - X 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 multifamily 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.
 - \overline{X} The site will not be used for multi-family residential developments, schools, or small business sites.
- 6. X 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.	Х	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.	Χ	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.	X	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.	X	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:
		 X Design calculations (TSS removal calculations) X TCEQ construction notes X All geologic features X All proposed structural BMP(s) plans and specifications

N/A

11. X	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:
	X Prepared and certified by the engineer designing the permanent BMPs and measures
	X Signed by the owner or responsible party
	X 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.
Х] N/A
13. X	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

N/A

degradation.

Responsibility for Maintenance of Permanent BMP(s)

by the regulated activity, which increase erosion that results in water quality

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

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

N/A

Attachment A – 20% or Less Impervious Cover Waiver

No impervious cover waiver is being requested with this project.

Attachment B – BMP for Upgradient Stormwater

No treatment of this upgradient area is necessary.

Attachment C – BMP for On-Site Stormwater

In keeping with the TCEQ rules, this development will employ a Batch detention basin.

1) (1) Batch detention pond is proposed to be built on the development as on-site permanent BMP, this water quality pond would be treating a total of 7.81 acres of impervious cover.

All site BMPs were designed to remove at least 80% of the increased (TSS) in accordance with TCEQ's.

Attachment D – BMP for Surface Streams

This project will protect the natural drainage course by constructing the Batch detention ponds discussed above and shown on the plans to filter pollutants from the captured first flush. The sedimentation/filtration basin proposed has been designed in accordance with TCEQ's TGM RG-348 (2005) which indicates a minimum of 80% of the increased TSS load from the site as a whole must be removed.

Attachment E – Request to Seal Features

There are no naturally occurring sensitive features located within the boundaries of the site.

Attachment F – Construction Plans

See attached plans.

ATTACHMENT "G" - Inspection, Maintenance, Repair and Retrofit Plan

PROJECT NAME Veramendi Substation WPAP

ADDRESS 1600 LF North of the Intersection between Loop 337 & River Rd

CITY, STATE ZIP New Braunfels, Texas 78132

EXTENDED DETENTION BASINS

Extended detention basins have moderate to high maintenance requirements, Depending on the extent to which future maintenance needs are anticipated during the design stage. Responsibilities for both routine and nonroutine maintenance tasks need to be clearly understood and enforced. If regular maintenance and inspections are not undertaken, the basin will not achieve its intended purposes.

There are many factors that may affect the basin's operation and that should be periodically checked. These factors can include mowing, control of pond vegetation, removal of accumulated bottom sediments, removal of debris from all inflow and outflow structures, unclogging of orifice perforations, and the upkeep of all physical structures that are within the detention pond area. One should conduct periodic inspections and after each significant storm. Remove floatables and correct erosion problems in the pond slopes and bottom. Pay particular attention to the outlet control perforations for signs of clogging. If the orifices are clogged, remove sediment and other debris. The generic aspects that must be considered in the maintenance plan for a detention facility are as follows:

<u>Inspections.</u> Basins should be inspected at least twice a year (once during or immediately following wet weather) to evaluate facility operation. When possible, inspections should be conducted during wet weather to determine if the pond is meeting the target detention times. In particular, the extended detention control device should be regularly inspected for evidence of clogging, or conversely, for too rapid a release. If the design drawdown times are exceeded by more than 24 hours, then repairs should be scheduled immediately. The upper stage pilot channel, if any, and its flow path to the lower stage should be checked for erosion problems. During each inspection, erosion areas inside and downstream of the BMP should be identified and repaired or revegetated immediately.

<u>Mowing</u>. The upper stage, side slopes, embankment, and emergency spillway of an extended detention basin must be mowed regularly to discourage woody growth and control weeds. Grass areas in and around basins should be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. When mowing of grass is performed, a mulching mower should be used, or grass clippings should be caught and removed. <u>Debris and Litter Removal</u>. Debris and litter will accumulate near the extended detention control device and should be removed during regular mowing operations and inspections. Particular attention should be paid to floating debris that can eventually clog the control device or riser.

<u>Erosion Control</u>. The pond side slopes, emergency spillway, and embankment all may periodically suffer from slumping and erosion, although this should not occur often if the soils are properly compacted during construction. Regrading and revegetation may be required to correct the problems. Similarly, the channel connecting an upper stage with a lower stage may periodically need to be replaced or repaired.

<u>Structural Repairs and Replacement.</u> With each inspection, any damage to the structural elements of the system (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired immediately. These repairs should include patching of cracked concrete, sealing of voids, and removal of vegetation from cracks and joints. The various inlet/outlet and riser works in a basin will eventually deteriorate and must be replaced. Public works experts have estimated that corrugated metal pipe (CMP) has a useful life of about 25 yr, whereas reinforced concrete barrels and risers may last from 50 to 75 yr.

<u>Nuisance Control.</u> Standing water (not desired in a extended detention basin) or soggy conditions within the lower stage of the basin can create nuisance conditions for nearby residents. Odors, mosquitoes, weeds, and litter are all occasionally perceived to be problems. Most of these problems are generally a sign that regular inspections and maintenance are not being performed (e.g., mowing, debris removal, clearing the outlet control device).

<u>Sediment Removal.</u> When properly designed, dry extended detention basins will accumulate quantities of sediment over time. Sediment accumulation is a serious maintenance concern in extended detention dry ponds for several reasons. First, the sediment gradually reduces available stormwater management storage capacity within the basin. Second, unlike wet extended detention basins (which have a permanent pool to conceal deposited sediments), sediment accumulation can make dry extended detention basins very unsightly. Third, and perhaps most importantly, sediment tends to accumulate around the control device. Sediment deposition increases the risk that the orifice will become clogged, and gradually reduces storage capacity reserved for pollutant removal. Sediment can also be resuspended if allowed to accumulate over time and escape through the hydraulic control to downstream channels and streams. For these reasons, accumulated sediment needs to be removed from the lower stage when sediment buildup fills 20% of the volume of the basin or at least every 10 years.

1

VEGETATIVE FILTER STRIPS

Once a vegetated area is well established, little additional maintenance is generally necessary. The key to establishing a viable vegetated feature is the care and maintenance it receives in the first few months after it is plant ed. Once established, all vegetated BMPs require some basic maintenance to insure the health of the plants including:

<u>Pest Management.</u> An Integrated Pest Management (IPM) Plan should be developed for vegetated areas. This plan should specify how problem insects and weeds will be controlled with minimal or no use of insecticides and herbicides.

<u>Seasonal Mowing and Lawn Care.</u> If the filter strip is made up of turf grass, it should be mowed as needed to limit vegetation height to 18 inches, using a mulching mower (or removal of clippings). If native grasses are used, the filter may require less frequent mowing, but a minimum of twice annually. Grass clippings and brush debris should not be deposited on vegetated filter strip areas. Regular mowing should also include weed control practices, however herbicide use should be kept to a minimum (Urbonas et al., 1992). Healthy grass can be maintained without using fertilizers because runoff usually contains sufficient nutrients. Irrigation of the site can help assure a dense and healthy vegetative cover.

Inspection. Inspect filter strips at least twice annually for erosion or damage to vegetation; however, additional inspection after periods of heavy runoff is most desirable. The strip should be checked for uniformity of grass cover, debris and litter, and areas of sediment accumulation. More frequent inspections of the grass cover during the first few years after establishment will help to determine if any problems are developing, and to plan for long-term restorative maintenance needs. Bare spots and areas of erosion identified during semi-annual inspections must be replanted and 3-92 restored to meet specifications. Construction of a level spreader device may be necessary to reestablish shallow overland flow.

<u>Debris and Litter Removal</u>. Trash tends to accumulate in vegetated areas, particularly along highways. Any filter strip structures (i.e. level spreaders) should be kept free of obstructions to reduce floatables being flushed downstream, and for aesthetic reasons. The need for this practice is determined through periodic inspection, but should be performed no less than 4 times per year.

<u>Sediment Removal</u>. Sediment removal is not normally required in filter strips, since the vegetation normally grows through it and binds it to the soil. However, sediment may accumulate along the upstream boundary of the strip preventing uniform overland flow. Excess sediment should be removed by hand or with flat-bottomed shovels.

<u>Grass Reseeding and Mulching.</u> A healthy dense grass should be maintained on the filter strip. If areas are eroded, they should be filled, compacted, and reseeded so that the final grade is level. Grass damaged during the sediment removal process should be promptly replaced using the same seed mix used during filter strip establishment. If possible, flow should be diverted from the damaged areas until the grass is firmly established. Bare spots and areas of erosion identified during semi-annual inspections must be replanted and restored to meet specifications. Corrective maintenance, such as weeding or replanting should be done more frequently in the first two to three years after installation to ensure stabilization. Dense vegetation may require irrigation immediately after planting, and during particularly dry periods, particularly as the vegetation is initially established.

Responsible Party for Maintenance	VERAMENO, PE DAEWIN LLC
Address	2168 OAK RUN PARKWAY STE 101
City, State Zip	NEW BRANN FELS TX 78132
Telephone Number	830 - 4+1 - 1980
Signature of Responsible Party	~ EM
Print name of Responsible Party	GARRETT MELNLER

Permanent Stormwater Section Attachment "G" continued Sample Maintenance Table

ITEM #	DATE	DESCRIPTION OF ACTION(S) TAKEN	INITIALS

Attachment H – Pilot-Scale Field Testing Plan

The TCEQ's TGM was used to design the BMP's for this project.

Attachment I– Measures for Minimizing Surface Stream Contamination

Any points where discharge from this site is concentrated and erosive velocities exist will include appropriately sized energy dissipaters to reduce velocities to non-erosive levels.
Agent Authorization Form

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

	Garrett Mechler	
	Print Name	
	Co-CEO	,
	Title - Owner/President/Other	· · · · · · · · · · · · · · · · · · ·
of	Veramendi PE-Darwin, LLC	
	Corporation/Partnership/Entity Name	
have authorized	Nicholas Gower	
	Print Name of Agent/Engineer	
of	LJA 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.

Applicant's Signature

19/2024





BEFORE ME, the undersigned authority, on this day personally appeared <u>Garrel+Mechler</u> 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 4 day of Movember, 2024

<u>Alex Harde Men</u> Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 5 20 2028

Application Fee Form

Texas Commission on Environmental Quality Name of Proposed Regulated Entity: Veramendi Substation WPAP						
Regulated Entity Location: <u>1600 LF</u> North of the Intersection between Loop 337 & River Rd						
Name of Customer: Veramendi PE-Darwin, LLC						
Contact Person: Garrett Mechler	Phor	ie: <u>830 6</u> 60 47	55			
Customer Reference Number (If Is	ssued):CN <u>60554</u> 3875					
Austin Pagional Office (2272)	ber (IT issued):KN					
Hays	Travis		W	illian	nson	
San Antonio Regional Office (336	2)					
Bexar	Medina		ŪV	alde	2	
X Comal	Kinney		1			
Application fees must be paid by	check, certified check, o	or monev order	. pavab	le to	the Texas	
Commission on Environmental Q	uality. Your canceled o	heck will serve	as vou	r rec	eipt. This	
form must be submitted with yo	ur fee payment. This p	ayment is being	g submi	itted	to:	
Austin Regional Office	X s	an Antonio Reg	ional O	ffice	2	
Mailed to: TCEQ - Cashier	c	Overnight Delivery to: TCEQ - Cashier				
Revenues Section	1	L2100 Park 35 Circle				
Mail Code 214	Ε	Building A, 3rd Floor				
P.O. Box 13088	A	Austin, TX 78753				
Austin, TX 78711-3088	(512)239-0357				
Site Location (Check All That App	ly):					
X Recharge Zone	Contributing Zone] Transi	tion	Zone	
Type of Pla	n	Size			Fee Due	
Water Pollution Abatement Plan,	Contributing Zone					
Plan: One Single Family Residentia	al Dwelling		Acres	\$		
Water Pollution Abatement Plan,	Contributing Zone					
Plan: Multiple Single Family Resid		Acres	\$			
Water Pollution Abatement Plan,	Contributing Zone	~ · ·				
Plan: Non-residential	7.626	Acres	\$	5,000		
Sewage Collection System		L.F.	\$			
Lift Stations without sewer lines		Acres	\$			
Underground or Aboveground Sto		Tanks	\$			
Piping System(s)(only)			Each	\$		
Exception			Each	\$		
Extension of Time			Each	\$		
•						

Signature: ______ Date: ______ Date: ______ Date: _______ Date: _______

1 of 2

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

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

Exception Requests

Project	Fee
Exception Request	\$500

Extension of Time Requests

Project	Fee		
Extension of Time Request	\$150		



TCEQ 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 desc	cribe in space provided.)					
New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)						
Renewal (Core Data Form should be submitted with the renewal form) Other						
2. Customer Reference Number (if issued)	Follow this link to search	3. Regulated Entity Reference Number (if issued)				
	for CN or RN numbers in					
CN 605543875	RN					

SECTION II: Customer Information

4. General Cu	istomer Inf	formati	mation 5. Effective Date for Customer Information Updates (mm/dd/yyyy) 11/18/2024										
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 Custome	r Name su	bmittea	l here may l	be updated	automatical	ly base	d on	what is c	urrent	and active	with th	e Texas Secr	etary of State
(SOS) or Texa	s Comptro	ller of F	Public Accou	ints (CPA).									
6. Customer I	Legal Nam	e (If an i	ndividual, pri	nt last name	first: eg: Doe, J	ohn)			<u>lf nev</u>	v Customer, i	enter pre	evious Custom	er below:
Veramendi PE-I	Darwin, LLC			1									:
7. TX SOS/CP	A Filing Nu	mber		8. TX Stat	e Tax ID (1 1 d	igits)			9. Fe	deral Tax II	D	10. DUNS	Number <i>(if</i>
0802689865				320633518	14				(9 dig	gits)		applicable)	
11. Type of C	ustomer:		Corpora	tion				🗌 Individ	lual		Partne	rship: 🗌 Gen	eral 🔲 Limited
Government:	🗌 City 🛄 C	ounty 🗌] Federal 🛄	Local 🗌 Sta	te 🗌 Other			Sole P	roprieto	orship	🛛 Otl	her: LLC	
12, Number o	of Employe	es							13.1	ndepender	tly Ow	ned and Ope	erated?
⊠ 0-20 □:	21-100] 101-25	50 🗌 251-	500 🔲 50	1 and higher				⊠ Ye	es	No		
14. Customer	r Role (Prop	osed or	Actual) – as i	it relates to th	ie Regulated Ei	ntity list	ed on	this form.	Please (check one of	the follo	wing	
Owner		Оре	erator		Owner & Opera	ator				M Other	CO-CEO		
Occupation	al Licensee	🗌 Re	esponsible Pa	rty 🗌] VCP/BSA App	licant				M other.	00-010		
	2168 Oak Run Parkway, Suite 101												
15. Mailing	15. Mailing												
Address:	Address:												
					r		/015	6					
16. Country N	Mailing Inf	ormatio	on (if outside	USA)			17.	E-Mail Ad	ddress	(if applicable	e)		
					garrett.mechler@asaproperties.us.com								
18. Telephon	e Number				19. Extensio	on or C	ode			20. Fax N	umber	(if applicable)	

830) 461-1980
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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 Regulate	d Entity Name 🛛 🗌 Update to Regulated Entity Information
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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.)

Veramendi Substation WPAP								
23. Street Address of the Regulated Entity: <u>(No PO Boxes)</u>	City		State		ZIP		ZIP + 4	
24. County			L	.1	1	1	II	

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

25. Description to 1600 LF North of the Intersection between Loop 337 and River Rd. Physical Location:									
26. Nearest City State Nearest ZIP Code									
New Braunfels				ТХ	78132				
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: 29.734547 28. L					28. Longitude (W) In Decimal:			98.129492	
Degrees	Minutes	S	econds	Degree	25	Minutes	·	Seconds	
29		44	4.37		98	7		46.17	
29. Primary SIC Code (4 digits)	imary SIC Code 30. Secondary SIC s) (4 digits)			31. Primar (5 or 6 digit	y NAICS Coo 5)	de 32. Secor (5 or 6 dig	32. Secondary NAICS Code (5 or 6 digits)		
1521									
33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)									
Industrial/Commercial									
34. Mailing Address:									
	City		State		ZIP		ZIP + 4		
35, E-Mail Address:		1				LL			
36. Telephone Number 37. Extension or Code 38. Fax Number (if applicable)									
() -					()	-			

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 Oll
Voluntary Cleanup	🗌 Wastewater	Wastewater Agriculture	Water Rights	Other:

SECTION IV: Preparer Information

40. Name: LIA Engineering				41. Title:	Engineer
42. Telephone Number 43.		43. Ext./Code	44. Fax Number	45. E-Mail Address	
(210) 503-2700			() -	ngower@lja.	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:	ASA Properties	Job Title:	Co-CEO	,	
Name (in Print):	Garrett Mechler			Phone:	(830) 461- 1980
Signature:	ARAM			Date:	11/19/24
	1× scolv				

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