WATER POLLUTION ABATEMENT PLAN

FOR

1900 Business Park

PREPARED FOR

Texas Commission on Environmental Quality

Region 13 – San Antonio

14250 Judson Road

San Antonio, Texas 78233

210-490-3096 (office)

210-545-4329 (fax)

PREPARED BY

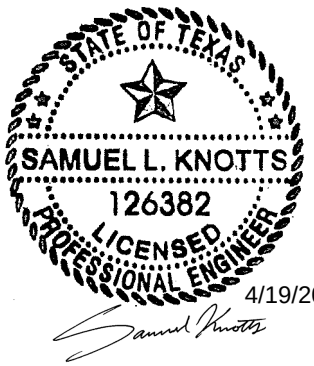
INK CIVIL

F-13351

Sam Knotts, P.E.

2021 SH 46W, Ste. 105

New Braunfels, TX 78132



Prepared

April 19, 2024

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

The Edwards Aquifer Program staff conducts an administrative and technical review of all applications. The turnaround time for administrative review can be up to 30 days as outlined in 30 TAC 213.4(e). Generally administrative completeness is determined during the intake meeting or within a few days of receipt. The turnaround time for technical review of an administratively complete Edwards Aquifer application is 90 days as outlined in 30 TAC 213.4(e). Please know that the review and approval time is directly impacted by the quality and completeness of the initial application that is received. In order to conduct a timely review, it is imperative that the information provided in an Edwards Aquifer application include final plans, be accurate, complete, and in compliance with 30 TAC 213.

Administrative Review

1. Edwards Aquifer applications must be deemed administratively complete before a technical review can begin. To be considered administratively complete, the application must contain completed forms and attachments, provide the requested information, and meet all the site plan requirements. The submitted application and plan sheets should be final plans. Please submit one full-size set of plan sheets with the original application, and half-size sets with the additional copies.

   To ensure that all applicable documents are included in the application, the program has developed tools to guide you and web pages to provide all forms, checklists, and guidance. Please visit the below website for assistance: http://www.tceq.texas.gov/field/eapp.

2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.

3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.

4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

   An appointment should be made to resubmit the application. The application is re-examined to ensure all deficiencies are resolved. The application will only be deemed administratively complete when all administrative deficiencies are addressed.

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.

6. If the geologic assessment was completed before October 1, 2004 and the site contains “possibly sensitive” features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

Technical Review

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.

2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be

clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited**.

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

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: 1900 Business Park						**2. Regulated Entity No.:**			
3. Customer Name: 1900 Business Park						**4. Customer No.:**			
5. Project Type: **(Please circle/check one)**	New		Modification			Extension		Exception	
6. Plan Type: **(Please circle/check one)**	WPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		Non-residential			**8. Site (acres):**		36.103	
9. Application Fee:	$6,500		**10. Permanent BMP(s):**			Batch Detention Pond			
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Comal		**14. Watershed:**			Dry Comal Creek			

Application Distribution

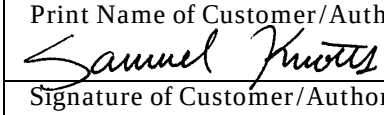
Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected incorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which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

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

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

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

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	__	✓__	__	__	__
Region (1 req.)	__	✓__	__	__	__
County(ies)	__	✓__	__	__	__
Groundwater Conservation District(s)	__ Edwards Aquifer Authority __Trinity-Glen Rose	✓__Edwards Aquifer Authority	__Kinney	__EAA __Medina	__EAA __Uvalde
City(ies) Jurisdiction	__Castle Hills __Fair Oaks Ranch __Helotes __Hill Country Village __Hollywood Park __San Antonio (SAWS) __Shavano Park	__Bulverde __Fair Oaks Ranch __Garden Ridge __New Braunfels __Schertz	NA	__San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. Sam Knotts, P.E.
Print Name of Customer/Authorized Agent  4/19/2024 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. AR Rounds:		
Delinquent Fees (Y/N):		Review Time Spent:		
Lat./Long. Verified:		SOS Customer Verification:		
Agent Authorization Complete/Notarized (Y/N):		Fee Check:	Payable to TCEQ (Y/N):	
Core Data Form Complete (Y/N):			Signed (Y/N):	
Core Data Form Incomplete Nos.:			Less than 90 days old (Y/N):	

Attachment A - Road Map

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SMITHSON VALLEY QUADRANGLE
TEXAS–COMAL CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

Edwards Aquifer Contributing Zone

Edwards Aquifer Recharge Zone

PROJECT SITE

Produced by the United States Geological Survey
in cooperation with the Texas Water Development Board

Control by USGS and NOS/NOAA

Compiled from aerial photographs taken 1963. Revisions shown in purple compiled from aerial photographs taken 1986 and other sources and has been field checked. Map edited 1994
Conflicts may exist between some updated features and previously mapped contours

North American Datum of 1927 (NAD 27). Projection and 10 000-foot ticks: Texas Coordinate System, south central zone (Lambert Conformal Conic)
Blue 1000-meter Universal Transverse Mercator ticks, zone 14

North American Datum of 1983 (NAD 83) is shown by dashed corner ticks. The values of the shift between NAD 27 and NAD 83 for 7.5-minute intersections are obtainable from National Geodetic Survey NADCON software

Fine red dashed lines indicate selected fence lines

UTM GRID AND 1994 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

TEXAS
QUADRANGLE LOCATION

2998-431

ROAD CLASSIFICATION

Primary highway, hard surface
Secondary highway, hard surface
Light-duty road, hard or improved surface
Unimproved road
Interstate Route
U. S. Route
State Route

SMITHSON VALLEY, TEX.
29098-G3-TF-024

1964
REVISED 1994
DMA 6343 IV SE-SERIES V882

INTERIOR-GEOLOGICAL SURVEY, RESTON, VIRGINIA—1994

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program

Regulatory Zones

30 TAC Chapter 213- Edwards Aquifer
Effective September 2005

This map was produced by the Groundwater Planning and Assessment Team of the Texas Commission on Environmental Quality to detail the boundaries of the regulatory zones of the Edwards Aquifer Protection Program, as described in Texas Administrative Code Title 30, Part 1, §213.3. No other claims are made to the accuracy or completeness of the data or to its suitability for a particular use. For more information about the Edwards Aquifer Protection Program, please contact the TCEQ Regional Offices in San Antonio or Austin. Printed June 2006.

ATTACHMENT "C"
Project Description

1900 Business Park is a 36.103-acres site located off South Crains Mill Rd just south of Meyer Ranch within Comal County, Texas. Some of the site has been partially cleared of brush.

The proposed site will be disturbed with 19.03-acres of impervious cover (52.7%). The current site conditions are a home and shed that are planned to be demolished. There is also an existing well on the property that is planned to be capped and abandoned. The terrain could be described as a rocky hillside. The proposed development includes the construction of industrial multi-use buildings, parking, driveways, septic tanks, and utilities.

The site does contact the 100 year FEMA Floodplain in two locations. The area to the south where there will be no proposed grading, and the area near the entrance to the property where we will be matching existing grade to re-construct the existing road. The entire site drains to the Dry Comal Creek. The proposed Permanent Best Management Practices (PBMPs) for stormwater treatment are a batch detention basin and engineered grass vegetative filter strip.

There are no sensitive features on the site.

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.

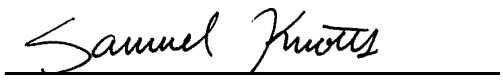
Signature

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: Sam Knotts, P.E.

Date: 4/19/2024

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: 1900 Business Park
2. County: Comal
3. Stream Basin: Dry Comal Creek
4. Groundwater Conservation District (If applicable): Edwards Aquifer Authority
5. Edwards Aquifer Zone:

   [X] Recharge Zone
   [ ] Transition Zone

6. Plan Type:

   [X] WPAP
   [ ] SCS
   [ ] Modification
   [ ] AST
   [ ] UST
   [ ] Exception Request

7. Customer (Applicant):

Contact Person: Sean McGarity
Entity: ICC & Associates, LLC
Mailing Address: 1308 E. Common St, Unit 205 #59
City, State: New Braunfels, TX Zip: 78130
Telephone: _____ FAX: _____
Email Address: seanm@infinitycc.com

8. Agent/Representative (If any):

Contact Person: Sam Knotts, P.E.
Entity: INK Civil
Mailing Address: 2021 SH 46 W, Ste. 105
City, State: New Braunfels, TX Zip: 78132
Telephone: 830-358-7127 FAX: _____
Email Address: samknotts@ink-civil.com

9. Project Location:

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

10. ☑ The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.
The project is located at 1900 S Cranes Mill Rd

11. ☑ **Attachment A – Road Map**. A road map showing directions to and the location of the project site is attached. The project location and site boundaries are clearly shown on the map.

12. ☑ **Attachment B - USGS / Edwards Recharge Zone Map**. A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached. The map(s) clearly show:

☑ Project site boundaries.
☑ USGS Quadrangle Name(s).
☑ Boundaries of the Recharge Zone (and Transition Zone, if applicable).
☑ Drainage path from the project site to the boundary of the Recharge Zone.

13. ☑ **The TCEQ must be able to inspect the project site or the application will be returned**. Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment.

☐ Survey staking will be completed by this date: _____

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

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

15. Existing project site conditions are noted below:

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

Prohibited Activities

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

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

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

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

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

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

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

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

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

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

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

Administrative Information

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

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

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

- [ ] TCEQ cashier
- [ ] Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
- [x] San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

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

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

GEOLOGIC ASSESSMENT

For

INFINITY CONCRETE TRACT
1900 S. CRANES MILL ROAD
NEW BRAUNFELS, COMAL COUNTY, TEXAS

Prepared for
INK CIVIL
2021 SH 46W
NEW BRAUNFELS, TX 78132

Prepared by

Professional Service Industries, Inc.
3 Burwood Lane
San Antonio, Texas 78216
Telephone (210) 342-9377

PSI PROJECT NO.: 0435-6172

April 19, 2024

3 Burwood Lane
San Antonio, TX 78216
phone: (210) 342-9377

intertek.com/building
psiusa.com

April 19, 2024

Ink Civil
2021 SH 46W, Suite 105
New Braunfels, TX 78132

Attn: Mr. Bryce Raders, E.I.T., Graduate Engineer
Email: bryceraders@ink-civil.com

RE: Geologic Assessment
Infinity Concrete Tract
1900 S. Cranes Mill Road
New Braunfels, Comal County, Texas 78132
PSI Project No. 0435-6172

Dear Mr. Raders:

Professional Service Industries, Inc. (PSI) has completed a geologic recharge assessment for the above referenced project in compliance with the Texas Commission on Environmental Quality (TCEQ) requirements for regulated developments located on the Edwards Aquifer Recharge Zone (EARZ). The purpose of this report is to describe surficial geologic units and identify the locations and extent of significant recharge features present in the development area.

AUTHORIZATION
Authorization to perform this assessment was given via an e-mail authorization on February 2, 2024.

PROJECT DESCRIPTION
PSI understands the subject property consists of an approximate 36.097-acre tract of land located at 1900 S. Cranes Mill Road in New Braunfels, Comal County, Texas. The site is located on the Edwards Aquifer Recharge Zone (EARZ), and therefore subject to special rules promulgated by the Texas Commission on Environmental Quality (TCEQ) designed to protect environmentally sensitive areas. The site is developed with a residence and outbuildings, with vacant land on the northern portion. The site vegetation is predominantly live oak and cedar elm trees with prickly pear and grasses.

REGIONAL GEOLOGY

Physiography
From northwest to southeast, the three physiographic provinces in Comal County are: the Edwards Plateau, the Blackland Prairie, and the West Gulf Coastal Plain. The Edwards Plateau terrain is rugged and hilly, with elevations ranging from 1,100 feet to 1,900 feet above sea level. This area is underlain by beds of limestone that dip gently to the southeast. South of the Edwards Plateau is the Balcones Fault Zone, which is also the northernmost limit of the Blackland Prairie. The Balcones Fault Zone extends northeast-southwest across Comal County and is composed of fault blocks of limestone, chalk, shale, and marl. The undulating, hilly topography of the Blackland Prairie ranges in elevation from about 700 feet to 1,100 feet above sea level. The faults are predominantly normal, down-to-the Gulf Coast, with near vertical throws. The West Gulf Coastal Plain lies southeast of the Blackland Prairie and is composed of relatively flat-lying beds of marl, clay, and sandy clay According to topographic maps, elevations at the subject site range from approximately 1,140 feet above sea level on the northeast corner of the tract, to about 1115 feet MSL on the south side of the site.

Stratigraphy and Structure

Rocks underlying the western portion of the site consist of the Lower Cretaceous Edwards Kainer Formation (Dolomitic Member Kkd). The site is overlain with a veneer of grass covered soil. The lithology consists of a mudstone to grainstone, chert bearing crystalline limestone. The massive bedded dolomitic member has abundant *toucasia* (pelecypod) fossils, and weathers to a light gray in outcrop. Cavern development is related to faults, fractures and bedding planes, and considered nonfabric-selective porosity except where dissolution along fracture planes yields water. According to the USGS, the Dolomitic Member of the Kainer Formation ranges in thickness from 110 to 140 feet and forms the middle formation of the Edwards Group, underlying the Person Formation and overlying the Basal Nodular member of the Edwards Aquifer, a federally designated sole source aquifer for the region.

SITE INVESTIGATION

The site investigation was performed by systematically traversing the subject tract, and mapping fractured or vuggy rock outcrops, closed depressions, sinkholes, caves, or indications of fault/fracture zones. The purpose of the site investigation was to delineate features with recharge potential that may warrant special protection or consideration. The results of the site investigation are included in the attached TCEQ report format. Features S-1 is an on-site water well, that is reportedly functional with no issues. Feature S-2 is a small stock tank located northeast of the residence (currently dry). Feature S-3 is a sinkhole on a hillside in the east-central portion of the site. Feature S-4 are two small solution cavities to the northeast of Feature S-3. Feature S-5 is a fractured rock outcrop feature in a drainage on the eastern portion of the tract. Feature S-6 is another sinkhole located in the south-central portion of the site.

SUMMARY

Two man-made features were note on-site, a water well and a stock tank. Four natural features were noted but lacked obvious subsurface interconnection or significant directed flow to the features, and thus did not rate as sensitive. It is possible that clearing/construction activities will reveal the presence of features currently hidden by thick vegetation and/or soil cover. If caves, sinkholes, or solution cavities are encountered during future clearing/construction activities, please contact our office for additional assistance.

Respectfully submitted,
PROFESSIONAL SERVICE INDUSTRIES, INC.

John Langan, P.G.
Environmental Department Manager

WARRANTY

The field observations and research reported herein are considered sufficient in detail and scope to form a reasonable basis for a general geological recharge assessment of this site. PSI warrants that the findings and conclusions contained herein have been promulgated in accordance with generally accepted geologic methods, only for the site described in this report. These methods have been developed to provide the client with information regarding apparent indications of existing or potential conditions relating to the subject site and are necessarily limited to the conditions observed at the time of the site visit and research. This report is also limited to the information available at the time it was prepared. In the event additional information is provided to PSI following the report, it will be forwarded to the client in the form received for evaluation by the client. There is a possibility that conditions may exist which could not be identified within the scope of the assessment, or which were not apparent during the site visit. PSI believes that the information obtained from others during the review of public information is reliable; however, PSI cannot warrant or guarantee that the information provided by others is complete or accurate.

This report has been prepared for the exclusive use of Ink Civil for the site discussed herein. Reproductions of this report cannot be made without the expressed approval of Ink Civil. The general terms and conditions under which this assessment was prepared apply solely to Ink Civil. No other warranties are implied or expressed.

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: John Langan Telephone: 210/342-9377

Date: 04/19/24 Fax: 210/342-9401

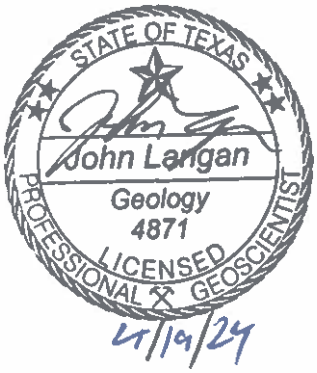
Representing: PSI TBPG No. 50128 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:

Regulated Entity Name: Infinity Concrete Tract

Project Information

1. Date(s) Geologic Assessment was performed: 02/06-07/24
2. Type of Project:
   - ☒ WPAP
   - ☐ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition Zone



4. ☒ **Attachment A - Geologic Assessment Table**. Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.

5. ☐ Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups* (Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A, Soil Conservation Service, 1986). If there is more than one soil type on the project site, show each soil type on the site Geologic Map or a separate soils map.

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)

Soil Name	Group*	Thickness(feet)
Rumple-Comfort Assn, undulating	B	2
Comfort-Rock outcrop complex 1-8% slopes	B	1-2

** Soil Group Definitions (Abbreviated)*

A. *Soils having a high infiltration rate when thoroughly wetted.*
B. *Soils having a moderate infiltration rate when thoroughly wetted.*
C. *Soils having a slow infiltration rate when thoroughly wetted.*
D. *Soils having a very slow infiltration rate when thoroughly wetted.*

6. ☒ **Attachment B – Stratigraphic Column**. A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.

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

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

   Applicant's Site Plan Scale: 1" = 100'
   Site Geologic Map Scale: 1" = 100'
   Site Soils Map Scale (if more than 1 soil type): 1" = 344'

9. Method of collecting positional data:

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

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

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

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

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

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

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

    ☒ There are 1 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    - ☐ The wells are not in use and have been properly abandoned.
    - ☐ The wells are not in use and will be properly abandoned.
    - ☒ The wells are in use and comply with 16 TAC Chapter 76.

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

Administrative Information

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

STRATIGRAPHIC COLUMN

Infinity Concrete Tract
1900 S. Cranes Mill Road
New Braunfels, Texas

FORMATION	THICKNESS	LITHOLOGIC DESCRIPTION
Del Rio Clay	40-50	Calcareous and gypsiferous, with pyrite common, with a blocky structure that weathers to light gray or yellowish gray. The characteristic marine megafossil, *Ilmatogyra arietina* (formerly *exogyra arietina*) is widespread throughout the formation.
Georgetown Formation	<10	Light tan limestone identified by proximity to Del Rio clay and diagnostic marker fossil: *waconella wacoensis* brachiopod; low porosity and permeability development.
Person Formation	180-220'	Limestones and dolomites, extensive porosity development in "honeycomb sections, interbedded with massive, recrystallized limestones with more limited permeabilities (especially Regional Dense Member separating the Person and Kainer Formations.
Kainer Formation	260-310'	Hard, miliolid limestones, overlying calcified dolomites and dolomite. Leached evaporitic "Kirschberg" zone of very porous and permeable collapse breccia formed by the dissolution of gypsum. Overlies the basal nodular (Walnut) bed.

SOILS NARRATIVE

According to the Soil Survey of Comal County, published by the United States Department of Agriculture, Soil Conservation Service, in cooperation with the Texas Agricultural Extension Service, reissued in 1984, the soils beneath the subject property have been classified as Rumple-Comfort association, undulating (RUD) and Comfort-Rock outcrop complex, undulating (CrD).

Rumple-Comfort association soils are shallow to moderately deep soils on uplands in the Edwards Plateau. The surface layer is a dark reddish-brown cherty clay loam about 10 inches thick and overlies a subsoil of reddish-brown cherty clay with abundant limestone fragments to a depth of 28 inches. The underlying parent material is an indurated limestone. The soil is well drained, with medium surface runoff, moderately slow permeability, and very low available water capacity. The soil is not suited for cropland, or cultivation, but is used as range land and habitat for wildlife.

Comfort extremely stony clay makes up between 49 and 95% of the Comfort-Rock outcrop series, and indurated rock outcrop and soil less than 4 inches deep make up 5 to 36% of the complex. Typically, the surface layer is dark brown extremely stony soil about 6 inches thick. Cobbles, stones, and “float” rock comprise about 45% of the surface. The subsoil extends to about 13 inches and overlies the fractured limestone parent material. Comfort soil is well-drained, with slow to medium surface runoff, slow permeability, and very low water capacity.

SITE GEOLOGIC NARRATIVE

Physiography

From northwest to southeast, the three physiographic provinces in Comal County are: the Edwards Plateau, the Blackland Prairie, and the West Gulf Coastal Plain. The Edwards Plateau terrain is rugged and hilly, with elevations ranging from 1,100 feet to 1,900 feet above sea level. This area is underlain by beds of limestone that dip gently to the southeast. South of the Edwards Plateau is the Balcones Fault Zone, which is also the northernmost limit of the Blackland Prairie. The Balcones Fault Zone extends northeast-southwest across Comal County and is composed of fault blocks of limestone, chalk, shale, and marl. The undulating, hilly topography of the Blackland Prairie ranges in elevation from about 700 feet to 1,100 feet above sea level. The faults are predominantly normal, down-to-the Gulf Coast, with near vertical throws. The West Gulf Coastal Plain lies southeast of the Blackland Prairie and is composed of relatively flat-lying beds of marl, clay, and sandy clay According to topographic maps, elevations at the subject site range from approximately 1,140 feet above sea level on the northeast corner of the tract, to about 1115 feet MSL on the south side of the site.

Stratigraphy and Structure

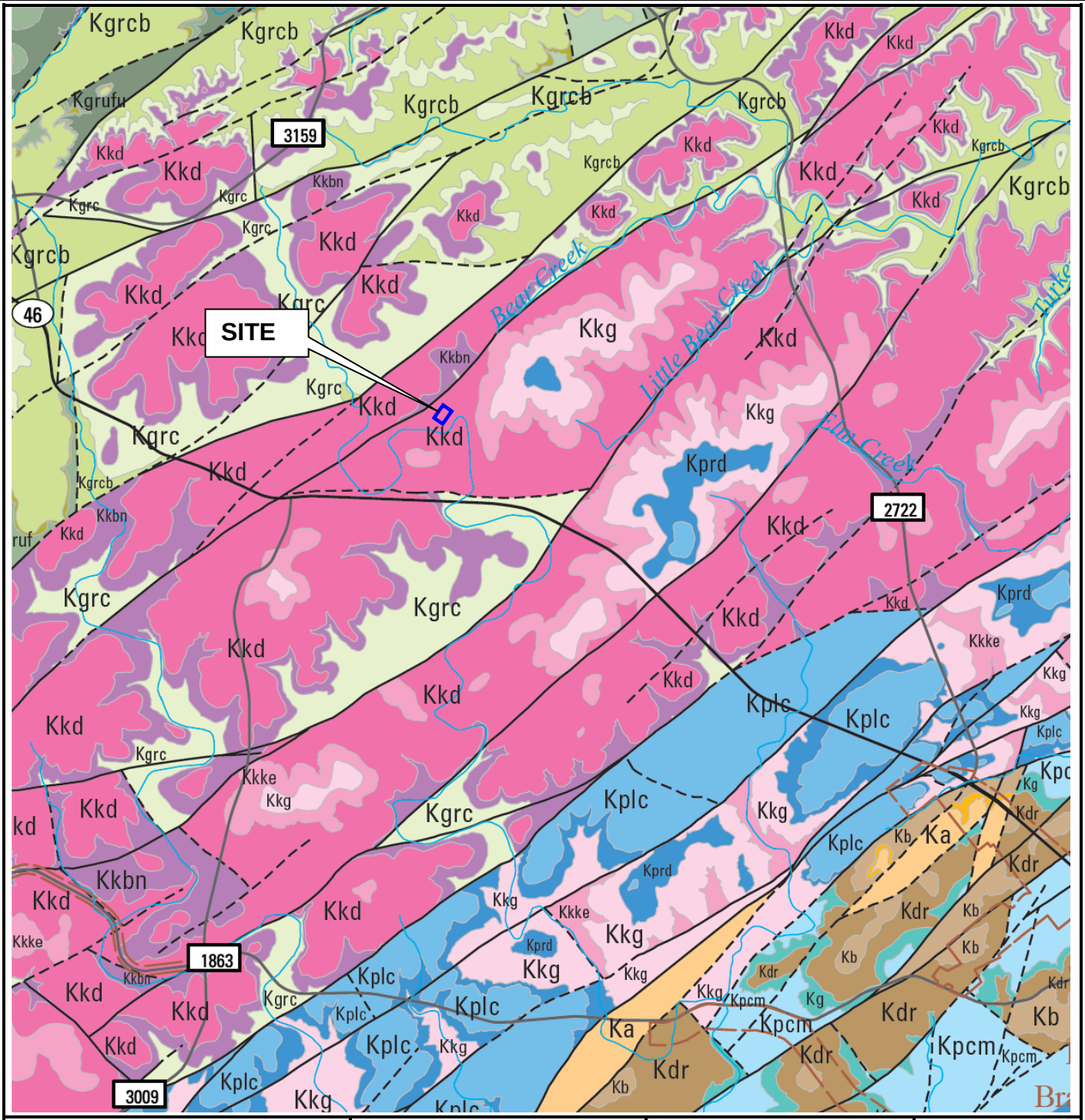
Rocks underlying the western portion of the site consist of the Lower Cretaceous Edwards Kainer Formation (Dolomitic Member Kkd). The site is overlain with a veneer of grass covered soil. The lithology consists of a mudstone to grainstone, chert bearing crystalline limestone. The massive bedded dolomitic member has abundant *toucasia* (pelecypod) fossils, and weathers to a light gray in outcrop. Cavern development is related to faults, fractures and bedding planes, and considered nonfabric-selective porosity except where dissolution along fracture planes yields water. According to the USGS, the Dolomitic Member of the Kainer Formation ranges in thickness from 110 to 140 feet and forms the middle formation of the Edwards Group, underlying the Person Formation and overlying the Basal Nodular member of the Edwards Aquifer, a federally designated sole source aquifer for the region.

SITE INVESTIGATION

The site investigation was performed by systematically traversing the subject tract, and mapping fractured or vuggy rock outcrops, closed depressions, sinkholes, caves, or indications of fault/fracture zones. The purpose of the site investigation was to delineate features with recharge potential that may warrant special protection or consideration. The results of the site investigation are included in the attached TCEQ report format. Features S-1 is an on-site water well, that is reportedly functional with no issues. Feature S-2 is a small stock tank located northeast of the residence (currently dry). Feature S-3 is a sinkhole on a hillside in the east-central portion of the site. Feature S-4 are two small solution cavities to the northeast of Feature S-3. Feature S-5 is a fractured rock outcrop feature in a drainage on the eastern portion of the tract. Feature S-6 is another sinkhole located in the south-central portion of the site.

SUMMARY

Two man-made features were note on-site, a water well and a stock tank. Four natural features were noted but lacked obvious subsurface interconnection or significant directed flow to the features, and thus did not rate as sensitive. It is possible that clearing/construction activities will reveal the presence of features currently hidden by thick vegetation and/or soil cover. If caves, sinkholes, or solution cavities are encountered during future clearing/construction activities, please contact our office for additional assistance.



intertek
psi

PSI, Inc.
3 Burwood Lane
San Antonio, Texas 78216

PROJECT NAME:
Infinity Concrete Tract
1900 S. Cranes Mill Rd.
Comal County, Texas
PROJECT NO.:435-6172

STATE OF TEXAS
John Langan
Geology
4871
LICENSED
PROFESSIONAL GEOSCIENTIST
9/19/24

Geologic Map

From USGS "Geologic Framework and Hydrostratigraphy of the Edwards & Trinity Aquifers Within Northern Bexar & Comal Counties, Scientific Investigations Map 3366 Texas"(Clark, Golab and Morris, 2016)

N

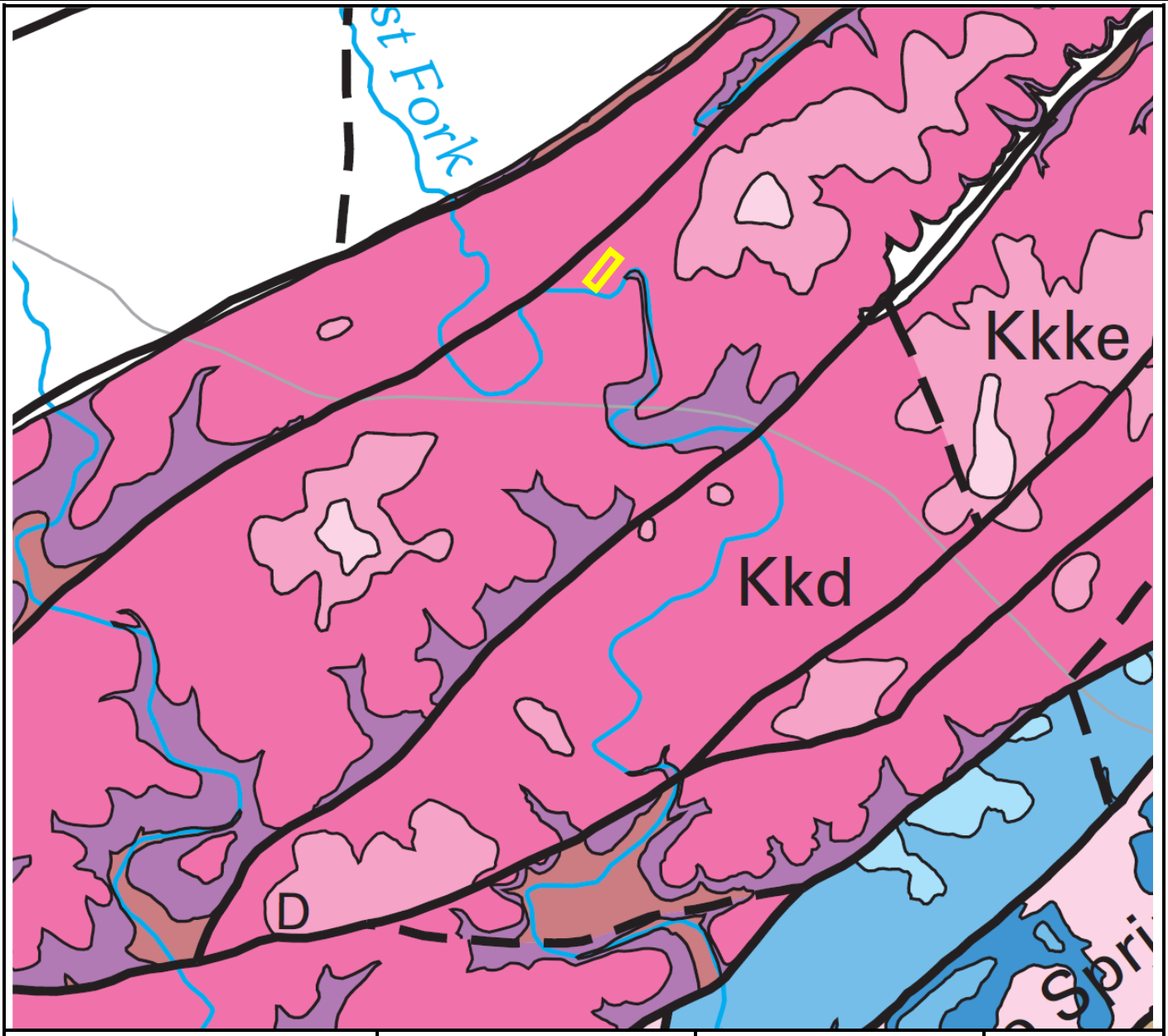
Geologic Framework and Hydrostratigraphy of the Edwards and Trinity Aquifers Within Northern Bexar and Comal Counties, Texas

By

Allan K. Clark, James G. Golab, and Robert R. Morris

2016

Cretaceous	Early Cretaceous		Kainer	Kirschberg Evaporite	Highly altered crystalline limestone, chalky mudstone, occasional grainstone associated with tidal channels; chert (beds and nodules), coarse grained spar, breccia, travertine	Kkke			VI	40–50	Aquifer	IG, MO, VUG, FR, BR, CV	Boxwork porosity with neospar and travertine frame
				Dolomitc	Chert (absent in lower 20 ft), dolomitic mudstone, wackestone, packstone, grainstone	Kkd			VII	90–120	Aquifer	IP, IC, IG, MO, BU, VUG, FR, BP, CV	Massively bedded light gray, *Toucasia* sp., abundant
				Basal nodular	Shaly, nodular, burrowed mudstone, wackestone, packstone, miliolid grainstone, dolomite, contains dark, spherical textural features locally known as BRBs; *Ceratostreon texana*, *Caprina* sp., miliolids, and gastropods	Kkbn			VIII	40–50	Aquifer, confining unit in areas without caves	IP, MO, BU, BP, FR, CV	Massive, nodular and mottled limestone, BRBs and orange wisps, *Ceratostreon* [*Exogyra*] *texana*, seeps and springs, ferns growing near contact of underlying unit
				Upper	Evaporites, wackestone, packstone, miliolid grainstone, argillaceous limestone, heavily bioturbated; occasional dinosaur tracks	Kgrc		Upper zone of the Trinity aquifer	Cavernous	0–120 (absent in northern Comal County)	Aquifer	MO, BR, BP, FR, CV	Heavily bioturbated, evaporite beds, caves
					Alternating beds of burrowed wackestone, packstone, miliolid grainstone, argillaceous limestone	Kgrcb			Camp Bullis (B)	120–230 (thicker in northern Comal County)	Confining	BU, BP, FR, occasional CV	Alternating beds of limestone and argillaceous limestone, fossils rare, stairstep topography
					Dissolved evaporites, highly altered crystalline limestone and chalky mudstone, breccia, boxwork voids	Kgrue			Upper evaporite (C)	0–10	Aquifer	IP, MO, BU, BR	Weathers to an orangish red with a pebbly texture, often has less cedar growth and thicker grasses, boxwork porosity, springs and seeps
					Caprinid biostrome near top (locally), alternating wackestone, packstone to miliolid grainstone, argillaceous limestone, mudstone, silty mudstone at base; *Orbitolina minuta* (Douglas, 1960), *Porocystis golobularis*, *Protocardia texana*, *Tapes decepta*, *Hemiaster* sp., *Neithea* sp., and *Turritella* sp., gastropods	Kgrf	Kgruf		Fossiliferous (D) Upper	0–40	Aquifer	MO, BU, FR, CV	Caprinid biostrome, limestone, argillaceous limestone, *Orbitolina minuta* (Douglas, 1960)
							Kgrlf		Fossiliferous (D) Lower	80–150	Confining	MO, BU, FR	Limestone and argillaceous limestone, *Orbitolina minuta* (Douglas, 1960)
					Dissolved evaporites, highly altered crystalline limestone and chalky mudstone, breccia, boxwork voids; Corbula beds	Kgrle			Lower evaporite (E)	8–10	Aquifer	IP, MO, BU, BR	Weathers to an orangish red with a pebbly texture, often has less cedar growth and thicker grasses, boxwork porosity, *Corbula* sp., spring and seeps
			e Limestone		Wackestone, packstone, grainstone, argillaceous wackestone, shales, evaporites; this section contains occasional fossils of *Orbitolina texana* (Roemer, 1852), *Porocystis golobularis*, *Salenia texana*, *Monopleura* sp., *Toucasia* sp., *Macraster* sp., *Nerinea* sp., gastropods, pectens, and pelecypods	Kgrb			Bulverde (A)	30–40 (typically 30)	Semiconfining	MO, BR BP, FR	*Salenia texana* bed immediately below Corbula bed, abundant fossils including *Porocystis golobularis*, *Orbitolina texana* (Roemer, 1852), *Macraster* sp., *Nerinia* sp., pecten, gastropods, pelecyopods



intertek psi
PSI, Inc.
3 Burwood Lane
San Antonio, Texas 78216

PROJECT NAME:
Infinity Concrete Tract
1900 S. Cranes Mill Rd.
Comal County, Texas
PROJECT NO.:435-6172

Geologic Map
From: Geologic Map of the Edwards Aquifer Recharge Zone, South-Central Texas
USGS
C.D. Blome, J.R. Faith, et al 2005

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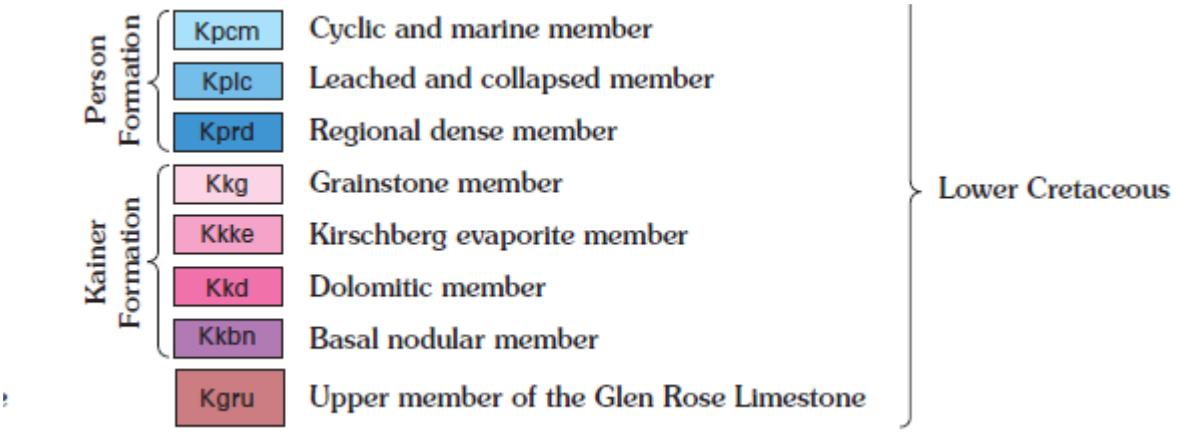
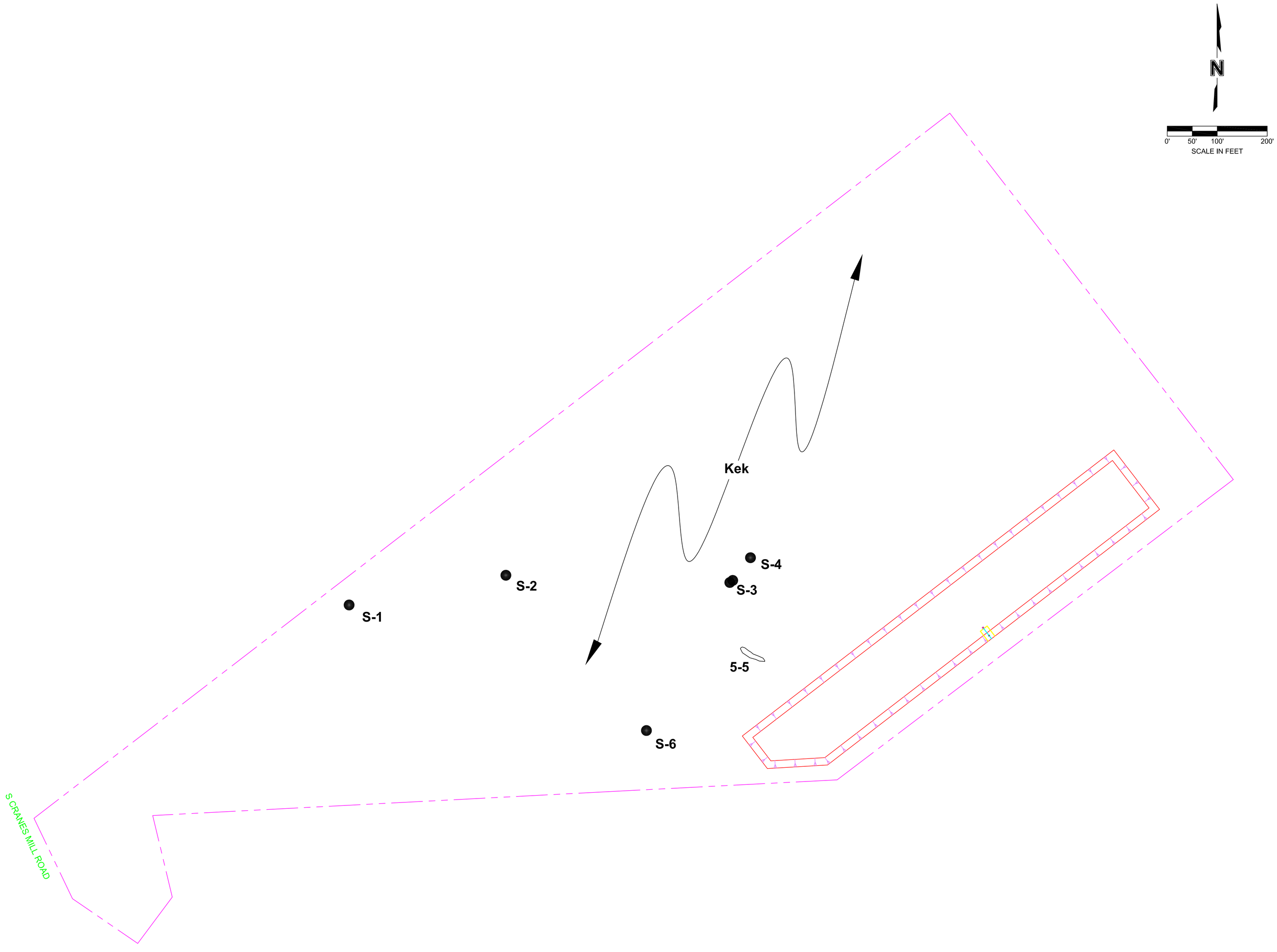

Person Formation
Kpcm
Cyclic and marine member
Kplc
Leached and collapsed member
Kprd
Regional dense member
Kainer Formation
Kkg
Grainstone member
Kkke
Kirschberg evaporite member
Kkd
Dolomitic member
Kkbn
Basal nodular member
Kgru
Upper member of the Glen Rose Limestone
Lower Cretaceous


STATE OF TEXAS
John Langan
Geology
4871
LICENSED
PROFESSIONAL GEOSCIENTIST
4/19/24



LEGEND:

Kek - LOWER CRETACEOUS EDWARDS KAINER FM

S-1 - SITE FEATURE LOCATIONS

GEOLOGIC ASSESSMENT
for
INFINITY CONCRETE TRACT
1900 S. CRANES MILL ROAD
NEW BRAUNFELS, COMAL COUNTY, TX. 78132

psi
Information To Build On
Engineering • Consulting • Testing
THREE BURWOOD LANE
SAN ANTONIO, TEXAS 78216

REVISIONS:

JOB NO. 04356172
FILE: 04356172.01
DATE: 04/19/24
DESIGN: ~
DRAWN: J LEAL
CHECKED:
SHEET 1 1 OF

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Infinity Concrete Tract

LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11	12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
S-1	29-47-59.7	98-16-45.2	MB	30	Kek	0.7	0.7	>100					F	3	33	X		X		hillside
S-2	29-47-00.6	98-16-40.6	MB	30	Kek	30	30	4					F	3	33	X		X		hillside
S-3	29-47-59.5	98-16-36.1	SH	20	Kek	25	25	4					O	18	38	X		X		hillside
S-4	29-47-59.65	98-16-35.8	SC	20	Kek	4	2	2					N	15	35	X		X		hillside
S-5	29-47-57.5	98-16-36.4	O	5	Kek	85	15	5					N	25	30	X			X	drainage
S-6	29-47-57	98-16-37.9	SH	20	Kek	7	7	3					O	18	38	X		X		hillside

* DATUM:_____

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

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

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

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

Date 2/20/24

Sheet 1 of 1

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

STATE OF TEXAS
John Langan
Geology
4871
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PROFESSIONAL GEOSCIENTIST
2/20/24

1. View of water well feature S-1, located near the northern property line of the Infinity Concrete Tract, on Cranes Mill Road in New Braunfels, Texas.

2. View of man made stock tank feature S-2, located east-northeast of the residential structure on the Infinity Concrete Tract.

3. View of sinkhole Feature S-3, located in the south-central portion of the tract, at .

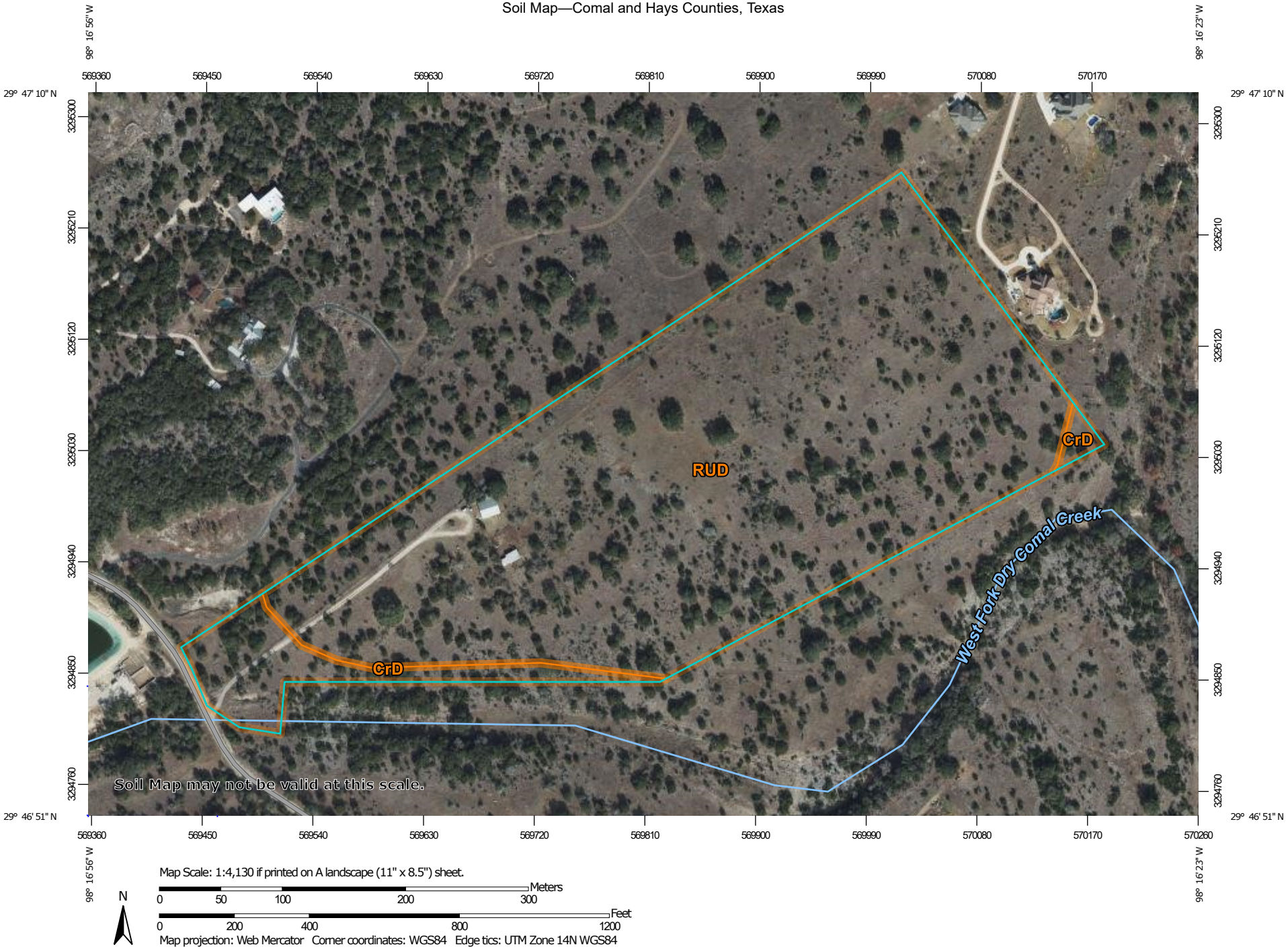
4. View of one of two small solution cavities (S-4) located in the east-central portion of the site.

5. View of second solution cavity (S-4) located in the east-central portion of the site at 29-47-59.65; -98-16-35.8.

6. View of fractured rock outcrop feature S-5 located at 29-47-57.5; -98-16-36.4, in the southeastern portion of the site.

7. View of sinkhole feature S-6 located at 29-47-57; -98-16-37.9 in the southeast portion of the tract.

8. View of dense Kek outcrop in the Dry Comal Creek drainage, with man-made berm on the right, in the



Map Scale: 1:4,130 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Comal and Hays Counties, Texas
Survey Area Data: Version 20, Sep 5, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 10, 2020—Dec 17, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CrD	Comfort-Rock outcrop complex, 1 to 8 percent slopes	2.9	7.9%
RUD	Rumple-Comfort, rubbly association, 1 to 8 percent slopes	33.4	92.1%
Totals for Area of Interest		**36.2**	**100.0%**

Comal and Hays Counties, Texas

RUD—Rumple-Comfort, rubbly association, 1 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2ylvc
Elevation: 800 to 1,650 feet
Mean annual precipitation: 33 to 37 inches
Mean annual air temperature: 65 to 70 degrees F
Frost-free period: 220 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Rumple and similar soils: 60 percent
Comfort and similar soils: 20 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rumple

Setting

Landform: Ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Colluvium and/or residuum weathered from limestone

Typical profile

A - 0 to 10 inches: very gravelly clay loam
Bt1 - 10 to 14 inches: very gravelly clay
Bt2 - 14 to 28 inches: extremely cobbly clay
R - 28 to 59 inches: bedrock

Properties and qualities

Slope: 1 to 8 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Comal and Hays Counties, Texas

CrD—Comfort-Rock outcrop complex, 1 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2yly4
Elevation: 1,000 to 2,300 feet
Mean annual precipitation: 33 to 37 inches
Mean annual air temperature: 66 to 68 degrees F
Frost-free period: 220 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Comfort and similar soils: 70 percent
Rock outcrop: 15 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Comfort

Setting

Landform: Ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from limestone

Typical profile

A - 0 to 6 inches: very stony clay
Bt - 6 to 13 inches: extremely stony clay
R - 13 to 40 inches: bedrock

Properties and qualities

Slope: 1 to 8 percent
Surface area covered with cobbles, stones or boulders: 0.5 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 0.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: R081CY360TX - Low Stony Hill 29-35 PZ
Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Limestone

Typical profile

R - 0 to 80 inches: bedrock

Properties and qualities

Slope: 1 to 8 percent
Depth to restrictive feature: 0 to 2 inches to lithic bedrock
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 1.98 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Eckrant

Percent of map unit: 6 percent
Landform: Ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R081CY360TX - Low Stony Hill 29-35 PZ
Hydric soil rating: No

Purves

Percent of map unit: 3 percent
Landform: Ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R081CY574TX - Shallow 29-35 PZ
Hydric soil rating: No

Real

Percent of map unit: 3 percent
Landform: Ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R081CY355TX - Adobe 29-35 PZ
Hydric soil rating: No

Rumple

Percent of map unit: 3 percent
Landform: Ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R081CY359TX - Gravelly Redland 29-35 PZ
Hydric soil rating: No

Data Source Information

Soil Survey Area: Comal and Hays Counties, Texas
Survey Area Data: Version 20, Sep 5, 2023

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R081CY359TX - Gravelly Redland 29-35 PZ
Hydric soil rating: No

Description of Comfort

Setting

Landform: Ridges
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from limestone

Typical profile

A - 0 to 6 inches: extremely stony clay
Bt - 6 to 12 inches: extremely stony clay
R - 12 to 40 inches: bedrock

Properties and qualities

Slope: 1 to 8 percent
Surface area covered with cobbles, stones or boulders: 30.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 0.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R081CY360TX - Low Stony Hill 29-35 PZ
Hydric soil rating: No

Minor Components

Tarpley

Percent of map unit: 15 percent
Landform: Ridges
Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R081CY361TX - Redland 29-35 PZ
Hydric soil rating: No

Rock outcrop

Percent of map unit: 5 percent
Landform: Ridges
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Data Source Information

Soil Survey Area: Comal and Hays Counties, Texas
Survey Area Data: Version 20, Sep 5, 2023

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: Sam Knotts, P.E.

Date: 4/19/2024

Signature of Customer/Agent:

Regulated Entity Name: 1900 Business Park

Regulated Entity Information

1. The type of project is:

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

2. Total site acreage (size of property): 36.103

3. Estimated projected population: N/A

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	306,401	÷ 43,560 =	7.034
Parking	522,546	÷ 43,560 =	11.996
Other paved surfaces	0	÷ 43,560 =	0
Total Impervious Cover	828,947	÷ 43,560 =	19.03

Total Impervious Cover 19.03 **÷ Total Acreage** 36.103 **X 100 =** 52.7 **% Impervious Cover**

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

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

For Road Projects Only

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

7. Type of project:

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

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

☐ Concrete
☐ Asphaltic concrete pavement
☐ Other: _____

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

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

10. Length of pavement area: _____ feet.

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

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

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

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

Stormwater to be generated by the Proposed Project

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

Wastewater to be generated by the Proposed Project

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

100 % Domestic	_____ Gallons/day
_____ % Industrial	_____ Gallons/day
_____ % Commingled	_____ Gallons/day
TOTAL gallons/day _____	

15. Wastewater will be disposed of by:

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

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

☐ Sewage Collection System (Sewer Lines):

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

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

☐ The sewage collection system will convey the wastewater to the _____ (name) Treatment Plant. The treatment facility is:

- ☐ Existing.
- ☐ Proposed.

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

Site Plan Requirements

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

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

Site Plan Scale: 1" = 100 '.

18. 100-year floodplain boundaries:

☐ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.

☑ No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA Firmette #48091C0245F effective 9/2/2009

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

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

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

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

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

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

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

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

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

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

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

Administrative Information

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

ATTACHMENT "A"
Factors Affecting Water Quality

Potential sources of pollution that may reasonably be expected to affect the quality of storm water discharges form the site during construction include: dirt and dusty, vehicle drippings, cleaning chemicals, and improperly disposed of waste or litter from people, which may affect surface water by sediments leaving the site after a rainfall event.

ATTACHMENT "B"
Volume and Character of Stormwater

The development of this site will not result in an increase of stormwater run-off. The character of the stormwater will also not be affected by the development. Stormwater from the buildings and parking will be collected in a batch detention pond that will be designed to reduce the stormwater runoff back to predevelopment conditions.

ATTACHMENT "C"
Suitability Letter from Authorized Agent

See attached suitability letter.

ATTACHMENT "D"
Exception to the Required Geologic Assessment

No exception will be requested.

COMAL COUNTY

ENGINEER'S OFFICE

April 17, 2024

Bryce Raders, E.I.T.
INK Civil
via e-mail: bryceraders@ink-civil.com

Re: 1900 Business Park WPAP On-Site Sewage Facility Suitability Letter, within Comal County, Texas

Dear Mr. Raders:

In accordance with TAC §213.5(b)(4)(F)(ii), Comal County has found that the entire referenced site is suitable for the use of private sewage facilities based on the following information submitted to our office on April 16, 2024:

- The Geologic Assessment, prepared by Professional Service Industries, Inc.

According to TAC §285.42(a), if any recharge feature is discovered during construction of an OSSF, all regulated activities near the feature shall be suspended immediately. The owner shall immediately notify the TCEQ San Antonio office of the discovery of the feature. All activities regulated under TAC §213 shall not proceed near the feature until Comal County, in conjunction with the TCEQ San Antonio office, has reviewed and approved a plan proposed to protect the feature, the structural integrity of the OSSF, and the water quality of the aquifer. The plan shall be sealed, signed, and dated by a professional engineer.

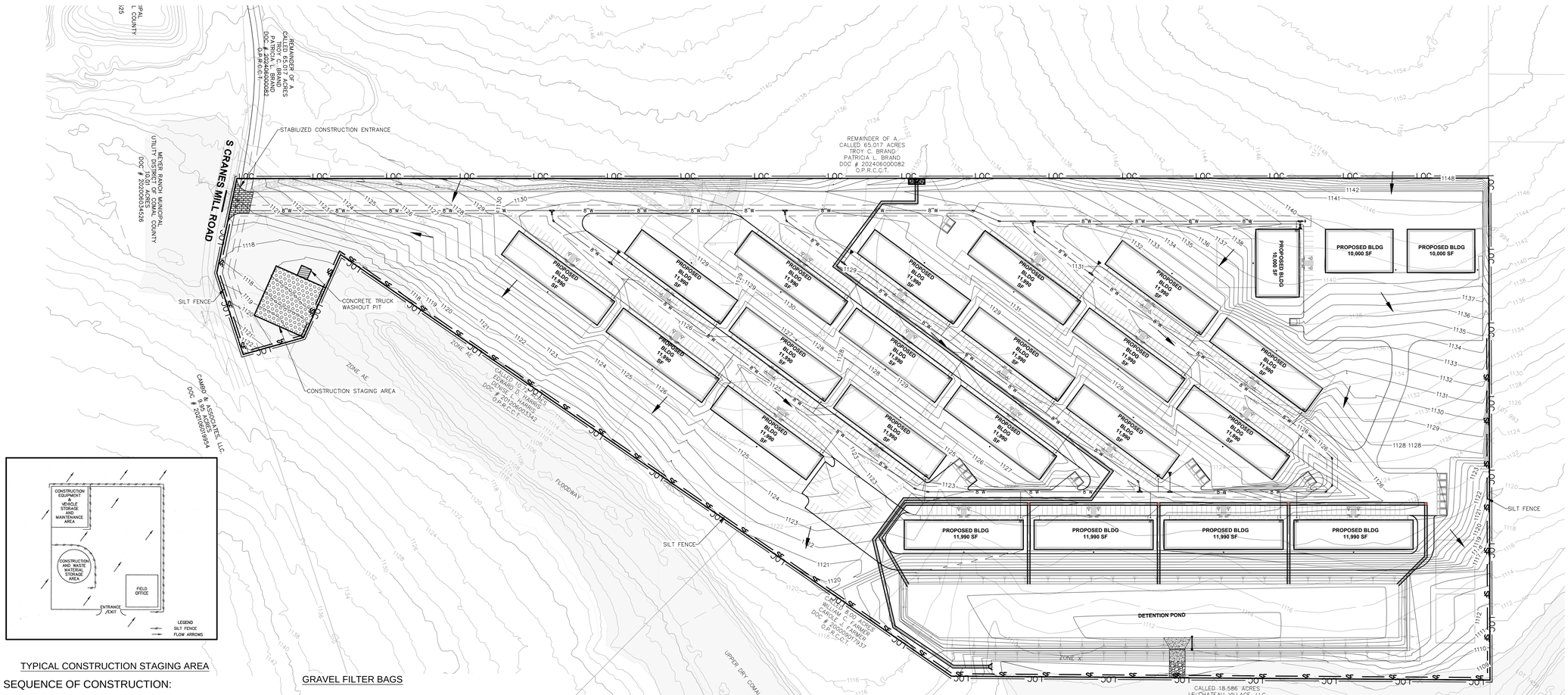
If you have any questions or need additional information, please do not hesitate to contact our office.

Sincerely,

Robert Boyd, P.E.
Comal County Assistant Engineer

cc: Donna Eccleston, Comal County Commissioner Precinct No. 1

195 David Jonas Dr, New Braunfels, Texas, 78132 – Phone (830) 608-2090



LEGEND

- SF — SILT FENCE
- LOC — LIMITS OF CONSTRUCTION
- 900 — EXISTING CONTOURS
- 900 — PROPOSED CONTOURS
- FLOW ARROWS
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (FIELD LOCATE)
- TRUCK WASH OUT PIT (FIELD LOCATE)
- CONSTRUCTION STAGING AREA (FIELD LOCATE)
- ROCK BERM
- GRAVEL FILTER BAGS
- PROPOSED GRATE INLET
- PROPOSED JUNCTION BOX
- EXISTING STORM DRAIN MANHOLE

TYPICAL CONSTRUCTION STAGING AREA

SEQUENCE OF CONSTRUCTION:

1. OBTAIN CITY APPROVED SITE PREPARATION PLANS, AND TPDES PERMIT (NOT A COPY OF THE TPDES APPLICATION TO TCEQ), IF APPLICABLE.
2. INSTALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS.
3. BEGIN DEMOLITION ACTIVITIES, IF APPLICABLE.
4. BEGIN SITE CLEARING AND GRADING.
5. RESTORE AND REVEGETATE ALL DISTURBED AREAS NOT UNDER IMPERMEABLE IMPROVEMENTS.
6. COMPLETE ANY REMAINING "PUNCH LIST" ITEMS.
7. CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROLS AFTER PERMANENT STABILIZATION IS AT LEAST 70% EVENLY ESTABLISHED. RYE IS NOT ACCEPTED. THE SITE WILL BE PERMANENTLY STABILIZED WHEN ALL IMPROVEMENTS ARE CONSTRUCTED PER THE DESIGN PLANS WHICH INCLUDES PAVEMENT, BUILDING, AND OTHER LANDSCAPE IMPROVEMENTS PER LANDSCAPE PLANS. ALL PERVIOUS SURFACES TO BE SOD OR OTHER PERVIOUS IMPROVEMENTS PER LANDSCAPE PLAN.

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

Texas Water Company	830-312-4600
GVTC	830-885-4411
Centerpoint Gas	830-643-6434
Robert Sanders	830-643-6903
Damaged Line	888-876-5786
AT&T Telephone	855-488-1685
Erick White PM	210-283-1706
Scott McBrearty (Construction)	210-658-4886
Texas One Call	830-545-6005

C.P.E. LOCATOR

CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR

THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1-800-545-6005. CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

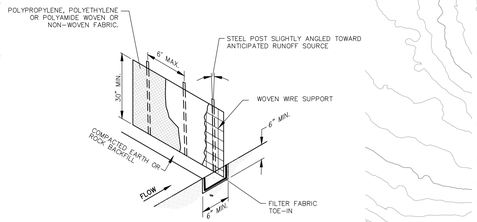
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTORS IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATIONS.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

GRAVEL FILTER BAGS

MATERIALS:

INLET GRAVEL FILTER BAGS TO BE 3/4" GRAVEL CONTAINED IN PERVIOUS BURLAP BAGS OR SYNTHETIC NET BAGS (1/8" MESH) APPROX. 24" LONG, 12" WIDE AND 6" HIGH.



SILT FENCE

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 ¼ 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.

INSPECTION AND MAINTENANCE GUIDELINES:

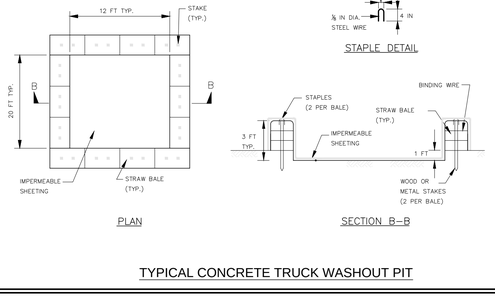
(1) INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL.

(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.



TYPICAL CONCRETE TRUCK WASHOUT PIT

STABILIZED CONSTRUCTION ENTRANCE / EXIT

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/YD2, 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:

(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.

INSPECTION AND MAINTENANCE GUIDELINES:

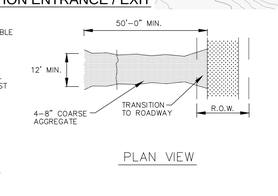
(1) THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR LOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

(2) ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.

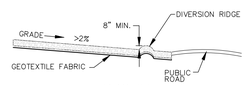
(3) WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.

(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.



PLAN VIEW



PROFILE

PERMIT SET

STATE OF TEXAS
SAMUEL L. KNOTTS
126382
LICENSED PROFESSIONAL ENGINEER
4/19/2024

INFINITY CONCRETE
1308 E. COMMON ST. UNIT 205 #59
NEW BRAUNFELS, TX 78130

INFINITY CONCRETE
SOUTH CRANES MILL

EROSION CONTROL & WPAP SITE PLAN

SHEET
C-4.0

NO	DATE	ISSUES AND REVISIONS
1		

INK CIVIL
2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink-civil.com
TBPE FIRM F-13351

Drawing Name: N:\Projects\INF001 Infinity Concrete-S Cranes Mill\Civil\Construction Drawings\C-4.0 EROSION CONTROL & WPAP SITE PLAN.dwg User: brylanders Apr 24, 2024 - 1:08pm

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: Sam Knotts, PE

Date: 4/19/2024

Signature of Customer/Agent:

Samuel Knotts

Regulated Entity Name: 1900 Business Park

Project Information

Potential Sources of Contamination

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

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

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

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

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

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

☐ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.

☑ Fuels and hazardous substances will not be stored on the site.

2. ☑ **Attachment A - Spill Response Actions**. A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.

3. ☑ Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

4. ☑ **Attachment B - Potential Sources of Contamination**. A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

Sequence of Construction

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

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

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

6. ☑ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: Dry Comal Creek

Temporary Best Management Practices (TBMPs)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

    ☐ N/A

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

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

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

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

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

Soil Stabilization Practices

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

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

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

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

Administrative Information

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

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

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

ATTACHMENT "A"
Spill Response Actions

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 stormwater 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 spills 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 clean up 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 BMP's.

(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 BMP's 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:

(5) Contain the spread of the spill.

(6) Recover spilled materials.

(7) 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 runoff 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 oil and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters.

(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 runoff 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.

ATTACHMENT "B"
Potential Sources of Contamination

Potential sources of contamination are construction equipment leaks, re-fueling spills, port-o-lets, and the total suspended solids (TSS) due to the construction activities on-site. There are no other anticipated potential sources of contamination.

ATTACHMENT "C"
Sequence of Major Activities

Stages of Construction:

1. Installation of temporary BMP's.
2. Minor site grading: This includes the removal of organic material and other debris within the proposed parking and building site.
3. Grading: Cutting and filling of the proposed site to prepare the site for parking and foundation construction.
4. Utility installation: All primary utility mains have already been installed and are available at the site. Sewer, water, gas, and electrical services will be installed at this time.
5. Finished grading: Final landscaping, parking and building infrastructure are installed.

ATTACHMENT "D"
Temporary BMP's and Measures

The following sequence will be followed for installing temporary BMP's:

1. Silt fence will be constructed on the downgradient side of proposed site.
2. A stabilized construction exit will be installed prior to any site work.

A. Silt Fence will be installed on the most downgradient side of the site and will reduce potential pollution from any stormwater that originates onsite or offsite. A stabilized construction exit will be constructed at the entrance of the site; this will reduce the amount of contaminants leaving the site.

B. Silt fence will be placed on the downgradient side of each proposed improvement to contain pollutants generated from onsite runoff. Disturbed areas will be seeded to replace destroyed vegetation. The existing vegetation located downgradient of each proposed improvement will work in conjunction with the silt fence and stabilized construction entrance to prevent pollution of water originating onsite and/or flowing offsite.

C. The proposed silt fences, and stabilized construction entrance constructed upgradient of the existing streams will prevent pollutants from entering them, as well as the aquifer. According to the Geologic Assessment, there are no sensitive features with the project boundary.

D. There were no sensitive features identified in the Geologic Assessment.

ATTACHMENT "E"
Request to Temporarily Seal a Feature

There will be no request to temporarily seal a geologic feature.

ATTACHMENT "F"
Structural Practices

Stabilized Construction Entrance/Exit, gravel filter bags, and silt fence will be used to protect disturbed soils and to prevent contamination from leaving the project site.

ATTACHMENT "G"
Drainage Area Map

See Drainage Area Map at the end of this section.

ATTACHMENT "H"
Temporary Sediment Pond Plans and Calculations

There will not be more than 10 acres of disturbed soil in one common drainage area that will occur at one time. Silt fence will be used for small drainage areas. No sediment ponds will be constructed due to the minimal amount of soil disturbance.

ATTACHMENT "I"
Inspection and Maintenance for BMP's

Inspection and Maintenance Plan: The contractor is required to inspect the control and fences at weekly intervals and after any rainfall events to ensure that they are functioning properly. The contractor is required to document any changes on the Site Plan, documentation must include person performing task, task performed, and date. The contractor must also document if proper inspection measures have been taken while making changes. The person(s) responsible for maintenance controls and fences shall immediately make any necessary repairs to damaged areas.

Temporary Construction Entrance/Exit: 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. All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor. When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way. When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin. All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

Silt Fence: Remove sediment when buildup reaches 6 inches. Replace any torn fabric or install a second line of fencing parallel to the torn section. Replace or repair any sections crushed or collapsed 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. 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.

TCEQ staff will be allowed full access to the property during construction of the project for inspecting controls and fences and to verify that the accepted plan is being utilized in the field. TCEQ staff has the right to speak with the contractor to verify plan changes and modifications.

Documentation: All scheduled inspection and maintenance measures made to the temporary BMPs must be documented clearly on the WPAP Site Plan showing inspection/maintenance measures performed, date, and person responsible for inspection and maintenance. Any changes made to the location or type of controls shown on the accepted plans, due to onsite conditions, shall be documented on the site plan that is part of this Water Pollution Abatement Plan. No other changes shall be made unless approved by TCEQ and the Design Engineer. Documentation shall clearly show changes made, date, person responsible for the change, and the reason for the change.

Owner's Information:

Owner: ICC & Associates, LLC
Contact: Sean McGarity
Address: 1308 E. Common St, Unit 205 #59
New Braunfels, TX 78130

Design Engineer:

Company: INK Civil
Contact: Sam Knotts, P.E.
Phone: (830) 358-7127
Address: 2021 SH 46W, Ste. 105
New Braunfels, Texas 78132

Person or Firm Responsible for Erosion/Sedimentation Control Maintenance:

Company: _____
Contact: _____
Phone: _____
Address: _____

Signature of Responsible Party: _____

This portion of the form shall be filled out and signed by the responsible party prior to construction.

ATTACHMENT "J"
Schedule of Interim and Permanent Soil Stabilization Practices

Areas which are disturbed by construction staging and storage areas will be hydro mulched with the appropriate seed mixture. Areas between the edge of pavement and property line will also by hydro mulched. There will be no fill slopes exceeding a 3:1 slope, and all fill slopes will be hydro mulched. Installation and acceptable mixtures of hydro mulch are as follows:

Materials:

Hydraulic Mulches: Wood fiber mulch can be applied alone or as a component of hydraulic matrices. Wood fiber applied alone is typically applied at the rate of 2,000 to 4,000 lb/acre. Wood fiber mulch is manufactured from wood or wood waste from lumber mills or from urban sources.

Hydraulic Matrices: Hydraulic matrices include a mixture of wood fiber and acrylic polymer or other tackifier as binder. Apply as a liquid slurry using a hydraulic application machine (i.e., hydro seeder) at the following minimum rates, or as specified by the manufacturer to achieve complete coverage of the target area: 2,000 to 4,000 lb/acre wood fiber mulch, and 5 to 10% (by weight) of tackifier (acrylic copolymer, guar, psyllium, etc.)

Bonded Fiber Matrix: Bonded fiber matrix (BFM) is a hydraulically applied system of fibers and adhesives that upon drying forms an erosion resistant blanket that promotes vegetation, and prevents soil erosion. BFMs are typically applied at rates from 3,000 lb/acre to 4,000 lb/acre based on the manufacturer's recommendation. A biodegradable BFM is composed of materials that are 100% biodegradable. The binder in the BFM should also be biodegradable and should not dissolve or disperse upon re-wetting. Typically, biodegradable BFMs should not be applied immediately before, during or immediately after rainfall if the soil is saturated. Depending on the product, BFMs typically require 12 to 24 hours to dry and become effective.

Seed Mixtures:

Dates	Climate	Species	(lb/ac.)
Sept. 1 to Nov. 30	Temporary Cool Season	Tall Fescue	4.0
		Oats	21.0
		Wheats	30.0
		Total	**55.0**
Sept. 1 to Nov. 30	Cool Season Legume	Hairy Vetch	8.0
May 1 to Aug. 31	Temporary Warm Season	Foxtail Millet	30.0

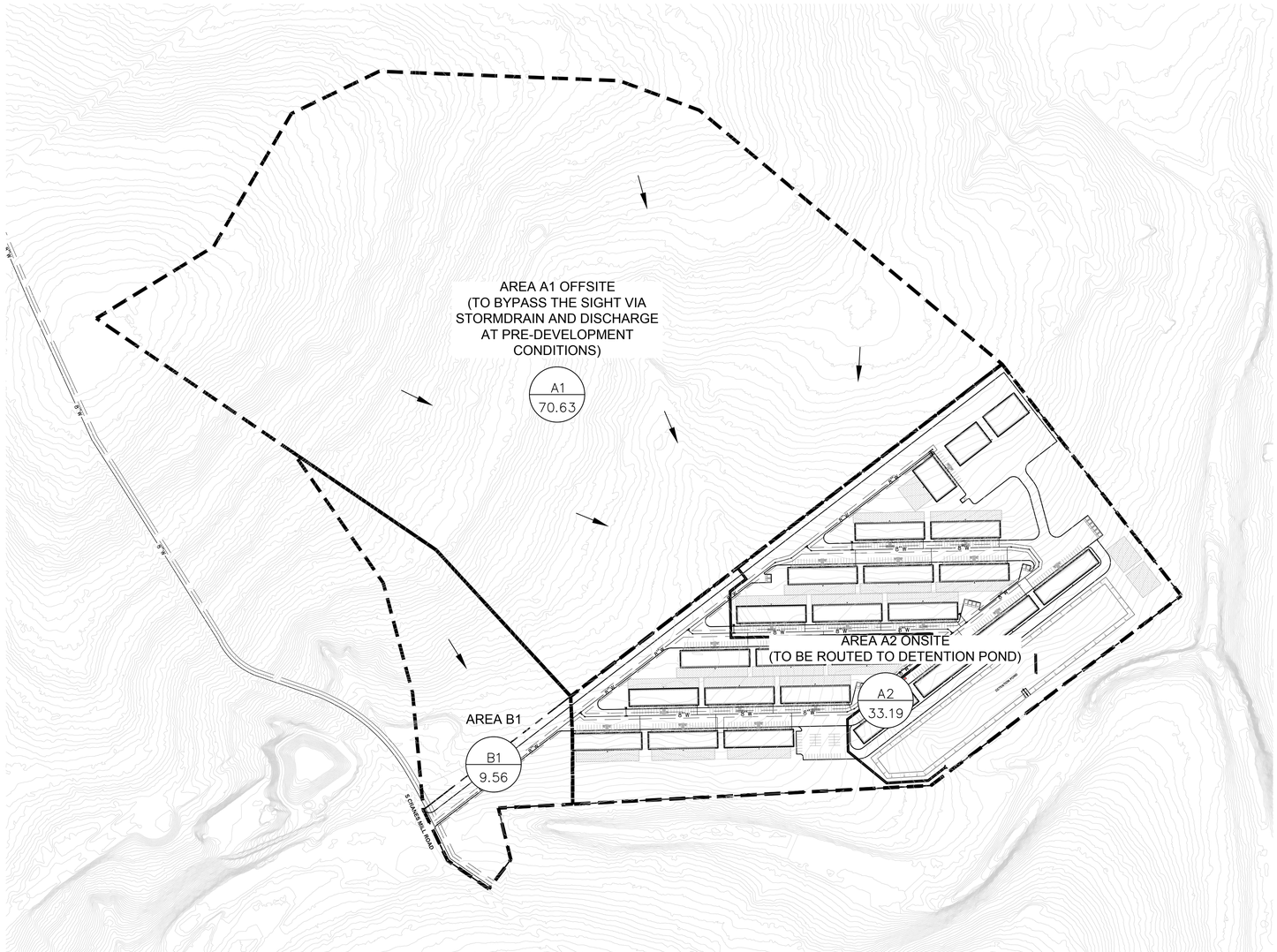
Fertilizer: Fertilizer should be applied at the rate of 40 pounds of nitrogen and 40 pounds of phosphorus per acre, which is equivalent to about 1.0 pounds of nitrogen and phosphorus per 1000 square feet.

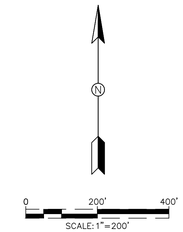
Installation:

(1) Prior to application, roughen embankment and fill areas by rolling with a crimping or punching type roller or by track walking. Track walking shall only be used where other methods are impractical.

(2) To be effective, hydraulic matrices require 24 hours to dry before rainfall occurs.

(3) Avoid mulch over spray onto roads, sidewalks, drainage channels, existing vegetation, etc.





LEGEND

- LIMITS OF DRAINAGE AREA
- TC — TC — TIME OF CONCENTRATION
- 900 EXISTING CONTOURS
- 900 PROPOSED CONTOURS
- FLOW ARROWS
- A / 9.0 DRAINAGE BASIN LABEL / BASIN AREA (AC)

STATE OF TEXAS
SAMUEL L. KNOTTS
126382
LICENSED PROFESSIONAL ENGINEER
4/19/2024

INFINITY CONCRETE
1308 E. COMMON ST. UNIT 205 #59
NEW BRAUNFELS, TX 78130

INFINITY CONCRETE
SOUTH CRANES MILL

DRAINAGE AREA MAP

SHEET

NO	DATE	ISSUES AND REVISIONS
1		

PERMIT SET

INK CIVIL
2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink-civil.com
TBPE FIRM F-13351

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

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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: Sam Knotts, PE

Date: 4/19/2024

Signature of Customer/Agent

Samuel Knotts

Regulated Entity Name: 1900 Business Park

Permanent Best Management Practices (BMPs)

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

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

   ☐ N/A

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

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

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

☐ N/A

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

   ☐ N/A

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

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

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

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

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

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

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

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

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

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

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

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

☑ N/A

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

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

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

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

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

☐ N/A

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

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

    ☐ N/A

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

    ☑ N/A

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

    ☐ N/A

Responsibility for Maintenance of Permanent BMP(s)

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

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

    ☐ N/A

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

    ☐ N/A

ATTACHMENT "B"
BMP's for Upgradient Stormwater

Approximately 3.4-acres of upgradient flow is received onto the site. The flow will be captured by onsite drainage pipes and conveyed to the proposed batch detention pond. This area is accounted for in the TSS Calculations.

ATTACHMENT "C"
BMP's for On-Site Stormwater

The proposed Permanent BMP's used to treat on-site stormwater runoff is a batch detention pond and a vegetative filter strip designed according to TCEQs TGM RG-348.

ATTACHMENT "D"
BMP's for Surface Streams

The proposed Permanent BMP's used to treat on-site stormwater runoff is a batch detention pond and a vegetative filter strip designed according to TCEQs TGM RG-348.

ATTACHMENT "F"
Construction Plans

See the construction plans attached at the end of this section.

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

MAINTENANCE GUIDELINES FOR VEGETATIVE FILTER STRIPS

Pest Management. 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.

Seasonal Mowing and Lawn Care. 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 restored to meet specifications. Construction of a level spreader device may be necessary to reestablish shallow overland flow.

Debris and Litter Removal. 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 floating debris 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.

Sediment Removal. 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.

Grass Reseeding and Mulching. 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.

MAINTENANCE GUIDELINES FOR BATCH DETENTION BASINS

Batch detention basins may have somewhat higher maintenance requirements than an extended detention basin since they are active stormwater controls. The maintenance activities are identical to those of extended detention basins with the addition of maintenance and inspections of the automatic controller and the valve at the outlet.

Inspections. Inspections should take place a minimum of twice a year. One inspection should take place during wet weather to determine if the basin is meeting the target detention time of 12 hours and a drawdown time of no more than 48 hours. The remaining inspections should occur between storm events so that manual operation of the valve and controller can be verified. The level sensor in the basin should be inspected and any debris or sediment in the area should be removed. The outlet structure and the trash screen should be inspected for signs of clogging. Debris and sediment should be removed from the orifice and outlet(s) as described in previous sections. Debris obstructing the valve should be removed. During each inspection, erosion areas inside and downstream of this BMP should be identified and repaired/revegetated immediately.

Mowing. The basin, basin side-slopes, and embankment of the basin must be mowed to prevent woody growth and control weeds. A mulching mower should be used, or the grass clippings should be caught and removed. Mowing should take place at least twice a year, or more frequently if vegetation exceeds 18 inches in height. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas.

Litter and Debris Removal. Litter and debris removal should take place at least twice a year, as part of the periodic mowing operations and inspections. Debris and litter should be removed from the surface of the basin. Particular attention should be paid to floatable debris around the outlet structure. The outlet should be checked for possible clogging or obstructions and any debris removed.

Erosion control. The basin side slopes and embankment all may periodically suffer from slumping and erosion. To correct these problems, corrective action, such as regrading and revegetation, may be necessary. Correction of erosion control should take place whenever required based on the periodic inspections.

Nuisance Control. Standing water or soggy conditions may occur in the basin. Some standing water may occur after a storm event since the valve may close with 2 to 3 inches of water in the basin. Some flow into the basin may also occur between storms due to spring flow and residential water use that enters the storm sewer system. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.).

Structural Repairs and Replacement. With each inspection, any damage to structural elements of the basin (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired immediately. An example of this type of repair can include patching of cracked concrete, sealing of voids, removal of vegetation from cracks and joints. The various inlet/outlet structures in a basin will eventually deteriorate and must be replaced.

Sediment Removal. A properly designed batch detention basin will accumulate quantities of sediment over time. The accumulated sediment can detract from the appearance of the facility and reduce the pollutant removal performance of the facility. The sediment also tends to accumulate near the outlet structure and can interfere with the level sensor operation. Sediment shall be removed from the basin at least every 5 years, when sediment depth exceeds 6 inches, when the sediment interferes with the level sensor or when the basin does not drain within 48 hours. Care should be taken not to compromise the basin lining during maintenance.

Logic Controller. The Logic Controller should be inspected as part of the twice yearly investigations. Verify that the external indicators (active, cycle in progress) are operating properly by turning the controller off and on, and by initiating a cycle by triggering the level sensor in the basin. The valve should be manually opened and closed using the open/close switch to verify valve operation and to assist in inspecting the valve for debris. The solar panel should be inspected and any dust or debris on the panel should be carefully removed. The controller and all other circuitry and wiring should be inspected for signs of corrosion, damage from insects, water leaks, or other damage. At the end of the inspection, the controller should be reset.

BMP Locations: The batch detention basin will be located on the south eastern side of the site and the vegetative filter strip will be located on the south side of the entry drive connecting to S Crains Mill Rd.

1900 Business Park
Water Pollution Abatement Plan

Permanent Stormwater Section

Owner: ICC & Associates, LLC
1308 E. Common St, Unit 205 #59
New Braunfels, TX 78130

Contact: Sean McGarity
Email: seanm@infinitycc.com

This document has been prepared to provide a description and schedule for the performance of maintenance on permanent pollution abatement measures. Maintenance measures to be performed will be dependent on what permanent pollution abatement measures are incorporated into the project. The project specific water pollution abatement plan should be reviewed to determine what permanent pollution abatement measures are incorporated into the project.

It should also be noted that the timing and procedures presented herein are general guidelines, adjustment to the timing and procedures may have to be made depending on project specific characteristics as well as weather related conditions but may not be altered without TCEQ approval.

Where a project is occupied by the owner, the owner may provide for maintenance with his own skilled forces or contract for recommended maintenance of Permanent Best Management Practices. Where a project is occupied or leased by a tenant, the owner shall require tenants to contract for such maintenance services either through a lease agreement, property owners association covenants, or other binding document.

I understand that I am responsible for maintenance of the Permanent Pollution Abatement Measures included in this project until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property or ownership is transferred.

I, the owner, have read and understand the requirements of the attached Maintenance Plan and Schedule.

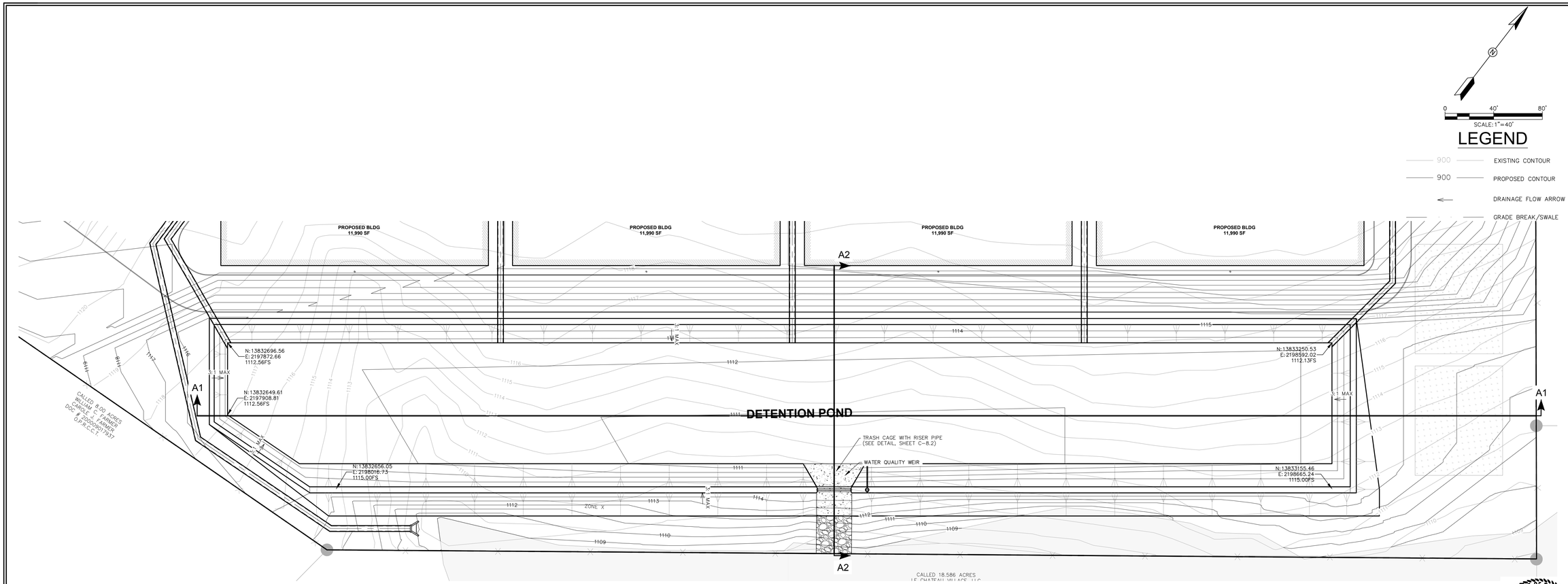
Sean McGarity
ICC & Associates, LLC

4/19/2024
Date

ATTACHMENT "I"

Measures for Minimizing Surface Stream Contamination

All surface streams will be protected from erosion by not allowing runoff to exceed existing velocities. The storm water runoff patterns for the site will remain. The natural vegetation downgradient of the site will continue to provide additional filtration to help prevent pollutants from entering streams, sensitive features, and the aquifer.



CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

Texas Water Company	830-312-4600
GVTC	830-885-4411
Centerpoint Gas	830-643-6434
Robert Sanders	830-643-6903
Damaged Line	888-876-5786
AT&T Telephone	855-488-1685
Erick White PM	210-283-1706
Scott McBrearty (Construction)	210-658-4886
Texas One Call	830-545-6005

C.P.E. LOCATOR

CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR

THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION. AT 1-800-545-6005,. CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTORS IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATIONS.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

DETENTION POND NOTES

EARTHFILL

1. SCOPE
THE WORK CONSISTS OF THE CONSTRUCTION OF EARTH EMBANKMENTS, OTHER EARTHFILLS, AND EARTH BACKFILLS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS.

EARTHFILL IS COMPOSED OF NATURAL EARTH MATERIALS THAT CAN BE PLACED AND COMPACTED BY CONSTRUCTION EQUIPMENT OPERATED IN A CONVENTIONAL MANNER.

EARTH BACKFILL IS COMPOSED OF NATURAL EARTH MATERIAL PLACED AND COMPACTED IN CONFINED SPACES OR ADJACENT TO STRUCTURES (INCLUDING PIPES) BY HAND TAMPING, MANUALLY DIRECTED POWER TAMPERS OR VIBRATING PLATES, OR THEIR EQUIVALENT.

2. MATERIAL
FILL MATERIALS SHALL CONTAIN NO FROZEN SOIL, SOD, BRUSH, ROOTS, OR OTHER PERISHABLE MATERIAL. UNLESS OTHERWISE NOTED ON THE PLANS, ROCK PARTICLES LARGER THAN 6" SHALL BE REMOVED PRIOR TO COMPACTION OF THE FILL.

THE TYPES OF MATERIAL USED IN THE VARIOUS FILLS SHALL BE AS LISTED AND DESCRIBED IN THE SPECIFICATIONS AND DRAWINGS.

3. FOUNDATION PREPARATION
FOUNDATIONS FOR EARTHFILL SHALL BE STRIPPED TO REMOVE VEGETATION AND OTHER UNSUITABLE MATERIAL OR SHALL BE EXCAVATED AS SPECIFIED.

EXCEPT AS OTHERWISE SPECIFIED, EARTH FOUNDATION SURFACES SHALL BE GRADED TO REMOVE SURFACE IRREGULARITIES AND SHALL BE SCARIFIED PARALLEL TO THE AXIS OF THE FILL OR OTHERWISE ACCEPTABLY SCORED AND LOOSENED TO A MINIMUM DEPTH OF 2 INCHES. THE MOISTURE CONTENT OF THE LOOSENED MATERIAL SHALL BE CONTROLLED AS SPECIFIED FOR THE EARTHFILL, AND THE SURFACE MATERIAL OF THE FOUNDATION SHALL BE COMPACTED AND BONDED WITH THE FIRST LAYER OF EARTHFILL AS SPECIFIED OR SUBSEQUENT LAYERS OF EARTHFILL.

EARTH ABUTMENT SURFACES SHALL BE FREE OF LOOSE, UNCOMPACTED EARTH IN EXCESS OF 2 INCHES IN DEPTH NORMAL TO THE SLOPE AND SHALL BE AT SUCH A MOISTURE CONTENT THAT THE EARTHFILL CAN BE COMPACTED AGAINST THEM TO PRODUCE A GOOD BOND BETWEEN THE FILL AND THE ABUTMENTS.

ROCK FOUNDATION AND ABUTMENT SURFACES SHALL BE CLEARED OF ALL LOOSE MATERIAL BY HAND OR OTHER EFFECTIVE MEANS AND SHALL BE FREE OF STANDING WATER WHEN FILL IS PLACED UPON THEM. OCCASIONAL ROCK OUTCROPS IN EARTH FOUNDATIONS FOR EARTHFILL EXCEPT IN DAMS AND OTHER STRUCTURES DESIGNED TO RESTRAIN THE MOVEMENT OF WATER, SHALL NOT REQUIRE SPECIAL TREATMENT IF THEY DO NOT INTERFERE WITH COMPACTION OF THE FOUNDATION AND INITIAL LAYERS OF THE FILL OR THE BOND BETWEEN THE FOUNDATION AND THE FILL.

FOUNDATION AND ABUTMENT SURFACES SHALL BE NO STEEPER THAN ONE HORIZONTAL TO ONE VERTICAL UNLESS OTHERWISE SPECIFIED. TEST PITS OR OTHER CAVITIES SHALL BE FILLED WITH COMPACTED EARTHFILL CONFORMING TO THE SPECIFICATIONS FOR THE EARTHFILL TO BE PLACED UPON THE FOUNDATION.

4. PLACEMENT
EARTHFILL SHALL BE PLACED IN APPROXIMATELY HORIZONTAL LAYERS. THE THICKNESS OF EACH LAYER BEFORE COMPACTION SHALL NOT EXCEED THE MAXIMUM THICKNESS SPECIFIED AS SHOWN ON THE DRAWINGS. MATERIALS PLACED BY DUMPING IN PILES OR WINDOWS SHALL BE SPREAD UNIFORMLY TO NOT MORE THAN THE SPECIFIED THICKNESS BEFORE BEING COMPACTED.

HAND COMPACTED EARTH BACKFILL SHALL BE PLACED IN LAYERS WHOSE THICKNESS BEFORE COMPACTION DOES NOT EXCEED THE MAXIMUM THICKNESS SPECIFIED FOR LAYERS OF EARTH BACKFILL COMPACTED BY MANUALLY DIRECTED POWER TAMPERS.

EARTH BACKFILL SHALL BE PLACED IN A MANNER THAT PREVENTS DAMAGE TO THE STRUCTURES AND ALLOWS THE STRUCTURES TO ASSUME THE LOADS FROM THE EARTH BACKFILL GRADUALLY AND UNIFORMLY. THE HEIGHT OF THE EARTH BACKFILL ADJACENT TO A STRUCTURE SHALL BE INCREASED AT APPROXIMATELY THE SAME RATE ON ALL SIDES OF THE STRUCTURE.

EARTHFILL AND EARTH BACKFILL IN DAMS, LEVEES, AND OTHER STRUCTURES DESIGNED TO RESTRAIN THE MOVEMENT OF WATER SHALL BE PLACED TO MEET THE FOLLOWING ADDITIONAL REQUIREMENTS.

(a) THE DISTRIBUTION OF MATERIALS THROUGHOUT EACH ZONE SHALL BE ESSENTIALLY UNIFORM, AND THE EARTHFILL SHALL BE FREE FROM LENSES, POCKETS, STREAKS, OR LAYERS OF MATERIAL DIFFERING SUBSTANTIALLY IN TEXTURE; MOISTURE CONTENT, OR GRADATION FROM THE SURROUNDING MATERIAL. ZONE EARTHFILLS SHALL BE CONSTRUCTED CONCURRENTLY UNLESS OTHERWISE SPECIFIED.

(b) IF THE SURFACE OF ANY LAYER BECOMES TOO HARD AND SMOOTH FOR PROPER BOND WITH THE SUCCEEDING LAYER, IT SHALL BE SCARIFIED PARALLEL TO THE AXIS OF THE FILL TO A DEPTH OF NOT LESS THAN 2 INCHES BEFORE THE NEXT LAYER IS PLACED.

(c) THE TOP SURFACE OF EMBANKMENTS SHALL BE MAINTAINED APPROXIMATELY LEVEL DURING CONSTRUCTION WITH TWO EXCEPTIONS: A CROWN OR CROSS-SLOPE OF ABOUT 2 PERCENT SHALL BE MAINTAINED TO ENSURE EFFECTIVE DRAINAGE, OR AS OTHERWISE SPECIFIED FOR DRAINFILL OR SECTIONAL ZONES.

(d) DAM EMBANKMENTS SHALL BE CONSTRUCTED IN CONTINUOUS LAYERS FROM ABUTMENT TO ABUTMENT EXCEPT WHERE OPENINGS TO FACILITATE CONSTRUCTION OR TO ALLOW THE PASSAGE OF STREAM FLOW DURING CONSTRUCTION ARE SPECIFICALLY AUTHORIZED IN THE CONTRACT.

(e) EMBANKMENTS BUILT AT DIFFERENT LEVELS AS DESCRIBED UNDER (C) OR (D) ABOVE SHALL BE CONSTRUCTED SO THAT THE SLOPE OF THE BONDING SURFACES BETWEEN EMBANKMENT IN PLACE AND EMBANKMENT TO BE PLACED IS NOT STEEPER THAN 3 FEET HORIZONTAL TO 1 FOOT VERTICAL. THE BONDING SURFACE OF THE EMBANKMENT IN PLACE SHALL BE STRIPPED OF ALL MATERIAL NOT MEETING THE REQUIREMENTS OF THIS SPECIFICATION AND SHALL BE SCARIFIED, MOISTENED, AND RECOMPACTED WHEN THE NEW EARTHFILL IS PLACED AGAINST IT. THIS ENSURES A GOOD BOND WITH THE NEW EARTHFILL AND OBTAINS THE SPECIFIED MOISTURE CONTENT AND DENSITY AT THE CONTACT OF THE INPLACE AND NEW EARTHFILLS.

(f) THE FILL MATERIAL SHALL BE FREE OF ORGANIC MATTER AND OTHER OBJECTIONABLE MATERIAL. PLACING AND SPREADING OF FILL SHALL BEGIN ON THE LOWEST PART OF THE WORKING AREA AND CONTINUE IN HORIZONTAL LAYERS OF APPROXIMATE UNIFORM THICKNESS, NOT EXCEEDING 9 INCHES BEFORE COMPACTION. WHERE THE BORROW YIELDS MATERIALS OF VARYING TEXTURE AND GRADATION, THE MORE IMPERVIOUS MATERIAL SHALL BE PLACED TOWARD THE WATERSIDE OF THE BERM. THE CONSTRUCTION EQUIPMENT SHALL BE OPERATED OVER THE AREA OF EACH LAYER IN A MANNER TO BREAK UP LARGE CLODS AND OBTAIN COMPACTION.

5. CONTROL OF MOISTURE CONTENT
DURING PLACEMENT AND COMPACTION OF EARTHFILL AND EARTH BACKFILL, THE MOISTURE CONTENT OF THE MATERIAL BEING PLACED SHALL BE MAINTAINED WITHIN THE SPECIFIED RANGE.

THE APPLICATION OF WATER TO THE EARTHFILL MATERIAL SHALL BE ACCOMPLISHED AT THE BORROW AREAS INSOFAR AS PRACTICABLE. WATER MAY BE APPLIED BY SPRINKLING THE MATERIAL AFTER PLACEMENT ON THE EARTHFILL, IF NECESSARY. UNIFORM MOISTURE DISTRIBUTION SHALL BE OBTAINED BY DISKING.

MATERIAL THAT IS TOO WET WHEN DEPOSITED ON THE EARTHFILL SHALL EITHER BE REMOVED OR BE DRIED TO THE SPECIFIED MOISTURE CONTENT PRIOR TO COMPACTION.

IF THE TOP SURFACE OF THE PRECEDING LAYER OF COMPACTED EARTHFILL OR A FOUNDATION OR ABUTMENT SURFACE IN THE ZONE OF CONTACT WITH THE EARTHFILL BECOMES TOO DRY TO PERMIT SUITABLE BOND, IT SHALL EITHER BE REMOVED OR SCARIFIED AND MOISTENED BY SPRINKLING TO AN ACCEPTABLE MOISTURE CONTENT BEFORE PLACEMENT OF THE NEXT LAYER OF EARTHFILL.

6. COMPACTION
EARTHFILL – EARTHFILL SHALL BE COMPACTED ACCORDING TO THE FOLLOWING REQUIREMENTS FOR THE CLASS OF COMPACTION SPECIFIED:

CLASS A COMPACTION – EACH LAYER OF EARTHFILL SHALL BE COMPACTED AS NECESSARY TO PROVIDE THE DENSITY OF THE EARTHFILL MATRIX NOT LESS THAN THE MINIMUM DENSITY SPECIFIED ON THE DRAWINGS. THE EARTHFILL MATRIX IS DEFINED AS THE PORTION OF THE EARTHFILL MATERIAL FINER THAN THE MAXIMUM PARTICLE SIZE USED IN THE COMPACTION TEST METHOD SPECIFIED.

COMPACTION OF ALL EARTHEN EMBANKMENTS SHALL HAVE A NON-PERMEABLE CORE, SHALL BE BASED ON A GEOTECHNICAL INVESTIGATION OF THE SITE, AND SHALL BE COMPACTED TO 90% STANDARD PROCTOR.

7. REWORKING OR REMOVAL AND REPLACEMENT OF DEFECTIVE EARTHFILL
EARTHFILL PLACED AT DENSITIES LOWER THAN THE SPECIFIED MINIMUM DENSITY OR AT MOISTURE CONTENTS OUTSIDE THE SPECIFIED ACCEPTABLE RANGE OF MOISTURE CONTENT OR OTHERWISE NOT CONFORMING TO THE REQUIREMENTS OF THE SPECIFICATIONS SHALL BE REWORKED TO MEET THE REQUIREMENTS OR REMOVED AND REPLACED BY ACCEPTABLE EARTHFILL. THE REPLACEMENT EARTHFILL AND THE FOUNDATION, ABUTMENT, AND EARTHFILL SURFACES UPON WHICH IT IS PLACED SHALL CONFORM TO ALL REQUIREMENTS OF THIS SPECIFICATION FOR FOUNDATION PREPARATION, APPROVAL, PLACEMENT, MOISTURE CONTROL, AND COMPACTION.

8. TESTING
DURING THE COURSE OF THE WORK, THE CONTRACTOR WILL PERFORM QUALITY CONTROL TEST REQUIRED TO IDENTIFY MATERIAL; DETERMINE COMPACTION CHARACTERISTICS; DETERMINE MOISTURE CONTENT; AND DETERMINE DENSITY OF EARTHFILL IN PLACE. TESTS PERFORMED WILL BE SUBMITTED TO THE ENGINEER OF RECORD TO VERIFY THAT THE EARTHFILLS CONFORM TO CONTRACT REQUIREMENTS OF THE SPECIFICATIONS.

DENSITIES OF EARTHFILL REQUIRING CLASS A COMPACTION WILL BE DETERMINED IN ACCORDANCE WITH ASTM D 698, D 1556, D 2167, D 2922, OR D 2937 EXCEPT THAT THE VOLUME AND MOIST WEIGHT OF INCLUDED ROCK PARTICLES LARGER THAN THOSE USED IN THE COMPACTION TEST METHOD SPECIFIED FOR THE TYPE OF FILL WILL BE DETERMINED AND DEDUCTED FROM THE VOLUME AND MOIST WEIGHT OF THE TOTAL SAMPLE BEFORE COMPUTATION OF DENSITY OR, IF USING THE NUCLEAR GAUGE, ADDED TO THE SPECIFIED DENSITY TO BRING IT TO THE MEASURE OF EQUIVALENT COMPOSITION FOR COMPARISON (SEE ASTM D 4718). THE DENSITY SO COMPUTED IS USED TO DETERMINE THE PERCENT COMPACTION OF THE EARTHFILL MATRIX. UNLESS OTHERWISE SPECIFIED, MOISTURE CONTENT IS DETERMINED BY ONE OF THE FOLLOWING METHODS: ASTM D 2216, D 3017, D 4643, D 4944, OR D 4959.

DETENTION POND NOTES:

CONSTRUCTION SPECIFICATION – TOP SOIL

1. VEGETATION OF POND BOTTOM – THE WORK CONSISTS OF PLACEMENT OF TOP SOIL ON NEW EARTH EMBANKMENTS, OTHER EARTHFILLS, AND EARTH BACKFILLS REQUIRED BY THE DRAWINGS.

2. MATERIAL – THE TOPSOIL SHALL BE FERTILE SOIL, CONSISTING PRIMARILY OF CLAY AND CLAYEY MATERIALS, WITH A PLASTICITY INDEX GREATER THAN 15, AND SHALL BE FREE OF LARGE ORGANIC OR ROCK MATERIAL.

3. APPLICATION – TOPSOIL SHALL BE PLACED AT GRADES INDICATED ON THE PLANS AND ROLLED TO REDUCE EROSION. PERIODIC INSPECTION ARE REQUIRED AND ADDITIONAL TOPSOIL ADDED AS NEEDED UNTIL VEGETATION HAS ESTABLISHED

CONSTRUCTION SPECIFICATION – VEGETATION

1. VEGETATION OF EMBANKMENT – THE WORK CONSISTS OF ESTABLISHING VEGETATION ON NEW EARTH EMBANKMENTS, OTHER EARTHFILLS, AND EARTH BACKFILLS REQUIRED BY THE DRAWINGS.

2. MATERIAL – VEGETATION SHALL CONSIST OF "NATIVE SUN TURF GRASS" AS SUPPLIED BY NATIVE AMERICAN SEED IN JUNCTION, TX, CONSISTING OF 34% BLUE GRAMA AND 64% BUFFALO GRASS, OR ENGINEER APPROVED EQUAL. SEED MIXTURE SHALL CONSIST OF A PURE LIVE SEED OF 90-95%.

3. APPLICATION – THE SEED MIXTURE SHALL BE INSTALLED PER DISTRIBUTORS RECOMMENDATIONS AT A RATE OF 1 LB PER 400 SQFT. SEED MIXTURE SHALL BE WATERED AS REQUIRED UNTIL VEGETATION IS ESTABLISHED.

DRAINAGE INFRASTRUCTURE MAINTENANCE AND MONITORING GUIDELINES

- SEASONAL MOWING AND LAWN CARE – IF THE DETENTION POND 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 POND MAY REQUIRE LESS FREQUENT MOWING, BUT A MINIMUM OF TWICE ANNUALLY. REGULAR MOWING SHOULD ALSO INCLUDE WEED CONTROL PRACTICES, HOWEVER HERBICIDE USE SHOULD BE KEPT TO A MINIMUM. 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 DETENTION POND AT LEAST TWICE ANNUALLY FOR EROSION OR DAMAGE TO VEGETATION; HOWEVER, ADDITIONAL INSPECTION AFTER PERIODS OF HEAVY RUNOFF IS MOST DESIRABLE. 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 RESTORED TO MEET SPECIFICATIONS.
- DEBRIS AND LITTER REMOVAL – THE DETENTION POND 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 2 TIMES PER YEAR.
- SEDIMENT REMOVAL – SEDIMENT MAY ACCUMULATE WITHIN THE DETENTION POND, PREVENTING UNIFORM OVERLAND FLOW. SEE ATTACHED EXHIBIT FOR SEDIMENT MARKER LOCATION NEAR THE POND OUTFALL. SEDIMENT IS TO BE REMOVED WHEN THE ACCUMULATED OR AT LEAST EVERY 10 YEARS.

IMPERVIOUS CORE COMPACTION NOTE:
COMPACTED CLAY CORE TO BE PLACED A MINIMUM OF 2' BELOW EXISTING GRADE ALONG THE ENTIRE LENGTH OF THE BERM. MATERIAL TO HAVE A PI OF 30 OR GREATER. MINIMUM COMPACTED DRY DENSITY OF 90% AND GROUND CONTENT NO MORE THAN 5% BY WEIGHT LARGER THAN NO.4 SIEVE.

STATE OF TEXAS
SAMUEL L. KNOTTS
126382
LICENSED
PROFESSIONAL ENGINEER
4/19/2024

PERMIT SET

INFINITY CONCRETE
1308 E. COMMON ST. UNIT 205 #59
NEW BRAUNFELS, TX 78130

INFINITY CONCRETE
SOUTH CRANES MILL

DETENTION POND
PLAN & NOTES

SHEET
C-8.0

NO	DATE	ISSUES AND REVISIONS
1		

INK CIVIL
2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink-civil.com
TBPE FIRM F-13351

Drawing Name: N:\Projects\INF001 Infinity Concrete\5 Cranes Mill\Civil\Construction Drawings\C-8.2 WATER QUALITY DETAILS.dwg User: brijenders Apr 24, 2024 - 1:03pm

TXDOT GENERAL CONSTRUCTION NOTES

1. THE DESIGN AND CONSTRUCTION WILL PROVIDE FOR PRESERVING ALL EXISTING FEATURES IN OR NEAR THE STATE RIGHT OF WAY BEING AFFECTED BY THE WIDENING. THIS INCLUDES BUT IS NOT LIMITED TO, EXISTING DRIVEWAY GATE SET-BACKS, RELOCATION OF ELECTRONIC PRIVATE PROPERTY GATES, MAILBOX TURNOUTS, MAILBOXES AND SUPPORTS, CATTLE GUARDS, ROADWAY SIGNING, EXISTING RIP-RAP OR OTHER PERMANENT EROSION CONTROL FEATURES, DIVERSIONARY BERMS, SWALES, DITCHES, AMOUNT AND CONFIGURATION OF DRIVEWAY FLARES AND DRIVEWAY CENTERLINE PROFILE, METAL BEAM GUARD FENCE AND END TREATMENTS, ETC. EXISTING DRIVEWAY CULVERTS AND SAFETY END TREATMENTS IF EFFECTED BY ROADWAY WIDENING WILL BE RECONSTRUCTED TO PRESERVE EXISTING FRONT SLOPE RATES. THE COORDINATION OF ITEMS THAT EFFECT EXISTING PRIVATE PROPERTY ACCESS, MAIL DELIVERY, ETC. IS THE RESPONSIBILITY OF THE DEVELOPER. THE WRITTEN CONCURRENCE OF ANY EFFECTED PROPERTY OWNERS FOR CONSTRUCTION EFFECTING THEIR DRIVEWAYS OR MAILBOX. TURNOUTS MUST BE OBTAINED AND PROVIDED TXDOT PRIOR TO TXDOT DRIVEWAY PERMITS BEING ISSUED.

2. FOR WORK IN STATE RIGHT OF WAY, THE DEVELOPER IS RESPONSIBLE FOR COORDINATION OF, OBTAINING PERMITS FOR, AND COMPLYING WITH ANY AND ALL STATE AND FEDERAL REGULATORY AGENCIES AND ALL APPLICABLE LAWS, RULES AND REGULATIONS PERTAINING TO THE REGULATION OF DRAINAGE, PRESERVATION OF CULTURAL RESOURCES, NATURAL RESOURCES AND THE ENVIRONMENT. THE DEVELOPER IS RESPONSIBLE FOR DETERMINING IF THE PROJECT IS IN AN ENVIRONMENTALLY SENSITIVE AREA SUCH AS WITHIN THE RECHARGE OR CONTRIBUTING ZONE OF PROTECTED AQUIFERS, AND ACT IN ACCORDANCE WITH ALL RESOURCE AGENCY REGULATIONS.

A. IF TXDOT HAS A CZP OR WPAP ON FILE WITH TCEQ, THE DEVELOPER IS RESPONSIBLE FOR A ENDING TXDOT'S PER IT, OBTAINING TCEQ APPROVAL AND PROVIDING TXDOT WITH THE APPROVED AMENDED PERMIT. THE A ENDED PER IT WILL ADDRESS THE RELOCATION OF TXDOT PERMANENT BMP'S INCLUDING VEGETATIVE FILTER STRIPS THAT MAY BE IMPACTED BY WORK DONE WITHIN TXDOT.
B. IF TXDOT DOES NOT HAVE A CZP OR WPAP ON FILE WITH TCEQ, ANY PERMANENT BMP'S INCLUDING VEGETATIVE FILTER STRIPS, THAT MAY BE REQUIRED IN ORDER TO TREAT ADDITIONAL IMPERVIOUS COVER PLACED IN TXDOT ROW WILL BE LOCATED IN PRIVATE PROPERTY AND THE DEVELOPER WILL PROVIDE TXDOT WITH EVIDENCE OF TCEQ APPROVAL OF THE ADDITIONAL IMPERVIOUS COVER."
C. THE DEVELOPER MAY NOT OPERATE UNDER RESOURCE AGENCY ENVIRONMENTAL CLEARANCE OF A PREVIOUS OR ONGOING TXDOT PROJECT, BUT WILL BE REQUIRED TO OBTAIN SEPARATE RESOURCE/ENVIRONMENTAL AGENCY CLEARANCE.

3. IF WASTE AREAS OR MATERIAL SOURCE AREAS RESULT FROM THIS PROJECT, THE CONTRACTOR IS REMINDED TO FOLLOW SUPERSEDES ALL OTHER SPECIFICATIONS IN THE PLANS THE REQUIREMENTS OF THE TEXAS AGGREGATE QUARRY AND PIT SAFETY ACT. IN ADDITION, IT IS REQUESTED THAT THESE AREAS NOT BE VISIBLE FROM ANY HIGHWAY ON THE STATE SYSTEM.

A. ANY MATERIALS REMOVED AND NOT REUSED AND DETERMINED TO BE SALVAGEABLE SHALL BE STORED WITHIN THE PROJECT LIMITS AT AN APPROVED LOCATION OR DELIVERED UNDAMAGED TO THE STORAGE YARD AS DIRECTED. PROPERLY DISPOSE UNSALVAGEABLE MATERIALS IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS. DEFACE TRAFFIC SIGNS SO THAT THEY WILL NOT REAPPEAR IN PUBLIC AS SIGNS.

4. ANY TREES EXISTING WITHIN STATE RIGHT OF WAY ARE THE NATURAL RESOURCES OF THE STATE AND WILL BE PROTECTED. IN THE EVENT THAT TREES MUST BE REMOVED, TXDOT WRITTEN PERMISSION WILL BE RECEIVED IN ADVANCE AND WILL IDENTIFY THE SPECIFIC TREES BY SPECIES, DIAMETER AND LOCATION TO BE REMOVED. THE DEVELOPER WILL BE FINED FOR ANY UNPERMITTED REMOVAL OF TREES.

A. IN THE EVENT THAT THERE ARE AREAS OF PUBLIC ROW DEDICATION RESULTING FROM THE PLATTING PROCESS, THE AREA WITHIN THE PUBLIC ROW DEDICATION DOES NOT PASS INTO TXDOT OWNERSHIP AS A RESULT OF PLATTING. HOWEVER, THE DEVELOPER WILL REMOVE ANY OLD FENCING, GATES AND UNSIGHTLY VEGETATION WITHIN THE AREA OF THE ROW DEDICATION, LEAVING IT IN AN AESTHETICALLY PLEASING CONDITION THE AREA OF ROW DEDICATION WILL NOT BE MOWED OR OTHERWISE MAINTAINED BY TXDOT. PRIOR TO REMOVAL OF TREES IN THE AREA OF ROW DEDICATION, THE TREES WILL FIRST BE EVALUATED IN ACCORDANCE WITH THE REQUIREMENTS OF LOCAL TREE PROTECTION ORDINANCES AND THE WRITTEN CONCURRENCE OF THE LOCAL JURISDICTION WILL BE PROVIDED TO TXDOT.

5. THE DEVELOPER WILL MAINTAIN AT THE PROJECT SITE, AND MAKE AVAILABLE UPON REQUEST, COPIES OF ALL APPROVED JOINT ENVIRONMENTAL PLANS AND PERMITS RELATING TO WORK IN STATE RIGHT OF WAY.

6. PRIOR TO BEGINNING GRADING ACTIVITY, THE CONTRACTOR WILL SET AND MAINTAIN ROADWAY STATIONING, CONTROL POINTS, MARKS, STAKES TO ESTABLISH LINES, SLOPES, GRADES AND CENTERLINES.

7. ANY SLOPES IN STATE RIGHT OF WAY WHICH BECOME STEEPER THAN 3;1 AS A RESULT OF THE WORK WILL BE TREATED WITH 4" THICK REINFORCED CONCRETE RIP-RAP AND BE TREATED WITH METAL BEAM GUARD FENCE. THIS MAY ENTAIL ADDITIONAL RIP-RAP BEYOND THAT SHOWN IN THE PLANS.

A. UNLESS OTHERWISE SHOWN ON THE PLANS, WHERE EXISTING CONCRETE RIP-RAP IS REMOVED, MODIFIED OR EXTENDED, THE PORTION TO BE REMOVED WILL BE NEATLY SAW-CUT PRIOR TO REMOVAL AND THE NEW RIP-RAP WILL BE FORMED TO MATCH THE EXISTING LINES AND GRADES OF THE EXISTING RIP-RAP AND WILL BE DOWELED INTO THE EXISTING RIP-RAP WITH #3 BARS ON 12"CENTERS. THE DOWEL BARS WILL BE EPOXIED IN PLACE WITH EPOXY MEETING TXDOT REQUIREMENTS. THE MINIMUM EMBEDMENT LENGTH IS 9 INCHES. THIS APPLIES TO ANY TYPE OF CONCRETE RIP-RAP INCLUDING METAL BEAM GUARD FENCE OR CABLE BARRIER MOW STRIPS.

8. DUANE HOFFERICHTER (830) 609-0707 IN NEW BRAUNFELS, TRAVIS YOUNG (830) 303-0130 IN SEGUIN, CHAD LUX (830) 816-2430 IN BOERNE, MARK ANDREWS (830) 393-3144 IN FLORESVILLE, TXDOT MAINTENANCE OFFICE WILL BE CONTACTED BY THE CONTRACTOR 48 HOURS PRIOR TO WORK OCCURRING IN STATE RIGHT OF WAY.

9. STATE RIGHT OF WAY WILL NOT BE USED AS AN AREA FOR CONTRACTOR PARKING OR FOR STAGING THE RECEIPT OF MATERIALS OR EQUIPMENT.

10. TRAFFIC CONTROL AND CONSTRUCTION BARRICADES WILL MEET THE REQUIREMENTS OF THE TEXAS MUTCD.

11. THE CONTRACTOR WILL PROVIDE ADVANCE NOTIFICATION TO THE ENGINEER OF IMPENDING/UPCOMING LANE CLOSURES FOR ALL TEMPORARY AND/OR PERMANENT LANE, RAMP, CONNECTOR, FRONTAGE, SHOULDER, MEDIAN CROSSOVER, ETC. CLOSURES OR DETOURS.

12. ACCESS TO ADJOINING PROPERTY MUST BE MAINTAINED AT ALL TIMES.

13. UNLESS OTHERWISE NOTED IN THE PLANS AND/OR AS DIRECTED BY THE AREA ENGINEER OR MAINTENANCE SUPERVISOR, DAILY LANE CLOSURES SHALL BE LIMITED ACCORDING TO THE FOLLOWING RESTRICTIONS:
A. NIGHTTIME: MAINTENANCE SUPERVISOR AND/OR AREA ENGINEER APPROVAL REQUIRED. (WITH UNIFORMED OFF DUTY LAW ENFORCEMENT OFFICERS)
B. WEEKEND CLOSURES: MAINTENANCE SUPERVISOR AND/OR AREA ENGINEER APPROVAL REQUIRED.

14. NO LANE CLOSURES OR ROADWAY CLOSURES WILL BE PERMITTED FOR THE FOLLOWING KEY DATES AND/OR SPECIAL EVENTS:
A. BETWEEN DECEMBER 15 AND JANUARY 1.
B. WEDNESDAY BEFORE THANKSGIVING THRU THE SUNDAY AFTER THANKSGIVING
C. SATURDAY AND SUNDAY BEFORE MEMORIAL DAY AND LABOR DAY
D. SATURDAY OR SUNDAY WHEN JULY 4 FALLS ON A FRIDAY OR MONDAY.

15. AT NO TIME WILL THE ROADWAY TRAVEL WAY BE BLOCKED.

16. LANE CLOSURES WILL ONLY BE PERMITTED WITH 48 HOUR PRIOR APPROVAL OF THE TXDOT MAINTENANCE SUPERVISOR LANE CLOSURES WILL BE PERMITTED ONLY BETWEEN 9: 00 A.M. AND 4: 00 P.M. MONDAY THROUGH FRIDAY.
A. FOR LANE CLOSURES ON TWO-LANE TWO-WAY ROADWAYS, INCLUDING DURING PILOT CAR OPERATIONS, FLAGGERS WILL BE PLACED AT THE BEGINNING AND END OF THE WORK ZONE AS WELL AS AT EACH INDIVIDUAL DRIVEWAY AND SIDE ROAD INTERSECTION WITHIN THE LIMITS OF THE WORK ZONE AND EXTENDING FOR A MINIMUM OF THE BEGINNING OF ADVANCED WARNING SIGNS EITHER END OF THE WORK ZONE TO CONTROL, WARN AND DIRECT SIDE ROAD AND DRIVEWAY TRAFFIC OF THE CHANGE IN TRAFFIC OPERATIONS. WHENEVER ONE WAY TRAFFIC CONTROL IS ACCOMPLISHED BY TRAFFIC SIGNALS WORK ZONE FLAGGERS WILL BE SIMILARLY STATIONED AT EACH INDIVIDUAL DRIVEWAY AND SIDE ROAD INTERSECTION WITHIN THE LIMITS OF THE WORK ZONE AND EXTENDING FOR A MINIMUM OF THE BEGINNING OF THE ADVANCED WARNING SIGNS EITHER END OF THE WORK ZONE. ALL FLAGGERS WILL BE IN CONSTANT RADIO CONTACT.

17. A MINIMUM 3:1(H:V) TEMPORARY SAFETY SLOPE OF STABLE COMPACTED MATERIAL WILL BE REQUIRED ADJACENT TO THE STATE HIGHWAY EDGE OF PAVEMENT AT ALL TIMES DURING NON-WORKING HOURS.

18. ONLY ONE SIDE OF THE ROADWAY WILL BE OPEN TO CONSTRUCTION AT A TIME. WORK WILL BE COMPLETED, AND PAVEMENT EDGES BACKFILLED ON ONE SIDE OF THE ROAD BEFORE WORK WILL BEGIN ON THE OPPOSITE SIDE OF THE ROADWAY.

19. ALL MILLING, PAVING AND SEAL COAT OPERATIONS SHALL PROCEED IN THE DIRECTION OF TRAFFIC.

20. ANY PAVEMENT EDGE DROP-OFFS BETWEEN 1 AND 2 INCHES IN HEIGHT WILL HAVE CW 8-11 WARNING SIGNS. ANY PAVEMENT EDGE DROP-OFF 2 INCHES OR GREATER WILL HAVE A 3:1 COMPACTED SAFETY SLOPE AND CW 8-9A OR CW 8-11 SIGNS PLUS CHANNELIZING DEVICES. PAVEMENT EDGES WILL BE SHOULDERED UP WITH COMPACTED EMBANKMENT MATERIAL AND 4 INCHES OF TOPSOIL AS SOON AS POSSIBLE AFTER PAVING IS COMPLETED ON THE SIDE OF THE ROAD BEING WIDENED.

21. PROOF ROLLING OF SUBGRADE IS REQUIRED AND SHALL BE WITNESSED BY TXDOT PRIOR TO PLACEMENT OF PAVEMENT STRUCTURE UNLESS OTHERWISE APPROVED BY THE TXDOT MAINTENANCE SUPERVISOR. THE REQUIREMENT FOR PROOF-ROLLING OF SUBGRADE IS NOT SUPERSEDED BY ANY OTHER REQUIREMENTS INCLUDING THOSE OF ANY GEOTECHNICAL REPORT.

22. ALL FLEXIBLE BASE WILL HAVE A MINIMUM PLASTICITY INDEX OF 4.

23. ALL COURSES OF ASPHALTIC CONCRETE PAVEMENT (REGARDLESS OF TYPE) WILL BE PLACED WITH AN ASPHALT PAVING EQUIPMENT MEETING THE REQUIREMENTS OF TXDOT ITEM 320, "EQUIPMENT FOR ASPHALT CONCRETE PAVEMENT", UNLESS OTHERWISE APPROVED BY THE MAINTENANCE SUPERVISOR.

A. TACK COAT WILL BE APPLIED WITH AN ASPHALT DISTRIBUTOR AND SPREAD ACROSS THE SURFACE RECEIVING THE TACK COAT BY MULTIPLE PASSES OF A PNEUMATIC ROLLER. THE APPLICATION OF TACK COAT AND THE NUMBER OF PASSES OF THE PNEUMATIC ROLLER WILL BE SUFFICIENT TO MAKE THE SURFACE AND EXPOSED EDGES CONSISTENTLY BLACK WITH NO AREAS DEVOID OF TACK. ASPHALT FOR TACK COAT SHALL MEET TXDOT SPECS AND BE FROM A TXDOT APPROVED SOURCE.

24. ALL SURFACE AGGREGATES WILL MEET THE REQUIREMENTS OF TXDOT FRICTION CLASSIFICATION "B" AND WILL MEET PG BINDER GRADE 70-22.

25. ALL SURFACE ASPHALT CONCRETE PAVEMENT WILL BE UNDER-SEALED WITH A ONE COURSE SURFACE TREATMENT.

26. ALL ASPHALTIC CONCRETE PAVEMENT USED IN BASE COURSES WILL BE TYPE "A" OR "B" AND WILL MEET PG BINDER GRADE 64-22.

27. ALL PAVEMENT WIDENING INCLUDING SHOULDERS WILL MATCH THE EXISTING PAVEMENT CROSS SLOPE.

28. ALL PAVEMENT MARKINGS WILL BE TYPE I THERMOPLASTIC (100MIL) WILL UNDER-SEAL MEETING THE REQUIREMENTS OF TXDOT ITEM 666, REFLECTORIZED PAVEMENT MARKINGS. THE CONTRACTOR WILL PLACE GUIDE MARKS IN ACCORDANCE WITH ITEM 666 AND WILL MAKE ARRANGEMENTS FOR TXDOT INSPECTION OF THE PAVEMENT MARKING LAYOUT PRIOR TO PLACEMENT OF STRIPING. EQUIPMENT USED FOR THE PLACEMENT OF STRIPING WILL MEET THE PRODUCTION REQUIREMENTS OF ITEM 666 UNLESS OTHERWISE APPROVED IN ADVANCE BY THE TXDOT MAINTENANCE SUPERVISOR.

29. EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH PROPOSED PAVEMENT MARKINGS WILL BE LIGHTLY GROUND IN A MANNER THAT DOES NOT DAMAGE THE PAVEMENT SURFACE, TO REMOVE ANY PAVEMENT MARKING ACCUMULATION, AND WILL BE COVERED WITH A STRIP SEAL OF 18" MINIMUM WIDTH, CONSISTING OF PRECOATED GRADE 5, FRICTION CLASS B AGGREGATE.

30. ALL MATERIALS AND CONSTRUCTION METHODS USED IN STATE RIGHT OF WAY WILL MEET TXDOT SPECIFICATIONS. THIS SUPERSEDES ALL OTHER SPECIFICATIONS IN THE PLANS.

31. ALL TURN LANE CONCRETE PAVEMENT IN STATE ROW WILL MEET THE REQUIREMENTS OF TXDOT ITEM 360 CONCRETE AND WILL BE BATCHED AT CONCRETE PLANTS HAVING A CURRENT APPROVED MIX DESIGN. CLASS P CONCRETE SHALL HAVE 7 AND 28 DAY COMPRESSIVE STRENGTH OF 3200 PSI AND 4400 PSI RESPECTIVELY.

32. WHEN WIDENING EXISTING CONCRETE PAVEMENTS, JOINTS IN THE NEW PAVEMENT WILL MATCH JOINTS IN EXISTING PAVEMENT AND CURB.

33. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT TXDOT APPROVED MATERIALS, MIX DESIGNS, APPROVED SOURCES AND PRODUCTS ARE USED FOR ALL WORK IN STATE ROW. THE CONTRACTOR WILL ARRANGE FOR THE SERVICES OF A QUALIFIED TESTING LABORATORY FOR ALL ITEMS REQUIRING TESTING AND WILL NOTIFY TXDOT OF ANY DISCREPANCIES BETWEEN TEST RESULTS AND TXDOT SPECS IN A TIMELY MANNER. THE CONTRACTOR WILL PROVIDE TO TXDOT INVOICES AND TESTING RESULTS AS SOON THEY ARE AVAILABLE. FAILURE TO DO THIS WILL RESULT IN REJECTION OF THE WORK.

34. SAWING OF CONTRACTION/CONSTRUCTION JOINTS IN CONCRETE PAVEMENT WILL BE ACCOMPLISHED AS SOON AS PERSONNEL CAN WALK ON THE CONCRETE WITHOUT DAMAGING THE SURFACE REGARDLESS OF TIME OF DAY OR WEATHER CONDITIONS. STAND-BY POWER DRIVEN CONCRETE SAWS WILL BE PROVIDED DURING THE SAWING OPERATION. CURING COMPOUND WILL BE RE-APPLIED TO THE SAWED JOINT IMMEDIATELY UPON SAWING THE JOINT.

35. GUARDRAIL SET'S WILL BE TYPE 3 UNLESS OTHERWISE APPROVED BY THE TXDOT MAINTENANCE SUPERVISOR. GUARDRAIL MOWSTRIP PLACED ADJACENT TO OTHER CONCRETE RIP-RAP WILL BE SEPARATED BY A FORMED CONSTRUCTION JOINT.

36. ANY CONCRETE CURB TO BE REMOVED WILL BE SAW-CUT AT THE LIMITS OF REMOVAL AND BE REMOVED ENTIRELY. SLICING THE TOP PORTION OF THE CURB OFF AND LEAVING REMAINING PORTION OF CURB IN PLACE IS UNACCEPTABLE.

37. ANY DAMAGE TO TXDOT FACILITIES WILL BE REPAIRED AT NO EXPENSE TO THE STATE, TO TXDOT'S SATISFACTION.

38. SIDEWALKS PLACED IN THE HIGHWAY RIGHT-OF-WAY WILL BE A MINIMUM WIDTH OF FIVE FEET OR COMPLY WITH THE MORE STRINGENT WIDTH AS REQUIRED BY CITY ORDINANCE AND WILL MEET ALL OTHER REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT. PEDESTRIAN RAMPS WILL BE PROVIDED AT STREET AND DRIVEWAY INTERSECTIONS AS SHOWN ON THE CURRENT STATE STANDARD FOR PEDESTRIAN FACILITIES. COLOR CONTRAST AND TEXTURING OF PEDESTRIAN RAMPS WILL BE PLACE AT STREET INTERSECTION RAMPS ONLY AS SHOWN ON THE CURRENT STATE STANDARD FOR PEDESTRIAN FACILITIES. PEDESTRIAN RAMPS AT DRIVEWAY INTERSECTIONS WILL NOT RECEIVE ANY COLOR CONTRAST OR TEXTURING. METAL PLATING FOR SIDEWALK BRIDGES WILL MATCH THE TYPICAL WIDTH OF THE APPROACH SIDEWALK. TIS MAY RESULT IN A WIDTH THAT IS GREATER THAN SHOWN IN THE STANDARD DETAILS INCLUDED IN THE PLANS.

39. THE CONTRACTOR WILL USE BEST MANAGEMENT PRACTICES (BMP'S) TO MINIMIZE EROSION AND SEDIMENTATION IN THE STATE RIGHT OF WAY RESULTING FROM THE PROPOSED CONSTRUCTION. RE-VEGETATION OF DISTURBED AREAS WILL BE COMPLETED IN ACCORDANCE WITH TXDOT STANDARD SPECIFICATIONS. PERMANENT VEGETATIVE COVER MUST ACHIEVE 70% COVERAGE PRIOR TO PROJECT ACCEPTANCE. SOIL RETENTION BLANKETS MAY BE REQUIRED TO PREVENT EROSION OF TOPSOIL PRIOR TO VEGETATION RE-ESTABLISHMENT.

40. PRIOR TO SEEDING OR RE-VEGETATION THE FRONT SLOPES WILL BE SHOULDERED UP WITH TOPSOIL TO ELIMINATE ANY PAVEMENT EDGE DROP-OFF.

41. MUD TRACKED ONTO THE ROADWAY FROM THE SITE WILL BE IMMEDIATELY REMOVED TO THE SATISFACTION OF TXDOT.

42. IT WILL BE THE DEVELOPER/OWNER'S RESPONSIBILITY TO CLEAN OUT, TO THE STATE'S SATISFACTION, ANY DRAINAGE STRUCTURE OR STORM SEWER SYSTEM THAT BECOMES SILTED AS A RESULT OF THEIR OPERATIONS.

43. THE ADJUSTMENT OF ANY UTILITIES IN STATE RIGHT OF WAY OR ADJACENT PRIVATE EASEMENT WILL BE THE RESPONSIBILITY OF THE DEVELOPER/OWNER.

44. THE CONTRACTOR IS RESPONSIBLE FOR PLACING AND MAINTAINING EXISTING SIGNS ON TXDOT APPROVED TEMPORARY MOUNTS UNTIL PERMANENT SIGNS ARE PLACED.

45. THE FINAL PLACEMENT OF PERMANENT SIGNS WILL BE COORDINATED PRIOR TO PLACEMENT WITH THE LOCAL TXDOT MAINTENANCE SUPERVISOR.

46. FOR WORK WITHIN THE STATE RIGHT OF WAY WHERE REMOVAL OF MATERIALS OR DEBRIS WITHIN THE CONSTRUCTION LIMITS AND NOT INCORPORATED IN THE FINISHED ROADWAY SECTION OF RIGHT OF WAY, WILL BE DISPOSED OF IN A MANNER ACCEPTABLE TO THE MAINTENANCE SUPERVISOR AT NO EXPENSE TO THE STATE. MATERIALS THAT ARE NOT DETERMINED TO BE SALVAGEABLE BY THE MAINTENANCE SUPERVISOR BECOME THE PROPERTY OF THE CONTRACTOR FOR PROPER DISPOSAL AT THEIR EXPENSE. MATERIALS DETERMINED TO BE SALVAGEABLE WILL BE RETURNED TO THE STATE AND DELIVERED TO THE LOCATION AS DETERMINED BY THE MAINTENANCE SUPERVISOR.

47. REGARDLESS OF ERRORS AND OMISSIONS IN INFORMATION PROVIDED IN THE PLANS OR CROSS-SECTIONS THE PERMITEE IS RESPONSIBLE FOR PROVIDING FOR POSITIVE DRAINAGE OUTFALLS WITHIN AND OFF THE LIMITS OF THE PROJECT.
A. KEEP THE SIGNALS IN OPERATION AT ALL TIMES EXCEPT WHEN NECESSARY FOR SPECIFIC INSTALLATION OPERATIONS, INCLUDING ANY MODIFICATIONS TO EXISTING SIGNAL HEADS TO MAINTAIN CLEAR VISIBILITY AT ALL TIMES. WHEN IT IS NECESSARY FOR A SIGNAL TO BE TURNED OFF, HIRE OFF DUTY POLICE OFFICERS TO CONTROL THE TRAFFIC UNTIL THE SIGNALS ARE BACK IN SATISFACTORY CONDITION.

48. (FOR WORK IN CITY OF NEW BRAUNFLES) ALL TRAFFIC SIGNALS ON THE STATE HIGHWAY SYSTEM WITHIN THE NEW BRAUNFELS CITY LIMITS, WITH THE EXPECTION OF SIGNALS ON IH 35, ARE THE RESPONSIBILITY OF THE CITY OF NEW BRAUNFELS AND THE CITY OF NEW BRAUNFELS WILL PERFORM CONSTRUCTION INSPECTION. CONTACT GARRY FORD, P.E. AT (830) 221-4645, 48 HOURS PRIOR TO THE NEED FOR ANY INSPECTIONS. ALSO WHEN NON- TRAFFIC SIGNAL WORK IS BEING PERFORMED WITHIN 400 FEET OF AN EXISTING SIGNALIZED INTERSECTION, FLASHING BEACON OR SCHOOL ZONE FLASHER OR OTHER TYPE OF SIGNAL; IF WITHIN THE CITY OF NEW BRAUNFELS AREA OF RESPONSIBILITY CONTACT GARRY FORD, P.E. TO DETERMINE/VERIFY THE LOCATION OF LOOP DETECTORS, CONDUIT, GROUND-BOXES, ETC. FOR ALL OTHER LOCATIONS, CONTACT TXDOT REPRESENTATIVE, MIKE GARZA, AT (210) 615-6028, E-MAIL IS MIKE.GARZA@TXDOT.GOV. THE CONTRACTOR IS RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ANY SIGNAL EQUIPMENT DAMAGED BY CONSTRUCTION OPERATIONS. THE METHOD OF REPAIR OR REPLACEMENT SHALL BE PRE-APPROVED AND INSPECTED. DEPENDING ON THE TYPE AND EXTENT OF THE DAMAGE, THE ENGINEER RESERVES THE RIGHT TO PERFORM THE REPAIR OR REPLACEMENT WORK AND THE CONTRACTOR WILL BE BILLED FOR THIS WORK. WHEN WORKING NEAR AERIAL ELECTRICAL LINES OR UTILITY POLES, COMPLY WITH FEDERAL, STATE AND LOCAL REGULATIONS.

49. (FOR AREAS OTHER THAN CITY OF NEW BRAUNFELS) WHEN NON- TRAFFIC SIGNAL WORK IS BEING PERFORMED WITHIN 400 FEET OF AN EXISTING SIGNALIZED INTERSECTION, FLASHING BEACON OR SCHOOL ZONE FLASHER OR OTHER TYPE OF SIGNAL, CONTACT TXDOT REPRESENTATIVE, MIKE GARZA, AT (210) 615-6028, E-MAIL IS MIKE.GARZA@TXDOT.GOV. THE CONTRACTOR IS RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ANY SIGNAL EQUIPMENT DAMAGED BY CONSTRUCTION OPERATIONS. THE METHOD OF REPAIR OR REPLACEMENT SHALL BE PRE-APPROVED AND INSPECTED. DEPENDING ON THE ON THE TYPE AND EXTENT OF THE DAMAGE, TXDOT RESERVE THE RIGHT TO PERFORM THE REPAIR OR REPLACEMENT WORK AND THE CONTRACTOR WILL BE BILLED FOR THIS WORK WHEN WORKING NEAR AERIAL ELECTRICAL LINES OR UTILITY POLES, COMPLY WITH FEDERAL, STATE AND LOCAL REGULATIONS.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY WATER POLLUTION ABATEMENT PLAN

GENERAL CONSTRUCTION NOTES

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

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

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

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

5. PRIOR TO COMMENCEMENT OF CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. CONTROLS SPECIFIED IN THE TEMPORARY STORM WATER SECTION OF THE APPROVED EDWARDS AQUIFER PROTECTION PLAN ARE REQUIRED DURING CONSTRUCTION. IF INSPECTIONS INDICATE A CONTROL HAS BEEN USED INAPPROPRIATELY, OR INCORRECTLY, THE APPLICANT MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. THE CONTROLS MUST REMAIN IN PLACE UNTIL DISTURBED AREAS ARE REVEGETATED AND THE AREAS HAVE BECOME PERMANENTLY STABILIZED.

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

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

8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORMWATER DISCHARGES (E.G., SCREENING OUTFALLS, PICKED UP DAILY).

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

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

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

12. THE HOLDER OF ANY APPROVED 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
2800 S. IH 35, SUITE 100	14250 JUDSON ROAD
AUSTIN, TEXAS 78704-5712	SAN ANTONIO, TEXAS 78233-4480
PHONE (512) 339-2929	PHONE (210) 490-3096
FAX (512) 339-3795	FAX (210) 545-4329

DETENTION POND NOTES

EARTHFILL

1. SCOPE
THE WORK CONSISTS OF THE CONSTRUCTION OF EARTH EMBANKMENTS, OTHER EARTHFILLS, AND EARTH BACKFILLS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS.

EARTHFILL IS COMPOSED OF NATURAL EARTH MATERIALS THAT CAN BE PLACED AND COMPACTED BY CONSTRUCTION EQUIPMENT OPERATED IN A CONVENTIONAL MANNER.

EARTH BACKFILL IS COMPOSED OF NATURAL EARTH MATERIAL PLACED AND COMPACTED IN CONFINED SPACES OR ADJACENT TO STRUCTURES (INCLUDING PIPES) BY HAND TAMPING, MANUALLY DIRECTED POWER TAMPERS OR VIBRATING PLATES, OR THEIR EQUIVALENT.

2. MATERIAL
FILL MATERIALS SHALL CONTAIN NO FROZEN SOIL, SOD, BRUSH, ROOTS, OR OTHER PERISHABLE MATERIAL. UNLESS OTHERWISE NOTED ON THE PLANS, ROCK PARTICLES LARGER THAN 6" SHALL BE REMOVED PRIOR TO COMPACTION OF THE FILL.

THE TYPES OF MATERIAL USED IN THE VARIOUS FILLS SHALL BE AS LISTED AND DESCRIBED IN THE SPECIFICATIONS AND DRAWINGS.

3. FOUNDATION PREPARATION
FOUNDATIONS FOR EARTHFILL SHALL BE STRIPPED TO REMOVE VEGETATION AND OTHER UNSUITABLE MATERIAL OR SHALL BE EXCAVATED AS SPECIFIED.

EXCEPT AS OTHERWISE SPECIFIED, EARTH FOUNDATION SURFACES SHALL BE GRADED TO REMOVE SURFACE IRREGULARITIES AND SHALL BE SCARIFIED PARALLEL TO THE AXIS OF THE FILL OR OTHERWISE ACCEPTABLY SCORED AND LOOSENED TO A MINIMUM DEPTH OF 2 INCHES. THE MOISTURE CONTENT OF THE LOOSENED MATERIAL SHALL BE CONTROLLED AS SPECIFIED FOR THE EARTHFILL, AND THE SURFACE MATERIAL OF THE FOUNDATION SHALL BE COMPACTED AND BONDED WITH THE FIRST LAYER OF EARTHFILL AS SPECIFIED OR SUBSEQUENT LAYERS OF EARTHFILL.

EARTH ABUTMENT SURFACES SHALL BE FREE OF LOOSE, UNCOMPACTED EARTH IN EXCESS OF 2 INCHES IN DEPTH NORMAL TO THE SLOPE AND SHALL BE AT SUCH A MOISTURE CONTENT THAT THE EARTHFILL CAN BE COMPACTED AGAINST THEM TO PRODUCE A GOOD BOND BETWEEN THE FILL AND THE ABUTMENTS.

ROCK FOUNDATION AND ABUTMENT SURFACES SHALL BE CLEARED OF ALL LOOSE MATERIAL BY HAND OR OTHER EFFECTIVE MEANS AND SHALL BE FREE OF STANDING WATER WHEN FILL IS PLACED UPON THEM. OCCASIONAL ROCK OUTCROPS IN EARTH FOUNDATIONS FOR EARTHFILL, EXCEPT IN DAMS AND OTHER STRUCTURES DESIGNED TO RESTRAIN THE MOVEMENT OF WATER, SHALL NOT REQUIRE SPECIAL TREATMENT IF THEY DO NOT INTERFERE WITH COMPACTION OF THE FOUNDATION AND INITIAL LAYERS OF THE FILL OR THE BOND BETWEEN THE FOUNDATION AND THE FILL.

FOUNDATION AND ABUTMENT SURFACES SHALL BE NO STEEPER THAN ONE HORIZONTAL TO ONE VERTICAL UNLESS OTHERWISE SPECIFIED. TEST PITS OR OTHER CAVITIES SHALL BE FILLED WITH COMPACTED EARTHFILL CONFORMING TO THE SPECIFICATIONS FOR THE EARTHFILL TO BE PLACED UPON THE FOUNDATION.

4. PLACEMENT
EARTHFILL SHALL BE PLACED IN APPROXIMATELY HORIZONTAL LAYERS. THE THICKNESS OF EACH LAYER BEFORE COMPACTION SHALL NOT EXCEED THE MAXIMUM THICKNESS SPECIFIED AS SHOWN ON THE DRAWINGS. MATERIALS PLACED BY DUMPING IN PILES OR WINDOWS SHALL BE SPREAD UNIFORMLY TO NOT MORE THAN THE SPECIFIED THICKNESS BEFORE BEING COMPACTED.

HAND COMPACTED EARTH BACKFILL SHALL BE PLACED IN LAYERS WHOSE THICKNESS BEFORE COMPACTION DOES NOT EXCEED THE MAXIMUM THICKNESS SPECIFIED FOR LAYERS OF EARTH BACKFILL COMPACTED BY MANUALLY DIRECTED POWER TAMPERS.

EARTH BACKFILL SHALL BE PLACED IN A MANNER THAT PREVENTS DAMAGE TO THE STRUCTURES AND ALLOWS THE STRUCTURES TO ASSUME THE LOADS FROM THE EARTH BACKFILL GRADUALLY AND UNIFORMLY. THE HEIGHT OF THE EARTH BACKFILL ADJACENT TO A STRUCTURE SHALL BE INCREASED AT APPROXIMATELY THE SAME RATE ON ALL SIDES OF THE STRUCTURE.

EARTHFILL AND EARTH BACKFILL IN DAMS, LEVEES, AND OTHER STRUCTURES DESIGNED TO RESTRAIN THE MOVEMENT OF WATER SHALL BE PLACED TO MEET THE FOLLOWING ADDITIONAL REQUIREMENTS:

(a) THE DISTRIBUTION OF MATERIALS THROUGHOUT EACH ZONE SHALL BE ESSENTIALLY UNIFORM, AND THE EARTHFILL SHALL BE FREE FROM LENSES, POCKETS, STREAKS, OR LAYERS OF MATERIAL DIFFERING SUBSTANTIALLY IN TEXTURE, MOISTURE CONTENT, OR GRADATION FROM THE SURROUNDING MATERIAL. ZONE EARTHFILLS SHALL BE CONSTRUCTED CONCURRENTLY UNLESS OTHERWISE SPECIFIED.
(b) IF THE SURFACE OF ANY LAYER BECOMES TOO HARD AND SMOOTH FOR PROPER BOND WITH THE SUCCEEDING LAYER, IT SHALL BE SCARIFIED PARALLEL TO THE AXIS OF THE FILL TO A DEPTH OF NOT LESS THAN 2 INCHES BEFORE THE NEXT LAYER IS PLACED.
(c) THE TOP SURFACE OF EMBANKMENTS SHALL BE MAINTAINED APPROXIMATELY LEVEL DURING CONSTRUCTION WITH TWO EXCEPTIONS: A CROWN OR CROSS-SLOPE OF ABOUT 2 PERCENT SHALL BE MAINTAINED TO ENSURE EFFECTIVE DRAINAGE, OR AS OTHERWISE SPECIFIED FOR DRAINFILL OR SECTIONAL ZONES.
(d) DAM EMBANKMENTS SHALL BE CONSTRUCTED IN CONTINUOUS LAYERS FROM ABUTMENT TO ABUTMENT EXCEPT WHERE OPENINGS TO FACILITATE CONSTRUCTION OR TO ALLOW THE PASSAGE OF STREAM FLOW DURING CONSTRUCTION ARE SPECIFICALLY AUTHORIZED IN THE CONTRACT.
(e) EMBANKMENTS BUILT AT DIFFERENT LEVELS AS DESCRIBED UNDER (C) OR (D) ABOVE SHALL BE CONSTRUCTED SO THAT THE SLOPE OF THE BONDING SURFACES BETWEEN EMBANKMENT IN PLACE AND EMBANKMENT TO BE PLACED IS NOT STEEPER THAN 3 FEET HORIZONTAL TO 1 FOOT VERTICAL. THE BONDING SURFACE OF THE EMBANKMENT IN PLACE SHALL BE STRIPPED OF ALL MATERIAL NOT MEETING THE REQUIREMENTS OF THIS SPECIFICATION AND SHALL BE SCARIFIED, MOISTENED, AND RECOMPACTED WHEN THE NEW EARTHFILL IS PLACED AGAINST IT. THIS ENSURES A GOOD BOND WITH THE NEW EARTHFILL AND OBTAINS THE SPECIFIED MOISTURE CONTENT AND DENSITY AT THE CONTACT OF THE INPLACE AND NEW EARTHFILLS.

(f) THE FILL MATERIAL SHALL BE FREE OF ORGANIC MATTER AND OTHER OBJECTIONABLE MATERIAL. PLACING AND SPREADING OF FILL SHALL BEGIN ON THE LOWEST PART OF THE WORKING AREA AND CONTINUE IN HORIZONTAL LAYERS OF APPROXIMATE UNIFORM THICKNESS, NOT EXCEEDING 9 INCHES BEFORE COMPACTION. WHERE THE BORROW YIELDS MATERIALS OF VARYING TEXTURE AND GRADATION, THE MORE IMPERVIOUS MATERIAL SHALL BE PLACED TOWARD THE WATERSIDE OF THE BERM. THE CONSTRUCTION EQUIPMENT SHALL BE OPERATED OVER THE AREA OF EACH LAYER IN A MANNER TO BREAK UP LARGE CLODS AND OBTAIN COMPACTION.

5. CONTROL OF MOISTURE CONTENT
DURING PLACEMENT AND COMPACTION OF EARTHFILL AND EARTH BACKFILL, THE MOISTURE CONTENT OF THE MATERIAL BEING PLACED SHALL BE MAINTAINED WITHIN THE SPECIFIED RANGE.

THE APPLICATION OF WATER TO THE EARTHFILL MATERIAL SHALL BE ACCOMPLISHED AT THE BORROW AREAS INSOFAR AS PRACTICABLE. WATER MAY BE APPLIED BY SPRINKLING THE MATERIAL AFTER PLACEMENT ON THE EARTHFILL, IF NECESSARY. UNIFORM MOISTURE DISTRIBUTION SHALL BE OBTAINED BY DISKING.

MATERIAL THAT IS TOO WET WHEN DEPOSITED ON THE EARTHFILL SHALL EITHER BE REMOVED OR BE DRIED TO THE SPECIFIED MOISTURE CONTENT PRIOR TO COMPACTION.

IF THE TOP SURFACE OF THE PRECEDING LAYER OF COMPACTED EARTHFILL OR A FOUNDATION OR ABUTMENT SURFACE IN THE ZONE OF CONTACT WITH THE EARTHFILL BECOMES TOO DRY TO PERMIT SUITABLE BOND, IT SHALL EITHER BE REMOVED OR SCARIFIED AND MOISTENED BY SPRINKLING TO AN ACCEPTABLE MOISTURE CONTENT BEFORE PLACEMENT OF THE NEXT LAYER OF EARTHFILL.

6. COMPACTION
EARTHFILL - EARTHFILL SHALL BE COMPACTED ACCORDING TO THE FOLLOWING REQUIREMENTS FOR THE CLASS OF COMPACTION SPECIFIED:

CLASS A COMPACTION - EACH LAYER OF EARTHFILL SHALL BE COMPACTED AS NECESSARY TO PROVIDE THE DENSITY OF THE EARTHFILL MATRIX NOT LESS THAN THE MINIMUM DENSITY SPECIFIED ON THE DRAWINGS. THE EARTHFILL MATRIX IS DEFINED AS THE PORTION OF THE EARTHFILL MATERIAL FINER THAN THE MAXIMUM PARTICLE SIZE USED IN THE COMPACTION TEST METHOD SPECIFIED.

COMPACTION OF ALL EARTHEN EMBANKMENTS SHALL HAVE A NON-PERMEABLE CORE, SHALL BE BASED ON A GEOTECHNICAL INVESTIGATION OF THE SITE, AND SHALL BE COMPACTED TO 90% STANDARD PROCTOR.

7. REWORKING OR REMOVAL AND REPLACEMENT OF DEFECTIVE EARTHFILL
EARTHFILL PLACED AT DENSITIES LOWER THAN THE SPECIFIED MINIMUM DENSITY OR AT MOISTURE CONTENTS OUTSIDE THE SPECIFIED ACCEPTABLE RANGE OF MOISTURE CONTENT OR OTHERWISE NOT CONFORMING TO THE REQUIREMENTS OF THE SPECIFICATIONS SHALL BE REWORKED TO MEET THE REQUIREMENTS OR REMOVED AND REPLACED BY ACCEPTABLE EARTHFILL. THE REPLACEMENT EARTHFILL AND THE FOUNDATION, ABUTMENT, AND EARTHFILL SURFACES UPON WHICH IT IS PLACED SHALL CONFORM TO ALL REQUIREMENTS OF THIS SPECIFICATION FOR FOUNDATION PREPARATION, APPROVAL, PLACEMENT, MOISTURE CONTROL, AND COMPACTION.

8. TESTING
DURING THE COURSE OF THE WORK, THE CONTRACTOR WILL PERFORM QUALITY CONTROL TEST REQUIRED TO IDENTIFY MATERIAL; DETERMINE COMPACTION CHARACTERISTICS; DETERMINE MOISTURE CONTENT; AND DETERMINE DENSITY OF EARTHFILL IN PLACE. TESTS PERFORMED WILL BE SUBMITTED TO THE ENGINEER OF RECORD TO VERIFY THAT THE EARTHFILLS CONFORM TO CONTRACT REQUIREMENTS OF THE SPECIFICATIONS.

DENSITIES OF EARTHFILL REQUIRING CLASS A COMPACTION WILL BE DETERMINED IN ACCORDANCE WITH ASTM D 698, D 1556, D 2167, D 2922, OR D 2937 EXCEPT THAT THE VOLUME AND MOIST WEIGHT OF INCLUDED ROCK PARTICLES LARGER THAN THOSE USED IN THE COMPACTION TEST METHOD SPECIFIED FOR THE TYPE OF FILL WILL BE DETERMINED AND DEDUCTED FROM THE VOLUME AND MOIST WEIGHT OF THE TOTAL SAMPLE BEFORE COMPUTATION OF DENSITY OR, IF USING THE NUCLEAR GAUGE, ADDED TO THE SPECIFIED DENSITY TO BRING IT TO THE MEASURE OF EQUIVALENT COMPOSITION FOR COMPARISON (SEE ASTM D 4718). THE DENSITY SO COMPUTED IS USED TO DETERMINE THE PERCENT COMPACTION OF THE EARTHFILL MATRIX. UNLESS OTHERWISE SPECIFIED, MOISTURE CONTENT IS DETERMINED BY ONE OF THE FOLLOWING METHODS: ASTM D 2216, D 3017, D 4643, D 4944, OR D 4959.

DETENTION POND NOTES:
CONSTRUCTION SPECIFICATION – TOP SOIL

1. VEGETATION OF POND BOTTOM – THE WORK CONSISTS OF PLACEMENT OF TOP SOIL ON NEW EARTH EMBANKMENTS, OTHER EARTHFILLS, AND EARTH BACKFILLS REQUIRED BY THE DRAWINGS.

2. MATERIAL – THE TOPSOIL SHALL BE FERTILE SOIL, CONSISTING PRIMARILY OF CLAY AND CLAYEY MATERIALS, WITH A PLASTICITY INDEX GREATER THAN 15, AND SHALL BE FREE OF LARGE ORGANIC OR ROCK MATERIAL.

3. APPLICATION – TOPSOIL SHALL BE PLACED AT GRADES INDICATED ON THE PLANS AND ROLLED TO REDUCE EROSION. PERIODIC INSPECTION ARE REQUIRED AND ADDITIONAL TOPSOIL ADDED AS NEEDED UNTIL VEGETATION HAS ESTABLISHED

CONSTRUCTION SPECIFICATION – VEGETATION

1. VEGETATION OF EMBANKMENT – THE WORK CONSISTS OF ESTABLISHING VEGETATION ON NEW EARTH EMBANKMENTS, OTHER EARTHFILLS, AND EARTH BACKFILLS REQUIRED BY THE DRAWINGS.

2. MATERIAL – VEGETATION SHALL CONSIST OF "NATIVE SUN TURF GRASS" AS SUPPLIED BY NATIVE AMERICAN SEED IN JUNCTION, TX, CONSISTING OF 34% BLUE GRAMA AND 64% BUFFALO GRASS, OR ENGINEER APPROVED EQUAL. SEED MIXTURE SHALL CONSIST OF A PURE LIVE SEED OF 90–95%.

3. APPLICATION – THE SEED MIXTURE SHALL BE INSTALLED PER DISTRIBUTORS RECOMMENDATIONS AT A RATE OF 1 LB PER 400 SQFT. SEED MIXTURE SHALL BE WATERED AS REQUIRED UNTIL VEGETATION IS ESTABLISHED.

DRAINAGE INFRASTRUCTURE MAINTENANCE AND MONITORING GUIDELINES

- ACCESS –
- SEASONAL MOWING AND LAWN CARE – IF THE DETENTION POND 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 POND MAY REQUIRE LESS FREQUENT MOWING, BUT A MINIMUM OF TWICE ANNUALLY. REGULAR MOWING SHOULD ALSO INCLUDE WEED CONTROL PRACTICES, HOWEVER HERBICIDE USE SHOULD BE KEPT TO A MINIMUM. 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 DETENTION POND AT LEAST TWICE ANNUALLY FOR EROSION OR DAMAGE TO VEGETATION; HOWEVER, ADDITIONAL INSPECTION AFTER PERIODS OF HEAVY RUNOFF IS MOST DESIRABLE. 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 RESTORED TO MEET SPECIFICATIONS.
- DEBRIS AND LITTER REMOVAL – THE DETENTION POND 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 2 TIMES PER YEAR.
- SEDIMENT REMOVAL – SEDIMENT MAY ACCUMULATE WITHIN THE DETENTION POND, PREVENTING UNIFORM OVERLAND FLOW, SEE ATTACHED EXHIBIT FOR SEDIMENT MARKER LOCATION NEAR THE POND OUTFALL. SEDIMENT IS TO BE REMOVED WHEN THE ACCUMULATED OR AT LEAST EVERY 10 YEARS.

IMPERVIOUS CORE COMPACTION NOTE:
COMPACTED CLAY CORE TO BE PLACED A MINIMUM OF 2' BELOW EXISTING GRADE ALONG THE ENTIRE LENGTH OF THE BERM. MATERIAL TO HAVE A PI OF 30 OR GREATER, MINIMUM COMPACTED DRY DENSITY OF 90% AND GROUND CONTENT NO MORE THAN 5% BY WEIGHT LARGER THAN NO.4 SIEVE.

GRADING NOTES:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES THAT ARE NOT SPECIFICALLY COVERED IN THE SPECIFICATIONS OR GEOTECHNICAL REPORT SHALL CONFORM TO ALL APPLICABLE CITY, COUNTY AND TXDOT STANDARD SPECIFICATIONS FOR PUBLIC WORKS AND CONSTRUCTION (LATEST EDITION).
2. SITE PREPARATION, GRADING, EXCAVATION AND FILL SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT AND SPECIFICATIONS.
3. ALL SELECT FILL MATERIAL PROVIDED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING AND COMPACTING.
4. ALL ELEVATIONS AND PROPOSED CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES. THE THICKNESS OF PAVING, BASE, GRASS, TOPSOIL, AND MULCH MUST BE SUBTRACTED TO OBTAIN SUBGRADE ELEVATIONS.
5. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS OF GRADES OR DIMENSIONS NECESSARY FOR THE CONSTRUCTION OF THE PROJECT.
6. THE CONTRACTOR SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE COMMENCEMENT OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
8. THE CONTRACTOR SHALL REMOVE TOP SOIL, GRASS, ROOTS, DEBRIS, ETC., AND DISPOSE OFFSITE THOSE MATERIALS NOT SUITABLE FOR EMBANKMENT AND TOPSOIL. CLEAN STRIPING AND TOPSOIL MAY BE STOCKPILED ON SITE FOR REUSE IN A LOCATION SPECIFIED BY THE OWNER.
9. THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE STABILIZATION. ALL DISTURBED AREAS SHALL BE REVEGETATED IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND TPDES/SWPPP REQUIREMENTS.
10. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS (USE OF SILT FENCES, ETC.) TO KEEP DEBRIS AND SILT FROM WASHING ONTO ADJACENT PROPERTY, STREETS, OR DRAINAGE WAYS. CONTRACTOR SHALL IMMEDIATELY REMOVE SILT/DEBRIS WHICH WASHES OFFSITE OR INTO EXISTING STORM DRAIN SYSTEMS. (SEE SWPPP PLANS & TPDES BOOK).
11. THE CONTRACTOR SHALL OBTAIN FINISHED NATURAL GROUND GRADES SHOWN HEREON WITHIN +/_ ONE-TENTH (0.10) FOOT.
12. IN PROPOSED PAVING AREAS, IT IS INTENDED THAT THE MINIMUM GRADE IS 1%. ALL EARTHEN SLOPES SHALL BE A MAXIMUM OF 3:1 AND A MINIMUM GRADE OF 2% UNLESS OTHERWISE SHOWN.
13. THE CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING SITE AND PROPOSED IMPROVEMENTS.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION ANY DAMAGE DONE TO EXISTING TREES, BUILDINGS, UTILITIES, FENCES, PAVEMENT, CURBS OR DRIVEWAYS (NO SEPARATE PAY ITEMS).
15. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN WORKING NEAR UTILITIES, GAS LINES, SEWER, OR EXISTING APPURTENANCES.
16. UTILITIES SHOWN ON THE PLANS ARE FROM INFORMATION SOURCES AVAILABLE AT THE TIME OF DESIGN BUT MAY NOT REPRESENT ALL EXISTING UTILITIES ON SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL CONTACT THE RESPECTIVE UTILITY COMPANIES AND SHALL UNCOVER EXISTING UTILITIES TO VERIFY SIZE, GRADE AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS OWN EXPENSE.
17. POSITIVE DRAINAGE SHALL BE MAINTAINED THROUGHOUT THE SCOPE OF THE PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
18. FOR FILL PLACEMENT ON HILL SIDES OR STEEP SLOPE AREAS, THE CONTRACTOR SHALL REFERENCE THE PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR SPECIAL INSTRUCTIONS REGARDING BENCHING.
19. NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A PERMIT.

STATE OF TEXAS
SAMUEL L. KNOTTS
126382
LICENSED
PROFESSIONAL ENGINEER
4/19/2024

INFINITY CONCRETE
1308 E. COMMON ST. UNIT 205 #59
NEW BRAUNFELS, TX 78130

INFINITY CONCRETE
SOUTH CRANES MILL

GENERAL NOTES II

SHEET
C-1.1

NO	DATE	ISSUES AND REVISIONS
△		

INK CIVIL

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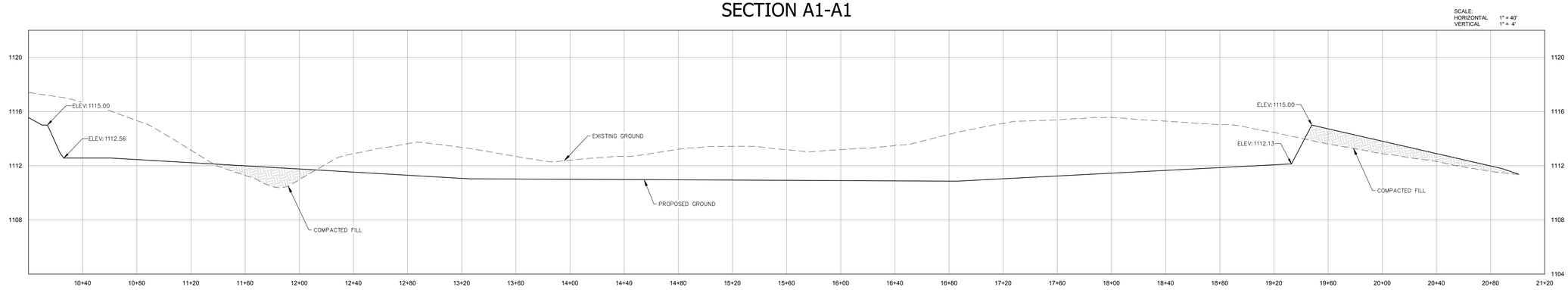
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink-civil.com
TBPE FIRM F-13351

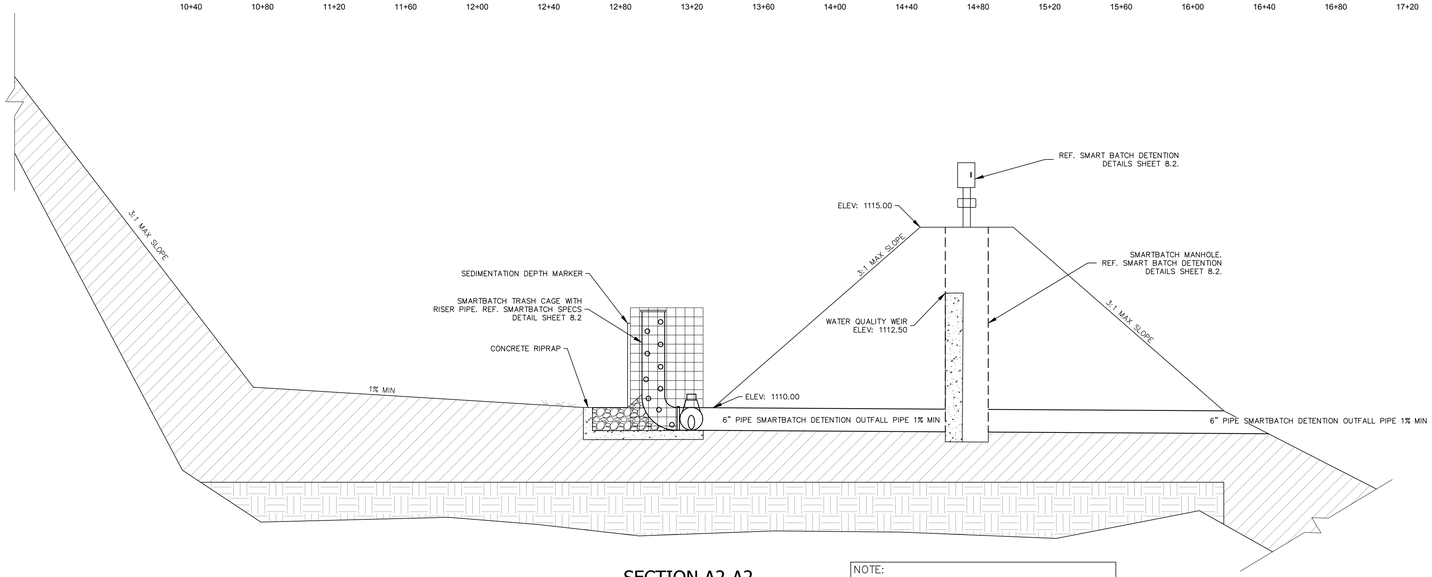
PERMIT SET

Drawing Name: N:\!Projects\INFI001 Infinity Concrete-S Cranes Mill\Civil\Construction Drawings\C-1.0 GENERAL NOTES I.dwg User: SamKnotts Apr 25, 2024 - 1:24pm

SEE SHEET 12 - DETENTION POND PLAN & NOTES FOR SECTION MARKER LOCATIONS

SECTION A1-A1





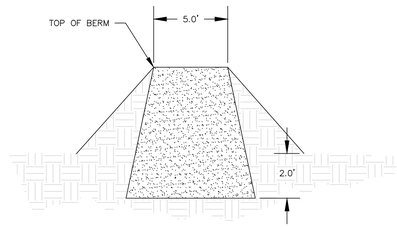
SECTION A2-A2

NOT TO SCALE

NOTE:
REQUIRED WATER QUALITY VOLUME: 74622 CF
PROVIDED WATER QUALITY VOLUME: 80000 CF

CONRETE WEIR DETAIL

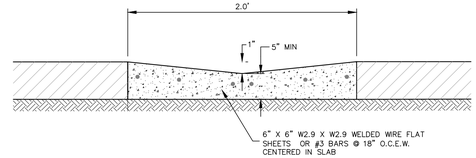
Scale: NTS



FILL BERM SECTION (TYP)

Scale: NTS

NOTE: IMPERVIOUS CLAY BERM CORE AND CLAY LINER SHOWN ARE TO BE CONSIDERED SUBSIDIARY TO POND EXCAVATION. (NO SEPARATE PAY ITEM)



PILOT CHANNEL DETAIL

NOT TO SCALE

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

Texas Water Company	830-312-4600
GVTC	830-885-4411
Centerpoint Gas	830-643-6434
Robert Sanders	830-643-6903
Damaged Line	888-876-5786
AT&T Telephone	855-488-1685
Erick White PM	210-283-1706
Scott McBrearty (Construction)	210-658-4886
Texas One Call	830-545-6005

C.P.E. LOCATOR

CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR

THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1-800-545-6005,. CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTORS IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATIONS.

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PERMIT SET

STATE OF TEXAS
SAMUEL L. KNOTTS
126382
LICENSED
PROFESSIONAL ENGINEER
4/19/2024

INFINITY CONCRETE
1308 E. COMMON ST. UNIT 205 #59
NEW BRAUNFELS, TX 78130

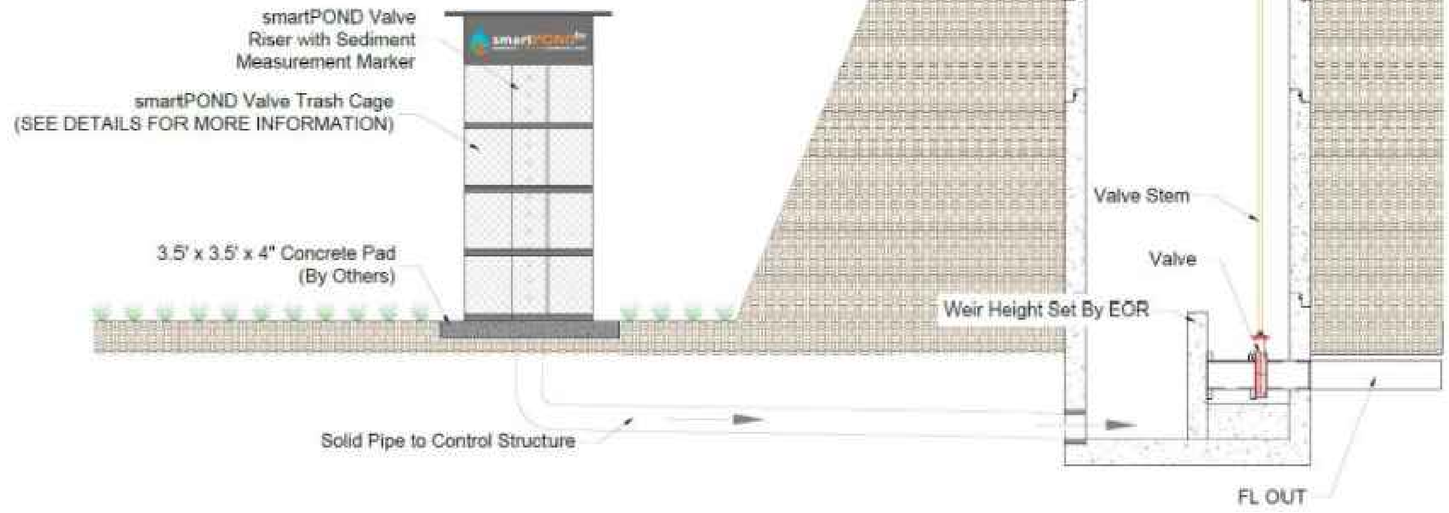
INFINITY CONCRETE
SOUTH CRANES MILL

DETENTION POND
CROSS-SECTIONS

SHEET
C-8.1

NO	DATE	ISSUES AND REVISIONS
1		

INK CIVIL
2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink-civil.com
TBPE FIRM F-13351



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C.P.E. LOCATOR

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NOTE:

1. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.
2. ANY DISTURBED AREAS WILL BE VEGETATED BY SEEDING OR SODDING.
3. ALL EARTHEN CHANNELS MUST NOT EXCEED 3:1 SIDE SLOPES (MAX).
4. VALVE TO BE EQUIPPED WITH MANUAL OPENING CAPABILITY.
5. VALVE TO BE IN CLOSED POSITION AT ALL TIMES BETWEEN STORM EVENTS.
6. LOGIC CONTROLLER TO OPEN VALVE 12 HOURS (BY SIGNALING ACTUATOR TO TURN VALVE INTO FULLY OPEN POSITION) AFTER FIRST RAINFALL READING BY WATER LEVEL SENSOR.
7. VEGETATION ON THE BASIN EMBANKMENTS SHOULD BE MOWED AS APPROPRIATE TO PREVENT ESTABLISHMENT OF WOODY VEGETATION.
8. ALL CABLES TO BE PROTECTED BY CONDUIT AND BURIED TO PREVENT DAMAGE DURING MAINTENANCE ACTIVITIES.
9. MANUAL CONTROLS OF THE CONTROLLER WILL BE USED TO KEEP VALVE CLOSED IN THE EVENT OF A HAZARDOUS MATERIAL SPILL IN THE BASIN. ALL COMPONENTS OF THE SYSTEM MUST BE INSPECTED WITHIN 7 DAYS FOR PROPER OPERATION.
10. FIXED VERTICAL SEDIMENTATION DEPTH MARKER TO BE INSTALLED TO INDICATE WHEN SEDIMENTATION ACCUMULATION REACHES A REQUIRED REMOVAL DEPTH OF 6 INCHES.
11. 12 INCHES OF CLAY TO BE USED AS IMPERMEABLE LINER FOR BATCH DETENTION BASIN. CLAY SHOULD BE STABILIZED WITH APPROPRIATE VEGETATION AND MEET SPECIFICATIONS FROM TABLE 3-6 OF THE EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL. (SHOWN ON THIS PAGE)
12. UPON COMPLETION OF CONSTRUCTION, AND IN ACCORDANCE WITH TCEQ REGULATIONS, ALL PERMANENT BMP'S (BASINS) MUST BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER.

TABLE 3.6 (CLAY LINER SPECIFICATION)

PROPERTY	TEST METHOD	UNIT	SPECIFICATION
PERMEABILITY	ASTM D-2434	CM/SEC	1 x 10-6
PLASTICITY INDEX OF CLAY	ASTM D-423 & D-424	%	NOT LESS THAN 15
LIQUID LIMIT OF CLAY	ASTM D-2216	%	NOT LESS THAN 30
CLAY PARTICLES PASSING	ASTM D-422	%	NOT LESS THAN 30
CLAY COMPACTION	ASTM D-2216	%	95% OF STANDARD PROCTOR DENSITY

NOTE: IMPERVIOUS CLAY BERM CORE AND CLAY LINER SHOWN ARE TO BE CONSIDERED SUBSIDIARY TO POND EXCAVATION. (NO SEPARATE PAY ITEM)

BASE BID:
12" IMPERMEABLE CLAY LINER FOR THE BASIN BOTTOM AND ALONG EARTHEN SIDE SLOPE UP TO ELEVATION = 909.1

STATE OF TEXAS
SAMUEL L. KNOTTS
126382
LICENSED PROFESSIONAL ENGINEER
4/19/2024

INFINITY CONCRETE
1308 E. COMMON ST. UNIT 205 #59
NEW BRAUNFELS, TX 78130

INFINITY CONCRETE
SOUTH CRANES MILL

WATER QUALITY DETAILS

SHEET
C-8.2

NO	DATE	ISSUES AND REVISIONS
1		

PERMIT SET

INK CIVIL
2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink-civil.com
TBPE FIRM F-13351

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

I Sean McGarity,
Print Name

President,
Title - Owner/President/Other

of ICC & Associates, LLC,
Corporation/Partnership/Entity Name

have authorized Sam Knotts
Print Name of Agent/Engineer

of INK Civil
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Applicant's Signature

4/17/2024
Date

THE STATE OF Texas §

County of Comal §

BEFORE ME, the undersigned authority, on this day personally appeared Sean McGarity 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 25th day of April, 2024.

Emily Starnes
Commission # 13313587-3
Notary Public
STATE OF TEXAS
My Comm Exp. Jun 03, 2025

Emily Starnes
NOTARY PUBLIC

Emily Starnes
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 06/03/2025

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: 1900 Business Park

Regulated Entity Location: 1900 S Crains Mill Rd, New Braunfels, TX 78132

Name of Customer: 1900 Business Park

Contact Person: Sean McGarity Phone: _____

Customer Reference Number (if issued):CN _____

Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☐ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde

☑ Comal ☐ Kinney

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

☐ Austin Regional Office

☐ Mailed to: TCEQ - Cashier

Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☑ San Antonio Regional Office

☐ Overnight Delivery to: TCEQ - Cashier

12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

Site Location (Check All That Apply):

☑ Recharge Zone ☑ Contributing Zone ☐ Transition Zone

Type of Plan	***Size***	***Fee Due***
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	36.103 Acres	$ 6,500
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: Samuel Knotts Date: 4/19/2024

Application Fee Schedule

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

☐ Other

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

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy)

☑ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)* — *If new Customer, enter previous Customer below:*

ICC and Associates, LLC

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
0805329834	32092762023	99-0450819	

11. Type of Customer: ☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

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

13. Independently Owned and Operated?
☐ **Yes** ☐ **No**

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

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

15. Mailing Address:							
	1308 E. Common St. Unit 205 #59						
City	New Braunfels	**State**	TX	**ZIP**	78130	**ZIP + 4**	

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

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

SECTION III: Regulated Entity Information

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

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

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

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

1900 Business Park

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	1900 S Crains Mill Rd							
	City	New Braunfels	**State**	TX	**ZIP**	78132	**ZIP + 4**	
24. County	Comal							

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

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

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

27. Latitude (N) In Decimal:			**28. Longitude (W) In Decimal:**		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
6552	1540	236220	237210

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

Warehouse Construction

34. Mailing Address:	1308 E. Common St. Unit 205 #59							
	City	New Braunfels	**State**	TX	**ZIP**	78130	**ZIP + 4**	
35. E-Mail Address:	seanm@infinitycc.com							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(325) 642 - 2950		( ) -

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

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

SECTION IV: Preparer Information

40. Name:	Bryce Raders	**41. Title:**	E.I.T.

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(830) 358 - 7127		( ) -	bryceraders@ink-civil.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:	INK Civil	**Job Title:**	Engineer	
Name *(In Print):*	Sam Knotts, P.E.		**Phone:**	(830) 358 - 7127
Signature:	Samuel Knotts		**Date:**	04/19/2024

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: 1900 Business Park
Date Prepared: 4/19/2024

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

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

where:

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increas
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 =	Comal	
Total project area included in plan * =	36.10	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	19.03	acres
Total post-development impervious cover fraction * =	0.53	
P =	33	inches

$L_{M\ TOTAL\ PROJECT}$ = **17081** lbs.

Number of drainage basins / outfalls areas leaving the plan area = **2**

STATE OF TEXAS
SAMUEL L. KNOTTS
126382
LICENSED
PROFESSIONAL ENGINEER
4/19/2024

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

Drainage Basin/Outfall Area No. = A2 Onsite

Total drainage basin/outfall area =	33.19	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	18.48	acres
Post-development impervious fraction within drainage basin/outfall area =	0.56	
$L_{M\ THIS\ BASIN}$ =	16588	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Batch Detention
Removal efficiency = 91 percent

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

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

where:

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

A_C =	33.19	acres
A_I =	18.48	acres
A_P =	14.71	acres
L_R =	19440	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 16588 lbs.

F = **0.85**

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

Rainfall Depth =	**1.32**	inches
Post Development Runoff Coefficient =	**0.39**	
On-site Water Quality Volume =	**62185**	cubic feet

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

Off-site area draining to BMP =	**0.00**	acres
Off-site Impervious cover draining to BMP =	**0.00**	acres
Impervious fraction of off-site area =	**0**	
Off-site Runoff Coefficient =	**0.00**	
Off-site Water Quality Volume =	**0**	cubic feet
Storage for Sediment =	**12437**	
Total Capture Volume (required water quality volume(s) x 1.20) =	**74622**	cubic feet

8. Batch Detention Basin System Designed as Required in RG-348 Addendum Sheet Section 3.4.18

Required Water Quality Volume for batch detention basin = **74622** cubic feet

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: 1900 Business Par
Date Prepared: 4/19/2024

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 sp

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Predevelopment impervious area within the limits of the plan * =	0.00	acres
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Total post-development impervious cover fraction * =	0.53	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	17081	lbs.

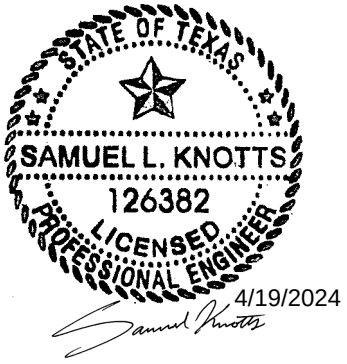
* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 2

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

Drainage Basin/Outfall Area No. = B1

Total drainage basin/outfall area =	9.56	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.55	acres
Post-development impervious fraction within drainage basin/outfall area =	0.06	
$L_{M\ THIS\ BASIN}$ =	497	lbs.



3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vegetated Filter Strips
Removal efficiency = 85 percent

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

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

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

where:

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

A_C =	**2.92**	acres
A_I =	**0.55**	acres
A_P =	**2.37**	acres
L_R =	**574**	lbs

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

Desired $L_{M\ THIS\ BASIN}$ =	**497**	lbs.
F =	**0.87**	

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

Rainfall Depth =	**1.44**	inches
Post Development Runoff Coefficient =	**0.19**	
On-site Water Quality Volume =	**2964**	cubic feet

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

Off-site area draining to BMP =	**6.64**	acres
Off-site Impervious cover draining to BMP =	**0.00**	acres
Impervious fraction of off-site area =	**0.00**	
Off-site Runoff Coefficient =	**0.02**	
Off-site Water Quality Volume =	**694**	cubic feet
Storage for Sediment =	**732**	
Total Capture Volume (required water quality volume(s) x 1.20) =	**4390**	cubic feet

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