UST FACILITY PLAN

Facility ID No.: *NA*

Shell Road Retail Center
2121 SH-195
Georgetown, TX

Prepared for:

Shell 195 Real Estate, LLC
5522 Jenolan Ridge Lane
Sugar Land, Texas 77479

Prepared by:

GEO STRATA ENVIRONMENTAL CONSULTANTS, INC.
PO Box 830606
SAN ANTONIO, TEXAS 78283

Geo Strata Job # 1047-SA Other

REGISTERED CORRECTIVE ACTION SPECIALIST — RCAS #00093
EXP DATE 2/2026

Suzanne Green. P.G., Geo Strata Environmental Consultants

CORRECTIVE ACTION PROJECT MANAGER — CAPM #1550
P.G. License # 6511

Cheri Krieg, P.G.

September 2024

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APPENDIX E

Agent Authorization Form
Application Fee Form
Core Data Form

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: Shell Road Retail Center					**2. Regulated Entity No.: TBD**			
3. Customer Name: Shell 195 Real Estate, LLC					**4. Customer No.: CN 605618057**			
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):**		2.213
9. Application Fee:	$650.00		**10. Permanent BMP(s):**			Full Sedimentation/Filtration Pond		
11. SCS (Linear Ft.):			**12. AST/UST (No. Tanks):**			One 34,000-gallon UST		
13. County:	Williamson		**14. Watershed:**			Berry Creek HUC-1207020503		

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 _X_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. Cheri Krieg, P.G.
Print Name of Customer/Authorized Agent
Signature of Customer/Authorized Agent Date 9/13/24

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):	

Appendix A

TECQ-0587
General Information Form

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 ond attachments contributes to more streamlined technical reviews.

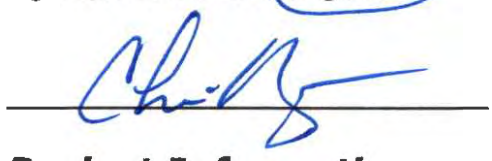
Signature

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: Cheri Krieg, P.G.

Date: 9/13/24

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Shell Road Retail Center
2. County: Williamson
3. Stream Basin: Berry Creek
4. Groundwater Conservation District (If applicable): NA
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

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

7. Customer (Applicant):

   Contact Person: Samir Maredia
   Entity: Shell 195 Real Estate, LLC
   Mailing Address: 5522 Jenolan Ridge Lane
   City, State: Sugar Land, TX Zip: 77479
   Telephone: (832) 713-4985 FAX: _____
   Email Address: samirsmaredia@gmail.com

8. Agent/Representative (If any):

   Contact Person: Cheri Krieg, PG
   Entity: Geo Strata Environmental Consultants, Inc.
   Mailing Address: PO Box 830606
   City, State: San Antonio, TX Zip: 78283
   Telephone: 210-492-7282 FAX: _____
   Email Address: c.krieg@geostrata.com

9. Project Location:

   ☒ The project site is located inside the city limits of Georgetown.
   ☐ 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 Shell Road Retail will be located at 2121 SH-195, Georgetown on the west corner of Shell Road and SH-195.

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

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

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

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

☐ Survey staking will be completed by this date: _____

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

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

15. Existing project site conditions are noted below:

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

Prohibited Activities

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

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

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

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

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

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

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

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

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

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

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

Administrative Information

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

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

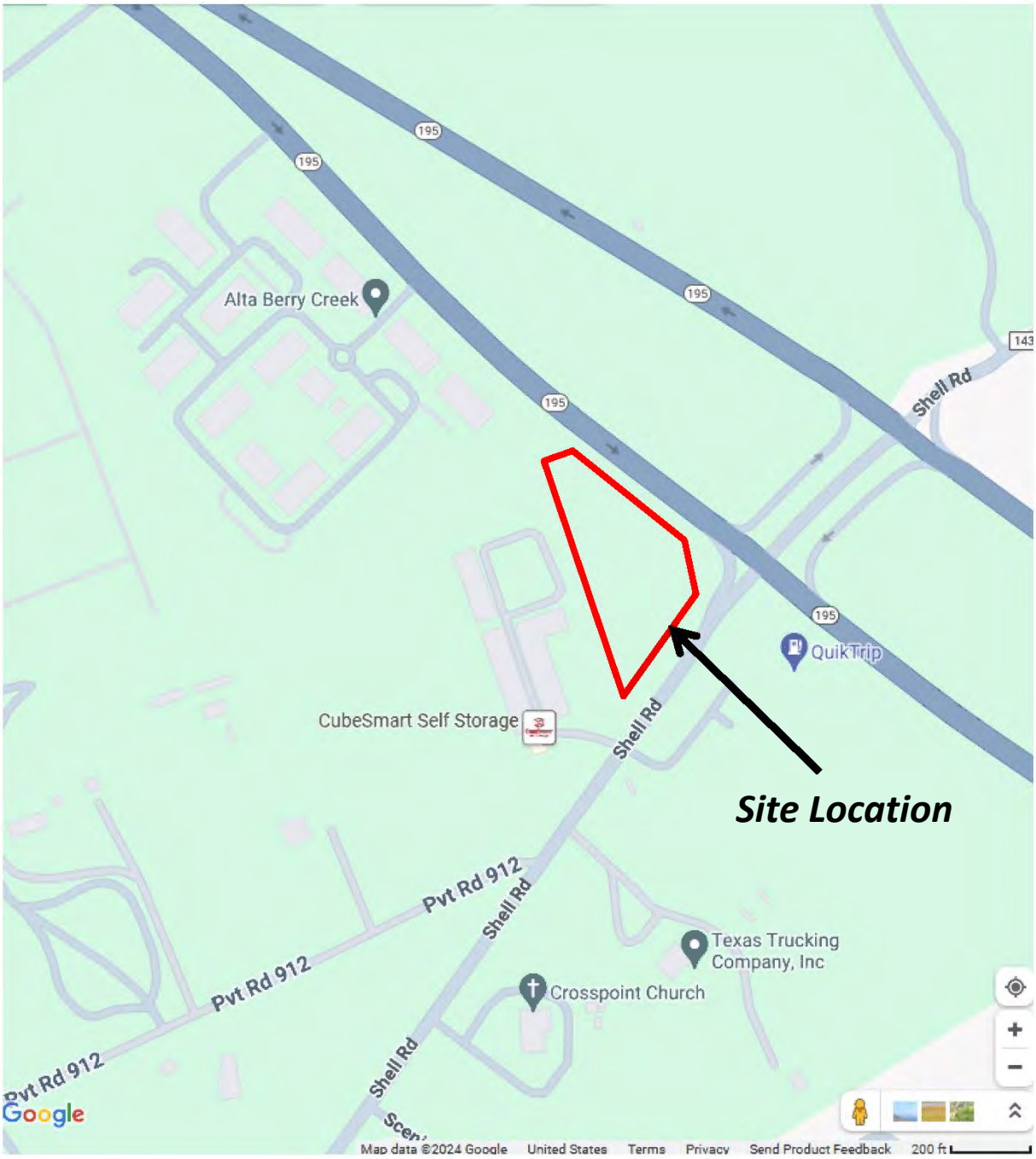
19. ☒ Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:

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

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

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

TCEQ-0587 Attachment A
Road Map



Geo Strata

TCEQ-0587 Attachment A
Road Map
Shell Road Retail Center
2121 SH 195
Georgetown, Texas

N
W
E
S

TCEQ-0587 Attachment B

USGS & Edwards Aquifer Recharge Zone Map

TCEQ-0587 Attachment Bi
USGS Map

2022 Georgetown Quadrangle
Texas – Williamson County
7.5-Minute Series

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2

1000 500 0 METERS 1000 2000

1 0.5 0 1

MILES

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

FEET

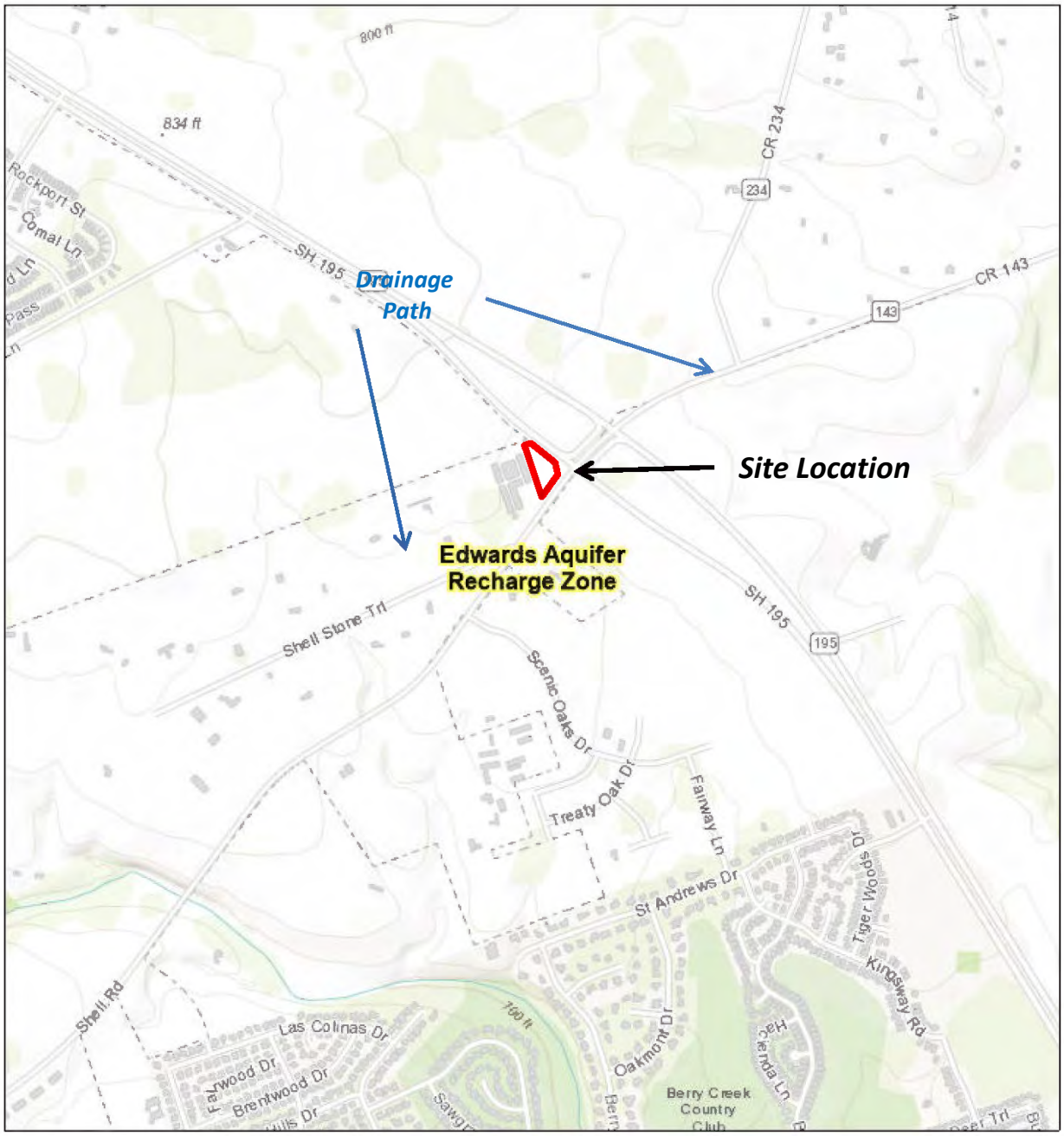
CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

Geo Strata

TCEQ-0587 Attachment Bi
7.5 Minute USGS Quadrangle Map
Shell Road Retail Center
2121 SH 195
Georgetown, Texas

N
W E
S

TCEQ-0587 Attachment Bii
Edwards Aquifer Recharge Map – Small Scale



8/19/2024, 11:52:02 AM

Edwards Aquifer Label

1:18,056

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

Geo Strata

TCEQ-0587 Attachment Bii

Edwards Aquifer Recharge Zone Map – Small Scale

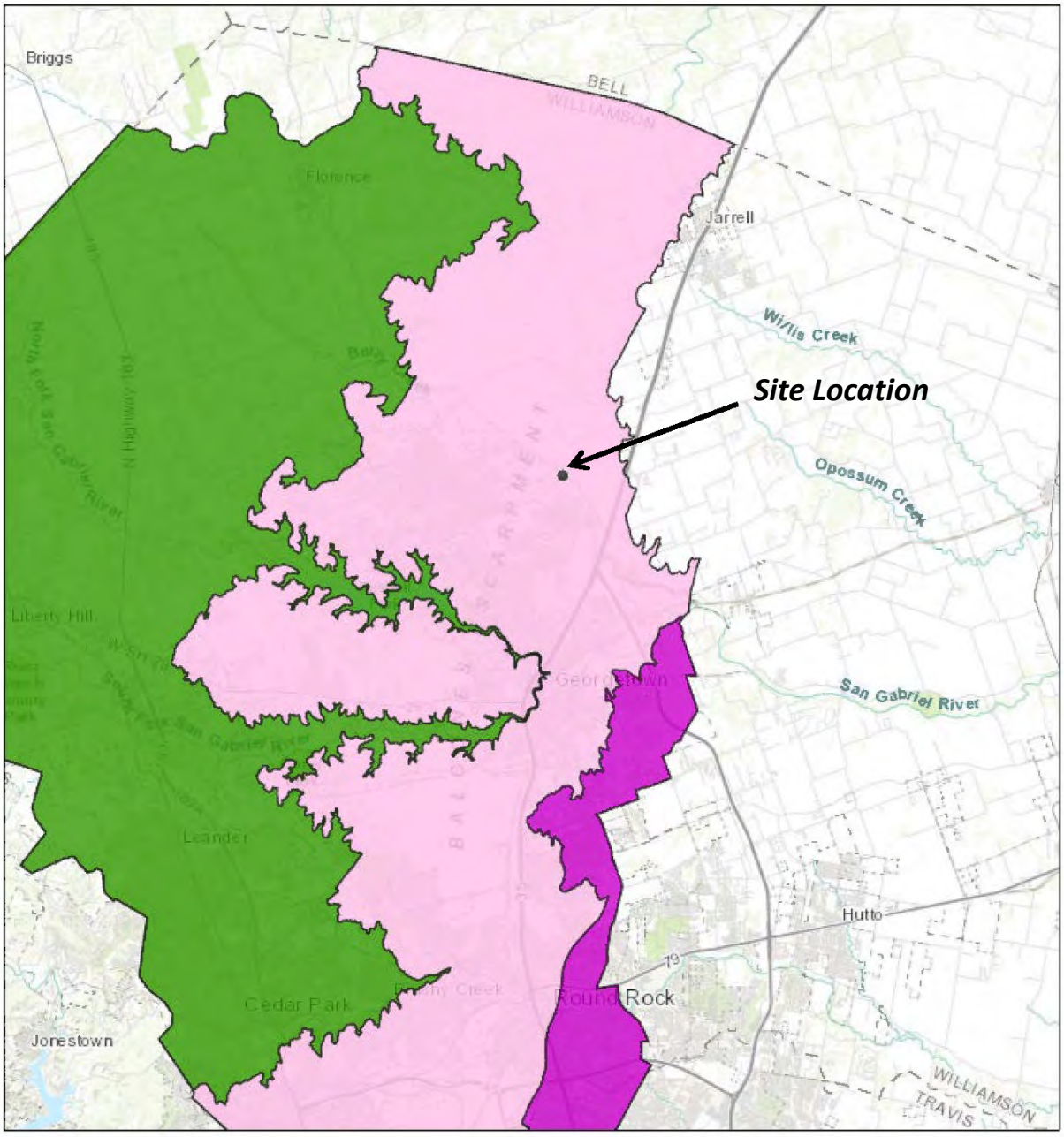
Shell Road Retail Center

2121 SH 195

Georgetown, Texas

N W E S

TCEQ-0587 Attachment Biii
Edwards Aquifer Recharge Map – Large Scale



Geo Strata

TCEQ-0587 Attachment Biii
Edwards Aquifer Recharge Zone Map – Large Scale
Shell Road Retail Center
2121 SH 195
Georgetown, Texas

N W E S

TCEQ-0587 Attachment C

Project Description

General Information Form - TCEQ 0587
Attachment C – Project Description

Shell Road Retail Center
2121 SH 195
Georgetown, Texas

The proposed Shell Road Retail Center convenience store equipped with a single underground storage tank (UST), is to be located at 2121 State Highway 195 and Shell Road, Williamson County, Texas as shown in **Appendix A, TCEQ-0587 - Attachment A and Attachment Bi**. The facility is located over the Edwards Aquifer Recharge Zone as shown on **Appendix A, TCEQ-0587 - Attachment Bii and Biii**. The approximately 2.217-acre property is currently undeveloped consists of native trees, shrubs and grasses**.** The Shell Retail Center will consist of one building and associated utility services, parking/driveways, a full sedimentation/filtration water quality pons, pedestrian routes and landscaping for a 5,029 sqft convenience store with fuel sales. The new UST system will consist of a single UST with three compartments (22k, 6k and 6k-gallons) and a total of eight dispensers. A Site Map of the facility is presented in **Appendix C, TCEQ-0583, Site Plan.**

Facility diagrams, UST system and containment schematics and manufactures product sheets are attached. Additionally, A description of proposed UST system specifications also detailed below.

The system will be comprised of (1) one triple wall fiberglass reinforced plastic (FRP) coated steel tank. The tank will be 34k gallons in size split 22k, 6K and 6k for the storage of gasoline and diesel fuels as manufactured by Watco Tanks of Floresville, TX. Each compartment will be fitted with a 2 hp submergible turbine pump (STP) for fuel delivery to (8) eight multi product dispensers (MPD).

Overfill protection will be installed on all fill ports by an automatic shut off valve set at no more than 95% of the tank's capacity. Spill prevention in the form U.L. rated double wall spill containment manway will also be installed on all tight fill connections as well as on Stage 1 truck vapor adaptor connections.

Product and vent piping will be U.L. listed FRP piping. Product piping will be of double wall construction utilizing 2" diameter primary and 3" diameter secondary containment. There will be no underground terminations. All threaded connections will begin and terminate in containment sumps at dispensers and tanks. Stainless steel flexible connectors will be placed on both ends of pipe. Anchored shear valves for each product will be installed at all dispensers for fuel shut-off in the event of emergencies.
Vent pipe will be 2" diameter double wall FRP. Unleaded and diesel fuels will have a dedicated vent line to prevent cross contamination of product.

Corrosion protection will be provided by several methods. The tanks will be jacketed with several layers FRP as well as incorporating dielectric bushings to isolate the tanks from all metal risers or pumps. All riser pipes will be coated and wrapped in dielectric material. Pumps, SS flexible connectors and any schedule 40 pipe fittings will be housed in liquid tight FRP STP sumps as well

as FRP UDC. (Under dispenser containment) No metal components will directly contact backfill or native material.

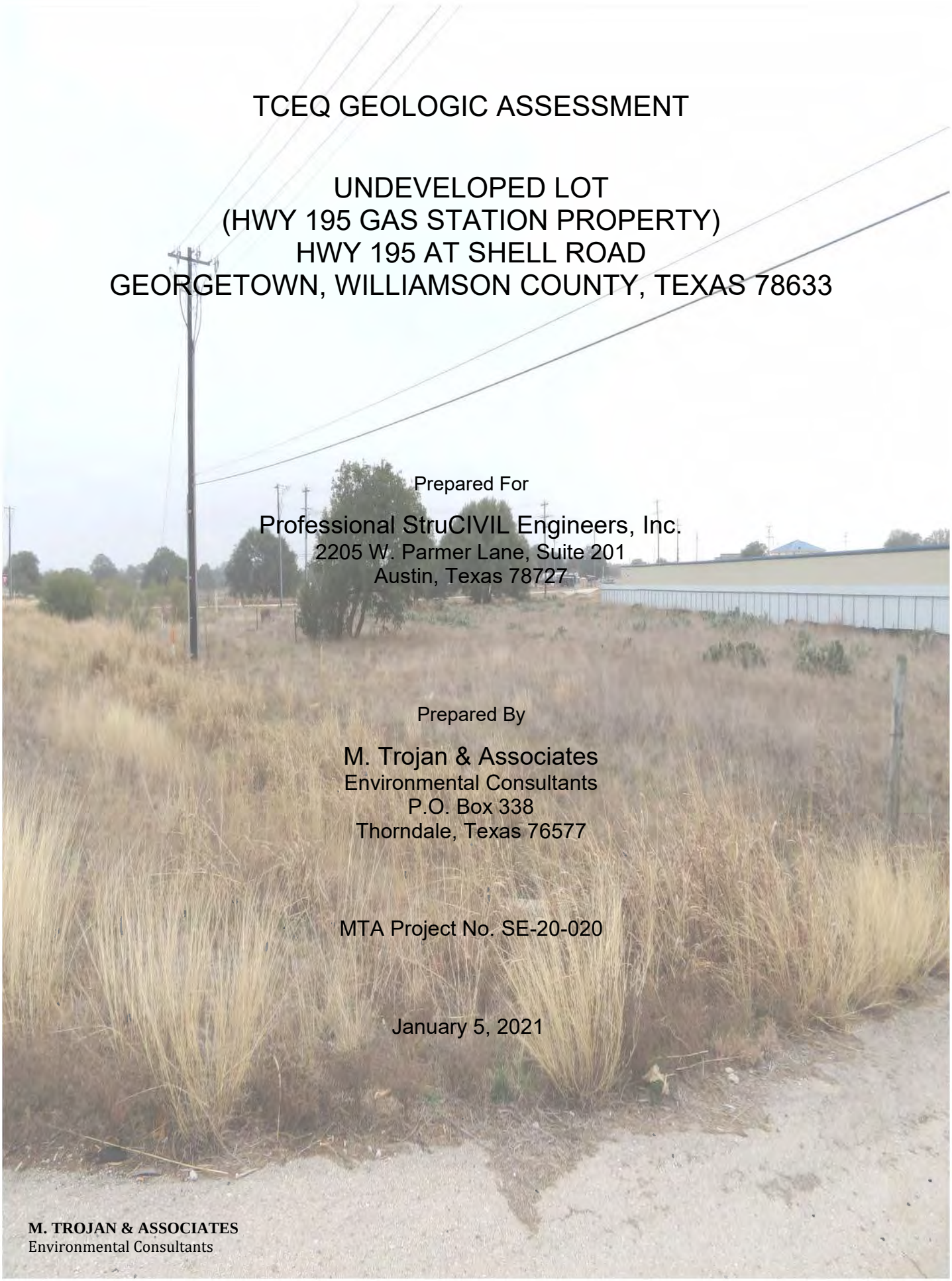
An automatic tank monitoring (ATG) system will be located in the store for client access to monitor the proposed tanks and piping. The ATG will monitor the fuel system for leaks by means of inventory control, continuous leak detection (CSLD), secondary containment monitoring and mechanical pressure line leak detection. Tanks to have interstitial sensors of double wall space. Sump sensors are to be installed on all STP containment sumps and UDC for detection of fuel or water. Tank gauging probes on each tank will provide inventory reports of each product. ATG will provide precision tank testing as required. Product lines will have electronic leak detection that will shut down fuel flow in the event a leak has been detected.

Appendix B

TECQ-0585
Geologic Assessment Form

TCEQ GEOLOGIC ASSESSMENT

UNDEVELOPED LOT
(HWY 195 GAS STATION PROPERTY)
HWY 195 AT SHELL ROAD
GEORGETOWN, WILLIAMSON COUNTY, TEXAS 78633



Prepared For

Professional StruCIVIL Engineers, Inc.
2205 W. Parmer Lane, Suite 201
Austin, Texas 78727

Prepared By

M. Trojan & Associates
Environmental Consultants
P.O. Box 338
Thorndale, Texas 76577

MTA Project No. SE-20-020

January 5, 2021

M. TROJAN & ASSOCIATES
Environmental Consultants

M. TROJAN & ASSOCIATES
Environmental Consultants

January 5, 2021

Mirza Tahir Baig, PE
Professional StruCIVIL Engineers, Inc.
2205 W. Parmer Lane, Suite 201
Austin, Texas 78727

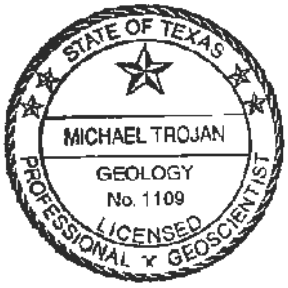
Subject: Report of TCEQ *Geologic Assessment*
Undeveloped Lot (Hwy 195 Gas Station Property)
Hwy 195 at Shell Road
Georgetown, Williamson County, Texas 78633
MTA Project No. SE-20-020

Mirza:

M. Trojan & Associates is pleased to submit this report of a Texas Commission on Environmental Quality (TCEQ) *Geologic Assessment* for the above referenced property. This *Geologic Assessment* was performed in accordance with the TCEQ requirements and instructions for completing TCEQ Form 0585.

I appreciate the opportunity to assist you in your environmental matters associated with the subject property and trust that the contents of this report are satisfactory. Should you have any questions or require additional information, please feel free to contact me at (512) 917-3695, or forward an email to mtrojan0316@gmail.com.

Respectfully,



Michael Trojan, PG
M. TROJAN & ASSOCIATES

Certified Professional Geoscientist #1109 (TX)

c: MTA Project File SE-20-020

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ATTACHMENTS

1.0 TCEQ FORM 0585

Geologic Assessment

Texas Commission on Environmental Quality

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

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

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

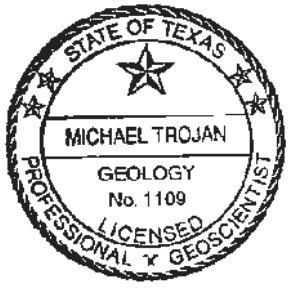
Signature

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

Print Name of Geologist: Michael Trojan, PG Telephone: (512) 917-3695

Representing: M. Trojan & Associates Fax:

Signature of Geologist:



Michael Trojan, PG
Certified Professional Geoscientist #1109 (TX)

Regulated Entity Name: Undeveloped Lot (Hwy 195 Gas Station Property)
Hwy 195 at Shell Road, Georgetown, Williamson Co., Texas 78633

Project Information

1. Date(s) Geologic Assessment was performed: December 28, 2020

2. Type of Project:

X	WPAP		AST
X	SCS	X	UST

3. Location of Project:

X	Recharge Zone
	Transition Zone
	Contributing Zone within the Transition Zone

4. [X] **Attachment A – Geologic Assessment Table**. Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.

5. [X] 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 (refer to Attachment D).

Table 1 – Soil Units, Infiltration, Characteristics and Thickness

Soil Units, Infiltration Characteristics & Thickness		
Soil Name	Group*	Thickness (feet)
Eckrant cobbly clay, 1–8% slopes (EaD)	D	up to 1.1
Georgetown stony clay loam, 1-3% slopes (GsB)	D	up to 2.9

* 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. [X] **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. [X] **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. [X] **Attachment D – Site Geologic Map(s)**. The Site Geologic Map must be the same scale as the applicant's Site Plan.

   Applicant's Site Plan Scale: unknown
   Site Geologic Map Scale: 1" = 150'
   Site Soils Map Scale (if more than 1 soil type): 1" = 150'

9. Method of collecting positional data:

   [X] 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. [X] Surface geologic units are shown and labeled on the Site Geologic Map.

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

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

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

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

    [ ] There are 0 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply).

    [ ] The wells are not in use and have been properly abandoned.

[ ] The wells are not in use and will be properly abandoned.

[ ] The wells are in use and comply with 16 TAC Chapter 76.

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

Administrative Information

15. [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.

2.0 OVERVIEW

M. Trojan & Associates was retained to conduct a Geologic *Assessment* for proposed future development on an undeveloped lot (Hwy 195 Gas Station property) located at Hwy 195 and Shell Road in Georgetown, Williamson County, Texas 78633 (refer to Figures 1 and 2 of Attachment D). All aspects of the *Geologic Assessment* were conducted by Mr. Michael Trojan, PG (Certified Professional Geoscientist #1109 in Texas), and the assessment was performed in accordance with Texas Commission on Environmental Quality (TCEQ) requirements and instructions for completing TCEQ Form 0585. The assessment included reconnaissance of the entire property as well as bordering portions of all neighboring properties.

Based on information obtained from the TCEQ, the study area is located on the Edwards Aquifer Recharge Zone. Accordingly, the objective of the *Geologic Assessment* was to identify any naturally occurring geologic (karst) or manmade features that may significantly contribute to recharge of the subsurface. The Edwards Aquifer rules define sensitive features as:

> *" . . . those that have potential for interconnectedness between the surface and the Edwards Aquifer and where rapid infiltration to the subsurface may occur."*

The scope of the *Geologic Assessment* included the following general components:

- Review of published soils and geologic/hydrogeologic information;
- Field evaluation of topographic features;
- Field evaluation of soil types and horizons, relative thicknesses, and hydrologic characteristics (visual only);
- General review of the subsurface geologic units beneath the property as well as geologic units exposed at ground surface (if visible);
- Field evaluation of geologic conditions to determine the presence or absence of caves, solution cavities, solution-enlarged fractures, faults, other natural bedrock features, sinkholes, swallets or swallow holes in drainage features, non-karst closed depressions, manmade features in bedrock, and any other natural or manmade features, and evaluation of such features with respect to their potential ability to convey infiltrating surface water to the underlying subsurface; and
- Preparation of TCEQ Form 0585 for presentation of the findings of this assessment.

3.0 GENERAL PROPERTY DESCRIPTION AND SITE DEVELOPMENT

3.1 Study Area

The study area is located on the southwest side of Hwy 195 and northwest side of Shell Road (refer to Figures 1 and 2 of Attachment D and photographs included in Attachment E). The property consists of approximately two acres of undeveloped land that has been historically cleared of most large vegetation and is occasionally shredded. As of the writing of this *Geologic Assessment* report, with the exception of underground infrastructure, there were no improvements observed on the lot.

3.2 Proposed Site Development

As of the writing of this *Geologic Assessment* report, the property is proposed to be developed as a gas station facility. Primary proposed improvements include a retail building, fuel dispensing island, underground petroleum storage tank hold and paved driveways and parking areas. With the exception of the southeastern-most portion of the lot, the proposed development will cover the entire property.

3.3 Previously Published Reports

No previously published, site-specific technical reports were reviewed as part of this *Geologic Assessment*.

4.0 GEOLIC ASSESSMENT LIMITATIONS

This *Geologic Assessment* was conducted in accordance with rules and guidelines set forth by the TCEQ, as well as consistent with standard methods and practices generally employed by professionals engaged in conducting karst assessments. Still, the scope of the *Geologic Assessment* presents certain limitations. The primary limitations include:

1. The field reconnaissance is conducted to effectively identify the geologic conditions/features at the subject property. However, certain site conditions may render features undetectable as a result of obstruction by: (1) soil cover, (2) very dense, inaccessible vegetation, (3) manmade cover including, but not limited to driveways, concrete slabs, soil and debris piles/mounds, and/or (4) stormwater runoff ground cover following significant rainfall events.

2. The scope of the *Geologic Assessment* does not include identification of features that may be discovered at the time of site development – during excavation, trenching, grading and/or leveling.

3. While this *Geologic Assessment* is confident of the identification of karst features, or lack thereof, the regulatory community reserves the right to conduct a reconnaissance of the study area. At times, regulatory field inspectors may identify additional potential karst features that, in their professional opinion, may require consideration in terms of proposed development on the study area. In this event, the author of this *Geologic Assessment* and the developer are provided the opportunity to conduct additional field investigation of such features, including employment of certain invasive methodologies (e.g., excavation), to either confirm or refute the field findings of the regulatory field inspectors.

ATTACHMENT A

GEOLOGIC ASSESSMENT TABLE

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Hwy 195 Gas Station Property

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	
ONSITE																				
MB-1	30.724637	-97.673775	MB	30	Kgt	240	unk	unk					X	≤5	≤35	≤35		N/A	N/A	hillside
OFFSITE																				
MB-2	30.723986	-97.674309	MB	30	Kgt	70	45	3					X	≤5	≤35	≤35		unk	unk	drainage
MB-3	N/A	N/A	MB	30	Kgt	unk	unk	unk					X	≤5	≤35	≤35		N/A	N/A	hillside
MB-4	N/A	N/A	MB	30	Kgt	unk	unk	unk					X	≤5	≤35	≤35		N/A	N/A	hillside

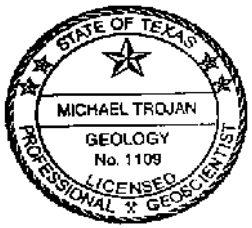
* DATUM:_____

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: January 5, 2021

Sheet 1 of 1

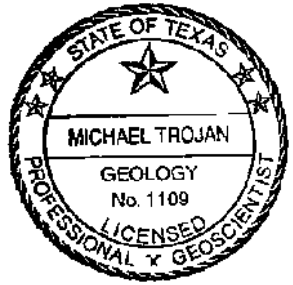
TCEQ-0585-Table (Rev. 10-01-04)

ATTACHMENT B

STRATIGRAPHIC COLUMN

SYSTEM	SERIES	GROUP	FORMATION	LITHOLOGY/ THICKNESS
QUATERNARY				TERRACE AND ALLUVIUM SAND, SILT, CLAY, AND GRAVEL THICKNESS NOT REPORTED
CRETACEOUS	UPPER CRETACEOUS (GULFIAN)	AUSTIN		CHALK, MARL, AND LIMESTONE 325–420 FEET THICK
		EAGLE FORD	EAGLE FORD	SHALE AND SILTY LIMESTONE TO CALCAREOUS SILTSTONE 25–65 FEET THICK
			BUDA	LIMESTONE UP TO 45 FEET THICK
	LOWER CRETACEOUS (COMANCHEAN)		DEL RIO	CLAY 40–70 FEET THICK
			GEORGETOWN	LIMESTONE AND MARL 30–80 FEET THICK
		FREDERICKSBURG	EDWARDS	LIMESTONE AND DOLOSTONE 60–350 FEET THICK
			COMANCHE PEAK	LIMESTONE AND MARL UP TO 80 FEET THICK
			WALNUT FORMATION	LIMESTONE AND MARL UP TO 130 FEET THICK
			PALUXY SAND	SAND UP TO 10 FEET THICK

Geologic unit that directly underlies the subject property



M. TROJAN & ASSOCIATES
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8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale: No Scale
Date: January 5, 2021
Project: TCEQ Geologic Assessment
MTA Project: SE-20-020

STRATIGRAPHIC COLUMN

UNDEVELOPED LOT
HWY 195 AT SHELL ROAD
GEORGETOWN, WILLIAMSON COUNTY, TEXAS 78633

ATTACHMENT C

SITE GEOLOGY

TOPOGRAPHY AND SURFACE WATER HYDROLOGY

The study area slopes gently to the southeast (refer to Figure 3 of Attachment D). Topographic elevations on the study area range between approximately 780 and 773 feet above mean sea level (msl), with the highest elevations located at the northwest property boundary and the lowest elevations along the southeast boundary. As is depicted on Figure 3 of Attachment D, all stormwater runoff generated on the study area flows toward the southeast and discharges directly offsite to a drainage ditch along Shell Road. The drainage ditch conveys runoff to an underground storm culvert that crosses beneath Shell Road and discharges to a property to the southeast of the study area and Shell Road.

The entire study area lies within the Berry Creek watershed. Berry Creek lies approximately 0.85 miles to the south-southwest of the study area. According to review of a FEMA Flood Insurance Rate Map, no portion of the study area lies within the 100-year floodplain. Moreover, no portion of the property lies within an established waterway setback.

SOILS

According to the *Soil Survey of Williamson County, Texas*, the soils that are reported to cover the study area are as follows (also refer to Figure 4 of Attachment D for soil type locations):

Soil Component Name:	Eckrant cobbly clay, 1–8% slopes (EaD)
Soil Surface Texture:	Dark grayish-brown cobbly clay to approximately 13 inches
Hydrologic Group:	Permeability is very slow; available water capacity is low
Soil Drainage Class:	Well drained
Soil Name:	Georgetown stony clay loam, 1–3% slopes (GsB)
Soil Surface Texture:	Brown stony clay loam to about 7 inches; subsoil is reddish brown clay and cobbly clay to about 35 inches; the underlying material is indurated limestone
Hydrologic Group:	Permeability is very slow; surface runoff is medium
Soil Drainage Class:	Well drained

Based on the *Soil Survey* and as is depicted on Figure 4 of Attachment D, the Eckrant cobbly clay soils are reported to cover majority of the study area.

Shallow excavations were made at various locations across the study area and soil characteristics were observed to be similar to those described in the *Soil Survey*. The soils were observed to be generally fine-grained with sparse to abundant embedded gravel, cobbles and larger rock fragments. The soils were found to be the thickest on the central and southeastern portions of the lot. The site inspection did not observe any evidence of significant surface soil erosion.

GEOLOGY

The study area is reported to be underlain by the Georgetown Formation (Kgt) (refer to the stratigraphic column in Attachment B and Figures 5 and 6 of Attachment D). The Georgetown Formation is described in geologic publications as follows:

> Limestone and marl; mostly limestone, fine-grained, argillaceous, nodular, moderately indurated, light gray; some limestone, hard, brittle, thick bedded, white; some shale, marly, soft, light gray to yellowish gray.

The thickness of the Georgetown Formation is reported to be 30 to 80 feet. The Georgetown Formation is overlain by the Del Rio Formation (Kdr) and underlain by the Edwards Formation (Ked).

Given the consistent soil cover over the entire study area, no true geologic rock outcrops were observed. However, bedrock fragments of various sizes were observed embedded in surface soils at random locations across the lot. All rock fragments were observed to be limestone that is tan to light gray and hard. Similar fragments embedded in surface soils were observed on neighboring properties.

ONSITE FEATURES

The field reconnaissance of the study area included search for and identification of sensitive karst and manmade features, as defined by TCEQ, and to note potential ground recharge points that may be associated with such features. The field reconnaissance entailed walking 25-foot spaced transects across the entire study area. The results of the reconnaissance are provided below.

Caves

Based on TCEQ criteria, a cave is a natural underground open (or filled) space formed by dissolution of limestone that is large enough for an average-sized person to enter. When a surface cave opening is encountered, then the subsurface extent of the cave is relevant in terms of subsurface recharge.

Based on observations made across the entire study area, no cave openings/caves were identified.

Solution Cavities

Based on TCEQ criteria, a solution cavity is a natural cavity or depression formed as a result of dissolution of limestone. This category is designed to capture features that are not large enough for a normal-sized person to enter but appear to be part of a system of interconnected voids that connect the surface with the subsurface. The size and geometry of the feature is defined by in-place bedrock. Solution cavities also include areas where dissolution has increased the opening size and permeability along bedding planes as well as fractures.

Based on observations made across the entire study area, no solution cavities were identified.

Solution-Enlarged Fractures

Based on TCEQ criteria, a solution-enlarged fracture is one that shows evidence of being locally enlarged by dissolution of limestone, recognized by measurable (larger than hairline) openings and miss-matched fracture surface shapes.

Based on observations made across the entire study area, no solution-enlarged fractures were identified.

Faults

Based on TCEQ criteria, a fault is defined as a fracture along which there has been displacement of one side of the fracture relative to the other side. Displaced geologic materials and/or an abrupt change in surface topography can both be indicative of the presence of a fault.

Based on observations made across the entire study area, no field evidence of the presence of faults was observed.

It is noted that based on review of literature, it is reported that a northeast-southwest trending fault zone is located beneath the southeastern-most portion of the study area (refer to Figures 5 and 6 of Attachment D). While this report acknowledges potential presence of the reported fault, the exact location of the feature cannot be confirmed under the limited scope of the *Geologic Assessment*. That is, review of available public information and site

reconnaissance did not produce adequate field evidence of the fault location/alignment. Still, it can be stated that the onsite and offsite field reconnaissance did not identify sufficient evidence of any significant change in topography and/or vegetation that would pinpoint the fault, nor field evidence of any associated surface point recharge features such as fractures, caves and/or sinkholes that may have developed at ground level along the fault line. Given the absence of point recharge features along the presumed fault trace, the fault is not included as a sensitive feature on the Geologic Assessment Table in Attachment A.

Manmade Features in Bedrock

Based on TCEQ criteria, manmade features in bedrock may include water wells, sanitary sewer lines, storm sewer lines, trenches, quarries, and other cultural features that intersect bedrock and can potentially increase the rate of recharge to the subsurface.

The following onsite feature was identified:

Onsite Manmade Feature in Bedrock MB-1

Latitude: 30.724637 (center of onsite segment)
Longitude: -97.673775 (center of onsite segment)
Dimensions: 240' length; unknown subsurface dimensions

Onsite Feature MB-1 qualifies as a manmade features in bedrock. The feature represents underground infrastructure (water line) that crosses the eastern part of the lot and that connects to underground water lines along Hwy 195 and Shell Road (refer to the Geologic Assessment Table in Attachment A and Figure 6 of Attachment D).

The infrastructure is installed in bedrock that presumably showed no evidence of karst features during the installation process. Therefore, it is assessed that the underground infrastructure is not significant in the potential to increase the rate of recharge to the subsurface. It is further assessed that these features will not be affected by future development on the tract.

Swallet or Swallow Holes

Based on TCEQ criteria, a swallet or swallow hole may include a focused recharge feature in an intermittent drainage or stream in karst terrain. Some swallow holes have a surface expression, for example, a cave opening or formation of a whirlpool in the stream at high flow. The general

case is that fine soil and sediment as well as gravel are deposited over the bedrock feature during falling stages of flow, thereby intermittently or frequently obscuring the feature.

Based on observations made across the entire study area, no swallet or swallow holes were identified.

Sinkholes

Based on TCEQ criteria, a sinkhole represents a shallow, broad topographic depression formed in response to karst processes. Sinkholes are pragmatically defined as features greater than six (6) feet in diameter with more than six (6) inches of topographic relief. Sinkholes are usually circular in map view. In cross section they may be subtle swales or funnel-shaped pits and some have exposed rimrock at the perimeter. The presence of a sinkhole implies that processes including collapse, subsidence, and soil sapping over geologic time have caused the land surface to sink below the surrounding area.

Based on observations made across the entire study area, no sinkholes were identified.

Other Natural Bedrock Features

Based on TCEQ criteria, other natural bedrock features include vuggy rock and reef deposits that may contain large holes or vugs.

Based on observations made across the entire study area, no other natural bedrock features were identified.

Non-karst Closed Depressions

Based on TCEQ criteria, a non-karst closed depression is a natural or non-natural topographic depression that is not formed by karst processes and is not bedrock floored. A feature larger than six (6) feet in at least one direction and with six (6) inches or more of topographic relief should be considered as a feature.

Based on observations made across the entire study area, no non-karst closed depressions were identified.

Zones

Based on TCEQ criteria, a zone is an area in which any type of karst feature occurs along a trend or in a cluster. Clustered or aligned features are more likely to be an indicator of an integrated flow system at depth than isolated features. Alignment is expected in areas where conduit flow is strongly influenced by structurally controlled fractures.

Based on observations made across the entire study area, no zones were identified.

OFFSITE FEATURES

The field reconnaissance also included inspection of neighboring properties a distance of approximately 200 feet (as practical) from all boundaries of the subject property for identification of offsite sensitive karst and manmade features that could be deemed as significant in terms of development on the study area. The following offsite features were identified:

Offsite Manmade Feature in Bedrock MB-2

Latitude: 30.723986 (center of feature)
Longitude: -97.674309 (center of feature)
Dimensions: 70' X 45' X 3'

Offsite Feature MB-2 qualifies as a manmade feature in bedrock. The feature represents a water quality pond directly southwest of the study area (refer to the Geologic Assessment Table in Attachment A, Figure 6 of Attachment D and photograph in Attachment E).

The pond is installed in bedrock that presumably showed no evidence of karst features during the installation process. Therefore, it is assessed that the feature is not significant in the potential to increase the rate of recharge to the subsurface. It is further assessed that the feature will not be affected by future development on the tract.

Offsite Manmade Features in Bedrock MB-3

Latitude: N/A
Longitude: N/A
Dimensions: unknown

Features that collectively represent offsite Feature MB-3 qualify as manmade features in bedrock. The features include all underground infrastructure (wet

and dry lines) directly southeast of the study area and along Shell Road (refer to the Geologic Assessment Table in Attachment A and Figure 6 of Attachment D).

The infrastructure is installed in bedrock that presumably showed no evidence of karst features during the installation process. Therefore, it is assessed that the underground infrastructure is not significant in the potential to increase the rate of recharge to the subsurface. It is further assessed that these features will not be affected by future development on the tract.

Offsite Manmade Features in Bedrock MB-4

Latitude: N/A
Longitude: N/A
Dimensions: unknown

Features that collectively represent offsite Feature MB-4 qualify as manmade features in bedrock. The features include all underground infrastructure (wet and dry lines) directly northeast of the study area and along Hwy 195 (refer to the Geologic Assessment Table in Attachment A and Figure 6 of Attachment D).

The infrastructure is installed in bedrock that presumably showed no evidence of karst features during the installation process. Therefore, it is assessed that the underground infrastructure is not significant in the potential to increase the rate of recharge to the subsurface. It is further assessed that these features will not be affected by future development on the tract.

POTENTIAL FOR FLUID MOVEMENT TO THE SUBSURFACE

Based on review of available information and visual observations made during the field reconnaissance, this *Geologic Assessment* presents the following observations regarding the potential for recharge of the subsurface within the study area:

- Characteristics of soils that cover the study area are the primary factors that influence potential subsurface recharge on the property. Based on the *Soil Survey of Williamson County*, the Eckrant cobbly clay soils are reported to cover nearly the entire study area. These soils are relatively fine-grained, medium-thick to thick and exhibit very slow permeability. Thus, this *Geologic Assessment* assesses that percolation via soils to the subsurface is very slow.
- No significant, "defined" karst recharge points with focused recharge potential were observed to be located on the study area.

ATTACHMENT D

SITE GEOLOGIC MAPS

M. TROJAN & ASSOCIATES
Environmental Consultants

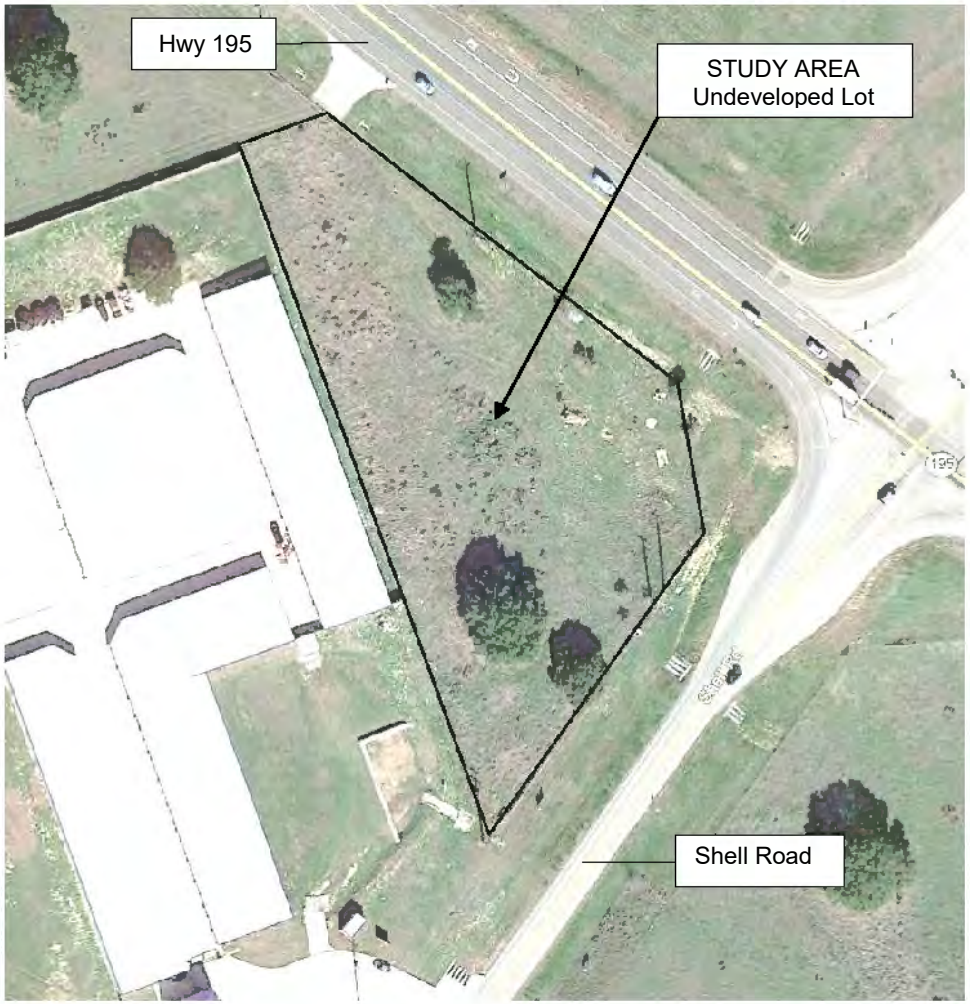
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	No Scale
Date:	January 5, 2021
Project:	TCEQ Geologic Assessment
MTA Project:	SE-20-020

FIGURE 1

SITE LOCATION MAP

UNDEVELOPED LOT
HWY 195 AT SHELL ROAD
GEORGETOWN, WILLIAMSON COUNTY, TEXAS 78633



2019 Aerial Photograph

M. TROJAN & ASSOCIATES
Environmental Consultants

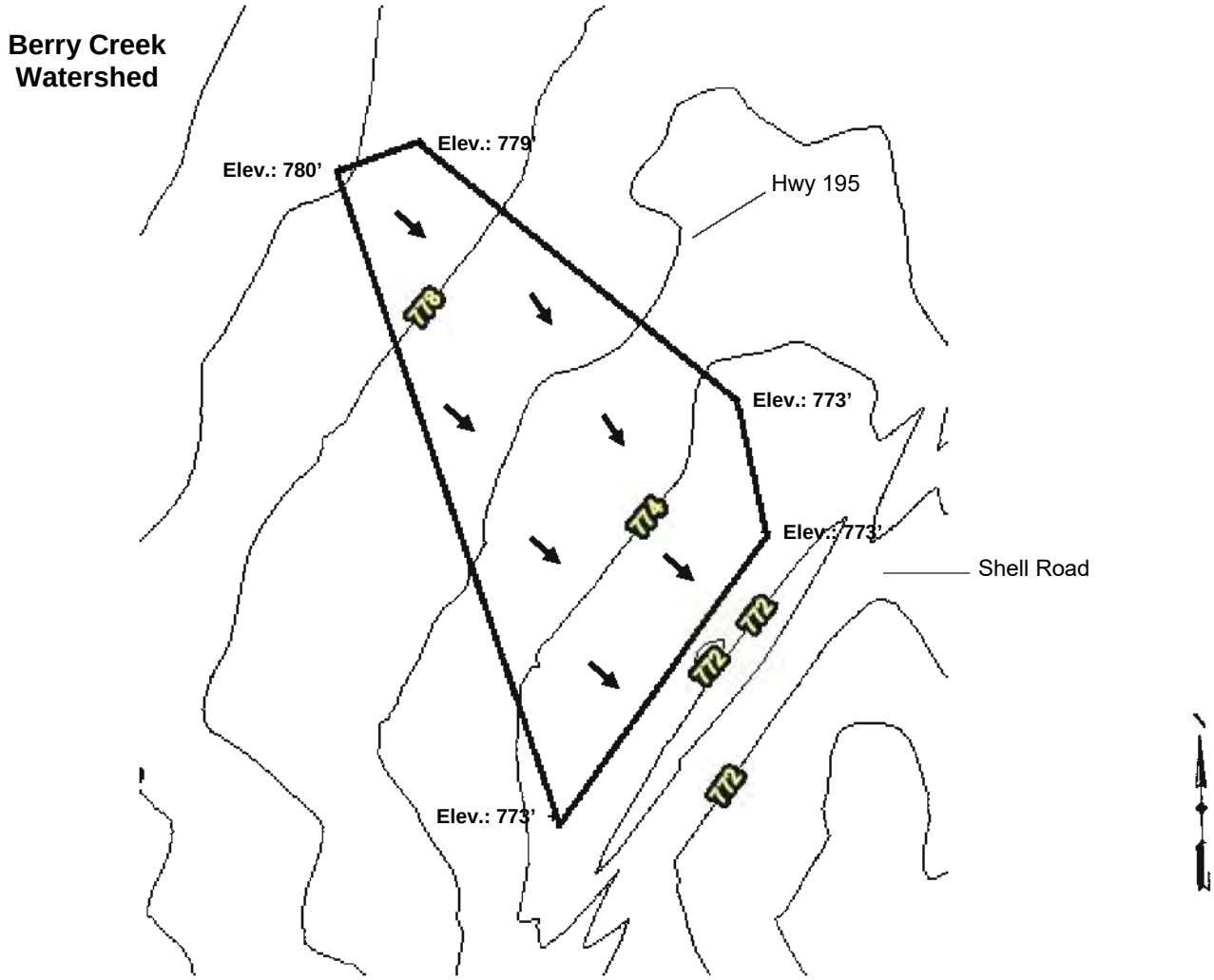
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale: 1" = 150' (approx.)
Date: January 5, 2021
Project: TCEQ Geologic Assessment
MTA Project: SE-20-020

FIGURE 2

SITE AERIAL PHOTOGRAPH

UNDEVELOPED LOT
HWY 195 AT SHELL ROAD
GEORGETOWN, WILLIAMSON COUNTY, TEXAS 78633



Source: Williams County GIS

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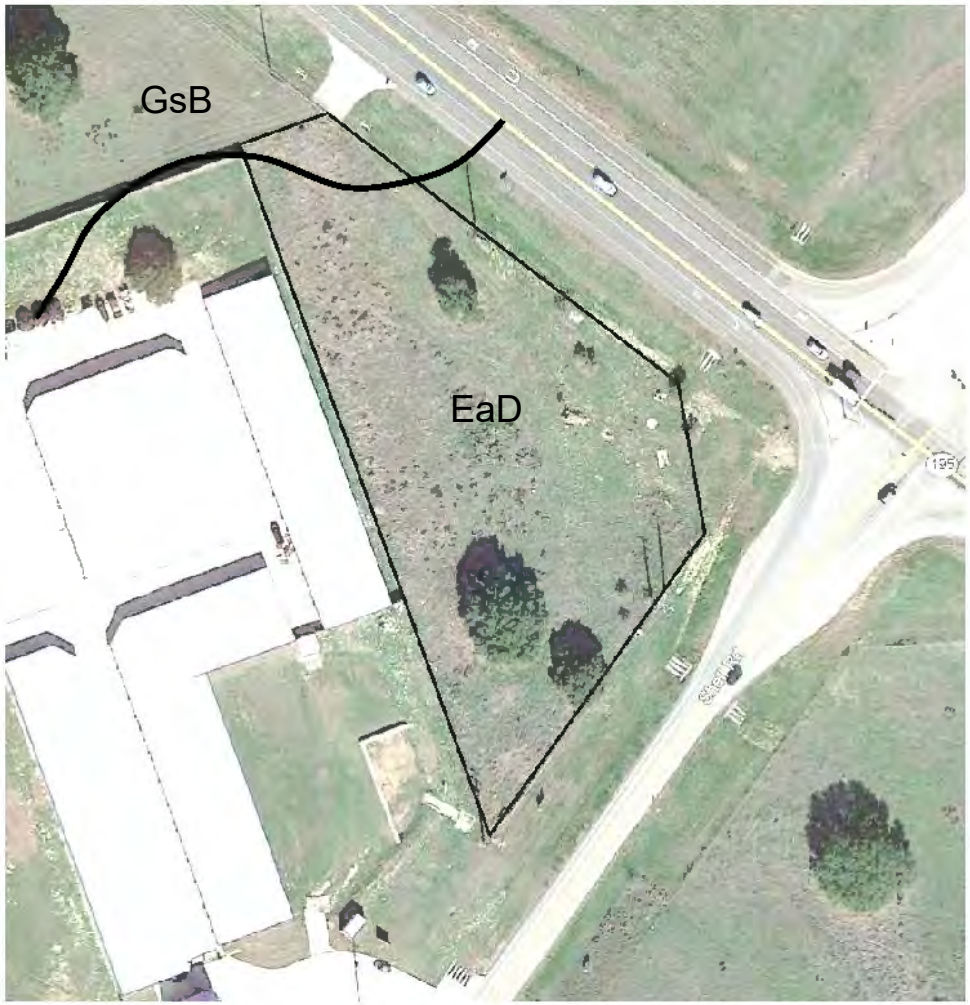
Environmental Consultants
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	No Scale
Date:	January 5, 2021
Project:	TCEQ Geologic Assessment
MTA Project:	SE-20-020

FIGURE 3

SURFACE WATER HYDROLOGY

UNDEVELOPED LOT
HWY 195 AT SHELL ROAD
GEORGETOWN, WILLIAMSON COUNTY, TEXAS 78633



EaD – Eckrant cobbly clay, 1-8% slopes / GsB – Georgetown stony clay loam, 1-3% slopes

STATE OF TEXAS
MICHAEL TROJAN
GEOLOGY
No. 1109
LICENSED
PROFESSIONAL GEOSCIENTIST

N

M. TROJAN & ASSOCIATES
Environmental Consultants

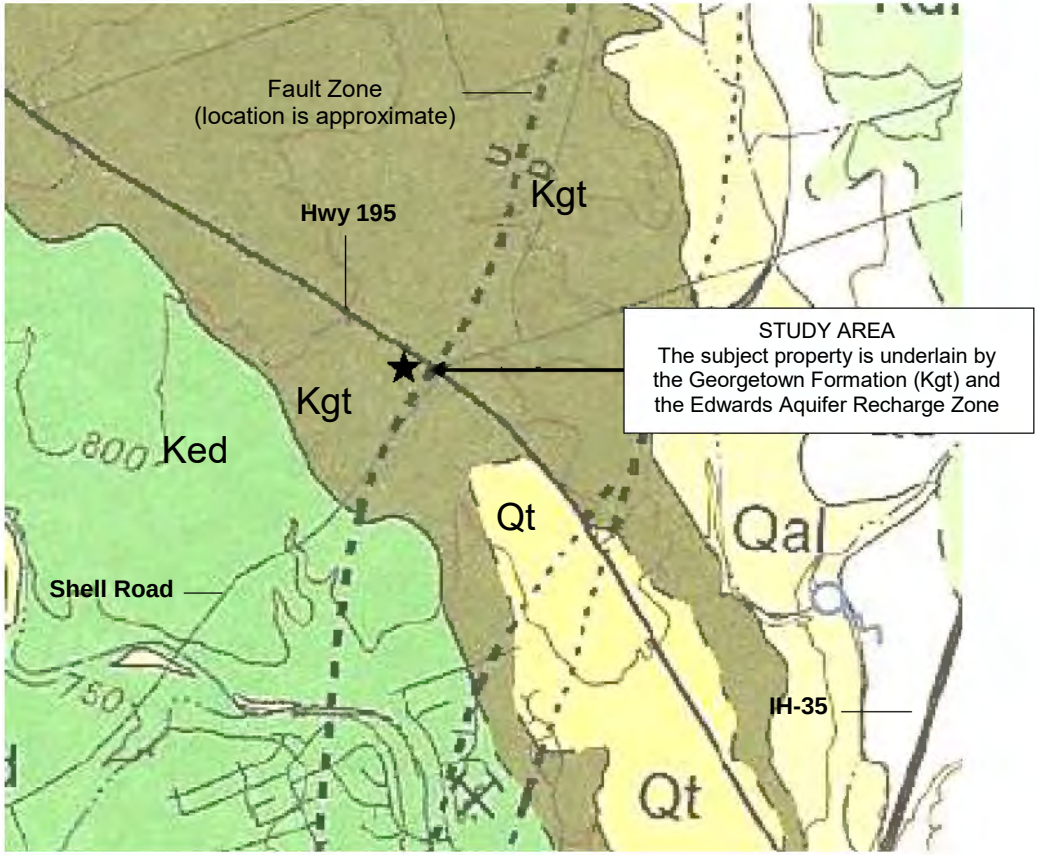
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale: 1" = 150' (approx.)
Date: January 5, 2021
Project: TCEQ Geologic Assessment
MTA Project: SE-20-020

FIGURE 4

SITE SOILS MAP

UNDEVELOPED LOT
HWY 195 AT SHELL ROAD
GEORGETOWN, WILLIAMSON COUNTY, TEXAS 78633



STATE OF TEXAS
MICHAEL TROJAN
GEOLOGY
No. 1109
LICENSED
PROFESSIONAL GEOSCIENTIST

Ked – Edwards Formation / Kgt – Georgetown Formation / Qt – Quaternary terrace alluvium

NOTE: Subject property location is approximate
Source: *Geologic Map of the West Half of the Taylor, Texas, 30X60 Minute Quadrangle*, dated 2005

M. TROJAN & ASSOCIATES
Environmental Consultants

8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	No Scale
Date:	January 5, 2021
Project:	TCEQ Geologic Assessment
MTA Project:	SE-20-020

FIGURE 5

GENERAL GEOLOGIC MAP

UNDEVELOPED LOT
HWY 195 AT SHELL ROAD
GEORGETOWN, WILLIAMSON COUNTY, TEXAS 78633

ONSITE FEATURES

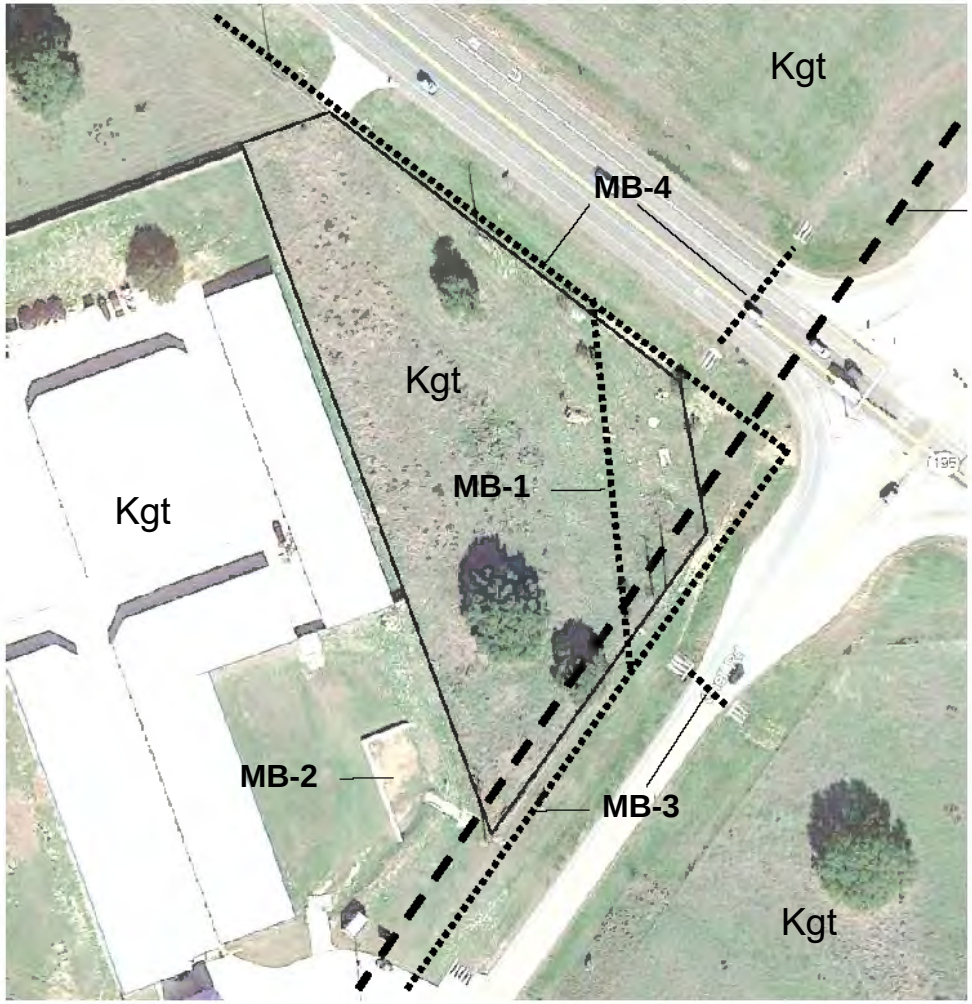
MB-1: Manmade feature in bedrock (underground infrastructure)

OFFSITE FEATURES (within 200 feet)

MB-2: Manmade feature in bedrock (water quality pond)

MB-3: Manmade features in bedrock (underground infrastructure)

MB-4: Manmade features in bedrock (underground infrastructure)



Onsite/Offsite Fault
(Location is Approximate)
Not determined as a sensitive feature due to uncertainty of location and no development of associated point recharge features at ground level

STATE OF TEXAS
MICHAEL TROJAN
GEOLOGY
No. 1109
LICENSED
PROFESSIONAL GEOSCIENTIST

The subject property is underlain by the Georgetown Formation (Kgt) and the Edwards Aquifer Recharge Zone

M. TROJAN & ASSOCIATES
Environmental Consultants

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Leander, Texas 78641
(512) 258-6606

Scale:	1" = 150' (approx.)
Date:	January 5, 2021
Project:	TCEQ Geologic Assessment
MTA Project	SE-20-020

FIGURE 6

SITE GEOLOGIC MAP

UNDEVELOPED LOT
HWY 195 AT SHELL ROAD
GEORGETOWN, WILLIAMSON COUNTY, TEXAS 78633

ATTACHMENT E

SITE PHOTOGRAPHS

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 1]

Project: TCEQ Geologic Assessment

Site: Undeveloped Lot (Hwy 195 Gas Station Property)

Location: Hwy 195 at Shell Road
Georgetown, Williamson County, Texas 78633

Date Taken: December 28, 2020

Photographer: Michael Trojan, PG

Description: View of the northeastern-most extent of the study area along Hwy 195. Photograph taken from Hwy 195 facing southeast.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 2]

Project: TCEQ Geologic Assessment

Site: Undeveloped Lot (Hwy 195 Gas Station Property)

Location: Hwy 195 at Shell Road
Georgetown, Williamson County, Texas 78633

Date Taken: December 28, 2020

Photographer: Michael Trojan, PG

Description: View of the southeastern-most extent of the study area along Shell Road. Photograph taken from Shell Road facing southwest.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 3]

Project:	TCEQ Geologic Assessment
Site:	Undeveloped Lot (Hwy 195 Gas Station Property)
Location:	Hwy 195 at Shell Road Georgetown, Williamson County, Texas 78633
Date Taken:	December 28, 2020
Photographer:	Michael Trojan, PG

Description: View of the northwestern half of the study area. Photograph taken from the center of the lot facing northwest.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 4]

Project:	TCEQ Geologic Assessment
Site:	Undeveloped Lot (Hwy 195 Gas Station Property)
Location:	Hwy 195 at Shell Road Georgetown, Williamson County, Texas 78633
Date Taken:	December 28, 2020
Photographer:	Michael Trojan, PG

Description: View of the southeastern half of the study area. Photograph taken from the center of the lot facing southeast.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 5]

Project:	TCEQ Geologic Assessment
Site:	Undeveloped Lot (Hwy 195 Gas Station Property)
Location:	Hwy 195 at Shell Road Georgetown, Williamson County, Texas 78633
Date Taken:	December 28, 2020
Photographer:	Michael Trojan, PG

Description: View of typical loose bedrock fragments imbedded in surface soils across the study area.

PHOTOGRAPHIC REPORTING DATA SHEET

[PHOTOGRAPH 6]

Project:	TCEQ Geologic Assessment
Site:	Undeveloped Lot (Hwy 195 Gas Station Property)
Location:	Hwy 195 at Shell Road Georgetown, Williamson County, Texas 78633
Date Taken:	December 28, 2020
Photographer:	Michael Trojan, PG
Description:	View of offsite Manmade Feature in Bedrock MB-1 (water quality pond) directly south-southwest of the study area.

Appendix C

TECQ-0583
Underground Storage Tank (UST) Facility Plan

Underground Storage Tank Facility Plan Application

Texas Commission on Environmental Quality

for Storage on the Edwards Aquifer Recharge and Transition Zones and Relating to 30 TAC §213.5(d), 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. All components used for this facility are U.L. listed or certified by a 3rd party and are compatible and will function pursuant to 30 TAC §213.5(d) and 30 TAC Chapter 334 Subchapter C. This **Underground Storage Tank Facility Plan Application** is hereby submitted for TCEQ review and Executive Director approval. The application was prepared by:

Print Name of Customer/Agent: Cheri Krieg P.G.

Date: 8/26/2024

Signature of Customer/Agent:

Regulated Entity Name: Shell Road Retail Center

Underground Storage Tank (UST) System Information

1. ☒ **Attachment A – Detailed Narrative of UST Facility.** A detailed narrative description of the proposed UST Facility is attached. Note: Example descriptions are provided in the instructions (TCEQ-0583-Instructions)

2. Tanks and substance to be stored:

Table 1 - Tanks and Substances Stored

UST Number	*Size(Gallons)*	*Substance to be Stored*	*Double-wall Tank Material*
1	34k	Gasoline / Diesel	Steel / FRP

UST Number	*Size(Gallons)*	*Substance to be Stored*	*Double-wall Tank Material*
2			
3			
4			
5			

3. Tanks:

☒ **Attachment B – Manufacturer Information for Tanks**. New or replacement systems for the underground storage of static hydrocarbons or hazardous substances must be double-walled or provide an equivalent method of protection approved by the executive director. Tanks must comply with technical standards as required by 30 TAC 334.45(b) relating to technical standards for new tanks. Manufacturer information is attached.

☐ **Attachment C – Alternative Design and Protection Method for Tanks**. Information required by 30 TAC 334.43, relating to variances and alternative procedures is attached.

4. Piping:

☒ **Attachment D – Manufacturer Information for Piping**. Piping must comply with technical standards as required by 30 TAC 334.45(c) relating to technical standards for new piping. Manufacturer information is attached.

☐ **Attachment E – Alternative Design and Protection Method for Piping**. Information required by 30 TAC 334.43, relating to variances and alternative procedures is attached.

5. ☒ Any new underground storage tank system that does not incorporate a method for tertiary containment shall be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature as required by 30 TAC §213.5(d)(1)(B).

☐ The UST system(s) will not be installed within 150 feet of a domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

☒ **Attachment F - Tertiary Containment Method**. The UST system(s) will be required to have tertiary containment provided. A description of the method proposed to provide tertiary containment is attached.

6. ☒ Corrosion protection equipment to be installed or type of non-corrodible materials:

Table 2 - Corrosion Protection

Equipment	*Corrosion Protection (Method)*
Tanks	Composite Material / FRP
Product Delivery Piping	NCM

Equipment	*Corrosion Protection (Method)*
Vapor Recovery Piping	NA
Submersible Pumps	Isolation / containment sumps / dielectric bushings
Flex Connector (dispenser end)	Isolation / UDC
Flex Connector (pump end)	Isolation / containment sumps
Riser	Coated and wrap / dielectric tank bushings

7. ☒ Overfill protection equipment to be installed:

   ☐ Overfill prevention restrictor positioned at 90% capacity.
   ☒ Overfill prevention valve positioned at 95% capacity.
   ☒ Overfill audible and visual alarm positioned at 90% capacity.

8. ☒ Methods for detecting leaks in the inside wall of a double-walled system must be included in the facility's design and construction. The leak detection system must provide continuous monitoring of the system and must be capable of immediately alerting the system's owner of possible leakages. Release detection equipment to be installed: (Check all that apply)

   ☒ Central on-site monitor
   ☒ Interstitial tank probes
   ☒ Automatic tank gauge
   ☒ Pump/manway sump probes
   ☒ Observation well probes
   ☒ Mechanical line leak detectors (for pressurized lines only)
   ☒ Automatic (electronic) line leak detectors

Excavation and Backfill

9. ☒ The depth of the tank excavation will be sufficient to accommodate piping fall requirements, tank diameter, bedding, and a minimum cover of three (3) feet [30 TAC §334.46].

   The depth of the tank excavation will be 15 feet.

10. ☒ The minimum thickness of the tank bedding will conform to 30 TAC §334.46(a)(5)(C and D).

    The tank bedding thickness will be 12 inches.

11. ☒ The material to be used as backfill will conform to 30 TAC §334.46(a)(5)(A and B) and will consist of:

    ☐ Clean washed non-corrosive sand
    ☐ Pea gravel
    ☒ Crushed rock

☐ Other: _____

12. ☒ The slope of the product delivery line(s) will conform to 30 TAC §334.46(c)(2) and will be 1/8" PF (1/8" per foot minimum).

Site Plan Requirements

Items 13 - 24 must be included on the Site Plan.

13. ☒ The Site Plan must have a minimum scale of 1" = 400'.

    Site Plan Scale: 1" = 100'.

14. 100-year floodplain boundaries:

    ☒ The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA Risk Map Online Viewer 8/19/2024

    ☐ 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.

15. ☐ The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Show lots, recreation centers, buildings, roads, etc.

    ☒ The layout of the development is shown with existing contours. Finished topographic contours will not differ from the existing topographic configuration and are not shown.

16. 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.

17. 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 G - Exception to the Geologic Assessment**. A request and justification for an exception to a portion of the Geologic Assessment is attached.

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

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

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

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

22. ☐ Surface waters (including wetlands).

    ☒ N/A

23. ☐ Locations where stormwater discharges to surface water or sensitive features.

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

24. ☒ Legal boundaries of the site are shown.

UST System Profiles

25. ☒ **Attachment H - Profile Drawing(s)**. A profile drawing(s) of the proposed UST system with all components shown and labeled is attached.

Best Management Practices

26. ☒ **Attachment I - Initial and Continuing Training**. A description of the initial and continuing training of on-site personnel for operation of release detection equipment is attached. The description should include how personnel will respond to warning and alarm conditions of the leak detection monitoring system.

27. ☒ **Attachment J - Release Detection Maintenance**. A description of the program and schedule for maintaining release detection and cathodic protection equipment is attached. Any such equipment should be operated and maintained in accordance with the manufacturer's specifications and instructions.

Administrative Information

28. A Water Pollution Abatement Plan (WPAP) is required for construction of any associated commercial, industrial or residential project located on the Recharge Zone.

    ☒ The WPAP application for this project was approved by letter dated November 2022. A copy of the approval letter is attached at the end of this application.

    ☐ The WPAP application for this project was submitted to the TCEQ on _____, but has not been approved.

    ☐ A WPAP application is required for an associated project, but it has not been submitted.

    ☐ There will be no building or structure associated with this project. In the event a building or structure is needed in the future, the required WPAP will be submitted to the TCEQ.

    ☐ The proposed UST is located on the **Transition Zone** and a WPAP is not required. Information requested in 30 TAC 213.5 subsection (b)(4)(B) and (C) and (5) is provided with this application. (Forms TCEQ-0600 Permanent Stormwater Section and TCEQ-0602 Temporary Stormwater Section or Stormwater Pollution Prevention Plan/SW3P).

29. ☒ UST systems must be installed by a person possessing a valid certificate of registration in accordance with the requirements of 30 TAC Chapter 334 Subchapter I.

30. ☒ This facility is subject to and must meet the requirements of 30 TAC Chapter 334, including but not limited to the 30 day construction notification and reporting and cleanup of surface spills and overfills.

31. ☒ Upon completion of the tankhold excavation, a geologist must certify that the excavation was inspected for the presence of sensitive features. The certification must be submitted to the appropriate regional office. If sensitive features are found, then excavation near the feature may not proceed until the methods to protect the Edwards Aquifer are reviewed and approved by the executive director.

32. ☒ 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.

33. ☒ Any modification of this UST application will require TCEQ approval, prior to construction, and may require submission of a revised application, with appropriate fees.

TCEQ-0583 Attachment A

Detailed Narrative of UST Facility

Attachment A – Detailed Narrative of UST Facility

Date: 7/08/2024
Project Name: Shell Road Retail Center
Location: 2121 SH 195 / Georgetown, TX 78633

The above-mentioned facility is to be the new construction of a convenience store with an underground hydrocarbon storage system for retail sales of gasoline.
The system will be comprised of (1) one triple wall fiberglass reinforced plastic (FRP) coated steel tank. The tank will be 34k gallons in size split 22k, 6K and 6k for the storage of gasoline and diesel fuels as manufactured by Watco Tanks of Floresville, TX
Each compartment will be fitted with a 2 hp submergible turbine pump (STP) for fuel delivery to (8) eight multi product dispensers (MPD).
Overfill protection will be installed on all fill ports by an automatic shut off valve set at no more than 95% of the tank's capacity. Spill prevention in the form U.L. rated double wall spill containment manway will also be installed on all tight fill connections as well as on Stage 1 truck vapor adaptor connections.

Product and vent piping will be U.L. listed FRP piping. Product piping will be of double wall construction utilizing 2" diameter primary and 3" diameter secondary containment. There will be no underground terminations. All threaded connections will begin and terminate in containment sumps at dispensers and tanks. Stainless steel flexible connectors will be placed on both ends of pipe. Anchored shear valves for each product will be installed at all dispensers for fuel shut-off in the event of emergencies.
Vent pipe will be 2" diameter double wall FRP. Unleaded and diesel fuels will have a dedicated vent line to prevent cross contamination of product.

Corrosion protection will be provided by several methods. The tanks will be jacketed with several layers FRP as well as incorporating dielectric bushings to isolate the tanks from all metal risers or pumps. All riser pipes will be coated and wrapped in dielectric material. Pumps, SS flexible connectors and any schedule 40 pipe fittings will be housed in liquid tight FRP STP sumps as well as FRP UDC. (Under dispenser containment) No metal components will directly contact backfill or native material.

An automatic tank monitoring (ATG) system will be located in the store for client access to monitor the proposed tanks and piping. The ATG will monitor the fuel system for leaks by means of inventory control, continuous leak detection (CSLD), secondary containment monitoring and mechanical pressure line leak detection. Tanks to have interstitial sensors of double wall space. Sump sensors are to be installed on all STP containment sumps and UDC for detection of fuel or water. Tank gauging probes on each tank will provide inventory reports of each product. ATG will provide precision tank testing as required. Product lines will have electronic leak detection that will shut down fuel flow in the event a leak has been detected.

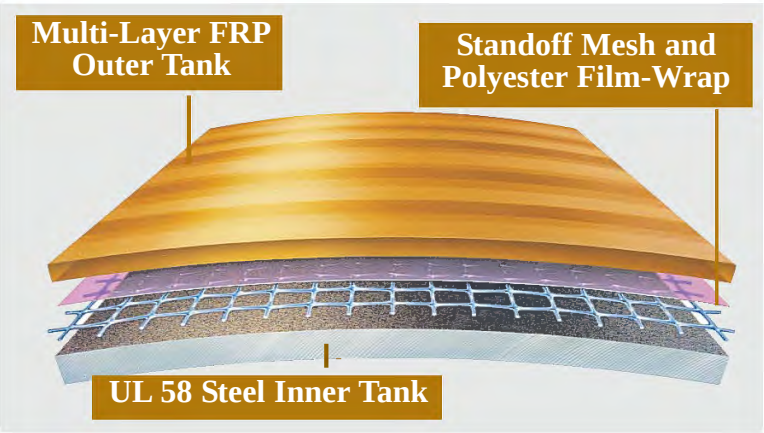
TCEQ-0583 Attachment B

Manufacturer Information for Tanks

PERMATANK®
DOUBLE—WALL
STI Steel Tank Institute
QUALITY ASSURANCE

THE PERMATANK® DOUBLE-WALL JACKETED UNDERGROUND STORAGE TANK FEATURES AN INNER STEEL TANK COUPLED WITH AN EXTERIOR CORROSION-RESISTANT FIBERGLASS TANK. A UNIQUE STANDOFF MATERIAL SEPARATING THE INNER AND OUTER TANKS CREATES A UNIFORM INTERSTITIAL SPACE ENSURING RAPID AND ACCURATE LEAK DETECTION.

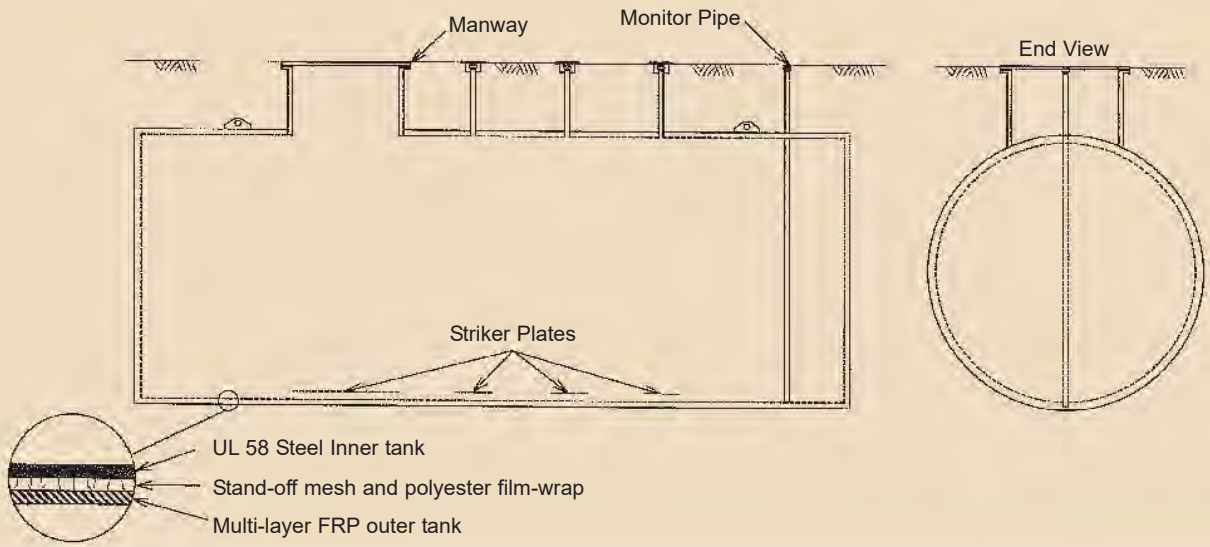
- Steel inner tank provides complete compatibility with all common fuels and clean burning (oxygenated) liquid blends without added cost of internal lining
- Meets UL 58, UL 1746 and ULC-S603.1
- Includes a Precision Test System, which meets EPA leak detection requirements for underground storage tanks, with the ability to detect liquid in the interstice at the rate of <0.1 gal/hr
- Permatank® can be used with a variety of leak detection systems
- All tanks proven tight throughout installation by interstitial vacuum test - 13 inches Hg minimum
- Impermeable to petroleum product and vapors
- Steel inner tank provides structural strength, while it's exterior wall of fiberglass reinforced plastic prevents corrosion



- Steel is the green choice - it is capable of being recycled after tank closure
- Designed shorter than an all-FRP tank of the same capacity, reducing the cost of installation and increasing site layout flexibility
- Low cost compartments and customization
- Various backfill options can allow money-saving installation
- Available from a large network of STI licensed manufacturers

The Permatank® is available from an extensive group of STI fabricators who participate in the Steel Tank Institute's Quality Assurance Program. Under the program, independent quality control inspectors make unannounced visits to STI members, ensuring fabrication to the highest possible standards.

Permatank® Double-Wall Jacketed Underground Steel Storage Tanks



- **Steel Tank Institute Permatank® and UL Labeled**
- **Compatible with alternative fuels**
- **Striker plates beneath tank openings prevent internal corrosion**
- **Flat ends reduce installation costs**
- **Provides safe and effective secondary containment**
- **Capacities range up to 50,000 gallons**

Permatank® Guideline Specification

A) General

1. Provide Permatank® double-wall jacketed steel-fiberglass underground storage tanks.

B) Labeling

1. Tanks shall bear the Steel Tank Institute Permatank® identification label.
2. Underground tanks shall bear the appropriate Underwriters Laboratories (UL) or Underwriters Laboratories of Canada (ULC) label.

C) Product Description

1. Tanks shall be manufactured in accordance with Steel Tank Institute Specification for Permatank®.
2. Tanks shall be manufactured and listed in accordance with Underwriters Laboratories UL 58, Steel Underground Storage Tanks for Flammable and Combustible Liquids and UL 1746, External Corrosion Protection Systems for Steel Underground Storage Tanks or ULC-S603.1, Standard for Corrosion Protection for Steel Underground Tanks for Flammable and Combustible Liquids.
3. Double-wall tanks shall provide testable secondary containment and access for interstitial leak detection monitoring.

D) Manufacturer

1. Manufacturer shall be a licensed member company of the Steel Tank Institute and subject to Steel Tank Institute's Quality Assurance program.

Use the STI Technology Guide online for your next Permatank® specification!

All you need in tanks!

Steel Tank Institute

A division of STI / SPFA

570 Oakwood Road Lake Zurich, IL 60047 Ph 847.438.8265 Fx 847.438.8766 Web www.steeltank.com

5/06-2.5M-Item #030-50-0002

TCEQ-0583 Attachment D

Manufacturer Information for Piping

Red Thread™ IIA

(Product Data)

FUEL HANDLING

Applications

- Service Station
- Vent/Vapor Recovery
- Bulk Plant Terminals
- Fueling Terminals
- Central Fuel Oil Systems
- Marinas Terminals
- Ethanol Fuel Blends
- Biodiesel Fuel
- Diesel Exhaust Fluid
- UL/ULC Systems that require MV, HB, CT, A&M Fuels

Materials and Construction

All pipe is manufactured by filament winding process using amine-cured epoxy thermosetting resin to impregnate strands of continuous glass filaments with a resin-rich interior surface. The operating pressure of the pipe is up to 250 psig (17.2 bar) with continuous operating temperature to 150°F (66°C).

Red Thread IIA is Listed with Underwriters Laboratories Standard 971-2004 for non-metallic underground piping for motor vehicle (MV), high blend (HB), concentrated (CT) and aviation and marine (A&M) fuels. The pipe and fittings are also Listed with Underwriters Laboratories of Canada with both Listings under File MH9162.

Fittings

Fittings are manufactured with the same chemical and temperature capabilities as the pipe. Depending on the configurations and size, the fittings construction method will be compression molded, contact molded, fabricated or filament wound and are described in FH1250.

Testing

Installed pipe systems should be tested prior to use to assure soundness of all joints and connections. Locate pressure gauge in close proximity to the pressurizing equipment, not directly on the piping system. A pressure gauge with the test pressure at mid-scale is recommended.

Joining System

- **T.A.B.™** - The primary joining method for pipe joints promoting fast, positive make-up and prevents "backout" during curing.
- **Bell & Spigot** - The primary joining method for fitting joints.

These joints assist the installer and assures a fast trouble-free installation. Adhesive for this system is Series 8000. T.A.B. spigots can be bonded into tapered bells and tapered spigots can be Bonded into T.A.B. bells using standard bonding procedures for tapered joints.

ASTM D2996 Designation Code - RTRP-11AW13110

Nominal Dimensional Data

Pipe Size		Inside Diameter		Outside Diameter		Wall Thickness		Weight		Pressure/ Temperature Max. Rating at 150°F (66°C)		Mill Test Pressure		Minimum Bending Radius	
in	mm	in	mm	in	mm	in	mm	lbs/ft	kg/m	psig	MPa	psig	MPa	ft	m
2	50	2.238	57	2.372	60	0.067	1.70	0.42	0.63	250	1.72	375	2.59	102	31.0
3	80	3.363	85	3.559	90	0.098	2.49	0.92	1.37	175	1.21	300	2.07	153	46.5
4	100	4.364	111	4.554	116	0.095	2.41	1.15	1.71	125	0.86	265	1.83	195	59.5
6	150	6.408	163	6.686	170	0.139	3.53	2.47	3.68	20	0.14	265	1.83	287	87.4

View of Joint Illustrations

T.A.B.

Bell & Spigot

Typical Mechanical Properties

Pipe Property	75°F	24°C	200°F	93°C	Method
	psi	MPa	psi	MPa	
Axial Tensile					
Ultimate Stress	9,530	65.7	6,585	45.4	ASTM D2105
Modulus of Elasticity	1.68×10^6	11,584	1.42×10^6	9,791	ASTM D2105
Poisson's Ratio, ν_{ah} (ν_{ha})[1]	0.35 (0.61)				
Axial Compression					
Ultimate Stress	12,510	86.3	8,560	59.0	ASTM D695
Modulus of Elasticity	0.677×10^6	4,668	0.379×10^6	2,613	ASTM D695
Beam Bending					
Modulus of Elasticity (Long Term)	2.6×10^6	17,927	0.718×10^6	4,951	ASTM D2925
Hydrostatic Burst					
Ultimate Hoop Tensile Stress	40,150	277	36,480	252	ASTM D1599
Hydrostatic Hoop Design Stress					
Static 20 Year Life LTHS - 95% LCL	-	-	18,203 - 14,689	125.5 - 101.3	ASTM D2992 - Procedure B
Static 50 Year Life LTHS - 95% LCL	-	-	16,788 - 13,142	115.7 - 90.6	ASTM D2992 - Procedure B
Parallel Plate					
Hoop Modulus of Elasticity	3.02×10^6	20,822	-	-	ASTM D2412
Shear Modulus	1.76×10^6	12,135	1.63×10^6	11,250	-

Typical Physical Properties

Pipe Property	Value	Value	Method
Thermal Conductivity	0.23 BTU/hr•ft•°F	0.4 W/m°C	ASTM D177
Thermal Expansion	10.7×10^{-6} in/in °F	19.3×10^{-6} mm/mm °C	ASTM D696
Absolute Roughness	0.00021 in	0.00053 mm	
Specific Gravity	1.8		ASTM D792

[1] ν_{ha} = The ratio of axial strain to hoop strain resulting from stress in the hoop direction.
ν_{ah} = The ratio of hoop strain to axial strain resulting from stress in the axial direction.

[2] The differential pressure between internal and external pressure which causes collapse.

[3] A 0.67 design factor is recommended for short duration vacuum service. A full vacuum is equal to 14.7 psig (0.101 MPa) differential pressure at sea level.

[4] A 0.33 design factor is recommended for sustained (long-term) differential collapse pressure design and operation.

Ultimate Collapse Pressure

Size		Collapse Pressure[2][3][4]			
		psig		MPa	
in	mm	75°F	150°F	24°C	66°C
2	50	177	133	1.22	0.92
3	80	171	129	1.18	0.89
4	100	69	51	0.48	0.35
6	150	69	51	0.48	0.35

Pipe Length

Size		Standard		Random	
in	mm	ft	m	ft	m
2-6	50-150	15	4.57	22-25	6.7-7.62

Fiber Glass Systems
17115 San Pedro Avenue, Ste 200
San Antonio, Texas 78232 USA
Phone: 210 477 7500
Fax: 210 477 7560

FH1200ENG February 2017

Singlewall Collar-Mount Tank Sumps with Lids

Product Shown
B421-60-S-01

SIZES

- 42" or 48" diameter
- 32" or 36" reducer

*See page 2 for dimension drawing and dimension chart

MATERIAL

- Fiberglass

About the Singlewall Collar-Mount Tank Sumps

The octagon-shaped collar-mount singlewall tank sump is ideally configured for piping laid out in 45- and 90-degree angles. It is field height-adjustable and features an easy slurry pour channel to join the sump base and top hat. It comes standard with a snap-lock lid with vertical O-ring seal to make it watertight with available lid options. It can be attached to tank manufactures' collars using lamination or a combination of lamination and a slurry pour depending on the manufacturer. If using a Bravo collar with pour channel no field laminations are needed.

SPECIFICATIONS

- Quality FRP construction
- Two-piece configuration is height-adjustable
- Epoxy pour channel saves installation time
- 30-year corrosion warranty
- UL2447 listed

Bravo Solution Center
Call or Text (323) 541-3851
orders@sbravo.com

LISTED
UL 2447

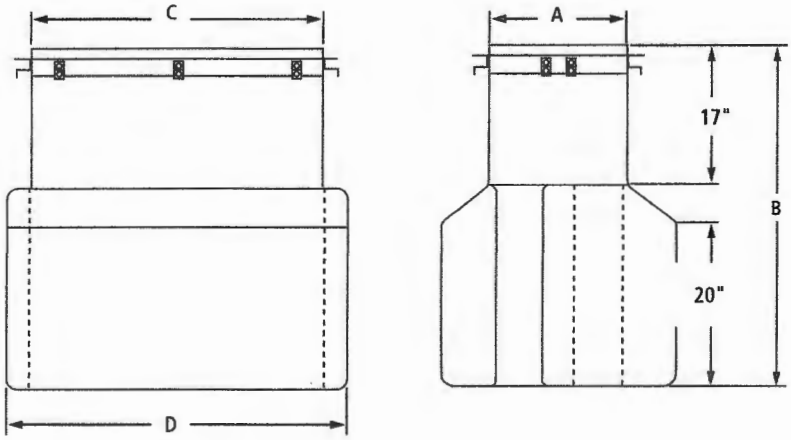
Fiberglass Dispenser Sumps

FlexWorks Fiberglass Dispenser Sumps allow the supply piping to enter and/or exit out of the sidewall of the containment sump at a very low elevation. Ideal for pressure piping systems requiring indirect slope back to the tank.

FDS-4021

Features & Benefits:

- **Structural Integrity** – engineered with thick side walls to withstand backfill and high water table forces.
- **Full Access Working Area** – frame is attached after plumbing is complete.
- All three models have an external conduit channel.



Ordering Specifications* - Fiberglass Dispenser Sumps**

Model #	A		B		C		D		Weight	
	in.	cm	in.	cm	in.	cm	in.	cm	lbs.	kg
FDS-4021	17	43	42	106	36	91	42	106	102	46.27
FDS-4319	15	38	42	106	39	99	39	99	107	48.53

Refer to FlexWorks Dispenser Sump Selection Chart (See Pages 42 - 43 of this catalog) to select sumps for particular dispensers.

*All models are designed with conduit-less frames. All models have an external conduit channel.

**Add –DW" for double-wall version.

9393 Princeton-Glendale Road ◆ Hamilton, Ohio USA 45011 ◆ Phone: (800) 422-2525 ◆ Fax: (800) 421-3297

OPW 71SO Overfill Prevention Valves

The CARB-certified OPW 71SO vapor-tight Overfill Prevention Valve is designed to prevent the overfill of underground storage tanks by providing a positive shut-off of product delivery. The shut-off valve is an integral part of the drop tube used for gravity filling. The OPW 71SO allows easy installation (without breaking concrete) and requires no special manholes.

The OPW 71SO is a vapor-tight two-stage shut-off valve. When the liquid level rises to about 95% of tank capacity, the valve mechanism is released, closing automatically with the flow. This reduces the flow rate to approximately 5 gpm through a bypass valve. The operator may then stop the filling process and disconnect and drain the delivery hose. As long as the liquid exceeds the 95% level, the valve will close automatically each time delivery is attempted.

If the delivery is not stopped and the liquid rises to about 98% of tank capacity, the bypass valve closes completely. No additional liquid can flow into the tank until the level drops below a reset point.

NOTE: The 71SO Overfill Prevention Valve can be adjusted to shutoff at any desired tank capacity. Please contact the Authority Having Jurisdiction (AHJ) and review local, state, and national codes to determine the regulatory requirements governing shut-off capacity in your region, as well as take into account other considerations such as extreme tank tilt. In all cases, the upper tube must protrude into the tank at least 6 1/2" to ensure that the valve can shut off flow into the tank completely before the top of the tank is wetted as per EPA requirements.

71SO Instruction Sheet Order Number: **H15524PA**

Listings and Certifications

California Air Resources Board

Materials

Valve Body: Cast aluminum
Float: Nitrile rubber, closed cell foam
Valve: Aluminum
Seals: Viton®
Upper & lower Drop Tube: Aluminum
Plastic parts: Acetal
Hardware: Stainless steel

Features

- **Simple, Easy and Quick Installation** – no excavation or special manholes required.
- **Economical** – costs a fraction of expensive, complicated and difficult-to-install valves.
- **Furnished Complete** – supplied with new upper and lower drop tubes, mounting hardware and thorough instructions for quick job site time.
- **Completely Automatic Operation** – no prechecks to perform, no resets and no overrides to be broken or abused.
- **No Pressurization of the Tank** – operates directly from liquid level.
- **Will Accept a Dipstick for Gauging**
- **Retrofits Directly** – for both new and existing tanks with 4" fill risers.
- **Quick Drain Feature** – automatically drains hose when head pressure is relieved.
- **Best Flow Rate in The Industry***

* OPW Test Lab results

Important

In order to prevent product spillage from the Underground Storage Tank (UST), properly maintained delivery equipment and a proper connection at the tight-fill adaptor are essential. Delivery personnel should be managed and trained to inspect delivery elbows and hoses for damaged and missing parts. They should always make certain there is a positive connection between the adaptor and elbow. If delivery equipment is not properly maintained, or the elbow is not securely coupled to the adaptor, a serious spill may result when the OPW 71SO closes, causing a hazard and environmental contamination.

NOTE: The OPW 71SO is designed for use on tight-fill gravity drop applications only. Do not use for pressure fill applications.

Advantages of Overfill Prevention Compared to Overfill Warning Systems:

- **Completely Automatic Operation** – does not rely on the alertness or speed of response of the delivery attendant for certainty of overfill prevention.
- **Keeps the Top of UST "Dry," per EPA Requirements** – eliminating possible leaks at loose bung fittings and the need for double containment on vent lines.
- **Does Not Rely on Pressure in the UST to Stop Flow** – allowing faster fill times and reducing spill risk.
- **Speeds Delivery Operations** – product flows unimpeded into the tank until the hose "kick" that accompanies the valve shut-off provides a clear signal that the liquid has reached the shut-off level.
- **Simple and Inexpensive Installation** – in both two-point and coaxial fill applications, no additional excavation, manholes or vent piping are required.

Look for this label for authentic OPW EVR Approved products.
OPW 71SOM is EVR Approved for E85

UST Fill Pipe Connection Equipment

Tight-Fill Adaptors and Caps

Tight-Fill Adaptors are installed in spill containment manholes on the fill riser pipe from an underground fuel storage tank. They mate with the gravity drop delivery elbow on the transport truck. Tight-Fill Caps are installed on adaptors, when not in use, to prevent gasoline vapors from escaping and to prevent water, dust and debris from entering the tank.

Stage 1 Vapor Recovery Adaptors and Caps

Stage I Vapor Recovery Adaptors are installed in spill containment manholes on the vapor recovery riser pipe from an underground gasoline storage tank. They mate with the vapor recovery elbow on the delivery transport truck when recovery of gasoline vapors is required. Stage I Caps are installed on adaptors, when not in use, to prevent gasoline vapors from escaping and to prevent water, dust and debris from entering the tank.

Monitor Probe and Monitoring Well Caps

Monitoring Probe Caps are installed on tank riser pipes to help prevent vapors from escaping or water from entering the tank. Monitoring Probe Caps include a wire grommet fitting to accommodate the electric tank gauge probe. Lockable Monitoring Well Caps are installed on slotted PVC pipe monitoring wells to help prevent contamination from surface water intrusion or inadvertent fuel deliveries.

OPW Adaptor & Cap Height Profiles

The adaptor and cap dimensions below reflect the overall height and installed height of OPW adaptors and adaptor and cap combinations. The installed heightis from the gasket seal to the top of the component. For example, the 61VSA height is 6 1/2", but only adds 4-7/8" to the overall height when added to the riser.

61VSA Vapor Recovery Swivel Adaptors

Overall Height	Installed Height
6-1/2"	4-7/8"

1611AV Standard Vapor Adaptors

Overall Height	Installed Height
5 7/16"	4-3/4"

61SALP Fill Swivel Adaptor

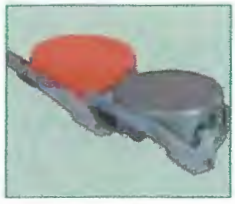
Overall Height	Installed Height
4-3/8"	2-7/8"

633T Standard Fill Adaptor

Overall Height	Installed Height
3"	2"

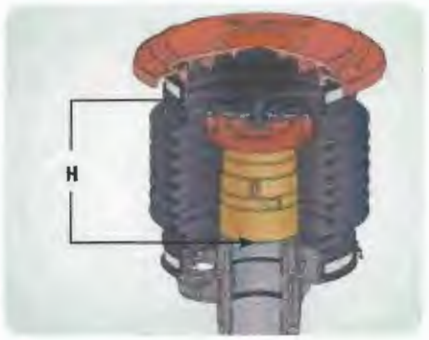
634TT Fill and 1711T Vapor Caps

Overall Height	Installed Height
2-9/16"	1-1/2"



634LPC Fill and 1711LPC Low Profile Caps

Overall Height	Installed Height
7/8"	1/2"



Dimensions

Product Combinations	H = Total Installed Height in	mm
61VSA & 1711T	6 3/8	162
61VSA & 1711LPC	5 3/8	137
1611AV & 1711T	6 1/4	159
1611AV & 1711LPC	5 3/8	136
61SALP & 634TT	4 3/8	111
61SALP & 634LPC	4 7/8	124
633T & 634TT	4 1/2	114
633T & 634LPC	3 1/2	89

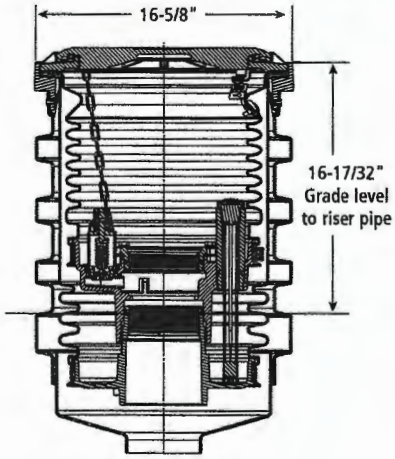
9393 Princeton-Glendale Road ◆ Hamilton, Ohio USA 45011 ◆ Phone: (800) 422-2525 ◆ Fax: (800) 421-3297

OPW EDGE™ Double-Wall Spill Containers

Designed in collaboration with contractors and end-users, the OPW EDGE™ Double-Wall Spill Container installs in the same space as single-wall buckets. The EDGE™ delivers best-in-class features that significantly improve reliability, installation, testing and ease of serviceability. The EDGE™ exceeds the performance levels of all other double-wall spill containers.

- Fully Testable
- Unbeatable installation ease
- Uses existing riser pipe
- Unparalleled serviceability
- Superior quality
- Significantly reduces installation time and labor costs

Sealable Cover Option Available



Weight: 120 lbs. (54.5 kg.)

SC Tester

Materials

Cover: Cast iron

Mounting Ring: Duragard® coated ductile iron

Bellows: Polyethylene

Base: Cast iron E-coating

Clamps: Stainless steel

Seals: Buna-N

Features

- **Top Mounted Vacuum Test Port**
  - For quick and easy access
- Superior Visual Gauge
  - No messy dipsticks to contend with
  - Significantly simplifies and reduces testing time
- **Ease of Access to the Electronic Sensor for Testing**
  - Easy access for testing
  - Located to eliminate damage potential during product drops
- **Roto-Molded Primary & Secondary Buckets**
  - Thicker walls for greater durability and reliability
- **Ribbed Polyethylene Skirt Design**
  - Roto-molded for long-life durability
  - Provides rigidity for added durability
  - Provides handles on all sides for ease of installation
- **Patent-Pending Socket Design**
  - Enables the EDGE™ to install into the space of a single-wall spill container
  - Helps to align bucket on riser
- **Patent-Pending Ledge Design**
  - Provides machined sealing face for drop tube
  - Improves overall drop tube sealing integrity
  - Eliminates face seal adaptors or de-burring of the riser pipe to obtain a flat surface for the drop tube
- **Patent-Pending Removable Adaptor**
  - Allows for quick and easy access to drop tube
  - Eliminates the need for cumbersome chain wrenches
- **Bellow Seals**
  - Improves overall sealing integrity
  - Eliminates mess and curing time found in sealants
  - Reduces service time and costs
- **SC Test**
  - Vacuum Testing Lid for Edge, 2200, 21000 and Multiports

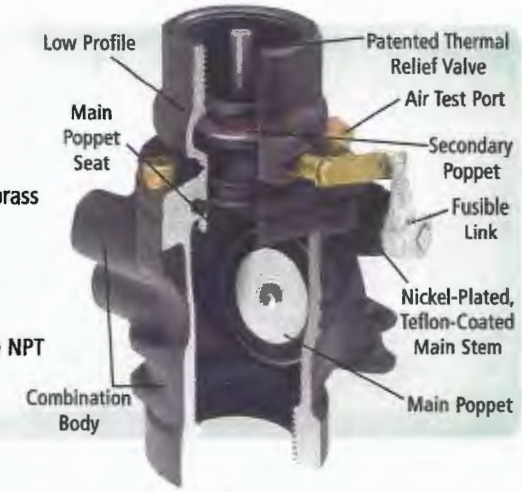
Listings and Certifications

FLORIDA EQ#708 · NORTH CAROLINA COMPLIANCE REQUIREMENTS · Missouri DENR Approved · CARB California Air Resources Board · ULC

9393 Princeton-Glendale Road ◆ Hamilton, Ohio USA 45011 ◆ Phone: (800) 422-2525 ◆ Fax: (800) 421-3297

Materials

Top: Cast iron
Body: Cast iron
Disc: M-19
Carrier: Zinc-plated steel
Stem: Copper-nickel-chrome-plated brass
Poppet Spring: Stainless steel
Seal: M-19 O-Ring
Packing nut: Brass, Teflon®-coated
Inlet and outlet thread: 1-1/2" (4 cm) NPT (British threads available)
*With black Duragard® E-Coating



Features

- **High Flow Capacity –** the primary poppet is held out of the flow stream while the secondary poppet is held normally open to minimize head loss across the valve and to protect the poppet seals from damage and erosion. True 1-1/2" (4 cm) and 2" (5 cm) body sizes ensure maximum flow.
- **Fire Protection –** a fusible link trips the valve closed at 165° F to shut off fuel supply to the dispenser.
- **Main Poppet Seat Integral to the Top Assembly –** having the main poppet seat as an integral part of the valve top ensures a new, clean seating surface is installed each time the top is replaced. This design also ensures that the integrity of the seal between the valve top and bottom is verified during line testing and allows full inspection of the main poppet when the top is removed.
- **Duragard®-Coat Finish –** provides superior corrosion resistance.
- **Reliable Shut-off –** a stainless steel main spring, a teflon-coated brass packing nut and a copper/nickel/ chrome-plated brass stem are designed to prevent tar build-up and corrosion from interfering with poppet operation after long periods of normal service without activation.
- **Integral Test Port –** a 3/8" (9.5 mm) test port allows the piping system to be air-tested without breaking any piping connections.
- **Patented Thermal Relief Valve –** relieves excessive pressure over 25 psi caused by thermal expansion of fuel in the dispenser piping system in the event of fire (double-poppet models only).
- **Low-Profile Tops –** female and union-top double-poppet valves have a low-profile top to allow upgrading from OPW single-poppet valves without changing existing piping.
- **Multiple Mounting Options –** valves are boss-mounted to stabilizer bars in sumps and pans or mounted to bars embedded in the island with optional U-Bolt kits 10UBK-015 (not included). Versatile Combination Body (boss mount/ U-Bolt mount) models are available to accommodate most mounting applications with one valve style.
- **Underwriters Laboratories –** listed for use with gasoline and 85% and 100% methanol. All OPW 10 Emergency Shut-Off Valves meet requirements of UL STANDARD 842.
- **Compatible with 85% ethanol (E85)**

10 Series Emergency Shut-Off Valves

OPW 10 Series Emergency Shut-off Valves are installed on fuel supply lines beneath dispensers at grade level to minimize hazards associated with collision or fire at the dispenser. If the dispenser is pulled over or dislodged by collision, the top of the valve breaks off at the integral shear groove, activating poppets and shutting off the flow of fuel. Single-poppet models shut off supply flow, while double-poppet models shut off supply as well as prevent release of fuel from the dispenser's internal piping. The base of the emergency valve is securely anchored to the concrete dispenser island through a stabilizer bar system within the dispenser sump or pan to ensure proper shearing action. The valve base is secured to the stabilizer bar using a three-point boss mount system or a U-Bolt Kit (not included) 10UBK-015 (1-1/2") and 10URK-0200 (2 sold separately). Valve inlet (bottom) connections are female pipe threads and outlet (top) connections are available with female threads, male threads or a union fitting. Other options include suction system models with a normally closed secondary poppet which maintains prime, and models with external threads on the inlet body which connect to secondary containment systems.

PA15 Offset Adaptor

The OPW PA15 Offset Adaptor is designed for adjusting misalignment of pipe in dispenser sumps and suction stubs. The PA15 has a low profile feature, and is designed for maximum flow.

Materials

Ductile Iron
Black Duragard E-Coating

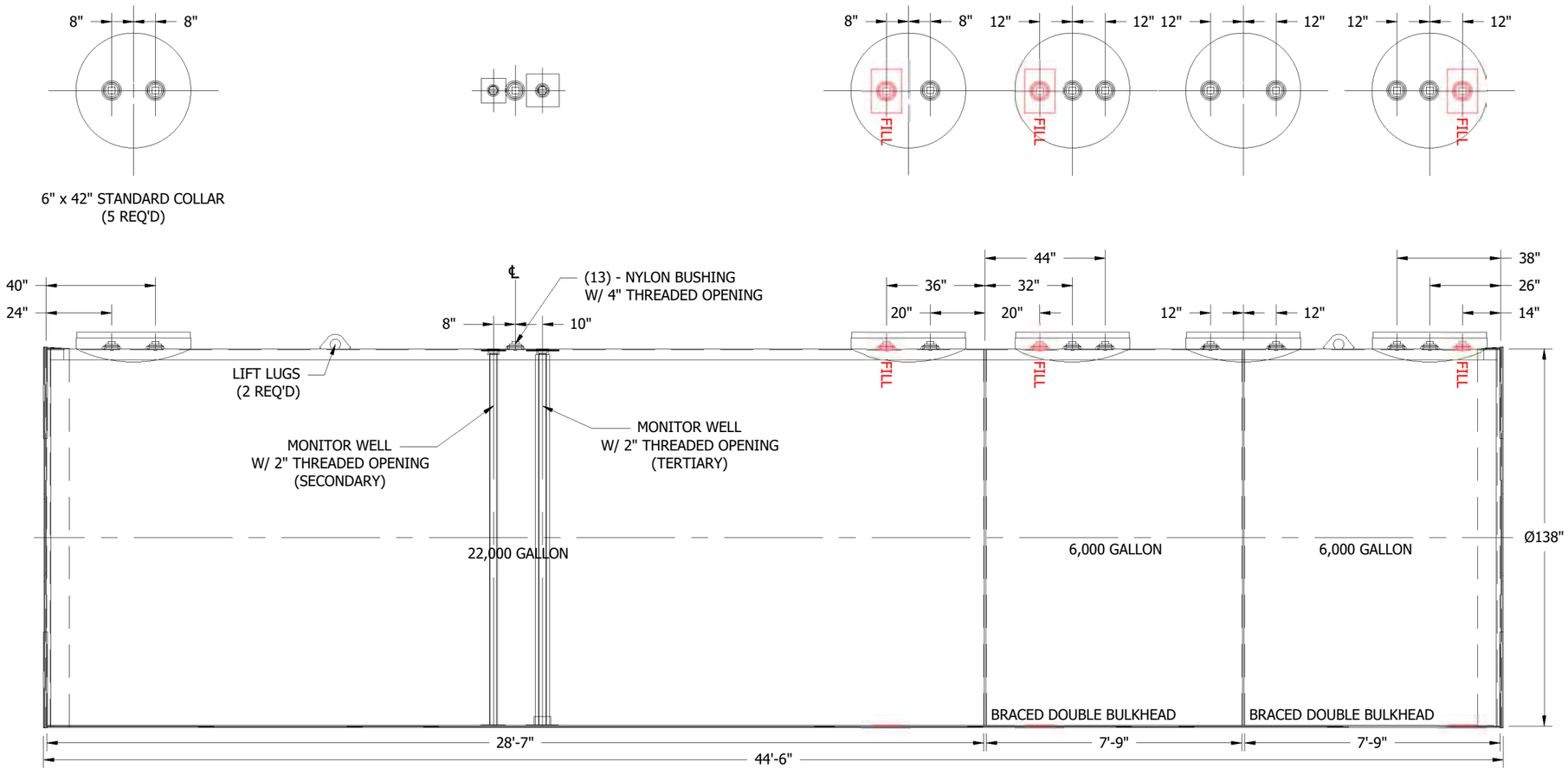
Ordering Specifications

Part #	Thread Size		Offset		Height		Width		Body Weight	
	in.	mm	in.	mm	in.	mm	in.	mm	lb.	kg
PA15-10	1½	38.1	1	25	2¼	57.2	3⅝	92.1	2	.9
PA15-15	1½	38.1	1½	38.1	2¼	57.2	4⅛	104.8	2	.9
PA15-20	1½	38.1	2	51	2¼	57.2	4⅝	117.5	2	.9

TCEQ-0583 Attachment F

Tertiary Containment

TANK CONSTRUCTED PER UL-58 ACT-100 TYPE II DOUBLE WALL AND UL-1746 JACKETED PERMATANK FOR TERTIARY CONTAINMENT



NOTES:

PRIMARY TANK:
SHELL: 5/16" A-36 CARBON STEEL
HEADS: 1/4" A-36 CARBON STEEL
BULKHEADS: 1/4" A-36 CARBON STEEL

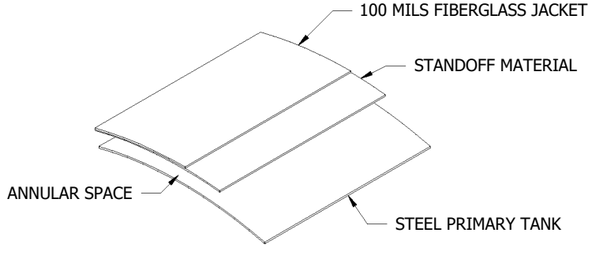
SECONDARY TANK:
SHELL: 10 GA. A-36 CARBON STEEL
HEADS: 1/4" A-36 CARBON STEEL

TERTIARY TANK:
BLAST
100 MILS FIBERGLASS JACKET

TEST:
PRIMARY: 5 PSIG SOAP & WATER
SECONDARY: VACUUM
TERTIARY: VACUUM

TECHNICAL DATA:

PERMATANK® MEETS REQUIREMENTS OF:
- U.S. ENVIRONMENTAL PROTECTION AGENCY UNDERGROUND STORAGE TANK REGULATIONS (40 CFR 280)
- STEEL TANK INSTITUTE F922, PERMATANK® FABRICATION SPECIFICATION,
- UNDERWRITERS LABORATORIES UL 58 STANDARD FOR, STEEL UNDERGROUND TANKS FOR FLAMMABLE AND COMBUSTIBLE LIQUIDS
- UNDERWRITERS LABORATORIES UL 1746 STANDARD FOR, EXTERNAL CORROSION PROTECTION SYSTEMS FOR STEEL UNDERGROUND STORAGE TANKS



34,000 GALLON
TERTIARY PERMATANK - UL 1746
120" X 44'-6"
(22,000/6,000/6,000)

CUST.: C-STORE TECHNOLOGIES, INC.
LOC.: GEORGETOWN, TX
DWG NO: 41683

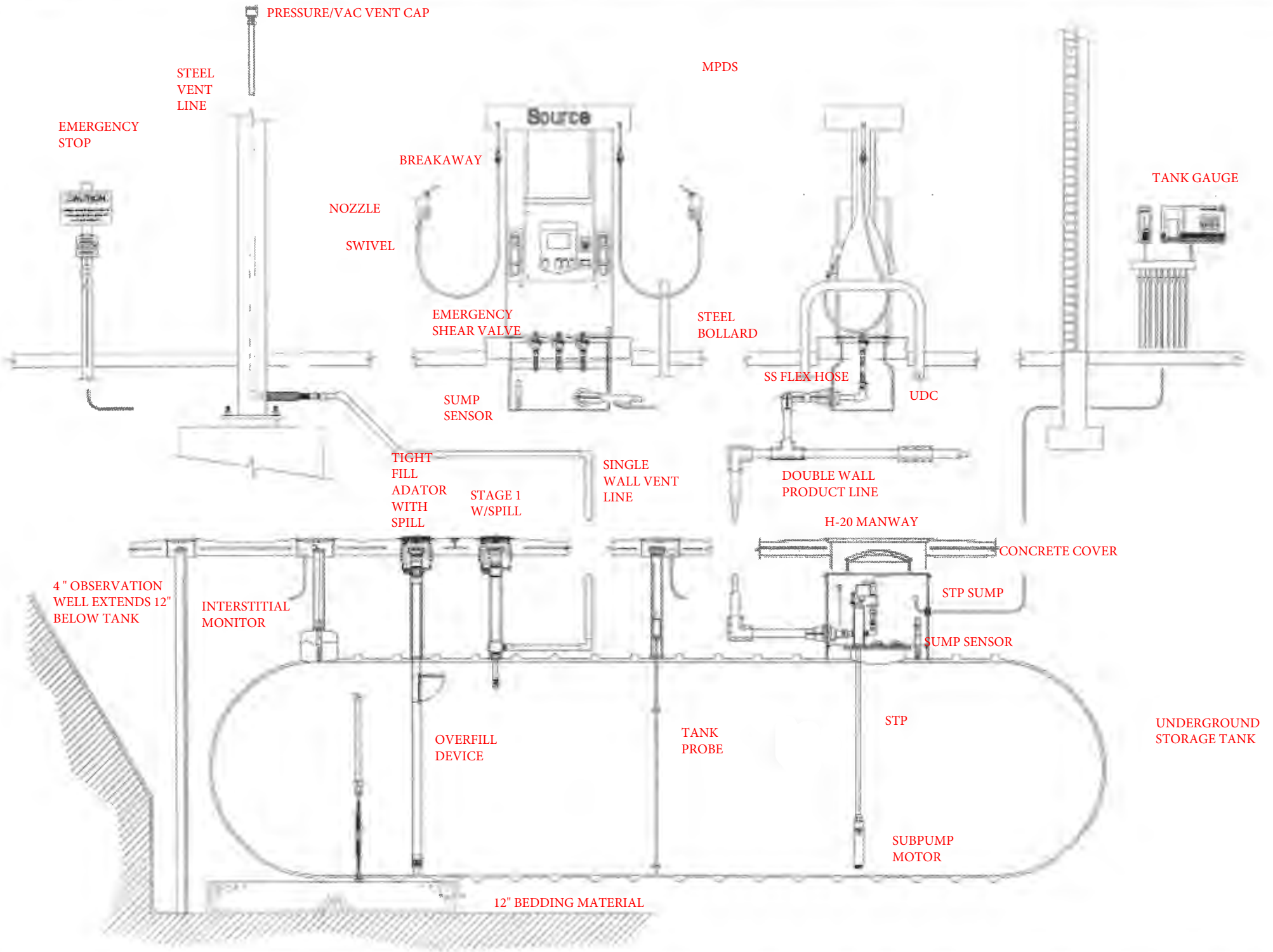
REV.	DATE	DWG BY	APP'D	DESCRIPTION
0	7/10/24	ZO	WH	ISSUED FOR APPROVAL
1				
2				
3				
4				
5				
6				
7				
8				

NOTES:
EXTERNAL: 100 MILS FIBERGLASS SHELL
INTERNAL: BARE METAL
TESTING:
- PRIMARY: 5 PSIG SOAP & WATER
- SECONDARY: VACUUM
- TERTIARY: VACUUM
STRIKER PLATES UNDER "FILL" OPENINGS ONLY
ESTIMATED WEIGHT: 53,000 LBS (+/- 5%)

WATCO TANKS INC. Est. 1984

TCEQ-0583 Attachment H

Profile Drawing


PRESSURE/VAC VENT CAP
STEEL VENT LINE
EMERGENCY STOP
MPDS
Source
BREAKAWAY
NOZZLE
SWIVEL
EMERGENCY SHEAR VALVE
STEEL BOLLARD
TANK GAUGE
SS FLEX HOSE
UDC
SUMP SENSOR
TIGHT FILL ADATOR WITH SPILL
STAGE 1 W/SPILL
SINGLE WALL VENT LINE
DOUBLE WALL PRODUCT LINE
H-20 MANWAY
CONCRETE COVER
4 " OBSERVATION WELL EXTENDS 12" BELOW TANK
INTERSTITIAL MONITOR
STP SUMP
SUMP SENSOR
OVERFILL DEVICE
TANK PROBE
STP
UNDERGROUND STORAGE TANK
SUBPUMP MOTOR
12" BEDDING MATERIAL

TCEQ-0583 Attachment I

Initial and Continuing Training

Attachment I – Best Management Practices
Underground Storage Tanks & Associated Equipment

Location: Shell Retail Center
Address: 2121 SH 195 / Georgetown, TX 78633

Employee Training: All employees must receive periodic training on proper handling of hazardous substances, spill prevention practices, and emergency response procedures. Training must include at least one competent person per every fifty employees taking a TCEQ approved Class A and Class B UST Facility Operators Course. This individual can then train any employees of the facility in safety operation and procedures. Training must include a review of the spill prevention and emergency response plan, and a review of location and use of monitoring equipment.
Equipment must include tank monitor, spill/overfill and leak detection. Training can be recorded though safety committee meetings, staff training logs, or other equivalent record keeping.

What to look for:
Every 30 days, check your spill prevention equipment and your release detection equipment. Check your containment sumps and any handheld release detection equipment.

If the Tank monitoring system is in alarm, contact the store owner or manager and report the alarm ASAP. Take the appropriate action as instructed by the A&B Operator of that facility. The local authorized service company and or fire department may also need to be notified.
Annually the electronic and mechanical components of release detection equipment must be tested for proper operation:
A detailed list can be found in the **Release Detection Maintenance** form – Attachment I

Reporting a Release: If a hazardous substance spill has been released to **soil, surface water, drains** or **air** the following notifications must be performed:

- **Fire Department -** Any release that poses an immediate threat to human health, property, or the environment.
- **State of Texas Spill Reporting Hotline** – Texas state law requires all oil and hazardous substance releases to be reported as soon as the person has knowledge of the discharge.
- **TCEQ Regional Office** – Reportable quantity on land >25 gallons and enough to create a sheen when spilled directly into water.

Stop, contain, and clean up the chemical spill if:

- The spill and its hazardous properties have been identified.
- The spill is small and easily contained.
- Responder is aware of hazardous properties of spilled substances.

TCEQ-0583 Attachment J

Release Detection Maintenance

Attachment J – Release Detection Maintenance

Date: 7/11/24
Project Name: Shell Retail
Location: 2121 SH 195, Georgetown, TX 78633

Every 30 days, check your spill prevention equipment and your release detection equipment. Annually, check your containment sumps and any handheld release detection equipment.

When conducting the walkthrough inspection, check the following:

Spill prevention equipment

- Check for damage.
- Remove any liquids or debris (properly dispose of)
- Check and remove any fill pipe obstructions.
- Clean any spill bucket drains and check for proper operation.
- Check the fill cap to insure it is securely on fill pipe.
- Check interstitial area on any double walled spill prevention equipment with interstitial monitoring.

Release detection equipment

- Ensure it is operating w/no alarms.
- Ensure records of release detection testing are reviewed and current.
- Make copies of results printed on thermal paper for long term storage.

Containment Sumps

- Check for damage, leaks into the containment area or release to the environment.
- Remove any liquid or debris (properly dispose of)
- Check interstitial area of any double wall containment sumps.

Handheld release detection equipment (Tank gauge sticks or ground water bailers)

- Check for operability and serviceability.

Annually the electronic and mechanical components of release detection equipment must be tested for proper operation:

Automatic tank gauge or controllers

- Test the alarm.
- Verify system configuration.
- Test the battery back-up.

Probes and sensors

- Inspect for residual buildup.
- Ensure floats move freely.
- Ensure no components are damaged.
- Ensure cables are free of kinks and breaks.
- Ensure junction boxes or connections are watertight.
- Test exterior alarms and communication with controller.

Electronic line leak detector

- Ensure device activates alarm, restricts flow, or shuts off flow within one hour when simulating a leak at 3gph leak rate.

Mechanical line leak detector

- Ensure device restricts flow (slow flow) when simulating leak rate of 3gph.
- Ensure copper relief tubing is not lose or kinked.

Additional equipment testing:

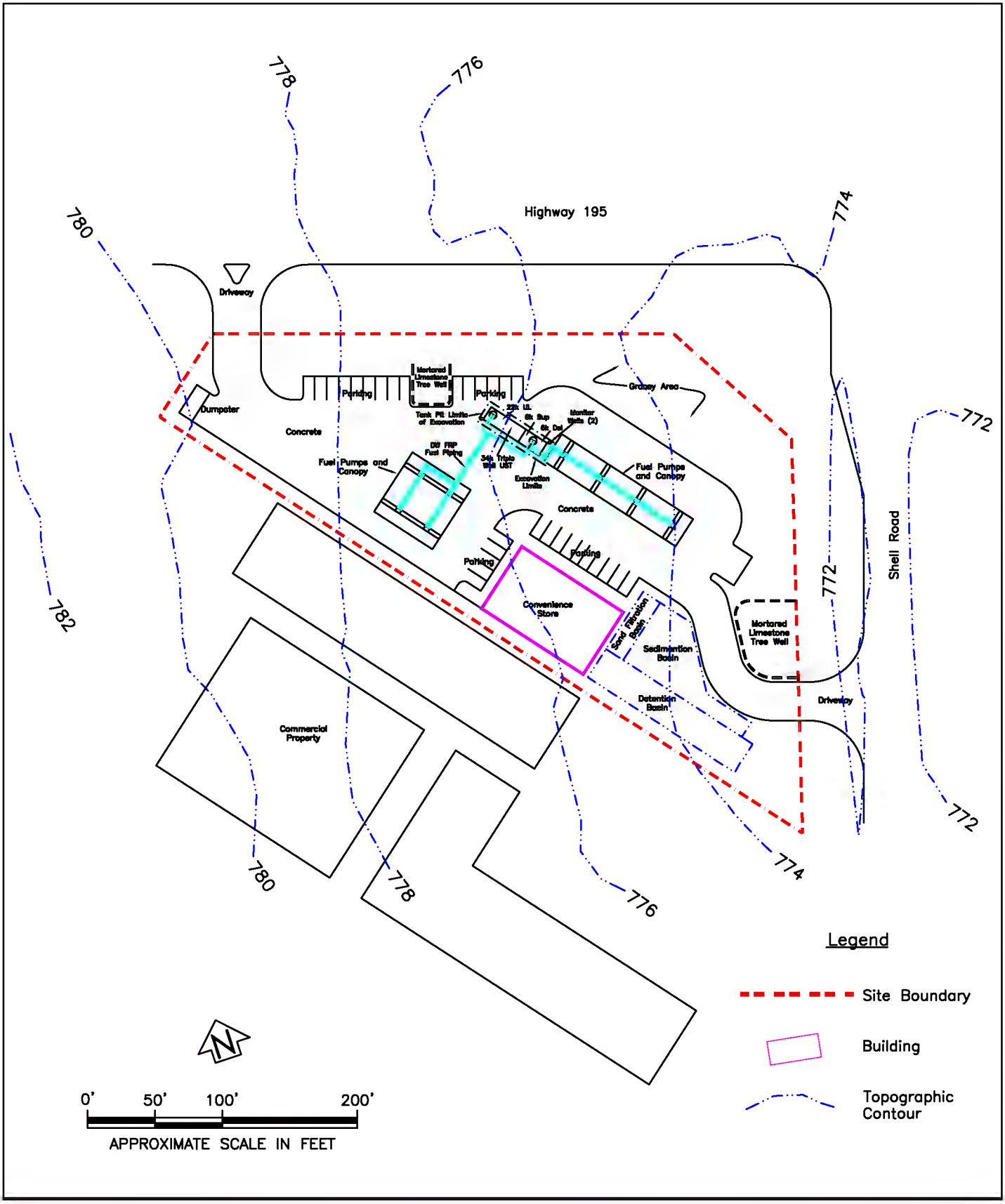
Overfill prevention – Every 3 years.

- Inspect for proper operation.
- Ensure there are no broken floats or components.

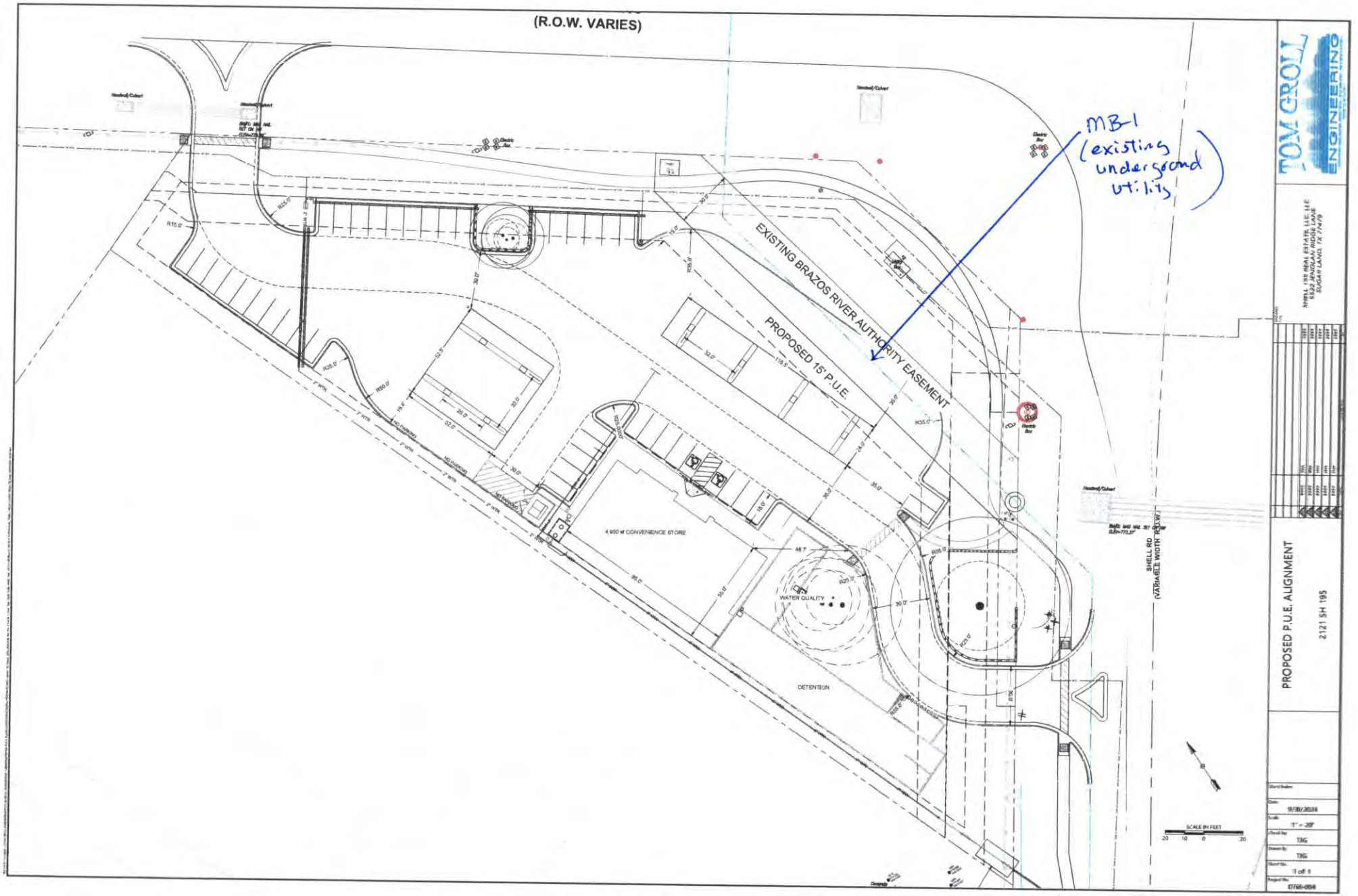
Cathodic Protection – Every 3 years.

- Depending on the material that makes your tanks, the cathodic protection system will need to be verified every 3 years to make sure it is operating correctly.
- 100% FRP tanks will not require this test. Save any information proving that the tank is made of NCM – non corrodible material. Documentation from a certified CP Engineer, Technician, UST Contractor, or on-site supervisor may be required.
- All other tanks other than those of NCM will need to be tested for cathodic protection and verified by a Professional CP Engineer or Certified CP technician.
- Retain these records where they are accessible to a TCEQ agent upon request.

TCEQ-0583
Site Plan



8/22/24 GEO STRATA	Site Plan Shell Road Retail Center 2121 Texas SH-195, Georgetown, TX	1047-SA-Other Figure 1


(R.O.W. VARIES)
MB-1 (existing underground utility)
EXISTING BRAZOS RIVER AUTHORITY EASEMENT
PROPOSED 15' P.U.E.
4,900 sf CONVENIENCE STORE
WATER QUALITY
DETENTION
SHELL RD
(VARIABLE WIDTH R.O.W.)
SCALE IN FEET
20 10 0 20
TOM GROLL ENGINEERING
PROPOSED P.U.E. ALIGNMENT
2121 SH 195
9/30/2024
1" = 20'
TJG
TJG
1 of 1
07561-054

LEGEND

- - - 500 - - -	EXISTING CONTOUR
——— 500 ———	PROPOSED CONTOUR
——— — — ———	PROPERTY BOUNDARY
——— LOC ——— LOC ———	LIMITS OF CONSTRUCTION
—— LOC/SF —— LOC/SF —— LOC/SF ——	LIMITS OF CONSTRUCTION / SILT FENCE
——— SF ——— SF ———	SILT FENCE
▭	INLET PROTECTION
▨	STABILIZED CONSTRUCTION ENTRANCE
RB RB RB	ROCK BERM
—— TP —— TP —— TP —— TP ——	TREE PROTECTION FENCE
○	TREE TO REMAIN
◌	TREE TO BE REMOVED

BENCHMARK INFORMATION

BENCHMARK #1
N: 10237523.01'
E: 3131928.437'
ELEV: 779.39

BENCHMARK #2
N: 10237103.71'
E: 3132184.233'
ELEV: 773.37

TOM GROLL
ENGINEERING
◇ 5208 PRYOR LANE, AUSTIN, TEXAS 78734 ◇ (512) 848-5796 ◇ TBPE FIRM # F-9799 ◇
◇ WWW.TG-ENG.COM ◇

PREPARED FOR:
SHELL 195 REAL ESTATE, LLC
###

NO.	DATE	DESCRIPTION	BY
	#### ###		####
	#### ###		####
	#### ###		####
	#### ###		####
	#### ###		####

SHELL ROAD RETAIL CENTER
2121 SH 195 GEORGETOWN, TX
78633

EROSION CONTROL PLAN

THOMAS J. GROLL
90976

Sheet Index:
Date: 4/11/2023
Scale: 1" = 20'
Check by: TJG
Drawn By: TJG
Sheet No. 5 of 30
Project No. 0768-004

2022-52-SDP

GUIDELINES FOR DESIGN AND INSTALLATION OF TEMPORARY EROSION AND SEDIMENTATION CONTROLS

TYPE OF STRUCTURE	REACH LENGTH	MAXIMUM DRAINAGE AREA	SLOPE
SILT FENCE	N/A	2 ACRES	0 – 10%
	200 FEET	2 ACRES	10 – 20%
	100 FEET	1 ACRE	20 – 30%
	50 FEET	1/2 ACRE	> 30%
TRIANGLE FILTER DIKE	100 FEET	1/2 ACRE	< 30% SLOPE
	50 FEET	1/4 ACRE	> 30% SLOPE
ROCK BERM *, **	500 FEET	< 5 ACRES	0 – 10%

* FOR ROCK BERM DESIGN WHERE PARAMETERS ARE OTHER THAN STATED, DRAINAGE AREA CALCULATIONS AND ROCK BERM DESIGN MUST BE SUBMITTED FOR REVIEW.

** HIGH SERVICE ROCK BERMS MAY BE REQUIRED IN AREAS OF ENVIRONMENTAL SIGNIFICANCE AS DETERMINED BY THE CITY OF GEORGETOWN.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TEMPORARY EROSION AND SEDIMENTATION CONTROL GUIDELINES

EC01

GEORGETOWN TEXAS EST. 1848 — Georgetown Utility Systems — Your Community Owned Utility

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NOTE: THIS SECTION IS INTENDED TO ASSIST THOSE PERSONS PREPARING WATER POLLUTION ABATEMENT PLANS (WPAP) OR STORM WATER POLLUTION PREVENTION PLANS (SWPPP) THAT COMPLY WITH FEDERAL, STATE AND/OR LOCAL STORM WATER REGULATIONS.

1. THE CONTRACTOR TO INSTALL AND MAINTAIN EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, GRADING, OR EXCAVATION). CONTRACTOR TO REMOVE EROSION/SEDIMENTATION CONTROLS AT THE COMPLETION OF PROJECT AND GRASS RESTORATION.
2. ALL PROJECTS WITHIN THE RECHARGE ZONE OF THE EDWARDS AQUIFER SHALL SUBMIT A BEST MANAGEMENT PRACTICES AND WATER POLLUTION AND ABATEMENT PLAN TO THE TNRCC FOR APPROVAL PRIOR TO ANY CONSTRUCTION.
3. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS TO BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN AND WATER POLLUTION ABATEMENT PLAN. DEVIATIONS FROM THE APPROVED PLAN MUST BE SUBMITTED TO AND APPROVED BY THE OWNER'S REPRESENTATIVE.
4. ALL PLANTING SHALL BE DONE BETWEEN MAY 1 AND SEPTEMBER 15 EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING. IF PLANTING IS AUTHORIZED TO BE DONE OUTSIDE THE DATES SPECIFIED, THE SEED SHALL BE PLANTED WITH THE ADDITION OF WINTER FESCUE (KENTUCKY 31) AT A RATE OF 100lb/ACRE. GRASS SHALL BE COMMON BERMUDA GRASS, HULLED, MINIMUM 82% PURE LIVE SEED. ALL GRASS SEED SHALL BE FREE FROM NOXIOUS WEED, GRADE "A" RECENT CROP, RECLEANED AND TREATED WITH APPROPRIATE FUNGICIDE AT TIME OF MIXING. SEED SHALL BE FURNISHED IN SEALED, STANDARD CONTAINERS WITH DEALER'S GUARANTEED ANALYSIS.
5. ALL DISTURBED AREAS TO BE RESTORED AS NOTED IN THE WATER POLLUTION ABATEMENT PLAN.
6. THE PLANTED AREA TO BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF FOUR (4) INCHES. THE IRRIGATION TO OCCUR AT 10-DAY INTERVALS DURING THE FIRST TWO MONTHS TO INSURE GERMINATION AND ESTABLISHMENT OF THE GRASS. RAINFALL OCCURRENCES OF 1/2 INCH OR GREATER TO POSTPONE THE WATERING SCHEDULE ONE WEEK.
7. RESTORATION TO BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1-1/2 INCHES HIGH WITH 95% COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 25 SQUARE FEET EXIST.
8. A MINIMUM OF FOUR (4) INCHES OF TOPSOIL TO BE PLACED IN ALL AREAS DISTURBED BY CONSTRUCTION.
9. THE CONTRACTOR TO HYDROMULCH OR SOD (AS SHOWN ON PLANS) ALL EXPOSED CUTS AND FILLS UPON COMPLETION OF CONSTRUCTION.
10. EROSION AND SEDIMENTATION CONTROLS TO BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILDUP WITHIN TREE DRIPLINE.
11. TO AVOID SOIL COMPACTION, CONTRACTOR SHALL NOT ALLOW VEHICULAR TRAFFIC, PARKING, OR STORAGE OF EQUIPMENT OR MATERIALS IN THE TREE DRIPLINE AREAS.
12. WHERE A FENCE IS CLOSER THAN FOUR (4) FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF EIGHT (8) FEET (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE FENCING.
13. TREES TO BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
14. ANY ROOT EXPOSED BY CONSTRUCTION ACTIVITY TO BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOPSOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN TWO DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
15. CONTRACTOR TO PRUNE VEGETATION TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND EQUIPMENT BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.). ALL FINISHED PRUNING TO BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE "NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES").
16. THE CONTRACTOR IS TO INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY RAINFALL EXCEEDING 1/4 INCH TO VERIFY THAT THEY HAVE NOT BEEN SIGNIFICANTLY DISTURBED. ANY ACCUMULATED SEDIMENT AFTER A SIGNIFICANT RAINFALL TO BE REMOVED AND PLACED IN THE OWNER DESIGNATED SPOIL DISPOSAL SITE. THE CONTRACTOR TO CONDUCT PERIODIC INSPECTIONS OF ALL EROSION/SEDIMENTATION CONTROLS AND TO MAKE ANY REPAIRS OR MODIFICATIONS NECESSARY TO ASSURE CONTINUED EFFECTIVE OPERATION OF EACH DEVICE.
17. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT IMMEDIATELY ADJACENT TO A PROTECTED TREE, ERECT THE FENCE APPROXIMATELY TWO TO FOUR FEET (2'-4') BEHIND THE AREA IN QUESTION.
18. NO ABOVE AND/OR BELOW GROUND TEMPORARY FUEL STORAGE FACILITIES TO BE STORED ON THE PROJECT SITE.
19. IF EROSION AND SEDIMENTATION CONTROL SYSTEMS ARE EXISTING FROM PRIOR CONTRACTS, OWNER'S REPRESENTATIVE AND THE CONTRACTOR TO EXAMINE THE EXISTING EROSION AND SEDIMENTATION CONTROL SYSTEMS FOR DAMAGE PRIOR TO CONSTRUCTION. ANY DAMAGE TO PREEXISTING EROSION AND SEDIMENTATION CONTROLS NOTED TO BE REPAIRED AT OWNERS EXPENSE.
20. INTENTIONAL RELEASE OF VEHICLE OR EQUIPMENT FLUIDS ONTO THE GROUND IS NOT ALLOWED. CONTAMINATED SOIL RESULTING FROM ACCIDENTAL SPILL TO BE REMOVED AND DISPOSED OF PROPERLY.

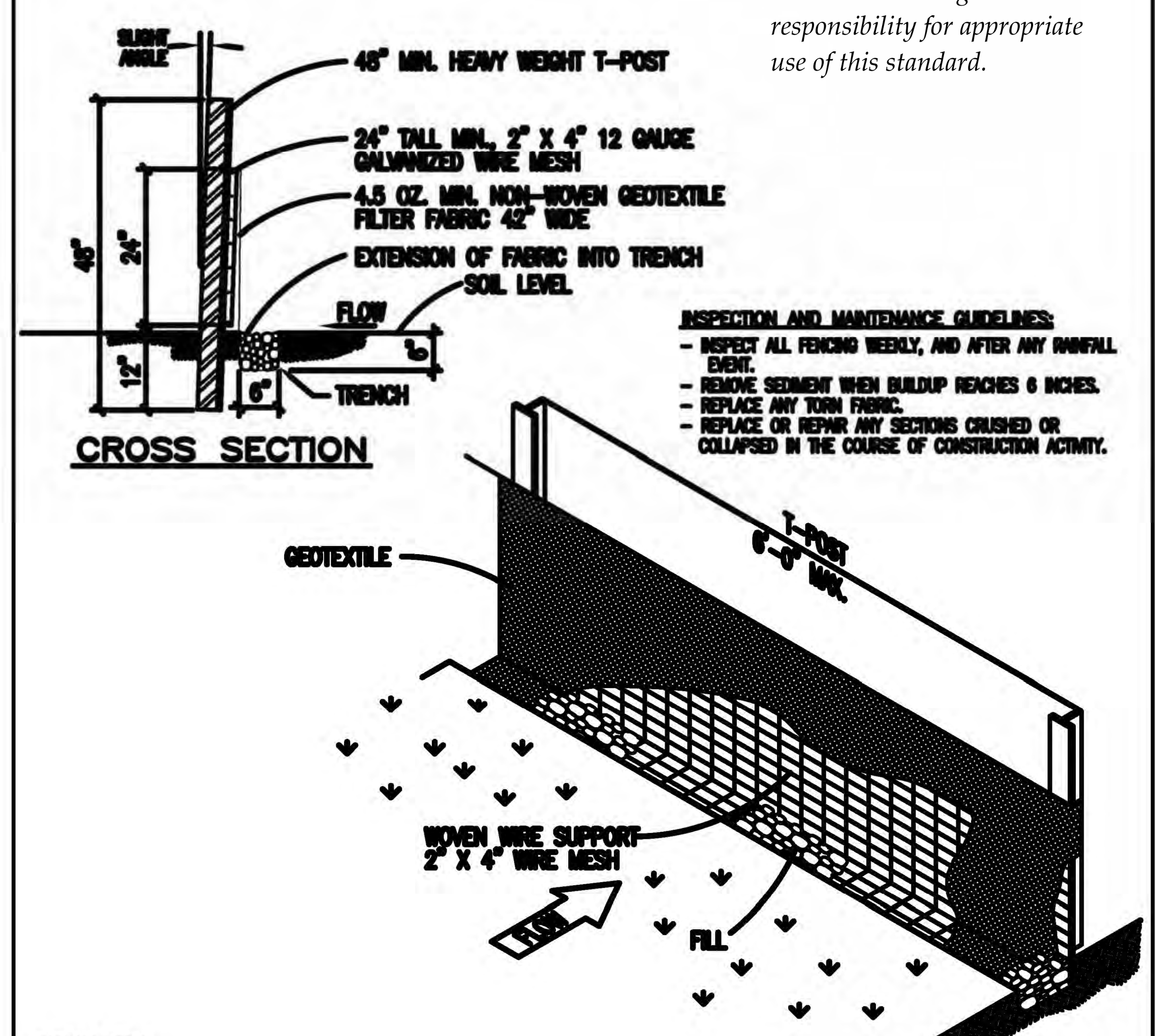
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
EROSION AND SEDIMENTATION AND TREE PROTECTION NOTES

EC01A

The Architect/Engineer assumes responsibility for appropriate use of this standard.



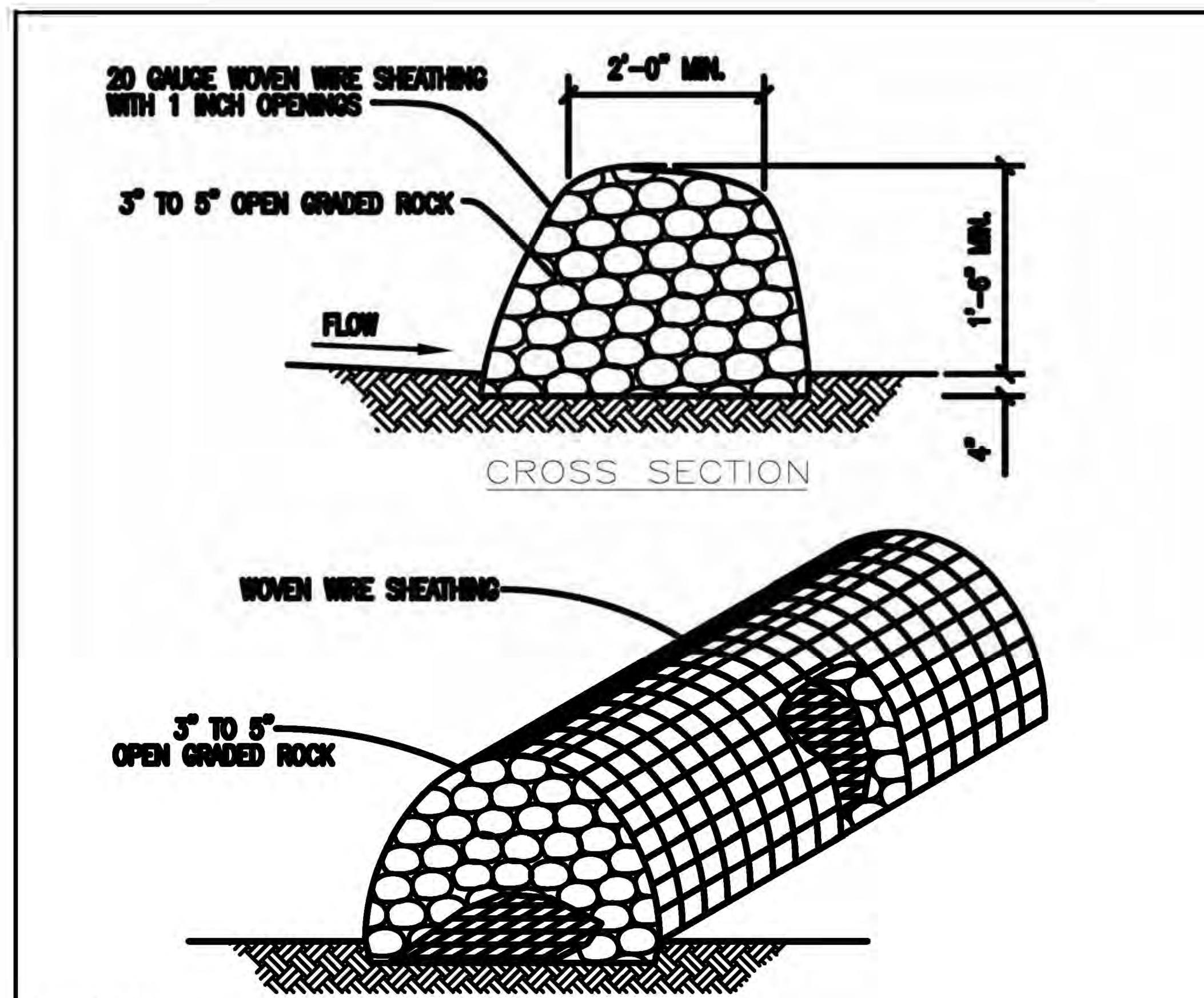
INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL EVENT.
- REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.
- REPLACE ANY TORN FABRIC.
- REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY.

INSTALLATION:
- LAYOUT THE SILT FENCE FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS, PLANTS (INCLUDING GRASSES TALLER THAN 2") TO PROVIDE A SMOOTH FLOW APPROACH SURFACE. EXCAVATE 6" DEEP X 6" WIDE TRENCH ON UPSTREAM SIDE OF FACE PER PLANS.
- DRIVE THE HEAVY DUTY T-POST AT LEAST 12 INCHES INTO THE GROUND AND AT A SLIGHT ANGLE TOWARDS THE FLOW.
- ATTACH THE 2" X 4" 12 GAUGE WELDED WIRE MESH TO THE T-POST WITH 11 1/2 GAUGE GALVANIZED T-POST CLIPS. THE TOP OF THE WIRE TO BE 24" ABOVE GROUND LEVEL. THE WELDED WIRE MESH TO BE OVERLAPPED 6" AND TIED AT LEAST 6 TIMES WITH HOG RINGS.
- THE SILT FENCE TO BE INSTALLED WITH A SKIRT A MINIMUM OF 6" WIDE PLACED ON THE UPHILL SIDE OF THE FENCE INSIDE EXCAVATED TRENCH. THE FABRIC TO OVERLAP THE TOP OF THE WIRE BY 1".
- ANCHOR THE SILT FENCE BY BACKFILLING WITH EXCAVATED DIRT AND ROCKS (NOT LARGER THAN 2").
- GEOTEXTILE SPLICES SHOULD BE A MINIMUM OF 18" WIDE ATTACHED IN AT LEAST 6 PLACES. SPLICES IN CONCENTRATED FLOW AREAS WILL NOT BE ACCEPTED.
- SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SILT FENCE DETAIL

EC02



INSTALLATION:
- LAYOUT THE ROCK BERM FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- PLACE WOVEN WIRE FABRIC ON THE GROUND ALONG THE PROPOSED INSTALLATION WITH ENOUGH OVERLAP TO COMPLETELY ENCIRCLE THE FINISHED SIZE OF THE BERM.
- PLACE THE ROCK ALONG THE CENTER OF THE WIRE TO THE DESIGNATED HEIGHT.
- WRAP THE STRUCTURE WITH THE PREVIOUSLY PLACED WIRE MESH SECURE ENOUGH SO THAT WHEN WALKED ACROSS THE STRUCTURE RETAINS IT'S SHAPE.
- SECURE WITH TIE WIRE.
- THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROX. 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.
- THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

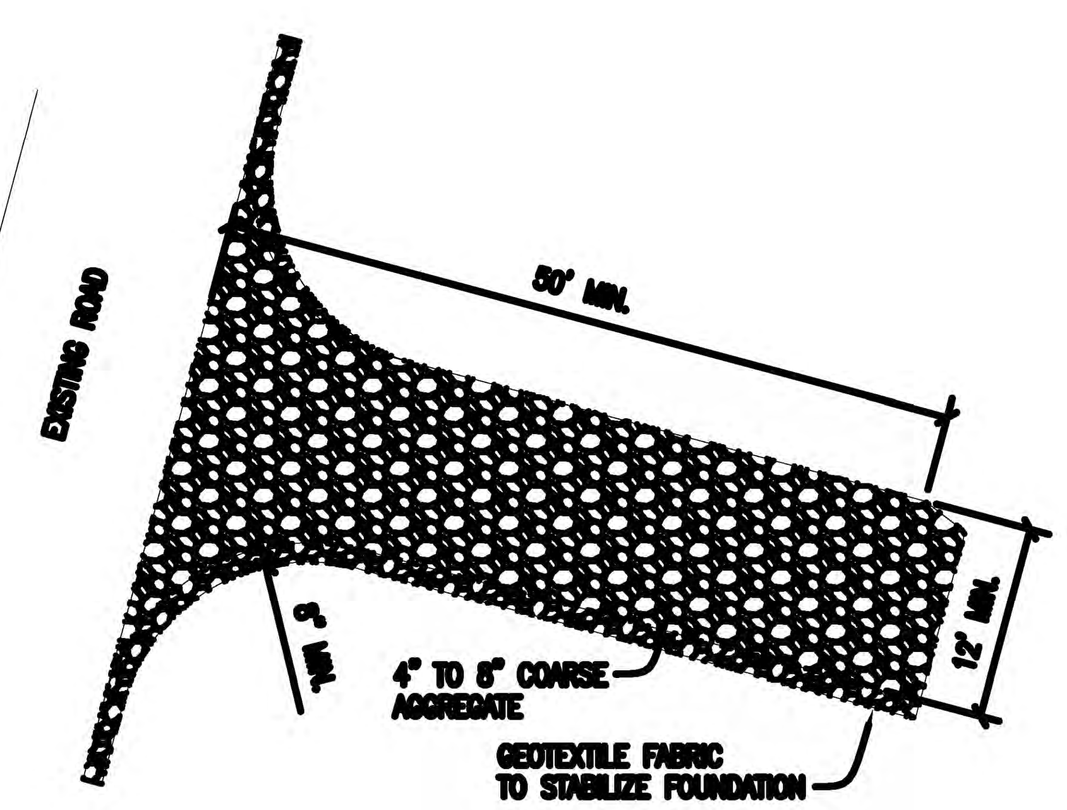
INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL EVENT BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
- REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER.
- REPAIR ANY LOOSE WIRE SHEATHING.
- THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
- THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

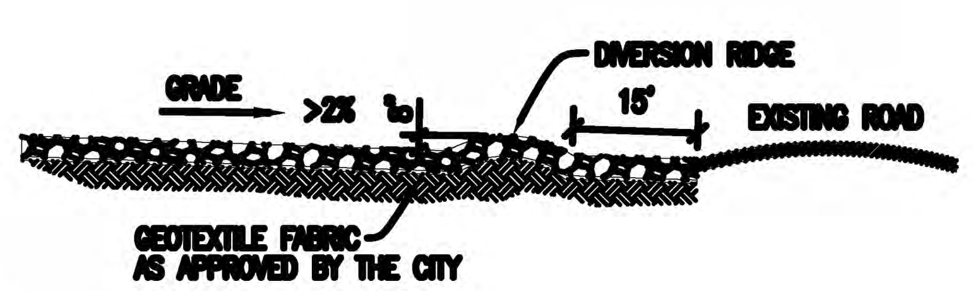
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
ROCK BERM DETAIL

EC03





INSTALLATION:
- CLEAR THE AREA OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- GRADE THE AREA FOR THE ENTRANCE TO FLOW BACK ON TO THE CONSTRUCTION SITE. RUNOFF FROM THE STABILIZED CONSTRUCTION
- PLACE GEOTEXTILE FABRIC AS APPROVED BY THE CITY.
- PLACE ROCK AS APPROVED BY THE CITY.

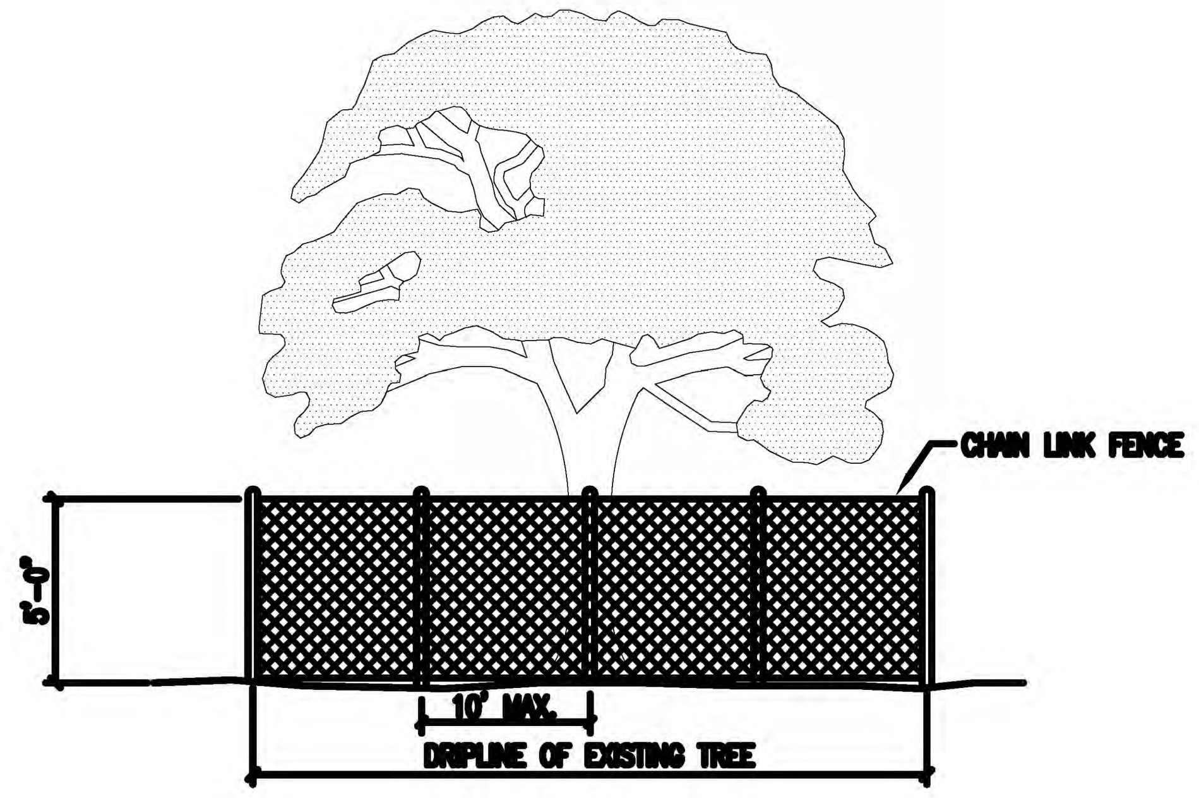
INSPECTIONS AND MAINTENANCE GUIDELINES:
- THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
- WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-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.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
STABILIZED CONSTRUCTION ENTRANCE

EC06



NOTES:
1. TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING).
2. FENCES SHALL COMPLETELY SURROUND THE TREE, OR CLUSTERS OF TREES; WILL BE LOCATED AT THE OUTERMOST LIMIT OF THE TREE BRANCHES (DRIPLINE), AND WILL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT IN ORDER TO PREVENT THE FOLLOWING:
   A. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MATERIALS.
   B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN SIX INCHES (6") CUT OR FILL, OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE CITY.
   C. WOUNDS TO EXPOSED ROOTS, TRUNKS OR LIMBS BY MECHANICAL EQUIPMENT.
   D. OTHER ACTIVITIES DETRIMENTAL TO TREES, SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING AND FIRE.
3. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIPLINES MAY BE PERMITTED IN THE FOLLOWING CASES:
   A. WHERE PERMEABLE PAVING IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA.
   B. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN SIX FEET (6'-0") TO BUILDING.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TREE PROTECTION – CHAIN LINK FENCE

EC09

TOM GROLL ENGINEERING
5208 PRYOR LANE, AUSTIN, TEXAS 78734 ◊ (512) 848-5796 ◊ TBPE FIRM # F-9799 ◊ WWW.TG-ENG.COM

PREPARED FOR:
SHELL 195 REAL ESTATE, LLC
5522 JENOLAN RIDGE LANE
SUGARLAND, TX 77479

NO.	DATE	DESCRIPTION	BY
	#### ###		####
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SHELL ROAD RETAIL CENTER
2121 SH 195 GEORGETOWN, TX 78633

EROSION CONTROL DETAILS

STATE OF TEXAS — THOMAS J. GROLL — 90976 — LICENSED PROFESSIONAL ENGINEER

Sheet Index:
Date: ----
Scale: NTS
Check by: TJG
Drawn By: TJG
Sheet No. 6 of 30
Project No. 0768-004

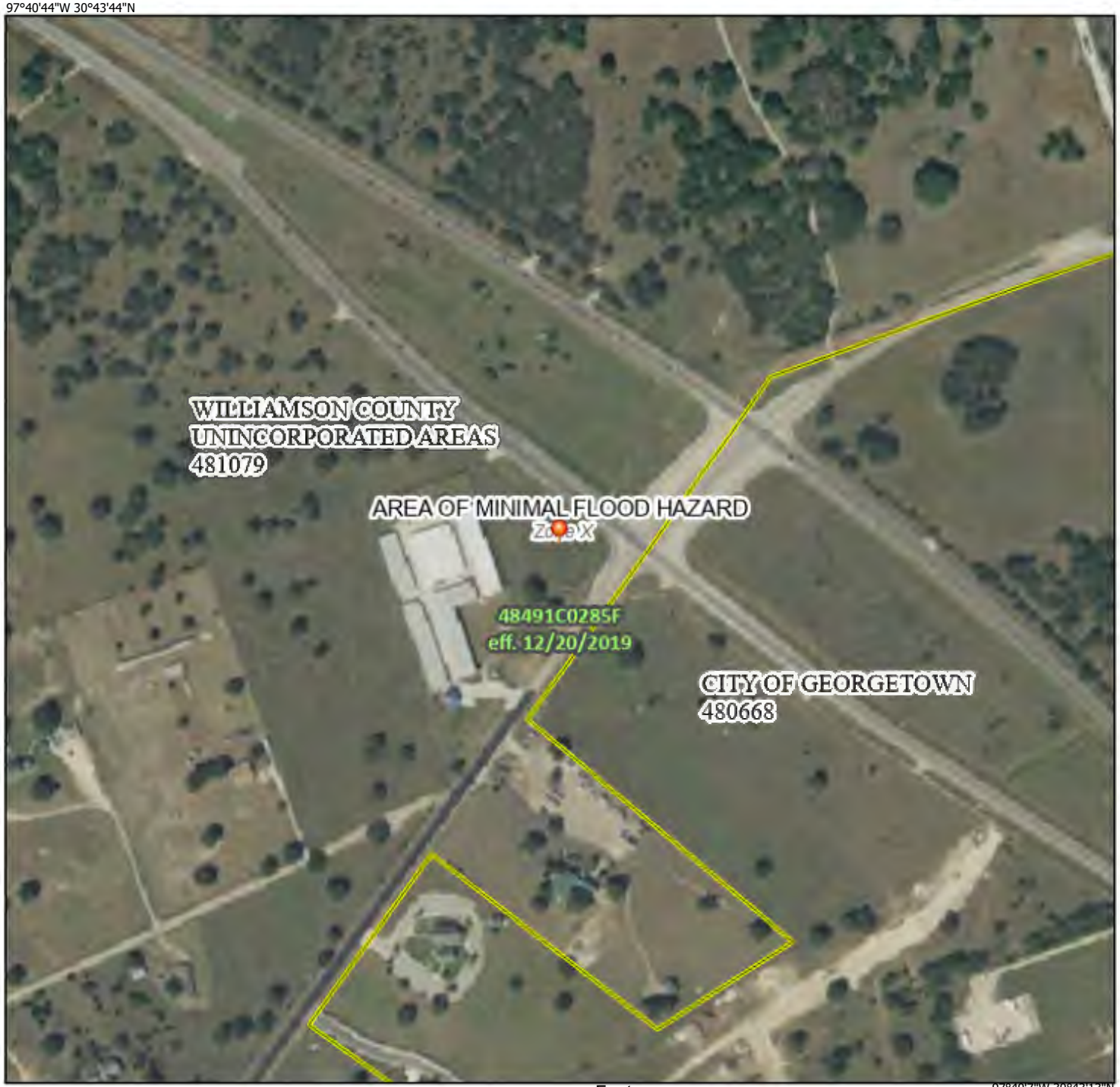
2022-52-SDP

TCEQ-0583
FEMA Flood Map

National Flood Hazard Layer FIRMette

FEMA

97°40'44"W 30°43'44"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

97°40'7"W 30°43'13"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

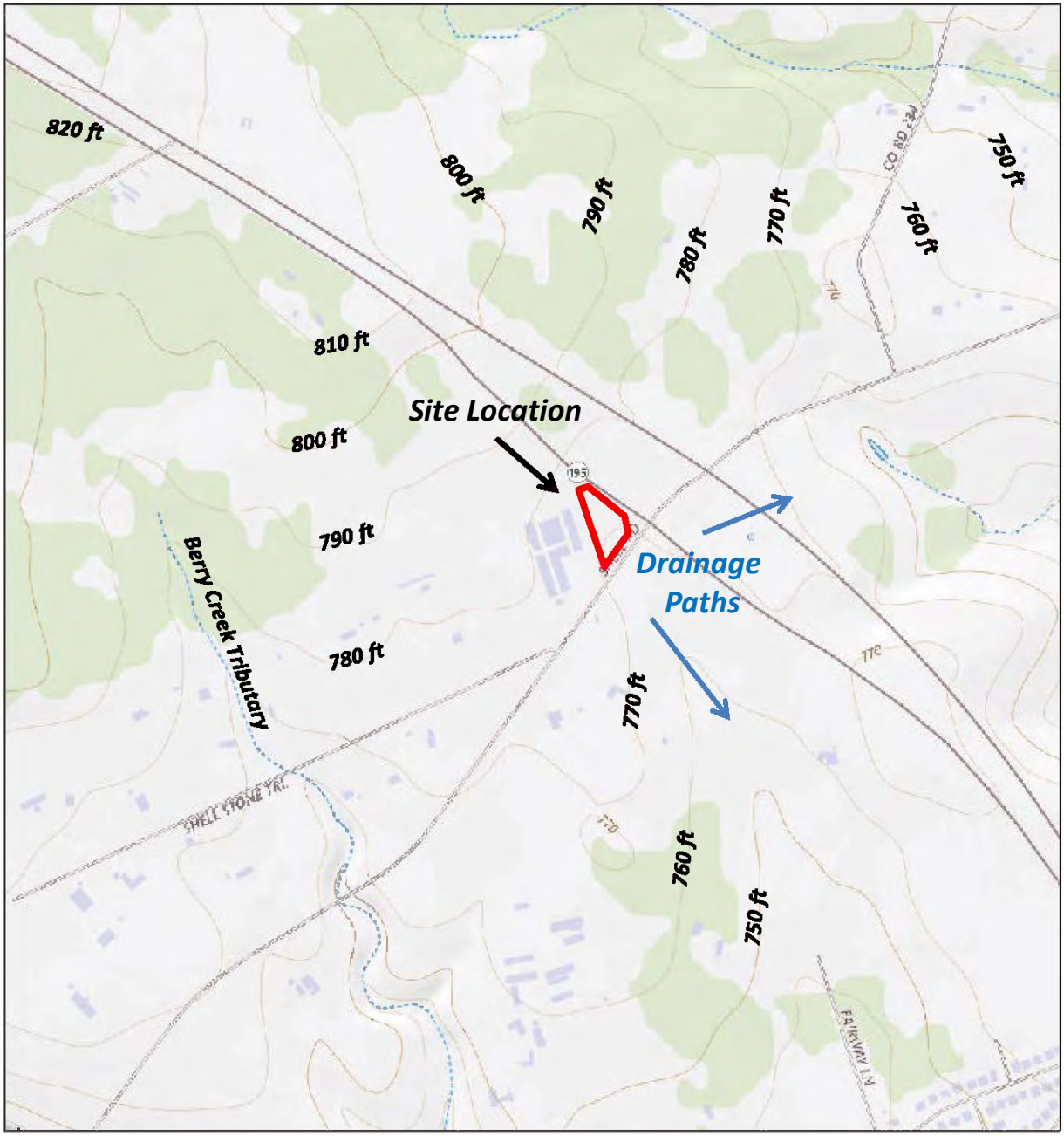
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/19/2024 at 1:53 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

TCEQ-0583 UST Facility Plan Application

Site Location with Topographic Contours



8/19/2024, 1:38:35 PM

1:12,000

0 475 950 1,900 ft

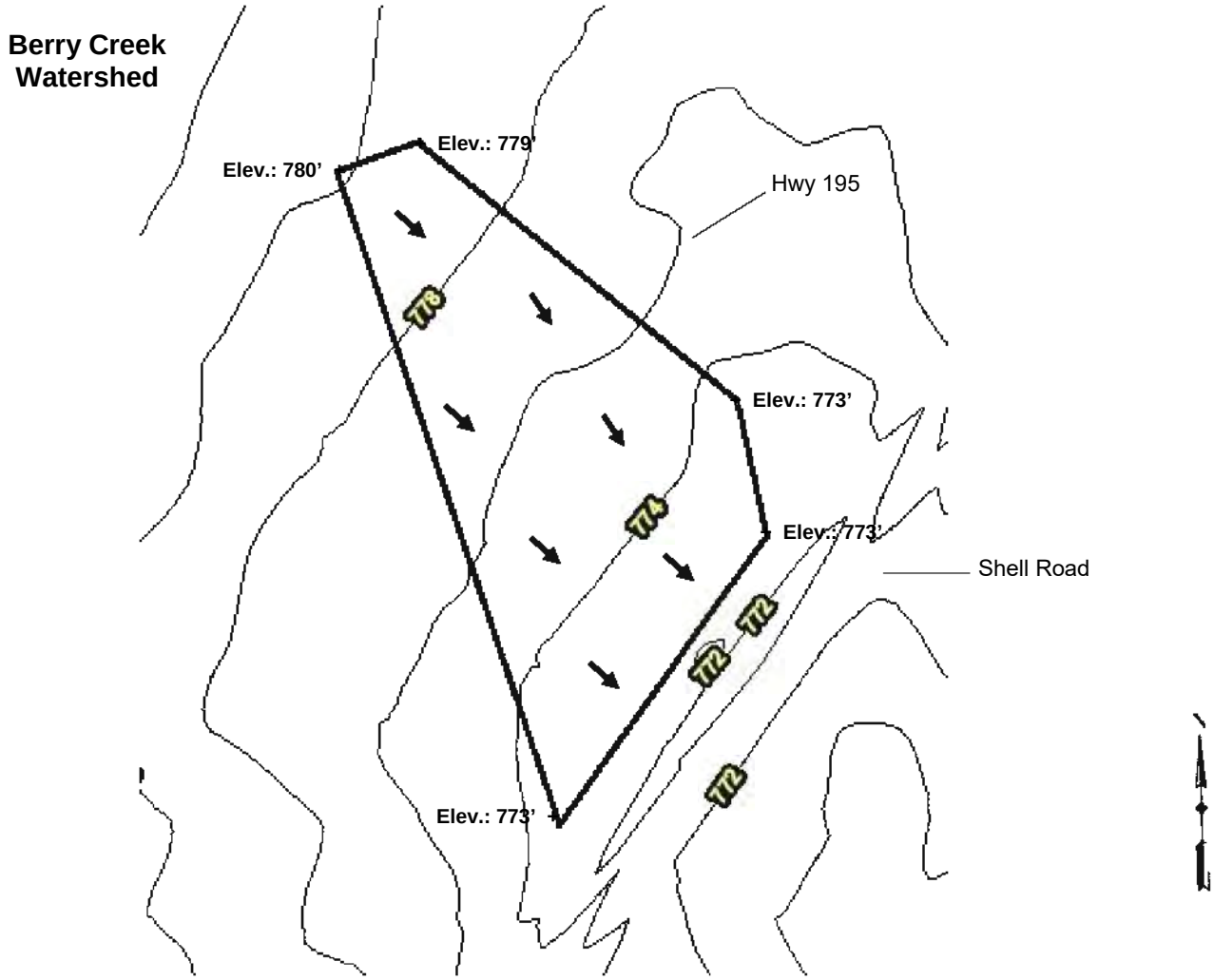
0 145 290 580 m

Geo Strata

USGS Topographic Map
Shell Road Retail Center
Shell Road and TX-195
Georgetown, Texas

N W E S

TCEQ-0583
Site Layout and Drainage



Source: Williams County GIS

M. TROJAN & ASSOCIATES
Environmental Consultants
8244 Lime Creek Road
Leander, Texas 78641
(512) 258-6606

Scale:	No Scale
Date:	January 5, 2021
Project:	TCEQ Geologic Assessment
MTA Project:	SE-20-020

FIGURE 3

SURFACE WATER HYDROLOGY

UNDEVELOPED LOT
HWY 195 AT SHELL ROAD
GEORGETOWN, WILLIAMSON COUNTY, TEXAS 78633

Appendix D

TECQ-0602
Temporary Stormwater Section

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: Thomas J. Groll, P.E.

Date: November 7, 2022

Signature of Customer/Agent:

Thomas J Groll, P.E.

Regulated Entity Name: Shell Road Retail Center

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: None

   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: Unnamed tributary to Berry Creek

Temporary Best Management Practices (TBMPs)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☒ N/A

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

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

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

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

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

Soil Stabilization Practices

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

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

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

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

Administrative Information

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

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

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

Temporary Stormwater Section Attachments

Attachment A:	Spill Response Actions
Attachment B:	Potential Sources of Contamination
Attachment C:	Sequence of Major Construction
Attachment D:	Best Management Practices
Attachment E:	Request to Temporarily Seal a Feature
Attachment F:	Structural Practices
Attachment G:	Drainage Area Map
Attachment H:	Temporary Sediment Pond Plans and Calculations
Attachment I:	Inspection and Maintenance of BMP's
Attachment J:	Schedule of Interim and Permanent Soil Stabilization

Attachment A - Spill Response Actions

Education

1. The contractor shall educate their employees about the following matters:
    a. Different materials pollute in different amounts. The site Superintendent shall be knowledgeable about the types of materials (fuels, solvents, lubricants, coatings, piping, embedment) that will be used for construction of the pipeline and be prepared to respond appropriately to an unplanned release of materials.
    b. Ensure 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 a spill must be reported to the TCEQ.
    c. Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.
    d. Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
    e. Establish a continuing education program to indoctrinate new employees.
    f. 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 storm water run on during rainfall to the extent that it does not compromise cleanup activities.
7. Do not bury or wash spills with water.
8. Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.
9. Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.
10. Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.
11. Place Material Safety Data Sheets (MSDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.
12. Keep waste storage areas clean, well-organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

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

Minor Spills

1. Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.
2. Use absorbent materials on small spills rather than hosing down or burying the spill.
3. Absorbent materials should be promptly removed and disposed of properly.
4. Follow the practice below for a minor spill:
    a. Contain the spread of the spill.
    b. Recover spilled materials.
    c. Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the supervisor, 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 supervisor 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.

In the event of a reportable spill, the following Emergency Response Agencies can be contacted for assistance. Always inform your supervisor of a reportable spill immediately. Follow company policy when responding to an emergency.

State Emergency Response Commission .....(512) 463-7727
National Response Center .....(800) 424-8802
US EP A Region 6, Dallas, 24-hr Number.....(866) 372-7745
National Weather Service .....(281) 337-5074
TCEQ 24-hr.....(800) 832-8224
TCEQ Region 11 Austin .....(512) 339-2929

DETAILED TELEPHONE SPILL REPORT FORM

Date of Incident:_____

Location of Incident:_____

Description of material spilled:_____

Quantity of material spilled:_____

Cause of spill: _____

Authorities notified:_____

Remediation/clean-up action:_____

Corrective measures taken for prevention of reoccurrence:_____
_____
_____
_____
_____
_____

Notes: _____
_____
_____
_____
_____
_____

Signature:_____

Emergency Number for the National Response Center 1-800-424-8802

Attachment B - Potential Sources of Contamination

Potential sources of contamination in the project area include the following:

1. Soil, fuels, and lubricants from vehicles and equipment, construction materials and trash/debris items.
    a. Excavation activities – Contractor shall cause all excavated materials to be properly stockpiled and secured within areas that are not subject to flooding. Excavated material stockpiles shall be within areas bordered with silt fence. All excavated materials shall be stabilized by revegetation if the stockpile is not used within 14 days.
    b. Soil tracking – Contractor shall monitor the movement of equipment to and from public roadways (Shell Road) to ensure that any soils tracked by haul vehicles is promptly removed.
    c. Storm Inlet Protection – Contractor shall ensure that all storm inlet protections are installed and functioning properly. If sediments accumulate at inlet protections, they shall be cleaned or replaced as appropriate.
    d. Equipment fueling and maintenance operations – Contractor shall ensure that all equipment fueling and maintenance operations are performed in a safe manner. Any spills shall be immediately remediated by capturing any contaminated soils and placing them in an appropriate container for disposal.
    e. Importing piping and bedding materials – Contractor shall ensure that all imported piping and associated fittings are stored in a neat and orderly manner. Materials shall not be stored in areas prone to flooding. Bedding materials shall be stockpiled in areas not prone to flooding and shall be secured by perimeter silt fence.
    f. Daily construction activities – Contractor shall provide employees with a designated parking area established to prevent tracking of soils on to roadways. Trash receptacles shall be provided at the parking area as well as other locations throughout the site where employees can properly dispose of trash. Portable toilets shall also be provided and maintained regularly commensurate with the number of workers on site throughout the construction process.
    g. Project completion – Contractor shall return all excavated areas to planned grades. All disturbed areas shall be revegetated and water sufficiently to ensure adequate growth to stabilize any loose materials. All excess excavated material shall be promptly removed from the site and disposed at an approved location. All excess construction materials shall be promptly removed from the site and disposed of properly. All trash and debris shall be cleaned up and removed from the site prior to acceptance of the project.

Attachment C - Sequence of Major Activities

The sequence of major activities associated with this development includes: 1) installation of all construction phase erosion & sedimentation control devices, 2) stripping the land of its vegetative cover, 3) excavation of detention and water quality basin, 4) excavation and embankment to create subgrade, 5) utility trenching and installation, 6) installation of pavement and building foundations, 7) final grading and site cleanup, and 8) establishment of temporary and permanent revegetation measures. Construction phase erosion and sedimentation control measures such as silt fences, rock berms, mulch logs & stabilized construction entrances will be inspected regularly and adjusted as necessary in response to the expansion of the work area and changing site conditions.

Attachment D - Temporary Best Management Practices (TBMPs)

Temporary Best Management Practices proposed for this site address storm water runoff generated from the up-gradient offsite area, on-site construction activity, and downstream flows. These TBMPs include stabilized construction entrances, inlet protections, silt fencing, earthen berms, rock berms, concrete washout controls, and sedimentation basins.

7a. A description of how BMPs and measures will prevent pollution of surface water, groundwater or storm water that originates up gradient from the site and flows across the site:

The area up-gradient of the site consists of SH 195, a Cube Smart self-storage facility and the Alta at Berry Creek development (currently under construction). The existing grade and storm network capture all up-gradient storm water run-off and divert it around the site.

7b. 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 storm water runoff from the site:

Proactive management of structural controls and construction activities includes regular inspection and maintenance of temporary BMP's, and appropriate planning of earth disturbing activities with respect to anticipated weather conditions. The contractor shall be responsible for securing all disturbed areas, material stockpiles, construction debris, and equipment prior to any anticipated storm events that could result in escape of contaminated runoff from the site.

7c. A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer:

The proposed TBMPs, such as silt fence, rock berms, and stabilized construction entrances, will capture any fugitive sediments generated by the construction activity. By capturing all developed runoff and diverting it to the water quality/detention ponds the potential for pollutants to enter surface streams and the aquifer is significantly mitigated.

7d. A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction:

There are no naturally occurring sensitive features identified on site at this time. However, in the event that a sensitive feature is discovered during construction and to the maximum extent practicable TBMPs will be installed and maintained as required to maintain flow to sensitive features while keeping sediments and other pollutants from entering. If necessary, flow will be maintained to naturally occurring sensitive features by using rock berms, silt fences, and mulch socks to separate out sediments and other pollutants and to direct flow to the feature. These types of BMP's slow the flow of water allowing for sedimentation while allowing the flow to be maintained.

Any sensitive geologic feature discovered during excavation will be handled in the following manner:

- Sediment that can be easily removed from the area adjacent to the feature without disturbing the feature will be removed.
- A rock berm will be placed around the feature to control and filter any potential flows into the feature.
- After placement of the rock berm, construction activities that could adversely affect the feature will cease.
- A Professional Geologist will be called to the site to observe and rate the feature. If the feature is determined to be sensitive in accordance with TAC 213 rules, the TCEQ will be notified and an appropriate method for addressing the feature will be formulated and submitted for TCEQ approval.
- Work will not resume in the area of the feature until the TCEQ approved method for addressing the feature has been carried out.

Attachment E - Request to Temporarily Seal a Feature

There are no geologic features needing to be temporarily sealed related to this application.

Attachment F - Structural Practices

Structural practices include the proposed water quality and detention pond, silt fences, and stabilized construction entrances. All areas of the project where no grading activity is proposed to occur will be off limits to construction equipment and crews. The pond excavation will serve to provide storm water control during and after construction.

Attachment G – Drainage Area Map

Please see the attached drainage area maps on sheets 14 & 15 of the construction plan set.

Attachment H – Temporary Sediment Pond Plans and Calculations

There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sedimentation controls other than sediment basins will be the primary TBMP's.

Attachment I - Inspection and Maintenance for BMPs

(1) *Inspection should be made weekly and after each rainfall. Check the embankment, spillways, and outlet for erosion damage, and inspect the embankment for piping and settlement. Repair should be made promptly as needed by the contractor.*

An inspection of all structural erosion control devices (silt fences, rock berms, earthen berms, mulch logs, etc…) shall occur weekly and after each rainfall event more than ¼". Written documentation of these inspections shall be maintained during construction at the project site. Any erosion, rutting, and/or washout of the structural control devices shall be repaired by backfilling with clean, stable material from the site.

The site is authorized to discharge storm water under the TPDES General Permit No. TXRO50000 for industrial activities. Requirements of the general permit include maintaining a Stormwater Pollution Prevention Plan (SWP3) which includes inspections of storm water best management practices and sampling of storm water discharged from the site. If necessary, dewatering will be performed in accordance with the numeric effluent limitations noted in the TPDES General Permit No. TXR050000.

If dewatering the excavation becomes necessary, it would be accomplished using a pump and filtration system to capture the solids prior to releasing the discharge from the site. Storm water runoff shall be tested to verify compliance with the numeric effluent limitations of TPDES General Permit No. TXR050000 Section J, (5)(ii) of 45 mg/L for a daily maximum and 25 mg/L for a daily average. These concentrations are lower than the estimated background concentration as stated in the Edwards Aquifer Technical Guidance Manual (RG-348) of 80 mg/L for undeveloped areas. The water would be discharged to a natural drainage area onto a rip rap pad such that soil erosion would be mitigated.

(2) *Trash and other debris should be removed after each rainfall to prevent clogging of the outlet structure.*

Sediment and other debris shall be removed from structural control devices when buildup reaches a depth of 6". The accumulated silt shall be disposed of in a manner that will not cause additional siltation. Structural control devices that no longer adequately filter sediment from storm water due to silt accumulation, washout, or other damage damages, shall be replaced.

(3) *Accumulated silt should be removed and the basin should be re- graded to its original dimensions at such point that the capacity of the impoundment has been reduced to 75% of its original storage capacity.*

Sediment and other debris shall be removed from structural control devices as required.

(4) *The removed sediment should be stockpiled or redistributed in areas that are protected from erosion.*

The accumulated silt shall be disposed of in a manner that will not cause additional siltation. Structural control devices that no longer adequately filter sediment from storm water due to silt accumulation, washout, or other damage damages, shall be replaced.

		Slit Fence			Rock Berms		Earthen Berms	Mulch Socks	Temporary Sedimentation Pond		
Date	Inspected By	>6" silt retained	Water flowing under silt fence	Fencing material torn or clogged	>6" slit retained	Rock berm clogged	Erosion of earthen berm	Ponding or silt accumulation	Embankment/spillway/outlet erosion or damage	Trash or Debris	Capacity reduced to 75% due to silt

If the answer to any of the above questions is *'yes'*, perform maintenance/repair/replacement as described below or In accordance with TCEQ Technical Guidance on BMPs.

Slit Fence

- >6" of slit retained behind fence - remove silt - place in protected area.
- Water flow under slit fence - bury bottom of fencing material on up-gradient side. Place clean rock on both sides of the fence in affected areas.
- Silt fence torn or clogged - replace fence material as needed if torn or water flow is stopped.

Rock Berm

- >6' of slit retained - remove silt - place in protected area.
- Rock berm clogged - the rock berm should be replaced when accumulated silt, washout or damage to berm occurs.

Earthen Berm

- Erosion of earthen berm - rebuild berm.

Mulch Socks

- Excessive ponding or sediment accumulation to top of sock - add additional mulch sock.

Temporary Sedimentation Pond

- Check the embankment, spillways, and outlet for erosion damage, and inspect the embankment for piping and settlement.
- Trash or debris - remove after rainfall to prevent clogging outlet.
- Capacity reduced to 75% - Remove accumulated silt and re-grade to original storage capacity.

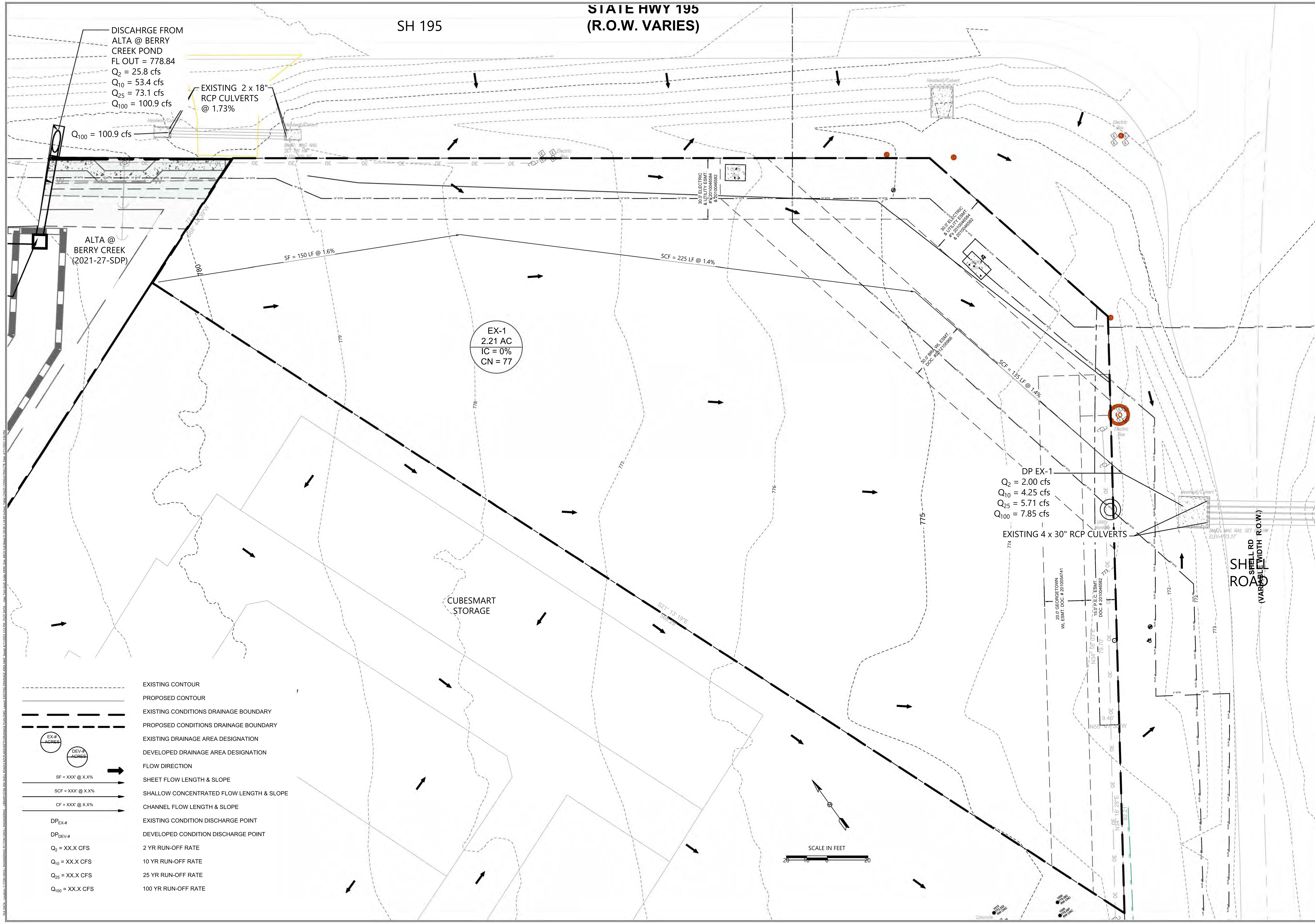
Attachment J - Schedule of Soil Stabilization Practices

Soil stabilization measures shall be initiated within 14 days after construction activity on any portion of the site has temporarily or permanently ceased. If the initiation of stabilization measures by the 14th day after construction activity has temporary or permanently ceased 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 the site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.

Examples of soil stabilization practices may include establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Soil stabilization practices to be implemented at this site, if necessary, include mulching, establishment of permanent vegetation by seeding native grasses, and/or preservation of existing vegetation. Other temporary measures to prevent soil from migrating offsite include the installation of inlet protections, and the completion of sedimentation basins. All temporary soil stabilization measures shall be inspected regularly to insure their proper function.

Appendix D

TECQ-0602
Attachment G – Drainage Area Map


STATE HWY 195
(R.O.W. VARIES)
SH 195
DISCAHRGE FROM
ALTA @ BERRY
CREEK POND
FL OUT = 778.84
Q_2 = 25.8 cfs
Q_{10} = 53.4 cfs
Q_{25} = 73.1 cfs
Q_{100} = 100.9 cfs
EXISTING 2 x 18"
RCP CULVERTS
@ 1.73%
Q_{100} = 100.9 cfs
ALTA @
BERRY CREEK
(2021-27-SDP)
SF = 150 LF @ 1.6%
SCF = 225 LF @ 1.4%
EX-1
2.21 AC
IC = 0%
CN = 77
SCF = 135 LF @ 1.4%
DP EX-1
Q_2 = 2.00 cfs
Q_{10} = 4.25 cfs
Q_{25} = 5.71 cfs
Q_{100} = 7.85 cfs
EXISTING 4 x 30" RCP CULVERTS
SHELL RD
(VARIABLE WIDTH R.O.W.)
SHELL
ROAD
CUBESMART
STORAGE
SCALE IN FEET
20 10 0 20
EXISTING CONTOUR
PROPOSED CONTOUR
EXISTING CONDITIONS DRAINAGE BOUNDARY
PROPOSED CONDITIONS DRAINAGE BOUNDARY
EXISTING DRAINAGE AREA DESIGNATION
DEVELOPED DRAINAGE AREA DESIGNATION
FLOW DIRECTION
SF = XXX' @ X.X% SHEET FLOW LENGTH & SLOPE
SCF = XXX' @ X.X% SHALLOW CONCENTRATED FLOW LENGTH & SLOPE
CF = XXX' @ X.X% CHANNEL FLOW LENGTH & SLOPE
$DP_{EX-\#}$ EXISTING CONDITION DISCHARGE POINT
$DP_{DEV-\#}$ DEVELOPED CONDITION DISCHARGE POINT
Q_2 = XX.X CFS 2 YR RUN-OFF RATE
Q_{10} = XX.X CFS 10 YR RUN-OFF RATE
Q_{25} = XX.X CFS 25 YR RUN-OFF RATE
Q_{100} = XX.X CFS 100 YR RUN-OFF RATE

TOM GROLL ENGINEERING

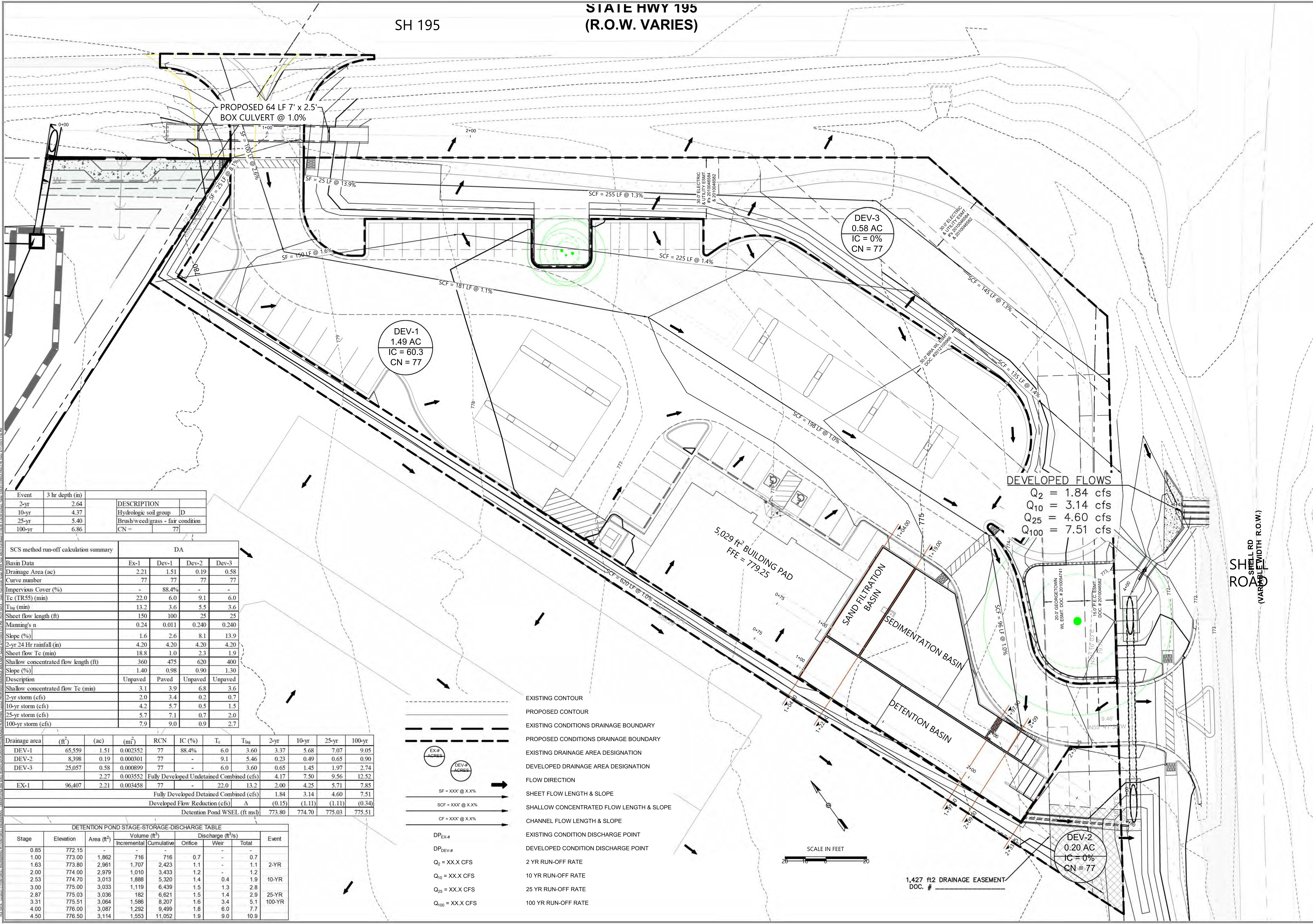
PREPARED FOR
SHELL 195 REAL ESTATE LLC
5522 JENOLAN RIDGE LANE
SUGARLAND, TX 77479

SHELL ROAD RETAIL CENTER
2121 SH 195 GEORGETOWN, TX 78633

EXISTING DRAINAGE AREA MAP

Sheet Index:
Date: 4/11/2023
Scale: 1" = 20'
Check by: TJG
Drawn By: TJG
Sheet No. 14 of 30
Project No. 0768-004

2022-52-SDP



Event	3 hr depth (in)
2-yr	2.64
10-yr	4.37
25-yr	5.40
100-yr	6.86

DESCRIPTION	
Hydrologic soil group	D
Brush/weed/grass - fair condition	
CN =	77

SCS method run-off calculation summary	DA			
Basin Data	Ex-1	Dev-1	Dev-2	Dev-3
Drainage Area (ac)	2.21	1.51	0.19	0.58
Curve number	77	77	77	77
Impervious Cover (%)	-	88.4%	-	-
Tc (TR55) (min)	22.0	6.0	9.1	6.0
T_{lag} (min)	13.2	3.6	5.5	3.6
Sheet flow length (ft)	150	100	25	25
Manning's n	0.24	0.011	0.240	0.240
Slope (%)	1.6	2.6	8.1	13.9
2-yr 24 Hr rainfall (in)	4.20	4.20	4.20	4.20
Sheet flow Tc (min)	18.8	1.0	2.3	1.9
Shallow concentrated flow length (ft)	360	475	620	400
Slope (%)	1.40	0.98	0.90	1.30
Description	Unpaved	Paved	Unpaved	Unpaved
Shallow concentrated flow Tc (min)	3.1	3.9	6.8	3.6
2-yr storm (cfs)	2.0	3.4	0.2	0.7
10-yr storm (cfs)	4.2	5.7	0.5	1.5
25-yr storm (cfs)	5.7	7.1	0.7	2.0
100-yr storm (cfs)	7.9	9.0	0.9	2.7

Drainage area	(ft^2)	(ac)	(mi^2)	RCN	IC (%)	T_c	T_{lag}	2-yr	10-yr	25-yr	100-yr
DEV-1	65,559	1.51	0.002352	77	88.4%	6.0	3.60	3.37	5.68	7.07	9.05
DEV-2	8,398	0.19	0.000301	77	-	9.1	5.46	0.23	0.49	0.65	0.90
DEV-3	25,057	0.58	0.000899	77	-	6.0	3.60	0.65	1.45	1.97	2.74
		2.27	0.003552	Fully Developed Undetained Combined (cfs)				4.17	7.50	9.56	12.52
EX-1	96,407	2.21	0.003458	77	-	22.0	13.2	2.00	4.25	5.71	7.85
Fully Developed Detained Combined (cfs)								1.84	3.14	4.60	7.51
Developed Flow Reduction (cfs)							Δ	(0.15)	(1.11)	(1.11)	(0.34)
Detention Pond WSEL (ft msl)								773.80	774.70	775.03	775.51

DETENTION POND STAGE-STORAGE-DISCHARGE TABLE

Stage	Elevation	Area (ft^2)	Volume (ft^3)		Discharge (ft^3/s)			Event
			Incremental	Cumulative	Orifice	Weir	Total	
0.85	772.15	-	-	-		-	-	
1.00	773.00	1,862	716	716	0.7	-	0.7	
1.63	773.80	2,961	1,707	2,423	1.1	-	1.1	2-YR
2.00	774.00	2,979	1,010	3,433	1.2	-	1.2	
2.53	774.70	3,013	1,888	5,320	1.4	0.4	1.9	10-YR
3.00	775.00	3,033	1,119	6,439	1.5	1.3	2.8	
2.87	775.03	3,036	182	6,621	1.5	1.4	2.9	25-YR
3.31	775.51	3,064	1,586	8,207	1.6	3.4	5.1	100-YR
4.00	776.00	3,087	1,292	9,499	1.8	6.0	7.7	
4.50	776.50	3,114	1,553	11,052	1.9	9.0	10.9	

Legend	
	EXISTING CONTOUR
	PROPOSED CONTOUR
	EXISTING CONDITIONS DRAINAGE BOUNDARY
	PROPOSED CONDITIONS DRAINAGE BOUNDARY
EX-# ACRES	EXISTING DRAINAGE AREA DESIGNATION
DEV-# ACRES	DEVELOPED DRAINAGE AREA DESIGNATION
	FLOW DIRECTION
SF = XXX' @ X.X%	SHEET FLOW LENGTH & SLOPE
SCF = XXX' @ X.X%	SHALLOW CONCENTRATED FLOW LENGTH & SLOPE
CF = XXX' @ X.X%	CHANNEL FLOW LENGTH & SLOPE
$DP_{EX-\#}$	EXISTING CONDITION DISCHARGE POINT
$DP_{DEV-\#}$	DEVELOPED CONDITION DISCHARGE POINT
Q_2 = XX.X CFS	2 YR RUN-OFF RATE
Q_{10} = XX.X CFS	10 YR RUN-OFF RATE
Q_{25} = XX.X CFS	25 YR RUN-OFF RATE
Q_{100} = XX.X CFS	100 YR RUN-OFF RATE

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5522 JENOLAN RIDGE LANE
SUGARLAND, TX 77479

No.	DATE	DESCRIPTION	BY
	####		####
	####		####
	####		####
	####		####
	####		####

SHELL ROAD RETAIL CENTER
2121 SH 195 GEORGETOWN, TX 78633

PROPOSED DRAINAGE AREA MAP

STATE OF TEXAS
THOMAS J. GROLL
90976
LICENSED PROFESSIONAL ENGINEER

Sheet Index:
Date: 4/11/2023
Scale: 1" = 20'
Check by: TJG
Drawn By: TJG
Sheet No. 15 of 30
Project No. 0768-004

2022-52-SDP

Appendix E

Agent Authorization Form
Application Fee Form
Core Data Form

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

I Samir S. Maredia,
Print Name

Manager,
Title - Owner/President/Other

of Shell 195 Real Estate, LLC,
Corporation/Partnership/Entity Name

have authorized Cheri Krieg/Suzanne Green
Print Name of Agent/Engineer

of Geo Strata Environmental Consultants, Inc.
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

09/09/2024
Date

THE STATE OF _____ §

County of _____ §

BEFORE ME, the undersigned authority, on this day personally appeared _____ 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 9 day of Sep 24.

AZIZ ALI KHOJA
Notary Public, State of Texas
Comm. Expires 05-23-2027
Notary ID 134374924

Aziz Khoja
NOTARY PUBLIC

Aziz A. Khoja
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 5/23/2027

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Shell Road Retail Center
Regulated Entity Location: 2121 SH-195, Georgetown, TX
Name of Customer: Shell 195 Real Estate, LLC
Contact Person: Samir Maredia Phone: 832-713-4985
Customer Reference Number (if issued):CN 605618057
Regulated Entity Reference Number (if issued):RN TBD
Austin Regional Office (3373)

☐ Hays ☐ Travis ☒ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

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

☒ Austin Regional Office
☐ Mailed to: TCEQ - Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ San Antonio Regional Office
☐ Overnight Delivery to: TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

Site Location (Check All That Apply):

☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

Type of Plan	*Size*	*Fee Due*
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	$
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	1 Tanks	$ 650
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: _____ Date: 9/13/24

Application Fee Schedule

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

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 605618057		RN

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy) 08/30/2024

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

The 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:*

Shell 195 Real Estate, 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)*
802583572			

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

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

13. Independently Owned and Operated?
☐ Yes ☐ No

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

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

15. Mailing Address:	Shell 195 Real Estate, LLC						
	5522 Jenolan Ridge Lane						
	City	Sugar Land	**State**	TX	**ZIP**	77479	**ZIP + 4**

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

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

(832) 713-4985		( ) -

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.)*

Shell Road Retail Center

23. Street Address of the Regulated Entity: *(No PO Boxes)*	2121 SH 195							
	City	Georgetown	**State**	TX	**ZIP**	78633	**ZIP + 4**	
24. County	Williamson							

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

25. Description to Physical Location:	Approximately 2 miles northwest of SH 195 & IH 35 at the west corner of SH 195 and Shell Road				
26. Nearest City			**State**	**Nearest ZIP Code**	
Georgetown			TX	78633	

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:	30.724444		**28. Longitude (W) In Decimal:**	-97.674166	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	43	28	97	40	27

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)
5541	5411	457110	N/A

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

Convenience Store with Fuel Sales

34. Mailing Address:	**5522 Jenolan Ridge Lane**							
	City	**Sugar Land**	**State**	**TX**	**ZIP**	**77479**	**ZIP + 4**	
35. E-Mail Address:	**samirsmaredia@gmail.com**							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(832) 713-4985		( ) -

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:	Cheri Krieg, Geo Strata Environmnetal Consultants, LLC	41. Title:	Project Manager

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(210) 492-7282		( ) -	

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:	Shell 195 Real Estate, LLC	Job Title:	Authorized Representative
Name *(In Print)*:	Samir Maredia	Phone:	(832) 713- 4985
Signature:		Date:	09/09/2024