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October 22, 2024

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program - San Antonio Region
14250 Judson Road
San Antonio, TX 78233

Subject: **Edwards Aquifer Protection Plan - Modification**
7-Eleven, Inc. Store No. 36257
19185 Stone Oak Parkway
San Antonio, Bexar County, Texas 78258
PST Facility ID No. 67294; LPST ID No. N/A
TCEQ State Records Center ID No. 2160978 and 2161045
Regulated Entity No. RN 102456787

Dear Coordinator:

On behalf of 7-Eleven, Inc. (7-Eleven), Aptim Environmental & Infrastructure, Inc. (APTIM), is submitting the attached Edwards Aquifer Protection Plan (EAPP) Modification. The proposed project is scheduled to be conducted at 7-Eleven, Inc. Store No. 36257 (Site), located at 19185 Stone Oak Parkway in San Antonio, Bexar County, Texas.

The Site is an approximate 1.53-acre property that has operated as a retail petroleum facility from at least 1995 through present day. It is situated within the Edwards Aquifer Recharge Zone. A Texas Commission on Environmental Quality (TCEQ) records search revealed previous State Records Center Numbers 2160978 and 2161045 associated with the site. An initial EAPP was approved February 3, 1995, and documented the installation of one (1) 15,000-gallon and one (1) 20,000-gallon double-wall fiberglass reinforced plastic (FRP) Underground Storage Tanks (USTs) to be used for the storage of gasoline. A letter from the Texas Natural Resource Conservation Commission (TNRCC) dated August 5, 1998, documented the approval for a modification of the Site's existing sedimentation/filtration basin. The modification provided for a 8.9-foot wide sedimentation basin and a 2.6-foot wide filtration basin over 18 inches of sand. A TCEQ Underground Storage Tank Registration and Self-Certification Form dated April 26, 2017, documented the registration of one (1) 20,000-gallon double-wall fiberglass reinforced plastic (FRP) UST and one (1) 15,000-gallon double-wall FRP UST for the storage of premium and regular unleaded fuels.

Currently 7-Eleven proposes the following UST System modifications at the Site:

- Remove existing tank slab, dispenser islands, and existing UST system with product and vent piping;
- Install one (1) new 15,000-gallon capacity triple-walled fiberglass-reinforced plastic (FRP) Premium Unleaded (PUL) Underground Storage Tank (UST);
- Install one (1) new 20,000-gallon capacity triple-walled FRP Regular Unleaded (RUL) UST;
- Install two (2) new RUL and PUL double-walled FRP Submersible Turbine Pump (STP) sumps and STP assemblies;
- Install new 3" single-walled piping over 2" coaxial double-walled product piping from new USTs to existing dispensers;
- Install two (2) new vapor vent risers;
- Install new 2-inch coaxial double-walled piping for vapor/vent at USTs to new remote vent;
- Reuse eight (8) existing 3+0 dispensers;
- Install eight (8) new stainless steel dispenser islands;
- Install a new automatic tank gauge site monitor console;
- Install two (2) new observation wells in the tank slab; and

- Install new concrete at disturbed areas.

A Geologic Assessment (Appendix B) was conducted February 28, 2024. Sensitive features were not identified on the project site. No offsite areas are anticipated to be affected by the proposed construction activities. The site is currently covered with concrete.

The following is documented in the Temporary Stormwater Section (Appendix E):

- Total area of impervious cover: approximately 9,700 square feet;
- Areas to be demolished (total disturbed area): approximately 9,700 square feet;
- Permanent Best Management Practices (BMPs): permanent seeding, sodding, or mulching.

Prior to concrete removal, a silt fence will be installed to intercept and detain waterborne sediment from unprotected areas. The fence shall remain in place until the disturbed area is permanently stabilized. After construction activities are complete, the area will be re-surfaced with an impervious concrete cover.

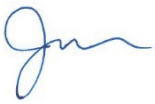
Attached are the following documents to describe the proposed modification to the current UST system:

Appendix A: General Information Form
Appendix B: Recharge and Transition Zone Exemption Request Form
Appendix C: Modification of a Previously Approved Plan
Appendix D: Underground Storage Tank Facility Plan Application
- UST Facility Site Plan

Appendix E: Temporary Stormwater Section
- Demo Plan with Erosion and Sediment Control Notes

Appendix F: Agent Authorization Form
Appendix G: Application Fee Form
Appendix H: Core Data Form

Sincerely,



Derek Thompson
Environmental Scientist
APTIM

Jessica Jones
Project Manager
APTIM

Distribution:
TCEQ Edwards Aquifer Protection Program (1 original + 2 copies)
TCEQ Region 13 (1 copy)
Edwards Aquifer Authority (1 copy)
San Antonio Water System (1 copy)
City of San Antonio (1 copy)
Field Copy (1 copy)
Store Copy (1 copy)
APTIM File (1 copy)

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: 7-Eleven, Inc. Store No. 36257						**2. Regulated Entity No.:** 102456787				
3. Customer Name: 7-Eleven, Inc.						**4. Customer No.:** 600240329				
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):**			Approximately 1.53	
9. Application Fee:	$1,300		**10. Permanent BMP(s):**			N/A				
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			2				
13. County:	Bexar		**14. Watershed:**			San Antonio River Basin				

Application Distribution

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

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

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

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

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	_1_	___	___	___	___
Region (1 req.)	_1_	___	___	___	___
County(ies)	_1_	___	___	___	___
Groundwater Conservation District(s)	_1_ 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 _1_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. Jessica Jones, Aptim Environmental and Infrastructure LLC
Print Name of Customer/Authorized Agent
 10/22/2024
Signature of Customer/Authorized Agent Date

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

APPENDIX A

GENERAL INFORMATION FORM

(TCEQ-0587)

General Information Form

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Jessica Jones of Aptim Environmental and Infrastructure, LLC

Date: 10/22/2024

Signature of Customer/Agent:

Jessica Jones

Project Information

1. Regulated Entity Name: 7-Eleven, Inc. Store No. 36257
2. County: Bexar
3. Stream Basin: San Antonio River Basin
4. Groundwater Conservation District (If applicable): Edwards Aquifer Authority
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

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

7. Customer (Applicant):

   Contact Person: Bill Holcomb
   Entity: 7-Eleven, Inc.
   Mailing Address: P.O. Box 711
   City, State: Dallas, Texas Zip: 75221
   Telephone: 972-785-6808 FAX: N/A
   Email Address: Bill.Holcomb@7-11.com

8. Agent/Representative (If any):

   Contact Person: Jessica Jones, Project Manager
   Entity: Aptim Environmental & Infrastructure, LLC
   Mailing Address: 12005 Ford Road, Suite 600
   City, State: Dallas, Texas Zip: 75234
   Telephone: (940) 395-1937 FAX: N/A
   Email Address: jessica.jones@aptim.com

9. Project Location:

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

10. ☒ The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

    The project site is located at 19185 Stone Oak Parkway in San Antonio, Bexar County, Texas

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

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

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

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

☐ Survey staking will be completed by this date: _____

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

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

15. Existing project site conditions are noted below:

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

Prohibited Activities

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

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

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

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

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

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

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

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

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

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

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

Administrative Information

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

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

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

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

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

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

ATTACHMENT A

ROAD MAP

APTIM

Road Map
7-Eleven, Inc. Store No. 36257
19185 Stone Oak Parkway
San Antonio, Bexar County, Texas 78258
Source: Google Maps
Prepared: February 26, 2024

ATTACHMENT A

NORTH

ATTACHMENT B

USGS/EDWARDS RECHARGE ZONE MAP

APTIM

USGS/Edwards Recharge Zone Map
7-Eleven, Inc. Store No. 36257
19185 Stone Oak Parkway
San Antonio, Bexar County, Texas 78258
Source: Edwards Aquifer Authority
7.5' USGS Grids: 29098 E4, F4, E5, F5
Prepared: February 26, 2024

Attachment B

NORTH

Edwards Aquifer Transition Zone Boundary

ATTACHMENT C

PROJECT DESCRIPTION

ATTACHMENT C

Project Description

7-Eleven, Inc. Store No. 36257
19185 Stone Oak Parkway
San Antonio, Bexar County, Texas 78258

This proposed UST System Replacement project is scheduled to be conducted at 7-Eleven, Inc. Store No. 36257 (Site), which is currently operating as a retail gasoline facility, located at 19185 Stone Oak Parkway in San Antonio, Bexar County, Texas.

The Site is an approximate 1.53-acre property that has operated as a retail petroleum facility from at least 1995 through present day. It is situated within the Edwards Aquifer Recharge Zone. A Texas Commission on Environmental Quality (TCEQ) records search revealed previous State Records Center Numbers 2160978 and 2161045 associated with the site. An initial EAPP was approved February 3, 1995, and documented the installation of one (1) 15,000-gallon and one (1) 20,000-gallon double-wall fiberglass reinforced plastic (FRP) Underground Storage Tanks (USTs) to be used for the storage of gasoline. A letter from the Texas Natural Resource Conservation Commission (TNRCC) dated August 5, 1998, documents the approval for a modification regarding the Site's existing sedimentation/filtration basin. The modification will provide for a 8.9-foot wide sedimentation basin and a 2.6-foot wide filtration basin over 18 inches of sand. From the latest documented TCEQ Underground Storage Tank Registration and Self-Certification Form dated April 26, 2017, documents the registration of one (1) 20,000-gallon double-wall fiberglass reinforced plastic (FRP) UST and one (1) 15,000-gallon double-wall FRP UST for the storage of premium and regular unleaded fuels.

Currently 7-Eleven anticipates the following modifications at the Site:

- Remove existing tank slab, dispenser islands, and existing UST system with product and vent piping;
- Install one (1) new 15,000-gallon capacity triple-walled fiberglass-reinforced plastic (FRP) Premium Unleaded (PUL) Underground Storage Tank (UST);
- Install one (1) new 20,000-gallon capacity triple-walled FRP Regular Unleaded (RUL) UST;
- Install two (2) new RUL and PUL double-walled FRP Submersible Turbine Pump (STP) sumps and STP assemblies;
- Install new 3" single-walled piping over 2" coaxial double-walled product piping from new USTs to existing dispensers;
- Install two (2) new vapor vent risers;
- Install new 2-inch coaxial double-walled piping for vapor/vent at USTs to new remote vent;
- Reuse eight (8) existing 3+0 dispensers;
- Install eight (8) new stainless steel dispenser islands;
- Install a new automatic tank gauge site monitor console;
- Install two (2) new observation wells in the tank slab; and
- Install new concrete at disturbed areas.

A Geologic Assessment (Appendix B) was conducted February 28, 2024. Sensitive features were not identified on the project site. No offsite areas are anticipated to be affected by the proposed construction activities. The site is currently covered with concrete.

The following is documented in the Temporary Stormwater Section (Appendix E):

- Total area of impervious cover: approximately 9,700 square feet;
- Areas to be demolished (total disturbed area): approximately 9,700 square feet;
- Permanent Best Management Practices (BMPs): permanent seeding, sodding, or mulching.

Prior to concrete removal, a silt fence will be installed to intercept and detain waterborne sediment from unprotected areas. The fence shall remain in place until the disturbed area is permanently stabilized. After construction activities are complete, the area will be re-surfaced with an impervious concrete cover.

APPENDIX B

GEOLOGIC ASSESSMENT

(TCEQ-0585)

Geologic Assessment

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Geologist: Clarence Winzer, P.G.

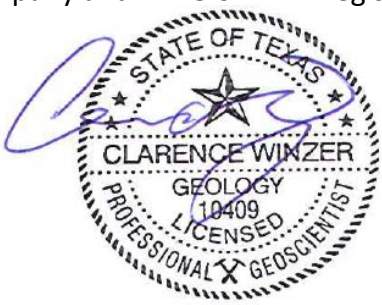
Telephone: 512-694-8250

Fax: NA

Date: 2/29/2024

Representing: APTIM- TBPG 50431 (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: 7-Eleven No. 36257

Project Information

1. Date(s) Geologic Assessment was performed: February 28, 2024
2. Type of Project:
   - ☐ WPAP
   - ☐ SCS
   - ☐ AST
   - ☒ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition Zone

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

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

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
Eckrant Cobbly Clay	D	2.5

** Soil Group Definitions (Abbreviated)*

A. Soils having a high infiltration rate when thoroughly wetted.

B. Soils having a moderate infiltration rate when thoroughly wetted.

C. Soils having a slow infiltration rate when thoroughly wetted.

D. Soils having a very slow infiltration rate when thoroughly wetted.

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

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

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

   Applicant's Site Plan Scale: 1" = 30'
   Site Geologic Map Scale: 1" = 30'
   Site Soils Map Scale (if more than 1 soil type): 1" = 50'

9. Method of collecting positional data:

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

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

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

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

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

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

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

    ☒ There are 0 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
    - ☐ The wells are not in use and have been properly abandoned.
    - ☐ The wells are not in use and will be properly abandoned.
    - ☐ The wells are in use and comply with 16 TAC Chapter 76.

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

Administrative Information

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

APPENDIX B

ATTACHMENT A

GEOLOGIC ASSESSMENT TABLE

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: 7-Eleven # 36257 Date of Collection: 27-Apr-23

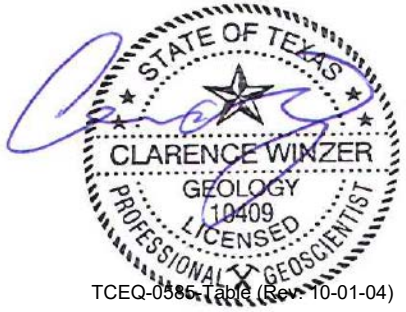
LOCATION			FEATURE CHARACTERISTICS											EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11	12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)	TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
O-1	29°37'34.67"N	98°29'45.25"W	O	5	Ked	0.5	2.5	0.5	NA	0	NA	NA	O	5	5	X		X		Hilltop

* DATUM:_ GPS- World Geodetic System of 1984 (WGS84) Horizontal Accuracy Assessment: between 8- 20 meters

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.

Clarence Winzer

Assessor: Clarence Winzer, P.G.

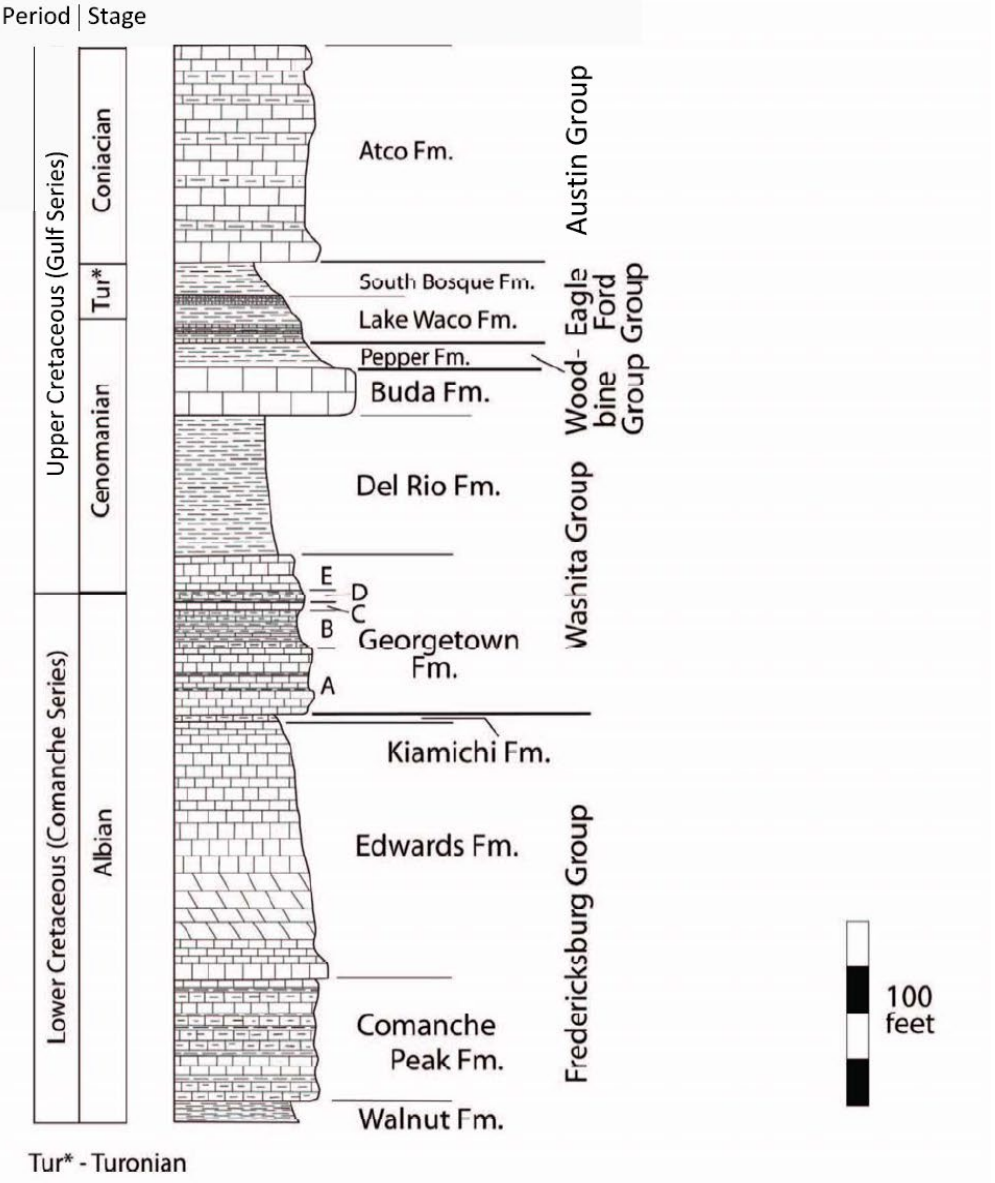
Date 3/01/2024

Sheet ___1___ of ___1___

APPENDIX B

ATTACHMENT B

STRATIGRAPHIC COLUMN



GENERALIZED STRATIGRAPHIC COLUMN OF THE ROUND ROCK AREA

Source: Housh, Todd B. (2007). *Bedrock Geology of Round Rock and Surrounding Areas, Williamson and Travis Counties, Texas.*

APTIM	**Stratigraphic Column** 7-Eleven # 36257 19185 Stone Oak Parkway, San Antonio, Bexar County, TX 78258 Prepared March 01, 2024	**ATTACHMENT B** ↑ **NORTH**

APPENDIX B

ATTACHMENT C

SITE GEOLOGY

APPENDIX B

ATTACHMENT C

Site Geology

Client: 7-Eleven #36257
19185 Stone Oak Parkway
San Antonio, Bexar County, TX 78258

According to the United States Department of Agriculture (USDA) soil survey of Bexar County, the primary soil at the site is the Eckrant very cobbly clay.

The Eckrant series consists of well drained, moderately slowly permeable soils that are very shallow to shallow over indurated limestone bedrock. These nearly level to very steep sloping soils formed in residuum derived limestone and occur on summits, shoulders, and backslopes of ridges on dissected plateaus. The A1 horizon consists of a very dark gray, very cobbly clay from 0-4 inches with a moderate fine subangular blocky structure and fine granular structure. In general, it is found to be very hard to firm moderately, with fine roots and pores common throughout. The A2 horizon is a very dark gray to black very cobbly clay from 4-12 inches with moderate fine subangular blocky and fine granular structure. In general, it is found to be very hard to firm, with fine roots and pores common throughout. The R horizon is a coarsely fractured indurated limestone bedrock from 12-30 inches.

According to the Geologic Atlas of Texas, San Antonio Sheet, the site is located on the Edwards Limestone (Ked). The Edwards Limestone consists of a fine to coarse grained, abundant chert, medium gray to grayish brown, with rudistid and individual fossils as reefs, miliolids and shell fragments with solution zones and collapse breccia common. The Edwards Limestone thickness ranges from 300-500 feet.

No sensitive features were observed at the site during the geologic assessment survey performed on February 28, 2024 by Clarence Winzer (PG License No. 10409). Generally, the site was covered by 70% concrete and approximately 30% vegetation underlain by a very dark gray cobbly clay. This is consistent with the geology and soil as previously discussed.

Based on the geologic features observed on the surface during the geologic assessment site survey, it is concluded that there is a low probability of rapid infiltration to the subsurface. However, if excavation occurs and exposes sensitive features below, surface water may be able to penetrate the subsurface at a rapid infiltration rate.

After excavation activities for the USTs are complete and prior to installation, APTIM will return to the site to conduct a geologic inspection of the tank pit excavation. If any sensitive features are found during the geologic inspection, the TCEQ will be notified immediately. A Geological Certification of Tank Pit Excavation Inspection will be submitted to the TCEQ, documenting the findings of the geologic inspection of the tank pit.

Additional information on the Eckrant series can be found on the following web page.

Source information:soilseries.sc.egov.usda.gov

Clarence Winzer, P.G.

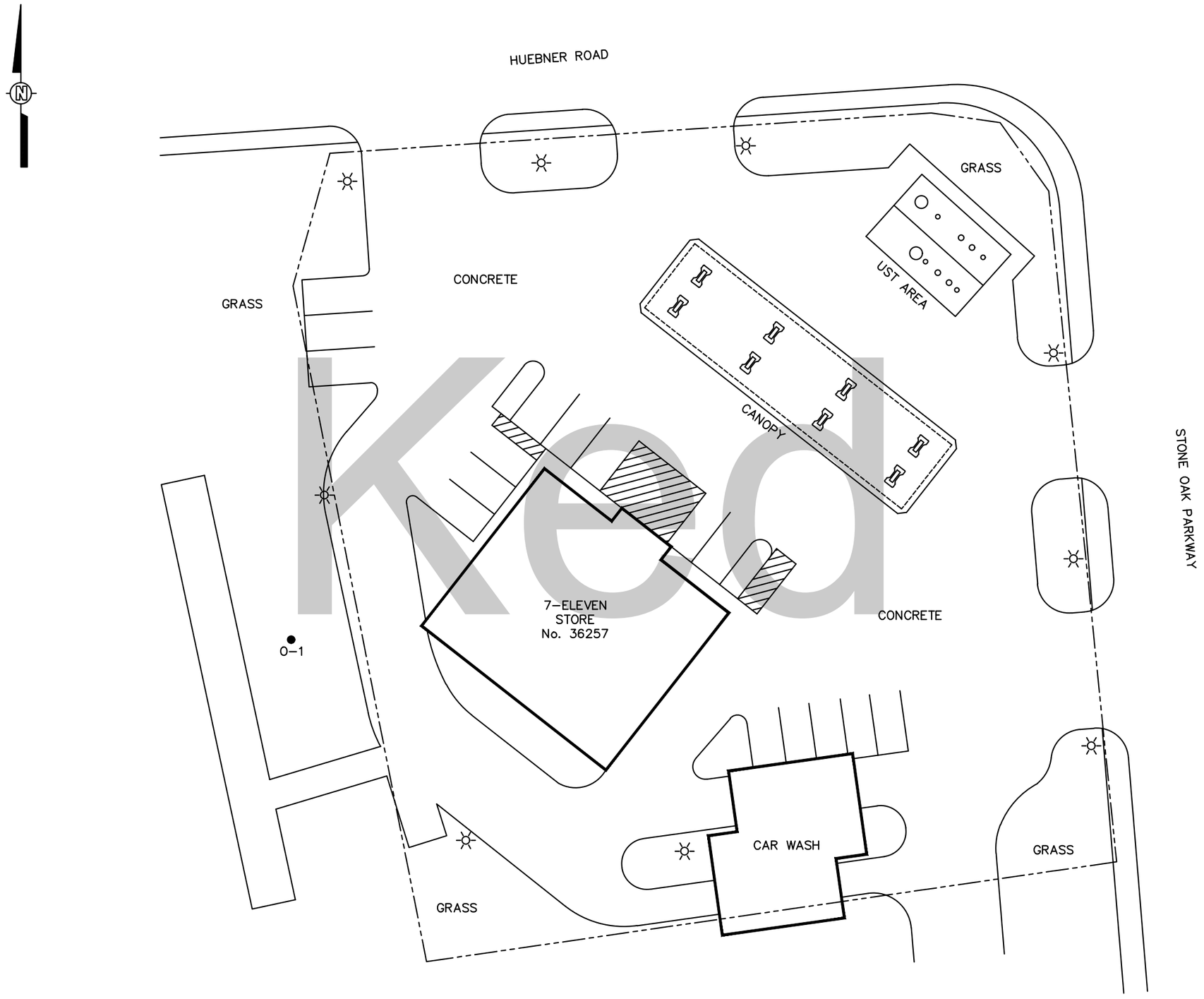
Signature of Professional Geoscientist

3/01/2024

APPENDIX B

ATTACHMENT D

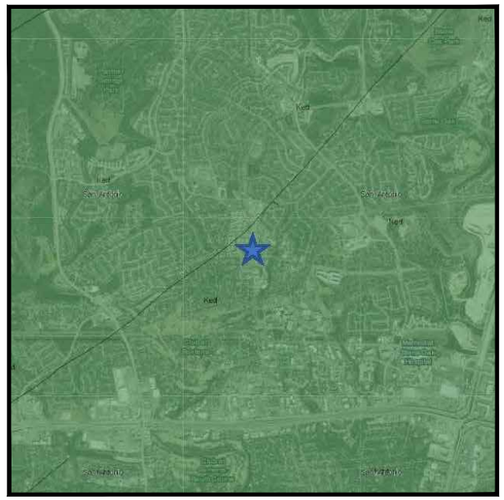
SITE GEOLOGIC MAP
AND
SOIL MAP



LEGEND:

Ked — EDWARDS LIMESTONE (300–500 THICKNESS)

● — NATURAL BEDROCK FEATURES



SCALE (FEET)

0 30 60

SCALE: 1" = 15'

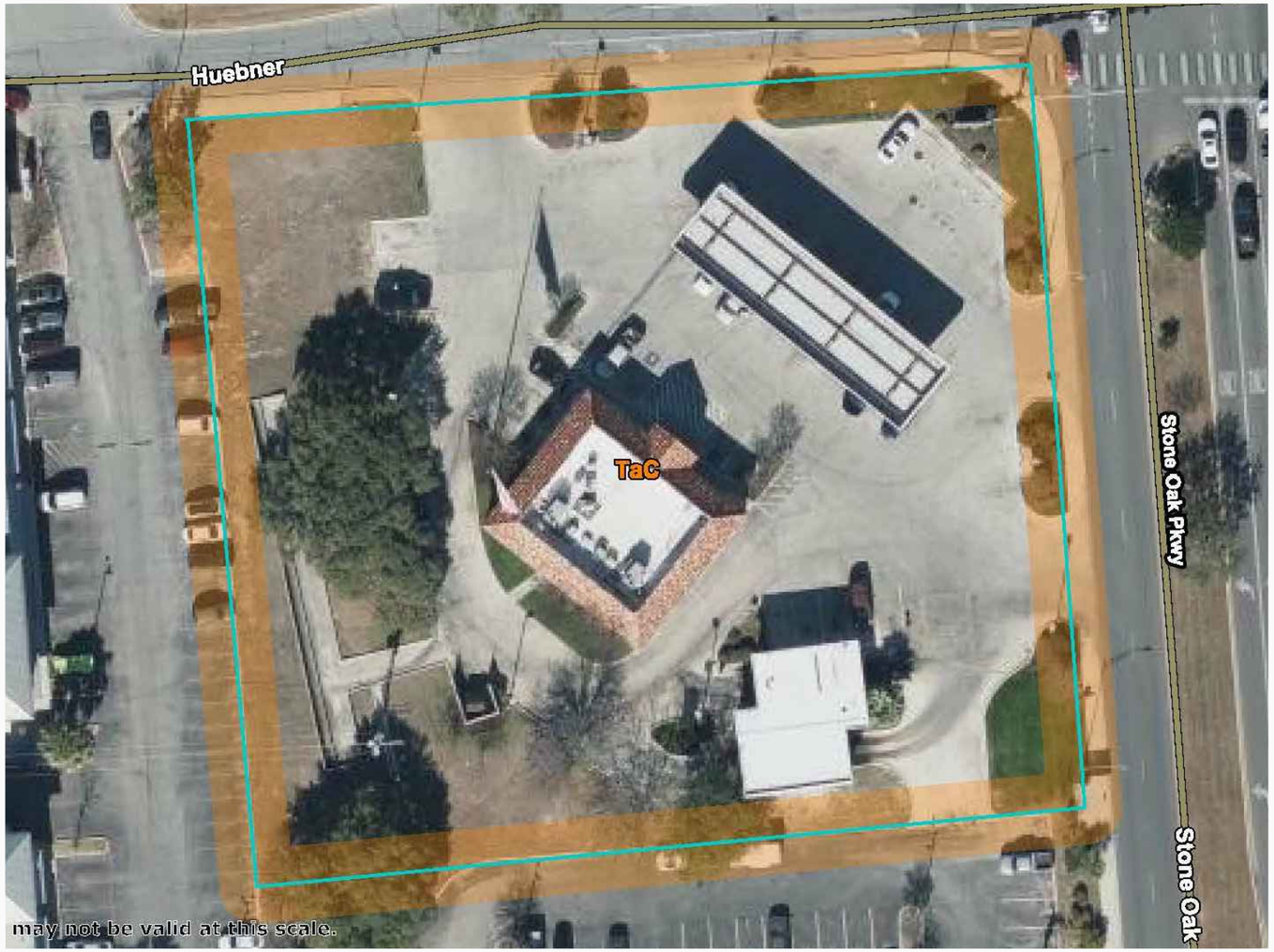
APTIM ENVIRONMENTAL & INFRASTRUCTURE, LLC
12005 FORD ROAD, SUITE 600
DALLAS, TEXAS 75234
(972) 773-8400 OFFICE
(972) 773-8401 FAX

OFFICE:	DATE:	ACAD FILE:
DALLAS	3–01–24	9908B4.dwg

SITE GEOLOGIC MAP

CLIENT:	PM:
7–ELEVEN, INC.	CW
LOCATION: 7–ELEVEN STORE No. 36257, 19185 STONE OAK PARKWAY, SAN ANTONIO, BEXAR COUNTY, TEXAS	CHECKED: CW

DESIGNED:	DRAWN:	PROJECT NO.:	ATTACH:
CW	SDJF	631029908	D-1



LEGEND:

APPROXIMATE PROPERTY BOUNDARY

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
TaC	Eckrant very cobbly clay, 5 to 15 percent slopes	1.6	100.0%
Totals for Area of Interest		**1.6**	**100.0%**

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Bexar County, Texas
Survey Area Data: Version 26, Aug 24, 2022

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

Date(s) aerial images were photographed: Dec 15, 2020—Dec 25, 2020

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

SCALE (FEET)
0 50 100

APTIM ENVIRONMENTAL & INFRASTRUCTURE, LLC
12005 FORD ROAD, SUITE 600
DALLAS, TEXAS 75234
(972) 773-8400 OFFICE
(972) 773-8401 FAX

OFFICE:	DATE:	ACAD FILE:
DALLAS	3-1-24	9908B5.dwg

SOIL MAP

CLIENT:	PM:
7-ELEVEN, INC.	CW
LOCATION: 7-ELEVEN STORE No. 36257 19185 STONE OAK PARKWAY SAN ANTONIO, BEXAR COUNTY, TEXAS	CHECKED: CW

DESIGNED:	DRAWN:	PROJECT NO.:	ATTACH:
CW	SDJF	631029908	D-2

APPENDIX B

ATTACHMENT E

PHOTOGRAPHIC DOCUMENTATION

Photographic Documentation
Geologic Assessment

Client: 7-11# 36257
Location: 19185 Stone Oak Parkway San Antonio, TX **Photograph Date:** February 28, 2024

Prepared by: APTIM
Photographer: Clarence Winzer, PG
Project Number: 631029908

Photograph No. 1

Date: 02/28/2024

Direction: Southeast

Description:
View from northwest corner of Subject Property.

Photograph No. 2

Date: 02/28/2024

Direction: Southwest

Description:
View from northeast corner of Subject Property.

Photographic Documentation
Geologic Assessment

Client: 7-11# 36257
Location: 19185 Stone Oak Parkway San Antonio, TX **Photograph Date:** February 28, 2024

Prepared by: APTIM
Photographer: Clarence Winzer, PG
Project Number: 631029908

Photograph No. 3

Date: 02/28/2024

Direction: Northwest

Description:
View from southeast corner of Subject Property.

Photograph No. 4

Date: 02/28/2024

Direction: Northeast

Description:
View from southwest corner of Subject Property.

Photographic Documentation
Geologic Assessment

Client: 7-11# 36257
Location: 19185 Stone Oak Parkway San Antonio, TX **Photograph Date:** February 28, 2024

Prepared by: APTIM
Photographer: Clarence Winzer, PG
Project Number: 631029908

Photograph No. 5

Date: 02/28/2024

Direction: NA

Description:
O-1. Exposed limestone rock with dissolution voids filled with soil on west side of Subject Property.

APPENDIX C

MODIFICATION OF A PREVIOUSLY APPROVED PLAN

(TCEQ-0590)

Modification of a Previously Approved Plan

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Transition Zone and Relating to 30 TAC 213.4(j), Effective June 1, 1999

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

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

Signature

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

Print Name of Customer/Agent: Jessica Jones(on behalf of 7-Eleven, Inc.)

Date: 10/22/2024

Signature of Customer/Agent:

Jessica Jones

Project Information

1. Current Regulated Entity Name: 7-Eleven, Inc. Store No. 36257
   Original Regulated Entity Name:
   Regulated Entity Number(s) (RN): 102456787
   Edwards Aquifer Protection Program ID Number(s):

   ☐ The applicant has not changed and the Customer Number (CN) is:
   ☒ The applicant or Regulated Entity has changed. A new Core Data Form has been provided.

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

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

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

WPAP Modification Summary	***Approved Project***	***Proposed Modification***
Acres	N/A	N/A
Type of Development	N/A	N/A
Number of Residential Lots	N/A	N/A
Impervious Cover (acres)	N/A	N/A
Impervious Cover (%	N/A	N/A
Permanent BMPs	N/A	N/A
Other	N/A	N/A

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

AST Modification Summary	***Approved Project***	***Proposed Modification***
Number of ASTs	N/A	N/A
Volume of ASTs	N/A	N/A
Other	N/A	N/A

UST Modification Summary	***Approved Project***	***Proposed Modification***
Number of USTs	Two (2)	UST System Upgrade
Volume of USTs	15,000-gallon/20,000-gallon	_____
Other	_____	_____

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

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

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

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

Attachment A

EAPP Approval Letters

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

February 3, 1995

Mr. John Farrell
Tetco Stores, Inc.
1777 NE Loop 410, #1500
San Antonio, Texas 78218

Re: Edwards Aquifer, Bexar County.
PROJECT NAME: Tetco Mobil Station (aka Pumps @ Sonterra), Located on SW/4 of Stone Oak Parkway & Huebner Road, San Antonio, Texas.
PLAN TYPE: Request for Approval of Underground Storage Tank (UST) Facility Construction Plans and Specifications; 31 Texas Administrative Code (TAC) §313.10; Edwards Aquifer Protection Program.

Dear Mr. Farrell:

The Texas Natural Resource Conservation Commission (TNRCC) has completed its review of the plans and specifications for the referenced project that were submitted by WF Castella & Associates, Inc. on behalf of Tetco Stores, Inc. and received by the Region 13 Office on December 9, 1994.

A site inspection was conducted by a Region 13 field investigator on December 21, 1994. The field investigator found no karst features, or fractures on the site.

PROJECT DESCRIPTION

The proposed new underground static hydrocarbon storage system (UST) will consist of two (2) new double-wall fiberglass reinforced plastic tanks (manufactured by Xerxes) to be used for the storage of gasoline. One (1) UST will contain 15,000 gallons and one (1) will contain 20,000 gallons. Both tanks will be placed within a tertiary containment pit liner.

Overfill prevention for each tank will be provided by an automatic shut off valve which will be installed in the tank below the fill tube and must be set to shut off flow into the tank when the volume of liquid in the tank reaches no more than 95% of the tank capacity. Spill protection for each tank will be provided by a spill containment manhole which will be fitted on the fill tube of each tank.

Each pump will be fitted with a mechanical leak detector designed to detect a leak in the product piping between the detector and the dispenser.

Product lines will be U.L. listed and of double-wall construction. They will consist of a 2-inch diameter primary pipe within a 3-inch diameter secondary containment pipe. Vent lines will be U.L. listed single-wall pipe. A safety shear valve will be installed on each product line at the dispenser island surface level to assure automatic shut-off of product flow during emergencies. In addition, stainless steel braid flexible connectors will be installed at both ends of each product line to connect to the dispenser unit and the submersible pump.

Corrosion protection for the metallic components of the underground storage systems will be provided by electrical isolation. The submersible pump housings and pump-end flexible connectors will be installed within a liquid-tight fiberglass-reinforced plastic piping sump which will provide electrical isolation from the corrosive elements of the backfill material while also providing secondary containment for any leaks from these components. The dispenser-end flexible connector will be similarly isolated by enclosure within a flexible isolation sleeve. The vapor recovery riser, the fill tube riser, and the riser for the automatic tank gauging system will be thoroughly wrapped with a suitable dielectric material.

The proposed tanks and piping will be monitored for leaks by means of a multi-channel inventory, leak detection, and line pressure monitor. Each tank will be equipped with a liquid discrimination sensor which will be installed in the interstitial space between the walls of the double-wall tanks. Each of the product piping systems will be monitored by a liquid discrimination sensor which will be installed adjacent to the submersible pump in the piping sump. Two 4-inch diameter slotted PVC observation wells will be installed in the corners of the tank pit excavation. Each tank will also be equipped with an automatic tank gauging probe which will automatically inventory the product volume in the tank. Each product piping line will be equipped with an electronic positive flow shut off that is designed to stop product flow in the event a leak in the product line is detected.

The probes and sensors from all tanks, piping, and observation wells will be connected to a programmable control unit to be located in the store building. This central monitoring unit is designed to provide visual and audible alarms when hydrocarbon liquids, hydrocarbon vapors, or water is detected.

APPROVAL

The planning materials for the proposed underground static hydrocarbon storage facility have been reviewed by the Commission's staff and have been found to be in general agreement with the requirements of 31 TAC §334, Underground Storage Tanks, and 31 TAC §313.10, which establishes the criteria for static hydrocarbon and hazardous substance storage facilities located in the Edwards Aquifer Recharge Zone. Therefore, the planning materials for construction of the proposed facilities are hereby approved, subject to the following conditions.

Failure to comply with any of the following conditions or any other specific conditions of approval is a violation of these rules. Pursuant to Section 26.136 of the Texas Water Code, violations of these rules may result in administrative **penalties of up to $10,000 for each act of violation and for each day of violation.**

Special Conditions

During Construction:

1. A water quality pond shall be excavated and used as a sedimentation basin during construction. The sedimentation basin shall be converted to the permanent sedimentation/filtration basins prior to placement of any hydrocarbon products in any onsite underground storage tank.

2. The new tank pit shall be evaluated by a geologist after excavation but prior to placement of any bedding, tanks, piping or backfill. The evaluation shall include representative photographs and an assessment of the tankpit forwarded to the Region 13 Edwards Aquifer Program Coordinator. If any solution openings, caves, faults, fractures, etc. are present, engineering plans must be submitted by a Texas Registered Professional Engineer which insure the structural integrity of the underground storage tank. Construction may continue with the written approval from the Texas Natural Resource Conservation Commission.

3. The UST system shall be inspected in accordance with applicable provisions of 31 TAC §334 prior to being placed into service.

Standard Conditions

1. For projects on the recharge zone all temporary erosion and sedimentation (E&S) controls shall be installed prior to all other construction at the site. (1) **Silt fences** should be used when the drainage area is less than 2 acres and the slope

is less than 10%. (2) **Rock berms with filtration** should be used when the drainage areas are greater than two acres or when the slopes are in excess of 10%. The bottom edge of the filter fabric must be buried a minimum of 6 inches below grade.

2. The TNRCC may monitor stormwater discharges from the site to evaluate the adequacy of the temporary erosion and sedimentation control measures. Additional protection may be necessary if excessive solids are being discharged from the site.

3. **A copy of any local construction permit should be submitted to Region 13 within 30 days of the issuance of this approval.**

4. Prior to commencing construction, the applicant shall submit any modifications to this approved UST facility required by some other regulating authority or desired by the applicant. To amend this approval copies of any changes to the plans and specifications shall be submitted to this office and all other permitting authorities. **As indicated in 31 TAC §313.4 and 31 TAC §313.27, an application to amend any approved regulated activity shall include payment of appropriate fees and all information necessary for its review and Executive Director approval.**

5. All contractors conducting regulated activities associated with this proposed regulated development shall be provided with copies of this approval letter and the entire contents of the submitted UST Plans & Specifications so as to convey to the contractors the specific conditions of approval. During the course of regulated activities, the contractors shall be required to keep on-site copies of the UST Plans and this approval letter.

6. **Pursuant to 31 TAC §313.4(d)(1), prior to commencing construction, the applicant must notify the District 8 Office at least 48 hours prior to initiation of construction.**

7. If any solution openings or sinkholes are discovered during the construction of the tank excavation, all excavation and installation activities shall be immediately suspended, and the owner or his designated representative shall notify the Commission's Region 13 Office. Upon completion of the excavation, a qualified geologist shall inspect the pit. Further excavation and installation activities shall not proceed until the Commission has reviewed and approved the methods proposed to protect such features from any potential adverse impacts of the hydrocarbon storage facility.

8. All UST installations, repairs, and removals must be conducted by a registered UST contractor who has a licensed installer or on-site supervisor at the site during all critical junctures, as required by 31 TAC §334 Subchapter I.

9. Installation, testing, and operation of the tanks, piping, and all other components of the proposed storage and monitoring systems shall be in conformance with the manufacturer's specifications and the procedures described in this letter.

10. An "as-built" project-specific site design plan shall be drawn to scale and of sufficient accuracy, clarity, and detail to depict the specific locations and dimensions of all components of the underground storage tank system, including the tanks, piping and fittings, pumps, observation wells, containment equipment, release detection devices, and other auxiliary equipment. Also, detailed construction drawings of plan and profile views and detail drawings of specific components shall be prepared. A copy of such "as-built" site plan and construction drawings, as well as operating instructions for all major system components and written records of all tank tests, piping tests, release detection monitoring results, and other inspections, shall be maintained in a secure location at the site of the proposed facility and shall be available for examination by Commission personnel.

11. The owner of the proposed facility shall assure that the storage tank system is installed, operated, and maintained in full compliance with the applicable provisions of 31 TAC §334 of Commission rules, which establishes the requirements for the design, installation, operation, construction notification, registration, fee assessment, financial responsibility, release reporting, and corrective action related to such system.

12. All underground metallic components of the proposed system which are not electrically isolated from the backfill material (including any vent line fittings and connectors, risers for monitoring equipment and fill tubes, containment manholes, etc.) must be properly protected from corrosion in accordance with 31 TAC §334.49 of Commission rules.

13. The flexible connectors at the dispenser-end of the product piping lines, which are enclosed within secondary containment sleeves and which cannot be visibly inspected for evidence of corrosion, shall be periodically tested by a qualified corrosion technician or specialist to ensure that the metal components of such connectors remain electrically isolated from the surrounding backfill, groundwater, and other metal components. Such tests shall be conducted within three to six

months after installation and at least once every three years thereafter, in full conformance with the requirements in 31 TAC §334.49(d)(1) of Commission rules.

14. All piping must slope at least one-eighth inch per foot in the direction of the tank [as required by 31 TAC §334.46(c)(1)].

15. When applicable, field-installed cathodic protection systems shall be designed by a qualified corrosion specialist [as required by 31 TAC §334.49(c)(2)]. Additionally, all factory-installed and field-installed cathodic protection systems shall be properly tested for operability and adequacy of protection by a qualified corrosion technician or corrosion specialist after the UST system installation is completed but prior to placing the system into operation [as required by 31 TAC §334.46(d)(4)(c)].

16. The facility owner should be aware of the proposed federal EPA regulations for benzene emissions (40 CFR Part 61). The proposed regulations will require the addition of Stage I vapor recovery equipment by 1991 or 1992 (depending on volume of throughput) for all service stations with an annual throughput greater than 120,000 gallons. The owner should consider the feasibility of installing the Stage I vapor recovery equipment as part of this installation project to preclude the need for additional construction in the future.

If you have any questions contact Mr. John Mauser of the Commission's Region 13 (San Antonio) Office at 210/490-3096.

Sincerely,

J. Richard Garcia,
Regional Manager, for

Dan Pearson
Executive Director

JRG/jkm

cc: WF Castella & Associates, Inc.
Rebecca Cedillo, SAWS
Ray Rendon, P.E., Environmental Engineer, Bexar Co.
Rick Illgner, Edwards Underground Water District
TNRCC - Region 13 Edwards Program Files (with attachment)
TNRCC - Central Records (with attachment)

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

February 3, 1995

Mr. John Farrell
Tetco Stores, Inc.
1777 NE Loop 410, #1500
San Antonio, Texas 78218

Re: Edwards Aquifer, Bexar County
PROJECT: Tetco Mobil Station (aka Pumps @ Sonterra), Located on SW/4 Stone Oak Parkway & Huebner Road, San Antonio, Texas.
TYPE: Request for Approval of Water Pollution Abatement Plan (WPAP); 31 Texas Administrative Code (TAC) §313.4; Edwards Aquifer Protection Program.

Dear Mr. Farrell:

The Texas Natural Resource Conservation Commission (TNRCC) has completed their review of the WPAP application for the referenced project that was submitted by WF Castella & Associates, Inc. on behalf of Tetco Stores, Inc. to the Region 13 Office on December 9, 1994.

PROJECT DESCRIPTION

The proposed 1.131 acre Tetco Mobil Station is to be developed as a commercial project and will consist of a convenience store dispensing fuel and a car wash. The site is located within the City of San Antonio extra-territorial jurisdiction, and will conform with applicable codes and requirements of the City of San Antonio. Potable water will be supplied by Hill Country Water Works.

The normal population of the development is estimated to be six (6) employees. 2,120 gallons per day of domestic wastewater is to be generated by this project. It will be disposed of by conveyance to the existing Salado Creek Wastewater Treatment Plant owned by the San Antonio Water System.

The proposed impervious cover for the development, approximately 0.871 acres (88%), includes roof tops, driveways, sidewalks, and streets. Stormwater runoff will be typical of a commercial site.

GEOLOGY ON SITE

According to the geologic assessment included with the submittal, no potential recharge features were reported to be on the subject site.

During the Region 13 site inspection of December 21, 1994, no significant recharge features were observed.

GEOLOGY DOWN-GRADIENT OF SITE

According to the geologic assessment included with the submittal, six (6) potential recharge features were reported downgradient of the subject site. All were assessed as being on no significance.

POLLUTION ABATEMENT

I. During Construction:

The following measures will be taken to prevent pollution of stormwater originating on-site or up-gradient from the project site and potentially flowing across and off the site during construction:

A. Stabilized construction entrances shall be installed at all sites of ingress and egress prior to initiation of any other regulated activity.

B. Temporary erosion and sedimentation controls (silt fences and rock berms) shall be installed prior to initiation of any other regulated activity.

C. The water quality pond shall be excavated and used as a sedimentation basin.

II. After Construction:

The following measures will be taken to prevent pollution of stormwater originating on-site or up-gradient from the project site and potentially flowing across and off the site after construction:

A. A water quality pond will be constructed to filter the first ½ inch of stormwater runoff.

B. The carwash will have a lateral connection to an existing wastewater collection line.

III. Recharge Features:

The following measures will be taken to prevent pollutants from entering recharge features while maintaining or enhancing the quantity of water entering the recharge features identified in the geologic assessment.

A. No recharge features were reported.

APPROVAL

The plan for this project has been reviewed for compliance with 31 TAC §313.4 which sets forth pollution abatement criteria for any development on the recharge zone of the Edwards Aquifer. The proposed water pollution abatement plan is in general agreement with 31 TAC §313.4; therefore, approval of the plan is hereby granted subject to the specific conditions listed below.

Failure to comply with any of the following conditions, the deed recordation requirement, or any other specific conditions of approval is a violation of these rules. Pursuant to §26.136 of the Texas Water Code, any violations of the Edwards Aquifer Rules may result in administrative **penalties of up to $10,000 for each act of violation and for each day of violation.**

SPECIAL CONDITIONS

1. The sedimentation/filtration basins are designed in accordance with the Lower Colorado River authority Environmental Criteria Manual. The basins will incorporate "partial" sedimentation and filtration. The filtration system will consist of appropriately sized sedimentation chambers and a filtration basin with a minimum of 18" of sand filter media, sized as shown on the design plans in the WPAP.

2. A formal maintenance plan and schedule for the sedimentation and filtration basin shall be submitted to the Region 13 Edwards Aquifer Coordinator for review and possible modification prior to completion of construction. The plan shall include a responsible party and the anticipated cleaning schedule. Upon approval by the Texas Natural Resource Conservation Commission the plan shall be implemented in accordance with the approved schedule.

STANDARD CONDITIONS OF APPROVAL

1. Please be reminded that 31 TAC §313.4(c) requires the owner/developer to: (1) record in the county deed records that this property is subject to the approved WPAP; and (2) submit to the Executive Director through the Region 13 Office, within 30

days of receiving this written notice of approval of the water pollution abatement plan and prior to commencing construction, proof of application for recordation of notice in the county deed records. Enclosed is a suggested format you may be used to deed record your approved WPAP.

2. Prior to commencing construction, the applicant/agent shall submit to the Region 13 Office copies of any changes made to the plans and specifications for this project which have been required by the TNRCC review and/or all other permitting authorities.

3. **Please note, following this approval of the regulated activities described in the referenced WPAP submittal, any amendment to these activities required by some other regulating authority or desired by the applicant will require the submittal of a WPAP application to amend this approval. And, as indicated in 31 TAC §313.4 and 31 TAC §313.27, an application to amend any approved regulated activity shall include payment of appropriate fees and all information necessary for its review and Executive Director approval.**

4. Additionally, all contractors conducting regulated activities associated with this proposed regulated project shall be provided with copies of this approval letter and the entire contents of the submitted WPAP so as to convey to the contractors the specific conditions of this approval. During the course of these regulated activities, the contractors shall be required to keep on-site copies of the WPAP and this approval letter.

5. The temporary erosion and sedimentation (E&S) controls for the entire project shall be installed prior to beginning any other construction work on this project.

6. The appropriate E&S control(s) that shall be used during the construction of the project should be determined as follows: (1) **Silt fences** should be used when the drainage area is less than 2 acres and the slope is less than 10%. (2) **Rock berms with filtration** should be used when the drainage areas are greater than two acres or when the slopes are in excess of 10%. The bottom edge of the filter fabric must be buried a minimum of 6 inches below grade.

7. The TNRCC may monitor stormwater discharges from the site to evaluate the adequacy of the temporary erosion and sedimentation control measures. Additional protection may be necessary if excessive solids are being discharged from the site.

8. Also, 31 TAC §313.4(d)(2) requires that if any significant recharge features, such as solution openings or sinkholes, are discovered during construction, all regulated activities near the significant recharge feature must be suspended immediately and may not be resumed until the Executive Director has reviewed and approved the methods proposed to protect the aquifer from any potential adverse impacts. Upon discovery of the significant recharge features, the developer shall immediately notify the Region 13 office.

9. Upon completion of the project, the applicant shall reseed or sod all areas disturbed during construction.

10. If any abandoned wells exist on the site or are found during construction of the proposed development, they shall be plugged in accordance with the local underground water conservation district's plugging procedures, if applicable, or 31 TAC §287.50(a) of this title (relating to Standards for Plugging Wells that Penetrate Undesirable Water Zones), or an equivalent method, as approved by the Executive Director. Pursuant to 31 TAC §287.48(e), the person that plugs such a well shall, within 30 days after plugging is complete, submit a Water Well Completion and Plugging Report to the Executive Director, through the Region 13 Office and to the Edwards Underground Water District.

    Any drill holes resulting from core sampling on-site or down-gradient of the site shall be plugged with cement slurry, from the bottom of the hole to the top of the hole, so as to not allow water or contaminants to enter the subsurface environment.

11. No waste-disposal wells, new confined animal feeding operations, land disposal of Class I wastes, or use of sewage holding tanks as parts of organized collection systems shall be allowed on the recharge zone of this regulated development.

12. During the course of the construction related to the referenced regulated project, the owner/developer shall comply with all applicable provisions of 31 TAC §313.4. Construction which is initiated and abandoned, or not completed, shall be returned to a permanent condition such that groundwater in the Edwards Aquifer is protected from potential contamination. Additionally, Tetco Stores, Inc., applicant, shall remain responsible for the provisions and special conditions of this approval until such responsibility is legally transferred to another person or entity, upon which that person or entity shall assume responsibility for all provisions and specific conditions of this approval.

13. **Pursuant to 31 TAC §313.4(d)(1) and prior to commencing regulated activities, the applicant must provide the Region 13 Office with the date on which the regulated activity will commence.**

14. Please note that 31 TAC §313.4(g) states that this approval expires two years from this date unless, prior to the expiration date, construction has commenced on the regulated project.

15. Approval of the design of the sewage collection system for this proposed subdivision shall be obtained from the Texas Natural Resources Conservation Commission prior to the commencement of construction of any sewage collection system, the design of which shall be in accordance with 31 TAC §313.5 and 31 TAC §317.

16. The developer shall ensure that construction debris, such as but not limited to scrap wood, bricks, paint, adhesives, containers, paper, etc. is disposed of properly at an authorized landfill off of the Edwards Aquifer Recharge Zone.

17. If asphaltic materials such as "seal coat", emulsion or other asphaltic products used for paving, roofing, etc. wash off or leave the project site the developer shall notify the Texas Natural Resource Conservation Commission immediately and commence clean-up.

18. Each purchaser of a single-family residential lot shall be informed in writing that this subdivision is located on the Edwards Aquifer Recharge Zone.

19. Each purchaser of a single-family residential lot shall be informed in writing about best management practices of pesticide and fertilizer application. The applicant may use What's Bugging You? A Practical Guide to Pest Control, available from the Edwards Underground Water District (210/222-2204), or equivalent information produced by recognized authorities such as the Soil Conservation Service, Texas Dept. of Agriculture, U.S. Dept. of Agriculture, etc. The applicant may develop their own educational information (with review by the TNRCC prior to use).

20. It is recommended that signage be permanently posted and maintained in good condition at each external entrance to and exit from the subdivision which reminds home owners and visitors they are on the Recharge Zone of the Edwards Aquifer.

If you have any questions or require additional information, please contact a representative of the Edwards Aquifer Protection Program at the Region 13 Office (210) 490-3096.

Sincerely,

Richard Garcia

J. Richard Garcia,
Regional Manager, for

Dan Pearson,
Executive Director

JRG/JKM

Enclosure

cc: W.F. Castella & Associates
Rebecca Cedillo, San Antonio Water System
Arnulfo Gonzalez, San Antonio Water System
Ray Rendon, P.E., Environmental Engineer, Bexar Co
Rick Illgner, Edwards Underground Water District
TNRCC - Region 13 Edwards Program Files (with attachment)
TNRCC - Central Records (with attachment)

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

December 21, 1995

Mr. John Farrell
TETCO Stores, Inc.
1777 NE Loop 410, Suite 1500
San Antonio, Texas 78217

Re: EDWARDS AQUIFER, Bexar County
Project: TETCO Mobil Station (Pumps at Sonterra)
Type: Request for Modification of Water Pollution Abatement Plan (WPAP), 30 Texas Administrative Code (TAC) §313.4 30; Edwards Aquifer Protection Program.

Dear Mr. Farrell:

The Texas Natural Resource Conservation Commission (TNRCC) has completed their review of the supplemental information concerning the request for modification of the WPAP for the referenced project that was submitted by W.F. Castella and Associates on behalf of TETCO Stores, Inc. and received by the San Antonio office on November 17, 1995.

PROJECT DESCRIPTION

The 1.442 acre TETCO Mobil Station (Pumps at Sonterra) has been developed as a commercial project which consists of a convenience store dispensing fuel and a car wash. This modification was required because the site was not built as was approved in the original WPAP approval letter dated February 3, 1995. Numerous significant alterations have been made to the previously approved 1.131 acre plan including changes to the approved permanent pollution abatement structures.

A pollution abatement structure has been built to treat the stormwater run-off from this site. However, this basin has not been approved by the TNRCC. The pollution abatement structure is a sand infiltration and retention basin. According to the request for modification and the reply letter of October 17, 1995, this basin is designed to meet the design criteria and performance standards of the Lower Colorado River Authority (LCRA) Lake Travis Nonpoint Source Pollution Control Ordinance Technical Manual.

The original request for modification was denied in a letter dated October 25, 1995, based on the basin design presented in the submittals received on September 14, 1995, and October 17, 1995. During a meeting between Mr. John Farrell, Mr. Joe Nix, and Mr. Richard Garcia, Mr. Bobby Caldwell, Mr. John Mauser, and Ms. Julie Rogers of the TNRCC held on November 3, 1995, the applicant's representative, Mr. John Farrell, was given the opportunity to supply additional information to support the basin design criteria. This letter is a response to the submittal of this additional information.

BASIN DESIGN CRITERIA

As presented, in the original submittal, the reply letter of October 17, 1995, and the supplemental information letter of November 16, 1995, the basin design criteria are based on the LCRA Manual. The basin design presented for this site does not meet the LCRA basin design requirements, as we understand them. The concept of "stacking" different basin types vertically in one (1) structure is inconsistent with our understanding of the intent of the LCRA design criteria. For example, a retention basin is meant to hold water that is then disposed of by infiltration, irrigation, or evapo-transpiration which occurs **outside of the retention basin structure**. If the retention basin has a porous floor then it is an infiltration system, not a retention basin.

In addition, according to the design criteria outlined in the LCRA Manual, the following design criteria still have not been met:

1. The sand media must be protected from high sediment loads. This is best accomplished by placing a sedimentation basin **in front of** the sand filtration system.

2. The volume of the sedimentation chamber is a minimum of 20% of the capture volume.

3. The sand media be **underlain** by a drainage system composed of perforated pipes.

4. A composite geotextile separation layer ... shall be installed between the sand media and the perforated pipe underdrain system.

5. Retention basins are designed to capture and **hold** run-off without allowing discharge....

6. Provisions shall be made to empty the (retention) pond within 72 hours after the rainfall event. This can be provided by infiltration, irrigation, or evapo-transpiration.

7. A minimum of four (4) soil borings per infiltration device shall be performed to calculate the soil permeability.

8. When designing infiltration systems, it is extremely important to prevent sediment from clogging the system. **All infiltration BMP's should provide sediment control prior to runoff entering the system.**

9. All infiltration devices should have an observation well installed to monitor performance.

PROVISIONAL APPROVAL

We have reviewed the request for modification, the reply letter of October 17, 1995, and the supplemental information letter of November 16, 1995. Based on the basin design presented in these submittals, the basin does not meet the design criteria established for sand filtration basins, retention basins, or infiltration systems in the LCRA Manual. Neither has sufficient information been provided to approve the basin based on other design criteria. However, since the basin has already been constructed and since Mr. John Farrell stated in the November 3, 1995, meeting that there are plans to replace this basin in the future, we are granting approval of this basin as a **temporary** pollution abatement structure.

APPROVAL

The plan for this project has been reviewed for compliance with 30 TAC §313.4 which sets forth pollution abatement criteria for any development on the recharge zone of the Edwards Aquifer. The proposed water pollution abatement plan is in general agreement with 30 TAC §313.4; therefore, approval of the plan is hereby granted subject to the specific conditions listed below.

SPECIAL CONDITIONS

1. This modification is subject to all Special and Standard Conditions listed in the WPAP approval letter of February 3, 1995.

2. The TNRCC may monitor site conditions and stormwater discharges from the site to evaluate the adequacy of the temporary pollution abatement measure. Additional protection may be necessary if excessive solids are being discharged from the site or evidence of contamination is present.

3. Within **24 months from the date of this letter**, stormwater run-off from the TETCO Mobil Station (Pumps at Sonterra) site shall be directed to an approved **permanent** pollution abatement structure for treatment. This structure may be located on the TETCO Mobil Station (Pumps at Sonterra) site or on the adjacent property, with the permission of the owner. A request for modification of the WPAP, including the appropriate fee, must

be submitted for review and approval prior to construction of the permanent pollution abatement structure.

4. When the adjacent development is platted or 24 months from the date of this letter, whichever is sooner, the site boundaries shall be replatted as indicated on the Site Plan, which was revised on 10/12/95. A photocopied portion of the Site Plan is attached.

5. 30 TAC §313.4(c) requires the owner/developer to: (1) record in the county deed records that this property is subject to the approved WPAP; and (2) submit to the Executive Director through the San Antonio office, within 30 days of receiving this written notice of approval of the water pollution abatement plan, proof of application for recordation of notice in the county deed records. Enclosed is a suggested format you may use to deed record your approved WPAP.

Failure to comply with any of these conditions, the deed recordation requirement, or any other specific conditions of approval is a violation of these rules. Pursuant to §26.136 of the Texas Water Code, any violations of the Edwards Aquifer Rules may result in administrative **penalties of up to $10,000 for each act of violation and for each day of violation.**

If you have any questions, please contact Julie Rogers of the San Antonio office at 210/490-3096.

Sincerely,

Dan Pearson,
Executive Director

DP/jpr

Attachment: Photocopied portion of Site Plan revised on 10/12/95

cc with attachment:
Joe Nix P.E., W.F. Castella and Associates
Rebecca Cedillo, San Antonio Water System
Ray Rendon, Bexar County Public Works
Rick Illgner, Edwards Underground Water District
TNRCC Field Operations, Austin

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

September 22, 1995

CERTIFIED MAIL NO. Z 742 880 306
RETURN RECEIPT REQUESTED

Mr. John Ferrell
TETCO
1777 NE Loop 410, #1500
San Antonio, TX 78218

Re: EDWARDS AQUIFER, Bexar County
Project: TETCO Mobil Station, Located on SW Corner of Stone Oak Parkway & Huebner Road, San Antonio, Texas
Type: Water Pollution Abatement Plan (WPAP), 30 Texas Administrative Code (TAC) §313.4, and Underground Hydrocarbon Storage Tank (UST), 30 Texas Administrative Code (TAC) §313.10

Dear Mr. Ferrell:

On September 14, 1995 you attended a meeting at this San Antonio Regional Office to discuss deviations from the above referenced WPAP. As presented, the "field alterations" to the previously approved permanent stormwater treatment system included,

1. Relocating the sedimentation/filtration structure off of the property and outside the limits of the approved pollution abatement plan,

2. Combining two (2) approved sedimentation/filtration basins into one (1) structure,

3. Relocating the convenience store affecting stormwater runoff to the permanent pollution abatement structure, and

4. Relocation of the UST system piping.

Pursuant to 30 TAC §313.4(e),

> Modification of previously approved water pollution abatement plans. The holder of any approved water pollution abatement plan, such as an approved master plan, must notify the appropriate district office in writing and obtain approval from the executive director prior to any of the following.

(1) any physical modification to, or any modification in procedures for operation of, any water pollution abatement structure - such as ponds, dams, berms, sewage treatment plants, and diversionary structures;
(2) any change in the nature or character of the development from that which was originally approved or which would significantly impact the viability of the water pollution abatement plan, as determined by the appropriate district office or executive director;
(3) any development of land identified as undeveloped in the original water pollution abatement plan.

Pursuant to 30 TAC §313.4(f),

> The application for approval of a water pollution abatement plan may be conditionally approved by the executive director. The holder of the approved water pollution abatement plan shall be responsible for compliance with this section and any special conditions of an approved plan through all construction phases of the regulated development. Failure to comply with all conditions of the executive director's approval is a violation of this rule.

Pursuant to 30 TAC §313.25,

> The owner making an application for approval or amendment of any plan under this chapter must pay an application fee in the amount set forth in §313.27 of this title (relating to Amount of Fees). The fee is due and payable at the time the application is filed. The fee must be sent to the commission's Austin office, accompanied by an Edwards Aquifer Fee Application Form, provided by the executive director. Application fees must be paid by check, certified check, or money order, payable to the "Texas Water Commission". If application fees in the correct amount are not submitted, the executive director is not required to consider the application until the correct fee is submitted.

These "field alterations" listed above are considered to more than minor changes made during construction to accommodate unanticipated site specific conditions. They are considered to be modifications to the previously approved pollution abatement plan requiring TNRCC approval. Furthermore, the TNRCC considers that the application was submitted as a final plan and was to be constructed as approved. As stated in the approval letter,

> **Failure to comply** with any of the following conditions, the deed recordation requirement, or any other specific conditions of approval is a violation of these rules. Pursuant to §26.136 of the Texas Water Code, any violations of the Edwards

Aquifer Rules may result in administrative **penalties of up to $10,000 for each act of violation and for each day of violation.**

During the September 14, 1995 meeting a site directive was given to you requesting,

1. Modification of WPAP, including sizing calculations for basin(s).

2. Modification of UST application.

During the September 14, 1995 meeting you asked if construction could continue. You were informed that if construction did proceed, that it would be at your own risk and that the modifications you submit may not be approved. Pursuant to 30 TAC §313.4(e) cited above, you are directed to cease all construction on the site until this matter has been resolved. Pursuant to 30 TAC §313.25, appropriate modification fees are also due. If you have any questions please contact John Mauser at this San Antonio Regional Office, 210/490-3096.

Sincerely,

Bobby D. Caldwell

Bobby Caldwell
Water Programs Manager

cc: WF Castella & Associates
Edwards Underround Water District
San Antonio Water System

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

October 25, 1995

CERTIFIED MAIL Z 742 988 628
RETURN RECEIPT REQUESTED

Mr. John Farrell
TETCO Stores, Inc.
1777 NE Loop 410, Suite 1500
San Antonio, Texas 78217

Re: EDWARDS AQUIFER, Bexar County
Project: TETCO Mobil Station (Pumps at Sonterra)
Type: Request for Modification of Water Pollution Abatement Plan (WPAP), 30 Texas Administrative Code (TAC) §313.4 30; Edwards Aquifer Protection Program.

Dear Mr. Farrell:

The Texas Natural Resource Conservation Commission (TNRCC) has completed their review of the request for modification of the WPAP for the referenced project that was submitted by W.F. Castella and Associates on behalf of TETCO Stores, Inc. The original submittal was found to be technically inadequate. A letter requesting additional information to complete the review process was sent to W.F. Castella and Associates on October 17, 1995. A reply to that letter was received by the TNRCC on October 17, 1995.

PROJECT DESCRIPTION

The 1.442 acre TETCO Mobil Station (Pumps at Sonterra) is being developed as a commercial project and will consist of a convenience store dispensing fuel and a car wash. This modification was requested because the site was not being built as was approved in the original WPAP approval letter dated February 3, 1995. Numerous significant alterations had been made to the approved plan including changing the permanent pollution abatement structures. The proposed permanent pollution abatement structure is a sand infiltration and retention basin. According to the request for modification and the reply letter of October 17, 1995, this basin is designed to meet the design criteria and performance standards of the Lower Colorado River Authority (LCRA) Lake Travis Nonpoint Source Pollution Control Ordinance Technical Manual.

BASIN DESIGN CRITERIA

According to the original submittal and the reply letter of October 17, 1995, the stated design criteria are based on sections 4.2.5 and 4.2.8 of the LCRA Manual. According to the design criteria outlined in the LCRA Manual, section 4.2.5, Sand **Filtration** Basins, the following design criteria should be met:

1. The sand media must be protected from high sediment loads. This is best accomplished by placing a sedimentation basin in front of the sand filtration system.

2. Volume of the sedimentation chamber is a minimum of 20% of the capture volume.

3. The sand media be **underlain** by a drainage system composed of perforated pipes.

4. A composite geotextile separation layer ... shall be installed between the sand media and the perforated pipe underdrain system.

None of these sand filtration basin design criteria have been included in the request for modification or the reply letter of October 17, 1995.

According to the design criteria outlined in the LCRA Manual, section 4.2.8, **Retention** Basin, the following design criteria should be met:

1. Retention basins are designed to capture and **hold** run-off without allowing discharge....

2. Provisions shall be made to empty the pond within 72 hours after the rainfall event. This can be provided by infiltration, irrigation, or evapo-transpiration.

None of these retention basin design criteria have been included in the request for modification or the reply letter of October 17, 1995.

Infiltration system design is covered under section 4.2.7 of the LCRA Manual, Infiltration Practices. The design criteria in this section include:

1. Minimum saturated soil permeability of 0.27 inches/hour.

2. Maximum soil permeability of 6 inches/hour.

3. Minimum 12 inch thickness of acceptable soil.

4. Depth to water table must exceed 4 feet.

5. No fissures, perforated limestone, or other features are within 12 inches of the bottom of the infiltration BMP which could allow runoff to bypass the treatment system.

6. A minimum of four (4) soil borings per infiltration device shall be performed to calculate the soil permeability.

7. When designing infiltration systems, it is extremely important to prevent sediment from clogging the system. **All infiltration BMP's should provide sediment control prior to runoff entering the system.**

8. All infiltration devices should have an observation well installed to monitor performance.

None of these infiltration system design criteria have been included in the request for modification or the reply letter of October 17, 1995.

DENIAL

We have reviewed the request for modification and the reply letter of October 17, 1995. Based on the basin design presented in these submittals, we can not approve this request for modification. The denial is based on the following:

1. The basin does not meet the design criteria established for sand filtration basins, retention basins, or infiltration systems in the LCRA Manual.

2. Since the basin does not meet the above referenced design criteria, it is not possible to determine the removal efficiency of the basin according to LCRA performance standards.

3. The basin design does not show a by-pass structure to divert stormwater run-off away from the basin after the first ½ inch of rainfall. Without a by-pass the basin is incorrectly sized.

4. The Annual Pollutant Load calculations provided in the request for modification, page 1, uses an incorrect number for impervious cover. The 0.871 acres used for Area in these calculations does not include impervious areas which do not contribute to pollutant loading, therefore, the amount of impervious cover used in the calculations should be 100%, not 88%.

This site is currently under construction without an approved WPAP. The applicant, TETCO Store, Inc., has 30 days to submit a new request for modification of the WPAP and the appropriate fee. **The owners shall be restricted from any and all retail operations at this site until a permanent pollution abatement structure is approved, construction is complete, and the abatement structure is operational.**

The applicant is hereby advised that submittal of a modified WPAP shall not absolve the applicant of any violations of Commission rules related to this project, and shall not necessarily preclude the Commission from pursuing appropriate enforcement actions and administrative penalties associated with such violations, as provided in 30 TAC §330.4, 330.5 and 313.4. Under the Texas Water Code, any violations of the Edwards Aquifer Rules may result in administrative **penalties of up to $10,000 for each act of violation and for each day of violation.**

If you have any questions or require additional information, please contact Julie Rogers, or another representative of the Edwards Aquifer Protection Program, at this San Antonio office, (210) 490-3096.

Sincerely,

Dan Pearson,
Executive Director

DP-JPR/jpr

cc: Joe Nix, W.F. Castella and Associates
Rebecca Cedillo, San Antonio Water System
Rick Illgner, Edwards Underground Water District
John Young, Director, TNRCC Field Operations
Lemarcus Johnson, Director, Water Program, TNRCC Field Operations
Julie Rogers, TNRCC San Antonio Regional Office
TNRCC San Antonio Regional Office - Program Files
TNRCC Field Operations, Austin (with attachment)

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

October 17, 1995

CERTIFIED MAIL Nº Z 742 880 521
RETURN RECEIPT REQUESTED

Mr. Joe Nix, P.E.
W.F. Castella and Associates
1039 W. Hildebrand
San Antonio, Texas 78201

Re: EDWARDS AQUIFER, Bexar County
Project: TETCO Mobil Station (Pumps at Sonterra)
Type: Request for Modification of Water Pollution Abatement Plan (WPAP), 30 Texas Administrative Code (TAC) §313.4 30

Dear Mr. Nix:

On September 15, 1995, the Texas Natural Resource Conservation Commission received the submittal for the above referenced project, pursuant to specific requirements of TAC Section 313 for construction of regulated activities and developments located on the Edwards Aquifer Recharge and Transition Zones. Additional material was received on October 13, 1995.

A preliminary review of the submittal has determined that the following additional information is needed to complete the review process:

1. Detailed sizing information on the proposed basin, ie. length, width, and depth, on the Plan Sheet.
2. Enumerated design criteria from the LCRA manual for the chosen basin category.
3. Clarification of items (1) and (2) of the Pollutant Load Removal Table on page 3 of the submittal. The specific concern is why two (2) credits are applicable to this design since only one (1) basin is being built.
4. Justification of the 88% impervious cover used in calculations.

This submittal is considered technically inadequate. If a technically adequate submittal is not received within 30 days then this Request for Modification will be denied and a new submittal and fee must be submitted.

If you have any questions or require additional information, please contact Julie Rogers, or another representative of the Edwards Aquifer Protection Program, at this San Antonio office, (210) 490-3096.

Sincerely,

Bobby D. Caldwell,
Water Program Manager

BDC-JPR/jpr

cc: John Farrell, TETCO
Rebecca Cedillo, San Antonio Water System
Rick Illgner, Edwards Underground Water District
Julie Rogers, TNRCC San Antonio Regional Office
TNRCC San Antonio Regional Office - Program Files
TNRCC Field Operations, Austin (with attachment)

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

November 10, 2000

Mr. John Farrell
TETCO Stores, Inc.
1777 NE Loop 410, Suite 1500
San Antonio, TX 78217

Re: EDWARDS AQUIFER, Bexar County.
PROJECT: TETCO, Project number -1803.01, Located at 19885 Stone Oak Parkway, San Antonio, Texas
TYPE: Request for Modification of Underground Storage Tank (UST) Facility Construction Plans and Specifications; 30 Texas Administrative Code (TAC) §213.5(d); Edwards Aquifer Protection Program

Dear Mr. Farrell:

The Texas Natural Resource Conservation Commission (TNRCC) has completed its review of the request for modification of an approved UST application for the referenced project that was submitted on behalf of TETCO Stores, Inc. by Mr. Wayne Metting and received by the San Antonio office on September 21, 2000. Final review was completed after additional material was received on October 20, 2000.

PROJECT DESCRIPTION

This facility was previously approved by letter dated February 3, 1995. As presented, the proposed modification to the UST system will consist of removing the existing four fuel dispensers, the dispenser islands, and the dispenser sumps, and installing eight new dispensers (manufactured by Environ) and sumps. New shear valves and flex hoses will be installed and be electrically isolated by the dispenser containment sumps.

Piping for the proposed new dispenser system will consist of double wall fiberglass piping, (2" primary pipe within a 3" secondary pipe) manufactured by Ameron. The product line excavation will be protected by placement of a liner (Reef Industries X210G) which will extend below each of the eight dispensers.

APPROVAL

The planning materials for the proposed underground static hydrocarbon storage facility have been reviewed by the Commission's staff. As presented the system was designed by a TNRCC Registered Contractor or Texas Registered Professional Engineer to be in accordance with the requirements of 30 TAC §334, Underground Storage Tanks, and 30 TAC §213.5(d), which establishes the criteria for static hydrocarbon and hazardous substance storage facilities located in the Edwards Aquifer Recharge Zone. Therefore, based on the UST system owner's certification of compliance the planning materials for construction of the proposed modification are hereby approved, subject to the following conditions.

Failure to comply with any of the following conditions or any other specific conditions of approval is a violation of these rules. Pursuant to Section 26.136 of the Texas Water Code, violations of these rules may result in administrative penalties of up to $10,000 for each act of violation and for each day of violation.

SPECIAL CONDITIONS OF APPROVAL

1. Upon completion of all modifications, product lines must be line leak tested to insure integrity. Results of all tests must be submitted to the San Antonio regional office within 30 days of test completion.

2. As requested by TETCO, sump probes under the dispenser will not be included as part of this modification. However, as required by 30 TAC 213.5, continuous monitoring must be provided as part of any UST system.

STANDARD CONDITIONS OF APPROVAL

1. Pursuant to §26.136 of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.

2. Installation, testing, and operation of the tanks, piping, and all other components of the proposed storage and monitoring systems shall be in conformance with the manufacturer's specifications.

3. All installations, repairs, and removals must be conducted by a registered UST contractor who has a licensed installer or on-site supervisor at the site during all critical junctures, as required by 30 TAC Chapter 334 Subchapter I.

4. The owner of the proposed facility shall assure that the storage tank system is installed, operated, and maintained in full compliance with the applicable provisions of 30 TAC

Chapter 334 which establishes the requirements for the design, installation, operation, corrosion protection, construction notification, registration, fee assessment, financial responsibility, release reporting, corrective action related to such system, and all applicable federal, state and local regulations.

Prior to Commencement of Construction:

5. Within 60 days of receiving written approval of an Edwards Aquifer protection plan, the applicant must submit, to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county record. A description of the property boundaries covered by the Edwards Aquifer protection plan shall be included in the deed recordation in the county deed records. A suggested form, TNRCC Form 0625, that you may use to deed record the approved UST Facility Plan is enclosed.

6. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved UST Facility Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.

7. Prior to commencing construction, the applicant shall submit any modifications to this approved UST Facility Plan required by some other regulating authority or desired by the applicant.

8. Modification to the activities described in the referenced UST Facility Plan following the date of approval may require the submittal of an Edwards Aquifer protection plan application to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

9. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include: the date on which the regulated activity will commence, the name of the approved plan and file number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the applicant is eligible for an extension of an approved plan.

10. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water

quality pond is proposed, it shall be used as a sedimentation basin during construction. The TNRCC may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

11. Abandoned injection wells must be closed under the requirements of 30 TAC Chapter 331 (relating to Underground Injection Control).

12. All borings with depths greater than or equal to 20 feet must be plugged with a non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

<u>During Construction:</u>

13. A geologist must inspect the completed tankhold for the presence of sensitive or possible sensitive features. Certification that the tankhold excavation has been inspected must be submitted to the San Antonio Regional Office. If a sensitive feature or possibly sensitive feature is discovered, the applicant must propose methods to protect the feature and the Edwards Aquifer from potentially adverse impacts to water quality from the underground storage tank system. Installation activities may not proceed until the executive director has reviewed and approved the proposed methods. The protection methods must be consistent with 30 TAC §213.5(d)(1)(B) of this section. Construction may continue without written approval from the TNRCC if the geologist certifies that no sensitive feature or features were present.

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

15. If any sensitive geologic feature is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.

16. All identified abandoned water wells, including dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation

under 16 TAC Chapter 76 (relating to Licensing and Regulation of Water Well Drillers and Water Well Pump Installers) and all other locally applicable rules, as appropriate. If any abandoned wells (including water, injection (injection well referenced in Item 11), dewatering, and monitoring well) are encountered during construction, they must be plugged pursuant to requirements of the Texas Department of Licensing and Regulation (16 TAC Chapter 76) and all other locally applicable rules, as appropriate. Abandoned injection wells must be closed under the requirements of 30 TAC 331 (relating to Underground Injection Control).

17. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

18. To the maximum extent practicable, BMPs and measures must maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction. The 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. A request to temporarily seal must include a justification as to why no reasonable and practicable alternative exists. The request will be evaluated by the executive director on a case-by-case basis.

<u>After Construction:</u>

19. Any installer who is employed or otherwise engaged by an underground storage tank owner or operator to install, replace, or modify an underground storage tank system shall certify by signature that the installation, replacement, or modifications are in compliance with 30 TAC §334.46. The tank owner or operator shall be responsible for assuring that the installer has provided the certification to the TNRCC's San Antonio Regional Office.

20. The installation, replacement, or modification certification required under the previous paragraph shall be included in the appropriate section of the commission's authorized tank registration form. A completed copy of the TNRCC - UNDERGROUND STORAGE TANK REGISTRATION FORM (TNRCC-0724) shall be filed with the Edwards Aquifer protection program in the San Antonio Regional Office within 30 days of completing the UST system installation. This reporting does not relieve the tank owner or operator of the registration or certification requirements of 30 TAC §334.7 or 30 TAC §334.8.

21. An "as-built", project-specific, site design plan shall be drawn to scale and of sufficient accuracy, clarity, and detail to depict the specific locations and dimensions of all components of the underground storage tank system, including the tanks, piping and fittings, pumps,

observation wells, containment equipment, release detection devices, and other auxiliary equipment. Also, detailed construction drawings of plan and profile views and detail drawings of specific components shall be prepared. A copy of such "as-built" site plan and construction drawings, as well as operating instructions for all major system components and written records of all tank tests, piping tests, release detection monitoring results, and other inspections, shall be maintained in a secure location at the site of the proposed facility and shall be available for examination by TNRCC personnel.

Should clarification of this letter be desired or if we may be of any other assistance, please contact Tom Gutierrez of our San Antonio Regional office at 210/403-4025. Please reference project number -1803.01.

Sincerely,

Bobby D. Caldwell

for Jeffrey A. Saitas, P.E.
Executive Director
Texas Natural Resource Conservation Commission

JAS/TG/eg

Enclosure: Deed Recordation Form

cc: Wayne Metting, Petroleum Power Equipment, L.L.C.
Rebecca Cedillo, San Antonio Water System
Renee Green, Bexar County Public Works
Greg Ellis, Edwards Aquifer Authority
TNRCC Field Operations, Austin

Attachment B

Narrative of Proposed Modification

ATTACHMENT B

Narrative of Proposed Modification

7-Eleven, Inc. Store No. 36257
19185 Stone Oak Parkway
San Antonio, Bexar County, Texas 78258

This proposed project is scheduled to be conducted at 7-Eleven, Inc. Store No. 36257 (Site), which is currently operating as a retail gasoline facility, located at 19185 Stone Oak Parkway in San Antonio, Bexar County, Texas.

The Site is an approximate 1.53-acre property that has operated as a retail petroleum facility from at least 1995 through present day. It is situated within the Edwards Aquifer Recharge Zone. A Texas Commission on Environmental Quality (TCEQ) records search revealed previous State Records Center Numbers 2160978 and 2161045 associated with the site. An initial EAPP was approved February 3, 1995, and documented the installation of one (1) 15,000-gallon and one (1) 20,000-gallon double-wall fiberglass reinforced plastic (FRP) Underground Storage Tanks (USTs) to be used for the storage of gasoline. A letter from the Texas Natural Resource Conservation Commission (TNRCC) dated August 5, 1998, documented the approval for a modification of the Site's existing sedimentation/filtration basin. The modification provided for a 8.9-foot wide sedimentation basin and a 2.6-foot wide filtration basin over 18 inches of sand. A TCEQ Underground Storage Tank Registration and Self-Certification Form dated April 26, 2017, documented the registration of one (1) 20,000-gallon double-wall fiberglass reinforced plastic (FRP) UST and one (1) 15,000-gallon double-wall FRP UST for the storage of premium and regular unleaded fuels.

Currently 7-Eleven proposes the following UST System modifications at the Site:

- Remove existing tank slab, dispenser islands, and existing UST system with product and vent piping;
- Install one (1) new 15,000-gallon capacity triple-walled fiberglass-reinforced plastic (FRP) Premium Unleaded (PUL) Underground Storage Tank (UST);
- Install one (1) new 20,000-gallon capacity triple-walled FRP Regular Unleaded (RUL) UST;
- Install two (2) new RUL and PUL double-walled FRP Submersible Turbine Pump (STP) sumps and STP assemblies;
- Install new 3" single-walled piping over 2" coaxial double-walled product piping from new USTs to existing dispensers;
- Install two (2) new vapor vent risers;
- Install new 2-inch coaxial double-walled piping for vapor/vent at USTs to new remote vent;
- Reuse eight (8) existing 3+0 dispensers;
- Install eight (8) new stainless steel dispenser islands;
- Install a new automatic tank gauge site monitor console;
- Install two (2) new observation wells in the tank slab; and
- Install new concrete at disturbed areas.

A Geologic Assessment (Appendix B) was conducted February 28, 2024. Sensitive features were not identified on the project site. No offsite areas are anticipated to be affected by the proposed construction activities. The site is currently covered with concrete.

The following is documented in the Temporary Stormwater Section (Appendix E):

- Total area of impervious cover: approximately 9,700 square feet;

- Areas to be demolished (total disturbed area): approximately 9,700 square feet;
- Permanent Best Management Practices (BMPs): permanent seeding, sodding, or mulching.

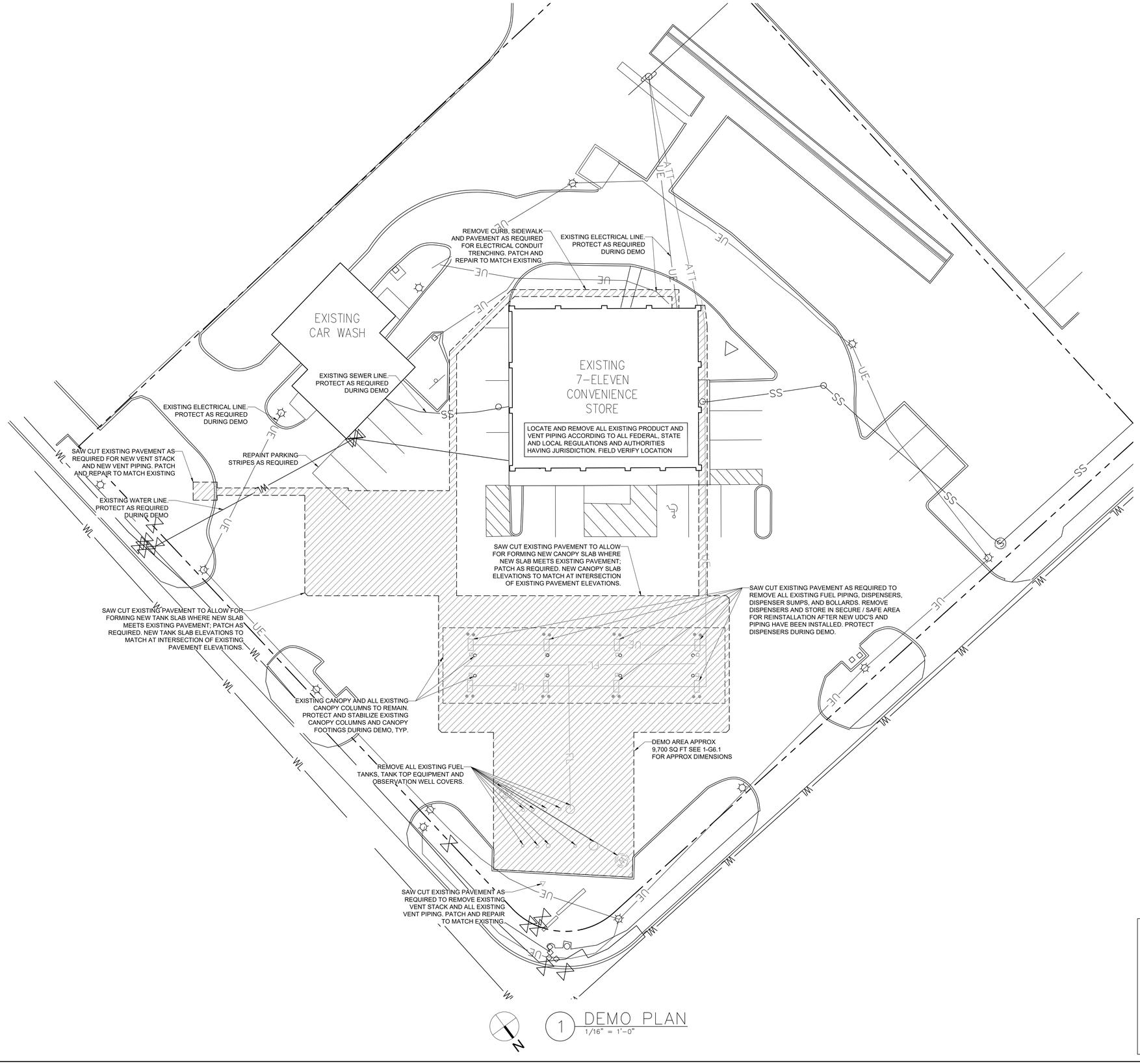
Prior to concrete removal, a silt fence will be installed to intercept and detain waterborne sediment from unprotected areas. The fence shall remain in place until the disturbed area is permanently stabilized. After construction activities are complete, the area will be re-surfaced with an impervious concrete cover.

Attachment C

Current Site Plan of the Approved Project

GENERAL NOTES

1. CONTRACTOR TO CUT AND REMOVE CONCRETE AS NECESSARY TO REMOVE ALL EXISTING PIPING. LOCATION OF REMOVAL AT DISPENSER ISLANDS IS APPROXIMATE AND IS BASED ON AVAILABLE INFORMATION.



1 DEMO PLAN
1/16" = 1'-0"

PRINTED BY: WBRAGG
DRAWING NAME: 36257 - G0.3 DEMO PLAN.DWG PRINT DATE: Feb 13, 2024 - 1:56pm

Rev. #	Date	Description

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

FUELING DEMOLITION PLAN

CORE STATES GROUP
CORESTATES, INC.
212 E 3rd St.
Bentonville, AR 72712
479.464.4080
corestates.com
TEXAS REGISTERED ENGINEERING FIRM NUMBER F-8849
EXPIRATION 3/31/2024

Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

STATE OF TEXAS
DAVID M. LEIFFER
101813
LICENSED
PROFESSIONAL ENGINEER
02-13-2024

SHEET:
G0.3

FUELING - USA

811 Know what's below. Call before you dig.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. CORESTATES, INC. DOES NOT GUARANTEE THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

APPENDIX D

UNDERGROUND STORAGE TANK

FACILITY PLAN APPLICATION

(TCEQ-0583)

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: Jessica Jones of Aptim Environmental and Infrastructure, LLC

Date: 10/22/2024

Signature of Customer/Agent:

Jessica Jones

Regulated Entity Name: 7-Eleven, Inc. Store No. 36257

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	20K gallon	Gasoline - RUL	Triple Wall FRP

UST Number	*Size(Gallons)*	*Substance to be Stored*	*Double-wall Tank Material*
2	15K gallon	Gasoline - PUL	Triple Wall FRP
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	FRP (noncorrodible)
Product Delivery Piping	FRP (noncorrodible)

Equipment	*Corrosion Protection (Method)*
Vapor Recovery Piping	Not Applicable
Submersible Pumps	Tank top appurtenances contained in double-walled FRP STP Sump
Flex Connector (dispenser end)	Stainless Steel contained in UDC sump
Flex Connector (pump end)	Stainless Steel contained in UDC sump
Riser	Black Iron wrapped with dielectric wrap

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 16 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" 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" = 50'.

14. 100-year floodplain boundaries:

    ☒ The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA Flood Insurance Map: City of San Antonio, Texas Map No. 48029C0140G, Effective Date: 09/29/2010

    ☐ 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 12/21/1995. 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.

ATTACHMENT A

Detailed Narrative of UST Facility

ATTACHMENT A

Detailed Narrative of the UST Facility

7-Eleven, Inc. Store No. 36257
19185 Stone Oak Parkway
San Antonio, Bexar County, Texas 78258

This proposed project is scheduled to be conducted at 7-Eleven, Inc. Store No. 36257 (Site), which is currently operating as a retail gasoline facility, located at 19185 Stone Oak Parkway in San Antonio, Bexar County, Texas.

The Site is an approximate 1.53-acre property that has operated as a retail petroleum facility from at least 1995 through present day. It is situated within the Edwards Aquifer Recharge Zone. A Texas Commission on Environmental Quality (TCEQ) records search revealed previous State Records Center Numbers 2160978 and 2161045 associated with the site. An initial EAPP was approved February 3, 1995, and documented the installation of one (1) 15,000-gallon and one (1) 20,000-gallon double-wall fiberglass reinforced plastic (FRP) Underground Storage Tanks (USTs) to be used for the storage of gasoline. A letter from the Texas Natural Resource Conservation Commission (TNRCC) dated August 5, 1998, documents the approval for a modification regarding the Site's existing sedimentation/filtration basin. The modification will provide for a 8.9-foot wide sedimentation basin and a 2.6-foot wide filtration basin over 18 inches of sand. From the latest documented TCEQ Underground Storage Tank Registration and Self-Certification Form dated April 26, 2017, documents the registration of one (1) 20,000-gallon double-wall fiberglass reinforced plastic (FRP) UST and one (1) 15,000-gallon double-wall FRP UST for the storage of premium and regular unleaded fuels.

Currently 7-Eleven anticipates the following modifications at the Site:

- Remove existing tank slab, dispenser islands, and existing UST system and product and vent piping;
- Install new 15,000-gallon capacity triple-walled fiberglass-reinforced plastic (FRP) Premium Unleaded (PUL) Underground Storage Tank (UST);
- Install new 20,000-gallon capacity triple-walled FRP Regular Unleaded (RUL) UST;
- Install two (2) new RUL and PUL double-walled FRP Submersible Turbine Pump (STP) sumps and STP assemblies;
- Reuse eight (8) existing 3+0 dispensers;
- Install eight (8) new stainless steel dispenser islands;
- Install new 3" single-walled piping over 2" coaxial double-walled product piping from new USTs to existing dispensers;
- Install two (2) new vapor vent risers;
- Install new 2" Coaxial double-walled piping for vapor/vent at USTs to new remote vent;
- Install a new Veeder Root TLS-450 Plus site monitor console;
- Install two (2) new observation wells in the tank slab; and
- Install new concrete at disturbed areas.

ATTACHMENT B

Manufacturer Information For Tanks

Fuel and DEF

Underground Fiberglass Tanks

XERXES®

“ As far as protecting my owners and their future, I'm looking at 30 to 40 years down the road. Fiberglass is the way to go. It allows us to go with the new biofuels and not worry. ”

U.S. fuel marketer

Think decades not years

#1

Corrosion is the #1 cause of tank failure

10-100x

MIC can occur 10-100 times faster than chemical corrosion

A fiberglass underground storage tank made of 100% premium resin is superior to a steel tank in many ways — starting with corrosion resistance and structural strength. That's why major fuel marketers, C-store chains and hypermarkets overwhelmingly choose fiberglass underground storage tanks today. And that's why customers continue to equate secure storage of fuel products with the Xerxes name.

External corrosion from surrounding soil began the trend of replacing rusting steel fuel tanks with corrosion-resistant fiberglass tanks decades ago.

When new biofuels and ultra-low sulfur diesel (ULSD) entered the market, a rise of internal corrosion in steel fuel tanks created a new problem. Water bottoms in steel tanks storing biofuels lead to aggressive microbial influenced corrosion (MIC). Untreated, the ultimate result can be tank failure. Once again, fiberglass' resistance to corrosion — inside and out — gives it clear environmental advantages.

Xerxes corrosion-resistant fiberglass tanks need no added coating or cathodic protection to make them corrosion-resistant with new biofuels and traditional fuels. Our 30-year limited warranty points to the strength of fiberglass' corrosion resistance.

- No expensive maintenance required to remove water bottoms
- No water-bottom warranty exclusion
- Warranty transferable to new tank owner

Compatible with

E10, E15, E85, biodiesel, ultra-low sulfur diesel

30-year limited warranty

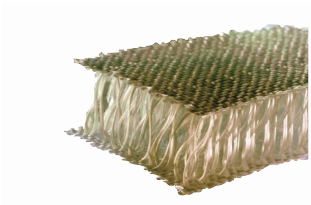
Compared to 10 years for many steel tanks

Structural strength is about more than weight

Engineers look at tank material and geometry when evaluating design options for an underground fuel tank. The strength of our tank comes from a combination of the material stiffness of fiberglass composite and the geometry of our integrally ribbed, cylindrical tank with dished or domed end caps.

Integrally Constructed Ribs

Functioning like I-beams, high-profile fiberglass ribs are fabricated directly into the tank cylinder. This process is superior to ribs created in a separate manufacturing step.



Glass-Fabric Bonding

Our proprietary Parabeam® consists of two layers of glass fabric woven together by vertical pillars. Infused with a thermoset resin, it produces a unique laminate that adds strength and creates a defined interstitial space.

" We are always looking for ways to improve our environmental performance. Installing fiberglass double-wall tanks not only helps us achieve this, it reduces our environmental risk. "

– Retail fuel marketer
when replacing steel tanks with fiberglass tanks

Designed for H-25 / HS-25 axle loads

Designed for easy shipping and installation

ANSI/CAN/UL/ULC 1316:2018 listed

Oil-water separators UL 2215-listed CAN/ULC S656-listed

DEF tanks third-party compatibility tested

Underground Tanks — Diameters up to 12 feet

Fuel Storage Tanks

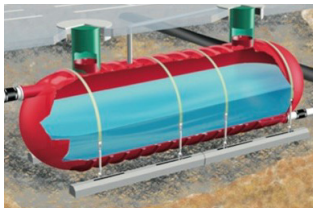
Double-wall tanks are the industry standard in fuel storage. Triple-wall tanks provide enhanced containment when site conditions or regulations warrant that. Multicompartment tanks save space when storing more than one grade or type of fuel.

- Capacities up to 50,000 gallons or 155,000 liters
- Double-wall, triple-wall and multicompartment models
- Dry and hydrostatic monitoring options

DEF Storage Tanks

Diesel exhaust fluid (DEF) has specific storage requirements. Fiberglass underground DEF tanks need no added coatings or linings to maintain product integrity. Underground tanks can also store larger capacities than above ground tanks.

- Capacities up to 50,000 gallons or 155,000 liters
- Single-wall and double-wall models
- Extensive third-party compatibility testing



Oil-Water Separators

Our oil-water separators incorporate unique refinements inside our tank to remove free-floating oils and settleable sands from oil-water mixtures. A properly sized coalescer is designed to produce effluent quality to meet most water runoff regulations.

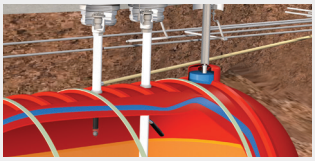
- Capacities up to 30,000 gallons or 113,000 liters
- Single-wall and double-wall models
- 4’-10’ diameters

Accessories

Retail and commercial fueling facilities are sophisticated systems in highly regulated environments. A full range of easy-to-install accessories provide a total solution.

Containment Sumps

Single-wall and double-wall containment sumps are custom-matched to our factory-installed collars. Double-wall sumps are frequently chosen to meet changing regulations. A variety of models are available.



Truchek®
Hydrostatic Monitoring

Our patented Truchek system continuously monitors both walls of a double-wall tank for leaks in all installation conditions. It also provides options for easy and reliable tank-tightness testing.

Engineering
Anchoring System

An anchoring system can add extra security to a tank installation. Engineered and sized for specific tank sizes, our anchoring system includes prefabricated concrete deadmen, anchoring straps, galvanized jaw-to-jaw turnbuckles and adjustable anchor points.

Typical Accessories

- Engineered anchoring systems
- Dry and hydrostatic monitoring options
- Manways, covers and extensions
- Containment collars, sumps and covers
- Standard and custom fittings and nozzles
- Fill tubes
- Ladders

Unparalleled **manufacturing capability**

Leading the way in composite technology

No other tank manufacturer has the kind of manufacturing capability in North America that we have. No matter where our customers need fuel tanks, our facilities are not far from your next installation.

Xerxes fuel tanks and accessories offer long-term security for all your underground fuel and DEF storage needs. Throughout North America, our expert engineering and sales teams are ready to design and deliver the tanks you need.

We provide the best technologies, products and services for every project. Our goal is to exceed expectations with unparalleled expertise, delivery, performance and value. We do this every step of the way — from project planning through the life of each fuel project.

Contact us at fuelsales@mattr.com to discuss your next project.

40+ years of industry experience

Expert engineering and sales consulting

225,000+ tanks Installed

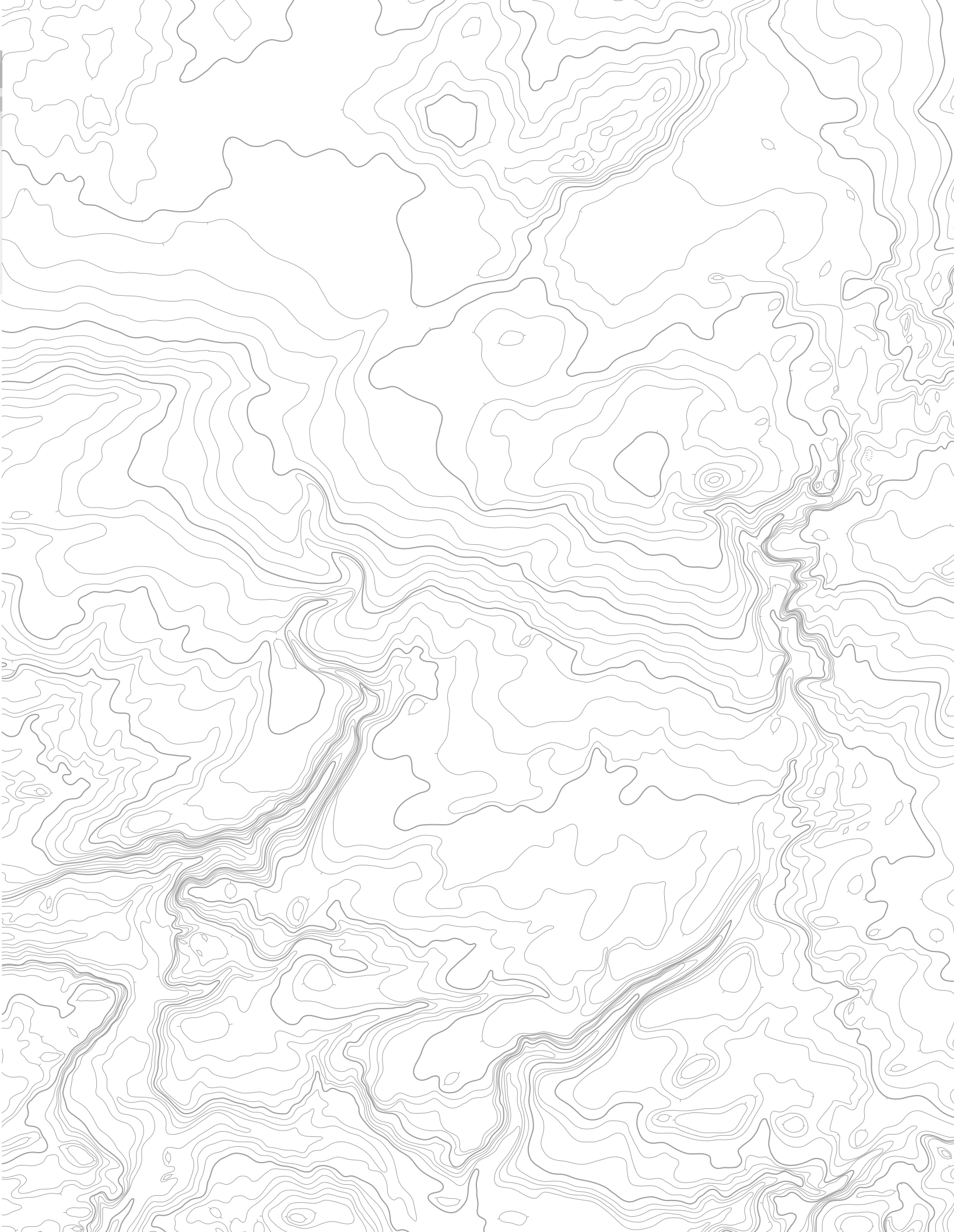
Fuel compatibility validation

6 manufacturing facilities in North America

Regulatory compliance assistance

Contractor training

Application design drawings



Xerxes – A Mattr brand

Xerxes is a key brand of Mattr, a global growth-oriented company that delivers advanced materials technology and complex manufacturing expertise through a diverse portfolio of brands. The company's market-leading brands provide engineered products and solutions that support critical infrastructure for markets such as water, transportation, communication, energy and electrification.

The name Mattr reflects our expertise in high-value materials technology. The company's core competencies revolve around converting physical materials into solutions that serve the greater good of our world. The name is also an affirmation that what we do matters – to our employees, our families, our customers, our communities, our world.

xerxes.com | fuelsales@mattr.com

XERXES®

Double-Wall and Triple-Wall Tanks

Underground tanks are backed by proven longevity

Fuel marketers, equipment distributors and commercial accounts rely on proven technology when planning their underground installations. It makes sense that they look to Xerxes, the manufacturer that developed the first UL-listed double-wall fiberglass tank.

All our tanks were in early compliance with the updated certification requirements of the new bi-national standard ANSI/CAN/UL/ULC 1316:1218.

Tank geometry and materials create structural strength

- Xerxes fuel tanks are designed and manufactured to provide decades of secure storage for any application.
- Cylindrical tank with dished or domed end caps is designed to withstand the stresses of underground storage.
- Integrally manufactured fiberglass ribs function like I-beams and enhance tank strength.
- Premium resin and glass-fiber reinforcement create a structurally strong tank.

Double-wall and triple-wall tanks

- No added corrosion protection needed to store ethanol-blended fuel (E10, E15, E85), biodiesel fuels and ultra-low sulfur diesel (ULSD).
- Incorporates our proprietary 3D glass fiber (Parabeam®) to bond tank walls
- One-compartment or multicompartment models.
- Tertiary containment available for added protection in sensitive environments, such as nearby aquifers, lakes or streams.

Multicompartment tanks

- Store more than one grade or type of fuel in the same tank.
- Provide space-saving installation with a single tank.
- Can provide savings in installation and insurance costs.
- Are available in two- and three-compartment models.

Corrosion-resistant
inside and out

Compatible with
traditional fuels and new biofuels

30-year
limited warranty

Lightweight tanks for
easy shipping and installation

Designed to withstand
H-25 / HS-25 axle loads

Double-Wall and Triple-Wall Tanks

Product and project reliability

- Stringent quality control of manufacturing ensures that every tank is a long-term investment.
- Comprehensive installation training is available.
- 40+ years of composite manufacturing and 225,000+ installed tanks assure customers that we stand behind our products and warranties.

Easy shipping and installation

- Lightweight tank and engineered deadmen can generally fit on the same truck flatbed.
- No special, heavy equipment needed for installation.
- Ideal for tight site footprints and remote locations.
- Tanks can be moved from original installation and recertified for new installation.

ONE-COMPARTMENT TANKS
SINGLE-WALL & DOUBLE-WALL

NOMINAL DIAMETER	DESIGNED FOR U.S. INSTALLATIONS (GALLONS)	DESIGNED FOR CANADIAN INSTALLATIONS (LITERS)
4'	600 – 2,000	2,500 – 5,000
6'	2,000 – 8,000	10,000 – 25,000
8'	2,000 – 17,000	15,000 – 65,000
10'	7,000 – 40,000	50,000 – 110,000
12'	20,000 – 50,000	–

MULTICOMPARTMENT TANKS
DOUBLE-WALL

NOMINAL DIAMETER	DESIGNED FOR U.S. INSTALLATIONS (GALLONS)	DESIGNED FOR CANADIAN INSTALLATIONS (LITERS)
6'	4,000 – 12,000	15,000 – 25,000
8'	6,000 – 25,000	35,000 – 65,000
10'	12,000 – 40,000	70,000 – 110,000

Typical fuel tank accessories

- Engineered anchoring system
- Truchek® hydrostatic monitoring system
- Containment collars, sumps and covers
- Manways, extensions and covers
- Fittings and nozzles
- Fill tubes

For over 40 years, Xerxes has designed and manufactured fiberglass underground storage tanks for fuel, water and wastewater. Xerxes' most recent expansion is its HydroChain™ product line. These highly engineered products with site-specific designs provide a complete stormwater management solution. Xerxes is a key brand of Mattr, a global materials technology company serving critical infrastructure markets.

FDWT0923 | fuelsales@mattr.com | **xerxes.com**

XERXES®

XERXES®

www.xerxes.com

Calibration Chart - 10FT TWX 15,000 US Gallon Tank

Reference the Project Drawing if Available

Actual Capacity - 14863 US Gallons

Depth/ Niveau	US Gallons	Depth/ Niveau	US Gallons	Depth/ Niveau	US Gallons	Depth/ Niveau	US Gallons	Depth/ Niveau	US Gallons	Depth/ Niveau	US Gallons	Depth/ Niveau	US Gallons
0-1/8"	6	8-1/2"	469	16-7/8"	1270	25-1/4"	2277	33-5/8"	3432	42"	4688	50-3/8"	6009
0-1/4"	9	8-5/8"	479	17"	1283	25-3/8"	2294	33-3/4"	3450	42-1/8"	4707	50-1/2"	6029
0-3/8"	12	8-3/4"	489	17-1/8"	1297	25-1/2"	2310	33-7/8"	3468	42-1/4"	4726	50-5/8"	6049
0-1/2"	15	8-7/8"	500	17-1/4"	1311	25-5/8"	2326	34"	3486	42-3/8"	4746	50-3/4"	6069
0-5/8"	18	9"	510	17-3/8"	1325	25-3/4"	2343	34-1/8"	3504	42-1/2"	4765	50-7/8"	6089
0-3/4"	21	9-1/8"	520	17-1/2"	1338	25-7/8"	2359	34-1/4"	3522	42-5/8"	4784	51"	6110
0-7/8"	25	9-1/4"	530	17-5/8"	1352	26"	2376	34-3/8"	3540	42-3/4"	4804	51-1/8"	6130
1"	29	9-3/8"	541	17-3/4"	1366	26-1/8"	2392	34-1/2"	3559	42-7/8"	4823	51-1/4"	6150
1-1/8"	33	9-1/2"	551	17-7/8"	1380	26-1/4"	2409	34-5/8"	3577	43"	4843	51-3/8"	6170
1-1/4"	37	9-5/8"	562	18"	1394	26-3/8"	2425	34-3/4"	3595	43-1/8"	4862	51-1/2"	6190
1-3/8"	41	9-3/4"	572	18-1/8"	1409	26-1/2"	2442	34-7/8"	3613	43-1/4"	4882	51-5/8"	6210
1-1/2"	45	9-7/8"	583	18-1/4"	1423	26-5/8"	2458	35"	3632	43-3/8"	4901	51-3/4"	6230
1-5/8"	50	10"	594	18-3/8"	1437	26-3/4"	2475	35-1/8"	3650	43-1/2"	4920	51-7/8"	6250
1-3/4"	55	10-1/8"	604	18-1/2"	1451	26-7/8"	2491	35-1/4"	3668	43-5/8"	4940	52"	6270
1-7/8"	60	10-1/4"	615	18-5/8"	1465	27"	2508	35-3/8"	3687	43-3/4"	4959	52-1/8"	6291
2"	65	10-3/8"	626	18-3/4"	1480	27-1/8"	2525	35-1/2"	3705	43-7/8"	4979	52-1/4"	6311
2-1/8"	70	10-1/2"	637	18-7/8"	1494	27-1/4"	2542	35-5/8"	3724	44"	4999	52-3/8"	6331
2-1/4"	75	10-5/8"	648	19"	1508	27-3/8"	2558	35-3/4"	3742	44-1/8"	5018	52-1/2"	6351
2-3/8"	81	10-3/4"	659	19-1/8"	1523	27-1/2"	2575	35-7/8"	3761	44-1/4"	5038	52-5/8"	6371
2-1/2"	86	10-7/8"	670	19-1/4"	1537	27-5/8"	2592	36"	3779	44-3/8"	5057	52-3/4"	6391
2-5/8"	92	11"	681	19-3/8"	1552	27-3/4"	2609	36-1/8"	3798	44-1/2"	5077	52-7/8"	6411
2-3/4"	98	11-1/8"	693	19-1/2"	1567	27-7/8"	2626	36-1/4"	3816	44-5/8"	5096	53"	6432
2-7/8"	104	11-1/4"	704	19-5/8"	1581	28"	2643	36-3/8"	3835	44-3/4"	5116	53-1/8"	6452
3"	110	11-3/8"	715	19-3/4"	1596	28-1/8"	2660	36-1/2"	3853	44-7/8"	5136	53-1/4"	6472
3-1/8"	116	11-1/2"	727	19-7/8"	1610	28-1/4"	2677	36-5/8"	3872	45"	5155	53-3/8"	6492
3-1/4"	122	11-5/8"	738	20"	1625	28-3/8"	2694	36-3/4"	3890	45-1/8"	5175	53-1/2"	6512
3-3/8"	128	11-3/4"	750	20-1/8"	1640	28-1/2"	2711	36-7/8"	3909	45-1/4"	5195	53-5/8"	6533
3-1/2"	135	11-7/8"	761	20-1/4"	1655	28-5/8"	2728	37"	3928	45-3/8"	5214	53-3/4"	6553
3-5/8"	142	12"	773	20-3/8"	1670	28-3/4"	2745	37-1/8"	3946	45-1/2"	5234	53-7/8"	6573
3-3/4"	148	12-1/8"	785	20-1/2"	1684	28-7/8"	2762	37-1/4"	3965	45-5/8"	5254	54"	6593
3-7/8"	155	12-1/4"	797	20-5/8"	1699	29"	2779	37-3/8"	3984	45-3/4"	5273	54-1/8"	6613
4"	162	12-3/8"	809	20-3/4"	1714	29-1/8"	2796	37-1/2"	4002	45-7/8"	5293	54-1/4"	6634
4-1/8"	169	12-1/2"	820	20-7/8"	1729	29-1/4"	2813	37-5/8"	4021	46"	5313	54-3/8"	6654
4-1/4"	176	12-5/8"	832	21"	1744	29-3/8"	2831	37-3/4"	4040	46-1/8"	5332	54-1/2"	6674
4-3/8"	183	12-3/4"	844	21-1/8"	1760	29-1/2"	2848	37-7/8"	4059	46-1/4"	5352	54-5/8"	6694
4-1/2"	191	12-7/8"	856	21-1/4"	1775	29-5/8"	2865	38"	4077	46-3/8"	5372	54-3/4"	6715
4-5/8"	198	13"	869	21-3/8"	1790	29-3/4"	2882	38-1/8"	4096	46-1/2"	5392	54-7/8"	6735
4-3/4"	205	13-1/8"	881	21-1/2"	1805	29-7/8"	2900	38-1/4"	4115	46-5/8"	5411	55"	6755
4-7/8"	213	13-1/4"	893	21-5/8"	1820	30"	2917	38-3/8"	4134	46-3/4"	5431	55-1/8"	6775
5"	221	13-3/8"	905	21-3/4"	1835	30-1/8"	2934	38-1/2"	4153	46-7/8"	5451	55-1/4"	6796
5-1/8"	229	13-1/2"	918	21-7/8"	1851	30-1/4"	2952	38-5/8"	4172	47"	5471	55-3/8"	6816
5-1/4"	236	13-5/8"	930	22"	1866	30-3/8"	2969	38-3/4"	4190	47-1/8"	5491	55-1/2"	6836
5-3/8"	244	13-3/4"	942	22-1/8"	1882	30-1/2"	2987	38-7/8"	4209	47-1/4"	5511	55-5/8"	6856
5-1/2"	252	13-7/8"	955	22-1/4"	1897	30-5/8"	3004	39"	4228	47-3/8"	5530	55-3/4"	6877
5-5/8"	261	14"	967	22-3/8"	1912	30-3/4"	3022	39-1/8"	4247	47-1/2"	5550	55-7/8"	6897
5-3/4"	269	14-1/8"	980	22-1/2"	1928	30-7/8"	3039	39-1/4"	4266	47-5/8"	5570	56"	6917
5-7/8"	277	14-1/4"	993	22-5/8"	1943	31"	3057	39-3/8"	4285	47-3/4"	5590	56-1/8"	6937
6"	285	14-3/8"	1005	22-3/4"	1959	31-1/8"	3075	39-1/2"	4304	47-7/8"	5610	56-1/4"	6958
6-1/8"	294	14-1/2"	1018	22-7/8"	1975	31-1/4"	3092	39-5/8"	4323	48"	5630	56-3/8"	6978
6-1/4"	302	14-5/8"	1031	23"	1990	31-3/8"	3110	39-3/4"	4342	48-1/8"	5650	56-1/2"	6998
6-3/8"	311	14-3/4"	1044	23-1/8"	2006	31-1/2"	3127	39-7/8"	4361	48-1/4"	5669	56-5/8"	7019
6-1/2"	320	14-7/8"	1057	23-1/4"	2022	31-5/8"	3145	40"	4380	48-3/8"	5689	56-3/4"	7039
6-5/8"	329	15"	1070	23-3/8"	2037	31-3/4"	3163	40-1/8"	4399	48-1/2"	5709	56-7/8"	7059
6-3/4"	337	15-1/8"	1083	23-1/2"	2053	31-7/8"	3181	40-1/4"	4419	48-5/8"	5729	57"	7079
6-7/8"	346	15-1/4"	1096	23-5/8"	2069	32"	3198	40-3/8"	4438	48-3/4"	5749	57-1/8"	7100
7"	355	15-3/8"	1109	23-3/4"	2085	32-1/8"	3216	40-1/2"	4457	48-7/8"	5769	57-1/4"	7120
7-1/8"	364	15-1/2"	1122	23-7/8"	2101	32-1/4"	3234	40-5/8"	4476	49"	5789	57-3/8"	7140
7-1/4"	374	15-5/8"	1135	24"	2116	32-3/8"	3252	40-3/4"	4495	49-1/8"	5809	57-1/2"	7161
7-3/8"	383	15-3/4"	1148	24-1/8"	2132	32-1/2"	3270	40-7/8"	4514	49-1/4"	5829	57-5/8"	7181
7-1/2"	392	15-7/8"	1162	24-1/4"	2148	32-5/8"	3288	41"	4533	49-3/8"	5849	57-3/4"	7201
7-5/8"	402	16"	1175	24-3/8"	2164	32-3/4"	3305	41-1/8"	4553	49-1/2"	5869	57-7/8"	7221
7-3/4"	411	16-1/8"	1188	24-1/2"	2180	32-7/8"	3323	41-1/4"	4572	49-5/8"	5889	58"	7242
7-7/8"	421	16-1/4"	1202	24-5/8"	2197	33"	3341	41-3/8"	4591	49-3/4"	5909	58-1/8"	7262
8"	430	16-3/8"	1215	24-3/4"	2213	33-1/8"	3359	41-1/2"	4610	49-7/8"	5929	58-1/4"	7282
8-1/8"	440	16-1/2"	1229	24-7/8"	2229	33-1/4"	3377	41-5/8"	4630	50"	5949	58-3/8"	7303
8-1/4"	450	16-5/8"	1242	25"	2245	33-3/8"	3395	41-3/4"	4649	50-1/8"	5969	58-1/2"	7323
8-3/8"	460	16-3/4"	1256	25-1/8"	2261	33-1/2"	3413	41-7/8"	4668	50-1/4"	5989	58-5/8"	7343

Xerxes 10FT TWX - 15,000 US Gallons

Depth/ Niveau	US Gallons	Depth/ Niveau	US Gallons	Depth/ Niveau	US Gallons	Depth/ Niveau	US Gallons	Depth/ Niveau	US Gallons	Depth/ Niveau	US Gallons	Depth/ Niveau	US Gallons
58-3/4"	7364	67-1/2"	8780	76-1/4"	10162	85"	11473	93-3/4"	12672	102-1/2"	13706	111-1/4"	14502
58-7/8"	7384	67-5/8"	8800	76-3/8"	10181	85-1/8"	11491	93-7/8"	12688	102-5/8"	13719	111-3/8"	14511
59"	7404	67-3/4"	8820	76-1/2"	10201	85-1/4"	11509	94"	12704	102-3/4"	13732	111-1/2"	14520
59-1/8"	7424	67-7/8"	8840	76-5/8"	10220	85-3/8"	11527	94-1/8"	12720	102-7/8"	13745	111-5/8"	14529
59-1/4"	7445	68"	8860	76-3/4"	10239	85-1/2"	11545	94-1/4"	12736	103"	13759	111-3/4"	14538
59-3/8"	7465	68-1/8"	8880	76-7/8"	10258	85-5/8"	11563	94-3/8"	12752	103-1/8"	13772	111-7/8"	14546
59-1/2"	7485	68-1/4"	8900	77"	10278	85-3/4"	11581	94-1/2"	12767	103-1/4"	13785	112"	14555
59-5/8"	7506	68-3/8"	8920	77-1/8"	10297	85-7/8"	11599	94-5/8"	12783	103-3/8"	13798	112-1/8"	14564
59-3/4"	7526	68-1/2"	8940	77-1/4"	10316	86"	11617	94-3/4"	12799	103-1/2"	13811	112-1/4"	14572
59-7/8"	7546	68-5/8"	8960	77-3/8"	10335	86-1/8"	11635	94-7/8"	12815	103-5/8"	13824	112-3/8"	14581
60"	7567	68-3/4"	8980	77-1/2"	10355	86-1/4"	11652	95"	12831	103-3/4"	13836	112-1/2"	14589
60-1/8"	7587	68-7/8"	9000	77-5/8"	10374	86-3/8"	11670	95-1/8"	12846	103-7/8"	13849	112-5/8"	14597
60-1/4"	7607	69"	9020	77-3/4"	10393	86-1/2"	11688	95-1/4"	12862	104"	13862	112-3/4"	14605
60-3/8"	7627	69-1/8"	9040	77-7/8"	10412	86-5/8"	11706	95-3/8"	12878	104-1/8"	13875	112-7/8"	14614
60-1/2"	7648	69-1/4"	9060	78"	10431	86-3/4"	11723	95-1/2"	12893	104-1/4"	13887	113"	14622
60-5/8"	7668	69-3/8"	9080	78-1/8"	10450	86-7/8"	11741	95-5/8"	12909	104-3/8"	13900	113-1/8"	14630
60-3/4"	7688	69-1/2"	9100	78-1/4"	10469	87"	11759	95-3/4"	12925	104-1/2"	13912	113-1/4"	14637
60-7/8"	7709	69-5/8	9120	78-3/8"	10488	87-1/8"	11776	95-7/8"	12940	104-5/8"	13925	113-3/8"	14645
61"	7729	69-3/4"	9140	78-1/2"	10508	87-1/4"	11794	96"	12956	104-3/4"	13937	113-1/2"	14653
61-1/8"	7749	69-7/8"	9160	78-5/8"	10527	87-3/8"	11812	96-1/8"	12971	104-7/8"	13950	113-5/8"	14660
61-1/4"	7769	70"	9180	78-3/4"	10546	87-1/2"	11829	96-1/4"	12986	105"	13962	113-3/4"	14668
61-3/8"	7790	70-1/8"	9200	78-7/8"	10565	87-5/8"	11847	96-3/8"	13002	105-1/8"	13974	113-7/8"	14675
61-1/2"	7810	70-1/4"	9219	79"	10584	87-3/4"	11864	96-1/2"	13017	105-1/4"	13986	114"	14682
61-5/8"	7830	70-3/8"	9239	79-1/8"	10603	87-7/8"	11882	96-5/8"	13032	105-3/8"	13998	114-1/8"	14690
61-3/4"	7851	70-1/2"	9259	79-1/4"	10622	88"	11899	96-3/4"	13048	105-1/2"	14011	114-1/4"	14697
61-7/8"	7871	70-5/8"	9279	79-3/8"	10640	88-1/8"	11916	96-7/8"	13063	105-5/8"	14023	114-3/8"	14704
62"	7891	70-3/4"	9299	79-1/2"	10659	88-1/4"	11934	97"	13078	105-3/4"	14035	114-1/2"	14711
62-1/8"	7911	70-7/8"	9319	79-5/8"	10678	88-3/8"	11951	97-1/8"	13093	105-7/8"	14047	114-5/8"	14717
62-1/4"	7932	71"	9339	79-3/4"	10697	88-1/2"	11969	97-1/4"	13108	106"	14058	114-3/4"	14724
62-3/8"	7952	71-1/8"	9359	79-7/8"	10716	88-5/8"	11986	97-3/8"	13123	106-1/8"	14070	114-7/8"	14731
62-1/2"	7972	71-1/4"	9378	80"	10735	88-3/4"	12003	97-1/2"	13138	106-1/4"	14082	115"	14737
62-5/8"	7993	71-3/8"	9398	80-1/8"	10754	88-7/8"	12021	97-5/8"	13153	106-3/8"	14094	115-1/8"	14743
62-3/4"	8013	71-1/2"	9418	80-1/4"	10773	89"	12038	97-3/4"	13168	106-1/2"	14105	115-1/4"	14750
62-7/8"	8033	71-5/8"	9438	80-3/8"	10791	89-1/8"	12055	97-7/8"	13183	106-5/8"	14117	115-3/8"	14756
63"	8053	71-3/4"	9458	80-1/2"	10810	89-1/4"	12072	98"	13198	106-3/4"	14129	115-1/2"	14762
63-1/8"	8074	71-7/8"	9477	80-5/8"	10829	89-3/8"	12089	98-1/8"	13213	106-7/8"	14140	115-5/8"	14768
63-1/4"	8094	72"	9497	80-3/4"	10848	89-1/2"	12106	98-1/4"	13228	107"	14151	115-3/4"	14774
63-3/8"	8114	72-1/8"	9517	80-7/8"	10866	89-5/8"	12124	98-3/8"	13243	107-1/8"	14163	115-7/8"	14779
63-1/2"	8134	72-1/4"	9537	81"	10885	89-3/4"	12141	98-1/2"	13257	107-1/4"	14174	116"	14785
63-5/8"	8155	72-3/8"	9556	81-1/8"	10904	89-7/8"	12158	98-5/8"	13272	107-3/8"	14185	116-1/8"	14790
63-3/4"	8175	72-1/2"	9576	81-1/4"	10922	90"	12175	98-3/4"	13287	107-1/2"	14197	116-1/4"	14795
63-7/8"	8195	72-5/8"	9596	81-3/8"	10941	90-1/8"	12192	98-7/8"	13301	107-5/8"	14208	116-3/8"	14801
64"	8215	72-3/4"	9615	81-1/2"	10960	90-1/4"	12209	99"	13316	107-3/4"	14219	116-1/2"	14806
64-1/8"	8235	72-7/8"	9635	81-5/8"	10978	90-3/8"	12226	99-1/8"	13330	107-7/8"	14230	116-5/8"	14810
64-1/4"	8256	73"	9655	81-3/4"	10997	90-1/2"	12243	99-1/4"	13345	108"	14241	116-3/4"	14815
64-3/8"	8276	73-1/8"	9674	81-7/8"	11016	90-5/8"	12259	99-3/8"	13359	108-1/8"	14252	116-7/8"	14820
64-1/2"	8296	73-1/4"	9694	82"	11034	90-3/4"	12276	99-1/2"	13374	108-1/4"	14262	117"	14824
64-5/8"	8316	73-3/8"	9714	82-1/8"	11053	90-7/8"	12293	99-5/8"	13388	108-3/8"	14273	117-1/8"	14828
64-3/4"	8337	73-1/2"	9733	82-1/4"	11071	91"	12310	99-3/4"	13402	108-1/2"	14284	117-1/4"	14832
64-7/8"	8357	73-5/8"	9753	82-3/8"	11090	91-1/8"	12327	99-7/8"	13416	108-5/8"	14294	117-3/8"	14836
65"	8377	73-3/4"	9773	82-1/2"	11108	91-1/4"	12343	100"	13431	108-3/4"	14305	117-1/2"	14840
65-1/8"	8397	73-7/8"	9792	82-5/8"	11127	91-3/8"	12360	100-1/8"	13445	108-7/8"	14315	117-5/8"	14844
65-1/4"	8417	74"	9812	82-3/4"	11145	91-1/2"	12377	100-1/4"	13459	109"	14326	117-3/4"	14847
65-3/8"	8437	74-1/8"	9831	82-7/8"	11163	91-5/8"	12393	100-3/8"	13473	109-1/8"	14336	117-7/8"	14850
65-1/2"	8458	74-1/4"	9851	83"	11182	91-3/4"	12410	100-1/2"	13487	109-1/4"	14347	118"	14853
65-5/8"	8478	74-3/8"	9870	83-1/8"	11200	91-7/8"	12427	100-5/8"	13501	109-3/8"	14357	118-1/8"	14856
65-3/4"	8498	74-1/2"	9890	83-1/4"	11219	92"	12443	100-3/4"	13515	109-1/2"	14367	118-1/4"	14858
65-7/8"	8518	74-5/8"	9909	83-3/8"	11237	92-1/8"	12460	100-7/8"	13529	109-5/8"	14377	118-3/8"	14860
66"	8538	74-3/4"	9929	83-1/2"	11255	92-1/4"	12476	101"	13543	109-3/4"	14387	118-1/2"	14862
66-1/8"	8558	74-7/8"	9948	83-5/8"	11273	92-3/8"	12493	101-1/8"	13557	109-7/8"	14397	118-5/8"	14863
66-1/4"	8579	75"	9968	83-3/4"	11292	92-1/2"	12509	101-1/4"	13570	110"	14407		
66-3/8"	8599	75-1/8"	9987	83-7/8"	11310	92-5/8"	12525	101-3/8"	13584	110-1/8"	14417		
66-1/2"	8619	75-1/4"	10007	84"	11328	92-3/4"	12542	101-1/2"	13598	110-1/4"	14426		
66-5/8"	8639	75-3/8"	10026	84-1/8"	11346	92-7/8"	12558	101-5/8"	13612	110-3/8"	14436		
66-3/4"	8659	75-1/2"	10046	84-1/4"	11365	93"	12574	101-3/4"	13625	110-1/2"	14446		
66-7/8"	8679	75-5/8"	10065	84-3/8"	11383	93-1/8"	12591	101-7/8"	13639	110-5/8"	14455		
67"	8699	75-3/4"	10085	84-1/2"	11401	93-1/4"	12607	102"	13652	110-3/4"	14465		
67-1/8"	8719	75-7/8"	10104	84-5/8"	11419	93-3/8"	12623	102-1/8"	13666	110-7/8"	14474		
67-1/4"	8739	76"	10123	84-3/4"	11437	93-1/2"	12639	102-1/4"	13679	111"	14483		
67-3/8"	8760	76-1/8"	10143	84-7/8"	11455	93-5/8"	12655	102-3/8"	13692	111-1/8"	14493		

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Calibration Chart

20,000 Gallon - 10' Diameter Triple-Wall Tank

DIPSTICK READING	GALLONS	DIPSTICK READING	GALLONS	DIPSTICK READING	GALLONS	DIPSTICK READING	GALLONS	DIPSTICK READING	GALLONS	DIPSTICK READING	GALLONS	DIPSTICK READING	GALLONS
0-1/8"	5	8-1/2"	585	16-7/8"	1623	25-1/4"	2950	33-5/8"	4482	42"	6159	50-3/8"	7930
0-1/4"	8	8-5/8"	598	17"	1641	25-3/8"	2971	33-3/4"	4506	42-1/8"	6185	50-1/2"	7957
0-3/8"	11	8-3/4"	611	17-1/8"	1659	25-1/2"	2993	33-7/8"	4530	42-1/4"	6211	50-5/8"	7983
0-1/2"	14	8-7/8"	624	17-1/4"	1677	25-5/8"	3014	34"	4554	42-3/8"	6237	50-3/4"	8010
0-5/8"	18	9"	637	17-3/8"	1695	25-3/4"	3036	34-1/8"	4579	42-1/2"	6263	50-7/8"	8037
0-3/4"	22	9-1/8"	650	17-1/2"	1713	25-7/8"	3058	34-1/4"	4603	42-5/8"	6289	51"	8064
0-7/8"	26	9-1/4"	663	17-5/8"	1732	26"	3079	34-3/8"	4627	42-3/4"	6315	51-1/8"	8091
1"	30	9-3/8"	677	17-3/4"	1750	26-1/8"	3101	34-1/2"	4651	42-7/8"	6341	51-1/4"	8118
1-1/8"	35	9-1/2"	690	17-7/8"	1768	26-1/4"	3123	34-5/8"	4676	43"	6367	51-3/8"	8145
1-1/4"	40	9-5/8"	704	18"	1787	26-3/8"	3145	34-3/4"	4700	43-1/8"	6393	51-1/2"	8172
1-3/8"	45	9-3/4"	717	18-1/8"	1805	26-1/2"	3167	34-7/8"	4724	43-1/4"	6419	51-5/8"	8199
1-1/2"	50	9-7/8"	731	18-1/4"	1824	26-5/8"	3189	35"	4749	43-3/8"	6445	51-3/4"	8226
1-5/8"	56	10"	745	18-3/8"	1842	26-3/4"	3211	35-1/8"	4773	43-1/2"	6471	51-7/8"	8253
1-3/4"	62	10-1/8"	759	18-1/2"	1861	26-7/8"	3233	35-1/4"	4798	43-5/8"	6497	52"	8280
1-7/8"	68	10-1/4"	773	18-5/8"	1880	27"	3255	35-3/8"	4822	43-3/4"	6523	52-1/8"	8307
2"	74	10-3/8"	787	18-3/4"	1898	27-1/8"	3277	35-1/2"	4847	43-7/8"	6549	52-1/4"	8334
2-1/8"	80	10-1/2"	801	18-7/8"	1917	27-1/4"	3299	35-5/8"	4871	44"	6575	52-3/8"	8361
2-1/4"	87	10-5/8"	815	19"	1936	27-3/8"	3322	35-3/4"	4896	44-1/8"	6601	52-1/2"	8388
2-3/8"	93	10-3/4"	829	19-1/8"	1955	27-1/2"	3344	35-7/8"	4921	44-1/4"	6628	52-5/8"	8415
2-1/2"	100	10-7/8"	844	19-1/4"	1974	27-5/8"	3366	36"	4945	44-3/8"	6654	52-3/4"	8442
2-5/8"	107	11"	858	19-3/8"	1993	27-3/4"	3389	36-1/8"	4970	44-1/2"	6680	52-7/8"	8469
2-3/4"	114	11-1/8"	873	19-1/2"	2012	27-7/8"	3411	36-1/4"	4995	44-5/8"	6706	53"	8496
2-7/8"	122	11-1/4"	887	19-5/8"	2032	28"	3433	36-3/8"	5019	44-3/4"	6733	53-1/8"	8523
3"	129	11-3/8"	902	19-3/4"	2051	28-1/8"	3456	36-1/2"	5044	44-7/8"	6759	53-1/4"	8550
3-1/8"	137	11-1/2"	917	19-7/8"	2070	28-1/4"	3478	36-5/8"	5069	45"	6785	53-3/8"	8578
3-1/4"	145	11-5/8"	932	20"	2089	28-3/8"	3501	36-3/4"	5094	45-1/8"	6811	53-1/2"	8605
3-3/8"	153	11-3/4"	947	20-1/8"	2109	28-1/2"	3523	36-7/8"	5119	45-1/4"	6838	53-5/8"	8632
3-1/2"	161	11-7/8"	962	20-1/4"	2128	28-5/8"	3546	37"	5143	45-3/8"	6864	53-3/4"	8659
3-5/8"	169	12"	977	20-3/8"	2148	28-3/4"	3569	37-1/8"	5168	45-1/2"	6890	53-7/8"	8686
3-3/4"	177	12-1/8"	992	20-1/2"	2167	28-7/8"	3591	37-1/4"	5193	45-5/8"	6917	54"	8713
3-7/8"	186	12-1/4"	1007	20-5/8"	2187	29"	3614	37-3/8"	5218	45-3/4"	6943	54-1/8"	8740
4"	195	12-3/8"	1023	20-3/4"	2207	29-1/8"	3637	37-1/2"	5243	45-7/8"	6970	54-1/4"	8767
4-1/8"	203	12-1/2"	1038	20-7/8"	2227	29-1/4"	3660	37-5/8"	5268	46"	6996	54-3/8"	8794
4-1/4"	212	12-5/8"	1054	21"	2246	29-3/8"	3683	37-3/4"	5293	46-1/8"	7023	54-1/2"	8822
4-3/8"	221	12-3/4"	1069	21-1/8"	2266	29-1/2"	3706	37-7/8"	5318	46-1/4"	7049	54-5/8"	8849
4-1/2"	230	12-7/8"	1085	21-1/4"	2286	29-5/8"	3729	38"	5343	46-3/8"	7075	54-3/4"	8876
4-5/8"	240	13"	1100	21-3/8"	2306	29-3/4"	3752	38-1/8"	5369	46-1/2"	7102	54-7/8"	8903
4-3/4"	249	13-1/8"	1116	21-1/2"	2326	29-7/8"	3775	38-1/4"	5394	46-5/8"	7128	55"	8930
4-7/8"	259	13-1/4"	1132	21-5/8"	2346	30"	3798	38-3/8"	5419	46-3/4"	7155	55-1/8"	8957
5"	269	13-3/8"	1148	21-3/4"	2366	30-1/8"	3821	38-1/2"	5444	46-7/8"	7181	55-1/4"	8985
5-1/8"	278	13-1/2"	1164	21-7/8"	2386	30-1/4"	3844	38-5/8"	5469	47"	7208	55-3/8"	9012
5-1/4"	288	13-5/8"	1180	22"	2407	30-3/8"	3867	38-3/4"	5495	47-1/8"	7235	55-1/2"	9039
5-3/8"	298	13-3/4"	1196	22-1/8"	2427	30-1/2"	3890	38-7/8"	5520	47-1/4"	7261	55-5/8"	9066
5-1/2"	308	13-7/8"	1213	22-1/4"	2447	30-5/8"	3914	39"	5545	47-3/8"	7288	55-3/4"	9093
5-5/8"	319	14"	1229	22-3/8"	2468	30-3/4"	3937	39-1/8"	5570	47-1/2"	7314	55-7/8"	9121
5-3/4"	329	14-1/8"	1245	22-1/2"	2488	30-7/8"	3960	39-1/4"	5596	47-5/8"	7341	56"	9148
5-7/8"	340	14-1/4"	1262	22-5/8"	2508	31"	3983	39-3/8"	5621	47-3/4"	7368	56-1/8"	9175
6"	350	14-3/8"	1278	22-3/4"	2529	31-1/8"	4007	39-1/2"	5646	47-7/8"	7394	56-1/4"	9202
6-1/8"	361	14-1/2"	1295	22-7/8"	2550	31-1/4"	4030	39-5/8"	5672	48"	7421	56-3/8"	9229
6-1/4"	372	14-5/8"	1312	23"	2570	31-3/8"	4054	39-3/4"	5697	48-1/8"	7448	56-1/2"	9257
6-3/8"	383	14-3/4"	1328	23-1/8"	2591	31-1/2"	4077	39-7/8"	5723	48-1/4"	7474	56-5/8"	9284
6-1/2"	394	14-7/8"	1345	23-1/4"	2612	31-5/8"	4101	40"	5748	48-3/8"	7501	56-3/4"	9311
6-5/8"	405	15"	1362	23-3/8"	2632	31-3/4"	4124	40-1/8"	5774	48-1/2"	7528	56-7/8"	9338
6-3/4"	416	15-1/8"	1379	23-1/2"	2653	31-7/8"	4148	40-1/4"	5799	48-5/8"	7554	57"	9365
6-7/8"	428	15-1/4"	1396	23-5/8"	2674	32"	4172	40-3/8"	5825	48-3/4"	7581	57-1/8"	9393
7"	439	15-3/8"	1413	23-3/4"	2695	32-1/8"	4195	40-1/2"	5850	48-7/8"	7608	57-1/4"	9420
7-1/8"	451	15-1/2"	1430	23-7/8"	2716	32-1/4"	4219	40-5/8"	5876	49"	7635	57-3/8"	9447
7-1/4"	463	15-5/8"	1447	24"	2737	32-3/8"	4243	40-3/4"	5902	49-1/8"	7661	57-1/2"	9474
7-3/8"	474	15-3/4"	1465	24-1/8"	2758	32-1/2"	4266	40-7/8"	5927	49-1/4"	7688	57-5/8"	9502
7-1/2"	486	15-7/8"	1482	24-1/4"	2779	32-5/8"	4290	41"	5953	49-3/8"	7715	57-3/4"	9529
7-5/8"	498	16"	1499	24-3/8"	2800	32-3/4"	4314	41-1/8"	5979	49-1/2"	7742	57-7/8"	9556
7-3/4"	510	16-1/8"	1517	24-1/2"	2821	32-7/8"	4338	41-1/4"	6004	49-5/8"	7769	58"	9583
7-7/8"	523	16-1/4"	1534	24-5/8"	2843	33"	4362	41-3/8"	6030	49-3/4"	7795	58-1/8"	9610
8"	535	16-3/8"	1552	24-3/4"	2864	33-1/8"	4386	41-1/2"	6056	49-7/8"	7822	58-1/4"	9638
8-1/8"	547	16-1/2"	1570	24-7/8"	2885	33-1/4"	4410	41-5/8"	6082	50"	7849	58-3/8"	9665
8-1/4"	560	16-5/8"	1587	25"	2907	33-3/8"	4434	41-3/4"	6107	50-1/8"	7876	58-1/2"	9692
8-3/8"	573	16-3/4"	1605	25-1/8"	2928	33-1/2"	4458	41-7/8"	6133	50-1/4"	7903	58-5/8"	9719

XERXES CORPORATION 20,000 Gallon - 10' Diameter Triple-Wall Tank

DIPSTICK READING	GALLONS	DIPSTICK READING	GALLONS	DIPSTICK READING	GALLONS	DIPSTICK READING	GALLONS	DIPSTICK READING	GALLONS	DIPSTICK READING	GALLONS	DIPSTICK READING	GALLONS
58-3/4"	9747	67-1/2"	11646	76-1/4"	13495	85"	15242	93-3/4"	16825	102-1/2"	18173	111-1/4"	19183
58-7/8"	9774	67-5/8"	11673	76-3/8"	13521	85-1/8"	15266	93-7/8"	16846	102-5/8"	18190	111-3/8"	19194
59"	9801	67-3/4"	11700	76-1/2"	13547	85-1/4"	15289	94"	16867	102-3/4"	18207	111-1/2"	19205
59-1/8"	9828	67-7/8"	11727	76-5/8"	13573	85-3/8"	15313	94-1/8"	16888	102-7/8"	18224	111-5/8"	19216
59-1/4"	9856	68"	11753	76-3/4"	13599	85-1/2"	15337	94-1/4"	16909	103"	18241	111-3/4"	19227
59-3/8"	9883	68-1/8"	11780	76-7/8"	13624	85-5/8"	15361	94-3/8"	16930	103-1/8"	18258	111-7/8"	19237
59-1/2"	9910	68-1/4"	11807	77"	13650	85-3/4"	15385	94-1/2"	16951	103-1/4"	18275	112"	19248
59-5/8"	9937	68-3/8"	11834	77-1/8"	13676	85-7/8"	15408	94-5/8"	16971	103-3/8"	18291	112-1/8"	19258
59-3/4"	9965	68-1/2"	11861	77-1/4"	13701	86"	15432	94-3/4"	16992	103-1/2"	18308	112-1/4"	19269
59-7/8"	9992	68-5/8"	11888	77-3/8"	13727	86-1/8"	15456	94-7/8"	17013	103-5/8"	18325	112-3/8"	19279
60"	10019	68-3/4"	11914	77-1/2"	13753	86-1/4"	15479	95"	17034	103-3/4"	18341	112-1/2"	19289
60-1/8"	10046	68-7/8"	11941	77-5/8"	13778	86-3/8"	15503	95-1/8"	17054	103-7/8"	18357	112-5/8"	19299
60-1/4"	10074	69"	11968	77-3/4"	13804	86-1/2"	15526	95-1/4"	17075	104"	18374	112-3/4"	19309
60-3/8"	10101	69-1/8"	11995	77-7/8"	13829	86-5/8"	15550	95-3/8"	17095	104-1/8"	18390	112-7/8"	19319
60-1/2"	10128	69-1/4"	12021	78"	13855	86-3/4"	15573	95-1/2"	17116	104-1/4"	18406	113"	19329
60-5/8"	10155	69-3/8"	12048	78-1/8"	13880	86-7/8"	15597	95-5/8"	17136	104-3/8"	18422	113-1/8"	19338
60-3/4"	10183	69-1/2"	12075	78-1/4"	13906	87"	15620	95-3/4"	17157	104-1/2"	18438	113-1/4"	19348
60-7/8"	10210	69-5/8	12102	78-3/8"	13931	87-1/8"	15644	95-7/8"	17177	104-5/8"	18454	113-3/8"	19357
61"	10237	69-3/4"	12128	78-1/2"	13957	87-1/4"	15667	96"	17197	104-3/4"	18470	113-1/2"	19366
61-1/8"	10264	69-7/8"	12155	78-5/8"	13982	87-3/8"	15690	96-1/8"	17217	104-7/8"	18486	113-5/8"	19375
61-1/4"	10291	70"	12182	78-3/4"	14007	87-1/2"	15713	96-1/4"	17238	105"	18502	113-3/4"	19384
61-3/8"	10319	70-1/8"	12208	78-7/8"	14033	87-5/8"	15737	96-3/8"	17258	105-1/8"	18518	113-7/8"	19393
61-1/2"	10346	70-1/4"	12235	79"	14058	87-3/4"	15760	96-1/2"	17278	105-1/4"	18533	114"	19401
61-5/8"	10373	70-3/8"	12262	79-1/8"	14083	87-7/8"	15783	96-5/8"	17298	105-3/8"	18549	114-1/8"	19410
61-3/4"	10400	70-1/2"	12288	79-1/4"	14109	88"	15806	96-3/4"	17318	105-1/2"	18564	114-1/4"	19418
61-7/8"	10427	70-5/8"	12315	79-3/8"	14134	88-1/8"	15829	96-7/8"	17338	105-5/8"	18580	114-3/8"	19426
62"	10455	70-3/4"	12342	79-1/2"	14159	88-1/4"	15852	97"	17357	105-3/4"	18595	114-1/2"	19434
62-1/8"	10482	70-7/8"	12368	79-5/8"	14184	88-3/8"	15875	97-1/8"	17377	105-7/8"	18610	114-5/8"	19442
62-1/4"	10509	71"	12395	79-3/4"	14209	88-1/2"	15898	97-1/4"	17397	106"	18625	114-3/4"	19450
62-3/8"	10536	71-1/8"	12421	79-7/8"	14235	88-5/8"	15921	97-3/8"	17417	106-1/8"	18640	114-7/8"	19457
62-1/2"	10563	71-1/4"	12448	80"	14260	88-3/4"	15944	97-1/2"	17436	106-1/4"	18655	115"	19465
62-5/8"	10591	71-3/8"	12474	80-1/8"	14285	88-7/8"	15967	97-5/8"	17456	106-3/8"	18670	115-1/8"	19472
62-3/4"	10618	71-1/2"	12501	80-1/4"	14310	89"	15989	97-3/4"	17475	106-1/2"	18685	115-1/4"	19479
62-7/8"	10645	71-5/8"	12527	80-3/8"	14335	89-1/8"	16012	97-7/8"	17495	106-5/8"	18700	115-3/8"	19486
63"	10672	71-3/4"	12554	80-1/2"	14360	89-1/4"	16035	98"	17514	106-3/4"	18714	115-1/2"	19493
63-1/8"	10699	71-7/8"	12580	80-5/8"	14385	89-3/8"	16058	98-1/8"	17534	106-7/8"	18729	115-5/8"	19499
63-1/4"	10726	72"	12607	80-3/4"	14410	89-1/2"	16080	98-1/4"	17553	107"	18744	115-3/4"	19506
63-3/8"	10754	72-1/8"	12633	80-7/8"	14435	89-5/8"	16103	98-3/8"	17572	107-1/8"	18758	115-7/8"	19512
63-1/2"	10781	72-1/4"	12659	81"	14460	89-3/4"	16125	98-1/2"	17591	107-1/4"	18772	116"	19518
63-5/8"	10808	72-3/8"	12686	81-1/8"	14485	89-7/8"	16148	98-5/8"	17610	107-3/8"	18787	116-1/8"	19523
63-3/4"	10835	72-1/2"	12712	81-1/4"	14510	90"	16170	98-3/4"	17629	107-1/2"	18801	116-1/4"	19529
63-7/8"	10862	72-5/8"	12739	81-3/8"	14534	90-1/8"	16193	98-7/8"	17648	107-5/8"	18815	116-3/8"	19534
64"	10889	72-3/4"	12765	81-1/2"	14559	90-1/4"	16215	99"	17667	107-3/4"	18829	116-1/2"	19540
64-1/8"	10916	72-7/8"	12791	81-5/8"	14584	90-3/8"	16238	99-1/8"	17686	107-7/8"	18843	116-5/8"	19545
64-1/4"	10944	73"	12818	81-3/4"	14609	90-1/2"	16260	99-1/4"	17705	108"	18856	116-3/4"	19549
64-3/8"	10971	73-1/8"	12844	81-7/8"	14633	90-5/8"	16282	99-3/8"	17724	108-1/8"	18870	116-7/8"	19554
64-1/2"	10998	73-1/4"	12870	82"	14658	90-3/4"	16304	99-1/2"	17743	108-1/4"	18884	117"	19558
64-5/8"	11025	73-3/8"	12896	82-1/8"	14683	90-7/8"	16327	99-5/8"	17761	108-3/8"	18897	117-1/8"	19562
64-3/4"	11052	73-1/2"	12923	82-1/4"	14707	91"	16349	99-3/4"	17780	108-1/2"	18911	117-1/4"	19565
64-7/8"	11079	73-5/8"	12949	82-3/8"	14732	91-1/8"	16371	99-7/8"	17798	108-5/8"	18924	117-3/8"	19568
65"	11106	73-3/4"	12975	82-1/2"	14757	91-1/4"	16393	100"	17817	108-3/4"	18937	117-1/2"	19571
65-1/8"	11133	73-7/8"	13001	82-5/8"	14781	91-3/8"	16415	100-1/8"	17835	108-7/8"	18951	117-5/8"	19574
65-1/4"	11160	74"	13028	82-3/4"	14806	91-1/2"	16437	100-1/4"	17854	109"	18964	117-3/4"	19576
65-3/8"	11187	74-1/8"	13054	82-7/8"	14830	91-5/8"	16459	100-3/8"	17872	109-1/8"	18977		
65-1/2"	11214	74-1/4"	13080	83"	14855	91-3/4"	16481	100-1/2"	17890	109-1/4"	18990		
65-5/8"	11241	74-3/8"	13106	83-1/8"	14879	91-7/8"	16503	100-5/8"	17908	109-3/8"	19002		
65-3/4"	11268	74-1/2"	13132	83-1/4"	14903	92"	16524	100-3/4"	17926	109-1/2"	19015		
65-7/8"	11295	74-5/8"	13158	83-3/8"	14928	92-1/8"	16546	100-7/8"	17944	109-5/8"	19028		
66"	11322	74-3/4"	13184	83-1/2"	14952	92-1/4"	16568	101"	17962	109-3/4"	19040		
66-1/8"	11349	74-7/8"	13210	83-5/8"	14976	92-3/8"	16589	101-1/8"	17980	109-7/8"	19053		
66-1/4"	11376	75"	13236	83-3/4"	15001	92-1/2"	16611	101-1/4"	17998	110"	19065		
66-3/8"	11403	75-1/8"	13262	83-7/8"	15025	92-5/8"	16633	101-3/8"	18016	110-1/8"	19077		
66-1/2"	11430	75-1/4"	13288	84"	15049	92-3/4"	16654	101-1/2"	18034	110-1/4"	19089		
66-5/8"	11457	75-3/8"	13314	84-1/8"	15073	92-7/8"	16676	101-5/8"	18051	110-3/8"	19101		
66-3/4"	11484	75-1/2"	13340	84-1/4"	15097	93"	16697	101-3/4"	18069	110-1/2"	19113		
66-7/8"	11511	75-5/8"	13366	84-3/8"	15122	93-1/8"	16718	101-7/8"	18086	110-5/8"	19125		
67"	11538	75-3/4"	13392	84-1/2"	15146	93-1/4"	16740	102"	18104	110-3/4"	19137		
67-1/8"	11565	75-7/8"	13418	84-5/8"	15170	93-3/8"	16761	102-1/8"	18121	110-7/8"	19148		
67-1/4"	11592	76"	13444	84-3/4"	15194	93-1/2"	16782	102-1/4"	18138	111"	19160		
67-3/8"	11619	76-1/8"	13470	84-7/8"	15218	93-5/8"	16804	102-3/8"	18156	111-1/8"	19171	x1020tw.10-12	

ZCL | XERXES®
making a lasting difference®

Fiberglass Underground Storage Tanks

ZCL | XERXES
RELIABLE, CORROSION-RESISTANT TANKS

OVER **200,000** FIBERGLASS STORAGE TANKS MANUFACTURED AND SHIPPED IN NORTH AMERICA

A history of **innovation** in the **fuel industry**

When ZCL Composites Inc. and Xerxes Corporation joined in 2007, it brought together North America's two leading fiberglass tank brands: ZCL (founded in 1987) and Xerxes (founded in 1979). Today, ZCL | Xerxes is one of the world's leading innovators in composite tank engineering. Nearly 40 years of manufacturing experience and more than 200,000 tanks manufactured and shipped stand as proof of the reliability and quality of our products.

This solid track record provides our customers with peace of mind, which is why petroleum equipment distributors, fuel marketers and commercial accounts rely on our double-wall tanks for safe underground storage of fuel products. We have provided customers with durable and sustainable products that protect the environment for decades. Our proven track record along with our financial strength assures customers that we will be around to support our industry-leading products and warranties. Currently, 29 of the 30 top c-store marketers[1] choose E15-, E85- and ULSD-compatible, corrosion-resistant fiberglass storage tanks from industry leaders like ZCL | Xerxes.

1 CSP's Convenience Top 101, http://www.cspdailynews.com/industry-news-analysis/top-convenience-stores/archive/2015

Our history of **storage solutions** includes:

- developing the first UL-listed double-wall fiberglass tank
- incorporating our factory-installed hydrostatic monitoring system (TRUCHEK®)
- incorporating our unique 3D glass fabric (Parabeam®) into our tank design

WHY CHOOSE A FIBERGLASS TANK?

Best Product Investment

Fiberglass tanks have rapidly grown in popularity since they were first introduced more than 50 years ago as the corrosion-resistant alternative to underground steel tanks that were rusting, leaking and creating serious environmental damage. Major oil companies and large fuel marketers were the first to realize the benefits of fiberglass over steel for underground tanks. Today, a large majority of North American fuel marketers choose fiberglass, and the preference for fiberglass reaches all segments of the market, including industrial, commercial and government accounts who specify, install and own underground storage tanks. The growing understanding of fiberglass' benefits goes well beyond external corrosion protection with the recognition that fiberglass is corrosion-resistant, both inside and out.

FIBERGLASS OUTPERFORMS STEEL

CORROSION RESISTANCE

It's now common knowledge that fiberglass tanks are protected from external rusting due to corrosive soil environments. Today, the widespread use of ethanol-blended gasoline (E10, E15, E85), biodiesel fuels and ultra-low sulfur diesel (ULSD) has shifted the concern about corrosion to include internal protection. Most significantly, new ethanol-blended fuels raise questions about the compatibility of storage tank materials with stored fuel. When today's buyers compare fiberglass and steel tanks they see the clear advantage of our fiberglass tanks, which are not vulnerable to aggressive internal corrosion caused by storage of today's biofuels. The fact that fiberglass tanks are corrosion-resistant both inside and out give them a distinct advantage over steel tanks.

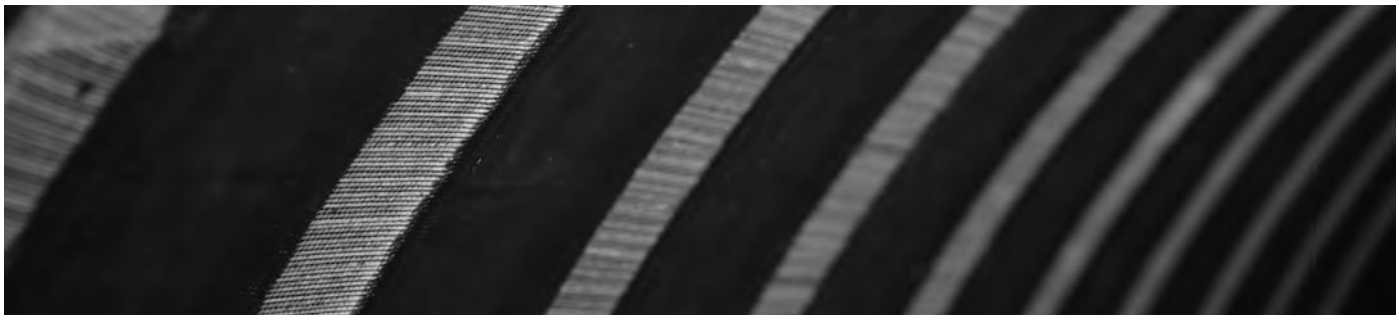
FUEL COMPATIBILITY

Customers today want to be confident that they are choosing a tank material that is compatible with the new fuels as well as traditional fuels. Our UL-listed (1316) and ULC-listed (S615) double-wall fiberglass tanks are UL-compatible with 0-100 percent ethanol storage. They are also warranted for the full range of ethanol-blended gasoline. The correlating UL listing (58) for steel fuel tanks does not require testing for ethanol compatibility. This third-party compatibility verification for fiberglass tanks – that steel tanks do not have – makes fiberglass the clear and superior choice for fuel tanks.

OUR FIBERGLASS TANKS PROVIDE UNMATCHED BENEFITS

The ZCL | Xerxes Advantage

ZCL | Xerxes double-wall underground storage tanks offer customers several significant design and performance differences that make them a superior choice to both steel tanks and other fiberglass tanks.



RIB DESIGN FOR STRUCTURAL INTEGRITY

As engineers, system designers and customers compare products, the rib geometry of our tanks is an important consideration in their analysis. Our uniform, high-profile ribs are fabricated directly into the tank cylinder. In some other tanks, ribs are incorporated as a separate step in the manufacturing process. Integrally constructed ribs increase the overall strength of the tank and create a structurally superior product.

30-YEAR WARRANTY

ZCL | Xerxes offers a 30-year limited warranty with no restrictions regarding water-bottom monitoring and removal. In contrast, many steel tank manufacturers now have a 10-year rather than 30-year warranty, and make ongoing maintenance and water-bottom removal a condition of warranty coverage.

PARABEAM®

Our proprietary 3D glass fabric, Parabeam®, also enhances the overall structural integrity of our tank by creating a bond between the tank walls, while providing a free-flowing interstitial space for monitoring capabilities. This technology also eliminates the potential for false alarms (created by fluctuating reservoir levels) that can occur in other hydrostatically monitored tanks.

MAINTENANCE-FREE

The presence of water in the bottom of fuel tanks is a common condition. Maintenance to remove it can be frequent and expensive. The requirement to do so, which is found in most steel-tank warranties, can leave a steel-tank owner vulnerable to a denied warranty claim should the tank corrode internally.

TRUCHEK® CONTINUOUS LEAK DETECTION

Our patented TRUCHEK® hydrostatic tank monitoring system for double-wall tanks is an easy, reliable method for true continuous leak detection and tank-tightness testing. Hydrostatic monitoring – now the industry standard for continuous monitoring – gives tank owners greater peace of mind than with a simple liquid sensor, which can fail to detect an outer-wall breach. (See p. 10 for more information.)

ZCL | XERXES
STORAGE TANK SOLUTIONS

Today, double-wall tanks are the industry standard in fuel applications. To meet the needs of our customers we also offer several other fiberglass tank options for a variety of applications and requirements. Our tank options include: double-wall tanks, multicompartment tanks, triple-wall tanks, diesel exhaust fluid tanks and oil-water separators. We also have a tank upgrade system when tank replacement is not viable.

DOUBLE-WALL TANKS

Tank owners and system designers of underground fuel systems need tanks that provide secure storage of fuel over time. ZCL | Xerxes fiberglass double-wall tanks are an excellent solution because they are corrosion-resistant, both inside and out. Our tanks have a proven record of compatibility with traditional petroleum fuel as well as with new biofuels, which are increasing in use. Our double-wall fiberglass tanks are not vulnerable to the corrosion problems inherent in storing ethanol-blended fuels (E10, E15, E85), biodiesel fuels and ultra-low sulfur diesel (ULSD). Nor are they vulnerable to rust caused by corrosive soil environments. Options such as protective coatings and cathodic protection don't guard entirely against external corrosion and rust. This makes ZCL | Xerxes fiberglass double-wall tanks a superior choice for a wider range of fuel applications.

FEATURES

- UL-listed (1316) & ULC-listed (S615) for alcohol fuels
- Secondary containment around full tank circumference
- Dry & hydrostatic monitoring options
- Capacities up to 50,000 gal. (USA)
- Capacities up to 155,000 L (Canada)

MULTICOMPARTMENT TANKS

These tanks are a popular choice among retail gasoline marketers and fleet fueling owners. The ability to store two or three grades or types of fuel in a single tank is particularly appealing when the amount of onsite space makes multiple tanks impossible or difficult. Customers may also find installation and insurance cost savings with a multicompartment tank.

The ZCL | Xerxes double-wall multicompartment tank comes standard with a double-wall bulkhead, while some other tank manufacturers require an upgrade to a double-wall bulkhead. Tanks are available in a wide range of capacities and in diameters of 6 to 10 feet.

FEATURES

- UL-Listed (1316) & ULC-listed (S615) for alcohol fuels
- Secondary containment around full tank circumference
- Dry & hydrostatic monitoring options
- Two- & three-compartment models
- Capacities up to 40,000 gal. (USA)
- Capacities up to 155,000 L (Canada)

TRIPLE-WALL TANKS

Some customers and regulatory agencies now require protection beyond secondary containment. Site conditions that could lead to a requirement for tertiary containment are the following: the presence of sensitive groundwater aquifers, lakes or streams. Our UL-listed triple-wall tank, with an additional Parabeam® interstice, is the innovative and cost-effective answer for this level of containment.

FEATURES

- UL-listed (1316) for alcohol fuels
- Tertiary containment around full tank circumference
- Dry & hydrostatic monitoring options
- Capacities up to 50,000 gal. (USA)
- Capacities up to 155,000 L (Canada)

DIESEL EXHAUST FLUID TANKS

ZCL | Xerxes has become a leading provider of diesel exhaust fluid (DEF) tanks in truck stops and vehicle fleet fuel facilities in the relatively short time DEF has been in demand in North America. Many fueling facilities now need to add bulk storage of DEF to meet the growing number of vehicles with diesel engines that require diesel exhaust fluid. A fiberglass underground storage tank has a number of benefits over the alternatives.

Since DEF cannot be exposed to carbon steel, a tank constructed of fiberglass is the clear choice. Using our fiberglass underground tank avoids the need for protective coatings or linings to protect the integrity of the product.

Underground storage of DEF has clear advantages over aboveground storage, in part because of the product's specific temperature requirements. An underground DEF tank also allows for storage of larger capacities than an aboveground tank and avoids an unsightly, space-consuming aboveground installation.

FEATURES

- Single-wall & double-wall models
- UL label available for future product storage flexibility
- Extensive third-party compatibility testing
- Capacities up to 50,000 gal. (USA)
- Capacities up to 155,000 L (Canada)

OIL-WATER SEPARATORS

With a fiberglass underground tank at the heart of the design, a ZCL | Xerxes oil-water separator incorporates unique refinements within the vessel to create a separator that removes free-floating oils and settleable solids from oil-water mixtures.

A properly sized coalescer is designed to produce effluent quality acceptable to most regulatory requirements for water runoff. Our oil-water separator is an excellent choice for managing water runoff from parking lots or equipment washdown stations.

This product is also available as a UL-listed (2215) and ULC-listed (S656) model.

FEATURES

- UL-listed (2215) & ULC-listed (S656) models available
- Single-wall & double-wall models
- Flexible design options
- Coalescer & gravity-flow models available
- Capacities up to 30,000 gal. (USA)
- Capacities up to 113,000 L (Canada)

ZCL | XERXES
STORAGE TANK SOLUTIONS

TANK UPGRADE SYSTEM

In a growing number of situations, secondary containment needs to be added to single-wall tanks, and site challenges make removal of existing tanks either cost-prohibitive or difficult. In instances where tanks are covered or surrounded by buildings, roads or rail lines, adding secondary containment to a single-wall fiberglass or steel tank can be accomplished with our Phoenix System®.

This upgrade system consists of two corrosion-resistant laminates with the proprietary Parabeam® glass fabric between the laminates creating an interstitial space. The interstice can be either dry or hydrostatically monitored. The Phoenix System®, applied onsite by trained installers, is compatible with biofuels, including ethanol-blended fuels and biodiesels.

FEATURES

- ULC/ORD-listed (C58)
- Corrosion-resistant fiberglass system
- Viable alternative in difficult tank replacement situations
- Suitable for both fiberglass & steel tanks

ZCL | XERXES
FUEL TANK ACCESSORIES

Your Complete Solution

Today's retail and commercial fueling facilities are sophisticated systems that are installed in a highly regulated environment. While the storage tank is the critical component in an underground fuel system, other important accessories are necessary to provide spill containment, tank anchoring, secondary pipe-drain collection, leak detection and other important functions. ZCL | Xerxes engineers have designed innovative, complementary products that provide system designers and installers with cost-effective, easy-to-install accessories. Very few tank manufacturers provide the wide range of accessories that we can supply. This is yet another example of how our innovative spirit benefits customers.

Installation & Technical Support

ZCL | Xerxes provides a comprehensive Installation Manual and Operating Guidelines (IMOG) document that outlines the proper – yet easy – steps necessary for a successful installation.

LEARN MORE ONLINE

Search our online database (zcl.com) for hundreds of resources for our fuel tanks and accessories, including:

- a pdf version of the Installation Manual
- a video of our Installation Manual
- technical drawings (available in CAD, DWG & BIM)
- guide specifications
- typical installation drawings

CONTAINMENT SUMPS AND COLLARS

Sumps and collars are common accessories found on virtually all double-wall tanks installed today. ZCL | Xerxes offers factory-installed containment collars that provide secondary containment around tank fittings and manways.

Designed to be a custom-match to the collar, our containment sump comes in a variety of models and sizes, all engineered to accommodate different customer preferences and needs. Our sumps and collars are also available in double-wall models, which are growing in popularity given changes to tank regulations.

FEATURES

- Flat-sided & round models for various piping layouts
- Watertight or friction-fit cover & open top options
- Diameters of 42 & 48 inches
- Heights of 36-72 inches
- Field-adjustable heights
- Custom options

ANCHORING SYSTEM

Site-specific installation conditions generally dictate whether a tank-anchoring system is necessary. Some customers choose to anchor all their tanks.

ZCL | Xerxes offers a complete tank-anchoring system, including reinforced precast concrete deadmen (designed to American Concrete Institute standards), fiberglass anchoring straps and galvanized turnbuckles.

Each component is engineered to specific tank sizes and for ease of installation. In most cases, concrete deadmen can be delivered on the same trailer as the tank, which minimizes the shipping cost and assures that deadmen are ready when the tank is set.

FEATURES

- Deadmen sizes for tank diameters 6-12 feet
- Corrosion-resistant anchor straps
- Optional man-out-of-hole straps available
- Galvanized turnbuckles

TRUCHEK® CONTINUOUS MONITORING

TRUCHEK® is the ideal solution to the growing regulatory interest in leak-detection methods that provide true continuous leak detection. Unlike dry interstitial monitoring methods, TRUCHEK® is able to monitor both walls of a tank 24/7 in all installation conditions.

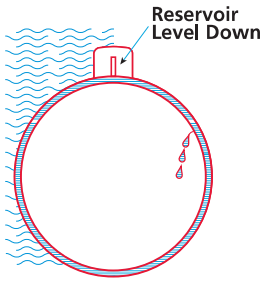
When you order our double-wall tank with the TRUCHEK® option, the interstice is filled at the factory with a calcium-chloride fluid that also partially fills a reservoir, creating an interstitial hydrostatic pressure. An electronic probe placed in the tank's reservoir alarms when the fluid level falls below or rises above the acceptable level.

FEATURES

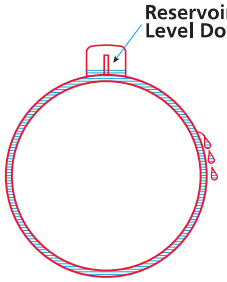
- 24/7 continuous tank monitoring regardless of installation conditions
- UL-verified as meeting the EPA criteria for tank-tightness testing
- Designed for dry-hole & wet-hole installations

How TRUCHEK® Works

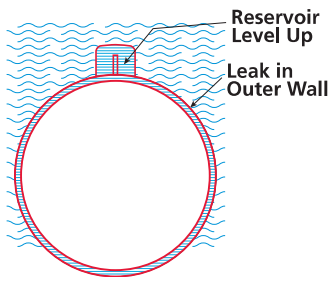
Primary-Tank Leak in Wet Hole or Dry Hole



Secondary-Tank Leak in Dry Hole



Secondary-Tank Leak in Wet Hole



TANK-TIGHTNESS TESTING

Besides providing true continuous monitoring of both tank walls – regardless of site conditions – TRUCHEK® also provides a simple and precise method to perform tank-tightness tests. A 10-hour tightness-test procedure meets the strict NFPA329 criteria. A 4-hour test (while product is dispensing) exceeds EPA's criteria for a tank-tightness test.

ZCL | Xerxes

Underground Double-Wall Tank Data

	Nominal Capacity (gallons)	Tank Length (feet/inches)	Nominal Shipping Weights (lbs) (dry interstitial)	Nominal Shipping Weights (lbs) (wet interstitial)	Number of Anchor Straps Required	Nominal Capacity (liters)	Tank Length (mm)	Nominal Shipping Weights(Kg) (dry interstitial)	Nominal Shipping Weights (Kg) (wet interstitial)	Number of Anchor Straps Required
4′	600	7′-3 1/2″	900	1,100	2	2,500	2,303	400	500	2
	1,000	11′-7 1/2″	1,100	1,300	2	3,900	3,395	500	600	2
	2,000	22′ -3 5/8″	2,800	3,400	2	5,000	4,380	600	700	2
6′	2,500	13′-5 3/4″	2,200	2,800	2	10,000	4,520	900	1,100	2
	3,000	16′-4 1/4″	2,600	3,300	2	15,000	6,604	1,300	1,600	4
	4,000	20′-8″	3,600	4,400	2	20,000	8,465	1,700	2,000	4
	5,000	26′-5″	4,300	5,200	4	25,000	10,420	2,200	2,500	4
	6,000	30′-8 3/4″	5,000	6,100	4					
8′	4,000	15′- 1/2″	2,700	3,600	2	15,000	3,994	900	1,100	2
	5,000	17′-8 1/2″	3,200	4,200	2	20,000	5,137	1,200	1,500	2
	6,000	20′-6 1/2″	3,700	4,900	2	25,000	6,090	1,400	1,700	2
	8,000	26′- 1/2″	4,800	6,200	4	30,000	7,264	1,700	2,100	4
	10,000	31′-6 1/2″	5,900	7,500	4	35,000	8,185	2,000	2,300	4
	12,000	37′- 1/2″	7,000	8,800	4	40,000	9,392	2,300	2,700	4
	15,000	46′- 9″	9,100	11,200	6	45,000	10,363	2,500	3,000	4
						50,000	11,328	2,700	3,200	4
						60,000	13,500	3,400	3,900	6
						65,000	14,522	3,700	4,300	6
10′	10,000	21′-5 1/4″	4,900	6,400	4	50,000	7,449	2,900	3,300	4
	12,000	24′- 1/4″	5,600	7,200	4	55,000	8,280	3,200	3,600	4
	15,000	29′-5 3/4″	7,000	8,900	4	60,000	8,827	3,300	3,800	5
	20,000	37′-8 3/4″	9,000	11,300	6	65,000	9,576	3,600	4,200	5
	25,000	47′-6 3/4″	11,800	14,600	8	70,000	10,395	3,900	4,500	6
	30,000	55′-9 3/4″	14,000	17,200	10	75,000	10,903	4,100	4,700	6
	35,000	64′- 3/4″	16,500	20,100	12	80,000	11,582	4,400	4,900	6
	40,000	73′-8 1/4″	19,000	23,100	14	85,000	12,268	4,700	5,300	7
						90,000	13,068	5,000	5,600	7
						100,000	14,345	5,400	6,100	8
						110,000	15,723	5,900	6,700	9
12′	20,000	29′ -4″	14,000	16,700	6					
	25,000	35′ -7″	16,600	19,700	8					
	30,000	43′ -1″	19,900	23,500	10					
	35,000	49′ -4″	22,500	26,500	12					
	40,000	54′ -4″	24,600	28,900	12					
	45,000	60′ -7″	27,400	32,100	16					
	48,000	65′ -7″	29,500	34,500	18					
	50,000	68′ -1″	30,500	35,700	18					

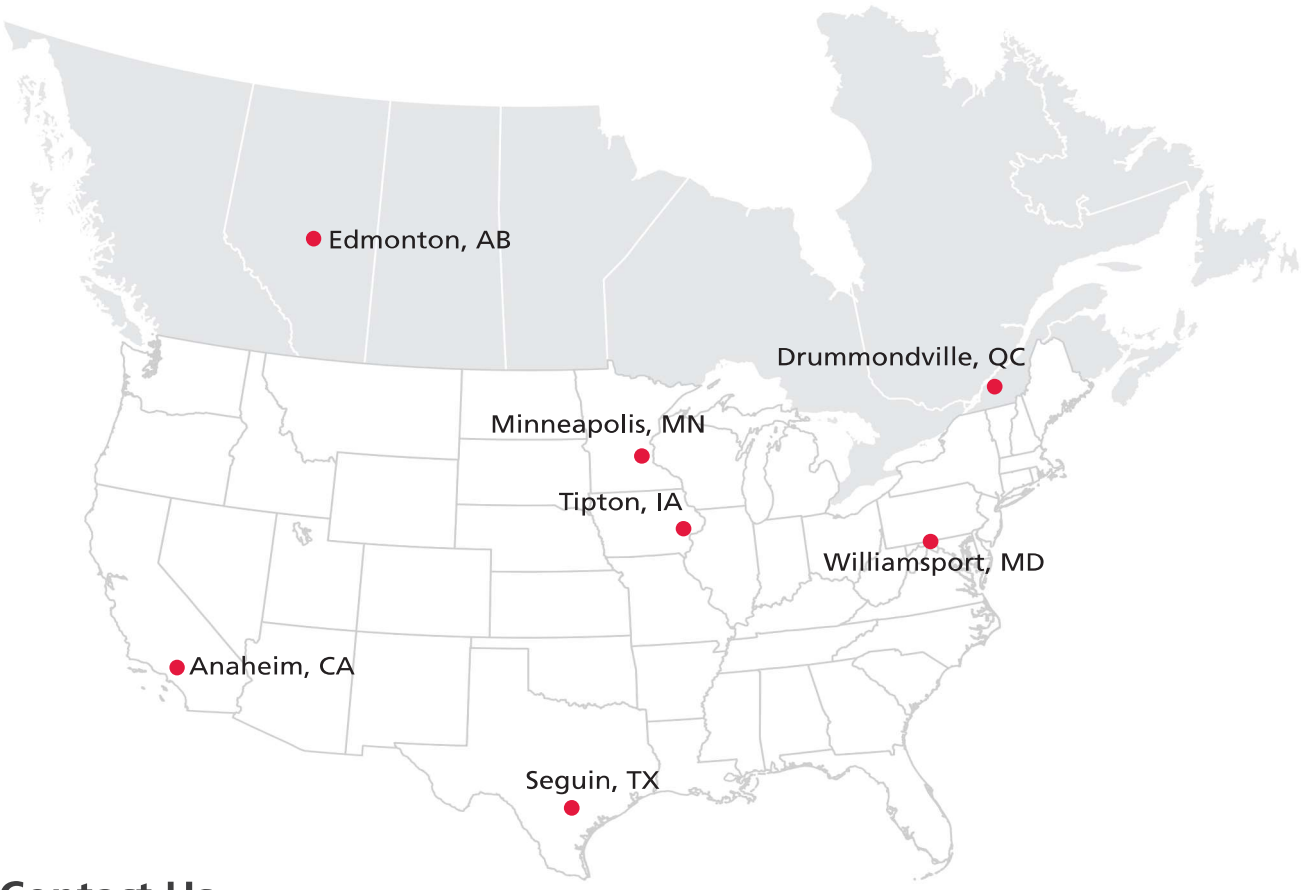
Notes:

1. Tank data for multicompartment tank models is available at www.zcl.com.
2. Actual height of the tank may be greater than the actual diameter due to fittings and accessories. Load height during shipping may vary due to tank placement on the shipping trailer.
3. If an overfill-protection device is installed in the tank, the actual capacity will be reduced.

Multiple Facilities

Customers Can Rely on Timely Manufacturing and Delivery of Tanks and Accessories.

With six manufacturing facilities – four in the United States and two in Canada – no matter where customers need fiberglass tanks and accessories shipped, a ZCL | Xerxes manufacturing facility is not far away. No other tank producer offers this kind of manufacturing capability in North America. All our facilities are either UL-listed or ULC-listed.



Contact Us

We're ready to design a double-wall tank, multi-compartment tank, triple-wall tank, diesel exhaust fluid tank or oil-water separator for your next project.

On the Web:
www.zcl.com

Technical Support:
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Seguin, TX
Tipton, IA
Williamsport, MD

UST12/17PP

ZCL | XERXES®
making a lasting difference®

GILBARCO VEEDER-ROOT

Encore® 700 S Dispensers

Secure your competitive advantage and increase profits with Gilbarco® Veeder-Root's Encore 700 S – your best dispenser investment for today and tomorrow. Highly secure, powerful CRIND® electronics build a flexible and innovative platform for your changing forecourt marketing and payment needs. Enjoy peace of mind with a leading foundation that is highly secure today and upgradeable to meet the payment security and technology needs of tomorrow.

Encore 700 S delivers:

- **EMV Readiness** – Encore 700 S is the cornerstone of Gilbarco's suite of EMV technology.
- **Reliability** – Gilbarco's proven quality provides durable construction for lower cost of ownership.
- **Flexibility** – Encore 700 S offers the most configurations and options to fit your forecourt.
- **Marketing Capability** – Gilbarco's future-ready electronics platform, FlexPay™ IV, supports technologies such as Applause pump media to drive in store traffic.
- **Security** – Enhanced features minimize potential for fuel loss and payment fraud.

Technology with a human touch.

Options. Uptime. Reliability.

Proven design guarantees uptime.

You get the best of Gilbarco's field-proven Encore® 700 S series:

- Familiar ATM-style customer interface
- Full range of alternative fuel options
- Industry's most comprehensive warranty

Enhanced, upgradeable security.

You'll benefit from Gilbarco's global EMV® leadership and experience, including the largest installed base of EMV® fueling pay points in North America. The Payment Card Industry and EMV® certified platform in Encore 700 S include:

- FlexPay™ Encrypting PIN Pad (EPP) to protect PIN data
- FlexPay™ Hybrid (Chip and Magnetic Stripe) Card Reader
- EMV® certification
- PCI-UPT certification
- Secure Controller to protect the entire electronics platform

Superior merchandising improves profits.

Encore® 700 S gives you field-proven tools to inform, persuade, and motivate your fuel customers to come inside your store and buy higher-margin goods, through:

- Flexible content management options, with the industry leading Applause merchandising system
- Superior image clarity, resolution and video performance
- 5.7" color screen as standard for clear, effective communication
- 10.4" color upgrade option for maximum impact

Platform for continued growth.

Encore® 700 S provides a strong foundation for growth with powerful, future ready electronics to support your innovation needs, such as mobile payments, enhanced loyalty, expanded merchandising and other applications:

- Enhanced applications processor for future growth
- Enhanced CRIND® memory for improved application speed
- CAT-5 connectivity for ultimate flexibility

Encore® 700 S Specifications

Regulatory / Governmental Approvals:
UL, cUL
Measurement Canada, Weights & Measures, FCC
PCI PED 4.x
EMV® Compatible

Environmental:
– 30°C to +55°C Operating Temperature
A cabinet or keypad heater option is available to avoid ice accumulation.

Processor:
Up to 400-MHz ARM A9 Core for enhanced CRIND applications speed
Secure processor for data encryption and tamper responsiveness
Memory: NAND Flash: 512 MB DDR SRAM: 256 MB eMMC: 4GB

Component Options:
5.7" QVGA (10.4" VGA upgrade option available)
NFC Contactless Reader
2D Barcode Scanner
Door switches to notify the POS to limit access and prevent tampering*
Key components that self-disable in the event of tampering
High Speed Graphic Thermal Printer
Encrypted Pulser (optional)

*POS Dependent

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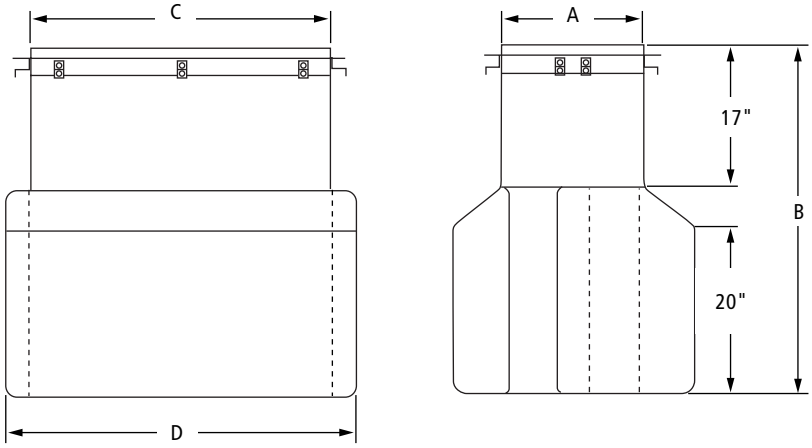
Fiberglass Dispenser Sumps

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.

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.

FDS-4021



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 32 - 33 of this catalog) to select sumps for particular dispensers.
*All models are designed with conduit-less frames. All models have an external conduit channel.

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

Ordering Specifications - FlexWorks Dispenser Sump Selection Chart

Dispenser Manufacturer & Model	Dispenser Footprint Dimensions		FlexWorks One-Piece Polyethylene Sump	FlexWorks Wide-Access Polyethylene Sump	FlexWorks One-Piece Polyethylene Pan	FlexWorks One-Piece Fiberglass Sump	FlexWorks Wide-Access Fiberglass Sump	Stabilizer Bar Kit
GILBARCO	in.	cm						
Commercial 625, 650, 684 Series (21" / 53" cm Frame)	15 11/16" x 21"	40 x 53	DS-1117F	DSW-1117F	DP-1117F	---	DSF-1117F	SBK-1100J
Salesmaker-2 Series (21" / 53 cm Frame)	15 11/16" x 21"	40 x 53	DS-1117F	DSW-1117F	DP-1117F	---	DSF-1117F	SBK-1100J
Highline 11B Series (21" Frame / 53 mm)	15 11/16" x 21"	40 x 53	DS-1117F	DSW-1117F		---	DSF-1117F	SBK-1100J
Highline 111B Series (27" / 69 cm Frame)	15 11/16" x 27"	40 x 53	DS-1123F	DSW-1123F	DP-1123F	---	DSF-1123F	SBK-1100J
Trimline 251, 252, 261, 262 (27" / 69 cm Frame)	15 11/16" x 27"	40 x 69	DS-1123F	DSW-1123F	DP-1123F	---	DSF-1123F	SBK-1100J
Trimline 154, 164, 251, 262 (27" / 69 cm Frame)	15 11/16" x 21"	40 x 69	DS-1117F	DSW-1117F	---	---	DSF-1117F	SBK-1100J
Commercial 650 Series (27" / 69 cm Frame)	15 11/16" x 27"	40 x 69	DS-1123F	DSW-1123F	DP-1123F	---	DSF-1123F	SBK-1100J
Highline Salesmaker Series	15 11/16" x 21"	40 x 69	DS-1117F	DSW-1117F	DP-1117F	---	DSF-1117F	SBK-1100J
Highline Salesmaker Series (27" / 69 cm Frame)	15 11/16" x 27"	40 x 69	DS-1123F	DSW-1123F	DP-1123F	---	DSF-1123F	SBK-1100J
Salesmaker-4 Series (27" / 69 cm Frame)	15 11/16" x 27"	40 x 69	DS-1123F	DSW-1123F	DP-1123F	---	DSF-1123F	SBK-1100J
Legacy Series	15 11/16" x 27"	40 x 69	DS-1123F	DSW-1123F	DP-1123F	---	DSF-1123F	SBK-1100J
Encore Series LOOP SYSTEM-READY	23 1/2" x 40 9/16"	60 x 103	DS-1836	DSW-1836 DSW-1836CL	DP-1836	FDS-4021	DSF-1836 DSF-1836C	SBK-1800*
Advantage (36" / 91 cm Frame Models)	21 1/2" x 36"	55 x 91	DS-1630	DSW-1630	DP-1630	---	DSF-1630	SBK-1600
Quad or Dual	---	---	---	---	---	---	---	---
Blender X + O (36" / 91 cm)	---	---	---	---	---	---	---	---
Advantage (48" / 122 cm Frame Models)	211/2" x 48"	55 x 122	DS-1642	DSW-1642	---	---	DSF-1642	SBK-1600*
Blender Six-Hose	---	---	---	---	---	---	---	---
Blender Single-Hose	---	---	---	---	---	---	---	---
Blender X + O (48" / 122 cm) or X + 1 (48" / 122 cm)	---	---	---	---	---	---	---	---
MPD-1, MPD-2, MPD-3	16" x 48"	41 x 122	DS-1036	---	---	---	---	SBK-1000J
MPD Fixed Blender	16" x 48"	41 x 122	DS-1036	---	---	---	---	SBK-1000J
	---	---	---	---	---	---	---	---
BENNETT								
Bennett Pacific LOOP SYSTEM-READY	19 1/2" x 43 1/2"	49 x 110	DS-1543A	---	---	---	---	SBK-1500
Bennett 3000 Series	20" x 30"	51 x 76	DS-1123B	---	---	---	---	SBK-1100J
PD MCLAREN								
RDR HSx (Single Product, Single Hose)	21" x 17.75"	53 x 45	---	DSW-1922	DSF-1922	---	---	SBK-1900
RDR HSx-D1 (Single Product, Dual Hose)	21" x 17.75"	53 x 45	---	DSW-1922	DSF-1922	---	---	SBK-1900
RDR HSx-D2 (Dual Product, Dual Hose)	21" x 17.75"	53 x 45	---	DSW-1922	DSF-1922	---	---	SBK-1900
RDR HSx-SAT (Master Unit and Satellites)	21" x 17.75"	53 x 45	---	DSW-1922	DSF-1922	---	---	SBK-1900
RDR HSx-X2 (Single Product, Dual Hose, One at a Time)	21" x 17.75"	53 x 45	---	DSW-1922	DSF-1922	---	---	SBK-1900

* For FDS-4021 Models, use Stabilizer Bar SBK-1800.

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Ordering Specifications - FlexWorks Dispenser Sump Selection Chart

Dispenser Manufacturer & Model	Dispenser Footprint Dimensions		FlexWorks One-Piece Polyethylene Sump	FlexWorks Wide-Access Polyethylene Sump	FlexWorks One-Piece Polyethylene Pan	FlexWorks One-Piece Fiberglass Sump	FlexWorks Wide-Access Fiberglass Sump	Stabilizer Bar Kit
GASBOY	in.	cm						
0215A, 216A (19 7/8" Frame / 50.5 mm)	17 1/4" x 19 7/8"	49 x 50.5	DS-1117F	DSW-1117F	DP-1117F	----	DSF-1117F	SBK-1100J
52 and 53 Series	17" x 19 7/8"	44 x 50.5	DS-1117F	DSW-1117F	DP-1117F	----	DSF-1117F	SBK-1100J
8700, 8800, 9100, 9800 Series	17 1/4" x 25"	44 x 63.5	DS-1120	----	----	----	----	SBK-1100J
25" Frame 63.5 mm	17 1/4" x 25"	44 x 63.5	----	----	----	----	----	----
8700, 8800, 9100, 9800 Series (28 1/4" Frame / 72 mm)	17 1/4" x 28"	44 x 71	DS-1123	DSW-1123	DP-1123	----	DSF-1123F	SBK-1100J
9850A	15 11/16" x 21"	40 x 69	DS-1120	DSW-1120	----	----	DSF-1120	SBK-1100J
* Stabilizer bar is installed widthwise in dispenser sump								
DRESSER / WAYNE								
350, 357, 358, 360, 370 Series	15" x 25 7/8"	30 x 66	DS-1123F	DSW-1123F	DP-1123F	----	DSF-1123F	SBK-1100J
Vista 380 Series (387, 389)	20" x 35"	51 x 89	DS-1229	DSW-1229	----	----	DSF-1229	SBK-1200J
Vista 590 Series (590, 595)	20" x 48"	51 x 122	DS-1242	DSW-1242	----	----	DSF-1242	SBK-1200J
Vista 390 Series (395, 399)	20" x 48"	51 x 122	DS-1242	DSW-1242	----	----	DSF-1242	SBK-1200J
Vista 490 Series	20" x 48"	51 x 122	DS-1242	DSW-1242	----	----	DSF-1242	SBK-1200J
DL390, 395, 399 Series	20" x 48"	51 x 122	DS-1242	DSW-1242	----	----	DSF-1242	SBK-1200J
HS1 Satellite / 287 Series	20" x 35"	51 x 89	DS-1229	DSW-1229	----	----	DSF-1229	SBK-1200J
Ovation LOOP SYSTEM-READY	19 1/2" x 43 1/2"	50 x 110	DS-1543A**	DSW-1543 DSW-1543C	----	FDS-4319*	DSF-1543 DSF-1543C	SBK-1500
Select	19 3/8" x 32 5/16"	49 x 82	DS-1928	----	----	----	----	SBK-1500
Global Century	19 3/8" x 32 5/16"	49 x 82	DS-1928	----	----	----	----	SBK-1500
Reliance	19 3/8" x 32 5/16"	49 x 82	DS-1928	----	----	----	----	SBK-1500
HS4 / HS3 / Vista	19 3/8" x 32 5/16"	49 x 82	DS-1630	DSW-1630***	DP-1630	----	DSF-1630***	SBK-1600
Narrow Frame Helix (2000, 4000)	20" x 33"	51 x 84	DS-1630	----	----	----	----	SBK-1600
Wide Frame Helix (5000)	26" x 44"	51 x 112	DS-1741	----	----	----	----	SBK-1700
TOKHEIM								
1200, 1248, 1250 Series	17 1/4" x 25"	44 x 64	DS-1120	DSW-1120	----	----	DSF-1120	SBK-1100J
330B, 333B Series	17 1/4" x 44"	44 x 112	DS-1642	DSW-1642	----	----	DSF-1642	SBK-1600

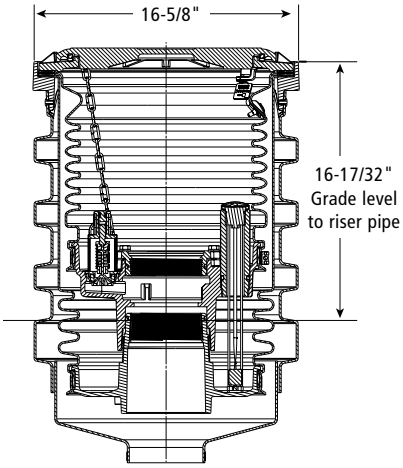
* For FDS-4319 Model use Stabilizer Bar SBO-0250.

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.)

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

APPROVED UNDER FLORIDA EQ#708

MEETS ALL NORTH CAROLINA COMPLIANCE REQUIREMENTS

Missouri DENR Approved

CARB
California Air Resources Board

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

Franklin Fueling Systems

4" SUBMERSIBLE TURBINE PUMPS

Since hitting the market in 1988, FE PETRO® brand submersible pumps have developed a reputation as the standard in performance, quality and dependability with innovative features only available from Franklin Fueling Systems. It is, and always will be about filling cars faster. With best-in-class flow rates and backed by a long history of dependability, FE PETRO® pumps are responsible for delivering fuel to thousands of customers around the globe, day in and day out.

TECHNICAL ADVANTAGES

Variable Speed

With faster fill times during peak hours and power savings during non-peak hours, variable speed submersible pumping systems allow you to maximize profits with consistent flow rates while mitigating operating expenses.

MagShell®

The patented stainless steel MagShell® ,available on 2 Hp and 4 Hp pumps, is designed to maximize flow rate capabilities, potential throughput, and profits. By expanding the pump motor shell, the MagShell® increases the area for product flow by 45%.

Biofuel Compatibility

FE PETRO® Alcohol-Gas (AG) and Advanced Protection (AP) pumps are UL listed with both UL79A (up to 85% Ethanol) and UL79B (up to 20% or 100% Biodiesel).

Variable Length

The patented telescoping pump shaft lets installers adjust the length of the pump onsite for the perfect fit.

Advanced Protection

Stop corrosion in its tracks. Special powder-coated, e-coated, and stainless steel components defend your pump in the tank and in the sump from accelerated corrosion.

Turbine Pump Interface

Remote enhanced pump monitoring and control including pump-in-water automation, clogged intake escalation, tank leveling, and tank priority.

Intake Filter Screen

Avoid system damage, pumping slowdowns, and reduce filter changes by keeping harmful tank debris, sediment, and corrosion from entering the pumping system with this factory-installed option.

FEATURE SELECTION

	4 HP	2 HP	1½ HP	¾ HP
Variable Speed	✓	✓		
Fixed Speed		✓	✓	✓
MagShell®	✓	✓		
Biofuel Compatibility*	✓	✓	✓	✓
Variable Length	✓	✓	✓	✓
Advanced Protection	✓	✓	✓	✓
Turbine Pump Interface**	✓	✓	✓	✓
Intake Filter Screen	✓	✓	✓	✓

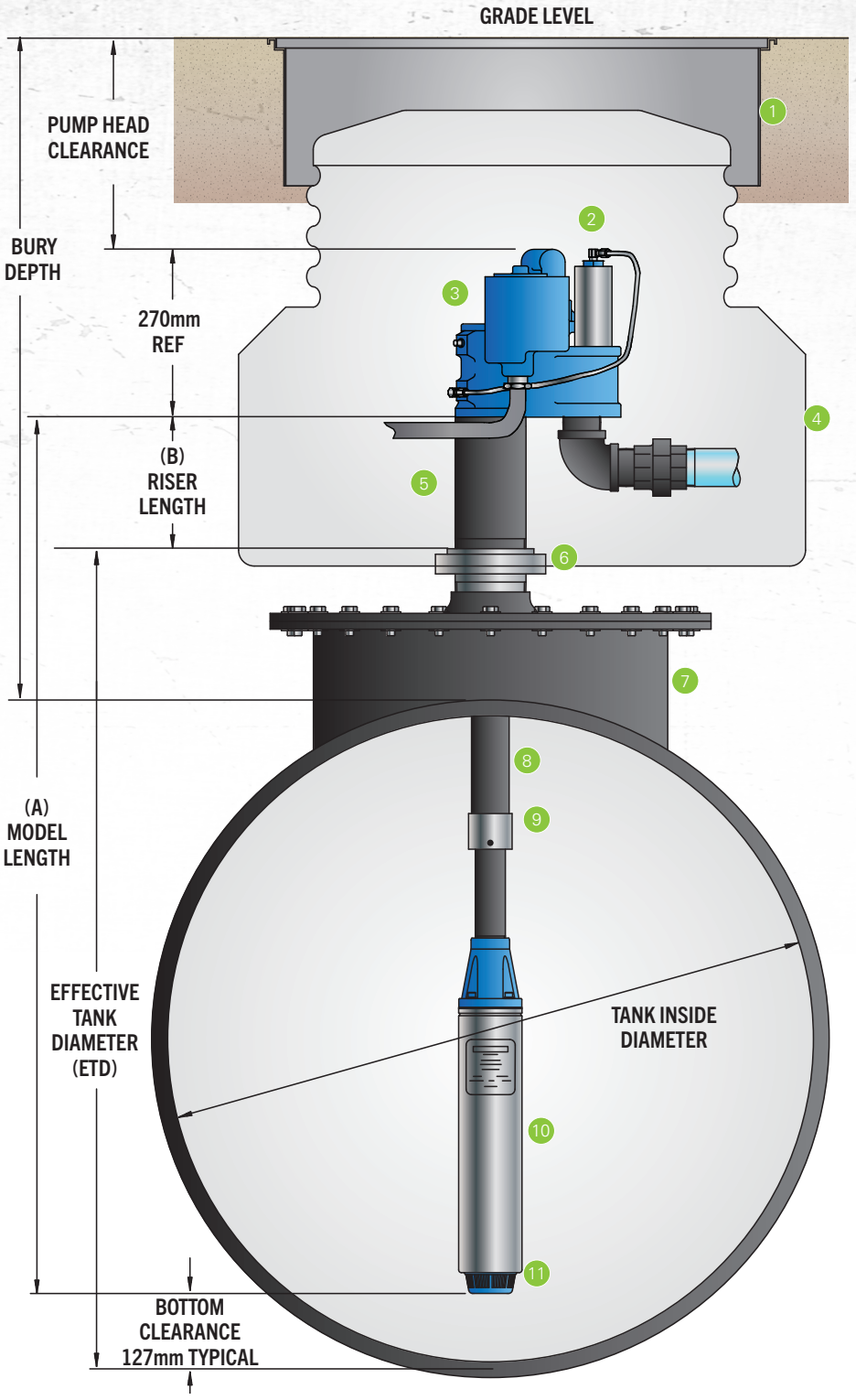
*Up to 85% Ethanol and up to 20% or 100% Biodiesel.

*Fixed speed models require a Guardian Series™ Single Phase Smart Controller (SPGC-220) to network with EVO™ Series Automatic Tank Gauges.

SPECIFICATIONS

4" Submersible Pump Components & Key Dimensions

1. Manhole
2. Leak Detector
3. Manifold
4. Containment Sump
5. 4" Riser
6. Tank Adapter
7. Tank Manway
8. Column Pipe
9. Variable Length Coupler
10. Pump Motor Assembly (PMA)
11. End bell



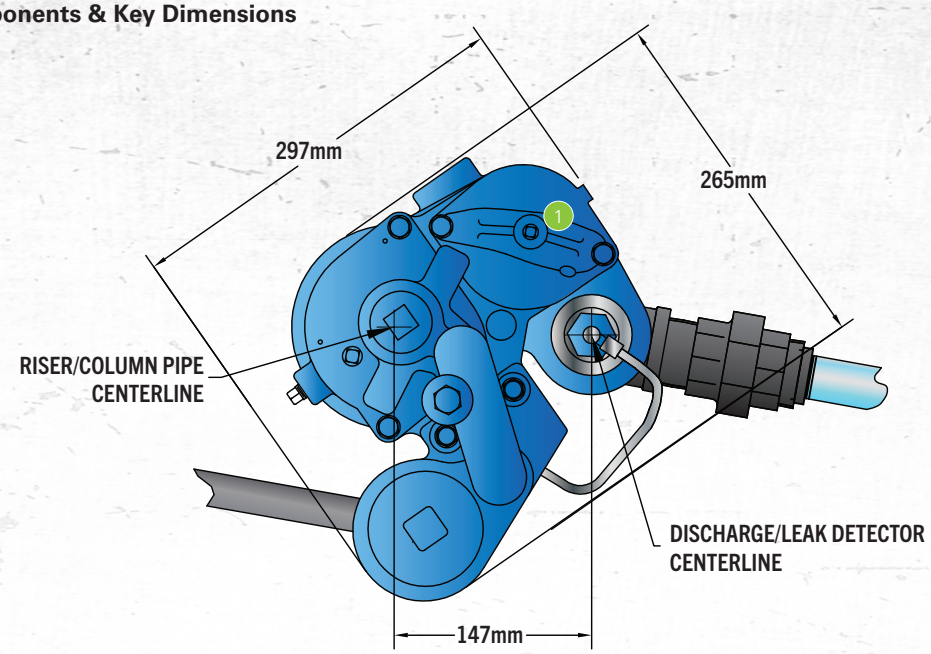
Notes:

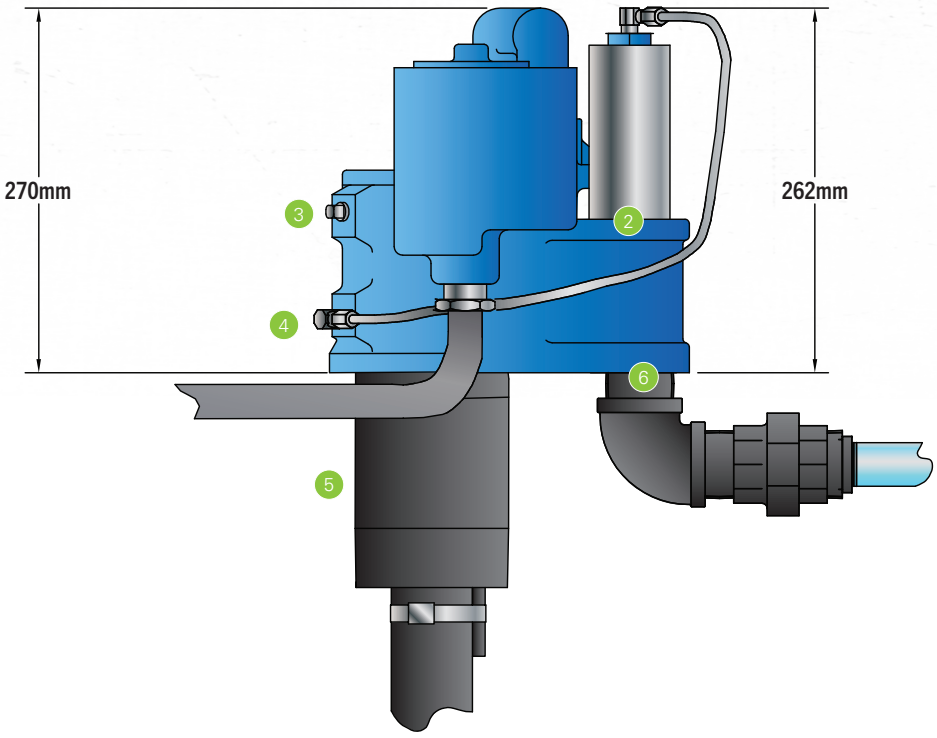
1. Effective tank diameter (ETD) = Inside tank diameter (to top of 4" bung), including tank manway and/or sump adapter.
2. Model length (A) = ETD plus riser length minus bottom clearance minus 25mm thread engagement.
3. Riser length (B) = Bury depth (to top of tank) minus pump head clearance minus tank manway and/or minus sump adapter.

SPECIFICATIONS

4" Submersible Pump Manifold Components & Key Dimensions

1. Line Test Port, ¼" NPT
2. Leak Detector Port, 2" NPT
3. Syphon Port, ¼" NPT
4. Tank Port, ¼" NPT
5. Riser Pipe, 4" NPT
6. Discharge Outlet, 2" NPT

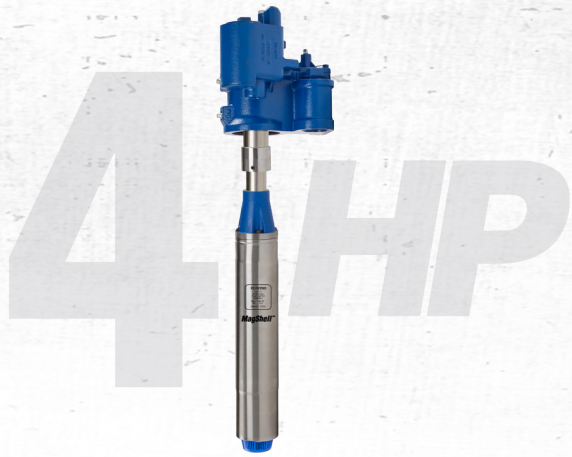




Franklin Fueling Systems

4 HP SUBMERSIBLE TURBINE PUMPS

With faster fill times during peak hours and power savings during non-peak hours, FE PETRO® 4 Hp variable speed submersible pumps deliver maximized profits while mitigating operating expenses.



TECHNICAL ADVANTAGES

OPTIONAL FEATURES

Biofuel Compatibility

FE PETRO® pumps are UL listed with both UL79A (up to 85% Ethanol) and UL79B (up to 20% or 100% Biodiesel).

Advanced Protection

Stop corrosion in its tracks. Special powder-coated, e-coated, and stainless steel components defend your pump in the tank and in the sump from accelerated corrosion.

STANDARD FEATURES

Variable Speed

With faster fill times during peak hours and power savings during non-peak hours, variable speed submersible pumping systems allow you to maximize profits with consistent flow rates while mitigating operating expenses.

MagShell®

The patented stainless steel MagShell® is designed to maximize flow rate capabilities, potential throughput, and profits. By expanding the pump motor shell, the MagShell® increases the area for product flow by 45%.

Variable Length

The patented telescoping pump shaft lets installers adjust the length of the pump onsite for the perfect fit.

Active Air Eliminator

FE PETRO® STPs come standard with active air elimination, which eliminates air through the highest point in the pump head at all times when the pump is running, assuring air does not pass into discharge piping.

Safety and Ease of Maintenance

FE PETRO® STPs include a contractor electrical disconnect, which requires loosening only one bolt, allowing motor wiring to be disconnected without venting the dangerous tank vapors into the sump when servicing FE PETRO® submersible products.

Turbine Pump Interface

Remote enhanced pump monitoring and control including pump-in-water automation, clogged intake escalation, tank leveling, and tank priority.

Intake Filter Screen

Avoid system damage, pumping slowdowns, and reduce filter changes by keeping harmful tank debris, sediment, and corrosion from entering the pumping system with this factory-installed option.

Simple Servicing

If ever required, the pump can be easily removed from the tank by unthreading three bolts. There is no need to disconnect the syphon system or to remove the leak detector from the system to service the STP.

Manual Pressure Relief

As a standard FE PETRO® feature, a vent screw is provided to bleed line pressure to zero when necessary. By turning this screw, product is diverted back to the tank, dropping line pressure to zero. This reduces fuel discharged into the sump manhole or dispenser pan during servicing, further protecting service technicians and the environment.

Outlast, Outperform with Franklin Electric Inside

FE PETRO® STPs are powered by the legendary Franklin Electric motor and built for long term performance. Franklin Electric-powered submersible pumps provide maximum uptime and a proven track record in the fueling industry that spans more than four decades. They feature best-in-class flow rates and a long history of dependability.

Quality Certification

Franklin Fueling Systems is an ISO 9001 Certified Manufacturer.

SPECIFICATIONS

General

- Variable speed models are available in variable lengths only.
- Check valve: 70mm diameter fluorocarbon seal constructed with cast aluminum body and steel backing washer.
- Pressure relief valve: available in four pressure relief settings, integral to check valve. Standard model relieves at 2.8 bar and resets above 2.4 bar.
- Syphon: venturi-type syphon primer supplied with every submersible. Syphon check valve and secondary syphon sold separately.
- Air eliminator: every submersible includes a tank return path with one-way check valve to provide active air elimination.
- Electrical disconnect: electrical yoke for positive contractor disconnect during service.

Pump Motor

- 4 Hp, variable speed, two-stage centrifugal type pump motor with integral, automatic, thermal overload protection.
- Max. pressure: selectable operating pressure on EcoVFC™ between 1.65 bar and 2.90 bar deadhead.
- Available with MagShell® which results in 45% increased flow area around motor.

Approvals

- cULus listed.
- Consult factory for applicable approvals.

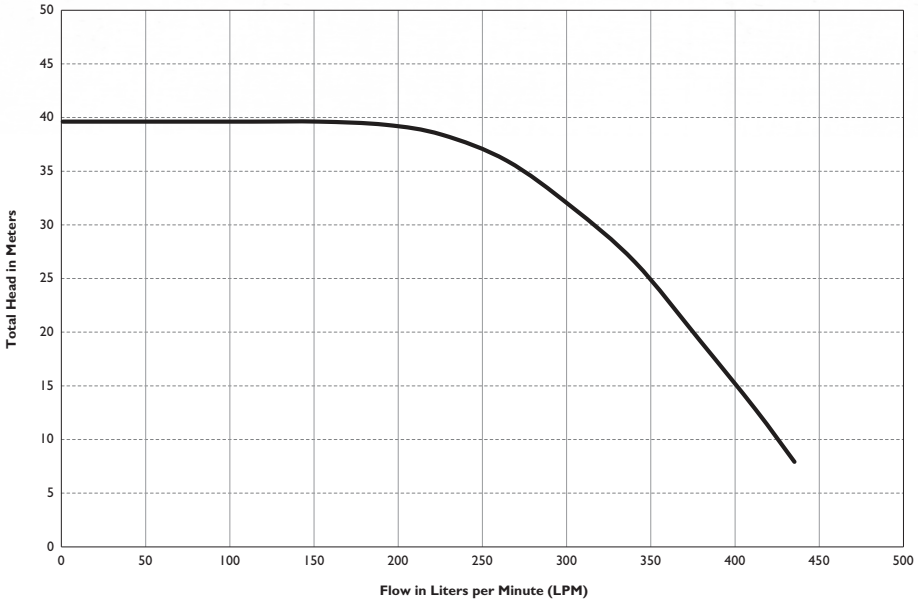
Power Requirements

- Variable speed pumps can only be controlled by a MagVFC™ or EcoVFC™ variable frequency controller.
- VS4 models require three-phase incoming power supply to the EcoVFC™ for proper operation.
- Incoming power supply to the EcoVFC™ must be 360-440 VAC, 50 Hz.
- EcoVFC™ outputs a three-phase, variable frequency signal, valid for FE PETRO® variable speed pumps only.
- EcoVFC™ max. line draw: 20 Amps.
- Max motor draw: 15 Amps.

Liquid Compatibility

- Max. liquid viscosity: 70 SSU at 60 °F (15 °C).
- STP variable speed models are UL listed for fuel mixtures containing up to 10% ethanol, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
- IST/ISTAP variable speed models are UL and cUL listed for fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
- All variable speed models can also be used with diesel fuels, fuel oils, kerosene, Avgas and jet fuels in a non-gelled pourable state.
- All wetted elastomers are made of a high grade, fluorocarbon compound.

4 Hp Variable Speed Pump Performance Chart



Note: Performance based on pumping gasoline (0.76 specific gravity). Pressure is taken at the manifold discharge outlet. ISTMVS4 and STPMVS4 turbines can only be powered by a MagVFC with three phase incoming power

ORDERING INFORMATION

4 Hp Submersible Pump Ordering Guide

A typical turbine model designation has up to five components to define the pump being supplied as follows:

XXX YYYYY Z - A - B

XXX = Basic Model Designation

STP = These standard variable speed and variable length models are capable of up to 10% ethanol with gasoline

IST = These variable speed and variable length models include alcohol-gasoline compatibility (up to 85% ethanol, up to 20% Biodiesel, or 100% Biodiesel).

ISTAP = These variable speed and variable length models include alcohol-gasoline compatibility (up to 85% ethanol, up to 20% Biodiesel, or 100% Biodiesel) and Advanced Protection with powder-coated, e-coated, and stainless steel components.

YYYYY = Factory Installed Options

Model designations may include one or more of the following characters in alphabetical order:

F = Floating suction adapter (1½" NPT female adapter)

K = Intake filter screen (IFS, factory installed to PMA)

M = MagShell® (flow enhancing, expanded PMA shell)

R* = Model R check valve (1.7 bar relief / 1.5 bar reset for PLLD)

W* = Model W check valve (1.1 bar relief / 0.9 bar reset for PPM4000)

Z = Pump Motor Horsepower Rating

VS4 = 4 Hp variable speed

A = Model Length (see table)

VL1 = STP variable length range #1

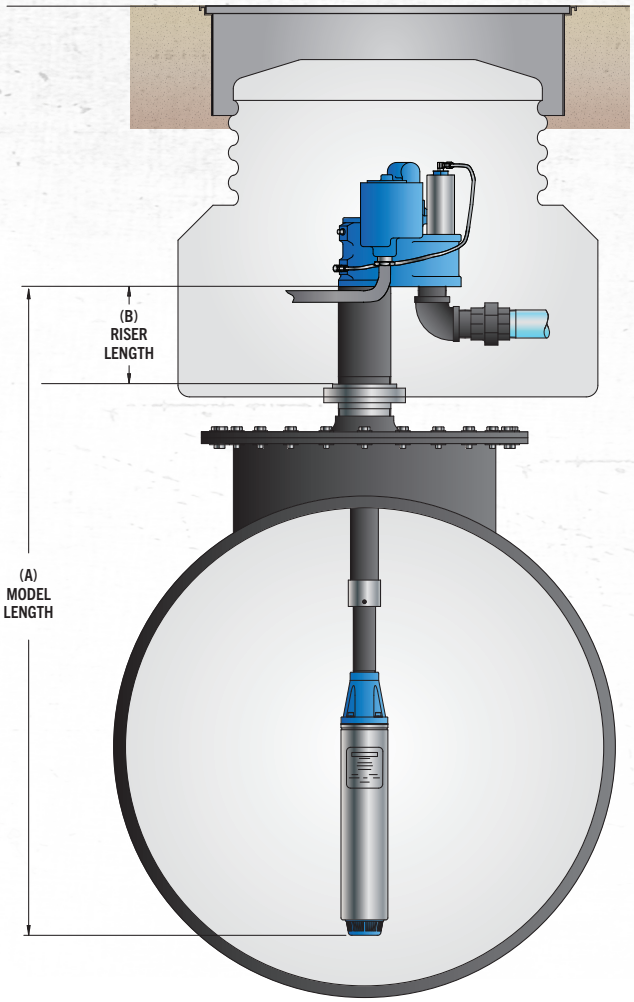
VL2 = STP variable length range #2

VL3 = STP variable length range #3

B = Riser Pipe Length (see diagram)

Riser pipe length is expressed as two numeric characters that indicate the total length of the riser in inches. Riser pipes are available from 178mm to 1524mm in 25mm increments (additional charge for risers 787mm or longer).

Notes:
*If not otherwise specified, all models are supplied with standard model check valve (2.8 bar relief / 2.4 bar reset for MLD, TS-LS300, and TS-LS500).



Model Length (A)

STP Horsepower	Model Length Range	Model Length Designation
4 Hp	1613mm – 2355mm	VL1
	2401mm – 3962mm	VL2
	3214mm – 5556mm	VL3

ORDERING INFORMATION

4 Hp Variable Speed Submersible Turbine Pumps

Variable speed, variable length.

Model	Description	Model Length Range Number	Model Length Range*
STPMVS4-VL1	4 Hp variable speed with MagShell®	VL1	1613mm – 2355mm
STPMVS4-VL2	4 Hp variable speed with MagShell®	VL2	2401mm – 3962mm
STPMVS4-VL3	4 Hp variable speed with MagShell®	VL3	3214mm – 5556mm

4 Hp Variable Speed Intelligent Submersible Turbine Pumps

Variable speed, variable length, and AG compatible.

Model	Description	Model Length Range Number	Model Length Range*
ISTMVS4-VL1	4 Hp AG variable speed with MagShell®	VL1	1613mm – 2355mm
ISTMVS4-VL2	4 Hp AG variable speed with MagShell®	VL2	2401mm – 3962mm
ISTMVS4-VL3	4 Hp AG variable speed with MagShell®	VL3	3214mm – 5556mm
ISTAPMVS4-VL1	4 Hp AG variable speed with Advanced Protection, and MagShell®	VL1	1613mm – 2355mm
ISTAPMVS4-VL2	4 Hp AG variable speed with Advanced Protection, and MagShell®	VL2	2401mm – 3962mm
ISTAPMVS4-VL3	4 Hp AG variable speed with Advanced Protection, and MagShell®	VL3	3214mm – 5556mm

Notes:

1. Remove "M" from model number for non-MagShell® pump motor assembly.
2. All STP models are UL and cUL listed for compatibility with fuel mixtures containing up to 10% ethanol with gasoline, up to 5% Biodiesel with diesel fuels, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
3. All IST/ISTAP models are compatible with fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
4. All models are supplied with a standard check valve unless factory option "R" or "W" is specified.
5. All above models can only be powered by a MagVFC™. 4 hp models require three-phase incoming power supply, 2 hp models can be supplied with single- or three-phase incoming power.
6. 4" riser pipe, if supplied locally, must be 4½" OD by 3/16" WT tubing.
7. For riser pipe length 787mm to 1524mm, additional charge applies (call Customer Service for lead times).

*Model length (A) defined as the dimension from turbine manifold bottom to pump motor inlet.

Factory Installed Approvals

Specified in model number at time of STP order.

Model	Description
(ATXF)	Submersible Turbine Pumps with ATEX Flameproof approval for EN markets
(RT)	Submersible Turbine Pumps with ROSTEST approval for Eastern European markets

Note: If not otherwise specified, all models are supplied to UL approval as standard. Consult factory for local approvals.

Factory Installed Options

Specified in model number at time of STP order.

Model	Description
F	Floating suction adapter, 1½" NPT female, must be factory installed
K	IFS (intake filter screen) factory assembled to pump motor assembly
R	Model R check valve, factory installed, for Veeder-Root® PLLD Line Leak
W	Model W check valve, factory installed, for Red Jacket PPM4000 Line Leak

Field Installed Options

Intelligent submersible turbine pump specific accessories.

Model	Description
5874202900	EcoVFC™, 4 Hp variable frequency controller, one required per STP or IST
400137937	Syphon check valve, alcohol-gasoline compatible
402459931	Model 65 psi (4.5 bar) check valve AG compatible, (for slave of manifolded STP or IST with Veeder-Root® PLLD)
402507930	Secondary syphon kit (when two syphon primes are required for one STPM or VS4)
5800300200	STP-DHIB dispenser hook isolation for 240 Volt dispenser handle switches, up to eight each

Franklin Fueling Systems

2 HP SUBMERSIBLE TURBINE PUMPS

With faster fill times during peak hours and power savings during non-peak hours, FE PETRO® 2 Hp variable speed submersible pumps deliver maximized profits while mitigating operating expenses. 2 Hp submersible pumps are also available in fixed speed models.

TECHNICAL ADVANTAGES

OPTIONAL FEATURES

Variable Speed

With faster fill times during peak hours and power savings during non-peak hours, variable speed submersible pumping systems allow you to maximize profits with consistent flow rates while mitigating operating expenses.

Biofuel Compatibility

FE PETRO® pumps are UL listed with both UL79A (up to 85% Ethanol) and UL79B (up to 20% or 100% Biodiesel).

Advanced Protection

Stop corrosion in its tracks. Special powder-coated, e-coated, and stainless steel components defend your pump in the tank and in the sump from accelerated corrosion.

Turbine Pump Interface

Remote enhanced pump monitoring and control including pump-in-water automation, clogged intake escalation, tank leveling, and tank priority.

Intake Filter Screen

Avoid system damage, pumping slowdowns, and reduce filter changes by keeping harmful tank debris, sediment, and corrosion from entering the pumping system with this factory-installed option.

STANDARD FEATURES

MagShell®

The patented stainless steel MagShell® is designed to maximize flow rate capabilities, potential throughput, and profits. By expanding the pump motor shell, the MagShell® increases the area for product flow by 45%.

Variable Length

The patented telescoping pump shaft lets installers adjust the length of the pump onsite for the perfect fit.

Active Air Eliminator

FE PETRO® STPs come standard with active air elimination, which eliminates air through the highest point in the pump head at all times when the pump is running, assuring air does not pass into discharge piping.

Safety and Ease of Maintenance

FE PETRO® STPs include a contractor electrical disconnect, which requires loosening only one bolt, allowing motor wiring to be disconnected without venting the dangerous tank vapors into the sump when servicing FE PETRO® submersible products.

Simple Servicing

If ever required, the pump can be easily removed from the tank by unthreading three bolts. There is no need to disconnect the syphon system or to remove the leak detector from the system to service the STP.

Manual Pressure Relief

As a standard FE PETRO® feature, a vent screw is provided to bleed line pressure to zero when necessary. By turning this screw, product is diverted back to the tank, dropping line pressure to zero. This reduces fuel discharged into the sump manhole or dispenser pan during servicing, further protecting service technicians and the environment.

Outlast, Outperform with Franklin Electric Inside

FE PETRO® STPs are powered by the legendary Franklin Electric motor and built for long term performance. Franklin Electric-powered submersible pumps provide maximum uptime and a proven track record in the fueling industry that spans more than four decades. They feature best-in-class flow rates and a long history of dependability.

Quality Certification

Franklin Fueling Systems is an ISO 9001 Certified Manufacturer.

SPECIFICATIONS

General

- Variable speed models are available in variable lengths only.
- Fixed speed models are available in variable length and fixed length options.
- Check valve: 70mm diameter fluorocarbon seal constructed with cast aluminum body and steel backing washer.
- Pressure relief valve: available in four pressure relief settings, integral to check valve. Standard model relieves at 2.8 bar and resets above 2.4 bar.
- Syphon: venturi-type syphon primer supplied with every submersible. Syphon check valve and secondary syphon sold separately.
- Air eliminator: every submersible includes a tank return path with one-way check valve to provide active air elimination.
- Electrical disconnect: electrical yoke for positive contractor disconnect during service.

Variable Speed Pump Motor

- 2 Hp, variable speed, two-stage centrifugal type pump motor with integral, automatic, thermal overload protection.
- Max. pressure: selectable operating pressure on MagVFC™ between 1.65 bar and 2.90 bar deadhead.
- Available with MagShell® which results in 45% increased flow area around motor.

Fixed Speed Pump Motor

- 2 Hp fixed speed, 2875 rpm, multi-stage centrifugal type pump motor with integral, automatic, thermal overload protection.
- Standard pressure (three-stage) model, max. pressure = 2.55 bar.
- High pressure (four-stage) model, max. pressure = 3.03 bar.
- Available with MagShell™ for 45% increased flow area around motor.

Approvals

- cULus listed.
- Consult factory for applicable approvals.

Liquid Compatibility

- Max. liquid viscosity: 70 SSU at 60 °F (15 °C).
- STP variable speed models are UL and cUL listed for fuel mixtures containing up to 10% ethanol, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
- STPAG (AG compatible) models are UL listed for fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
- All variable speed (non-AG) models can also be used with diesel fuels, fuel oils, kerosene, Avgas and jet fuels in a non-gelled pourable state.
- 2 Hp fixed speed models can also be used with diesel fuels, fuel oils, kerosene, Avgas and jet fuels in a non-gelled pourable state.
- All wetted elastomers are made of a high grade, fluorocarbon compound.

Variable Speed Power Requirements

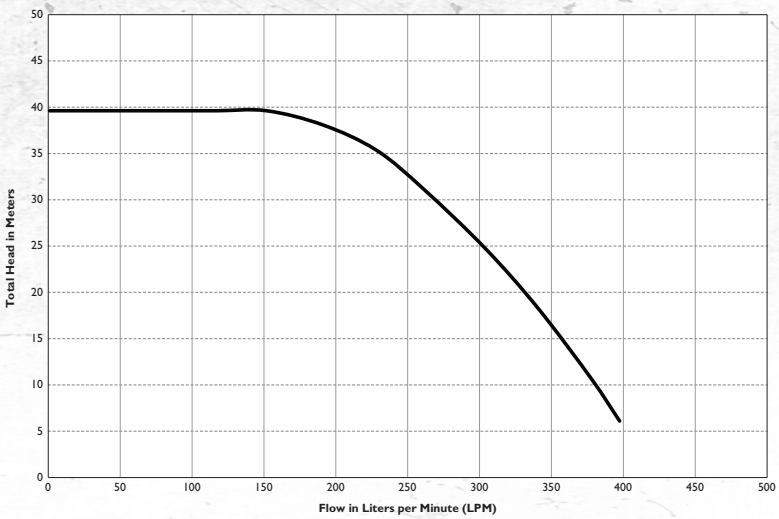
- Variable speed pumps can only be controlled by a MagVFC™ or EcoVFC™ variable frequency controller.
- VS2 models can operate with single-phase incoming power supply to the MagVFC™ or three-phase to EcoVFC™.
- Incoming power supply to the MagVFC™ is 200-250 VAC, 50 Hz and 360-440 VAC, 50 Hz to the EcoVFC™.
- MagVFC™ or EcoVFC™ outputs a three-phase, variable frequency signal, valid for FE PETRO® variable speed pumps only.
- MagVFC™ or EcoVFC™ max. line draw: 20 Amps.
- Max motor draw: VS2 7 Amps.

Fixed Speed Power Requirements

- 200B models require single-phase, 200-250 VAC, 50 Hz incoming power and 200C models require three-phase 380-415 VAC 50 Hz incoming power.
- 200B models incorporate a starting and running capacitor, with internal bleed resistor, rated 440 Volt, 40 microfarad.
- SPGC-220 single-phase Guardian™ Series controllers and STP-CBBS single-phase control boxes are available for 200B pump control.
- STP-SCIIIC three phase smart controller and STP-CBB3C three-phase magnetic starter are available for 200C contol.
- Max. motor draw: 200B 10 Amps, 200C 5 Amps.

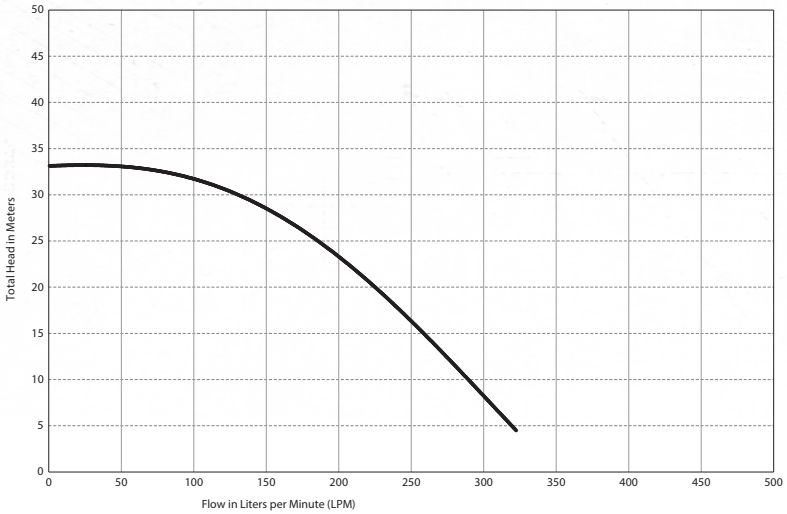
SPECIFICATIONS

2 Hp Variable Speed Pump Performance Charts (STPMVS2)



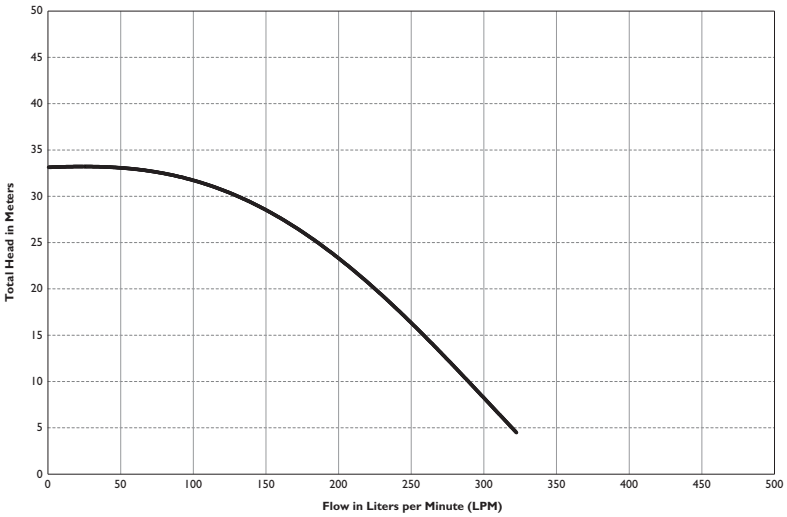
Performance based on pumping gasoline (0.76 specific gravity). Pressure is taken at the manifold discharge outlet. MagShell® Variable Speed 2 hp was powered by MagVFC™ with Single-Phase, 50 Hz, 220 Volt incoming supply or Eco VFC™ with Three-Phase, 50 Hz, 410 Volt incoming power supply.

2 Hp Single-Phase Fixed Speed Pump Performance Chart (STP200B)



Performance based on pumping solvent (0.78 specific gravity). Pressure is taken at the manifold discharge outlet. Fixed Speed 2.00 HP was powered by Single-Phase, 50 Hz, 250 Volt incoming supply.

2 Hp Three-Phase Fixed Speed Pump Performance Chart (STP200C)



Performance based on pumping solvent (0.78 specific gravity). Pressure is taken at the manifold discharge outlet. Fixed Speed 2.00 HP was powered by Three-Phase, 50 Hz, 415 Volt incoming supply.

ORDERING INFORMATION

2 Hp Variable Speed Submersible Pump Ordering Guide

A typical model designation has up to five components to define the pump being supplied as follows:

XXX YYYYY Z - A - B

XXX = Basic Model Designation

STP = These standard variable speed and variable length models are capable of up to 10% ethanol with gasoline

IST** = These variable speed and variable length models include alcohol-gasoline compatibility (up to 85% ethanol, up to 20% Biodiesel, or 100% Biodiesel).

ISTAP** = These variable speed and variable length models include alcohol-gasoline compatibility (up to 85% ethanol, up to 20% Biodiesel, or 100% Biodiesel) and Advanced Protection with powder-coated, e-coated, and stainless steel components.

YYYYY = Factory Installed Options

Model designations may include one or more of the following characters in alphabetical order:

F = Floating suction adapter (1½" NPT female adapter)

K = Intake filter screen (IFS, factory installed to PMA)

M = MagShell® (flow enhancing, expanded PMA shell)

R* = Model R check valve (1.7 bar relief / 1.5 bar reset for PLLD)

W* = Model W check valve (1.1 bar relief / 0.9 bar reset for PPM4000)

Z = Pump Motor Horsepower Rating

VS2 = 2 Hp variable speed

A = Model Length (see table)

VL1 = STP variable length range #1

VL2 = STP variable length range #2

VL3 = STP variable length range #3

B = Riser Pipe Length (see diagram)

Riser pipe length is expressed as two numeric characters that indicate the total length of the riser in inches. Riser pipes are available from 7" to 60" in 1" increments (additional charge for risers 31" or longer).

Notes:
*If not otherwise specified, all models are supplied with standard model check valve (2.8 bar relief / 2.4 bar reset for MLD, TS-LS300, and TS-LS500).

**If not otherwise specified, 2 Hp variable speed pump motor horsepower rating is implied for IST models.

2 Hp Fixed Speed Submersible Pump Ordering Guide

A typical model designation has up to five components to define the pump being supplied as follows:

STP XXXXX Y - A - B

STP = Basic Model Designation

XXXXX = Factory Installed Options (Model designations may include one or more of the following characters in alphabetical order.)

AP = Advanced Protection with powder-coated, e-coated, and stainless steel components, alcohol-gasoline compatible (up to E85, up to B20, and B100) (Note standard models up to 10% ethanol capable)

AG = Alcohol-gasoline compatible (up to E85, up to B20, and B100) (Note standard models up to 10% ethanol capable)

F = Floating suction adapter (1½" NPT female adapter)

K = Intake filter screen (IFS, factory installed to PMA)

M = MagShell® (flow enhancing, expanded PMA shell)

*R = Model R check valve (1.7 bar relief / 1.5 bar reset for PLLD)

*W = Model W check valve (1.1 bar relief / 0.9 bar reset for PPM4000)

Y = Pump Motor Horsepower Rating

200B = 2 Hp fixed speed, 50 Hz, single-phase

200C = 2 Hp fixed speed, 50 Hz, three-phase

A = Model Length (see table)

VL1 = Variable length range #1

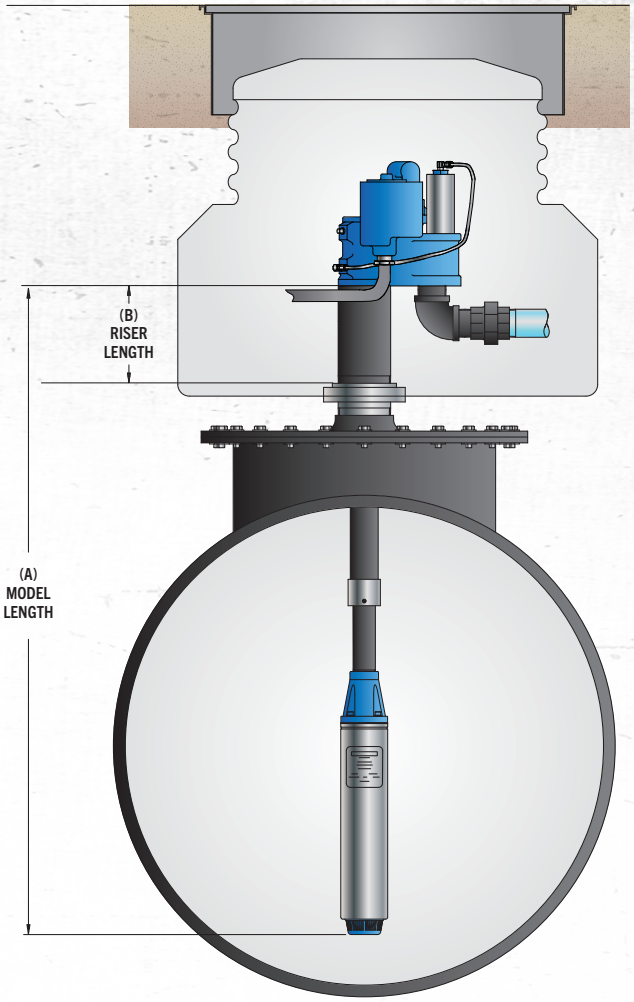
VL2 = Variable length range #2

VL3 = Variable length range #3

(Note VL2 models fit 94% of all known installations)

B = Riser Pipe Length (see diagram)

Riser pipe length is expressed as two numeric characters that indicate the total length of the riser in inches. Riser pipes are available from 178mm to 1524mm in 25mm increments (additional charge for risers 787mm or longer).



Model Length (A)

STP Horsepower	Model Length Range	Model Length Designation
2 Hp Variable Speed	1486mm – 2228mm	VL1
	2274mm – 3835mm	VL2
	3087mm – 5429mm	VL3
200B 2 Hp Fixed Speed	1632mm – 2374mm	VL1
	2420mm – 3981mm	VL2
	3233mm – 5575mm	VL3
200C 2 Hp Fixed Speed	1575mm – 2317mm	VL1
	2363mm – 3924mm	VL2
	3175mm – 5518mm	VL3

Note: High pressure option adds about 15mm to PMA and model length.

Notes: *If not otherwise specified, all STP models are supplied with standard model check valve (2.8 bar relief / 2.4 bar reset for MLD, TS-LS300, and TS-LS500).

ORDERING INFORMATION

2 Hp Variable Speed Submersible Turbine Pumps

Variable speed, variable length.

Model	Description	Model Length Range Number	Model Length Range*
STPMVS2-VL1	2 Hp variable speed with MagShell®	VL1	1486mm – 2228mm
STPMVS2-VL2	2 Hp variable speed with MagShell®	VL2	2274mm – 3835mm
STPMVS2-VL3	2 Hp variable speed with MagShell®	VL3	3087mm – 5429mm

2 Hp Variable Speed Intelligent Submersible Turbine Pumps

Variable speed, variable length, and AG compatible.

Model	Description	Model Length Range Number	Model Length Range*
ISTM-1	2 Hp AG variable speed with MagShell®	VL1	1486mm – 2228mm
ISTM-2	2 Hp AG variable speed with MagShell®	VL2	2274mm – 3835mm
ISTM-3	2 Hp AG variable speed with MagShell®	VL3	3087mm – 5429mm
ISTAPM-1	2 Hp AG variable speed with Advanced Protection, and MagShell®	VL1	1486mm – 2228mm
ISTAPM-2	2 Hp AG variable speed with Advanced Protection, and MagShell®	VL2	2274mm – 3835mm
ISTAPM-3	2 Hp AG variable speed with Advanced Protection, and MagShell®	VL3	3087mm – 5429mm

Single-Phase 2 Hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STPM200B-VL1	2 Hp fixed speed with MagShell®	VL1	1632mm – 2374mm
STPM200B-VL2	2 Hp fixed speed with MagShell®	VL2	2420mm – 3981mm
STPM200B-VL3	2 Hp fixed speed with MagShell®	VL3	3233mm – 5575mm
STPHM200B-VL1	2 Hp high pressure fixed speed with MagShell®	VL1	1647mm – 2389mm
STPHM200B-VL2	2 Hp high pressure fixed speed with MagShell®	VL2	2435mm – 3996mm
STPHM200B-VL3	2 Hp high pressure fixed speed with MagShell®	VL3	3248mm – 5590mm

Three-Phase 2 Hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STPM200C-VL1	2 Hp fixed speed with MagShell®	VL1	1575mm – 2317mm
STPM200C-VL2	2 Hp fixed speed with MagShell®	VL2	2363mm – 3924mm
STPM200C-VL3	2 Hp fixed speed with MagShell®	VL3	3175mm – 5518mm
STPHM200C-VL1	2 Hp high pressure fixed speed with MagShell®	VL1	1590mm – 2332mm
STPHM200C-VL2	2 Hp high pressure fixed speed with MagShell®	VL2	2378mm – 3939mm
STPHM200C-VL3	2 Hp high pressure fixed speed with MagShell®	VL3	3190mm – 5533mm

Single-Phase Alcohol-Gas (AG) 2 Hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STPAGM200B-VL1	2 Hp AG fixed speed with MagShell®	VL1	1632mm – 2374mm
STPAGM200B-VL2	2 Hp AG fixed speed with MagShell®	VL2	2420mm – 3981 mm
STPAGM200B-VL3	2 Hp AG fixed speed with MagShell®	VL3	3233mm – 5575mm
STPAGHM200B-VL1	2 Hp AG high pressure fixed speed with MagShell®	VL1	1647mm – 2389mm
STPAGHM200B-VL2	2 Hp AG high pressure fixed speed with MagShell®	VL2	2435mm – 3996mm
STPAGHM200B-VL3	2 Hp AG high pressure fixed speed with MagShell®	VL3	3248mm – 5590mm
STPAPM200B-VL1	2 Hp fixed speed with Advanced Protection, and MagShell®	VL1	1632mm – 2374mm
STPAPM200B-VL2	2 Hp fixed speed with Advanced Protection, and MagShell®	VL2	2420mm – 3981mm
STPAPM200B-VL3	2 Hp fixed speed with Advanced Protection, and MagShell®	VL3	3233mm – 5575mm
STPAPHM200B-VL1	2 Hp high pressure fixed speed with Advanced Protection, and MagShell®	VL1	1647mm – 2389mm
STPAPHM200B-VL2	2 Hp high pressure fixed speed with Advanced Protection, and MagShell®	VL2	2435mm – 3996mm
STPAPHM200B-VL3	2 Hp high pressure fixed speed with Advanced Protection, and MagShell®	VL3	3248mm – 5590mm

Notes:

1. Remove "M" from model number for non-MagShell® pump motor assembly.
2. STP models are compatible with fuel mixtures containing up to 10% ethanol with gasoline, up to 5% Biodiesel with diesel fuels, and 20% MTBE, 20% ETBE or 17% TAME with gasoline. STPAG/ STPAP models are compatible with fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
3. All models are supplied with a standard check valve unless factory option "R" or "W" is specified.
4. All above 200B models require single-phase, 200-250 VAC, 50 Hz incoming power. All above 200C models require three-phase, 380-415 VAC, 50 Hz incoming power.
5. 4" riser pipe, if supplied locally, must be 4½" OD by 3/16" WT tubing.
6. For riser pipe lengths 787mm to 1524mm, additional charges apply (call Customer Service for lead times).

*Model length (A) defined as the dimension from turbine manifold bottom to pump motor inlet.

ORDERING INFORMATION

Three-Phase Alcohol-Gas (AG) 2 Hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STPAGM200C-VL1	2 Hp AG fixed speed with MagShell®	VL1	1575mm – 2317mm
STPAGM200C-VL2	2 Hp AG fixed speed with MagShell®	VL2	2363mm – 3924mm
STPAGM200C-VL3	2 Hp AG fixed speed with MagShell®	VL3	3175mm – 5518mm
STPAGHM200C-VL1	2 Hp AG high pressure fixed speed with MagShell®	VL1	1590mm – 2332mm
STPAGHM200C-VL2	2 Hp AG high pressure fixed speed with MagShell®	VL2	2378mm – 3939mm
STPAGHM200C-VL3	2 Hp AG high pressure fixed speed with MagShell®	VL3	3190mm – 5533 mm
STPAPM200C-VL1	2 Hp fixed speed with Advanced Protection, and MagShell®	VL1	1575mm – 2317mm
STPAPM200C-VL2	2 Hp fixed speed with Advanced Protection, and MagShell®	VL2	2363mm – 3924mm
STPAPM200C-VL3	2 Hp fixed speed with Advanced Protection, and MagShell®	VL3	3175mm – 5518mm
STPAPHM200C-VL1	2 Hp high pressure fixed speed with Advanced Protection, and MagShell®	VL1	1590mm – 2332mm
STPAPHM200C-VL2	2 Hp high pressure fixed speed with Advanced Protection, and MagShell®	VL2	2378mm – 3939mm
STPAPHM200C-VL3	2 Hp high pressure fixed speed with Advanced Protection, and MagShell®	VL3	3190mm – 5533mm

Notes:
1. Remove "M" from model number for non-MagShell® pump motor assembly.
2. STP models are compatible with fuel mixtures containing up to 10% ethanol with gasoline, up to 5% Biodiesel with diesel fuels, and 20% MTBE, 20% ETBE or 17% TAME with gasoline. STPAG/ STPAP models are compatible with fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
3. All models are supplied with a standard check valve unless factory option "R" or "W" is specified.
4. All above 200B models require single-phase, 200-250 VAC, 50 Hz incoming power. All above 200C models require three-phase, 380-415 VAC, 50 Hz incoming power.
5. 4" riser pipe, if supplied locally, must be 4½" OD by 3/16" WT tubing.
6. For riser pipe lengths 787mm to 1524mm, additional charges apply (call Customer Service for lead times).

*Model length (A) defined as the dimension from turbine manifold bottom to pump motor inlet.

Factory Installed Approvals

Specified in model number at time of STP order.

Model	Description
(ATXF)	Submersible Turbine Pumps with ATEX Flameproof approval for EN markets
(RT)	Submersible Turbine Pumps with ROSTEST approval for Eastern European markets

Note: If not otherwise specified, all models are supplied to UL approval as standard. Consult factory for local approvals.

Factory Installed Options

Specified in model number at time of STP order.

Model	Description
F	Floating suction adapter, 1½" NPT female, must be factory installed
K	IFS (intake filter screen) factory assembled to pump motor assembly
R	Model R check valve, factory installed, for Veeder-Root® PLLD Line Leak
W	Model W check valve, factory installed, for Red Jacket PPM4000 Line Leak

Field Installed Options

2 Hp submersible pump specific accessories.

Model	Description
400137937	Syphon check valve, alcohol-gasoline compatible
5874202800	MagVFC™, 2 hp or 4 hp variable frequency controller, one required per VS2 or IST
5874202900	EcoVFC™, 2 hp variable frequency controller, one required per VS2 or IST
400818922	STP-CBBS, single-phase control box with lockout switch, 240 Volt coil
402312932	STP-DHIB + SPGC-220 Guardian Series™ Single Phase Smart Controller bundle
402313922	STP-DHIB-CBBS, combo DHI with factory-wired STP-CBBS single-phase control box
402459931	Model 65 psi (4.5 bar) check valve AG compatible, (for slave of manifolded STPs with Veeder-Root® PLLD)
402507930	Secondary syphon kit (when two syphon primes are required for one STP)
5800100220	SPGC-220 Guardian Series™ Single Phase Smart Controller
401220965	STP-CBB3C three-phase, 380-415 VAC magnetic starter
5800103300	STP-SCIIIC three-phase, 380-415 VAC smart controller
5800300200	STP-DHIB, dispenser hook isolation for 240 Volt dispenser handle switches, up to eight each

Franklin Fueling Systems

1½ HP SUBMERSIBLE TURBINE PUMPS

FE PETRO® 1½ Hp fixed speed submersible pumps deliver consistent flow rates for medium throughput fuels.

TECHNICAL ADVANTAGES

OPTIONAL FEATURES

Biofuel Compatibility

FE PETRO® pumps are UL listed with both UL79A (up to 85% Ethanol) and UL79B (up to 20% or 100% Biodiesel).

Variable Length

The patented telescoping pump shaft lets installers adjust the length of the pump onsite for the perfect fit.

Advanced Protection

Stop corrosion in its tracks. Special powder-coated, e-coated, and stainless steel components defend your pump in the tank and in the sump from accelerated corrosion.

Turbine Pump Interface

Remote enhanced pump monitoring and control including pump-in-water automation, clogged intake escalation, tank leveling, and tank priority.

Intake Filter Screen

Avoid system damage, pumping slowdowns, and reduce filter changes by keeping harmful tank debris, sediment, and corrosion from entering the pumping system with this factory-installed option.

STANDARD FEATURES

Active Air Eliminator

FE PETRO® STPs come standard with active air elimination, which eliminates air through the highest point in the pump head at all times when the pump is running, assuring air does not pass into discharge piping.

Safety and Ease of Maintenance

FE PETRO® STPs include a contractor electrical disconnect, which requires loosening only one bolt, allowing motor wiring to be disconnected without venting the dangerous tank vapors into the sump when servicing FE PETRO® submersible products.

Simple Servicing

If ever required, the pump can be easily removed from the tank by unthreading three bolts. There is no need to disconnect the syphon system or to remove the leak detector from the system to service the STP.

Manual Pressure Relief

As a standard FE PETRO® feature, a vent screw is provided to bleed line pressure to zero when necessary. By turning this screw, product is diverted back to the tank, dropping line pressure to zero. This reduces fuel discharged into the sump manhole or dispenser pan during servicing, further protecting service technicians and the environment.

Outlast, Outperform with Franklin Electric Inside

FE PETRO® STPs are powered by the legendary Franklin Electric motor and built for long term performance. Franklin Electric-powered submersible pumps provide maximum uptime and a proven track record in the fueling industry that spans more than four decades. They feature best-in-class flow rates and a long history of dependability.

Quality Certification

Franklin Fueling Systems is an ISO 9001 Certified Manufacturer.

SPECIFICATIONS

General

- 1½ Hp fixed speed models are available in variable length and fixed length options.
- Check valve: 70mm diameter fluorocarbon seal constructed with cast aluminum body and steel backing washer.
- Pressure relief valve: available in four pressure relief settings, integral to check valve. Standard model relieves at 2.8 bar and resets above 2.4 bar.
- Syphon: venturi-type syphon primer supplied with every submersible. Syphon check valve and secondary syphon sold separately.
- Air eliminator: every submersible includes a tank return path with one-way check valve to provide active air elimination.
- Electrical disconnect: electrical yoke for positive contractor disconnect during service.

Pump Motor

- 1½ Hp fixed speed, 2875 rpm, multi-stage centrifugal type pump motor with integral, automatic, thermal overload protection.
- Standard pressure (three-stage) model, max. pressure = 2.62 bar.
- High pressure (four-stage) model, max. pressure = 3.31 bar.

Approvals

- cULus listed.
- Consult factory for applicable approvals.

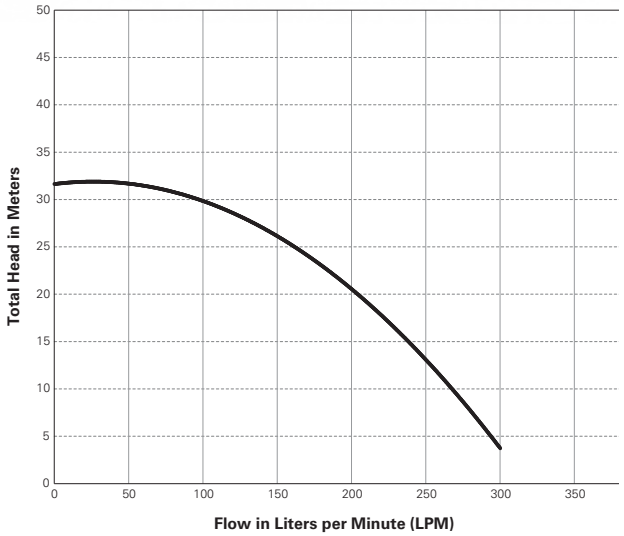
Power Requirements

- 150B fixed speed models require single-phase, 200-250 VAC, 50 Hz incoming power. 150C fixed speed models require three-phase 380-415 VAV, 50 Hz incoming power.
- 150B fixed speed models incorporate a starting and running capacitor, with internal bleed resistor, rated 440 Volt, 15 microfarad.
- SPGC single-phase Guardian™ Series Controllers and STP-CBBS single-phase control boxes are available for 150B pump control.
- STP-SCIIC three phase controllers and STP-CBB3C three-phase magnetic starters are available for 150C control.
- Max. motor draw: 150B 9 Amps, 150C 3 Amps.

Liquid Compatibility

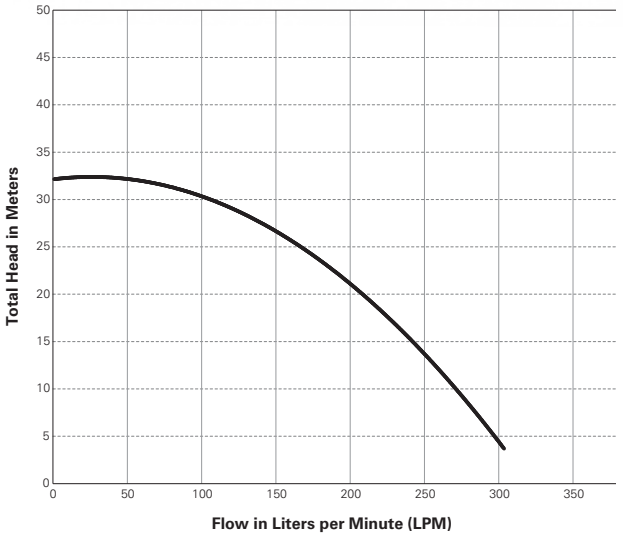
- Max. liquid viscosity: 70 SSU at 60 °F (15 °C).
- Standard STP models are UL and cUL listed for fuel mixtures containing up to 10% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
- STPAP/STPAG (AG compatible) models are UL listed for fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
- 1½ Hp fixed speed models can also be used with diesel fuels, fuel oils, kerosene, Avgas, and jet fuels in a non-gelled pourable state.
- All wetted elastomers are made of a high grade, fluorocarbon compound.

1½ Hp Single-Phase Fixed Speed Pump Performance Chart (STP150B)



Note: Performance based on pumping gasoline (0.78 specific gravity). Pressure is taken at the manifold discharge outlet. 150B models are powered by a 250 Volt power supply.

1½ Hp Three-Phase Fixed Speed Pump Performance Chart (STP150C)



Note: Performance based on pumping gasoline (0.78 specific gravity). Pressure is taken at the manifold discharge outlet. 150C models are powered by a 415 Volt power supply.

ORDERING INFORMATION

1½ Hp Fixed Speed Submersible Pump Ordering Guide

A typical turbine model designation has up to five components to define the pump being supplied as follows:

STP XXXXX Y - A - B

STP = Basic Model Designation

XXXXX = Factory Installed Options (Model designations may include one or more of the following characters in alphabetical order.)

AP = Advanced Protection with powder-coated, e-coated, and stainless steel components, alcohol-gasoline compatible (up to E85, up to B20, and B100) (Note standard models up to 10% ethanol capable)

AG = Alcohol-gasoline compatible (up to E85, up to B20, and B100) (Note standard models up to 10% ethanol capable)

F = Floating suction adapter (1½" NPT female adapter)

K = Intake filter screen (IFS, factory installed to PMA)

*R = Model R check valve (1.7 bar relief / 1.5 bar reset for PLLD)

*W = Model W check valve (1.1 bar relief / 0.9 bar reset for PPM4000)

Y = Pump Motor Horsepower Rating

150B = 1½ hp fixed speed, 50 Hz, single-phase

150C = 1½ hp fixed speed, 50 Hz, three-phase

A = Model Length (see table)

VL1 = Variable length range #1.

VL2 = Variable length range #2.

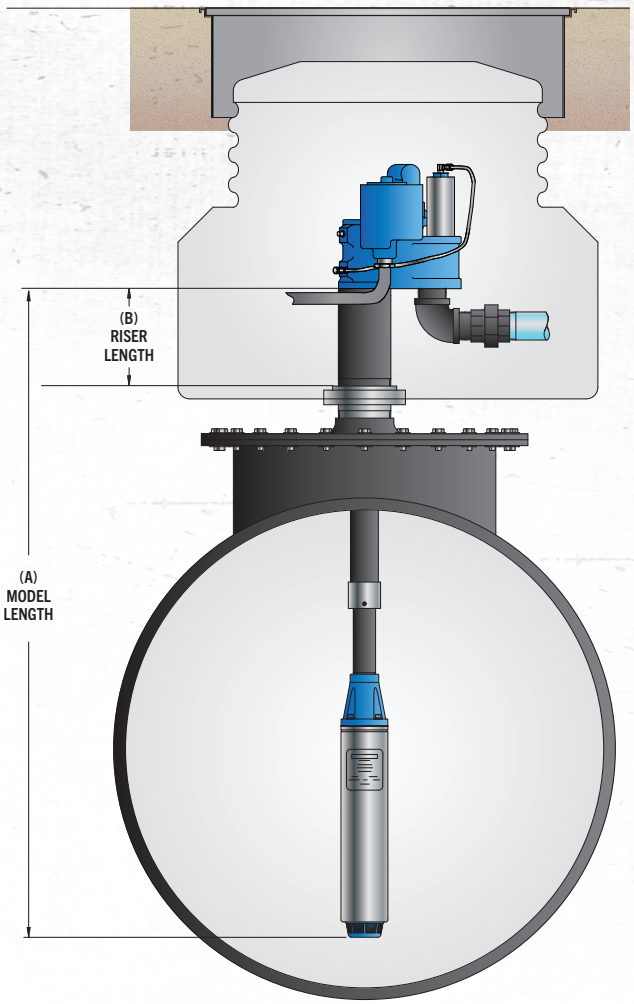
VL3 = Variable length range #3.

(Note VL2 models fit 94% of all known installations)

B = Riser Pipe Length (see diagram)

Riser pipe length is expressed as two numeric characters that indicate the total length of the riser in inches. Riser pipes are available from 178mm to 1524mm in 25mm increments (additional charge for risers 787mm or longer).

Notes: *If not otherwise specified, all STP models are supplied with standard model check valve (2.8 bar relief / 2.4 bar reset for MLD, TS-LS300, and TS-LS500).



Model Length (A)

STP Horsepower	Model Length Range	Model Length Designation
150B 1½ Hp Fixed Speed	1556mm – 2298mm	VL1
	2344mm – 3905mm	VL2
	3156mm – 5499mm	VL3
150C 1½ Hp Fixed Speed	1531mm – 2273mm	VL1
	2318mm – 3879mm	VL2
	3131mm – 5473mm	VL3

Note: High pressure option adds about 13mm to PMA and model length.

ORDERING INFORMATION

Single-Phase 1½ Hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STP150B-VL1	1½ Hp fixed speed	VL1	1556mm – 2298mm
STP150B-VL2	1½ Hp fixed speed	VL2	2344mm – 3905mm
STP150B-VL3	1½ Hp fixed speed	VL3	3156mm – 5499mm
STPH150B-VL1	1½ Hp high pressure fixed speed	VL1	1569mm – 2311mm
STPH150B-VL2	1½ Hp high pressure fixed speed	VL2	2357mm – 3918mm
STPH150B-VL3	1½ Hp high pressure fixed speed	VL3	3169mm – 5512mm

Three-Phase 1½ Hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STP150C-VL1	1½ Hp fixed speed	VL1	1531mm – 2273mm
STP150C-VL2	1½ Hp fixed speed	VL2	2318mm – 3879mm
STP150C-VL3	1½ Hp fixed speed	VL3	3131mm – 5473mm
STPH150C-VL1	1½ Hp high pressure fixed speed	VL1	1544mm – 2286mm
STPH150C-VL2	1½ Hp high pressure fixed speed	VL2	2331mm – 3892mm
STPH150C-VL3	1½ Hp high pressure fixed speed	VL3	3144mm – 5486mm

Single-Phase Alcohol-Gas (AG) 1½ Hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STPAG150B-VL1	1½ Hp AG fixed speed	VL1	1556mm – 2298mm
STPAG150B-VL2	1½ Hp AG fixed speed	VL2	2344mm – 3905mm
STPAG150B-VL3	1½ Hp AG fixed speed	VL3	3156mm – 5499mm
STPAGH150B-VL1	1½ Hp AG high pressure fixed speed	VL1	1569mm – 2311mm
STPAGH150B-VL2	1½ Hp AG high pressure fixed speed	VL2	2357mm – 3918mm
STPAGH150B-VL3	1½ Hp AG high pressure fixed speed	VL3	3169mm – 5512mm
STPAP150B-VL1	1½ Hp fixed speed with Advanced Protection	VL1	1556mm – 2298mm
STPAP150B-VL2	1½ Hp fixed speed with Advanced Protection	VL2	2344mm – 3905mm
STPAP150B-VL3	1½ Hp fixed speed with Advanced Protection	VL3	3156mm – 5499mm
STPAPH150B-VL1	1½ Hp high pressure fixed speed with Advanced Protection	VL1	1569mm – 2311mm
STPAPH150B-VL2	1½ Hp high pressure fixed speed with Advanced Protection	VL2	2357mm – 3918mm
STPAPH150B-VL3	1½ Hp high pressure fixed speed with Advanced Protection	VL3	3169mm – 5512mm

Three-Phase Alcohol-Gas (AG) 1½ Hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STPAG150C-VL1	1½ Hp AG fixed speed	VL1	1531mm – 2273mm
STPAG150C-VL2	1½ Hp AG fixed speed	VL2	2318mm – 3879mm
STPAG150C-VL3	1½ Hp AG fixed speed	VL3	3131mm – 5473mm
STPAGH150C-VL1	1½ Hp AG high pressure fixed speed	VL1	1544mm – 2286mm
STPAGH150C-VL2	1½ Hp AG high pressure fixed speed	VL2	2331mm – 3892mm
STPAGH150C-VL3	1½ Hp AG high pressure fixed speed	VL3	3144mm – 5486mm
STPAP150C-VL1	1½ Hp fixed speed with Advanced Protection	VL1	1531mm – 2273mm
STPAP150C-VL2	1½ Hp fixed speed with Advanced Protection	VL2	2318mm – 3879mm
STPAP150C-VL3	1½ Hp fixed speed with Advanced Protection	VL3	3131mm – 5473mm
STPAPH150C-VL1	1½ Hp high pressure fixed speed with Advanced Protection	VL1	1544mm – 2286mm
STPAPH150C-VL2	1½ Hp high pressure fixed speed with Advanced Protection	VL2	2331mm – 3892mm
STPAPH150C-VL3	1½ Hp high pressure fixed speed with Advanced Protection	VL3	3144mm – 5486mm

Notes:
1. STP models are compatible with fuel mixtures containing up to 10% ethanol with gasoline, up to 5% Biodiesel with diesel fuels, and 20% MTBE, 20% ETBE or 17% TAME with gasoline. STPAG/STPAP models are compatible with fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.

2. All models are supplied with a standard check valve unless factory option "R" or "W" is specified.

3. All above 150B models require single-phase, 200-250 VAC, 50 Hz incoming power. All above 150C models require single-phase, 380-450 VAC, 50 Hz incoming power.

4. 4" riser pipe, if supplied locally, must be 4½" OD by 3/16" WT tubing.

5. For riser pipe lengths 787mm to 1524mm, additional charges apply (call Customer Service for lead times).

*Model length (A) defined as the dimension from turbine manifold bottom to pump motor inlet.

Factory Installed Approvals

Specified in model number at time of STP order.

Model	Description
(ATXF)	Submersible Turbine Pumps with ATEX Flameproof approval for EN markets
(RT)	Submersible Turbine Pumps with ROSTEST approval for Eastern European markets

Note: If not otherwise specified, all models are supplied to UL approval as standard. Consult factory for local approvals.

Factory Installed Options

Specified in model number at time of STP order.

Model	Description
F	Floating suction adapter, 1½" NPT female, must be factory installed
K	IFS (intake filter screen) factory assembled to pump motor assembly
R	Model R check valve, factory installed, for Veeder-Root® PLLD Line Leak
W	Model W check valve, factory installed, for Red Jacket PPM4000 Line Leak

Field Installed Options

1½ Hp fixed speed specific accessories.

Model	Description
400137937	Syphon check valve, alcohol-gasoline compatible
400818922	STP-CBBS, single-phase control box with lockout switch, 240 Volt coil
402312932	STP-DHIB + SPGC-220 Guardian Series™ Single Phase Smart Controller bundle
402313922	STP-DHIB-CBBS, combo DHIB with factory-wired STP-CBBS single-phase control box
402459931	Model 65 psi (4.5 bar) check valve AG compatible, (for slave of manifolded STPs with Veeder-Root® PLLD)
402507930	Secondary syphon kit (when two syphon primes are required for one STP)
5800100220	SPGC-220 Guardian Series™ Single Phase Smart Controller
401220965	STP-CBB3C three-phase, 380-415 VAC magnetic starter
5800103300	STP-SCIIIC three-phase, 380-415 VAC smart controller
5800300200	STP-DHIB, dispenser hook isolation for 240 Volt dispenser handle switches, up to eight each

Franklin Fueling Systems

¾ HP SUBMERSIBLE TURBINE PUMPS

FE PETRO® 1½ Hp fixed speed submersible pumps deliver consistent flow rates for low throughput fuels.

TECHNICAL ADVANTAGES

OPTIONAL FEATURES

Biofuel Compatibility

FE PETRO® pumps are UL listed with both UL79A (up to 85% Ethanol) and UL79B (up to 20% or 100% Biodiesel).

Variable Length

The patented telescoping pump shaft lets installers adjust the length of the pump onsite for the perfect fit.

Advanced Protection

Stop corrosion in its tracks. Special powder-coated, e-coated, and stainless steel components defend your pump in the tank and in the sump from accelerated corrosion.

Turbine Pump Interface

Remote enhanced pump monitoring and control including pump-in-water automation, clogged intake escalation, tank leveling, and tank priority.

Intake Filter Screen

Avoid system damage, pumping slowdowns, and reduce filter changes by keeping harmful tank debris, sediment, and corrosion from entering the pumping system with this factory-installed option.

STANDARD FEATURES

Active Air Eliminator

FE PETRO® STPs come standard with active air elimination, which eliminates air through the highest point in the pump head at all times when the pump is running, assuring air does not pass into discharge piping.

Safety and Ease of Maintenance

FE PETRO® STPs include a contractor electrical disconnect, which requires loosening only one bolt, allowing motor wiring to be disconnected without venting the dangerous tank vapors into the sump when servicing FE PETRO® submersible products.

Simple Servicing

If ever required, the pump can be easily removed from the tank by unthreading three bolts. There is no need to disconnect the syphon system or to remove the leak detector from the system to service the STP.

Manual Pressure Relief

As a standard FE PETRO® feature, a vent screw is provided to bleed line pressure to zero when necessary. By turning this screw, product is diverted back to the tank, dropping line pressure to zero. This reduces fuel discharged into the sump manhole or dispenser pan during servicing, further protecting service technicians and the environment.

Outlast, Outperform with Franklin Electric Inside

FE PETRO® STPs are powered by the legendary Franklin Electric motor and built for long term performance. Franklin Electric-powered submersible pumps provide maximum uptime and a proven track record in the fueling industry that spans more than four decades. They feature best-in-class flow rates and a long history of dependability.

Quality Certification

Franklin Fueling Systems is an ISO 9001 Certified Manufacturer.

SPECIFICATIONS

General

- ¾ Hp fixed speed models are available in variable length and fixed length options.
- Check valve: 70mm diameter fluorocarbon seal constructed with cast aluminum body and steel backing washer.
- Pressure relief valve: available in four pressure relief settings, integral to check valve. Standard model relieves at 2.8 bar and resets above 2.4 bar.
- Syphon: venturi-type syphon primer supplied with every submersible. Syphon check valve and secondary syphon sold separately.
- Air eliminator: every submersible includes a tank return path with one-way check valve to provide active air elimination.
- Electrical disconnect: electrical yoke for positive contractor disconnect during service.

Pump Motor

- ¾ Hp fixed speed, 2875 rpm, two-stage centrifugal type pump motor with integral, automatic thermal overload protection.
- ¾ Hp models have a max. pressure of 2.55 bar.

Approvals

- cULus listed.
- Consult factory for applicable approvals.

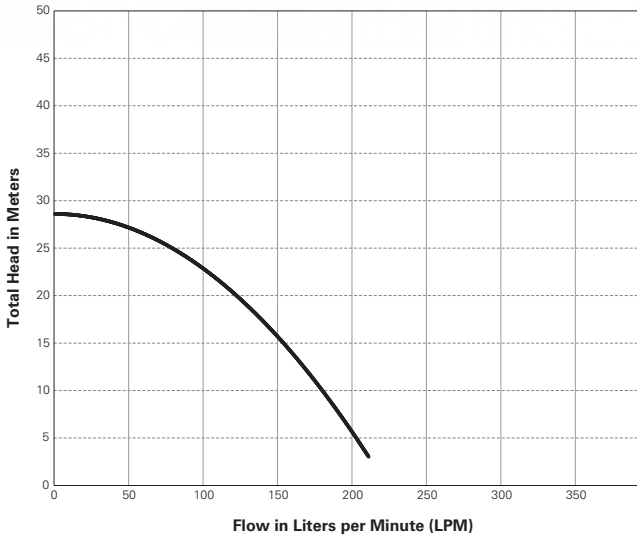
Power Requirements

- 75B fixed speed models require single-phase, 200-250 VAC, 50 Hz incoming power. 75C fixed speed models require three-phase, 380-415 VAC, 50 Hz incoming power
- 75B fixed speed models incorporate a starting and running capacitor, with internal bleed resistor, rated 440 Volt, 15 microfarad.
- SPGC-220 single-phase Guardian™ Series Controllers and STP-CBBS single-phase control boxes are available for 75B pump control.
- STP-SCIIIC three-phase smart controller and STP-CBB3C three-phase magnetic starter are available for 75C control
- ¾ Hp max. motor draw: 75B 6 Amps, 75C 3 Amps.

Liquid Compatibility

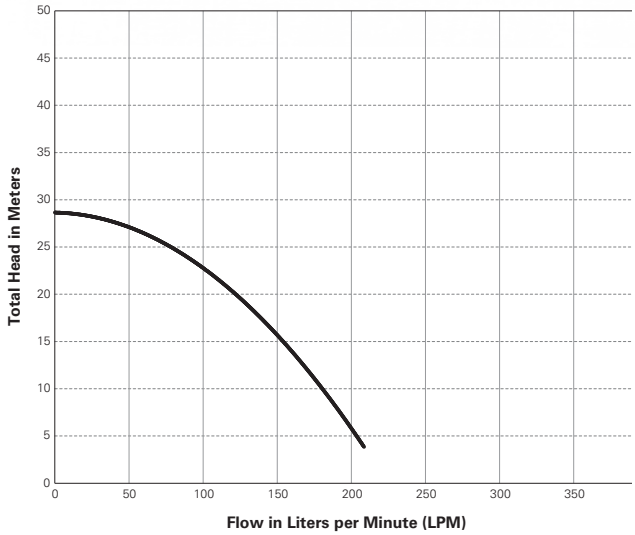
- Max. liquid viscosity: 70 SSU at 60 °F (15 °C).
- Standard STP models are UL and cUL listed for fuel mixtures containing up to 10% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
- STPAG/STPAP (AG compatible) models are UL listed for fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
- ¾ Hp fixed speed models can also be used with diesel fuels, fuel oils, kerosene, Avgas, and jet fuels in a non-gelled pourable state.
- All wetted elastomers are made of a high grade, fluorocarbon compound.

¾ Hp Single-Phase Fixed Speed Pump Performance Chart (STP75B)



Note: Performance based on pumping gasoline (0.78 specific gravity). Pressure is taken at the manifold discharge outlet. 75B models are powered by a single-phase, 250 Volt power supply.

¾ Hp Three-Phase Fixed Speed Pump Performance Chart (STP75C)



Note: Performance based on pumping gasoline (0.78 specific gravity). Pressure is taken at the manifold discharge outlet. 75C models are powered by a single-phase, 415 Volt power supply.

ORDERING INFORMATION

¾ Hp Fixed Speed Submersible Pump Ordering Guide

A typical turbine model designation has up to five components to define the pump being supplied as follows:

STP XXXXX Y - A - B

STP = Basic Model Designation

XXXXX = Factory Installed Options (Model designations may include one or more of the following characters in alphabetical order.)

AP = Advanced Protection with powder-coated, e-coated, and stainless steel components, alcohol-gasoline compatible (up to E85, up to B20, and B100) (Note standard models up to 10% ethanol capable)

AG = Alcohol-gasoline compatible (up to E85, up to B20, and B100) (Note standard models up to 10% ethanol capable)

F = Floating suction adapter (1½" NPT female adapter)

K = Intake filter screen (IFS, factory installed to PMA)

*R = Model R check valve (1.7 bar relief / 1.5 bar reset for PLLD)

*W = Model W check valve (1.1 bar relief / 0.9 bar reset for PPM4000)

Y = Pump Motor Horsepower Rating

75B = ¾ Hp fixed speed, 50 Hz, single-phase

75C = ¾ Hp fixed speed, 50 Hz, three-phase

A = Model Length (see table)

VL1 = Variable length range #1.

VL2 = Variable length range #2.

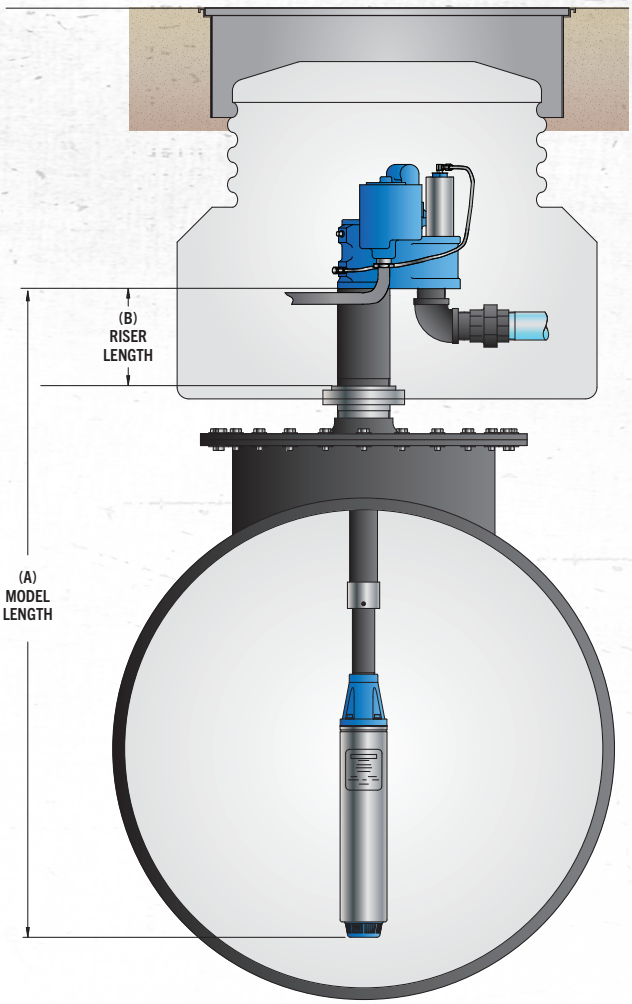
VL3 = Variable length range #3.

(Note VL2 models fit 94% of all known installations)

B = Riser Pipe Length (see diagram)

Riser pipe length is expressed as two numeric characters that indicate the total length of the riser in inches. Riser pipes are available from 178mm to 1524mm in 25mm increments (additional charge for risers 787mm or longer).

Notes: *If not otherwise specified, all STP models are supplied with standard model check valve (2.8 bar relief / 2,4 bar reset for MLD, TS-LS300, and TS-LS500).



Model Length (A)

STP Horsepower	Model Length Range	Model Length Designation
75B ¾ Hp Fixed Speed	1499mm – 2241mm	VL1
	2286mm – 3848mm	VL2
	3099mm – 5441mm	VL3
75C ¾ Hp Fixed Speed	1480mm – 2222mm	VL1
	2267mm – 3829mm	VL2
	3080mm – 5422mm	VL3

ORDERING INFORMATION

Single-Phase ¾ Hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STP75B-VL1	¾ Hp fixed speed	VL1	1499mm – 2241mm
STP75B-VL2	¾ Hp fixed speed	VL2	2286mm – 3848mm
STP75B-VL3	¾ Hp fixed speed	VL3	3099mm – 5441mm

Three-Phase ¾ Hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STP75C-VL1	¾ Hp fixed speed	VL1	1480mm – 2222mm
STP75C-VL2	¾ Hp fixed speed	VL2	2267mm – 3829mm
STP75C-VL3	¾ Hp fixed speed	VL3	3080mm – 5422mm

Single-Phase Alcohol-Gas (AG) ⅓ and ¾ Hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STPAG75B-VL1	¾ Hp AG fixed speed	VL1	1499mm – 2241mm
STPAG75B-VL2	¾ Hp AG fixed speed	VL2	2286mm – 3848mm
STPAG75B-VL3	¾ Hp AG fixed speed	VL3	3099mm – 5441mm
STPAP75B-VL1	¾ Hp fixed speed with Advanced Protection	VL1	1499mm – 2241mm
STPAP75B-VL2	¾ Hp fixed speed with Advanced Protection	VL2	2286mm – 3848mm
STPAP75B-VL3	¾ Hp fixed speed with Advanced Protection	VL3	3099mm – 5441mm

Three-Phase Alcohol-Gas (AG) ⅓ and ¾ Hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STPAG75C-VL1	¾ Hp AG fixed speed	VL1	1480mm – 2222mm
STPAG75C-VL2	¾ Hp AG fixed speed	VL2	2267mm – 3829mm
STPAG75C-VL3	¾ Hp AG fixed speed	VL3	3080mm – 5422mm
STPAP75C-VL1	¾ Hp fixed speed with Advanced Protection	VL1	1480mm – 2222mm
STPAP75C-VL2	¾ Hp fixed speed with Advanced Protection	VL2	2267mm – 3829mm
STPAP75C-VL3	¾ Hp fixed speed with Advanced Protection	VL3	3080mm – 5422mm

Notes:
1. STP models are compatible with fuel mixtures containing up to 10% ethanol with gasoline, up to 5% Biodiesel with diesel fuels, and 20% MTBE, 20% ETBE or 17% TAME with gasoline. STPAG/STPAP models are compatible with fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.

2. All models are supplied with a standard check valve unless factory option "R" or "W" is specified.

3. All above 75B models require single-phase, 200-250 VAC, 50 Hz incoming power. All above 75C models require three-phase, 380-415 VAC, 50 Hz incoming power.

4. 4" riser pipe, if supplied locally, must be 4½" OD by 3/16" WT tubing.

5. For riser pipe lengths 787mm to 1524mm, additional charges apply. (Call Customer Service for lead times.)

*Model length (A) defined as the dimension from turbine manifold bottom to pump motor inlet.

Factory Installed Approvals

Specified in model number at time of STP order.

Model	Description
(ATXF)	Submersible Turbine Pumps with ATEX Flameproof approval for EN markets
(RT)	Submersible Turbine Pumps with ROSTEST approval for Eastern European markets

Note: If not otherwise specified, all models are supplied to UL approval as standard. Consult factory for local approvals.

Factory Installed Options

Specified in model number at time of STP order.

Model	Description
F	Floating suction adapter, 1½" NPT female, must be factory installed
K	IFS (intake filter screen) factory assembled to pump motor assembly
R	Model R check valve, factory installed, for Veeder-Root® PLLD Line Leak
W	Model W check valve, factory installed, for Red Jacket PPM4000 Line Leak

Field Installed Options

¾ Hp fixed speed specific accessories.

Model	Description
400137937	Syphon check valve, alcohol-gasoline compatible
400818922	STP-CBBS, single-phase control box with lockout switch, 240 Volt coil
402312932	STP-DHIB + SPGC-220 Guardian Series™ Single Phase Smart Controller bundle
402313922	STP-DHIB-CBBS, combo DHIB with factory-wired STP-CBBS single-phase control box
402459931	Model 65 psi (4.5 bar) check valve AG compatible, (for slave of manifolded STPs with Veeder-Root® PLLD)
402507930	Secondary syphon kit (when two syphon primes are required for one STP)
5800100220	SPGC-220 Guardian Series™ Single Phase Smart Controller
401220965	STP-CBB3C three-phase, 380-415 VAC magnetic starter
5800103300	STP-SCIIIC three-phase, 380-415 VAC smart controller
5800300200	STP-DHIB, dispenser hook isolation for 240 Volt dispenser handle switches, up to eight each

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VEEDER-ROOT

TLS-450PLUS, TLS4, & TLS4B Automatic Tank Gauges

Specification Sheet

Standard Features	TLS-450PLUS	TLS4	TLS4B
Color touch screen with user-friendly graphic display	✓	✓	✓
Universal AC power supply, 100-249VAC, 50/60HZ	✓	✓	✓
Optional DC power input, +24VDC, +5VDC	N/A	✓	✓
Rechargeable backup battery	✓	✓	✓
Internal 2-Amp relays, 120/240VAC or 30VDC	1	2	2
One internal universal low voltage input, 12VDC – senses contact closure	N/A	✓	✓
Maximum number of universal probe and/or sensor inputs	64/128/192/256 [1]	12/76 [1]	6
Maximum number of in-tank probes	64 [1]	12/32 [1]	6
Maximum number of any one type of sensor	99 [1]	12/76 [1]	6
Optional inputs and outputs	✓ [2]	✓ [3]	N/A
Web-enabled – monitor and manage via a web browser on a computer or mobile device	✓	✓	✓

[1] = TLS-450PLUS can have up to three TLS-XB Expansion Boxes; TLS4 can have one TLS-XB
[2] = 32 High Voltage Outputs, 32 High Voltage Inputs, 16 Low Voltage Inputs
[3] = 20 High Voltage Outputs, 20 High Voltage Inputs, 16 Low Voltage Inputs

Communications	TLS-450PLUS	TLS4	TLS4B
Configurable optically isolated RS-232/RS-485 serial ports – provides electrical isolation	N/A	2	2
Configurable RS-232/RS-485 serial ports	Up to 5	2	2
Ethernet port(s)	3	3	1
Ethernet network(s)	2	2	1
USB ports (external/internal)	2/2	2/0	2/0
External GSM/GPRS modem via Ethernet port	✓	✓	✓

System Specifications	TLS-450PLUS	TLS4	TLS4B
Multipoint tank chart, supports up to 5,000 unique points	✓	✓	✓
Network printer support via Ethernet	✓	✓	✓
Operating temperature: 32°F to 104°F (0°C to 40°C)	✓	✓	✓
Storage temperature: -40°F to 158°F (-40°C to 70°C)	✓	✓	✓
Relative humidity 0-90% (non-condensing)	✓	✓	✓
Approximate external dimensions	18.11" x 11.02" x 8.66" 46cm x 28cm x 22cm	12.99" x 7.87" x 3.54" 33cm x 20cm x 9cm	12.99" x 7.87" x 3.54" 33cm x 20cm x 9cm
Construction 16GA (0.060"/0.1524cm) powder-coated steel	✓	✓	✓

Safety Approval Groups	TLS-450PLUS	TLS4	TLS4B
UL/cUL listed	✓	✓	✓
ATEX	✓	✓	✓
IECEx	✓	✓	✓
NEPSI	✓	✓	✓
FCC	✓	✓	✓
EMC	✓	✓	✓
PESO	✓	✓	✓

Operational Features	TLS-450PLUS	TLS4	TLS4B
Multi-language GUI capability	✓ [1]	✓ [1]	✓ [1]
Units of measure: Metric, US/Imperial	✓	✓	✓
Custom alarms for unique labeling or on-site instruction	✓	✓	✓
Customizable automatic events for email, print reports, relay and pump control	✓	✓	✓
Workflow wizard for streamlined setup	✓	✓	✓
Context sensitive help	✓	✓	✓
Comprehensive reports	✓	✓	✓
Up to three years of history available	✓	✓	✓
Inventory and delivery monitoring – including inventory history up to 720 records	✓	✓	✓
Power outage	✓	✓	✓
Alarm history	✓	✓	✓
Storage capability setup, configuration and data history	✓	✓	✓
Additional feature enhancement software upgrade capability – through USB	✓	✓	✓
Prominent visual status indicators – including power, warning, and alarm	✓	✓	✓
Software upgrade via USB	✓	✓	✓
Remote software download capability via Centralized Device Management (CDM)	Optional	Optional	Optional

[1] = Arabic, Brazil Portuguese, Chinese, Simplified Chinese, English, Finnish, French, German, Hebrew, Hindi, Italian, Korean, Polish, Portuguese, Russian, Spanish

Additional Functionality (When combined with appropriate equipment and/or software)	TLS-450PLUS	TLS4	TLS4B
AccuChart™ In-Tank Calibration – including selectable calibration range and data sufficiency tracking	Optional	Optional	Optional
Business Inventory Reconciliation (BIR)	Optional	Optional	Optional
Hourly Reconciliation Monitoring (HRM)	Optional	Optional	Optional
Timed Sudden Loss Detection	Optional	Optional	Optional
10-Amp Controller Module	Optional	Optional	N/A
Digital Pressurized Line Leak Detection (DPLLD)	Optional	N/A	N/A
In-Tank Static Leak Detection (SLD) – 0.1 Gallons Per Hour (GPH)/0.38 Liters Per Hour (LPH) annual and 0.2 GPH/0.76 LPH monthly testing	✓	✓	Optional
Continuous Statistical Leak Detection (CSLD) – 0.76 LPH for single and manifolded tanks	Optional	Optional	N/A
Phase Separation Detection Up to E20 – 4"/10.16cm float kit	✓	✓	✓
Mag-FLEX Tall Tank AST Monitoring – up to 264,172,000 gal/999,999,999 liter tank capacity	✓	✓	✓
Fuel Density Monitoring	✓	✓	✓
Range: 700-800kg/m³ (petroleum)	✓	✓	✓
Range: 800-900kg/m³ (diesel)	✓	✓	✓
THE PLUS VIEW App (iOS, Android) for Remote Access on Smart Phones and Tablets	✓	✓	✓
HydrX™ Fuel Conditioning System	✓	✓ [1]	N/A
In-Station Diagnostics (ISD)	✓ [2]	N/A	N/A

[1] = One TLS-XB Expansion Box is required
[2] = California Air Resources Board (CARB) certified

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VEEDER-ROOT™

ATTACHMENT C

Alternative Design and Protection Method for Tanks

(Not Applicable)

ATTACHMENT D

Manufacturer Information for Piping

Dualoy® 3000/LCX Product Data

Applications

Rigid fiberglass coaxial fuel handling systems requiring Underwriters Laboratories Listing for integral primary and containment piping conveying the following fuels:

- Motor Vehicle (MV)
- Aviation and Marine A&M)
- High Blend (HB)
- Bio-Diesel
- Concentrated (CT)
- Diesel Exhaust Fluid

Description

Dualoy 3000/LCX rigid fiberglass coaxial piping is a cost-effective solution for contained piping systems. LCX is used for product delivery lines in underground fuel handling systems to convey fuel from the tank to the dispensers. Dualoy 3000/LCX pipe is UL Listed for use with motor vehicle (MV), high blend (HB), concentrated (CT) and aviation and marine (A&M) fuels. Based on currently known tests, NOV Fiber Glass Systems found this product to be suitable for conveying all blends of biodiesel and ethanol type fuels and the conveyance of DEF.

The LCX pipe is manufactured as an integral unit. The primary is made of chemically inert, non-permeable, fiberglass reinforced epoxy resin which is inherently resistant to deterioration due to water and microbial attack. This layer is covered with a porous layer to provide the small volume interstitial space, which facilitates rapid leak detection. Then, the containment layer, comprised of the same material as the primary, is wound over the primary and porous layers.

The containment system is installed with custom designed clamshell containment fittings. Both the primary and containment systems are bonded for long-term, reliable performance.

- Dualoy 3000/LCX containment fittings are typically bolted in place while the adhesive cures.
- Dualoy 3000/LCX reduces installation and inspection time dramatically, retaining system integrity.
- Dualoy 3000/LCX double wall design significantly improves impact resistance over single wall pipe.
- Dualoy 3000/LCX systems provide true double wall design which permits rapid communication through the interstice.

Listings and Approvals

The rigid fiberglass piping used in Dualoy 3000/LCX is Listed in the United States with Underwriters Laboratories for nonmetallic underground piping for MV, HB, CT and A&M fuels under File No. MH9162. Dualoy 3000/LCX pipe and fittings are also Listed with Underwriters Laboratories of Canada for Petroleum Products and Oxygenated Fuels (File CMH715). Underwriters Laboratories has also approved Dualoy 3000/L and Dualoy 3000/LCX for use with MTBE fluids.

Performance

Primary operating pressures to 200 psig (13.8 bar)

Continuous operating temperature to 150°F (66°C)

Containment system pressures to 50 psig (3.45 bar)

Individual system components may not have the same ratings as the pipe. Refer to the detailed product information for the specific components to determine the pressure rating for the system as a whole.

Composition

Primary pipe: Filament-wound fiberglass reinforced epoxy pipe with integral epoxy liner. When classified in accordance with ASTM D2310 and ASTM D2996, the pipe meets the following cell limits: RTRP 11CF1-5420.

Pipe containment: Filament-wound fiberglass reinforced epoxy pipe.

Interstitial space: Dry, graded glass beads secured in place with adhesive backed tape.

Fittings: Compression molded or filament-wound fiberglass reinforced epoxy primary fittings. Containment fittings are molded.

Adhesive: PSX™ •20 or PSX™ •34 ambient-cure, two-part epoxy for all services (including alcohols and MTBE).

Joining System

Primary:

Bell and spigot taper/taper adhesive-bonded joint

Containment:

Adhesive-bonded clamshell fittings. Parts are compression molded for exact fit and match. Material is identical to primary fittings and is UL Listed for all services, including use in MTBE fluids.

Pipe Lengths

Standard 20 ft. (6.1 m) random lengths 17 to 21 ft. (5.2 to 6.4 m)
and 30 ft. (9.1 m) random lengths 27 to 32 ft. (8.2 to 9.7 m)

Other lengths up to 42 ft. (12.8 m) available upon request.

Fittings

Primary	Adapters: bell x NPT male[1]	Flange stub ends[1]
	Adapters: bell x NPT female[2]	Isolation bushings[1]
	Adapters: spigot x NPT female[2]	Nipples[2]
	Adapters: spigot x NPT male[2]	Reducer bushings[1]
	45° elbows[1]	Repair couplings[1]
	90° elbows[1]	Sleeve couplings[2]
	End caps[1]	Tees[1]
	Flange rings[1]	Dispenser pan penetration fittings[1]
Containment	45° elbows[1]	Couplings[1]
	90° elbows[1]	Tees[1]
	Termination sleeves[1], [3]	

[1] Molded fitting
[2] Filament-wound fitting
[3] 2" (50 mm) available with or without test valve. 3" and 4" (80 and 100 mm) available only with test valve

Typical Pipe Dimensions and Weights

Pipe Size		Primary Pipe ID		Primary Pipe OD[1]		Primary Wall Thickness		Containment OD		Capacity		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	gal/ft	l/m	lb/ft	kg/m
2	50	2.21	56	2.37	60	0.080	2.03	2.59	66	0.20	0.76	0.90	1.34
3	80	3.32	84	3.50	89	0.085	2.16	3.70	94	0.45	1.70	1.30	1.93
4	100	4.33	110	4.50	114	0.087	2.21	4.70	119	0.77	2.92	1.74	2.59

[1] Typical outside diameters of 2"-4" (50 -100 mm) pipe are within API, ASTM and ANSI fiberglass and steel pipe dimensions.

Typical Primary Pipe Performance

Pipe Size		Pressure Rating[1]		Ultimate Internal Pressure[1]		Ultimate Collapse Pressure[2]	
in	mm	psig	MPa	psig	MPa	psig	MPa
2	50	200	2.07	1500	10.3	153	1.05
3	80	200	1.38	1000	6.9	90	0.62
4	100	175	1.21	750	5.2	39	0.27

[1] At 80°F (27°C)
[2] At 80°F (27°C) For continuous service do not exceed 75% of these values.

Fittings Pressure Performance

Pipe Size		Primary All Fittings		Containment Clamshell Fittings	
in	mm	psig	MPa	psig	kPa
2	50	200	1.38	50[1]	345
3	80	125	0.86	50[1]	345
4	100	100	0.69	20	138

[1] With reinforcing rings

For dimensions of primary fittings, consult Dualoy 3000/L Fittings Dimensions document. Pressure ratings of fittings without UL Listing are available on request.

Dualoy 3000/LCX piping systems are designed to function at temperatures ranging from -40 to 150°F (-40 to 66°C) at service pressures between -1 and 13.8 bar. Dualoy 3000/LCX pipe conforms to ASTM D2310, D2517 and D2996.

Typical Physical Properties of Primary Pipe

Pipe Property	Units	Value	ASTM
Thermal conductivity	Btu-in/(h•ft²•°F) W/m•°C	1.7 7.6	C177
Linear thermal expansion	10^{-6} in/in/°F 10^{-6} cm/cm/°C	8.5 15.3	D696
Friction factor	Hazen-Williams	150.0	—
Absolute roughness	10^{-6} ft 10^{-6}m	15.0 4.6	—
Specific gravity	—	1.81	D792
Barcol Hardness	Impressor 934-1	65.0	D2583

Typical Mechanical Properties of Primary Pipe

Pipe Property[1]	Units	Value[1]	ASTM
Tensile strength			
Longitudinal	10^3 psi MPA	35.0 241.0	D2105
Circumferential	10^3 psi MPA	70.0 483.0	D1599
Tensile modulus			
Longitudinal	10^6 psi GPa	2.5 17.2	D2105
Circumferential	10^6 psi GPa	3.8 26.2	FGSTM
Compressive strength			
Longitudinal	10^3 psi MPa	24.5 168.9	FGSTM
Compressive modulus			
Longitudinal	10^6 psi GPa	2.6 17.8	FGSTM
Cyclic	10^3 psi MPa	8.0 55.0	D2992(A)
Poisson's Ratio[2]			
ν_{xy}	—	0.16	FGSTM
ν_{yx}	—	0.17	FGSTM

(1) Based on structural wall thickness.

(2) The first subscript denotes the direction of applied stress and the second that of measured contraction
x denotes longitudinal direction.
y denotes circumferential direction.

Bending Radius

Pipe Size		Minimum Bending Radius[1]		Maximum Deflection per 20 ft Joint	Minimum Length Required for 10° Change	
in	mm	ft	m	deg	ft	m
2	50	75	23	15	13	4
3	80	100	38	9	22	7
4	100	150	46	7.5	27	8

(1) At rated pressure. Sharper bends may create excessive stress concentrations. Do not bend pipe until adhesive has cured.

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NOV Fiber Glass Systems

FH3600 September 2012

ATTACHMENT E

Alternative Design for Piping

(Not Applicable)

ATTACHMENT F

Tertiary Containment Method

ATTACHMENT F

Tertiary Containment Methods

Proposed 7-Eleven, Inc. Store No. 36257
19185 Stone Oak Parkway
San Antonio, Bexar County, Texas 78258

The proposed UST system will incorporate the use of tertiary containment by installing one new 20,000-gallon triple-walled fiberglass reinforced plastic UST containing regular unleaded (RUL) gasoline and one new 15,000-gallon triple-walled FRP UST containing premium unleaded (PUL) gasoline. All product piping will also be triple-walled.

Overfill prevention for each tank will be provided by an automatic shut off valve which will be installed in the tanks below the fill tube and will be set to shut off flow into the tank when the volume of liquid in the tank reaches no more than 95% of the tank capacity. Spill protection for each tank will be provided by a double walled spill containment bucket with an electronic sensor which will be fitted to the top of each tank's fill tube.

The proposed tanks and piping will be monitored for leaks by means of automated inventory control, interstitial leak detection, and a line pressure monitor. Each tank will be equipped with two liquid sensors which will be installed in the interstitial spaces between the walls of the triple-walled tanks. Each tank will also be equipped with an automatic tank gauging probe which will automatically inventory the product volume in the tank. The probes and sensors from all tanks and piping will be connected to a programmable control unit located in the storage building. This central monitoring unit is designed to provide visual and audible alarms when any liquid is detected.

ATTACHMENT G

Exception to the Geologic Assessment

(Not Applicable)

ATTACHMENT H

Profile Drawings

7-ELEVEN

EXISTING STORE W/ FUELING REMODEL
STORE NO. 36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

SHEET INDEX

FUELING CANOPY AND UNDERGROUND STORAGE TANKS		
G0.0	FUELING CANOPY COVER SHEET AND INDEX	REV 1
G0.1	FUELING ARCHITECTURAL SITE PLAN	
G0.2	FUELING TRUCK ROUTE	
G0.3	FUELING DEMOLITION PLAN	REV 1
G1.0	FUELING PIPING AND TANK PLAN	
G2.0	NOT USED	
G3.0	TANK SECTIONS	
G4.0	TANK SUMP DETAILS - SINGLE OUTPUT	
G4.1	TANK SUMP DETAILS	
G5.0	DISPENSER AND SUMP DETAILS	
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G6.1	FUELING DIMENSIONAL PLAN	
G7.0	EQUIPMENT SCHEDULES	
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G8.0	FUELING CANOPY LAYOUT	
G8.1	SIGNAGE DETAILS	
G9.0	UST ELECTRICAL PLAN, ONE-LINE DIAGRAM AND PANEL SCHEDULE	REV 1
G9.1	N.E.C. CLASSIFIED AREA	
G10.0	MISCELLANEOUS ELECTRICAL DETAILS	
G11.0	ISOLATION RELAY BOX DETAIL	
G12.0	SITE MONITORING EQUIPMENT DIAGRAM	
G13.0	FUELING SPECIFICATIONS	
G14.0	FUELING SPECIFICATIONS	
G15.0	FUELING SPECIFICATIONS	
G16.0	FUELING SPECIFICATIONS	
G17.0	FUELING SPECIFICATIONS	
CPC-1	FUELING REMODEL PAVEMENT AND CURBING DETAILS	
SCB-1	FUELING REMODEL STANDARD CANOPY BASE DETAILS	

Rev. #	Date	Description
1	03/06/24	PEER REVIEW COMMENTS

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

FUELING CANOPY COVER SHEET AND INDEX

CORE STATES GROUP
212 SE 34th St. Ste 2
Bentonville, AR 72712
479.986.4400
core-states.com

TEXAS REGISTERED ENGINEERING FIRM NUMBER: F-9049 EXPIRATION: 07/31/2024

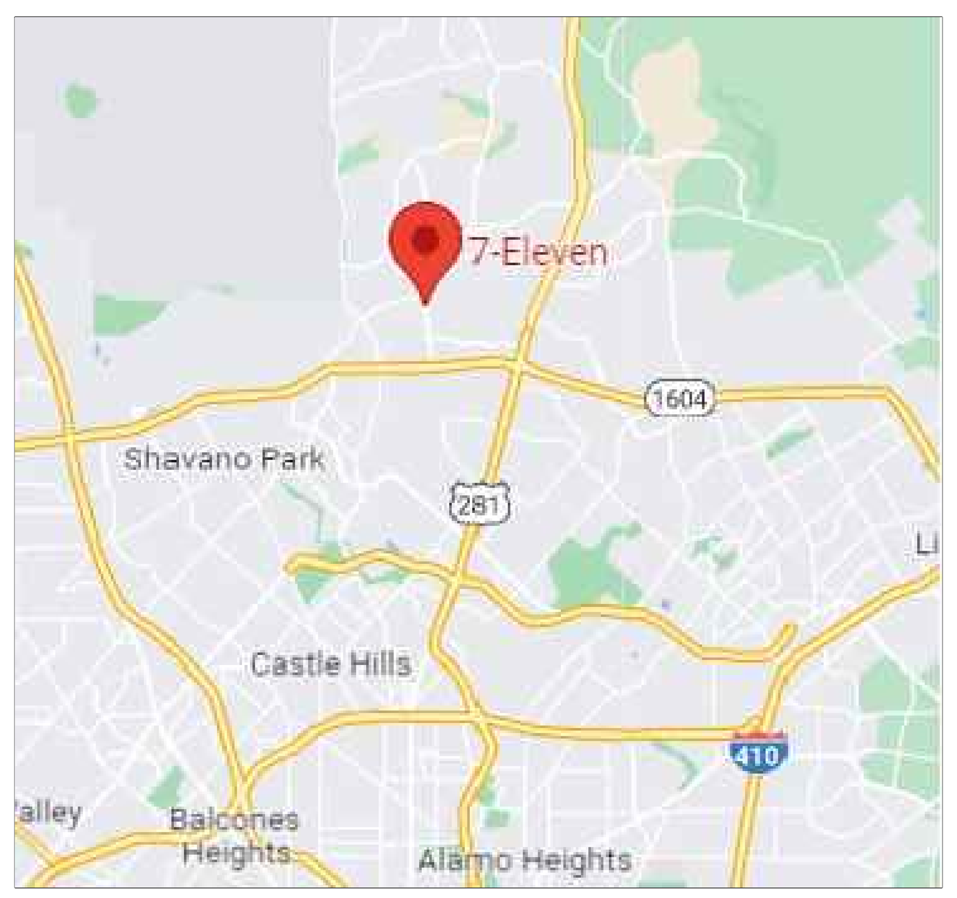
Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

STATE OF TEXAS
DAVID M. LEIFFER
101813
LICENSED PROFESSIONAL ENGINEER
03-06-2024

SHEET: G0.0

FUELING - USA

VICINITY MAP



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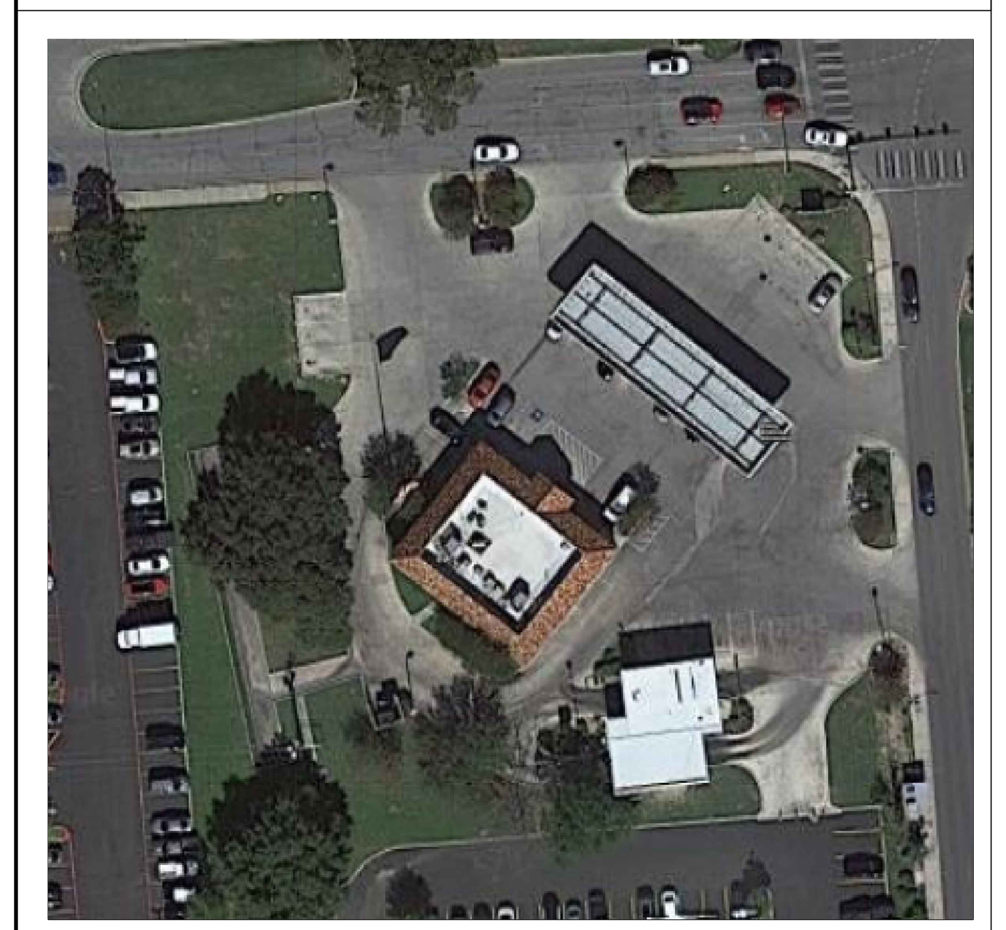
SITE LOCATION MAP



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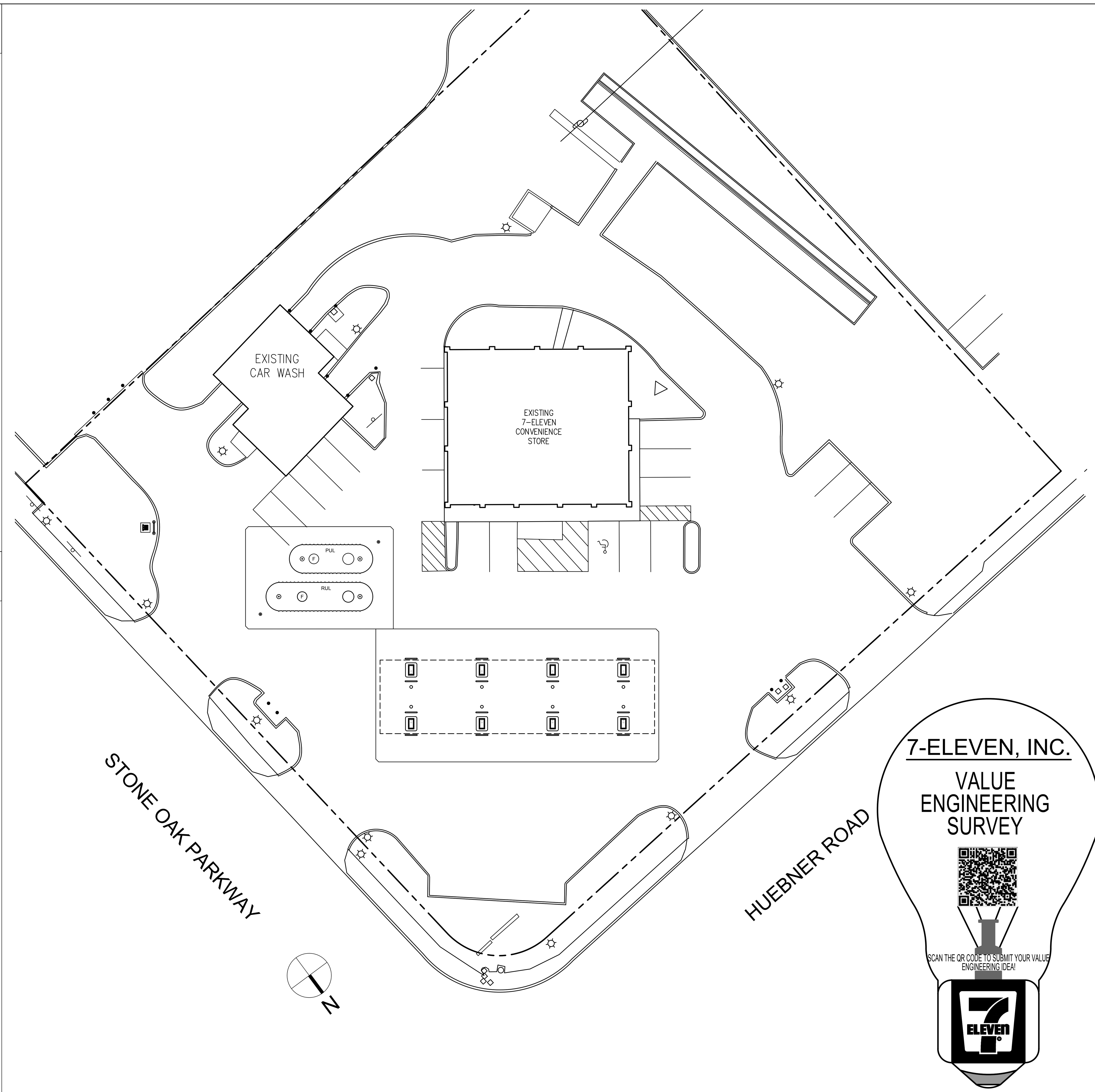


PROJECT DATA

2021 INTERNATIONAL BUILDING CODE
2021 INTERNATIONAL MECHANICAL CODE
2021 INTERNATIONAL PLUMBING CODE
2021 INTERNATIONAL FUEL GAS CODE
2021 INTERNATIONAL FIRE CODE
2021 INTERNATIONAL ENERGY CONSERVATION CODE
2020 NATIONAL ELECTRICAL CODE

NFPA 30 FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE-2015 EDITION
NFPA 30A CODE FOR MOTOR FUEL DISPENSING FACILITIES AND REPAIR GARAGES-2015 EDITION
NFPA 1 UNIFORM FIRE CODE HANDBOOK

SUMMARY OF WORK

- GRADING AND SITEWORK.
- ASSOCIATED UNDERGROUND TANKS AND PIPING.
- FUELING STATION DESCRIPTION:
  - (8) EXISTING GILBARCO 3+0 DISPENSERS
  - (1) 10' DIA. 20K GAL. TW FIBERGLASS UST FOR UNLEADED FUEL
  - (1) 10' DIA. 15K GAL. TW FIBERGLASS UST FOR PREMIUM
  - (2) 2.0 hp VARIABLE SPEED STP FOR RUL AND PUL
  - (2) ATG's (1 PER STP SUMP)
  - (2) PRODUCT FILL AND VAPOR MULTIPORT SUMPS (1 EACH UST)
  - 3" SW DUALOY 3000/L OVER 2" DUALOY 3000/LCX COAXIAL DW PRODUCT PIPING FOR RUL AND PUL FUELS
  - 2" 3000/LCX COAXIAL DW VENT PIPING (UST's TO REMOTE VENT SUMP)
  - (1) NEW BRAVO VENT BOX FOR RUL AND PUL
  - (1) EXISTING FUELING CANOPY FOR EIGHT (8) DISPENSERS TO REMAIN
  - (8) NEW 5' X 4' X 13" STAINLESS STEEL ISLANDS AT EACH DISPENSER
  - NEW VEEDER ROOT TLS-450 PLUS SITE MONITOR CONSOLE

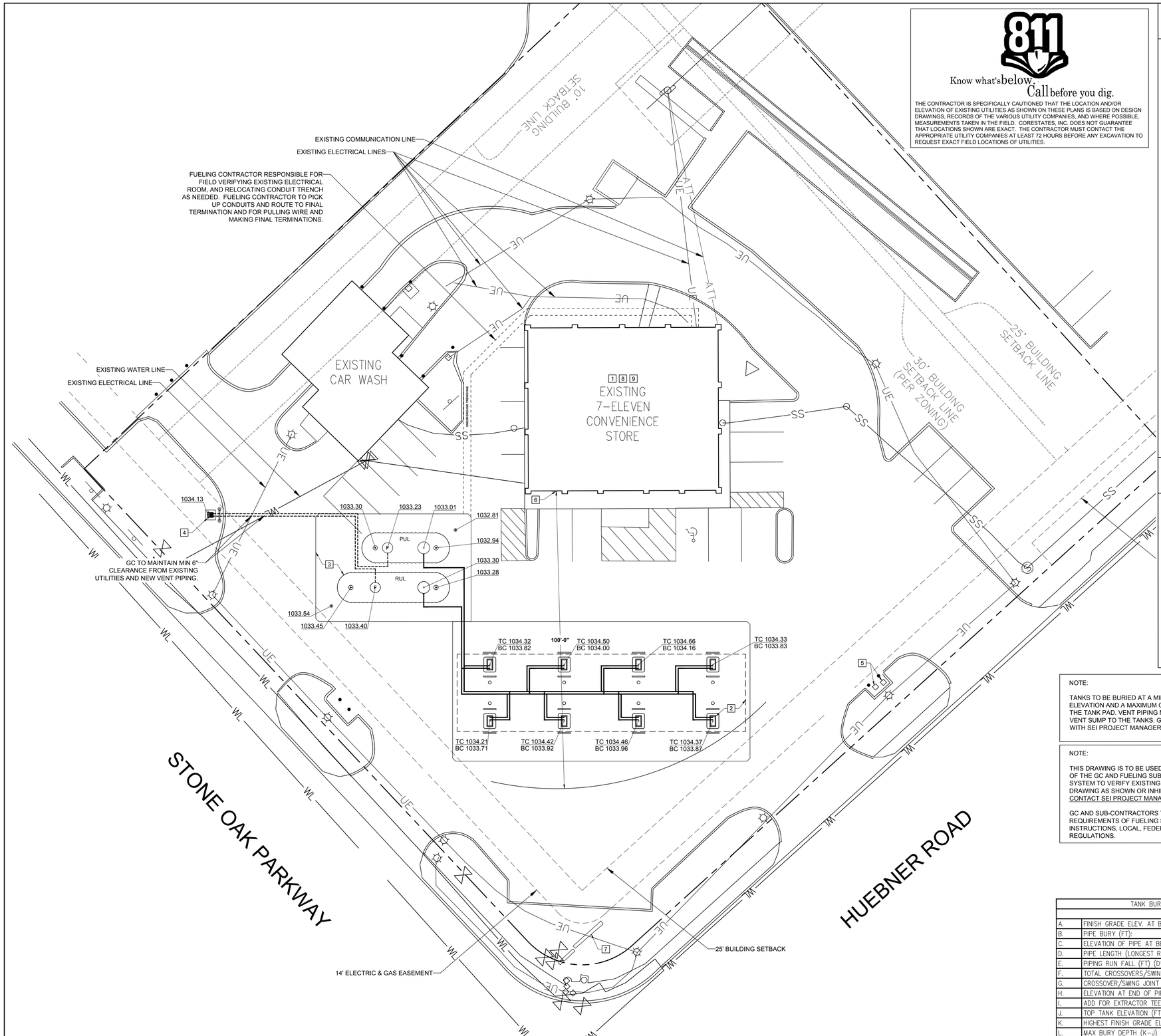
PROJECT DIRECTORY

OWNER:	7-ELEVEN INC 3200 HACKBERRY ROAD IRVING, TX 75063
MEP ENGINEER:	CORE STATES GROUP 212 SE 34TH STREET, SUITE 2 BENTONVILLE, AR 72712 CONTACT: DAVID LEIFFER 479.986.4400 EMAIL: DLEIFFER@CORE-STATES.COM

REFERENCE SYMBOLS

- NORTH ARROW
- HEIGHT ELEVATION INDICATOR
- DOOR TAG
- ENLARGED DETAIL INDICATOR
- GRID LINE INDICATOR
- WINDOW TAG
- WALL TAG
- ROOM TAG
- REVISION DELTA
- SPOT ELEVATION INDICATOR
- KEY NOTE INDICATOR
- FINISH INDICATOR
- SECTION CUT INDICATOR
- ELEVATION INDICATOR
- EQUIPMENT TAG (FOR LIST REF G7.0)

PRINTED BY: WBRAGG
DRAWING NAME: 36257 - G0.0 FUELING CANOPY COVER SHEET AND INDEX.DWG
PRINT DATE: Mar 06, 2024 - 4:36pm



1 ARCHITECTURAL SITE PLAN
1/16" = 1'-0"

811 Know what's below Call before you dig.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. CORESTATES, INC. DOES NOT GUARANTEE THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

GENERAL NOTES

FUEL CONTRACTOR

1. FUEL GC TO WORK WITH SEI PM ON SCHEDULING. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE SEI PROJECT MANAGER.
2. FUEL GC RESPONSIBLE FOR ALL CONCRETE OVER TANKS AND PRODUCT PIPING (I.E. TANK SLAB AND DRIVE MATS). CONCRETE CHAIRS ARE BY SEI.
3. FUEL GC RESPONSIBLE FOR CANOPY FOOTINGS.
4. FUEL GC TO INSTALL CANOPY DRAINS (WHERE APPLICABLE) TO POINT OF CONNECTION WITHIN (10) FT OF DRIVE MATS.
5. FUEL EC TO INSTALL ALL FUEL RELATED ELECTRONICS (I.E. DATA BOXES, EDH UNIT, TURBINE RELAYS, ISOLATION RELAYS, ETC).
6. FUEL GC RESPONSIBLE FOR ALL ELECTRICAL CONDUITS, SEAL-OFFS, ELECTRICAL J-BOXES PER STATE, LOCAL, MANUFACTURERS AND SEI CODES AND SPECIFICATIONS.
7. FUEL EC TO PULL WIRE FOR CANOPY LIGHTING, INTERCOM, DISPENSERS, TURBINES AND MONITORING SYSTEM DEVICES.
8. FUEL EC TO MAKE ALL FINAL CONNECTIONS TO FUELING EQUIPMENT AND ELECTRONICS.
9. FUEL GC TO PULL TRADE PERMITS FOR FUELING WORK (AS REQUIRED).
10. FUEL GC TO "CALL FOR" AND "BE PRESENT FOR" ALL LOCAL REGULATOR INSPECTIONS AND RESPONSIBLE FOR SCHEDULING ON-SITE INSPECTIONS WITH APPROPRIATE SEI REPRESENTATIVE RELATED TO FUELING.
11. FUEL GC TO COORDINATE WITH TANKNOLOGY AND THE SEI CONSTRUCTION MANAGER FOR TESTING OF FUELING SYSTEM.
12. FUEL GC TO HAVE PERSONNEL ON SITE FOR TESTING.
13. FUEL GC RESPONSIBLE FOR CLOSE OUT PACKAGE PER 7-11 MATRIX.

KEY NOTES

1. EXISTING 7-ELEVEN CONVENIENCE STORE
2. EXISTING FUELING CANOPY AND DISPENSERS
3. NEW UNDERGROUND FUEL STORAGE TANKS AND SLAB
4. NEW FUEL STORAGE TANK VENTS
5. EXISTING AIR AND VAC MACHINES
6. NEW E-STOP ON BUILDING EXTERIOR
7. EXISTING MAIN ID SIGN TO REMAIN
8. NEW VEEDER ROOT TLS-450 PLUS SITE MONITOR CONSOLE. FIELD VERIFY LOCATION
9. NEW INTERIOR E-STOP BEHIND SALES COUNTER. FIELD VERIFY LOCATION

NOTE:

TANKS TO BE BURIED AT A MINIMUM OF 4.17' AT THE LOWEST FINISH GRADE ELEVATION AND A MAXIMUM OF 5.67' AT THE HIGHEST FINISH GRADE ELEVATION ON THE TANK PAD. VENT PIPING MUST HAVE A MINIMUM SLOPE OF 1/8" PER FOOT FROM VENT SUMP TO THE TANKS. GC TO COORDINATE ANY BURIAL DEPTH DEVIATIONS WITH SEI PROJECT MANAGER.

NOTE:

THIS DRAWING IS TO BE USED AS A SCHEMATIC DRAWING. IT IS THE RESPONSIBILITY OF THE GC AND FUELING SUB-CONTRACTORS INSTALLING PRODUCT PIPING AND FUEL SYSTEM TO VERIFY EXISTING FIELD CONDITIONS. IF FIELD CONDITIONS VARY FROM DRAWING AS SHOWN OR INHIBIT INSTALLATION AS SHOWN CEASE WORK AND CONTACT SEI PROJECT MANAGER OR REPRESENTATIVE.

GC AND SUB-CONTRACTORS TO FOLLOW REMOVAL, AND INSTALLATION REQUIREMENTS OF FUELING SYSTEM COMPONENTS PER MANUFACTURER INSTRUCTIONS, LOCAL, FEDERAL, AND FIRE MARSHALL'S MANDATES, LAWS, AND REGULATIONS.

TANK BURIAL CHART – STORE (36257)

	COMPONENT	PREMIUM	REGULAR	VENT
A.	FINISH GRADE ELEV. AT BEGINNING OF RUN (FT):	1033.83	1033.83	1034.13
B.	PIPE BURY (FT):	1.50	1.50	2.00
C.	ELEVATION OF PIPE AT BEGINNING OF RUN (A–B)	1032.33	1032.33	1032.13
D.	PIPE LENGTH (LONGEST RUN) (FT):	153.00	140.00	78.00
E.	PIPING RUN FALL (FT) (D*1/8" PER FT):	1.59	1.46	0.81
F.	TOTAL CROSSOVERS/SWING JOINTS:	1.00	1.00	0.00
G.	CROSSOVER/SWING JOINT DEPTH (FT):	1.00	1.00	0.00
H.	ELEVATION AT END OF PIPE (FT) (C–E–G*F):	1029.74	1029.87	1031.32
I.	ADD FOR EXTRACTOR TEE AT SUMP:	1.25	1.25	1.00
J.	TOP TANK ELEVATION (FT) (H–I):	1028.49	1028.62	1030.32
K.	HIGHEST FINISH GRADE ELEVATION AT TANK SLAB (FT):	1033.45	1033.45	1033.45
L.	MAX BURY DEPTH (K–J) (FT): MAX = 5.67'	4.96	4.83	3.13
M.	LOWEST FINISH GRADE ELEVATION AT TANKS (FT):	1032.94	1032.94	1032.94
N.	MIN BURY DEPTH (M–J) (FT): MIN = 4.17'	4.45	4.32	2.62

TANK BURIAL DEPTH IS GOVERNED BY PREMIUM PRODUCT PIPING AT DISPENSER 1.
THE TOP OF TANKS SHALL BE SET AT – 1028.49 FT

SCOPE OF WORK

1. INSTALL NEW XERXES 20,000 GALLON 10' DIA TRIPLE WALL FIBERGLASS UNDERGROUND STORAGE TANK (UST) FOR REGULAR FUEL.
2. INSTALL NEW XERXES 15,000 GALLON 10' DIA TRIPLE WALL FIBERGLASS UNDERGROUND STORAGE TANK (UST) FOR PREMIUM FUEL.
3. INSTALL (2) NEW FE PETRO 2 HP VARIABLE SPEED SUBMERSIBLE PUMP WITH INTAKE FILTER FOR RUL AND PUL FUELS.
4. RE-USE (8) EXISTING GILBARCO 700S 3+0 DISPENSERS. ENSURE POWER CONDUITS ARE RUN TO DISPENSERS FOR VALENCE POWER.
5. INSTALL NEW 3" SW DUALOY 3000/L OVER 2" DUALOY 3000/LCX COAXIAL DW PRODUCT PIPING FROM NEW UST'S TO EXISTING DISPENSERS.
6. INSTALL (2) NEW VAPOR/VENT RISERS WITH BRAVO VENT BOX AND BRAVO VAPOR VENT RACK FOR SUPPORT.
7. INSTALL NEW 2" 3000/LCX COAXIAL DW PIPING FROM VAPOR/VENT AT UST'S TO NEW REMOTE VENT.
8. INSTALL NEW CONCRETE AT DISTURBED AREAS AT TANK SLAB FOR NEW PIPING PER SEI STANDARDS.
9. INSTALL NEW CONCRETE AT DISTURBED AREAS AT CANOPY SLAB FOR NEW PIPING PER SEI STANDARDS.
10. INSTALL NEW "U" BOLLARDS AT DISPENSERS AND REMOTE VENT TO SEI SPECIFICATIONS (TYP 17).
11. ACTIVATE INTERCOMS INSIDE THE EXISTING DISPENSERS.
12. INSTALL (2) NEW FIRE EXTINGUISHERS AT ADA COMPLIANT HEIGHT AT CANOPY COLUMNS.
13. INSTALL (8) NEW TRASH CAN/WASH BUCKET COMBO UNITS AT CANOPY COLUMNS.
14. EXISTING MAIN ID SIGN TO REMAIN.
15. PAINT LED SIGNAGE FRAME, POLES, NEW BOLLARDS, CANOPY COLUMNS, CANOPY DECK, VENTS AND FILLS PER CHEVRON BRANDING SPECIFICATIONS.
16. INSTALL NEW VEEDER ROOT TLS-450 PLUS SITE MONITOR CONSOLE. FIELD VERIFY LOCATION.
17. ROUTE NEW CONDUIT TO NEW ELECTRICAL THROUGH EXTERIOR OF BUILDING, VERIFY LOCATION WITH SEI CONSTRUCTION MANAGER.
18. DEMOLITION-REMOVE EXISTING TANKS, TANK SLAB, EXISTING UST SYSTEM AND PIPING COMPLETELY. REMOVE ADDITIONAL PAVEMENT/SIDEWALKS AS REQUIRED TO FACILITATE OTHER REMOVALS AND INSTALLATIONS.
19. EXISTING CHEVRON BRANDED CANOPY TO REMAIN FOR (8) EXISTING DISPENSERS.
20. INSTALL (1) NEW E-STOP ON BUILDING EXTERIOR AT ADA COMPLIANT HEIGHT.
21. INSTALL (1) NEW INTERIOR E-STOP BEHIND THE SALES COUNTER.
22. INSTALL (8) NEW 5' X 4' X 13" STAINLESS STEEL DISPENSER ISLANDS.
23. INSTALL (2) NEW OBSERVATION WELLS IN TANK SLAB PER AHJ REQUIREMENTS.
24. UPGRADE PASSPORT PX60 TO CURRENT VERSIONS SOFTWARE FOR CHEVRON AS REQUIRED.
25. INSTALL EDH2 AS REQUIRED.
26. RE-ACTIVATE EMV ENABLEMENT AT DISPENSERS.
27. INSTALL NEW HANGING HARDWARE ON EXISTING DISPENSERS.
28. RE-USE EXISTING PUMP TOPPERS ON EXISTING DISPENSERS.

Rev. #	Date	Description
		Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

FUELING ARCHITECTURAL SITE PLAN

CORE STATES GROUP
CORESTATES, INC.
TEXAS REGISTERED ENGINEERING FIRM NUMBER: F-9349
EXPIRATION: 07/31/2024
212 E 34th St.
Bentonville, AR 72712
479.936.4400
corestates.com

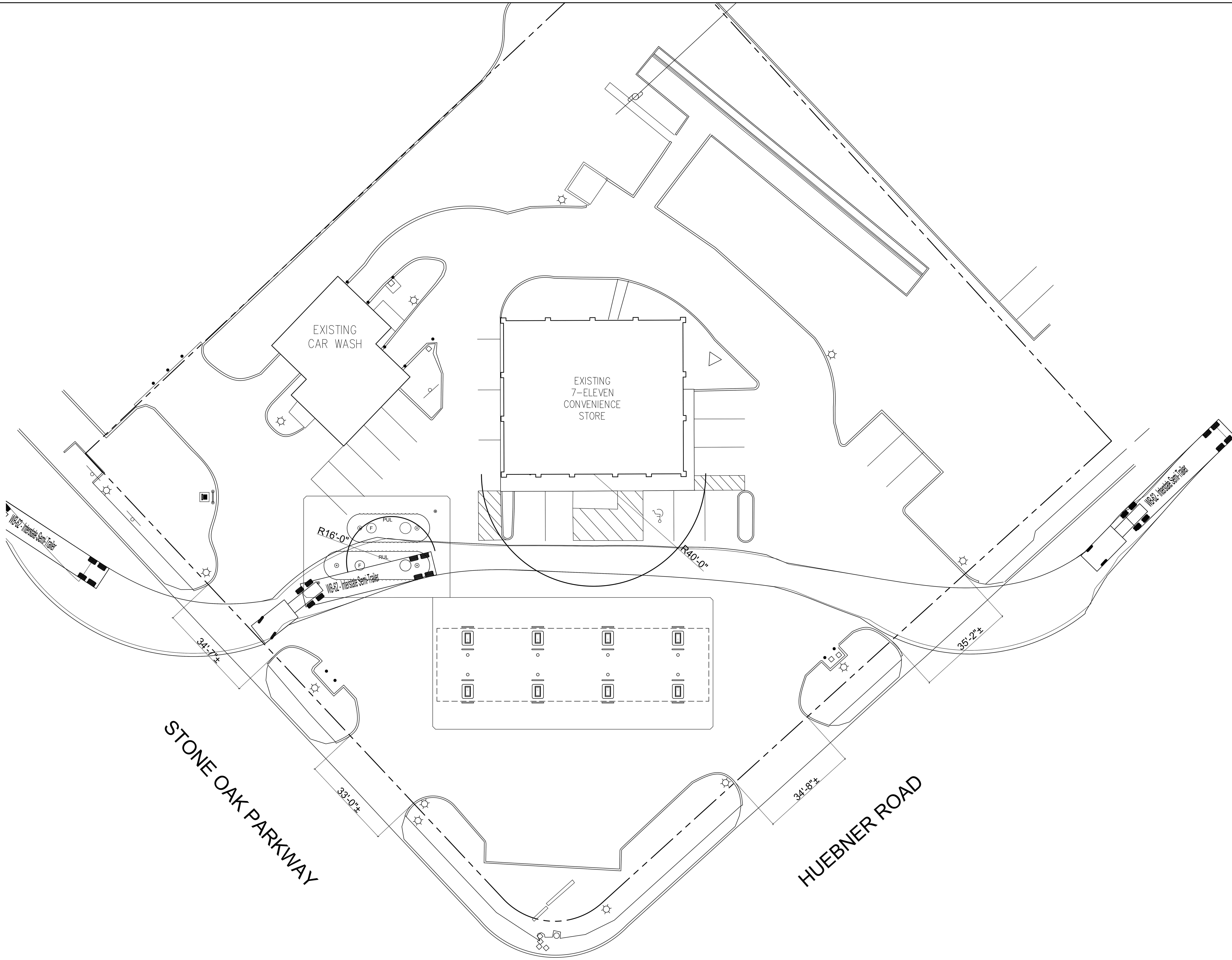
Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

STATE OF TEXAS
DAVID M. LEIFFER
101813
LICENSED
PROFESSIONAL ENGINEER
03-06-2024

SHEET:
G0.1

FUELING - USA

PRINTED BY: WBRAGG
DRAWING NAME: 36257 - G0.1 FUELING ARCHITECTURAL SITE PLANLING PRINT DATE: Mar 06, 2024 - 4:37pm



1 FUELING TRUCK ROUTE
1/16" = 1'-0"

Rev. #	Date	Description

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

FUELING TRUCK ROUTE

CORE STATES GROUP

Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

STATE OF TEXAS
DAVID M. LEIFFER
101813
LICENSED
PROFESSIONAL ENGINEER
03-06-2024

SHEET:
G0.2

FUELING - USA

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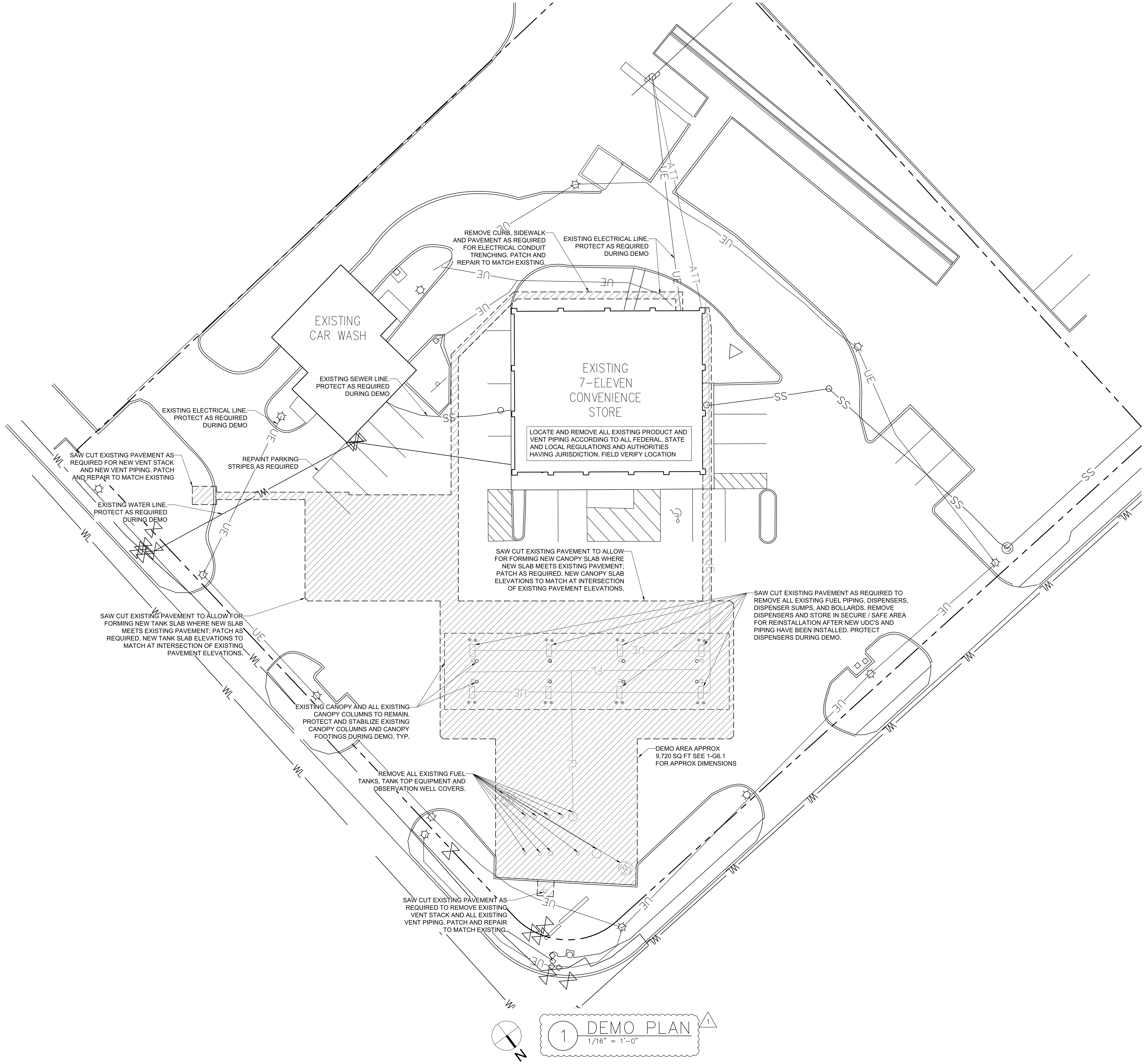

1 DEMO PLAN 1/16" = 1'-0"

GENERAL NOTES

1. CONTRACTOR TO CUT AND REMOVE CONCRETE AS NECESSARY TO REMOVE ALL EXISTING PIPING. LOCATION OF REMOVAL AT DISPENSER ISLANDS IS APPROXIMATE AND IS BASED ON AVAILABLE INFORMATION.

Rev. #	Date	Description
1	03/06/24	PEER REVIEW COMMENTS

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

FUELING DEMOLITION PLAN

CORE STATES GROUP
CORESTATES, INC.
212 SE 34th St.
Ste 2
Bentonville, AR 72712
479.986.4400
core-states.com
TEXAS REGISTERED ENGINEERING FIRM NUMBER: F-9349 EXPIRATION: 07/31/2024

Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

STATE OF TEXAS
DAVID M. LEIFFER
101813
LICENSED
PROFESSIONAL ENGINEER
03-06-2024

811
Know what's below.
Call before you dig.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. CORESTATES, INC. DOES NOT GUARANTEE THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

SHEET:
G0.3

FUELING - USA

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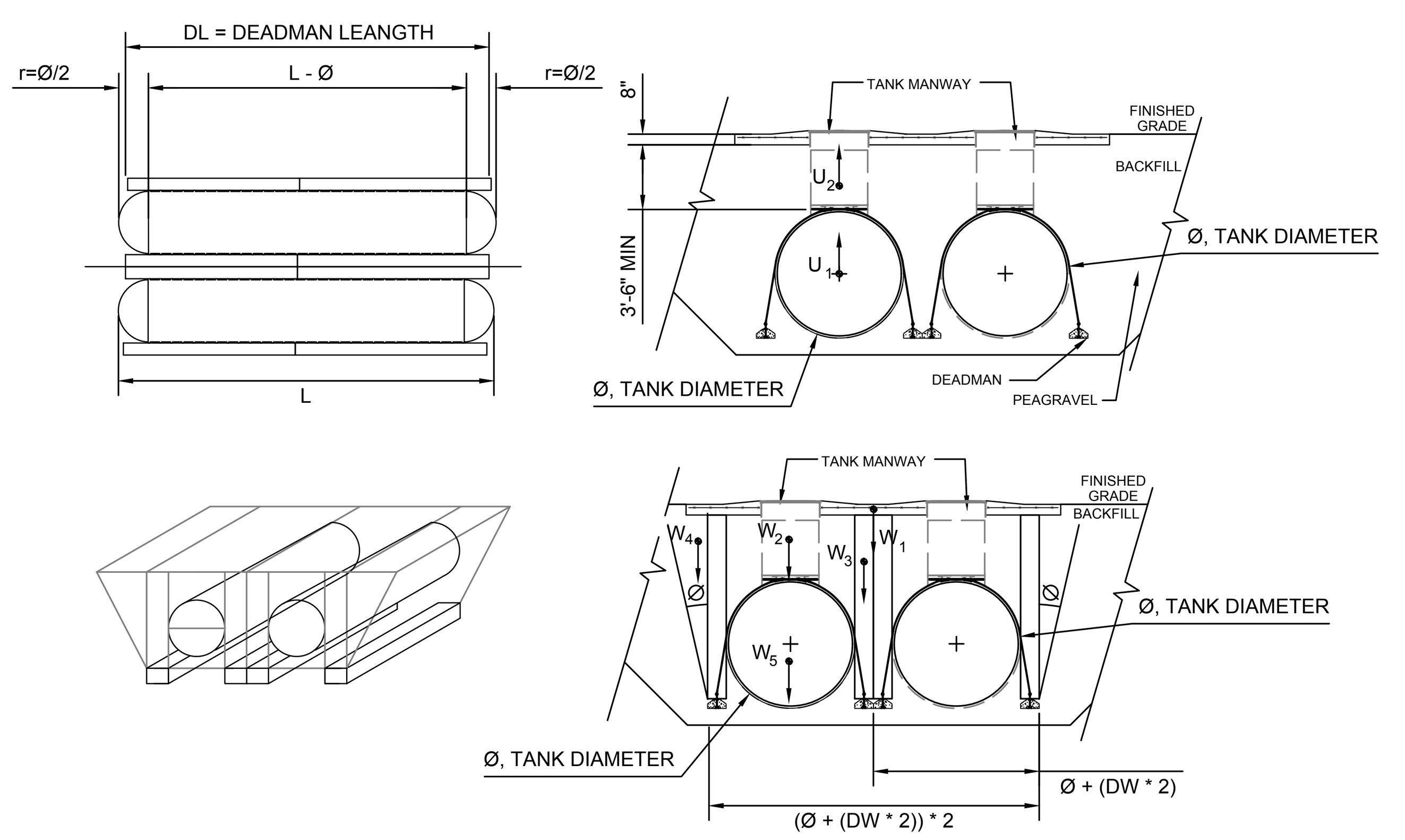


Underground Storage Tank Buoyancy Calculations for Fiberglass Tanks

Project #:	SEI.36064
Project Name:	San Antonio, TX #36257
Tank Manufacturer / Model:	Xerxes TW 10' 15K

Number of Tanks:	1	
Tank Dry Weight:	10200	lbs
Tank Volume:	15000	gallons
Tank Diameter *(ø)* :	10	feet
Tank Bury Depth:	4.45	feet
Tank Length *(L)*:	29.48	feet
Number of Sumps:	2	
Sump Diameter:	48	inches
Tank Slab Length:	52.25	feet
Tank Slab Width:	18.08	feet
Tank Slab Thickness:	8	inches
Deadman Length *(DL)*:	28	feet
Deadman Width *(DW)*:	18	inches
Deadman Height:	8.75	inches

Assumptions

100% saturation to finished grade

φ water =	62.4 lb/CF
φ submerged concrete =	87.6 lb/CF
φ submerged aggregate =	57.6 lb/CF

Tank & Sump(s) Uplift

Tank

U1 = 15000 gal / 7.49 gal/CF x 62.4 lb/CF = 124,967 lbs

Sumps

U2 = 111.8 CF x 62.4 lb/CF = 6,975 lbs

Total Uplift

U= ∑ Ui = 131,942 lbs UP

Dead Weights for Hold Down

Concrete Slab

W1 = 629.8 CF x 87.6 lb/CF = 55,169 lbs

Backfill Above Tank

W2 = 1,399 CF x 57.6 lb/CF = 80,591 lbs

Gravel Column Above Deadman (2 deadmen per tank)

W3 = 1157.8 CF x 57.6 lb/CF = 66,689 lbs

Soil Wedge Above Deadman (2 total)

W4 = 250.2241 CF x 57.6 lb/CF = 14,413 lbs

Concrete Deadman (2 deadmen per tank)

W4 = 61.25 CF x 87.6 lb/CF = 5365.5 lbs

Dry Weight of Tank

W5 = 10,200 lbs

Total Weight

W= ∑ Wi = 232,428 lbs DOWN

Net Force

Fnet = **∑ Wi - ∑ Ui = 100,486 DOWN**

Factor of Safety

F.S. = 232,428 lbs / 131,942 lbs .= 1.76 PASS

Underground Storage Tank Buoyancy Calculations for Fiberglass Tanks

Project #:	SEI.36064
Project Name:	San Antonio, TX #36257
Tank Manufacturer / Model:	Xerxes TW 10' 20K

Number of Tanks:	1	
Tank Dry Weight:	15400	lbs
Tank Volume:	20000	gallons
Tank Diameter *(ø)* :	10	feet
Tank Bury Depth:	4.45	feet
Tank Length *(L)*:	37.73	feet
Number of Sumps:	2	
Sump Diameter:	48	inches
Tank Slab Length:	52.25	feet
Tank Slab Width:	18.08	feet
Tank Slab Thickness:	8	inches
Deadman Length *(DL)*:	36	feet
Deadman Width *(DW)*:	18	inches
Deadman Height:	8.75	inches

Assumptions

100% saturation to finished grade

φ water =	62.4 lb/CF
φ submerged concrete =	87.6 lb/CF
φ submerged aggregate =	57.6 lb/CF

Tank & Sump(s) Uplift

Tank

U1 = 20000 gal / 7.49 gal/CF x 62.4 lb/CF = 166,622 lbs

Sumps

U2 = 111.8 CF x 62.4 lb/CF = 6,975 lbs

Total Uplift

U= ∑ Ui = 173,597 lbs UP

Dead Weights for Hold Down

Concrete Slab

W1 = 629.8 CF x 87.6 lb/CF = 55,169 lbs

Backfill Above Tank

W2 = 1,790 CF x 57.6 lb/CF = 103,104 lbs

Gravel Column Above Deadman (2 deadmen per tank)

W3 = 1488.6 CF x 57.6 lb/CF = 85,743 lbs

Soil Wedge Above Deadman (2 total)

W4 = 321.7166 CF x 57.6 lb/CF = 18,531 lbs

Concrete Deadman (2 deadmen per tank)

W4 = 78.75 CF x 87.6 lb/CF = 6898.5 lbs

Dry Weight of Tank

W5 = 15,400 lbs

Total Weight

W= ∑ Wi = 284,846 lbs DOWN

Net Force

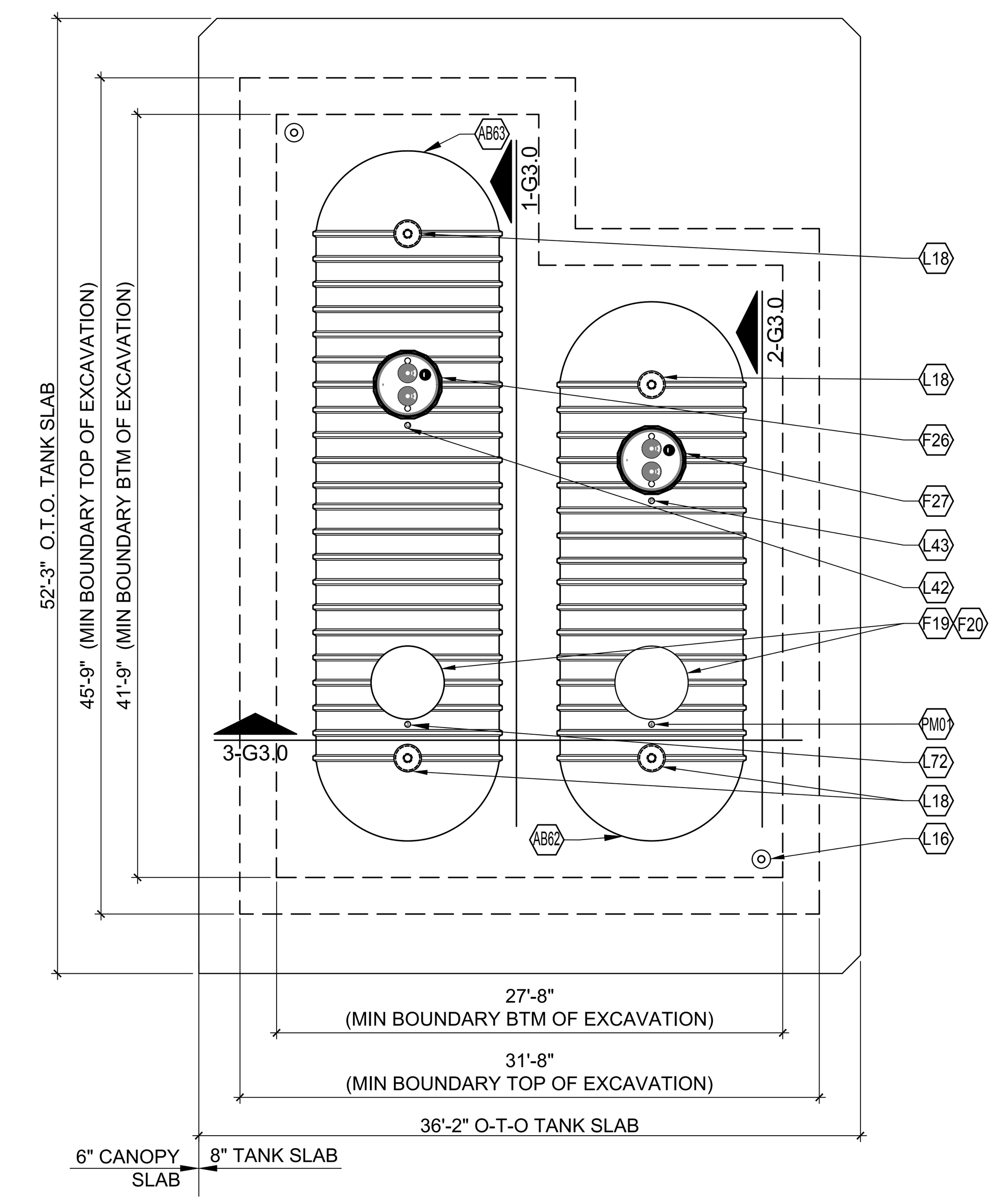
Fnet = **∑ Wi - ∑ Ui = 111,248 DOWN**

Factor of Safety

F.S. = 284,846 lbs / 173,597 lbs .= 1.64 PASS

NOTE:
FOR REINFORCING AT TANK SLAB PENETRATIONS AND CORNERS REF CIVIL STANDARD PROTOTYPE SHEET -CPC-1

NOTE:
REF G0.1 FOR TANK SLAB ORIENTATION AND LOCATION



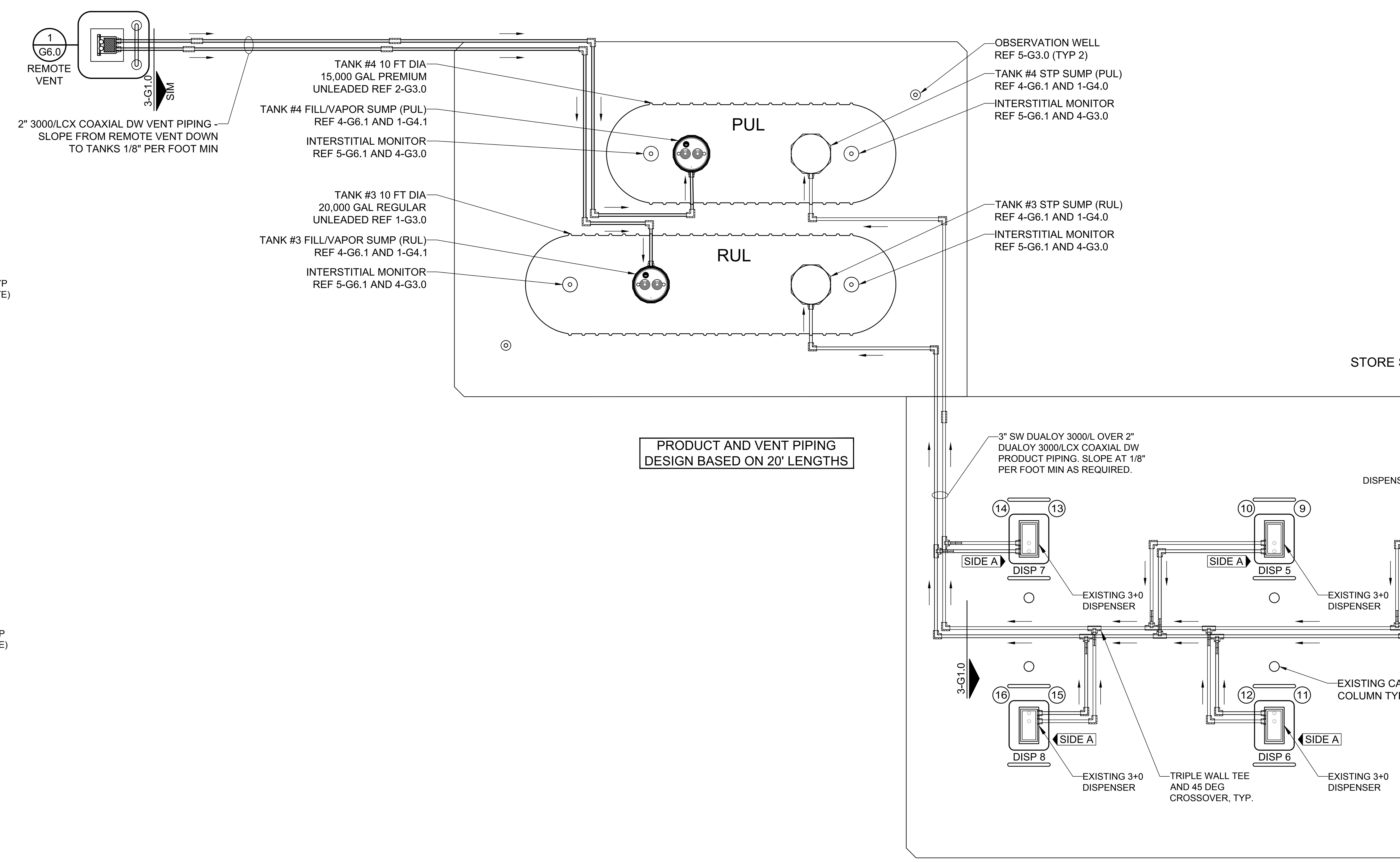
2 TANK SLAB PLAN
1/8"=1'-0"

GENERAL NOTES

1. ALL CONSTRUCTION SHALL MEET COUNTY STANDARDS. CONTRACTOR TO SECURE ENTIRE CONSTRUCTION AREA WITH CHAIN LINK FENCING DURING CONSTRUCTION PERIOD.
2. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER OF ANY DIFFERENCES BETWEEN THE ACTUAL FIELD CONDITIONS AND THE PLANS BEFORE PROCEEDING WITH CONSTRUCTION.
3. FUEL CONTRACTOR SHALL BE RESPONSIBLE FOR THE INTEGRITY OF THE PIPING SYSTEM DURING CANOPY ERECTION AND CONCRETE FLATWORK INSTALLATION.
4. AFTER COMPLETING INSTALLATION OF DISPENSERS, THE FUEL CONTRACTOR IS TO INSTALL BRIGHT ORANGE CONSTRUCTION FENCE AROUND ENTIRE DISPENSER.
5. FUEL CONTRACTOR IS TO BE AWARE THAT ON THE DAY THE GASOLINE SYSTEM IS PUT INTO SERVICE, THE FUEL CONTRACTOR AND A GILBARCO AUTHORIZED SERVICE CONTRACTOR MUST BE ON SITE ONE (1) HOUR PRIOR TO STARTUP AND MUST REMAIN ON SITE THREE (3) ADDITIONAL HOURS FOR A TOTAL OF FOUR (4) HOURS. ANY COSTS INCURRED OVER FOUR (4) HOURS DUE TO FUELING SYSTEM ISSUES, SHOULD BE BILLED AS A CHANGE ORDER.

KEY NOTES

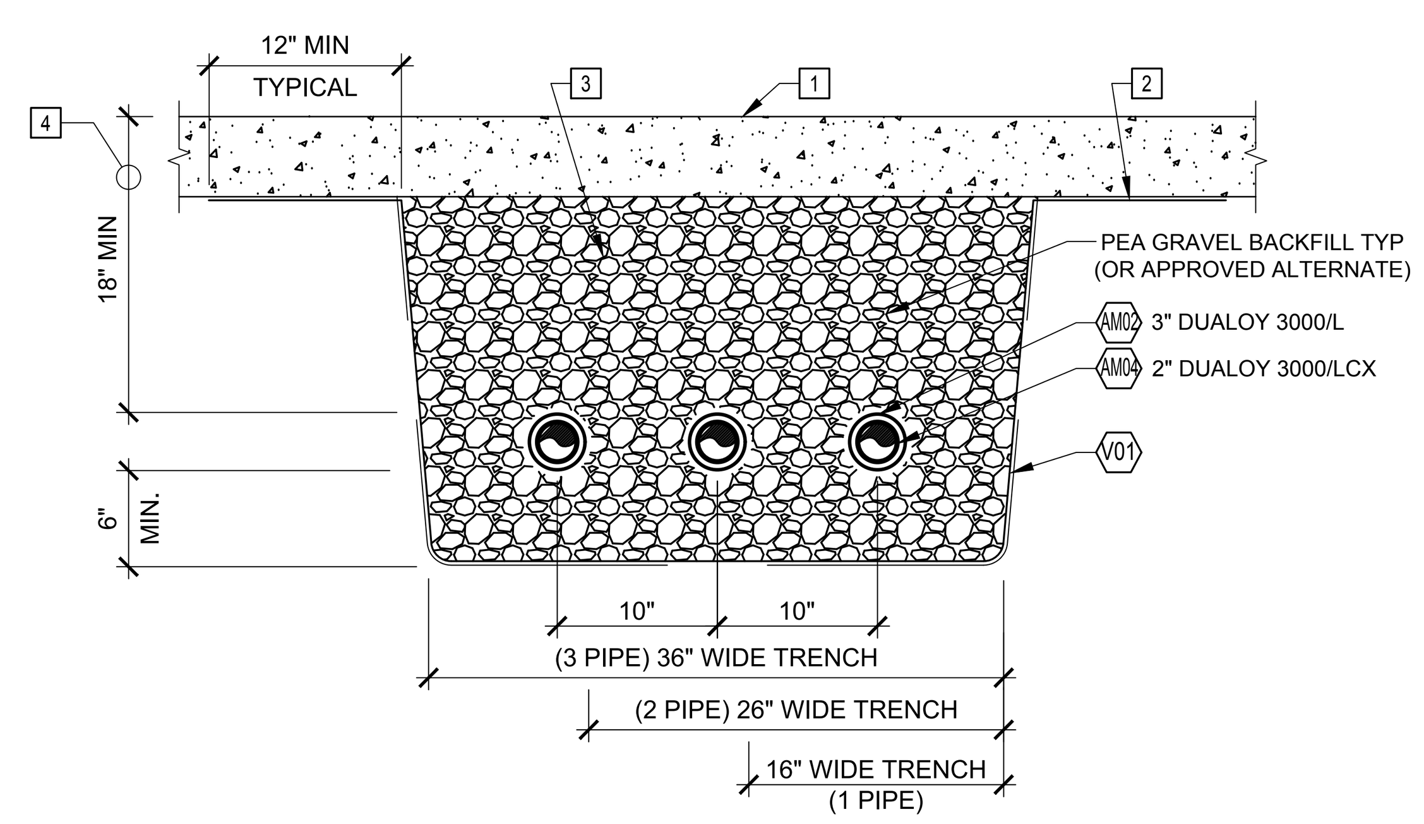
1. 6" CONCRETE SLAB AT FUELING CANOPY. REF G0.1 FOR TOS ELEVATIONS.
2. GEOTECH FABRIC MATERIAL TO EXTEND 36" PAST EACH SIDE OF PIPING TRENCH. ALL GEOTECH FABRIC MATERIAL SHALL BE PINNED PRIOR TO BACKFILLING. METHOD OF PINNING FABRIC AT TOP OF EXCAVATION TO BE APPROVED BY THE 7-ELEVEN CONSTRUCTION MANAGER.
3. PIPING TRENCHES SHALL BE DUG IN SUCH A MANNER THAT THE TRENCH WIDTH IS EQUAL TO AT LEAST TWICE WIDTH OF ALL PIPING CONTAINED WITHIN. MAINTAIN A MINIMUM OF 4" (10cm) CLEAR DISTANCE BETWEEN PIPING POSITIONED IN THE TRENCH AND 6" WHERE PIPING CROSSES OVER EACH OTHER. THE BOTTOM OF THE TRENCH SHALL BE AS UNIFORM AS POSSIBLE TO ELIMINATE HIGH SPOTS AND ENSURING AN EVEN LAYER OF BEDDING MATERIAL UNDER THE PIPE. REMOVE ALL SHARP ROCKS AND DEBRIS FROM THE TRENCH BOTTOM BEFORE BEDDING MATERIAL IS INSTALLED.
4. SITE CONDITIONS MAY CAUSE VARIATIONS WHICH MUST BE APPROVED BY 7-ELEVEN AND MANUFACTURER. PIPING BURIAL DEPTHS LESS THAN 18" REQUIRES 7-ELEVEN APPROVAL.



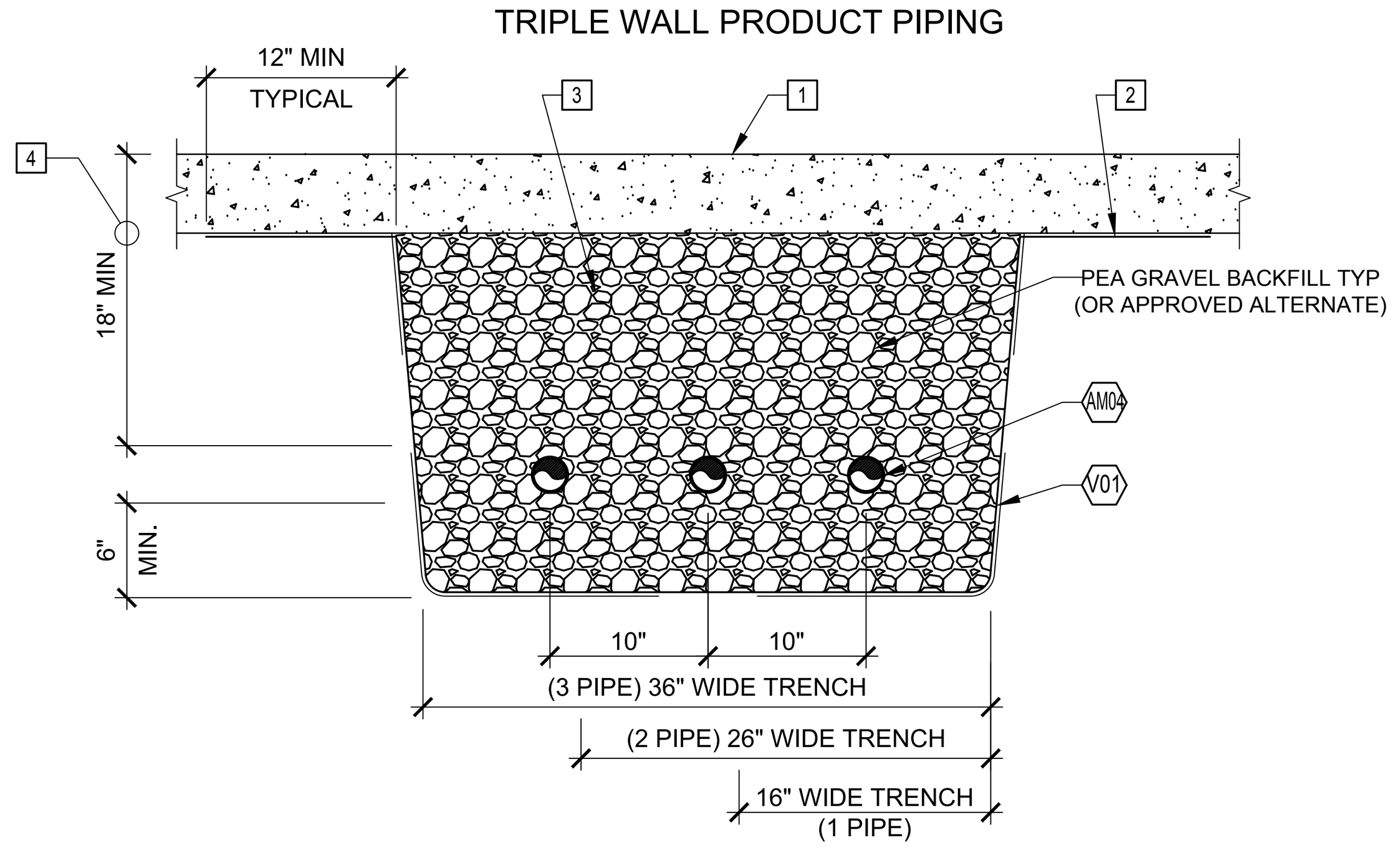
NOTE:
REF 1-G6.1 FOR DIMENSIONS AND LOCATIONS OF DISPENSERS.

1 FUEL PIPING PLAN
1/8"=1'-0"

STREET SIDE



TRIPLE WALL PRODUCT PIPING



DOUBLE WALL VENT PIPING

3 PIPING TRENCH SECTION
1"=1'-0"

PRINTED BY: MBRAGG
DRAWING NAME: 36257 - G1.0 FUELING PIPING AND TANK PLAN.DWG
PRINT DATE: Mar 06, 2024 - 4:37pm

Rev. #	Date	Description

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

FUELING PIPING AND TANK PLAN

CORE STATES GROUP
CORESTATES, INC.
TEXAS REGISTERED ENGINEERING FIRM NUMBER: F-9318 EXPIRATION: 07/31/2024
212 W 34th St. Ste 2 Bentonville, AR 72712 479.795.4400 core-states.com

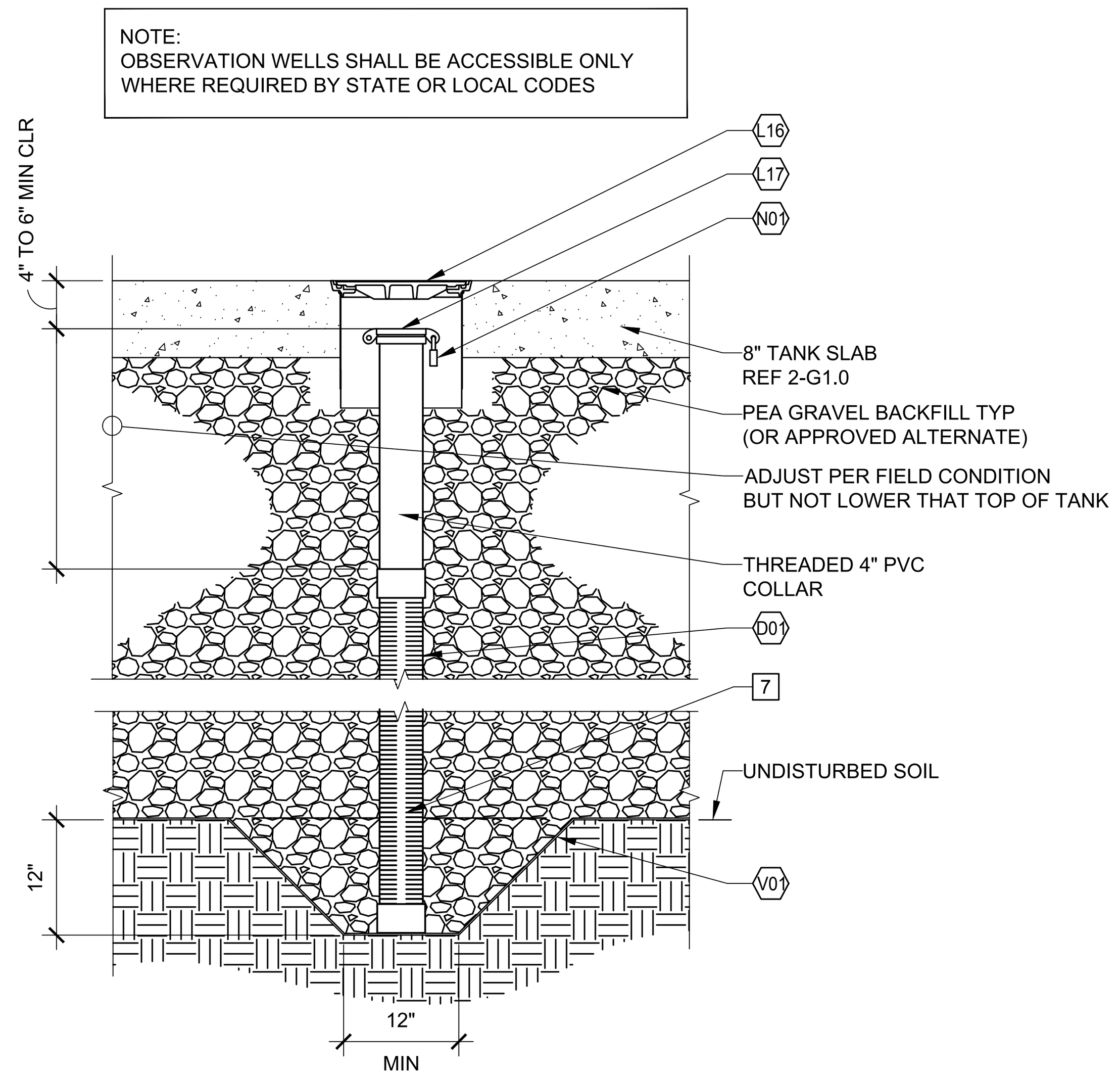
Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

STATE OF TEXAS
DAVID M. LEIFFER
101813
LICENSED PROFESSIONAL ENGINEER
03-06-2024

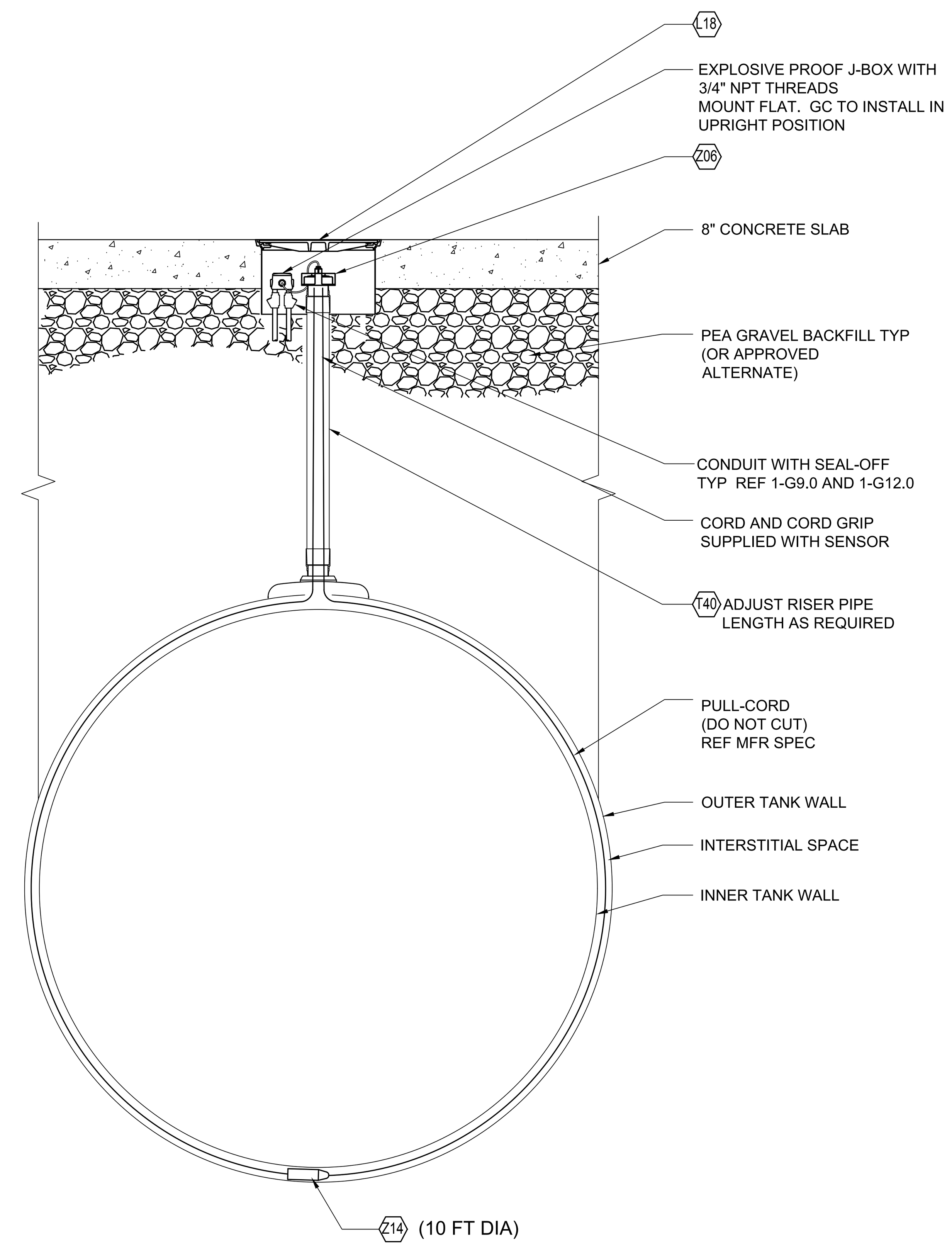
SHEET:
G1.0
FUELING - USA

KEY NOTES

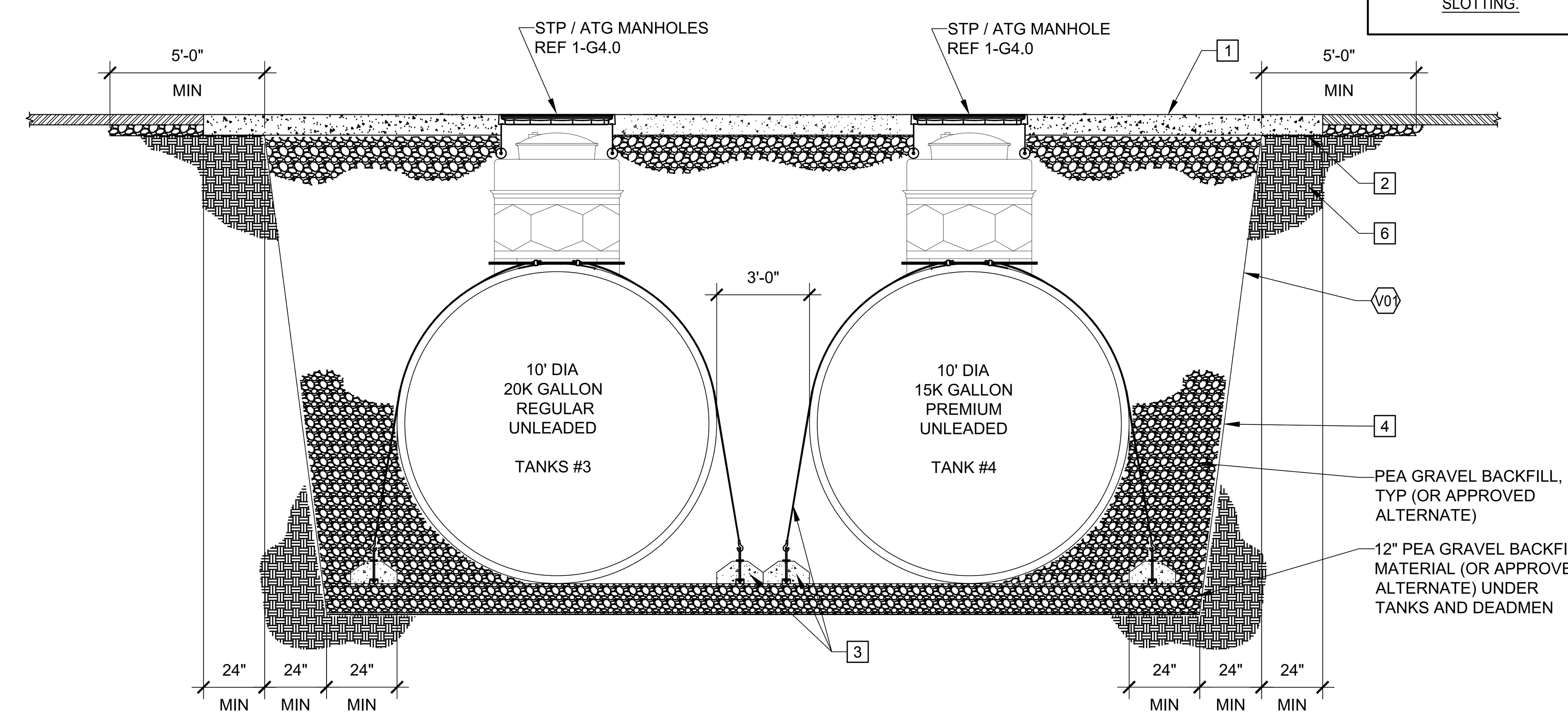
1. CONCRETE SLAB. REF G0.1 FOR TOS ELEVATIONS. ALL MANHOLES WITHIN THE TANK SLAB AREA TO BE RAISED 1" ABOVE THE NORMAL GRADE OF CONCRETE. SLOPE CONCRETE TO MANHOLES 1/4" PER FT. CROWN CONCRETE AS TO NOT INHIBIT WATER DRAINAGE OFF THE TANK SLAB (NO POOLING).
2. GEOTECH FABRIC MATERIAL TO EXTEND 60" MINIMUM PAST THE TANK HOLE EXCAVATION. ALL GEOTECH FABRIC MATERIAL TO BE PINNED PRIOR TO BACKFILLING. METHOD OF PINNING FABRIC AT TOP OF EXCAVATION TO BE APPROVED BY THE 7-ELEVEN CONSTRUCTION MGR.
3. MOH STRAP ANCHOR SYSTEM SUPPLIED BY TANK MANUFACTURER. PLACE DEADMEN PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4. FOR SLOPE, FOLLOW CURRENT OSHA REGULATIONS. IF SHEET PILES ARE UTILIZED, PROVIDE 42" MINIMUM CLEARANCE BETWEEN NEW TANKS AND SHORING.
5. BURIAL DEPTH GREATER THAN 5'-8" REQUIRES 7-ELEVEN AND MANUFACTURER'S APPROVAL.
6. UNDISTURBED SOIL OR COMPACTED BACK FILL NOT LESS THAN 95% OF MODIFIED PROCTOR DENSITY (AASHTO-T-180).
7. 4" DIAMETER SCHEDULE 40 PVC WITH .020 WELL SCREEN. MUST BE FACTORY SLOTTED. NO FIELD SLOTTING.



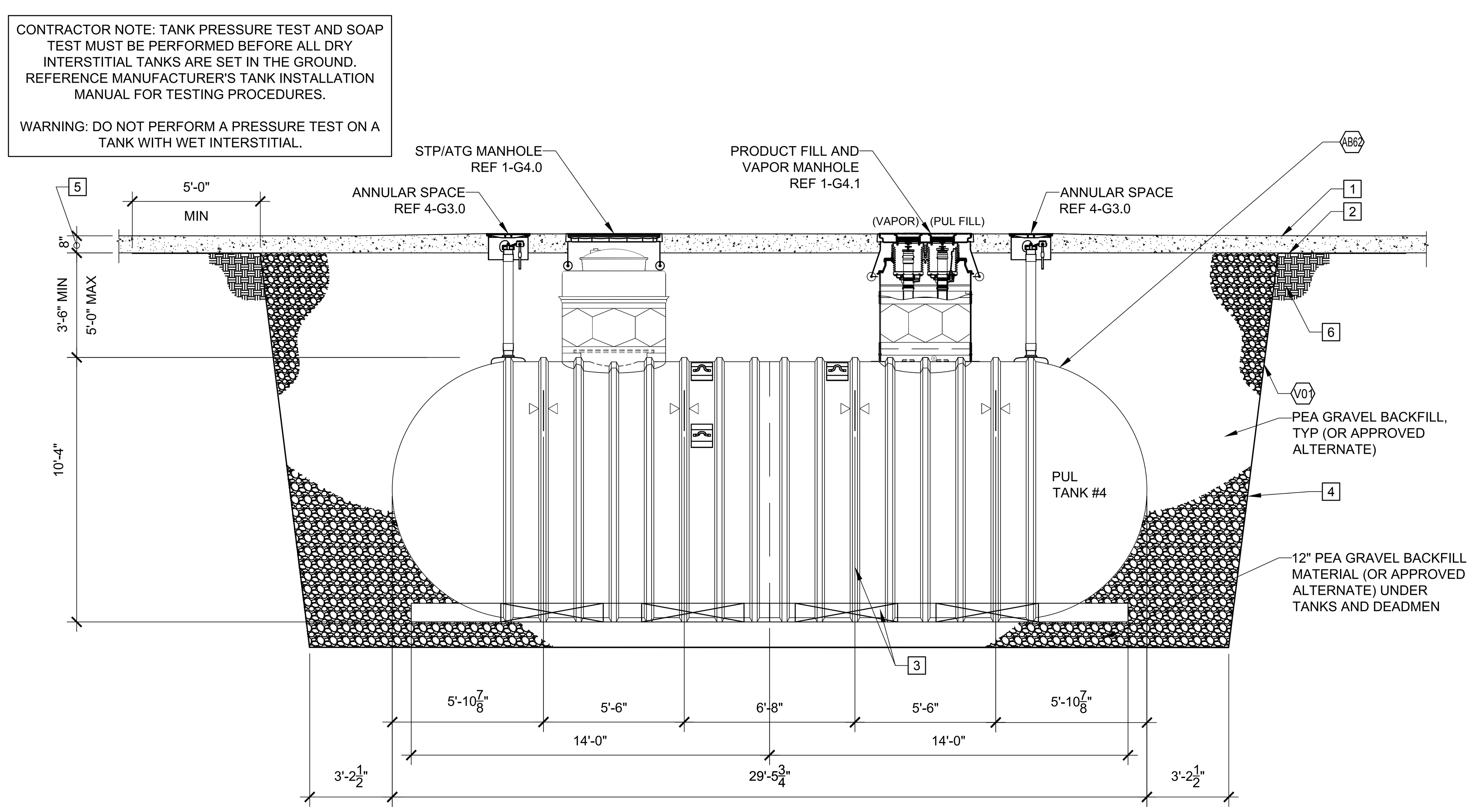
5 ACTIVE OBSERVATION WELL SECTION
3/4"=1'-0"



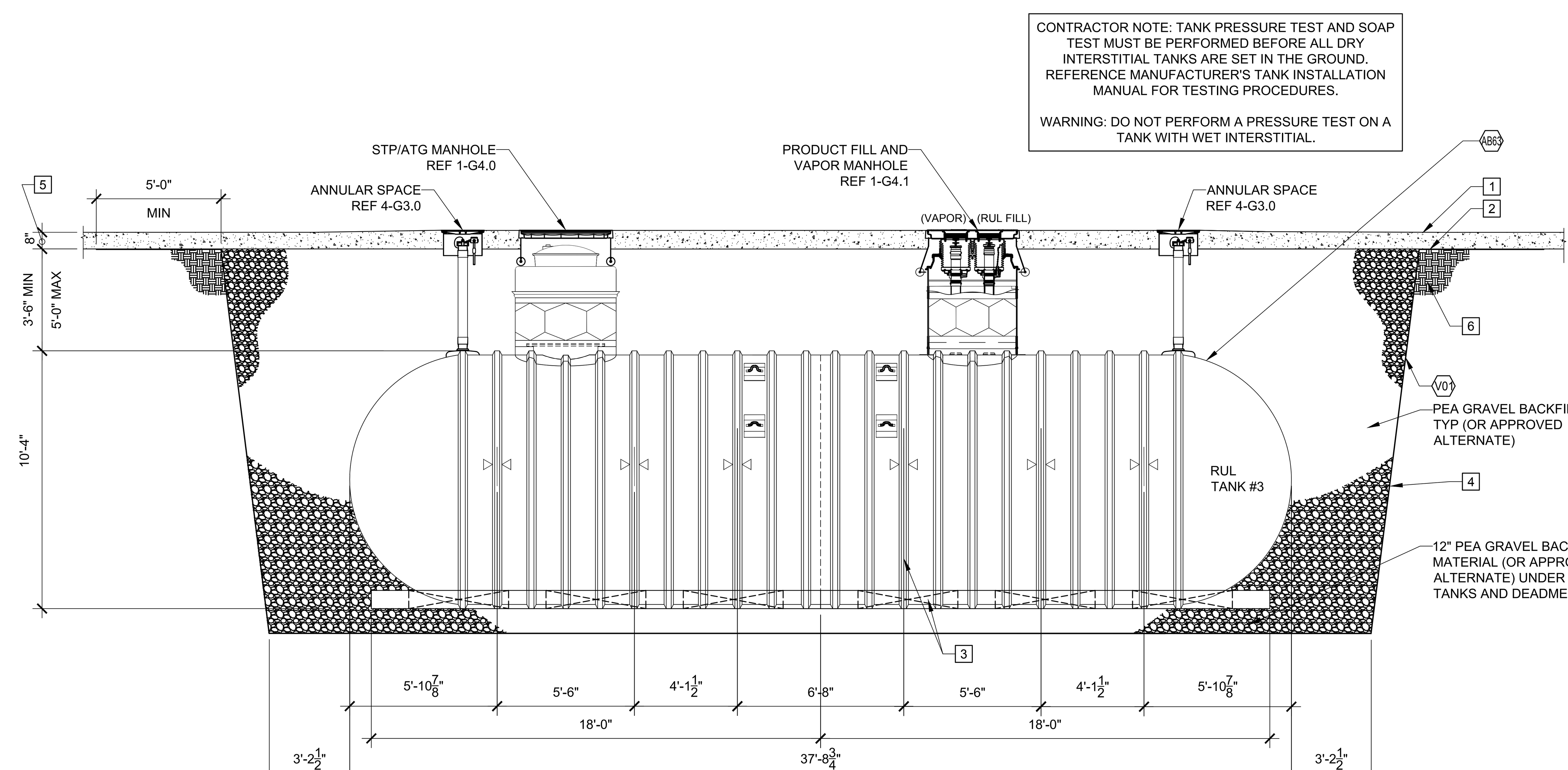
4 ANNULAR SPACE RISER AND SENSOR SECTION
1/2"=1'-0"



3 10' DIA UNDERGROUND STORAGE TANK SECTION
1/4"=1'-0"



2 10' DIA 15,000 GALLON TANKS SECTION
1/4"=1'-0"



1 10' DIA 20,000 GALLON TANK SECTION
1/4"=1'-0"

Rev. #	Date	Description

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

TANK SECTIONS

CORE STATES GROUP

Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

STATE OF TEXAS
DAVID M. LEIFFER
101813
LICENSED PROFESSIONAL ENGINEER
03-06-2024

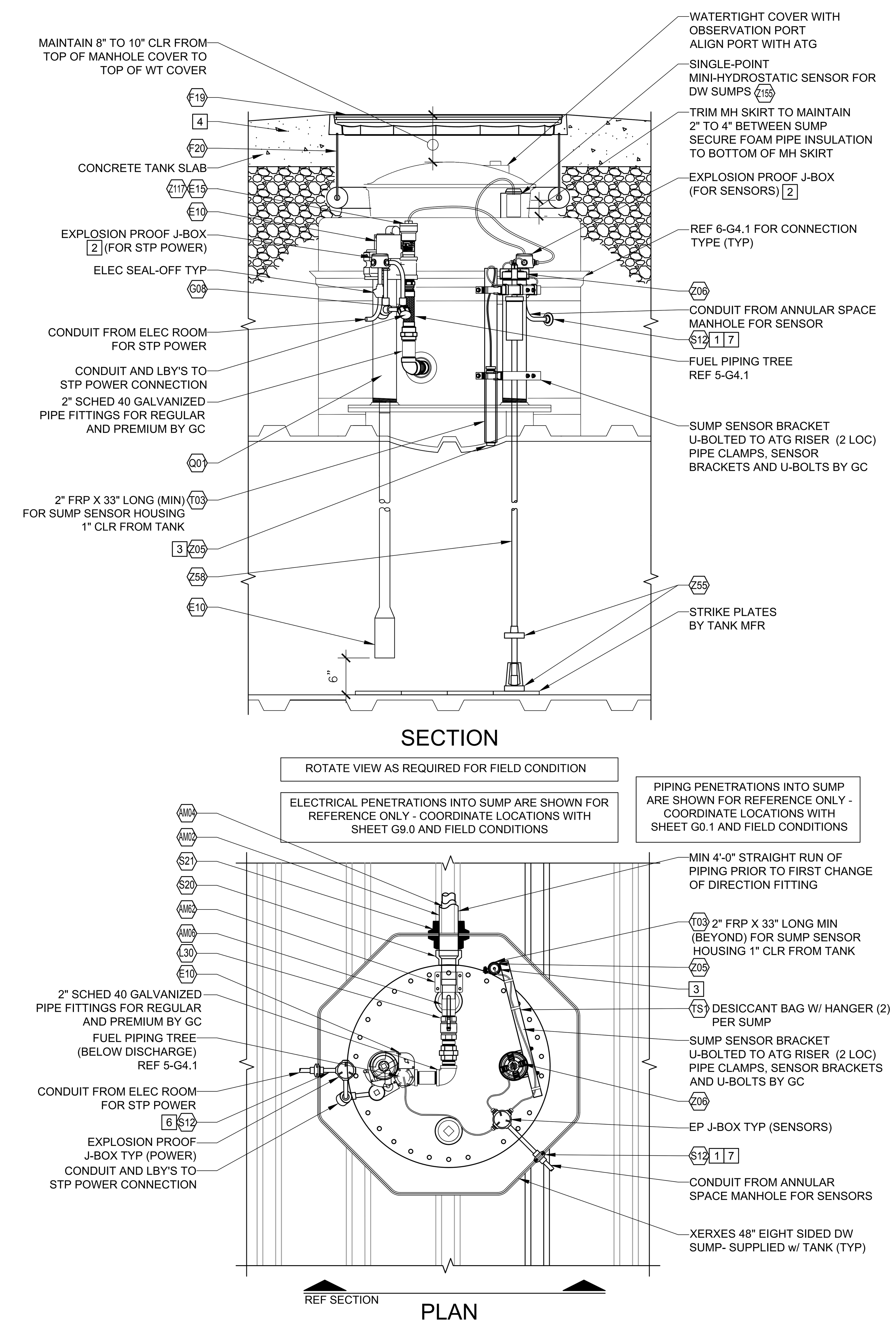
SHEET:
G3.0

FUELING - USA

PRINTED BY: MBRAGG
DRAWING NAME: 36257 - G3.0 TANK SECTIONS.DWG
PRINT DATE: Mar 06, 2024 - 4:37pm

KEY NOTES

1. ELECTRICAL CONDUIT(S) TO ENTER SUMP 2" MIN ABOVE HIGHEST PRODUCT PENETRATION.
2. LOCATE ELECTRICAL JUNCTION BOX IN UPWARD POSITION AT HIGHEST LOCATION IN SUMP RISER FOR EASY ACCESS FROM ABOVE.
3. SUMP SENSOR TO REST AT LOWEST POINT OF SUMP ENCLOSURE ON PRODUCT PIPING SIDE OF SUMP. TANK CONTRACTOR TO SUPPLY ALL BRACKETS AND CLAMPS FOR 2-POINT MOUNTING OF THE 2" FRP SLEEVE.
4. SET MANHOLE COVERS 1" ABOVE THE FINISH GRADE AND SLOPE CONCRETE AWAY FROM MANWAY COVERS AT 2% GRADE.
5. POSITION BALL VALVE FOR UNOBSTRUCTED USE OF SHUT-OFF HANDLE.
6. STP POWER CONDUITS MUST BE RUN IN SEPARATE RACEWAY. ENTIRE WIRING RUN MUST BE IN RIGID PVC COATED GALVANIZED STEEL CONDUIT. USE ONLY ROB ROY CONDUIT TYPES "PERMA-COAT", "PLASTI-BOND" OR "KORKAP", NO PVC OR RNC CONDUIT ALLOWED.
7. USE ONLY ROB ROY CONDUIT TYPES "PERMA-COAT", "PLASTI-BOND" OR "KORKAP" ELECTRICAL CONDUITS AT FIBERGLASS TANK SUMPS OR WHERE BRAVO F-17-RR-D-7-11 OR F-10-RR-D-7-11 ENTRY FITTINGS ARE CALLED OUT.



1 REGULAR AND PREMIUM STP SUMP DETAILS
3/4"=1'-0"

Rev. #	Date	Description

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

TANK SUMP DETAILS
SINGLE OUTPUT

CORE STATES GROUP

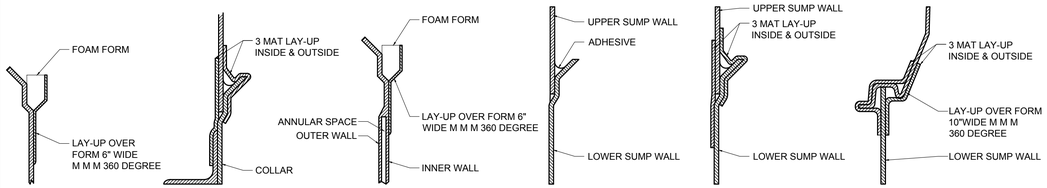
Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

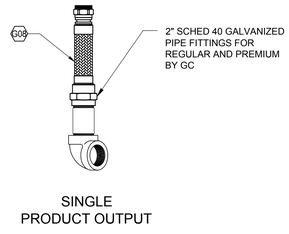
STATE OF TEXAS
DAVID M. LEIFFER
101813
LICENSED PROFESSIONAL ENGINEER
03-06-2024

SHEET:
G4.0

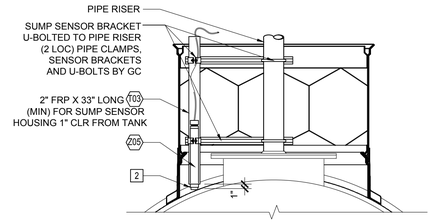
FUELING - USA S/O

PRINTED BY: MBRAGG
DRAWING NAME: 36257 - G4.0 TANK SUMP DETAILS.DWG
PRINT DATE: Mar 06, 2024 - 4:37pm





SINGLE
PRODUCT OUTPUT

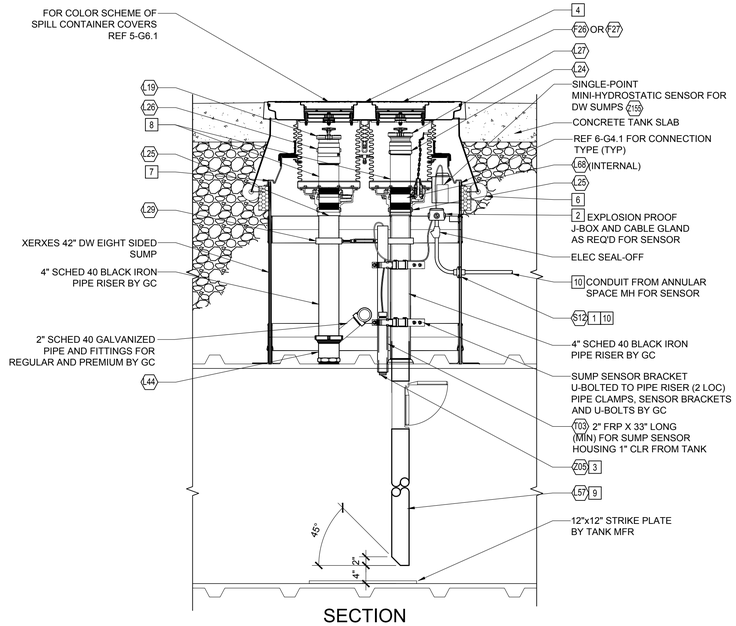


KEY NOTES

1. ELECTRICAL CONDUIT(S) TO ENTER SUMP 2" MIN ABOVE HIGHEST PRODUCT PENETRATION.
2. LOCATE ELECTRICAL JUNCTION BOX IN UPWARD POSITION AT HIGHEST LOCATION IN SUMP RISER FOR EASY ACCESS FROM ABOVE.
3. SUMP SENSOR TO REST AT LOWEST POINT OF SUMP ENCLOSURE ON PRODUCT PIPING SIDE OF SUMP. TANK CONTRACTOR TO SUPPLY UNISTRUT BRACKETS, PIPE CLAMPS AND 2" FRP SLEEVE FOR 2-POINT MOUNTING OF THE SLEEVE.
4. SET MANHOLE COVERS 1" ABOVE THE FINISH GRADE AND SLOPE CONCRETE AWAY FROM MANWAY COVERS AT 2% GRADE.
5. POSITION BALL VALVE FOR UNOBSTRUCTED USE OF SHUT-OFF HANDLE.
6. TRIM MH SKIRT TO MAINTAIN 2" TO 4" CLEARANCE. SECURE FOAM PIPE INSULATION TO BOTTOM OF MH SKIRT. ADD INSULATION AS REQUIRED TO PREVENT CONCRETE FROM BEING POURED DIRECTLY ON SEALED MH.
7. XERXES 42" ROUND SUMP - TRIM AS REQUIRED.
8. ADJUST BLACK IRON PIPE NIPPLE LENGTHS TO ALLOW NO MORE THAN 7" FROM TOP OF COVER TO TOP OF SWIVEL ADAPTERS.
9. OVERFILL PREVENTION VALVE INSTALLED PER MFR'S SPECIFICATIONS. SET OVERFILL DEVICE FOR RESTRICTION OF FLOW AT OR BELOW 90% TANK CAPACITY AND POSITIVE SHUT-OFF AT 95% TANK CAPACITY TO MEET NFPA 30 REQUIREMENTS.
10. USE ONLY ROB ROY CONDUIT TYPES "PERMA-COAT", "PLASTI-BOND" OR "KORKAP" ELECTRICAL CONDUITS AT FIBERGLASS TANK SUMPS OR WHERE BRAVO F-17-RR-D-7-11 OR F-10-RR-D-7-11 ENTRY FITTINGS ARE CALLED OUT.

6 TANK SUMP LAYUP DETAILS
NTS

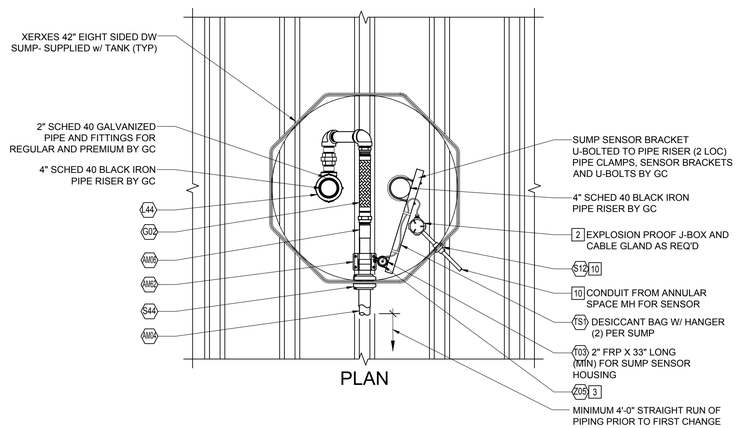
5 FUEL PIPING TREE DETAILS
1 1/2"=1'-0"



SECTION

ROTATE VIEW AS REQUIRED FOR FIELD CONDITION

ELECTRICAL PENETRATIONS INTO SUMP ARE SHOWN FOR REFERENCE ONLY - COORDINATE LOCATIONS WITH SHEET G9.0 AND FIELD CONDITIONS



PLAN

4 SUMP SENSOR AND SENSOR BRACKET DETAIL
3/4"=1'-0"

3 NOT USED
NTS

2 NOT USED
1"=1'-0"

1 RUL/PUL FILL/VAPOR/VENT DETAIL
1"=1'-0"

Rev. #	Date	Description

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

TANK SUMP DETAILS

CORE STATES GROUP
CORESTATES, INC.
TEXAS REGISTERED ENGINEERING FIRM NUMBER: F-3369
2121 E 34th St.
Bryan/College, AR 72712
479.936.4400
CORESTATES.COM

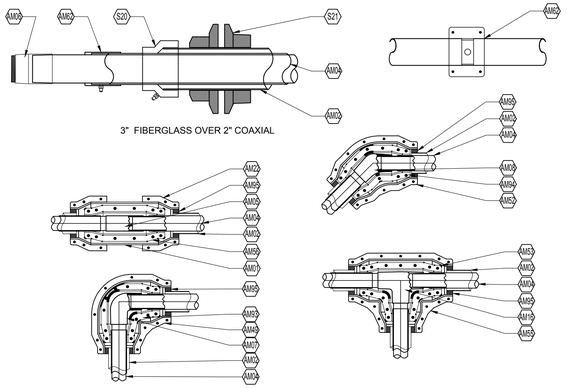
Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

STATE OF TEXAS
DAVID M. LEIFFER
101813
LICENSED PROFESSIONAL ENGINEER
03-06-2024

SHEET:
G4.1

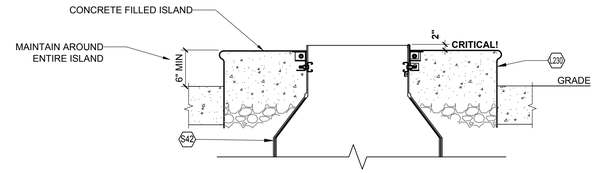
FUELING - USA

PRINTED BY: WBRAGG
DRAWING NAME: 36257 - G4.1 TANK SUMP DETAILS.DWG PRINT DATE: Mar 06, 2024 - 4:37pm

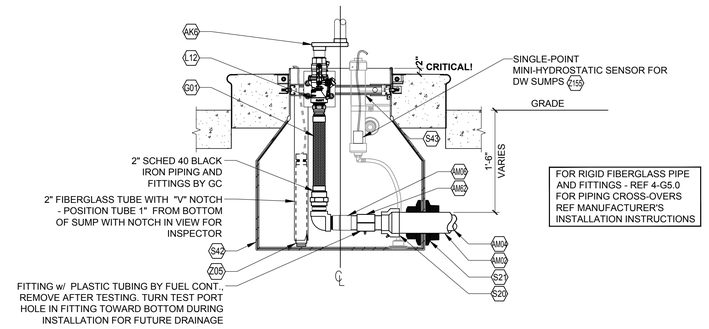


3" FIBERGLASS OVER 2" COAXIAL

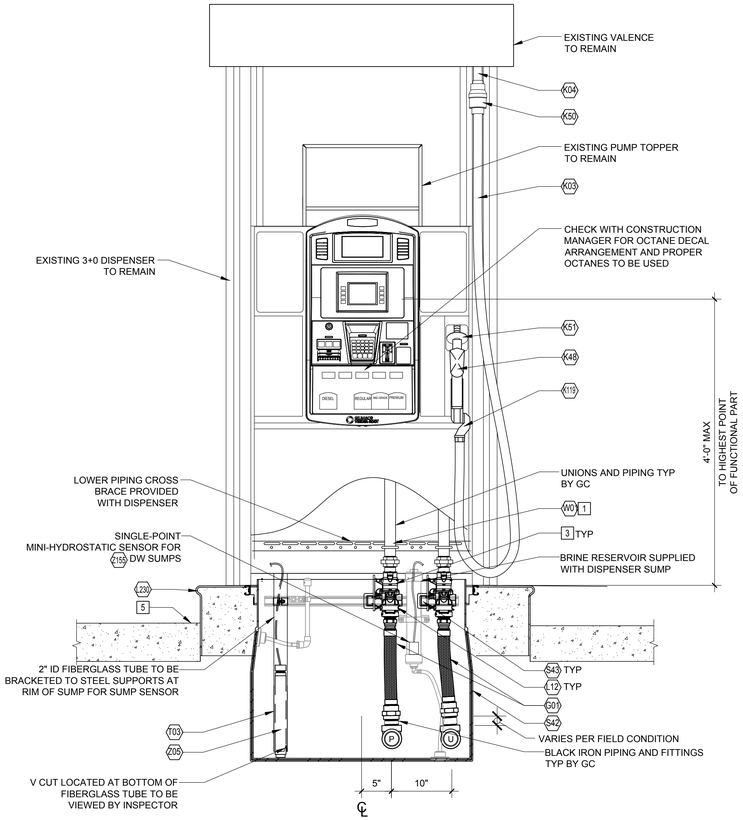
4 PIPING CONNECTIONS
1" = 1'-0"



5 DISPENSER SUMP ELEVATIONS
1" = 1'-0"

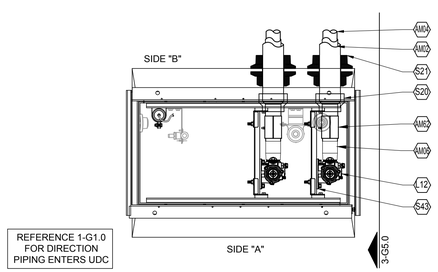


3 DISPENSER SUMP SECTION
1" = 1'-0"



3+0 DISPENSER

1 GILBARCO ENCORE 700S DISPENSER
1" = 1'-0"



3+0 DISPENSER

2 DISPENSER SUMP – PLAN VIEWS
1" = 1'-0"

GENERAL NOTES

1. AFTER ALL UNDERGROUND PIPING AND ELECTRIC CONDUITS ARE INSTALLED AND DURING EXCAVATION, BACKFILLING, AND CONCRETE POURING; A CONTINUOUS HYDROSTATIC TEST SHALL BE PERFORMED ON ALL SUMPS AND SPILL BUCKETS TO ENSURE TIGHTNESS AND PROPER INSTALLATION.
2. SUMP TO BE CLEANED OF DEBRIS AND DRIED AFTER TESTING.

KEY NOTES

1. SOURCE NORTH AMERICA TO SUPPLY U-BOLTS TO SECURE PIPING TO CROSS BRACKETS SUPPLIED BY GILBARCO.
2. **CRITICAL - MUST HAVE 2" RAIN LIP ABOVE INTEGRAL RAIN LIP FRAME.**
3. SHEAR SECTIONS OF SHEAR VALVES SHALL BE MOUNTED FLUSH WITH TOP OF PAVEMENT.
4. NOT USED.
5. CROWN CONCRETE AT BASE OF ISLANDS TO PROMOTE DRAINAGE AND INHIBIT POOLING AROUND DISPENSER ISLANDS.

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		Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

DISPENSER AND SUMP DETAILS

CORE STATES GROUP
CORESTATES, INC.
212 E. 34th St.
Bentonville, AR 72712
479.986.4400
corestates.com
TEXAS REGISTERED ENGINEERING FIRM NUMBER: F-9349
EXPIRATION: 12/31/2024

Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

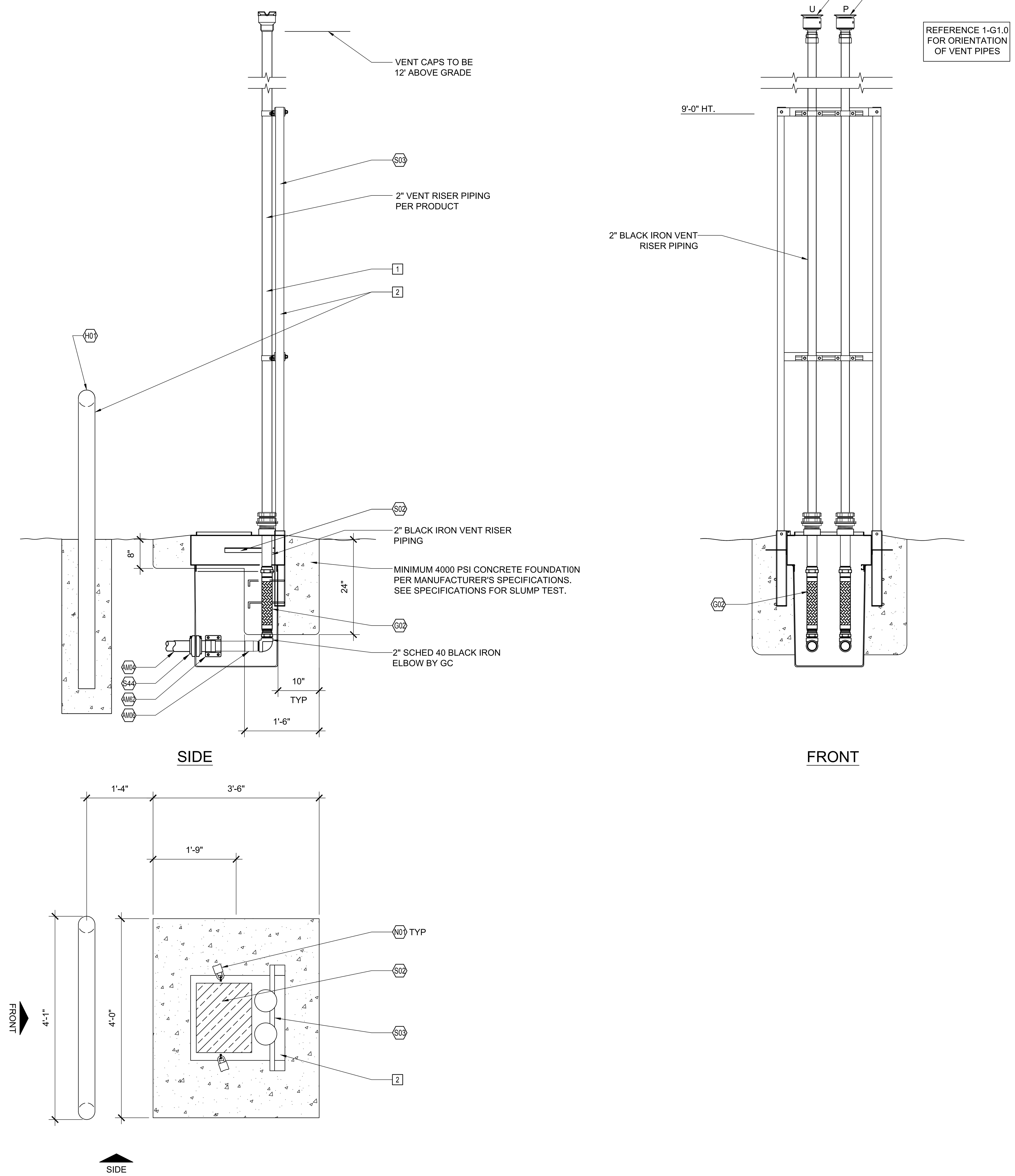
STATE OF TEXAS
DAVID M. LEIFFER
101813
LICENSED PROFESSIONAL ENGINEER
03-06-2024

SHEET:
G5.0
FUELING - USA

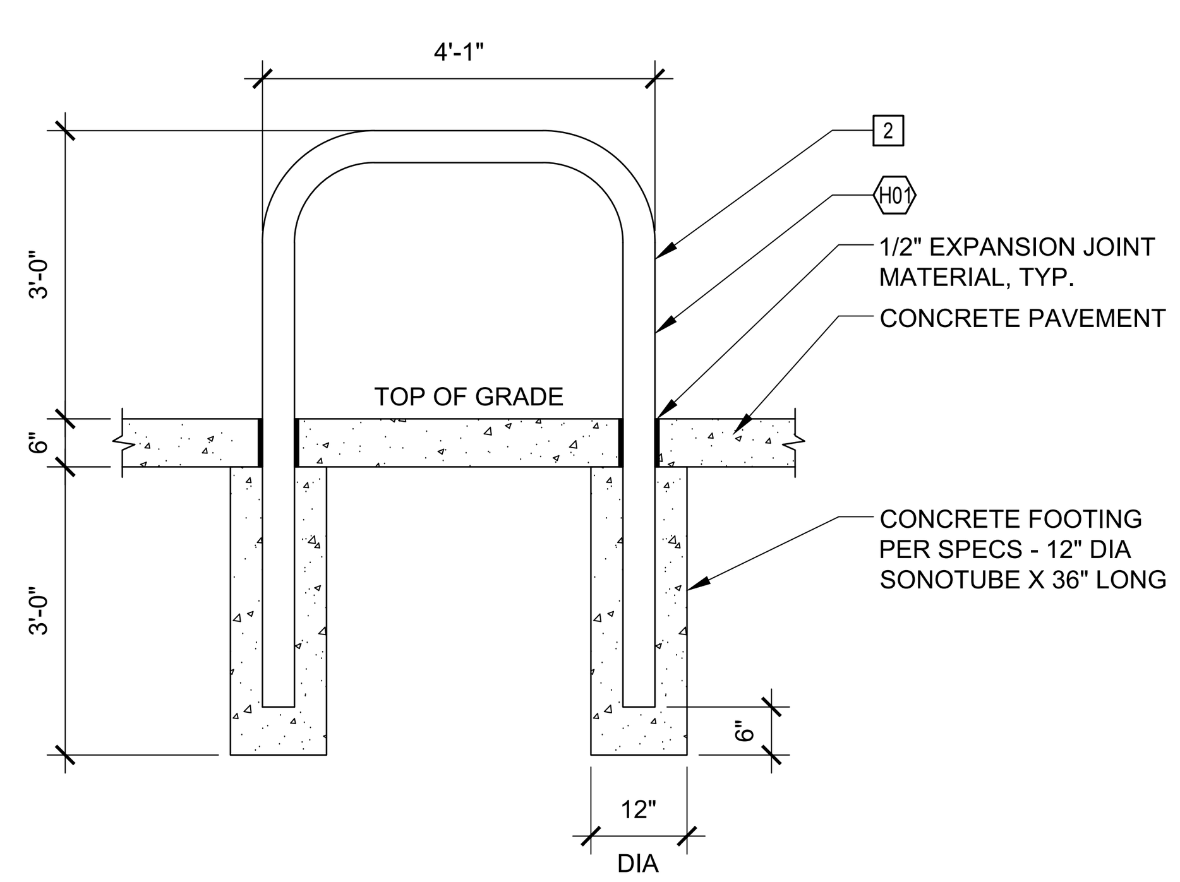
PRINTED BY: MBRAGG
DRAWING NAME: 36257 – G5.0 DISPENSER AND SUMP DETAILS.DWG PRINT DATE: Mar 06, 2024 - 4:37pm

KEY NOTES

1. PAINT VENT PIPES PER CHEVRON BRANDING SPECIFICATIONS .
2. PAINT VENT RACK, BOLLARDS AND ALL OTHER EXPOSED METALS PER CHEVRON BRANDING SPECIFICATIONS.



1 TANK VENT RISER SECTIONS
3/4"=1'-0"



2 HOOP BOLLARD DETAIL
1/2"=1'-0"

Rev. #	Date	Description

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

REMOTE VENT AND DETAILS

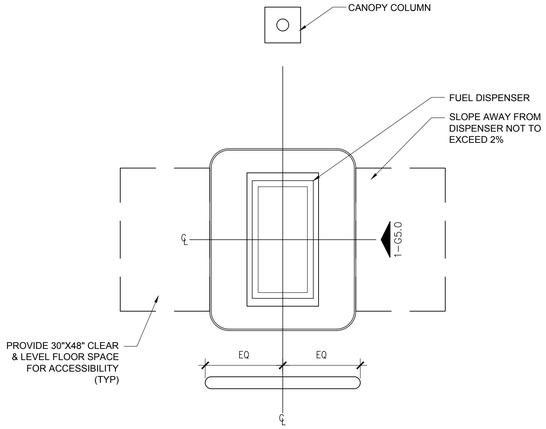
CORE STATES GROUP

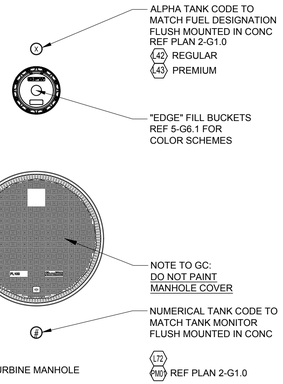
Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

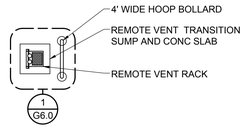
STATE OF TEXAS
DAVID M. LEIFFER
101813
LICENSED PROFESSIONAL ENGINEER
03-06-2024

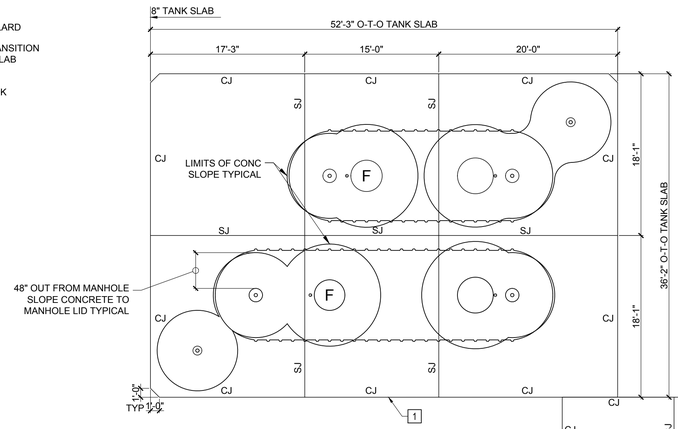
SHEET:
G6.0
FUELING - USA

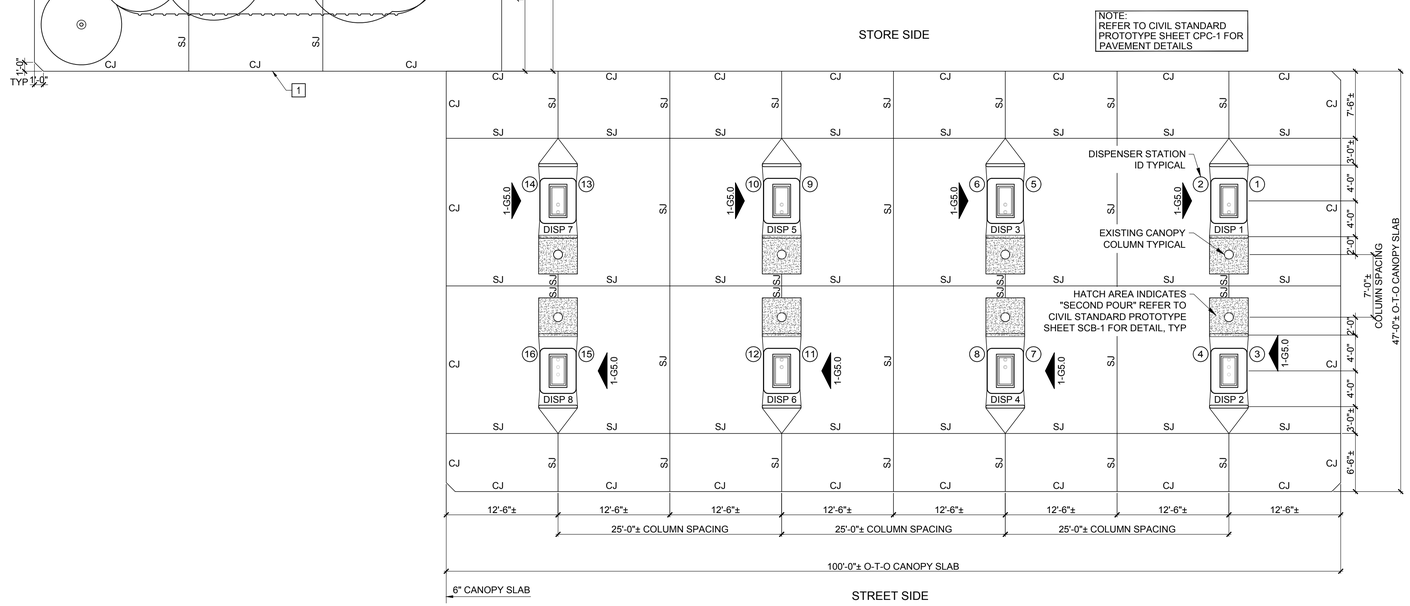
PRINTED BY: MRPAGE PRINT DATE: Mar 06, 2024 - 4:37pm
DRAWING NAME: 36257 - G6.0 REMOTE VENT AND DETAILS.DWG











7 DISPENSER PLAN

1/2"=1'-0"

6 NOT USED

1/2"=1'-0"

RUL E10	○	WHITE
PUL E10	🟥	RED
VAPOR	🟧	ORANGE
OB WELL	▲	WHITE W/ BLACK TRIANGLE

ALL OTHER SMALL MANHOLES PAINT BLACK

5 MANHOLE COLOR SCHEDULE

1/4"=1'-0"

▣ KEY NOTES

1 CONCRETE SLAB. REF G0.1 FOR TOS ELEVATIONS. ALL MANHOLES WITHIN THE TANK SLAB AREA TO BE RAISED 1" ABOVE THE NORMAL GRADE OF CONCRETE. SLOPE CONCRETE TO MANHOLES 1/4" PER FT. CROWN CONCRETE AS TO NOT INHIBIT WATER DRAINAGE OFF THE TANK SLAB (NO POOLING).

4 CONCRETE TAG AND MARKER DETAILS

1/2"=1'-0"

NOTE:
ALL TOP OF MANHOLE RINGS TO BE 1" ABOVE GRADES. REFERENCE SHEET G0.1 FOR GRADING. SLOPE CONCRETE 1/4" PER FT TO NORMAL GRADES TYPICAL.

NOTE:
REFER TO CIVIL STANDARD PROTOTYPE SHEET CPC-1 FOR PAVEMENT DETAILS

3 NOT USED

1/8"=1'-0"

2 NOT USED

3/8"=1'-0"

1 FUEL AREA SLAB LAYOUT AND DIMENSIONAL PLAN

1/8"=1'-0"

PRINTED BY: WBRAGG
DRAWING NAME: 36257 – G6.1 FUELING DIMENSIONAL PLAN.DWG PRINT DATE: Mar 06, 2024 – 4:37pm

Rev. #	Date	Description

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

FUELING DIMENSIONAL PLAN

CORE STATES GROUP
CORESTATES, INC.
TEXAS REGISTERED ENGINEERING FIRM NUMBER: F-9349 EXPIRATION: 07/31/2024
212 SE 34th St.
Ste 2
Bentonville, AR 72712
479.986.4400
core-states.com

Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

DAVID M. LEIFFER
101813
03-06-2024

SHEET:
G6.1
FUELING - USA

3M SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
A04	1	D-2400 PERFORMANCE SERIES WIRED INTERCOM 1 CHANNEL 8-STATION	78-6911-4796-7	06005142	3M	7-ELEVEN / SOURCE NA	GC
A05	2	I/O CARD 4 STATION	78-8117-3900-8	06005143	3M	7-ELEVEN / SOURCE NA	GC

ROYSTON SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
RY01	8	FUEL ISLAND TRASH VALET FOR CHEVRON	XXXXXXX	03500535	ROYSTON	7-ELEVEN / SOURCE	GC

FE PETRO SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
E01	2	MAG VARIABLE FREQUENCY CONTROLLER	MAG-VFC	06006133	FE PETRO INC.	7-ELEVEN / SOURCE NA	GC
E04	-	CONTROL BOX W/ SWITCH	STP-CBS	06006137	FE PETRO INC.	7-ELEVEN / SOURCE NA	GC
E10	2	2 HP VARIABLE SPEED SUBMERSIBLE PUMP W/ INTAKE FILTER	STPKVS2-VL2	03126506	FE PETRO INC.	7-ELEVEN / SOURCE NA	GC
E11	-	1.5 HP FIXED SPEED SUBMERSIBLE PUMP w/ INTAKE FILTER	STPK150-VL2	03126507	FE PETRO INC.	7-ELEVEN / SOURCE NA	GC
E15	2	CHECK VALVE TYPE "R"	400988932	03185395	FE PETRO INC.	7-ELEVEN / SOURCE NA	GC
E17	2	DISPENSER HOOK ISOLATION BOX	STP-DHI	03430256	FE PETRO INC.	7-ELEVEN / SOURCE NA	GC

FIBRELITE/OPW SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
F19	2	40" SUBMERGED PUMP MANHOLE W/O SNOW PLOW RING	FL100BLACK-FC-KIT	03124662	FIBRELITE/OPW	7-ELEVEN / SOURCE NA	GC
F20	2	SKIRT FOR FL100	FL100-SK18	03124663	FIBRELITE/OPW	7-ELEVEN / SOURCE NA	GC
F26	1	FILL/VAPOR MULTIPORT KIT (REGULAR)	S42-3100G-MP16S-W-711-DW	03126553	FIBRELITE/OPW	7-ELEVEN / SOURCE NA	GC
F27	1	FILL/VAPOR MULTIPORT KIT (PREMIUM)	S42-3100G-MP16S-R-711-DW	03126554	FIBRELITE/OPW	7-ELEVEN / SOURCE NA	GC
F28	-	FILL/VENT MULTIPORT KIT (DIESEL)	S42-3100G-OF8S-Y-711-DW	03126555	FIBRELITE/OPW	7-ELEVEN / SOURCE NA	GC

FLEXING SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
G01	16	1.5" X 18" MX X 2 F FIREFLEX FLEX CONNECTOR	FF15X18M346X2F	03158184	FLEXING	7-ELEVEN / SOURCE NA	GC
G02	4	2" MS X 2" F X 18 FIREFLEX FLEX CONNECTOR	FF20X18M346XF	03158182	FLEXING	7-ELEVEN / SOURCE NA	GC
G08	2	1.5" X 12" MSXM FIREFLEX FLEX CONNECTOR	FF15X12M346X2F	06158283	FLEXING	7-ELEVEN / SOURCE NA	GC

GILBARCO SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
J08	-	CHEVRON ILLUMINATED DISPENSER VALANCE	XXXXXXX	03186216	LSI	7-ELEVEN / SOURCE NA	GC
J71	-	DUAL BOARD UNIVERSAL DISTRIBUTION BOX	PA0261-2	00964310	GILBARCO	7-ELEVEN / GILBARCO	GC
J117	-	ENCORE 700S 3+0 BLENDER NN1 - NO VR	XXXXXXX	03153026	GILBARCO	7-ELEVEN / GILBARCO	GC
J118	-	ENCORE 700S 3+1 BLENDER+DSL NL1 - NO VR	XXXXXXX	03153029	GILBARCO	7-ELEVEN / GILBARCO	GC
J119	-	CHEVRON IMAGE UPCHARGE FOR ENCORE DISPENSERS	XXXXXXX	03153065	GILBARCO	7-ELEVEN / GILBARCO	GC
J233	-	ASSY, CABLE RS-422 J103/J905 (R19249-G1)	XXXXXXX	03153097	GILBARCO	7-ELEVEN / GILBARCO	GC
J123	1	DBOX FOR EDH/PASSPORT PA03060020	XXXXXXX	03152567	GILBARCO	7-ELEVEN / GILBARCO	GC

HANGING HARDWARE SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
K03	16	3/4" X 8' FLEXSTEEL HARDWALL HOSE	GY3/4X8MXM	03124651	SOURCENA	7-ELEVEN / SOURCE NA	GC
K04	16	3/4" X 8" FLEXSTEEL WHIP HOSE	GY3/4X8MXMWHIP	03124652	SOURCENA	7-ELEVEN / SOURCE NA	GC
K48	16	3/4" CONVENTIONAL NOZZLE	11BP-0400	03158382	OPW	7-ELEVEN / SOURCE NA	GC
K49	-	3/4" NOZZLE FOR DIESEL	11B-0100	03158387	OPW	7-ELEVEN / SOURCE NA	GC
K50	16	3/4" CONVENTIONAL BREAKAWAY	66REC-1000	03158383	OPW	7-ELEVEN / SOURCE NA	GC
K51	16	3/4" SPLASHGUARD FOR CONVENTIONAL NOZZLE	8BL-0400	03158389	OPW	7-ELEVEN / SOURCE NA	GC
K52	-	DIESEL SPLASHGUARD	8G-0100	03158390	OPW	7-ELEVEN / SOURCE NA	GC
K119	16	CONVENTIONAL NOZZLE HOSE SWIVEL	45-5060	03126565	OPW	7-ELEVEN / SOURCE NA	GC
K121	-	3/4" X 9' BLACK HARDWALL HOSE, MALE X MALE ENDS	XXXXXXX	03124635	SOURCENA	7-ELEVEN / SOURCE NA	GC

OPW SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
L11	2	2" PRESSURE VACUUM VENTING CAP	623V-2203	06158288	OPW	7-ELEVEN / SOURCE NA	GC
L12	16	1.5" SHEAR VALVE - DBL POPPET 10plus	10P-0152	3124684	OPW	7-ELEVEN / SOURCE NA	GC
L16	2	12" MONITORING WELL MANHOLE	104AOW-1200	03115703	OPW	7-ELEVEN / SOURCE NA	GC
L17	2	LOCKABLE MONITORING CAP	634TTM-7087	06006227	OPW	7-ELEVEN / SOURCE NA	GC
L18	4	18" MANHOLE ASSY (ANNULAR)	104A-1800WT	06006209	OPW	7-ELEVEN / SOURCE NA	GC
L19	2	VAPOR CAP	1711T-7085-EVR	06006180	OPW	7-ELEVEN / SOURCE NA	GC
L24	2	FILL SWIVEL ADAPTER	61SALP-1020-EVR	06006214	OPW	7-ELEVEN / SOURCE NA	GC
L25	4	FACE SEAL ADAPTER	FSA-400	06006230	OPW	7-ELEVEN / SOURCE NA	GC
L26	2	VAPOR RECOVERY SWIVEL ADAPTER	61VSA-1020-EVR	06006221	OPW	7-ELEVEN / SOURCE NA	GC
L27	2	TOP SEAL CAP EVR	634TT-7085-EVR	06006226	OPW	7-ELEVEN / SOURCE NA	GC
L29	2	RISER BRACKET	6511-RB16	03158187	OPW	7-ELEVEN / SOURCE NA	GC
L30	2	2" BALL VALVE	21BV-0200	03158393	OPW	7-ELEVEN / SOURCE NA	GC
L36	1	TANK TAG - INTERIOR SPILL BUCKET (REGULAR UNLEADED)	1TAG-1010	06006188	OPW	7-ELEVEN / SOURCE NA	GC
L38	1	TANK TAG - INTERIOR SPILL BUCKET (PREMIUM UNLEADED)	1TAG-3010	06006192	OPW	7-ELEVEN / SOURCE NA	GC
L39	2	EXTERIOR VAPOR RECOVERY TANK TAG	1TAG-7000	06006195	OPW	7-ELEVEN / SOURCE NA	GC
L42	1	CONCRETE TANK MARKER (REGULAR UNLEADED)	106U-0125	06006175	OPW	7-ELEVEN / SOURCE NA	GC
L43	1	CONCRETE TANK MARKER (PREMIUM UNLEADED)	106P-0150	06006174	OPW	7-ELEVEN / SOURCE NA	GC
L44	2	4x2 TEE EXTRACTOR FITTING	233-4420	03158332	OPW	7-ELEVEN / SOURCE NA	GC
L45	-	DIESEL ATMOSPHERIC VENT VALVE	23-0033	06005039	OPW	7-ELEVEN / SOURCE NA	GC
L54	-	TANK TAG - INTERIOR SPILL BUCKET (DIESEL)	1TAG-4010	06006194	OPW	7-ELEVEN / SOURCE NA	GC
L56	-	CONCRETE TANK MARKER (DIESEL)	106DL-0095	06006169	OPW	7-ELEVEN / SOURCE NA	GC
L57	2	4" DROP TUBE WITH DUAL OVERFLOW VALVE 5FT BURY - 10FT TANK	71SO-410C	03158324	OPW	7-ELEVEN / SOURCE NA	GC
L58	-	DIESEL VENT PIPE CAP	116-7085	03185354	OPW	7-ELEVEN / SOURCE NA	GC
L68	2	JACK SCREW FOR CAST BASE SPILL CONTAINER	61JSK-44CB	03158161	OPW	7-ELEVEN / SOURCE NA	GC
L72	1	CONCRETE TANK MARKER (TANK GAUGE #3)	106N-3300	06006172	OPW	7-ELEVEN / SOURCE NA	GC
L230	8	COMPLETE 4'x5'x13" STAINLESS STEEL ISLAND FORM	6013SS-SFR6W4L5	03430283	OPW	7-ELEVEN / SOURCE NA	GC

ENVIRONMENTAL PROTECTION SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
D01	2	4" SLOTTED PVC X 16'1 .020 SCREEN	PVCUST4	03158165	EMI	7-ELEVEN / SOURCE NA	GC

PEMCO SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
PM01	1	CONCRETE TANK MARKERS (#4)	031-4	06006233	PEMCO	7-ELEVEN / SOURCE NA	GC

UNIVERSAL VALVE COMPANY SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
AK6	16	SHORTY OFFSET ADAPTER (3.5")	303-1535	XXXXXXX	UNIVERSAL VALVE	7-ELEVEN / SOURCE NA	GC

Rev. #	Date	Description

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

EQUIPMENT SCHEDULES

CORE STATES GROUP

Job#: SEI.36064
Scale: AS NOTED
Date: 01/11/24
Drawn By: RMC
Checked By: RWB

STATE OF TEXAS
DAVID M. LEIFFER
101813
LICENSED
PROFESSIONAL ENGINEER
03-06-2024

SHEET:
G7.0

FUELING - USA

PRINTED BY: MBRAGG
DRAWING NAME: 36257 - G7.0 EQUIPMENT SCHEDULE.DWG
PRINT DATE: Mar 06, 2024 - 4:36pm

MASTER LOCK SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
N01	4	SERIES 175 TUMBLER LOCK	175	03185351	MASTER LOCK	7-ELEVEN / SOURCE NA	GC

MAY ADVERTISING SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
P01	-	DISPENSER PUMP TOPPER	CT-XL	03158215	MAY ADVERTISING	7-ELEVEN / SOURCE NA	GC

PIPE RISER SCHEDULE

	ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
1	Q01	1	7' THIN WALL PIPE RISER	484RISER	03185353	GENERAL PIPE MANUF.	7-ELEVEN / SOURCE NA	GC

POWER INTEGRITY SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
R01	1	E-STOP SWITCH RED INCLUDES RED COVER WITH TWIST	IA-ESOCA/T/RD	03158209	POWER INTEGRITY	7-ELEVEN / SOURCE NA	GC
R02	1	DISPENSER DATA / LOW VOLTAGE DISCONNECT	DDS-A8D8E	03430287	POWER INTEGRITY	7-ELEVEN / SOURCE NA	GC
R04	1	E-STOP (CASHIER CONTROL STATION WITH PROTECTIVE SHROUD)	IA-ESORS	XXXXXXX	POWER INTEGRITY	7-ELEVEN / SOURCE NA	GC

S. BRAVO SYSTEM SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
S01	-	3/4" ROB ROY FITTING	F-17-RR-7-11	03115710	S. BRAVO SYSTEM INC.	7-ELEVEN / SOURCE NA	GC
S03	1	VAPOR VENT RACK	RS500JP-3S	03158039	S. BRAVO SYSTEM INC.	7-ELEVEN / SOURCE NA	GC
S02	1	FIBERGLASS VAPOR VENT REMOTE SUMP FOR 2 TANKS	B500JPF-2SB	03158048	S. BRAVO SYSTEM INC.	7-ELEVEN / SOURCE NA	GC
S12	6	3/4" ROB ROY FITTING FOR DOUBLE WALL SUMP	F-17-RR-D-7-11	03124548	S. BRAVO SYSTEM INC.	7-ELEVEN / SOURCE NA	GC
S13	-	1" ROB ROY FITTING FOR DOUBLE WALL SUMP	F-10-RR-D-7-11	03124549	S. BRAVO SYSTEM INC.	7-ELEVEN / SOURCE NA	GC
S20	18	3"X 2" FIBERGLASS REDUCER FOR LCX PIPING	FR-2LCX-T	XXXXXXXX	S. BRAVO SYSTEM INC.	7-ELEVEN / SOURCE NA	GC
S21	18	3" FIBERGLASS FLANGE FITTING (SIZE OVER SIZE) DW	F-32-LU-T-F	XXXXXXXX	S. BRAVO SYSTEM INC.	7-ELEVEN / SOURCE NA	GC
S42	8	DW BRINE FILLED DISPENSER SUMP	B1380-D30	XXXXXXXX	S. BRAVO SYSTEM INC.	7-ELEVEN / SOURCE NA	GC
S43	16	STABILIZER BAR BRACKET ASSEMBLY	BK-1017	XXXXXXXX	S. BRAVO SYSTEM INC.	7-ELEVEN / SOURCE NA	GC
S44	4	2" LCX BONDED FITTING	F-20-FF-LCX	XXXXXXXX	S. BRAVO SYSTEM INC.	7-ELEVEN / SOURCE NA	GC

SMITH FIBERCAST VAPOR / VENT PIPING SCHEDULE

ITEM NO.	LGTH	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
T03	25'	2" PRIMARY PIPING (USE 25 FT LENGTHS)	011020-069-2	06006328	NOV (REDTHREAD IIA)	7-ELEVEN / SOURCE NA	GC

SMITH FIBERCAST SCHEDULE (CONTACT: LISA BLASSENGAME - LISA.BLASSENGAME@NOV.COM/210-842-5777 FOR QUANTITY)

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
T40	4	5' FIBERGLASS RISER PIPE KIT - INCLUDES (2) BELL X MALE & ADHESIVE KIT	98C02373	03430288	NOV (REDTHREAD IIA)	7-ELEVEN / SOURCE NA	GC

TYPAR FILTER FABRIC SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
V01	4	FILTER FABRIC 12- 1/2" X 300'	TYPAR-3401	06006313	TYPAR	7-ELEVEN / SOURCE NA	GC

U BOLT SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
W01	16	U-BOLT ENCORE	M00703B002	03185374	MISCELLANEOUS PARTS	7-ELEVEN / SOURCE NA	GC

FIRE EXTINGUISHER

	ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
1	U01	2	HIGH FLOW 20 ABC PORTABLE FIRE EXTINGUISHER	760-POTTER	03158046	POTTER ROEMER	7-ELEVEN / SOURCE NA	GC
	U02	2	FIRE EXTINGUISHER CABINET	105-20-RRC-H	03185372	CATO	7-ELEVEN / SOURCE NA	GC

VEEDER ROOT SCHEDULE

	ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
	Z05	12	LIQUID SUMP SENSOR	794380-208	06005066	VEEDER ROOT	7-ELEVEN / SOURCE NA	GC
	Z06	6	4" ANNULAR / PROBE CAP	330020-282	06005053	VEEDER ROOT	7-ELEVEN / SOURCE NA	GC
	Z08	1	7-11 ISP KIT	330020-409	06005054	VEEDER ROOT	7-ELEVEN / SOURCE NA	GC
	Z12	1	TLS-XB EXPANSION BOX, UL	860390-100	XXXXXXX	VEEDER ROOT	7-ELEVEN / SOURCE NA	GC
	Z14	4	10 FT. INTERSTITIAL TANK SENSOR	794390-409	03158249	VEEDER ROOT	7-ELEVEN / SOURCE NA	GC
	Z16	-	4" FLOAT KIT FOR DIESEL	846400-001	03158176	VEEDER ROOT	7-ELEVEN / SOURCE NA	GC
	Z42	1	G-SITE INSTALL KIT	331063-100	03158202	VEEDER ROOT	7-ELEVEN / SOURCE NA	GC
	Z55	2	PHASE II FLOAT KIT (GAS)	886100-000	03305136	VEEDER ROOT	7-ELEVEN / SOURCE NA	GC
	Z58	2	10' 6" ATG PROBE	846397-110	03165574	VEEDER ROOT	7-ELEVEN / SOURCE NA	GC
	Z106	1	TLS-450PLUS TOUCH SCREEN CONSOLE W/ PRINTER	860091-302	03430216	VEEDER ROOT	7-ELEVEN / SOURCE NA	GC
	Z107	1	TLS-450PLUS APPLICATION SOFTWARE	333545-001	03430215	VEEDER ROOT	7-ELEVEN / SOURCE NA	GC
	Z108	1	BIR/ACCUCHART LI EDIM FACTORY INSTALLED FOR TLS-450PLUS	333149-001	03430211	VEEDER ROOT	7-ELEVEN / SOURCE NA	GC
	Z109	2	SIXTEEN INPUT UNIVERSAL SENSOR / PROBE INTERFACE MODULE TLS-450 INSTALLED	332812-001	03430210	VEEDER ROOT	7-ELEVEN / SOURCE NA	GC
	Z116	1	RISK MANAGEMENT LEAK DETECTION SOFTWARE FOR DPLLD FOR TLS-450	332972-008	03430214	VEEDER ROOT	7-ELEVEN / SOURCE NA	GC
	Z117	2	DIGITAL PRESSURIZED LINE LEAK DETECTOR W/O SWIFT CHECK VALVE TLS-450	859080-001	03430179	VEEDER ROOT	7-ELEVEN / SOURCE NA	GC
	Z119	1	SINGLE RS-232 INTERFACE MODULE (COMM. SLOTS 1, 2, 3) FOR TLS-450PLUS	332866-001	03430219	VEEDER ROOT	7-ELEVEN / SOURCE NA	GC
	Z124	1	UNIVERSAL INPUT / OUTPUT INTERFACE MODULE TLS-450 - INSTALLED	332813-001	03430212	VEEDER ROOT	7-ELEVEN / SOURCE NA	GC
	Z132	1	CONTINUOUS STATISTICAL LEAK DETECTION TLS-450	332972-006	03430213	VEEDER ROOT	7-ELEVEN / SOURCE NA	GC
	Z149	1	TLS-XB INSTALL KIT WITH 6' CABLE	330020-762	XXXXXXX	VEEDER ROOT	7-ELEVEN / SOURCE NA	GC
	Z155	12	SINGLE-POINT MINI-HYDROSTATIC SENSOR FOR DW SUMPS	794380-304	XXXXXXX	VEEDER ROOT	7-ELEVEN / SOURCE NA	GC
1	Z200	1	GENMEN TLS-450 TANK MONITOR	M11247B064	XXXXXXX	GILBARCO/VEEDER ROOT	7-ELEVEN / SOURCE NA	GC

XERXES SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
AB62	1	XERXES TRIPLE WALL TANK 10' DIA. (15K) w/ (2) STP SUMP, 4" FILL & V/V FITTINGS	XS-004834-R01	XXXXXXX	XERXES	7-ELEVEN / XERXES	GC
AB63	1	XERXES TRIPLE WALL TANK 10' DIA. (20K) w/ (2) STP SUMP, 4" FILL & V/V FITTINGS	XXXXXXX	XXXXXXX	XERXES	7-ELEVEN / XERXES	GC

SIGNAGE SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
AJ1	16	4" X 5" EMERGENCY SHUT OFF SIGN (OUTSIDE)	NG-2402	XXXXXXX	PERFORMANCE INK	GC	GC
AJ2	1	4" X 4" PUMP NUMBERS 1-6 - WHITE NUMBERS/BLACK BACKGROUND	1-6 NG-28	XXXXXXX	PERFORMANCE INK	GC	GC
AJ5	-	3.5" X 3.25" ULTRA LOW SULFUR HIGHWAY DECAL	XXXXXXX	XXXXXXX	PERFORMANCE INK	GC	GC
AJ6	16	2.76" X 4.75" CONTAINS 10% ETHANOL DECAL	NG-80R	XXXXXXX	PERFORMANCE INK	GC	GC
AJ7	16	2.75" X 2.75" GAS PUMPS ARE VIDEO MONITORED DECAL	NG41	XXXXXXX	PERFORMANCE INK	GC	GC
AJ8	8	20" X 6.5" WARNING - NO SMOKING	NG193	XXXXXXX	PERFORMANCE INK	GC	GC
AJ9	1	4" X 4" PUMP NUMBERS 7-12 - WHITE NUMBERS/BLACK BACKGROUND	NG-NG-24SEI	XXXXXXX	PERFORMANCE INK	GC	GC
AJ10	4	4"X24" ALUMINUM FIRE EXTINGUISHER SIGN	NG-97SEI	XXXXXXX	PERFORMANCE INK	GC	GC
AJ11	-	8"X12" ALUMINUM OVERFILL SIGN	M-58	00330547	NATIONAL GAS	7-ELEVEN	GC
AJ12	16	OUTDOOR LITERATURE HOLDER (2 PER DISP)	XXXXXXX	03304838	HICORP	7-ELEVEN/SOURCE	GC
AJ13	1	4"X 4" PUMP NUMBERS 13-18	NG-25SEi	XXXXXXX	PERFORMANCE INK	GC	GC

TRANS-SORB SCHEDULE

	ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
1	TS1	8	DESICCANT BAG WITH HANGER (2 PER SUMP)	SC1500T1	03430194	TRANS-SORB	7-ELEVEN / SOURCE NA	GC

WINDY CITY WIRE SCHEDULE

	ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
1	WC1	2	GILBARCO DISPENSER COMMUNICATION CABLE (CAT6)	FEP-CAT6	03430209	WINDY CITY WIRE	7-ELEVEN / SOURCE NA	GC

AMERON DUALOY 3000/L PIPING SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
AM01	20'	6" DUALOY 3000/L PIPE	66854381	XXXXXXX	AMERON	7-ELEVEN / TURNKEY	GC
AM02	640'	3" DUALOY 3000/L PIPE	33854381	6005125	AMERON	7-ELEVEN / TURNKEY	GC

AMERON DUALOY 3000/LCX PIPING SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
AM04	800'	2" DUALOY 3000/LCX PIPE	22464386	XXXXXXX	AMERON	7-ELEVEN / TURNKEY	GC

AMERON DUALOY 3000/L FITTINGS SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
AM05	5	2" DUALOY 3000/L SLEEVE COUPLING	22850707	06005124	AMERON	7-ELEVEN / SOURCE NA	GC
AM06	22	2" DUALOY 3000/L BELL X MALE NPT FITTING	22370202	06006004	AMERON	7-ELEVEN / SOURCE NA	GC
AM07	28	2" DUALOY 3000/L 90 DEG MOLDED ELBOW	22372108	06006006	AMERON	7-ELEVEN / SOURCE NA	GC
AM08	16	2" DUALOY 3000/L 45 DEG MOLDED ELBOW	22371508	06006005	AMERON	7-ELEVEN / SOURCE NA	GC
AM16	14	2" DUALOY 3000/L MOLDED TEE	22378007	06006007	AMERON	7-ELEVEN / SOURCE NA	GC
AM27	-	REDUCER BUSHING TM X 1-1/2" NPTF	29370503	06006048	AMERON	7-ELEVEN / SOURCE NA	GC

AMERON DUALOY 3000/LCX FITTINGS SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	PART NO.	ORACLE NO.	MANUFACTURER	FURNISHED BY	INSTALLED BY
AM49	22	4" DUALOY 3000/LCX 90 DEG CLAMSHELL	44469201	XXXXXXXX	AMERON	7-ELEVEN / SOURCE NA	GC
AM52	16	4" DUALOY 3000/LCX 45 DEG CLAMSHELL	44469202	XXXXXXXX	AMERON	7-ELEVEN / SOURCE NA	GC
AM53	14	2" DUALOY 3000/LCX TEE CLAMSHELL	22469203	XXXXXXXX	AMERON	7-ELEVEN / SOURCE NA	GC
AM55	14	4" DUALOY 3000/LCX TEE CLAMSHELL	44469203	XXXXXXXX	AMERON	7-ELEVEN / SOURCE NA	GC
AM56	1	2" DUALOY 3000/LCX SLEEVE COUPLING CLAMSHELL	22469204	XXXXXXXX	AMERON	7-ELEVEN / SOURCE NA	GC
AM22	5	4" DUALOY 3000/LCX SLEEVE COUPLING CLAMSHELL	44469204	XXXXXXXX	AMERON	7-ELEVEN / SOURCE NA	GC
AM62	22	2" DUALOY 3000/LCX TERMINATION CLAMSHELL W/ TEST PORT (2-PC)	22469206	XXXXXXXX	AMERON	7-ELEVEN / SOURCE NA	GC
AM91	8	5 OZ 6 PACK OF PSX-20	50210102	06005128	AMERON	7-ELEVEN / SOURCE NA	GC
AM93	22	2" MODIFIED DUALOY 3000/LCX 90 DEG CLAMSHELL	93002174	XXXXXXXX	AMERON	7-ELEVEN / SOURCE NA	GC
AM94	16	2" MODIFIED DUALOY 3000/LCX 45 DEG CLAMSHELL	93002173	XXXXXXXX	AMERON	7-ELEVEN / SOURCE NA	GC
AM95	120	4" LCX CLAMSHELL X 3" 3000/L PIPE CLOSURE RING	43469203	XXXXXXXX	AMERON	7-ELEVEN / SOURCE NA	GC
AM96	6	2" DUALOY 3000/LCX 90 DEG CLAMSHELL	22469201	XXXXXXXX	AMERON	7-ELEVEN / SOURCE NA	GC
AM97	-	2" DUALOY 3000/LCX 45 DEG CLAMSHELL	22469202	XXXXXXXX	AMERON	7-ELEVEN / SOURCE NA	GC

Rev. #	Date	Description
1	03/06/24	PEER REVIEW COMMENTS

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

EQUIPMENT SCHEDULE

CORE STATES GROUP
CORESTATES, INC.
TEXAS REGISTERED ENGINEERING FIRM NUMBER: F-3349
212 E 34th St.
Bentonville, AR 72712
479.936.4400
CORESTATES.COM

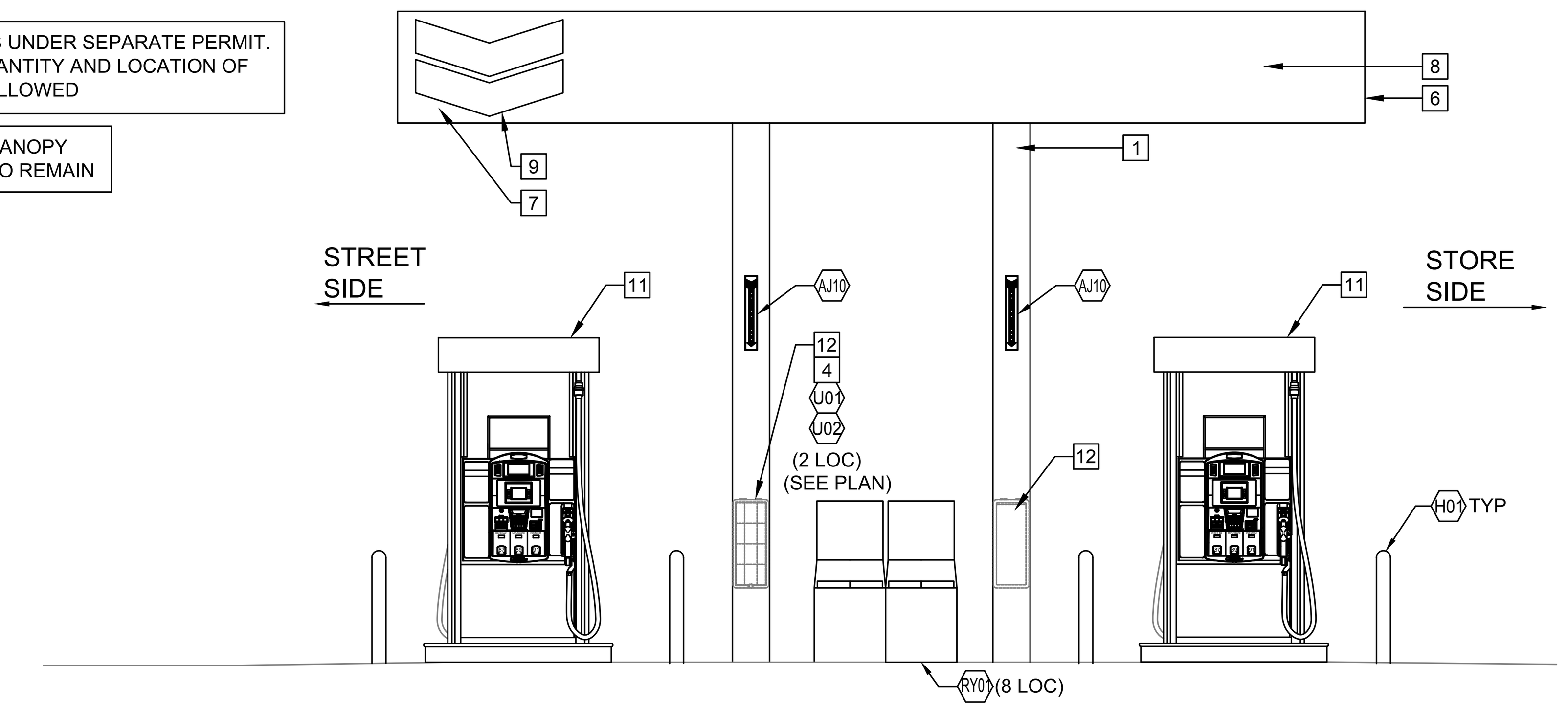
Job#: SEI.36064
Scale: AS NOTED
Date: 01/11/24
Drawn By: RMC
Checked By: RWB

STATE OF TEXAS
DAVID M. LEIFFER
101813
LICENSED
PROFESSIONAL ENGINEER
03-06-2024

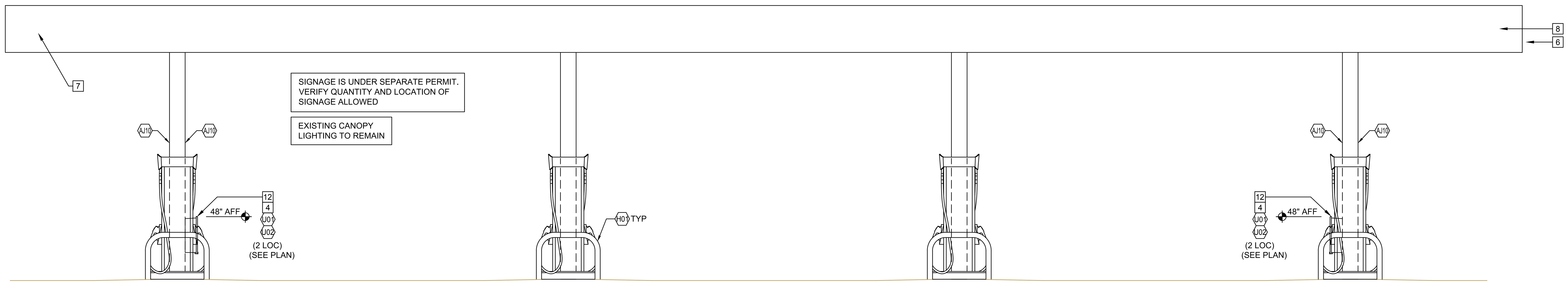
SHEET:
G7.1

FUELING - USA

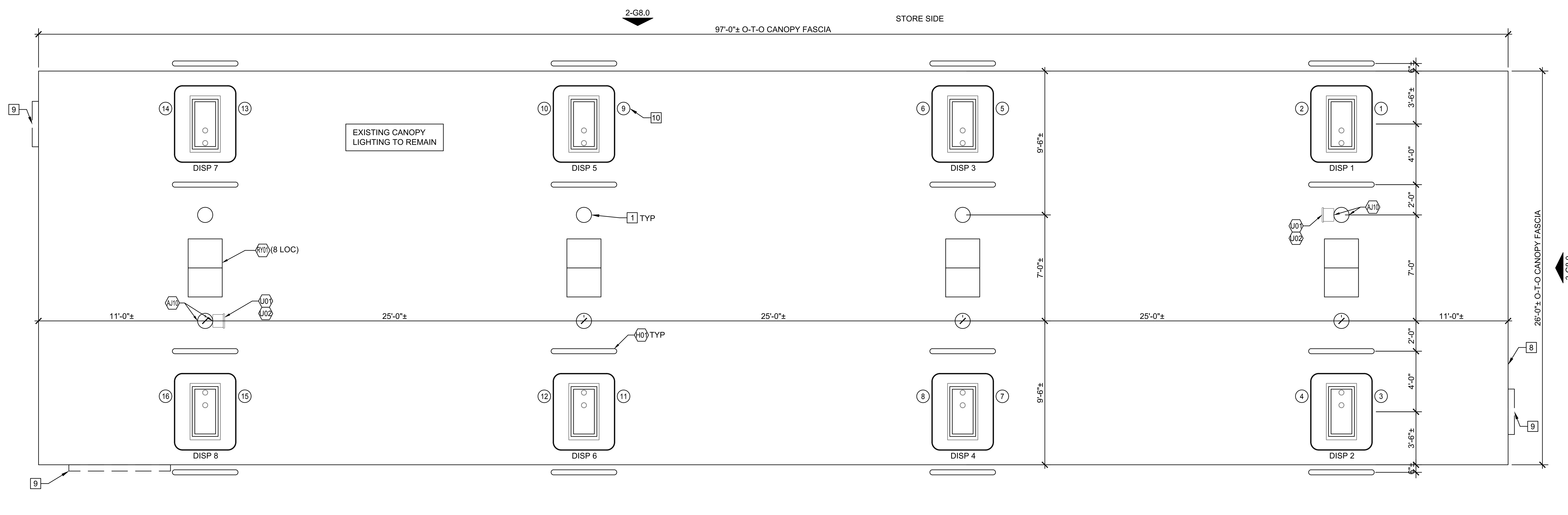
PRINTED BY: WBRAGG
DRAWING NAME: 36257 - G7.1 EQUIPMENT SCHEDULE (1).DWG PRINT DATE: Mar 06, 2024 - 4:38pm



3 CANOPY END ELEVATION
1/4" = 1'-0"



2 CANOPY SIDE ELEVATION
1/4" = 1'-0"



1 FUELING CANOPY PLAN
1/4" = 1'-0"

GENERAL NOTES

1. GRADES AROUND DISPENSERS AND CANOPY TO BE SHOT TO PREVENT PONDING AROUND THE DISPENSERS. CONTRACTOR TO REMOVE AND REPAIR PAVEMENT IF PONDING OCCURS.
2. NO CONDUITS OR DOWNSPOUTS ON EXTERIOR OF CANOPY COLUMNS.
3. REFER TO GRADING PLAN FOR FINAL ELEVATIONS.

KEY NOTES

1. CANOPY COLUMN - PAINT PER CHEVRON BRANDING SPECIFICATIONS.
2. NOT USED
3. NOT USED
4. FIRE EXTINGUISHER - ADA MOUNTING HEIGHT TO BE MAX. 48" FROM GRADE TO FIRE EXTINGUISHER
5. NOT USED
6. EXISTING OVERFLOW PROTECTION.
7. EXISTING GASOLINE CANOPY.
8. EXISTING CANOPY FASCIA.
9. EXISTING LOGO SIGNS.
10. FUELING POSITION NUMBER.
11. REF 1-G5.0 FOR DISPENSER TYPE
12. FIRE EXTINGUISHER CABINET MOUNTED ON SIDE OF COLUMN REF PLAN FOR LOCATION
13. REF G7.0 FOR EQUIPMENT TAG (XXX) DESCRIPTION

Rev. #	Date	Description

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

FUELING CANOPY LAYOUT - 8 STACK

CORE STATES GROUP

Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

STATE OF TEXAS
DAVID M. LEIFFER
101813
LICENSED PROFESSIONAL ENGINEER
03-06-2024

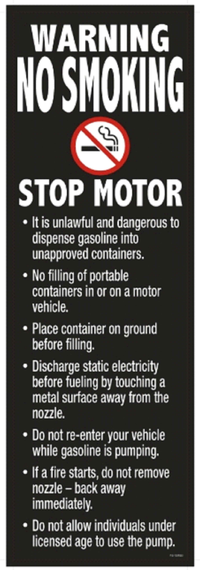
SHEET:
G8.0

FUELING - USA

PRINTED BY: MBRAGG
DRAWING NAME: 36257 - G8.0 FUELING CANOPY LAYOUT - 8 STACKED.DWG
PRINT DATE: Mar 06, 2024 - 4:38pm

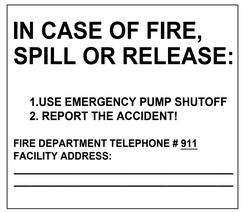
GENERAL NOTES

1. SIGNAGE IS PROVIDED BY 7-ELEVEN OR GC . SIGNAGE TO BE INSTALLED BY CONTRACTOR PER 7-ELEVEN GUIDELINES,



9 WARNING NO SMOKING
N.T.S.

8 FIRE EXTINGUISHER
N.T.S.

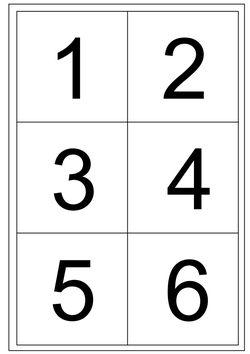


7 IN CASE OF FIRE, SPILL OR RELEASE
N.T.S.

6 GAS PUMPS ARE VIDEO MONITORED
N.T.S.

5 CONTAINS 10% ETHANOL
N.T.S.

4 NOT USED
N.T.S.



3 DISPENSER NUMBERS
N.T.S.

DANGER

EMERGENCY SHUT OFF OUTSIDE

EXTREMELY FLAMMABLE

Use as Motor Fuel Only

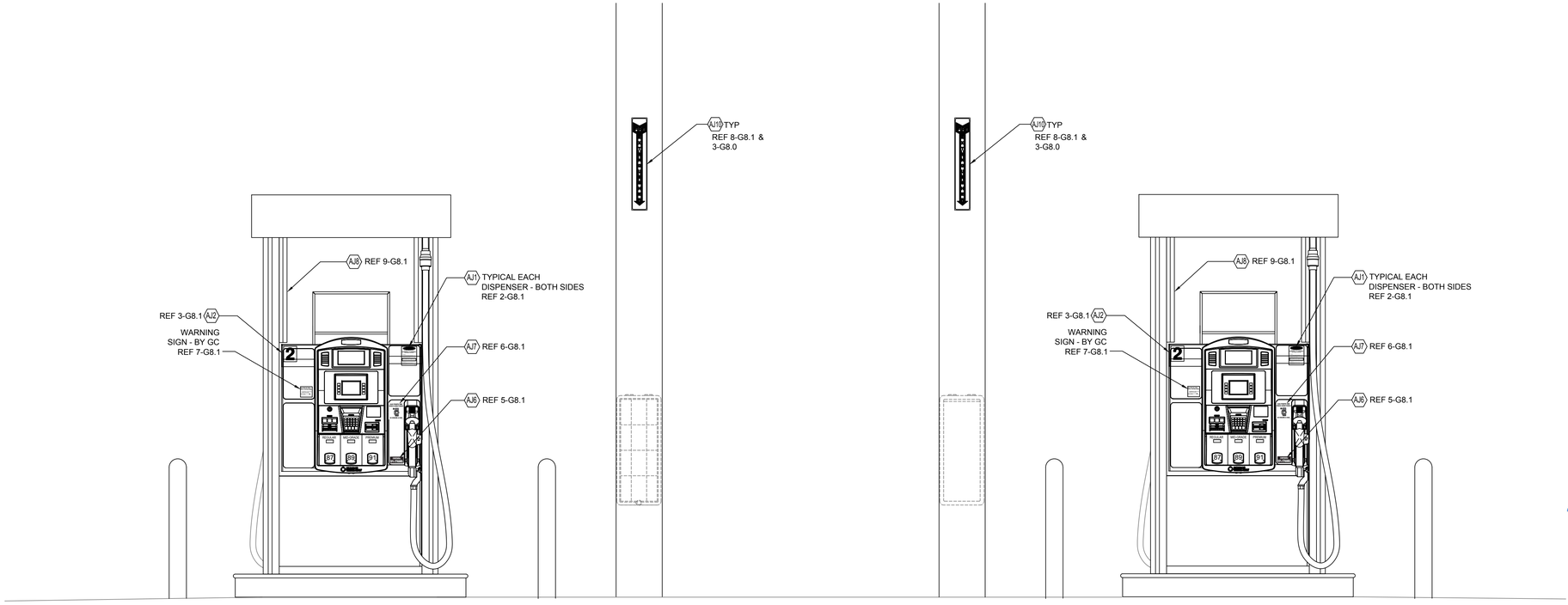
- NO SMOKING!
- Stop Engine.
- Turn off all electronic equipment including cellular telephones.
- Do not leave nozzle unattended during refueling
- Do not re-enter your vehicle while gasoline is pumping.
- Discharge your static electricity before fueling by touching a metal surface away from the nozzle.
- If a fire starts, do not remove nozzle - back away immediately

Static Sparks Can Cause A Fire, especially when filling portable containers.

- Containers must be metal or other material approved for storing gasoline.
- PLACE CONTAINER ON GROUND! DO NOT FILL ANY PORTABLE CONTAINER IN OR ON A VEHICLE.
- Keep nozzle spout in contact with the container during the entire filling operation.

NG-2402

2 EMERGENCY SHUT OFF
N.T.S.



1 DISPENSER SIGNAGE ELEVATION
3/4"" = 1'-0"

Rev. #	Date	Description

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

SIGNAGE DETAILS

CORE STATES GROUP
CORE STATES, INC.
212 SE 34th St.
Bentonville, AR 72712
479.786.4400
core-states.com
TEXAS REGISTERED ENGINEERING FIRM NUMBER: F-9949
EXPIRATION: 12/31/2024

Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

STATE OF TEXAS
DAVID M. LEIFFER
101813
LICENSED PROFESSIONAL ENGINEER
03-05-2024

SHEET:
G8.1

FUELING - USA

PRINTED BY: WBRAGG
DRAWING NAME: 36257 - G8.1 SIGNAGE DETAILS.DWG
PRINT DATE: Mar 06, 2024 - 4:38pm

F

SERVES: TENANT SPACE
LOCATION: STOCKROOM
MOUNTING: SURFACE

NEW PANELBOARD

125A MAIN LUG ONLY
1PH 3WIRE 208/120V
GROUND BAR

CK	LOAD SERVED	WIRE	BRKR	PL	PHASE A		PHASE B		PL	BRKR	WIRE	LOAD SERVED	CK
1	SWITCHED NEUTRAL	--	--	-	0.00	0.00			1	20	--	SPARE	2
3	DISPENSER #1	12	20	1			1.08	1.08	1	20	12	DISPENSER #2	4
5	SWITCHED NEUTRAL	--	--	-	0.00	0.00			-	--	--	SWITCHED NEUTRAL	6
7	DISPENSER #3	12	20	1			1.08	1.08	1	20	12	DISPENSER #4	8
9	SWITCHED NEUTRAL	--	--	-	0.00	0.00			-	--	--	SWITCHED NEUTRAL	10
11	DISPENSER #5	12	20	1			1.08	1.08	1	20	12	DISPENSER #6	12
13	SWITCHED NEUTRAL	--	--	-	0.00	0.00			-	--	--	SWITCHED NEUTRAL	14
15	DISPENSER #7	12	20	1			1.08	1.08	1	20	12	DISPENSER #8	16
17	LOW VOLTAGE DISC	12	20	1	0.36	0.00			-	--	--	SWITCHED NEUTRAL	18
19	D-BOX CONTROLLER	12	20	1			0.11	1.33	2	20	12	PUL STP L1 / DHI	20
21	RUL STP L2	12	20	2	1.21	1.21			-	--	--	PUL STP L2	22
23	RUL STP L1 / DHI	--	--	-			1.33	0.00	-	--	--	SPACE	24
25	(L) DISPENSER LTS	10	20	1	1.60	0.00			-	--	--	SPACE	26
27	SPACE	--	--	-			0.00	0.00	-	--	--	SPACE	28
29	SPACE	--	--	-	0.00	0.00			-	--	--	SPACE	30
			TOTAL		4.38		11.41		KVA				
					36.50		95.08		AMPS				
			TOTAL LOAD		15.79	KVA		75.91	AMPS				
PER NEC ARTICLE 220			FEEDER LOAD		16.19	KVA		77.84	AMPS				

NOTE:

NEW PANEL 'F' TO MATCH MANUFACTURER AND AIC RATING OF EXISTING PANELS. ALL OVERCURRENT DEVICES INSTALLED SHALL MATCH THE MAKE, MODEL, AND INTERRUPTING CAPACITY OF THE EXISTING OVERCURRENT DEVICES.

CONTRACTOR TO REMOVE EXISTING DISPENSERS, STPs AND D-BOX FROM EXISTING PANELS, AND PROVIDE A NEW 125A BREAKER TO FEED PANEL 'F.'

PANEL 'F' IS BEING ADDED TO MEET 7-ELEVEN STANDARDS FOR EMERGENCY STOP PROTOCOL. ALL EQUIPMENT IS BEING REPLACED LIKE FOR LIKE, NO NEW LOAD IS BEING ADDED TO THE SERVICE.

FUEL GC TO PROVIDE SINGLE PHASE POWER TO THE MAG-VFC. THREE PHASE POWER TO RUN FROM MAG-VFC TO 2 HP VARIABLE SPEED STP'S.

THE VEEDER ROOT, POS, DISPENSERS, D-BOX, AND DHI MUST ALL BE ON THE SAME ELECTRICAL PHASE PER GILBARCO REQUIREMENTS.

1

COORDINATE RECONFIGURATION OF EXISTING FUELING PANEL AND FUELING AREA CIRCUIT LOAD INFORMATION WITH ALL EXISTING PANELS. DISCONNECT ALL NON-FUELING CIRCUITS IN EXISTING FUEL PANEL AND RECONNECT TO OTHER AVAILABLE PANELS IF POSSIBLE.

FUELING CONTRACTOR TO SUPPLY AND INSTALL BREAKERS AS REQUIRED AND VERIFY EXISTING ELECTRICAL PANELS CAN MEET LOAD REQUIREMENTS. ALL NEW BREAKERS SHALL BE OF THE SAME MAKE, MODEL AND AIC RATING AS EXISTING.

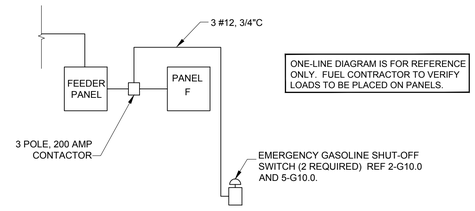
COORDINATE PANEL F AND FUELING AREA CIRCUIT LOAD INFORMATION WITH FUEL CONTRACTOR. FUEL CONTRACTOR TO SUPPLY AND INSTALL NEW PANELS AND VERIFY ELECTRIC PANEL CAN MEET LOAD REQUIREMENTS.

IT IS CRUCIAL THAT THE INSTALLER FOLLOWS NEC, ARTICLE 501 AND/OR OTHER APPLICABLE REQUIREMENTS. BECAUSE CAT-5E/CAT-6 JACKET CAN TRANSPORT FUEL VAPORS, NEC REQUIRES THAT THE INSTALLER REMOVES THE OUTER JACKET, THEN SPREADS THE WIRE PAIRS AT THE SEAL-OFF POINTS, SO THAT A GOOD VAPOR SEAL IS ACHIEVED.

CONDUIT SCHEDULE

NAME	DESCRIPTION	CONDUIT SIZE	QTY	WIRE SIZE / MFR #	WIRE QTY
101	DISPENSER POWER - NON DIESEL**	3/4"	8	#12 THWN-2	1#12 HOT, 1#12 NEUT, 1#12 GR***
102	DISPENSER SUMP SENSOR AND INTERSTITIAL	3/4"	8	BELDEN #88760	2
103	DISPENSER DATA *	3/4"	8	2-WIRE TWISTED PAIR CAT6 FEP/FEP (WCW7931AFEQ)	2 PAIR 1
104	2HP STP POWER**	3/4"	2	#12 THWN-2	3#12 HOTS, 1#12 GR
105	TANK ATG/(2) SUMP SENSOR/(2) SUMP HYDROSTATIC SENSOR/DPLLD, (2) TANK INTERSTITIAL	3/4"	2	BELDEN #88760	8 #88760
106	INTERSTITIAL	3/4"	2	BELDEN #88760	1 #88760
107	MULTI-PORT SUMP SENSOR/ SUMP HYDROSTATIC SENSOR	3/4"	2	BELDEN #88760	2 #88760
108	STP SUMP SENSOR/DPLLD/ATG PROBE/ SUMP HYDROSTATIC SENSOR	3/4"	2	BELDEN #88760	4 #88760
109	INTERCOM	3/4"	8	BELDEN #88723	2 PER DISPENSER
110	DISPENSER VALANCE LIGHTING POWER**	3/4"	1	#10 THWN-2	1#10 HOT, 1#10 NEUT, 1#10 GR
111	LOOP FOR DISPENSER VALANCE LIGHTING POWER**	3/4"	7	#10 THWN-2	1#10 HOT, 1#10 NEUT, 1#10 GR

* REFERENCE GILBARCO FIELD WIRING DIAGRAM FOR COMPLETE SPECIFICATIONS
** CONTRACTOR TO UPSIZE CONDUCTORS FOR VOLTAGE DROPS AS REQUIRED
*** REFERENCE SHEET G11.0 FOR DISPENSER HOOK ISOLATION WIRING DIAGRAM. RUN ISOLATION WIRING AS REQUIRED WITHIN DISPENSER POWER CONDUITS.



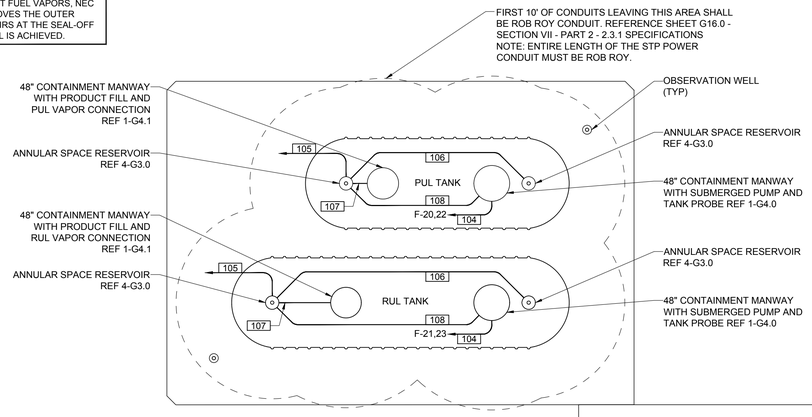
ONE-LINE DIAGRAM IS FOR REFERENCE ONLY. FUEL CONTRACTOR TO VERIFY LOADS TO BE PLACED ON PANELS.

NOTE:

(1) GENERAL CONTRACTOR TO INSTALL PANELS CIRCUIT BREAKERS AND CONDUIT.
(2) FUEL CONTRACTOR SHALL INSTALL WIRING (FROM CIRCUIT BREAKERS TO EQUIPMENT), RELAYS, ETC. MAKE ALL CONNECTIONS AND COMPLETE SEAL OFF.

3 PARTIAL ELECTRICAL ONE-LINE DIAGRAM

1/8"=1'-0"



FUELING CONTRACTOR:
EXTEND CONDUITS AS REQUIRED TO NEW DISPENSERS AND NEW FUEL TANKS. TIE TO EXISTING WHERE IT IS POSSIBLE. NEW CONDUITS AS REQUIRED. SEE SPECIFICATION SHEET G16.0, SECTION VII, 2.3.1 FOR CONDUIT TYPES.

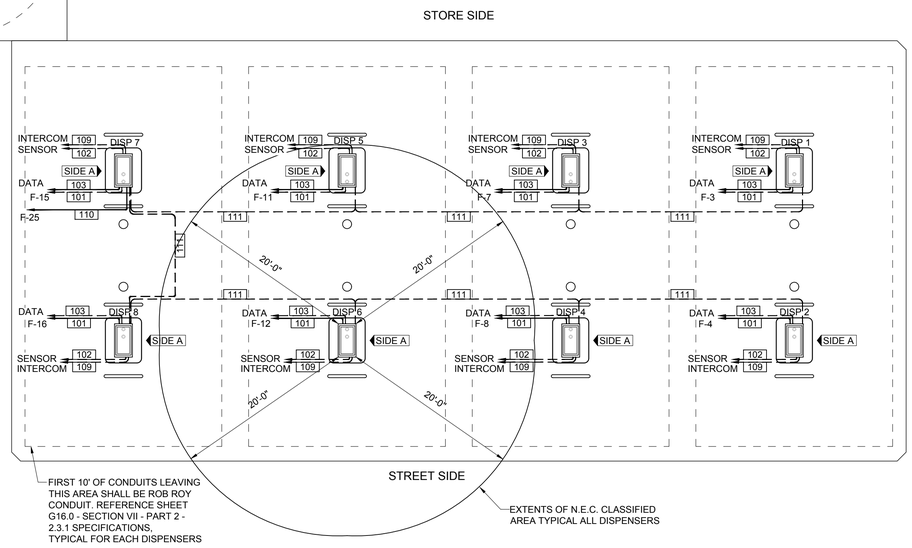
NOTE: PULL ALL NEW WIRES AND PULL STRINGS AS REQUIRED.

NOTE: TIE NEW DISPENSER AND SUMP CONDUIT INTO EXISTING ELECTRICAL ROOM AS REQUIRED. FIELD VERIFY EXISTING CONDITIONS.

FOR STP POWER CONDUITS, USE ONLY ROB ROY CONDUIT TYPES "PERMA-COAT", "PLASTI-BOND" OR "KORKAP" WHERE BRAVO FITTINGS ARE USED AND NO PVC CONDUIT IS PERMITTED. ROUTE CONDUITS IN SEPERATE RACEWAY.

NOTE: PVC CONDUIT (WHERE ALLOWED BY AHJ), MAY BE USED. SEE SPECIFICATION SHEET G16.0, SECTION 2.3.1 FOR LOCATIONS WHERE PVC CONDUIT MAY BE USED.

NOTE: ROUTE ALL CONDUITS UNDERGROUND TO C-STORE ELEC ROOM. DATA/COM CABLE EXCESS TO BE COILED IN ELEC RM FOR ROUTING ABOVE CEILING IN C-STORE TO FINAL TERMINATION POINT.



2 NOT USED

NTS

1 UNDERGROUND CONDUIT SCHEMATIC

1/8"=1'-0"

N

Rev. #	Date	Description
1	03/06/24	PEER REVIEW COMMENTS

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

UST ELECTRICAL PLAN, ONE-LINE DIAGRAM AND PANEL SCHEDULE

CORE STATES GROUP
CORESTATES, INC.
TEXAS REGISTERED ENGINEERING FIRM NUMBER: F-3944
2121 E. 34th St.
Bentonville, AR 72712
479.936.4400
CoreStatesGroup.com

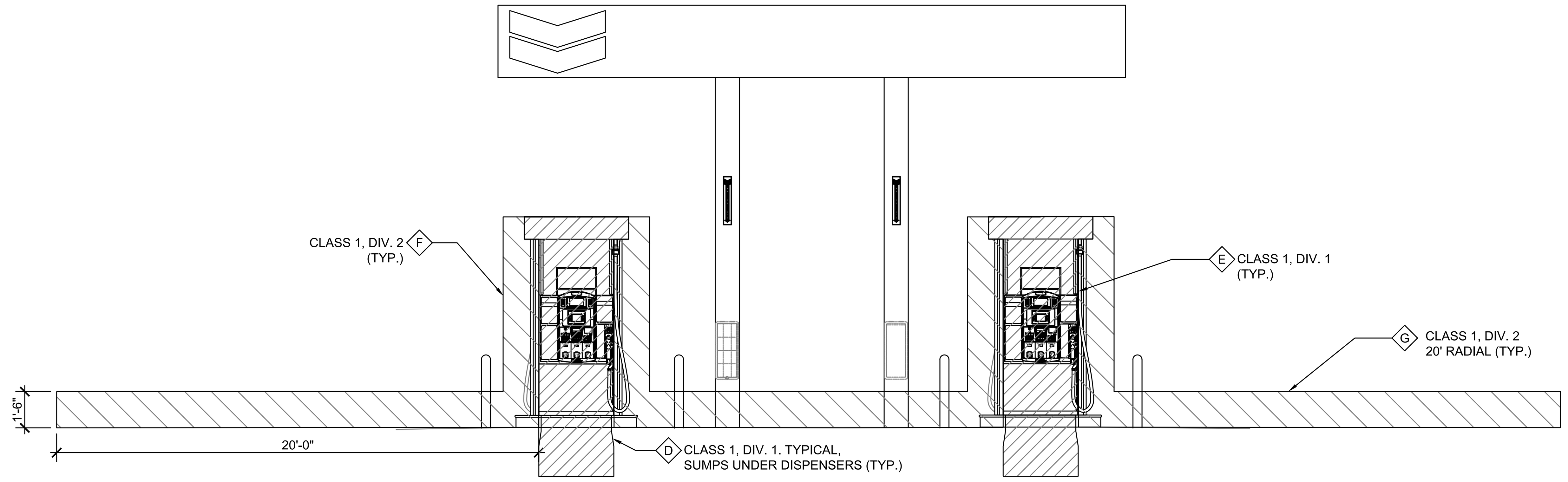
Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

STATE OF TEXAS
JOHN D. FERGUSON
103854
LICENSED
PROFESSIONAL ENGINEER
03-05-2024

SHEET:
G9.0

FUELING - USA

PRINTED BY: WBRAGG
DRAWING NAME: 36257 - G9.0 UST ELECTRICAL PLAN, ONE-LINE DIAGRAM AND PANEL SCHEDULE.DWG PRINT DATE: Mar 06, 2024 - 4:38pm



3 END ELEVATION
1/4" = 1'-0"

N.E.C. HAZARDOUS AREA NOTES

(A) TYPICAL N.E.C. ARTICLE 514 CLASS 1 LOCATION
(UNDERGROUND TANK - FILL OPENING)

EXTENT OF CLASS 1, GROUP D, DIVISION 1 LOCATION:
ANY PIT, BOX, OR SPACE BELOW GRADE LEVEL, ANY PART OF WHICH IS WITHIN THE DIVISION 1 OR 2 CLASSIFIED LOCATION.

EXTENT OF CLASS 1, GROUP D, DIVISION 2 LOCATION:
UP TO 18 INCHES ABOVE GRADE LEVEL WITHIN A HORIZONTAL RADIUS OF 10 FEET FROM A LOOSE FILL CONNECTION AND WITHIN A HORIZONTAL RADIUS OF 5 FEET FROM A TIGHT FILL CONNECTION.

(B) TYPICAL N.E.C. ARTICLE 514 CLASS 1 LOCATION
(UNDERGROUND TANK - VENT DISCHARGING UPWARD)

EXTENT OF CLASS 1, GROUP D, DIVISION 1 LOCATION:
WITHIN 5 FEET OF OPEN END OF VENT, EXTENDING IN ALL DIRECTIONS.

EXTENT OF CLASS 1, GROUP D, DIVISION 2 LOCATION:
SPACE BETWEEN 5 FEET AND 10 FEET OF OPEN END OF VENT, EXTENDING IN ALL DIRECTIONS.

(C) TYPICAL N.E.C. ARTICLE 514 CLASS 1 LOCATION
(REMOTE PUMP - OUTDOOR)

EXTENT OF CLASS 1, GROUP D, DIVISION 1 LOCATION:
ANY PIT, BOX, OR SPACE BELOW GRADE LEVEL IF ANY PART IS WITHIN A HORIZONTAL DISTANCE OF 10 FEET FROM ANY EDGE OF PUMP.

EXTENT OF CLASS 1, GROUP D, DIVISION 2 LOCATION:
WITHIN 3 FEET OF ANY EDGE OF PUMP, EXTENDING IN ALL DIRECTION. ALSO UP TO 18 INCHES ABOVE GRADE LEVEL WITHIN 10 FEET HORIZONTALLY FROM ANY EDGE OF PUMP.

(D) TYPICAL N.E.C. ARTICLE 514 CLASS 1 LOCATION
(DISPENSING DEVICE AND REMOTE VENT - PITS)

EXTENT OF CLASS 1, GROUP D, DIVISION 1 LOCATION:
ANY PIT, BOX, OR SPACE BELOW GRADE LEVEL, ANY PART OF WHICH IS WITHIN THE DIVISION 1 OR 2 CLASSIFICATION LOCATION.

(E) TYPICAL N.E.C. ARTICLE 514 CLASS 1 LOCATION
(DISPENSING DEVICE - DISPENSER)

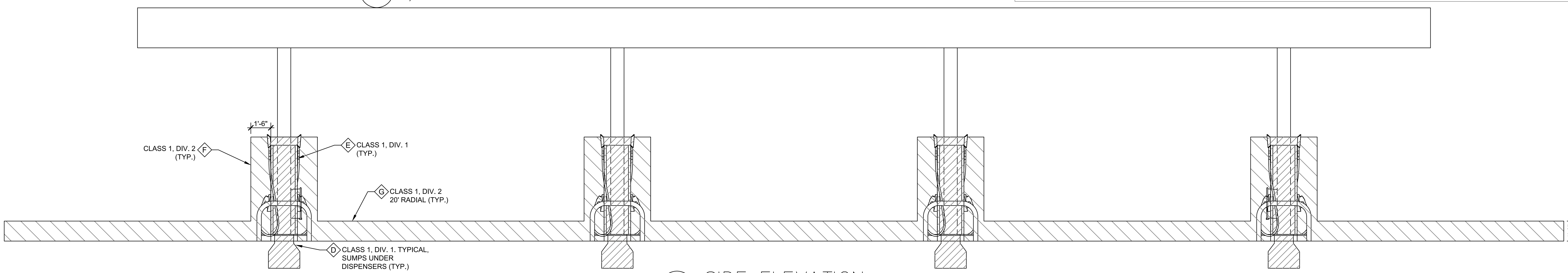
EXTENT OF CLASS 1, GROUP D, DIVISION 1 LOCATION:
SPACE CLASSIFICATION INSIDE THE DISPENSER ENCLOSURE IS COVERED IN ANSI/UL 87, "POWER OPERATED DISPENSING DEVICES FOR PETROLEUM PRODUCTS."

(F) TYPICAL N.E.C. ARTICLE 514 CLASS 1 LOCATION
(DISPENSING DEVICE - DISPENSER)

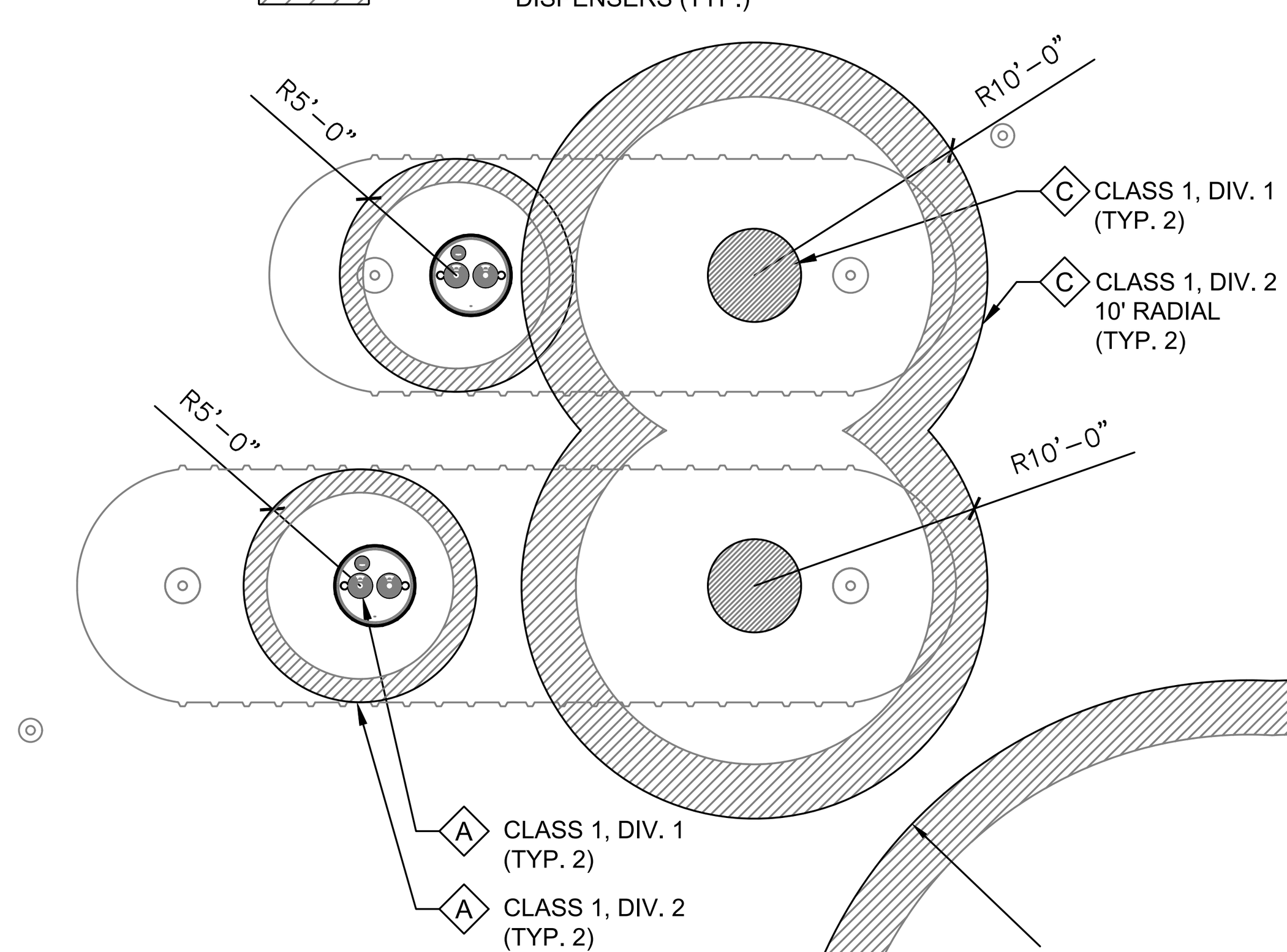
EXTENT OF CLASS 1, GROUP D, DIVISION 2 LOCATION:
WITHIN 18 INCHES HORIZONTALLY IN ALL DIRECTIONS EXTENDING TO GRADE FROM (1) THE DISPENSER ENCLOSURE OR (2) THAT PORTION OF THE DISPENSER ENCLOSURE CONTAINING LIQUID HANDLING COMPONENTS. SPACE CLASSIFICATION INSIDE THE DISPENSER ENCLOSURE IS COVERED IN ANSI/UL 87, "POWER OPERATED DISPENSING DEVICES FOR PETROLEUM PRODUCTS."

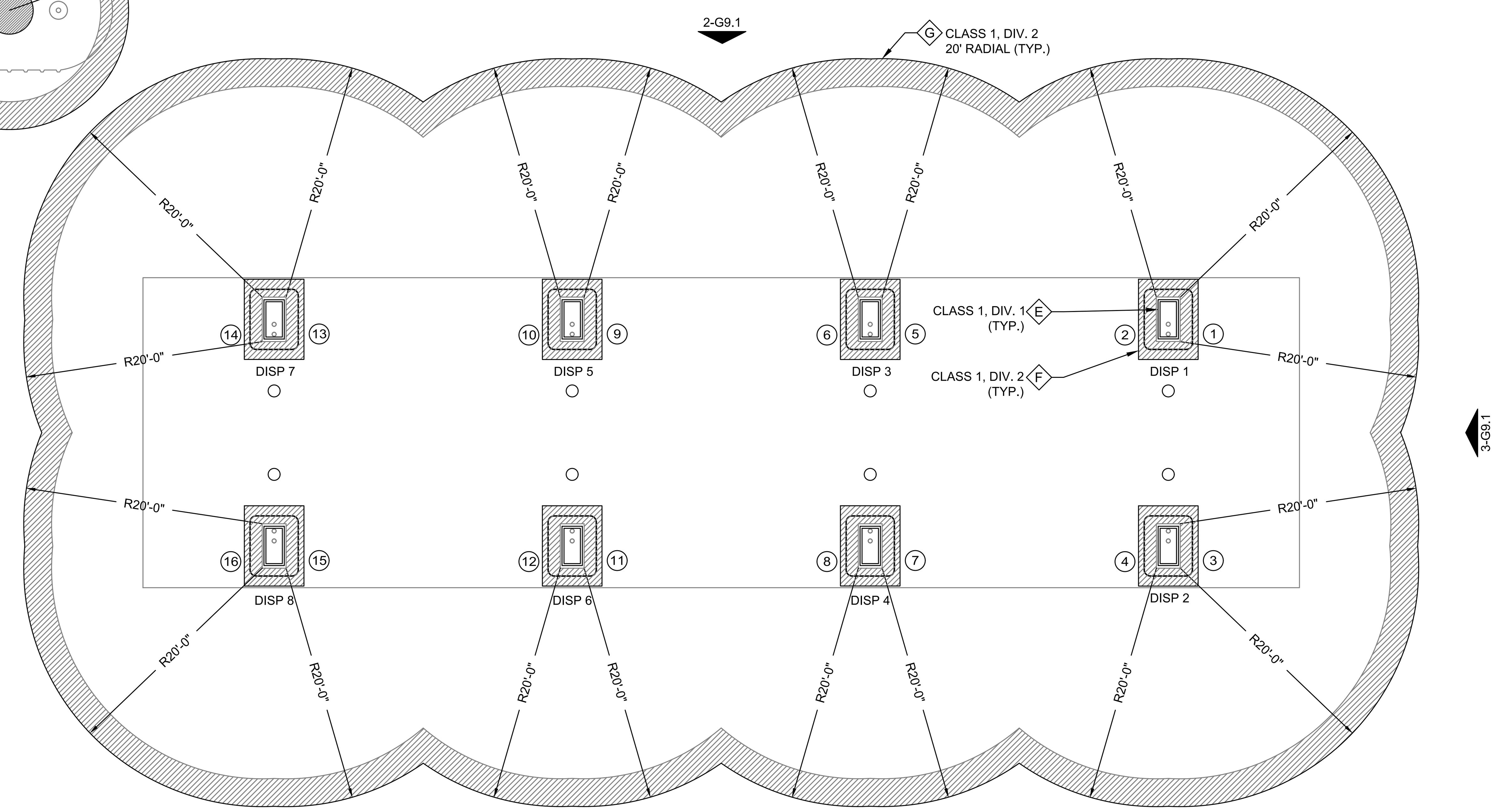
(G) TYPICAL N.E.C. ARTICLE 514 CLASS 1 LOCATION
(DISPENSING DEVICE - OUTDOOR)

EXTENT OF CLASS 1, GROUP D, DIVISION 2 LOCATION:
UP TO 18 INCHES ABOVE GRADE LEVEL WITHIN 20 FEET HORIZONTALLY OF ANY EDGE OF ENCLOSURE.

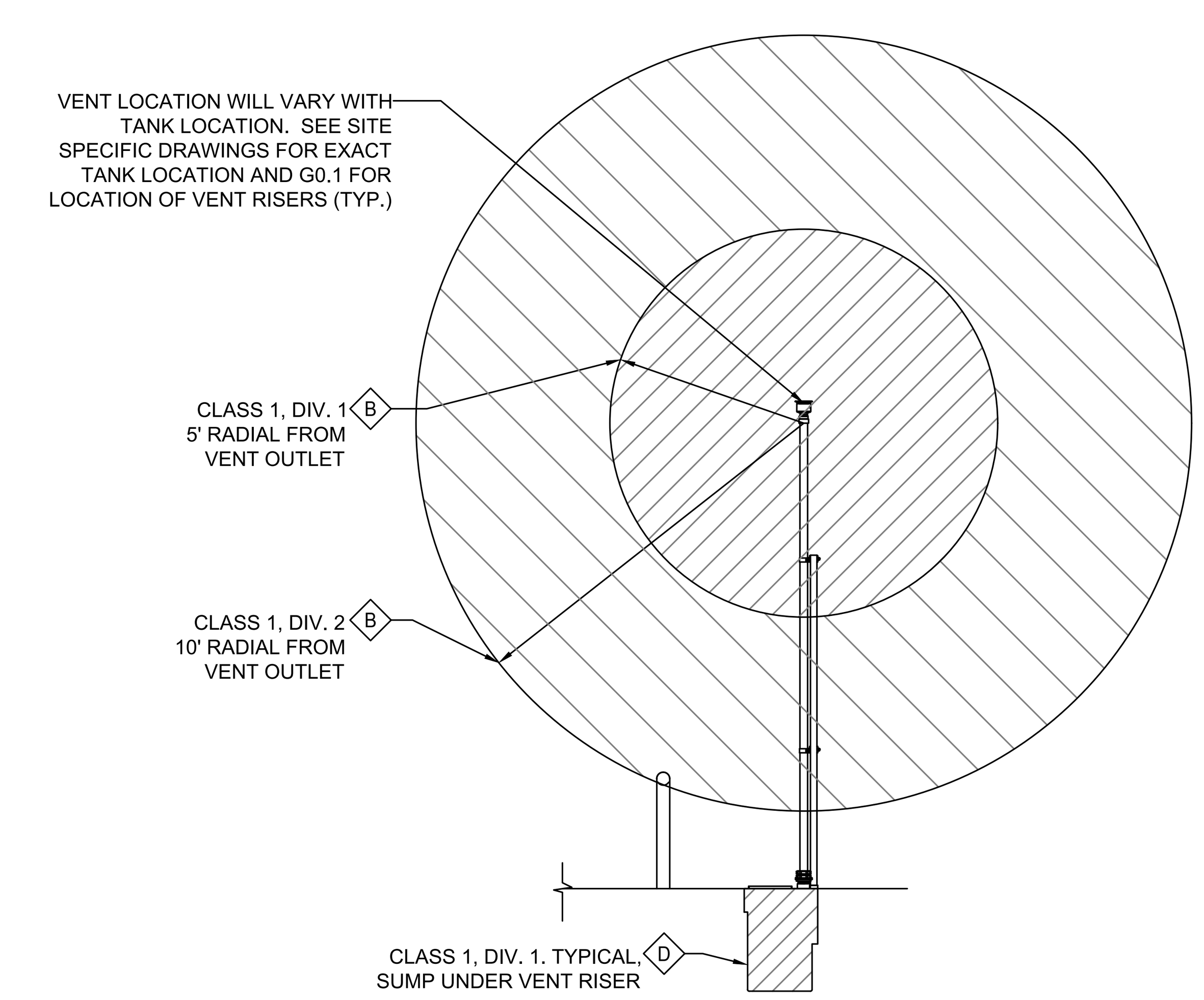


2 SIDE ELEVATION
1/4" = 1'-0"





1 N.E.C. CLASSIFIED AREA @ GROUND LEVEL
1/8" = 1'-0"



4 N.E.C. CLASSIFIED AREA AT REMOTE VENT
1/4" = 1'-0"

Rev. #	Date	Description

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

N.E.C. CLASSIFIED AREA

CORE STATES GROUP
TEXAS REGISTERED ENGINEERING FIRM NUMBER: F-9308

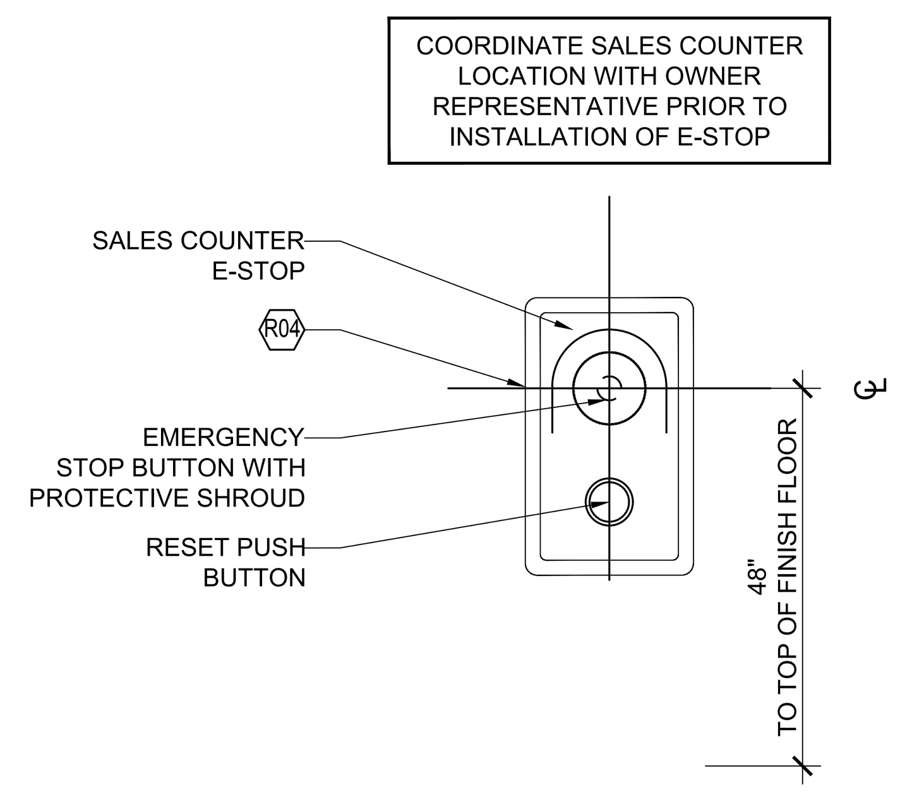
Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	CGC

STATE OF TEXAS
JOHN D. FERGUSON
103854
LICENSED PROFESSIONAL ENGINEER
03-06-2024

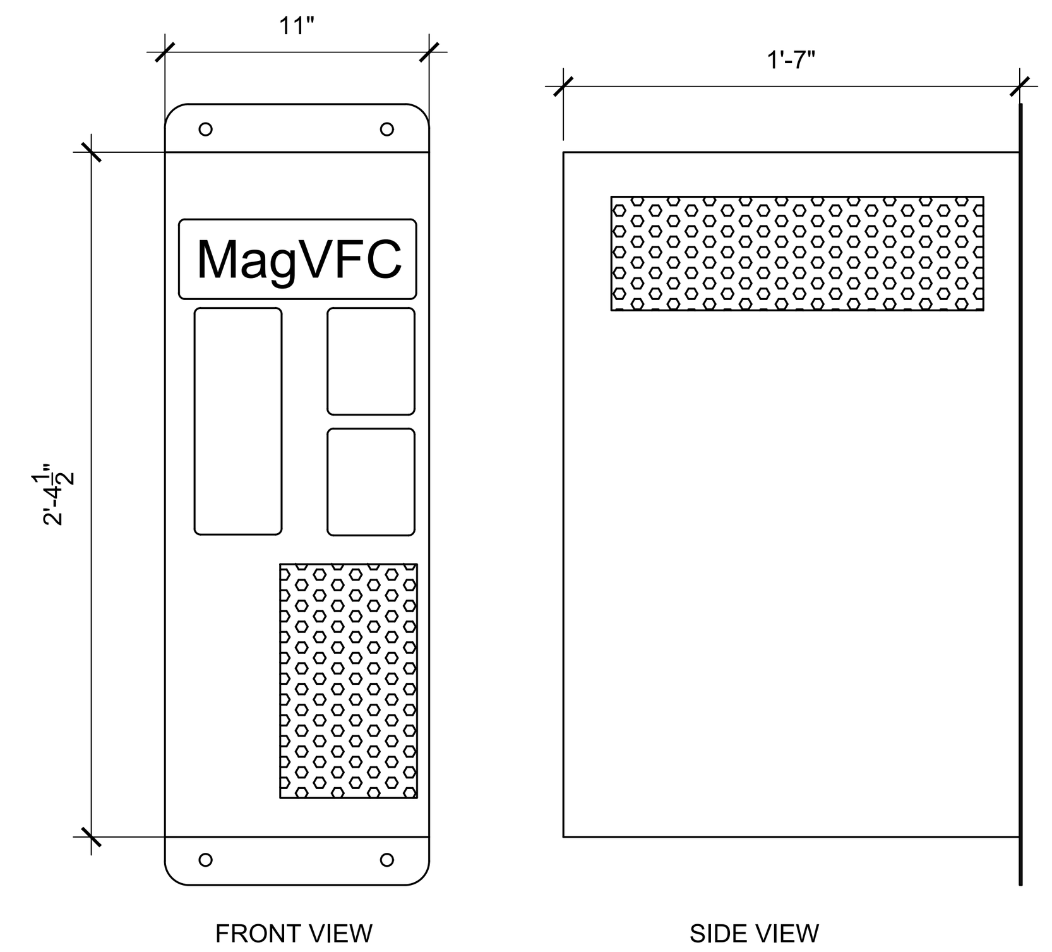
SHEET:
G9.1

FUELING - USA

PRINTED BY: MBRAGG PRINT DATE: Mar 06, 2024 - 4:38pm
DRAWING NAME: 36257 - G9.1 N.E.C. CLASSIFIED AREA.DWG

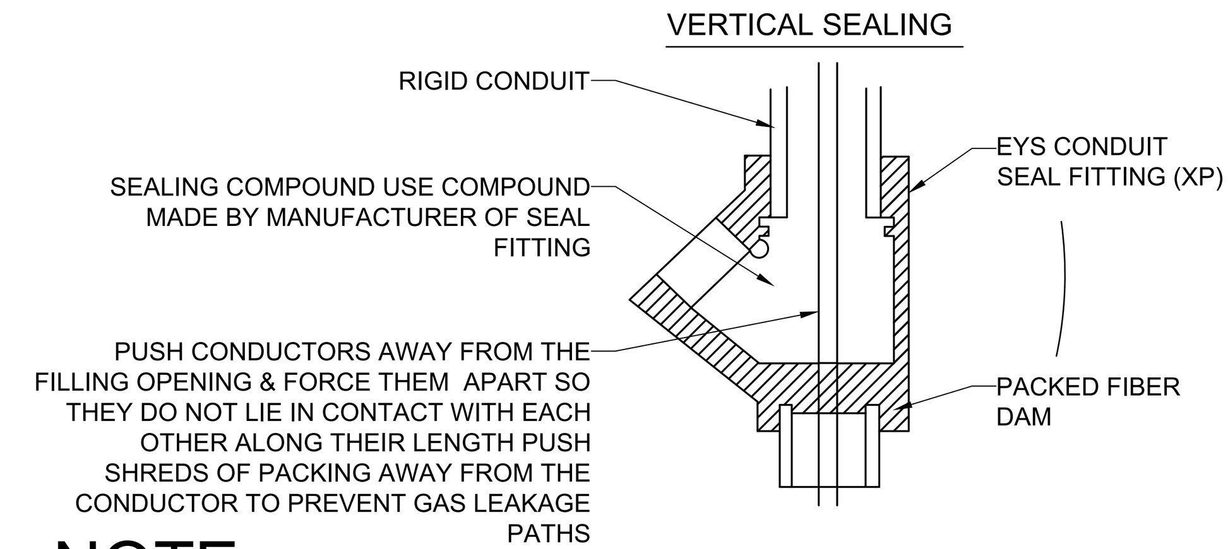


5 INTERIOR E-STOP DETAIL
NTS



FE PETRO MAGVFC - VARIABLE FREQUENCY CONTROLLER. SEE MANUAL FOR WIRING INSTRUCTIONS.

4 MAG VFC DETAIL
NTS



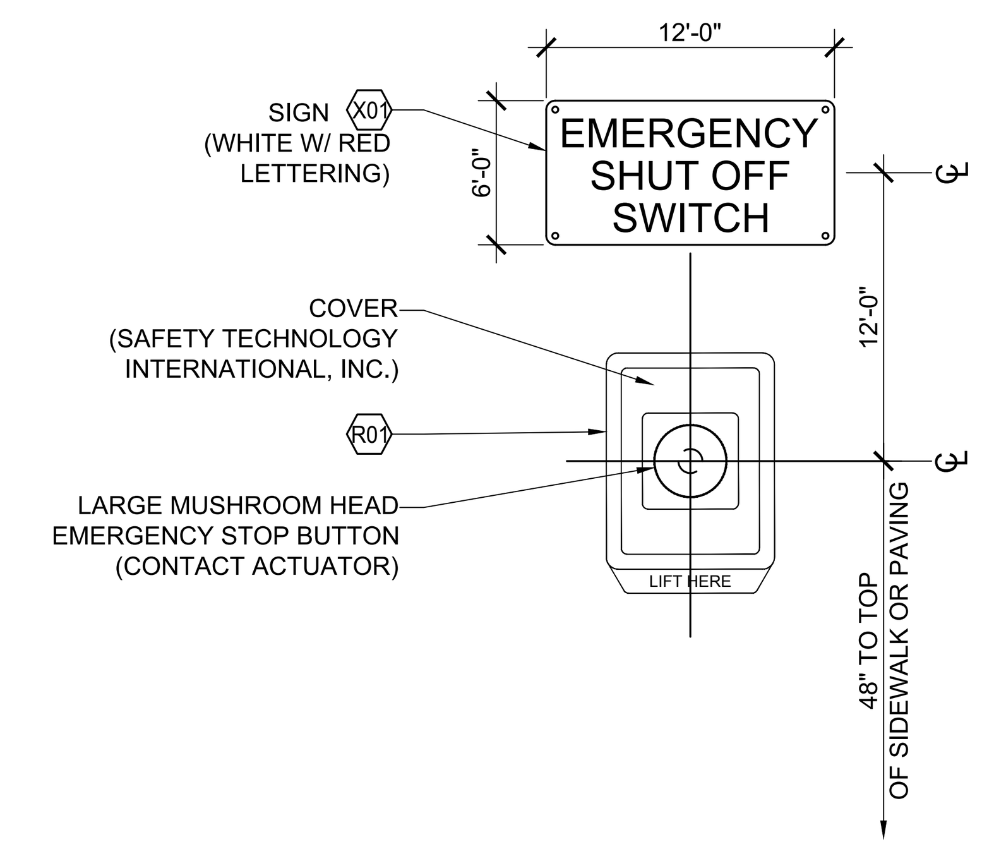
NOTE:

PROVIDE EXPLOSION PROOF SEALS, IN ACCORDANCE WITH ARTICLE 501, CLASS 1, DIVISION 2 OF THE LATEST NATIONAL ELECTRICAL CODE TYPICAL FOR ALL UNDERGROUND CONDUIT STUB-UPS INTO EQUIPMENT

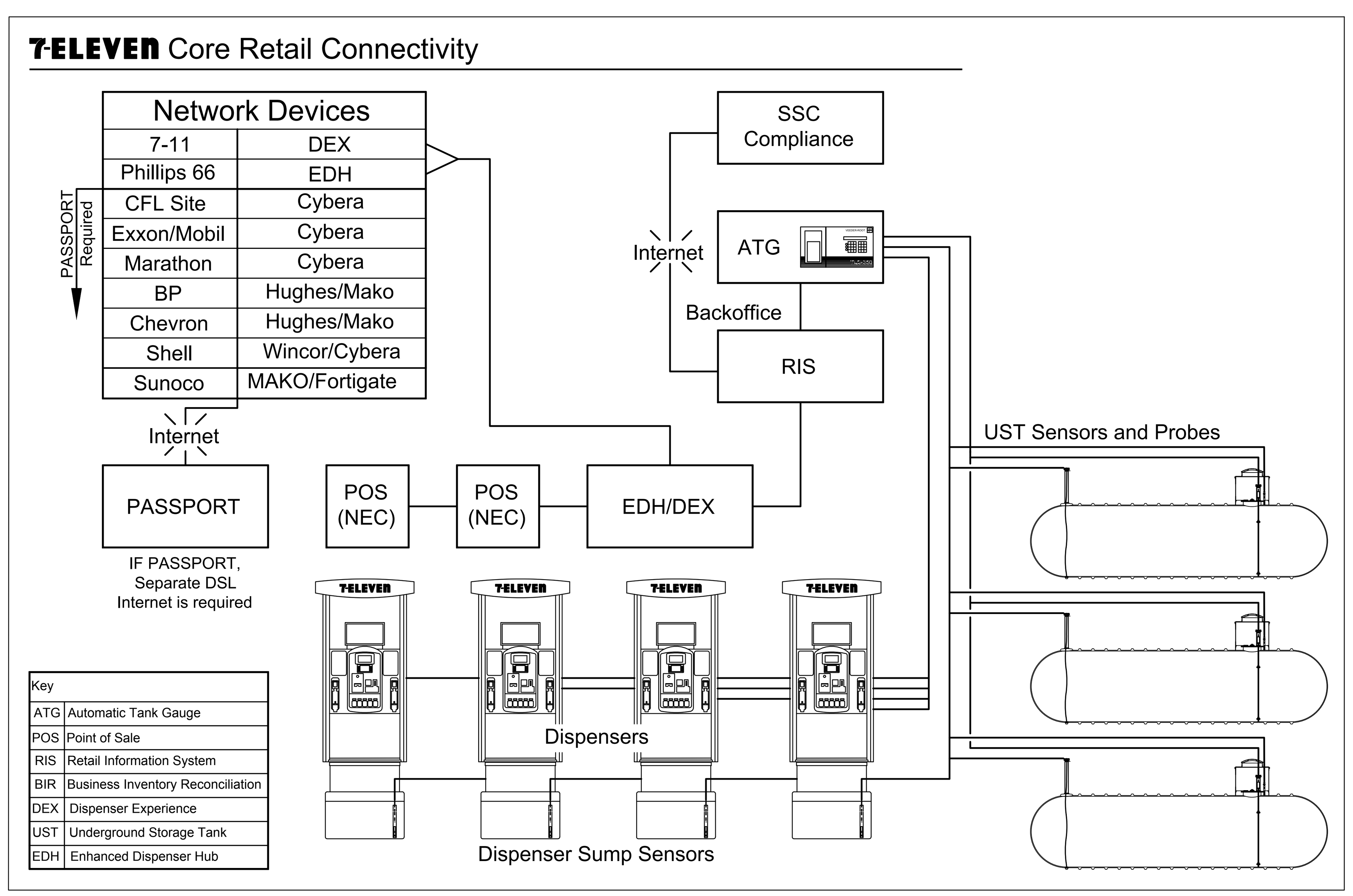
SEAL OFF ALL CONDUIT ENTERING OR LEAVING CAVITIES OR ENCLOSURES OF DISPENSERS AND ASSOCIATED EQUIPMENT. IN ADDITION, ALL CONDUITS COMING FROM THE BUILDING THROUGH A HAZARDOUS LOCATION ALSO REQUIRE SEAL-OFFS AT BOTH ENDS.

3 SEAL FITTING INSTALLATION
NTS

EMERGENCY SWITCH PARTS AND SIGN SUPPLIED BY 7-ELEVEN, INC. AND INSTALLED BY GAS CONTRACTOR



2 EMERGENCY SHUT OFF W/ COVER
NTS



6 CORE RETAIL CONNECTIVITY DIAGRAM
NTS

FUELING CONTRACTOR:
EXTEND CONDUITS AS REQUIRED TO NEW DISPENSERS AND FUEL TANKS. TIE TO EXISTING WHERE IT IS POSSIBLE. SEE SPECIFICATION SHEET G16.0, SECTION VII, 2.3.1 FOR CONDUIT TYPES.

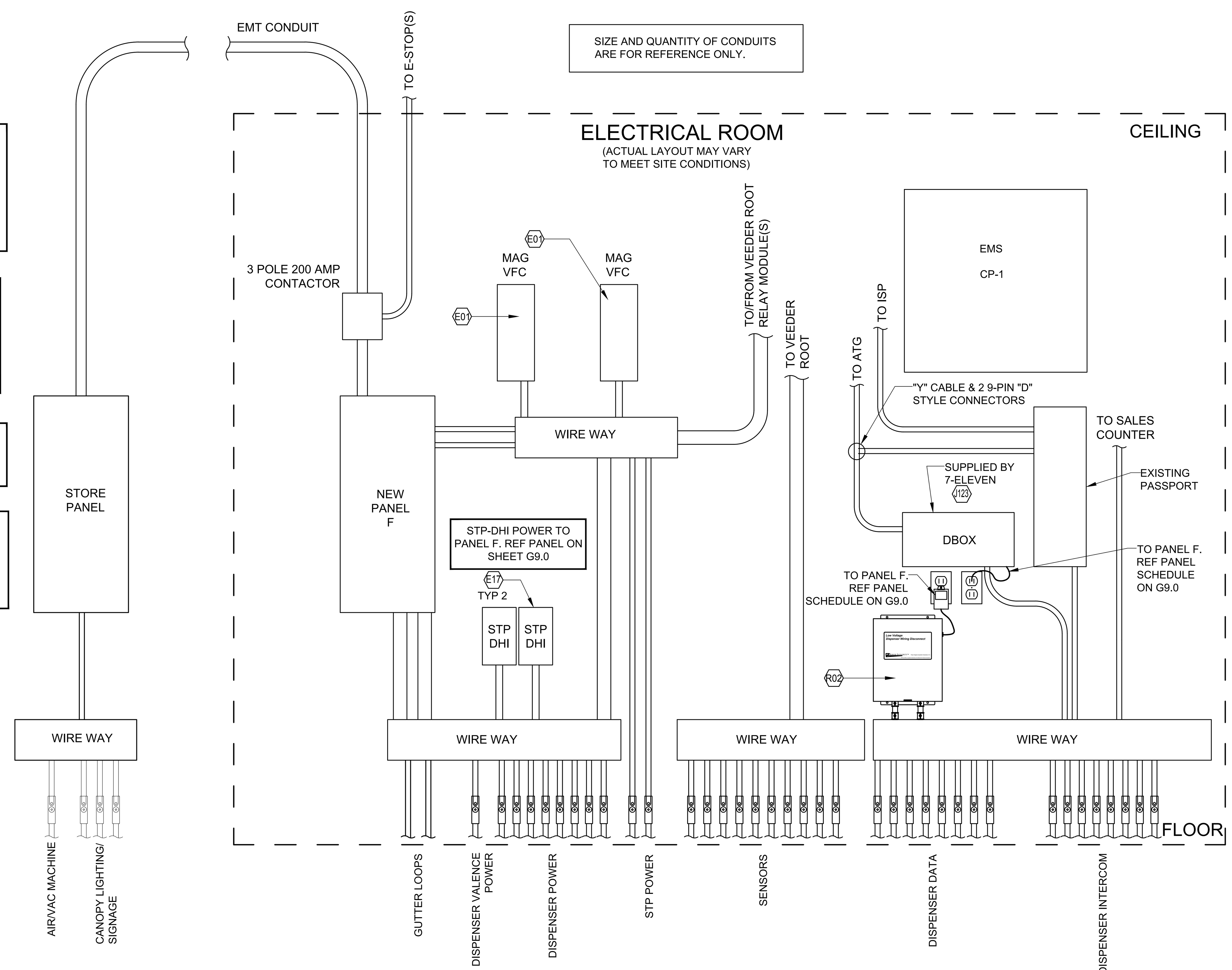
NOTE: PULL ALL NEW WIRES AND PULL STRINGS AS REQUIRED.

NOTE: REARRANGE LAYOUT OF EQUIPMENT AS REQUIRED TO FIT NEW PANEL, ISOLATION RELAY BOXES, CONTROL BOXES, NEW CONDUITS, DBOX AND LOW-VOLTAGE DISCONNECT IN EXISTING ELECTRICAL ROOM. REMOVE OLD UNUSED PANELS AND BOXES AS REQUIRED TO MAKE ROOM FOR NEW EQUIPMENT.

NOTE: TIE NEW DISPENSER AND SUMP CONDUIT INTO EXISTING ELECTRICAL ROOM AS REQUIRED. FIELD VERIFY EXISTING CONDITIONS.

NOTE:
REFERENCE SHEET G11.0 FOR DISPENSER HOOK ISOLATION WIRING DIAGRAMS, STP CONTROLLER, AND VEEDER ROOT RELAY MODULE WIRING DIAGRAMS.

SIZE AND QUANTITY OF CONDUITS ARE FOR REFERENCE ONLY.



1 POWER/DATA EQUIPMENT DETAILS
NTS

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3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

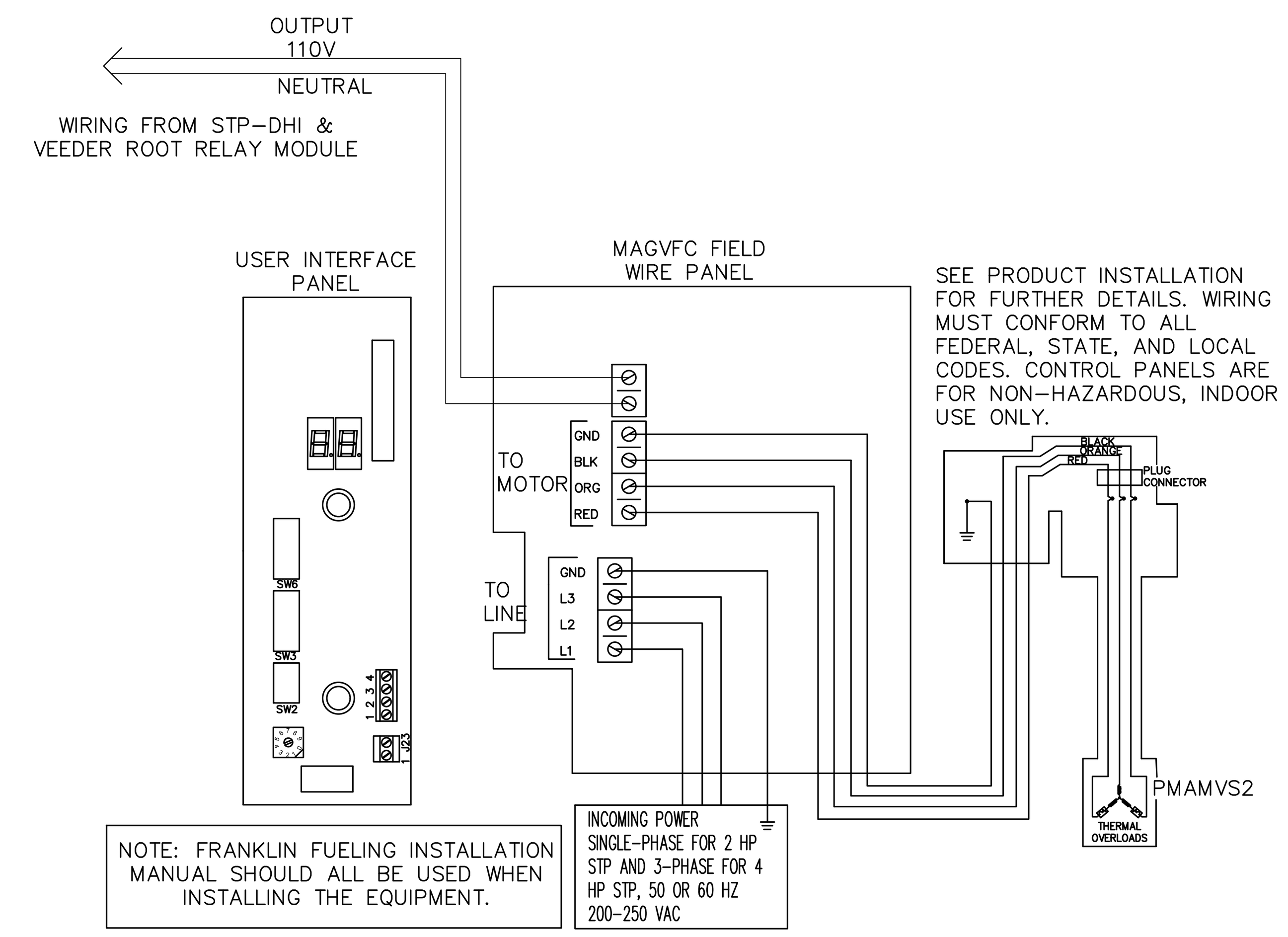
MISCELLANEOUS ELECTRICAL DETAILS

CORE STATES GROUP

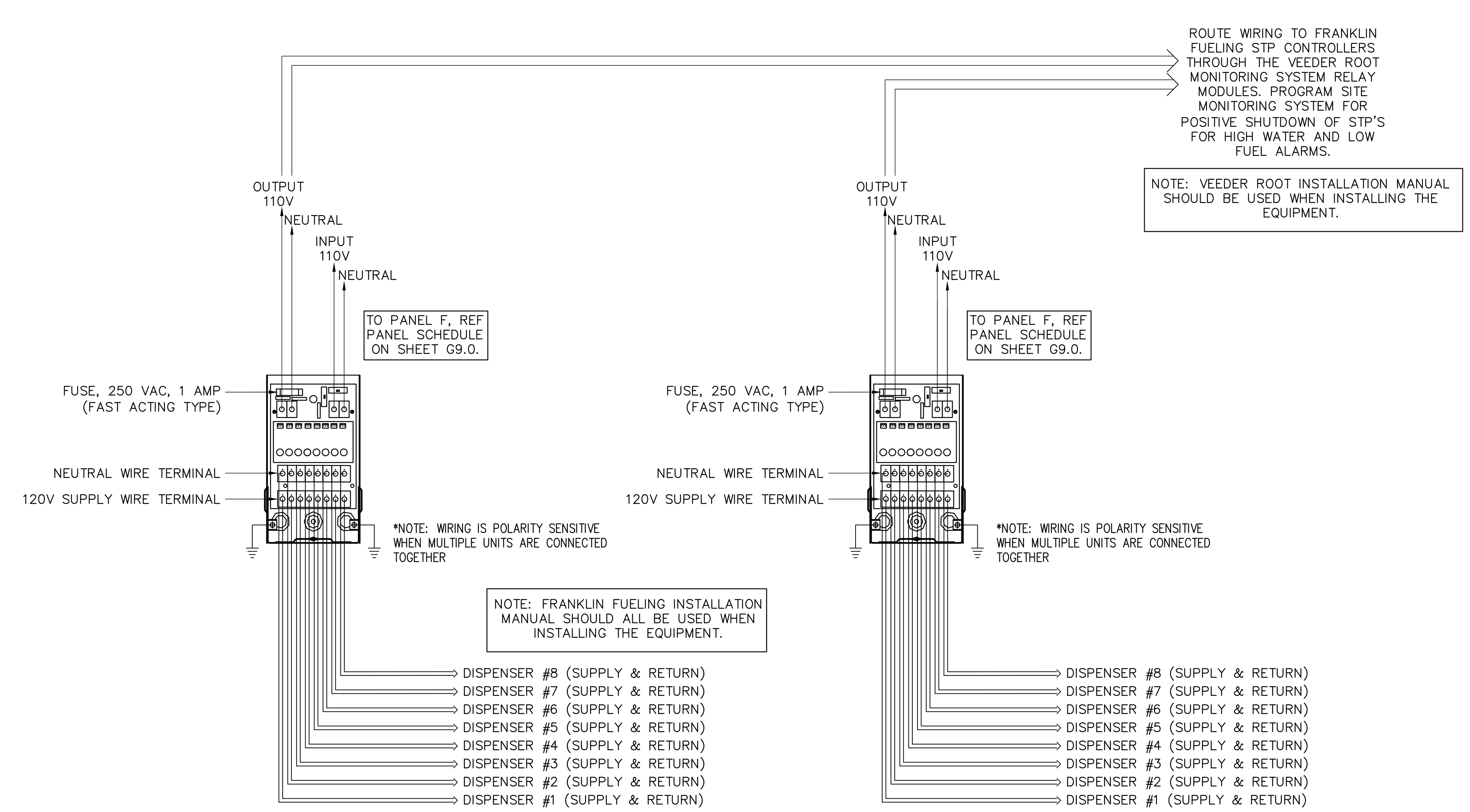
Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

STATE OF TEXAS
JOHN D. FERGUSON
103854
LICENSED PROFESSIONAL ENGINEER
03-06-2024

SHEET:
G10.0
FUELING - USA



2 MAG–VFC WIRING DIAGRAM
NTS



1 DISPENSER HOOK ISOLATION WIRING DIAGRAM
NTS

GENERAL NOTES

1. INSTALL POWER BREAKERS TO EACH CIRCUIT LEADING TO THE DISPENSING UNIT AND STP. THEY MUST BE CAPABLE OF SIMULTANEOUSLY DISCONNECTING HOT AND NEUTRAL CONDUCTORS.
2. INSTALL CONDUIT PER NEC FOR HAZARDOUS LOCATIONS.
3. WIRES -ALL WIRES ARE 14AWG (STANDARD) UNLESS OTHERWISE NOTED. PUMP / DISP. GROUND - WIRE IS 12 AWG (STANDARD).

   POWER LOADING AND DISTANCE RUN MAY REQUIRE LARGER WIRE SIZE.
4. INSTALL A SINGLE EMERGENCY POWER CUTOFF CONTROL TO REMOVE AC POWER FROM SITE DISPENSING EQUIPMENT. (THE CONTROL IS AN ADDITION SAFETY FEATURE AND NOT A SUBSTITUTE FOR NEC/NFPA30 CIRCUIT BREAKER REQUIREMENTS).

   * LABEL THE EMERGENCY POWER CUTOFF SWITCH AND INSTRUCT OWNER TO KEEP AREA CLEAR OF OBSTACLES.
5. CONNECT INSULATED GROUNDING CONDUCTOR FROM THE DISPENSER POWER PANEL TO THE SITE GROUNDING ELECTRODE. SIZE PER NEC.
6. REFER TO INSTALLATION ADDENDA FOR SPECIFIC PRODUCT FIELD WIRING CONNECTIONS. CAP ALL UNUSED WIRES. LOCAL AND NEC MAY APPLY.
7. STP ISOLATION RELAY BOXES ARE MANDATED BY THE NEC (ARTICLE 514.13 - PROVISIONS FOR MAINTENANCE AND SERVICE OF DISPENSING EQUIPMENT) AND ARE REQUIRED TO:
   A. ALLOW SERVICE OF ONE UNIT SAFELY WITHOUT REMOVING POWER FROM ALL DISPENSING EQUIPMENT.
   B. PREVENT DAMAGE TO EQUIPMENT FROM CROSS-PHASING.

   DAMAGE CAUSED BY CROSS-PHASING IS NOT COVERED BY WARRANTY.

Rev. #	Date	Description

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

ISOLATION RELAY BOX DETAIL

CORE STATES GROUP

Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

STATE OF TEXAS
JOHN D. FERGUSON
103854
LICENSED PROFESSIONAL ENGINEER
03-06-2024

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DRAWING NAME: 36257 - G11.0 ISOLATION RELAY BOX DETAIL.DWG
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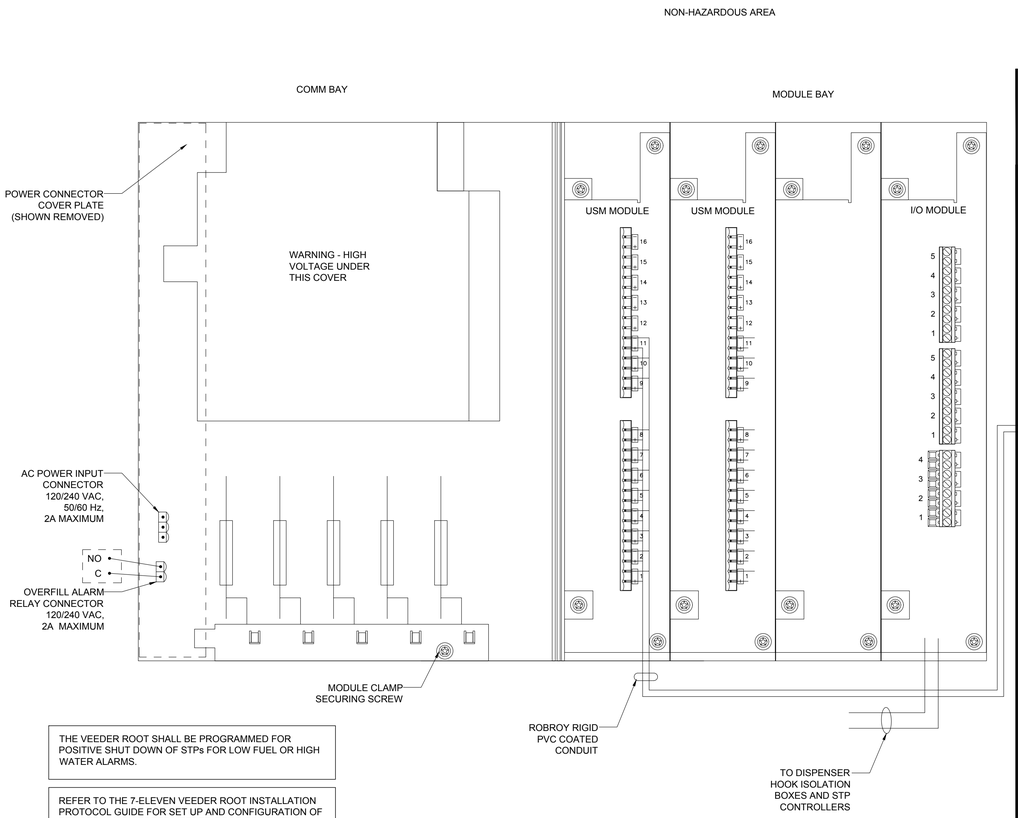
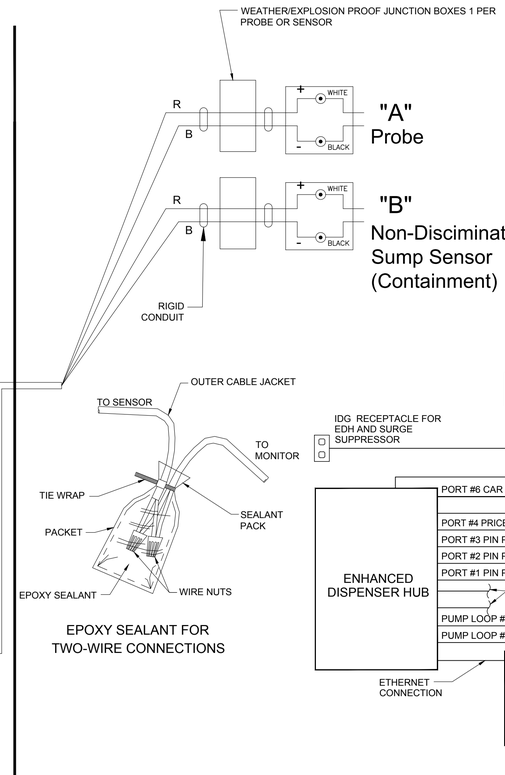
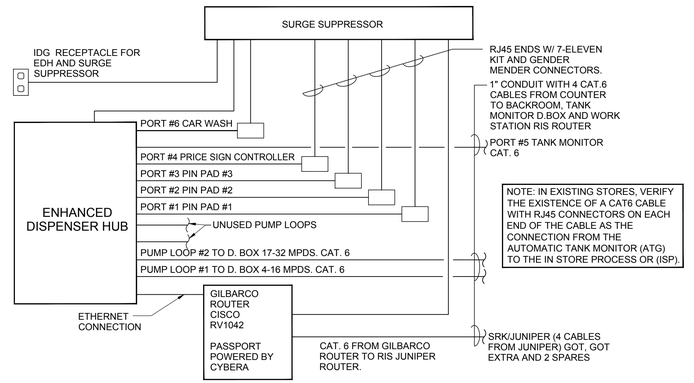






3 ENHANCED DISPENSER HUB
NTS

THE VEEDER ROOT SHALL BE PROGRAMMED FOR POSITIVE SHUT DOWN OF STPs FOR LOW FUEL OR HIGH WATER ALARMS.

REFER TO THE 7-ELEVEN VEEDER ROOT INSTALLATION PROTOCOL GUIDE FOR SET UP AND CONFIGURATION OF REMOTELY MONITORED VEEDER ROOT EQUIPMENT.

CONTRACTOR SHALL PLACE A TYPEWRITTEN SENSOR SCHEDULE THAT INDICATES WHICH CHANNEL IS ASSOCIATED WITH WHICH SENSOR

TABLE 1 • WIRE TYPES AND SIZES	
CABLE TYPE	PROBE OR SENSOR
BELDEN 88760	PROBE, SUMP, LIQUID, AND VACUUM SENSOR
12 AWG THWN	AC POWER TO CONSOLE

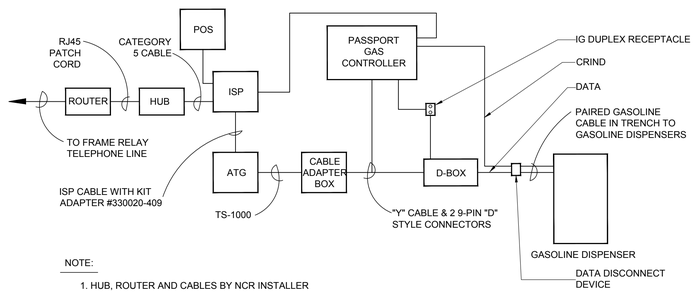
1 SITE MONITORING WIRING SCHEMATIC
1 1/2"=1'-0"

CONTRACTOR NOTE:

PLEASE COMPLETE THE FOLLOWING ITEMS WHEN REPLACING AN EXISTING ATG WITH A NEW TLS-450 PLUS CONSOLE:

1. WRACO MUST BE COMPLETED ONLINE FOR THE TLS-450 PLUS (WARRANTY REGISTRATION AND CHECKOUT). COPY TO BE PROVIDED TO SOURCE.
2. SERIAL NUMBER OF EXISTING TLS UNIT, OR COMPETITIVE UNIT, THAT IS BEING REPLACED.
3. PHOTO OF UNIT BEING DESTROYED IN THE FIELD.

SUBMIT ALL 3 COMPONENTS TO SOURCE



NOTE:

1. HUB, ROUTER AND CABLES BY NCR INSTALLER
2. PASSPORT GAS CONTROLLER, D-BOX, CRIND CONTROL CABLE, GAS CONTROLLER CABLE AND D-BOX CABLE INSTALLED BY THE GILBARCO AUTHORIZED SERVICE CONTRACTOR

2 POS GAS CONTROLLER – PASSPORT DIAGRAM
NTS

GENERAL NOTES

IMPORTANT: THIS IS A CONTROL DRAWING ONLY AND DOES NOT REFLECT THE ACTUAL LOCATIONS OF CONDUIT ENTRY (SEE NOTE 7 BELOW).

VEEDER-ROOT REQUIRES THAT ANYONE INSTALLING OUR EQUIPMENT MUST BE LEVEL I CERTIFIED. FOR MORE INFORMATION REGARDING THE HOME STUDY INSTALLERS COURSE CONTACT JOHN HOWELL 951-532-8599.

WARNING: IN INSTALLATION AND USE OF THIS PRODUCT, COMPLY WITH THE NATIONAL ELECTRICAL CODE; FEDERAL, STATE AND LOCAL CODES. IN ADDITION, TURN OFF POWER AND TAKE OTHER NECESSARY PRECAUTIONS DURING INSTALLATION, SERVICE AND REPAIR TO PREVENT PERSONAL INJURY, PROPERTY LOSS AND EQUIPMENT DAMAGE.

WARNING: DISCONNECT ALL POWER BEFORE MAKING ANY CONNECTIONS TO PREVENT DEATH, SERIOUS INJURY, EXPLOSION, OR ELECTRICAL SHOCK. MONITOR MUST NEVER BE OPERATED UNLESS THE FRONT COVER IS CLOSED OVER THE BARRIER TERMINALS IN THE INTRINSICALLY SAFE AREA.

1. INTRINSICALLY SAFE WIRING

   BONDED CONDUIT MEANS THAT THE METALLIC SECTIONS OF CONDUIT ARE PERMANENTLY JOINED TO FORM AN ELECTRICALLY CONDUCTIVE PATH THAT WILL ASSURE ELECTRICAL CONTINUITY, AND THAT THE CONDUIT HAS THE CAPACITY TO CONDUCT SAFELY, ANY CURRENT LIKELY TO BE IMPOSED.

   a) BONDED & NON-BONDED CONDUIT - THE WIRES BETWEEN THE MONITOR AND EACH PROBE/SENSOR LOCATION MUST BE #14, #16 OR #18 AWG STRANDED COPPER WIRES WITHIN A SHIELDED CABLE. SHIELDED CABLE MUST BE RATED AT LESS THAN 100 PICOFARAD PER FOOT AND MUST BE MANUFACTURED WITH A MATERIAL SUITABLE FOR THE ENVIRONMENT, SUCH AS BELDEN™ 88760.

2. CONNECT THE BARRIER GROUND TO THE EARTH GROUND BUS AT THE POWER DISTRIBUTION PANEL WITH #12 AWG (OR LARGER) CONDUCTOR.
3. ◉ DENOTES FIELD WIRING CONNECTION USING WATERPROOF CONNECTORS SUPPLIED WITH THE PROBE(S) AND SENSOR(S).
4. INTRINSICALLY SAFE WIRING SHALL BE INSTALLED IN ACCORDANCE WITH ARTICLE 504-20 OF THE NEC, ANSI/NFPA 70.
5. TO MAINTAIN INTRINSIC SAFETY, PROBE/SENSOR WIRING MUST BE INSTALLED WITH EITHER SEALED CONDUIT OR DIRECT BURIAL METHODS. REFER TO "DIRECT BURIAL CABLE INSTALLATION", MANUAL NO. 576013-858.
6. ELECTRICAL RATING POWER INPUT 120 VAC, 50/60 HZ, 100 VA MAXIMUM.
7. THIS DOCUMENT IS NOT TO BE USED AS A SUBSTITUTE FOR SPECIFIC EQUIPMENT INSTALLATION MANUALS. FOR INSTALLATION DETAILS USE THE RESPECTIVE MANUAL:
   TLS-450 PLUS 577014-073
8. ALL CABINET PENETRATIONS MUST ENTER THROUGH A PRE-DRILLED CONDUIT KNOCKOUT.

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7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

SITE MONITORING EQUIPMENT DIAGRAM

CORE STATES GROUP
CORESTATES, INC.
TEXAS REGISTERED ENGINEERING FIRM NUMBER: F-9349
EXPIRATION 6/30/2024
212 SE 34th St.
Bentonville, AR 72712
479.936.4400
corestates.com

Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

STATE OF TEXAS
JOHN D. FERGUSON
103854
LICENSED
PROFESSIONAL ENGINEER
03-06-2024

SHEET:
G12.0
FUELING - USA

PRINTED BY: WBRAGG
DRAWING NAME: 36257 - G12.0 SITE MONITORING EQUIPMENT DIAGRAM.DWG PRINT DATE: Mar 06, 2024 - 4:38pm

PERFORMANCE SPECIFICATION

SECTION I GENERAL CONDITIONS

PART 1 - GENERAL

1.1 SCOPE OF WORK: THE WORK INCLUDED IN THE CONTRACT FOR THIS PROJECT CONSISTS OF THE FURNISHING OF ALL LABOR, MATERIALS, SERVICES, EQUIPMENT AND APPLIANCES REQUIRED IN CONJUNCTION WITH OR PROPERLY INCIDENTAL TO THE COMPLETE CONSTRUCTION OF A GASOLINE INSTALLATION FOR 7-ELEVEN, INC.

PART 2 - AGREEMENT

2.1 CONTRACTOR SHALL NOT START WORK WITHOUT CONTRACT AND APPROVED SEALED PLANS.

PART 3 - INTENT OF DRAWING AND SPECIFICATIONS

3.1 THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS TO PRESCRIBE A COMPLETE WORK OR IMPROVEMENT WHICH THE CONTRACTOR SHALL PERFORM IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO COMPLETE THE WORK IN A SATISFACTORY AND ACCEPTABLE MANNER.

3.2 THE CONTRACTOR SHALL, UPON DISCOVERY, REPORT ANY DISCREPANCIES IN THE DRAWINGS AND SPECIFICATIONS TO THE OWNER'S CONSTRUCTION MANAGER.

3.3 THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE COMPLIMENTARY. ANYTHING MENTIONED IN THE SPECIFICATIONS AND NOT SHOWN ON THE DRAWINGS, OR SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, SHALL BE OF LIKE EFFECT AS IF SHOWN OR MENTIONED IN BOTH. GENERALLY, THE SPECIFICATIONS DESCRIBE WORK WHICH CANNOT BE READILY IDENTIFIED ON THE DRAWINGS AND INDICATED TYPES, QUALITIES AND METHODS OF INSTALLATION OF THE VARIOUS MATERIALS AND EQUIPMENT REQUIRED FOR THE WORK. IT IS NOT INTENDED TO MENTION EVERY ITEM OF WORK IN THE SPECIFICATIONS WHICH CAN BE ADEQUATELY SHOWN ON THE DRAWINGS NOR TO SHOW ON THE DRAWINGS ALL ITEMS OF WORK DESCRIBED OR REQUIRED BY THE SPECIFICATIONS EVEN IF THEY ARE OF SUCH NATURE THAT THEY COULD HAVE BEEN SHOWN THEREON. ALL MATERIALS OR LABOR FOR WORK WHICH IS SHOWN ON THE DRAWINGS OR IS REASONABLY INFERABLE AS BEING NECESSARY TO PRODUCE A FINISHED JOB SHALL BE PROVIDED BY THE CONTRACTOR WHETHER OR NOT THE WORK IS EXPRESSLY COVERED IN THE SPECIFICATIONS.

3.4 THE CONTRACTOR, SUBCONTRACTORS AND ALL TRADES SHALL EXAMINE THE SITE AND ASCERTAIN EXISTING CONDITIONS PRIOR TO THE START OF THEIR PORTIONS OF THE WORK. BEFORE ORDERING MATERIALS OR DOING ANY WORK, THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR THE CORRECTNESS OF ALL MEASUREMENTS AT THE SITE. ANY DIFFERENCES WHICH MAY BE FOUND BETWEEN ACTUAL DIMENSIONS AND DIMENSIONS INDICATED ON THE DRAWINGS OR SHOP DRAWINGS SHALL BE SUBMITTED TO THE OWNER'S CONSTRUCTION MANAGER FOR CONSIDERATION BEFORE PROCEEDING WITH THE ACTUAL DIMENSIONS AND MEASUREMENTS INDICATED ON THE DRAWINGS UNLESS A SUBSTANTIAL ERROR HAS BEEN MADE. IF SUCH AN ERROR SHOULD OCCUR, IT SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S CONSTRUCTION MANAGER AND RESOLVED BEFORE PROCEEDING WITH WORK.

3.5 THE ORGANIZATION OF SPECIFICATIONS INTO DIVISIONS, SECTIONS AND PARAGRAPHS, AND THE ARRANGEMENT OF THE DRAWINGS ARE NOT INTENDED TO CONTROL THE CONTRACTOR IN DIVIDING THE WORK AMONG SUBCONTRACTORS OR IN THE ESTABLISHING THE EXTENT OF WORK TO BE PERFORMED BY ANY TRADE.

3.6 DRAWINGS AND SPECIFICATIONS: DRAWINGS INDICATE GENERAL DESIGN AND ARRANGEMENTS DRAWINGS ARE DIAGRAMMATIC AND ARE NOT SCALED FOR DIMENSIONS. TAKE ALL DIMENSIONS FROM ARCHITECTURAL PLANS AND EQUIPMENT TO BE FURNISHED. VERIFY DIMENSIONS IN THE FIELD.

PART 4 - RESPONSIBILITY OF THE CONTRACTOR

4.1 CONTRACTOR HEREBY DECLARES HE HAS READ ALL SPECIFICATIONS AND EXAMINED THE DRAWINGS AND THAT HE UNDERSTANDS ALL CONDITIONS.

4.2 CONTRACTOR HEREBY DECLARES HE HAS VISITED THE SITE AND IS FAMILIAR WITH THE CONDITIONS AFFECTING THE WORK. NO ALLOWANCES SHALL BE MADE SUBSEQUENTLY ON BEHALF OF THE CONTRACTOR FOR ANY ERROR NEGLIGENCE ON HIS PART. IF IN THE PERFORMANCE OF THE CONTRACT, LATENT CONDITIONS AT THE SITE ARE FOUND TO BE MATERIALLY DIFFERENT FROM THOSE INDICATED BY THE DRAWINGS AND SPECIFICATIONS, OR UNKNOWN CONDITIONS UNUSUALLY INHERENT IN WORK OF THIS CHARACTER SHOWN AND SPECIFIED, THE ATTENTION OF THE OWNER'S CONSTRUCTION MANAGER SHALL BE CALLED IMMEDIATELY TO SUCH CONDITIONS BEFORE THEY ARE DISTURBED.

4.3 CONTRACTOR HEREBY DECLARES THAT HE HAS READ AND IS FAMILIAR WITH THE APPLICABLE SOILS REPORT.

CONTRACTOR SHALL BE RESPONSIBLE FOR STRICTLY ADHERING TO THE RECOMMENDATIONS OF SAID SOILS REPORT FOLLOWING ALL APPLICABLE PROCEDURES NOTED THEREIN. EXISTING WATER TABLE SHALL POSSIBLY DETERMINE A DIFFERENT UTILIZATION OF THE TANK STRAPS AND TYPE OF BACK FILL MATERIAL. SHOULD GROUND WATER OR CONTAMINATION BE DISCOVERED DURING TANK EXCAVATION, WORK SHALL BE SUSPENDED PENDING REVIEW BY 7-ELEVEN CONSTRUCTION MANAGER.

4.4 CONTRACTOR SHALL REPORT ANY OBJECTION TO MATERIALS, APPLIANCES, OR METHODS OF CONSTRUCTION SHOWN OR SPECIFIED TO THE OWNER'S CONSTRUCTION MANAGER AND OBTAIN A DECISION BEFORE PROCEEDING.

4.5 PROPOSALS: CONTRACTOR SHALL SUBMIT BID ONLY ON 7-ELEVEN'S FORM THAT WILL BE PROVIDED BY 7-ELEVEN'S LOCAL CONSTRUCTION MANAGER, "COST OF CONSTRUCTION" PROPOSALS SUBMITTED ON ANY OTHER FORM SHALL BE REJECTED AND RETURNED. PROPOSALS NOT COMPLETELY AND PROPERLY FILLED OUT SHALL BE REJECTED. PROPOSALS SHALL INCLUDE MONEYS FOR REMOVAL OF ALL EXISTING IMPROVEMENTS AS REQUIRED FOR GASOLINE INSTALLATION.

4.6 PERMITS: CONTRACTOR SHALL, AS DIRECTED BY 7-ELEVEN, PAY FOR ALL APPLICABLE PERMITS AND AND FEES. COPIES OF PERMITS AND CERTIFICATES SHALL BE FORWARDED TO LOCAL 7-ELEVEN CONSTRUCTION MANAGER'S OFFICE OR SITE MANAGER PRIOR TO COMMENCEMENT OF WORK. FINAL CERTIFICATION OF ACCEPTANCE BY GOVERNING AUTHORITIES SHALL ALSO BE ON FILE WITH LOCAL CONSTRUCTION OFFICE OR SITE MANAGER PRIOR TO THE PROCESSING OF FINAL PAYMENT REQUEST.

4.7 INSPECTIONS: CONTRACTOR SHALL BE REQUIRED TO ADHERE TO ALL REQUIREMENTS OF OWNER'S INSPECTION PROGRAM. CONTRACTOR SHALL COMPLY WITH REQUIREMENTS FOR NOTIFICATION, SITE PREPARATION REQUIREMENTS, COMPLIANCE, ON-SITE PRESENCE DURING INSPECTION AND CORRECTION OF ANY DEFECTS OR RELATED PROBLEMS AS DIRECTED BY INSPECTING REPRESENTATIVE CONTRACTOR SHALL PROVIDE NO LESS THAN 48 HOURS NOTICE PRIOR TO INSPECTION.

4.8 COORDINATION: FUEL CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING ALL PHASES OF THE GASOLINE INSTALLATION WITH THE GENERAL CONTRACTOR IN CHARGE OF THE BUILDING OR MAJOR PORTION OF THE PROJECT. THE BUILDING GENERAL CONTRACTOR AND THE FUEL CONTRACTOR SHALL JOINTLY DEVELOP A MUTUALLY AGREEABLE SCHEDULE AND TIMETABLE FOR COMPLETION ON THE GASOLINE INSTALLATION. TIMETABLE FOR BUILDING AND GASOLINE SHALL COINCIDE AND COMPLIMENT EACH OTHER SO THAT ONE DOES NOT DELAY THE OTHER.

SHOULD FUEL CONTRACTOR FAIL TO MEET DEADLINES AS ESTABLISHED BY THE SCHEDULE AND/OR HOLD UP THE COMPLETION OF THE OVERALL BUILDING PROJECT, 7-ELEVEN, INC. RESERVES THE RIGHT TO RECTIFY THE SITUATION ACCORDINGLY.

4.9 CONTRACTOR SHALL PROVIDE OWNER WRITTEN CERTIFICATION AS TO THE FOLLOWING:

4.9.1 CERTIFICATION FROM LOCAL/STATE GOVERNING AUTHORITIES AS APPLICABLE FOR CONTRACTOR CERTIFICATION/LICENSING FOR INSTALLATION OF GASOLINE STORAGE TANK SYSTEM.

4.9.2 CERTIFICATION FROM EQUIPMENT MANUFACTURES AND SUPPLIERS (TANKS, PRODUCT LINES, ATG'S, ETC.) AS TO ATTENDING AND ACHIEVING CERTIFICATION FROM APPROPRIATE COMPANY FOR INSTALLATION OF EQUIPMENT.

4.9.3 CERTIFICATION ON APPROPRIATE FORMAT AS TO INSTALLATION OF COMPLETE SYSTEM BEING PERFORMED IN COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS.

4.9.4 CERTIFICATION THAT ALL EQUIPMENT EITHER SUPPLIED BY OWNER OR CONTRACTOR HAS BEEN INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS BY PERSONNEL TRAINED AND QUALIFIED FOR THAT SPECIFIC ITEM.

SECTION I GENERAL CONDITIONS - CONTINUED

PART 4 - CONTINUED

4.11 LIENS: CONTRACTOR SHALL PERMIT NO LIENS OF ANY KIND TO BE FIXED UPON OR AGAINST THE PROPERTY BY ITS SUBCONTRACTORS, LABORERS, MECHANICS OR MATERIAL MEN, AND SHALL INDEMNIFY, PROTECT AND SAVE OWNER HARMLESS FROM AND AGAINST ALL SUCH CLAIMS AND LIENS.

4.12 EQUIPMENT RESPONSIBILITY: CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING, RECEIVING, UNLOADING, HANDLING AND PROVIDING PROTECTED INSIDE STORAGE FOR ALL OWNER SUPPLIED EQUIPMENT AND MATERIAL. CONTRACTOR SHALL INSPECT EQUIPMENT UPON RECEIPT AND IMMEDIATELY REPORT ANY DAMAGE DUE TO SHIPPING TO THE OWNER'S REPRESENTATIVE. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DUE TO FAILURE TO COMPLY WITH THESE REQUIREMENTS. DISPENSERS SHALL BE PROTECTED WITH SHIPPING BOXES UNTIL STORE IS TURNED OVER FOR OPENING. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ADEQUATE AND LOCKED STORAGE OF OWNER'S MISCELLANEOUS EQUIPMENT, TO INCLUDE GASOLINE CONSOLE, PRIOR TO OPENING OF THE STORE.

4.13 FUEL CONTRACTOR SHALL BE RESPONSIBLE FOR FILING OF RECEIVING FORMS AND MISCELLANEOUS CONFIRMATION OF EQUIPMENT RECEIVING INFORMATION AS REQUIRED BY LOCAL CONSTRUCTION OFFICE.

4.14 FUEL CONTRACTOR SHALL PROVIDE ALL PIPING, WIRING, MATERIAL AND LABOR AS REQUIRED TO INSTALL OWNER SUPPLIED EQUIPMENT. INCLUDE MONEY IN BID PROPOSAL FOR INSTALLATION OF OWNER SUPPLIED EQUIPMENT UNLESS NOTED OTHERWISE.

PART 5 - PROTECTION

5.1 CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY LOSS OR DAMAGE CAUSED BY HIM OR HIS WORKMEN TO THE PROPERTY OR EQUIPMENT OF THE OWNER, OR TO THE WORK OR MATERIALS OF OTHER CONTRACTORS. CONTRACTOR SHALL MAKE GOOD ANY LOSS, DAMAGE OR INJURY WITHOUT COST TO OWNER FOR SUCH LOSS OR DAMAGE.

5.2 CONTRACTOR SHALL PROVIDE AND MAINTAIN SUITABLE TEMPORARY SIDEWALKS, FENCES, LIGHTS, SIGNS OR OTHER STRUCTURES AND DEVICES AS REQUIRED BY LAW, DO NOT OBSTRUCT OR INTERFERE WITH TRAFFIC IN PUBLIC STREETS, ALLEYWAYS OR PRIVATE RIGHT-OF-WAYS. IF WORK IS SUSPENDED, KEEP ALL ROADWAYS AND SIDEWALKS IN PROPER CONDITION AND PUT AND LEAVE THEM IN PROPER CONDITION AT TERMINATION OF WORK.

5.3 CONTRACTOR SHALL SEND PROPER NOTICES, MAKE NECESSARY ARRANGEMENTS AND PERFORM ALL WORK REQUIRED FOR THE CARE, PROTECTION AND MAINTENANCE OF PUBLIC UTILITIES ON AND AROUND THE BUILDING SITE, ASSUMING ALL RESPONSIBILITY AND PAYING ALL COSTS FOR WHICH THE OWNER MAY BE LIABLE. CONTRACTOR HEREBY DECLARES HE HAS VERIFIED THE LOCATIONS OF THE EXISTING UNDERGROUND UTILITIES ON SITE PRIOR TO THE START OF WORK. CONTRACTOR HEREBY AGREES TO MAKE ARRANGEMENTS FOR AND TO PAY ALL CHARGES IN CON- JUNCTION WITH THE RELOCATION'S OF EXISTING UTILITIES AS REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL UTILITY EASEMENTS, HOOKUP CHARGES, TAP FEES & SYSTEM DEVELOPMENT FEES OR BONDS AS NECESSARY FOR COMPLETION OF THIS PROJECT.

5.4 IF ALL OR PART OF THE WORK IS SUSPENDED FOR ANY REASON, CONTRACTOR SHALL PROPERLY COVER OVER, SECURE AND PROTECT ANY PORTION LIABLE TO SUSTAIN INJURY FROM ANY CAUSE.

5.5 PRODUCT PROTECTION: CONTRACTOR SHALL PROVIDE ADEQUATE AND SECURE PROTECTION OF PRODUCT IN TANKS UPON DELIVERY UNTIL TURNED OVER FOR OPERATION. ALL FILL, VENT AND GAUGING CAPS AND/OR OPENINGS SHALL BE SECURED AND PADLOCKED TO PREVENT VANDALISM OR THEFT.

PART 6 - SUBSTITUTION OF MATERIALS

6.1 MATERIALS AS SPECIFIED REPRESENT REQUIRED STANDARDS. SUBSTITUTION MAY BE PROPOSED IN WRITING WITH ADEQUATE SUPPORTING DATA FURNISHED. USE OF SUBSTITUTE MATERIALS IS DEPENDENT ON RECEIPT OF WRITTEN APPROVAL FROM OWNER'S APPROVED REPRESENTATIVE.

PART 7 - COMPLETION OF CONTRACT

7.1 THE CONTRACT SHALL BE CONSIDERED FULFILLED, SAVE AS PROVIDED IN ANY MAINTENANCE STIPULATIONS, BOND OR BY LAW, WHEN ALL THE WORK HAS BEEN COMPLETED WITH FINAL INSPECTION AND ACCEPTANCE MADE BY ALL APPLICABLE GOVERNING BUILDING DEPARTMENTS, FIRE MARSHAL'S OR OTHER JURISDICTIONS.

7.2 NOT USED

7.3 CLEANING:

7.3.1 ALL WORK SHALL BE CLEAN AND READY FOR USE UPON COMPLETION. REMOVE TEMPORARY TAPES, WRAPPING, COATING, PAPER LABELS AND OTHER ITEMS.

7.3.2 CLEANING METHODS FOR PROPRIETARY MATERIALS SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. CLEANING SOLUTIONS, AGENTS, SOLVENTS, WAXES OR OTHER MATERIALS SHALL BE ONLY AS APPROVED BY THE MANUFACTURER OF THE MATERIAL INSTALLED IN THE WORK.

7.3.3 CLEANUP: CONTRACTOR SHALL CLEAN UP ALL DEBRIS CAUSED BY THE WORK OF THIS SECTION, KEEPING THE PREMISES NEAT AT ALL TIMES.

PART 8 - CODES

8.1 THE FOLLOWING CODES ARE MADE A PART OF THIS SPECIFICATION. SAID CODES SHALL DICTATE MINIMAL ACCEPTABLE STANDARDS. CODE SHALL BE ADHERED TO UNLESS LOCAL GOVERNING AUTHORITIES DICTATE HIGHER OR MORE STRINGENT REQUIREMENTS WHICH SHALL TAKE PRECEDENCE:

8.1.1 NFPA 30 FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE

8.1.2 PEI MANUAL "RECOMMENDED PRACTICES FOR INSTALLATION OF UNDERGROUND LIQUID STORAGE SYSTEMS." #RP-100-96 (OR LATEST EDITION)

8.1.3 OSHA AND LOCAL MUNICIPALITIES

PART 9 - WARRANTY / GUARANTEE

9.1 EXCEPT WHERE SPECIAL GUARANTEES ARE REQUIRED IN EXCESS OF ONE (1) YEAR, THE CONTRACTOR AGREES TO REPAIR AND RE-CERTIFY OR REPLACE THE DEFECTIVE COMPONENT OR ANY DEFECT IN MATERIAL OR WORKMANSHIP (BEYOND ORDINARY WEAR AND TEAR) TO THE SATISFACTION OF THE OWNER'S CONSTRUCTION MANAGER FOR A PERIOD OF ONE (1) YEAR AFTER DATE OF ACCEPTANCE, WHETHER IN HIS WORK OR IN THAT OF SUBCONTRACTOR'S, WITHOUT COST TO THE OWNER.

9.2 ALL PAVING WILL HAVE A TWO YEAR WARRANTY.

PART 10 - AS BUILT PLAN AND DOCUMENTATION

10.1 UPON COMPLETION OF PROJECT, CONTRACTOR SHALL PROVIDE "AS-BUILT SITE PLAN" VERIFYING FINAL LOCATION OF IMPROVEMENTS INCLUDING, BUT NOT LIMITED TO, PIPING, PLUMBING AND ELECTRICAL.

10.2 CONTRACTOR SHALL KEEP PHOTOGRAPHIC JOURNAL OF ALL PHASES OF THE COMPLETE INSTALLATION. PHOTOGRAPHS ARE TO BE PROPERLY DATED, IDENTIFIED AND FORWARDED TO LOCAL 7-ELEVEN, INC. CONSTRUCTION OFFICE, WITH FINAL INVOICE PACKAGE.

SECTION II INSPECTIONS / TESTING

TEST BEFORE PLACING THE SYSTEM IN SERVICE			
COMPONENT	MANUFACTURER	Table below lists current Manufacturer's Installation and Testing Guidelines that may be applied to the fuel system components after assembly but before backfilling. Before the beginning of fuel system installation, fuel contractor is to be responsible for reading through the entire Installation Manual and Operating Guidelines as well as any applicable supplemental materials. It is the responsibility of the fuel contractor and fuel operator to understand and follow all requirements contained in the installation and testing manuals. Work must be performed according to standard industry practices applicable to tank installations and operations. Work must also comply will all applicable codes, regulations and standards of appropriate governmental agencies.	
DOUBLE-WALLED STORAGE TANK	XERXES "A ZCL COMPANY"	INSTALLATION MANUAL	http://www.zcl.com/assets/documents/library/installation%20manual%20and%20operating%20guidelines%20(imog)%20for%20xerxes%20tanks.pdf
		TESTING PROCEDURE	http://www.zcl.com/assets/documents/library/installation%20manual%20and%20operating%20guidelines%20(imog)%20for%20xerxes%20tanks.pdf
DOUBLE-WALLED PIPING	NOV	INSTALLATION MANUAL	http://www.nov.com/Segments/Completion_and_Production_Solutions/Fiber_Glass_Systems/Fuel_Handling/Red_Thread_IIA.aspx
		TESTING PROCEDURE	http://www.nov.com/docHandler.aspx?puid=l2bNZwjC3oL35C
LEAK DETECTION SENSOR	VEEDER ROOT	INSTALLATION MANUAL	http://www.gilbarco.com/gold/gold_public_access.cfm?section_id=361
		TESTING PROCEDURE	http://www.gilbarco.com/gold/gold_public_access.cfm?section_id=361
AUTOMATIC TANK GUAGES	VEEDER ROOT	INSTALLATION MANUAL	https://www.veeder.com/us/sites/veeder.com.us/files/2020-09/577014-073%20TLS-450PLUS%20Console%20Site%20Prep%20and%20Installation%20Manual.pdf
		TESTING PROCEDURE	https://www.veeder.com/us/automatic-tank-gauging-products/tls-450plus-automatic-tank-gauge
OVERFILL PREVENTION DEVICES	OPW	INSTALLATION MANUAL	http://www.opwglobal.com/docs/libraries/manuals/retail-fueling/below-ground/opw-fcs-manuals/71so-testable-(h15524pa)-1-30-14.pdf?sfvrsn=4
		TESTING PROCEDURE	http://www.opwglobal.com/docs/libraries/manuals/retail-fueling/below-ground/opw-fcs-manuals/71so-testable-(h15524pa)-1-30-14.pdf?sfvrsn=4
SPILL-CONTAINMENT MANHOLES	OPW	INSTALLATION MANUAL	http://www.opwglobal.com/docs/libraries/manuals/retail-fueling/below-ground/opw-fcs-manuals/1-3100_EDGE_Thread-On_Spill_Installation_Inst_202181_2-13-13_G.pdf?Status=Master&sfvrsn=0
		TESTING PROCEDURE	http://www.opwglobal.com/docs/libraries/manuals/retail-fueling/below-ground/opw-fcs-manuals/Double_Wall_Spill_Container_Vac_Test_Installation_Instructions_-_English_202383.pdf?Status=Master&sfvrsn=0
IMPACT VALVES	OPW	INSTALLATION MANUAL	http://www.opwglobal.com/docs/libraries/manuals/retail-fueling/below-ground/opw-fcs-manuals/10_Series_Emergency_Shear_Valve_Installation_Instructions_-_English_H11374PA.pdf?Status=Master&sfvrsn=0
		TESTING PROCEDURE	http://www.opwglobal.com/docs/libraries/manuals/retail-fueling/below-ground/opw-fcs-manuals/10_Series_Emergency_Shear_Valve_Installation_Instructions_-_English_H11374PA.pdf?Status=Master&sfvrsn=0
MECHANICAL LINE LEAK DETECTORS	VAPORLESS MANUFACTURING	INSTALLATION MANUAL	http://www.vaporless.com/installation/installpdf/install_ld2000.pdf
		TESTING PROCEDURE	http://www.vaporless.com/installation/installpdf/install_ld2000.pdf
ELECTRONIC LINE LEAK DETECTORS	VEEDER ROOT	INSTALLATION MANUAL	http://www.veeder.com/gold/download.cfm?doc_id=6414
		TESTING PROCEDURE	http://www.veeder.com/gold/download.cfm?doc_id=6414
FLEXIBLE CONNECTORS	FRANKLIN FUELING	INSTALLATION MANUAL	http://www.franklinfueling.com/media/468560/407293001-r1-flex-connector-install.pdf

PART 1 - GENERAL

1.1 SCOPE: THIS SECTION COVERS THE FURNISHING OF ALL LABOR, SERVICES AND EQUIPMENT AS REQUIRED TO PROVIDE INSPECTION SERVICES OF THE FUELING INSTALLATION.

PART 2 - INSPECTIONS

2.1 INSPECTOR: 7-ELEVEN, INC. LOCAL CONSTRUCTION DEPARTMENT AND/OR APPOINTED REPRESENTATIVE SHOULD BE NOTIFIED TO OBSERVE TIGHTNESS TESTING OF PRODUCT PIPING, STAGE I & STAGE II PIPING PRIOR TO BACKFILL.

2.2 NOTIFICATION: CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING 7-ELEVEN'S CONSTRUCTION DEPARTMENT 48 HOURS PRIOR TO REQUESTED INSPECTION

2.3 SPILLAGE: SHOULD SPILLAGE OF PRODUCT OCCUR AT ANY PHASE OF INSTALLATION OR TESTING, LOCAL 7-ELEVEN CONSTRUCTION DEPARTMENT AND ENVIRONMENTAL DEPARTMENT ARE TO BE NOTIFIED IMMEDIATELY, ESTIMATED LOSS OF PRODUCT AS WELL AS ACTION TO BE TAKEN BY CONTRACTOR TO SAFEGUARD THE EVENT FROM FURTHER MISHAP AND TO PROTECT THE GENERAL PUBLIC IS TO BE NOTED AND RECORDED.

2.4 REPRESENTATIVE OF CONTRACTOR AND FUEL CONTRACTOR SHALL BE AVAILABLE ON SITE DURING TESTING PROGRAMS. FAILURE TO COMPLY WITH THIS REQUIREMENT WILL RESULT IN ANY CORRECTIONS AND/OR REPAIRS REQUIRED BEING PERFORMED BY OWNER AS REQUIRED. COST OF SAID REPAIRS AND/OR CONNECTIONS SHALL BE DEDUCTED FROM CONTRACT AMOUNT AS REQUIRED TO SATISFY THE SITUATION.

2.5 PROHIBITED WORK: CONTRACTOR SHALL SCHEDULE WORK SUCH THAT NO HEAVY EQUIPMENT IS OPERATING ON SITE DURING INSPECTION PROGRAMS. NO WELDING OR OPEN FLAMES SHALL BE ALLOWED ON SITE AT ANY TIME DURING TEST PROCEDURES.

2.6 INSTALLATION REPORTS: SHOULD 7-ELEVEN OR THEIR APPOINTED REPRESENTATIVES BE UNABLE TO BE PRESENT AT SITE FOR PURPOSES OF FILING ANY INSPECTION REPORTS, CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE INSPECTION AND FILING OF REPORT WITH LOCAL 7-ELEVEN, INC. CONSTRUCTION OFFICE. WRITTEN REPORT SHALL INCLUDE PHOTOGRAPHIC DOCUMENTATION OF ALL PROCEDURES.

2.7 TEST FAILURE: SHOULD SYSTEM FAIL ANY PORTION OF TEST PROGRAM, CONTRACTOR SHALL IMMEDIATELY INSTIGATE PROCEDURES AS REQUIRED TO BRING SYSTEM INTO COMPLIANCE SHOULD FAILURE OF TEST DUE TO FACILITY WORK REQUIRE EXPENDITURE OF ADDITIONAL MONIES FOR RESCHEDULING AND/OR RETESTING OF SYSTEM, CONTRACTOR SHALL BE HELD RESPONSIBLE FOR COMPENSATION ACCORDINGLY.

2.8 CLEANUP: IN THE EVENT PRODUCT SPILLAGE SHOULD OCCUR DURING CONSTRUCTION OR DURING WARRANTY PERIOD DUE TO WORK PERFORMED BY CONTRACTOR, CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP AS MAY BE REQUIRED.

2.9 TEST REPORT: UPON COMPLETION OF TESTING PROGRAMS, REPRESENTATIVE OF TESTING/ INSPECTION COMPANY SHALL BE RESPONSIBLE FOR FILING COPIES OF TANK AND PIPING TEST/INSPECTION REPORTS WITH LOCAL 7-ELEVEN, INC. CONSTRUCTION OFFICE OR THE OWNER'S ASSIGNED SITE MANAGER WITH COPY TO JOB SITE.

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Rev. #	Date	Description

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

FUELING SPECIFICATIONS

CORE STATES GROUP
CORESTATES, INC.
TEXAS REGISTERED ENGINEERING FIRM NUMBER: F-9349 EXPIRATION: 07/31/2024
212 SE 34th St. Ste 2 Bentonville, AR 72712 479.986.4400 core-states.com

Job#: SEI.36064
Scale: AS NOTED
Date: 01/11/24
Drawn By: RMC
Checked By: RWB

STATE OF TEXAS
DAVID M. LEIFFER
101813
LICENSED
PROFESSIONAL ENGINEER
03-06-2024

SHEET:
G13.0
FUELING - USA

PERFORMANCE SPECIFICATION - CONT.

SECTION II INSPECTIONS / TESTING - CONTINUED

PART 3 - TANK INSTALLATION INSPECTION

3.1 SCHEDULE: CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING SCHEDULE SO TANKS ARE TESTED AND SET IN TANK HOLE SAME DAY OF DELIVERY.

3.2 EXCAVATION: ALL EXCAVATIONS SHALL BE COMPLETED WITH BEDDING MATERIAL IN PLACE AND READY FOR INSTALLATION PRIOR TO TANK DELIVERY.

3.3 ANCHORING: CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE INSTALLATION OF CONCRETE ANCHORS (DEAD MAN).

3.4 STRAPS: HOLD DOWN STRAPS TO BE INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS - MINIMUM OF 4 - MORE IF REQUIRED BY MANUFACTURER (STRAPS SHALL BE SHIPPED WITH APPROPRIATE PADDING MATERIAL.

3.5 AIR TEST: TANKS SHALL BE AIR TESTED AS PER MANUFACTURER'S SPECIFICATIONS PRIOR TO PLACEMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MATERIALS TO PROVIDE COMPLETE AIR TEST INCLUDING, BUT NOT LIMITED TO, AIR COMPRESSOR OF SUFFICIENT SIZE AND CAPACITY, SPECIFIED SOAP MATERIAL AND ACCEPTABLE SOAP APPLICATION EQUIPMENT.

3.6 MINIMUM TESTING: DOUBLE WALL FIBERGLASS TANKS SHOULD ARRIVE AT THE JOB SITE WITH A MINIMUM OF 4" HG ON THE INTERSTICE. OBSERVE THE VACUUM HOLD TEST FOR AT LEAST ONE (1) HOUR PRIOR TO SETTING THE TANKS. SHOULD THE INTERSTICE NOT HOLD A MINIMUM 4" HG VACUUM, THEN CONTACT THE TANK MANUFACTURER IMMEDIATELY.

3.7 OBSERVATION: 7-ELEVEN'S CONSTRUCTION DEPARTMENT AND/OR REPRESENTATIVE SHALL BE RESPONSIBLE FOR INSPECTION OF AIR OR VACUUM TEST, OBSERVATION OF LIFTING, SETTING AND BURIAL OF TANKS.

3.8 TANK INSPECTION REPORT: WRITTEN REPORT SHALL INCLUDE PHOTOGRAPHIC DOCUMENTATION OF ALL PROCEDURES.

PART 4 - TANK AND LINE TESTING

4.1 AND CONTRACTOR SHALL COMPLETE AND BE RESPONSIBLE FOR THE FOLLOWING PRIOR TO FINAL PLACEMENT OF CONCRETE FINAL SYSTEM TEST:

4.1.1 PIPING: ALL PIPING SHALL BE COMPLETED EXCEPT INSTALLATION OF OVERFILL PROTECTION. OVERFILL PROTECTION SHALL BE INSTALLED UPON COMPLETION OF TEST.

4.1.2 VENTS: VENT LINES SHALL BE COMPLETED UNDERGROUND AND STUBBED UP MINIMUM OF 12' ABOVE FINISHED GRADE.

4.1.3 PRODUCT LINES: ALL PRODUCT LINES SHALL BE COMPLETE WITH EMERGENCY SHUTOFF IMPACT VALVE INSTALLED AT DISPENSER BOX WITH MECHANICAL LEAK DETECTOR IN PLACE.

4.1.4 PUMPS: SUBMERSIBLE PUMPS AND LINES SHALL BE COMPLETELY INSTALLED.

4.1.6 SITE PREPARATION: CONTRACTOR SHALL PREPARE TANK AREA FOR WATER OR PRODUCT DELIVERY AND TANK TESTING PROCEDURES.

4.1.7 FILL: CONTRACTOR SHALL PROVIDE 42" MINIMUM BACK FILL OVER TANKS.

4.1.8 WATER: SHOULD WATER BE PRESENT IN TANK HOLE, CONTRACTOR SHALL VERIFY AND NOTIFY 7-ELEVEN CONSTRUCTION MANAGER OF STATUS.

4.2 AFTER PLACEMENT OF CONCRETE, A COMPLETE SYSTEM TIGHTNESS TEST INCLUDING TANKS, PRODUCT LINES, STAGE II VAPOR RECOVERY LINES, SECONDARY CONTAINMENT PIPING AND VENT LINES SHALL BE PERFORMED. TESTING SYSTEM SHALL BE AS APPROVED BY 7-ELEVEN. 7-ELEVEN WILL BE BILLED DIRECTLY FOR TESTS. CONTRACTOR TO COORDINATE & SCHEDULE. RETEST OR STAND AROUND TIME BY THE TESTING COMPANY TO BE BILLED TO CONTRACTOR. DETAILS FOR THIRD PARTY TESTING REQUIREMENTS LISTED ON G17.0 SHEETS.

4.2.1 AFTER ALL UNDERGROUND PIPING AND ELECTRIC CONDUITS ARE INSTALLED AND DURING EXCAVATION BACKFILLING AND CONCRETE POURING, A CONTINUOUS HYDROSTATIC TEST SHALL BE PERFORMED ON ALL SUMPS & SPILL BUCKETS TO ENSURE TIGHTNESS AND PROPER INSTALLATION.

4.3 PRODUCT DELIVERY: CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION TO 7-ELEVEN REPRESENTATIVE OF TEST DATE AND VERIFICATION OF NEED FOR TANKS TO BE FILLED WITH PRODUCT AND TANK MONITORING SYSTEM TO BE OPERATIONAL FOR TESTING PROCEDURES. A MINIMUM OF 72 HOURS ADVANCE NOTIFICATION WILL BE REQUIRED FOR PRODUCT DELIVERY. CHECK WITH LOCAL REGULATORY AGENCIES FOR ANY FURTHER REQUIREMENTS.

4.4 CONTRACTOR SHALL HAVE REPRESENTATIVES ON SITE TO ACCEPT AND RECORD ALL PRODUCT DELIVERIES. CONTRACTOR'S REPRESENTATIVE SHALL REMIND DELIVERY COMPANY THAT NO OVERFILL PROTECTION IS INSTALLED AND TO FOLLOW PROCEDURES FOR DELIVERY AS SITUATION DICTATES.

4.5 PRODUCT REMOVAL: ANY REMAINING PRODUCT IN VENT LINES UPON COMPLETION OF TEST SHALL BE REMOVED BY TESTING COMPANY.

PART 5 - STARTUP INSPECTION

5.1 SCHEDULING: CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL SCHEDULING STARTUP AND CHECK-OUT. CONTRACTOR SHALL NOTIFY LOCAL CONSTRUCTION DEPARTMENT AND APPLICABLE MAINTENANCE DEPARTMENT OFFICE A MINIMUM OF 48 HOURS PRIOR TO INTENDED FINAL STARTUP AND CHECK-OUT DATE AND TIME.

5.2 PERSONNEL: CONTRACTOR, FUEL SUBCONTRACTOR AND ELECTRICAL SUBCONTRACTOR SHALL BE AVAILABLE ON-SITE DURING STARTUP, AS APPROVED BY 7-ELEVEN, INC. ALL STARTUPS ARE TO BE DONE BY AN AUTHORIZED MANUFACTURER'S CONTRACTOR FOR THAT PIECE OF EQUIPMENT.

5.3 STARTUP: PHYSICAL STARTUP AND CHECK-OUT OF SYSTEMS AND EQUIPMENT SHALL BE DONE BY AND AT THE DIRECTION OF 7-ELEVEN REPRESENTATIVE ONLY. CONTRACTOR SHALL NOT START OR ACTIVATE ANY EQUIPMENT WITHOUT THE SPECIFIC DIRECTIVE OF 7-ELEVEN REPRESENTATIVE. DAMAGE TO ANY 7-ELEVEN EQUIPMENT DUE TO IMPROPER INSTALLATION AND/OR UNAUTHORIZED STARTUP WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

5.4 SITE COMPLETION: ALL SITE WORK, INCLUDING CONCRETE/ASPHALT PAVEMENTS, SHALL BE COMPLETE. ALL UTILITIES SHALL BE CONNECTED AND OPERATIONAL. ALL LANDSCAPING, INCLUDING SPRINKLER SYSTEMS, SHALL BE COMPLETE.

5.5 VERIFICATION: PRIOR TO SCHEDULING OF STARTUP, CONTRACTOR SHALL OBSERVE AND VERIFY CORRECTNESS AND COMPLIANCE TO 7-ELEVEN'S DRAWINGS AND SPECIFICATIONS FOR THE FOLLOWING, BUT THESE SHALL NOT COMPRISE THE TOTAL LIMIT OF THE CONTRACTOR'S VERIFICATION:

5.5.1 MANHOLES SHALL BE PROPERLY CENTER/INSTALLED AT OVERFILLS, SUBMERSIBLES, VAPOR RECOVERY, AUTO GAUGING, OBSERVATION WELLS AND SUMP/RISER.

5.5.2 PROPER HEIGHT OF GRAVEL BACK FILL AROUND SUMP/RISERS.

5.5.3 TANK I.D. MARKERS INSTALLED IN CONCRETE AT PROPER LOCATIONS.

SECTION II INSPECTIONS / TESTING - CONTINUED

PART 5 - STARTUP INSPECTION - CONTINUED

5.5.4 ALL BRASS GOODS AND FITTINGS PROPERLY INSTALLED, TIGHT AND SECURE.

5.5.5 LEAK DETECTORS INSTALLED.

5.5.6 PROTECTED FLEX CONNECTORS ARE PROPERLY INSTALLED WITHOUT TWIST IN INSTALLATION.

5.5.7 MANHOLE EXTENDERS PROPERLY INSTALLED AND SCREWED IN FRAME OF MANHOLE SUMP/RISERS, PROPERLY SET AND SEALED TO TANK MAN WAY OR FITTINGS AND CLEANED OUT FREE OF DEBRIS AND CONCRETE.

5.5.8 TANKS CLEAN AND FREE OF WATER. PRIOR TO PRODUCT FILL, TANKS ARE TO BE CHECKED FOR ANY DEBRIS AND WATER. ANY EVIDENCE OF BOTH, TANKS ARE TO BE CLEANED AND WATER REMOVED.

5.5.9 ISLAND FORM INNER BOXES PROPERLY CLEANED OUT FREE OF DEBRIS AND CONCRETE.

5.5.10 DISPENSERS PROPERLY SET AND SECURED TO ISLAND BOX FRAME AND DISPENSER SUMPS PROPERLY CLEANED OUT FREE OF DEBRIS AND CONCRETE.

5.5.11 SHEAR VALVES SECURED TO FRAME WITH PROPER HARDWARE.

5.5.12 PHASE II VAPOR RECOVERY LINES STUBBED UP AND SECURED IN PROPER LOCATION.

5.513 ELECTRICAL CONDUITS SECURED WITH ALL CONNECTIONS COMPLETED. VERIFY COMPLIANCE WITH REQUIREMENTS FOR ISOLATED GROUND WIRING TO JUNCTION BOX CASING.

5.5.14 DISPENSER CANOPIES INSTALLED AND LIFTING LUGS REMOVED WITH PROPER PLUGS INSERTED.

5.5.15 ALL NOZZLES AND SWIVELS AVAILABLE ON-SITE, INSTALLED PRIOR ONLY IF REQUIRED BY GOVERNING AUTHORITIES FOR INSPECTION PURPOSES.

5.5.16 ALL INSPECTIONS BY GOVERNING AUTHORITIES COMPLETED AND SIGNED. SIGNED AND COMPLETED PERMIT CARD ON SITE.

5.5.17 ELECTRICAL DEVICES INCLUDING LIGHTS, SIGNS AND INTERCOMS PROPERLY INSTALLED, SECURED AND PLUMB.

5.5.18 ANY WIRING INSPECTION PORTS IN CANOPY COLUMNS COVERED WITH ACCEPTABLE PLATES.

5.5.19 VENT LINES PROPERLY SECURED, PROTECTED AND INSTALLED AT PROPER HEIGHT.

5.5.20 VERIFICATION OF COMPLIANCE FOR TANK AND LINE TEST AVAILABLE ON SITE.

5.5.21 ALL MANHOLES FREE OF CONCRETE AND DEBRIS.

5.5.22 MANHOLE COVERS PROPERLY PAINTED.

5.5.23 ALL PAINTING COMPLETE INCLUDING CANOPY, DOWN SPOUTS, METALS AND MISCELLANEOUS METALS.

5.5.24 CONCRETE AT ISLANDS AND TANK PAD TRUE, PROPERLY SLOPED AND FINISHED WITH ACCEPTABLE RISE TO MANHOLES.

5.5.25 ELECTRICAL PANELS PROPERLY COMPLETED TO INCLUDE:

(A) ONE BREAKER FOR EACH SUBMERSIBLE PUMP, DISPENSER, CONSOLE AUTO GAUGING, DISPENSER LIGHTS (ALL) AND CANOPY LIGHTS (ALL).

(B) GAS PANEL CONTROLLED BY A MAIN BREAKER.

(C) CONTROL BOXES AND DISTRIBUTION BOXES INSTALLED AND WIRED.

(D) INTERCOM INSTALLATION COMPLETE AND PROPERLY WORKING.

(E) ALL APPLICABLE CONSOLE INSTALLATION COMPLETE AND FUNCTIONAL.

(F) ALL WIRING PROPERLY IDENTIFIED WITH COLOR CODED WIRING.

(G) CONDUITS PROPERLY IDENTIFIED. (H) ALL BREAKERS IN "OFF" POSITION.

5.6 NOTIFICATION: CONTRACTOR SHALL VERIFY ITEMS AS INDICATED ABOVE PRIOR TO SCHEDULING OF STARTUP MONIES AND/OR TIME LOST AT STARTUP DUE TO NON- COMPLIANCE SHALL BE CHARGED TO CONTRACTOR ACCORDINGLY.

5.7 EQUIPMENT SHALL BE TESTED PER SPECIFICATIONS ON SHEET G17.0.

5.8 CLEANUP: CLEAN UP ALL DEBRIS CAUSED BY WORK OF THIS SECTION, KEEPING PREMISES CLEAN AND NEAT AT ALL TIMES.

SECTION III EARTHWORK

PART 1 - GENERAL

1.1 SCOPE: THIS SECTION COVERS THE FURNISHING OF ALL LABOR, MATERIALS, SERVICES, EQUIPMENT AND APPLIANCES REQUIRED IN CONJUNCTION WITH OR PROPERLY INCIDENTAL TO EARTHWORK.

PART 2 - PRODUCTS

2.1 FILL MATERIAL: SHALL BE MATERIAL IN COMPLIANCE WITH TANK AND PIPING MANUFACTURER'S SPECIFICATIONS.

2.1.1 PEA GRAVEL: SHALL BE CLEAN, NATURALLY ROUNDED AGGREGATE WITH A MIX OF PARTICLE SIZE NOT LESS THAN 1/8" OR MORE THAN 3/4".

2.1.2 STONE OR GRAVEL CRUSHING: SHALL BE WASHED MATERIAL WITH ANGULAR PARTICLE SIZE NOT LESS THAN 1/8" OR MORE THAN 1/2".

2.1.3 BACKFILL OR OTHER MATERIAL MUST BE APPROVED BY TANK MANUFACTURER.

NOTE: MATERIALS MUST MEET ASTM C-33 PARAGRAPH 7.1 FOR QUALITY AND SOUNDNESS. FILL MATERIAL SHALL NOT HAVE MORE THAN 3% PASSING A #8 SIEVE. DRY GRAVEL DENSITY MUST BE A MINIMUM OF 95 POUNDS PER CUBIC FOOT.

SECTION III EARTH WORK - CONTINUED

PART 3 - EXECUTION

3.1 PROTECTIONS: PROVIDE ADEQUATE SHORING, BRACING, PILING AND CRIBBING. COMPLY WITH ALL OSHA AND LOCAL REGULATIONS AS IT PERTAINS TO SAFETY.

3.2 LAYOUT: CONTRACTOR SHALL BE RESPONSIBLE FOR LAYOUT AS PRESENTED IN PERMITTED PLANS AND SPECIFICATIONS.

3.3 EXCAVATION: EXCAVATE TO LINES, ELEVATIONS AND LIMITS REQUIRED BY THE DRAWINGS, PLUS SUFFICIENT DISTANCE AND SPACE TO PERMIT INSTALLATION OF TANKS. EXCAVATE AS REQUIRED, REGARDLESS OF TYPE, CONDITION OR MOISTURE CONTENT OF THE MATERIAL ENCOUNTERED. HAUL EXCESS MATERIAL OFF THE SITE AND DISPOSE OF SAME. DIMENSIONS OF TANK EXCAVATION SHALL BE MINIMAL AS ESTABLISHED BY 7-ELEVEN DRAWINGS UNLESS TANK MANUFACTURER REQUIREMENTS ARE GREATER. IF EXCAVATION MATERIAL IS FROM AN EXISTING GASOLINE FACILITY ALL MATERIALS MUST BE TESTED PRIOR TO REMOVAL.

3.4 SAW CUTTING: IF PAVING MUST BE REMOVED, THE PERIMETER OF THE TANK EXCAVATION AND ALL TRENCHES SHALL BE CUT WITH A CONCRETE SAW. NOTE: PAVING TO BE CUT 2' BEYOND EDGES OF EXCAVATIONS IN ALL DIRECTIONS IN ORDER TO GIVE PROPER SUPPORT TO NEW SLAB TO AVOID SETTLING.

3.5 HAZARDOUS MATERIAL: SHOULD ROCK, WATER OR OTHER HAZARDOUS MATERIALS NOT SHOWN ON SOILS TEST BE ENCOUNTERED, LOCAL CONSTRUCTION OFFICE SITE MANAGER SHALL BE IMMEDIATELY CONTACTED FOR APPROVAL TO PROCEED.

3.6 PROTECTION: CONTRACTOR SHALL PROVIDE SUFFICIENT PROTECTION WITH EARTHEN BERMS AT ALL TIMES TO PROTECT TANK EXCAVATION AND TRENCHES FROM DRAINAGE OF SURFACE WATERS. EXCAVATIONS SHALL BE PROPERLY MARKED, PROTECTED AND BARRICADED FOR SAFETY UNTIL BACK FILL IS COMPLETE AND SURFACING FINISHED.

3.7 SHORING: CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING REQUIREMENTS FOR SHORING AND PROVIDING SHORING, SHOULD SITE AND/OR SOIL CONDITIONS WARRANT SHORING. REFERENCE SOIL REPORT FOR CONDITIONS WARRANTING SPECIAL REQUIREMENTS.

3.8 FILLING AND BACK FILLING: PLACE APPROVED FILL MATERIAL IN STRICT ACCORDANCE WITH TANK AND PIPING MANUFACTURER'S SPECIFICATIONS. PROVIDE A 12" BED OF APPROVED BACK FILL OVER BOTTOM OF EXCAVATION PRIOR TO TANK PLACEMENT. BACK FILL SHALL BE PLACED AND COMPACTED IN MAXIMUM 12" LIFTS.

3.9 CLEANUP: CLEAN UP ALL DEBRIS CAUSED BY WORK OF THIS SECTION, KEEPING PREMISES CLEAN AND NEAT AT ALL TIMES.

SECTION IV TANK INSTALLATION

PART 1 - GENERAL

1.1 SCOPE: THIS SECTION COVERS THE FURNISHING OF ALL LABOR, MATERIALS, SERVICES, EQUIPMENT AND RELATED APPLIANCES REQUIRED IN CONJUNCTION WITH OR PROPERLY INCIDENTAL TO THE INSTALLATION OF FUEL STORAGE TANKS.

PART 2 - PRODUCTS

2.1 TANKS: SHALL BE DESIGNED AND MANUFACTURED SO AS TO BE CORROSION PROTECTED PER EPA REQUIREMENTS. APPROVED TANKS SHALL BE:

2.1.1 DOUBLE WALL FIBERGLASS TANKS

2.2 HOLD DOWN STRAPS: SHALL BE SUPPLIED BY TANK MANUFACTURER ONLY. FIELD FABRICATED UNITS ARE NOT ACCEPTABLE.

PART 3 - INSTALLATION

3.1 MANUFACTURING: REFER TO TANK MANUFACTURER'S CRITERIA AND SPECIFICATIONS FOR TANK INSTALLATION AND ADHERE TO AS REQUIRED.

3.2 CLEARANCES: MINIMUM CLEARANCE FOR TANKS SHALL BE AS FOLLOWS: SHOULD REQUIREMENTS OF TANK MANUFACTURER OR SOIL CONDITIONS DICTATE GREATER CLEARANCE, ADHERE TO ACCORDINGLY.

3.2.1 BOTTOM: PROVIDE MINIMUM OF 12" BEDDING MATERIAL BETWEEN BOTTOM OF EXCAVATION OR PAD AND BOTTOM OF TANK.

3.2.2 SIDES: PROVIDE MINIMUM OF 2'0" BETWEEN TANKS AND 3' FROM SIDE/END OF TANK TO WALL OF EXCAVATION.

3.2.3 TOP: PROVIDE 42" FILL MATERIAL OVER TANK PLUS 8" OF CONCRETE

3.3 TESTING: PRIOR TO INSTALLATION OF TANKS, TESTING PER MANUFACTURER'S INSTRUCTIONS SHALL BE PERFORMED ON TANK(S). ON DUAL WALL TANKS, CONSULT TANK MANUFACTURER FOR TESTING CRITERIA.

3.4 PLACEMENT:

3.4.1 REFER TO SITE PLAN FOR TANK PLACEMENT AND PRODUCT ROTATION.

3.4.2 PRIOR TO SETTING OF TANKS, REMOVE ALL FOREIGN DEBRIS, ROCKS, CLODS, GARBAGE, ETC. FROM EXCAVATION.

3.4.3 PLACE TANKS ONLY ON APPROVED FILL. DO NOT SET ON CONCRETE OR WOOD.

3.4.4 NOT USED.

3.4.5 TANKS SHALL BE BURIED TO MINIMUM DEPTH AS PER ABOVE AND AS SHOWN ON FUELING DRAWINGS. TANKS MAY REQUIRE GREATER BURIAL DEPTH IF INSTALLED IN REMOTE POSITION TO ALLOW FOR PROPER SLOPE ON VENT LINES,VAPOR LINES, SECONDARY CONTAINMENT PRODUCT LINES. VERIFY DEPTH AS REQUIRED. (IF BURIAL DEPTH EXCEEDS 5'-0" (60"), NOTIFY 7-ELEVEN MANAGER)

Rev. #	Date	Description

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

FUELING SPECIFICATIONS

CORE STATES GROUP

Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

STATE OF TEXAS
DAVID M. LEIFFER
101813
LICENSED PROFESSIONAL ENGINEER
03-06-2024

SHEET:
G14.0
FUELING - USA

PRINTED BY: MBRAGG
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PERFORMANCE SPECIFICATION - CONT.

SECTION IV TANK INSTALLATION - CONTINUED

PART 3 - INSTALLATION - CONTINUED

3.5 PLUGS: ALL UNUSED PLUGS SHALL BE REMOVED. APPLY COMPATIBLE NON-HARDENING PIPE SEALANT TO INTERNAL BUSHING THREADS. PERMANENT METAL PLUGS SHALL BE INSTALLED AT ALL UNUSED OPENINGS.

3.6 THE PLUGS IN TANK OPENINGS WHICH ARE TO BE USED SHALL NOT BE OVER TIGHTENED AS THIS MAY CAUSE THE BUSHING TO UNSCREW WITH THE PLUG. CARE SHALL BE TAKEN NOT TO CROSS THREAD OR DAMAGE THE NON- METALLIC BUSHINGS WHEN REPLACING PLUGS OR INSTALLING REQUIRED TANK PIPING.

3.7 WET HOLE INSTALLATION: SHOULD GROUND WATER BE PRESENT IN TANK EXCAVATIONS, 7-ELEVEN'S LOCAL CONSTRUCTION ENGINEER MUST BE NOTIFIED.

3.7.1 WELL POINT: WATER SHALL BE KEPT AT LOWEST POSSIBLE POINT BY WELL POINT SYSTEM(S) AND PROPERLY SIZED PUMP(S).

3.7.2 ANCHOR STRAPS: DEAD MAN AS PER TANK MANUFACTURER'S INSTALLATION INSTRUCTIONS. PLACE 6" FROM OUTSIDE VERTICAL LINE OF TANK(S) AS DENOTED ON DRAWINGS.

3.7.3 TIE DOWNS: SUPPLIED BY TANK MANUFACTURER.

3.7.4 TAKE-UP FIXTURE & TURNBUCKLE: TO REMOVE CABLE SLACK, UTILIZE THE TAKE-UP FIXTURE FOR 8' DIA. TANK: MIN SIZE 26" MAX SIZE 43". WEIGHT 16 LB.

3.7.5 STRAP PLACEMENT: AS PER TANK MANUFACTURER'S SPECIFICATIONS.

3.7.6 COATING: COVER ALL NON-GALVANIZED HARDWARE WITH TWO (2) COATS OF ASPHALT IMPREGNATED WITH WATERPROOFING PRIOR TO PLACEMENT OF BACKFILL.

3.8 LIFTING: TANKS SHALL BE LIFTED ONLY AS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS, UTILIZING LIFTING LUGS PROVIDED ON TANKS. TANKS SHALL NOT BE ROLLED, DROPPED OR WRAPPED WITH CHAINS. EQUIPMENT OF SUFFICIENT SIZE, DESIGN AND LIFT CAPACITY SHALL BE UTILIZED FOR SETTING OF TANKS. SHOULD TANKS BE BUMPED, DENTED,DROPPED OR MISHANDLED IN ANY WAY, INSTALLATION SHALL BE HALTED AND TANK MANUFACTURER'S REPRESENTATIVE IMMEDIATELY CONTACTED FOR RE-CERTIFICATION OF TANKS. CONTACT LOCAL CONSTRUCTION OFFICE OR SITE MANAGER IMMEDIATELY UPON NOTICE OF QUESTIONABLE HANDLING OF TANKS OR NOTABLE DAMAGE THERETO.

3.9 BACK FILL PLACEMENT: ONCE TANKS ARE PROPERLY SET IN PLACE, CAREFULLY BACK FILL ENTIRE EXCAVATION, HAND SHOVELING AND TAMPING ALONG BOTTOM OF TANK(S) SO THEY ARE EVENLY SUPPORTED AROUND BOTTOM. SPECIAL ATTENTION SHALL BE PAID TO BOTTOM QUARTER POINTS ELIMINATING ANY VOIDS IN FILL AT THESE POINTS. DO NOT DROP BACK FILL FROM HIGH DISTANCE ONTO TANKS. TAMP AS REQUIRED TO ACHIEVE ACCEPTABLE DENSITY. BACKFILL PLACEMENT PER MANUFACTURER INSTALLATION SPECIFICATIONS.

3.10 BALLASTING: IF GROUND WATER IS PRESENT, TANKS SHALL BE FILLED WITH BALLAST (WATER) TO AVOID SHIFTING MOVEMENT. COST OF WATER AND REMOVAL SHALL BE CONTRACTOR COST. DO NOT INSTALL SUBMERGIBLE PUMPS IN TANKS FILLED WITH WATER. DO NOT BALLAST TANKS ABOVE LEVEL OF BACKFILL.

3.11 PROTECTION: CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE PROTECTION FOR TANK EXCAVATION FROM SURFACE WATERS WITH DAMS, BERMS, OR OTHER MEANS PENDING COMPLETION OF INSTALLATION. EXCAVATION SHALL BE MARKED AT ALL TIMES WITH LIGHTED BARRICADES UNTIL INSTALLATION IS COMPLETE. WATER SHALL NOT BE ALLOWED TO ACCUMULATE IN EXCAVATION. DE-WATER AS REQUIRED TO MAINTAIN EXCAVATION AS DRY AS POSSIBLE.

SECTION V CONCRETE

PART 1 - GENERAL

1.1 SCOPE: THIS SECTION COVERS THE FURNISHING OF ALL LABOR, MATERIALS, SERVICES, EQUIPMENT AND APPLIANCES REQUIRED IN CONJUNCTION WITH OR PROPERLY INCIDENTAL TO CONCRETE.

PART 2 - PRODUCTS

2.1 MATERIALS:

2.1.1 AIR ENTRAINING AGENT: ASTM C 260-60-T. "PROTEX" MANUFACTURED BY PROTEX INDUSTRIES OR APPROVED EQUAL.

2.1.2 PORTLAND CEMENT: CONFORM TO ASTM C-150 TYPE I; TYPE II WHERE WATER SOLUBLE SULFATES ARE PRESENT.

2.1.3 AGGREGATES: CONFORM TO ASTM C-33.

2.1.4 WATER: SHALL BE CLEAN AND POTABLE.

2.1.5 SAND: CONFORM TO ASTM C-144.

2.1.6 STEEL REINFORCING: CONFORM TO ASTM A-615, GRADE 60 (EXCEPT WHERE NOTED OTHER WISE) YIELD STRENGTH 60,000 PSI.

2.1.6A SYNTHETIC FIBER: ASTM C 1116/C 116M, TYPE III, POLYPROPYLENE FIBERS, 1/2 TO 3/4 INCHES LONG.

2.1.7 NOT USED.

2.1.8 FORMS: CLEAN, STRAIGHT LUMBER OF MOISTURE RESISTANT PLYWOOD. KNOT HOLES, DEFORMATIONS, ETC., SHALL NOT BE ALLOWED.

2.1.9 EXPANSION JOINT FILLERS: ASPHALT IMPREGNATED FIBERBOARD CONFORMING TO ASTM D-60-T. USE 1/2" THICK OR AS INDICATED ON DRAWINGS. TOP OF JOINT MATERIAL SHALL BE SET 1/2" BELOW TOP SURFACE OF SLAB. FILL VOID WITH GASOLINE RESISTANT SEALER.

2.1.10 CALCIUM CHLORIDE: NOT PERMITTED.

2.2 CONCRETE PROPORTIONS: CONCRETE SUPPLIER SHALL DESIGN CONCRETE MIX AND SHALL GUARANTEE CONCRETE STRENGTH. ALL CONCRETE, UNLESS NOTED OTHERWISE ON DRAWINGS, OR REQUIRED OTHERWISE BY CODES, SHALL BE DESIGNED FOR 4,000 PSI STRENGTH AT 28 DAYS WITH NOT LESS THAN 5 1/2 BAGS OF CEMENT PER CUBIC YARD OF CONCRETE. NOT MORE THAN 6 1/2 GALLONS OF WATER PER BAG OF CEMENT AND NOT MORE THAN A 4" SLUMP. AIR CONTENTS SHALL RANGE BETWEEN 4% AND 7%.

SECTION V CONCRETE - CONTINUED

PART 3 - EXECUTION

3.1 GRADE CONTROL: ESTABLISH AND MAINTAIN LINES AND GRADES FOR CONCRETE ITEMS BY MEANS OF LINE AND GRADE STAKES AND SCREEDS.

3.2 FORM WORK: BUILD FORMS TO CONFORM TO SHAPE, LINES AND DIMENSIONS OF CONCRETE MEMBERS. BRACE AND SECURE TO WITHSTAND PLACING OF CONCRETE AND MAINTAIN THEIR SHAPES AND POSITIONS. MAKE FORMS SUFFICIENTLY TIGHT AND SUBSTANTIALLY ASSEMBLED TO PREVENT BULGING OR LEAKAGE. ASSEMBLE FORMS IN SUCH A MANNER TO FACILITATE THEIR REMOVAL WITHOUT DAMAGE TO CONCRETE. FORMS SHALL BE IN OR NEAR NEW CONDITION; CLEAN, SMOOTH AND WITHOUT INDENTATIONS OR BENDS. INSTALL SLEEVES, MANHOLES, CAPS, BOXES AND POSTS IN PROPER LOCATIONS AND HEIGHTS. EXPANSION JOINTS SHALL CONSIST OF FILLER STRIPS INSTALLED WITH TOP AT ELEVATIONS OF FINISHED CONCRETE. NEATLY FINISH EDGES OF EXPOSED CONCRETE ALONG JOINTS WITH A SLIGHTLY ROUNDED EDGING TOOL.

3.3 REINFORCEMENT: FURNISH AND INSTALL ALL REINFORCING STEEL INDICATED ON DRAWING METAL REINFORCEMENT AT THE TIME CONCRETE IS PLACED, SHALL BE FREE FROM COATINGS WHICH WILL DESTROY OR REDUCE THE BOND. METAL REINFORCEMENT SHALL BE STORED SO AS TO PREVENT FREEZING FOR A MINIMUM OF 48 HOURS PRIOR TO PLACEMENT ALL REINFORCEMENT SHALL BE FABRICATED AND PLACED IN ACCORDANCE WITH STANDARDS OF ACI. METAL REINFORCEMENT SHALL BE ACCURATELY PLACED AND ADEQUATELY SECURED IN POSITION. SPLICES IN ADJACENT BARS SHALL BE LAPPED 36 DIAMETERS AT CORNERS AND SPLICES, AS REQUIRED.

3.3.1 SYNTHETIC FIBER: UNIFORMLY DISPERSE IN CONCRETE MIXTURE AT MANUFACTURER'S RECOMMENDED RATE, BUT NOT LESS THAN 1.5 LBS.

3.4 MIXING AND TRANSPORTING CONCRETE: CONCRETE SHALL BE READY MIXED AND SHALL MEET REQUIREMENTS OF ASTM C-94 FOR MIXING AND DELIVERY. FURNISH DUPLICATE DELIVERY TICKETS OF EACH TRUCK LOAD TO OWNER'S LOCAL CONSTRUCTION OFFICE WHEN REQUIRED. TICKETS SHALL SPECIFY STRENGTH, SLUMP, AGGREGATE SIZES, AIR ENTRAINMENT (IF ANY) AND BRAND OF CEMENT. NOTE: DO NOT ADD WATER ON SITE TO ADJUST SLUMP.

3.5 PLACING CONCRETE:

3.5.1 NOTIFICATION: THE CONTRACTOR SHALL NOTIFY THE OWNER'S LOCAL CONSTRUCTION OFFICE AT LEAST 48 HOURS BEFORE PLACING ANY CONCRETE. THE CONTRACTOR SHALL NOTIFY ALL TRADES AFFECTED BY CONCRETE PLACEMENT AT LEAST 24 HOURS BEFORE PLACING ANY CONCRETE IN ORDER THAT TRADES AFFECTED MAY INSTALL REQUIRED BLOCKING, SLEEVED, POCKETS, ETC.

3.5.2 PROTECTION: PROTECT ALL WORK OF OTHER TRADES AS REQUIRED.

3.5.3 WETTING: THOROUGHLY WET FORMS AND DAMPEN SAND CUSHIONS BEFORE PLACING CONCRETE.

3.5.4 PLACING: PLACE ALL CONCRETE IN ACCORDANCE WITH ACI 614. MINIMUM CONCRETE COVER OVER REINFORCEMENT SHALL CONFORM TO ACI 318. USE HANDLING EQUIPMENT AND METHODS TO INSURE A CONTINUOUS FLOW FROM MIXER TO PLACE OF DEPOSIT SPACE, TAMP AND MECHANICALLY VIBRATE FRESHLY PLACED CONCRETE TO COMPACT THOROUGHLY AND ELIMINATE VOIDS. DO NOT ALLOW FREE FALL OF CONCRETE TO EXCEED 5'.

3.6 FINISHING CONCRETE:

3.6.1 SLABS SHALL BE A TRUE PLANE SURFACE WITH NO DEVIATION IN EXCESS OF 1/4" WHEN TESTED WITH A 10' STRAIGHTEDGE AT 3' INTERVALS IN BOTH DIRECTIONS. SCREED AND FLOAT CONCRETE FOR SLAB WITH STRAIGHT EDGES TO BRING SURFACE TO REQUIRED FINISHED LEVEL. WOOD FLOAT CONCRETE WHILE STILL GREEN TO A TRUE, EVEN SURFACE WITH NO COARSE AGGREGATE VISIBLE. AFTER SURFACE MOISTURE HAS DISAPPEARED, STEEL TROWEL SURFACE TO A SMOOTH, EVEN FINISH, FREE FROM BLEMISHES AND TROWEL MARKS. AFTER TROWELING, BRUSH SURFACE OF CONCRETE WITH BRISTLE BROOM TO RESULT IN A MEDIUM, UNIFORM, NON-SLIP TEXTURED SURFACE. STROKE CROSSWISE TO LENGTH.

3.7 CURING: UTMOST CARE SHALL BE TAKEN TO ACHIEVE A UNIFORM, PROTECTIVE CURE FOR ALL SLABS. DO NOT USE CALCIUM CHLORIDE. CURING METHODS SHALL CONFORM TO ACI STANDARD 605-99 AND ACI STANDARD 306-66.

3.8 REMOVAL OF FORMS: DOT NOT REMOVE FORMS UNTIL CONCRETE HAS ATTAINED SUFFICIENT STRENGTH TO SUPPORT ANY SUPERIMPOSED LOADS.

3.9 PATCHING: NO PATCHING SHALL OCCUR UNTIL APPROVED BY OWNER.

3.10 TEMPERATURE:

3.10.1 COLD WEATHER: WHEN MEAN DAILY TEMPERATURE OF THE ATMOSPHERE IS LESS THAN 40 DEGREES FAHRENHEIT, MAINTAIN TEMPERATURE OF CONCRETE BETWEEN 50 AND 70 DEGREES FAHRENHEIT FOR MINIMUM OF 72 HOURS.

3.10.2 HOT WEATHER: MAKE ARRANGEMENTS FOR INSTALLATION OF WINDBREAKS, SHADING, FOG SPRAY, SPRINKLING, PONDING OR WET COVERING IN ADVANCE OF PLACEMENT. TAKE SUCH PROTECTIVE MEASURES AS QUICKLY AS CONCRETE HARDENING AND FINISHING OPERATIONS WILL ALLOW.

3.11 TESTING: CONCRETE TESTS SHALL BE ORDERED AT THE DISCRETION OF THE OWNER'S CONSTRUCTION MANAGER. THE OWNER SHALL PAY FOR ALL CONCRETE TESTING. COMPACTION TESTS SHALL BE REQUIRED PRIOR TO PLACEMENT OF ANY CONCRETE ON GRADE. CONTRACT OWNER'S ENGINEERING SERVICES FOR COMPACTION TESTING TESTS. TESTS WILL BE PAID FOR BY OWNER.

3.12 THICKNESS:

3.12.1 SLAB OVER TANKS SHALL BE 8" CONCRETE SLAB WITH SYNTHETIC FIBERS. REFER TO STD-CPC-1 FOR DETAILS.

3.12.2 CANOPY SLABS SHALL BE 6" CONCRETE SLAB WITH SYNTHETIC FIBERS. REFER TO STD-CPC-1 FOR DETAILS.

3.13 CANOPY FOOTINGS: CANOPY FOOTINGS SHALL BE INSTALLED BY FUEL CONTRACTOR AS PER SHOP DRAWINGS SUPPLIED BY THE CANOPY COMPANY. ALL MATERIALS SHALL BE EQUAL TO OR BETTER THAN SPECIFIED ELSEWHERE IN THIS SECTION.

3.14 PROTECTION OF ALL CONCRETE SURFACES: IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROTECT ALL CONCRETE SURFACES AGAINST ANY DAMAGE WHATSOEVER, INCLUDING EXCESSIVE LOADING, SHIPPING, CRACKING, STAINING, PAINT SPLATTERS, ETC. THE OWNER EXPECTS EXPOSED CONCRETE SURFACES TO BE CLEAN AND OF UNIFORM COLOR AND TEXTURE AT COMPLETION OF THE PROJECT. REPLACE ANY CONCRETE DAMAGE DURING CONSTRUCTION.

3.15 GRADE CONTROL: ESTABLISH AND MAINTAIN LINES AND GRADES FOR CONCRETE ITEMS.

SECTION VI PIPING

PART 1 - GENERAL

1.1 SCOPE: THIS SECTION COVERS THE FURNISHING OF ALL LABOR, MATERIALS, SERVICES, EQUIPMENT AND RELATED APPLIANCES REQUIRED IN CONJUNCTION WITH OR INCIDENTAL TO A COMPLETE PIPING SYSTEM FOR A GASOLINE INSTALLATION.

PART 2 - PRODUCTS

2.1 PRODUCT PIPING: PRODUCT PIPING AND FITTINGS SHALL BE DOUBLE WALL RIGID FIBERGLASS PIPING AS SPECIFIED BY 7-ELEVEN. PIPING MUST SLOPE 1/8" PER FOOT MINIMUM FROM DISPENSER ISLAND TO STP SUMP.

2.2 VENT PIPING: PIPING SHALL BE FIBERGLASS PIPE. VENT LINE RISERS SHALL BE BLACK IRON PIPE AND EXTEND 5' ABOVE ADJACENT STRUCTURE OR 12'-0" ABOVE FINISHED GRADE. VENT LINE RISERS SHALL NOT BE INSTALLED ON BUILDING UNLESS APPROVED IN WRITING.

2.3 STAGE II VAPOR RECOVER PIPING: PIPING SHALL BE FIBERGLASS. PIPING MUST SLOPE 1/8" PER FOOT MINIMUM FROM DISPENSER ISLAND TO TANK.

2.4 BACK FILL: ALL MATERIAL SHALL COMPLY WITH SPECIFICATIONS FOR APPROVED MATERIAL AND AS PER MANUFACTURER'S SPECIFICATIONS.

PART 3 - INSTALLATION

3.1 ALL PRODUCT PIPING AND SPECIALTIES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND STATE AND LOCAL CODES.

3.2 THE DRAWINGS ARE DIAGRAMMATIC AND THE FINAL ARRANGEMENT OF THE WORK SHALL SUIT FIELD CONDITIONS, THE CHARACTERISTICS OF THE MATERIALS USED, AND THE INSTRUCTIONS OF THE CONSTRUCTION MANAGER. VERIFY ALL DIMENSIONS IN THE FIELD. ACCESS AND CLEARANCES MUST BE PROVIDED AND MAINTAINED FOR THE PROPER OPERATION, MAINTENANCE, SERVICE AND REPAIR OF THE WORK.

3.3 LOCATE, IDENTIFY AND MARK EXISTING UNDERGROUND UTILITIES IN THE AREA OF WORK BEFORE STARTING EARTHWORK OPERATIONS. IF UTILITIES ARE TO REMAIN IN PLACE PROVIDE ADEQUATE MEANS OF PROTECTION DURING EARTHWORK PROCEDURES.

3.4 SHOULD UNCHARTED OR INCORRECTLY CHARTED PIPING OR OTHER UTILITIES BE ENCOUNTERED DURING EXCAVATION, CONSULT THE CONSTRUCTION MANAGER IMMEDIATELY FOR DIRECTIONS AS TO PROCEDURE. COOPERATE WITH THE OWNER AND PUBLIC AND PRIVATE UTILITY COMPANIES IN KEEPING THEIR RESPECTIVE SERVICES IN SATISFACTORY CONDITION.

3.5 VERTICAL RISERS FROM TANKS FOR ALL FILL PIPES, VAPOR RECOVERY ADAPTERS AND AUTO GAUGING ADAPTATIONS SHALL BE A 4" DIAMETER PIPE.

3.6 DO NOT INTERRUPT EXISTING UTILITIES SERVING FACILITIES OCCUPIED AND USED BY THE OWNER OR OTHERS, EXCEPT WHEN PERMITTED IN WRITING BY THE CONSTRUCTION MANAGER, AND THE ONLY AFTER ACCEPTABLE TEMPORARY UTILITY SERVICE HAS BEEN PROVIDED.

3.7 CONVEY WATER REMOVED FROM EXCAVATIONS AND RAIN WATER TO COLLECTING OR RUN-OFF AREA. DO NOT USE TRENCH EXCAVATIONS FOR SITE UTILITIES AS TEMPORARY DRAINAGE DITCHES. REMOVE ALL TRASH, DEBRIS AND FOREIGN MATERIAL FROM TRENCHES PRIOR TO PLACING PIPING MATERIAL.

3.8 ALL PRODUCT, VAPOR RECOVERY AND VENT LINES SHALL SLOPE UP FROM TANKS. A MINIMUM OF 2" IN 8' (1/8" /FT) WITH NO SAG OR TRAPS. LINES SHALL BE IN TRENCHES WITH A MINIMUM OF 6" OF BACK FILL MATERIAL BELOW AND ON EITHER SIDE AND A MINIMUM OF 18" OF BACK FILL MATERIAL ABOVE.

3.9 SUBMERGED PUMP, FILL PIPE, AUTO GAUGING ADAPTERS AND VAPOR RECOVERY ADAPTER SHALL BE LOCATED AT TANK OPENINGS AS SHOWN ON DRAWINGS.

3.10 FILL PIPE SHALL HAVE OVER SPILL CONTAINMENT SYSTEM INSTALLED AS SHOWN ON DRAWINGS.

3.11 FILL PIPE SHALL HAVE SUBMERGED FILL TUBE. FILL PIPE AND VAPOR RECOVERY RISER SHALL BE CUT TO THE PROPER LENGTH SO THAT FINISHED HUB HEIGHT WILL BE WITHIN 5" (+ OR - 1") OF THE TOP OF THE MANHOLE.

3.12 OVERFILL PREVENTION DEVICES SHALL BE INSTALLED AS SHOWN IN DRAWINGS.

3.13 REMOTE PUMP SHEAR VALVES SHALL BE INSTALLED ON THE PRODUCT LINES UNDER EACH DISPENSER AND SECURED TO THE DISPENSER BOX. THESE VALVES MUST BE INSTALLED WITH THE SHEAR SECTION FLUSH AT THE TOP OF THE DISPENSER SUMP, AS DENOTED ON PLANS.

3.14 AFTER ALL PIPING IS COMPLETE AND PRIOR TO BACK FILLING, ALL PIPING INCLUDING VENT LINES SHALL BE ISOLATED FROM THE TANK AND TESTED PER MANUFACTURER'S TESTING INSTRUCTIONS.

3.15 IF SUBMERGED, PUMP RISER IS TO BE LENGTHENED, THE PROPER 4" THIN WALL RISER AS PRODUCED BY MANUFACTURER SHALL BE USED.

3.16 ALL VALVES AND PRODUCT HANDLING EQUIPMENT SHALL BE AS SHOWN ON EQUIPMENT LIST. REFER TO LIST OF MATERIALS SUPPLIED BY OWNER.

3.17 OBSERVATION WELLS WHEN REQUIRED SHALL BE INSTALLED. WELLS ARE TO BE POSITIONED IN EXCAVATION HOLE PRIOR TO PLACING BEDDING MATERIAL AND SUPPORTED TO REMAIN VERTICAL DURING BACK FILL OPERATIONS. BOTTOM OF OBSERVATION WELL(S) SHALL BE 12" MINIMUM BELOW THE BOTTOM OF TANK EXCAVATION PIT. TOP OF PIPE TO TERMINATE IN 12" DIAMETER OBSERVATION BOX. SLOTTED SAMPLE WELL MATERIAL SHALL BE FURNISHED BY CONTRACTOR. LOCKING CAPS AND KEYED ALIKE LOCKS PROVIDED TO 7-ELEVEN, INC. REPRESENTATIVE.

3.18 CODES: THE NFPA 30 FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE, & NFPA 30A AUTOMOBILE AND MARINE SERVICE STATION CODE. IS BY REFERENCE MADE A PART OF THIS SPECIFICATION. SAID CODE SHALL DICTATE MINIMUM ACCEPTABLE STANDARDS. CODE SHALL BE ADHERED TO UNLESS LOCAL GOVERNING AUTHORITIES DICTATE HIGHER OR MORE STRINGENT REQUIREMENTS WHICH

3.19 STARTUP: PRIOR TO STARTUP AND CHECK-OUT OF SYSTEM, PRODUCT LINES SHALL PASS HYDROSTATIC LINE TEST. ALL SITE IMPROVEMENTS. INCLUDING PAVEMENTS AND UTILITIES, SHALL BE COMPLETED PRIOR TO THIS TEST.

3.20 INSPECTIONS: PIPING INSPECTION SHALL BE PERFORMED BY 7-ELEVEN, INC.'S APPOINTED REPRESENTATIVE.

3.21 CLEANUP: CLEANUP ALL DEBRIS CAUSED BY THE WORK OF THIS SECTION, KEEPING THE PREMISES CLEAN AND NEAT AT ALL TIMES.

Rev. #	Date	Description

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

FUELING SPECIFICATIONS

CORE STATES GROUP

Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

STATE OF TEXAS
DAVID M. LEIFFER
101813
LICENSED PROFESSIONAL ENGINEER
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PERFORMANCE SPECIFICATION - CONT.

SECTION VII ELECTRICAL WORK

PART 1 - GENERAL

1.1 SCOPE: THIS SECTION COVERS THE FURNISHING OF ALL LABOR, MATERIALS, SERVICES, EQUIPMENT AND APPLIANCES REQUIRED IN CONJUNCTION WITH OR PROPERLY INCIDENTAL TO THE FURNISHING AND INSTALLATION OF COMPLETE ELECTRICAL WORK INCLUDING:

1.1.1 ELECTRICAL SERVICE AND DISTRIBUTION SYSTEM, INCLUDING CONDUITS, PANEL BOARD OUTLET BOXES, WIRING, SWITCHES, OUTLETS, ETC.

1.1.2 CONDUIT AND WIRING SYSTEM FOR INTERCOM.

1.1.3 WIRING SYSTEM TO SERVE ALL ELECTRIC-USING DEVICES, LIGHTING FIXTURES, PUMPS, CONTROL EQUIPMENT, DISPENSERS, DEVICES AND OTHER CURRENT CONSUMING EQUIPMENT.

1.1.4 POWER AND CONTROL WIRING WITH FINAL CONNECTIONS TO ALL EQUIPMENT.

1.1.5 ALL CONDUITS, CONNECTIONS, WIRE AND STUB-OUTS FOR FASCIA SIGN(S) (WHEN SHOWN), CANOPY LIGHTS, PRICE SIGN(S) AND CANOPY MOUNTED FLOOD LIGHTS.

1.1.6 CONDUITS AS MAY BE SHOWN FOR "FUTURE EQUIPMENT" ON DRAWINGS.

1.1.7 ALL TRENCHING, EXCAVATIONS AND BACK FILL AS REQUIRED IN CONJUNCTION WITH ELECTRICAL WORK.

1.1.8 INCIDENTAL ITEMS NOT INDICATED ON THE DRAWINGS OR MENTIONED IN THE SPECIFICATIONS, BUT WHICH ARE REQUIRED TO PROVIDE COMPLETE ELECTRICAL SYSTEMS IN CONFORMANCE WITH REQUIREMENTS OF LOCAL CODES AND ORDINANCES AND THE NATIONAL ELECTRIC CODE.

1.2 CODES AND REGULATIONS: COMPLY WITH LATEST REQUIREMENTS OF LOCAL UTILITY COMPANY, LOCAL, STATE, OSHA, NATIONAL ELECTRIC CODES, NATIONAL FIRE PROTECTIVE ASSOCIATION AND LOCAL ELECTRICAL INSPECTION AUTHORITY. REPORT TO OWNER IMMEDIATELY ANY DISCREPANCIES BETWEEN DRAWINGS AND CODES. PROVIDE INSTALLATION SUPERIOR TO CODE WHERE SO INDICATED ON DRAWINGS AND SPECIFIED HEREIN.

1.3 PERMITS, FEES, TAXES: ARRANGE AND PAY FOR ALL NECESSARY PERMITS, FEES, AND TAXES.

1.4 PROGRESS OF WORK: SCHEDULE WORK WITH THAT OF OTHER TRADES AND IN RELATION TO ENTIRE INSTALLATION SO THAT THE ENTIRE PROJECT CAN BE COMPLETED PER CONSTRUCTION SCHEDULE.

1.5 CUTTING AND REPAIRING: PROVIDE ALL CUTTING, CHANNELING, PATCHING, ETC. AS NECESSARY FOR ELECTRICAL WORK UNDER DIRECTION OF GENERAL CONTRACTOR. WORK FOUND TO BE DEFECTIVE OR INCORRECTLY INSTALLED IS TO BE CORRECTED AT THE DIRECTION OF THE OWNER AT NO ADDITIONAL COST TO THE OWNER. MAKE REPAIR WORK TO BE DONE BY SKILLED CRAFTSMEN IN TRADES INVOLVED, BUT PAID FOR THE ELECTRICAL SUBCONTRACTOR.

PART 2 - PRODUCTS

2.1 IDENTIFICATION OF EQUIPMENT AND WIRING: PROVIDE IDENTIFICATION WITH DYMO TAPE OR EQUAL FOR ALL SERVICE ENTRANCE AND DISTRIBUTION EQUIPMENT INCLUDING MAIN SWITCH GEAR, PANELS, DISCONNECT SWITCHES, CONDUITS, ETC., AND FOR MOTOR FEEDERS INCLUDING SWITCHES, STARTERS AND MOTORS.

2.2 LIGHT FIXTURES: TO BE PROVIDED BY OWNER.

2.3 CONDUITS: PROVIDE THE FOLLOWING TYPES OF RACEWAYS IN ACCORDANCE WITH THE SPECIFIC APPLICATION OF LOCATION INDICATED.

2.3.1 TYPICALLY USE ONLY ROB ROY CONDUIT TYPES "PERMA-COAT", "PLASTI-BOND" OR "KORKAP" ELECTRICAL CONDUITS AT FIBERGLASS TANK SUMPS OR WHERE BRAVO F-17-RR OR F-10-RR ENTRY FITTINGS ARE CALLED OUT FOR FIRST 10' OF RUN. TRANSITION TO RIGID NONMETALLIC CONDUIT (RNC) WHERE ALLOWED BY JURISDICTION. UNLESS NOTED OTHERWISE.

STP POWER CONDUITS MUST BE RUN IN SEPARATE RACEWAY. ENTIRE WIRING RUN MUST BE IN RIGID PVC COATED GALVANIZED STEEL CONDUIT. USE ONLY ROB ROY CONDUIT TYPES "PERMA-COAT", "PLASTI-BOND" OR "KORKAP" ELECTRICAL CONDUITS. NO PVC OR RNC CONDUIT ALLOWED.

RUN PVC COATED GALVANIZED STEEL FOR WIRING RUNS EXPOSED TO THE WEATHER; FOR ENCLOSING MAIN GROUNDING CONDUCTOR: WHERE REQUIRED FOR MECHANICAL PROTECTION OR WHERE SPECIFICALLY INDICATED.

WITH THE EXCEPTION OF THE FIRST 10' AND THE LAST 10' OF THE UNDERGROUND RUN AND ONLY WHERE AHJ ALLOWS, RIGID NONMETALLIC CONDUIT (RNC) IS ALLOWED FOR UNDERGROUND RUNS IF CONDUIT IS BURIED AT A MINIMUM OF 2'.

2.3.2 SEAL-OFFS: WHERE CONDUITS EXIT FLOOR OR CONCRETE AT DISPENSERS, AUTO GAUGING, FILL BUCKET, SUBMERSIBLE PUMPS AND N.E.C. CLASSIFIED AREAS (REF G9.1). SEAL-OFFS ARE ONLY REQUIRED ON CONDUITS THAT EXIT A CLASSIFIED AREA OR CONDUITS THAT RUN FROM DISPENSER TO DISPENSER. ALL CONDUITS THAT EXIT A CLASSIFIED AREA SHALL BE SEALED AT BOTH ENDS. SEAL-OFFS SHALL NOT BE REQUIRED FOR CONDUITS FROM SUMP TO SUMP.

2.3.3 N.E.C. APPROVED EXPLOSION PROOF WIRE PULL BOX.

2.4 CONDUCTORS:

2.4.1 FURNISH AND INSTALL COLOR CODED COPPER CONDUCTORS, 600 VOLT, OF SIZES INDICATED. MINIMUM SIZE #12 EXCEPT FOR SIGNAL AND CONTROL CIRCUITS AND WHERE OTHERWISE NOTED. TYPE TW (60 DEGREES CENTIGRADE) FOR GENERAL BRANCH CIRCUIT WIRING; TYPE THN OR THWN-2 (90 DEGREES CENTIGRADE) FOR SUPPLY CONNECTIONS TO LIGHT FIXTURES. INSTALL PER COLOR CODE OF NEC.

2.4.2 SHIELDED CABLES: PROVIDE SHIELDED CABLE FOR INTERCOM AS PER MANUFACTURER'S SPECIFICATIONS AND AS REQUIRED ON DRAWINGS.

VARIABLE SPEED PUMP CABLE:
- THWN-2 "12 AWG 4 CONDUCTOR 600V SHIELDED, GAS/OIL RESISTANT".

DATA COMMUNICATION CABLE:
- SHIELDED WIRE MUST NOT BE USED:
- 2 WIRE TWISTED PAIR (UTP) W/ 10-12 TWISTS PER FOOT.
- WIRING IS STRANDED ANNEALED COPPER TINNED WITH 18 AWG MINIMUM REQUIRED FOR RUNS UP TO 1000 FEET OR 14 AWG FOR RUNS UP TO 2600 FEET. DO NOT DAISY CHAIN COMMUNICATION WIRING.
- INSULATION SPEC IS 300V, PVC INSULATION, TYPE TFFN OR MTW, UL APPROVED GASOLINE AND OIL RESISTANT.

2.5 SPLICES AND CONNECTIONS: PROVIDE SPLICES ONLY IN READILY ACCESSIBLE OUTLET BOXES. PROVIDE INSULATED PRESSURE CONNECTORS OR "CRIMP-ON" SLEEVES WITH OVERALL NYLON INSULATORS FOR CONDUCTORS. CONNECTORS SHALL BE 3M "SCOTCHLOK", BUCHANNAN SPLICE CAPS WITH INSULATED WRAP, OR IDEAL "CRIMP-SLEEVES" WITH SCAP CAP INSULATOR OR EQUAL.

2.6 PANEL BOARDS:

2.6.1 BRANCH CIRCUIT PANEL BOARDS: PROVIDE FLUSH-MOUNT CIRCUIT BREAKER TYPE PANEL BOARDS WITH THERMAL MAGNETIC, MOLDED CASE, "SQUARE D" TYPE NLAB OR APPROVED EQUAL, WITH PLUG-IN CIRCUIT BREAKERS, "SQUARE D" TYPE NLQT. PROVIDE GROUNDING TERMINAL BLOCK IN EACH PANELBOARD. SEE INDIVIDUAL PANEL SCHEDULE ON DRAWINGS.

2.6.2 SUBSTITUTES: DISTRIBUTION EQUIPMENT EQUIVALENT IN TYPE, CLASSIFICATION AND QUALITY IN ACCORDANCE WITH NEMA STANDARDS AS MANUFACTURED BY G.E., CUTLER-HAMMER, FEDERAL PACIFIC, ITE, SQUARE D AND WESTINGHOUSE ARE ACCEPTABLE AS SUBSTITUTES ONLY WHEN APPROVED IN WRITING.

SECTION VII ELECTRICAL WORK - CONTINUED

PART 3 - EXECUTION

3.1 GENERAL: COORDINATE TIME SCHEDULES, INSTALLATION, HOOKUPS AND MISCELLANEOUS PROCEDURES WITH ALL OTHER TRADES THAT WILL BE INVOLVED TO EXPEDITE THE COMPLETION OF THE CONTRACT. THE ELECTRICAL SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE PROPER INSTALLATION OF THE ELECTRICAL WORK.

3.2 CONDUITS: FURNISH AND INSTALL A COMPLETE OVERALL CONDUIT RACEWAY SYSTEM FOR ALL WIRING AND CONDUCTORS. PROVIDE SIZES AND RACEWAYS AS INDICATED ON DRAWINGS OR AS REQUIRED BY NATIONAL ELECTRICAL CODE FOR CONDUCTORS TO BE CONTAINED. ALL RACEWAYS SHALL CONFORM TO THE FOLLOW REQUIREMENTS:

3.2.1 CONCEAL ALL CONDUIT RUNS EXCEPT WHERE EXPOSED RUNS ARE AUTHORIZED BY OWNER'S CONSTRUCTION MANAGER IN WRITING.

3.2.2 ACTUAL CONDUIT RUNS ARE NOT GENERALLY INDICATED; CONDUITS AT TANKS SHALL NOT CROSS OVER TANKS. PLACE CONDUIT THROUGH EACH END OF TANK EXCAVATION AND PLACE FIELDS PARALLEL WITH AXIS OF TANKS.

3.2.3 CLEAN AND DRY ALL RACEWAYS THOROUGHLY BEFORE CONDUCTORS ARE PULLED IN.

3.2.4 FLASH AND COUNTER FLASH CONDUITS WHICH PENETRATE THE CANOPY DECKING.

3.2.5 PROVIDE SEAL-OFF FITTINGS WHERE CONDUIT RUNS ENTER OR LEAVE HAZARDOUS AREAS OF DISSIMILAR CONDITIONS SUCH AS TEMPERATURE, HUMIDITY, ETC.

3.2.6 FURNISH AND INSTALL COMPLETE RACEWAY SYSTEM, INCLUDING CONDUITS AND OUTLETS, AS INDICATED AND AS REQUIRED FOR INTERCOM SYSTEM, GAS PRICE SIGNS, SECURITY LIGHTING AND CANOPY LIGHTING SYSTEM, AND LIGHTED FASCIA SYSTEM WHERE APPLICABLE. CONDUIT AMOUNTS AND SIZES SHALL BE AS SHOWN ON GASOLINE DRAWINGS. ADDITIONAL CONDUITS AND CIRCUITS WILL BE REQUIRED FOR LIGHTED FASCIA SYSTEMS. PROVIDE AS REQUIRED.

3.3 LIGHTING: INSTALL ALL LIGHTING FIXTURES AND LAMPS AS INDICATED ON DRAWINGS. SECURELY MOUNT ALL FIXTURES; PROVIDE ALL ADDITIONAL HANGERS AND SUPPORTS AS NECESSARY TO SECURELY FASTEN AND SUPPORT FIXTURES. CLEAN ALL FIXTURES AND LAMPS UPON COMPLETION OF THE PROJECT. CONTRACTOR SHALL VERIFY AMOUNT AND TYPE OF ISLAND/CANOPY LIGHTING SYSTEMS. SHOULD ADDITIONAL CONDUITS/CIRCUITS BE REQUIRED, VERIFY THROUGH LOCAL CONSTRUCTION OFFICE AND PROVIDE AS REQUIRED.

3.4 SIGNS AND LIGHTED FASCIA: VERIFY FINAL LOCATIONS AND TYPE WITH OWNER. FURNISH AND INSTALL ALL CONDUITS AND WIRES WITH STUB-OUTS AS DIRECTED. MAKE FINAL CONNECTIONS AS REQUIRED.

3.5 OUTLETS: COORDINATE LOCATION OF ALL ELECTRICAL EQUIPMENT, INCLUDING INTERCOM OUTLETS, SWITCHES, RECEPTACLES, CONTROLLERS, PANEL BOARDS, SWITCH GEAR, ETC., TO AVOID INTERFERENCE AND OBSTRUCTIONS WITH EQUIPMENT OF OTHER CRAFTS AND TRADES SO THAT ELECTRICAL EQUIPMENT WILL NOT BE BLOCKED OR MADE INACCESSIBLE OR IMPERMEABLE. PROVIDE WEATHERPROOF OUTLETS WHERE EXPOSED TO THE WEATHER OR TO MOISTURE.

3.6 ISOLATED GROUND: IT IS MANDATORY THAT GASOLINE EQUIPMENT REQUIRING ISOLATED GROUND SHALL BE PROVIDED WITH SAME. MINIMUM CIRCUITS REQUIRED, BUT NOT LIMITED TO, SHALL BE: INTERCOM, GAS CONSOLE AND GASOLINE TANK MONITORING SYSTEM.

3.7 EXCAVATION AND BACK FILLING: ALL EXCAVATION AND BACK FILLING NECESSARY FOR THE INSTALLATION OF ELECTRICAL WORK SHALL BE INCLUDED IN THIS SECTION AND COMPLY WITH SECTION III, EARTHWORK.

3.8 OPERATING AND ACCEPTANCE TESTS:

3.8.1 CONDUCT OPERATING TEST ON ENTIRE ELECTRICAL INSTALLATION; ALL SYSTEMS MUST BE COMPLETE AND IN GOOD OPERATING ORDER. REFER TO STARTUP AND FINAL CHECK-OUT OF SYSTEM COVERED ELSEWHERE. DO NOT START OR OPERATE EQUIPMENT WITHOUT SPECIFIC DIRECTIVES OF OWNER'S SPECIFIED REPRESENTATIVE. ANY DAMAGE TO OWNER'S EQUIPMENT DUE TO DEFECTIVE INSTALLATION AND/OR OPERATION WILL BE THE RESPONSIBILITY OF THAT SUBCONTRACTOR FOR CORRECTION, REPLACEMENT AND/OR MONETARY COMPENSATION AS REQUIRED.

3.8.2 MAKE INSULATION TESTS ON MAIN SERVICE EQUIPMENT AND ALL FEEDERS AND PANELBOARDS.

3.8.3 TEST GROUND: RESISTANCE TO GROUND SHALL NOT EXCEED 25 OHMS.

3.8.4 INSPECT ALL PANELBOARDS. ALL CONNECTIONS MUST BE TIGHT AND SECURE.

3.9 "AS-BUILT" DRAWINGS: FURNISH OWNER'S CONSTRUCTION MANAGER WITH ONE SET OF MARKED-UP PRINTS (HARDCOPY) AND ALSO IN AUTO CAD 2004 COMPATIBLE DRAWING FILE FORMAT (.DWG) SHOWING "AS-BUILT" INSTALLATION.

3.10 FINAL ACCEPTANCE: UPON COMPLETION OF WORK, PRESENT CERTIFICATE OF APPROVAL OF LOCATION OR GOVERNING INSPECTION AUTHORITY.

3.11 CLEANUP: CLEAN UP ALL DEBRIS CAUSED BY WORK OF THIS SECTION, KEEPING THE PREMISES CLEAN AND NEAT AT ALL TIMES.

SECTION VIII PAINTING

PART 1 GENERAL

1.1 SCOPE: THIS SECTION COVERS THE FURNISHING OF ALL LABOR, MATERIALS, SERVICES, EQUIPMENT AND APPLIANCES IN CONJUNCTION WITH OR PROPERLY INCIDENTAL TO THE COMPLETION OF ALL PAINTING OF SURFACES COMPLETE, INCLUDING PAINTING OF THE FOLLOWING SURFACES:

1.1.1 MISCELLANEOUS METAL, DOWNSPOUTS, COLUMNS, POSTS, ISLAND FORMS, VENT RISERS, MANHOLE COVERS AND ELECTRICAL CONDUITS.

1.2 PAINTING DOES NOT INCLUDE:

1.2.1 PAINTING CANOPY SOFFITS.

1.2.2 PAINTING LIGHT FIXTURES.

1.2.3 PAINTING FUEL EQUIPMENT.

1.3 COLOR SCHEDULE: COLOR OF PAINTS SHALL BE AS LISTED IN THE 7-ELEVEN STORE STANDARDS MANUAL.

SECTION VIII CONTINUED

PART 2 - PRODUCTS

2.1 PAINT MANUFACTURERS AND PRODUCTS: PAINTING SYSTEM AS SPECIFIED WITHIN THE 7-ELEVEN STORE STANDARDS MANUAL.

2.2 PAINTING COATS AND PRODUCTS: SUPPLIED BY CONTRACTOR

2.2.1 PAINT ALL MANHOLES COVERS AND 4" SURROUNDING CONCRETE, INSIDE AND OUT, IN ACCORDANCE WITH STANDARD INDUSTRY COLOR CODE AS SHOWN:

API COLOR CODES:

OBSERVATION WELL	PROVIDED BY MANUFACTURER
UNLEADED REGULAR	WHITE W/BLACK CROSS
UNLEADED PREMIUM	RED W/WHITE CROSS
UNLEADED REGULAR W/EXTENDER	WHITE W/BLACK CROSS & BLACK BAND
UNLEADED PREMIUM W/EXTENDER	RED W/WHITE CROSS & WHITE BAND
DIESEL	SOLID YELLOW
VAPOR RECOVERY	SOLID ORANGE
KEROSENE	SOLID BROWN
INTERSTITIAL	BLACK

2.2.2 PAINT FASCIA SIGN FRAMES. PAINT GLOSSY WHITE - 2 COATS.

PART 3 - EXECUTION

3.1 PROTECTION: COVER ENTIRE CONCRETE SURFACES. NO PAINT OR SOLVENT SHALL BE ALLOWED TO COME IN CONTACT WITH CONCRETE SURFACES. WHERE IT BECOMES NECESSARY, IN ORDER TO EXECUTE HIS OWN WORK, FOR PAINTER TO REMOVE COVERINGS, PLATES, ETC., PLACED BY OTHER CONTRACTORS IN ANY BRANCH OF THE WORK, HE SHALL REPLACE SAME IN PROPER MANNER. IN SITUATIONS WHERE SAID COVERINGS, PLATES, ETC., CANNOT BE READILY REMOVED, PAINTER SHALL PROTECT THE WORK IN SOME OTHER SATISFACTORY MANNER. OILY RAGS AND WASTE MUST BE REMOVED EVERY NIGHT. UNDER NO CIRCUMSTANCES SHALL THEY BE ALLOWED TO ACCUMULATE. PAINTING SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE TO THE WORK OF OTHER SUBCONTRACTORS AND SHALL REPAIR OR REPLACE AS NECESSARY TO THE SATISFACTION OF THE OWNER.

3.2 PREPARATION OF SURFACES: INSPECT ALL SURFACES TO BE PAINTED. REPORT ANY DISCREPANCIES TO THE CONTRACTOR PRIOR TO START OF WORK. STARTING OF PAINT APPLICATION SHALL CONSTITUTE ACCEPTANCE OF SURFACES AS SUITABLE FOR THE RECEPTION OF PAINT APPLICATION. ALL SURFACES SHALL BE CLEAN AND DRY, BETWEEN 50 AND 90 DEGREES FAHRENHEIT AT TIME OF PAINT APPLICATION. CLEAN METAL OF MILL SCALE, RUST, OIL, GREASE AND FOREIGN MATTER. CLEAN GALVANIZED METAL ACCORDING TO SSPC-SP 1-63 SOLVENT CLEANING. PROTECT ADJACENT AND FINISHED WORK FROM PAINT.

3.3 APPLICATION OF PAINT: DO NOT THIN, ADULTERATE OR CHANGE MATERIALS EXCEPT AS RECOMMENDED BY MANUFACTURER. EMPLOY ONLY SKILLED MECHANICS FOR WORK. ALL PAINTING SHALL BE BRUSHED, SPRAYED OR ROLLED EVENLY FOR THOROUGH COATS WITHOUT RUNS, SAGS OR OTHER BLEMISHES. ALLOW EACH COAT TO DRY BEFORE APPLYING SUBSEQUENT COATS. ALL SURFACES TO RECEIVE A MINIMUM OF 2 COATS AS NECESSARY TO ACHIEVE AN APPROVED FINISH. APPLICATION OF PAINT, ETC., SHALL BE IN STRICT COMPLIANCE WITH MANUFACTURER'S DIRECTIONS.

3.4 CLEANUP: CLEAN UP ALL DEBRIS CAUSED BY THE WORK OF THIS SECTION, KEEPING THE PREMISES CLEAN AND NEAT AT ALL TIMES.

SECTION IX CANOPIES

PART 1 - GENERAL

1.1 SCOPE: THIS SECTION COVERS THE FURNISHING AND INSTALLATION OF ALL ITEMS FOR THE INSTALLATION OF A COMPLETE GASOLINE CANOPY INCLUDING:

1.1.1 COMPLETE FABRICATION DRAWINGS INCLUDING FOOTINGS DESIGN.

1.1.2 COMPLETE ABOVE GROUND STRUCTURAL SUPPORT SYSTEM.

1.1.3 STEEL ROOF DECK AND GUTTER, 20 GA WHITE EMBOSSED.

1.1.4 ROOF BRACING.

1.1.5 CAP FLASHING.

1.1.6 DOWN SPOUTS - INTERNAL INSIDE COLUMNS.

1.1.7 PERMITS AND INSPECTIONS DONE BY OTHERS.

1.1.8 INSTALLATION AND FRAMING FOR OWNER SUPPLIED FASCIA SIGNS (ELECTRICAL BY OTHERS).

1.1.9 INSTALLATION AND FRAMING FOR FASCIA MATERIAL AS PER OWNER SPECIFICATIONS.

PART 2 - PRODUCTS

2.1 EMBOSSED ROOF STEEL DECK: ROOF STEEL DECK SHALL BE 2 1/4" MINIMUM DEEP, 20 GAUGE HIGH REFLECTIVE WHITE STEEL WITH MINIMUM SECTION MODULES OF 0.25 IN 1/4 3 MOMENT OF INERTIA OF 0.030 IN 14/4 4. IN CERTAIN AREAS, ROOF DECK WILL BE ALUMINUM. VERIFY WITH LOCAL CONSTRUCTION MANAGER.

2.2 STRUCTURAL STEEL:

2.2.1 ALL STRUCTURAL STEEL TO BE A.S.T.M. A-36 AND SHALL COMPLY WITH THE STANDARD SPECIFICATIONS FOR STRUCTURAL STEEL FOR BUILDINGS OF A.I.S.C. AND WITH THE A.I.S.C. CODE OF STANDARD PRACTICE (LATEST EDITION).

2.2.2 STRUCTURAL BOLTS SHALL CONFORM TO THE STANDARD SPECIFICATION A.S.T.M. A-307 AND SHALL BE PROVIDED WITH WASHERS UNDER THE NUTS.

2.2.3 ALL OTHER BOLTS SHALL BE A-307 AND SHALL CONFORM TO A.S.T.M. STANDARDS, WITH WASHER REQUIRED.

2.2.4 ALL HIGH STRENGTH BOLTS SHALL BE TORQUED TO PROVIDE A MINIMUM TENSION IN BOLT OF 90% OF MINIMUM PROOF LOAD OF THE BOLT.

2.2.5 TUBE COLUMNS SHALL COMPLY WITH A-500, GRADE B.

2.2.6 ALL TUBE COLUMNS SHALL BE 46 KSI STEEL. 2.2.7 ALL WELDING SHALL BE WITH E70XX ELECTRODES AND BE ACCOMPLISHED BY CERTIFIED WELDERS.

Rev. #	Date	Description

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

FUELING SPECIFICATIONS

CORE STATES GROUP
CORESTATES, INC.
TEXAS REGISTERED ENGINEERING FIRM NUMBER: F-9349 EXPIRATION: 07/31/2024
212 SE 34th St. Ste 2 Bentonville, AR 72712 479.986.4400 core-states.com

Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

STATE OF TEXAS
DAVID M. LEIFFER
101813
LICENSED
PROFESSIONAL ENGINEER
03-06-2024

SHEET:
G16.0
FUELING - USA

PRINTED BY: MBRAGG
DRAWING NAME: 36257 – G16.0 FUELING SPECIFICATIONS.DWG
PRINT DATE: Mar 06, 2024 – 4:39pm

PERFORMANCE SPECIFICATION - CONT.

SECTION IX CANOPIES - CONTINUED

PART 2 - EXECUTION

2.3 FASCIA:

2.3.1 VERTICAL SUPPORTS SHALL BE DESIGNED AND SPACED PER ENGINEERED (DESIGNED TO LOCAL CODES) STRUCTURAL DRAWINGS SUPPLIED BY CANOPY MANUFACTURER. SCREWS FOR FASCIA SHALL BE CARBON STEEL CADMIUM PLATED OR GALVANIZED - SIZE AS REQUIRED.

2.3.2 REFER TO PROJECT DRAWINGS FOR FASCIA MATERIAL AND INSTALLATION.

2.3.3 MATERIAL SHALL BE ONE OF THE FOLLOWING:

A. PRE FINISHED METAL FASCIA SYSTEM.
B. PRE FINISHED FASCIA MATERIAL AS SELECTED.

PART 3 - GENERAL

3.1 FABRICATION DRAWINGS:

3.1.1 CANOPY CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ENGINEERED AND STAMPED SHOP DRAWINGS FOR OVERHEAD STRUCTURE AND FOUNDATION SYSTEMS.

3.1.2 DRAWINGS SHALL SHOW PROJECT LOCATION AND ADDRESS.

3.1.3 ORIGINAL ENGINEER'S STAMP FOR APPROPRIATE STATE SHALL BE AFFIXED TO EACH PAGE OF DRAWINGS.

3.1.4 SHOP DRAWINGS SHALL SPECIFICALLY CALL OUT SOILS REPORT NUMBER AND DATE FOR WHICH CANOPY FOOTINGS WERE DESIGNED.

3.1.5 SHOP DRAWINGS SHALL SPECIFICALLY CALL OUT SIZE, WEIGHT, TYPE AND NUMBER OF ALL STRUCTURAL MEMBERS.

3.1.6 ALL DESIGN LOADS SHALL COMPLY WITH CURRENT BUILDING CODES AND LOCAL BUILDING DEPARTMENT REQUIRED LOADINGS, WHICHEVER IS MOST STRINGENT. MINIMUM DESIGN LOADS SHALL BE CONSIDERED TO BE: WIND 100#, LIVE 35#, UPLIFT 35# AND DEAD LOAD 35# OR AS LOCAL STRUCTURAL DESIGN DICTATES. IF APPLICATION IS SUBJECT TO HIGH ALTITUDE (SNOW) LOADING, DESIGN SHALL BE ADJUSTED TO COMPLY ACCORDINGLY.

3.1.7 DEFLECTION OF ALL STRUCTURAL MEMBERS SHALL BE LIMITED TO SPAN/180 FOR L.L. ONLY.

3.1.8 ATTACH DECK STRUCTURAL SUPPORTS PER ENGINEERED DRAWINGS.

3.1.9 ROOF DECK SHALL BE AN ICC-ES APPROVED DIAPHRAGM DECK AND ATTACHED IN A MANNER THAT COULD BE CONSIDERED A DIAPHRAGM. AN ALTERNATE TO THIS IS 1/2" DIAMETER STEEL ROD DIAGONAL X-BRACING WITH TURNBUCKLES. LAYOUT OF ROD BRACING AND CONNECTIONS TO STRUCTURAL MEMBERS SHALL BE APPROVED BY STRUCTURAL ENGINEER.

3.1.10 CONCRETE FOOTINGS SHALL BE MADE WITH STONE AGGREGATE AND SHALL HAVE A COMPRESSIVE STRENGTH TO A MINIMUM 3000 LBS. PER SQUARE INCH WITHIN 28 DAYS AFTER POURING.

3.1.11 ALL FOUNDATION METAL REINFORCEMENT SHALL BE OF FORMED TYPE BARS (EXCEPT #2 BARS) AND SHALL CONFORM TO THE REQUIREMENTS OF THE "STANDARD SPECIFICATION A.S.T.M. 615 GRADE 4 40".

3.1.12 THE SHOP DRAWINGS SHALL EXPLICITLY SHOW LOCATION OF DOWN SPOUTS, INTERIOR PVC DRAINS IN WARM WEATHER AREAS, ETC., AS RELATED TO ANY AND ALL UTILITIES AND/OR PIPING AT COLUMN LOCATIONS. ROOF DRAINS AND LEADERS SHALL BE DIRECTED DOWN THE INTERIOR CANOPY COLUMN EXITING SIDE OF ISLAND LEVEL OR ABOVE FINISH GRADE OF CONCRETE SIDE PAD ON DOWNHILL SIDE OF ISLAND.

3.1.13 INCLUDE IN DESIGN PROVISION FOR OVERFLOW DEVICE AT OPPOSITE CORNERS OF CANOPY.

3.1.14 CONSTRUCTION NOT SPECIFICALLY INDICATED SHALL BE ACCOMPLISHED PER MINIMUM REQUIREMENTS OF THE UNIFORM BUILDING CODE, LATEST EDITION.

3.1.15 IF THERE ARE ANY CONFLICTS BETWEEN LINES ON DRAWINGS AND GENERAL NOTES OR WITH SPECIFICATIONS, THE MOST STRINGENT REQUIREMENTS GOVERN.

3.1.16 ANY DEVIATION FROM THE PLANS OR SPECIFICATIONS SHALL BE APPROVED BY 7-ELEVEN, INC.'S CONSTRUCTION REPRESENTATIVE.

3.1.17 FABRICATION DRAWINGS SHALL BE DELIVERED TO APPLICABLE CONSTRUCTION OFFICE A MINIMUM OF 4 WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION. NO WORK SHALL COMMENCE PRIOR TO APPROVAL OF DRAWINGS BY 7-ELEVEN, INC.'S CONSTRUCTION REPRESENTATIVE.

SECTION IX CANOPIES - CONTINUED

PART 3 - GENERAL - CONTINUED

3.2 EXECUTION:

3.2.1 COORDINATE DELIVERY AND INSTALLATION WITH FUEL CONTRACTOR THROUGH LOCAL CONSTRUCTION OFFICE. MATERIALS SHALL BE STORED AT POSITION AS INDICATED BY FUEL CONTRACTOR.

3.2.2 CANOPY CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING FOOTING ANCHOR BOLTS AND TEMPLATE FOR DELIVERY TO FUEL CONTRACTOR 2 WEEKS PRIOR TO INSTALLATION. SIZE IN ACCORDANCE WITH SHOP DRAWINGS AND IN ACCORDANCE WITH FUEL CONTRACTOR'S SCHEDULE OF CONSTRUCTION.

3.2.3 FOOTINGS FOR CANOPY AND PLACEMENT OF ANCHOR BOLTS SHALL BE PERFORMED BY FUEL CONTRACTOR AS PER APPROVED SHOP DRAWINGS. TYPE OF CONCRETE SHALL BE AS PER SHOP DRAWINGS. TYPE, SIZE, AND PLACEMENT OF ALL REINFORCED STEEL SHALL BE AS PER SHOP DRAWINGS.

3.2.4 THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE STARTING WORK AND NOTIFY 7-ELEVEN, INC.'S CONSTRUCTION MANAGER IMMEDIATELY OF ANY DISCREPANCIES FOUND. REFER TO SITE PLAN FOR SIZE, TYPE AND PLACEMENT OF CANOPY

3.2.5 CANOPY CONTRACTOR SHALL BE RESPONSIBLE FOR BEING PROPERLY LICENSED IN LOCAL INSTALLATION AS WELL AS PROVIDING OWN PERMITS AS MAY BE REQUIRED. A COPY OF THE PERMIT MUST BE ON FILE IN THE LOCAL CONSTRUCTION OFFICE PRIOR TO COMMENCING WORK.

3.2.6 CANOPY CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING CONSTRUCTION OFFICE WITH ACCEPTABLE INSURANCE AS REQUIRED PER 7-ELEVEN, INC. INSURANCE SPECIFICATIONS AND STANDARD CONTRACT FOR CONSTRUCTION. INSURANCE SHALL BE IN EFFECT FOR DURATION OF WORK.

3.2.7 CANOPY CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL WORK OF OTHER CONTRACTORS ALREADY IN PLACE, AS MAY BE REQUIRED.

3.2.8 CANOPY CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING AND OBTAINING APPROVAL OF FUEL CONTRACTOR PRIOR TO PLACING OF ANY HEAVY EQUIPMENT ON TOP OF CONCRETE WORK ALREADY IN PLACE.

3.2.9 ALL FOOTINGS SHALL BE ON FIRM UNDISTURBED SOILS OR FILL COMPACTED TO 95% MAXIMUM DENSITY BASED ON A.S.T.M. D 1557-70. IF ANY POOR SOIL CONDITION IS DISCOVERED DURING EXCAVATION, THE DESIGN ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR SOIL BEARING VERIFICATION.

3.2.10 SUPPORTING COLUMNS SHALL BE PLACED AS PER 7-ELEVEN, INC. FUEL PLANS AND AS PER APPLICABLE SITE PLAN.

3.2.11 CANOPY SUPPORT COLUMNS SHALL BE CAPPED AT TOP.

3.2.12 ALL MATERIALS SHALL BE ALIGNED TRUE AND FLAT AND ALL PLANES SHALL BE FLAT, TRUE TO ESTABLISHED LINES WITH ALL SOFFITS BEING LEVEL AND VERTICAL WALLS CORRECT AND ACCEPTABLE. PARAPET FASCIA SHALL BE VERTICAL AND PLUMB. ALL INTERSECTIONS SHALL BE TRUE AND STRAIGHTEDGE LINES. MATERIALS SHALL BE LEFT IN ACCEPTABLE CONDITION TO BE PAINTED BY OTHERS. ALL METAL SHALL BE FREE OF DEBRIS AS MAY BE REQUIRED FOR FINAL PAINTING/FINISHING.

3.2.13 FUEL CONTRACTOR SHALL BE RESPONSIBLE FOR NON-SHRINK GROUT BENEATH BASE PLATE AND POURING OF CONCRETE AROUND CANOPY COLUMNS, COVERING ANCHOR BOLTS AS MAY BE REQUIRED.

3.2.14 CANOPY CONTRACTOR SHALL LEAVE ALL EXPOSED STRUCTURAL STEEL FREE OF DEBRIS, PRIMED AND READY FOR FINAL PAINTING BY FUEL CONTRACTOR.

3.3 RESPONSIBILITIES OF FUEL CONTRACTOR:

3.3.1 SHALL BE RESPONSIBLE FOR A MINIMUM OF 30 DAY NOTIFICATION OF DATE WHEN SITE WILL BE READY FOR INSTALLATION OF GASOLINE CANOPY.

3.3.2 UPON AGREED DATE BETWEEN FUEL CONTRACTOR AND CANOPY CONTRACTOR, THE SITE SHALL BE FREE OF MATERIAL, MOVABLE EQUIPMENT AND DEBRIS, LEVEL AND IN PROPER CONDITION FOR CANOPY INSTALLATION. FUEL CONTRACTOR SHALL PERFORM SITE WORK AS MAY BE REQUIRED TO COMPLY.

3.3.3 FUEL CONTRACTOR SHALL NOT INSTALL GASOLINE DISPENSERS PRIOR TO CANOPY ERECTION, UNLESS AGREED UPON IN WRITING BETWEEN THE CANOPY CONTRACTOR AND FUEL CONTRACTOR.

3.3.4 GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF CANOPY FOOTINGS AS DESIGNED IN SHOP DRAWINGS PROVIDED BY CANOPY MANUFACTURER, PROVIDING ALL STEEL, ETC., (WITH THE EXCEPTION OF ANCHOR BOLTS TO BE PROVIDED BY CANOPY CONTRACTOR). FOOTINGS SHALL BE POURED IN A SUFFICIENT AMOUNT OF TIME, SO PROPER CURING TIME IS ALLOWED.

3.3.5 FUEL CONTRACTOR SHALL BE RESPONSIBLE FOR PAINTING OF ALL METAL AND TRIM AS RELATED TO THE GASOLINE CANOPY AS PER 7-ELEVEN STORE STANDARDS MANUAL.

3.3.6 FUEL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WIRING AND INSTALLATION OF LIGHTS, SIGNS, SECURITY LIGHTS, ETC., IN CONJUNCTION WITH NORMAL GASOLINE INSTALLATION. G.C. SHALL CAULK SEAL ALL LIGHT FIXTURES TO CANOPY DECK.

3.3.7 FUEL CONTRACTOR SHALL BE RESPONSIBLE FOR LEAVING BLOCK OUTS AS MAY BY REQUIRED FOR INSTALLATION OF CANOPY IN ACCORDANCE WITH SHOP DRAWINGS. AND PLACEMENT OF ANCHOR BOLTS IN ACCORDANCE WITH SHOP DRAWINGS AS RELATED THERETO.

3.4 WARRANTIES: CANOPY CONTRACTOR SHALL WARRANTY, IN WRITING, COMPLETE CANOPY INSTALLATION FOR A MINIMUM PERIOD OF 2 YEARS. A 5 YEAR WARRANTY GUARANTEEING INSTALLATION TO BE FREE OF DESIGN AND INSTALLATION DEFECTS. EXCLUDING ACTS OF MAN, GOD AND NORMAL WEAR AND TEAR.

3.5 CLEAN-UP: CANOPY CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP AND REMOVAL FROM SITE ALL TRASH AND DEBRIS RESULTING FROM WORK RELATING TO INSTALLATION OF CANOPY.

SECTION X POST CONSTRUCTION TESTING REQUIREMENT

PROCEDURES FOR POST CONSTRUCTION TESTING

1.1 SCOPE OF WORK

THIRD PARTY TESTS ARE REQUIRED TO BE PERFORMED ON ANY POST CONSTRUCTION ACTIVITIES ASSOCIATED WITH NEW INSTALLATION, UPGRADE, REPLACEMENT OR REPAIR OF OR TO THE UNDERGROUND STORAGE TANK (UST) SYSTEMS, IF THE WORK INVOLVES PRODUCT PIPING, TANK SUMPS, DISPENSER SUMPS AND PANS OR SPILL CONTAINMENT BUCKETS.

TANKNOLOGY, INC IS CURRENTLY UNDER CONTRACT TO PERFORM ALL REQUIRED TESTS AS THE NATIONAL 3RD PARTY TESTING CONTRACTOR AND MUST BE USED TO PERFORM POST CONSTRUCTION TESTING TO ENSURE THAT 7-ELEVEN MAINTAINS CONTINUITY WITH THE COMPANY'S REGULATORY COMPLIANCE TESTING PROGRAM. THE ONLY EXCEPTION APPLIES IF LOCAL REGULATIONS REQUIRE THAT THE INSTALLATION CONTRACTOR PERFORM THE REQUIRED TESTS AND THE TESTS ARE WITNESSED ON SITE BY A REGULATORY ENTITY, IN THESE CASES THE INSTALLATION CONTRACTOR MUST SUBMIT DOCUMENTATION OF THE REGULATORY WITNESSED TESTS, AS WELL AS THE RESULT OF ANY SUCH TEST, DIRECTLY TO 7-ELEVEN, INC, COMPLIANCE DEPARTMENT.

IT WILL NOT BE NECESSARY FOR TANKNOLOGY TO RETEST A COMPONENT WHICH WAS TESTED BY THE CONTRACTOR, IF THAT TEST WAS WITNESSED BY A REGULATOR. IN THESE CASES THE CONTRACTOR MUST SUBMIT RESULTS OF THE TEST, AS WELL AS, COPIES OF REGULATOR INSPECTION REPORT WITHIN 48 HOURS OF COMPLETION OF THE TEST TO THE ADDRESS LISTED BELOW.

THE REQUIRED TESTS ARE DIVIDED INTO TWO CATEGORIES, PRE-FUEL TEST AND POST FUEL TEST.

THE TESTS PERFORMED DURING EACH PHASE ARE LISTED BELOW.

PRE-FUEL TEST - TEST PERFORMED BEFORE FUEL IS INTRODUCED OR DELIVERED INTO THE UST SYSTEM.

THE FOLLOWING TESTS ARE RECOMMENDED TO BE PERFORMED BEFORE FUEL IS INTRODUCED INTO THE UST SYSTEM:

PRE-FUEL TEST	ESTIMATED TEST DURATION
STP SUMPS	MINIMUM 4 HOURS
DISPENSER SUMPS/CONTAINMENT	MINIMUM 4 HOURS
SPILL CONTAINMENT BUCKETS	MINIMUM 1 HOUR

TANKNOLOGY MAY USE ONE OF THE FOLLOWING TEST METHODS: HYDROSTATIC, PRESSURE OR VACUUM.

WATER USED TO PERFORM THESE PRE-FUEL TESTS MAY BE DISCHARGED ON SITE AS LONG AS THE WATER WAS NOT IN CONTACT WITH ANY FUEL.

CONTRACTOR PREPARATION FOR PRE-FUEL (BEFORE DELIVERY) TESTING

- THE TANKS, PIPING AND DISPENSERS MUST BE ACCESSIBLE TO INCLUDE ASPHALT AND CONCRETE THAT CAN BE DRIVEN UPON.
- 110 VOLT AC CURRENT MUST BE AVAILABLE
- ALL PRODUCT PIPING, TANK SUMP, SPILL BUCKET AND DISPENSER SUMP/LINER WORK MUST BE COMPLETE AND COMPONENTS ACCESSIBLE.
- TEST VALVES MUST BE INSTALLED FOR THE SECONDARY PRODUCT PIPING.
- DISPENSERS DO NOT NEED TO BE IN PLACE AND PRODUCT PIPING DOES NOT NEED TO BE PURGED.
- AS AN OPTION TO SIGNIFICANTLY REDUCE TIME ON SITE, THE CONTRACTOR SHOULD FLOOD ALL TANK SUMPS AND DISPENSER SUMPS WITH CLEAN WATER THE NIGHT BEFORE THE SCHEDULED TESTING. WATER MUST BE ADDED TO A MINIMUM OF 3 INCHES ABOVE THE HIGHEST PENETRATION OR SEAM IN THE SUMP OR PAN.
- THE CONTRACTOR SHOULD ALLOW SEVERAL HOURS TO ALLOW THE WATER LEVEL TO STABILIZE AND MARK THE LEVEL OF THE WATER WITH A PERMANENT MARKER.

POST FUEL TEST - TEST PERFORMED AFTER FUEL IS INTRODUCED OR DELIVERED INTO THE UST SYSTEM.

POST-FUEL TEST	ESTIMATED TEST DURATION
TANK INTERSTICE	MINIMUM 1 HOUR PER TANK
TANK PRIMARY (TIGHTNESS)	MINIMUM 2 1/2 HOURS
LINE/PIPE INTERSTICE	MINIMUM 1 HOUR PER LINE/PIPE
LINE PRIMARY (TIGHTNESS)	COMPLETED DURING TANK TEST
LINE LEAK DETECTOR	COMPLETED DURING TANK TEST
STAGE II (WHERE APPLICABLE)	MINIMUM 3 HOURS
*AUTOMATIC TANK GAUGE (ATG) CERTIFICATION	MINIMUM 2 HOURS
OTHER (AS REQUIRED BY STATE OR LOCAL ORDINANCE	UNKNOWN

*DOES NOT INCLUDE NEW AUTOMATIC TANK GAUGE (ATG) INSTALLATION. CERTIFICATION OF NEW ATG IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR.

NOTE: WATER USED TO PERFORM TESTING OF (STP) SUMPS, DISPENSER SUMPS AND/OR SPILL BUCKETS, AFTER FUEL IS INTRODUCED/DELIVERED INTO THE UST SYSTEM CANNOT BE DISCHARGED ON SITE.

WATER THAT IS OR WAS IN CONTACT WITH FUEL MUST BE PROPERLY DISCHARGED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND/OR LOCAL REGULATIONS.

CONTRACTOR PREPARATION FOR POST-FUEL (AFTER DELIVERY) TESTING

- THE FUEL LEVEL MUST BE BETWEEN 70-80 PERCENT OF TANK CAPACITY
- COMPARTMENTALIZED TANKS MUST HAVE FUEL LEVELS WITHIN 10" OF EACH OTHER.

ALL FUELING INCLUSIVE OF STAGE I AND STAGE II VAPOR RECOVERY AREAS THE FOLLOWING CONDITIONS MUST APPLY.

- ALL PRODUCT PIPING MUST BE THOROUGHLY PURGED OF AIR AND VAPORS.
- THE DISPENSERS MUST BE SET AND OPERATIONAL TO INCLUDE ALL VAPOR VACUUM PUMPS AND OTHER STAGE II EQUIPMENT FULLY FUNCTIONAL. REPLACE FILTER AFTER PURGING.
- ALL HANGING HARDWARE MUST BE INSTALLED AND OPERATIONAL
- THE TANKS, PIPING AND DISPENSERS MUST BE ACCESSIBLE TO INCLUDE ASPHALT AND CONCRETE THAT CAN BE DRIVEN UPON.
-110 VOLT AC CURRENT MUST BE AVAILABLE
- TEST VALVES MUST BE INSTALLED FOR THE SECONDARY PRODUCT PIPING.

CONTRACTOR NOTIFICATION TO TESTING COMPANY (TANKNOLOGY):

IT IS RECOMMENDED THAT THE CONTRACTOR PROVIDE NOTIFICATION TO TANKNOLOGY OF THE NEED TO PERFORM TESTS AT LEASE 14 DAYS PRIOR TO THE ANTICIPATION TEST DATE. HOWEVER, TO ENSURE TESTS ARE CONDUCTED IN A TIMELY MANNER A MINIMUM OF FIVE (5) DAYS IS REQUIRED. TANKNOLOGY UNDERSTANDS THAT ACTUAL DATE MAY CHANGE, BY PROVIDING THERE WITH AS MUCH TIME AS POSSIBLE ALLOWING THEM TO MAINTAIN A TIME SLOT IN THEIR SCHEDULE TO SHIFT AS NECESSARY. THE CONTRACTOR MUST KEEP TANKNOLOGY APPRISED OF THE ANTICIPATED DATE AND TIME THAT THE TESTING WILL BE NEEDED AS PROJECTED DATES CHANGE.

Rev. #	Date	Description

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

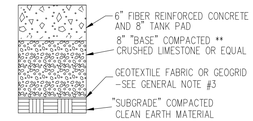
FUELING SPECIFICATIONS

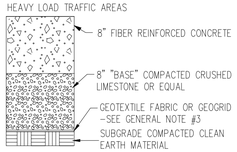
Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

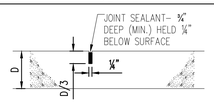
STATE OF TEXAS
DAVID M. LEIFFER
101813
LICENSED
PROFESSIONAL ENGINEER
03-06-2024

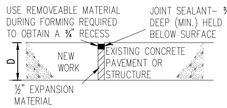
SHEET:
G17.0
FUELING - USA

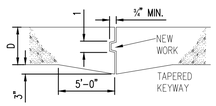
PRINTED BY: MBRAGG
DRAWING NAME: 36257 - G17.0 FUELING SPECIFICATIONS.DWG
PRINT DATE: Mar 06, 2024 - 4:39pm

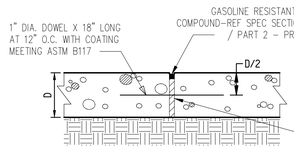


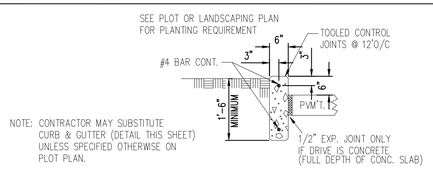


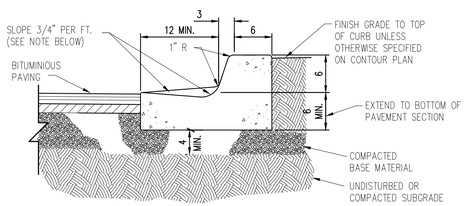


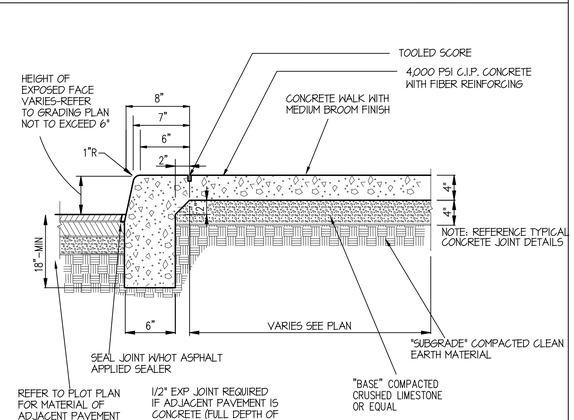


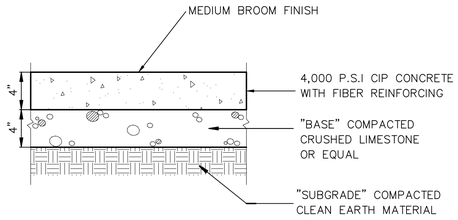


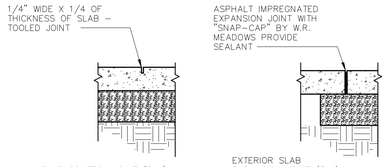


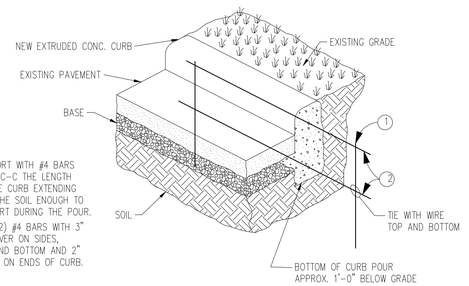


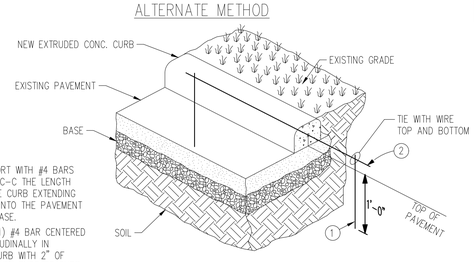


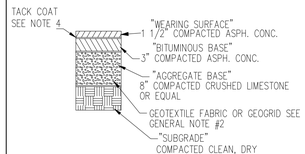


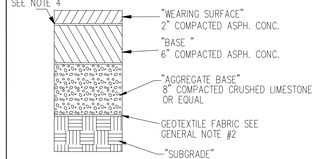


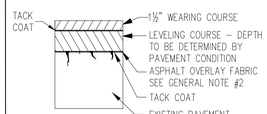


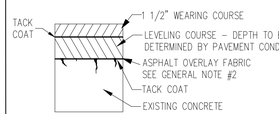


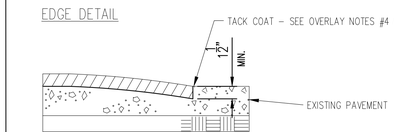












CONCRETE PAVEMENT INSTALLATION

NORMAL STRENGTH PAVEMENT DETAIL

AUTO PARKING AREAS , AND
OTHER LIMITED SERVICE TRAFFIC AREAS

HIGH STRENGTH PAVEMENT DETAIL

HEAVY LOAD TRAFFIC AREAS

CONCRETE PAVING GENERAL NOTES:

1. SEE TANK AND PIPING DRAWING PQ-4.1. FOR ADDITIONAL REQUIREMENTS FOR TANK SLABS.
2. SEE DRAWING #CIS-A (FOR AUTO) AND CIS-CFL (FOR TRUCK) ON ADDITIONAL REQUIREMENTS FOR DISPENSER ISLAND SLABS.
3. A GEOTEXTILE FABRIC OR GEOGRID IS ONLY NEEDED WHEN THE GEOTECHNICAL REPORT AND/OR A GEOTECH EXPERT REQUIRES IT FOR THE SPECIFIC SITE'S SOIL CONDITIONS.
4. UNDISTURBED SOIL OR COMPACTED BACK FILL NOT LESS THAN 95% OF MODIFIED PROCTOR DENSITY (AASHTO-T-180)

PAVING EXECUTION NOTES:

1. LOCATE AND INSTALL CONSTRUCTION, ISOLATION, AND EXPANSION JOINTS AS INDICATED OR REQUIRED.
2. PLACE CONCRETE IN A CONTINUOUS OPERATION WITHIN PLANNED JOINTS OR SECTIONS. DO NOT ADD WATER TO ADJUST SLUMP.
3. FLOAT SURFACES TO TRUE PLANES WITHIN A TOLERANCE OF 1/4INCH IN 10 FEET.
4. TOOL EDGES AND JOINTS TO A RADIUS OF 1/4INCH FOR SIDEWALKS.
5. ALLOW CONCRETE PAVING TO CURE FOR A MINIMUM OF 28 DAYS AND DRY BEFORE STARTING PAVEMENT MARKING.
6. APPLY TRAFFIC PAINT WITH MECHANICAL EQUIPMENT TO A MINIMUM WET FILM THICKNESSOF 15 MILS.
7. PROTECT CONCRETE PAVING FROM DAMAGE. EXCLUDE TRAFFIC FROM PAVING FOR AT LEAST 14 DAYS.

* CONTRACTOR MUST REFER TO THE GEOTECH REPORT FOR PAVEMENT AND FOUNDATION DESIGN AND CONSTRUCTION RECOMMENDATIONS

** COMPACTION IS NOT REQUIRED OVER THE TANK PIT(S)

CONCRETE PAVEMENT JOINT DETAILS

TYPE OF JOINT	USE DESCRIPTION	DETAIL
A. CONTROL JOINT 1. SAWN 2. PREMOLD STRIP 3. HAND FORMED AND SAWN AT CRITICAL JOINTS	USE SPECIFICATION ACI 360R-06 TO PLACE CONTROL JOINTS SO AS TO UNIFORMLY DIVIDE SLABS INTO NOMINAL 12' x 12' (NORMAL STRENGTH) OR 16' x 16' (HIGH STRENGTH) SECTIONS. (SEAL CONTROL JOINTS ONLY IF SPECIFIED ON DRAWINGS OR BY OWNER'S REPRESENTATIVE.)	
B. EXPANSION JOINT (ISOLATION JOINT)	PLACE AGAINST CONCRETE TANK SLAB, ABUTTING ROADWAY PAVEMENTS AND STRUCTURES (BUILDINGS, CANOPY COLUMNS, CATCH BASINS, ETC.)	
C. CONSTRUCTION JOINT	CONSTRUCTION JOINTS MUST BE APPROVED BY OWNER'S REPRESENTATIVE. PLACE WHEN CONTINUOUS POUR OPERATIONS ARE SUSPENDED FOR MORE THAN 30 MINUTES.	OR

CONCRETE SIDEWALK PAVEMENT

SLAB CONTROL JOINT (C.J.)

EXTERIOR SLAB
EXPANSION JOINT (E.J.)

FOR 5' OR 8' WALKS, INSTALL A CONTROL JOINT EVERY 5'. IN 10' WALKS, INSTALL A CONTROL JOINT EVERY 5' AND ONE IN THE CENTER (5' FROM THE BACK OF THE BUILDING FOR EXAMPLE)

DETAILS ONLY APPLY TO BUILDING SIDEWALK. THEY DO NOT APPLY TO INTERIOR SLAB OR SITE CONCRETE.

SIDEWALK JOINTS

PREFERRED METHOD

① SUPPORT WITH #4 BARS 4'-0" C-C THE LENGTH OF THE CURB EXTENDING INTO THE SOIL ENOUGH TO SUPPORT DURING THE POUR.

② USE (2) #4 BARS WITH 3" OF COVER ON SIDES, TOP AND BOTTOM AND 2" COVER ON ENDS OF CURB.

ALTERNATE METHOD

① SUPPORT WITH #4 BARS 4'-0" C-C THE LENGTH OF THE CURB EXTENDING 1'-0" INTO THE PAVEMENT AND BASE.

② USE (1) #4 BAR CENTERED LONGITUDINALLY IN THE CURB WITH 2" OF COVER ON ENDS OF CURB.

COLD WEATHER CURB INSTALLATION

FOR USE WHEN COLD WEATHER CONDITIONS CAUSE ASPHALT PAVEMENT TO BE PLACED BEFORE THE CONCRETE CURB.

CONCRETE CURBS

NOTE: CONTRACTOR MAY SUBSTITUTE CURB & GUTTER (DETAIL THIS SHEET) UNLESS SPECIFIED OTHERWISE ON PLOT PLAN.

CAST-IN-PLACE CONCRETE CURB

PREFERRED

NOTE: GUTTER TO BE SLOPED DOWNGRADIENT TOWARDS CURB WHEN SITE GRADE IS TOWARDS CURB. GUTTER TO BE SLOPED DOWN GRADIENT AWAY FROM CURB WHEN SITE GRADE IS AWAY FROM CURB. MAY BE MACHINE FORMED.

STRAIGHT CONCRETE CURB & GUTTER

NOTE: 1. TYPICALLY THERE IS 0" CURBING AROUND THE BUILDING
2. EXCEPTION: CA REQUIRES SIDEWALK CURBING AROUND THE BUILDING

ASPHALT PAVEMENT INSTALLATION

ASPHALT SEALING

1. SURFACE CLEANING:
   THE SURFACE TO BE SEALED SHALL BE FREE FROM DIRT AND OTHER FOREIGN MATTER. ANY ACCUMULATIONS OF OIL OR GREASE SHALL BE CLEANED OFF THE PAVEMENT WITH DETERGENT SOLUTION, THE RESIDUE OF WHICH SHALL BE THOUROUGHLY WASHED AWAY WITH CLEAN WATER BEFORE SEALANT IS APPLIED.
2. SEALING:
   THE SEAL COATING MATERIAL SHALL BE COMPRISED OF A RUBBERIZED COAL-TAR PITCH EMULSION AND SHALL MEET OR EXCEED FEDERAL SPECIFICATION R-P-355e. SUPPLIED IN CONCENTRATED FORM, IT SHALL BE DILUTED A MINIMUM OF 15% AND A MAXIMUM OF 25% WITH FRESH, CLEAN WATER. THE SEALANT MATERIAL SHALL CONTAIN 5-6 LBS. PER GALLON OF FINE, CLEAN, DRY SILICA SAND MEETING THE FOLLOWING GRADATION:

SIEVE SIZE	% PASSING
#16	100
#30	80-100
#50	10-60
#100	0-5

THE SEALANT SHALL BE APPLIED TO THE PAVEMENT IN TWO COATS AT THE RATE OF 0.08 TO 0.12 GALLONS PER SQUARE YARD. A LATEX ADDITIVE MAY ALSO BE ADDED TO THE SEALANT TO ALLOW FOR QUICKER DRYING TIME IN THOSE AREAS SPECIFIED BY OWNER'S REPRESENTATIVE.

NORMAL STRENGTH PAVEMENT

PARKING AREAS , AND OTHER LIMITED SERVICE TRAFFIC AREAS

GRANULAR BASE (PREFERRED)

ASPHALT PAVEMENT GENERAL NOTES:

1. ALL WORK SHALL BE IN CONFORMANCE WITH OWNER'S SPECIFICATIONS FOR ASPHALTIC CONCRETE PAVING.
2. A GEOTEXTILE FABRIC OR GEOGRID IS ONLY NEEDED WHEN THE GEOTECHNICAL REPORT AND/OR A GEOTECH EXPERT REQUIRES IT FOR THE SPECIFIC SITE'S SOIL CONDITIONS.
3. FOR SUBSURFACE DRAINAGE OR STABLITY ISSUES DURING CONSTRUCTION (UNDER DIRECTION BY GEOTECH EXPERT)":
   A. SUBSURFACE DRAINAGE ISSUE - REFER TO GUIDELINES FOR DEWATERING ISSUES TO DERIVE ACCEPTATBLE OPTIONS.
   B. SUBSURFACE STABLITY ISSUE - INSTALL GEOGRID PER GEOTECH EXPERT RECOMMENDATION.

HIGH STRENGTH PAVEMENT

HEAVY LOAD TRAFFIC AREAS

FULL DEPTH

* CONTRACTOR MUST REFER TO THE GEOTECH REPORT FOR PAVEMENT AND FOUNDATION DESIGN AND CONSTRUCTION RECOMMENDATIONS

ASPHALT OVERLAY DETAIL

ASPHALT SUBBASE

CONCRETE SUBBASE

OVERLAY DETAIL NOTES:

1. THE OVERLAY SHALL BE PLACED IN ACCORDANCE WITH OWNER'S SPECIFICATIONS.
2. ALL FAILED AREAS SHALL BE REPAIRED WITH PROPER PATCHES BEFORE OVERLAY IS PLACED.
3. IF THE SURFACE IS DISTORTED, THE CONTRACTOR SHALL CONSTRUCT LEVELING COURSES TO RESTORE PROPER LINE AND CROSS SECTION.
4. THE PAVEMENT SHALL BE THOUROUGHLY CLEANED AND A TACK COAT OF ASPHALT SHALL BE APPLIED BEFORE THE OVERLAY IS PLACED.
5. ALL VERTICAL SURFACES COMING IN CONTACT WITH THE OVERLAY SHALL BE SPRAYED OR PAINTED WITH A UNIFORM COATING OF EMULSIFIED ASPHALT IMMEDIATELY PRIOR TO PAVEMENT CONSTRUCTION.
6. CONTRACTOR IS RESPONSIBLE FOR ENSURING PROPER SURFACE DRAINAGE. PONDING OR PUDDLING OF WATER ON THE FINAL SURFACE WILL BE UNACCEPTABLE.
7. REPLACE IN KIND ANY EXISTING TRAFFIC LOOPS AND/OR RELATED SENSOR EQUIPMENT THAT IS REMOVED OR DAMAGED DUE TO PAVEMENT MILLING ACTIVITY

EDGE DETAIL

WHERE OVERLAY IS NOT SPECIFIED FOR ENTIRE EXISTING SURFACE, THE INTERFACE BETWEEN THE NEW OVERLAY AND THE OLD PAVEMENT SURFACE SHALL BE PER THE ABOVE DETAIL. FEATHERING OF THE ASPHALT TO MEET THE EXISTING PAVEMENT WILL NOT BE ACCEPTABLE.

Rev. #	Date	Description

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

FUELING REMODEL
PAVEMENT AND CURBING DETAILS

CORE STATES GROUP
CORESTATES, INC.
212 SE 34th St.
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Bentonville, AR 72712
479.986.4400
core-states.com

TEXAS REGISTERED ENGINEERING
FIRM NUMBER: F-9349
EXPIRATION: 07/31/2024

Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

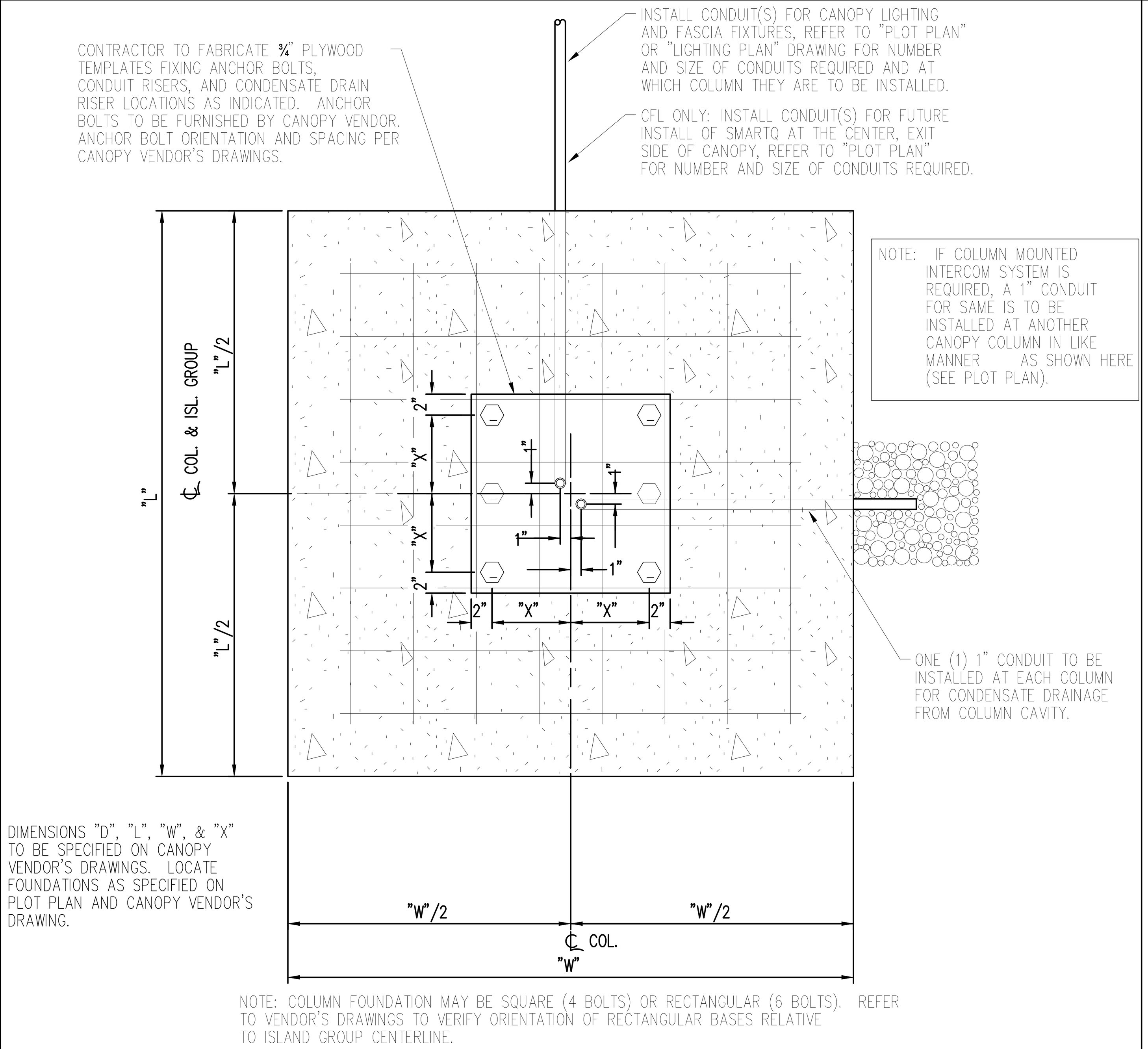
DAVID M. LEIFFER
101813
03-06-2024

SHEET:
CPC-1

FUELING - USA

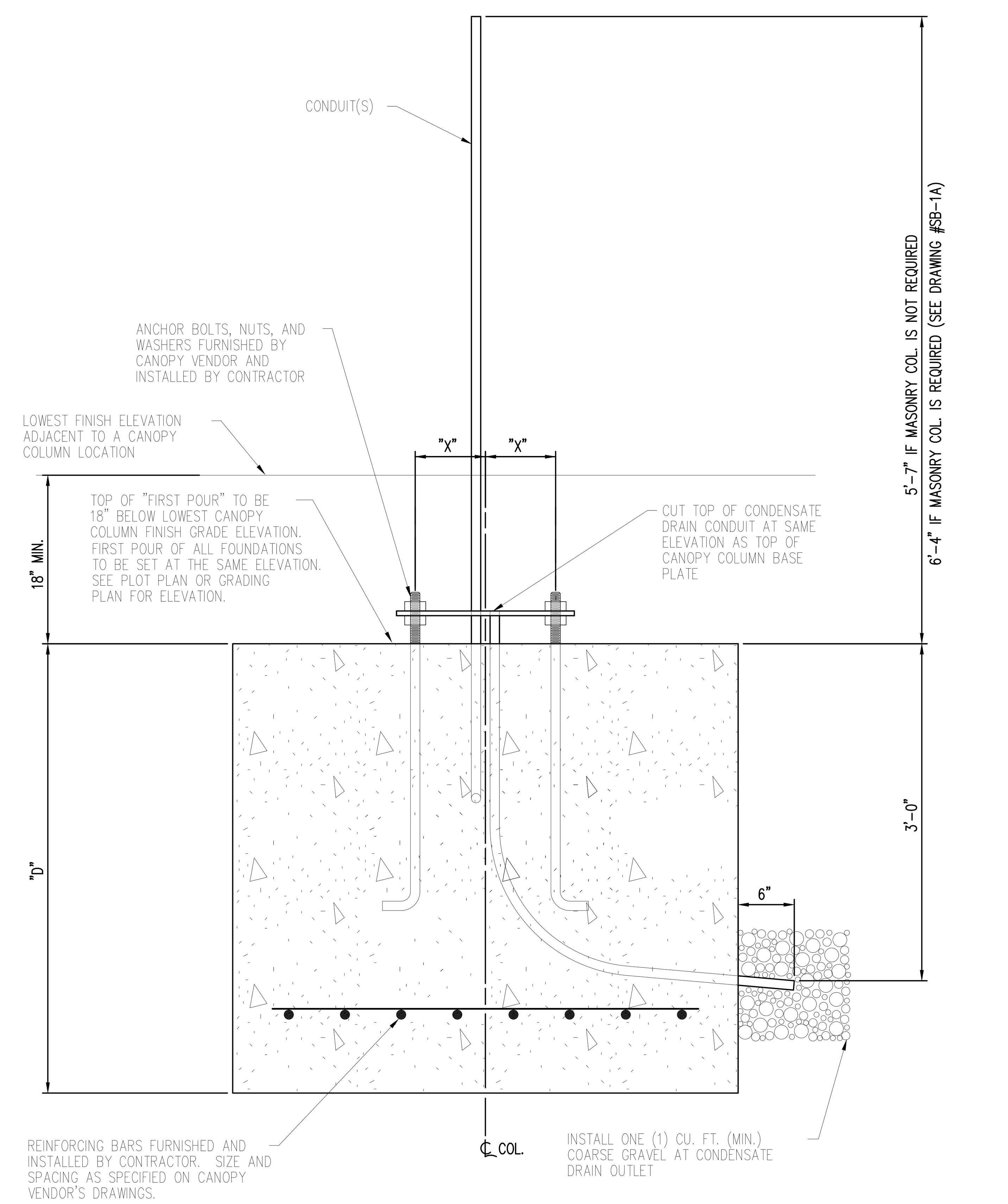
PRINTED BY: WBRAGG
DRAWING NAME: 36257 - G-CPC-1 FUELING REMODEL PAVEMENT AND CURBING DETAILS.DWG PRINT DATE: Mar 06, 2024 - 4:39pm

FIRST POUR



CONTRACTOR TO FABRICATE ¾" PLYWOOD TEMPLATES FIXING ANCHOR BOLTS, CONDUIT RISERS, AND CONDENSATE DRAIN RISER LOCATIONS AS INDICATED. ANCHOR BOLTS TO BE FURNISHED BY CANOPY VENDOR. ANCHOR BOLT ORIENTATION AND SPACING PER CANOPY VENDOR'S DRAWINGS.
INSTALL CONDUIT(S) FOR CANOPY LIGHTING AND FASCIA FIXTURES. REFER TO "PLOT PLAN" OR "LIGHTING PLAN" DRAWING FOR NUMBER AND SIZE OF CONDUITS REQUIRED AND AT WHICH COLUMN THEY ARE TO BE INSTALLED.
CFL ONLY: INSTALL CONDUIT(S) FOR FUTURE INSTALL OF SMARTQ AT THE CENTER, EXIT SIDE OF CANOPY. REFER TO "PLOT PLAN" FOR NUMBER AND SIZE OF CONDUITS REQUIRED.
NOTE: IF COLUMN MOUNTED INTERCOM SYSTEM IS REQUIRED, A 1" CONDUIT FOR SAME IS TO BE INSTALLED AT ANOTHER CANOPY COLUMN IN LIKE MANNER AS SHOWN HERE. (SEE PLOT PLAN).
℄ COL. & ISL. GROUP
"L"
"L"/2
"L"/2
"X"
"X"
2"
ONE (1) 1" CONDUIT TO BE INSTALLED AT EACH COLUMN FOR CONDENSATE DRAINAGE FROM COLUMN CAVITY.
DIMENSIONS "D", "L", "W", & "X" TO BE SPECIFIED ON CANOPY VENDOR'S DRAWINGS. LOCATE FOUNDATIONS AS SPECIFIED ON PLOT PLAN AND CANOPY VENDOR'S DRAWING.
"W"/2
"W"/2
℄ COL.
"W"
NOTE: COLUMN FOUNDATION MAY BE SQUARE (4 BOLTS) OR RECTANGULAR (6 BOLTS). REFER TO VENDOR'S DRAWINGS TO VERIFY ORIENTATION OF RECTANGULAR BASES RELATIVE TO ISLAND GROUP CENTERLINE.

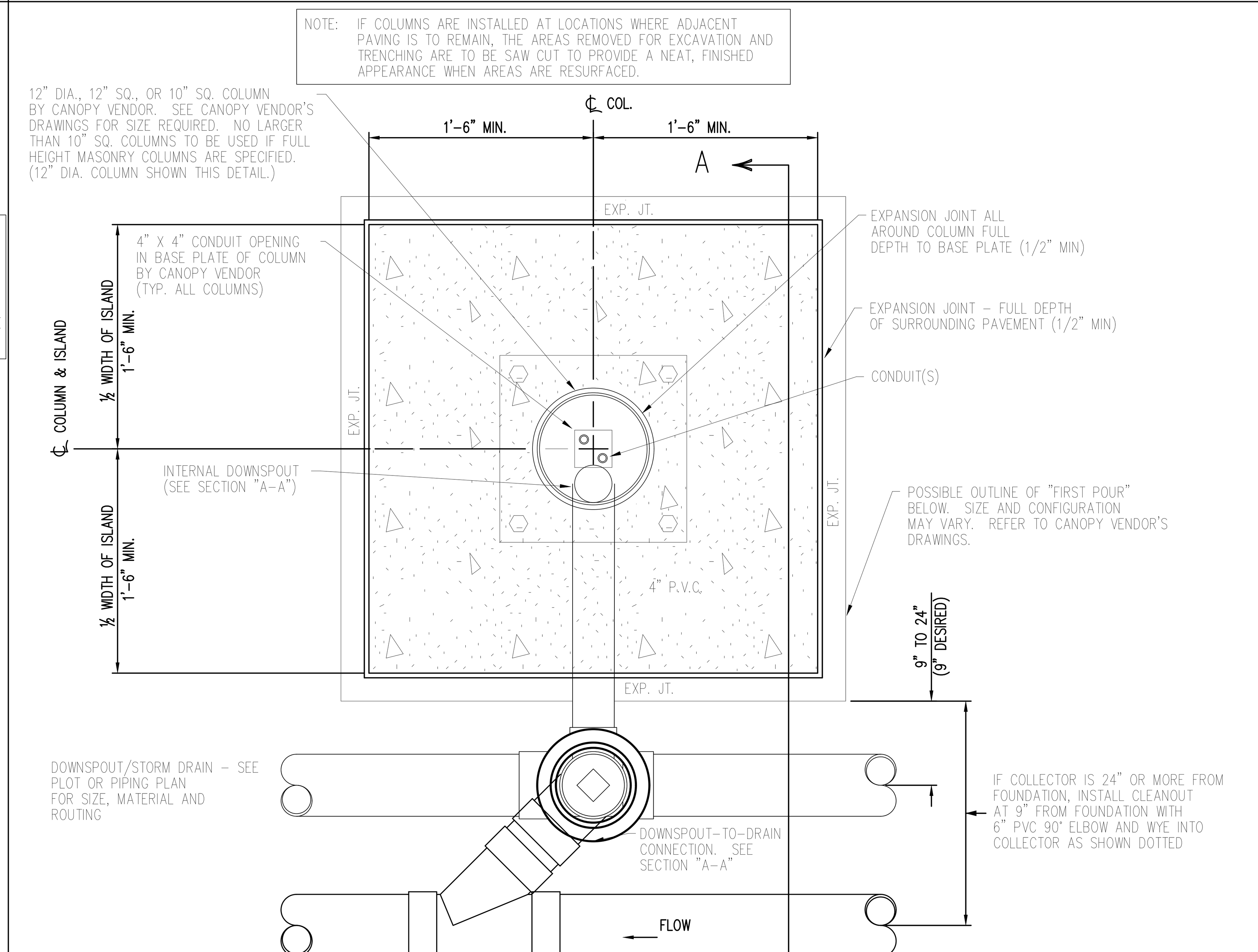
PLAN VIEW



CONDUIT(S)
ANCHOR BOLTS, NUTS, AND WASHERS FURNISHED BY CANOPY VENDOR AND INSTALLED BY CONTRACTOR
LOWEST FINISH ELEVATION ADJACENT TO A CANOPY COLUMN LOCATION
TOP OF "FIRST POUR" TO BE 18" BELOW LOWEST CANOPY COLUMN FINISH GRADE ELEVATION. FIRST POUR OF ALL FOUNDATIONS TO BE SET AT THE SAME ELEVATION. SEE PLOT PLAN OR GRADING PLAN FOR ELEVATION.
"X"
"X"
18" MIN.
CUT TOP OF CONDENSATE DRAIN CONDUIT AT SAME ELEVATION AS TOP OF CANOPY COLUMN BASE PLATE
5'-7" IF MASONRY COL. IS NOT REQUIRED
6'-4" IF MASONRY COL. IS REQUIRED (SEE DRAWING #SB-1A)
3'-0"
"D"
6"
REINFORCING BARS FURNISHED AND INSTALLED BY CONTRACTOR. SIZE AND SPACING AS SPECIFIED ON CANOPY VENDOR'S DRAWINGS.
℄ COL.
INSTALL ONE (1) CU. FT. (MIN.) COARSE GRAVEL AT CONDENSATE DRAIN OUTLET

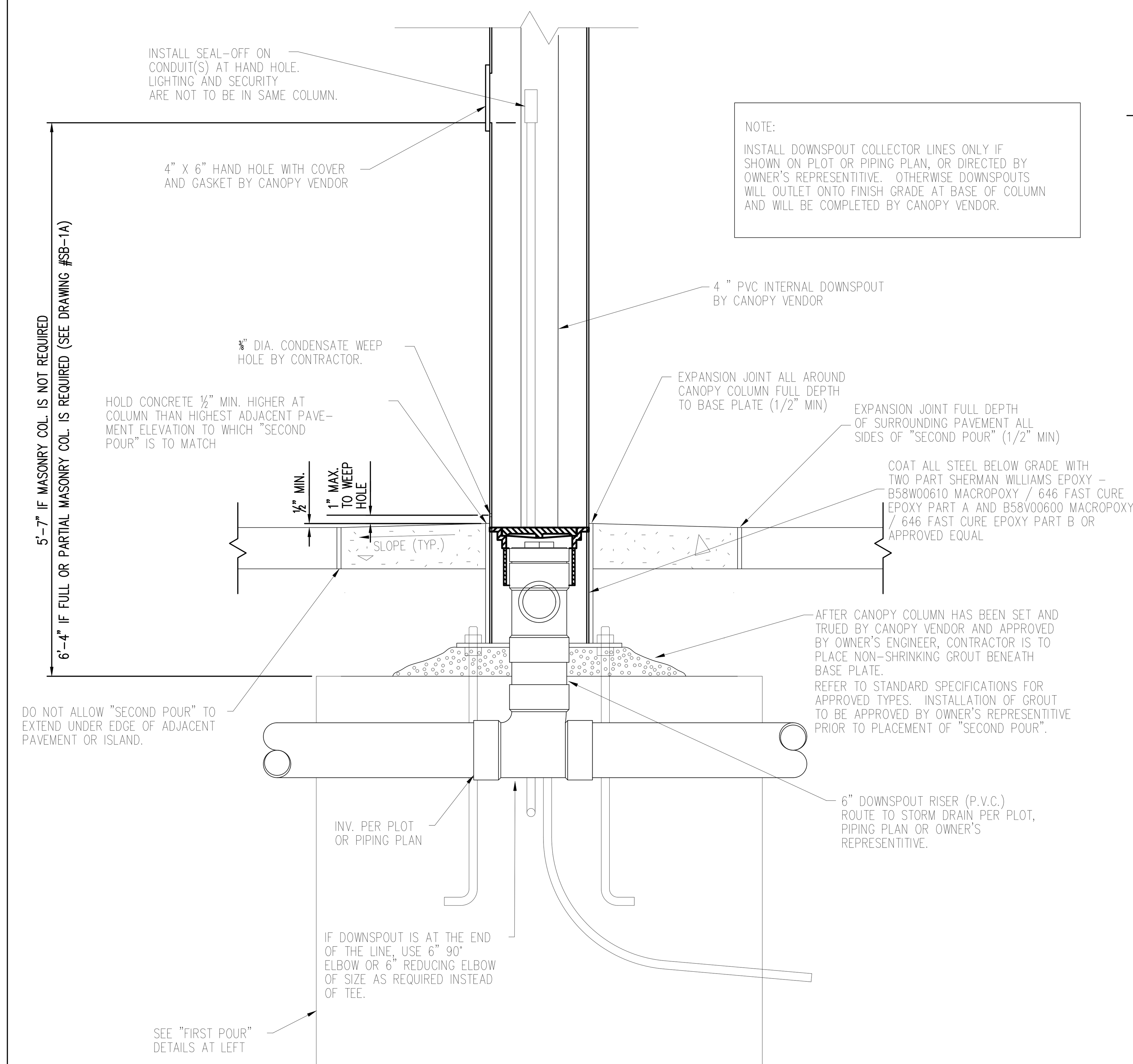
ELEVATION

SECOND POUR



NOTE: IF COLUMNS ARE INSTALLED AT LOCATIONS WHERE ADJACENT PAVING IS TO REMAIN, THE AREAS REMOVED FOR EXCAVATION AND TRENCHING ARE TO BE SAW CUT TO PROVIDE A NEAT, FINISHED APPEARANCE WHEN AREAS ARE RESURFACED.
12" DIA., 12" SQ., OR 10" SQ. COLUMN BY CANOPY VENDOR. SEE CANOPY VENDOR'S DRAWINGS FOR SIZE REQUIRED. NO LARGER THAN 10" SQ. COLUMNS TO BE USED IF FULL HEIGHT MASONRY COLUMNS ARE SPECIFIED. (12" DIA. COLUMN SHOWN THIS DETAIL.)
℄ COL.
1'-6" MIN.
1'-6" MIN.
A
EXP. JT.
4" X 4" CONDUIT OPENING IN BASE PLATE OF COLUMN BY CANOPY VENDOR (TYP. ALL COLUMNS)
EXPANSION JOINT ALL AROUND COLUMN FULL DEPTH TO BASE PLATE (1/2" MIN)
EXPANSION JOINT - FULL DEPTH OF SURROUNDING PAVEMENT (1/2" MIN)
CONDUIT(S)
℄ COLUMN & ISLAND
½ WIDTH OF ISLAND 1'-6" MIN.
½ WIDTH OF ISLAND 1'-6" MIN.
INTERNAL DOWNSPOUT (SEE SECTION "A-A")
POSSIBLE OUTLINE OF "FIRST POUR" BELOW. SIZE AND CONFIGURATION MAY VARY. REFER TO CANOPY VENDOR'S DRAWINGS.
4" P.V.C.
9" TO 24" (9" DESIRED)
DOWNSPOUT/STORM DRAIN - SEE PLOT OR PIPING PLAN FOR SIZE, MATERIAL AND ROUTING
DOWNSPOUT-TO-DRAIN CONNECTION. SEE SECTION "A-A"
IF COLLECTOR IS 24" OR MORE FROM FOUNDATION, INSTALL CLEANOUT AT 9" FROM FOUNDATION WITH 6" PVC 90° ELBOW AND WYE INTO COLLECTOR AS SHOWN DOTTED
FLOW
A

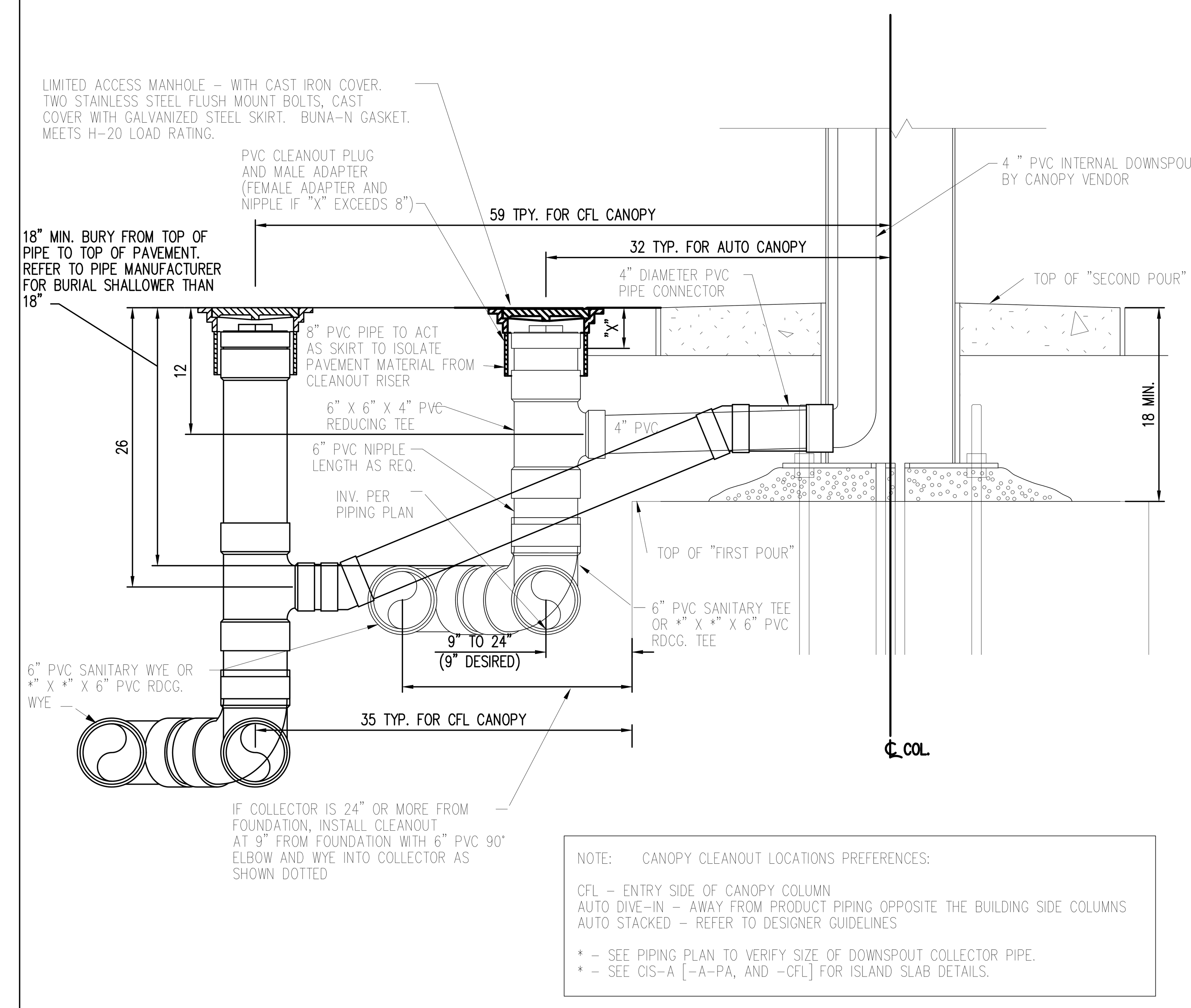
PLAN VIEW



INSTALL SEAL-OFF ON CONDUIT(S) AT HAND HOLE. LIGHTING AND SECURITY ARE NOT TO BE IN SAME COLUMN.
NOTE:
INSTALL DOWNSPOUT COLLECTOR LINES ONLY IF SHOWN ON PLOT OR PIPING PLAN, OR DIRECTED BY OWNER'S REPRESENTATIVE. OTHERWISE DOWNSPOUTS WILL OUTLET ONTO FINISH GRADE AT BASE OF COLUMN AND WILL BE COMPLETED BY CANOPY VENDOR.
4" X 6" HAND HOLE WITH COVER AND GASKET BY CANOPY VENDOR
4" PVC INTERNAL DOWNSPOUT BY CANOPY VENDOR
5'-7" IF MASONRY COL. IS NOT REQUIRED
6'-4" IF FULL OR PARTIAL MASONRY COL. IS REQUIRED (SEE DRAWING #SB-1A)
⅜" DIA. CONDENSATE WEEP HOLE BY CONTRACTOR.
HOLD CONCRETE ½" MIN. HIGHER AT COLUMN THAN HIGHEST ADJACENT PAVEMENT ELEVATION TO WHICH "SECOND POUR" IS TO MATCH
EXPANSION JOINT ALL AROUND CANOPY COLUMN FULL DEPTH TO BASE PLATE (1/2" MIN)
EXPANSION JOINT FULL DEPTH OF SURROUNDING PAVEMENT ALL SIDES OF "SECOND POUR" (1/2" MIN)
½" MIN.
1" MAX. TO WEEP HOLE
SLOPE (TYP.)
COAT ALL STEEL BELOW GRADE WITH TWO PART SHERMAN WILLIAMS EPOXY - B58W00610 MACROPOXY / 646 FAST CURE EPOXY PART A AND B58V00600 MACROPOXY / 646 FAST CURE EPOXY PART B OR APPROVED EQUAL
AFTER CANOPY COLUMN HAS BEEN SET AND TRUED BY CANOPY VENDOR AND APPROVED BY OWNER'S ENGINEER, CONTRACTOR IS TO PLACE NON-SHRINKING GROUT BENEATH BASE PLATE. REFER TO STANDARD SPECIFICATIONS FOR APPROVED TYPES. INSTALLATION OF GROUT TO BE APPROVED BY OWNER'S REPRESENTITIVE PRIOR TO PLACEMENT OF "SECOND POUR".
DO NOT ALLOW "SECOND POUR" TO EXTEND UNDER EDGE OF ADJACENT PAVEMENT OR ISLAND.
INV. PER PLOT OR PIPING PLAN
6" DOWNSPOUT RISER (P.V.C.) ROUTE TO STORM DRAIN PER PLOT, PIPING PLAN OR OWNER'S REPRESENTITIVE.
IF DOWNSPOUT IS AT THE END OF THE LINE, USE 6" 90° ELBOW OR 6" REDUCING ELBOW OF SIZE AS REQUIRED INSTEAD OF TEE.
SEE "FIRST POUR" DETAILS AT LEFT

ELEVATION

CANOPY DRAIN DETAILS



LIMITED ACCESS MANHOLE - WITH CAST IRON COVER. TWO STAINLESS STEEL FLUSH MOUNT BOLTS, CAST COVER WITH GALVANIZED STEEL SKIRT. BUNA-N GASKET. MEETS H-20 LOAD RATING.
PVC CLEANOUT PLUG AND MALE ADAPTER (FEMALE ADAPTER AND NIPPLE IF "X" EXCEEDS 8")
4" PVC INTERNAL DOWNSPOUT BY CANOPY VENDOR
18" MIN. BURY FROM TOP OF PIPE TO TOP OF PAVEMENT. REFER TO PIPE MANUFACTURER FOR BURIAL SHALLOWER THAN 18"
59 TPY. FOR CFL CANOPY
32 TYP. FOR AUTO CANOPY
4" DIAMETER PVC PIPE CONNECTOR
TOP OF "SECOND POUR"
8" PVC PIPE TO ACT AS SKIRT TO ISOLATE PAVEMENT MATERIAL FROM CLEANOUT RISER
6" X 6" X 4" PVC REDUCING TEE
6" PVC NIPPLE LENGTH AS REQ.
INV. PER PIPING PLAN
4" PVC
12
26
18 MIN.
TOP OF "FIRST POUR"
6" PVC SANITARY TEE OR * X * X 6" PVC RDCG. TEE
9" TO 24" (9" DESIRED)
6" PVC SANITARY WYE OR * X * X 6" PVC RDCG. WYE
35 TYP. FOR CFL CANOPY
℄ COL.
IF COLLECTOR IS 24" OR MORE FROM FOUNDATION, INSTALL CLEANOUT AT 9" FROM FOUNDATION WITH 6" PVC 90° ELBOW AND WYE INTO COLLECTOR AS SHOWN DOTTED

NOTE: CANOPY CLEANOUT LOCATIONS PREFERENCES:

CFL - ENTRY SIDE OF CANOPY COLUMN
AUTO DIVE-IN - AWAY FROM PRODUCT PIPING OPPOSITE THE BUILDING SIDE COLUMNS
AUTO STACKED - REFER TO DESIGNER GUIDELINES

* - SEE PIPING PLAN TO VERIFY SIZE OF DOWNSPOUT COLLECTOR PIPE.
* - SEE CIS-A [-A-PA, AND -CFL] FOR ISLAND SLAB DETAILS.

SECTION "A-A"
INTERNAL DOWNSPOUT

Rev. #	Date	Description

Proto 2022-04

7-ELEVEN, INC.
3200 HACKBERRY ROAD, IRVING TEXAS 75063

7-ELEVEN #36257
19185 STONE OAK PKWY
SAN ANTONIO, TX 78258

FUELING REMODEL
STANDARD CANOPY BASE DETAILS

CORE STATES GROUP

Job#:	SEI.36064
Scale:	AS NOTED
Date:	01/11/24
Drawn By:	RMC
Checked By:	RWB

STATE OF TEXAS
DAVID M. LEIFFER
101813
LICENSED
PROFESSIONAL ENGINEER
03-06-2024

SHEET:
SCB-1

FUELING - USA

ATTACHMENT I

Initial and Continuing Training

ATTACHMENT I

Initial and Continuing Training

7-Eleven, Inc. Store No. 36257
19185 Stone Oak Parkway
San Antonio, Bexar County, Texas
78258

- Each 7-Eleven, Inc. (7-Eleven) employee, when hired is initially required to complete a computer based training program for gasoline operations. This training includes gasoline equipment, emergency shut off procedures, the operation of the gasoline tank monitoring system, and gasoline tank release detection system.

- Each location also has access to the On Line Systems Support Guide which contains a section with detailed information on gasoline release detection equipment and operation. Attached is a copy of the gasoline section that deals specifically with the Veeder Root ATG operation. This section can be used for follow up and continuing training at the store.

- Each Veeder Root ATG is directly tied into the 7-Eleven Service Now (SNOW) system for 24 hour monitoring and automatic dispatch of any alarm condition. Any alarm notification goes directly to a certified gasoline contractor as a P1 – Priority One. The certified gasoline contractor is then required to respond at the location and address the alarm condition within four hours.

- In the case of an ATG alarm, the store personnel are also instructed to create a case in SNOW. This notification serves as a back up to the automatic dispatch system described above.

- Additionally, each location is visited by a Certified Business Field Consultant, who will serve as the Class B Operator, on a weekly basis to review business practices and opportunities. This includes any additional training opportunities that may exist with the gasoline leak detection equipment. The stores are also periodically visited by a Gasoline Compliance Specialist who also serves as the Class B Operator for the State. This compliance specialist will take the opportunity to inspect gasoline documents and equipment to ensure all is in order and provides training to store personnel as needed.

ATTACHMENT I

INSPECTION AND MAINTENANCE OF BMPS

7-Eleven, Inc. Store No. 36257
19185 Stone Oak Parkway
San Antonio, Bexar County, Texas 78258

Straw Wattles:

Inspect all straw wattles daily and after rainfall to make sure that sediment build up is contained. Clean straw wattles regularly to make sure that sediment is contained. Replace any straw wattles that are torn or damaged in any way. Dispose of straw wattles appropriately.

Silt Dike:

Inspect all silt dike daily and after rainfall to make sure that sediment build up is contained. Clean silt dike regularly and replace and silt dike that is damaged in any way. Dispose of silt dike appropriately.

Roadways:

Inspect all roadways around the construction site daily to make sure that no sediment is being tracked off the construction site. If it is found that some sediment was tracked off of the construction site, it will be cleaned and disposed of immediately.

ATTACHMENT J

Release Detection Maintenance

ATTACHMENT J

Release Detection Maintenance

7-Eleven, Inc. Store No. 36257
19185 Stone Oak Parkway
San Antonio, Bexar County, Texas 78258

Tank release detection will be maintained by a Continuous Statistical Leak Detection system. The Continuous Statistical Leak Detection system is programmed to conduct continuous statistical leak detection capable of detecting a 2 gph leak in the wetted portion of the tank with a 95% confidence interval and is also equipped to perform the daily inventory reconciliation which meets the inventory control requirements.

Corrosion Protection: listed FRP tank and piping installed (non corrodible)

Tanks:

- Automatic tank gauge test by Continuous Statistical Leak Detection
- Interstitial Monitoring within secondary wall/jacket (dry)
- Inventory control

Piping:

- Interstitial monitoring within secondary wall/jacket (dry)
- Pressurized line leak detectors (3.0 gph)

All equipment will be operated and maintained in accordance with the manufacturer's specifications and instructions.

7-Eleven maintains a regular program of annual 3rd party operability testing of the line leak detectors and automatic tank gauge by Tanknology.

7-Eleven locations are also inspected each 60 days by a third party inspector. This inspection includes entry into all sumps and systems. Issues found are reported for further investigation and follow up by a certified gasoline contractor.

7-Eleven maintains a separate annual preventative maintenance program conducted by a certified gasoline contractor and managed by their facilities department.

The Daily Inventory reconciliation data is captured at 7-Eleven's headquarters by remote polling and inventory variances which exceed previously determined thresholds are further investigated by an environmental compliance specialist.

If 7-Eleven does not achieve passing CSLD results from the Veeder Root ATG at least every 15 days, a contractor is dispatched to troubleshoot and conduct a static test. This is an additional means that used by 7-Eleven to address passing monthly tests.

7-Eleven maintains records of the release detection maintenance in accordance with 30 TAC Chapter §334.10(b).

Attachment K

UST Facility Site Plan

NOTES:

1. NO PART OF THIS SITE LIES WITHIN A 100-YEAR FLOOD PLAIN ACCORDING TO THE FEMA FLOOD INSURANCE MAP: CITY OF SAN ANTONIO. MAP No. 48029C0140G. EFFECTIVE DATE: 09/29/2010.
2. TOTAL IMPERVIOUS COVER = 45,103 sq ft.
3. AREA TO BE DEMOLISHED = 9,900 sq ft.
4. PROPERTY AREA = 1.53 ACRES.

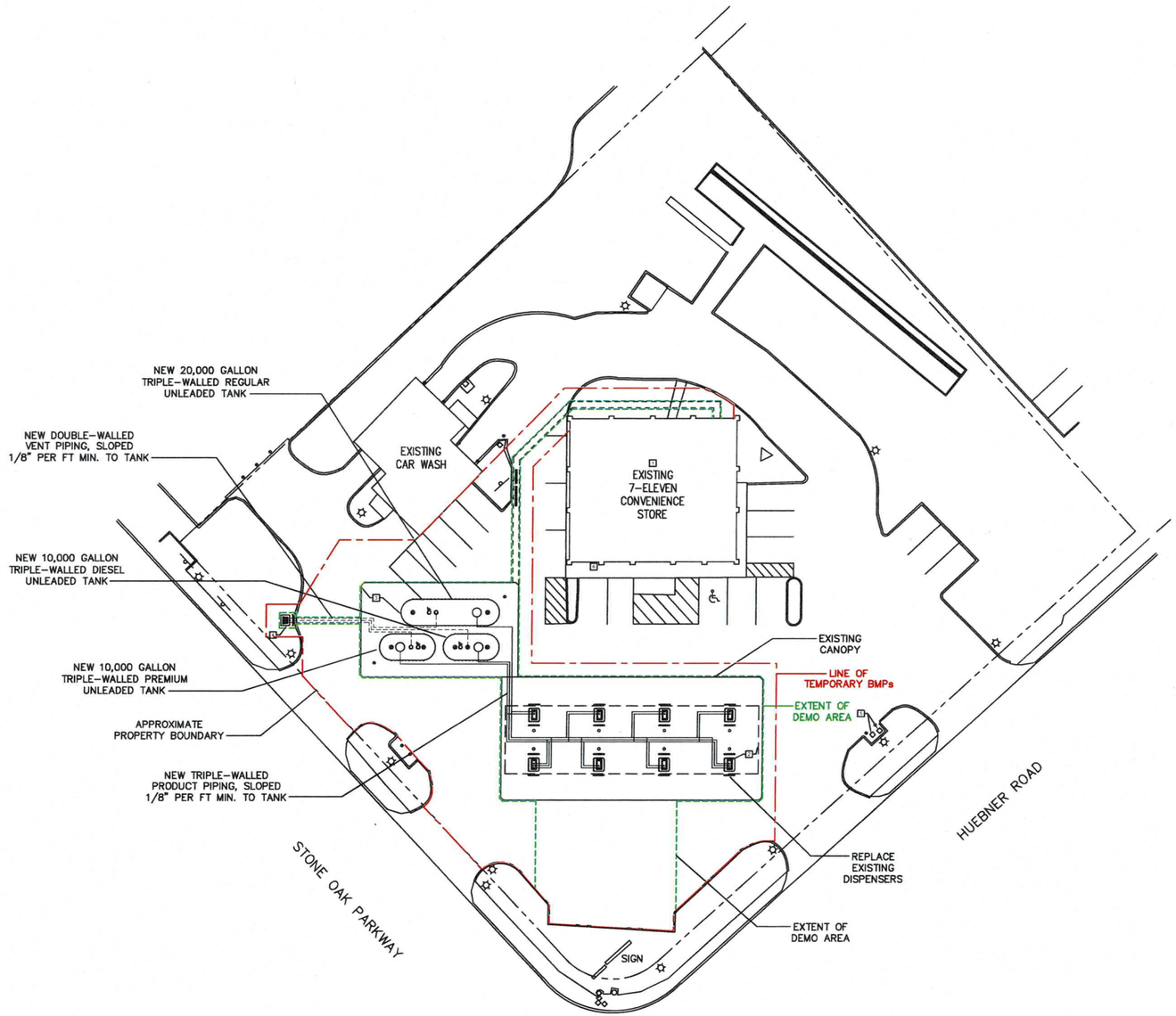
LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- TEMPORARY BMP
- DEMOLITION AREA
- [1] EXISTING 7-ELEVEN CONVENIENCE STORE
- [2] EXISTING FUELING CANOPY AND DISPENSERS
- [3] NEW UNDERGROUND FUEL STORAGE TANKS AND SLAB
- [4] NEW FUEL STORAGE TANK VENTS
- [5] AIR AND VAC MACHINES
- [6] NEW E-STOP ON BUILDING EXTERIOR

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" = 50'.
14. 100-year floodplain boundaries:
    - ☒ The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA Flood Insurance Map: City of San Antonio, Texas Map No. 48029C0140G, Effective Date: 09/29/2010
    - ☐ 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.



1 UST FACILITY SITE PLAN
SCALE: 1" = 50'

SIGNATURE	DATE
REVIEW ENGR:	
PROJECT ENGR:	
PROJECT MGR:	
CLIENT:	

APTIM ENVIRONMENTAL & INFRASTRUCTURE, LLC
12005 FORD ROAD, SUITE 600
DALLAS, TEXAS 75234 (972) 773-8400

STATE OF TEXAS
JASON C. RAMSAY
120751
LICENSED PROFESSIONAL ENGINEER
10/11/24

JASON RAMSAY, P.E.
TEXAS LICENSE No. 120751
12005 FORD ROAD, SUITE 600
DALLAS, TEXAS 75234
FIRM No. F-5650
APTIM ENVIRONMENTAL & INFRASTRUCTURE, LLC.

7-ELEVEN STORE No. 36257
19185 STONE OAK PARKWAY
SAN ANTONIO, BEXAR
COUNTY, TEXAS
PST FACILITY ID No. 67294

UST FACILITY SITE PLAN

DESIGNED BY:	DETAILED BY:	CHECKED BY:
JRAM	SDJF	JRAM
DATE: 5-5-23	FILE: 9908B2	
PROJECT NO.: 631029908	CONTRACT:	
DRAWING: 1	REVISION:	

ATTACHMENT L

Previous WPAP Approval Letter

San Antonio Water System

RECEIVED
JAN 1 8 1995
SAN ANTONIO

January 17, 1995

Mr. John Mauser
Texas Natural Resource Conservation Commission
Region 13
140 Heimer Rd.
San Antonio, Texas 78232-5028

Re: The PUMPS at SONTERRA (Edwards Aquifer Recharge Zone)

Dear John:

Aquifer Studies Division staff of the San Antonio Water System, has completed its review of the Water Pollution Abatement Plan application and the Underground Hydrocarbon and Hazardous Substance application submitted for the above referenced location, received on December 20, 1994.

The geologic assessment reports no potential recharge features on-site and six (6) off-site potential recharge features. The geologic assessment grades these features as no significance to low significance features. Aquifer Studies Division staff is in general agreement with the geologic assessment.

Environmental Concerns

The environmental concerns associated with this gasoline underground storage tank system facility located over the Edwards Aquifer Recharge Zone are the following:

1. The proper and careful installation/operation of the underground storage tank system and its continued maintenance, including the installation of the synthetic liner.

2. Proper fuel product delivery and handling while filling the underground storage tank system.

3. Possible hydrocarbon contamination thru accidental spills or a leaking underground storage tank.

4. The build-up of hydrocarbons and other pollutants on streets, parking lots and other paved areas which are then carried off in the first flush of stormwater run-off to the existing drainageways.

5. Improper use of pesticides, herbicides, or fertilizers needed for landscape maintenance which may be carried off in the first flush of stormwater run-off.

Environmental Recommendations

The following are recommendations which the Aquifer Studies Division feel are needed to address the environmental concerns raised by the construction of this gasoline underground storage tank system on the Edwards Aquifer Recharge Zone:

1. An emergency spill plan should be implemented and provided by the applicant before operation of the underground storage tank system begins.

2. That the owner and/or operator shall adhere to all Federal, State, and Local Fire Codes and Regulations regarding underground storage tank systems.

3. That the contractor that is to install the underground storage tank system should be licensed to install underground storage tank systems by the Texas Natural Resource Conservation Commission.

4. There should be no storage of hazardous substances on the site.

5. The monitoring/observation well and the integrity of the underground storage tank system be periodically inspected. Should at any time, the leak detection system detect a leak, that the proper authorities should be notified. State regulations require a notification of a release within 24 hours. Should the applicant fail to notify the Texas Natural Resource Conservation Commission within the prescribed time, that the Texas Natural Resource Conservation Commission provide for the authority to shut the underground storage tank system down permanently.

6. That only a minimal amount of pesticides, herbicides, or fertilizers needed for landscape maintenance shall be used. Landscaped areas shall be sensitive to minimizing water needs (i.e., use of native plants).

If there are any questions please contact Aquifer Studies Division at 210-704-7303.

Scott R. Halty
Division Manager

SRH:kmn

cc: Gayle Kipp, Edwards Underground Water District
Joe F. Nix, P.E., W.F. Castella & Associates, Inc.

San Antonio Water System

October 16, 1995

Mr. John Mauser
Texas Natural Resource Conservation Commission
Region 13
140 Heimer Rd.
San Antonio, Texas 78232-5028

Re: The PUMPS at SONTERRA (Edwards Aquifer Recharge Zone) Modification

Dear John:

Aquifer Studies Division staff of the San Antonio Water System, has completed its review of the Modification to the Water Pollution Abatement Plan application and the Underground Hydrocarbon and Hazardous Substance application submitted for the above referenced location, received on September 22, 1995.

The geologic assessment reports no potential recharge features on-site and six (6) off-site potential recharge features. The geologic assessment grades these features as no significance to low significance features. Aquifer Studies Division staff is in general agreement with the geologic assessment.

As explained in the submittal, this modification is being requested because of changes within the original approved WPAP. These changes include the orientation and position of facilities within and adjacent to the site. As a result of these changes the existing retention/infiltration basin has been relocated and redesigned in an attempt to provide stormwater pollution abatement measures for the gas station site, as well as, the adjacent 9.0 acres which are owned by the same owner as the gas station site. This 9.0 acres is currently vacant but will be developed in the near future. Staff recommends that the infiltration basin should be eliminated completely and that a properly designed sedimentation/filtration basin, or a series of sedimentation/filtration basins (i.e. with the proposed adjacent development), should be built to handle the stormwater run-off generated by the existing and proposed impervious cover areas. **NOTE: Staff recommends that infiltration basins not be allowed as stormwater pollution abatement structures for developments located over the Edwards Recharge Zone. These type of structures, utilizing infiltration, do not appear to be appropriate for use over the Edwards Recharge Zone. The use of infiltration basins and trenches was banned under the new City of San Antonio Water Quality Ordinance.**

This particular situation illustrates a problem which has been occurring quite frequently on

developments located over the Edwards Recharge Zone. Many times the contractors on a project take it upon themselves to make changes to the designs which were approved as part of the Water Pollution Abatement Plan. These changes are not typically done with the intent to disregard the regulations in place for development over the Edwards Recharge Zone. However, there are times when these changes are inadequate for developments over the Edwards Recharge Zone. Staff recommends that the engineer(s) convey this concern and the possible consequences to the contractors on the particular developments since the engineer(s) are ultimately responsible for their designs and plans to be constructed properly.

S.A.W.S. staff recommends **disapproval** of the September 22, 1995, submitted modifications and that new submittals addressing the previously mentioned concerns be forwarded to TNRCC, S.A.W.S and the E.U.W.D. for review.

If there are any questions please contact Aquifer Studies Division at 210-704-7303.

Scott R. Halty
Division Manager

SRH:kmn

cc: Gayle Kipp, Edwards Underground Water District
Joe F. Nix, P.E., W.F. Castella & Associates, Inc.

San Antonio Water System

July 1, 1998

Mr. John Mauser
Texas Natural Resource Conservation Commission
140 Heimer Rd. #360
San Antonio, Texas 78232-5028

Re: Water Pollution Abatement Plan Review for **Tetco Mobil Station Modification**
Located at southwest corner of Stone Oak Parkway and Huebner Road

Dear John:

Aquifer Studies Division staff of the San Antonio Water System (SAWS), has completed its review of the application submitted for the above referenced Water Pollution Abatement Plan (WPAP), received on April 3, 1998. SAWS is submitting the following comments to the Texas Natural Resource Conservation Commission (TNRCC).

PROJECT DESCRIPTION

The entire site is located within the Edwards Aquifer Recharge Zone. This modification to the existing service station site will consist of improvements to the existing stormwater basin. These changes will include construction of a concrete basin floor, subdividing the basin into two chambers and installing underdrain piping. The reconstructed sedimentation/filtration basin will be designed in accordance with the City of Austin design criteria.

TECHNICAL CONCERNS

The technical concerns about the proposed pollution abatement measure include, but are not necessarily limited to, the following:

1. It is unclear on the Site Plan how the by-pass structure will work.

2. No information is provided on how the concrete floor will be installed to insure that the basin will be watertight.

3. The Plan and Profile drawings on the Site Plan do not appear to accurately reflect the proposed basin modification.

ENVIRONMENTAL CONCERNS

The following are the environmental concerns associated with the proposed project:

1. The build-up of hydrocarbons and other pollutants on streets, parking lots and other paved areas which are then carried off in the first flush of stormwater run-off to the existing drainageways.

2. Improper use and storage of pesticides, herbicides, or fertilizers needed for landscape maintenance which may be carried off in the first flush of stormwater run-off.

ENVIRONMENTAL RECOMMENDATIONS

The following are recommendations which the Aquifer Studies Division feel are needed to address the environmental concerns raised by the construction of the proposed project:

1. Landscaped areas should be sensitive to minimizing water needs (i.e. use of native plants) and that a minimal amount of pesticides, herbicides, or fertilizers should be used.

2. If any solution openings, caves, sinkholes, or wells are discovered on the property, during construction or blasting, the owner should notify the Texas Natural Resource Conservation Commission at (210) 490-3096 and the Aquifer Studies Division at (210) 704-7392.

3. After basin construction is complete and prior to the start of business, the owner should notify the Watershed Protection and Management Department at (210) 704-7392 to schedule a site inspection.

4. If the basin fails to drain properly, the owner should notify the Watershed Protection and Management Department at (210) 704-7392 prior to any discharge of water.

If you have any questions, please contact Julie Rogers at (210) 704-7326.

Sincerely,

Kirk M. Nixon

Kirk M. Nixon
Manager, Aquifer Studies

KMN:JPR

cc: Joe Nix, P.E., W.F. Castella & Assoc., Inc.

APPENDIX E

TEMPORARY STORMWATER SECTION

(TCEQ-0602)

APPENDIX E

TEMPORARY STORMWATER SECTION

(TCEQ-0602)

Temporary Stormwater Section

Texas Commission on Environmental Quality

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

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

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

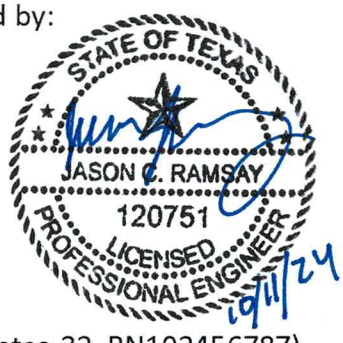
Signature

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

Print Name of Customer/Agent: Jason Ramsay, P.E.

Date: 10/11/24

Signature of Customer/Agent:



Regulated Entity Name: 7-Eleven, Inc., Store No. 36257 (Tetco 32, RN102456787)

Project Information

Potential Sources of Contamination

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

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

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

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

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

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

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

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

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

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

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

Sequence of Construction

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

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

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

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

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.

APPENDIX E

ATTACHMENT A

Spill Response Actions

APPENDIX E

ATTACHMENT A

Spill Response Action

7-Eleven, Inc. Store No. 36257
19185 Stone Oak Parkway
San Antonio, Bexar County, Texas 78258

In the event of an accidental spill, immediate action shall be undertaken by the General Contractor to contain and remove the spilled material. All hazardous materials, including contaminated soil, liquid, and concrete waste, shall be disposed of by the Contractor in the manner specified by Federal, State and Local regulations and by the manufacturer of such products. As soon as possible, the spill shall be reported to the appropriate agencies. As required under the provisions of the Clean Water Act, any spill or discharge entering waters of the United States shall be properly reported. The General Contractor shall prepare a written record of any spill and associated clean-up activities of petroleum products or hazardous materials in excess of 1 gallon or reportable quantities, whichever is less. The General Contractor shall provide notice to the Owner immediately upon identification of a reportable spill.

All spills of petroleum products or hazardous materials in excess of Reportable Quantities as defined by EPA or the State or Local agency regulations, shall be immediately reported to the EPA National Response Center (1-800-424-8802) and TCEQ (1-800-832-8224).

The reportable quantity for hazardous materials can be found in 40 CFR 302:

Reportable Quantities		
Material	**Media Released to**	**Reportable Quantities**
Engine Oil, Fuel, Hydraulic & Brake Fluid	Land	25 gallons
Engine Oil, Fuel, Hydraulic & Brake Fluid	Water	Visible sheen
Antifreeze	Land	100 lb (13 gal.)
Battery Acid	Land, Water	100 lb
Refrigerant	Air	1 lb
Gasoline	Air, Land, Water	100 lb
Engine Degreasers	Air, Land, Water	100 lb

In order to minimize the potential for a spill of petroleum product or hazardous materials to come in contact with storm water, the following steps shall be implemented.

a) All materials with hazardous properties (such as pesticides, petroleum products, fertilizers, detergents, construction chemicals, acids, paints, paint solvents, additives for soil stabilization, concrete curing compounds and additives, etc.) shall be stored in a secure location, under cover and in appropriate, tightly sealed containers when not in use.

b) The minimum practical quantity of all such materials shall be kept on the job site and scheduled for delivery as close to time of use as practical.

c) A spill control and containment kit (containing for example: absorbent material such as kitty litter or sawdust, acid neutralizing agent, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) shall be provided on the construction site.

d) All of the product in a container shall be used before the container is disposed. All such containers shall be triple rinsed with water prior to disposal. The rinse water used in these containers shall be disposed of in a manner in compliance with State and Federal regulations and shall not be allowed to mix with storm water discharges.

e) All products shall be stored in and used from the original container with the original product label.

f) All products shall be used in strict compliance with instructions on the product label.

g) The disposal of the excess or used products shall be in strict compliance with instructions on the products label.

SPILL REPORT FORM

Notes to General Contractor:

- Contact the appropriate regulatory agency if the spill exceeds the applicable reportable quantity.
- Complete the Spill Report Form in full for each spill that exceeds the applicable reportable quantity and submit to the Owner.
- Call the Owner
- Resolve as appropriate.

SPILL REPORT FORM

DATE:
PROJECT: 7-Eleven, Inc. Store No. 36257
PROJECT ADDRESS: 19185 Stone Oak Parkway, San Antonio, Texas 78258

Spill Reported By: _____

Date / Time of Spill: _____

Describe spill location and events leading to spill:
_____
_____

Material Spilled: _____

Source of Spill: _____

Amount Spilled: _____

Amount Spilled to Waterway (Name Waterway): _____

Containment or Clean up Action:
_____
_____

Approximate depth (yards) of soil excavation: _____

List Injuries or Personal Contamination: _____

Action to be taken to prevent future spills:
_____
_____

Agencies notified of spill:
_____

_____ _____
Contractor Signature and Printed Name **Date**

AFTER NOTIFYING GOVERNING AUTHORITIES, IMMEDIATELY COMPLETE THIS FORM AND CONTACT THE OWNER IF THE SPILL EXCEEDS THE REPORTABLE QUANTITY FOR THE GOVERNING AGENCY.

APPENDIX E

ATTACHMENT B

Potential Sources of Contamination

7-Eleven, Inc. Store No. 36257
19185 Stone Oak Parkway
San Antonio, Bexar County, Texas 78258

Potential sources of contamination from this site include hydrocarbon residue, emissions from vehicles, asphaltic products used for paved surfaces, and tracking or dropping silt onto paved surfaces by construction equipment.

APPENDIX E

ATTACHMENT B

Potential Sources of Contamination

APPENDIX E

ATTACHMENT C

Sequence of Major Events

APPENDIX E

Attachment C

Sequence of Major Construction Activities

7-Eleven, Inc. Store No. 36257
19185 Stone Oak Parkway
San Antonio, Bexar County, Texas 78258

1. Install perimeter controls on the site. (Clear only those areas necessary to install perimeter and erosion control devices). Total Disturbed area – 3,500 square feet

2. Begin saw cutting and demolition activities. Total Disturbed area – 9,700 square feet (SF).

3. Remove existing tank slab, dispenser islands, and existing UST system including tanks, product piping, and vent piping. Total Disturbed area – 9,700 SF.

4. Install new 15,000-gallon capacity triple-walled fiberglass-reinforced plastic (FRP) Premium Unleaded (PUL) Underground Storage Tank (UST);

5. Install new 20,000-gallon capacity triple-walled FRP Regular Unleaded (RUL) UST;

6. Install two (2) new RUL and PUL double-walled FRP Submersible Turbine Pump (STP) sumps and STP assemblies;

7. Reuse eight (8) existing 3+0 dispensers;

8. Install eight (8) new stainless steel dispenser islands;

9. Install new 3” single-walled piping over 2” coaxial double-walled product piping from new USTs to existing dispensers;

10. Install two (2) new vapor vent risers;

11. Install new 2” Coaxial double-walled piping for vapor/vent at USTs to new remote vent;

12. Install a new Veeder Root TLS-450 Plus site monitor console;

13. Install two (2) new observation wells in the tank slab.

14. Permanently stabilize areas to be vegetated as they are brought to final grade.

15. Prepare site for paving. Total disturbed area – 9,700 SF

16. Install new concrete at disturbed areas. Total Disturbed area – 9,700 SF

17. Remove all temporary erosion and sediment control devices and stabilize any areas disturbed by the removal of the BMPs.

APPENDIX E

ATTACHMENT D

Temporary Best Management Practices and Measures

APPENDIX E

ATTACHMENT D

Temporary Best Management Practices and Measures

7-Eleven, Inc. Store No. 36257
19185 Stone Oak Parkway
San Antonio, Bexar County, Texas 78258

The temporary BMPs will be installed at the perimeter of the construction area as shown and described in the Erosion and Sediment Control Plan and this Temporary Stormwater Section. Temporary erosion control logs will be installed in the landscaping area located near the proposed location of the vent line, behind the store, and next to the car wash, while temporary silt dike will be installed on the concrete surrounding the construction area as described in the Erosion and Sediment Control Plan. Where disturbed areas will abut existing concrete curbs, either the existing concrete curb will be maintained as a silt dike or erosion control logs will be placed in the soil areas if the curb is removed or damaged. All wash water and construction debris will be detained and properly disposed of as described in the Erosion and Sediment Control Plan and this Temporary Stormwater Section. All excavated soils will be properly contained on site within the construction area if it is to be reused, or will be properly disposed of if it is to be removed from the site. Any construction materials that are tracked onto roadways by construction vehicles will be immediately removed as described in the Erosion and Sediment Control Plan and this Temporary Stormwater Section.

APPENDIX E

ATTACHMENT E

Request to Temporarily Seal a Feature

(Not Applicable)

APPENDIX E

ATTACHMENT F

Structural Practices

APPENDIX E

ATTACHMENT F

Structural Practices

7-Eleven, Inc. Store No. 36257
19185 Stone Oak Parkway
San Antonio, Bexar County, Texas 78258

The temporary BMPs, triangular silt dike and erosion control logs (also known as straw wattles or fiber rolls), will be installed at the perimeter of the construction area as shown to prevent silted run-off from leaving the disturbed area. Erosion control logs will be installed in the landscaping area located near the new vent stack, behind the store, and near the car wash in the unpaved areas. Temporary triangular silt dike will be installed on the concrete surrounding the construction area. Construction areas abutting existing concrete curbs will maintain those concrete curbs as silt dike, and in the event that they are damaged or removed, erosion control logs will be installed in the soil behind them.

APPENDIX E

ATTACHMENT G

Drainage Area Map

(Not Applicable)

APPENDIX E

ATTACHMENT H

Temporary Sediment Pond(s) Plans and Calculations

(Not Applicable)

APPENDIX E

ATTACHMENT I

Inspection and Maintenance for BMPs

APPENDIX E

ATTACHMENT I

Inspection and Maintenance of BMPs

7-Eleven, Inc. Store No. 36257
19185 Stone Oak Parkway
San Antonio, Bexar County, Texas 78258

Minimization of Disturbed Areas:

Contractor shall keep the areas of disturbance to a minimum during construction.

Soil Stabilization:

Soil stabilization is proposed to be employed to prevent soil from eroding and leaving the site. The primary techniques to be used at this project for stabilizing site soils will be to provide a protective cover of grass, pavement, and building structures.

Temporary Seeding or Stabilization:

All disturbed areas that will be inactive for 7 days or more shall be stabilized temporarily with the use of fast-germinating annual grass/grain varieties appropriate for site soil and climate conditions, straw or hay mulch, wood cellulose fibers, tackifiers, netting, and/or blankets. Soil stockpiles and diversion ditches or berms shall be stabilized to prevent erosion and dust.

Permanent Seeding or Sodding:

All areas at final grade shall be seeded or sodded within 7 days after completion of work in that area. Seed immediately after final grade is achieved and soils are prepared to take advantage of soil moisture and seed germination. At the completion of ground disturbing activities, the entire site must have permanent vegetative cover where it is not covered by impervious material such as building or pavement. To minimize the potential for erosion and maximize seed germination and growth, the General Contractor shall evaluate the short- and long-term local forecast prior to applying permanent seed or sod.

Final stabilization is achieved when perennial vegetative cover provides permanent stabilization with a density greater than 70 percent over the entire area to be stabilized by vegetative cover. This area is exclusive of areas that are covered with rock, landscape mulch, pavement, buildings, or other permanent structures.

Erosion Control Logs:

Inspect all erosion control logs daily and after rainfall to make sure that sediment build up is contained. Clean erosion control logs regularly to make sure that sediment is contained. Replace any erosion control logs that are torn or damaged in any way. Dispose of erosion control logs appropriately.

Silt Dike:

Inspect all silt dikes daily and after rainfall to make sure that sediment build up is contained. Clean silt dike regularly and replace any silt dike that is damaged in any way. Dispose of silt dike appropriately.

Storm Drain Inlet Protection:

Curb, grated, drop, and other inlets are protected from the intrusion of sediment though a variety of measures as shown on the details included in the Erosion & Sediment Control Plan. The primary mechanism is to place controls in the path of flow sufficient to slow the sediment laden water to allow settlement of suspended solids prior to discharging into the storm water system. It is possible that as construction progresses from storm water system installation through to paving that the inlet protection devices may change. Care shall be taken in placement of inlet protection as many devices create ponding of storm water at inlets. No storm drains are anticipated to be affected by the construction activities at this site, but these directions are included here as good practice should the need arise.

Roadways:

Inspect all roadways around the construction site daily to make sure that no sediment is being tracked off the construction site. If it is found that some sediment was tracked off of the construction site, it will be cleaned and disposed of immediately.

Record Keeping:

Records pertaining to inspections and maintenance of BMPs will be documented and made available upon TCEQ request.

APPENDIX E

ATTACHMENT J

Schedule of Interim and Permanent Soil Stabilization Practices

APPENDIX E

ATTACHMENT J

Permanent Stabilization Practices

7-Eleven, Inc. Store No. 36257
19185 Stone Oak Parkway
San Antonio, Bexar County, Texas 78258

PERMANENT VEGATATIVE STABILIZATION

- Planting areas to be graded to match existing grades.

- Planting material temporarily moved during construction to be replaced and watered to sufficiently soak the soil to depth of six inches.

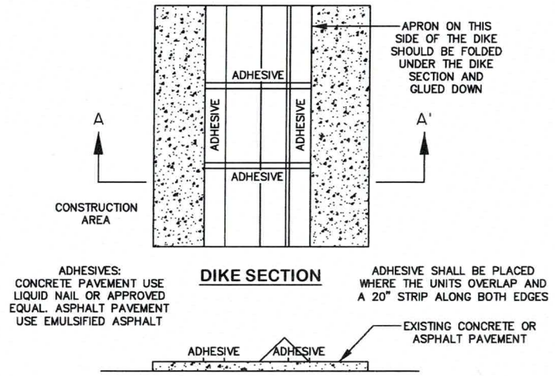
- Replace weed barrier as necessary to match existing materials.

- Mulch area with materials that match existing.

APPENDIX E

ATTACHMENT K

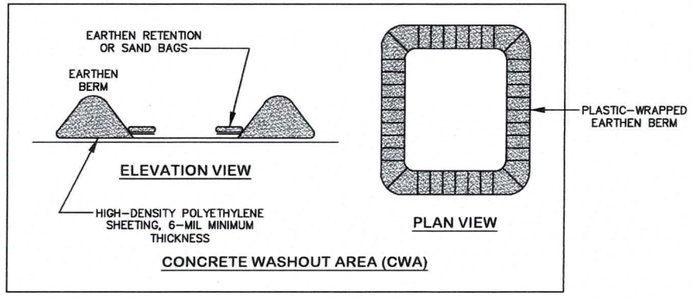
Erosion and Sediment Control Plan



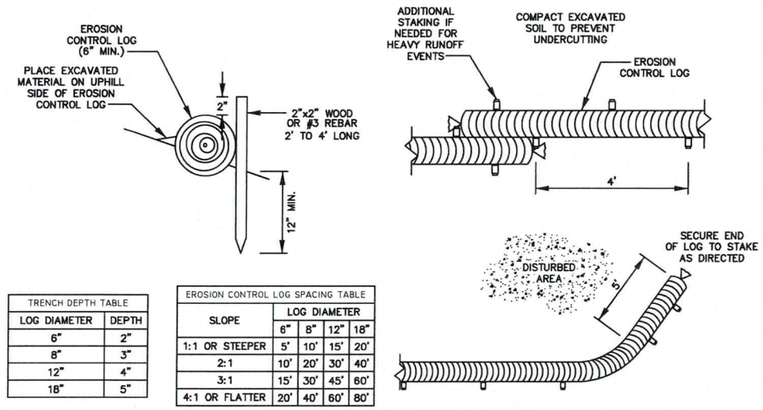
DIKE SECTION

DETAIL A-A'

PAVEMENT SILT DIKE (SD)



CONCRETE WASHOUT AREA (CWA)



TRENCH DEPTH TABLE	
LOG DIAMETER	DEPTH
6"	2"
8"	3"
12"	4"
18"	5"

EROSION CONTROL LOG SPACING TABLE				
SLOPE	LOG DIAMETER			
	6"	8"	12"	18"
1:1 OR STEEPER	5'	10'	15'	20'
2:1	10'	20'	30'	40'
3:1	15'	30'	45'	60'
4:1 OR FLATTER	20'	40'	60'	80'

END SECTION RAP DETAIL

STAKE AND TRENCHING ANCHORING DETAIL (ECL-ST)

NOTES:

1) The Contractor shall be responsible for submitting Notice(s) of Intent and Notice(s) of Termination, as well as any additional information and fees, and for complying with spill prevention, storm water pollution prevention, and other applicable laws of the Texas Commission on Environmental Quality and the United States Environmental Protection Agency. The Contractor assumes responsibility for control of the site during project operations for the purposes of permitting and regulatory compliance.

2) The temporary BMPs will be installed at the perimeter of the construction area prior to commencing project groundbreaking activities as shown and described in the Temporary Stormwater Section and this Erosion and Sediment Control Plan. Temporary erosion control logs will be installed in the landscaping area located near the proposed location of the vent line, and temporary silt dike will be installed on the concrete surrounding the construction area as described herein.

3) All wash water and construction debris will be detained and properly disposed of as described in the Temporary Stormwater Section and in this Plan. Vehicle, equipment, and other washing and cleaning operations shall be conducted within bermed or diked containment area(s), and the Contractor shall containerize the waste fluids, sediments, and debris. The Contractor shall be responsible for the proper profiling and disposal of these waste materials utilizing licensed transporter(s) and disposal facility(ies).

4) Concrete washout area shall be constructed of plastic-wrapped earthen berm, as shown. Concrete washout area shall be maintained during washout operations to prevent overflow from bermed area. Once settled, washout free liquids, soils, concrete, and plastic shall be removed from the site and disposed at a licensed disposal facility. The Contractor shall be responsible for the proper profiling and disposal of these waste materials utilizing licensed transporter(s) and disposal facility(ies).

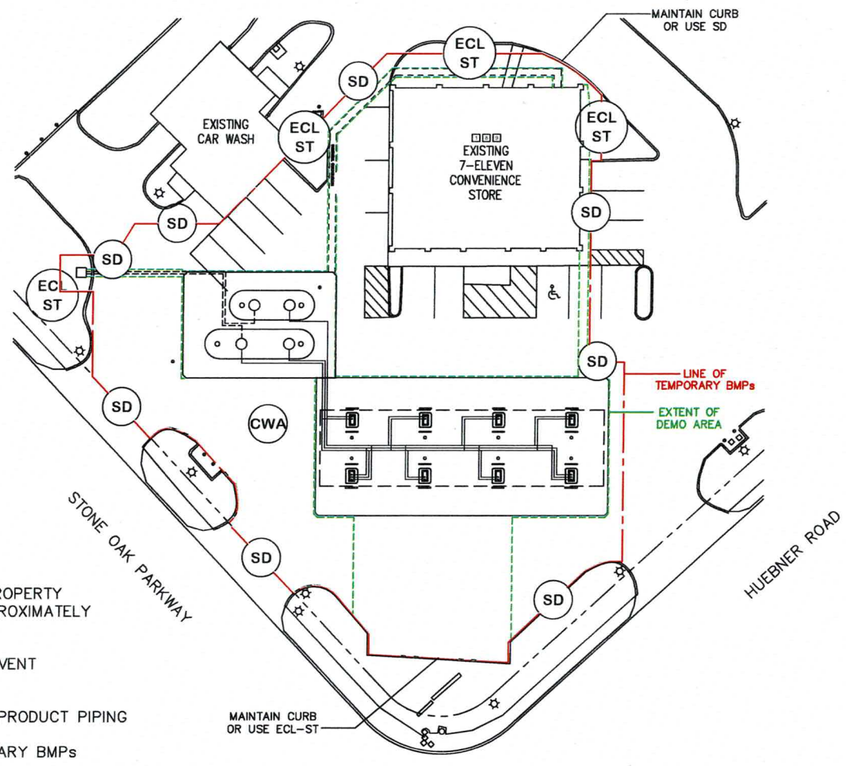
5) All excavated soils will be properly contained on site within the construction area if it is to be reused or properly disposed of if it is to be removed from the site. Soils must be bermed around the perimeter at least six inches high and must be covered prior to any major rain event to prevent run-off.

6) Any construction materials that are tracked onto roadways by construction vehicles will be immediately removed as described in the Temporary Stormwater Section and as stated herein. Soils, sediments, and debris removed from the roadway must be removed from public and private properties and rights of way prior to their runoff and at the completion of the project.

7) All erosion control devices shall be inspected by the Contractor weekly and after all major rain events. Any clogging or backing up of flow, or mud or sediments tracked onto roadways or flowing off-site, shall constitute failure of the devices or of their use, and such failure shall be rectified by the Contractor. Any changes to this Erosion and Sediment Control Plan shall be made with approval by the Engineer. The Contractor assumes all liability for the procurement, installation, operation, maintenance, removal, and disposal of erosion and sediment control devices.

NOTE:

NO LARGE DAY TANK(S) FOR CONSTRUCTION ACTIVITIES TO BE PLACED ON SITE; MAXIMUM CUMULATIVE PERMITTED GASOLINE & DIESEL STORAGE OF 249 GALLONS AT ANY TIME.



LEGEND:

- APPROXIMATE PROPERTY BOUNDARY (APPROXIMATELY 1.53 ACRES)
- PROPOSED NEW VENT PIPING
- PROPOSED NEW PRODUCT PIPING
- LINE OF TEMPORARY BMPs
- DEMOLITION AREA

SIGNATURE	DATE
REVIEW ENGR.	
PROJECT ENGR.	
PROJECT MGR.	
CLIENT:	

APTIM ENVIRONMENTAL & INFRASTRUCTURE, LLC
12005 FORD ROAD, SUITE 600
DALLAS, TEXAS 75234 (972) 773-8400

STATE OF TEXAS
JASON C. RAMSAY
120751
LICENSED
PROFESSIONAL ENGINEER
10/1/24

JASON RAMSAY, P.E.
TEXAS LICENSE No. 120751
12005 FORD ROAD, SUITE 600
DALLAS, TEXAS 75234
FIRM No. F-5650
APTIM ENVIRONMENTAL & INFRASTRUCTURE, LLC.

7-ELEVEN STORE No. 36257
19185 STONE OAK PARKWAY
SAN ANTONIO, BEXAR COUNTY, TEXAS
PST FACILITY ID No. 67294

EROSION and SEDIMENT CONTROL PLAN

DESIGNED BY:	DETAILED BY:	CHECKED BY:
JRAM	SDJF	JRAM

DATE: 3-5-24	FILE: 9908B2
PROJECT NO.: 631029908	CONTRACT:
DRAWING: 2	REVISION:

APPENDIX F

AGENT AUTHORIZATION FORMS (TCEQ-0599) &

OWNER AUTHORIZATION FORM

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

I Raymond McNiece,
Print Name

Regional Gasoline Environmental Compliance Manager (RGECM),
Title - Owner/President/Other

of 7-Eleven, Inc.,
Corporation/Partnership/Entity Name

have authorized _____
Print Name of Agent/Engineer

of CoreStates, 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

3/7/2024
Date

THE STATE OF Texas §

County of Dallas §

BEFORE ME, the undersigned authority, on this day personally appeared Raymond McNiece 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 7th day of March, 2024

SHANTELLE GRIER-GREEN
Notary Public, State of Texas
Comm. Expires 01-30-2027
Notary ID 13187260-5

Shantelle Grier-Green
NOTARY PUBLIC

Shantelle Grier-Green
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 01-30-2027

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

I Raymond McNiece,
Print Name

Regional Gasoline Environmental Compliance Manager (RGECM),
Title - Owner/President/Other

of 7-Eleven, Inc.,
Corporation/Partnership/Entity Name

have authorized _____,
Print Name of Agent/Engineer

of Aptim Environmental and Infrastructure LLC
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Applicant's Signature

3/7/2024
Date

THE STATE OF Texas §
County of Dallas §

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GIVEN under my hand and seal of office on this 7th day of March 2024

Shantelle Grier-Green
NOTARY PUBLIC

SHANTELLE GRIER-GREEN
Notary Public, State of Texas
Comm. Expires 01-30-2027
Notary ID 13187260-5

Shantelle Grier-Green
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 01-30-2027

Owner Authorization Form

for Required Signature for submitting and signing an application for an Edwards Aquifer Protection Plan (Plan) and conducting regulated activities in accordance with an approved Plan.

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program
Relating to the Edwards Aquifer Rules of
Title 30 of the Texas Administrative Code
(30 TAC), Chapter 213
Effective June 1, 1999

Land Owner Authorization

I, Karolina Ericsson, in my capacity as an officer of MDC Coast 6, LLC

Signatory (Individual) — Owner of Record (applicable to Legal Entities)

am authorized by the Owner of Record of the property located at:

NCB 17608, Block 2, Lot 59 (The Pumps at Sonterra), Bexar County Central Appraisal District Property ID 661852

(Legal description of the property referenced in the application)

and being duly authorized under 30 TAC § 213.4(c)(2) and § 213.4(d)(1) or § 213.23(c)(2) and § 213.23(d) to submit and sign an application for a Plan, do hereby authorize:

7-Eleven, Inc.

(Applicant Name / Plan Holder (Legal Entity or Individual))

to conduct:

Underground Storage Tank System Replacement Activities

(Description of the proposed regulated activities)

on the property described above or at:

19185 Stone Oak Parkway, San Antonio, TX 78258

(If applicable to a precise location for the authorized regulated activities)

Land Owner Acknowledgement

I, Karolina Ericsson, in my capacity as an officer of MDC Coast 6, LLC

Signatory (Individual) — Owner of Record (applicable to Legal Entities)

understand that while 7-Eleven, Inc.

Applicant Name / Plan Holder (Legal Entity or Individual)

is responsible for compliance with the approved or conditionally approved Plan and any special conditions of the approved Plan through all phases of Plan implementation,

I, Karolina Ericsson, in my capacity as an officer of MDC Coast 6, LLC

Signatory (Individual) Owner of Record (applicable to Legal Entities)

as Owner of Record or Title Holder of the property described above, I am ultimately responsible for ensuring that compliance with the approved or conditionally approved Plan and any special conditions of the approved Plan, through all phases of Plan implementation, is achieved even if the responsibility for compliance and the right to possess and control of the property referenced in the application has been contractually assumed by another legal entity.

I, Karolina Ericsson, in my capacity as an officer of MDC Coast 6, LLC

Signatory (Individual) Owner of Record (applicable to Legal Entities)

further understand that any failure to comply with any condition of the Executive Director's approval is a violation and is subject to administrative rule or orders and penalties as provided under 30 TAC § 213.10 (relating to Enforcement). Such violation may also be subject to civil penalties and injunction.

Land Owner Signature MDC Coast 6, LLC,
a Delaware limited liability company

Land Owner Signature Karolina Ericsson, SVP, Associate General Counsel, Assistant Secretary

11/20/2024
Date

Approved As To Form
Legal Department
A. Hankins

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 _____ day of _____

SEE ATTACHED CERTIFICATE

NOTARY PUBLIC

_____

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: _____

Attached: (Mark all that apply)

- ☐ Lease Agreement
- ☐ Signed Contract
- ☐ Deed Recorded Easement
- ☐ Other legally binding document

ACKNOWLEDGMENT

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA

COUNTY OF SAN DIEGO

On November 20, 2024, before me, Arianna Howard Notary Public, personally appeared Karolina Ericsson, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity(ies), and that by his signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

ARIANNA HOWARD
Notary Public - California
San Diego County
Commission # 2469561
My Comm. Expires Nov 4, 2027

Signature of Notary Public (Notary Seal)

Applicant Acknowledgement

I, Raymond McNiece of 7-Eleven, Inc
Applicant Name (Individual) Firm (applicable to Legal Entities)

acknowledge that MDC Coast 6, LLC
Land Owner Name (Legal Entity or Individual)

has provided 7-Eleven, Inc.
Applicant Name (Legal Entity or Individual)

with the right to possess and control the property referenced in the Edwards Aquifer Protection Plan (Plan).

I understand that 7-Eleven, Inc.
Applicant Name (Legal Entity or Individual)

is responsible, contractually or not, for compliance with the approved or conditionally approved Plan and any special conditions of the approved Plan through all phases of Plan implementation. I further understand that failure to comply with any condition of the Executive Director's approval is a violation and is subject to administrative rule or orders and penalties as provided under § 213.10 (relating to Enforcement). Such violation may also be subject to civil penalties and injunction.

Applicant Signature

Applicant Signature

11/22/24
Date

THE STATE OF § Texas

County of § Llano

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 22nd day of November, 2024

Kay Lynn Schlichting
NOTARY PUBLIC

Kay Lynn Schlichting
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 1/9/2028

KAY LYNN SCHLICHTING NOTARY PUBLIC STATE OF TEXAS ID 124808574 EXP. 01-09-2028

APPENDIX G

APPLICATION FEE FORM

(TCEQ-0574)

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program
Application Fee Form

NAME OF PROPOSED REGULATED ENTITY: 7-Eleven, Inc. Store No. 36257
REGULATED ENTITY LOCATION: 19185 Stone Oak Parkway, San Antonio, TX 78258
NAME OF CUSTOMER: 7-Eleven, Inc.
CONTACT PERSON: Jessica Jones PHONE: 940-395-1937
(Please Print)

Customer Reference Number (if issued): CN 600240329 (nine digits)

Regulated Entity Reference Number (if issued): RN 102456787 (nine digits)

Austin Regional Office (3373) ☐ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362) ☒ Bexar ☐ Comal ☐ Medina ☐ Kinney ☐ Uvalde

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 (Check One):

☐ **Austin Regional Office**

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

☒ **San Antonio Regional Office**

☐ **Overnight Delivery to TCEQ**:
TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
512/239-1278

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	2 Each	$ 1,300
Piping System(s)(only)	Each	&
Exception	Each	$
Extension of Time	Each	$

Jessica Jones
Signature

10/22/2024
Date

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program
Application Fee Schedule
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 ePay Receipt

APPENDIX H

CORE DATA FORM

(TCEQ-10400)

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

☒ Other **EAPP Modification**

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 600240329		**RN 102456787**

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy) 2/26/2024

☐ 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:*

7-Eleven, Inc.

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
		751085131	

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

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

12. Number of Employees

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

13. Independently Owned and Operated?

☐ **Yes** ☒ **No**

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

☐ Owner ☒ Operator ☐ Owner & Operator

☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant ☐ Other:

15. Mailing Address:

PO Box 711

City	Dallas	State	TX	ZIP	75221	ZIP + 4	0711

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*
	Bill.Holcomb@7-11.com

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

(925) 785-6808		( ) -

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.)*

7-Eleven, Inc. Store No. 36257

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	19185 Stone Oak Parkway							
	City	San Antonio	**State**	TX	**ZIP**	78258	**ZIP + 4**	4132
24. County	Bexar							

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

25. Description to Physical Location:	Property is located at the SW corner of Huebner Rd. and Stone Oak Pkwy.

26. Nearest City	**State**	**Nearest ZIP Code**
San Antoino	TX	78249

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

27. Latitude (N) In Decimal:	29.56511		**28. Longitude (W) In Decimal:**	-98.5867	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	37	35.02	98	29	43.47

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)
5411	5541	447110	447190

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

Retail Petroleum Facility

34. Mailing Address:								
	City		**State**		**ZIP**		**ZIP + 4**	
35. E-Mail Address:								

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

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

☐ Dam Safety	☐ Districts	☒ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
		13-94021501, 13-94021501A, 13-94021501B, and 13-94021501C		
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☒ Petroleum Storage Tank	☐ PWS
			67294	
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Jessica Jones	**41. Title:**	Project Manager

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(940 **)** 395-1937		**( )** -	Jessica.Jones@aptim.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Aptim Environmental & Infrastructure LLC (on behalf of 7-Eleven, Inc.)	**Job Title:**	Project Manager
Name *(In Print):*	Jessica Jones	**Phone:**	**(** 940 **)** 395- **1937**
Signature:	Jessica Jones	**Date:**	10/22/2024

North American Industry Classification System

2012 NAICS Definition

T = Canadian, Mexican, and United States industries are comparable.

447110 Gasoline Stations with Convenience Stores

This industry comprises establishments engaged in retailing automotive fuels (e.g., diesel fuel, gasohol, gasoline) in combination with convenience store or food mart items. These establishments can either be in a convenience store (i.e., food mart) setting or a gasoline station setting. These establishments may also provide automotive repair services.

Cross-References. Establishments primarily engaged in--

- Retailing automotive fuels without a convenience store--are classified in Industry 447190, Other Gasoline Stations; and
- Retailing a limited line of goods, known as convenience stores or food marts (except those with fuel pumps)--are classified in Industry 445120, Convenience Stores.

2002 NAICS	2007 NAICS	2012 NAICS	Corresponding Index Entries
447110	447110	447110	Convenience food with gasoline stations
447110	447110	447110	Gasoline stations with convenience stores
447110	447110	447110	Gasoline with convenience stores

NAICS Code 447190 Other Gasoline Stations

- Classification /
- Retail Trade /
- Gasoline Stations /
- Gasoline Stations /
- Other Gasoline St... /
- Other Gasoline Stations

Industry

Retail Trade

Description

this industry comprises establishments known as gasoline stations (except those with convenience stores) primarily engaged in one of the following: (1) retailing automotive fuels (e.g., diesel fuel, gasohol, gasoline, alternative fuels) or (2) retailing these fuels in combination with activities, such as providing repair services; selling automotive oils, replacement parts, and accessories; and/or providing food services.

Cross References

establishments primarily engaged in-- repairing motor vehicles without retailing automotive fuels--are classified in industry group 8111, automotive repair and maintenance; and retailing automotive fuels in combination with a convenience store or food mart--are classified in industry 447110, gasoline stations with convenience stores.

Illustrative Examples

gasoline stations without convenience stores truck stops marine service stations

Industries Included

- Gasoline stations without convenience stores
- Marine service stations
- Service stations, gasoline
- Truck stops

Industry Leaders

- Travel Centers Of America
- Kayo Oil Co
- Certified Oil Co
- Erickson Oil Prods Inc
- Triple S Petroleum
- Love's Travel Stops & Country
- Tri Star Energy LLC
- Conoco Phillips Petroleum-Los Angeles Refinery
- Pilot Flying J
- E & C Enterprises Inc

Source: https://siccode.com/en/naicscodes/447190/other-gasoline-station