

JUNIPER VENTURES OF TEXAS, LLC

UNDERGROUND STORAGE TANK (UST) FACILITY PLAN

**Fischer's Neighborhood Market #54
Evans Rd./TPC Pkwy**

**Bexar County, Texas
Project No. 1163F-25**

Prepared for:
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JUNE 2025

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Section 1.0

UNDERGROUND STORAGE TANK FACILITY PLAN CHECKLIST

Underground Storage Tank Facility Plan Checklist

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 - Attachment B - USGS / Edwards Recharge Zone Map
 - Attachment C - Project Description
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 - Attachment I - Inspection and Maintenance for BMPs
 - Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices
- ✕ **Agent Authorization Form (TCEQ-0599), if application submitted by agent**
- ✕ **Application Fee Form (TCEQ-0574)**
- ✕ **Check Payable to the “Texas Commission on Environmental Quality”**
- ✕ **Core Data Form (TCEQ-10400)**

Section 2.0

EDWARDS AQUIFER APPLICATION COVER PAGE

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: Fischer's Neighborhood Market #54				2. Regulated Entity No.:			
3. Customer Name: Juniper Ventures of Texas, LLC				4. Customer No.: CN605607688			
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
7. Land Use: (Please circle/check one)	Residential		Non-residential		8. Site (acres):		1.93 acres
9. Application Fee:	\$1,300		10. Permanent BMP(s):			NA	
11. SCS (Linear Ft.):	NA		12. AST/UST (No. Tanks):			Two (2)	
13. County:	Bexar		14. Watershed:			Elm Waterhole Creek	

Application Distribution

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

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

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

Austin Region			
County:	Hays	Travis	Williamson
Original (1 req.)	—	—	—
Region (1 req.)	—	—	—
County(ies)	—	—	—
Groundwater Conservation District(s)	☐ Edwards Aquifer Authority ☐ Barton Springs/ Edwards Aquifer ☐ Hays Trinity ☐ Plum Creek	☐ Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	☐ Austin ☐ Buda ☐ Dripping Springs ☐ Kyle ☐ Mountain City ☐ San Marcos ☐ Wimberley ☐ Woodcreek	☐ Austin ☐ Bee Cave ☐ Pflugerville ☐ Rollingwood ☐ Round Rock ☐ Sunset Valley ☐ West Lake Hills	☐ Austin ☐ Cedar Park ☐ Florence ☐ Georgetown ☐ Jerrell ☐ Leander ☐ Liberty Hill ☐ Pflugerville ☐ Round Rock

San Antonio Region					
County:	Bexar	Comal	Kinney	Medina	Uvalde
Original (1 req.)	<u>X</u>	—	—	—	—
Region (1 req.)	<u>X</u>	—	—	—	—
County(ies)	<u>X</u>	—	—	—	—
Groundwater Conservation District(s)	☒ Edwards Aquifer Authority ☒ Trinity-Glen Rose	☐ Edwards Aquifer Authority	☐ Kinney	☐ EAA ☐ Medina	☐ EAA ☐ Uvalde
City(ies) Jurisdiction	☐ Castle Hills ☐ Fair Oaks Ranch ☐ Helotes ☐ Hill Country Village ☐ Hollywood Park ☒ San Antonio (SAWS) ☐ Shavano Park	☐ Bulverde ☐ Fair Oaks Ranch ☐ Garden Ridge ☐ 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.

Ralph Voss Jr., P.E.

Print Name of Customer/Authorized Agent

Ralph Voss Jr.

06/17/25

Signature of Customer/Authorized Agent

Date

****FOR TCEQ INTERNAL USE ONLY****

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

Section 3.0

GENERAL INFORMATION FORM

General Information Form

Texas Commission on Environmental Quality

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

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

Note: Including all the information requested in the form 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: Ralph Voss Jr., P.E

Date: 06/17/25

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Fischer's Neighborhood Market #54
2. County: Bexar
3. Stream Basin: Elm Waterhole Creek
4. Groundwater Conservation District (If applicable): Trinity Glen-Rose
5. Edwards Aquifer Zone:

- ☒ Recharge Zone
☐ Transition Zone

6. Plan Type:

- ☐ WPAP
☐ SCS
☐ Modification

- ☐ AST
☒ UST
☐ Exception Request

7. Customer (Applicant):

Contact Person: Rodney R. Fischer
Entity: Juniper Ventures of Texas, LLC
Mailing Address: P.O. Box 310339
City, State: New Braunfels, TX
Telephone: (830)625-4214, ext. #105
Email Address: rodney@midtexoil.com

Zip: 78131
FAX: NA

8. Agent/Representative (If any):

Contact Person: Ralph Voss Jr., P.E.
Entity: Forster Engineering
Mailing Address: 401 Maricopa Drive
City, State: Canyon Lake, TX
Telephone: (210)289-0580
Email Address: rvoss@forsterengineering.com

Zip: 78133
FAX: NA

9. Project Location:

- ☐ The project site is located inside the city limits of ____.
- ☒ The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of San Antonio
- ☐ 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.

NW corner of Evans Rd and TPC Pkwy intersection

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.

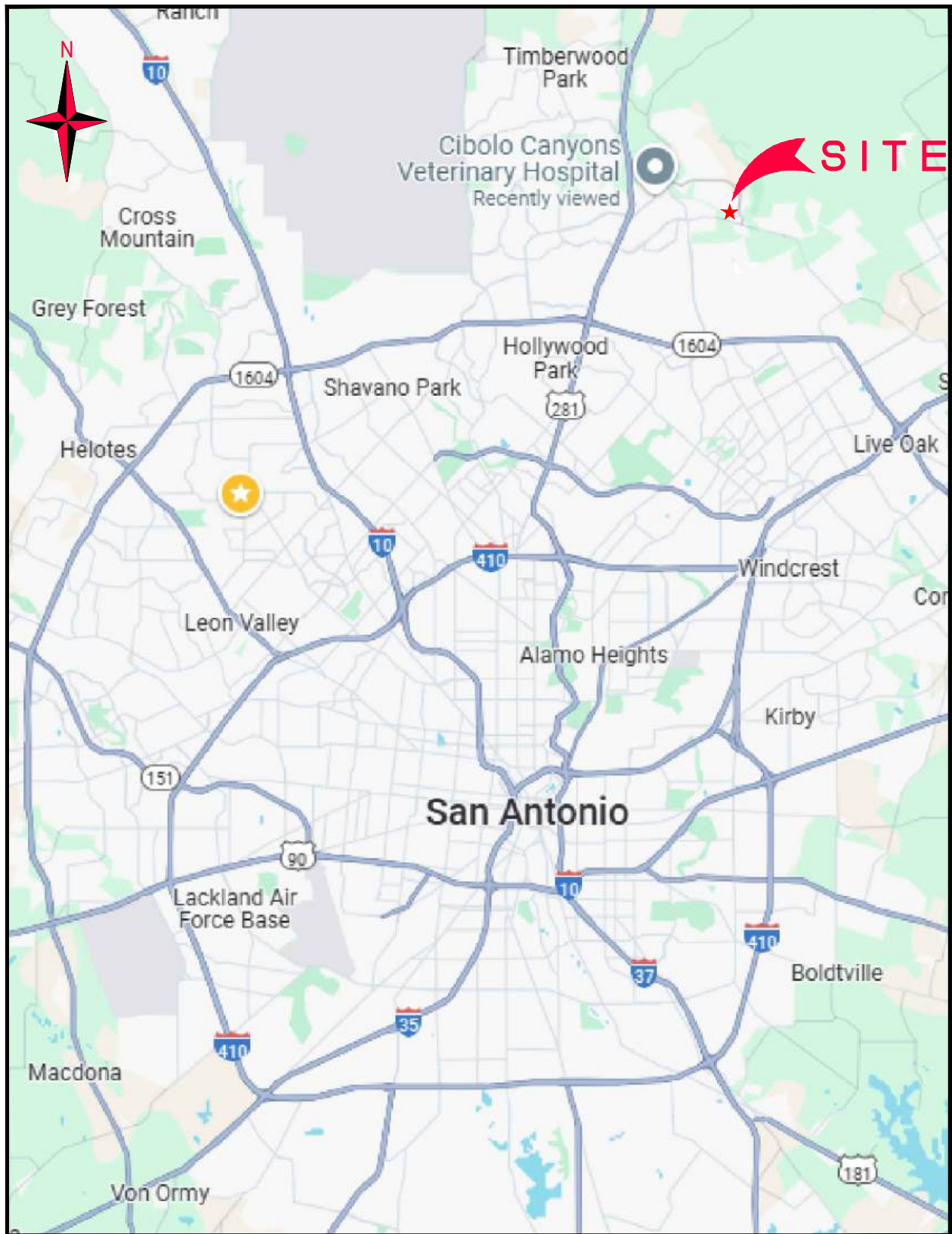
19. ☒ Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:

- ☐ 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.

FISCHER'S NEIGHBORHOOD
MARKET #54
UNDERGROUND STORAGE TANK (UST) PLAN



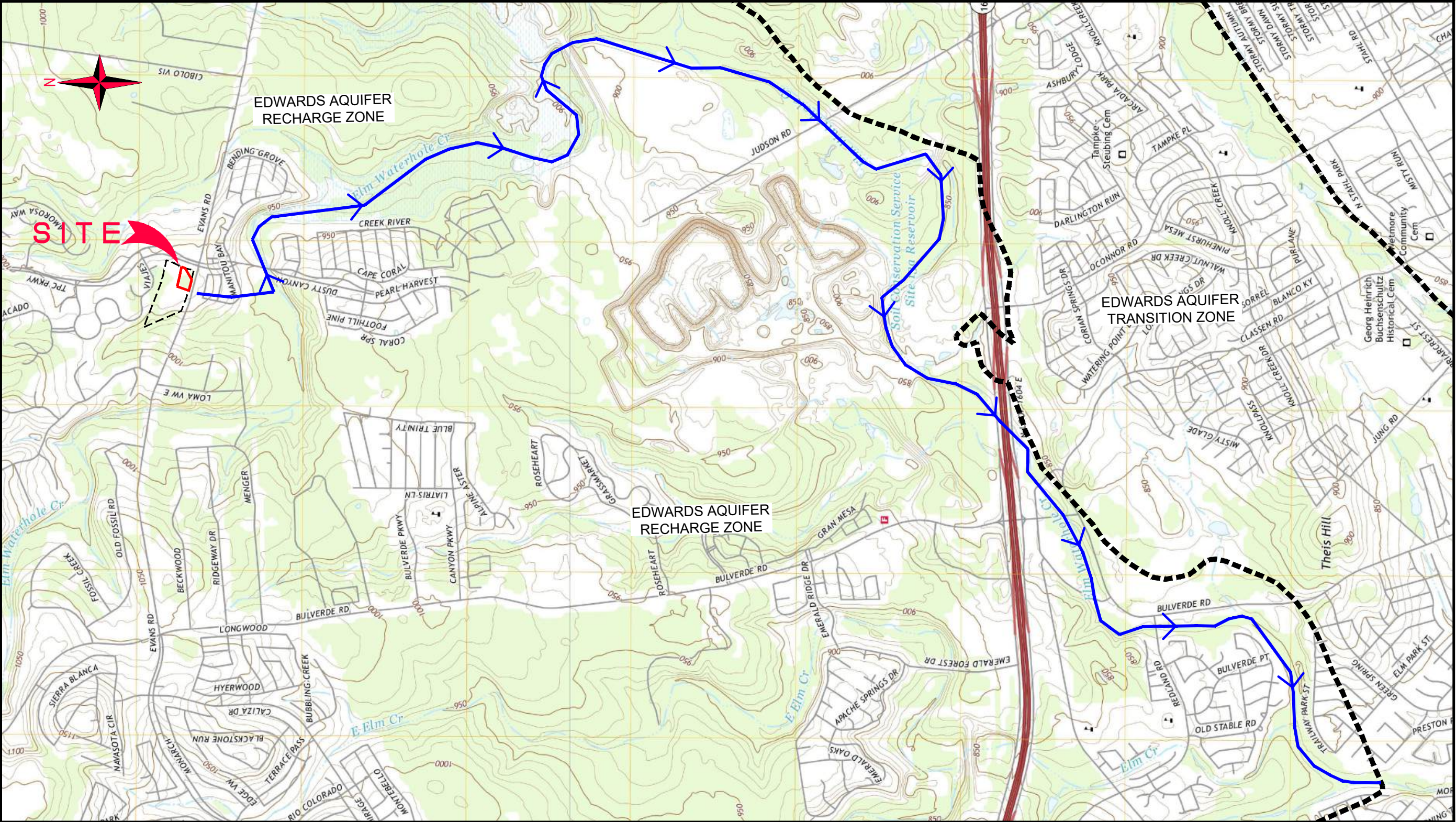
ROAD MAP

(Base Map: Google Maps - 2025)

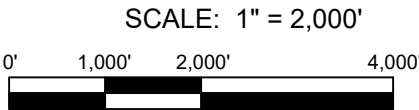
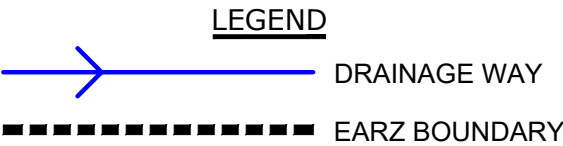
SCALE: 1" = 20,000'



FISCHER'S NEIGHBORHOOD
MARKET #54
UNDERGROUND STORAGE TANK (UST) PLAN



EDWARDS AQUIFER RECHARGE ZONE MAP
(Base Map: USGS TOPOGRAPHIC MAPS
BULVERDE & LONGHORN, TEXAS 7.5' QUADRANGLES)



GENERAL INFORMATION FORM TCEQ-0587
ATTACHMENT C
PROJECT DESCRIPTION

Fischer's Neighborhood Market #54 will be located on 1.93 acres at the northwest (NW) corner of Evans Road and TPC Parkway as illustrated on the Road Map (Attachment A). This commercial project will include the construction of a convenient store, fuel pumps, car wash, drive thru fast-food establishment (Whataburger), parking area, utilities, and drainage improvements. The site is in the ETJ of San Antonio, Bexar County and is in the Edwards Aquifer Recharge Zone. The project site is undeveloped, outside the 100-year floodplain, and located north of Elm Waterhole Creek. The adjacent properties include established commercial, residential and undeveloped sites.

This 1.93-acre site is currently undeveloped and is part of the 14.85-acre commercial development known as Cibolo Canyons VIP2. A Water Pollution Abatement Plan (WPAP) Modification prepared by Pape-Dawson Engineers was approved by TCEQ for Cibolo Canyons VIP2 on May 14, 2020 (EAPP ID No. 13001099). No sensitive geologic features were identified in the corresponding Geologic Assessment. Additionally, this Modification approved 5.12 acres of impervious cover on the 14.85-acre site with one (1) batch detention basin, one (1) engineered vegetative filter strip (VFS) and one (1) existing sedimentation/filtration basin as Permanent Best Management Practices (PBMPs) to treat increased TSS load from the site. No additional impervious cover is proposed for the 1.93-acre Fischer's Neighborhood Market #54 site from what was previously approved, and therefore no additional PBMPs or equivalent protection are required. To this end, a WPAP Exception Request has been prepared by Pape-Dawson that addresses the Fischer's Neighborhood Market #54 site and is currently under review by TCEQ.

This Underground Storage Tank (UST) Facility Plan is for two proposed fuel storage tanks...(1) a new one-chamber 14,850-gallon double-walled, jacketed tank and (2) a new two-chamber 7,900-gallon (3,950-gallons per chamber) double-walled, jacketed tank. Please reference the UST Facility Plan Form (TCEQ-0583) Attachment A, for a detailed narrative of the UST Facility.

Section 4.0

GEOLOGIC ASSESSMENT FORM

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: Henry Stultz III

Telephone: 210-375-9000

Date: *December 9, 2019*

Fax: 210-375-9090

Representing: Pape-Dawson Engineers, Inc., Texas Board of Professional Geoscientists No. 50351
(Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: CIBOLO CANYONS VIP 2



Section 1.01 Project Information

1. Date(s) Geologic Assessment was performed: August 15, 2000 – January 26, 2001; December 5, 2019
2. Type of Project:

☒ WPAP	☐ AST
☐ SCS	☐ UST
3. Location of Project:

☒ Recharge Zone
☐ Transition Zone
☐ Contributing Zone within the Transition Zone

CIBOLO CANYONS VIP 2 Geologic Assessment

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)
Crawford and Bexar stoney soils (Cb)	D	2-3

* Soil Group Definitions (Abbreviated)

- A. Soils having a high infiltration rate when thoroughly wetted.
B. Soils having a moderate infiltration rate when thoroughly wetted.
C. Soils having a slow infiltration rate when thoroughly wetted.
D. Soils having a very slow infiltration rate when thoroughly wetted.
6. ☒ **Attachment B – Stratigraphic Column.** A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.
7. ☒ **Attachment C – Site Geology.** A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.
8. ☒ **Attachment D – Site Geologic Map(s).** The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1": 400'
- Applicant's Site Plan Scale: 1" = 50'
Site Geologic Map Scale: 1" = 50'
Site Soils Map Scale (if more than 1 soil type): N/A
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.

CIBOLO CANYONS VIP 2 Geologic Assessment

12. ☒ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.
- ☐ Geologic or manmade features were not discovered on the project site during the field investigation.
13. ☒ The Recharge Zone boundary is shown and labeled, if appropriate.
14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.
- ☒ There are (1) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
- ☐ The wells are not in use and have been properly abandoned.
- ☒ The wells are not in use and will be properly abandoned.
- ☐ The wells are in use and comply with 16 TAC Chapter 76.
- ☐ There are no wells or test holes of any kind known to exist on the project site.

Administrative Information

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

ATTACHMENT A

PROJECT NAME: CIBOLO CANYONS VIP 2

[illegible]

DATUM: NAD 83



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

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.

[Signature]

Date December 9, 2019

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

ATTACHMENT B

CIBOLO CANYONS VIP 2 **Stratigraphic Column**

Period	Epoch	Group	Formation	Member	Thickness	Lithology	Hydro- logic Unit	Hydrostratigra- phic Unit	Hydrologic Function	Porosity	Cavern Development
Cretaceous	Late Cretaceous	Washita	George-town	--	20-30	Reddish-brown, gray to light tan, shaley mudstone and wackestone; commonly contains black dendrites, iron nodules, and iron staining; often fossiliferous with <i>Plesioturritilites brazoensis</i> , <i>Waconella wacoensis</i> common	Edwards Aquifer	I	Confining	MO	None
			Person	Cyclic and marine, undivided	80-90	Pelletal limestone; ranges from chalk to mudstone and miliolid grainstone; thin to massive beds; some crossbedding evident; a packstone containing large caprinids is present near contact with the overlying Georgetown Formations; chert is common as beds and large nodules		II	Aquifer	MO, BU, VUG, BP, FR, CV	Many subsurface; might be associated with earlier karst development
	Leached and collapsed, undivided	70-90		Hard, dense, recrystallized limestone;mudstone, wackestone, packstone, and grainstone; contains chert as beds and large nodules; heavily bioturbated with iron-stained beds; often stromatolitic; <i>Toucasia</i> sp. Often found above contact with the underlying regional dense member; <i>Montastrea roemeriana</i> and oysters rare	III	Aquifer		BU, VUG, FR, BP, BR, CV	Extensive lateral development; large rooms		
	Regional dense	20-24		Dense, shaly limestone; oyster shell mudstone and iron wackestone; wispy iron staining; chert nodules rarer than in the rest of the chert-bearing Edwards Group	IV	Confining		FR, CV	Very few; only vertical fracture enlargement		
	Kainer	Grainstone		40-50	Hard, dense limestone that consists mostly of a tightly cemented miliolid skeletal fragment grainstone; contains interspersed chalky mudstone and wackestone; chert as beds and nodules; crossbedding and ripple marks are common primarily at the contact with the overlying regional dense bed	V		Aquifer	IP, IG, BU, FR, BP, CV	Few	
		Kirsch-berg Evaporite	40-50	Highly altered crystalline limestone and chalky mudstone with occasional grainstone associated with tidal channels; chert as beds and nodules, boxwork molds are common, matrix recrystallized to a coarse grain spar; intervals of collapse breccia and travertine deposits	VI	Aquifer		IG, MO, VUG, FR, BR, CV	Probably extensive cave development		
		Dolomitic	90-120	Hard, dense to granular, dolomitic limestone; chert as beds and nodules (absent in lower 20 ft); <i>Toucasia</i> sp. abundant; lower three-fourths composed of sucrosic dolomites and grainstones with hard, dense limestones interspersed; upper one-fourth composed mostly of hard, dense mudstone, wackestone, packstone, grainstone, and recrystallized dolomites with bioturbated beds	VII	Aquifer		IP, IC, IG, MO, BU, VUG, FR, BP, CV	Caves related to structure or bedding planes		
		Basal nodular	40-50	Moderately hard, shaly, nodular, burrowed mudstone to miliolid grainstone that also contains dolomite; contains dark, spherical textural features known as black rotund bodies; <i>Ceratostreon texana</i> , <i>Caprina</i> sp., miliolids, and gastropods	VIII	Aquifer, confining unit in areas without caves		IP, MO, BU, BP, FR, CV	Large lateral caves at surface		

Source: Clark, Golab, and Morris (2016); Cavern development modified from Stein and Ozuna (1995). Porosity types - Fabric selective: IP, interparticle porosity; IG, intergranular porosity; IC, intercrystalline porosity; SH, shelter porosity; MO, moldic porosity; BU, burrowed porosity; FE, fenestral; BP, bedding plane porosity. Not fabric selective: FR, fracture porosity; CH, channel porosity; BR, breccia; VUG, vug porosity; CV, cave porosity.

ATTACHMENT C

CIBOLO CANYONS VIP 2

Geologic Assessment

SUMMARY

The Cibolo Canyons VIP 2 tract is located in Bexar County, Texas located northwest of the intersection of Evans Road and TPC Parkway. The site is currently vacant land. Historical aerial photographs indicate the site was predominantly agricultural rangeland. Graded fill material has been placed over much of the site.

The site was part of a larger tract, originally mapped during the Geologic Assessment for the Cibolo Canyon Resort Community WPAP, Edwards Aquifer Permit 13-01120502, approved June 26, 2002.

Based on the results of the field survey conducted in accordance with *Instructions for Geologists for Geologic Assessments in the Edwards Aquifer Recharge/Transition Zones (TCEQ-0585 Instructions)*, no naturally-occurring sensitive features were identified on site. The overall potential for fluid migration to the Edwards Aquifer for the site is low.

SITE GEOLOGY

As observed through field evidence, the subject site is located within the leached and collapsed (Keplc) member of the Person formation. The Keplc is characterized by interbedded, iron-stained, massive and bioturbated limestone with abundant chert. Karst development within the Keplc is generally characterized by large sinkholes. Caves often develop as large horizontal rooms. (Clark, 2016).

The predominant trend of faults in the vicinity of the site is approximately N60°E, based on faults identified during the previous mapping of the area.

FEATURE DESCRIPTIONS:

A description of the features observed onsite is provided below:

- Feature S-1
Feature S-1 is an existing sewer line that is not located beneath pavement which connects to the north adjacent residential development. The sewer line has been trenched through bedrock and backfilled with a mix of fine and coarse fill material that may be more permeable than surrounding undisturbed areas. Therefore, the probability of rapid infiltration is intermediate.
- Feature S-2
Feature S-2 is an existing sewer line that is not located beneath pavement, which runs along the north side of Evans Parkway. The sewer line has been trenched through bedrock and backfilled with a mix of fine and coarse fill material that may be more permeable than

CIBOLO CANYONS VIP 2 Geologic Assessment

surrounding undisturbed areas. Therefore, the probability of rapid infiltration is intermediate.

- Feature S-48

Feature S-48 is an existing water well with 8 5/8-inch casing that extends above the ground surface on a surface slab. It was completed in October 2000 into the Middle Trinity Aquifer, 1330 feet below ground surface, with steel casing set and pressure cemented into the upper portion of the Lower Glen Rose. It is capped and not currently in use. The probability for rapid infiltration is low.

REFERENCES

Clark, A.K., Golab, J.A., and Morris, R.R., 2016, Geologic Framework and Hydrostratigraphy of the Edwards and Trinity Aquifers Within Northern Bexar and Comal Counties, Texas: U.S. Geological Survey Scientific Investigations Map 3366, scale 1:24,000, 20 p. pamphlet.

Nationwide Environmental Title Research, LLC. Historical Aerials. historicalaerials.com. Web. December 1, 2019.

Texas Water Development Board, Wells in TWDB Groundwater Database Viewer, <http://www2.twdb.texas.gov/apps/waterdatainteractive/groundwaterdataviewer>, December 1, 2019.

ATTENTION OWNER: Confidentiality
Privilege Notice on Reverse SideState of Texas
WELL REPORTTexas Water Well Drillers Advisory Council
P.O. Box 13087
Austin, TX 78711-3087
512-239-05301) OWNER Lumbermans Investment Co. ADDRESS 1919 OAKWELL FARM SAT TEXAS 78218
(Name) (Street or RFD) (City) (State) (Zip)2) ADDRESS OF WELL:
County Bexar Evans Rd. Well #4 San Antonio Tx GRID # 68-21-9
(Street, RFD or other) (City) (State) (Zip)3) TYPE OF WORK (Check):
☒ New Well ☐ Deepening
☐ Reconditioning ☐ Plugging4) PROPOSED USE (Check): ☐ Monitor ☐ Environmental Soil Boding Domestic
☐ Industrial Irrigation ☐ Injection ☒ Public Supply ☐ De-watering ☐ Testwell
If Public Supply well, were plans submitted to the TNRCC? ☒ Yes ☐ No6) WELL LOG:
Date Drilling:
Started 8-30 20 00
Completed 10-03 20 00DIAMETER OF HOLE
Dia. (in.) From (ft.) To (ft.)
12 1/4 Surface 880
7 7/8 880 13307) DRILLING METHOD (Check): ☐ Driven
☒ Air Rotary ☐ Mud Rotary ☐ Bored
☐ Air Hammer ☐ Cable Tool ☐ Jetted
☐ Other _____5) _____
N

From (ft.)	To (ft.)	Description and color of formation material
0	280	White Limestone
280	880	No Returns
880	960	Gray Limestone
960	1028	Tan Limestone
1028	1105	Blue Shale
1105	1178	White & Red Broken Limestone
1178	1252	Blue Shale - Bexar
1252	1330	Tan Limestone - Cow Creek

8) Borehole Completion (Check): ☒ Open Hole ☐ Straight Wall
☐ Underreamed ☐ Gravel Packed Other _____
If Gravel Packed give interval ... from _____ ft. to _____ ft.

CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New Or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.)		Gage Casting Screen
			From	To	
8 5/8	N	Steel	0	880	SCH 40

9) CEMENTING DATA [Rule 338.44(1)]

Cemented from 0 ft. to 880 ft. No. of sacks used 260
ft. to _____ ft. No. of sacks used _____Method used Pressure CementCemented by DowellDistance to septic system field lines or other concentrated contamination 150 ft.Method of verification of above distance Measured

10) SURFACE COMPLETION

- ☒ Specified Surface Slab Installed [Rule 338.44(2)(A)]
☐ Specified Steel Sleeve Installed [Rule 338.44(3)(A)]
☐ Pitless Adapter Used [Rule 338.44(3)(b)]
☐ Approved Alternative Procedure Used [Rule 338.71]

11) WATER LEVEL

Static Level 350 ft. below land surface Date 10/03/00
Artesian flow _____ gpm Date _____

12) PACKERS: Type _____ Depth _____

None

(Use reverse side if necessary)

13) TYPE PUMP:

☐ Turbine ☐ Jet Submersible ☐ Cylinder☐ Other None to date.

Depth to pump bowls, cylinder, jet, etc., _____ ft.

14) WELL TESTS:

Type Test: ☒ Pump ☐ Bailer Jetted Estimated
Yield: 130 gpm with _____ ft. drawdown after _____ hrs.

15) WATER QUALITY:

Did you knowingly penetrate any strata which contained undesirable constituents?

☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"Type of water? GOOD Depth of strata _____Was a chemical analysis made? ☐ Yes ☒ No

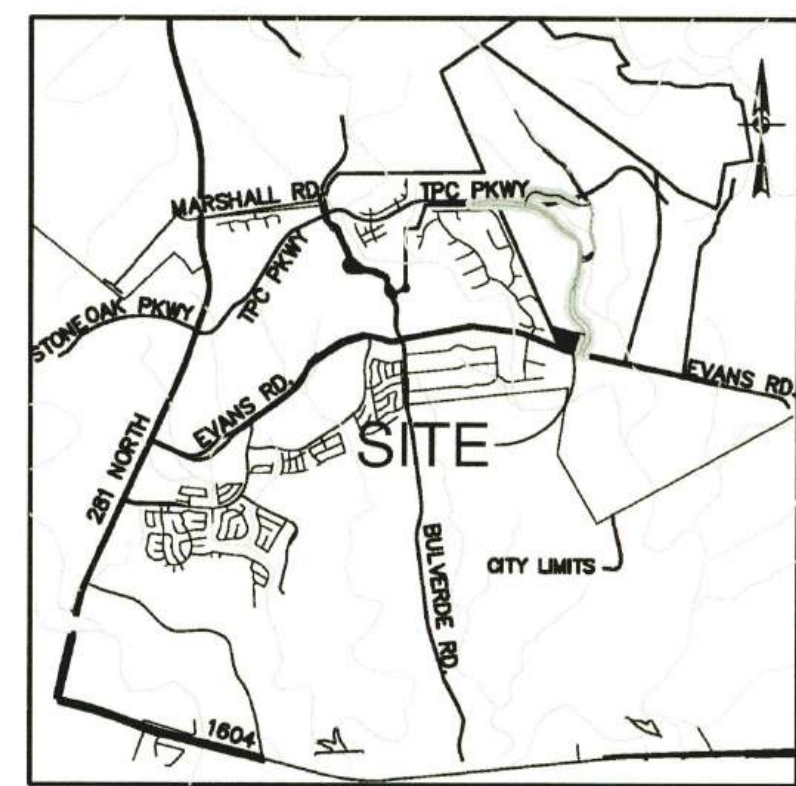
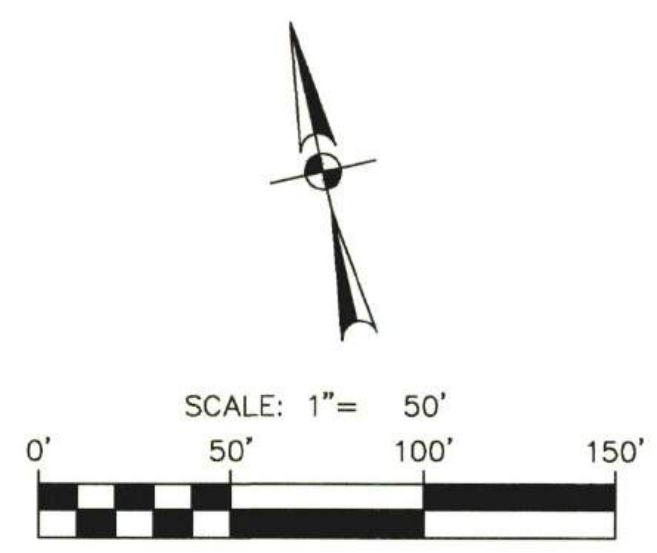
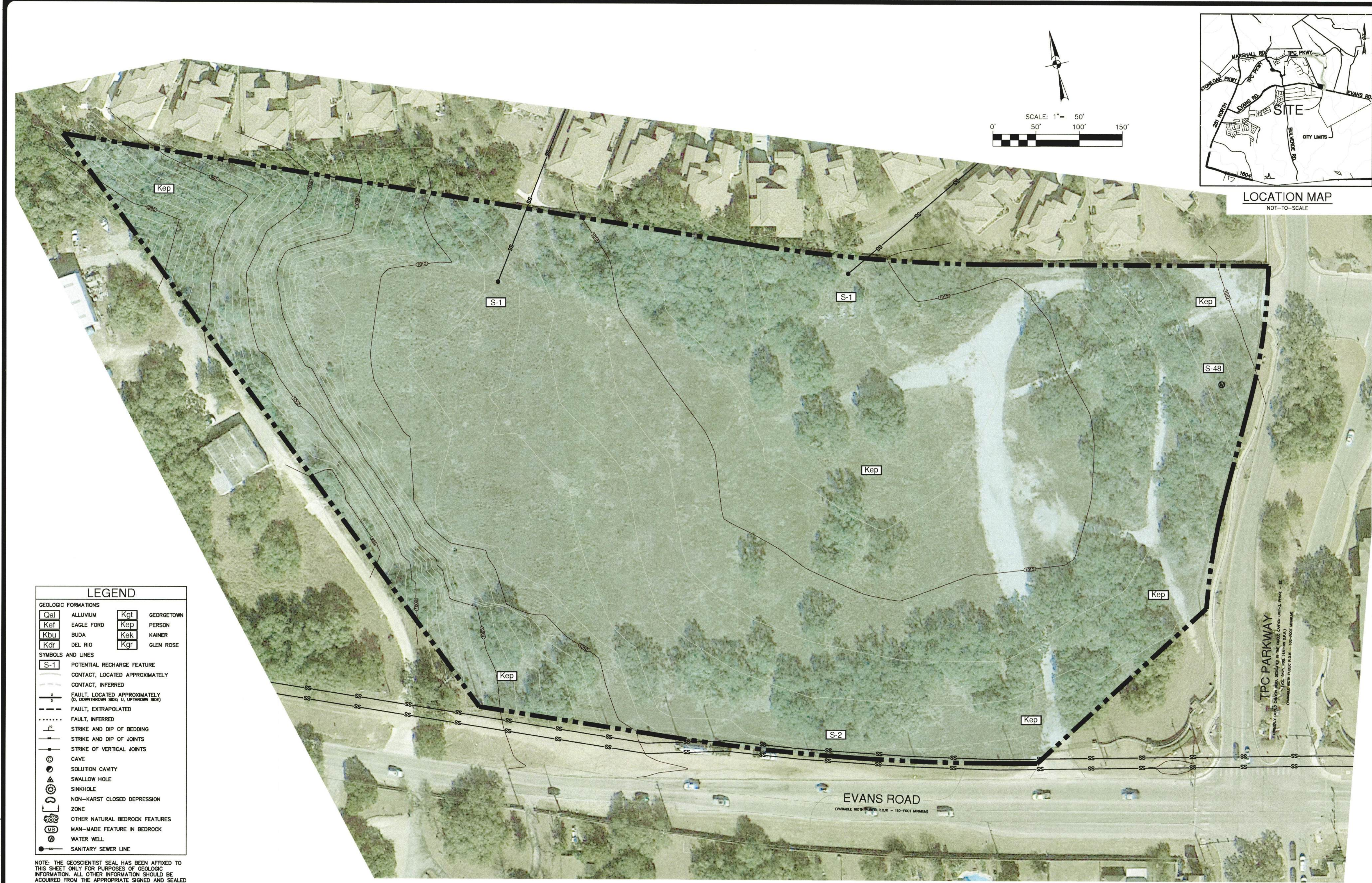
I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME DAVENPORT DRILLING & PUMP SERVICE
(Type or print)WELL DRILLER'S LICENSE NO. 54268-PWADDRESS 11844 BANDER RD. PMB 711HELOTES
(City)TEXAS
(State)78023
(Zip)(Signed) [Signature]
(Licensed Well Driller)(Signed) _____
(Registered Driller Trainee)

Please attach electric log, chemical analysis, and other pertinent information, if available.

ATTACHMENT D

Date: Dec 05, 2019, 2:57pm User ID: HSultz
File: P:\78\38\66\ENV\GA\Attachments\GA783866.dwg



LOCATION MAP
NOT-TO-SCALE

LEGEND			
GEOLOGIC FORMATIONS			
Qal	ALLUVIUM	Kgt	GEORGETOWN
Kef	EAGLE FORD	Kep	PERSON
Kbu	BUDA	Kek	KAINER
Kdr	DEL RIO	Kgr	GLEN ROSE
SYMBOLS AND LINES			
S-1	POTENTIAL RECHARGE FEATURE		
---	CONTACT, LOCATED APPROXIMATELY		
---	CONTACT, INFERRED		
---	FAULT, LOCATED APPROXIMATELY (D, DOWNTHROWN SIDE; U, UPTHROWN SIDE)		
---	FAULT, EXTRAPOLATED		
---	FAULT, INFERRED		
---	STRIKE AND DIP OF BEDDING		
---	STRIKE AND DIP OF JOINTS		
---	STRIKE OF VERTICAL JOINTS		
---	CAVE		
---	SOLUTION CAVITY		
---	SWALLOW HOLE		
---	SINKHOLE		
---	NON-KARST CLOSED DEPRESSION		
---	ZONE		
---	OTHER NATURAL BEDROCK FEATURES		
---	MAN-MADE FEATURE IN BEDROCK		
---	WATER WELL		
---	SANITARY SEWER LINE		

NOTE: THE GEOSCIENTIST SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR PURPOSES OF GEOLOGIC INFORMATION. ALL OTHER INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SIGNED AND SEALED CIVIL ENGINEERING DRAWINGS.

NOTE: THE RECHARGE ZONE BOUNDARY IS NOT WITHIN THE AREA SHOWN ON THIS SHEET. THE SITE IS LOCATED ENTIRELY WITHIN THE RECHARGE ZONE.

NOTE: ONLY THOSE GEOLOGIC FEATURES WITHIN THE AREA OF THIS ASSESSMENT ARE INCLUDED. THEREFORE, THE FEATURES MAY NOT BE NUMBERED SEQUENTIALLY.

NO. REVISION

DATE

PAPE-DAWSON
ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2002 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.0000
TBPB FIRM REGISTRATION #473 | TBPB FIRM REGISTRATION #59351

CIBOLO CANYONS VIP 2
SAN ANTONIO, TEXAS

SITE GEOLOGIC MAP
WATER POLLUTION ABATEMENT PLAN

JOB NO. 7838-96

DATE DECEMBER 2019

DESIGNER HS

CHECKED HDJ DRAWN HS

ATTACHMENT D

Section 5.0

UNDERGROUND STORAGE TANK FACILITY PLAN

Underground Storage Tank Facility Plan Application

Texas Commission on Environmental Quality

for Storage on the Edwards Aquifer Recharge and Transition Zones and Relating to 30 TAC §213.5(d), Effective June 1, 1999

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

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

Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. All components used for this facility are U.L. listed or certified by a 3rd party and are compatible and will function pursuant to 30 TAC §213.5(d) and 30 TAC Chapter 334 Subchapter C. This **Underground Storage Tank Facility Plan Application** is hereby submitted for TCEQ review and Executive Director approval. The application was prepared by:

Print Name of ~~Customer~~/Agent: Ralph Voss Jr., P.E.

Date: 06/17/25

Signature of ~~Customer~~/Agent:



Regulated Entity Name: Fischer's Neighborhood Market #54

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

<i>UST Number</i>	<i>Size(Gallons)</i>	<i>Substance to be Stored</i>	<i>Double-wall Tank Material</i>
1	14,850	Unleaded	Steel/Steel/FRP

<i>UST Number</i>	<i>Size(Gallons)</i>	<i>Substance to be Stored</i>	<i>Double-wall Tank Material</i>
2	7,900	Diesel/Super	Steel/Steel/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

<i>Equipment</i>	<i>Corrosion Protection (Method)</i>
Tanks	100-mil Fiberglass Shell
Product Delivery Piping	triple walled FRP piping

Equipment	Corrosion Protection (Method)
Vapor Recovery Piping	single walled FRP piping
Submersible Pumps	finish corrosion inhibitor
Flex Connector (dispenser end)	stainless steel (corrosion resistant)
Flex Connector (pump end)	stainless steel (corrosion resistant)
Riser	stainless steel (corrosion resistant)

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 (Veedor -Root)
 - ☒ Pump/manway sump probes
 - ☒ Observation well probes (MAG Plus 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 12 feet. (Minimum)
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 (or approved alt)
 - ☐ 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"/ft (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" = 20'.
14. 100-year floodplain boundaries:
- ☒ The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA FIRM Map No. 48029C0145G, effective 9/29/10.
- ☐ 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 May 14, 2020. A copy of the approval letter is attached at the end of this application.
- ☒ The WPAP ^{Exception Request} application for this project was submitted to the TCEQ on April 2025, 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.

UNDERGROUND STORAGE TANK FACILITY PLAN FORM TCEQ-0583

ATTACHMENT A

DETAILED NARRATIVE OF UST FACILITY

The proposed new underground static hydrocarbon storage system will consist of two proposed fuel storage tanks...(1) a new one-chamber 14,850-gallon double-walled, jacketed tank and (2) a new two-chamber 7,900-gallon (3,950-gallon per chamber) double-walled, jacketed tank. The tanks are constructed with a primary steel tank, a secondary steel tank, and an exterior corrosion-resistant fiberglass reinforced plastic (FRP) tank meeting UL-58 ACT-100 and UL-1746 standards. Tertiary containment is not required for TCEQ approval but is provided to meet the Edwards Aquifer Authority requirements. The large one chamber tank will hold 14,850-gallons of regular unleaded fuel, with the two chambers of the smaller tank holding 3,950 gallons of premium (V-Power) fuel and 3,950 gallons of diesel fuel respectively.

The tanks will be equipped with 3/4 horsepower, 4-inch diameter submersible pumps. Overfill prevention for the 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. Additional spill protection for the UST system will be provided by spill containment manholes and emergency shut-off valves.

Product and vent piping will be U.L. listed fiberglass-reinforced plastic piping. Product lines will consist of a 2-inch diameter primary double-wall pipe (Dualoy 3000/LCX) within a 3-inch diameter tertiary containment pipe (Dualoy 3000/L). Vent lines will be 2-inch diameter single-wall pipe (Dualoy 3000/L). 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 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 inventory, line leak detection, and a line pressure monitor. Each of the product piping systems will be monitored by a liquid non-discriminating sensor (Veeder Root Model 794380-208) which will be installed vertically on the sump base. A mini-hydrostatic sensor (Veeder Root Model 794380-304) will be installed in each of the fill and pump sumps that will detect fluid level change in the interstitial fluid reservoir of the double-wall sumps. The tanks will be equipped with a liquid non-discriminating sensor which will be installed in the interstitial space(s) between the walls of the tank (Veeder Root Model 794380-420). 2-inch diameter slotted observation wells will be installed within each tank. The tanks will also be equipped with an automatic tank gauging

probe which will automatically inventory the product volume in each chamber. 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 the tank, 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.

UNDERGROUND STORAGE TANK FACILITY PLAN FORM TCEQ-0583

ATTACHMENT B

MANUFACTURER INFORMATION FOR THE TANK

The proposed new underground tanks will be a one-chamber 14,850-gallon WATCO double-walled, jacketed Permatank and a two-chamber 7,900-gallon WATCO double-walled, jacketed Permatank. The tanks are constructed with a primary steel tank, secondary steel tank (double-walled) coupled with an exterior corrosion-resistant fiberglass reinforced plastic (FRP) tank (jacket) for tertiary containment meeting UL-58 ACT-100 and UL-1746. The one chamber will hold 14,850 gallons of regular unleaded fuel and the two-chamber tank will hold 3,950 gallons of premium (V-Power) fuel in one chamber and 3,950 gallons of diesel fuel in the other chamber.



CAPACITY CHART

14,850 GALLON

96" X 40'-3"

UNDERGROUND STORAGE TANK

DEPTH	GALLONS	DEPTH	GALLONS	DEPTH	GALLONS	DEPTH	GALLONS
1/8"	6	5-5/8"	381	11-1/8"	1007	16-5/8"	1786
1/4"	10	5-3/4"	393	11-1/4"	1023	16-3/4"	1805
3/8"	13	5-7/8"	405	11-3/8"	1040	16-7/8"	1824
1/2"	18	6	417	11-1/2"	1056	17	1843
5/8"	22	6-1/8"	430	11-5/8"	1073	17-1/8"	1862
3/4"	27	6-1/4"	442	11-3/4"	1089	17-1/4"	1881
7/8"	32	6-3/8"	455	11-7/8"	1106	17-3/8"	1901
1	38	6-1/2"	468	12	1122	17-1/2"	1920
1-1/8"	44	6-5/8"	480	12-1/8"	1139	17-5/8"	1940
1-1/4"	50	6-3/4"	493	12-1/4"	1156	17-3/4"	1959
1-3/8"	56	6-7/8"	507	12-3/8"	1173	17-7/8"	1979
1-1/2"	63	7	520	12-1/2"	1190	18	1998
1-5/8"	70	7-1/8"	533	12-5/8"	1207	18-1/8"	2018
1-3/4"	77	7-1/4"	546	12-3/4"	1224	18-1/4"	2038
1-7/8"	84	7-3/8"	560	12-7/8"	1241	18-3/8"	2057
2	91	7-1/2"	573	13	1258	18-1/2"	2077
2-1/8"	99	7-5/8"	587	13-1/8"	1275	18-5/8"	2097
2-1/4"	107	7-3/4"	601	13-1/4"	1293	18-3/4"	2117
2-3/8"	115	7-7/8"	615	13-3/8"	1310	18-7/8"	2137
2-1/2"	123	8	629	13-1/2"	1328	19	2157
2-5/8"	132	8-1/8"	643	13-5/8"	1345	19-1/8"	2177
2-3/4"	140	8-1/4"	657	13-3/4"	1363	19-1/4"	2197
2-7/8"	149	8-3/8"	671	13-7/8"	1381	19-3/8"	2217
3	158	8-1/2"	686	14	1398	19-1/2"	2237
3-1/8"	167	8-5/8"	700	14-1/8"	1416	19-5/8"	2258
3-1/4"	176	8-3/4"	715	14-1/4"	1434	19-3/4"	2278
3-3/8"	186	8-7/8"	729	14-3/8"	1452	19-7/8"	2298
3-1/2"	196	9	744	14-1/2"	1470	20	2319
3-5/8"	205	9-1/8"	759	14-5/8"	1488	20-1/8"	2339
3-3/4"	215	9-1/4"	774	14-3/4"	1506	20-1/4"	2360
3-7/8"	225	9-3/8"	789	14-7/8"	1524	20-3/8"	2380
4	236	9-1/2"	804	15	1543	20-1/2"	2401
4-1/8"	246	9-5/8"	819	15-1/8"	1561	20-5/8"	2421
4-1/4"	256	9-3/4"	834	15-1/4"	1579	20-3/4"	2442
4-3/8"	267	9-7/8"	849	15-3/8"	1598	20-7/8"	2463
4-1/2"	278	10	865	15-1/2"	1616	21	2483
4-5/8"	289	10-1/8"	880	15-5/8"	1635	21-1/8"	2504
4-3/4"	300	10-1/4"	896	15-3/4"	1654	21-1/4"	2525
4-7/8"	311	10-3/8"	912	15-7/8"	1672	21-3/8"	2546
5	322	10-1/2"	927	16	1691	21-1/2"	2567
5-1/8"	334	10-5/8"	943	16-1/8"	1710	21-5/8"	2588
5-1/4"	345	10-3/4"	959	16-1/4"	1729	21-3/4"	2609
5-3/8"	357	10-7/8"	975	16-3/8"	1748	21-7/8"	2630
5-1/2"	369	11	991	16-1/2"	1766	22	2651

22-1/8"	2672	28-3/8"	3775	34-5/8"	4950	40-7/8"	6171
22-1/4"	2693	28-1/2"	3798	34-3/4"	4974	41	6196
22-3/8"	2714	28-5/8"	3821	34-7/8"	4998	41-1/8"	6221
22-1/2"	2736	28-3/4"	3844	35	5023	41-1/4"	6246
22-5/8"	2757	28-7/8"	3867	35-1/8"	5047	41-3/8"	6270
22-3/4"	2778	29	3890	35-1/4"	5071	41-1/2"	6295
22-7/8"	2800	29-1/8"	3913	35-3/8"	5095	41-5/8"	6320
23	2821	29-1/4"	3936	35-1/2"	5119	41-3/4"	6345
23-1/8"	2843	29-3/8"	3959	35-5/8"	5143	41-7/8"	6369
23-1/4"	2864	29-1/2"	3982	35-3/4"	5167	42	6394
23-3/8"	2886	29-5/8"	4005	35-7/8"	5192	42-1/8"	6419
23-1/2"	2907	29-3/4"	4029	36	5216	42-1/4"	6444
23-5/8"	2929	29-7/8"	4052	36-1/8"	5240	42-3/8"	6469
23-3/4"	2950	30	4075	36-1/4"	5264	42-1/2"	6494
23-7/8"	2972	30-1/8"	4098	36-3/8"	5289	42-5/8"	6518
24	2994	30-1/4"	4122	36-1/2"	5313	42-3/4"	6543
24-1/8"	3016	30-3/8"	4145	36-5/8"	5337	42-7/8"	6568
24-1/4"	3037	30-1/2"	4168	36-3/4"	5362	43	6593
24-3/8"	3059	30-5/8"	4191	36-7/8"	5386	43-1/8"	6618
24-1/2"	3081	30-3/4"	4215	37	5410	43-1/4"	6643
24-5/8"	3103	30-7/8"	4238	37-1/8"	5435	43-3/8"	6667
24-3/4"	3125	31	4262	37-1/4"	5459	43-1/2"	6692
24-7/8"	3147	31-1/8"	4285	37-3/8"	5483	43-5/8"	6717
25	3169	31-1/4"	4309	37-1/2"	5508	43-3/4"	6742
25-1/8"	3191	31-3/8"	4332	37-5/8"	5532	43-7/8"	6767
25-1/4"	3213	31-1/2"	4356	37-3/4"	5557	44	6792
25-3/8"	3235	31-5/8"	4379	37-7/8"	5581	44-1/8"	6817
25-1/2"	3257	31-3/4"	4403	38	5606	44-1/4"	6842
25-5/8"	3279	31-7/8"	4426	38-1/8"	5630	44-3/8"	6867
25-3/4"	3302	32	4450	38-1/4"	5654	44-1/2"	6892
25-7/8"	3324	32-1/8"	4473	38-3/8"	5679	44-5/8"	6916
26	3346	32-1/4"	4497	38-1/2"	5703	44-3/4"	6941
26-1/8"	3368	32-3/8"	4521	38-5/8"	5728	44-7/8"	6966
26-1/4"	3391	32-1/2"	4544	38-3/4"	5753	45	6991
26-3/8"	3413	32-5/8"	4568	38-7/8"	5777	45-1/8"	7016
26-1/2"	3435	32-3/4"	4592	39	5802	45-1/4"	7041
26-5/8"	3458	32-7/8"	4616	39-1/8"	5826	45-3/8"	7066
26-3/4"	3480	33	4639	39-1/4"	5851	45-1/2"	7091
26-7/8"	3503	33-1/8"	4663	39-3/8"	5875	45-5/8"	7116
27	3525	33-1/4"	4687	39-1/2"	5900	45-3/4"	7141
27-1/8"	3548	33-3/8"	4711	39-5/8"	5925	45-7/8"	7166
27-1/4"	3571	33-1/2"	4735	39-3/4"	5949	46	7191
27-3/8"	3593	33-5/8"	4759	39-7/8"	5974	46-1/8"	7216
27-1/2"	3616	33-3/4"	4783	40	5999	46-1/4"	7241
27-5/8"	3639	33-7/8"	4806	40-1/8"	6023	46-3/8"	7266
27-3/4"	3661	34	4830	40-1/4"	6048	46-1/2"	7291
27-7/8"	3684	34-1/8"	4854	40-3/8"	6073	46-5/8"	7316
28	3707	34-1/4"	4878	40-1/2"	6097	46-3/4"	7341
28-1/8"	3730	34-3/8"	4902	40-5/8"	6122	46-7/8"	7366
28-1/4"	3752	34-1/2"	4926	40-3/4"	6147	47	7390

47-1/8"	7415	53-3/8"	8661	59-5/8"	9886	65-7/8"	11068
47-1/4"	7440	53-1/2"	8686	59-3/4"	9910	66	11091
47-3/8"	7465	53-5/8"	8710	59-7/8"	9934	66-1/8"	11114
47-1/2"	7490	53-3/4"	8735	60	9958	66-1/4"	11137
47-5/8"	7515	53-7/8"	8760	60-1/8"	9982	66-3/8"	11160
47-3/4"	7540	54	8785	60-1/4"	10006	66-1/2"	11183
47-7/8"	7565	54-1/8"	8809	60-3/8"	10030	66-5/8"	11205
48	7590	54-1/4"	8834	60-1/2"	10054	66-3/4"	11228
48-1/8"	7615	54-3/8"	8859	60-5/8"	10078	66-7/8"	11251
48-1/4"	7640	54-1/2"	8883	60-3/4"	10102	67	11274
48-3/8"	7665	54-5/8"	8908	60-7/8"	10126	67-1/8"	11297
48-1/2"	7690	54-3/4"	8933	61	10150	67-1/4"	11319
48-5/8"	7715	54-7/8"	8957	61-1/8"	10174	67-3/8"	11342
48-3/4"	7740	55	8982	61-1/4"	10198	67-1/2"	11365
48-7/8"	7765	55-1/8"	9007	61-3/8"	10222	67-5/8"	11387
49	7790	55-1/4"	9031	61-1/2"	10246	67-3/4"	11410
49-1/8"	7815	55-3/8"	9056	61-5/8"	10270	67-7/8"	11433
49-1/4"	7840	55-1/2"	9081	61-3/4"	10294	68	11455
49-3/8"	7865	55-5/8"	9105	61-7/8"	10317	68-1/8"	11478
49-1/2"	7890	55-3/4"	9130	62	10341	68-1/4"	11500
49-5/8"	7915	55-7/8"	9154	62-1/8"	10365	68-3/8"	11523
49-3/4"	7940	56	9179	62-1/4"	10389	68-1/2"	11545
49-7/8"	7964	56-1/8"	9204	62-3/8"	10413	68-5/8"	11568
50	7989	56-1/4"	9228	62-1/2"	10436	68-3/4"	11590
50-1/8"	8014	56-3/8"	9253	62-5/8"	10460	68-7/8"	11612
50-1/4"	8039	56-1/2"	9277	62-3/4"	10484	69	11635
50-3/8"	8064	56-5/8"	9302	62-7/8"	10507	69-1/8"	11657
50-1/2"	8089	56-3/4"	9326	63	10531	69-1/4"	11679
50-5/8"	8114	56-7/8"	9351	63-1/8"	10554	69-3/8"	11701
50-3/4"	8139	57	9375	63-1/4"	10578	69-1/2"	11724
50-7/8"	8164	57-1/8"	9400	63-3/8"	10602	69-5/8"	11746
51	8189	57-1/4"	9424	63-1/2"	10625	69-3/4"	11768
51-1/8"	8214	57-3/8"	9449	63-5/8"	10649	69-7/8"	11790
51-1/4"	8239	57-1/2"	9473	63-3/4"	10672	70	11812
51-3/8"	8263	57-5/8"	9497	63-7/8"	10696	70-1/8"	11834
51-1/2"	8288	57-3/4"	9522	64	10719	70-1/4"	11856
51-5/8"	8313	57-7/8"	9546	64-1/8"	10742	70-3/8"	11878
51-3/4"	8338	58	9570	64-1/4"	10766	70-1/2"	11900
51-7/8"	8363	58-1/8"	9595	64-3/8"	10789	70-5/8"	11922
52	8388	58-1/4"	9619	64-1/2"	10813	70-3/4"	11943
52-1/8"	8413	58-3/8"	9643	64-5/8"	10836	70-7/8"	11965
52-1/4"	8437	58-1/2"	9668	64-3/4"	10859	71	11987
52-3/8"	8462	58-5/8"	9692	64-7/8"	10882	71-1/8"	12009
52-1/2"	8487	58-3/4"	9716	65	10906	71-1/4"	12030
52-5/8"	8512	58-7/8"	9741	65-1/8"	10929	71-3/8"	12052
52-3/4"	8537	59	9765	65-1/4"	10952	71-1/2"	12074
52-7/8"	8562	59-1/8"	9789	65-3/8"	10975	71-5/8"	12095
53	8586	59-1/4"	9813	65-1/2"	10998	71-3/4"	12117
53-1/8"	8611	59-3/8"	9837	65-5/8"	11021	71-7/8"	12138
53-1/4"	8636	59-1/2"	9862	65-3/4"	11045	72	12160

72-1/8"	12181	78-3/8"	13195	84-5/8"	14069	90-7/8"	14735
72-1/4"	12202	78-1/2"	13214	84-3/4"	14085	91	14745
72-3/8"	12224	78-5/8"	13233	84-7/8"	14100	91-1/8"	14755
72-1/2"	12245	78-3/4"	13252	85	14116	91-1/4"	14765
72-5/8"	12266	78-7/8"	13271	85-1/8"	14131	91-3/8"	14775
72-3/4"	12287	79	13290	85-1/4"	14147	91-1/2"	14785
72-7/8"	12309	79-1/8"	13308	85-3/8"	14162	91-5/8"	14795
73	12330	79-1/4"	13327	85-1/2"	14177	91-3/4"	14804
73-1/8"	12351	79-3/8"	13346	85-5/8"	14192	91-7/8"	14814
73-1/4"	12372	79-1/2"	13364	85-3/4"	14207	92	14823
73-3/8"	12393	79-5/8"	13383	85-7/8"	14222	92-1/8"	14832
73-1/2"	12414	79-3/4"	13401	86	14237	92-1/4"	14840
73-5/8"	12435	79-7/8"	13420	86-1/8"	14251	92-3/8"	14849
73-3/4"	12456	80	13438	86-1/4"	14266	92-1/2"	14857
73-7/8"	12476	80-1/8"	13456	86-3/8"	14281	92-5/8"	14866
74	12497	80-1/4"	13474	86-1/2"	14295	92-3/4"	14874
74-1/8"	12518	80-3/8"	13493	86-5/8"	14309	92-7/8"	14882
74-1/4"	12539	80-1/2"	13511	86-3/4"	14324	93	14889
74-3/8"	12559	80-5/8"	13529	86-7/8"	14338	93-1/8"	14897
74-1/2"	12580	80-3/4"	13547	87	14352	93-1/4"	14904
74-5/8"	12601	80-7/8"	13564	87-1/8"	14366	93-3/8"	14911
74-3/4"	12621	81	13582	87-1/4"	14380	93-1/2"	14918
74-7/8"	12642	81-1/8"	13600	87-3/8"	14394	93-5/8"	14925
75	12662	81-1/4"	13618	87-1/2"	14407	93-3/4"	14931
75-1/8"	12682	81-3/8"	13635	87-5/8"	14421	93-7/8"	14937
75-1/4"	12703	81-1/2"	13653	87-3/4"	14434	94	14943
75-3/8"	12723	81-5/8"	13670	87-7/8"	14448	94-1/8"	14948
75-1/2"	12743	81-3/4"	13688	88	14461	94-1/4"	14954
75-5/8"	12763	81-7/8"	13705	88-1/8"	14474	94-3/8"	14958
75-3/4"	12784	82	13723	88-1/4"	14487	94-1/2"	14963
75-7/8"	12804	82-1/8"	13740	88-3/8"	14500	94-5/8"	14967
76	12824	82-1/4"	13757	88-1/2"	14513	94-3/4"	14971
76-1/8"	12844	82-3/8"	13774	88-5/8"	14526	94-7/8"	14974
76-1/4"	12864	82-1/2"	13791	88-3/4"	14538	95	14977
76-3/8"	12884	82-5/8"	13808	88-7/8"	14551	95-1/8"	14979
76-1/2"	12903	82-3/4"	13825	89	14563	95-1/4"	14981
76-5/8"	12923	82-7/8"	13842	89-1/8"	14576		
76-3/4"	12943	83	13858	89-1/4"	14588		
76-7/8"	12963	83-1/8"	13875	89-3/8"	14600		
77	12982	83-1/4"	13892	89-1/2"	14612		
77-1/8"	13002	83-3/8"	13908	89-5/8"	14624		
77-1/4"	13022	83-1/2"	13925	89-3/4"	14635		
77-3/8"	13041	83-5/8"	13941	89-7/8"	14647		
77-1/2"	13061	83-3/4"	13957	90	14658		
77-5/8"	13080	83-7/8"	13973	90-1/8"	14670		
77-3/4"	13099	84	13990	90-1/4"	14681		
77-7/8"	13119	84-1/8"	14006	90-3/8"	14692		
78	13138	84-1/4"	14022	90-1/2"	14703		
78-1/8"	13157	84-3/8"	14037	90-5/8"	14714		
78-1/4"	13176	84-1/2"	14053	90-3/4"	14724		



CAPACITY CHART

3,950 GALLON

96" X 10'-9"

UNDERGROUND STORAGE TANK

DEPTH	GALLONS	DEPTH	GALLONS	DEPTH	GALLONS	DEPTH	GALLONS
1/8"	2	5-5/8"	101	11-1/8"	268	16-5/8"	475
1/4"	3	5-3/4"	104	11-1/4"	272	16-3/4"	480
3/8"	4	5-7/8"	108	11-3/8"	277	16-7/8"	485
1/2"	5	6	111	11-1/2"	281	17	490
5/8"	6	6-1/8"	114	11-5/8"	285	17-1/8"	495
3/4"	7	6-1/4"	118	11-3/4"	290	17-1/4"	500
7/8"	9	6-3/8"	121	11-7/8"	294	17-3/8"	506
1	10	6-1/2"	124	12	299	17-1/2"	511
1-1/8"	12	6-5/8"	128	12-1/8"	303	17-5/8"	516
1-1/4"	13	6-3/4"	131	12-1/4"	307	17-3/4"	521
1-3/8"	15	6-7/8"	135	12-3/8"	312	17-7/8"	526
1-1/2"	17	7	138	12-1/2"	316	18	532
1-5/8"	19	7-1/8"	142	12-5/8"	321	18-1/8"	537
1-3/4"	20	7-1/4"	145	12-3/4"	326	18-1/4"	542
1-7/8"	22	7-3/8"	149	12-7/8"	330	18-3/8"	547
2	24	7-1/2"	153	13	335	18-1/2"	553
2-1/8"	26	7-5/8"	156	13-1/8"	339	18-5/8"	558
2-1/4"	28	7-3/4"	160	13-1/4"	344	18-3/4"	563
2-3/8"	31	7-7/8"	164	13-3/8"	349	18-7/8"	568
2-1/2"	33	8	167	13-1/2"	353	19	574
2-5/8"	35	8-1/8"	171	13-5/8"	358	19-1/8"	579
2-3/4"	37	8-1/4"	175	13-3/4"	363	19-1/4"	584
2-7/8"	40	8-3/8"	179	13-7/8"	367	19-3/8"	590
3	42	8-1/2"	182	14	372	19-1/2"	595
3-1/8"	44	8-5/8"	186	14-1/8"	377	19-5/8"	601
3-1/4"	47	8-3/4"	190	14-1/4"	381	19-3/4"	606
3-3/8"	49	8-7/8"	194	14-3/8"	386	19-7/8"	611
3-1/2"	52	9	198	14-1/2"	391	20	617
3-5/8"	55	9-1/8"	202	14-5/8"	396	20-1/8"	622
3-3/4"	57	9-1/4"	206	14-3/4"	401	20-1/4"	628
3-7/8"	60	9-3/8"	210	14-7/8"	406	20-3/8"	633
4	63	9-1/2"	214	15	410	20-1/2"	639
4-1/8"	65	9-5/8"	218	15-1/8"	415	20-5/8"	644
4-1/4"	68	9-3/4"	222	15-1/4"	420	20-3/4"	650
4-3/8"	71	9-7/8"	226	15-3/8"	425	20-7/8"	655
4-1/2"	74	10	230	15-1/2"	430	21	661
4-5/8"	77	10-1/8"	234	15-5/8"	435	21-1/8"	666
4-3/4"	80	10-1/4"	238	15-3/4"	440	21-1/4"	672
4-7/8"	83	10-3/8"	242	15-7/8"	445	21-3/8"	677
5	86	10-1/2"	247	16	450	21-1/2"	683
5-1/8"	89	10-5/8"	251	16-1/8"	455	21-5/8"	688
5-1/4"	92	10-3/4"	255	16-1/4"	460	21-3/4"	694
5-3/8"	95	10-7/8"	259	16-3/8"	465	21-7/8"	700
5-1/2"	98	11	264	16-1/2"	470	22	705

22-1/8"	711	28-3/8"	1004	34-5/8"	1317	40-7/8"	1642
22-1/4"	716	28-1/2"	1010	34-3/4"	1323	41	1648
22-3/8"	722	28-5/8"	1016	34-7/8"	1330	41-1/8"	1655
22-1/2"	728	28-3/4"	1022	35	1336	41-1/4"	1661
22-5/8"	733	28-7/8"	1029	35-1/8"	1342	41-3/8"	1668
22-3/4"	739	29	1035	35-1/4"	1349	41-1/2"	1674
22-7/8"	745	29-1/8"	1041	35-3/8"	1355	41-5/8"	1681
23	750	29-1/4"	1047	35-1/2"	1362	41-3/4"	1688
23-1/8"	756	29-3/8"	1053	35-5/8"	1368	41-7/8"	1694
23-1/4"	762	29-1/2"	1059	35-3/4"	1375	42	1701
23-3/8"	768	29-5/8"	1065	35-7/8"	1381	42-1/8"	1707
23-1/2"	773	29-3/4"	1072	36	1387	42-1/4"	1714
23-5/8"	779	29-7/8"	1078	36-1/8"	1394	42-3/8"	1721
23-3/4"	785	30	1084	36-1/4"	1400	42-1/2"	1727
23-7/8"	791	30-1/8"	1090	36-3/8"	1407	42-5/8"	1734
24	796	30-1/4"	1096	36-1/2"	1413	42-3/4"	1740
24-1/8"	802	30-3/8"	1102	36-5/8"	1420	42-7/8"	1747
24-1/4"	808	30-1/2"	1109	36-3/4"	1426	43	1754
24-3/8"	814	30-5/8"	1115	36-7/8"	1433	43-1/8"	1760
24-1/2"	820	30-3/4"	1121	37	1439	43-1/4"	1767
24-5/8"	825	30-7/8"	1127	37-1/8"	1446	43-3/8"	1774
24-3/4"	831	31	1134	37-1/4"	1452	43-1/2"	1780
24-7/8"	837	31-1/8"	1140	37-3/8"	1459	43-5/8"	1787
25	843	31-1/4"	1146	37-1/2"	1465	43-3/4"	1793
25-1/8"	849	31-3/8"	1152	37-5/8"	1472	43-7/8"	1800
25-1/4"	855	31-1/2"	1159	37-3/4"	1478	44	1807
25-3/8"	860	31-5/8"	1165	37-7/8"	1485	44-1/8"	1813
25-1/2"	866	31-3/4"	1171	38	1491	44-1/4"	1820
25-5/8"	872	31-7/8"	1177	38-1/8"	1498	44-3/8"	1826
25-3/4"	878	32	1184	38-1/4"	1504	44-1/2"	1833
25-7/8"	884	32-1/8"	1190	38-3/8"	1511	44-5/8"	1840
26	890	32-1/4"	1196	38-1/2"	1517	44-3/4"	1846
26-1/8"	896	32-3/8"	1202	38-5/8"	1524	44-7/8"	1853
26-1/4"	902	32-1/2"	1209	38-3/4"	1530	45	1860
26-3/8"	908	32-5/8"	1215	38-7/8"	1537	45-1/8"	1866
26-1/2"	914	32-3/4"	1221	39	1543	45-1/4"	1873
26-5/8"	920	32-7/8"	1228	39-1/8"	1550	45-3/8"	1880
26-3/4"	926	33	1234	39-1/4"	1556	45-1/2"	1886
26-7/8"	932	33-1/8"	1240	39-3/8"	1563	45-5/8"	1893
27	938	33-1/4"	1247	39-1/2"	1569	45-3/4"	1899
27-1/8"	944	33-3/8"	1253	39-5/8"	1576	45-7/8"	1906
27-1/4"	950	33-1/2"	1259	39-3/4"	1582	46	1913
27-3/8"	956	33-5/8"	1266	39-7/8"	1589	46-1/8"	1919
27-1/2"	962	33-3/4"	1272	40	1596	46-1/4"	1926
27-5/8"	968	33-7/8"	1278	40-1/8"	1602	46-3/8"	1933
27-3/4"	974	34	1285	40-1/4"	1609	46-1/2"	1939
27-7/8"	980	34-1/8"	1291	40-3/8"	1615	46-5/8"	1946
28	986	34-1/4"	1298	40-1/2"	1622	46-3/4"	1953
28-1/8"	992	34-3/8"	1304	40-5/8"	1628	46-7/8"	1959
28-1/4"	998	34-1/2"	1310	40-3/4"	1635	47	1966

47-1/8"	1972	53-3/8"	2304	59-5/8"	2630	65-7/8"	2944
47-1/4"	1979	53-1/2"	2310	59-3/4"	2636	66	2950
47-3/8"	1986	53-5/8"	2317	59-7/8"	2642	66-1/8"	2956
47-1/2"	1992	53-3/4"	2323	60	2649	66-1/4"	2962
47-5/8"	1999	53-7/8"	2330	60-1/8"	2655	66-3/8"	2968
47-3/4"	2006	54	2337	60-1/4"	2662	66-1/2"	2974
47-7/8"	2012	54-1/8"	2343	60-3/8"	2668	66-5/8"	2981
48	2019	54-1/4"	2350	60-1/2"	2674	66-3/4"	2987
48-1/8"	2026	54-3/8"	2356	60-5/8"	2681	66-7/8"	2993
48-1/4"	2032	54-1/2"	2363	60-3/4"	2687	67	2999
48-3/8"	2039	54-5/8"	2369	60-7/8"	2694	67-1/8"	3005
48-1/2"	2046	54-3/4"	2376	61	2700	67-1/4"	3011
48-5/8"	2052	54-7/8"	2383	61-1/8"	2706	67-3/8"	3017
48-3/4"	2059	55	2389	61-1/4"	2713	67-1/2"	3023
48-7/8"	2065	55-1/8"	2396	61-3/8"	2719	67-5/8"	3029
49	2072	55-1/4"	2402	61-1/2"	2725	67-3/4"	3035
49-1/8"	2079	55-3/8"	2409	61-5/8"	2732	67-7/8"	3041
49-1/4"	2085	55-1/2"	2415	61-3/4"	2738	68	3047
49-3/8"	2092	55-5/8"	2422	61-7/8"	2744	68-1/8"	3053
49-1/2"	2099	55-3/4"	2428	62	2751	68-1/4"	3059
49-5/8"	2105	55-7/8"	2435	62-1/8"	2757	68-3/8"	3065
49-3/4"	2112	56	2442	62-1/4"	2763	68-1/2"	3071
49-7/8"	2119	56-1/8"	2448	62-3/8"	2770	68-5/8"	3077
50	2125	56-1/4"	2455	62-1/2"	2776	68-3/4"	3083
50-1/8"	2132	56-3/8"	2461	62-5/8"	2782	68-7/8"	3089
50-1/4"	2138	56-1/2"	2468	62-3/4"	2789	69	3095
50-3/8"	2145	56-5/8"	2474	62-7/8"	2795	69-1/8"	3101
50-1/2"	2152	56-3/4"	2481	63	2801	69-1/4"	3107
50-5/8"	2158	56-7/8"	2487	63-1/8"	2807	69-3/8"	3112
50-3/4"	2165	57	2494	63-1/4"	2814	69-1/2"	3118
50-7/8"	2172	57-1/8"	2500	63-3/8"	2820	69-5/8"	3124
51	2178	57-1/4"	2507	63-1/2"	2826	69-3/4"	3130
51-1/8"	2185	57-3/8"	2513	63-5/8"	2832	69-7/8"	3136
51-1/4"	2191	57-1/2"	2520	63-3/4"	2839	70	3142
51-3/8"	2198	57-5/8"	2526	63-7/8"	2845	70-1/8"	3148
51-1/2"	2205	57-3/4"	2533	64	2851	70-1/4"	3154
51-5/8"	2211	57-7/8"	2539	64-1/8"	2857	70-3/8"	3159
51-3/4"	2218	58	2546	64-1/4"	2864	70-1/2"	3165
51-7/8"	2224	58-1/8"	2552	64-3/8"	2870	70-5/8"	3171
52	2231	58-1/4"	2559	64-1/2"	2876	70-3/4"	3177
52-1/8"	2238	58-3/8"	2565	64-5/8"	2882	70-7/8"	3183
52-1/4"	2244	58-1/2"	2572	64-3/4"	2888	71	3188
52-3/8"	2251	58-5/8"	2578	64-7/8"	2895	71-1/8"	3194
52-1/2"	2258	58-3/4"	2584	65	2901	71-1/4"	3200
52-5/8"	2264	58-7/8"	2591	65-1/8"	2907	71-3/8"	3206
52-3/4"	2271	59	2597	65-1/4"	2913	71-1/2"	3211
52-7/8"	2277	59-1/8"	2604	65-3/8"	2919	71-5/8"	3217
53	2284	59-1/4"	2610	65-1/2"	2925	71-3/4"	3223
53-1/8"	2291	59-3/8"	2617	65-5/8"	2932	71-7/8"	3229
53-1/4"	2297	59-1/2"	2623	65-3/4"	2938	72	3234

72-1/8"	3240	78-3/8"	3510	84-5/8"	3742	90-7/8"	3919
72-1/4"	3246	78-1/2"	3515	84-3/4"	3746	91	3922
72-3/8"	3251	78-5/8"	3520	84-7/8"	3751	91-1/8"	3925
72-1/2"	3257	78-3/4"	3525	85	3755	91-1/4"	3928
72-5/8"	3263	78-7/8"	3530	85-1/8"	3759	91-3/8"	3930
72-3/4"	3268	79	3535	85-1/4"	3763	91-1/2"	3933
72-7/8"	3274	79-1/8"	3540	85-3/8"	3767	91-5/8"	3935
73	3280	79-1/4"	3545	85-1/2"	3771	91-3/4"	3938
73-1/8"	3285	79-3/8"	3550	85-5/8"	3775	91-7/8"	3940
73-1/4"	3291	79-1/2"	3555	85-3/4"	3779	92	3943
73-3/8"	3296	79-5/8"	3560	85-7/8"	3783	92-1/8"	3945
73-1/2"	3302	79-3/4"	3565	86	3787	92-1/4"	3947
73-5/8"	3308	79-7/8"	3570	86-1/8"	3791	92-3/8"	3950
73-3/4"	3313	80	3574	86-1/4"	3795	92-1/2"	3952
73-7/8"	3319	80-1/8"	3579	86-3/8"	3799	92-5/8"	3954
74	3324	80-1/4"	3584	86-1/2"	3802	92-3/4"	3956
74-1/8"	3330	80-3/8"	3589	86-5/8"	3806	92-7/8"	3958
74-1/4"	3335	80-1/2"	3594	86-3/4"	3810	93	3960
74-3/8"	3341	80-5/8"	3599	86-7/8"	3814	93-1/8"	3962
74-1/2"	3346	80-3/4"	3603	87	3818	93-1/4"	3964
74-5/8"	3352	80-7/8"	3608	87-1/8"	3821	93-3/8"	3966
74-3/4"	3357	81	3613	87-1/4"	3825	93-1/2"	3968
74-7/8"	3363	81-1/8"	3618	87-3/8"	3829	93-5/8"	3970
75	3368	81-1/4"	3622	87-1/2"	3832	93-3/4"	3972
75-1/8"	3373	81-3/8"	3627	87-5/8"	3836	93-7/8"	3973
75-1/4"	3379	81-1/2"	3632	87-3/4"	3839	94	3975
75-3/8"	3384	81-5/8"	3636	87-7/8"	3843	94-1/8"	3976
75-1/2"	3390	81-3/4"	3641	88	3847	94-1/4"	3978
75-5/8"	3395	81-7/8"	3645	88-1/8"	3850	94-3/8"	3979
75-3/4"	3400	82	3650	88-1/4"	3854	94-1/2"	3980
75-7/8"	3406	82-1/8"	3655	88-3/8"	3857	94-5/8"	3981
76	3411	82-1/4"	3659	88-1/2"	3860	94-3/4"	3982
76-1/8"	3416	82-3/8"	3664	88-5/8"	3864	94-7/8"	3983
76-1/4"	3422	82-1/2"	3668	88-3/4"	3867	95	3984
76-3/8"	3427	82-5/8"	3673	88-7/8"	3870	95-1/8"	3984
76-1/2"	3432	82-3/4"	3677	89	3874	95-1/4"	3985
76-5/8"	3438	82-7/8"	3682	89-1/8"	3877		
76-3/4"	3443	83	3686	89-1/4"	3880		
76-7/8"	3448	83-1/8"	3691	89-3/8"	3883		
77	3453	83-1/4"	3695	89-1/2"	3887		
77-1/8"	3458	83-3/8"	3699	89-5/8"	3890		
77-1/4"	3464	83-1/2"	3704	89-3/4"	3893		
77-3/8"	3469	83-5/8"	3708	89-7/8"	3896		
77-1/2"	3474	83-3/4"	3713	90	3899		
77-5/8"	3479	83-7/8"	3717	90-1/8"	3902		
77-3/4"	3484	84	3721	90-1/4"	3905		
77-7/8"	3489	84-1/8"	3725	90-3/8"	3908		
78	3495	84-1/4"	3730	90-1/2"	3911		
78-1/8"	3500	84-3/8"	3734	90-5/8"	3914		
78-1/4"	3505	84-1/2"	3738	90-3/4"	3917		



Product Shown
B1380-D30

About the VPH B1000 Doublewall UDC

The B1000 Series Doublewall VPH is available in models for most modern dispensers. All metal work is galvanized for corrosion resistance and the splash is FRP for a distinct corrosion advantage over other designs. Electrical offsets on both ends of the UDC provide needed flexibility to accommodate modern station designs.

SIZES

- 28" width at base

**See page 2 for dimension drawing and dimension chart*

MATERIAL

- Tank-spec doublewall fiberglass
- Galvannealed steel
- Doublewall construction allows for constant monitoring

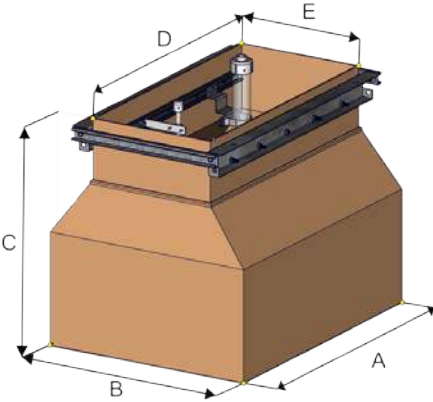
SPECIFICATIONS

- Triennial testing exempt when constantly monitored
- Quality FRP construction
- Pre-plumb options available
- 30-year corrosion warranty
- AB2481 compliant in California
- UL2447 listed, the benchmark for fuel compatibility

Bravo Solution Center

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





Bracket and Kits for VPH B1000 Series Doublewall

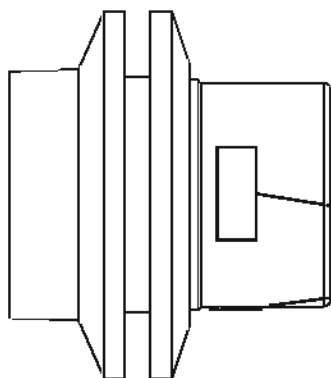
Stabilizer Bar and Bracket Assembly		
Encore/Helix Wide	BK-1017	Boss-mount bracket for B1000 & stabilizer bar for 17". Wide assembly with hardware.
Ovation/Ovation High Speed/Helix Narrow/Pacific/Reliance/Select	BK-1015	Boss-mount bracket for B1000 & stabilizer bar for 15". Wide assembly with hardware.
Atlas/Bennett 3000	BK1011	Boss-mount bracket for B1000 & stabilizer bar for 11". Wide assembly with hardware.

VPH B1000 Series Doublewall

Dispenser Model	Part #	A	B	C	D	E
Gilbarco Encore 300, 500, 700	B1380-D30	37"	28"	29.5"	36"	17"
Wayne Ovation (3+0) (3+1) up to 3 inlets	B1250-D30	37"	28"	29.5"	35"	14.75"
Wayne Helix Wide Frame	B1256-D30	37"	28"	29.5"	37.5"	17"
Wayne Helix Narrow Frame	B1242-D30	29"	28"	29.5"	27"	14.75"
Wayne Ovation High-speed Diesel/Ovation HL Series	B1254-D30	35"	28"	29.5"	35"	14.75"
Wayne Ovation High-speed Diesel/Ovation HS Series *	B1257-D30	29"	28"	29.5"	27"	14.75"
Wayne Reliance Select	B1210-D30	29"	28"	29.5"	27"	14.75"
Bennett Pacific	B1411-D30	37"	28"	29.5"	35"	14.75"
Bennett 3000 Big Fueler*	B1430-D30	19"	29.5"	29.5"	19"	11.5"
Gasboy Atlas	B1670-D30	19"	29.5"	29.5"	19"	11.5"

* Electrical Offsets on one end



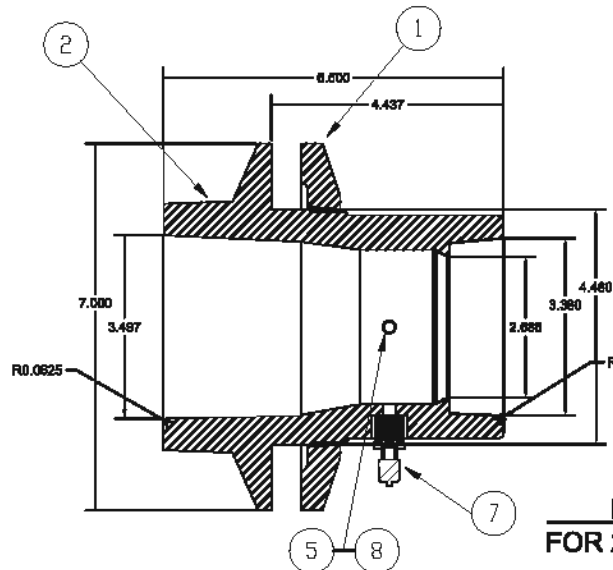


NOTE:

APPLY LABEL OVER BOTH TEST PORTS

TEST PORT
REMOVE THIS LABEL **AFTER** GLUING
PREVENT ADHESIVE ON THREADS

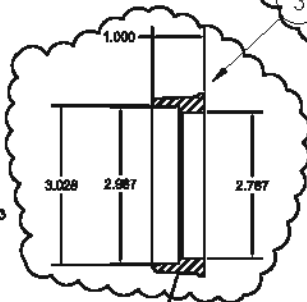
11



NOTE:

INSERT IS FOR 2" PRIMARY LCX PIPE

3



INSERT
FOR 2" LCX PIPE

11	LABEL	TEST PORT LABEL	2
10	BRAVO-CLAMP	F-FS-CLAMP-F3	1
9	RETROFIT-SANDING-KIT	80 GRIT SHEET SANDPAPER, SHOP ROLL 60 GRIT 15" X 30", TWO (2) OF NITRILE GLOVES	1
8	ZXXXXX	1/8" NPTF HEX BRASS PLUG	1
7	Z00244	1/8" SHORT SCHREADER VALVE	1
5	FITTING HEX COUPLING	1/8" NPT THREAD x 5/8" LG.	2
4	-	-	-
3	F-32L-T-F INSERT	2"LCX PRIMARY INSERT	1
2	F-32-TI BODY	BODY FITTING	1
1	F-32-T FLANGE	FLANGE	1
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES
FRACTIONAL ±
ANGULAR HACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL AS NOTED

FINISH AS NOTED

DO NOT SCALE DRAWING

NAME DATE

DRAWN AMACIAS 4.9.2018

CHECKED

ENG APPR.

MFG APPR.

QA

COMMENTS:



S. BRAVO SYSTEMS INC.

PART NO:

F-32LU-T-F

SIZE	OLD PART NO.	REV
B	F-32LU-T	B

SCALE: 1:2.5 WEIGHT: SHEET 1 OF 1

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF S. BRAVO SYSTEMS INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF S. BRAVO SYSTEMS INC. IS PROHIBITED.

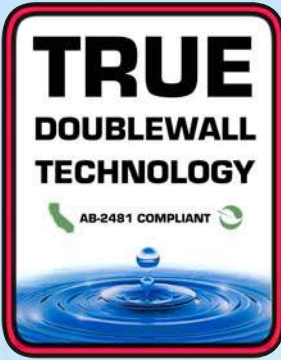
1. REMOVE ALL BURRS AND SHARP EDGES.
NOTES: UNLESS NOTICE OTHERWISE SPECIFIED.

B-400-DB-MW Tall-Collar Tank Sump

DOUBLEWALL SUMP (1-PIECE) FOR MODERN WELDING TANKS

42" OR 48" DIAMETERS WITH 32" OR 36" REDUCERS

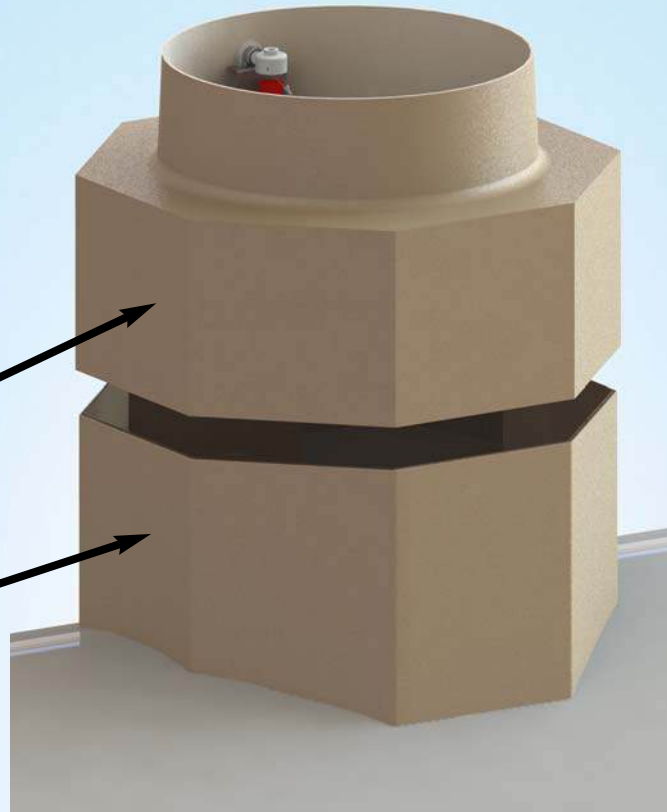
MANUFACTURED OF FIBERGLASS



AB-2481 Compliant
Third Party Approved

Eight Sided Sump
Great for 45° & 90°
Fiberglass Fittings

With a "Tall Collar"
installed by your Tank
manufacturer, begin
piping as soon as
your tank arrives



Compatible with
and warranted for
continuous exposure
to all common fuels
and alternative fuels
including ethanol
and biodiesel.



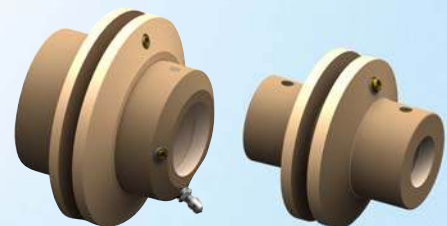
All sumps
ship under
20"Hg for
continuous
testing



EQ# 615

FEATURES:

- > Tank-Spec Fiberglass Construction
- > AB-2481 Compliant Monitored DoubleWall
- > Ships under a continuous 20"Hg vacuum test
- > Large flat walls for more entry fittings
- > Octagonal walls with "Tall Collar" mount
- > Begin piping as soon as the tank arrives
- > 42" or 48" Diameters
- > 32" or 36" Diameter reducers
- > Includes Manometers and interstitial fluid
- > Height adjustable in the field



RECOMMENDED:
F-Series-D FRP Fittings Only

Patent# 6,823,886 - Other Patents Pending

13A

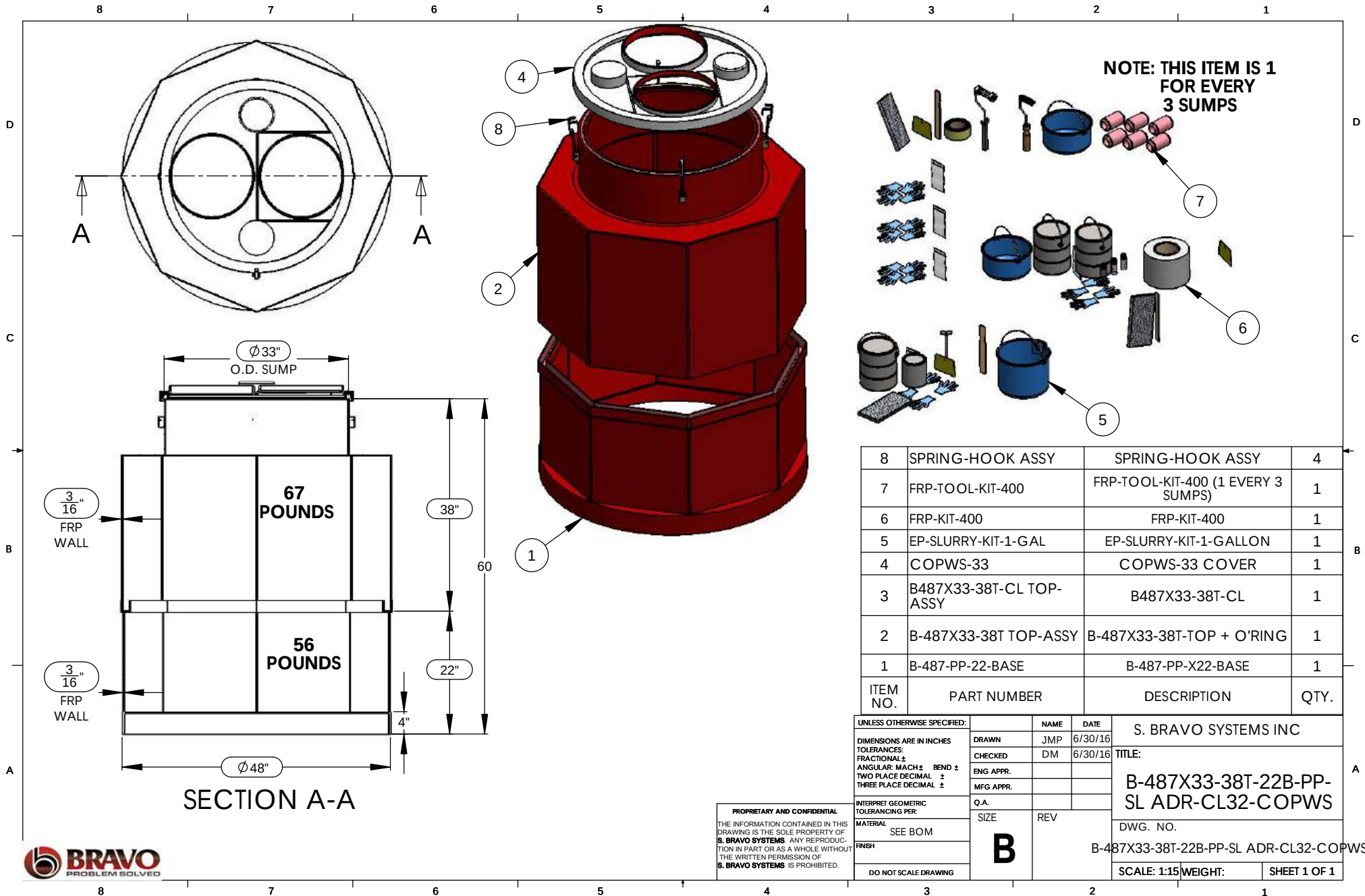


WWW.SBRAVO.COM
800-AT-BRAVO



made
in USA





UST SERIES MONITORING/ OBSERVATION WELLS

UST Series Wells are recommended on any new tank installation to quickly detect hydrocarbon releases to ground water and/or vapors in the backfill material. Monitoring wells are used to detect leaks from piping, tanks, and spills and do not rely on meter calibration or problem. Hydrocarbon sensing devices are available to work in conjunction with our wells to provide continuous monitoring if desired.

Features:

- Precision machined from high quality Schedule 40 PVC pipe meeting all applicable standards.
- Available through 12" diameter and up to 20' in length meeting most major oil company specifications.
- Standard lengths are 13' with lower 10' slotted.
- All UST screens include a nylon riveted bottom plug and threaded adapters are available for most sizes.
- Standard .020" slots are perforated to provide maximum intake flow while maintaining strength. Other slot sizes are available on request.
- EMI screens are non-inked and shipped in durable poly bags to insure cleanliness. EMI screens meet or exceed most insurance company, EPA and PEI specifications.
- A complete line of manhole, adapters and caps are available to be shipped with your EMI UST screens.

Pipe Size	Outside Diameter	Inside Diameter	Slot Size	Screen Length	Overall Length	Bottom Plug
2"	2.375"	2.047"	.020"	10'	13'	Yes
4"	4.500"	3.998"	.020"	10'	13'	Yes
6"	6.625"	6.031"	.020"	10'	13'	Yes
8"	8.625"	7.942"	.020"	10'	13'	Yes
10"	10.750"	9.976"	.020"	10'	13'	Yes
12"	12.750"	11.889"	.020"	10'	13'	Yes

PVC Pipe, Fittings and Supplies for Monitoring/Remediation Applications

OPW 7150 Overfill Prevention Valves

The CARB-certified OPW 7150 vapor-tight Overfill Prevention Valve is designed to prevent the overfill of underground storage tanks by providing a positive shut-off of product delivery. The shut-off valve is an integral part of the drop tube used for gravity filling. The OPW 7150 allows easy installation (without breaking concrete) and requires no special manholes.

The OPW 7150 is a vapor-tight two-stage shut-off valve. When the liquid level rises to about 95% of tank capacity, the valve mechanism is released, closing automatically with the flow. This reduces the flow rate to approximately 5 gpm through a bypass valve. The operator may then stop the filling process and disconnect and drain the delivery hose. As long as the liquid exceeds the 95% level, the valve will close automatically each time delivery is attempted.

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

NOTE: The 7150 Overfill Prevention Valve can be adjusted to shutoff at any desired tank capacity. Please contact the Authority Having Jurisdiction (AHJ) and review local, state, and national codes to determine the regulatory requirements governing shut-off capacity in your region, as well as take into account other considerations such as extreme tank tilt. In all cases, the upper tube must protrude into the tank at least 6 1/2" to ensure that the valve can shut off flow into the tank completely before the top of the tank is wetted as per EPA requirements.

7150 Instruction Sheet Order Number: M15524PA

Materials

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

Features

- ◆ **Simple, Easy and Quick Installation** – no excavation or special manholes required.
- ◆ **Economical** – costs a fraction of expensive, complicated and difficult-to-install valves.
- ◆ **Furnished Complete** – supplied with new upper and lower drop tubes, mounting hardware and thorough instructions for quick job site time.
- ◆ **Completely Automatic Operation** – no prechecks to perform, no resets and no overrides to be broken or abused.
- ◆ **No Pressurization of the Tank** – operates directly from liquid level.
- ◆ **Will Accept a Dipstick for Gauging**

Advantages of Overfill Prevention Compared to Overfill Warning Systems:

- ◆ **Completely Automatic Operation** – does not rely on the alertness or speed of response of the delivery attendant for certainty of overfill prevention.
- ◆ **Keeps the Top of UST "Dry," per EPA Requirements** – eliminating possible leaks at loose bung fittings and the need for double containment on vent lines.
- ◆ **Does Not Rely on Pressure in the UST to Stop Flow** – allowing



Important

In order to prevent product spillage from the Underground Storage Tank (UST), properly maintained delivery equipment and a proper connection at the tight-fill adaptor are essential. Delivery personnel should be managed and trained to inspect delivery elbows and hoses for damaged and missing parts. They should always make certain there is a positive connection between the adaptor and elbow. If delivery equipment is not properly maintained, or the elbow is not securely coupled to the adaptor, a serious spill may result when the OPW 7150 closes, causing a hazard and environmental contamination.

NOTE: The OPW 7150 is designed for use on tight-fill gravity drop applications only. Do not use for pressure fill applications.

- ◆ **Retrofits Directly** – for both new and existing tanks with 4" fill risers.
- ◆ **Quick Drain Feature** – automatically drains hose when head pressure is relieved.
- ◆ **Best Flow Rate in The Industry***

* OPW Test Lab results

faster fill times and reducing spill risk.

- ◆ **Speeds Delivery Operations** – product flows unimpeded into the tank until the hose "kick" that accompanies the valve shut-off provides a clear signal that the liquid has reached the shut-off level.
- ◆ **Simple and Inexpensive Installation** – in both two-point and coaxial fill applications, no additional excavation, manholes or vent piping are required.

Storage and
Applications



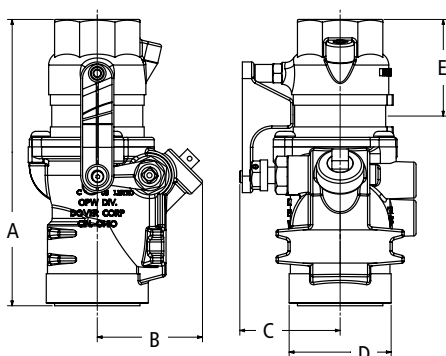
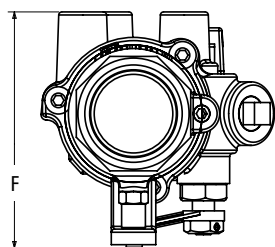
Look for this label for authentic OPW EVR Approved products.
OPW 7150M is EVR Approved for E85

10 Plus Series Emergency Shut-Off Valves

OPW raised the protection standard in emergency valves when it introduced the first double-poppet valve back in 1989. This industry-changing OPW innovation helped to significantly reduce the risk of fire, explosion, personal injury, property damage and environmental contamination at sites around the world. Major oil companies and jobbers agreed that providing added protection for their customers, investments and the environment were the three most convincing reasons for switching to the innovative new valves.

Dimensions

	in.	cm
A	7 ⁹ / ₁₆	4
B	2 ²⁵ / ₃₂	4
C	2 ²¹ / ₃₂	4
D	2 ¹¹ / ₁₆	4
E	2 ⁹ / ₁₆	4
F	4 ²¹ / ₃₂	4



Materials

Top: Cast iron
Body: Cast iron

10 PLUS



**UL Listed
for up to
85%
Ethanol**

Features

- ◆ The **ONLY** emergency shut-off valve in the world designed to protect your customers, investments, and the environment against the potential hazards of undetected shear groove leaks caused by low-impact incidents.
- ◆ The patent-pending SmartGuard™ design contains shear groove leaks, preventing fuel from leaking into sumps to help reduce the risk of fire, explosion, personal injury, property damage, environmental contamination, product loss and costly clean-up.
- ◆ Superior shear groove design and engineering results in reliable valve shut-off in the event of a pull-over or dislodged dispenser. The 10 Plus utilizes the same time-tested field-proven design of the OPW 10 Series Emergency Shut-off Valve – the most specified emergency shut-off valve in the world.
- ◆ Fusible link releases to automatically close the valve to reduce fire hazard.
- ◆ Rigorously tested to meet OPW's rigid quality standards.
- ◆ E85 model has orange arm for visual indicator

Ordering Specifications

Model #	Body Size in. cm	Body Weight lb. kg	Connection Threads	Poppet Configuration	Application	Mounting System
10P-0150	1 1/2 4	6.7 3.05	NPT	Single	Pressure	Combination
10P-0152	1 1/2 4	6.8 3.10	NPT	Double	Pressure	Combination
*E85 10P-0152E85	1 1/2 4	6.8 3.10	NPT	Double	Pressure	Combination

*E85 Applications



10 Plus Replacement Parts

Part #	Description
10RPLUS-0150	10 Plus Single Poppet Replacement Top
10RPLUS-0152	10 Plus Double Poppet Replacement Top
202950	1 1/2" Tetra Seal
200143	Safety Hub/Fusible Link
H11361M	2" Tetra Seal

Listings and Certifications



10 Plus Series Instruction Sheet Order Number: **201614**

Materials

Body: Aluminum
Screen: 40-mesh brass
Set Screws: Brass

23



Features

- ◆ Reliable Service – vent cap drain spouts extend outward to deter rainwater entry.
- ◆ Corrosion-Resistant Construction – aluminum body and cap assure a long service life.
- ◆ Easy Installation – 23 series is available in 2" and 3" slip-on models that provide for attachment to the vent line with set screws.
- ◆ Complies with NFPA 30 Requirements – for venting gasoline vapors upward.
- ◆ High-Maximum Flow Rate – 7000 SCFH at 2 psi (0.14 bar) pressure drop.
- ◆ 40-Mesh Brass Wire Screen – Helps prevent debris and insects from entering the tank vent lines.

Replacement Parts

Part #	Description
H00122M	Screw
H01967M	Nut
H01969M	Screen

Ordering Specifications

Product #	Description	in.	mm	oz.	kg	Weight	
						lbs.	kg
23-0044	Open Vent	1½	38	3.8	.11	0.25	0.11
23-0033	Open Vent	2	51	4.3	.12	0.25	0.11
23-0055	Open Vent	3	76	5.0	.14	1.00	0.45

Materials

Body: Zinc/aluminum
Screen: brass
Cap: 2" - Steel 4" - cast iron
Screen: 40-mesh stainless steel

113



Ordering Specifications

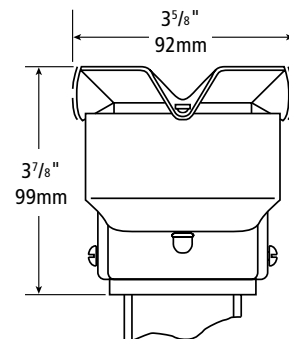
Product #	in.	mm	lbs.	kg
113-0066	2	51	.88	.40
113-0099	4	102	7.50	3.41

Dimensions

	2" (51mm)		4" (102mm)	
	in.	mm	in.	mm
A	1½	38	2¾	70
B	3¾	95	7⅞	189
C	2¾	70	4⅝	125

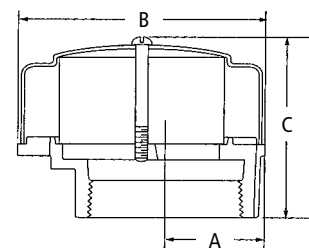
OPW 23 Series Open Atmospheric Vents

Open Atmospheric Vents are installed on the top of vent pipes from underground or above ground fuel storage tanks. The vent cap and internal wire screen are designed to protect the tank vent lines against intrusion and blockage from water, debris or insects. These vents are always open to atmosphere and allow any pressure or vacuum into the tank to vent.



OPW 113 Series Open Atmospheric Utility Vents

OPW 113 Open Atmospheric Utility Vents are installed on the top of above ground fuel storage tanks. The vent cap and internal wire screen are designed to protect the tank vent lines against intrusion and blockage from water, debris or insects. These vents are always open to atmosphere and allow any pressure or vacuum into the tank to vent. The 113 vents vapors downward and is used primarily on diesel, fuel oil, waste-oil and motor-oil tanks, but can also be used on a wide variety of above ground storage tank venting applications.



**For more information contact OPW Customer Service at
1-800-422-2525; International call 1-513-870-3315.**

Materials

Body: Duragard®
Coated Cast Iron
Cage Assembly: ZA12 Zinc/Alloy

(TEE)



Features

- ◆ **Duragard® Coated Cast Iron Body** – helps prevent rust and corrosion for long service life.
- ◆ **ZA12 Zinc/Alloy Cage Assembly** – eases installation and removal of ball float vent valves and test plugs.
- ◆ **Precision Machined Threads** – help prevent cross threading of the ball float or tank riser pipe.
- ◆ **Compatible with 85% Ethanol (E85) or Methanol (M85)**



CROSS



233 VP Test Plug



(H11930 2" CAGE SA)

Ordering Specifications

Product #	Top Thread		Outlet Thread		Bottom Thread		Weight	
	in.	mm	in.	mm	in.	mm	lbs.	kg
233-4420 (Tee)*	4	102	2	51	4	102 Ext.	13.89	6.31
233-4430 (Tee)*	4	102	3	76	4	102 Ext.	14.06	6.39
233-4422 (Cross)*	4	102	2 x 2	51 x 51	4	102 Ext.	15.18	6.90
233-4433 (Cross)*	4	102	3 x 3	76 x 76	4	102 Ext.	15.54	7.06
233-4432 (Cross)*	4	102	3 x 2	76 x 51	4	102 Ext.	17.29	7.86

* Without cage assembly NOTE: Use OPW89 Extractor Wrenches (See page 120)

Replacement Parts

OPW 233V and 233VM

Part #	Description
H11930	2" Cage SA
233VP-6046	Test Plug

OPW 233 Series Extractor Fittings

OPW 233 Series Extractor Fittings thread into 4 NPT openings on underground storage tanks. A 4" riser pipe threads into the top of the 233 for use in Stage I Vapor Recovery or to access a ball float. The 233 Extractor Fittings have threaded single-outlet connections for attaching tank vent lines or multiple outlets used to manifold tank vents or accommodate Stage II vapor return lines from dispensers. Internal threads on the 233 are designed to install a ball float or test plug in the extractor.

OPW 233

The OPW 233 Extractor Fittings are designed for use with all OPW 53VML Ball Float Vent Valves that include an extractor cage (the OPW 233 does not include an extractor cage). The 233 Extractor incorporates either single-outlet or multiple-outlet threads.

OPW 233VP Extractor Test Plug

The OPW 233VP Extractor Fitting Test Plug is used on all OPW 233 Series Extractor Fittings. The 233VP incorporates an O-Ring above the threads (on the plug) to isolate the tank from the vent piping systems during a tank test.

Listings and Certifications

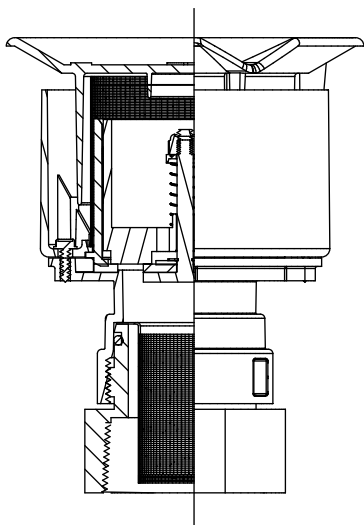


Look for this label for authentic OPW EVR Approved products.

OPW 233 Series Extractor Fittings are EVR Approved for E85

OPW 623V Pressure Vacuum Vent

Pressure Vacuum Vents are installed on the top of vent pipes from underground or above ground fuel storage tanks. The vent cap and internal wire screen are designed to protect the tank vent lines against intrusion and blockage from water, debris or insects. A normally closed poppet in the valve opens at a predetermined pressure or vacuum setting to allow the tank to vent.



Conversion Table

Measurement Units	=	Oz.	PSI	In H ₂ O (WC)	In Hg (Merc)	Bar
Bar	x	236.0	14.5	401.4	29.53	
In. Hg (Mercury)	x	7.843	0.49	13.6		0.034
In H ₂ O (WC)	x	0.578	0.04		0.074	0.002
PSI	x	16.00		27.68	2.04	0.069
Oz.	x		0.063	1.73	0.128	0.004

Materials

Top/Body: Polypropylene
Base: Anodized aluminum
Poppet: Anodized aluminum
Screen: Stainless steel mesh
Gasket: Closed cell foam

623V

Vent Must Be Mounted Vertically



Features

- ◆ Pressure/Vacuum Setting – 2.5" to 6" water column pressure settings and -6" to -10" water column vacuum settings are factory preset and tested.
- ◆ Reliable Service – cycle tested to the equivalent of 80 years of service in the most severe environment without leakage problems.
- ◆ Corrosion-Resistant Construction – a Duratuff® composite body ensures a long service life.
- ◆ Easy Installation – the 623V is available in 2" and 3" threaded versions.
- ◆ Complies with NFPA 30 Requirements – for venting gasoline vapors upward.
- ◆ Manifold Vent Pipes – vent pipes may be manifolded to produce a single Pressure Vacuum Vent line. The 623V exceeds California's requirements of a maximum vapor leak rate of 0.17 SCFH at 2.00 inches H₂O.
- ◆ High Maximum Flow Rate – 6450 SCFH at 2 psi (0.1 bar) pressure drop.
- ◆ Leak Rate – multiple pressure vacuum vents may be installed on a single site. The 623V exceeds California standards with a leak rate of 0.05 SCFH or less at 2.00 inches H₂O.
- ◆ Maintenance – no tools required. A removable snap fit top allows for easy maintenance (recommended yearly).
- ◆ 100-Mesh Stainless Steel Wire Screens – helps prevent debris and insects from entering the tank vent lines. An added screen installed at the base prevents debris from intruding from the vent stack.
- ◆ Adaptor Bushing – removable hex threaded bushing designed for easy installation on NPT threaded risers. Allows easy access to lower screen.
- ◆ ATEX Approved – for flame arrestor applications

623V Instruction Sheet Order Number: H14898PA

Ordering Specifications

Product #	Description	Identification Label Color	Lb.	kg
623V-2203	2.5" to 6" WC Pres., -6" to -10" WC Vac. 2" Thread-On	Yellow	1.55	.70
623V-3203	2.5" to 6" WC Pres., -6" to -10" WC Vac. 3" Thread-On	Yellow	2.20	1.00

Replacement Parts

Part Number	Description
C05086M	Lower Screen
H14895M	Upper Screen
C05089	2" Threaded Base Adaptor
C05122	3" Threaded Base Adaptor

Listings and Certifications



OPW 623V & 523V



ATEX Approved

Patent No. WO2004/036096AZ

OPW 634 Series Tight-Fill Top-Seal Caps

Tight-Fill Top-Seal Caps are installed on top-seal adaptors, when not in use, to prevent gasoline vapors from escaping and to prevent water, dust and debris from entering the tank.



Look for this label for authentic OPW EVR Approved products.
EVR Approved for E85

Materials

Cap & Links: Duratuff®

Pins: Stainless steel

Gasket: Nitrile

Color: Grey

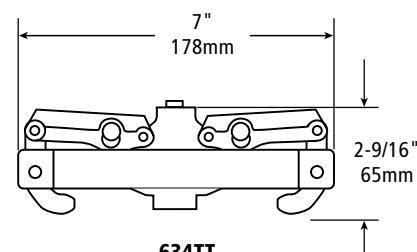


Ordering Specifications

Product #	in.	mm	lbs.	kg
634TT-7085-EVR	4	102	1.01	.46

Replacement Parts

Part #	Description
H15005M	Nitrile Gasket



NOTE: Effective height above adaptor: 1-19/32"

OPW 634TT

The OPW 634TT is designed to mate with 4" 633T, 633TE, 61SA, 633TC, and 633TCP Top-Seal Adaptors. Heavy duty and corrosion resistant, the body is made of Duratuff® to help eliminate rust and oxidation for a long, maintenance-free life. The toggle lever distributes downward pressure to compress its Buna-N gasket evenly, ensuring a positive, water and vapor-tight seal. The 634TT can be locked with a padlock or wire seal.

The OPW 633TE adaptor is similar to the 633T, except it does not have internal wrenching lugs.

OPW 634TT - Metal

The 634TT-4000 is a metal top-seal cap with the same dimensions as the 634TT-7085.

Materials

Cap: Die cast zinc (powder coated black)

Lever: Duratuff®

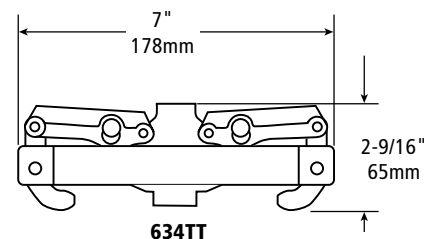
Pins: Stainless steel

Gasket: Nitrile



Ordering Specifications

Product #	in.	mm	lbs.	kg
634TT-4000	4	102	1.01	.46



Listings and Certifications



Look for this label for authentic OPW EVR Approved products.
OPW 634TT & 634LPC are EVR Approved for E85



OPW 1611 Series Vapor Recovery Adaptor

The OPW 1611AV and 1611AVB are popped adaptors, designed to mate with a vapor recovery elbow, for returning gasoline vapor to the tank truck during a fuel delivery to an underground tank.

Materials

Body: Clear anodized aluminum or cast bronze

Stem: Chrome-plated steel

Stem Guide: Acetal resin

Spring: Stainless steel

Gasket: Nitrile



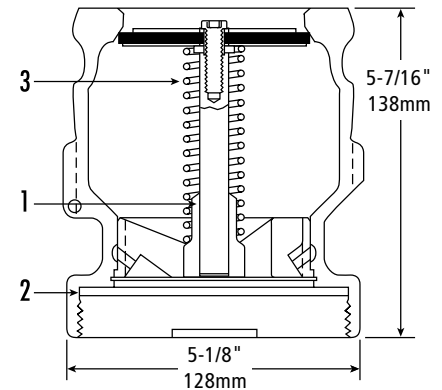
1611AV 3" x 4"
(76 x 102mm)

Ordering Specifications

Product #	Elbow Size		Riser Thread		lbs.	kg	Body Material
	in.	mm	in.	mm			
1611AV-1605	3	76	3	76	2.91	1.32	Clear Anodized Aluminum
1611AV-1620	3	76	4	102	3.25	1.48	Clear Anodized Aluminum
1611AVB-1625	3	76	4	102	7.97	3.62	Cast Bronze

Replacement Parts

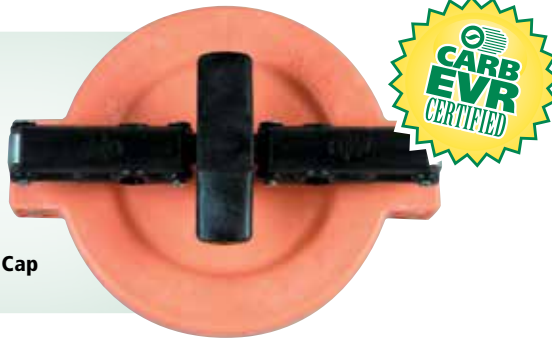
Key	Part #	Description
1	C02642M	Bridge Guide
Not Shown	H15294M	Screw (3") (76mm)
2	H04145M H04150M	Gasket (3") (76mm) Gasket (3" x 4") (76 x 102mm)
3	H08989M	Spring
61VSA-KIT Complete Replacement Kit		



Materials

Body: Duratuff®
Pins: Stainless steel
Links: Duratuff®
Gasket: Nitrile
Color: Orange

1711T Cap

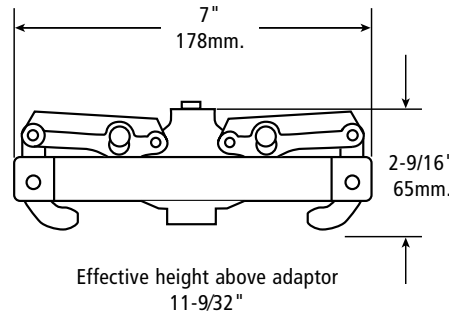


Ordering Specifications

Product #	in.	mm	lbs.	kg
1711T-7085-EVR	3	76	1.1	.50

Replacement Parts

Part #	Description
H10886M	Nitrile Gasket



OPW Stage 1 Vapor Recovery Caps

OPW 1711T

The OPW 1711T Vapor Recovery Cap is for use with the OPW 1611AV, 61VSA, 1611AVB and 1611VR Adaptors. The 1711T is installed on the vapor recovery adaptor, when not in use, to prevent vapors from escaping and to prevent water, dust and debris from entering the tank. Constructed of Duratuff® to help prevent corrosion, the OPW 1711T will couple to Civacon/OPW 4" Kamloks, and features a center post that allows an even distribution of force when coupling to the adaptor. The 1711T can be locked with a padlock.

Materials

Cap: Cast zinc alloy (powder-coated orange)
Lever: Ductile iron
Gasket: Nitrile

1711LPC Cap



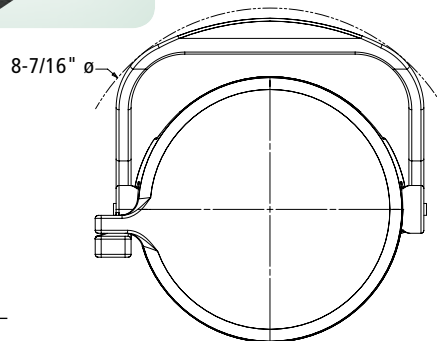
Effective height above adaptor 1/2"

Ordering Specifications

Product #	in.	mm	lbs.	kg
1711LPC-0300	3	76	3.5	1.59

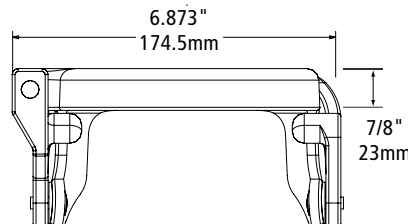
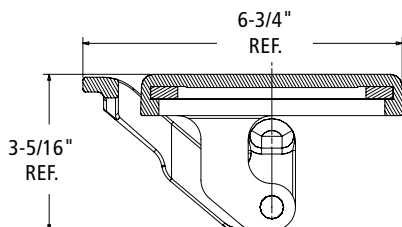
Replacement Parts

Part #	Description
H15005M	Nitrile Gasket



OPW 1711LPC Low Profile Vapor Cap

The OPW 1711LPC Low Profile Top-Seal Vapor Cap is designed for tight installations where the clearance between the top of the vapor adaptor and the underside of the spill container or manhole cover is limited. The rugged iron lever provides a positive cam-action that seats the cap firmly in the adaptor groove for a water and vapor-tight seal. When engaged, the lockable cap adds only 1/2" to the final height of the adaptor. The cap is powder-coated API Orange to signify vapor recovery. The 1711LPC can be used with the OPW 3" 1611AV, 1611AVB and 61VSA series vapor adaptors.



Listings and Certifications



Look for this label for authentic OPW EVR Approved products.
OPW 1711 Series Caps are EVR Approved for E85



OPW FibreTite Multi-Port Spill Containment

OPW "FibreTite" Multi-Port Spill Containment Manholes provide spill containment for underground storage tank (UST) fill pipes and vapor recovery risers.

Multi-Ports are installed over the top of tank sumps to preserve future access to the tank top and to facilitate containment of tank bung fittings.

OPW "FibreTite" watertight covers are easy to remove composite manhole covers are available with center or offset port for access to fill risers.



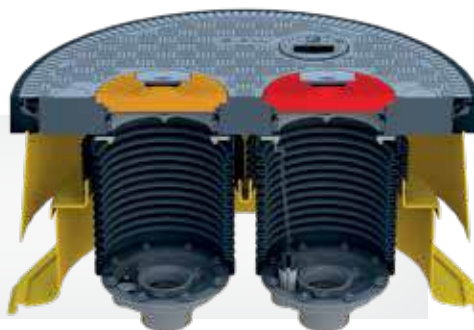
FibreTITE
COMPOSITE MULTI-PORT

Materials:

Cover: Fiberglass

Frame: Fiberglass

Skirt: Fiberglass



Features & Benefits:

- ◆ Lightweight - reduce risk of back, foot and hand injuries.
- ◆ UV resistant
- ◆ Standard duty (20 ton load rating)
- ◆ No Bolts Required to Seal Top Cover
- ◆ Anti-slip surface
- ◆ Composite construction; does not corrode
- ◆ Watertight, sealed design
- ◆ Monolithic structure eliminates delaminating
- ◆ Ergonomic, single person removal and replacement with Fibrelite lifting handle
- ◆ Easy Access Watertight Sump Inspection Port
- ◆ Replaceable Double Wall Spill Containment
- ◆ Easy access to Overfill Prevention Valve

OPW FibreTite Multi-Port and Sump System Kit

Includes:

- Multiport Cover
- Frame
- Skirt
- Spill Containers
- Port Covers
- Shroud Boot
- Clamping Kits
- Water Spill Platform
- Top Hat
- Sump Base

Ordering Specifications

Part Number	Application	Tank Collar	Dia.	Height	Sump		WT Cover	Bonded Manhole		
					Base			Skirt ID	FRP Cover	Fill & Vapor Cover
S8CR-3100G-MP3716S-W	5 Gallon Regular Gasoline MP System	42"	45"	48"	Collar Ring		37" WSP37-16S	40"	Gray	White/Orange
S8CR-3100G-MP3716S-R	5 Gallon Premium Gasoline MP System	42"	45"	48"	Collar Ring		37" WSP37-16S	40"	Gray	Red/Orange
S8CR-3100G-MP3716S-BU	5 Gallon Mid-Grade Gasoline MP System	42"	45"	48"	Collar Ring		37" WSP37-16S	40"	Gray	Blue/Orange
S8CR-3100G-OF378S-Y	5 Gallon Diesel Offset System	42"	45"	48"	Collar Ring		37" WSP37-8S	40"	Gray	Yellow
S8CRD-3100G-MP3716S-W	5 Gallon Regular Gasoline MP System	42"	45"	63"	Collar Ring		37" WSP37-16S	40"	Gray	White/Orange
S8CRD-3100G-MP3716S-R	5 Gallon Premium Gasoline MP System	42"	45"	63"	Collar Ring		37" WSP37-16S	40"	Gray	Red/Orange
S8CRD-3100G-MP3716S-BU	5 Gallon Mid-Grade Gasoline MP System	42"	45"	63"	Collar Ring		37" WSP37-16S	40"	Gray	Blue/Orange
S8CRD-3100G-OF378S-Y	5 Gallon Diesel Offset System	42"	45"	63"	Collar Ring		37" WSP37-8S	40"	Gray	Yellow
S8SB-3100G-MP3716S-W	5 Gallon Regular Gasoline MP System	48"	45"	39"	Solid		37" WSP37-16S	40"	Gray	White/Orange
S8SB-3100G-MP3716S-R	5 Gallon Premium Gasoline MP System	48"	45"	39"	Solid		37" WSP37-16S	40"	Gray	Red/Orange
S8SB-3100G-MP3716S-BU	5 Gallon Mid-Grade Gasoline MP System	48"	45"	39"	Solid		37" WSP37-16S	40"	Gray	Blue/Orange
S8SB-3100G-OF378S-Y	5 Gallon Diesel Offset System	48"	45"	39"	Solid		37" WSP37-8S	40"	Gray	Yellow
S8SBD-3100G-MP3716S-W	5 Gallon Regular Gasoline MP System	48"	45"	48"	Solid		37" WSP37-16S	40"	Gray	White/Orange
S8SBD-3100G-MP3716S-R	5 Gallon Premium Gasoline MP System	48"	45"	48"	Solid		37" WSP37-16S	40"	Gray	Red/Orange
S8SBD-3100G-MP3716S-BU	5 Gallon Mid-Grade Gasoline MP System	48"	45"	48"	Solid		37" WSP37-16S	40"	Gray	Blue/Orange
S8SBD-3100G-OF378S-Y	5 Gallon Diesel Offset System	48"	45"	48"	Solid		37" WSP37-8S	40"	Gray	Yellow

All Fill & Vapor Covers ship with Composite FC-11 Spill Port Covers.



Add "SC" to the end of the part for Sealable Covers.



Listings and Certifications



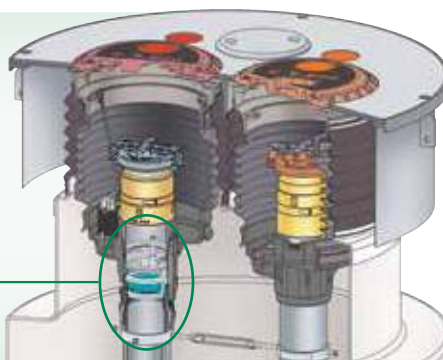


FSA400



61JSK

See page 65 for
ordering specifications
on the FSA-400 & 61JSK



OPW 400 and 500 Series Multi-Port Spill Containment Manholes

OPW Multi-Port Spill Containment Manholes provide spill containment for underground storage tank (UST) fill pipes and vapor recovery risers in a completely integrated single manhole package. Multi-ports are installed over the top of tank sumps to preserve future access to the tank top and to facilitate containment of tank bung fittings. OPW offers a vast array of standard multi-port configurations and options, in addition to an almost unlimited ability to provide custom solutions for virtually any spill containment application.

Model Descriptions

- ◆ **OPW 411 Series** – features a flush-mounted manhole lid and raised dual dam and groove spill container rings, with P2105 Buckets using OPW 1-2105 Style Slip-On 5-gallon containers. Base is standard 1" offset from center and can be used for 12", 14", 16" or wider riser spacing. Optional 1P-2105 Hand Pump available.
- ◆ **OPW 500 Series (511 / 521) EVR Multi-Port** – features a flush-mounted manhole lid and raised dual dam and groove spill container ring, with P511-EVR Buckets using OPW 1-2100 Style Thread-On Spill Containers. All Fill Ports in these spill containers feature an enhanced 1DK-2100-EVR vapor tight drain valve. The Vapor Return Spill Container features a permanent plug in the drain port as per EVR requirements. EVR

Multi-Port Thread-On Spill containers are available in Composite or Cast Iron bases with 5 gallon buckets. Drain Valve Spill Bucket & Plug Spill Bucket standard on Dual Ports, Drain Valve Spill Bucket standard on Single Port.

- ◆ **Required for EVR APPLICATIONS** – the FSA-400 Threaded Riser Face Seal Adaptor is installed on the fill pipe below the spill container to provide a true sealing for the drop tube flange on the 71SO overfill prevention valve. The 61SO and/or 71SO series valve is installed in the base of the OPW EVR spill container with the patent pending 61JSK jack screw device. This configuration allows liquid in the spill container to be drained directly into the drop tube, thereby isolating the drain valve from the tank ullage, eliminating a notorious leak point in previous systems.

Features

- ◆ **Contractor-Friendly Installation** – studded mounting ring simply bolts together inside the spill containment bucket. No need to align bolt holes in the manhole cover.
- ◆ **Raintight Service** – nitrile gaskets on the manhole and spill bucket mounting rings help prevent contamination of the sump area from surface water intrusion.
- ◆ **Highway 20 Load Rating** – the rugged diamond plate steel manhole covers, as well as the ductile iron (RT) or aluminum (SC) spill container covers meet H20 Load Rating requirements.
- ◆ **Spill Container and Manhole Positive I.D. System** – special recesses cast into spill container covers allow product I.D. tags to be attached to the lids. Matching bucket tags can be affixed to the inside of the spill container to prevent covers from getting switched.

- ◆ **Fill/Vapor Ports** – configurations are available to accommodate a single fill riser, dual ports for both a fill and vapor riser, and triple and quad ports for multiple fill and vapor risers. Ports can be supplied with or without containment buckets.
- ◆ **Port Configurations** – standard port locations match the popular riser spacings (16" or 24") and bung configurations on underground storage tanks. Custom port locations are easily accommodated. For riser spacings less than 16", old style buckets must be used.
- ◆ **CARB Certified** – 500 Series CARB EVR Approved Executive Order #VR-102
- ◆ **Manhole Cover Sizes** – standard bolt-down manhole cover diameters of 30" (76 cm), 37" (94 cm), 42" (107 cm) and 48" (122 cm) allow ample access to the sump area. Heavy-duty reinforced lid options are also available upon request.

- ◆ **Spill Container Cover Options** – standard spill container options include the patented OPW dam and groove raintight (RT) design and the watertight Sealable Cover (SC) "plumber's plug" design. The raintight cover features a finger-grip lifting facility and an integral seal. The sealable cover features a cam-operated mechanism that expands the seal against the vertical wall of the mounting ring. Both of these water-shedding covers are protected by raised mounting rings.
- ◆ **Fastener Options** – two types of fasteners are available to secure the manhole lid and monitoring port to mounting rings. Standard are 5/16"-18 hex head bolts. Optional are OPW Roto-Lock Fasteners. The OPW Roto-Lock system enables a secure, watertight connection without the need to locate threaded bolt holes on the mounting ring.
- ◆ **Powder Coated Rings & Covers** – available upon request.
- ◆ **Replacement Covers** – see Part Number Configurations at www.opwglobal.com.

Listings and Certifications



Look for this label for authentic OPW EVR Approved products.

CARB EVR Executive Order #VR-102
NYCFD Certified (6571 Series) #5053
Florida EQ-145

OPW Multi-Port Spill Containment Ordering Specifications

Product Number

6 **EVR** **—**

(500 Series Only)
Do Not Enter "EVR"
for old style multiports

Bolt Down Model Number

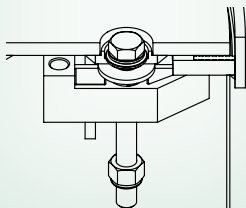
- 511EVR - HDPE Bellows, Thread-On Composite Base, Bolt-Down
- 561EVR - HDPE Bellows, Thread-On Cast Iron Base, Bolt-Down
- 411- HDPE Bellows, Slip-On Composite Base

Roto-Lock Model Number

- 521EVR - HDPE Bellows, Thread-On Composite Base, Roto-Lock
- 571EVR - HDPE Bellows, Thread-On Cast Iron Base, Roto-Lock
- 421- HDPE Bellows, Slip-On Composite Base with Roto-Lock Fasteners

Optional Roto-Lock Fastener System

The OPW Roto-Lock system enables a secure raintight connection without the need to locate threaded bolt holes on the mounting ring.



Fill/Vapor Port Configurations



(Dead Center)



(42" Minimum Cover)



(Offset Single Port)



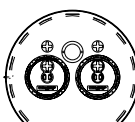
NOTE: 43 or 49 style Gauge Port must be used if a water shroud is to be used with L style

Replacement / Retrofit Manhole RP* - (No Ring / Skirt)

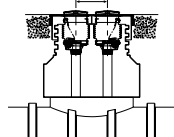
*RP cover orders must be accompanied by an up-to-date OPW field survey form.

Riser Spacing

- 00 - Single Port (A Configurations)
- 16 - 16" Centers
- 24 - 24" Centers (42" Minimum Cover)
- Old Style - 14" Centers Available



Riser Spacing

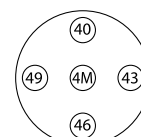


Dimensions

O.D.		I.D.		Thickness	
in.	cm	in.	cm	in.	cm
30	76	26 ⁵ / ₈	68	³ / ₈	0.952
37	94	34 ⁵ / ₈	88	³ / ₈	0.952
42	107	39 ⁵ / ₈	101	¹ / ₂	1.27
48	122	44 ⁵ / ₈	113	¹ / ₂	1.27

Gauge Port Location

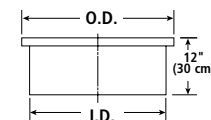
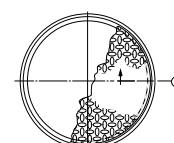
- 00 - No Gauge Port
- 40 - Port at 12 o'clock
- 43 - Port at 3 o'clock
- 46 - Port at 6 o'clock
- 49 - Port at 9 o'clock
- 4M - Port in Center
- 7X - Flush Mount



Port Location Example

NOTE: 3M Style gauge port must be used with port in the center of "G" Style

- Manhole Cover Size*
30" (Configurations)
36 - 36" Retrofit Only
37 - 37"
39 - 39" Retrofit Only
42 - 42"
48 - 48"
* 42" is standard



EVR Multi-Ports

Thread-On Spill Containers are available in composite or cast iron bases with either 5 or 15-gallon buckets. (1) Drain Valve Spill Bucket & (1) Plug Spill Bucket standard on Dual Ports. Drain Valve Spill Bucket standard on Single Port.

Optional Accessories

Part #	Description
6511-RB16	12" to 18" Riser Spacer
6511-RB24	20" to 26" Riser Spacer
H15144M	4" NPT Nipple, 4" Length
H12806M	4" NPT Nipple, 5" Length
VPN4X7	4" NPT Nipple, 7" Length
H15271M	4" NPT Nipple, 8" Length
H15268M	4" NPT Nipple, 10" Length
H15888M	4" NPT Nipple, 9" Length
209502	4" NPT Nipple, 14" Length
209501	4" NPT Nipple, 10" Length
TC-400	4" Torque Cap for 16" Nipples
6521-XAR37	36", 37" OR 38" Roto-Lock Adaptor Ring to convert from Bolt Down
6521-XAR42	39" OR 42" Roto-Lock Adaptor to convert from Bolt Down
6521-XAR48	48" OR 52" Roto-Lock Adaptor to convert from Bolt Down



**6511-RB16
Riser Spacer**

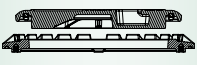


Torque Cap

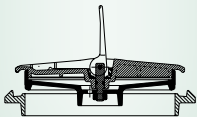


4" Nipple

Spill Container Cover Style**	Spill Container Capacity***	# Of Ports With Containment	Powder Coated Manhole Covers
RT - Raintight	00 - No Containment	0	
SC - Sealable Cover	05 - 5-Gallon	1	
00 - No Ring or Cover	15 - 15-Gallon	2	
	*** 5-Gallon bucket is standard	3	
		4	

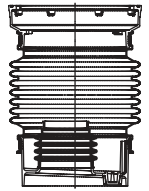


RT - Raintight

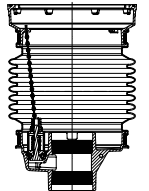


SC - Sealable Cover (Lid in open position)

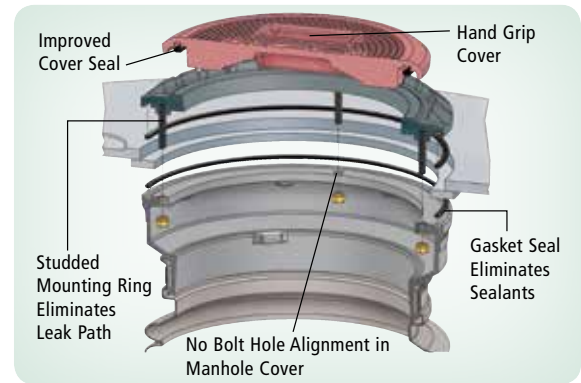
** Raintight cover is standard



411-5-gallon (Slip-On)



511-5-gallon (Thread-On)



Current Replacement Parts

For New 500 Series EVR Multi-Ports 6511/6521, 6561/571 made post 11/2003

Part #	Description
P711-EVRDV	Replacement 5-Gallon Bucket, w/ Drain Valve
P711-EVRPL	Replacement 5-Gallon Bucket, w/Plug (Vapor)
P761C-EVRDV	Replacement 5-Gallon Bucket, C.I. Base w/Drain Valve
P761C-EVRPL	Replacement 5-Gallon Bucket, C.I.
P411-EVRPL	Replacement 5-Gallon Slip-On Bucket
P511-15-EVRDV	Replacement 15-Gallon Bucket, Comp Base, W/ Drain Valve
C05170M	Gasket, Spill Bucket & Mounting Ring
H15187M	Replacement Seal for New Rain Tight Cover

Note: New P711 & P761 EVR buckets will only work with New "EVR" Multi-Port covers. (made post 11/2003)

See page 80 for replacement rings and covers part numbers.

Old Style Replacement Parts

311/411/511/521 Series Multi-Ports

Note: 511/521 parts are for Multi-Ports made prior to Nov. 2003

Part #	Description
1DK-2100-EVR	511/521 Series Drain Valve
H13931M	Replacement Seal for SC Cover
P110-37G	34" - 37" Manhole Gasket
P110-42G	42" Manhole Gasket
P110-48G	48" Manhole Gasket
PROTO-LOCK	(1) Roto-Lock
P40-ROTOLID	Replacement 40 Style Gauge Port Roto-Lock Lid
H15240M	Replacement Gasket for 40 Style Gauge Port
C05501	Flush Mount Gauge Port Cover Only
P571-GK3T	Gasket Kit For New Style 571 Roto Multiport
203148	Replacement 3M Style Bolt Down Gauge Port, 4.8" diameter
205322	Replacement 30 Style Bolt Down Gauge Port, 6.5" diameter
P311-G	Bucket Top Flange Gasket
P511BUCKETBOLT	Spill Bucket RT Ring Kit (4) Bolts, Washers & Gaskets
H15238M	Replacement Gasket, 30 Style (Bolt Down)
1-2100-DSH	5 Gallon Fill Bucket with Composite Base & Drain Valve
1-2100-PSH	5 Gallon Vapor Bucket with Composite Base & Plug

Part #	Description
411 P2105BUCKET	411 Replacement Bucket 5-Gallon
Parts 1P-2105	H& Pump Kit for 411/P2105
P111-WTL	Replacement Cover (RT)
P111WTL-S	Replacement Seal for RT Cover
P311-1R	Replacement RT Ring
P311-14	RT Ring for 14" Riser
P511YBUCKET	Replacement Waste Oil Bucket
P511-DEVRBUCKET	Replacement 5-Gallon Bucket with Drain Valve
P511-G14	Bucket Top Flange Gasket for Notched Gasket Set
P511-PEVRBUCKET	Replacement 5-Gallon Bucket with Plug
P511C-DEVRBUCKET	Replacement 5-Gallon Bucket With C.I. Base & Drain Valve
511/521 P511C-PEVRBUCKET	Replacement 5-Gallon Bucket With C.I. Base & Plug
P511-DEVRB-14	Replacement 5-Gallon Bucket with Drain Valve 12" & 14" Risers
P511-PEVRB-14	Replacement 5-Gallon Bucket with Plug - 12" & 14" Risers
P511C-DEVRB-14	Replacement 5-Gallon Bucket W/ C.I. Base, Drain Valve for 12" & 14" Risers
P511C-PEVRB-14	Replacement 5-Gallon Bucket W/ C.I. Base, Plug, for 12" & 14" Risers
P521-GKIT	521 Multi-Port Complete Gasket Kit
P511-GKIT	511 Multi-Port Complete Gasket Kit

See page 80 for additional cover options.

Multi-Port Manhole Water Shroud System Option

The new OPW Multi-Port Manhole Water Shroud System (MPWS) is designed to completely isolate surface water and condensation from the tank sump. The MPWS features an injection-molded fiberglass Water Shroud lid that mates to a standard tank sump top hat reducer. This new bolt down design allows even compression to facilitate water-tight sump access. Shroud Boots isolate the spill container buckets using stainless steel band clamps, which provide a tight seal between the water shroud top hat and the underside of the spill container mounting rings. A 6" Sump Inspection Port is provided on each FRP Cover, allowing full inspection access through the Multi-Port Gauge Port. The OPW Water Shroud system is available in 33" and 36" models. The MPWS Water Shroud is sold separately.



**Rubber
Shroud Cap**



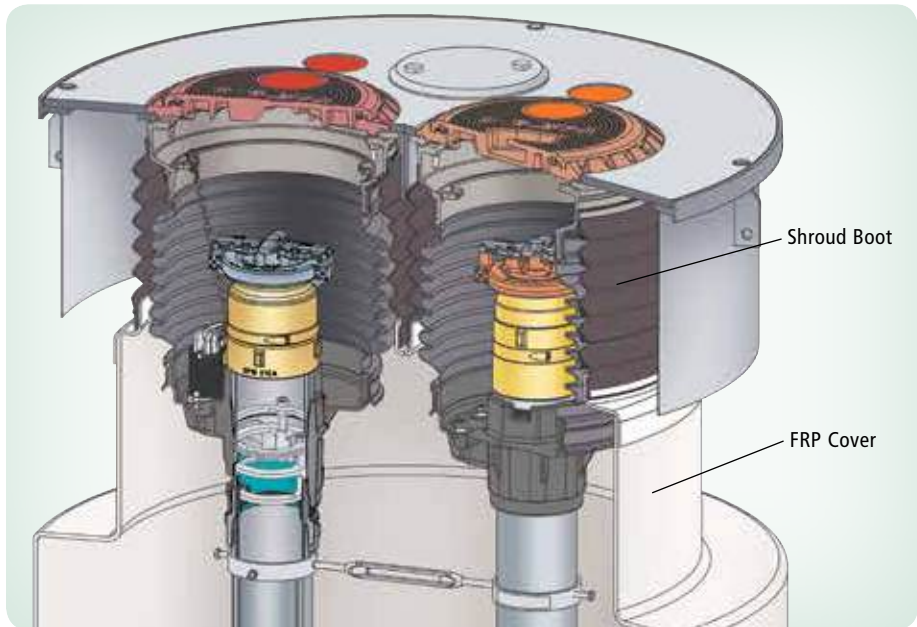
**Shroud Boots
Vinyl Plastisol**



**Sump Inspection
Port (SIP) - Clear
ABS Construction
Inspection Port**



**FRP Cover
Injection
Molded
Fiberglass
Cover**



Ordering Specifications

Part #	Description
MPWS-33	33" FRP Cover with (2) 5-gallon Water Shroud Boots & Clamps
MPWS-33BD	33" Bolt Down Water Shroud
MPWS-33BDD	33" Bolt Down Water Shroud for Diesel
MPWS-36	36" FRP Cover with (2) 5-gallon Water Shroud Boots & Clamps
MPWS-39BD	39" Bolt Down Water Shroud

Replacement Parts

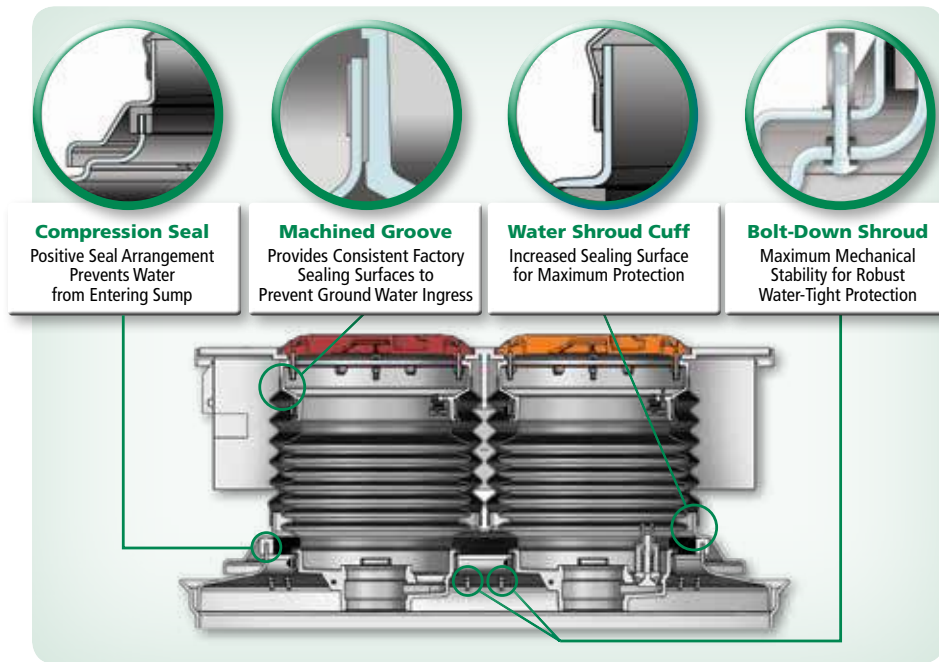
Part #	Description
C05223M	Shroud Boot Cap to Isolate One FRP Cover Port
D02571M	33" FRP Replacement Cover
D02586M	36" FRP Replacement Cover
D02575M	5-gallon Shroud Boot
H15188M	Lower Clamp for 5-gallon Shroud Boot
H15190M	Upper Clamp for 5 or 15-gallon Shroud Boot
SIP-6	6" Sump Inspection Port Sight Glass
SLPK	Gasket and Sealant Kit for Shroud
205181	Lower Clamp for 5 Gallon Shroud
205183	Upper Clamp for 5 Gallon Shroud

**Listings and
Certifications**

**Florida EQ-145
NY Approval**



NOTE: Part numbers do not include rings or covers. Rings and Covers must be ordered separately.



Bolt Down Manhole Water Shroud System Option

The Bolt Down Multi-Port Water Shroud (MPWS-BD) is designed to mate with the OPW Multi-Port. The MPWS-BD isolates surface water and condensation from Tank Sumps.

Shroud boots isolate the spill container buckets using stainless steel band clamps, providing a tight seal between the water shroud top hat and the underside of the spill container-mounting ring. Bolts on the outer edge of the shroud cover secure it to the top hat. Available in 33" and 39" Diameter Covers.

Ordering Specifications

Part #	Description
Bolt-Down FRP Top Hat Options	
203246	42" x 33" FRP Bolt-Down Top Hat
203272	42" x 39" FRP Bolt-Down Top Hat

New Ring and Cover Part Numbers

Raintight Covers		Raintight Cover Rings		Sealable Covers		Sealable Cover Rings	
RTC-WHITE		RTR-WHITE		SC-WHITE		SCR-WHITE	
RTC-RED		RTR-RED		SC-RED		SCR-RED	
RTC-YELLOW		RTR-YELLOW		SC-YELLOW		SCR-YELLOW	
RTC-GREEN		RTR-GREEN		SC-ORANGE		SCR-ORANGE	
RTC-ORANGE		RTR-ORANGE		SC-BLACK		SCR-BLACK	
RTC-BLACK		RTR-BLACK		SC-PLAIN			

Replacement Parts

Part #	Description
C05223M	Shroud Boot Cap to Isolate One FRP Cover Port
D02571M	33" FRP Replacement Cover
D02586M	36" FRP Replacement Cover
D02575M	5-gallon Shroud Boot
H15187M	Raintight Cover Replacement Gasket
H15188M	Lower Clamp for 5-gallon Shroud Boot
H15190M	Upper Clamp for 5 or 15-gallon Shroud Boot
SIP-6	6" Sump Inspection Port Sight Glass
SLPK	Gasket and Sealant Kit for Shroud
205181	Lower Clamp for 5 Gallon Shroud
205183	Upper Clamp for 5 Gallon Shroud

New Style OPW FibreTite Multi-Port Kit to Install on Existing Tank Sump

Includes Spill Containers

Kit includes; Multiport Cover, Frame, Skirt, Spill Containers, Port Covers, Shroud Boot, Clamping Kits, Water Spill Platform and Top Hat



FibreTITE
COMPOSITE MULTI-PORT

Ordering Specifications

Part Number	Application	WT Cover	Round Sump Riser Diameter	Bonded Manhole		
				Skirt ID	FRP Cover	Fill & Vapor Cover
S42-3100G-MP3716S-W	5 Gallon Regular Gasoline MP System	37" WSP37-16S	42"	40"	Gray	White/Orange
S42-3100G-MP3716S-R	5 Gallon Premium Gasoline MP System	37" WSP37-16S	42"	40"	Gray	Red/Orange
S42-3100G-MP3716S-BU	5 Gallon Mid-Grade Gasoline MP System	37" WSP37-16S	42"	40"	Gray	Blue/Orange
S42-3100G-OF378S-Y	5 Gallon Diesel Offset System	37" WSP37-8S	42"	40"	Gray	Yellow
S48-3100G-MP3716S-W	5 Gallon Regular Gasoline MP System	37" WSP37-16S	48"	40"	Gray	White/Orange
S48-3100G-MP3716S-R	5 Gallon Premium Gasoline MP System	37" WSP37-16S	48"	40"	Gray	Red/Orange
S48-3100G-MP3716S-BU	5 Gallon Mid-Grade Gasoline MP System	37" WSP37-16S	48"	40"	Gray	Blue/Orange
S48-3100G-OF378S-Y	5 Gallon Diesel Offset System	37" WSP37-8S	48"	40"	Gray	Yellow



Replacement for Existing FL100 MP System includes Spill Containers

Kit includes; Multiport Cover, Spill Containers, Port Covers, Shroud Boot, Clamping Kits and Water Spill Platform

Ordering Specifications

Part Number	Application	WT Cover	Bonded Manhole		
			Skirt ID	FRP Cover	Fill & Vapor Cover
FL100G-RETRO-MP3716S-W	5 Gallon Regular Gasoline MP System	37" WSP37-16S	40"	Gray	White/Orange
FL100G-RETRO-MP3716S-R	5 Gallon Premium Gasoline MP System	37" WSP37-16S	40"	Gray	Red/Orange
FL100G-RETRO-MP3716S-BU	5 Gallon Mid-Grade Gasoline MP System	37" WSP37-16S	40"	Gray	Blue/Orange
FL100G-RETRO-OF378S-Y	5 Gallon Diesel Offset System	37" WSP37-8S	40"	Gray	Yellow

Multi-Port Kit Only, No Sump Includes Spill Containers

Kit includes; Multiport Cover, Frame, Skirt, Spill Containers, Port Covers, Shroud Boot and Clamping Kits

Ordering Specifications

Part Number	Application	Skirt ID	Bonded Manhole	
			FRP Cover	Fill & Vapor Cover
FL100GRAY-MP16S-SK12-W	5 Gallon Regular Gasoline MP System	40"	Gray	White/Orange
FL100GRAY-MP16S-SK12-R	5 Gallon Premium Gasoline MP System	40"	Gray	Red/Orange
FL100GRAY-MP16S-SK12-BU	5 Gallon Mid-Grade Gasoline MP System	40"	Gray	Blue/Orange
FL100GRAY-OF8S-SK12-Y	5 Gallon Diesel Offset System	40"	Gray	Yellow

Replacement Parts/Accessories

Part Number	Description
P761C-FLDV	5 Gallon Fill Bucket for Fibrelite MP with Drain Valve and Cast Iron Base
P761C-FLPL	5 Gallon Vapor Bucket for Fibrelite MP with Plug and Cast Iron Base
FC-11-Orange	11" Orange Vapor Cover
FC-11-RED	11" Red Fill Cover
FC-11-WHITE	11" White Fill Cover
FC-11-YELLOW	11" Yellow Fill Cover
FC-11-BLUE	11" Blue Fill Cover
FL100GRAY-MP16S	FL100 Gray Composite Multiport Cover- 16" Centers
FL100GRAY-OF8S	FL100 Gray Composite Cover Offset Port
WSP37-16S	37" Dia. WT MP Spill Platform w Dual Access Part 16" Centers

Part Number	Description
FLMP-SB	MPS Shroud Boot Kit (Includes WSP-CRKS, Clamp Kit)
FLMP-IP	Inspection Port Kit for Fibrelite Multiport
FC-11-SEAL	Seal for FC-11 Covers
WSP37-8S	37" Multi-Port Water Shroud for Single Offset Port
WS-RING-37	37" Dia. Stainless Steel Retaining Ring Kit
S-CR-FGK	FRP Kit for Bonding Collar Ring Sump to FGRP Tank Collar (Includes Resin, Catalyst & Glass Tape)
S-TH-FGK	FRP Kit for Top Hat to Sump (Includes Resin, Catalyst & Glass Tape)
RK-5000	Fiberglass Epoxy Kit (Qt. Size)
211300	Epoxy pack to bond 1TAG to composite cover

See 1TAG section for I.D. markers for new multiport



Spill Container



Replacement Fill Cover



Replacement 2-Port Cover

The Red Jacket Submersible Turbine Pump

Advanced environmental protection,
serviceability, safety and flow



Environmentally friendly features

The Red Jacket Submersible Turbine Pump has been specifically designed to eliminate spills that can occur during service, and to integrate with Veeder-Root industry leading leak detection systems.

Service spill elimination

Innovative Check Valve design

The Check Valve on the Red Jacket Submersible Turbine Pump has been designed so that it can be raised, providing a larger path to depressurize the line and return fuel to the tank. This feature eliminates the potential for fuel spills.

Spill-free extractable

When the two nuts holding the extractable in place are backed off, the o-ring seals are automatically broken, releasing pressure in the pump and the non-isolated line, draining fuel back into the tank. This simple feature helps eliminate potential human error that could cause service spills, protecting the environment from fuel contamination, and site owners from related liability.

Vacuum monitoring applications

Red Jacket Vacuum Sensor Siphon System

The Red Jacket Vacuum Sensor Siphon System is a monitoring-grade siphon system. It is designed specifically for use in vacuum monitoring applications, and to integrate with Veeder-Root vacuum sensors. The pump offers two siphon system ports. The Red Jacket Vacuum Sensor Siphon System incorporates a redesigned one-piece rubber Check Valve with an in-line filter screen that reduces the clogs and failures that can cause false alarms and downtime in vacuum monitoring applications.

Line leak detection

Veeder-Root/Red Jacket industry leading pressurized line leak detection (PLLD) provides environmental compliance without the fuel flow restrictions of mechanical (MLLD) or electronic (ELLD) systems.



Check Valve pressure release



Red Jacket Vacuum Sensor Siphon System

Innovative technology delivers the easiest and safest pump to install and service

The Red Jacket Submersible Turbine Pump incorporates a range of innovative new features that keep the safety of service technicians and service related costs in mind. If you're concerned about rising labor costs and the safety of your workforce, you need to take a look at The Red Jacket Submersible Turbine Pump.

Yoke assembly: quick, simple and safe electrical connections

Current safety practice when servicing existing submersible pumps requires turning off the circuit breaker, backing off the bolts by up to one inch, and then manually pulling the electrical yoke connection apart. When service is complete, the technician has to force the connection back in place.

With The Red Jacket Submersible Turbine Pump you turn off the circuit breaker, then simply back off the two nuts holding the extractable in place and the yoke electrical connection is broken. After service is complete, the electrical circuit reconnects when the two nuts are retightened. Safe, simple and easy.



Pre-installed capacitor and simple electrical connections

Extractable: easy to install and service

The Red Jacket Submersible Turbine Pump's design incorporates industrial die springs that break loose the o-ring seals when the nuts holding the extractable in place are removed. No physical effort or special equipment is required to break the seal, unlike competitive systems that can require considerable force.

In addition, all connected parts have been moved to the manifold; so there is no need to remove parts, leak detectors or siphons when service or upgrades require removing the extractable.

Manifold allows for vertical or horizontal discharge

The Red Jacket Submersible Turbine Pump has been designed for vertical product discharge, but with adequate swinging radius to allow for the addition of an elbow to accommodate a side discharge. In fact, the discharge is now located higher on the manifold so that a side discharge is on the same plane as the rest of the pump.

Built-in contractor's box

The electrical connection housing (Contractor's Box) is built into the manifold of The Red Jacket Submersible Turbine Pump, and is completely isolated from the fuel path. Unlike existing systems, there is no adjustment required to fit the yoke, making this pump the easiest to install.

Save time, lower service costs

Service technicians will appreciate how the pump saves time and effort. They'll also appreciate how the electrical connections on the yoke assembly make installation and service a much safer process. Site owners will appreciate the savings in service and upgrade costs.

The best performance

The Red Jacket Submersible Turbine Pump delivers the flow performance and reliability you've come to expect from the industry leader.

Flow fuels profits

The Red Jacket Submersible Turbine Pump has the lowest pressure drop across the packer manifold, optimizing flow with any sized motor that meets the site requirements. This results in more flow at discharge so site owners can maximize flow and profits.

Protect the environment.

Protect your workforce and budget.

Specifications

Designed for Hazardous Location:

Class 1, Group D atmospheres

Quick-Set Adjustment Range:

RJ 1 = 74.5" - 105"*

RJ 2 = 104.4" - 165"

RJ 3 = 164" - 225"

*Assumes 1.5 HP

Agency Listing:

UL

cUL

ATEX Certified

4" Horsepowers Available:

3/4 HP, 60 HZ, 1-phase

3/4 HP, 50 HZ, 1-phase or 3-phase

1 1/2 HP, 60 HZ, 1-phase

1 1/2 HP, 50 HZ, 1-phase or 3-phase

X3, 60 HZ, 1-phase

X4, 50 HZ, 1-phase or 3-phase

2 HP, 60 HZ, 1-phase

Siphon Ports:

2 available, 1/4" NPT. Vacuums generated up to 25 in Hg.

Fuel Compatibility:

Diesel

100% Gasoline

80% Gasoline with 20% TAME, ETBE, or MTBE

0-100% Ethanol

0-100% Methanol

Line Pressure Port:

1 Available. 1/4" NPT

Vent Port:

1 Available. 1/4" NPT

Just part of the solutions offered by the Flow Resource at Red Jacket

We offer a range of solutions, including leading pump technologies for both new installations and upgrades, manifolded pumping systems for increased uptime and product availability, and the industry's leading tank monitoring and leak detection systems.

All with the desired purpose of delivering greater profitability and reliability to our customers.

We are a valuable source of expertise and information to both site owners and our business partners. Consider us your Flow Resource.

Call the Flow Resource today for more information on systems design and complete product specifications.

800-323-1799

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1-888-561-7942



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Telephone: 860-651-2700 • Fax: 860-651-2719 • www.veeder.com

PLUS the Facts

Specifications

Functionality

- Number of Tanks Monitored: 64
- Number of Tanks Monitored with BIR: 32
- Sensor Inputs: 99 of any one type
- Line Leak Testing: 16 lines
- High Voltage Outputs: 32
- High Voltage Inputs: 32
- Low Voltage Inputs: 16
- 8" Color WVGA LCD Touch Screen Display
- Thermal Printer
- Audible Alarm

Connectivity

- Ethernet
- RS-232
- RS-485
- USB
- SiteFax
- EDIM

Available Modules

- Universal Sensor Module
- Universal Input/Output Module
- 10 Amp Relay Controller Module
- MDIM / LVDIM

Software Features

- 3.0 GPH Digital Pressurized Line Leak Protection
- Static Tank Test

Environmental

- Storage Temperature Range
-40°F to 158°F (-40°C to 70°C)
- Operating Temperature Range
-32°F to 109°F (-0°C to 40°C)

Dimensions

- 18.4 x 11 x 8.8

Approvals

- UL, cUL, ATEX, IECEx
- Third part certification of leak detection capabilities

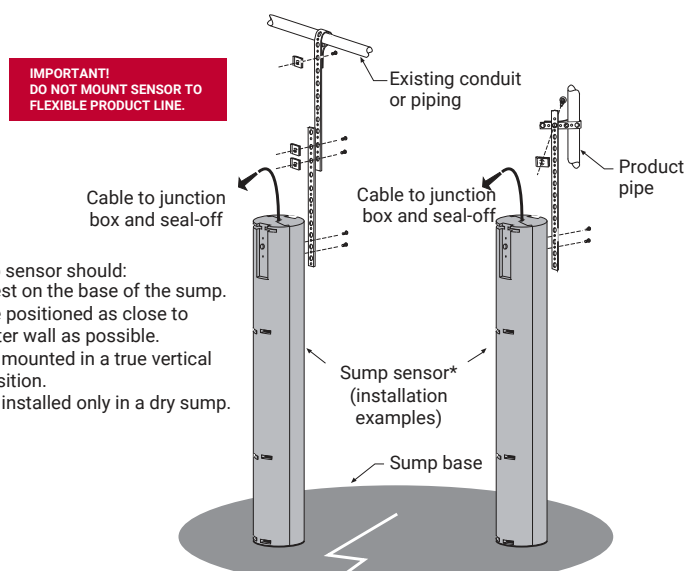


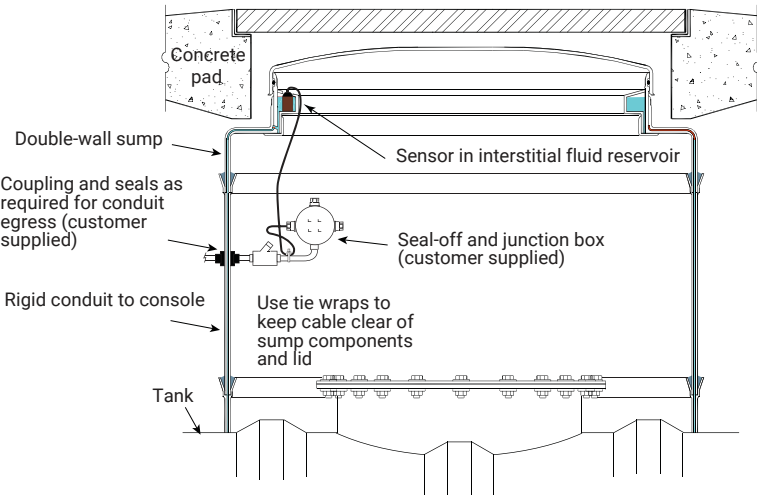
The Veeder-Root TLS-450PLUS automatic tank gauge (ATG) provides the most comprehensive site data for advanced fuel asset management.

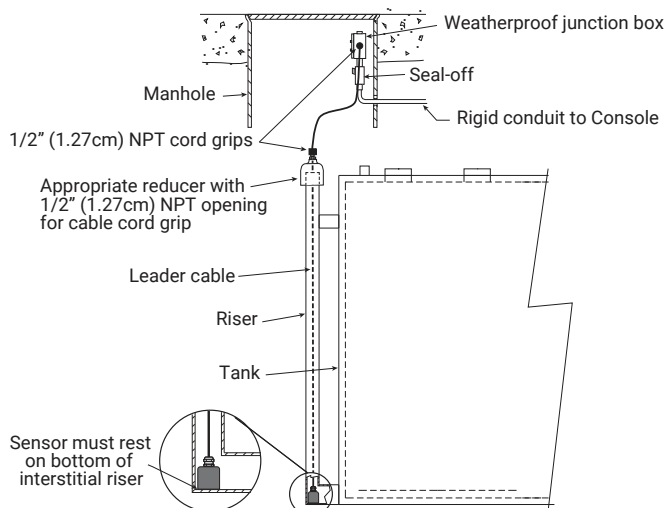
Combining industry-leading algorithms with a proven reputation for compliance and reliability, the TLS-450PLUS keeps your site running profitably.

Capabilities

- In-Tank Leak test
 - 0.1 GPH
 - 0.2 GPH
 - Continuous Statistical Leak Detection
 - Programmable Automatic Test Schedules
 - Static Leak Detection
- Line Leak Detection
- Interstitial/Sump Leak Sensing
- Continuous Inventory Monitoring
- Supports full line of Veeder-Root probes and sensors
- Pump-control – Alt by Height and Alt by Volume
- Inspector Ready Compliance
- Customized Alarms
- Vapor Well Monitoring
- Groundwater Monitoring
- Air Vapor Monitoring
- Tank Calibration
- Business Inventory Reconciliation
- AccuChart
- Sensor History Reporting
- Power Outage Reporting
- Tall Tank Support
- Wireless probe and sensor input
- Email Notifications
- Data Storage for 3 years
- Expandable with TLS-XB
- Remote Accessibility
- LCD Touchscreen
- Programmable Favorites
- Global setup with import configuration and Workflow Wizard for easy set-up

Sensor Description	Piping Sump Sensor	The Piping Sump Sensor is installed in a tank piping sump (STP Containment Sump) and will detect the presence of a liquid.					
Part Number	794380-208						
Category	☐ Discriminating ☒ Non-Discriminating ☐ Position Sensitive			☐ Level Sensing ☐ Static Testing ☐ Hydrostatic			
Fuel Compatibility	☒ Gas ☒ Diesel ☒ Kerosene ☒ Jet Fuel ☒ Aviation Gas			☒ E-15 ☐ E-85 ☐ E-100 ☒ Bio-Diesel 20 ☐ Bio-Diesel 100			
	☒ Green Diesel ☐ DEF ☒ Waste Oil ☒ Motor Oil						
Console Compatibility (*International Only ¹)	Recommended Min. Console Software	Sensor Interface Modules					
		Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability	
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module (USM)	Up to 4 - TLS-4XX Up to 8 - TLS-4XX w/ opt. TLS-XB	16	Sold Separately	
TLS-450	4A or Higher						
TLS4 (8601 Series) ¹	6A or Higher	330020-750	Universal Sensor Input Out-put Module (USIOM-AC)	1	12	Included	
TLS4i (8601 Series)							
TLS4B (8601 Series) ¹		330020-751					
TLS4c (8601 Series)							
TLS-350/R/PLUS	124/324 or Higher	329358-001	Interstitial Sensor Interface Module	Up to 8	8	Sold Separately	
TLS-350J		329356-003	4 Probe / 4 Sensor Interface Module		1	4	Sold Separately
TLS-300i		330230-001	4 Probe / 8 Sensor Interface Module			8	Included
TLS-300C		330513-001	2 Probe / 8 Sensor Options				
Alarm Notification	Normal	Sensor in Normal State - No liquid detected					
	Fuel Alarm	Liquid detected at a minimum of 1.84" (4.67cm)					
	Sensor Out	Sensor not communicating to ATG/Console					
Installation Kit	330020-076	Piping Sump Sensor Mounting Kit is included (see example installation below).					
Specifications			Example Installation				
Operating Principle	Float/magnetic reed switch		 IMPORTANT! DO NOT MOUNT SENSOR TO FLEXIBLE PRODUCT LINE. *Sump sensor should: 1. Rest on the base of the sump. 2. Be positioned as close to outer wall as possible. 3. Be mounted in a true vertical position. 4. Be installed only in a dry sump.				
Product Activation Height	Liquid 1.84" (4.67cm)						
Operating Temp	+32 to +140°F (0 to +60°C)						
Dimensions	12" (30.5cm) high, 1.9" (4.8cm) dia.						
Miscellaneous/Notes	Standard Cable Length: 12ft (3.66m) Installation kit 330020-076 included (see example installation).						
Third Party Evaluation Links	TLS-3XX/TLS-450 Series Consoles TLS4 (8601 Series) Consoles						
Product Link	Piping Sump Sensor						
Warranty with System	1 Yr Parts & Labor						
Warranty (When purchased separately)	1 Yr Parts Only						
Where Used (Typical)	☒ Dispenser Pan ☒ Spill Containment ☒ STP Sump ☐ Convault Tank ☐ Annular Space ☐ Monitoring Well ☐ Oil/Water Separator Tank						

Sensor Description	Single-Point Mini-Hydrostatic Sensor for Double-Wall Sumps		The Single-Point Mini-Hydrostatic Sensor accurately detects fluid level change in the interstice reservoir of a double-wall sump. If a leak occurs in the sump interstice, the brine seeps out of the reservoir triggering a low level alarm.			
Part Number	794380-304					
Category	☐ Discriminating ☐ Non-Discriminating ☐ Position Sensitive ☐ Level Sensing ☐ Static Testing ☒ Hydrostatic					
Fuel Compatibility	☒ Gas ☒ Diesel ☒ Kerosene ☒ Jet Fuel ☒ Aviation Gas ☒ E-15 ☒ E-85 ☒ E-100 ☒ Bio-Diesel 20 ☒ Bio-Diesel 100 ☒ Green Diesel ☐ DEF ☒ Waste Oil ☒ Motor Oil					
Console Compatibility (*International Only ¹)	Recommended Min. Console Software	Sensor Interface Modules				
		Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module (USM)	Up to 4 - TLS-4XX Up to 8 - TLS-4XX w/ opt. TLS-XB	16	Sold Separately
TLS-450	4A or Higher					
TLS4 (8601 Series) ¹	6A or Higher	330020-750	Universal Sensor Input Out-put Module (USIOM-AC)	1	12	Included
TLS4i (8601 Series)						
TLS4B (8601 Series) ¹		6				
TLS4c (8601 Series)						
TLS-350/R/PLUS	124/324 or Higher	329958-001	Interstitial Sensor Interface Module	Up to 8	8	Sold Separately
TLS-350J		329356-003	4 Probe / 4 Sensor Interface Module		4	Sold Separately
TLS-300i		330230-001	4 Probe / 8 Sensor Interface Module		8	Included
TLS-300C		330513-001	2 Probe / 8 Sensor Options			
Alarm Notification	Normal	Float is in UP position (correct amount of brine in reservoir)				
	Fuel Alarm	Float is in DOWN position (low brine level in reservoir)				
	Sensor Out	Sensor not communicating to ATG/Console				
Specifications			Example Installation			
Operating Principle	Reed Switch/Float					
Product Activation Height	0.79" (2cm)					
Operating Temperature	-13 to +122°F (-25 to +50°C)					
Dimensions	2.5" (6.4cm) high, 1.5" (3.8cm) dia.					
Miscellaneous/Notes	Standard Cable Length: 8ft (2.43m); up to 50% ethylene glycol in water; up to 50% propylene glycol in water; salt brine solution of up to 30% CaCl.					
Third Party Evaluation Links	TLS-3XX/TLS-450 Series Consoles TLS4 (8601 Series) Consoles					
Product Link	Single-Point Mini-Hydrostatic Sensor					
Warranty with System	1 Yr Parts & Labor					
Warranty (When purchased separately)	1 Yr Parts Only					
Where Used (Typical)	☐ Convault Tank ☒ Annular Space ☐ Monitoring Well ☐ Oil/Water Separator Tank ☐ Dispenser Pan ☐ Spill Containment ☐ STP Sump					

Sensor Description	Interstitial Sensor for Steel Tanks		The Interstitial Sensor for Steel Tanks is non-discriminating and detects the presence of liquid between the double walls of the tank.				
Part Number	794390-420 (16'/4.88m cable); 794390-460 (30'/9.14m cable)						
Category	☐ Discriminating ☒ Non-Discriminating ☐ Position Sensitive			☐ Level Sensing ☐ Static Testing ☐ Hydrostatic			
Fuel Compatibility	☒ Gas ☒ Diesel ☒ Kerosene ☒ Jet Fuel ☒ Aviation Gas			☒ E-15 ☐ E-85 ☐ E-100 ☒ Bio-Diesel 20 ☐ Bio-Diesel 100			
				☒ Green Diesel ☐ DEF ☒ Waste Oil ☒ Motor Oil			
Console Compatibility (*International Only ¹)	Recommended Min. Console Software	Sensor Interface Modules					
		Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability	
	TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module (USM)	Up to 4 - TLS-4XX Up to 8 - TLS-4XX w/ opt. TLS-XB	16	Sold Separately
	TLS-450	4A or Higher					
	TLS4 (8601 Series) ¹	6A or Higher	330020-750	Universal Sensor Input Out-put Module (USIOM-AC)	1	12	Included
	TLS4i (8601 Series)		330020-751			6	
	TLS4B (8601 Series) ¹						
	TLS4c (8601 Series)						
	TLS-350/R/PLUS	124/324 or Higher	329358-001	Interstitial Sensor Interface Module	Up to 8	8	Sold Separately
	TLS-350J		329356-003	4 Probe / 4 Sensor Interface Module		4	Sold Separately
TLS-300i	330230-001		4 Probe / 8 Sensor Interface Module	8		Included	
TLS-300C	330513-001		2 Probe / 8 Sensor Options				
Alarm Notification	Normal	Sensor in Normal State - No liquid detected		Where Used (Typical)			
	Fuel Alarm	Liquid detected		☐ Dispenser Pan ☐ STP Sump ☒ Annular Space			
	Sensor Out	Sensor not communicating to ATG/Console		☐ Spill Containment ☒ Convault Tank ☐ Monitoring Well ☐ Oil/Water Separator Tank			
Installation Kit	312020-928	2" (50mm) Interstitial Sensor Riser Cap and Adaptor kit (sold separately)					
Specifications			Example Installation				
Operating Principle	Reed Switch / Float						
Product Activation Height	1.4" (3.56cm)						
Operating Temperature	-4 to +140°F (-20 to +60°C)						
Dimensions	2.5" (6.4cm) high, 1.5" (3.8cm) diameter						
Miscellaneous/Notes	794380-420 (cable 16ft (4.9m)); 794380-460 (cable 30ft (9.1m)); 312020-928 (2" (50mm) Riser cap and adaptor kit)						
Third Party Evaluation Links	TLS-3XX/TLS-450 Series Consoles TLS4 (8601 Series) Consoles						
Product Link	Interstitial Sensor for Steel Tanks						
Warranty with System	1 Yr Parts & Labor						
Warranty (When purchased separately)	1 Yr Parts Only						

Interstitial Sensors for Steel Tanks

The Interstitial Sensor for steel tanks detects the presence of liquid between the double walls of the tank. An open sensor triggers a Sensor Out alarm.

Table 11. Interstitial Sensor for Steel Tanks Features and Console Compatibility

Item	Description
Form number	794380-420 (16 foot [4.9m] cable); 794380-460 (30 foot [9.1m] cable)
Operating principle	Float switch
Product activation height¹	1.59 inches (4.05 cm)
Operating temperature	-4 to +140°F (-20 to +60°C)
Dimensions	2.5" (6.4cm) high, 1.5" (3.8cm) diameter
Compatible consoles	TLS-450/TLS-450PLUS, TLS4/8601 Series, TLS-350 Series, TLS-300 Series
Console Interface Module	TLS-300 Series - No input module required
	TLS-350 Series, Interstitial/Liquid Sensor Interface Module, 8 sensor input, P/N 329358-001
	TLS-450/TLS-450PLUS - Universal Sensor Module (USM), 16 sensor input, P/N 332812-001
	TLS4/8601 Series - Universal Sensor Input Output Module (USIOM) (AC ver.), 12 sensor input, P/N 333238-001; (AC ver.), 6 sensor input, P/N 333238-002; (DC ver.), 12 sensor input, P/N 333238-003; (DC ver.), 6 sensor input, P/N 333238-004
Maximum number of sensors monitored per console	TLS-300 Series (8)
	TLS-350 Series (48)
	TLS-450/TLS-450PLUS (32)
	TLS4/8601 Series (12)
Compatible fuels	100% Gasoline and blends with up to 15% Ethanol; Diesel; Bio-Diesel; Kerosene; Jet fuel; Aviation Gas; Waste Oil; Motor Oil

¹For additional third party evaluation data see: http://nwgldc.org/evals/veeder_root_m.html

Miscellaneous

- Riser cap and adapter kit (2") - P/N 312020-928
- Installation example (see Fig. 7)

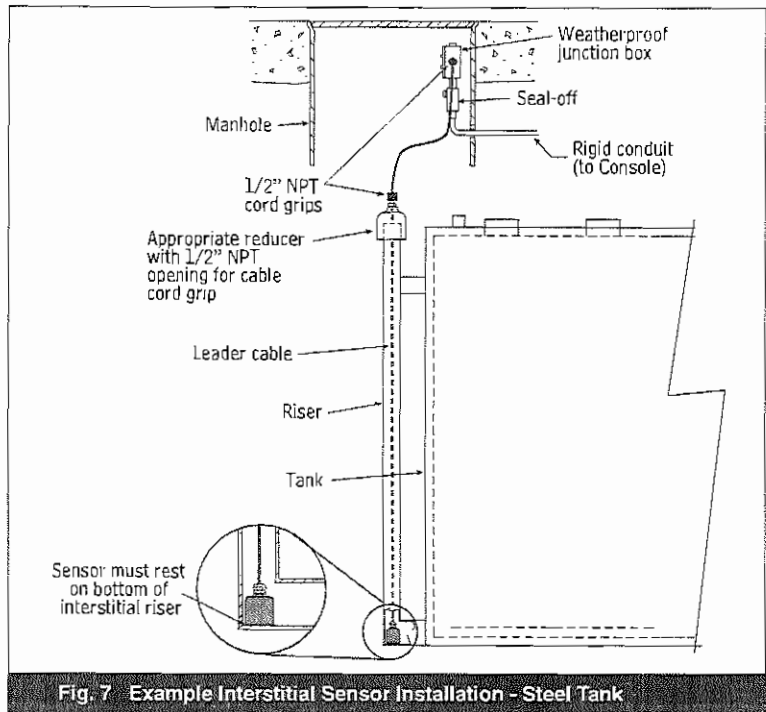
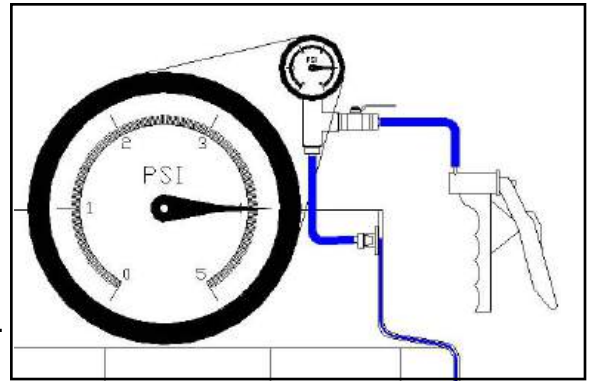


Fig. 7 Example Interstitial Sensor Installation - Steel Tank

I - MANDATORY AIR INTEGRITY TEST

I.1 - Use test assembly and pressure sump to no more than **4 PSI**. Close off with ball valve and resume other work. Allow **1 Hour** before recording pressure.



NOTICE
BRAVO
QUALITY
STANDARD

FIELD AIR INTEGRITY INSPECTION TEST : Hold pressure for a minimum of 1 hour for a Field Integrity Inspection Test. The Tank Sump **PASSES** the integrity test if the Sump shows **NO** signs of continuous pressure decay.

IF TEST PASSES - CONTINUE ON TO THE HYDROSTATIC FILL & INTEGRITY TEST.

I.2 - IF ANY LEAKS ARE FOUND!!

Occasionally... Bravo Fiberglass Series Products may suffer mild damage in transit or field installation. Look at edges and corners for pinhole leaks. **For large leaks, consult factory.**

- A:** Locate leak point(s) and mark with marker so you can locate it / monitor it.
- B:** Repair or reinstall doublewall penetration fittings according to your doublewall penetration fitting manufacturers' Installation / Maintenance Instructions.
- C:** Abrade a 2" diameter area centered on the leak point until natural resin/fiberglass material can be seen. Dust with shop brush or compressed air and do not use shop towels or acetone on the abraded area(s). Then apply a 3-layer strip of 2" x 2" resin-saturated fiberglass mat squarely on the abraded area.
- D:** Roll out any air bubbles with chamfer roller. Let cure.
- E:** After cure, knock down fiberglass hairs, and apply another flow coat of resin only (**Step H.15**). Apply any extra resin to repaired leak point(s) while still wet. Let cure for a minimum of 4 hours @ or above 75° F.

FOR HYDROSTATIC MONITORING - PROCEED TO SECTION J.

FOR CONTINUOUS VACUUM MONITORING - The B400 DoubleWall Split Series Sump cannot exceed 16" of Mercury. (Vacuum) Follow your vacuum system manufacturer's installation instructions to install, seal, and monitor the doublewall system with vacuum.



Connect the SVA-BARB to your factory-installed gauge for vacuum monitoring

Continue to Section M.



Ensure that the fittings that are being used with the Vacuum Monitored System can withstand the amount of Vacuum your Monitoring System will generate.

J - VACUUM / HYDROSTATIC FILLING

IMPORTANT

FIELD AIR INTEGRITY INSPECTION TEST :

YOUR PRODUCT WARRANTY WILL BE VOID IF YOU DO NOT Hold pressure for a minimum of 1 hour for a Field Integrity Inspection Test. *After passing the pressure test, it is **HIGHLY RECOMMENDED** that the 4 PSI is maintained for as long as possible, up until the time of backfill.*

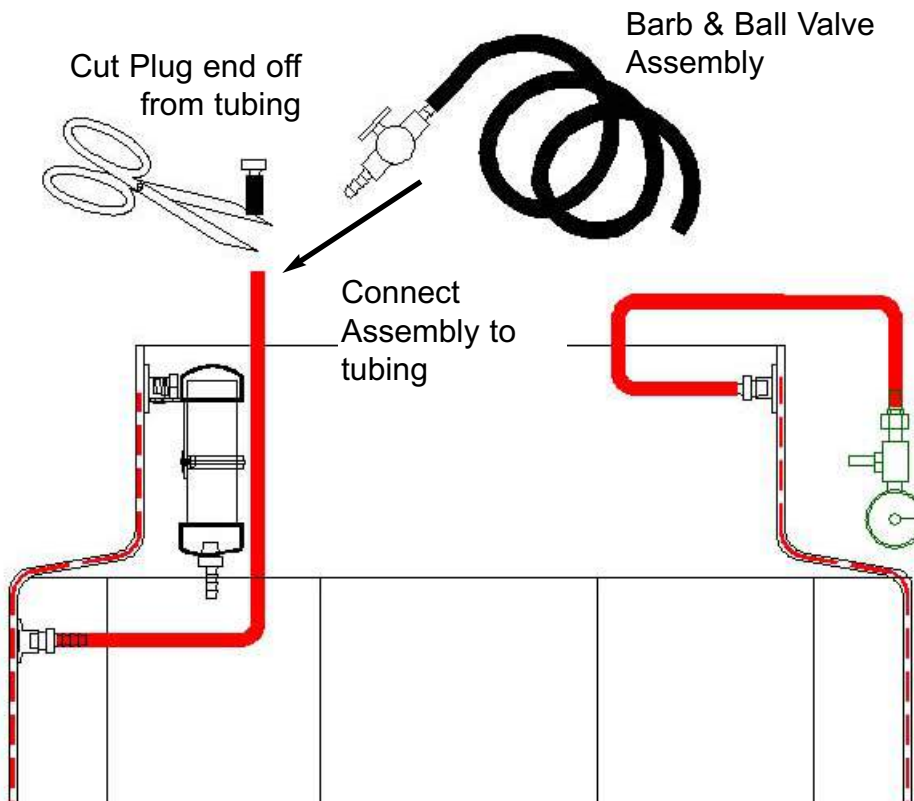
WARNING

YOUR PRODUCT WARRANTY WILL BE REVOKED IF YOU CHOOSE TO SKIP THE AIR INTEGRITY TEST OUTLINED IN YOUR COPY OF YOUR PRODUCT INSTALLATION INSTRUCTIONS. YOU **MUST** COMPLETE THE PRESSURE TEST PRIOR TO HYDROSTATIC FILLING OF THE SUMPS.

The Bravo Double Wall product's ship from the factory with a combination gauge factory- installed and held under 20" of mercury / vacuum.

J.1 - After passing the Field Air Integrity Test per the Installation Instructions and there are no signs of leaks, you must cut the permanently affixed pipe plug from the tubing connected to the side wall. This is NOT the tubing with the gauge connected to it.

J.2 - Connect (newly cut) open end of tubing to barb-and-ball-valve assembly. (sold seperately)
A 36" length of clear tubing is factory installed to the barb-and-ball-valve assembly.



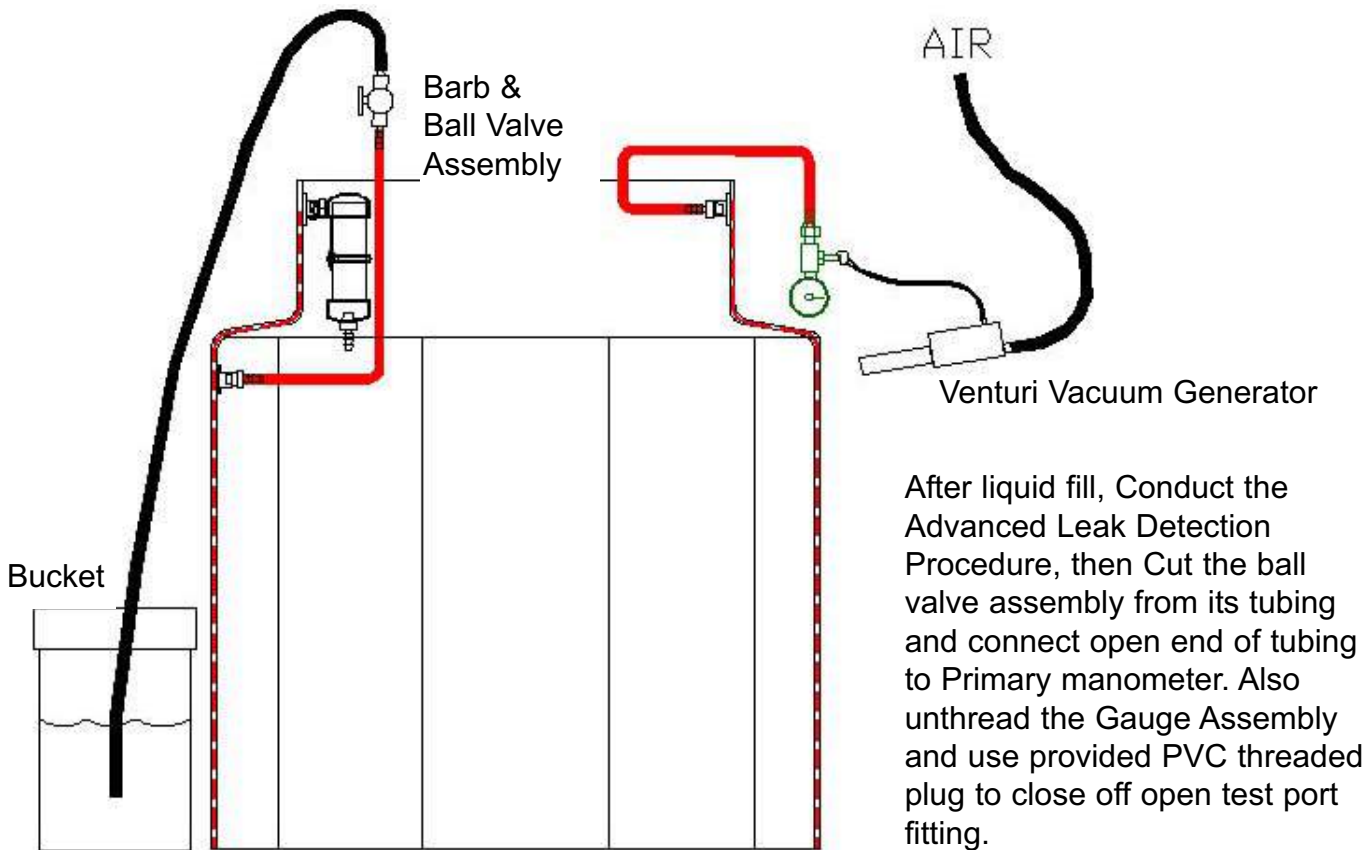
After the penetration fittings have been installed, the vacuum has been lost. Pressure/soap tests should have been conducted prior to filling the sumps with liquid.

You must cut off the barbed plug and connect the provided Barb & Ball Valve Assembly. Close off the ball valve and prepare the Venturi Vacuum Generator and air supply to be used to fill Sump with liquid.

J.3 - Close off ball valve completely and prime the open ended 36" length of clear tubing with provided Interstitial Fluid. Use a liquid funnel.



Filling Bravo Systems Double Wall Products with Brine (saline) solution will void the product warranty. You must use only Bravo-Supplied Interstitial Fluid, part # IMF-1GAL



J.4 - After filling the tubing all the way to the ball valve, **insert open end into your liquid source.** (5 gallon bucket filled with fluid is recommended.)

J.5 - When ready, pull vacuum using the Venturi Vacuum Assembly (sold separately) to 20 Inches of mercury. Then **SLOWLY** open ball valve and allow Interstitial fluid to flow freely into the system at a rate of about 2 gallons a minute.



...SLOWLY open ball valve...

J.6 - STOP PULLING VACUUM WHEN THE LIQUID IS 2-3 INCHES FROM THE VERY TOP OF THE INTERSTITIAL SPACE / TEST PORT. This is easily visible while filling the DoubleWall Product.

K) ADVANCED LEAK DETECTION PROCEDURE

A Bravo Systems Exclusive detection method

K.1 - Clear debris from the top open area of the DoubleWall Product and ensure that the interior walls are clean of debris and visible.

K.2 - Apply Vacuum to the sealed interstitial space with the Venturi Vacuum Assembly, and generate 20"-30" of vacuum for a *MINIMUM* of Five [5] Minutes.



CHECK WITH YOUR EQUIPMENT MANUFACTURERS
INSTALLATION MANUALS FOR INSTALLATION
GUIDELINES AND/OR EQUIPMENT LIMITS REGARDING
VACUUM AND PRESSURE LEVELS.

K.3 - As stated in your Instructions, the liquid level is deliberately not filled to the very top of the interstitial space. This pocket of air is necessary to visually check the topmost level of liquid all the way around the Sump for indication of a leak.

K.4 - Visually inspect the interior walls for signs of trailing (very small) bubbles floating to the top of the liquid level within the interstitial space.



These air bubbles are visible within the vertical and horizontal channels of the walls. For Tank Sumps look below the reducer.



On the top hat reducer of a Tank Sump, any bubbles will burp consistently.

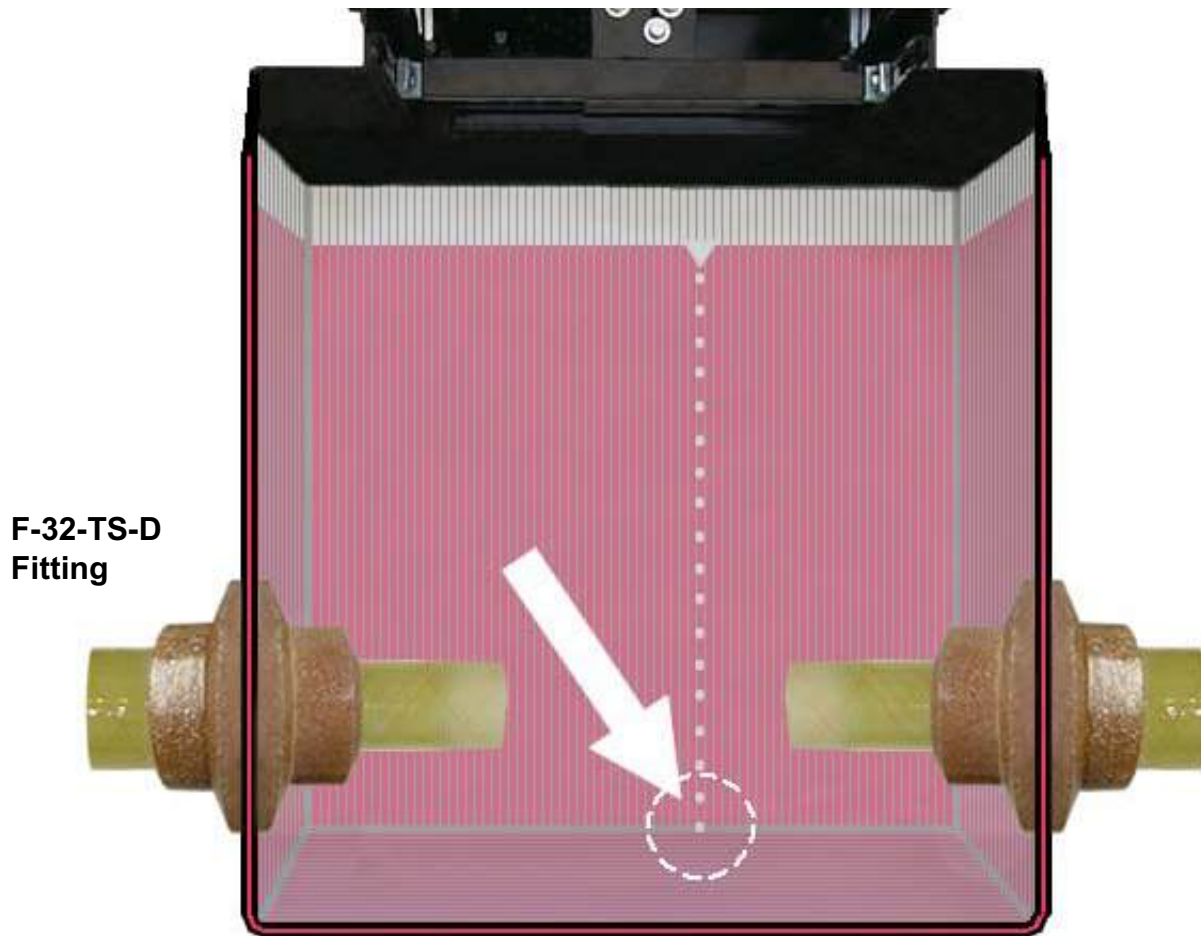


PAY CLOSE AND SPECIAL ATTENTION TO FIELD-INSTALLED
PENETRATION FITTINGS and FRP JOINTS ON TANK SUMPS.
THESE ARE COMMON LEAK POINTS.



Even though Bravo DoubleWall product corners and edges are thicker than the rest of the Containment sump, These areas receive the most susceptible to physical damage by Installing Contractors. You would do well to be extremely careful with these DoubleWall products while storing, moving, transporting and Installing these critical environmental components.

ALDP In Action DIAGRAM



Here a leak is visible while a strong vacuum is pulled on the Interstitial space, forcing tiny air bubbles into the interstitial space to travel upwards. These streams of bubbles are easily spotted and can be traced down to its leak point or area.

⚠ CRITICAL

PAY CLOSE AND SPECIAL ATTENTION TO FIELD-INSTALLED PENETRATION FITTINGS and FRP JOINTS ON TANK SUMPS. THESE ARE COMMON LEAK POINTS.

⚠ CAUTION

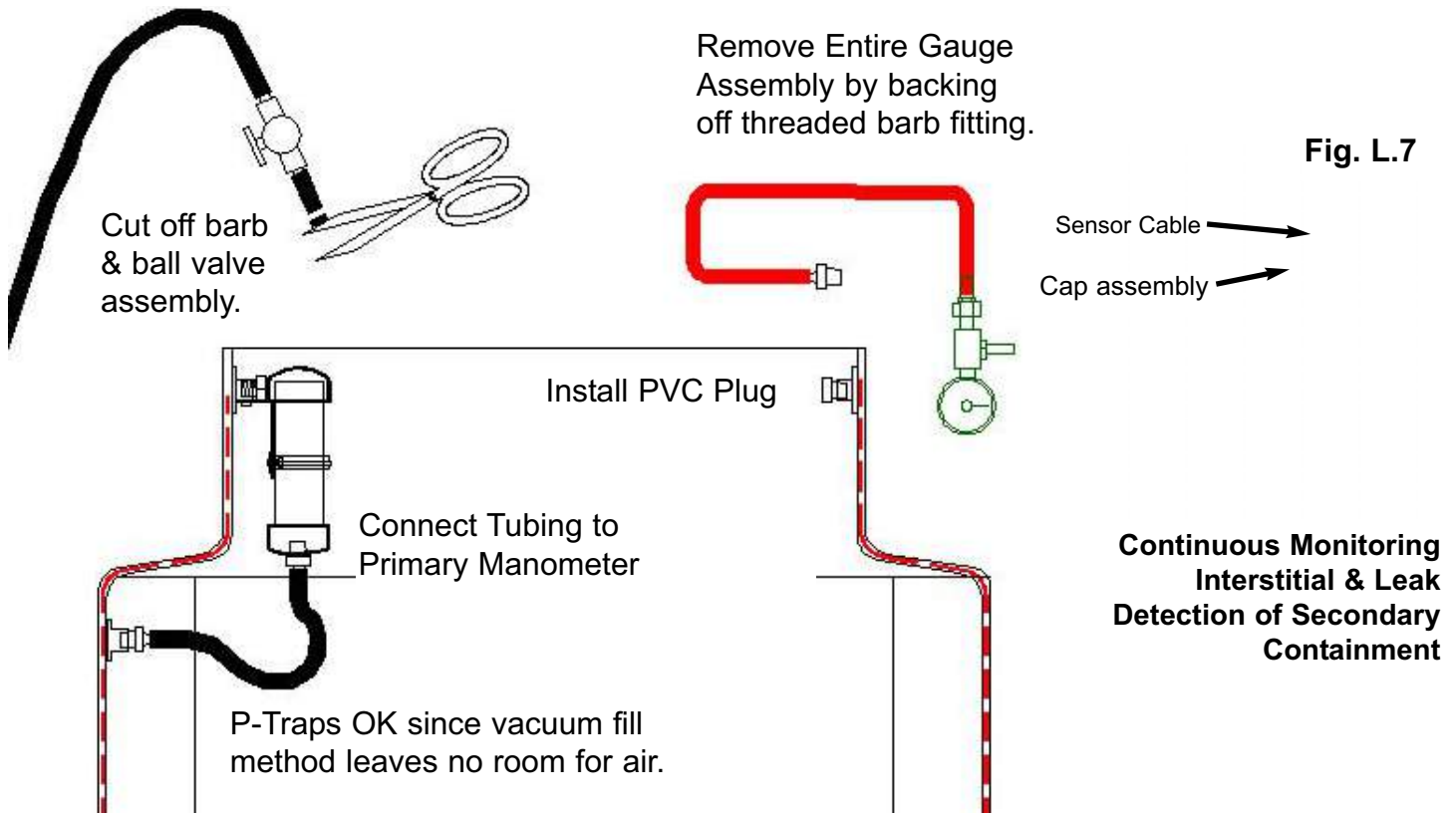
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L - ATTACHING THE MANOMETER

L.1 - At this point, after the ALDP test, the interstice should still be holding vacuum. Maintain 20" of Vacuum and **slowly** open ball valve to let fluid into the interstice until it exits the venturi assembly. Visually check whether the fluid level reaches the top of the interstitial space.

L.2 - Cut the barb & ball valve assembly free by cutting the tubing just below it and **connect** open end of tubing to the bottom of the primary Manometer.

L.3 - **Remove the Barb**, Tubing & Combination gauge assembly from the test port fitting on the side of the sump. **Install a threaded pipe plug** into the open test port fitting and adjust Primary manometer bracket so the manometer is in a position clear of the sump cover.



L.4 - It is not uncommon for some interstitial fluid to be lost while connecting the tubing to the primary manometer. This is ok. Replace lost fluid by topping off manometer with interstitial fluid until the liquid level reaches just 2 inches below the top of manometer.

L.5 - Hydrostatic Field Integrity Test - Mark the date and time of test and manometer level. **Allow 1 hour to look for a change in level.** No change in level or visible leaking means box passes test.

L.6 - If interstitial test fluid changes its level more than 1/4", visually look for any signs of leaking around fittings both interior and exterior to sump. Pay special attention to field installed fittings.

L.7 - If interstitial monitoring is required, install a California Listed Hydrostatic Sensor (LG-113) using the sensor manufacturer's fitting. Run sensor cable through the cap assembly (**see Fig. L.7**). Level sensor should be set to bottom of manometer. Follow your leak detector manufacturer's installation instructions. Cover the manometer with cap and fasten with wire and lead crimp seal.



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Revision date: 04/02/2018

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Product name : S. Bravo Systems, Inc. RV and Marine Antifreeze -50 F Burst
Product code : BRV0A3

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Anti-freezing agent

1.3. Details of the supplier of the safety data sheet

Old World Industries, LLC
3100 Sanders Road
Northbrook, IL 60062 - USA
T (847) 559-2000
www.oldworldind.com

1.4. Emergency telephone number

Emergency number : 800 424 9300 (United States); 00 1 703 527 3887 (International)
Chemtrec

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Flammable liquids, Category 3	H226	Flammable liquid and vapor
Acute toxicity (inhalation:gas) Category 4	H332	Harmful if inhaled.
Serious eye damage/eye irritation, Category 2B	H320	Causes eye irritation
Carcinogenicity, Category 1A	H350	May cause cancer.
Specific target organ toxicity — Repeated exposure, Category 2	H373	May cause damage to organs through prolonged or repeated exposure.

Full text of H statements : see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :
H226 - Flammable liquid and vapor
H320 - Causes eye irritation
H332 - Harmful if inhaled.
H350 - May cause cancer.
H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements (GHS-US) :
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. heat, hot surfaces, open flames, sparks
P233 - Keep container tightly closed.
P240 - Ground/Bond container and receiving equipment
P241 - Use explosion-proof electrical, lighting, ventilating equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.

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P260 - Do not breathe mist, spray, vapors
P264 - Wash affected areas thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear personal protective equipment as required.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P314 - Get medical advice/attention if you feel unwell.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P370+P378 - In case of fire: Use carbon dioxide (CO₂), Dry powder, Foam, Sand, Water fog, Water spray to extinguish.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container to appropriate waste disposal facility, in accordance with local/regional/national/international regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
water	(CAS-No.) 7732-18-5	60 - 80	Not classified
ethanol	(CAS-No.) 64-17-5	10 - 30	Flam. Liq. 2, H225 Carc. 1A, H350
2-propanol	(CAS-No.) 67-63-0	1 - 10	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
methanol	(CAS-No.) 67-56-1	0.1 - 1	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370
methyl isobutyl ketone	(CAS-No.) 108-10-1	0.1 - 1	Flam. Liq. 2, H225 Acute Tox. 3 (Inhalation), H331 Acute Tox. 4 (Inhalation:dust,mist), H332 Carc. 2, H351 STOT SE 3, H335

Full text of hazard classes and H-statements : see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). Call a poison center or a doctor if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or a doctor if you feel unwell.
First-aid measures after skin contact	: Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Rinse immediately with plenty of water for 30 minutes, lifting lower and upper lids. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Obtain emergency medical attention. Rinse mouth. Drink plenty of water. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	: May cause cancer by inhalation. Not expected to present a significant inhalation hazard under anticipated conditions of normal use.
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Symptoms/effects after skin contact	: Not expected to present a significant skin hazard under anticipated conditions of normal use. Prolonged or repeated skin contact with the material will remove natural oils which leads to a dermatitis.
Symptoms/effects after eye contact	: mild eye irritation.
Symptoms/effects after ingestion	: Effects of ethanol ingestion are dependant on the amount and rate of consumption. . Not expected to present a significant hazard under anticipated conditions of normal use. Short term overexposure may result in drunkenness, depression of the central nervous system, nausea, vomiting, diarrhea, or liver damage.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Sand. Water fog. Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable liquid and vapor.
Reactivity : No dangerous reactions known under normal conditions of use. Flammable liquid and vapor.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel. No open flames, no sparks, and no smoking. Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe mist, spray, vapors.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Notify authorities if product enters sewers or public waters.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist, spray, vapors. Avoid contact with skin and eyes.
Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product.

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7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.
Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ethanol (64-17-5)		
ACGIH	Local name	Ethanol
ACGIH	ACGIH STEL (ppm)	1000 ppm
ACGIH	Remark (ACGIH)	URT irr
OSHA	OSHA PEL (TWA) (mg/m ³)	1900 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	1000 ppm
water (7732-18-5)		
Not applicable		
2-propanol (67-63-0)		
ACGIH	Local name	2-Propanol
ACGIH	ACGIH TWA (ppm)	200 ppm
ACGIH	ACGIH STEL (ppm)	400 ppm
ACGIH	Remark (ACGIH)	Eye & URT irr; CNS impair
OSHA	OSHA PEL (TWA) (mg/m ³)	980 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	400 ppm
methanol (67-56-1)		
ACGIH	Local name	Methanol
ACGIH	ACGIH TWA (ppm)	200 ppm (Skin)
ACGIH	ACGIH STEL (ppm)	250 ppm (Skin)
ACGIH	Remark (ACGIH)	Headache; eye dam; dizziness; nausea
OSHA	OSHA PEL (TWA) (mg/m ³)	260 mg/m ³ (Skin)
OSHA	OSHA PEL (TWA) (ppm)	200 ppm (Skin)
methyl isobutyl ketone (108-10-1)		
ACGIH	Local name	Methyl isobutyl ketone
ACGIH	ACGIH TWA (ppm)	20 ppm
ACGIH	ACGIH STEL (ppm)	75 ppm
ACGIH	Remark (ACGIH)	URT irr; dizziness; headache
OSHA	OSHA PEL (TWA) (mg/m ³)	410 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	100 ppm

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure. Gloves. Protective goggles.

Hand protection:

Wear suitable gloves resistant to chemical penetration

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Eye protection:

Chemical goggles or safety glasses. Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

If exposed to levels above exposure limits wear appropriate respiratory protection. [In case of inadequate ventilation] wear respiratory protection.



Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: Red
Odor	: Almost odorless
Odor threshold	: No data available
Relative evaporation rate (butylacetate=1)	: Not determined
Melting point	: Not applicable
Freezing point	: -15 to -13 °C (5 to 7 °F)
Boiling point	: 85 - 93 °C (185 - 200 °F)
Flash point	: ≥ 43 °C (≥ 110 °F)
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: Not determined
Specific Gravity	: 0.975 - 0.99 @ 60 °F
Solubility	: Water: Complete
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: 3.3 - 21 vol %
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: 3.3 - 21 vol %

9.2. Other information

Other properties : No data available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use. Flammable liquid and vapor.

10.2. Chemical stability

Stable.

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10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

Keep out of reach of children. Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Keep away from strong acids, strong bases and oxidizing agents.

10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide. Fume. May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

S. Bravo Systems, Inc. RV and Marine Antifreeze -50 F Burst	
ATE US (gases)	4500 ppmv/4h
ethanol (64-17-5)	
LD50 oral rat	10740 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male/female, Experimental value)
LD50 dermal rabbit	> 16000 mg/kg (Rabbit, Literature study)
LC50 inhalation rat (mg/l)	117 - 125 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male/female, Experimental value)
ATE US (oral)	10740 mg/kg bodyweight
2-propanol (67-63-0)	
LD50 oral rat	5840 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Experimental value)
LD50 dermal rabbit	16400 ml/kg (Equivalent or similar to OECD 402, 24 h, Rabbit, Experimental value)
LC50 inhalation rat (ppm)	> 10000 ppm (Equivalent or similar to OECD 403, 6 h, Rat, Male/female, Experimental value)
ATE US (oral)	5840 mg/kg bodyweight
ATE US (dermal)	16400000 mg/kg bodyweight
methanol (67-56-1)	
LD50 oral rat	1187 - 2769 mg/kg bodyweight (BASF test, Rat, Male/female, Weight of evidence)
LD50 dermal rabbit	17100 mg/kg (Rabbit, Inconclusive, insufficient data)
LC50 inhalation rat (mg/l)	128.2 mg/l/4h (BASF test, 4 h, Rat, Male/female, Weight of evidence)
ATE US (oral)	100 mg/kg bodyweight
ATE US (dermal)	300 mg/kg bodyweight
ATE US (gases)	700 ppmv/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust,mist)	0.5 mg/l/4h
methyl isobutyl ketone (108-10-1)	
LD50 oral rat	2080 mg/kg (Rat; Equivalent or similar to OECD 401; Experimental value)
LD50 dermal rat	>= 2000 mg/kg bodyweight (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)
LD50 dermal rabbit	> 16000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	8.2- 16.4,Rat; Experimental value
LC50 inhalation rat (ppm)	2000 - 4000 ppm/4h (Rat; Experimental value)
ATE US (oral)	2080 mg/kg bodyweight
ATE US (gases)	2000 ppmv/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust,mist)	0.5 mg/l/4h

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Causes eye irritation.
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : May cause cancer.

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methyl isobutyl ketone (108-10-1)

IARC group	2B - Possibly carcinogenic to humans
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/effects after inhalation	: May cause cancer by inhalation. Not expected to present a significant inhalation hazard under anticipated conditions of normal use.
Symptoms/effects after skin contact	: Not expected to present a significant skin hazard under anticipated conditions of normal use. Prolonged or repeated skin contact with the material will remove natural oils which leads to a dermatitis.
Symptoms/effects after eye contact	: mild eye irritation.
Symptoms/effects after ingestion	: Effects of ethanol ingestion are dependant on the amount and rate of consumption. . Not expected to present a significant hazard under anticipated conditions of normal use. Short term overexposure may result in drunkenness, depression of the central nervous system, nausea, vomiting, diarrhea, or liver damage.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
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ethanol (64-17-5)

LC50 fish 1	14,200.00 mg/l (US EPA, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value)
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2-propanol (67-63-0)

LC50 fish 1	9640 - 10000 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value)
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methanol (67-56-1)

LC50 fish 1	15,400.00 mg/l (EPA 660/3 - 75/009, 96 h, Lepomis macrochirus, Flow-through system, Fresh water, Experimental value)
EC50 Daphnia 1	18,260.00 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 96 h, Daphnia magna, Semi-static system, Fresh water, Experimental value)
ErC50 (algae)	22,000.00 mg/l (OECD 201: Alga, Growth Inhibition Test, 96 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value)

12.2. Persistence and degradability

ethanol (64-17-5)

Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.8 - 0.967 g O ₂ /g substance
Chemical oxygen demand (COD)	1.70 g O ₂ /g substance
ThOD	2.10 g O ₂ /g substance
BOD (% of ThOD)	0.43

2-propanol (67-63-0)

Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. No (test) data on mobility of the substance available.
Biochemical oxygen demand (BOD)	1.19 g O ₂ /g substance
Chemical oxygen demand (COD)	2.23 g O ₂ /g substance
ThOD	2.40 g O ₂ /g substance

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methanol (67-56-1)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.6 - 1.12 g O ₂ /g substance
Chemical oxygen demand (COD)	1.42 g O ₂ /g substance
ThOD	1.50 g O ₂ /g substance

methyl isobutyl ketone (108-10-1)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Low potential for adsorption in soil. Photolysis in the air.
Biochemical oxygen demand (BOD)	2.06 g O ₂ /g substance
Chemical oxygen demand (COD)	2.16 g O ₂ /g substance
ThOD	2.72 g O ₂ /g substance
BOD (% of ThOD)	0.76

12.3. Bioaccumulative potential

ethanol (64-17-5)	
BCF fish 1	1.00 (Other, 72 h, Cyprinus carpio, Static system, Fresh water, Read-across)
Log Pow	-0.31 (Experimental value)
Bioaccumulative potential	Not bioaccumulative.

2-propanol (67-63-0)	
Log Pow	0.05 (Weight of evidence approach, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

methanol (67-56-1)	
BCF fish 1	1 - 4.5 (72 h, Cyprinus carpio, Static system, Fresh water, Experimental value)
Log Pow	-0.77 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

methyl isobutyl ketone (108-10-1)	
BCF fish 1	2 - 5 (BCF)
Log Pow	1.90 (Experimental value; OECD 117: Partition Coefficient (n-octanol/water), HPLC method)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

ethanol (64-17-5)	
Surface tension	0.02 N/m (20 °C)
Ecology - soil	Highly mobile in soil.

2-propanol (67-63-0)	
Surface tension	0.02 N/m (25 °C)
Ecology - soil	No (test) data on mobility of the substance available.

methanol (67-56-1)	
Surface tension	0.02 N/m (20 °C)
Log Koc	-0.89 - -0.21 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.

methyl isobutyl ketone (108-10-1)	
Surface tension	0.02 N/m (20 °C)
Log Koc	Koc, 101.85; Weight of evidence; Calculated value; log Koc; 2.008; Weight of evidence; Calculated value

12.5. Other adverse effects

Other information : Avoid release to the environment.

S. Bravo Systems, Inc. RV and Marine Antifreeze -50 F Burst

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to appropriate waste disposal facility, in accordance with local/regional/national/international regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated

Transportation of Dangerous Goods

Refer to current TDG Canada for further Canadian regulations

SECTION 15: Regulatory information

15.1. US Federal regulations

S. Bravo Systems, Inc. RV and Marine Antifreeze -50 F Burst	
EPA TSCA Regulatory Flag	Toxic Substances Control Act (TSCA): The intentional ingredients of this product are listed
water (7732-18-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
2-propanol (67-63-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
methanol (67-56-1)	
CERCLA RQ	5000 lb(s) (2270 kg)
methyl isobutyl ketone (108-10-1)	
CERCLA RQ	5000 lb(s) (2270 kg)

15.2. International regulations

CANADA

S. Bravo Systems, Inc. RV and Marine Antifreeze -50 F Burst	
WHMIS Classification	This SDS has been prepared according to the criteria of the Hazardous Products Regulations (HPR) (WHMIS 2015) and the SDS contains all of the information required by the HPR. Applicable GHS information is listed in section 2.2 of this SDS.

EU-Regulations

No additional information available

National regulations

S. Bravo Systems, Inc. RV and Marine Antifreeze -50 F Burst	
DSL (Canada): The intentional ingredients of this product are listed	

15.3. US State regulations

WARNING:

This product can expose you to ethanol, methanol, and methyl isobutyl ketone which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

S. Bravo Systems, Inc. RV and Marine Antifreeze -50 F Burst

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

ethanol (64-17-5)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	Yes	No	No	

methanol (67-56-1)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	Yes	No	No	

methyl isobutyl ketone (108-10-1)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	Yes	No	No	

ethanol (64-17-5)				
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Massachusetts - Right To Know List				

2-propanol (67-63-0)				
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Minnesota - Hazardous Substance List				

methanol (67-56-1)				
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List				

methyl isobutyl ketone (108-10-1)				
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List				

SECTION 16: Other information

Revision date : 04/02/2018

Full text of H-statements:

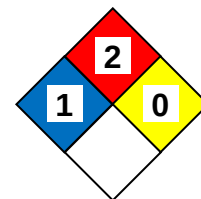
H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H319	Causes serious eye irritation.
H320	Causes eye irritation
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H350	May cause cancer.
H351	Suspected of causing cancer.
H370	Causes damage to organs
H373	May cause damage to organs through prolonged or repeated exposure.

S. Bravo Systems, Inc. RV and Marine Antifreeze -50 F Burst

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

- NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.
- NFPA fire hazard : 2 - Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.
- NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

- Health : 1 Slight Hazard - Irritation or minor reversible injury possible
- Flammability : 2 Moderate Hazard - Materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur. Includes liquids having a flash point at or above 100 °F (37 °C) but below 200 °F (93 °C). (Classes II & IIIA)
- Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.
- Personal protection : B - Safety glasses, Gloves

SDS GHS US (GHS HazCom 2012) OWI

Old World Industries, LLC makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by Old World Industries, LLC as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does Old World Industries, LLC assume liability arising out of the use by others of this product referred to herein. The data in this SDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

MAG PLUS Probes

Magnetostrictive probe technology is part of complete solution to provide underground and aboveground storage tank owners visibility to measure and identify multiple liquid layers, density and temperature. In addition, MAG PLUS probes support in-tank leak detection to assist in compliance management.



FEATURES

- Proven track record creating generations of loyal customers.
- Fast, accurate and reliable magnetostrictive measurement technology, digital since inception.
- Robust and rugged screw-in connector allows simplified installation and trouble free inspection.
- Industry leading five-point temperature sensing make it capable of extremely accurate inventory control and in-tank leak detection
- Exceeds U.S. EPA performance standards for 0.1 GPH and 0.2 GPH Tank Tightness Testing.
- Value-added investment provides accurate data for the business, so you can make better operational decisions.
- High-grade polymer housings provide enhanced corrosion resistance and fuel compatibility
- Delivers extended performance in harsh environments

SPECIFICATIONS

Functionality

Compatible with gasoline, diesel and a variety of petrochemicals and industrial fluids
Aboveground and underground storage tank solutions

Probes

Probes available for inventory, leak detection, density measurement and overfill prevention
Available in HGP or aluminum housing
Stainless steel shaft available for corrosive fluids
Available in standard length 4' to 12'
Custom lengths available

Probe Accessories

Compatible with specific floats for product, water, phase separation, and density
2", 3" and 4" float kits

Operating Temperature

-40° to 122° F (-40° to 50° C)

Storage Temperature

-40° to 165° F (-40° to 74° C)

Compatible Consoles

All TLS consoles

Approvals

UL, cUL, ATEX, IECEx and intrinsically safe

**UNDERGROUND STORAGE TANK FACILITY PLAN FORM TCEQ-0583
ATTACHMENT D
MANUFACTURER INFORMATION FOR PIPING**

The proposed piping will be Dualoy 3000/LCX fiberglass double-wall piping and Dualoy/L fiberglass single-wall piping. For product lines, the double-wall piping will be placed within the single-wall piping to provide tertiary containment. The product piping system is designed to contain a release from any portion of the primary piping within the secondary and tertiary piping walls and is protected from corrosion.

Dualoy® 3000/L Secondary Containment Pipe and Fittings

Uses and Applications

- Service station product, vent and vapor recovery piping
- Bulk plant terminals and fueling terminals
- Central fuel oil systems
- Marinas and marine terminals (onshore only)
- All piping systems requiring UL or ULC Listing for MV, HB, CT and A&M fuels
- Containment piping for all of the above

Description

Dualoy 3000/L secondary containment systems require pipe one size larger than the primary and specially designed fittings. The system provides complete enclosure of UL- and ULC-Listed Dualoy primary piping used in product lines and vapor recovery lines from the sump at the product storage tank to the shear valve connector at the dispenser, and vent lines from the tank. Dualoy containment systems have been sized for close make-up and ease of installation.

Features of Dualoy 3000/L containment systems include:

- Filament-wound, fiberglass-reinforced pipe with integral liner;
- Compact fittings dimensions to minimize trench excavation;
- Smooth exterior pipe surface that eliminates the need for special end preparation tools;
- Ready accessibility to and complete inspectability of primary fittings prior to closure of the containment;
- Complete testability during installation and at any time thereafter;
- Rapid joint makeup with pre-inserted nuts and ambient cure adhesive.

Listings

Dualoy 3000/L is Listed in the United States with Underwriters Laboratories Standard 971-2004 for nonmetallic underground piping for motor vehicle (MV), high blend (HB), concentrated (CT) and aviation and marine (A&M) fuels for both primary and contained piping systems (File MH9162). Dualoy 3000/L pipe and fittings are also Listed with Underwriters' Laboratories of Canada (File CMH715). In Great Britain the Dualoy/3000L system has been tested and accepted by the London Fire and Civil Defense Authority. Dualoy 3000/L has been issued a Certificate of Compliance to the Institute of Petroleum (IP) Specification by ERA Technology, Ltd.

Performance

Operating pressures to 100 psig

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

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.

Secondary employs full-performance pipe — Many contained fuel handling systems employ materials in the secondary that fall far short of the primary piping in regard to chemical resistance and mechanical strength. By contrast, Dualoy 3000/L systems are manufactured with the same high-performance fiberglass-reinforced pipe in the secondary as in the primary. Thus, Dualoy 3000/L containment systems easily withstand both high external loads from backfill and traffic as well as internal pressures as high as 100 psig.

Compact containment fittings — Dualoy 3000/L containment fittings are compact clamshell-type closure pieces. Crossovers can be made with the same centerline-to-centerline dimension as single-wall system.

Piping System Characteristics

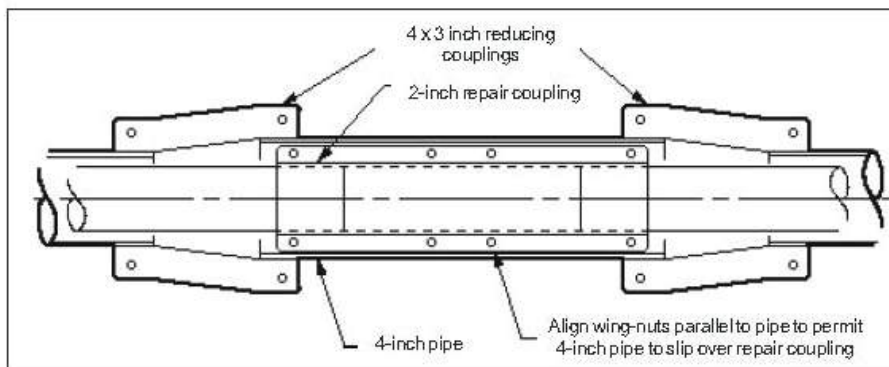
Precision pipe exterior eliminates scarfing — Dualoy pipe is manufactured in a proprietary continuous winding process that provides an extremely precise, consistent outside diameter. Light sanding of the pipe end to remove the surface gloss and obtain a suitable bonding surface is the only end prep required, although the scarfing feature of tapering tools can be used.

Easy containment fitting assembly — Dualoy 3000/L containment fitting clamshells are supplied in matched pairs. One half of each pair is fitted with pre-inserted propeller nuts, allowing the fitting to be assembled from one side, using the bolts provided.

Complete retestability — Dualoy 3000/L containment employs rigid-wall pipe and fittings that maintain their slope during the entire service life of the station. When installed with isolating penetration fittings (see page 3), Dualoy 3000/L containment piping can be repeatedly retested whenever desired.

Convenient repair capability — Contained piping systems are occasionally damaged after installation. Damage is generally caused by paving or excavation operations. Dualoy3000/L contained piping systems are designed so that only the damaged section need be replaced instead of the entire line. The 2-inch Dualoy repair coupling is sized so that it can be contained within 4-inch Dualoy 3000/L containment pipe.

Two-inch primary pipe contained within 3-inch containment pipe can be repaired with a UL-listed 2-inch repair coupling. The containment is restored by replacement of a section of the existing containment pipe with a 4-inch containment nipple. The 4-inch replacement nipple is then joined to the existing containment pipe with Dualoy reducing couplings.

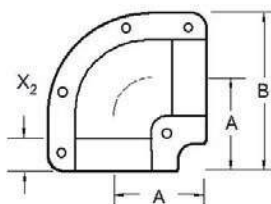


Containment Pipe and Fittings Dimensions

Pipe

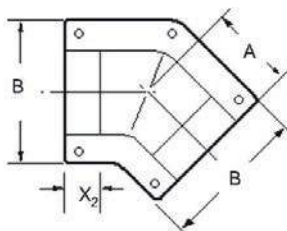
Nominal Pipe Size		A	B	C	X ₂	No. of Bolt Holes	Wt.
in	mm	in	in	in	in		lb
3	80	3.50	3.32	—	—	—	0.72
4	100	4.50	4.33	—	—	—	1.00
6	150	6.63	6.39	—	—	—	2.10

90° Elbows



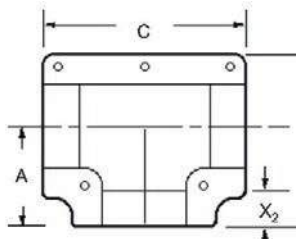
3	80	4.28	7.28	—	1.50	5	1.1
4	100	4.77	8.25	—	1.50	5	1.3
6	150	5.62	10.53	—	2.00	8	1.5

45° Elbows



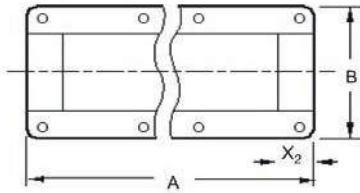
3	80	3.50	6.00	—	1.50	5	0.8
4	100	3.75	7.00	—	1.50	5	1.2
6	150	6.32	9.75	—	2.00	8	1.5

Tees



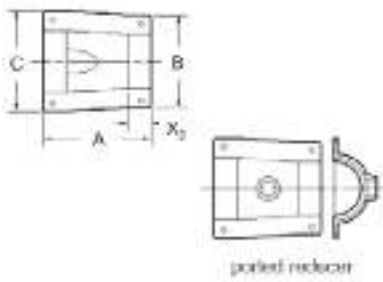
Nominal Pipe Size		A	B	C	X ₂	No. of Bolt Holes	Wt.
in	mm	in	in	in	in		lb
3	80	4.28	7.24	8.56	1.50	5	1.2
4	100	4.78	8.25	9.58	1.50	5	1.6
6	150	5.72	10.67	11.65	2.00	6	1.7

Couplings



2	50	14.00	4.00	—	1.50	8	1.3
3	80	14.00	6.00	—	1.50	8	1.7
4	100	14.00	7.00	—	1.50	8	2.0
6	150	5.37	9.75	—	4.00	10	2.0

Reducers, Plain and with 3/4 inch NPT Outlet

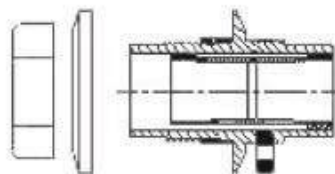


3 x 1½	80 x 40	6.25	4.48	6.10	1.50	4	0.6
3 x 1½	80 x 40	6.25	4.47	6.10	1.50	4	1.1 ⁽¹⁾
3 x 2	80 x 50	6.25	4.90	6.10	1.00	4	0.7
3 x 2	80 x 50	6.25	4.90	6.10	1.00	4	1.1 ⁽¹⁾
4 x 3	100 x 80	7.00	6.00	7.00	1.50	4	0.9
4 x 3	100 x 80	7.00	6.00	7.00	1.50	4	2.0 ⁽¹⁾
6 x 4	150 x 100	7.17	7.62	9.74	2.00	6	1.0

(1) Ported reducer

Sump Penetration Fittings

Sump penetrations are designed for use at turbine sumps and dispenser pans. Plain sump penetration fittings permit the annular space between the primary and secondary lines to communicate with the interior of the sump or pan. Penetration fittings with factory-installed centralizers, sleeve couplings and monitoring ports may be used to isolate the pipe annular space from the sump or pan. When the annular space is so isolated, the secondary containment line can be retested at any time and as often as desired.



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P.O. Box 17324
Dubai, UAE
Phone: 971 4881 3566

Dualoy® 3000/LCX Secondary Containment Fittings

Uses and Applications

- Service station product, vent and vapor recovery piping
- Bulk plant terminals and fueling terminals
- Central fuel oil systems
- Marinas and marine terminals (onshore only)
- All underground piping systems requiring UL or ULC Listing for MV, HB, CT and A&M fuels
- Containment piping for all of the above
- Designed for use with pressure, vacuum or hydrostatic monitoring systems

Description

Dualoy 3000/LCX systems employ a coaxial construction for the pipe wall and specially designed primary and containment fittings. The system provides a complete double-wall enclosure for all product, vent and vapor recovery lines. The "LCX" contained system has been designed for providing a compact profile and easy, fast and reliable installation. "LCX" can be installed in either parallel or series patterns, taking advantage, where possible, of the reduced cost and number of buried fittings afforded by the series pattern. See details below.

Features of Dualoy 3000/LCX containment systems include:

- Filament-wound, fiberglass-reinforced pipe with integral liner;
- Compact fittings dimensions to minimize trench excavation;
- Smooth exterior pipe surface that eliminates the need for special end preparation tools;
- Ready accessibility to and complete inspectability of primary fittings prior to closure of the containment;
- Complete testability during installation and at any time thereafter;
- Rapid joint makeup with pre-inserted nuts and ambient cure adhesive.

Listings

Dualoy 3000/LCX is Listed in the United States with Underwriters Laboratories for nonmetallic underground piping for motor vehicle (MV), high blend (HB), concentrated (CT) and aviation and marine (A&M) under File MH9162. Dualoy 3000/LCX pipe and fittings are also Listed with Underwriters' Laboratories of Canada (File CMH715)

Performance

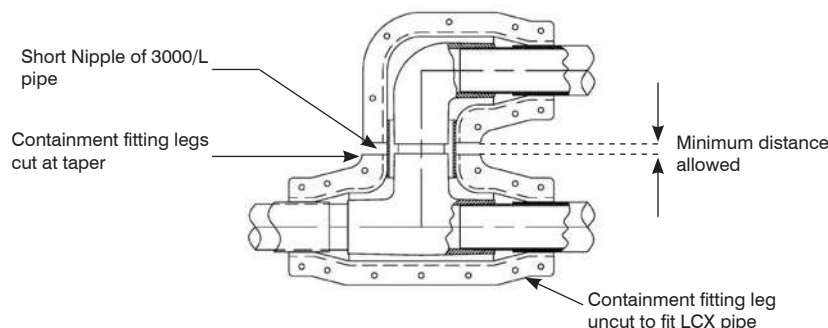
Containment pressure rated to 50 psig

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

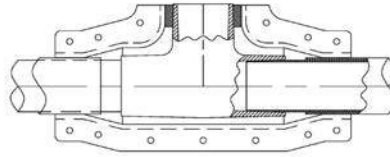
Individual system components may not have the same ratings as the pipe. Refer to the detailed product information for the specific components to determine the pressure rating for the system as a whole.

Piping System Features

Low Profile Crossovers - Dualoy 3000/LCX clamshell fittings are specifically designed to allow the minimum distance between primary fittings to be maintained when crossovers or offsets are needed. The center portion of the fitting is designed to fit the next-size-larger single wall pipe size. When distance between primary fittings is critical, simply cut off the corresponding tapered legs of the clamshell fittings and connect them with single wall pipe. (Reference dimension E on part drawings.) The distance between center lines shown in the drawing below is exactly the same as it would be for a single-wall system.

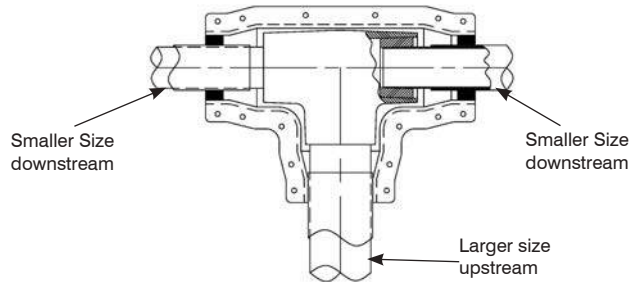


Branch Termination for Series Installation - Dualoy 3000/LCX piping can be installed in series with the pipe coming in on one side of the sump and exiting the other side. To maintain the containment continuity through the sump, the system can be configured with a termination ring on the branch of the tee or leg of an elbow. To do this, the tapered portion of the clamshell fitting leg is cut off and a termination ring is bonded between the primary fitting and the clamshell. A bushing or pipe nipple can be bonded into the primary bell as needed.



Size Reductions - For large systems where larger diameter trunk lines are used, pipe diameter reductions are easily made with the Dualoy 3000/LCX system at fittings. Single piece bushings are used in the primary fitting to reduce the primary pipe size. The containment pipe size is reduced by bonding a 2-piece reducer ring between the clamshell and the smaller pipe jacket. No cutting of clamshell fitting tapers is involved.

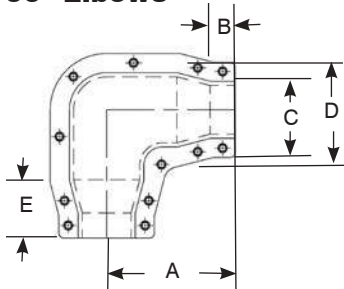
Size reduction can be done on any fitting leg or legs (as on a tee).



Continuous Monitoring - The Dualoy 3000/LCX system has exceptional performance in continuously monitored systems. Due to its small interstitial space, it is very reliable in detecting leaks in systems monitored by pressure, vacuum or hydrostatic methods. False alarms are eliminated by the lesser sensitivity to external conditions while detection capability of actual leaks is increased. Consult NOV Fiber Glass Systems Engineering for details and design of monitoring methods.

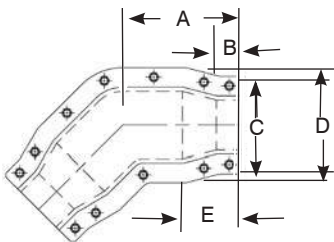
LCX Fittings Dimensions

90° Elbows



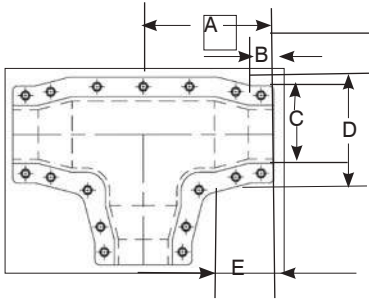
Size		A	B	C	D	E	Weight
(in)	(mm)						lbs
2	50	6.88	1.34	5.12	6.04	3.00	3.55
3	80	7.75	1.38	6.32	7.13	3.00	4.70
4	100	8.75	1.35	7.23	9.19	3.50	7.50

45° Elbows



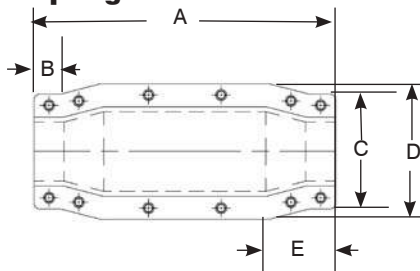
Size		A	B	C	D	E	Weight
(in)	(mm)						lbs.
2	50	6.25	1.34	5.12	6.04	3.00	3.30
3	80	6.75	1.38	6.32	7.13	3.00	4.15
4	100	7.50	1.35	7.23	9.19	3.50	6.50

Tees



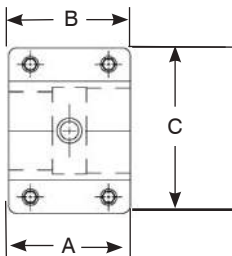
Size		A	B	C	D	E	Weight
(in)	(mm)						lbs.
2	50	6.88	1.34	5.12	6.04	3.00	4.30
3	80	7.75	1.38	6.32	7.13	3.00	6.00
4	100	8.75	1.35	7.23	9.19	3.50	9.95

Containment-Couplings



Size		A	B	C	D	E	Weight
(in)	(mm)						lbs.
2	50	13.50	1.34	5.12	6.04	3.00	3.12
3	80	12.81	1.38	6.32	7.13	3.00	2.95
4	100	12.25	1.38	7.23	9.19	3.50	3.44

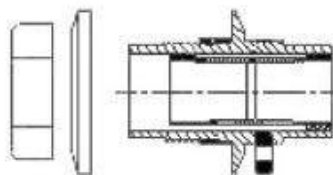
Termination



Size		A	B	C	Weight
(in)	(mm)				lbs.
2	50	3.75	1.34	5.12	1.00
3	80	3.75	1.38	6.32	1.35
4	100	3.75	1.35	7.23	1.45

Sump Penetration Fittings

Sump penetration fittings (SPF) can be used on straight sumps. Dualoy 3000/LCX pipe can pass through or be terminated at the SPF. Ends are closed by bonding half-sections of 2-inch coupling clamshells between the SPF and the pipe jacket. Shrader valves can be supplied for testing or monitoring. SPF is not open to mid-wall of double wall sump, as provided. Field drilling of SPF body near flange can be done to open interstice between SPF and pipe to sump interstice.



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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⁾

Adapters: bell x NPT female⁽²⁾

Adapters: spigot x NPT female⁽²⁾

Adapters: spigot x NPT male⁽²⁾

45° elbows⁽¹⁾

90° elbows⁽¹⁾

End caps⁽¹⁾

Flange rings⁽¹⁾

Flange stub ends⁽¹⁾

Isolation bushings⁽¹⁾

Nipples⁽²⁾

Reducer bushings⁽¹⁾

Repair couplings⁽¹⁾

Sleeve couplings⁽²⁾

Tees⁽¹⁾

Dispenser pan penetration fittings⁽¹⁾

Containment

45° elbows⁽¹⁾

90° elbows⁽¹⁾

Termination sleeves^{(1), (3)}

Couplings⁽¹⁾

Tees⁽¹⁾

⁽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•ft ² •°F)	1.7	C177
	W/m•°C	7.6	
Linear thermal expansion	10 ⁻⁶ in/in/°F	8.5	D696
	10 ⁻⁶ cm/cm/°C	15.3	
Friction factor	Hazen-Williams	150.0	—
Absolute roughness	10 ⁻⁶ ft	15.0	—
	10 ⁻⁶ m	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	D2105
		241.0	
Circumferential	10 ³ psi MPa	70.0	D1599
		483.0	
Tensile modulus Longitudinal	10 ⁶ psi GPa	2.5	D2105
		17.2	
Circumferential	10 ⁶ psi GPa	3.8	FGSTM
		26.2	
Compressive strength Longitudinal	10 ³ psi MPa	24.5	FGSTM
		168.9	
Compressive modulus Longitudinal	10 ⁶ psi GPa	2.6	FGSTM
		17.8	
Cyclic	10 ³ psi MPa	8.0	D2992(A)
		55.0	
Poisson's Ratio ⁽²⁾ ν_{xy}	—	0.16	FGSTM
		0.17	

⁽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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Dualoy® 3000/L Fittings Dimensions Product Data

Units

All dimensions are in U.S. Customary units (inches).
Diametric dimensions are maximums.
Insertion depths (X1, X2) are typical.
All weights (lb) are approximate.

Tolerances

Tolerance for centerline-to-face dimensions on fittings with bell-end configuration is $\pm 1/16$ inch.

Listings

Dualoy 3000/L is Listed in the U.S. with Underwriters Laboratories for nonmetallic underground piping for motor vehicle (MV), high blend (HB), concentrated (CT) and aviation and marine (A&M) fuels (File MH9162). Dualoy 3000/L pipe and fittings are also listed with Underwriters Laboratories of Canada (File CMH 715). In Great Britain the Dualoy 3000/L system has been tested and accepted by the London Fire and Civil Defence Authority. Dualoy 3000/L has been issued a Certificate of Compliance to the Institute of Petroleum (IP) Specification by ERA Technology, Ltd.

End Configurations

Bell end is standard.

Taper Angle

The taper angle on all bell and spigot end configurations is $1\frac{3}{4}^{\circ}$.

Pressure Ratings

See publication Dualoy 3000/L Fiberglass Pipe and Fittings, FP265, for pressure ratings. 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.

Manufacturing Methods

The fiberglass-reinforced epoxy resin fittings shown in this document are manufactured by filament winding or compression molding.

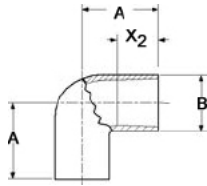
Adapters: bell x NPT female
Adapters: bell x NPT male
Adapters: isolation
Adapters: spigot x NPT female
Adapters: spigot x NPT male
45° Elbows
90° Elbows
End caps

Flange rings
Flange stub ends
Nipples
Reducer bushings
Repair couplings
Sleeve couplings
Sump penetration pieces
Tees

Fittings Dimensions

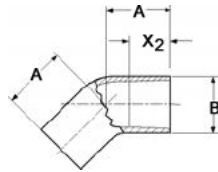
Nominal Pipe Size		Bell A	Bell B	Bell X ₂	Weight
(in)	(mm)	(in)	(in)	(in)	(lb)

90° Elbows (Molded)



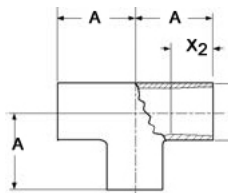
2	50	3.82	2.78	2.05	1.0
3	80	4.42	3.99	3.32	1.5
4	100	5.50	5.00	3.15	3.0
6	150	7.50	7.34	4.00	8.5

45° Elbows (Molded)



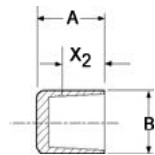
2	50	3.18	2.78	2.05	0.9
3	80	3.43	3.99	2.32	1.5
4	100	4.23	5.00	3.15	2.5
6	150	5.56	7.34	4.00	7.0

Tees (Molded)



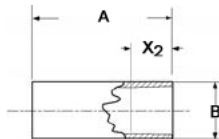
2	50	3.82	2.78	2.05	1.3
3	80	4.50	3.99	2.40	2.5
4	100	5.50	5.00	3.15	4.0
6	150	7.50	7.34	4.00	12.0

End Caps (Molded)



2	50	3.25	2.93	2.00	0.6
3	80	3.38	4.05	2.25	1.0
4	100	3.38	5.05	2.25	1.4
6	150	4.63	7.44	3.30	4.5

Sleeve Couplings (Filament Wound)

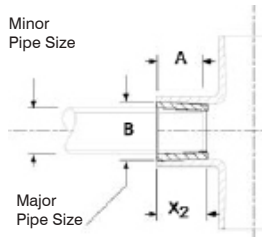


2	50	6.25	2.80	2.13	0.5
3	80	6.50	4.05	2.19	1.1
4*	100	5.45	5.10	2.38	2.1
6*	150	7.00	7.30	3.13	4.6

* 4" & 6" are wound-on tooling couplings.

Reducer Bushings (Molded)

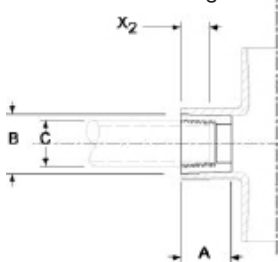
Bonded Bushing



Nominal Pipe Size		Length A	OD B	Thread Size C	D	E	X ₁	Insertion X ₂	Wt
(in)	(mm)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(lb)
3 x 2	80 x 50	1.88	3.51	—	—	—	—	1.75	0.7
4 x 3	100 x 80	1.96	4.51	—	—	—	—	2.00	0.9
6 x 4	150 x 100	2.86	6.65	—	—	—	—	2.20	4.1

1) Reducer bushings with tapered minor NPS are generally used in the bell ends of elbows and tees.

Threaded Bushing

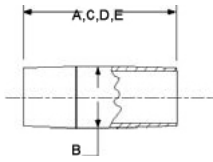


Nominal Pipe Size		Length A	OD B	Thread Size C	D	E	X ₁	Insertion X ₂	Wt
(in)	(mm)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(lb)
2 x 1½	50 x 40	1.80	2.40	1½ x 11½	—	—	—	0.7	0.3

1) Outlet NPS x outlet NPT threads per inch. Reducer bushing with BSP threads available. Outlet sizes smaller than 1½ inch are obtained by using galvanized steel bushings in the fiberglass bushing.

Fittings Dimensions

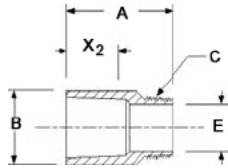
Nipples (filament wound)



Nominal Pipe Size		Length A	OD B	C	D	E	X ₁	Insertion X ₂	Wt
(in)	(mm)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(lb)
2	50	6.00	2.38	8.00	10.00	12.00	—	—	0.5 ⁽¹⁾
3	80	—	3.50	8.00	10.00	12.00	—	—	0.7
4	100	—	4.50	—	10.00	12.00	—	—	1.0
6	150	—	6.63	—	—	12.00	—	—	1.7

(1) Lb/ft.

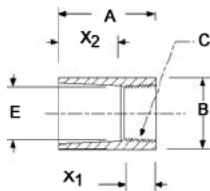
Adaptors: Bell x NPT male (molded)



2	50	4.16	2.92	2 x 11½ ⁽¹⁾	—	1.90	—	2.00	0.4
3	80	5.00	3.92	3 x 8	—	2.80	—	2.05	0.7
4	100	5.19	4.88	4 x 8	—	3.90	—	2.05	0.9
6	150	6.00	7.40	6 x 8	—	5.90	—	3.20	2.1

(1) Nominal pipe size x NPT threads per inch. BSP threads available.

Adaptors: Bell x NPT female (filament wound)

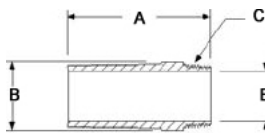


2 x 1½ ⁽¹⁾	50 x 40	6.00	2.80	1½ x 11½ ⁽²⁾	—	2.29	0.70	2.31	0.8
2 x 2	50 x 50	4.75	2.50	2 x 11½ ⁽²⁾	—	2.29	1.13	2.31	0.4
3 x 3	80 x 80	5.38	3.65	3 x 8	—	3.00	1.00	2.00	0.7
4 x 4	100 x 100	5.38	4.65	4 x 8	—	4.00	1.10	2.25	0.9
6 x 6	150 x 150	6.75	6.90	6 x 8	—	6.00	1.20	3.48	2.1

(1) Consists of a 2-inch filament-wound sleeve coupling with a factory-bonded 2 x 1½ NPT molded bushing. The end of the sleeve coupling containing the bushing has been reduced in length to facilitate thread make-up in the field.

(2) Nominal pipe size x NPT threads per inch. BSP threads available.

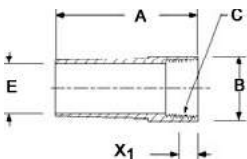
Adaptors: Spigot x NPT male (filament wound)



2	50	4.38	2.55	2 x 11½ ⁽¹⁾	—	2.00	—	—	0.5
3	80	5.50	3.65	3 x 8	—	3.00	—	—	1.3
4	100	6.00	4.65	4 x 8	—	4.00	—	—	1.7
6	150	6.00	6.90	6 x 8	—	6.00	—	—	4.2

(1) Nominal pipe size x NPT threads per inch. BSP threads available

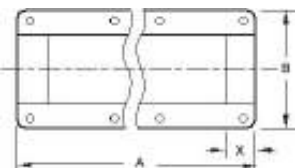
Adaptors: Spigot x NPT female (filament wound)



2	50	4.38	2.55	2 x 11½ ⁽¹⁾	—	2.00	0.70	—	0.5
3	80	5.50	3.65	3 x 8	—	3.00	1.00	—	1.3
4	100	6.00	4.65	4 x 8	—	4.00	1.20	—	1.7
6	150	6.00	6.90	6 x 8	—	6.00	1.00	—	4.2

(1) Nominal pipe size x NPT threads per inch. BSP threads available

Repair Couplings (molded)



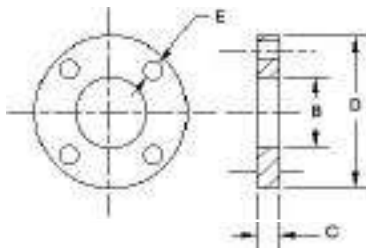
2 ⁽¹⁾	50	14.00	4.00	—	—	—	8 ⁽²⁾	1.50	1.3
3	80	14.00	6.00	—	—	—	8	1.50	1.7
4	100	14.00	7.00	—	—	—	8	1.50	2.0

(1) Repair coupling inside diameters match pipe inside diameters of the same nominal pipe size.

(2) Number of bolt holes.

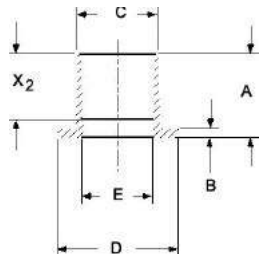
Fittings Dimensions

Flange Rings (molded)



Nominal Pipe Size		A	B	C	D	E	Number of Bolt Holes ₂	X ₂	Wt
(in)	(mm)	(in)	(in)	(in)	(in)	(in)		(in)	(lb)
2	50	—	2.78	0.82	6.00	0.75	4	—	1.0
3	80	—	3.90	1.10	7.50	0.75	4	—	1.6
4	100	—	4.90	1.10	9.00	0.75	8	—	2.5
6	150	—	7.26	1.25	11.00	0.88	8	—	4.9

Flange Stub Ends⁽¹⁾ (molded)

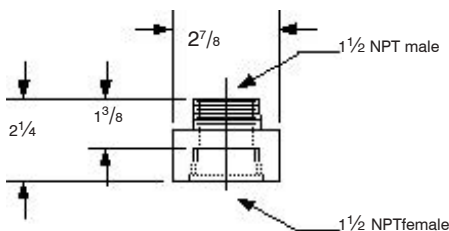


Flanged connections in Dualoy 3000/L piping systems are made using one-piece flange rings and stub ends that are bonded onto the pipe ends. Both flange rings and stub ends are fabricated by compression molding epoxy resins and discontinuous glass fibers. Bolt holes are drilled in accordance with ANSI B16.5, Cl150. Dualoy 3000/L flanged connections are rated to the same pressures as pipe and fittings of the same nominal pipe size.

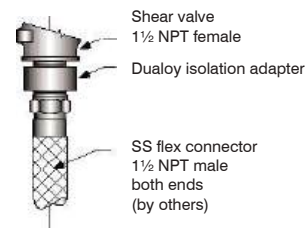
Nominal Pipe Size		A	B	C	D	E	Number of Bolt Holes ₂	X ₂	Wt
(in)	(mm)	(in)	(in)	(in)	(in)	(in)		(in)	(lb)
2	50	2.75	0.27	2.65	3.91	2.26	—	2.15	0.5
3	80	2.88	0.28	3.75	5.16	3.38	—	2.40	0.7
4	100	2.88	0.28	4.75	6.66	4.38	—	3.25	1.0
6	150	3.88	0.39	7.10	8.53	6.46	—	3.25	2.4

(1) For use with flange rings shown in previous table.

Isolation Adapter (molded)



The Dualoy isolation adapter provides electrical isolation from the dispenser for flex connectors that are directly buried and which must be cathodically protected. The adapter is fabricated of compression-molded fiberglass reinforced epoxy resins.



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FILL SWIVEL ADAPTERS

The fill swivel adapter helps prevent leaks caused by constant fill delivery elbow movement on the riser adapter. The top section rotates during normal deliveries, preventing the bottom section from loosening on the riser pipe which could cause a vapor or product leak around the adapter.

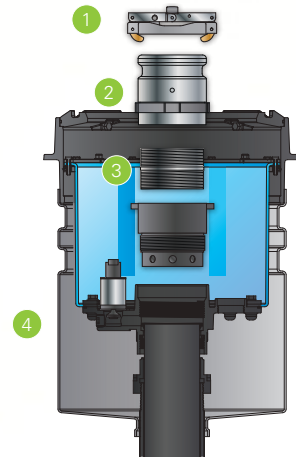
HIGHLIGHTS

- Adds approximately 4" to riser height to fit under most existing fill and vapor manway covers.
- Swivels on two rows of corrosion-resistant chromium steel ball bearings for long life in high volume stations.
- All vapor seals are fluorocarbon and inert in motor fuels.
- Stainless steel models provide additional fuel compatibility and are CARB Phase I EVR approved under executive order VR-101.
- Available in packages including fill and vapor adapter.
- Available in kits including riser, cap, and swivel adapter.

SPECIFICATIONS

Components

- 1 Cap
- 2 Swivel adapter
- 3 Riser nipple
- 4 Spill container



ORDERING INFORMATION

Fill Swivel Adapters



Model	Description
SWF-100-SS**	Fill swivel adapter, 4" NPT, stainless steel
SWF-100-B*	Fill swivel adapter, 4" NPT, brass
SWFV-PKGSS**	Vapor and fill swivel adapter kit, 4" NPT, stainless steel
SWFV-PKG*	Vapor and fill swivel adapter kit, 4" NPT, brass
85039	Replacement gasket for all swivel adapters

*EVR Phase 1 Certification VR-101.

**EVR Phase 1 Certification VR-101 for gas and E85.

Fill Swivel Adapter Kits

Be sure to select the appropriate kit for your specific spill container type.



Model	Description
70541202	Fill swivel adapter kit for 5 gallon Defender Series® (grade level and below grade level) and EBW® Series (grade level) spill containers, includes stainless steel fill swivel adapter, 3" riser nipple, fill top cap.
70541201	Fill swivel adapter kit for 5 gallon PHIL-TITE™ and EBW® Series (below grade) spill containers, includes stainless steel fill swivel adapter, 5" riser nipple, fill top cap.
70541203	Fill swivel adapter kit for 15 gallon EBW® Series (below grade) spill containers, includes stainless steel fill swivel adapter, 12" riser nipple, fill top cap.



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 3760 Marsh Rd. • Madison, WI 53718, USA
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 Tel: Mex 001 800 738 7610 • Tel: DE +49 6571 105 308 • Tel: CN +86 10 8565 4566



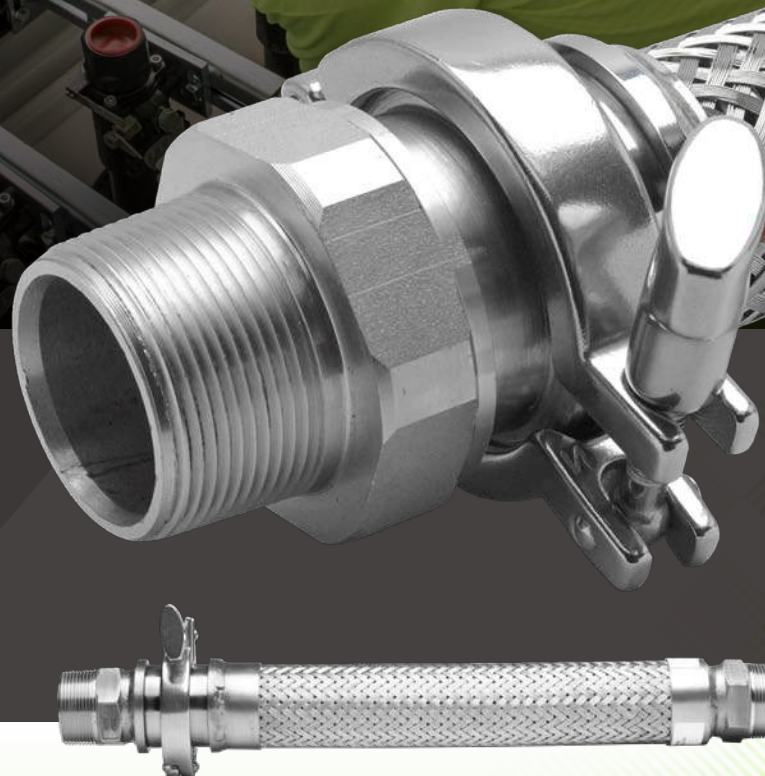
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Franklin Fueling Systems

FLEXIBLE CONNECTORS

Flexible connectors allow you to easily make pipework connections in the tight spaces found within dispenser and tank containment sumps. Their flexibility and quick connection fittings make easy work of both installation and maintenance.



HIGHLIGHTS

- Easily connect a pipework system to other equipment like submersible turbine pump manifolds, shear valves, or even other types of pipework with secure, watertight connections.
- Completely customize a flexible connector to fit your application with a wide range of diameter, length, and end fitting connection options to choose from in either nickel plated steel or full stainless steel construction.
- Meet the real-world demands of contractors with our EZ Fit system which allows you to customize basic flexible connectors right at your parts counter.

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Tel: Mex 001 800 738 7610 • Tel: DE +49 6571 105 308 • Tel: CN +86 10 8565 4566



TOTAL SYSTEM SOLUTIONS



Model 691 & 691B Full Port Brass Ball Valve

SPECIFICATION SHEET

Ball valves are used throughout fuel piping systems where a shut-off is required or desired.

Features

- Quarter turn operation
- Full port for maximum flow and minimum pressure drop
- Can be operated in partial open position for flow control
- Double seal allows the valve to be operated in both directions
- Blowout proof stem
- 600 PSIG non-shock cold working pressure rating for 1/4" to 2" size
- 450 PSIG non-shock cold working pressure rating for 2 1/2" to 4" size
- Can be used for air service
- **691B** is lockable with a padlock

Construction Details

- Forged brass body
- Hard chrome plated ball
- PTFE seal

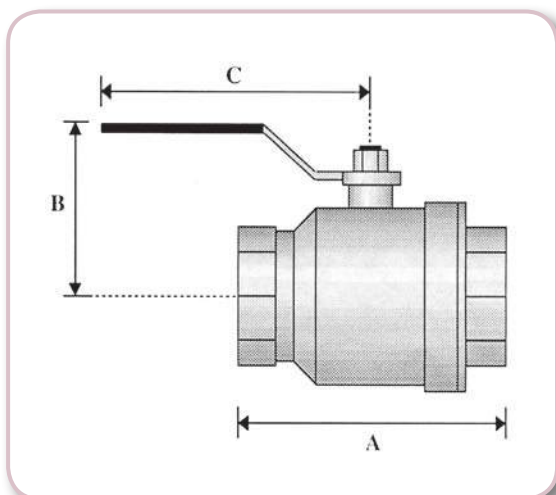
Certifications & Listings

UL 842 listed for flammable liquids,
UL 125 listed for LP gas shut-off,
CSA approved,
ULC listed (ULC/ORD-C125-1992,
ULC/ORD-C842-M1984 and
ULC/ORD-C258-03)



I.D. Number	Size	A	B	C	Port Size	Weight (lbs)
691---0100 1V	1/4"	1.771	1.496	3.228	0.314	0.30
691---0200 1V	3/8"	1.771	1.496	3.228	0.393	0.30
691---0300 1V	1/2"	2.32	1.69	3.94	0.59	0.50
691---0400 1V	3/4"	2.519	1.968	4.724	0.787	0.80
691---0500 1V	1"	3.188	2.125	4.724	0.984	1.17
691---0600 1V	1 1/4"	3.661	2.874	6.22	1.259	1.93
691---0700 1V	1 1/2"	4.015	3.11	6.22	1.574	2.40
691---0800 1V	2"	4.763	3.385	6.22	1.968	4.02
691---0900 1V	2 1/2"	6.141	5.196	10.04	2.559	10.0
691---1000 1V	3"	6.968	5.551	10.04	3.149	13.65
691---1100 1V	4"	8.504	6.062	10.04	3.937	22.0
691B--0100 1V	1/4"	1.771	1.496	3.228	0.314	0.30
691B--0200 1V	3/8"	1.771	1.496	3.228	0.393	0.30
691B--0300 1V	1/2"	2.32	1.69	3.94	0.59	0.50
691B--0400 1V	3/4"	2.519	1.968	4.724	0.787	0.80
691B--0500 1V	1"	3.188	2.125	4.724	0.984	1.17
691B--0600 1V	1 1/4"	3.661	2.874	6.22	1.259	1.93
691B--0700 1V	1 1/2"	4.015	3.11	6.22	1.574	2.40
691B--0800 1V	2"	4.763	3.385	6.22	1.968	4.02
691B--0900 1V	2 1/2"	6.141	5.196	10.04	2.559	10.0
691B--1000 1V	3"	6.968	5.551	10.04	3.149	13.65
691B--1100 1V	4"	8.504	6.062	10.04	3.937	22.0

NOTE: All dimensions are in inches.



570 E. 7th Street, P.O. Box 238 | Dubuque, IA 52004-0238
t. 563.583.5701 | 800.553.4840 | f. 563.583.5028

www.morbros.com



MORRISON BROS. CO.

UNDERGROUND STORAGE TANK FACILITY PLAN FORM TCEQ-0583
ATTACHMENT F
TERTIARY CONTAINMENT METHOD

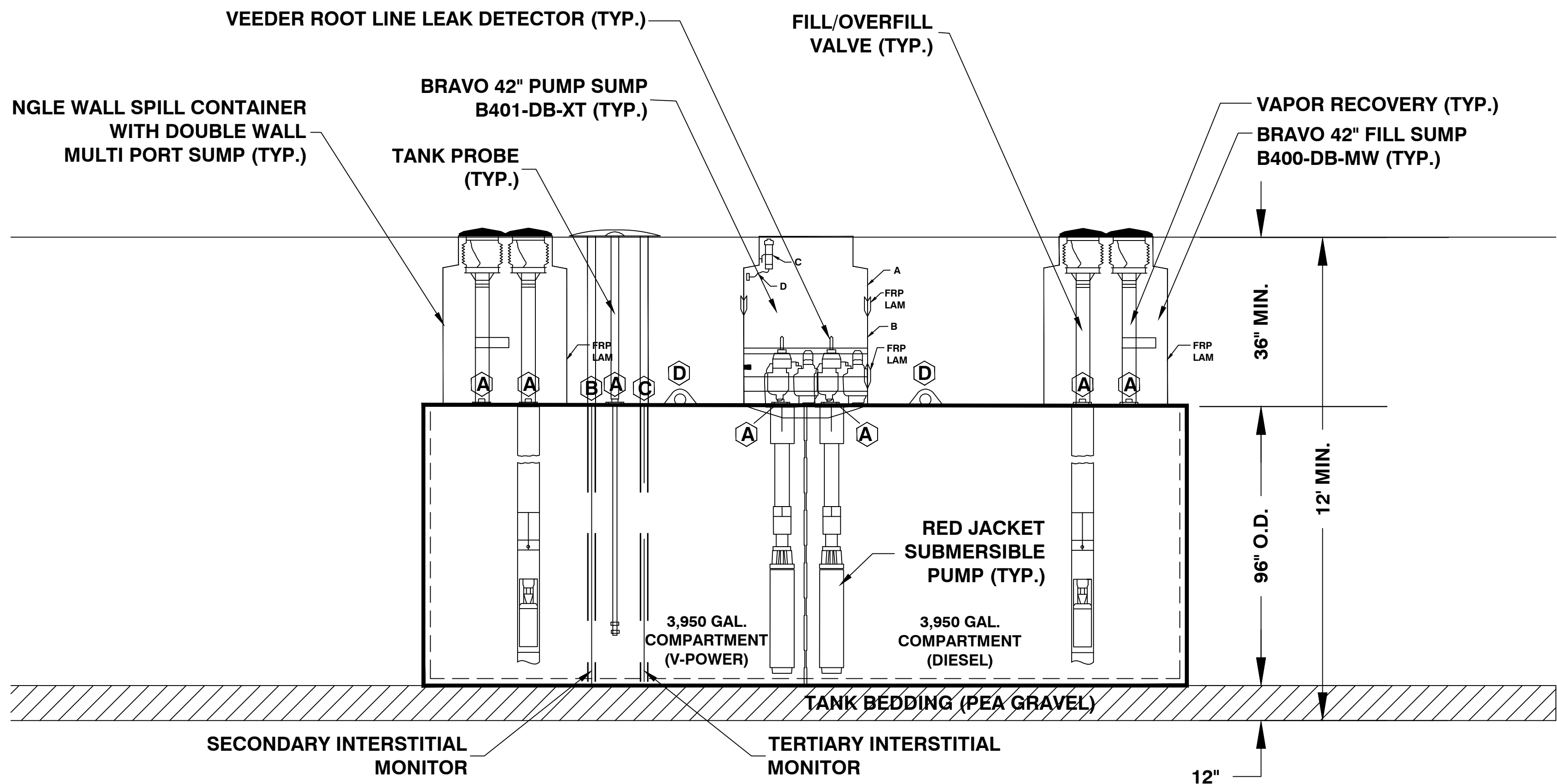
The proposed tank and piping system meets the requirements for installation on the Edwards Aquifer Recharge Zone, in accordance with Chapter 213. Tertiary containment is not required.

Tertiary containment is provided to meet the Edwards Aquifer Authority requirements.

The proposed new underground tanks will be a one-chamber 14,850-gallon WATCO double-walled, jacketed Permatank and a two-chamber 7,900-gallon WATCO double-walled, jacketed Permatank. The tanks are constructed with a primary steel tank, secondary steel tank (double-walled) coupled with an exterior corrosion-resistant fiberglass reinforced plastic (FRP) tank (jacket) for tertiary containment meeting UL-58 ACT-100 and UL-1746. The one chamber will hold 14,850 gallons of regular unleaded fuel and the two-chamber tank will hold 3,950 gallons of premium (V-Power) fuel in one chamber and 3,950 gallons of diesel fuel in the other chamber.

The proposed piping will be Dualoy 3000/LCX fiberglass double-wall piping and Dualoy/L fiberglass single-wall piping. For product lines, the double-wall piping will be placed within the single-wall piping to provide tertiary containment. The product piping system is designed to contain a release from any portion of the primary piping within the secondary and tertiary piping walls and is protected from corrosion.

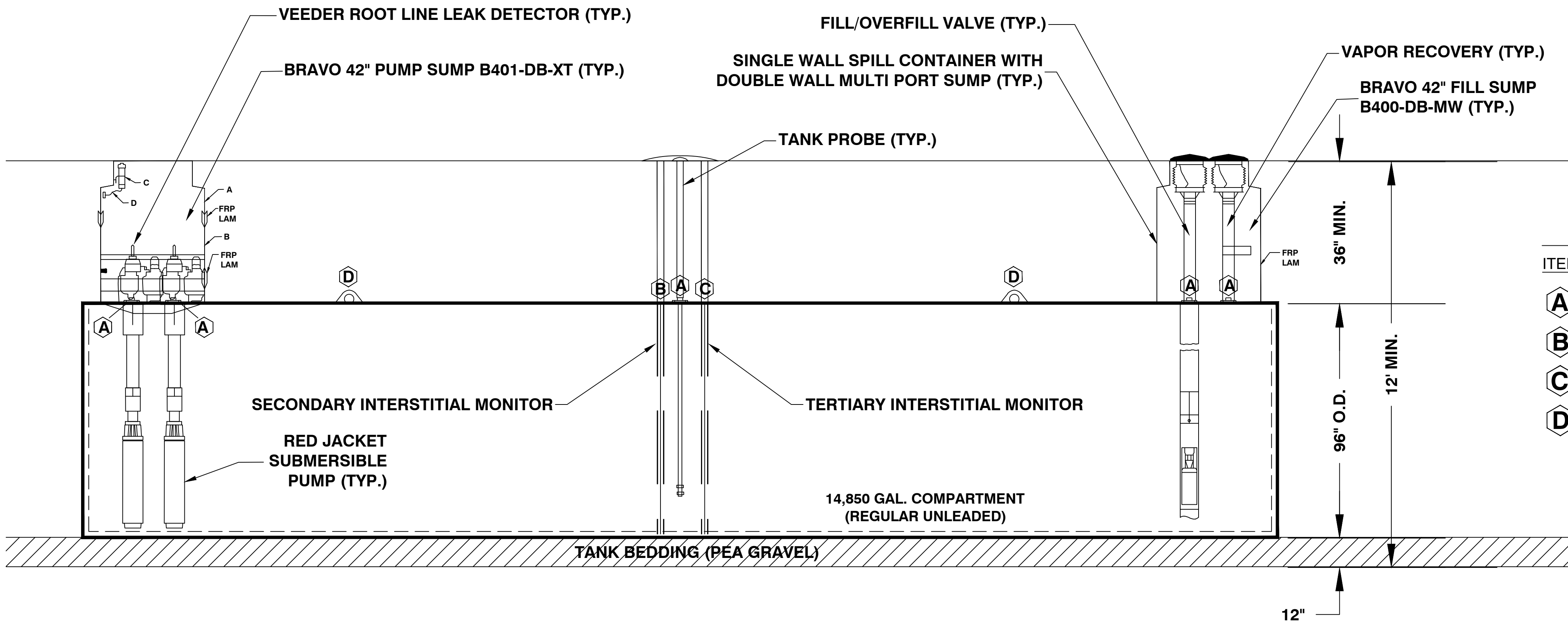
**UNDERGROUND STORAGE TANK FACILITY PLAN FORM TCEQ-0583
ATTACHMENT H
PROFILE DRAWING(S)**



UST SYSTEM PROFILE VIEW - 7,900 GAL./2 COMPARTMENT TRIPLE WALL PERMATANK

NOTES:

1. THE UST SYSTEM SHALL COMPLY WITH ALL TECHNICAL REQUIREMENTS OF TCEQ CHAPTER 334 SUBCHAPTER C, TECHNICAL STANDARDS 334.41 THROUGH 334.56. THESE TECHNICAL REQUIREMENTS TAKE PRECEDENCE OVER MANUFACTURERS SPECIFICATIONS AND INSTRUCTIONS AND NATIONALLY RECOGNIZED ASSOCIATIONS OR INDEPENDENT TESTING LABORATORY.
2. THE UST CONTRACTOR SHALL INSTALL THE UST SYSTEM IN ACCORDANCE WITH THE TCEQ TECHNICAL STANDARDS AND MANUFACTURERS SPECIFICATIONS/INSTRUCTIONS.
3. THE UST SYSTEM SHALL BE INSTALLED IN COMPLIANCE WITH THE PROVISIONS OF ONE OF THE FOLLOWING STANDARDS: PEI PUBLICATION RP-100, API PUBLICATION 1615, ANSI STANDARDS B31.3 & B31.4, OR ANY OTHER CODE OR STANDARD OF PRACTICE DEVELOPED BY A NATIONALLY RECOGNIZED ASSOCIATION OR INDEPENDENT TESTING LABORATORY THAT HAS BEEN REVIEWED AND DETERMINED BY THE AGENCY TO BE PROTECTIVE OF HUMAN HEALTH AND SAFETY.
4. THE DEPTH OF THE TANK EXCAVATION WILL BE SUFFICIENT TO ACCOMMODATE PIPING FALL REQUIREMENTS, TANK DIAMETER, BEDDING, AND A MINIMUM COVER OF THREE FEET.
5. THE TANK BEDDING THICKNESS WILL BE 12 INCHES AND CONSIST OF PEA GRAVEL FOR COMPLIANCE WITH THE MANUFACTURERS SPECIFICATIONS.
6. PEA GRAVEL WILL BE UTILIZED AS THE BACKFILL MATERIAL.
7. OVERFILL PREVENTION VALVE POSITIONED AT 95% CAPACITY. OVERFILL AUDIBLE AND VISUAL ALARM POSITIONED AT 90 % CAPACITY.
8. CONTRACTOR SHALL BE CERTIFIED BY THE MANUFACTURER FOR INSTALLATION OF THEIR SPECIFIC PRODUCT.
9. ALL PUMP SUMPS, PUMP RISERS, FILL SUMPS AND FILL RISERS WILL BE BRAVO B400 SERIES DOUBLE-WALL SUMPS.

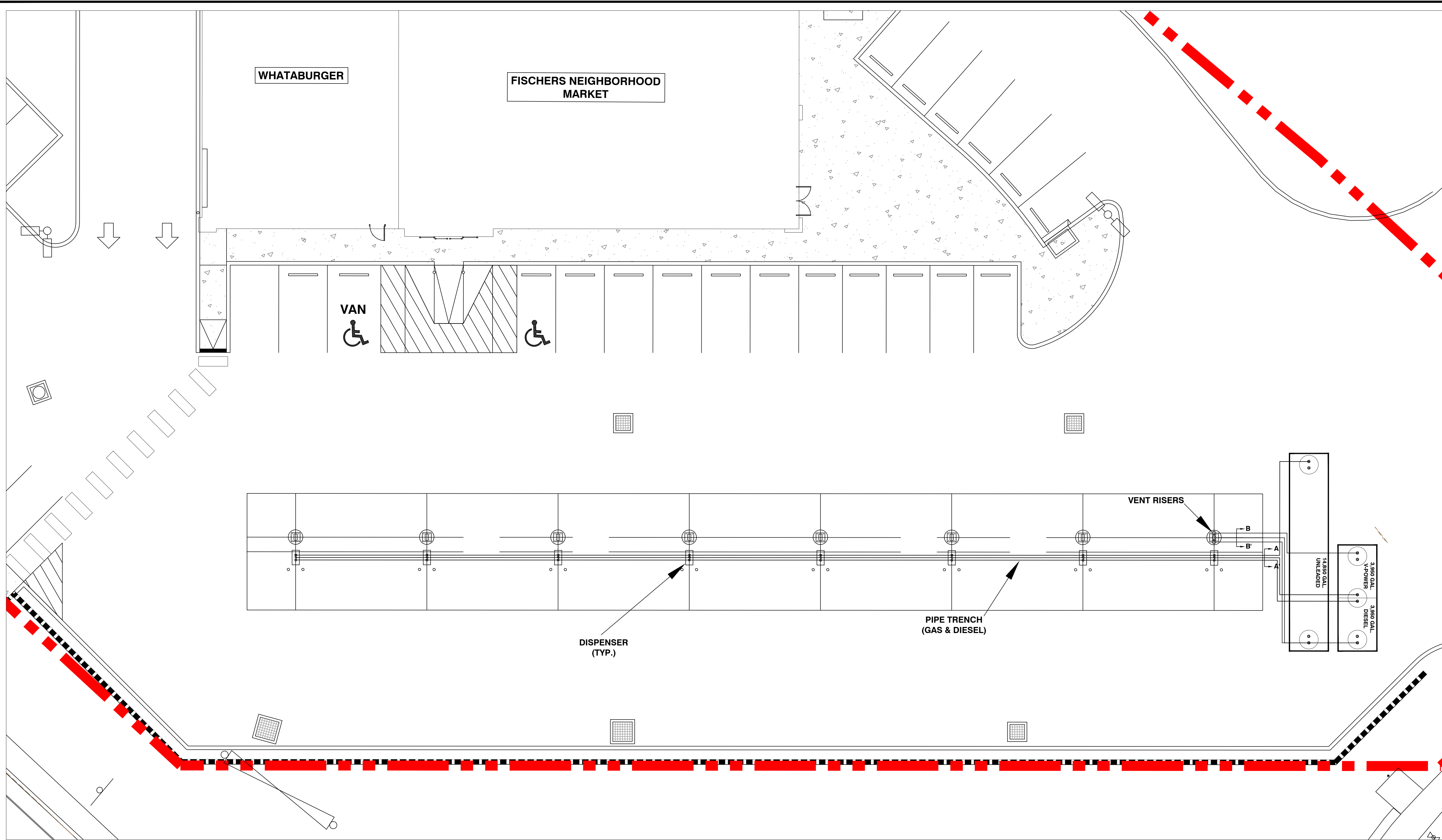


UST SYSTEM PROFILE VIEW - 14,850 GAL./1 COMPARTMENT TRIPLE WALL PERMATANK

TANK OPENING DESCRIPTIONS		
ITEM	QTY	DESCRIPTION
A	12	4" NPT THREADED FITTINGS
B	2	2" NPT SECONDARY MONITOR PIPE OPENING
C	2	2" NPT TERTIARY MONITOR PIPE OPENING
D	4	LIFTING LUGS

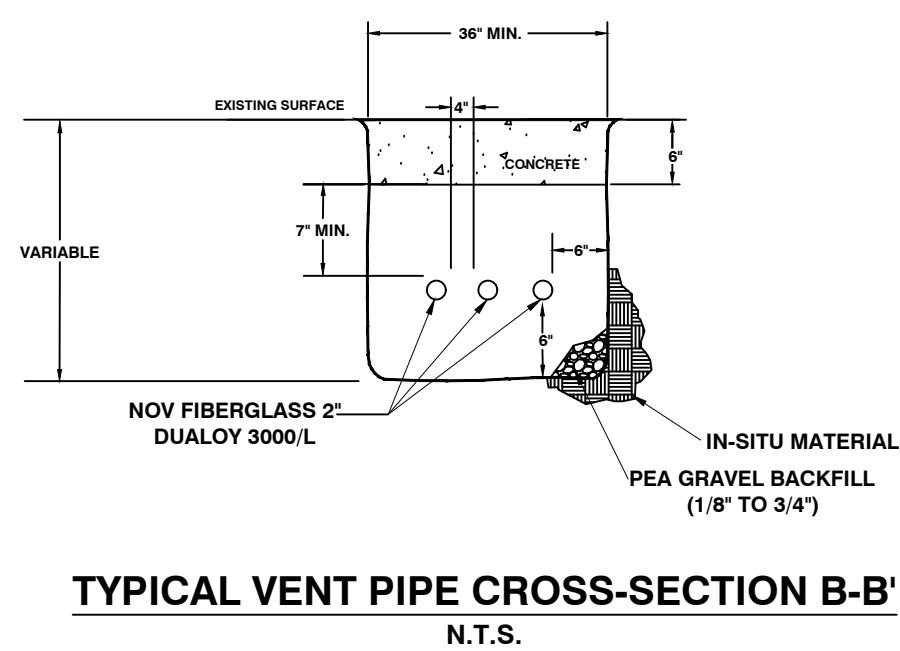
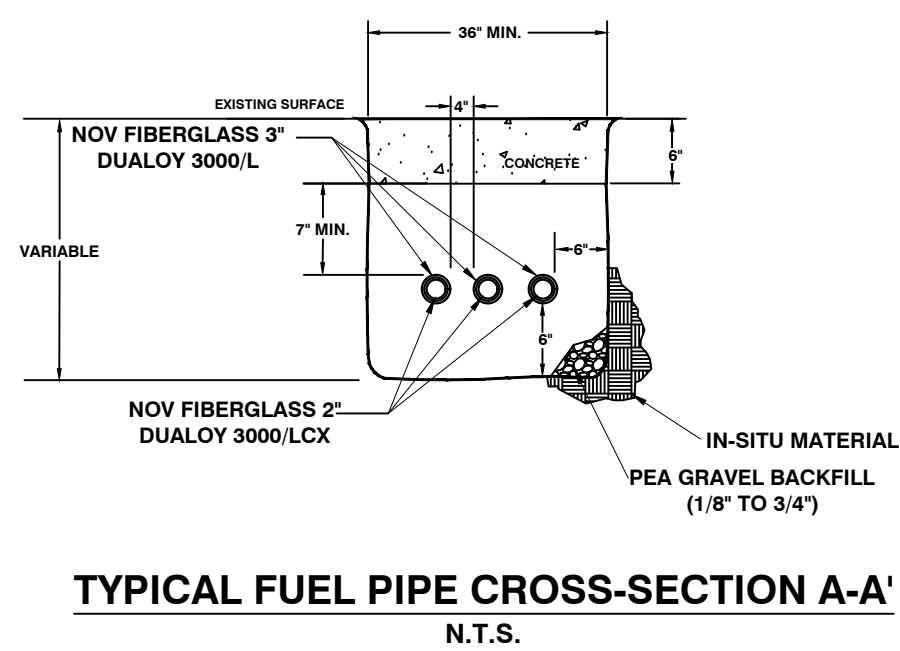
REV. NO.	DESCRIPTION	DATE
Notes:		
SIGNATURE/SEAL		
PROJECT DESCRIPTION FISCHER'S NEIGHBORHOOD MARKET #54 TPC PARKWAY/EVANS ROAD UNDERGROUND STORAGE TANK PLAN		
DRAWING UST PROFILE DRAWINGS TCEQ-0583		
DATE	05/13/25	JOB NO. 1163F-25
SCALE	NOT-TO-SCALE	DRG NO.
DRAWN BY	RV	ATTACHMENT H-1
CHECKED BY	CPF	

Date: May 13, 2025 1:44pm User: (P: Ralph Voss
File: C:\Users\Ralph Voss\Documents\Foster Engineering (RV)\1163F-25 Juniper_FNM_TPC_UST\CAD FILES\05_F-0583_FNM_#54_UST_Site_Plan.dwg



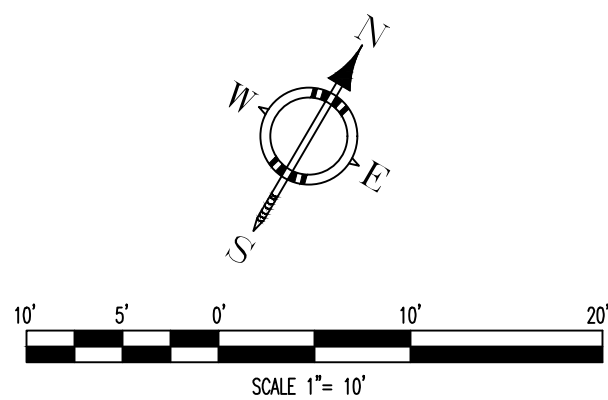
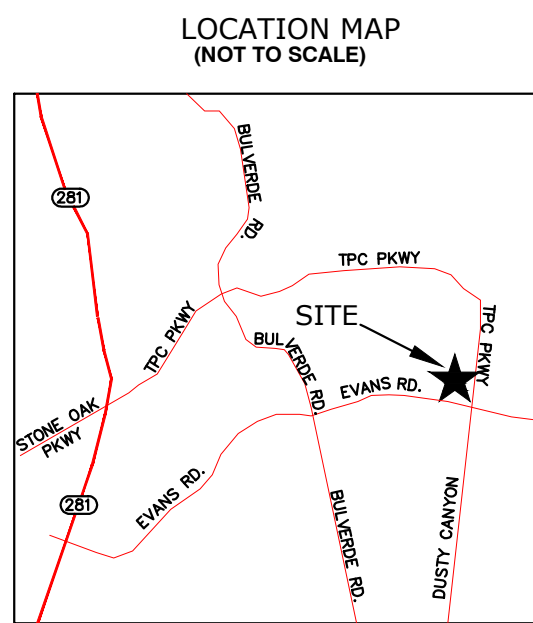
NOTES:

1. PIPING MUST BE SLOPED MINIMUM 1/8" PER FOOT BACK TOWARDS THE TANK. SUPPORT PIPE PROPERLY TO PREVENT LOW POINTS.
2. SIX INCHES OF FILL (PEA GRAVEL) MUST BE PLACED UNDER THE PIPE AS BEDDING MATERIAL.
3. THE MINIMUM BURIAL DEPTH IS BASED ON SOIL MODULUS OF 1000 PSI OR HIGHER.
4. ALL PIPING SUMPS, FITTINGS, ETC. MUST BE INSTALLED IN ACCORDANCE WITH THE TCEQ CHAPTER 334 SUBCHAPTER C TECHNICAL STANDARDS 334.41 THROUGH 334.56 AND THE MANUFACTURERS INSTALLATION AND SPECIFICATION REQUIREMENTS.
5. CONTRACTOR SHALL OBTAIN ALL MANUFACTURER CERTIFICATIONS AS REQUIRED FOR INSTALLATION OF THE UST SYSTEM.

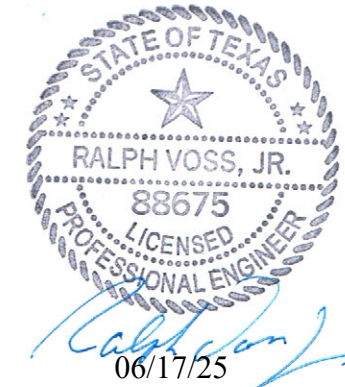


REV. NO.	DESCRIPTION	DATE

Notes:



SIGNATURE/SEAL



FORSTER ENGINEERING

TBPE Firm # 12385
401 MARICOPA DRIVE, CANYON LAKE, TEXAS 78133
PHONE: (210) 289-0580
WWW.FORSTERENGINEERING.COM

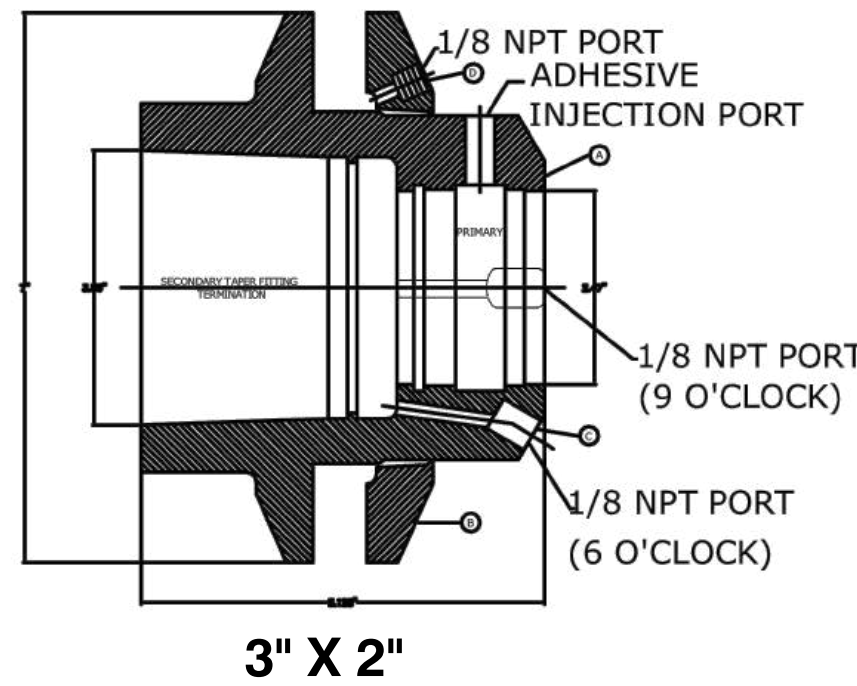
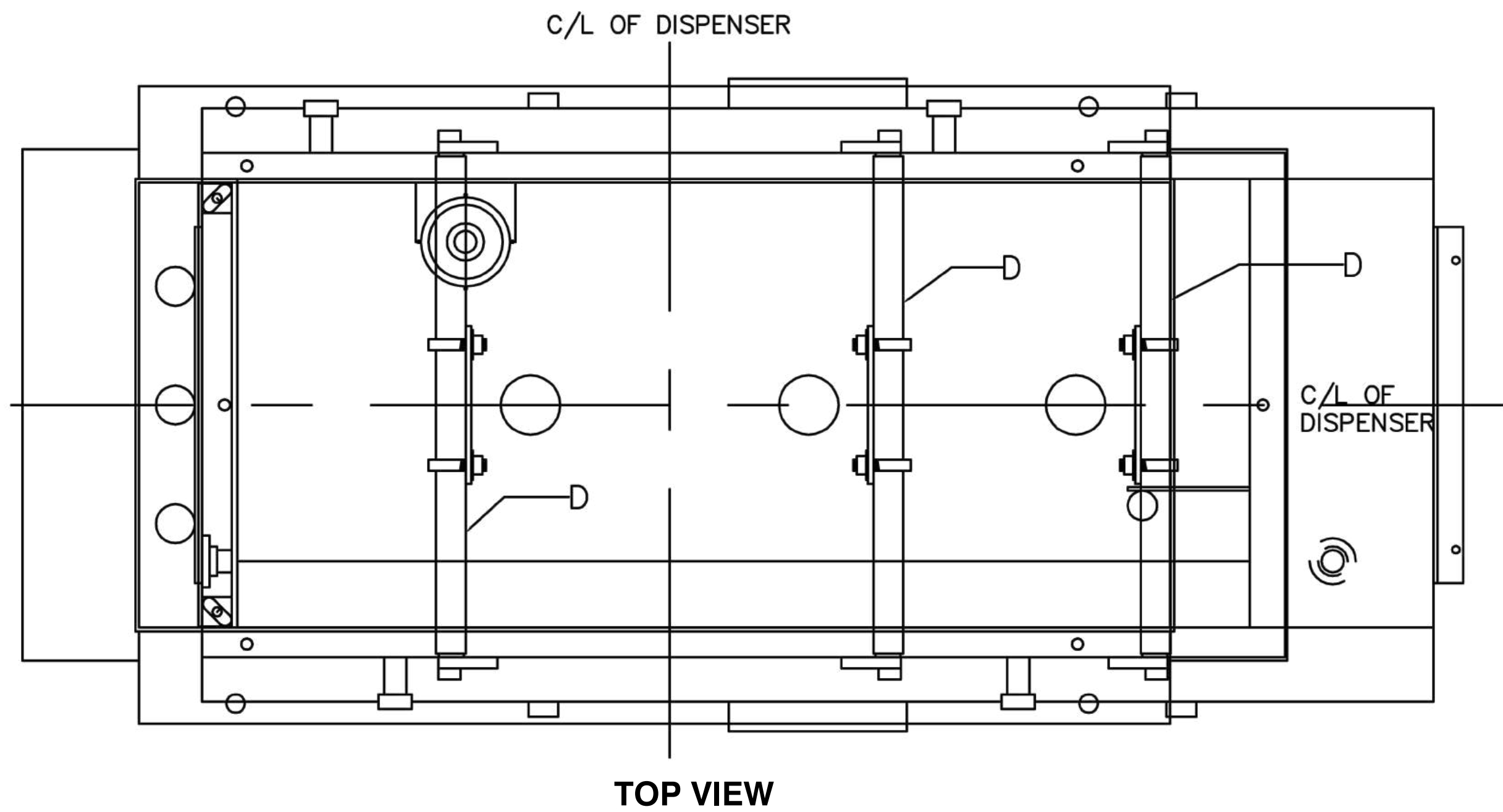


PROJECT DESCRIPTION
FISCHER'S NEIGHBORHOOD MARKET #54
TPC PARKWAY/EVANS ROAD
UNDERGROUND STORAGE TANK PLAN

DRAWING
MISC. PIPING DETAILS
TCEQ-0583

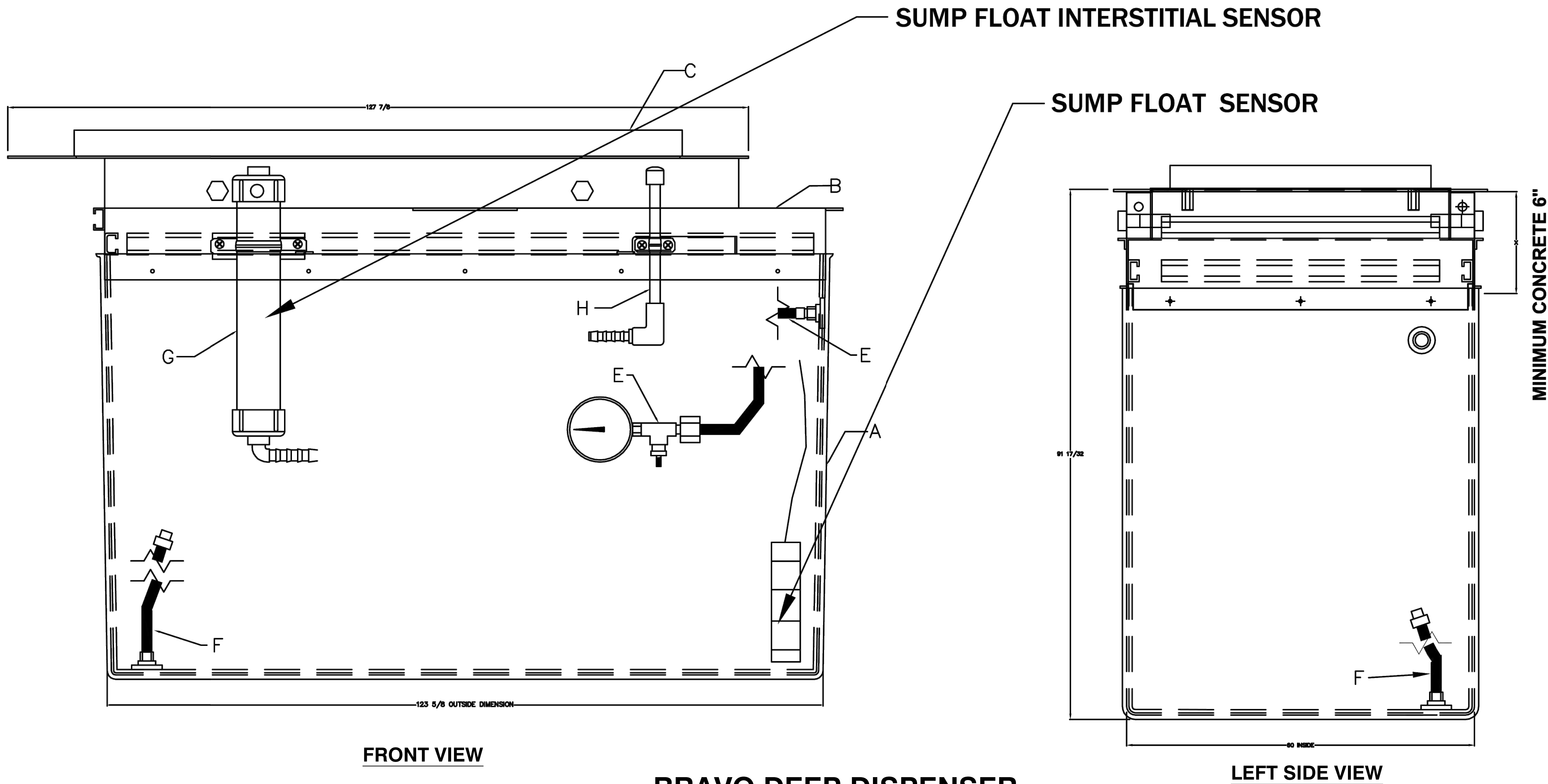
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CHECKED BY	CPF		

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BRAVO F-SERIES RIGID ENTRY FITTING

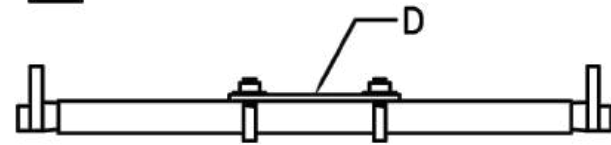
BILL OF MATERIALS		
NO.	QTY	PART DESCRIPTION
A	1	F-32-TS-T-MP FITTING BODY W/ TEST PORT
B	1	FLANGE 4-1/2" WITH TEST PORT
C	1	1/8 NPT SCHRADER ASSEMBLY
D	2	1/8 NPT BRASS PIPE PLUG



**BRAVO DEEP DISPENSER
CONTAINMENT**

BILL OF MATERIALS		
NO.	QTY.	PART DESCRIPTION:
A	1	DOUBLEWALL FRP BOX 41-1/2Lx20Wx24-1/2D
B	1	B8000 MIDFRAME LARGE - EO
-	4	1/2"x1-1/4" WELDED COUPLING NUTS
C	1	FXXX UPPER FRAME CUSTOMIZED TO DISPENSER
-	4	ANCHOR BOLTS
-	1	VULKEM SEALANT
D	3	BRACKET 8000 ADJ VARIES PER DISPENSER
E	1	GUAGE ASSEMBLY (BOX)
F	1	TUBING ASSEMBLY
G	1	EXTENDED MANOMETER ASSEMBLY
H	1	ATMOSPHERIC MANOMETER ASSEMBLY
J	2	INTERSTITIAL FLUID (1 GAL.)

QTY 3 8000 ADJUSTABLE PRODUCT BRACKET



ADJUSTABLE VAPOR BRACKET NOT INCLUDED
PART NO: BRKT-B2

REV. NO.	DESCRIPTION	DATE
Notes:		
SIGNATURE/SEAL		
FORSTER ENGINEERING TBPE firm # 12385 401 MARICOPA DRIVE, CANYON LAKE, TEXAS 78133 PHONE: (210) 289-0580 WWW.FORSTERENGINEERING.COM		
PROJECT DESCRIPTION FISCHER'S NEIGHBORHOOD MARKET #54 TPC PARKWAY/EVANS ROAD UNDERGROUND STORAGE TANK PLAN		
DRAWING MISC. DISPENSER DETAILS TCEQ-0583		
DATE	05/13/25	JOB NO. 1163F-25
SCALE	NOT-TO-SCALE	DRG NO
DRAWN BY	RV	ATTACHMENT H-3
CHECKED BY	CPF	

UNDERGROUND STORAGE TANK FACILITY PLAN FORM TCEQ-0583
ATTACHMENT I
INITIAL AND CONTINUING TRAINING

Initial and Continuing Training On-site Personnel

Fischer's Neighborhood Market #54 will have at least a Class C operator present during hours of operation. Class C operator is designated by the UST system owner, and typically controls the dispensing of fuel at the facility and is responsible for initial response to alarms, releases, spills, overfills, or threats to the public/environment.

Training of Class C operators must include both general and facility specific emergency response procedures, such as:

1. Operation of emergency shut-off equipment
2. Initial response procedures following system alarm warnings
3. Appropriate first response actions to releases, spills, or overfills
4. Notification procedures to emergency responders and the designated Class A and/or Class B operators of a UST facility

The Class C operator training programs may include in-class, hands-on, on-line, or any other training format deemed acceptable by the Class B operator.

A designated Class B operator for Fischer's Neighborhood Market #54 must provide the facility owner or operator with signed and dated written verification in the form of a list of all Class C operators who have been trained for that facility, which includes the date of that training. Owners and operators must ensure that a current and correct list of trained Class C operators is maintained at Fischer's Neighborhood Market #54.

Response to Warning and Alarm Conditions

1. Investigate alarm and determine if there is a release event.
2. If determined a non-release event (power surge or filling the tank during release detection test), reset system and document finding.
3. If there is a release, take immediate action according to spill emergency response plan.
4. Make appropriate notifications to Class A or B level operator following shutdown.

UNDERGROUND STORAGE TANK FACILITY PLAN FORM TCEQ-0583

ATTACHMENT J RELEASE DETECTION MAINTENANCE

Fischer's Neighborhood Market #54 will complete the following to meet the conditions of release detection required maintenance.

30-Day Inspection requirements

1. Conduct walkthrough inspections every 30 days to visually check your release detection equipment and spill prevention equipment.
2. Remove liquid or debris within 96 hours of discovery, make any appropriate improvements.
3. Maintain applicable records of 30-day checks.

Annual Inspections and Test requirements

4. Conduct annual walkthrough inspections and testing.

Inspections shall include attention to automatic inventory control procedures, spill and overfill protection equipment, release detection equipment installed as part of the UST system, and electronic and mechanical components are tested for proper operation in accordance with manufacturer's guidance.

- Test alarm, verify configuration, and test battery backup for automatic tank gauge
 - Inspect probes and sensors for residual buildup, ensure floats move freely, ensure shaft is not damaged, ensure cables are free of kinks and breaks, test alarm operability and communication with controller
 - Test operation of automatic line leak detector
 - Inspect vacuum pumps and pressure gauges for proper communication with sensors and controller
 - Inspect proper operation of hand-held electronic sampling equipment associated with monitoring are operational and check serviceability
 - Inspect containment sump(s) for damage, leaks, or releases. Remove liquid or debris within 96 hours of discovery.
 - Inspect submersible turbine pump(s) for damage, leaks or releases, cathodic protection. Remove liquid or debris within 96 hours of discovery.
 - Inspect and test all corrosion protection systems
 - Inspect integrity of walls of tank(s)
5. Maintain records of proof that performance claims are met and how the performance was determined.
 6. All records will be retained for 5 years.

Once every three years, Inspections and Tests requirements

1. Inspect spill prevention equipment and containment sumps used for interstitial monitoring of piping to ensure of no release and maintains liquid tight constituent.
2. Inspect all overfill prevention equipment continues to activate at the correct level specified to the design of the UST system.
3. Maintain records of proof that performance claims are met and how the performance was determined.
4. All records will be retained for 5 years.

Section 6.0

TEMPORARY STORM WATER SECTION

Temporary Stormwater Section

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of ~~Customer~~/Agent: Ralph Voss Jr., P.E.

Date: 06/17/25

Signature of ~~Customer~~/Agent:



Regulated Entity Name: Fischer's Neighborhood Market #54

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: Elm Waterhole Creek

Temporary Best Management Practices (TBMPs)

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

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

- ☒ A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.
 - ☒ A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.
 - ☒ A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.
 - ☒ A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.
8. ☒ The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.
- ☐ **Attachment E - Request to Temporarily Seal a Feature.** A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.
- ☒ There will be no temporary sealing of naturally-occurring sensitive features on the site.
9. ☒ **Attachment F - Structural Practices.** A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.
10. ☒ **Attachment G - Drainage Area Map.** A drainage area map supporting the following requirements is attached:
- ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.
 - ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.
 - ☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.
 - ☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

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

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

☒ N/A

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

Soil Stabilization Practices

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

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

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

Administrative Information

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

TEMPORARY STORMWATER SECTION FORM TCEQ-0602

ATTACHMENT A SPILL RESPONSE ACTIONS

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 pounds (13 gallons)
Battery Acid	Land, Water	100 pounds
Refrigerant	Air	1 pound
Gasoline	Air, Land, Water	100 pounds
Engine Degreasers	Air, Land, Water	100 pounds

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) 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.

DETAILED DISCHARGE REPORT FORM

Reporter's Name and Date: _____

Location of Discharge: _____

Date and Time Discharge Occurred: _____

Material and Amount Discharged: _____

Source of the Release: _____

Cause and Circumstances of Release: _____

Countermeasures to Contain and Clean-up Discharge: _____

Personnel/Agency Contacted Regarding Discharge Procedures: _____

Corrective Actions Implemented to Prevent Recurrence of Discharge: _____

Discharge Report Sent To: _____

TEMPORARY STORMWATER SECTION FORM TCEQ-0602
ATTACHMENT B
POTENTIAL SOURCES OF CONTAMINATION

Potential sources of contamination during operations and preventative measures include the following:

Potential Source – Oil, grease, fuel and hydraulic fluid contamination from equipment and vehicle dripping.

Preventative Measure – Vehicles and equipment will be parked in designated locations, visually checked on a daily basis, and drip pans will be used to catch drips as needed. Chronic drips will be repaired as soon as practicable. When maintenance must be performed, a plastic liner or disposable base pad will be utilized as secondary containment.

Potential Source – Miscellaneous trash and litter from contract workers.

Preventive Measure – Trash containers will be placed throughout the site to encourage proper trash disposal.

Potential Source – Portable toilet spills or overflows

Preventative Measures - Contractor will locate portable toilets on level ground surfaces away from high traffic areas. Portable toilets will be routinely inspected and serviced at a frequency sufficient to maintain sanitary conditions.

TEMPORARY STORMWATER SECTION FORM TCEQ-0602
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) including an estimate of the total area of the site to be disturbed by each activity is as follows:

The sequence of major soil disturbance activities is as follows:

- Installation of Temporary BMPs
- Installation of staging area
- Clearing and grading as needed
- Utility, drainage improvements, installation of Permanent BMPs
- Impervious cover (structures, parking, etc.)
- Stabilization of disturbed area

Note: Some of the activities above may take place concurrently.

Approximately 1.93 acres will ultimately be disturbed.

TEMPORARY STORMWATER SECTION FORM TCEQ-0602
ATTACHMENT D
TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

a. 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.

Temporary BMPs such as silt fence will be used as perimeter BMPs to divert stormwater around the project site, that originates upgradient. Upgradient stormwater is not expected to impact the project site; hence preventing pollution of surface water, groundwater or stormwater that originates upgradient.

b. 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.

Temporary BMPs such as silt fence and stabilized construction entrance(s)/exit(s) will be implemented to control, filter and prevent any on-site stormwater from flowing off site untreated. The TBMPs are proposed to control the sediment, due to clearing and grading activities, within the site.

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

No surface streams or sensitive features were identified within the project limits. Temporary BMPs described in this section will be implemented to control, filter and prevent any on-site stormwater from flowing off site untreated. Hence prevent pollution from entering surface streams, sensitive features or the aquifer downgradient.

d. 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.

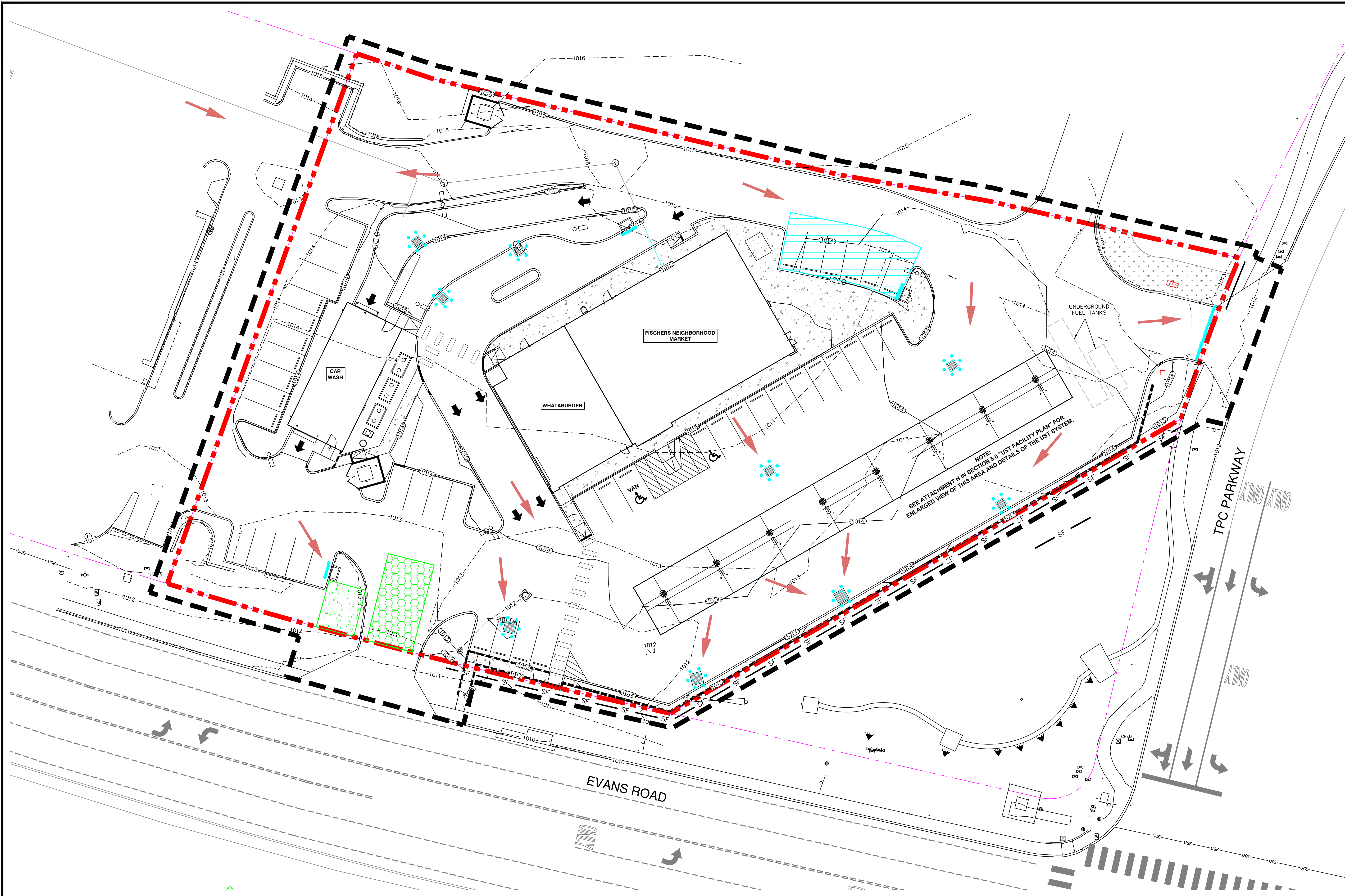
No naturally occurring sensitive features were identified in the geologic assessment. A discovery of any sensitive feature during construction will suspend all regulated activities near the feature, adequate protection will be provided and the TCEQ will be notified. The temporary BMPs used to protect the feature(s) will be maintained to avoid pollution and contamination.

TEMPORARY STORMWATER SECTION FORM TCEQ-0602
ATTACHMENT F
STRUCTURAL PRACTICES

Temporary structural best management practices proposed for the commercial project includes silt fence placement, stabilized construction entrance(s)/exit(s) and a concrete truck washout area. The perimeter BMPs will divert upgradient stormwater and contain onsite stormwater. Erosion control BMPs will control sediment, due to grading and clearing activities. The temporary BMPs are proposed to limit runoff discharge of pollutants from exposed areas of the site as well as to divert flows away from exposed soils.

**TEMPORARY STORMWATER SECTION FORM TCEQ-0602
ATTACHMENT G
TEMPORARY STORM WATER PLAN**

Date: May 13, 2025 5:04pm User: ID: Ralph Voss
File: C:\Users\Ralph Voss\Documents\Forster Engineering (RV)\1163F-25 Juniper_FNM_TPC_UST\CAD FILES\05_F-0583_FNM_#54_UST_Site Plan.dwg



REV. NO.	DESCRIPTION	DATE

Notes:

LOCATION MAP
(NOT TO SCALE)

LEGEND

- PROPERTY BOUNDARY
- PROJECT LIMITS
- EXISTING CONTOURS
- PROPOSED CONTOURS
- DRAINAGE FLOW PATH
- SILT FENCE
- INLET W/PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (FIELD LOCATED)
- CONCRETE TRUCK WASHOUT PIT (FIELD LOCATED)
- CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE (FIELD LOCATED)

SCALE 1"= 20'

SCALE 1"= 20'

SIGNATURE/SEAL

STATE OF TEXAS
RALPH VOSS, JR.
88675
LICENSED PROFESSIONAL ENGINEER
06/17/25

FORSTER ENGINEERING
TBPE firm # 12385
401 MARICOPA DRIVE, CANYON LAKE, TEXAS 78133
PHONE: (210) 289-0580
WWW.FORSTERENGINEERING.COM

JUNIPER

PROJECT DESCRIPTION
FISCHER'S NEIGHBORHOOD MARKET #54
TPC PARKWAY/EVANS ROAD
UNDERGROUND STORAGE TANK PLAN

DRAWING
TEMPORARY STORMWATER PLAN
TCEQ-0602

DATE	05/13/25	JOB NO.	1163F-25
SCALE	1"=20'	DRG NO.	
DRAWN BY	RV		
CHECKED BY	CPF		

ATTACHMENT G-1

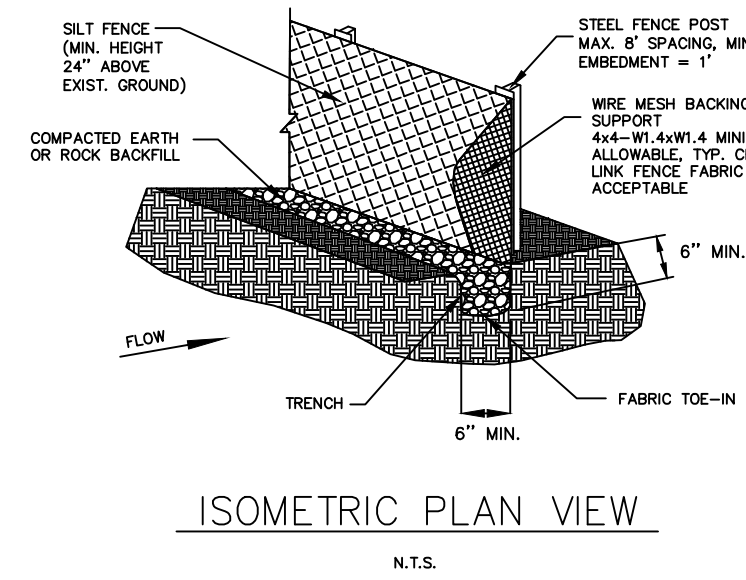
Date: May 13, 2025, 2:28pm User: ID: Ralph Voss
File: C:\Users\Ralph Voss\Documents\Forster Engineering (RV)\1163F-25 Juniper_FNM_TPC_UST\CAD FILES\05_F-0583_FNM_#54_UST_Site Plan.dwg

SILT FENCE

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

The purpose of a silt fence is to intercept and detain water-born sediment from unprotected areas of a limited extent. Silt fence is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Silt fence should not be used where there is a concentration of water in a channel or drainage way. If concentrated flow occurs after installation, corrective action must be taken such as placing a rock berm in the areas of concentrated flow.

Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.



MATERIALS:

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

INSTALLATION:

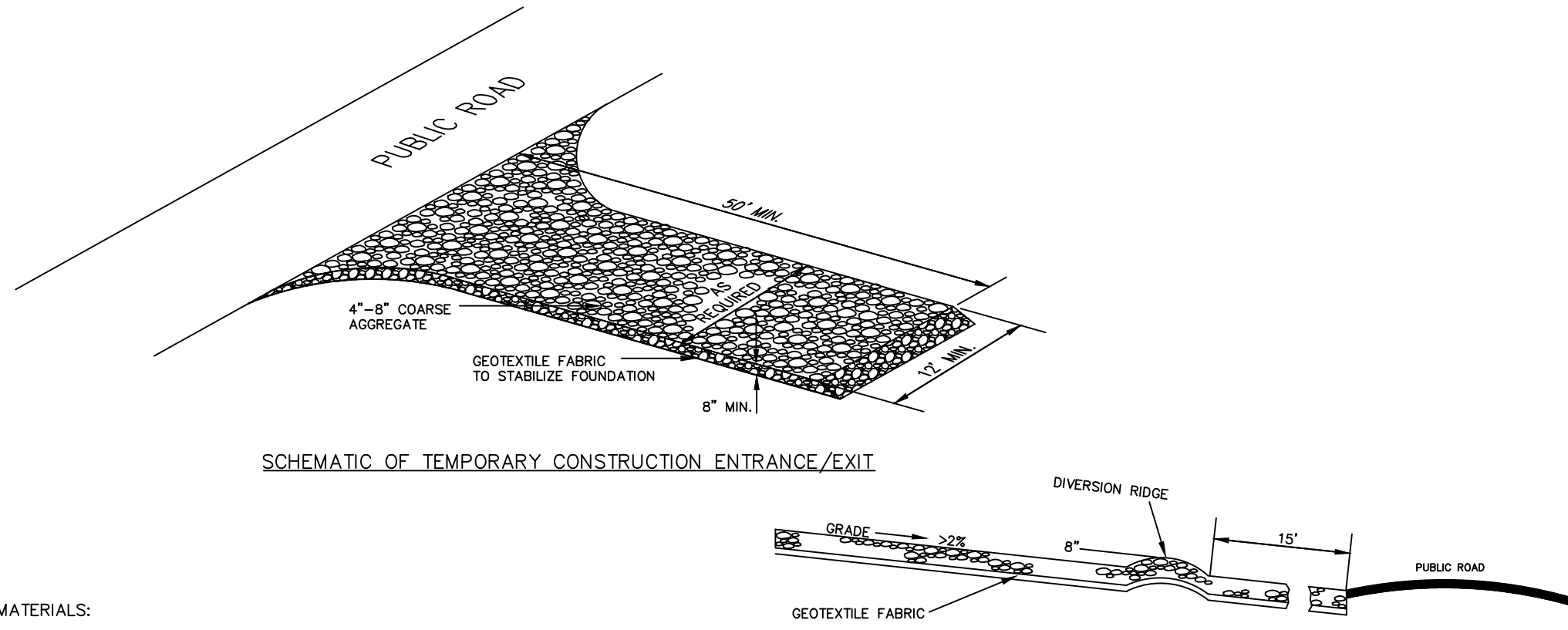
- (1) Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Posts must be embedded a minimum of 1-foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet.
- (2) Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is ¼ acre/100 feet of fence.
- (3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from seeping under fence.
- (4) The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.
- (5) Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There should be a 3-foot overlap, securely fastened where ends of fabric meet.
- (6) Silt fence should be removed when the site is completely stabilized so as not to block or impede storm flow or drainage.

COMMON TROUBLE POINTS:

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

INSPECTION AND MAINTENANCE GUIDELINES:

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



MATERIALS:

- (1) The aggregate should consist of 4 to 8 inch washed stone over a stable foundation as specified in the plan.
- (2) The aggregate should be placed with a minimum thickness of 8 inches.
- (3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd², a mullen burst rating of 140 lb/in², and an equivalent opening size greater than a number 50 sieve.
- (4) If a washing facility is required, a level area with a minimum of 4 inch diameter washed stone or commercial rock should be included in the plans. Divert wastewater to a sediment trap or basin.

INSTALLATION:

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

CROSS-SECTION OF A CONSTRUCTION ENTRANCE/EXIT

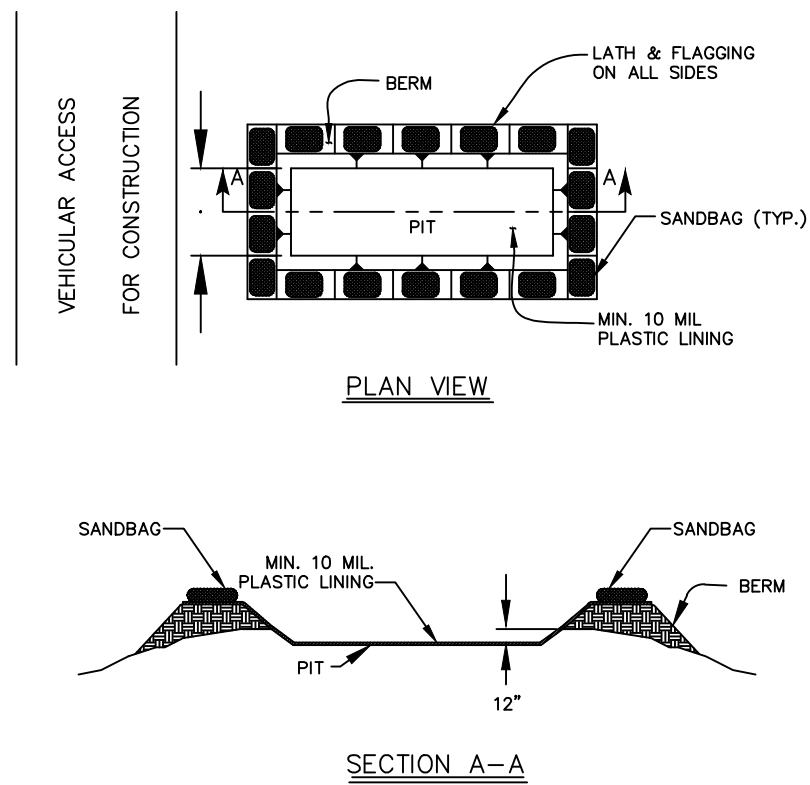
COMMON TROUBLE POINTS:

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

INSPECTION AND MAINTENANCE GUIDELINES:

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

STABILIZED CONSTRUCTION ENTRANCE/EXIT



GENERAL NOTES:

- Detail above illustrates minimum dimensions. Pit can be increased in size depending on expected frequency of use.
- Washout pit shall be located in an area easily accessible to construction traffic.
- Washout pit shall not be located in areas subject to inundation from storm water runoff.
- Locate washout area at least 50 feet from sensitive features, storm drains, open ditches, or water bodies.
- Temporary concrete washout facility should be constructed with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations.

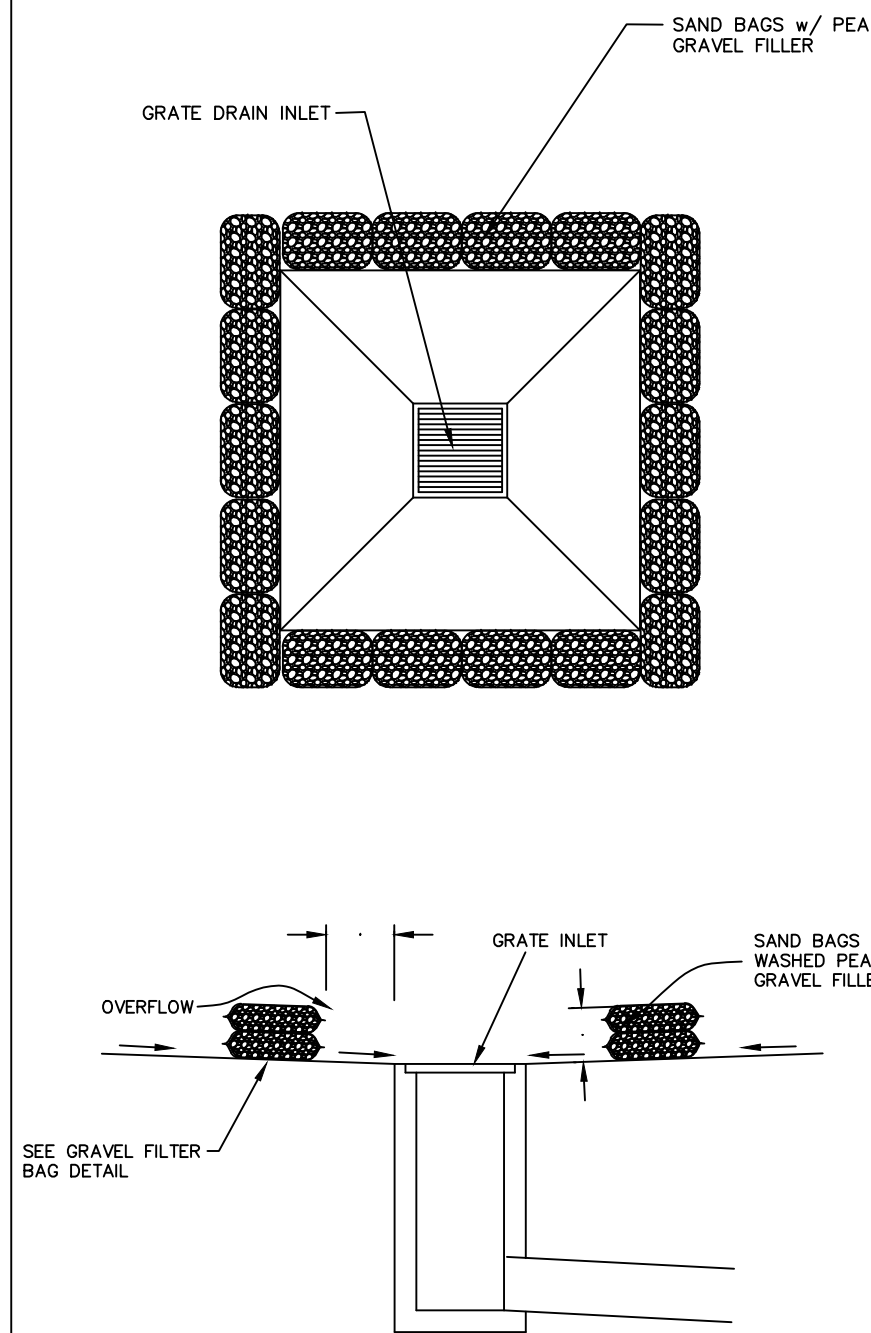
MATERIALS:

- Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.

MAINTENANCE:

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

CONCRETE TRUCK WASHOUT PIT



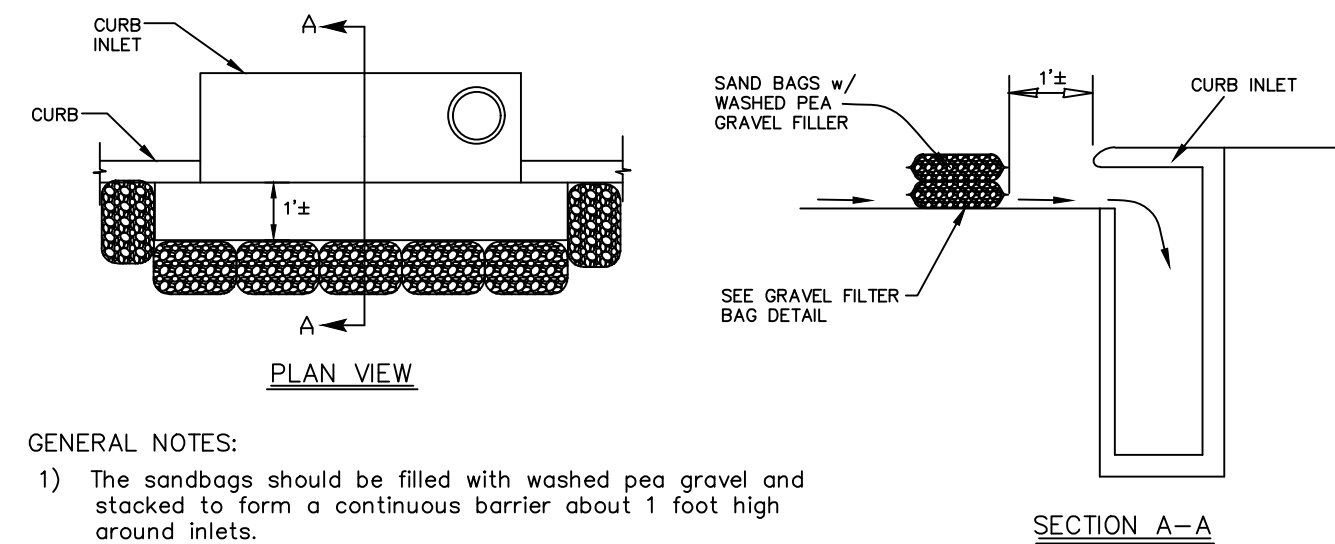
GENERAL NOTES:

- The sandbags should be filled with washed pea gravel and stacked to form a continuous barrier about 1 foot high around inlets.
- The bags should be tightly abutted against each other to prevent runoff from flowing between the bags.

INSPECTION AND MAINTENANCE GUIDELINES:

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

BAGGED GRAVEL GRATE INLET PROTECTION



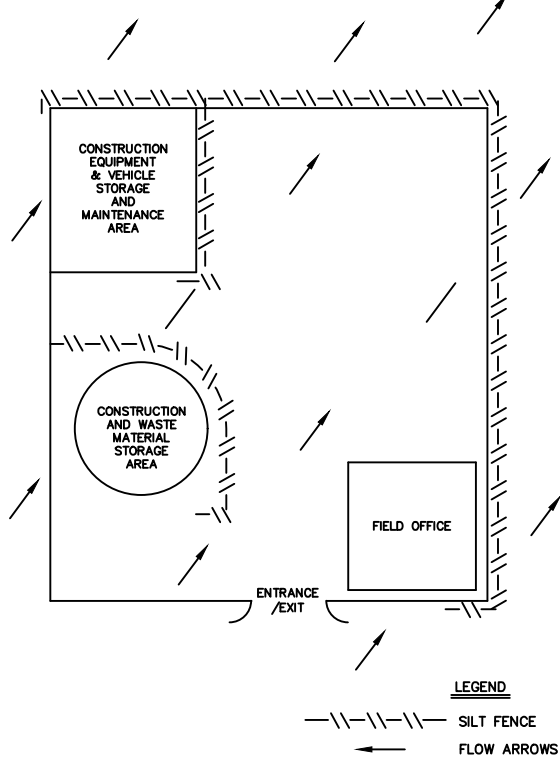
GENERAL NOTES:

- The sandbags should be filled with washed pea gravel and stacked to form a continuous barrier about 1 foot high around inlets.
- The bags should be tightly abutted against each other to prevent runoff from flowing between the bags.

INSPECTION AND MAINTENANCE GUIDELINES:

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

BAGGED GRAVEL CURB INLET PROTECTION



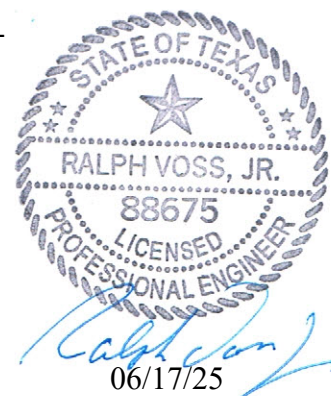
LEGEND

— SILT FENCE
— FLOW ARROWS

REV. NO.	DESCRIPTION	DATE

Notes:

SIGNATURE/SEAL



FORSTER ENGINEERING

TBPE firm # 12385
401 MARICOPA DRIVE, CANYON LAKE, TEXAS 78133
PHONE: (210) 289-0580
WWW.FORSTERENGINEERING.COM



PROJECT DESCRIPTION
FISCHER'S NEIGHBORHOOD MARKET #54
TPC PARKWAY/EVANS ROAD
UNDERGROUND STORAGE TANK PLAN

DRAWING
TEMPORARY STORMWATER DETAILS
TCEQ-0602

DATE	05/13/25	JOB NO.	1163F-25
SCALE	NOT-TO-SCALE	DRG NO.	
DRAWN BY	RV	ATTACHMENT G-2	
CHECKED BY	CPF		

TEMPORARY STORMWATER SECTION FORM TCEQ-0602
ATTACHMENT I
INSPECTION AND MAINTENANCE FOR BMPS

Fischer's Neighborhood Market #54 is authorized to discharge stormwater under the Construction General Permit No. TXR150000 for construction activities. Requirements of the general permit include maintaining a Storm Water Pollution Prevention Plan, which includes provisions for inspections of storm water best management practices and sampling of storm water discharged from the site. Inspections will be conducted in accordance with the Storm Water Pollution Prevention Plan (SWP3), which is incorporated herewith by reference. A copy of a typical Storm Water Periodic Inspection (Quarterly) form is attached.

As a minimum, the inspector shall observe: (1) significant disturbed areas for evidence of erosion, (2) storage areas for evidence of leakage from the exposed stored materials, (3) structural controls for evidence of failure or excess siltation, (4) vehicle exit point for evidence of off-site sediment tracking, (5) equipment storage areas for signs of leaking equipment or spills

Written documentation of these inspections will be kept during the course of the construction activities at the project site. The original minimum design requirements for each temporary BMP should be maintained.

TEMPORARY STORMWATER SECTION FORM TCEQ-0602 ATTACHMENT I (CONTINUED) INSPECTION AND MAINTENANCE FOR BMPS

Storm Water Periodic Inspection (Quarterly)

Name: _____ Year: _____
 Signature: _____
 Date: _____ Jan Feb Mar Apr May June
 Location: _____ Permit No. TXR050000 July Aug Sep Oct Nov Dec

Describe in detail any "YES" responses to these questions on Page 2 in the Comments section.

YES NO

☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

General

- Is the storm water plan unavailable or at an offsite location?
- Is there any water leaving the property that wasn't generated from a rain event?
- Are there any raw land clearing activities that will disturb one (1) acre or more?
- Are there any new activities at the facility that are not described in the facility's storm water plan? (refer to the Descriptive Narrative and Operation Summary in the facility's storm water plan.)
- Does the site map need to be updated? (refer to the site map in Appendix B of the storm water plan)
- Is the Storm Water Log incomplete or missing data? (rainfall data should be kept daily.)

YES NO

☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

Good Housekeeping

- Are there any potential sources of pollution in **Loading/Unloading Areas**?
- Are there any potential sources of pollution in **Outdoor Storage Areas**? (silos, hoppers, stockpiles, etc.)
- Are there any potential sources of pollution in **Outdoor Processing Areas**?
- Are there any potential sources of pollution in **Waste Disposal Areas**? (dumpster, trash cans, etc.)
- Are there any potential sources of pollution in **Maintenance, Fueling, or Cleaning Areas**?
- Are there any potential sources of pollution in **Liquid Storage Tank Areas**? (admixtures, fuel, etc.)
- Are **Dust Producing Activities or Areas** in need of housekeeping, maintenance, or repair?
- Are there any potential contaminants (containers, open containers, parts, etc.) exposed to precipitation that can be covered or moved under a cover?
- Are there any dumpster/trash bins that are not closed or covered to prevent precipitation from accumulating in them?
- Is there any debris, refuse, or garbage in potential contact with stormwater?
- Are scrap material/parts areas in need of housekeeping?

YES NO

☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

Spill Prevention and Response Measures

- Are there any tanks, barrels, or other containers that are not tightly **sealed**, have noticable tears, **leaks** or drips; or are not clearly **labeled**?
- Does any onsite equipment show signs of leaking fluids?
(Equipment Pre-Shift Inspections and Maintenance Activities should also be available for inspection.)
- Have there been any reportable spills or leaks?
(If yes, the storm water plan should reflect the event.)
- Does the *Spills and Leaks Log* need to be updated for the month?
- Do the spill cleanup supplies need to be restocked? (aggregates, booms, absorbent pads, etc.)
- Are there any chemical or oil containers outside of secondary containment structural controls?

YES NO

☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

Erosion Control Measures

Are natural vegetative areas in need of maintenance?

Are there any obvious signs of erosion at the facility?

Are there signs of erosion from stormwater run-on or run-off in stockpile areas?

Do existing erosion control best management practices appear to be ineffective?

Are there any new areas with a high potential for erosion?

YES NO

☐	☐
--------------------------	--------------------------

Maintenance Program for Structural Controls

Are there any structural controls in need of maintenance?

Structural Controls include catch basins, diversion channels, natural vegetation, construction entrances, filter berms, channels, rip rap, silt fences, ground slopes and roughening, brush barriers, sediment trap, grass swales, mobile equipment, etc.

☐	☐
--------------------------	--------------------------

Is the Preventative Maintenance Log incomplete for structural control repairs/maintenance?

YES NO N/A

☐	☐	☐
☐	☐	☐

Best Management Practices (BMPs)

Are sweeper / water truck use records missing or incomplete?

Do any filter berms, sediment traps, and other BMPs require maintenance or repair?

(Records should be on the Preventative Maintenance Log in the stormwater plan.)

YES NO

☐	☐
☐	☐

Employee Training and Education Program

Are there any new employees or has any member of the pollution prevention team changed? (Yes, then call Environmental Services for Training)

Has the facility's required annual training expired? (once a year)

YES NO N/A

☐	☐	☐
☐	☐	☐

Sampling Requirements

Did a stormwater discharge occur at an authorized outfall during the preceding month?

If a stormwater discharge occurred within the quarter, are required Quarterly Benchmark Monitoring samples pending collection for the quarter?

If a stormwater discharge occurred within the preceding month, are required Monthly Visual Monitoring samples pending collection for the month?

(Visual observations of samples should be documented on the Monthly Visual Examination Form)

If samples have been collected, is sampling documentation missing any of the following required information?

date sampling location
time name of sampler

☐	☐	☐
--------------------------	--------------------------	--------------------------

Are samples being collected after 30 minutes of discharge?

(Samples should be collected within 30 minutes of the beginning of discharge)

Comments:

Describe any "Yes" response given above.

Corrective Action:

Describe in detail all corrective actions taken.

NOTE: FORM MAY BE REVISED/UPDATED ON A PERIODIC BASIS.

TEMPORARY STORMWATER SECTION FORM TCEQ-0602
ATTACHMENT J
SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION

Stabilization measures such as vegetative stabilization, slope coverings, and diversion of runoff from exposed areas will be implemented to effectively prevent erosion. When the project is complete, accumulated sediment and controls will be removed after final stabilization of the site. Final stabilization will include seeding to establish a vegetative cover on disturbed areas within 14 calendar days after final grading. Sodding the exposed soils will be an alternate if it is determined seeding would not be effective due to weather or location.

**TEMPORARY STORMWATER SECTION FORM TCEQ-0602
ATTACHMENT J (CONTINUED)
SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION**

PROJECT MILESTONE DATES

Date when major site grading activities begin:

Construction Activity	Date

Dates when construction activities temporarily or permanently cease on all or a portion of the project:

Construction Activity	Date

Dates when stabilization measures are initiated:

Stabilization Activity	Date

Section 7.0

AGENT AUTHORIZATION FORM

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

I _____ Rodney R. Fischer _____,
Print Name

President _____,
Title - Owner/President/Other
of _____ Juniper Ventures of Texas LLC _____,
Corporation/Partnership/Entity Name
have authorized _____ Forster Engineering _____
Print Name of Agent/Engineer
of _____ Forster Engineering _____
Print Name of Firm

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

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to \$10,000 per day per violation.
2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.
3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.
4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.
5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:


Applicant's Signature

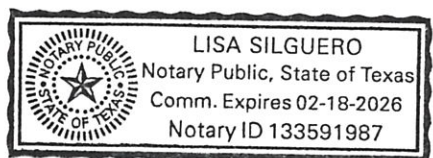
4/29/2025
Date

THE STATE OF Texas §

County of Comal §

BEFORE ME, the undersigned authority, on this day personally appeared Rodney R. Fischer 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 29th day of April, 2025.




NOTARY PUBLIC
Lisa Silguero
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 02/18/2026

Section 8.0

APPLICATION FEE FORM AND FEE

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Fischer's Neighborhood Market #54

Regulated Entity Location: NW corner of the Evans Rd. and TPC Pkwy intersection

Name of Customer: Juniper Ventures of Texas LLC

Contact Person: Rodney R. Fischer

Phone: (830)625-4214

Customer Reference Number (if issued): CN 605607688

Regulated Entity Reference Number (if issued): _____

Austin Regional Office (3373)

☐ Hays

☐ Travis

☐ Williamson

San Antonio Regional Office (3362)

☒ Bexar

☐ Medina

☐ Uvalde

☐ Comal

☐ Kinney

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

☐ Austin Regional Office

☒ San Antonio Regional Office

☐ Mailed to: TCEQ - Cashier

☐ Overnight Delivery to: TCEQ - Cashier

Revenues Section

Mail Code 214

P.O. Box 13088

Austin, TX 78711-3088

12100 Park 35 Circle

Building A, 3rd Floor

Austin, TX 78753

(512)239-0357

Site Location (Check All That Apply):

☒ Recharge Zone

☐ Contributing Zone

☐ Transition Zone

<i>Type of Plan</i>	<i>Size</i>	<i>Fee Due</i>
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	two (2) Tanks	\$ 1,300
Piping System(s)(only)	Each	\$
Exception	Each	\$
Extension of Time	Each	\$

Signature: 

Date: 06/17/25

Application Fee Schedule

Texas Commission on Environmental Quality

Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

<i>Project</i>	<i>Cost per Linear Foot</i>	<i>Minimum Fee- Maximum Fee</i>
Sewage Collection Systems	\$0.50	\$650 - \$6,500

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

<i>Project</i>	<i>Fee</i>
Exception Request	\$500

Extension of Time Requests

<i>Project</i>	<i>Fee</i>
Extension of Time Request	\$150

Section 9.0

CORE DATA FORM



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.) UST APPLICATION		
☐ Renewal (Core Data Form should be submitted with the renewal form)		☐ Other
2. Customer Reference Number (if issued)		3. Regulated Entity Reference Number (if issued)
CN 605607688		RN

[Follow this link to search for CN or RN numbers in Central Registry**](#)

SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)			
☐ New Customer ☒ Update to Customer Information ☐ Change in Regulated Entity Ownership					
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)					
<i>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).</i>					
6. Customer Legal Name (If an individual, print last name first: eg: Doe, John) <i>If new Customer, enter previous Customer below:</i>					
JUNIPER VENTURES OF TEXAS LLC					
7. TX SOS/CPA Filing Number		8. TX State Tax ID (11 digits)		9. Federal Tax ID (9 digits)	
0803119637		32068384794		N/A	
11. Type of Customer:		☐ Corporation		☐ Individual	
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other		☐ Sole Proprietorship		Partnership: ☐ General ☐ Limited	
12. Number of Employees		13. Independently Owned and Operated?			
☐ 0-20 ☒ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher		☒ Yes ☐ No			
14. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following					
☐ Owner ☐ Operator ☒ Owner & Operator ☐ Other:					
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant					
15. Mailing Address:		3455 INTERSTATE HIGHWAY 35 SOUTH			
City		NEW BRAUNFELS		State	
TX		ZIP		78132	
ZIP + 4		5270			
16. Country Mailing Information (if outside USA)				17. E-Mail Address (if applicable)	
				kbrumley@junipervot.com	
18. Telephone Number		19. Extension or Code		20. Fax Number (if applicable)	

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SECTION III: Regulated Entity Information

21. General Regulated Entity Information (If 'New Regulated Entity' is selected, a new permit application is also required.)								
☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information								
<i>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).</i>								
22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.)								
FISCHER'S NEIGHBORHOOD MARKET #54								
23. Street Address of the Regulated Entity: (No PO Boxes)	4431 E. Evans Road							
	City	San Antonio	State	TX	ZIP	78259	ZIP + 4	
24. County	Bexar							

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

25. Description to Physical Location:	LOCATED AT THE INTERSECTION OF EVANS RD AND TPC PKWY, ON THE NORTHWEST CORNER										
26. Nearest City					State		Nearest ZIP Code				
SAN ANTONIO					TX		78259				
<i>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).</i>											
27. Latitude (N) In Decimal:			29.645669		28. Longitude (W) In Decimal:			-98.403428			
Degrees		Minutes		Seconds		Degrees		Minutes		Seconds	
29		38		44.41		-98		24		12.34	
29. Primary SIC Code (4 digits)			30. Secondary SIC Code (4 digits)			31. Primary NAICS Code (5 or 6 digits)			32. Secondary NAICS Code (5 or 6 digits)		
5541			5812			457110			722513		
33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)											
GAS STATION											
34. Mailing Address:	3455 INTERSTATE HIGHWAY 35 SOUTH										
	City	NEW BRAUNFELS	State	TX	ZIP	78132	ZIP + 4	5270			
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
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Ralph Voss Jr., P.E.		41. Title:	Engineer
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address	
(210)289-0580		() -	rvoss@forsterengineering.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:	Forster Engineering	Job Title:	Engineer	
Name (In Print):	Ralph Voss Jr., P.E.		Phone:	(210)289-0580
Signature:			Date:	06/17/25