



COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH
PERCOLATION TEST REPORT

DEH #: LOWTS-007198R

Job #: 16-232-S

Date: 6/23/2017

Assessor's Parcel #: 186-093-19, 23 & 37 Map #: _____ Lot #: _____

Site Location: 26746 Mountain Meadows Road, Escondido

Owner's Name: KA Shores Group LLC Phone: Jason Weller 619-980-5936

Mailing Address: Vinje & Middleton Engineering, Inc. Office (760) 743-1214 vinje.middleton@sbcglobal.net
2450 Auto Park Way, Escondido, CA 92029-1229 FAX (760) 739-0343'

Test Hole	Test Depth	Time/Inch	Test Hole	Test Depth	Time/Inch	Average Rate (Time/Inch)
This approval will be VOID unless Structures, Driveways, and Grading are located with respect to the UNSITE WASTE WATER SYSTEM as shown on this plan.			Please See Attached Sheet.			34 mpi Application Rate = 0.489 gal/day/sqft
SEE CONDITIONS OF APPROVAL ON ATTACHED PAGE						

SPECIALIST DATE
Vertical seepage pits: Provide soils log, uniformity/capacity test results, and calculations on separate 8-1/2" x 11" sheets of paper.

TYPE OF SOIL: (clay, silt, sand, decomposed granite, etc.)

Surface	Topsoil	Deep B Profile	Deep A = End @ 19'
0 - 5' ft. below surface	Light Brown Silty Sand to Sandy Loam		Deep B = End @ 19'
5 - 12' ft. below surface	Dark Brown Clayey Sand		Deep C = End @ 19'
12 - 19' ft. below surface	Brownish Grey Sandy Silt to Silty Sand		Deep D = End @ 19'
_____ ft. below surface			

Depth to refusal: Not encountered. Depth to groundwater: Deep D @ 12' (4/5/17)

Source of potable water: Valley Center M.W.D.

Proposed structure: Commercial Gas Station With 7 Employees & 239 Customers per Day Total Daily Flow = 2600 Gallons w/x2 S.F.

RECOMMENDATIONS: Use Advantex AX-MAX075-14 Pod With Shallow Pressurized Dispersal System (SPDS) I have reviewed this percolation data and design of the subsurface sewage disposal system for this parcel and find the data and design to be accurate and in compliance with state and local regulations and good engineering practice.

Septic tank size 8000 gal. Transport Pipe 2.0" SCH40

each line length 2656' Primary Lateral Pipe 1.25" SCH40

rench depth 2.5' ft. Orifice Spacing 4'

ateral Length 63.33' ft. Orifice Dia. 1/8"

bed Width 42 Lines x 2' = 84' ft. # of Zones 7

Ralph M. Vinje No. 863
2450 Auto Park Way Escondido, CA 92029-1229 (760) 743-1214 6/23/2017
Address Phone Date

SDC PDS RCVDS 11-20-18

FOR DEPARTMENTAL USE ONLY

STP17-028

APPROVED: YES X NO _____ DATE 6-28-2017 FINAL MAP REQUIRED: YES _____ NO _____

Specialist: Eric Klein

Idg. Plan Review: _____ DATE: _____

Grading Review: _____ DATE: _____

Water Analysis Results: _____ DATE: _____

JOB # 16-232-S
26746 Mountain Meadow Road,
Escondido

Percolation &
Observation Boring Data

6/15/2017

Test No.	Depth (ft)	Rate (mpi)
1	2.5'	72 *
2	2.5'	360 *
3	2.5'	90 *
4	2.5'	24
5	2.5'	22
6	2.5'	16
7	2.5'	20
8	2.5'	16
9	2.5'	16
10	2.5'	12
11	2.5'	24
12	2.5'	80
13	2.5'	60
14	2.5'	80

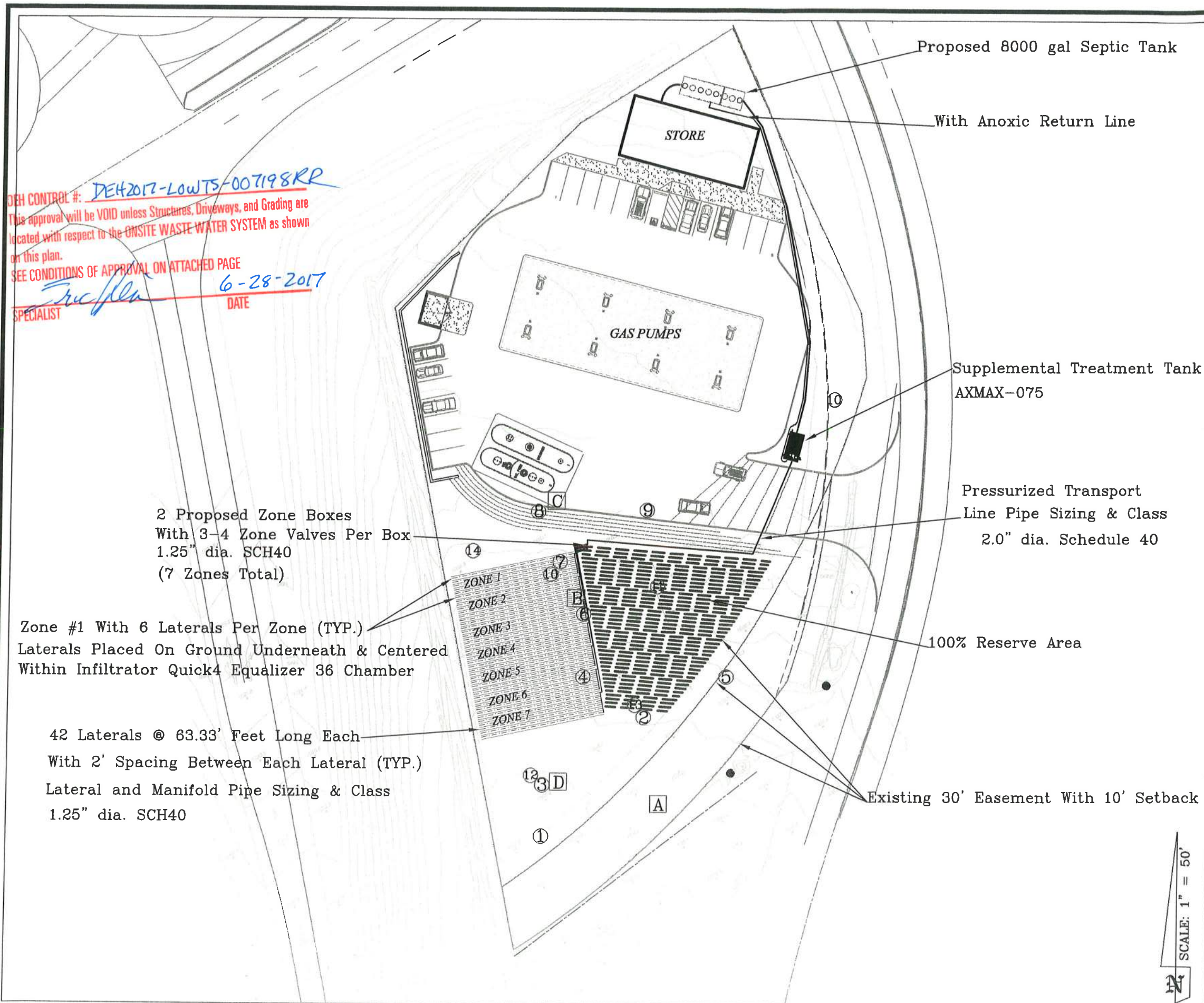
Use 34mpi @ 2.5' Trench Depth

* = Rates NOT Used

Depth (ft)	Observation Boring A	11/8/2016
0 - 5'	Light Brown Silty Sand To Sandy Loam	
5 - 15'	Dark Brown Clayey Sand	
15 - 19'	Brownish Grey Sandy Silt To Silty Sand	
	End @ 19'	

Depth (ft)	Observation Boring B	11/8/2016
0 - 5'	Light Brown Silty Sand To Sandy Loam	
5 - 12'	Dark Brown Clayey Sand	
12 - 19'	Brownish Grey Sandy Silt To Silty Sand	
	End @ 19'	

Depth (ft)	Observation Boring C	11/8/2016
0 - 5'	Light Brown Silty Sand To Sandy Loam	
5 - 10'	Dark Brown Clayey Sand	
10 - 19'	Brownish Grey Sandy Silt To Silty Sand	
	End @ 19'	



DEH CONTROL #: DEH2017-LOWTS-007198RR
 This approval will be VOID unless Structures, Driveways, and Grading are located with respect to the ONSITE WASTE WATER SYSTEM as shown on this plan.
 SEE CONDITIONS OF APPROVAL ON ATTACHED PAGE
 SPECIALIST [Signature] DATE 6-28-2017

VINJE & MIDDLETON ENGINEERING, INC.

2450 Auto Park Way
 Escondido, CA 92029-1229
 760-743-1214

Ralph M. Vinje GE #863

I CERTIFY THAT THE LAYOUT DRAWING SHOWS THE LOCATION OF ALL KNOWN EASEMENTS AND PUBLIC WATER LINES ON THE LOT AND ALL PUBLIC WATER LINES THAT ARE WITHIN 20 FEET OF THE LOT BOUNDARY.

Design: 11-9-16
 R: 12-6-16
 R: 8-8-17
 R: 3-6-17

LOT INFORMATION

DATE: 6/23/2017
 DEH No. LOWTS-007198
 JOB No. 16-232-S
 APN 186-093-19, 23 & 37
 ACRES 1.19 & 0.48

Site Location	Owners Address
26746 Mountain Meadow Road, Escondido	KA Shores Group LLC c/o: Jason Weller 5820 Oberlin Drive, Ste. 201 San Diego, CA 92121 c. 619-980-5936 jason@kaenterprises.net
Legal	
9EX HWY OP) POR OF S $\frac{1}{2}$ OF SE $\frac{1}{4}$ SEC 19-11-2W	

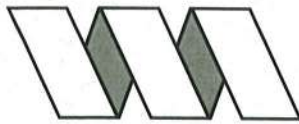
LEGEND

- ① PERC TEST LOCATION
- Ⓐ GROUNDWATER BORING
- 1005 CONTOUR LINE W/ 1' INTERVAL
- 2656' 1.25" DIA. PVC PIPE
- 2656' RESERVE SEPTIC AREA
- EASEMENT
- SETBACK
- WATER/UTILITIES
- ROADS
- CUT/FILL
- PROPERTY LINE
- +++++ TIGHT LINE

INSTALLATION NOTES

- Existing Commercial Fountain Business
- Proposed Gas Station & Convenience Store
- Use Pressure Drip Supplemental Treatment
- Use 34 mpi @ 2.5' Trench Depth, Add 6" Sand
- Use Application Rate = 0.489 gal./day/sqft
- 7 Gas Station Employees @ 15 gal./pers./day
- 239 Store Customers @ 5 gal./pers./day
- Average Total Daily Flow = 1040 gal./day
- Max. Total Daily Flow = 1300 gal./day
- Use Safety Factor x2 = 1300 x 2 = 2600gal/day
- See Attached Sheets For System Specifics
- Septic System MUST NOT Be Driven Or Paved Over

NOTE All Elevations And System Components & Locations To Be Verified By Installation Contractor



VINJE & MIDDLETON ENGINEERING, INC.

2450 Auto Park Way
Escondido, California 92029-1229

Phone (760) 743-1214
Fax (760) 739-0343

Job #16-232-S

June 26, 2017

KA Shores
c/o County of San Diego
Department of Environmental Health
5510 Overland Avenue
San Diego, CA 92123

SUBJECT: LOWTS-007198 PROPOSED GAS STATION ON 26746 MOUNTAIN ROAD, ESCONDIDO, APN 186-093-19, 23 & 37.

In accordance with our meeting following your site visit, we offer the following comments and changes to our design.

We have had the site plan redesigned to move northerly away from the more densely compacted soils.

We have provided additional testing to show limits of more densely compacted soils and moved away from those areas.

The system has been redesigned for a safety factor of 2 with 2600 gallons per day. All appropriate calcs have been provided.

We have added a 6" thick layer of engineered sand beneath the chamber to aid in the flow of water through the leach bed. This extra 6" of depth also aids in the removal of the more densely compacted near surface soils from the heavy equipment traffic on the site. The deeper native soils at the site have been less affected by the traffic from the existing business at the site. The sand will also allow more holding capacity and a more uniform flow through the system bed.

If you have any questions, please contact me at your convenience.

VINJE & MIDDLETON ENGINEERING, INC.


Ralph M. Vinje
GE #863



Supplemental Treatment System Components For Proposed Pressure Drip Dispersal

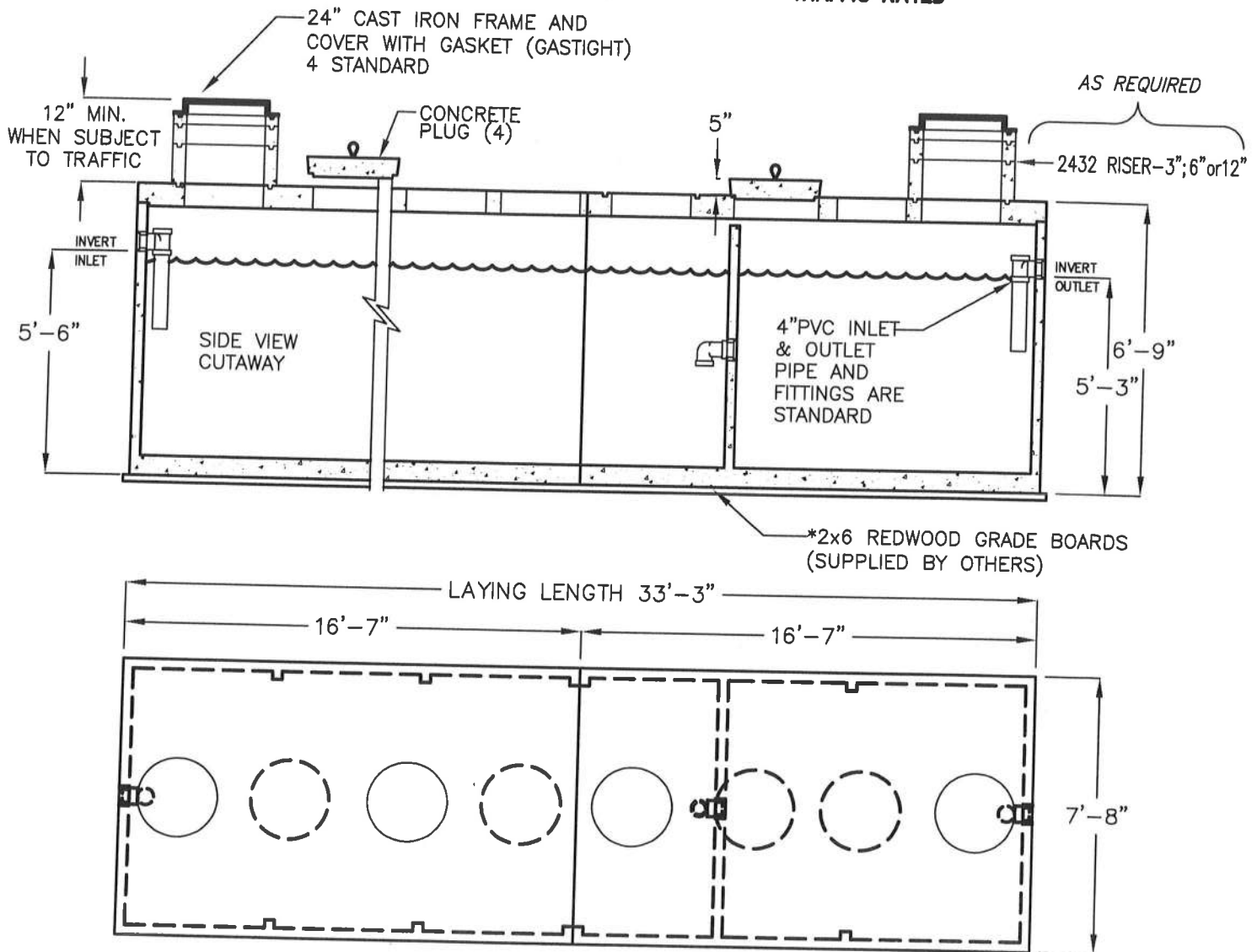
- 1) Jensen 8000 Gallon Battery Type Working Volume Septic Tank With Integrated Pump System
Model - 2XJZ-4000, With Baffle Wall Sanitary Tee Cross-over Height Set To Allow
24 Hour Emergency Storage Upon Power or Pump Failure (See Attached Sheets)
Use Minimum 24" inch Tall Watertight Access Risers With Gasket Lids (Traffic Rated As Necessary)
Use Biotube® Pump Vault **PVU95-2425-L** With Pump **PF-300512**
Anoxic Return Line To Be Plumbed Into Center Riser of Primary Treatment Tank
- 2) AdvanTex Pump Discharge Treatment System By Orenco Systems[™] Inc.
Model - AX-MAX075-14
(See Attached Technical Data Sheet and Attached Drawing Schematic)
Use Duplex Discharge Pumps - PF500511 High Head Effluent Pump @ 50 GPM, 1/2HP
115/230V 1Ø 60Hz, 200/230V 3Ø 60Hz
(See Attached Pump Curve & Technical Sheet)
Use AdvanTex System Ventilation With **Active Ventilation** Components
Model - AXVFA-Vent and **Model - AXVFACF** Above Ground Fan Assembly
- 3) Duplex Control Panel Configured To Be Compatible With The AX-MAX075-14 System
And Time Dosed 7 Zone Solenoid Valve System (See Attached Technical Data Sheet)
Model - DAX2PT
Dosing Specifications = 2600gal. Per Day Flow With 217 Gallons per Dose At 12 Doses Per Day
Volume Includes Effluent In Transport, Manifold & Single Zone Lateral Lines
Pump On/Off Times = On 3.9 Minutes and Off 116.1 Minutes Per Dose
- 4) Solenoid Valves Used To Control Individual Zones, 7 Zone System Total
1.5" Zone Valve **Model - SVLVB-150X** In Valve Box **Model - WHWS-BOX-L** (Two Boxes Required)
- 5) Pressurized Dispersal Field Utilizing 1.25" SCH 40 PVC Pipe With 1/8" inch Drilled Orifice @ 4' foot Spacing
Lateral Length = 63.33' Feet Each Line
Total Number of Laterals = 42
Center to Center Lateral Spacing = 2' Feet
Number of Zones = 7, and 6 Laterals Per Zone With 96 Orifices Per Zone
Laterals To Be Placed On The Ground Surface Below and Centered In Infiltrator Chambers
Model - Quick4 Equalizer 36
- 6) Use Typical PVC Supply Lines & Fittings
Use ~135' of 2.00" inch dia. SCH 40 PVC Transport Line Utilizing Glued Joints As Required
Use 1.25" inch dia. SCH 40 PVC Manifold & Lateral Line Utilizing Glued Joints As Required
- 7) Reserve Leach Field Utilizing Components Found in Section '5' Listed Above As Required
- 8) Additional Technical Information Is Found On Left Side of Attached Pump Curve Sheet


Ralph M. Vinje GE #863

Vinje & Middleton
Engineering, Inc.

2450 Auto Park Way
Escondido, CA 92029-1229
(760) 743-1214

8000 GALLON BATTERY SEPTIC TANKS MODEL 2XJZ4000 TRAFFIC RATED



○ = COVER LOCATIONS (4) ○ = CONCRETE PLUGS (4)

LIQUID CAPACITY: 8,000 GALLONS.

- TANK DESIGNED FOR H-20 TRAFFIC WHEEL LOAD WITH DRY SOIL CONDITIONS (WATER TABLE BELOW TANK). EARTH COVER OVER TANK NOT TO EXCEED 5 FT.
- SUITABLE NATIVE OR SUB-BASE SHALL BE PREPARED TO HANDLE ANTICIPATED LOADS. THE EXCAVATION SHALL BE BEDDED WITH SUITABLE GRANULAR MATERIAL AND SHALL BE COMPACTED TO 90% MAXIMUM DRY DENSITY, OR TO REQUIREMENTS OF THE PROJECT GEOTECHNICAL ENGINEER.
- FOR COMPLETE DESIGN AND PRODUCT INFORMATION CONTACT JENSEN PRECAST.

MINIMUM EXCAVATION SIZE:
8'-8" X 34'-3" X DEPTH REQ'D.

THE DESIGN AND DETAIL OF THIS DRAWING ARE THE PROPERTY OF JENSEN PRECAST AND NOT TO BE USED EXCEPT IN CONNECTION WITH ITS OWN WORK. DESIGN AND INVENTION RIGHTS ARE RESERVED.

Pump Selection for a Pressurized System - Commerical Project
16-232-S / 26746 Mountain Meadow Road, Escondido

Parameters

Discharge Assembly Size	2.00	inches
Transport Length	135	feet
Transport Pipe Class	40	
Transport Line Size	2.00	inches
Distributing Valve Model	None	
Max Elevation Lift	8	feet
Manifold Length	10	feet
Manifold Pipe Class	40	
Manifold Pipe Size	1.25	inches
Number of Laterals per Cell	6	
Lateral Length	63.33	feet
Lateral Pipe Class	40	
Lateral Pipe Size	1.25	inches
Orifice Size	1/8	inches
Orifice Spacing	4	feet
Residual Head	5	feet
Flow Meter	2.0	inches
'Add-on' Friction Losses	0	feet

Calculations

Minimum Flow Rate per Orifice	0.43	gpm
Number of Orifices per Zone	96	
Total Flow Rate per Zone	41.7	gpm
Number of Laterals per Zone	6	
% Flow Differential 1st/Last Orifice	1.5	%
Transport Velocity	4.0	fps

Frictional Head Losses

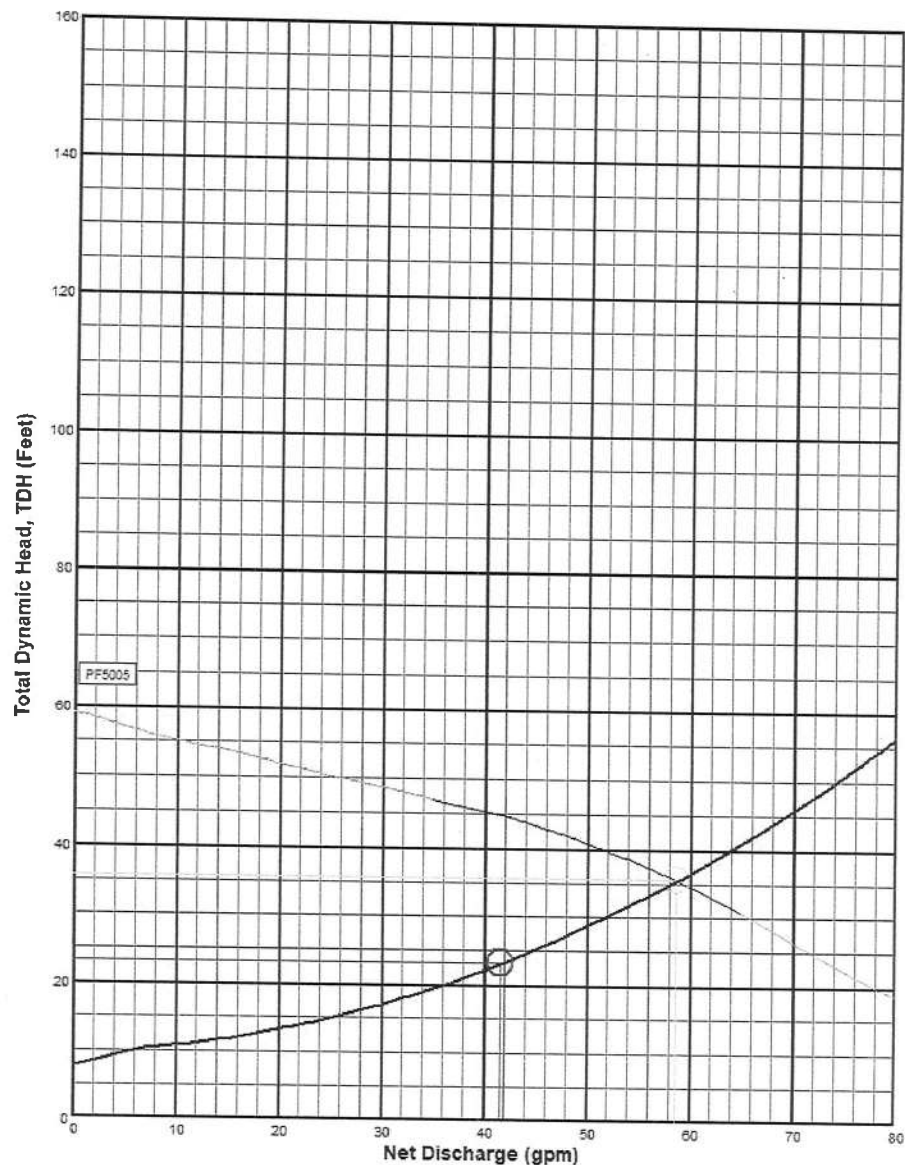
Loss through Discharge	3.5	feet
Loss in Transport	3.9	feet
Loss through Valve	0.0	feet
Loss in Manifold	0.6	feet
Loss in Laterals	0.2	feet
Loss through Flowmeter	2.1	feet
'Add-on' Friction Losses	0.0	feet

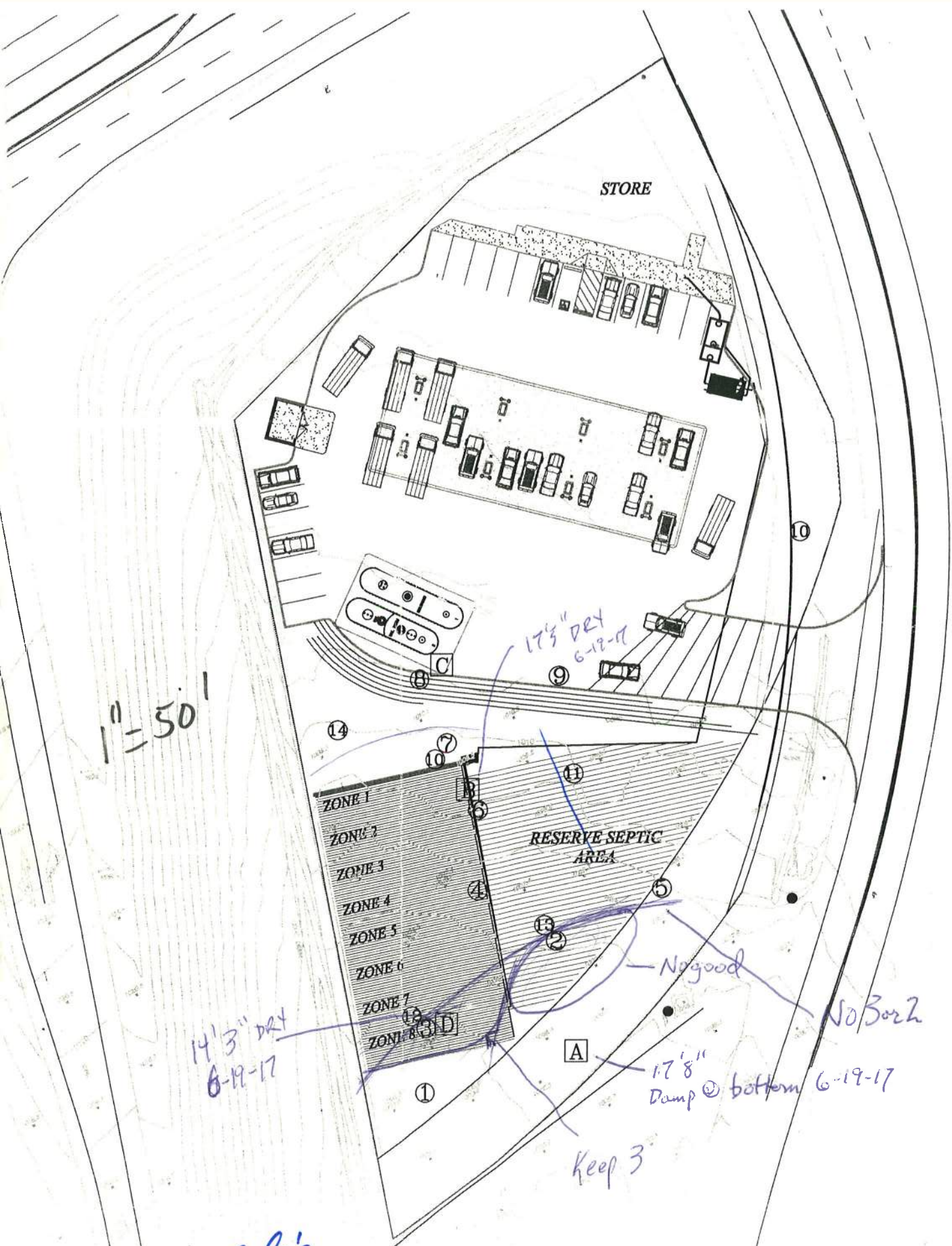
Pipe Volumes

Vol of Transport Line	23.5	gals
Vol of Manifold	0.8	gals
Vol of Laterals per Zone	29.5	gals
Total Volume	53.8	gals

Minimum Pump Requirements

Design Flow Rate	41.7	gpm
Total Dynamic Head	23.1	feet





- calc's
- place chambers on engineered sand.
- letter addressing soil compaction.

$$34 \text{ mpi} = AR = 0.489 \text{ gal/day/sq Ft}$$

1300 gal T.D.F.

$$\text{S.F.} \times 2 = 2600 \text{ gal/day}$$

$$= 5317 \text{ sq Ft} + 100\%$$

(10,634)

$$= 2658 \text{ Ft} + 100\%$$

Total (5,316)

Test No.	Depth (ft)	Rate (mpi)
1	2.5'	72 *
2	2.5'	360 *
3	2.5'	90 *
4	2.5'	24
5	2.5'	22
6	2.5'	16
7	2.5'	20
8	2.5'	16
9	2.5'	16
10	2.5'	12
11	2.5'	24
12	2.5'	80
13	2.5'	60
14	2.5'	80

Use 34mpi @ 2.5' Trench Depth
* = Rates NOT Used

$$\text{S.F.} \times 1$$

$$= 1300 \text{ gal T.D.F.}$$

$$= 2658 \text{ sq Ft}$$

$$+ 100\% R$$

(5317)

$$= 1329 \text{ Ft}$$

+ 100%

Total (2,658)

Depth (ft)	Observation Boring A	11/8/2016
0 - 5'	Light Brown Silty Sand To Sandy Loam	
5 - 15'	Dark Brown Clayey Sand	
15 - 19'	Brownish Grey Sandy Silt To Silty Sand	
	End @ 19'	

Depth (ft)	Observation Boring B	11/8/2016
0 - 5'	Light Brown Silty Sand To Sandy Loam	
5 - 12'	Dark Brown Clayey Sand	
12 - 19'	Brownish Grey Sandy Silt To Silty Sand	
	End @ 19'	

Depth (ft)	Observation Boring C	11/8/2016
0 - 5'	Light Brown Silty Sand To Sandy Loam	
5 - 10'	Dark Brown Clayey Sand	
10 - 19'	Brownish Grey Sandy Silt To Silty Sand	
	End @ 19'	

Original

$$62 \text{ mpi} = AR = 0.194 \text{ gal/day/sq Ft}$$

$$1300 \text{ gal. T.D.F.} \times \text{S.F.} \times 1$$

$$= 6701 \text{ sq Ft} + 100\% R$$

(13,402)

$$= 3351 \text{ Ft} + 100\%$$

Ralph M. Vinje GE # 863

Total (6,702)

Vinje & Middleton
Engineering, Inc.

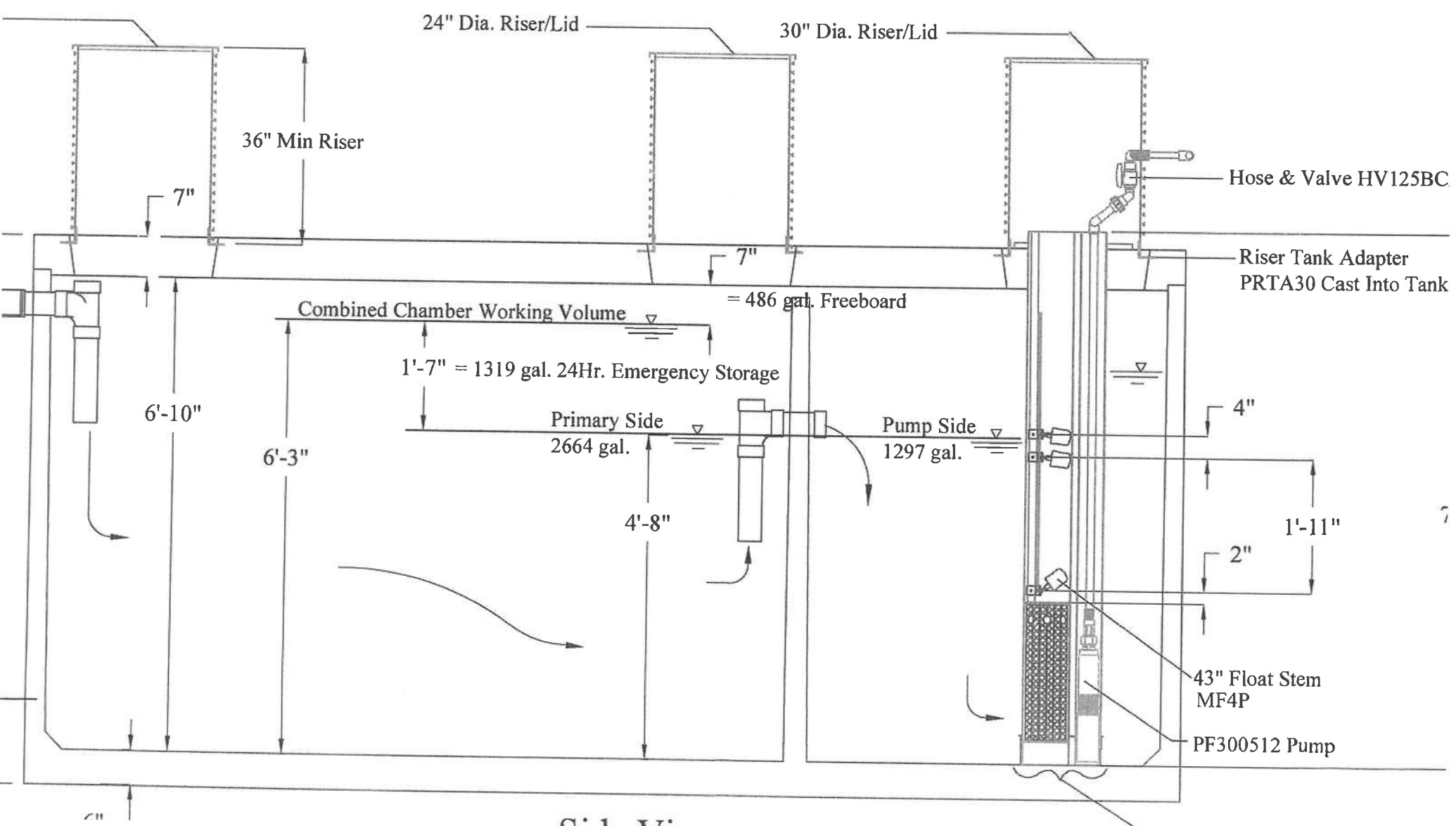
$$1386 \div 2$$

$$693' P$$

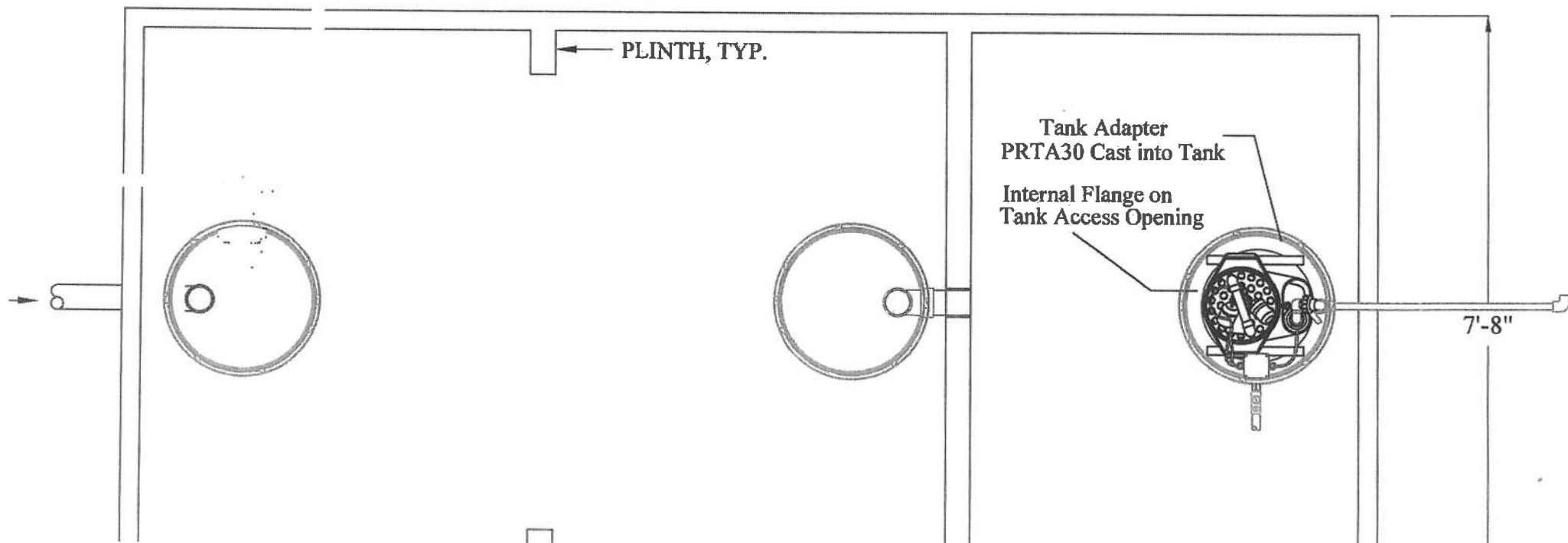
$$693' R$$

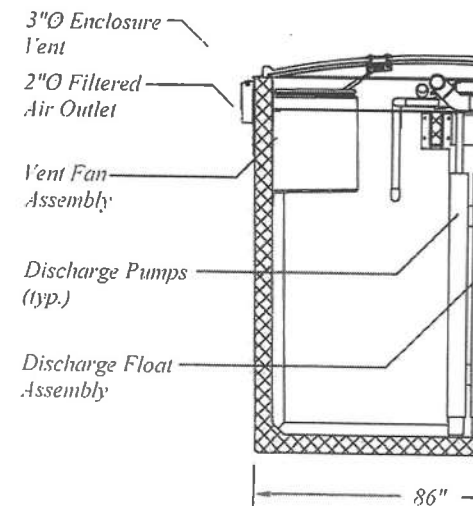
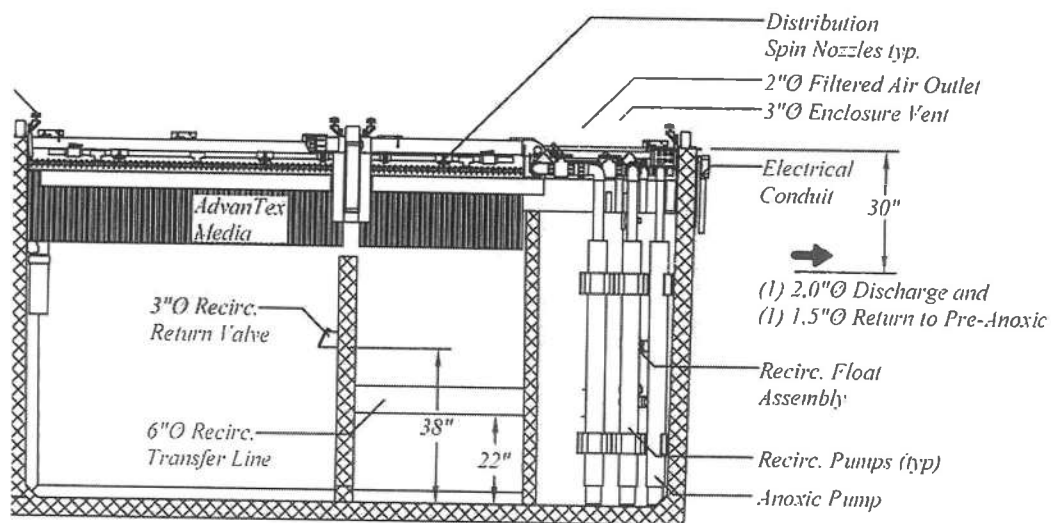
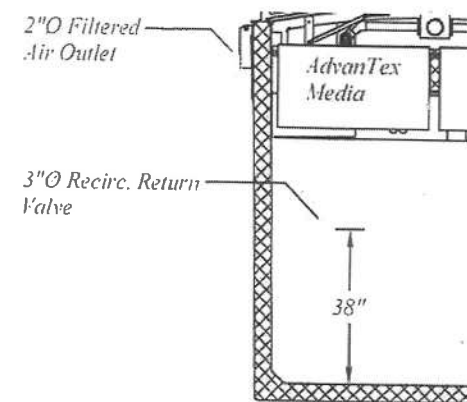
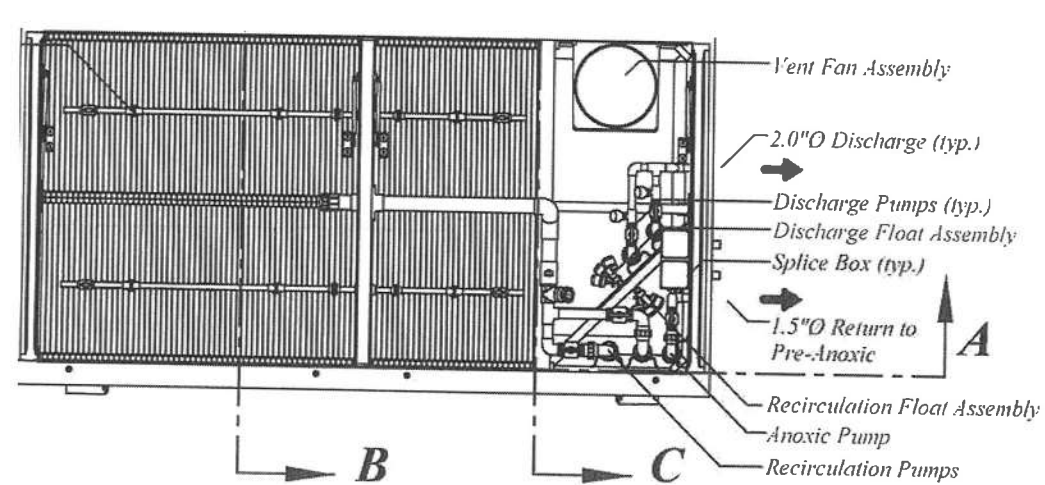
2450 Auto Park Way
Escondido, CA 92029-1229
(760) 743-1214

d equivalent
Capacity = 5000 gal.
700 gal.



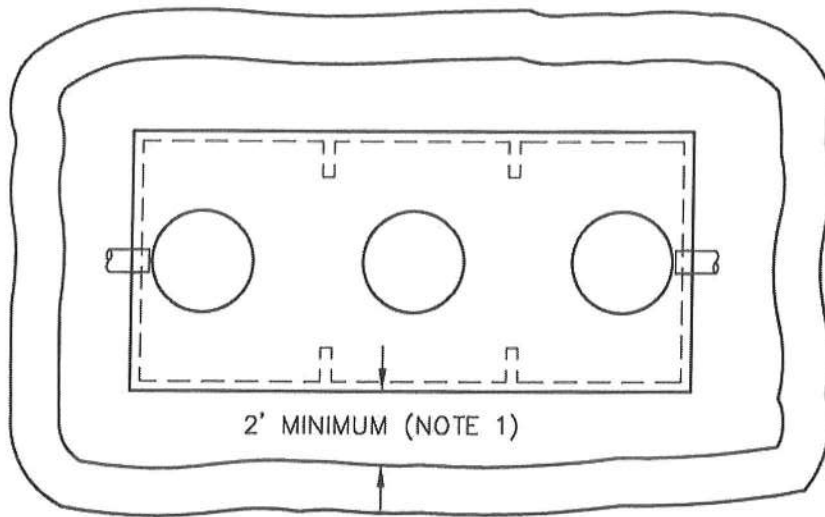
d equivalent





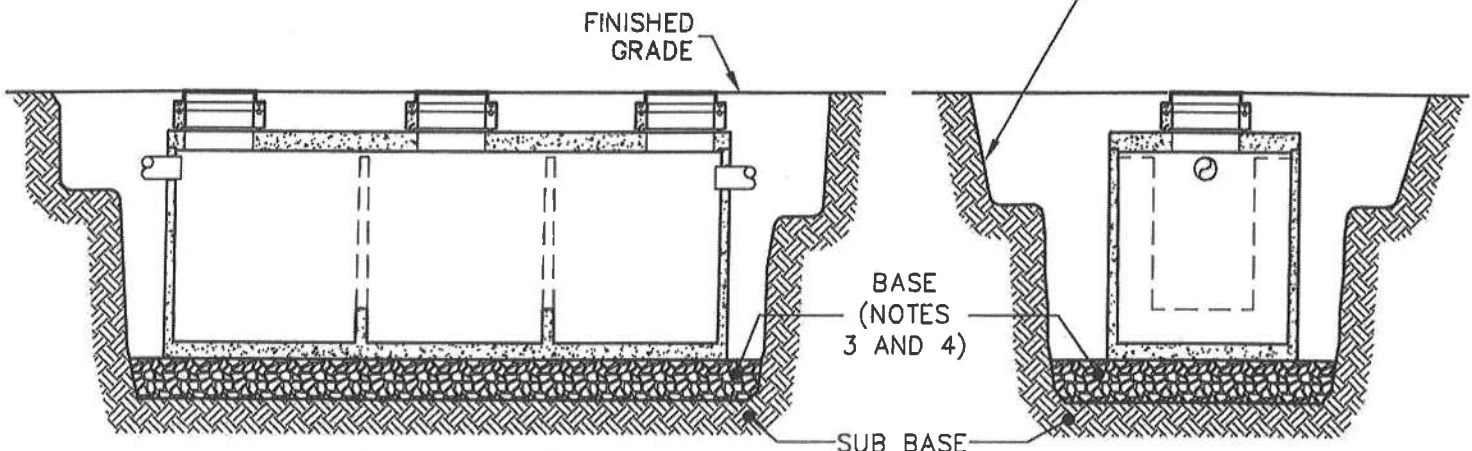
COMMERCIAL TANK

EXCAVATION AND SITE PREPARATION



PLAN VIEW
(COVERS & RISERS REMOVED)

EXCAVATION
(NOTES 1 AND 2)



**SIDE ELEVATION
SECTION**

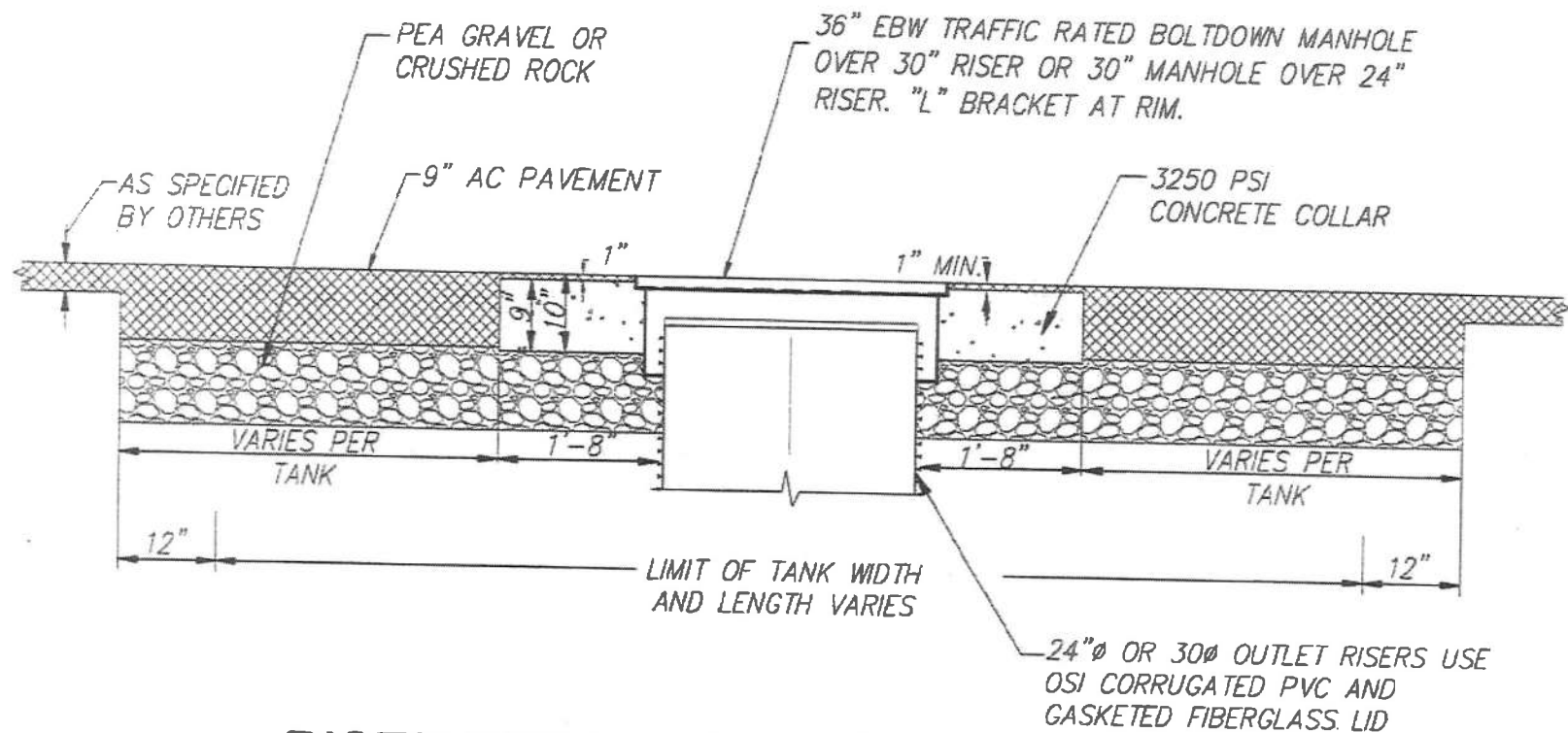
**END ELEVATION
SECTION**

NOTES:

1. AREA MUST BE PREPARED AND CLEARED TO 2 FEET MINIMUM SURROUNDING ENTIRE TANK.
2. THE EXCAVATION'S SLOPE, BENCHING OR SHORING SHALL COMPLY WITH THE REQUIREMENTS OF OSHA 29 CFR 1926 SUBPART P. JENSEN PRECAST WILL NOT VIOLATE THIS OSHA STANDARD IN THE COURSE OF SETTING AND SEALING THE TANK.
3. BASE MUST BE LEVEL AND EVEN IN ALL DIRECTIONS.
4. THE EXCAVATION SHALL BE BEDDED WITH SUITABLE GRANULAR MATERIAL AND SHALL BE COMPACTED TO 90% OF IT'S MAXIMUM DRY DENSITY OR TO THE REQUIREMENTS OF THE PROJECT GEOTECHNICAL ENGINEER.

DRAWING NOT TO SCALE

Jensen Precast reserves the right to make changes to product design and/or dimensions without notice. Please contact Jensen Precast whenever necessary for confirmation or advice on product design.



RISER DETAIL AT PAVEMENT

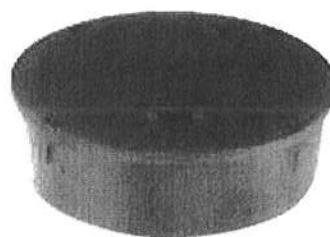
NTS

30", 36", 42" Fiber Reinforced Composite Manholes

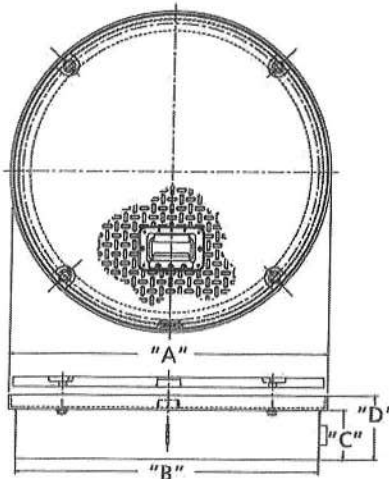
EBW's SAFE-LITE FRC (Fiber Reinforced Composite) manhole covers are ultra lightweight. The composite construction has been engineered and tested to exceed the D.O.T. H20 load ratings. These lightweight covers are approximately 1/3 the weight of steel covers of the same size. The lightweight covers dramatically reduce injury potential during cover removal. SAFE-LITE FRC manholes are available in 30", 36", & 42" sizes. The Slide Action Cover further reduces the chance of injury by eliminating the need to bend down to remove or replace the cover.



30" manhole with
non-bolted cover



36" manhole with
bolted cover



42" manhole with
slide on cover



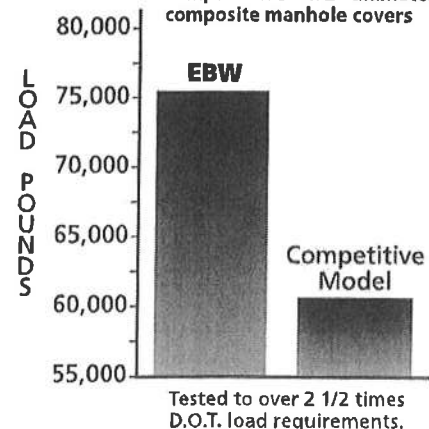
"Slide On" manhole cover
(Less Strain, No Pain)

NOMINAL SIZE	DIM. "A"		DIM. "B"		DIM. "C"		DIM. "D"	
	IN.	CM.	IN.	CM.	IN.	CM.	IN.	CM.
30"	32.75	83.19	31.12	79.38	10.50	26.67	12.00	30.48
30"	32.75	83.19	31.12	79.38	22.50	57.15	24.00	60.96
36"	40.25	102.24	38.62	98.09	10.50	26.67	12.00	30.48
42"	45.00	114.30	43.38	110.19	6.50	16.51	8.00	20.32
42"	45.00	114.30	43.38	110.19	10.50	26.67	12.00	30.48
42"	45.00	114.30	43.38	110.19	16.50	41.91	18.00	45.72
42"	45.00	114.30	43.38	110.19	22.50	57.15	24.00	60.96

Features:

- **Exceeds D.O.T. Requirements** - SAFE-LITE FRC covers have been engineered for high-strength and tested to over 50,000 lbs. load (2-1/2 times D.O.T. requirements) without failure.
- **Fatigue Resistant** - SAFE-LITE FRC covers have undergone a 30 year life simulation test, with 11,000 loading cycles of 20,000 pounds each, with little reduction in load bearing capabilities.
- **Lightweight** - The FRC composite covers weigh almost 1/3 less than the steel covers. SAFE-LITE FRC covers range from 45 to 95 pounds as opposed to steel covers ranging from 150 to 220 pounds. Lighter weight cover reduces back injuries, increases ease of access to manhole, and decreases shipping costs.
- **Skirt ring** - made of 1/4" rolled angle iron and skirt is 14 gauge steel - built to handle the heaviest traffic.
- **"Slide Action Cover"** - The cover is removed and replaced by placing the Slide Action Handle into the plate on the cover. You then simply slide the cover on and off. No more bending down to remove the cover.
- **Cover Options** - EBW offers bolted, non bolted, and slide on models.
- **Optional Kevlar® Covers** - We have added a layer of Kevlar to our popular FRC covers for Extra Wear Protection at heavy traffic sites. Available for 36" and 42" models only.

Maximum load before failure
comparison 39 1/2" diameter
composite manhole covers



Manholes w/ Safe-Lite Fiber Reinforced Composite (FRC) Covers

12" Round FRC Covers

PART	COVER OD*	DESCRIPTION
781-302-01	13"	FRC - Black
781-302-07	13"	FRC - Orange

18" Manholes - Round with FRC Covers

PART	COVER OD*	DESCRIPTION
781-418-08	19"	8 1/2" skirt
781-418-12	19"	12" skirt
781-418-18	19"	18" skirt

Manholes come standard with 781-304 black or gray cover. Colored FRC covers can be ordered in lieu of black cover for additional \$16.00

18" FRC Covers

PART	COVER OD*	DESCRIPTION
781-304-01	19"	Black
781-304-02	19"	White
781-304-03	19"	Red
781-304-04	19"	Blue
781-304-05	19"	Yellow
781-304-06	19"	Gray
781-304-07	19"	Orange

30" Manholes - Round with Safe-Lite FRC Covers

PART	COVER OD*	DESCRIPTION
781-430-12BLK	32"	Bolt Down Cover Black with 12" skirt
781-430-12GRY	32"	Bolt Down Cover Grey with 12" skirt
781-430-13BLK	32"	Non Bolted Cover Black with 12" skirt
781-430-13GRY	32"	Non Bolted Cover Grey with 12" skirt

30" Covers - Safe-Lite FRC

PART	COVER OD*	DESCRIPTION
781-459-01	32"	Bolt Down Cover - Black
781-459-06	32"	Bolt Down Cover - Grey
781-490-01	32"	Non-Bolted - Black
781-490-06	32"	Non-Bolted - Grey

36" Manholes - Round with Safe-Lite FRC Covers

PART	COVER OD*	DESCRIPTION
781-433-12BLK	39.5"	Bolt Down Cover Black with 12" skirt
781-433-12GRY	39.5"	Bolt Down Cover Grey with 12" skirt
781-433-13BLK	39.5"	Non Bolted Cover Black with 12" skirt
781-433-13GRY	39.5"	Non Bolted Cover Grey with 12" skirt
781-485-12BLK	39.5"	Slide Action Cover Black with 12" skirt
781-485-12GRY	39.5"	Slide Action Cover Grey with 12" skirt

36" Covers - Safe-Lite FRC

PART	COVER OD*	DESCRIPTION
781-456-01	39.5"	Bolted Cover - Black
781-456-06	39.5"	Bolted Cover - Grey
781-448-01	39.5"	Non Bolted - Cover Black
781-448-06	39.5"	Non Bolted - Cover Grey
781-482-01	39.5"	Slide Action - Cover Black
781-482-06	39.5"	Slide Action - Cover Grey

36" Manholes with Kevlar Composite Covers

PART	COVER OD*	DESCRIPTION
780-492-NB	39.5"	36" Non-bolt, Kevlar composite cover, 12" skirt
780-492-BD	39.5"	36" Bolt down, Kevlar composite cover, 12" skirt

36" Kevlar Composite Covers - Safe-Lite FRC

PART	COVER OD*	DESCRIPTION
780-456-01	39.5"	Kevlar Bolt Down - Black
780-448-01	39.5"	Kevlar Non Bolted - Black

Manholes w/ Safe-Lite Fiber Reinforced Composite (FRC) Covers

42" Manholes - Round with Safe-Lite FRC Covers

PART	COVER OD*	DESCRIPTION
781-443-12BLK	44	Bolt Down Cover Black w/ 12" skirt
781-443-12GRY	44	Bolt Down Cover Grey w/ 12" skirt
781-443-18BLK	44	Bolt Down Cover Black 18" skirt
781-443-18GRY	44	Bolt Down Cover Grey w/ 18" skirt
781-444-12	44 x 52	Bolt Down Cover Black w/ 42" x 8" top skirt and 52" x 14" bottom skirt
781-444-13	44 x 52	Non Bolted Cover Black w/ 42" x 8" top skirt and 52" x 14" bottom skirt
781-443-13BLK	44	Non Bolted Cover Black w/ 12" skirt
781-443-13GRY	44	Non Bolted Cover Grey w/ 12" skirt
781-486-12BLK	44	Slide Action Cover Black w/ 12" skirt
781-486-12GRY	44	Slide Action Cover Grey w/ 12" skirt

* OD = Outside Diameter

AdvanTex AX-Max™

AX-Max Specifications:

Length	14-42 ft (4.2-12.8 m)
Width	90 Inches (2286 mm)
Height	97 Inches (2464 mm)
Dry weight	Variable, up to 12,000 lbs (5440 kg)
Treatment surface area	25-300 ft² (2.3-27.9 m²), nominal
Installation footprint	112-336 ft² (10.4-31.2 m²), actual
Installation methods	Partial burial or bermed installation, or free-standing installation; 24-36 inches (610-910 mm) above grade or berm for ease of maintenance; antifloatation available for areas with high groundwater
Recirculation-blend tankage	Included
Recirculation method	Tank baffle wall, recirc-return valve

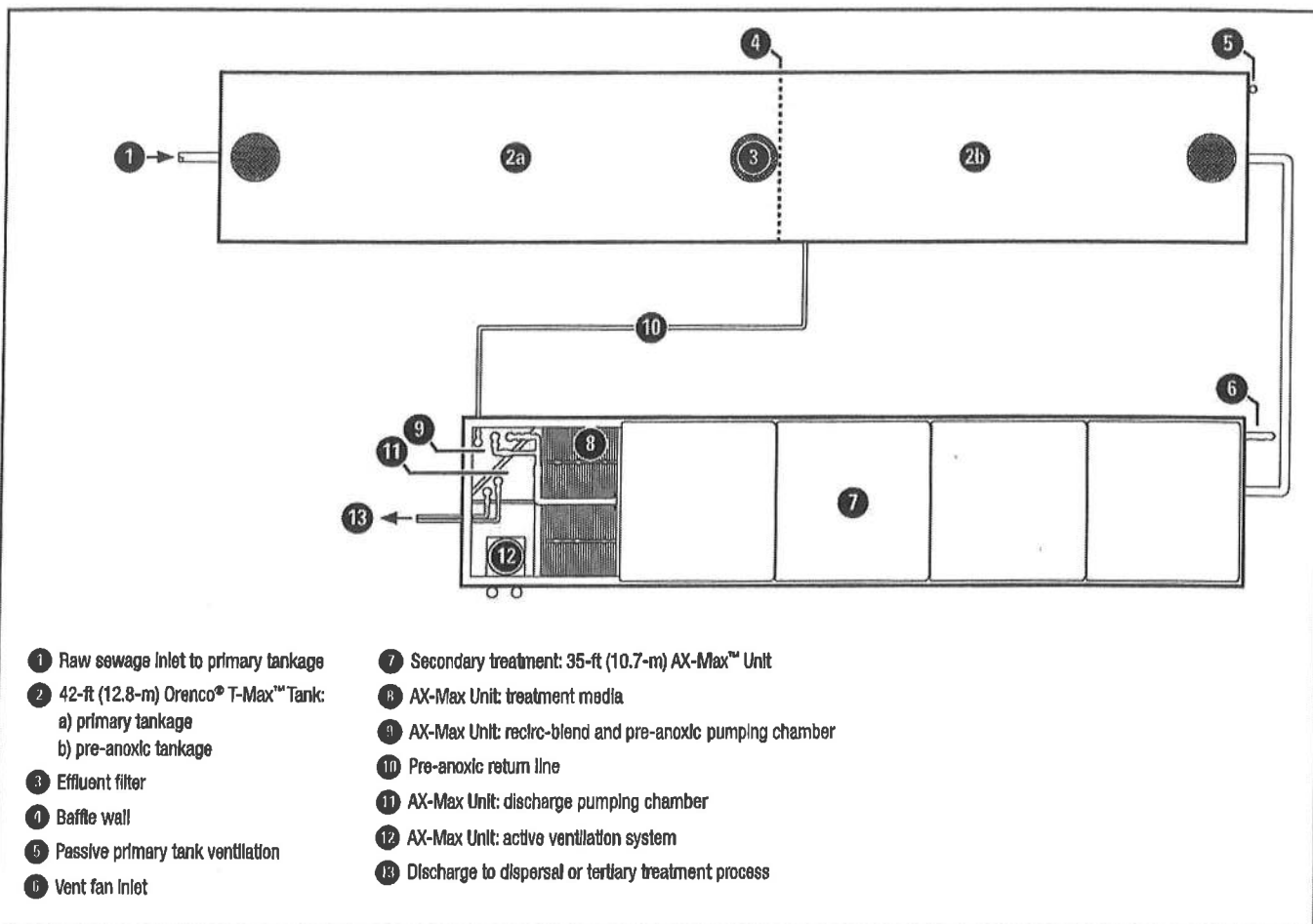


Figure 3. Example of an AdvanTex AX-Max Commercial Treatment System

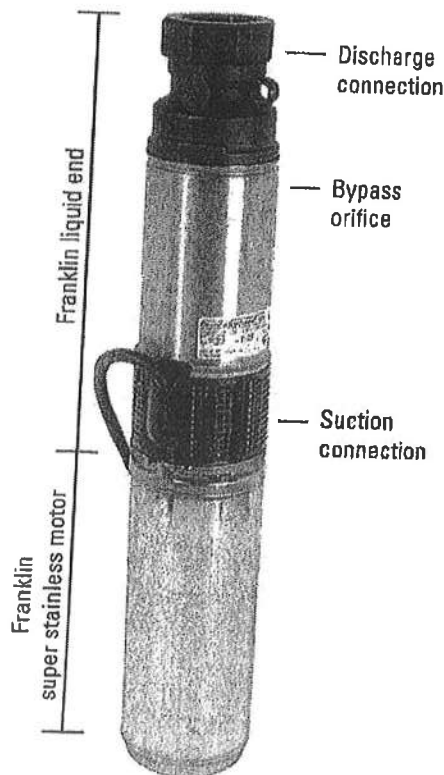
PF Series 4" (100 mm) Submersible Effluent Pumps



Applications

Our 4" (100 mm) Submersible Effluent Pumps are designed to transport screened effluent (with low TSS counts) from septic tanks or separate dosing tanks. All our pumps are constructed of lightweight, corrosion-resistant stainless steel and engineered plastics; all are field-serviceable and repairable with common tools; and all 60-Hz PF Series models are CSA certified to the U.S. and Canadian safety standards for effluent pumps, meeting UL requirements.

Orencia's Effluent Pumps are used in a variety of applications, including pressurized drainfields, packed bed filters, mounds, aerobic units, effluent irrigation, effluent sewers, wetlands, lagoons, and more. These pumps are designed to be used with a Biotube® pump vault or after a secondary treatment system.



Powered by
Franklin Electric

Features/Specifications

To specify this pump for your installation, require the following:

- Minimum 24-hour run-dry capability with no deterioration in pump life or performance*
- 1/8-inch (3-mm) bypass orifice (patent pending) to ensure flow recirculation for motor cooling and to prevent air bind
- Liquid end repair kits available for better long-term cost of ownership
- TRI-SEAL™ floating impeller design on 10, 15, 20, and 30 gpm (0.6, 1.3, and 1.9 L/sec) models; floating stack design on 50 and 75 gpm (3.2 and 4.7 L/sec) models
- Super stainless Franklin Electric motor, rated for continuous use and frequent cycling
- Type SOOW 600-V motor cable (suitable for Class I, Division 1 and Division 2 applications)
- Five-year warranty on pump or retrofit liquid end from date of manufacture against defects in materials or workmanship

* Not applicable for 5-hp (3.73 kW) models

Standard Models

See specifications chart, pages 2-3, for a list of standard pumps. For a complete list of available pumps, call Orencia.

Nomenclature

PF -

Cord length, ft (m):
Blank = 10 (3) 20¹ = 20 (6)
30 = 30 (9) 50 = 50 (15)

Voltage, nameplate:
1 = 115² 200 = 200
2 = 230³ 4 = 460

Frequency:
1 = single-phase 60 Hz 3 = three-phase 60 Hz
5 = single-phase 50 Hz

Horsepower (kW):
03 = 1/4 hp (0.25) 05 = 1/2 hp (0.37)
07 = 3/4 hp (0.56) 10 = 1 hp (0.75)
15 = 1-1/2 hp (1.11) 20 = 2 hp (1.50)
30 = 3 hp (2.24) 50 = 5 hp (3.73)

Nominal flow, gpm (L/sec):
10 = 10 (0.6) 15 = 15 (1.0)
20 = 20 (1.3) 30 = 30 (1.9)
50 = 50 (3.2) 75 = 75 (4.7)

Pump (PF Series)

¹ Note: 20-foot cords are available only for single-phase pumps through 1-1/2 hp

² 1/2-hp (0.37kW) only

³ 220 volts for 50 Hz pumps

AX-Max units are typically designed to accommodate a specific application, based on Design Average and Design Maximum Day flows, the application type's targeted treatment levels, and other factors. Because of this, AX-Max configurations vary and recirculation pumps for these units are determined on a project-by-project basis. Contact Orenco for more information.

AdvanTex TCOM™ Control System

The TCOM™ Control Panel is a telemetry-based panel — which can be connected to a landline, cellular service, Internet, or satellite service — that controls all sensors and pumping equipment. TCOM panels are an integral part of all commercial AdvanTex Treatment System equipment packages. Telemetry provides real-time operator monitoring and control of system components, as well as remote data collection of key operational parameters and events. Its communication function provides notice to system operators in the event of an alarm. Operators can call into the control unit, determine the cause of the alarm, and — often — address the situation without having to be physically present at the treatment facility.

The TCOM unit can be programmed to use trend data for adjusting timer settings automatically, based on established recirculation ratios, so frequent operator adjustment is not necessary for systems with flow variations. If additional equipment for pretreatment, tertiary treatment, or disinfection is required, the controls for each component can easily be incorporated into the TCOM control panel. This allows Orenco to contact the panel directly to assist the operator in system evaluation and troubleshooting or to manually override operations. TCOM control panels can also integrate into existing SCADA systems. Consult with Orenco early in the design process to discuss any integration needs.

Orenco's TCOM control panels are available with multiple enclosure types; however, for ease of operation, they should be protected from direct sunlight to protect the electronics and allow the operator access without direct exposure to the elements (rain, snow, etc.). This should be taken into account when determining location of the control unit. Shelters are recommended for panels whenever possible. Contact Orenco for a quote.

AdvanTex System Ventilation

Proper ventilation, achieved by active or passive ventilation, is critical for maintaining aerobic treatment processes in AdvanTex Treatment Systems.

Active Ventilation

Active ventilation is the preferred means of ventilating AdvanTex Systems and is required for the following systems:

- All systems with design maximum day flows > 10,000 gpd (37,854 L/day)
- All systems with average primary treated effluent waste strength > 200 mg/L BOD₅ and 100 mg/L TSS
- All systems with nitrogen discharge limits
- All AX-Max systems; *at least one* ventilation assembly is required per two connected units (AX-Max units are typically designed with a built-in active vent system and one vent system per unit is preferred)

Passive Ventilation

Passive ventilation is discouraged for commercial applications, but can be considered in AX20 or AX100 systems receiving primary-treated effluent of residential strength, with constituent concentrations of < 200 mg/L BOD₅ and < 100 mg/L TSS and with design maximum day flows < 10,000 gpd (37,854 L/day) for AX100 systems and 4,000 gpd (15,140 L/day) for AX20 systems. For proper function, it is critical for air movement to be greater than 5 cubic feet per minute (cfm) for every 100 ft² of treatment area (0.002 m³/minute for every 9.3 m²). It is also critical to ensure that there is a clear path for airflow through the system if the system relies on passive ventilation. If these conditions cannot be met, active ventilation should be used.

Although activated carbon media is included to adsorb and mitigate odors in AdvanTex passive ventilation systems, slight odors may occur during dosing events. Passively ventilated systems should be located in areas where this will not be perceived as a nuisance.

Anti-Buoyancy Features

AdvanTex AX20 pods come standard with anti-flotation flanges to help prevent the pod from floating out of the ground under saturated soil conditions. **Always keep** the top of the pod at least 6 inches (150 mm) above grade at all times. When buried to this level, pod spacing is 5 feet (1.5 m) between AX20 units. Contact Orenco for details.

AdvanTex AX100 Pods are designed for installation in areas that are free of water. AX100 pods can be bermed and free draining, but the bottom of each pod should be no more than 9 inches (230 mm) below the natural grade to protect it from floating in saturated conditions.

AdvanTex® Air Vents

Technical Data Sheet

Applications

AdvanTex vents are used to allow airflow through AdvanTex filter treatment pods. The vents also assist in reducing odors. Three vents are available, depending on the AdvanTex system configuration, and they can be used at the inlet and/or outlet:

AX-Vent

The AX-Vent can be used on either the AX20 or the AX100 systems with individual air inlets. For AX20 pods, the AX-Vent can be used for either active or passive venting; for AX100 pods, the vent is used for active venting.

AX-100Vent

The AX-100 Passive Vent (AX-100Vent) helps ensure proper ventilation through a passively vented AX100 pod. Two AX-100 vents are used per pod.

AXVFA-Vent

The AXVFA-Vent is used to allow air into an actively vented commercial AdvanTex Treatment System in which the manifold is below grade.

Standard Models

AX-Vent, AX-100Vent, and AXVFA-Vent



AX-100Vent (Passive)



AX-Vent



AXVFA-Vent (Active)

Specifications

Approximate Dimensions	Width	Height	Weight
AX-Vent	4 in. (102 mm)	12.38 in. (314 mm)	1.4 lb (.6 kg)
AX-100Vent	7 in. (178 mm)	18.5 in. (470 mm)	4.7 lb (2 kg)
AXVFA-Vent	12.5 in. (318 mm)	7.25 in. (184 mm)	4.5 lb (2 kg)

Materials of Construction

Vent	Features	Benefits
AX-Vent	Carbon encased in two layers of mesh Removeable cap	Easy-to-replace carbon insert Refill is easy to replace
AX-100Vent	Carbon encased in two layers of mesh Cast in urethane rings Removeable cap	Easy-to-replace carbon insert Ensures robustness Refill is easy to replace
AXVFA-Vent	Air inlet uses two 12-in. diameter fiberglass caps, attached together with a sleeve. Lower cap has screened inlet holes with a 4-in. outlet. Designed for optional addition of carbon pellets inside, if required.	Allows use of a single air inlet point for multiple pods.



Orenco Systems®
Incorporated

*Changing the Way the
World Does Wastewater**

1-800-348-9843
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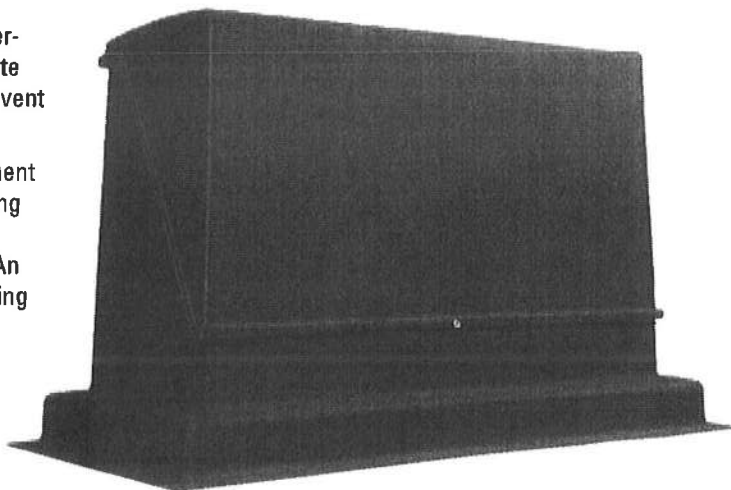
ATD-ATX-VENT-1
Rev. 1.0, 8/07
© Orenco Systems®, Inc.

AdvanTex® Vent Fan Assembly

Applications

Oreco's AdvanTex® Vent Fan Assembly consists of a water-proof fiberglass enclosure with equipment for venting onsite wastewater treatment systems. One enclosure can hold a vent fan with carbon filter and an optional heater.

The vent fan is used in commercial-sized AdvanTex Treatment Systems to gently pull air through the textile media, ensuring that adequate oxygen is available for biological treatment. The carbon filter scrubs the air that the system exhausts. An optional heater can be added where climate requires heating of the air that enters the AdvanTex textile filter pods.



Standard Models

AXVFACF — AX above ground Vent Fan Assembly with LMF-3 Fan

AXVFACF-HT — AX above ground Vent Fan Assembly with LMF-3 Fan and HT10 Heater

Enclosure

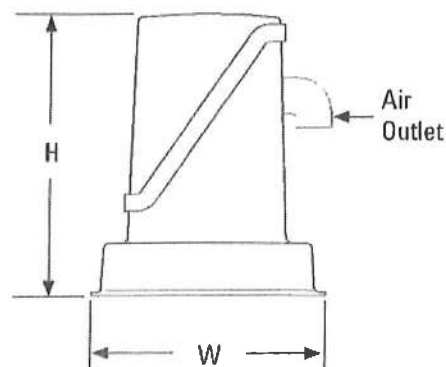
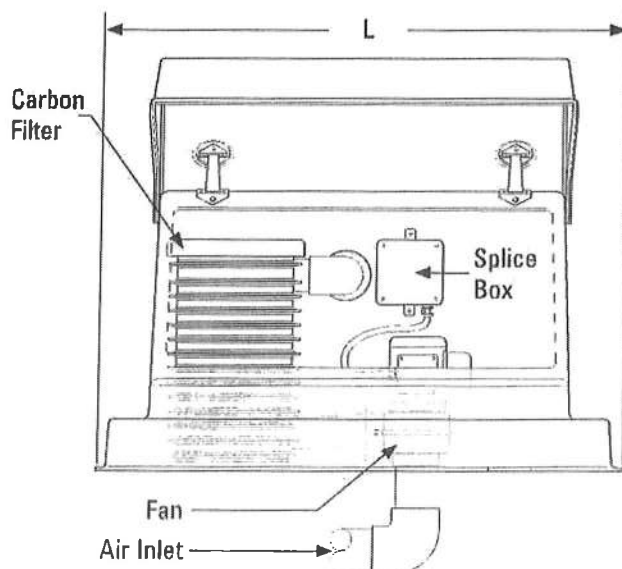
Physical Specifications

Materials of Construction

Shell	Fiberglass-reinforced polyester (FRP)
Hardware	Stainless steel
Exterior finish	Green, textured, UV resistant
Straps	Nylon

Dimensions

Length (L)	50 in. (1270 mm)
Width (W)	24 in. (610 mm)
Height (H)	30 in. (762 mm)
Volume	15.1 ft ³ (0.43 m ³)
Area (footprint)	8.3 ft ² (0.77 m ²)



AdvanTex® Vent Fan Assembly (continued)

Fan

Physical Specifications

Dimensions

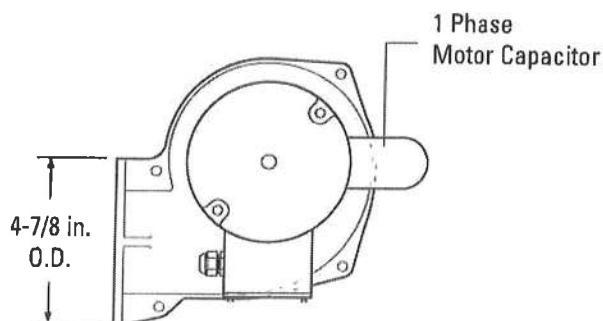
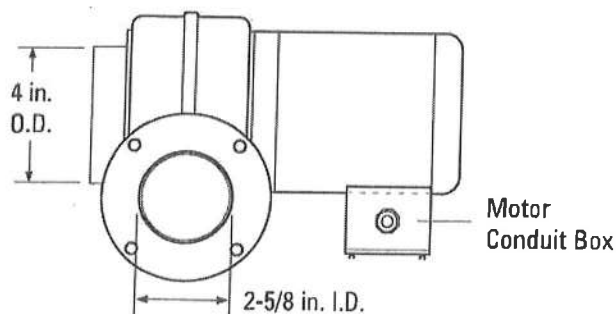
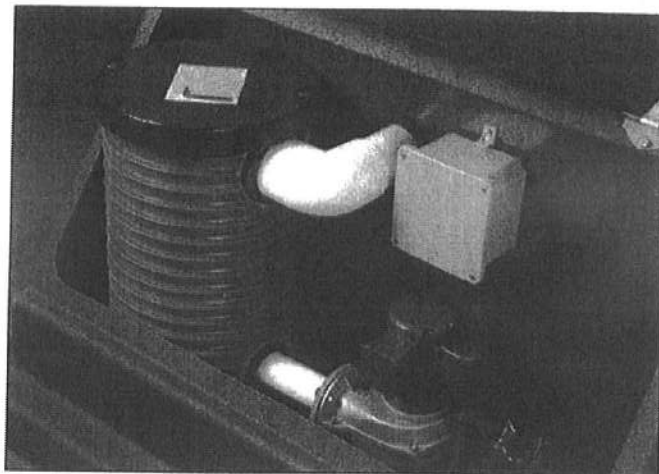
Inlet O.D.	4 in. (100 mm)
Inlet nominal pipe size	4 in. (100 mm)
Outlet I.D.	2-5/8 in. (67 mm)
Outlet Flange O.D.	4-7/8 in. (124 mm)

Materials of Construction

Housing	Aluminum
Wheel	Steel

Performance Data

	60 Hz	50 Hz
Horsepower (kW)	0.8 (0.6 kW)	0.8 (0.6 kW)
Phase	1 phase	1 phase
Volts	115/230	110/220
Amperage	1.4 A/0.7 A	1.8 A/0.9 A
RPM	3400	2900
CFM at 0" H ₂ O static pressure	245	205
CFM at 0.4" H ₂ O static pressure	220	170
CFM at 0.8" H ₂ O static pressure	190	130
CFM at 1.5" H ₂ O static pressure	120	N/A



AdvanTex® Vent Fan Assembly (continued)

Carbon Filter Basin

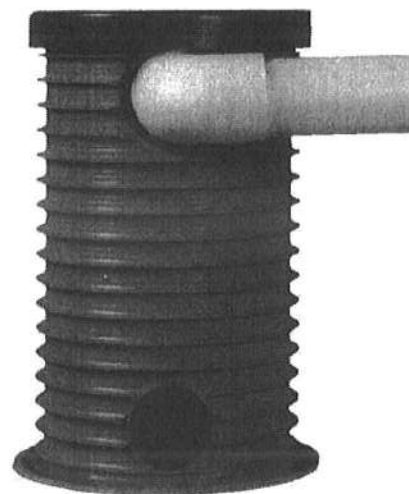
Physical Specifications

Dimensions

Outlet diameter	Accepts nominal 3-in. PVC pipe
Inlet diameter	Accepts nominal 2-in. PVC pipe
Height	21.5 in. (546 mm)
Diameter	12 in. (305 mm)

Materials of Construction

Housing	PVC
Bottom	Fiberglass-reinforced polyester (FRP)
Interior supports	Polypropylene grid and polyethylene screen
Support rings	PVC
Lid	Fiberglass
Fill material	Activated carbon



Heater (Optional)

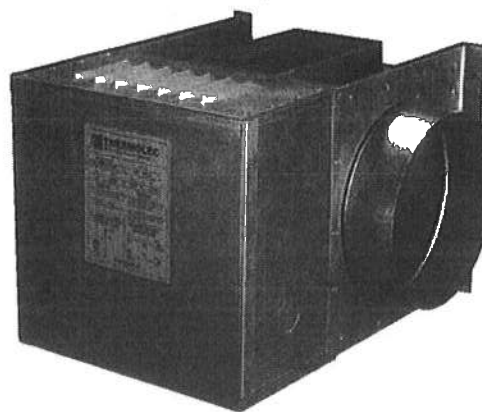
Physical Specifications

Dimensions

Outlet diameter	Fits nominal 3-in. Class 125 PVC pipe
Length (inlet to outlet)	11.75 in. (297 mm)
Width	11.25 in. (286 mm)
Depth	8.25 in. (210 mm)

Performance Data

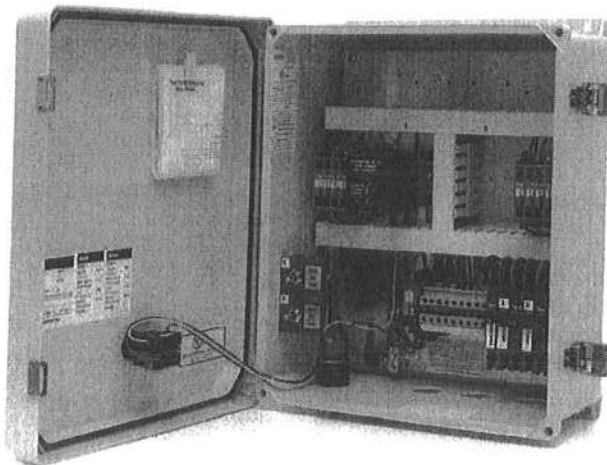
Watts	1000
Volts	120
Amps	8.3



Duplex Control Panels

Applications

Orenco Duplex Control Panels are used to control dual pumps, alarms, and other equipment as specified in pressure sewers and onsite septic systems.



Orenco® DAX2 Control Panel



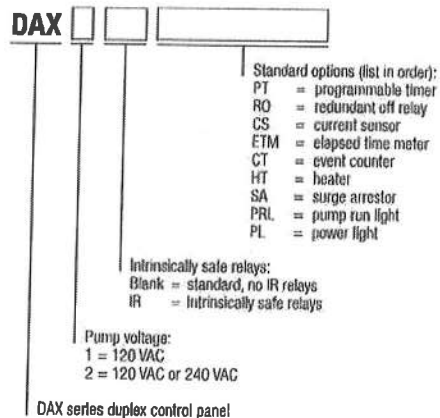
General

Orenco Duplex Control Panels are specifically engineered for pressure sewer (STEP) systems and onsite septic treatment systems that require the use of two alternating pumps. Standard features include circuit breakers, an automatic/manual/off motor control toggle for each pump, an audio/visual high level alarm, an alarm reset, and a duplex alternator. Other standard features and options are listed on page 2. Orenco panels are designed for use with mechanical and/or mercury float switches. Listed per UL 508 in the US and Canada.

Standard Models

DAX1, DAX2

Product Code Diagram

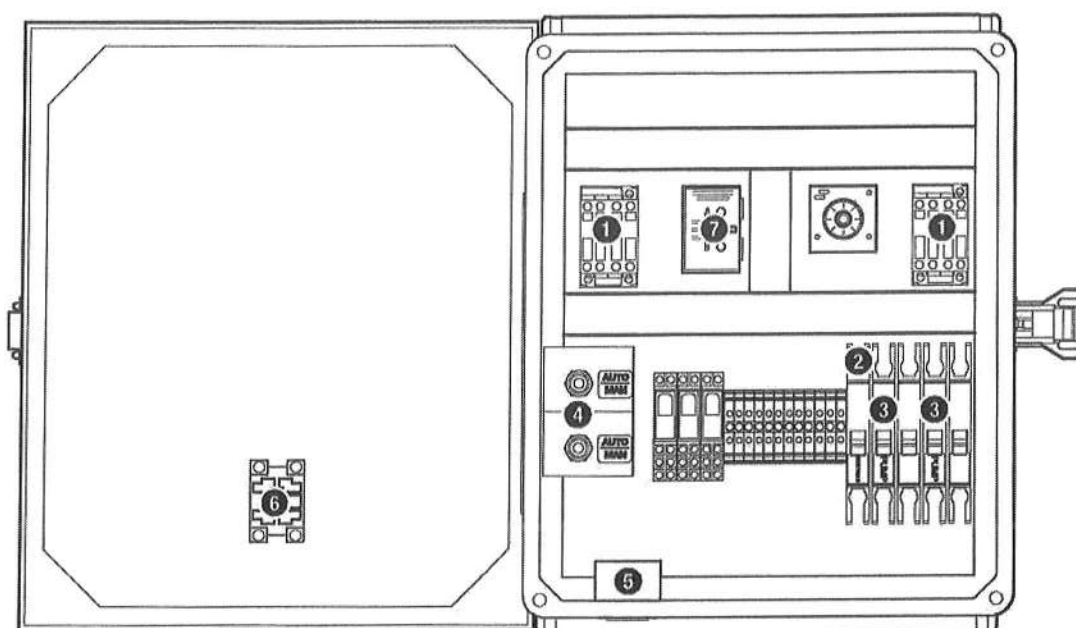


Materials of Construction

Enclosure	UV-resistant fiberglass, UL Type 4X
Hinges	Stainless steel

Specifications

Panel Ratings	
DAX1:	120 V, 1 hp, 16 amps, single phase, 60 Hz.
DAX2:	240 V, 3 hp, 16 amps, single phase, 60 Hz.
Dimensions	
Height, in. (mm)	15.5 (394)
Width, in. (mm)	13.5 (343)
Depth, in. (mm)	6.7 (170)



Orenco® DAX2PTRO 240 V panel

Standard Components

Feature	Specification(s)
1. Motor-Start Contactor	120 V, 16 FLA, 1 hp (0.75 kW), 60 Hz; 2.5 million cycles at FLA (10 million at 50% of FLA). 240 V, 16 FLA, 3 hp (2.24 kW), 60 Hz; 2.5 million cycles at FLA (10 million at 50% of FLA).
2. Controls Circuit Breaker	10 A, OFF/ON switch. Single-pole 120 V. DIN rail mounting with thermal magnetic tripping characteristics.
3. Pump Circuit Breakers	20 A, OFF/ON switch. Single-pole 120 V or double-pole 240 V. DIN rail mounting with thermal magnetic tripping characteristics.
4. Toggle Switches	20 A, 1hp (0.75 kW). Single-pole, double-throw HOA switch,
5. Audible Alarm	95 dB at 24 in. (610 mm), warble-tone sound.
6. Visual Alarm	7/8-in. (22-mm) diameter red lens, "Push-to-silence." UL Type 4X rated, 1 W LED light, 120 V.
7. Duplex Alternator	120 V. Cross-wired style for independent lag pump function. Selector switch for locking one pump into lead position.
Audible Alarm Silence Relay (Not shown)	120 V. Automatic reset. DIN rail mount.

Optional Features

Feature	Specification(s)	Code Adder
Intrinsically Safe Control Relays	Listed per UL 698A, for Class 1 Div. 1, groups A, B, C, D hazardous locations (requires larger enclosure).	IR
Programmable Timer	120 V. Repeat cycle from 0.05 seconds to 30 hours. Separate variable controls for OFF & ON time periods.	PT
Redundant Off Relay	120 V. Provides a secondary off. Sounds alarm on low level condition. DIN rail mount.	RO
Elapsed Time Meter	120 V, 7-digit, non-resettable. Limit of 99,999 hours; accurate to 0.01 hours.	ETM
Event Counter	120 V, 6-digit, non-resettable.	CT
Heater	Anti-condensation heater. Self-adjusting; radiates additional wattage as temperature drops.	HT
Surge Arrestor	Status light on unit; protects incoming power supply from electrical surges.	SA
Pump Run Light	7/8-in. (22-mm) diameter green lens. UL Type 4X rated, 1 W LED light, 120 V.	PRL
Power Light	7/8-in. (22-mm) diameter green lens. UL Type 4X rated, 1 W LED light, 120 V.	PL

VALVE BOX
17"W x 30"L x 15"D

SOURCE IN

1.5in ZONE VALVE

TO ZONE 1

TO ZONE 2

TO ZONE 3

TO ZONE 4

6.5"

6.5"

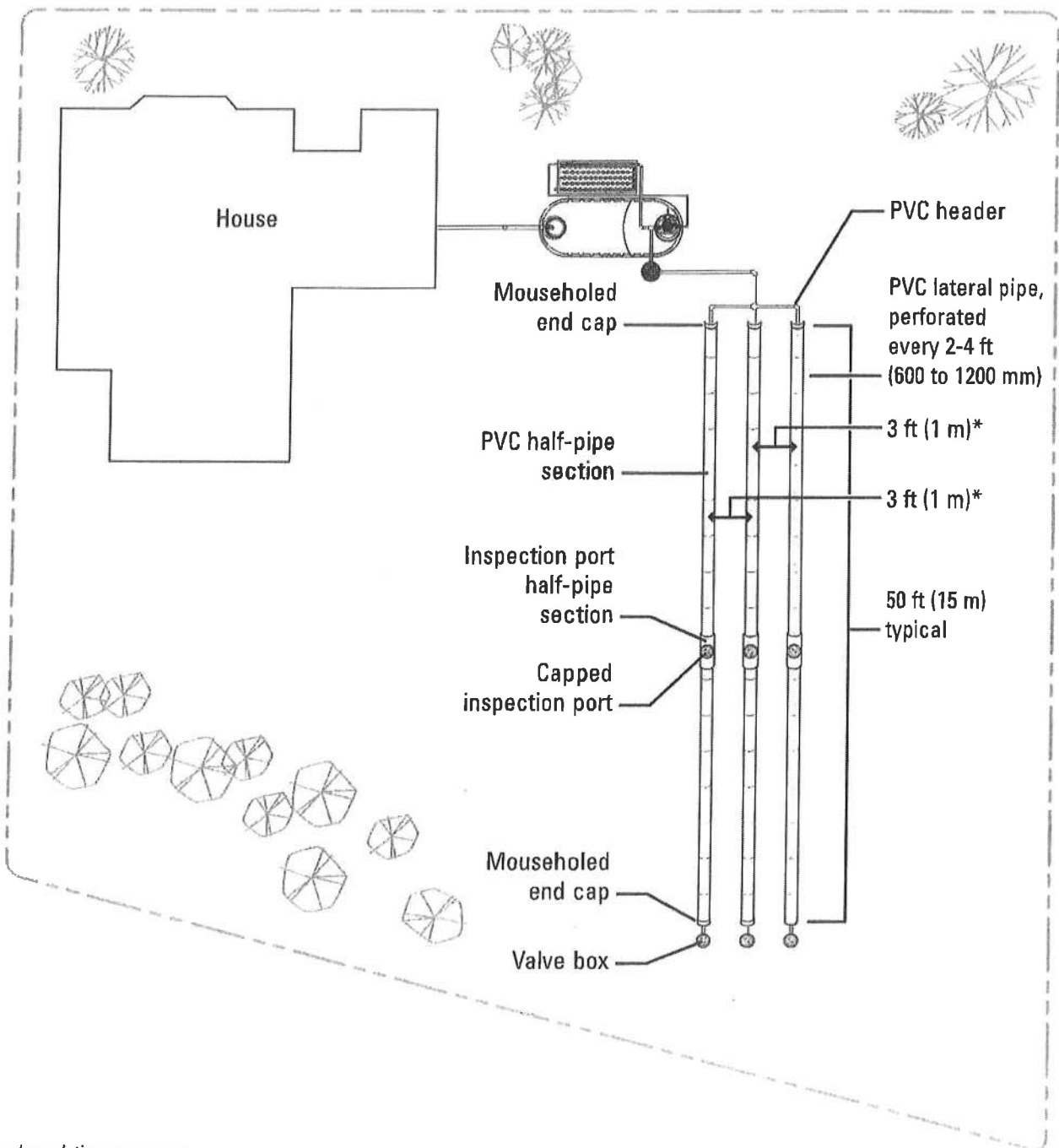
3.25"

GEOFLOW DRIP ZONE VALVES -1.5IN X 4
TOP VIEW

Schematic - not to scale

Shallow Pressurized Dispersal System (continued)

Typical Site Plan



* Local regulations may vary.

Installation Instructions for Quick4™ Pressure Distribution Systems

INFILTRATOR®
SYSTEMS INC.

Before You Begin

Quick4™ Standard and Quick4™ Equalizer® 36 chambers can only be installed according to state and/or local regulations. Contact your local regulator for specific requirements. Soil and site conditions must be approved prior to installation. Conduct a thorough site evaluation to determine proper sizing and siting of the system before installation.

These guidelines must be followed during installation:

- Avoid direct contact with chambers when using construction equipment. Chambers require a 12-inch minimum of compacted cover to support a wheel load rating of 16,000 lbs/axle or equivalent to an H-10 AASHTO load rating.
- Only drive across the trenches when necessary. Never drive wheeled machinery over chambers.
- Avoid stones larger than 3 inches in diameter in backfill. Remove stones this size or larger that are in contact with chambers.

Installing the Chambers and End Caps

1. To allow pressure laterals to drain after each dose, drill a hole in the bottom of the pipe at the end of the pressure line. Place the snap-off splash plate or a paving block at the bottom of the trench to protect the infiltrative surface from erosion.



2. With a hole saw, drill out the appropriate diameter hole to accommodate the pressure lateral pipe.



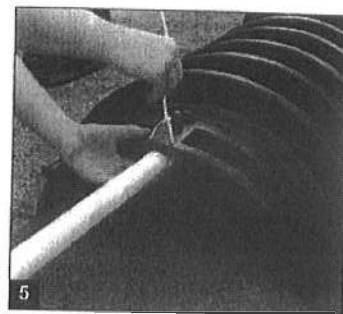
3. Insert the pressure lateral pipe into the end cap's drilled opening and slide it into the manifold pipe. Glue the pressure lateral pipe to the manifold pipe.

4. With the pressure lateral pipe through the end cap, place the inlet end of the first chamber over the back edge of the end cap.



Note: Health Departments may require a wet-run pressure check be done prior to chamber installation when the pipe is laying on the ground. Check with your local Health Department for the proper procedure.

5. (Method A) Secure the pressure lateral pipe to the top of the first chamber with a plastic pipe strap at the outlet end of the unit. Slide the strap up through a slot in the chamber top, down through the other slot, and cinch the two ends around the pipe.



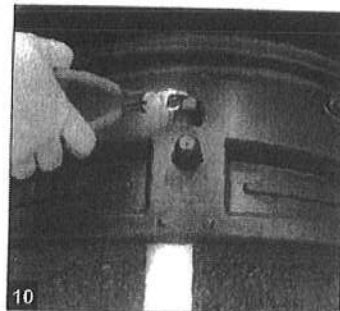
6. (Method B) With the holes pointing up, stabilize the pressure lateral pipe on the ground to prevent it from moving.

7. Lift and place the next chamber onto the previous one at a 45-degree angle. Line up the chamber end between the connector hook and locking pin at the top of the first chamber. Lower it to the ground to engage the interlocks.

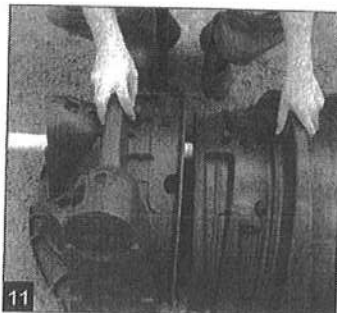
8. (Method A) Secure the lateral pipe to the top of the next chamber once in place. Follow the same method in Step 5.

9. Continue interlocking chambers and securing the pipe until the trench is completed.

10. Before attaching the final end cap, remove the tongue of the connector hook on the last chamber with a pair of pliers.



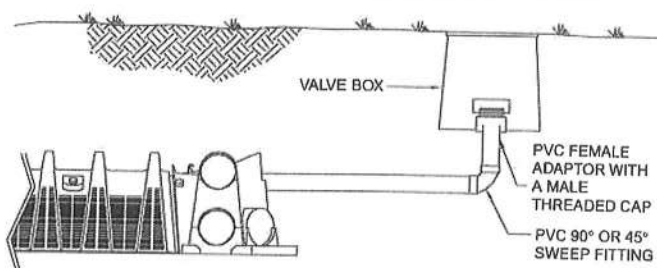
11. Insert the pressure lateral pipe through the hole in the final end cap and slide the end cap towards the last chamber. Lift the end cap over the modified connector hook and push straight down to secure it to the chamber.



Note: If cleanout extensions are required, use a hole saw to cut a hole in the end cap at the proper elevation so that the lateral pipe can extend. For cleanout access, a 90-degree elbow that extends to the soil's surface can be attached to the lateral pipe.

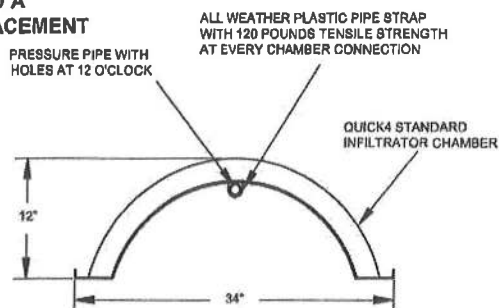
12. If installing multiple rows of chambers, follow Steps 1-9 to lay the next row of chambers parallel to the first. Keep a minimum separation distance between each row of chambers as required by local code.

ACCESS FOR DRAINFIELD MAINTENANCE AND FLUSHING



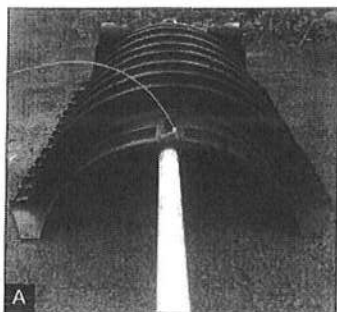
Pressure Pipe Design Options

METHOD A TOP PLACEMENT

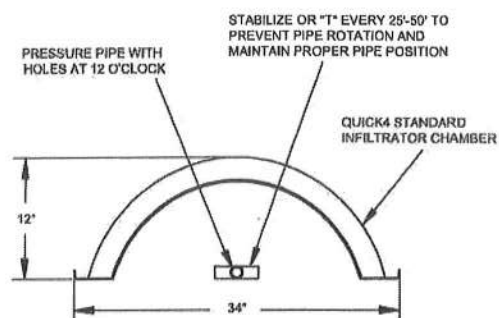


Advantages of Method A

- Pipe and orifice placed closer to the chamber dome offer improved distribution.
- Pipe positioned at the top of the chamber places it well above effluent.
- Plastic pipe hanger easily secures pipe in place.

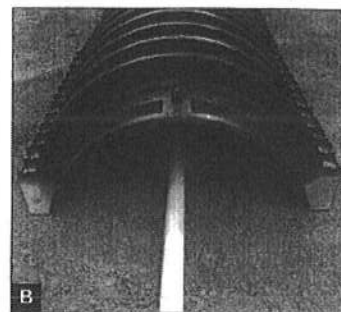


METHOD B BOTTOM PLACEMENT



Advantages of Method B

- Pipe resting on the trench bottom allows easy installation and maintenance.
- Stabilizing "T's" keep pipe level.
- System promotes efficient pressure checks.
- Pipe resting on the trench bottom allows easier inspection if monitoring ports are installed.



Infiltrator Systems, Inc. Limited Warranty

(a) The structural integrity of each chamber, end cap, wedge and other accessory manufactured by Infiltrator ("Units"), when installed and operated in a leachfield of an onsite septic system in accordance with Infiltrator's instructions, is warranted to the original purchaser ("Holder") against defective materials and workmanship for one year from the date that the septic permit is issued for the septic system containing the Units; provided, however, that if a septic permit is not required by applicable law, the warranty period will begin upon the date that installation of the septic system commences. To exercise its warranty rights, Holder must notify Infiltrator in writing at its Corporate Headquarters in Old Saybrook, Connecticut within fifteen (15) days of the alleged defect. Infiltrator will supply replacement Units for Units determined by Infiltrator to be covered by this Limited Warranty. Infiltrator's liability specifically excludes the cost of removal and/or installation of the Units.

(b) THE LIMITED WARRANTY AND REMEDIES IN SUBPARAGRAPH (a) ARE EXCLUSIVE. THERE ARE NO OTHER WARRANTIES WITH RESPECT TO THE UNITS, INCLUDING NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

(c) This Limited Warranty shall be void if any part of the chamber system is manufactured by anyone other than Infiltrator. The Limited Warranty does not extend to incidental, consequential, special or indirect damages. Infiltrator shall not be liable for penalties or liquidated damages, including loss of production and profits, labor and materials, overhead costs, or other losses or expenses incurred by the Holder or any third party. Specifically excluded from Limited Warranty coverage are damage to the Units due to ordinary wear and tear, alteration, accident, misuse, abuse or neglect of the Units; the Units being subjected to vehicle traffic or other conditions which are not permitted by the installation instructions; failure to maintain the minimum ground covers set forth in the installation instructions; the placement of improper materials into the system containing the Units; failure of the Units or the septic system due to improper siting or improper sizing, excessive water usage, improper grease disposal, or improper operation; or any other event not caused by Infiltrator. This Limited Warranty shall be void if the Holder fails to comply with all of the terms set forth in this Limited Warranty.

Further, in no event shall Infiltrator be responsible for any loss or damage to the Holder, the Units, or any third party resulting from installation or shipment, or from any product liability claims of Holder or any third party. For this Limited Warranty to apply, the Units must be installed in accordance with all site conditions required by State and local codes; all other applicable laws; and Infiltrator's installation instructions.

(d) No representative of Infiltrator has the authority to change or extend this Limited Warranty. No warranty applies to any party other than the original Holder.

The above represents the standard Limited Warranty offered by Infiltrator. A limited number of States and counties have different warranty requirements. Any purchaser of Units should contact Infiltrator's Corporate Headquarters in Old Saybrook, Connecticut, prior to such purchase, to obtain a copy of the applicable warranty, and should carefully read that warranty prior to the purchase of Units.

INFILTRATOR
SYSTEMS INC.
Environmental Onsite Wastewater Solutions™

6 Business Park Road • P.O. Box 768
Old Saybrook, CT 06475
860-577-7000 • FAX 860-577-7001

1-800-221-4436

Distributed By:



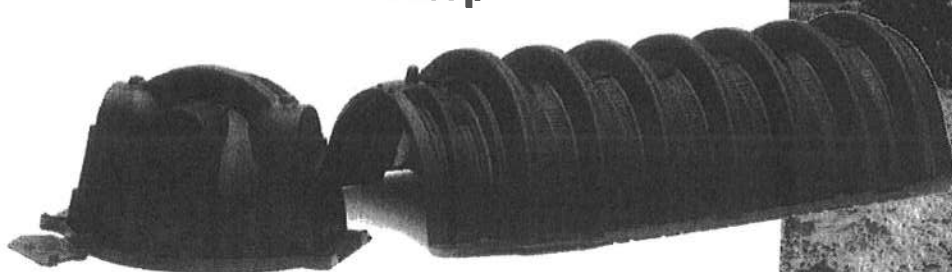
INFILTRATOR®
water technologies

Quick4®
CHAMBER SYSTEMS

The Quick4® Equalizer 36 Chamber

 Quick4® Series

Quick4 Equalizer 36 with MultiPort EndCap



The Quick4® Equalizer 36 Chamber fits in a 24" wide trench and is ideal for curved or straight systems. It features the patent-pending Contour Swivel Connection™ which permits turns up to 15°, right or left. The MultiPort™ endcap allows multiple piping options and eliminates pipe fittings. The chamber's four-foot length provides optimal installation flexibility.

Chamber Benefits:

- Advanced contouring connections swivel up to 15°, right or left
- Latching mechanism allows for quick installation
- Compact nesting provides more trench length in an equivalent stack height
- Four-foot chambers are easy to handle and install
- The Quick4 Equalizer 36 Chamber supports wheel loads of 16,000 lbs/axle with only 12" of cover
- Certified by the International Association of Plumbing and Mechanical Officials (IAPMO)



MultiPort Endcap Benefits:

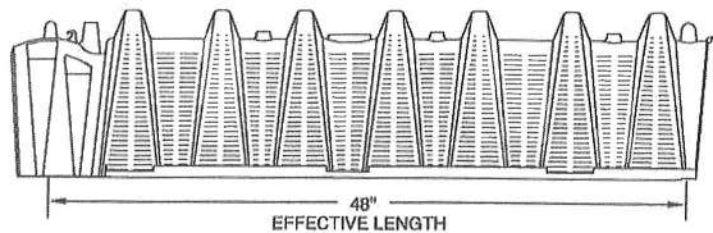
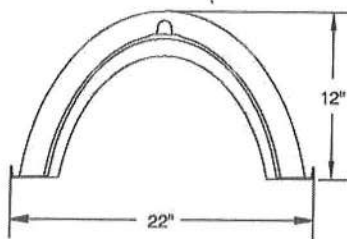
- Tear-out seals on inlet ports provide a tight fit to the pipe
- Six molded-in inlets/outlets allow for maximum piping flexibility
- Fits on either end of the Quick4 Equalizer 36 Chamber

APPROVED in _____

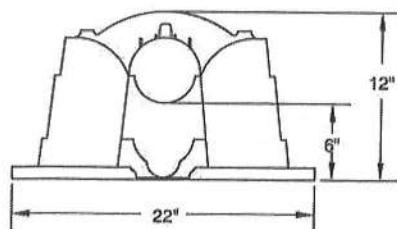


 Quick4® Series

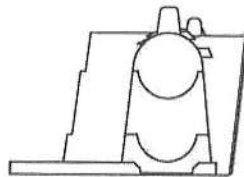
Because installations are faster with Quick4 chambers, you save on heavy equipment operation and labor.



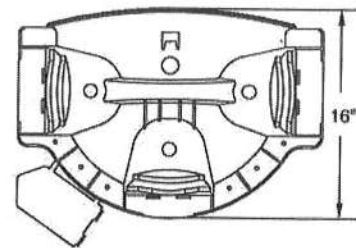
MultiPort EndCap



FRONT VIEW

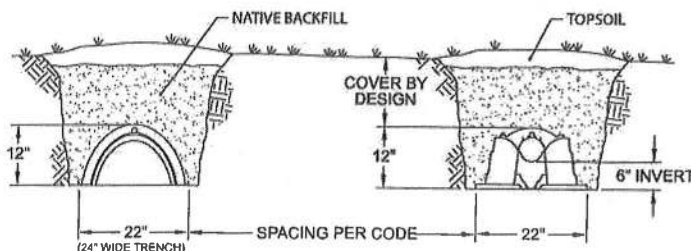


SIDE VIEW



TOP VIEW

Typical Trench View



INFILTRATOR WATER TECHNOLOGIES, LLC ("INFILTRATOR")

Infilticator Water Technologies, LLC STANDARD LIMITED Drainfield WARRANTY

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Quick4® Equalizer 36 Chamber Specifications

Size	22"W x 53"L x 12"H (559 mm x 1346 mm x 305 mm)
Effective Length	48" (1219 mm)
Louver Height	10" (254 mm)
Storage Capacity	32 gal (121 L)
Invert Height	6" (152 mm)



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Old Saybrook, CT 06475
860-577-7000 • Fax 860-577-7001
1-800-221-4436
www.infiltratorwater.com

U.S. Patents: 4,759,661; 5,017,041; 5,156,488; 5,336,017; 5,401,116; 5,401,459; 5,511,903; 5,716,163; 5,588,778; 5,639,844 Canadian Patents: 1,329,959; 2,004,564 Other patents pending. Infiltrator, Equalizer, Quick4, and SideWinder are registered trademarks of Infiltrator Water Technologies. Infiltrator is a registered trademark in France. Infiltrator Water Technologies is a registered trademark in Mexico. Contour, MicroLeaching, PolyTuff, ChamberSpacer, MultiPort, PosiLock, QuickCul, QuickPlay, SnapLock and StraightLock are trademarks of Infiltrator Water Technologies. PolyLok is a trademark of PolyLok, Inc. TUF-TITE is a registered trademark of TUF-TITE, INC. Ultra-Rib is a trademark of IPEX Inc.

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Contact Infiltrator Water Technologies' Technical Services Department for assistance at 1-800-221-4436



Pay Bill: 851-585-6055 or www.emwd.org/eBill
Contact Us: 800-426-2693 / 851-926-3777

CUSTOMER NAME: MURRIETA HOT SPRINGS SHELL
ACCOUNT NUMBER: 197232-01
SERVICE ADDRESS: 40462 MURRIETA HOT SPRINGS RD
SERVICE PERIOD: 07/14/16 to 08/10/16
BILL DATE: 08/11/16 **NO. OF DAYS:** 27
DUE DATE: 08/31/16 **NEXT READ DATE:** 09/14/16

Summary of Charges

Balance Forward 0.00
Water Charges 148.17
Sewer Charges 45.93

TOTAL AMOUNT DUE 194.10

Meter Information

Meter No.	Previous Read	Current Read
62838556	6326	5365

Water Usage History

Current Year:

Read Date	# Days	Billing Units	Usage in Gal.*	Average GPD**
Aug 10	27	39	29172	1080
Jul 14	31	47	35156	1134
Jun 13	33	37	27876	839

Previous Year:

Read Date	# Days	Billing Units	Usage in Gal.*	Average GPD**
Aug 12	30	47	35156	1172
Jul 13	33	55	41140	1247
Jun 10	28	42	31416	1122

* 1 Billing Unit = 748 Gallons

** GPD = Gallons per Day

Previous Charges

Period/Quantity	Amount
Amount of Last Bill	227.49
Payment Received - Thank You	-227.49
Balance Forward	0.00

Water Charges

Period/Quantity	Rate	Amount
Water Service	27 Day(s) 1.00203/day	27.06
Supply and Reliability Capital Projects	27 Day(s) .19454/day	5.25
Water Commodity	39 Billing Units 2.97100/unit	116.87
Total Water Charges		148.17

Sewer Charges

Period/Quantity	Rate	Amount
Sewer Service	27 Day(s) 1.379/day	42.53
Sewer System Capital Projects	27 Day(s) .12205/day	3.30
Total Sewer Charges		45.93

Total Current Charges 194.10

TOTAL AMOUNT DUE 194.10

000019723201 1 000000019410 5

Please see reverse side for additional information



00100510.xml-313-00000908

Detach and return this section with your check payable to EMWD.

Page 1 of 1

It's our
privilege to
serve you.

ACCOUNT NUMBER 197232-01
Total Amount Due 194.10
Bill Date 08/11/16
Due Date 08/31/16

194.10

Please do not send cash.
Please do not use staples.

Amount
Enclosed

☐ Address Change - Complete on Reverse

000313 000005908
MURRIETA HOT SPRINGS SHELL
GAS STATION
5820 OBERLIN DR STE 201
SAN DIEGO CA 92121-3743

Eastern Municipal Water District
PO BOX 845484
LOS ANGELES, CA 90084-5484

000019723201 1 000000019410 5

