PROJECT DESCRIPTION

AN ONSITE WASTEWATER SYSTEM SPECIFYING ENHANCED TREATMENT USING ALTERNATIVE TECHNOLOGY IS PROPOSED TO SERVE NEW DEVELOPMENT OF UP TO A 7 BEDROOMS DWELLING TO BE CONSTRUCTED AT 0 WEST SAN MARTIN AVENUE, SAN MARTIN, IN SANTA CLARA COUNTY, CALIFORNIA. AN "ALTERNATIVE" SYSTEM WITH SHALLOW, SUBSURFACE DRIP DISPERSAL IS SPECIFIED TO PROVIDE SUPPLEMENTAL TREATMENT OF THE WASTEWATER DISCHARGED ON THE SITE TO MITIGATE SLOW (FAILED) SOIL PERCOLATION RATES FROM DEEPER SOILS ON THE SUBJECT PROPERTY.

CONSTRAINTS & DESIGN CRITERIA

1) THE PROPOSED SYSTEM IS DESIGNED TO SERVE UP TO A 7 BEDROOMS DWELLING WITH A DESIGN WASTEWATER FLOW OF 975 GALLONS PER DAY (GPD) PER COUNTY DEH GUIDELINES. THE ADVANTEX WASTEWATER TREATMENT SYSTEM SPECIFIED IS SIZED FOR AVERAGE WASTEWATER FLOWS OF 600 GPD WITH OCCASIONAL PEAK FLOWS OF UP TO 900 GPD.
2) SOIL PROFILES DID NOT EXHIBIT ANY EVIDENCE OF SEASONALLY HIGH GROUNDWATER CONDITIONS AT THE SITE. ANY SEASONALLY HIGH GROUNDWATER IS ESTIMATED TO OCCUR AT GREATER THAN 8' BELOW GRADE.
3) NO WELLS, SPRINGS OR WATERCOURSES ARE SITUATED WITHIN 100' OF THE PROPOSED ONSITE WASTEWATER TREATMENT SYSTEM (OWTS).
4) THERE DRIPFIELD DESIGNED ON THE SLOPE LESS THAN 50%

SANITARY SEWER CONSTRUCTION NOTES:

S1: PLACE ORENCO SYSTEMS, INC. TWO-COMPARTMENT 1,500 GALLON FIBERGLASS SEPTIC TANK WITH H20 RATED RISERS AND RIMS OR APPROVED EQUAL. PLACE SEPTIC TANK ON 8" PEA GRAVEL LAYER AND COMPACT SOIL AROUND SEPTIC TANK AND BENEATH GRAVEL LAYER TO 95% RELATIVE COMPACTION PRIOR TO PLACEMENT. SEE DETAIL ON SHEET SS3.
S2: PLACE ORENCO SYSTEMS, INC AX25RT 800 GAL. RECIRCULATION PUMP TANK. SEE DETAIL SHEET SS3.
S3: INSTALL GEOFLOW INTANK WASTEFLOW HEADWORKS BOX (AUTOMATIC).
S4: PLACE 1" AIR VACUUM BREAKER. SEE DETAIL 522 SHEET SS2.
S5: PLACE SANITARY SEWER WYE WITH CLEANOUT TO GRADE.
S6: PLACE CHECK VALVE ASSEMBLY PER GEOFLOW SPECIFICATIONS.
S7: PLACE ZONE SOLENOID VALVE PER GEOFLOW SPECIFICATIONS.
S8: CONNECT 4" SANITARY SEWER LINE, SLOPE = 2% MINIMUM.
S9: PLACE 1" RIGID PVC SCHEDULE 40 FLUSH RETURN LINE. SEE DETAIL 511.5 SHEET SS2.
S10: PLACE 1" RIGID PVC SCHEDULE 40 SUPPLY LINE. SEE DETAIL 511.5 ON SHEET SS2.
S11: PLACE 1/2" GEOFLOW WASTEFLOW DRIPLINES ALONG A LEVEL CONTOUR WITH 1' SPACING AT A DEPTH OF 10" MINIMUM. 0.53 GPH DRIP EMITTERS SHALL BE SPACED 1' APART. SEE GEOFLOW SPECIFICATIONS FOR INSTALLATION DETAILS.
S12: CONNECT TO SEPTIC TANK OUTLET PIPE.
S13: INSTALL 1,500 GALLON DOSE TANK. SEE SHEET DETAIL SHEET SS3.
S14: PLACE MANIFOLD CONNECTION. SEE SHEET DETAIL 511.5 SHEET SS2.

PLACE CONCRETE THRUST BLOCKS FOR ALL SHARP CHANGES IN PIPING DIRECTIONS, SEE CONCRETE THRUST BLOCK DETAIL ON THIS SHEET.

150 PSI PRESSURE-RATED PVC PIPING FOR ALL PIPES FITTINGS AND VALVES IS REQUIRED. ALL JOINTS MUST BE SOLVENT WELDED.

DOUBLE-SLEEVING OR TRAFFIC GRADED PIPING FOR PROPOSED TIGHTLINE RUNNING BENEATH DRIVEWAY

CONSTRUCTION INSPECTION: AT A MINIMUM, INSPECTION OF THE DRIP DISPERSAL SYSTEM INSTALLATION SHOULD INCLUDE THE FOLLOWING. THIS IS IN ADDITION TO INSPECTION WORK REQUIRED FOR THE TREATMENT SYSTEM. JOINT INSPECTION BY THE DESIGNER, CONTRACTOR, AND DEH MAY BE REQUIRED.

- PRE-CONSTRUCTION INSPECTION WHERE THE CONSTRUCTION STAKING OR MARKING OF THE DRIP LINES, SUPPLY AND RETURN PIPING, PUMP SYSTEM AND APPURTENANCES IS PROVIDED AND CONSTRUCTION PROCEDURES DISCUSSED;
- WATER TIGHTNESS OF EFFLUENT DOSING (PUMP) TANK;
- DRIP FIELD LAYOUT, PIPING MATERIALS AND INSTALLATION, AND ALL ASSOCIATED VALVES AND CONNECTIONS;
- HYDRAULIC TESTING OF THE DRIP SYSTEM;
- FUNCTIONING AND SETTING OF ALL CONTROL DEVICES; AND
- FINAL INSPECTION TO VERIFY THAT ALL CONSTRUCTION ELEMENTS ARE IN CONFORMANCE WITH THE APPROVED PLANS, SPECIFICATIONS, AND MANUFACTURE RECOMMENDATIONS; ALL INSPECTION WELLS ARE INSTALLED; AND EROSION CONTROL HAS BEEN COMPLETED.

OWTS AREA MUST BE FENCED-OFF DURING CONSTRUCTION ACTIVITIES

SYSTEM OPERATION AND MAINTENANCE

1) THE OWNER SHOULD READ AND OPERATE THE SYSTEM ACCORDING TO THE ADVANTEX & GEOFLOW OPERATION AND MAINTENANCE LITERATURE.
2) ORENCO REQUIRES BIANNUAL MAINTENANCE SERVICING OF THE ADVANTEX BY A QUALIFIED TECHNICIAN.
3) COUNTY ENVIRONMENTAL HEALTH WILL ISSUE AN OWTS ANNUAL OPERATING PERMIT AND REQUIRES THAT THE PROPERTY OWNER MAINTAIN A SYSTEM SERVICE AGREEMENT/CONTRACT WITH A QUALIFIED THIRD-PARTY SERVICE PROVIDER. THIS REQUIREMENT WILL BE PLACED ON THE TITLE DEED FOR THE PROPERTY.
4) THE DRIP FIELDS SHALL BE AUTOMATICALLY FLUSHED ONE ZONE AT A TIME EVERY 12 MONTHS AT A MINIMUM. THIS IS DONE BY THE CONTROL PANEL SOFTWARE. NO DRIP ZONE SHOULD BE LEFT DORMANT (UN-DOSED) FOR MORE THAN A FEW WEEKS AT A TIME.
5) THE TREATMENT TANK IS ALIVE WITH IMPORTANT MICROORGANISMS. DO NOT ADD ANY MATERIALS (PAINT THINNER, PAINT, MOTOR OIL, UNUSED MEDICINE, ETC.) THAT MAY DISRUPT THE BIOLOGIC TREATMENT PROCESS. THE PRIMARY TANK SHOULD BE PUMPED WHEN THE TOTAL OF THE SCUM/SLUDGE THICKNESS IS GREATER THAN 1/3 OF THE TOTAL LIQUID LEVEL DEPTH.
7) REPAIR ALL PLUMBING LEAKS (ESPECIALLY TOILET LEAKS) PROMPTLY.

EROSION CONTROL:

PER DIVISION C12, CHAPTER III OF THE COUNTY CODE (SEC. C12-513. TEMPORARY EROSION CONTROL.) "THE PERMITTEE AND ANY PERSON(S) DOING, CAUSING OR DIRECTING THE GRADING SHALL INSTALL AND MAINTAIN ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT ADJACENT WATERCOURSES AND PUBLIC OR PRIVATE PROPERTY FROM DAMAGE BY EROSION, FLOODING, OR DEPOSITION OF MUD OR DEBRIS ORIGINATING FROM THE SITE. PRECAUTIONARY MEASURES MUST INCLUDE PROVISIONS OF PROPERLY DESIGNED EROSION PREVENTION AND SEDIMENT CONTROL MEASURES, SO THAT DOWNSTREAM PROPERTIES ARE NOT AFFECTED BY UPSTREAM EROSION OR SEDIMENT TRANSPORT BY STORMWATER."

REMOVAL OF SEPTIC TANK:

1) OWNER/CONTRACTOR SHALL OBTAIN NECESSARY PERMITS FROM SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH (DEH) FOR THE REMOVAL OF SEPTIC TANK.
2) SEPTIC TANK MUST BE PUMPED BY A PERMITTED HAULER, AND RECEIPT MUST BE SUBMITTED FOR REVIEW. PUMPING INTO THE PUBLIC SANITARY SEWER SYSTEM IS NOT ALLOWED. A COPY OF A SEPTIC PUMPER'S REPORT STATING THE TANK HAS BEEN PUMPED/EMPTIED WILL BE REQUIRED BEFORE ON SITE INSPECTION CAN BE SCHEDULED.
3) CALL A DEH LAND USE SPECIALIST AT (408) 918-3400 A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF WORK.
4) THE CONTRACTOR SHALL COORDINATE THE REMOVAL, RELOCATION, OR RE-ROUTING OF ANY UTILITIES WITH EACH RESPECTIVE UTILITY COMPANY IF NEEDED.
5) THE DESIGN ENGINEER IS NOT RESPONSIBLE FOR ANY UTILITIES NOT SHOWN ON THIS PLAN OR ANY ACCIDENTAL RUPTURES DURING EXCAVATION OR CONSTRUCTION.
6) THE CONTRACTOR SHALL REMOVE ALL VISIBLE AND PARTIALLY BURIED DEBRIS PILES FROM AREAS TO BE DEVELOPED OR GRADED AND DISPOSE OF AT AN APPROPRIATE OFF-SITE LOCATION.
7) SEWER LINE TO LEACH FIELD SHALL BE CAPPED WITH 6" MINIMUM OF CONCRETE.
8) CALL DEH AT (408) 918-3400 TO SCHEDULE AN INSPECTION.
9) SEPTIC TANK AREA MUST BE FILLED WITH APPROVED BACKFILL MATERIAL AT 95% RELATIVE COMPACTIBILITY. THE GEOTECHNICAL ENGINEER SHALL CONDUCT THE BACKFILL COMPACTION OBSERVATION AND PROVIDE A COMPACTION REPORT DECLARING THE ABATED AREA AS A BUILDABLE AREA.

LEGEND

- 4" SANITARY SEWER LINE
- 1" SANITARY FORCEMAIN
- 1/2" WASTEFLOW DRIPLINE
- CHECK VALVE
- ZONE SOLENOID VALVE
- SANITARY SEWER CLEANOUT
- AIR VACUUM BREAKER
- MANIFOLD CONNECTION
- EXISTING TREE TO BE REMOVED
- INSPECTION WELL
- AREA OF FILL OF TEST PIT 2

SANITARY SEWER DESIGN NOTES

SYSTEM TO SERVE A NEW 6 BEDROOM, 4,718 SF LIVING HOUSE. INSTALLATION OF SYSTEM TO CONFORM TO SANTA CLARA COUNTY SEWAGE DISPOSAL ORDINANCE. CALL SANTA CLARA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH 24 HOURS MIN. PRIOR TO START OF WORK AT (408)-918-3400.

REFERENCE

SANTA CLARA COUNTY ONSITE SYSTEM MANUAL (OSM), MAY 2014

WASTEWATER DESIGN FLOW (WWDF)

MAIN HOUSE NO. BEDROOM = 4
ACCESSORY DWELLING UNIT NO. BEDROOM = 3
FROM TABLE 3-1 OSM
4 BEDROOM HOUSE = 525 GAL/DAY
3 BEDROOM SECOND DWELLING UNIT = 450 GAL/DAY

WWDF = 975 GAL/DAY

PRESSURE DOSING VOLUME

PER OSM 3 TO 5 DOSES PER DAY
FOR 3 DOSES PER DAY: D3
$D3 = \frac{975}{3} = 325$ GAL
FOR 5 DOSES PER DAY: D5
$D5 = \frac{975}{5} = 195$ GAL
DOSE SHALL BE BETWEEN 195 GAL AND 325 GAL

AVERAGE ADJUSTED PERCOLATION RATE = 18.47 MPI
FROM TABLE DD-1 OSM WITH 18.47 MPI:
WASTEWATER APPLICATION RATES FOR SUBSURFACE DRIP DISPERSAL FIELDS = 1.0 GPD/SF

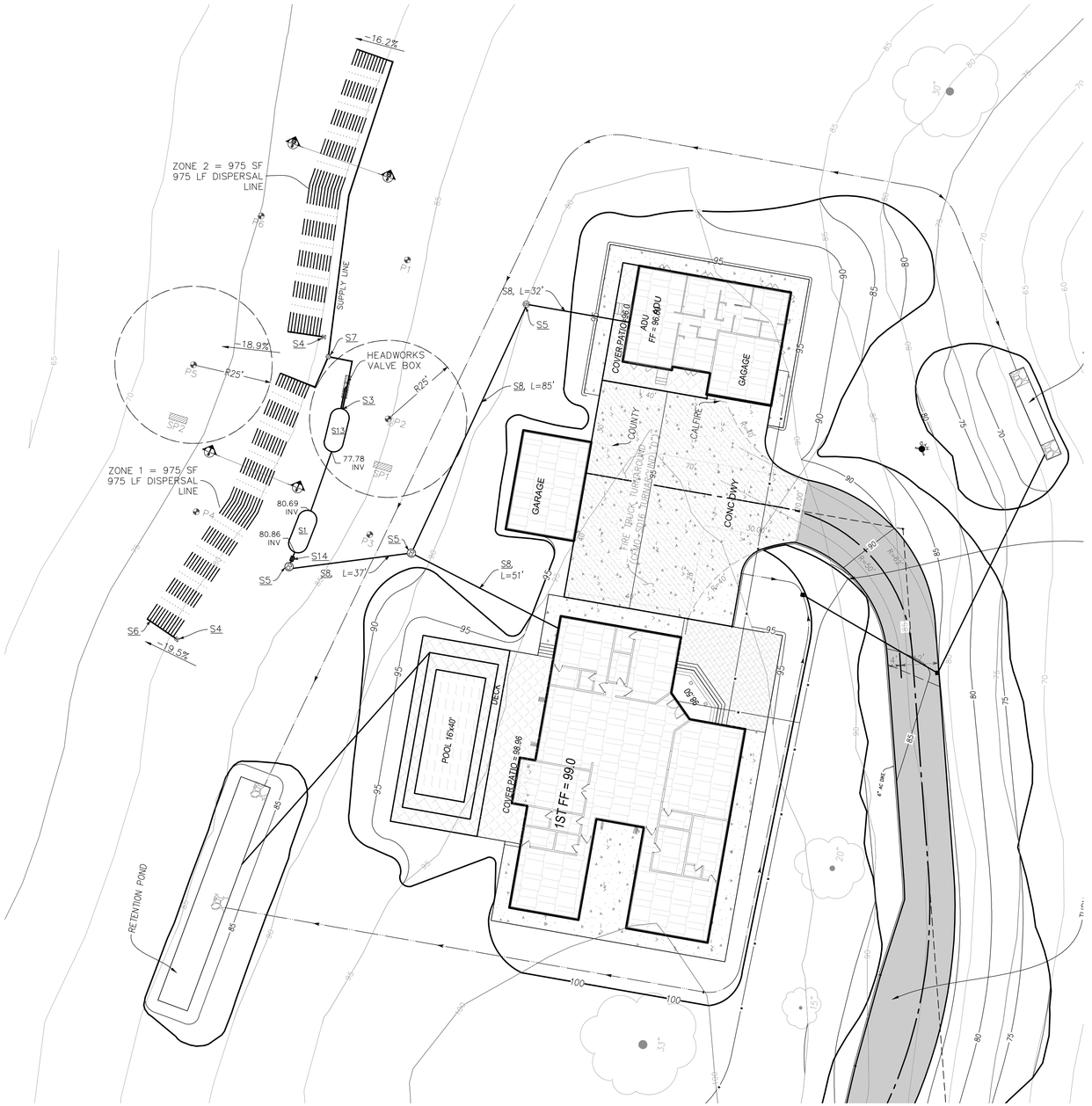
MINIMUM DISPERSAL FIELD AREA = $\frac{975}{1.0} = 975$ SF

ZONE 1 AREA = 975 SF
ZONE 2 AREA = 975 SF
ZONE 1 = 975 LF
ZONE 2 = 975 LF

$\frac{\text{AREA OF ZONE 1}}{\text{DRIP EMITTER QUANTITY OF ZONE 1}} = \frac{975}{975} = 1$ SF/EMITTER

$\frac{\text{AREA OF ZONE 2}}{\text{DRIP EMITTER QUANTITY OF ZONE 2}} = \frac{975}{975} = 1$ SF/EMITTER

MEET MAXIMUM 4 SF PER EMITTER REQUIREMENT



SHALLOW SEPTIC SYSTEM PLAN

SCALE 1" = 20'

Table DD-2. Drip Dispersal System Management Requirements

	Work	Frequency
Inspection	• Conduct routine visual observations of drip field, downslope area and surroundings for wet areas, pipe leaks or damage, soil erosion, drainage issues, abnormal vegetation, gophers or other problems. • Conduct routine physical inspections of system components, including valves, filters, and headworks box(es). • Perform special inspections of drip field at time of any landscaping work or other digging in drip field area. • Perform inspections of dosing pump(s) and appurtenances (per O&M manual and Performance Evaluation Guidelines, Part 5 of this Manual). • Record observations.	• Every 6 to 12 months.
Maintenance	• Manually remove and clean filter. • Clean and check operation of pressure reducing valves. • Clean flush valves and vacuum release valves.	• Clean filter every 6 months. • Other maintenance annually.
Water Monitoring & Sampling	• Measure and record water levels in dispersal field monitoring wells, as applicable, per permit requirements. • Obtain and analyze water samples from dispersal field monitoring wells, as applicable, per permit requirements.	• According to permit conditions, if applicable.
Reporting	• Report findings to DEH per permit requirements. • Standard report to include dates, monitoring well and other data collected, work performed, corrective actions taken, and performance summary. • Report public health/water quality emergency to DEH immediately.	• According to permit conditions, typically every 1 to 2 years, depending on system size, usage, history, location.

Table DD-1. Wastewater Application Rates for Subsurface Drip Dispersal Fields

Soil Type*	Soil Percolation Rate (MPI)	Wastewater Application Rate (gpd/ft²)
Coarse Sand	1-4	1.4
Fine Sand	5-10	1.2
Sandy Loam	11-20	1.0
Loam	21-30	0.7
Clay Loam	31-45	0.6
Silt-Clay Loam	46-60	0.4
Clay, non-swell	61-90	0.2
Clay, swell	91-120	0.1

*Soil types listed for reference information only; design shall be based on site-specific percolation data.

*TABLE 3-1
WASTEWATER DESIGN FLOWS FOR SINGLE FAMILY RESIDENCES AND SECOND UNITS

No. of Bedrooms	Design Flow (gal/day)
1	150
2	300
3	450
4	525
5	600
6	675
>6	+75 per bedroom

*COUNTY OF SANTA CLARA – DEH ONSITE SYSTEM MANUAL – MAY 2014

County of Santa Clara- Department of Environmental Health
SOIL PERCOLATION TEST RECORDED MEASUREMENTS

APN 779-47-007

OWNER / APPLICANT: Ashutosh Jha | SR #: 0864774 | PLN FILE #:
LOCATION: W/E San Martin Ave | REHS: Jeff Camp
CONTACT PERSON: NIHA LE | PHONE: 408-806-7187 | DATE: 11/16/21

HOLE # 1 TIME START	TIME FINISH	DEPTH WATER LEVEL START	DEPTH WATER LEVEL FINISH	Δ MIN	Δ INCH	MPI
12:31	1:01	100	96.5	30	3.5	8.57
1:02	1:32	100	96.875	30	3.125	9.6
1:33	2:03	100	96.875	30	3.125	9.6
2:04	2:34	100	96.875	30	3.125	9.6

AV = 9.6 mpi

HOLE # 2 TIME START	TIME FINISH	DEPTH WATER LEVEL START	DEPTH WATER LEVEL FINISH	Δ MIN	Δ INCH	MPI
12:34	1:04	99.75	96.75	30	3	10
1:05	1:35	99.75	96.875	30	2.875	10.43
1:36	2:06	99.75	97	30	.75	40
2:07	2:37	99.75	97	30	.75	40
2:38	3:08	99.75	97	30	.75	40

AV = 4.0 mpi
NOT USED

HOLE # 3 TIME START	TIME FINISH	DEPTH WATER LEVEL START	DEPTH WATER LEVEL FINISH	Δ MIN	Δ INCH	MPI
12:37	1:07	36.125	32.125	30	4	7.5
1:08	1:38	36.125	32.625	30	3.5	8.57
1:39	2:09	36.125	32.75	30	3.375	8.89
2:10	2:40	36.125	32.75	30	3.375	8.89

AV = 8.73 mpi

HOLE # 4 TIME START	TIME FINISH	DEPTH WATER LEVEL START	DEPTH WATER LEVEL FINISH	Δ MIN	Δ INCH	MPI
12:40	1:10	36.25	36.125	30	2.125	14.12
1:11	1:41	36.25	36.3	30	1.75	17.14
1:42	2:12	36.25	36.615	30	1.625	18.46
2:13	2:43	36.25	36.615	30	1.625	18.46

AV 18.02 mpi

HOLE # 5 TIME START	TIME FINISH	DEPTH WATER LEVEL START	DEPTH WATER LEVEL FINISH	Δ MIN	Δ INCH	MPI
12:43	1:13	97.5	97	30	.5	60
1:14	1:43	97.5	97.125	30	.375	80
1:44	2:14	97.5	97.125	30	.375	80
2:15	2:45	97.5	97.125	30	.375	80

AV = 80 mpi
NOT USED

HOLE # 6 TIME START	TIME FINISH	DEPTH WATER LEVEL START	DEPTH WATER LEVEL FINISH	Δ MIN	Δ INCH	MPI
12:46	1:16	37.25	34.875	30	2.375	12.63
1:17	1:45	37.25	35.375	30	1.875	16
1:46	2:16	37.25	35.375	30	1.875	16
2:17	2:46	37.25	35.5	30	1.75	17.14

Av = 16.38 mpi

HOLE	1	2	3	4	5	6
Stabilized MPI R	9.6	~~10~~	8.78	18.02	~~80~~	16.38
Adjusted Stabilized MPI R_1=R x 1.4	13.44	~~56~~	12.29	26.23	~~112~~	22.93
Average Adjusted Stabilized MPI R_2=(2 R_1) / # Holes	18.67					
# Bedrooms: FOR OFFICE USE ONLY	Tank Size (Gal)				Leach line (Ft)	

MPI.doc (Rev.3/14)

			NO.
			REVISIONS
			APP'D
			DATE
			BY

PJT.	DESIGNED	02/15/21 DATE
	PJT	
	DRAWN	02/15/21 DATE
	PJT	
	SCALE	1" = 20'
	NL	02/15/21 DATE
	CHECKED	

ENGINEERING
598 E Santa Clara St #270
San Jose, CA 95112
Phone: (408) 806-7187
Fax: (408) 583-4006

SEPTIC SYSTEM PLAN
LAND OF JHA
W SAN MARTIN AVE
APN 779-47-007
California

PROJECT NO.
CONTRACT NO.

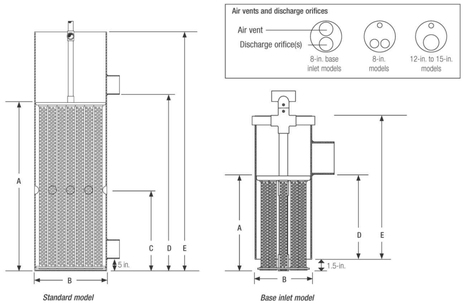
DRAWING NO. SS1
SHT NO. 1 OF 3
FILE NO.

4/4/2022 4:32:40 PM

APPLICANT : JHA

ROAD NAME : W SAN MARTIN AVE

orenco SYSTEMS *Technical Data Sheet*



Specifications

Model	FT0854-36	FT0822-14B	FT1254-36	FT1254-36AR	FT1554-36
A - Cartridge height, in.	36	14	36	36	36
B - Nominal diameter, in.	8	8	12	12	15
C - Inlet hole height*, in.	22	n/a[1]	22	22	22
D - Vault base to invert height, in.	38	13	38	38	38
E - Vault height	54	22	54	54	54
Number of inlet holes	8	n/a	8	8	8
Inlet hole diameter, in.	1.375	n/a	1.375	1.375	1.375
Number of discharge orifices	2	1	1	1	1
Discharge orifice diameter, in.	1.125	1.750	2	2	2
Pipe coupling diameter, in.	4	4	4	4	4
Number of air vents	1	1	1	1	1
Air vent diameter, in.	0.75	1.750	0.75	0.75	0.75
Filter surface area[2], ft[2]	14.6	6.0	30.0	30.0	50.5
Flow area**, ft[2]	4.4	1.8	9.0	9.0	15.2

* Inlet hole height can vary depending on the configuration of the tank. Optimum hole height is 65–75% of the minimum liquid level.
† No inlet holes required, because influent enters between the vault base and the bottom of the filter cartridge.
‡ Filter area is defined as the total surface area of all individual Biotubes® within the filter cartridge.
** Flow area is defined as the total open area (area of the mesh openings) of all the individual Biotubes within the filter cartridge.

Orenco Systems® Inc. , 814 Airway Ave., Sutherlin, OR 97479 USA • 800-348-9843 • 541-459-4449 • www.orenco.com

orenco SYSTEMS *Technical Data Sheet*

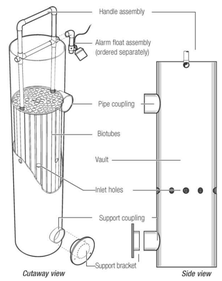
8-in. to 15-in. Dia. Biotube Effluent Filters

Applications

Orenco® 8-inch to 15-inch Biotube® Effluent Filters are designed to remove solids from effluent leaving commercial septic tanks. They can be used in new and existing tanks.

General

Orenco® 8-inch to 15-inch Biotube® Effluent Filters* are used to improve the quality of effluent exiting a commercial septic tank. The Biotube cartridge fits snugly in the vault and is removable for maintenance, the handle assembly snaps into the notches in the top of the vault, and the tee handle can be extended for easy removal of the cartridge. A "base inlet" model (see p. 2) is available for low-profile tanks. An optional slide rail system, available on larger models, simplifies installation and provides tank access for servicing.

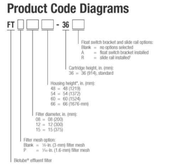


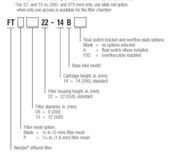
* Orenco® Biotube® Effluent Filters are covered under multiple U.S. and international patents.

Standard Models

FT0854-36, FT1254-36, FT1554-36, FT0822-14B, FT1254-36AR

Product Code Diagrams

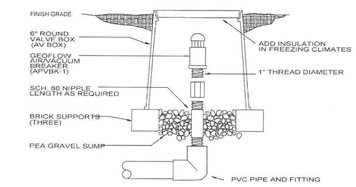




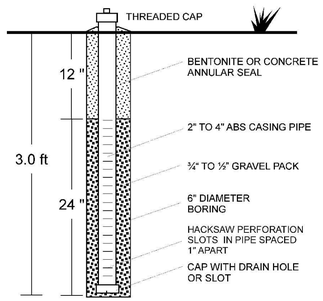
Materials of Construction

Vault	PVC
Pipe coupling	PVC
Handle components	PVC
Support coupling and bracket	PVC
Biotube® cartridge	Polypropylene and polyethylene

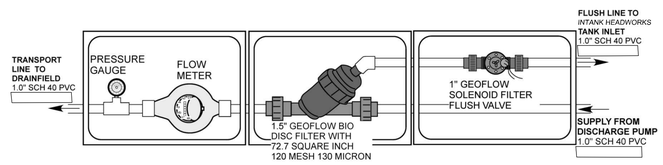
Note: Support coupling and support bracket are available on 12-inch and 15-inch filters only.



522 GEOFLOW SECTION — 1" AIR/VACUUM BREAKER (PLUMBED TO PVC) — Not To Scale



INSPECTION WELL DETAIL
NOT TO SCALE



NOTE: THE BOTTOM OF ALL VALVE BOXES SHALL BE SECURELY WRAPPED WITH 20-GAGE, GALVANIZED HEXAGONAL WIRE NETTING WITH 1" TO 1-1/2" SPACING TO PREVENT BURROWING ANIMALS FROM ENTERING AND FILLING THE BOXES

HEADWORKS VALVE BOX DETAIL
NOT TO SCALE

SPECIFICATION

1. BUILDING SEWER LINES, & PROPOSED PROCESSING TANK.
   - 1.1. A 4" ABS BUILDING SEWER LINE SHALL BE INSTALLED TO CONVEY ALL RAW SEWAGE FROM DWELLING TO THE PROCESSING TANK. ALL GRAVITY SEWER PIPING MUST MAINTAIN A MINIMUM 2% CONTINUOUS GRADIENT. ALL WASTEWATER INCLUDING GRAYWATER SHALL BE DISCHARGED TO THE PROCESSING TANK.
   - 1.2. LOCATE A 2–WAY, 4" ABS CLEANOUT FITTINGS ON THE BUILDING SEWER TO FACILITATE SNAKING AND LINE LOCATION.
   - 1.3. A 1,500 GALLON, WATERTIGHT, FIBERGLASS REINFORCED POLYESTER (FRP) TANK, FROM ORENCO SYSTEMS, INC. (OSI), IS SPECIFIED FOR USE AS A PROCESSING TANK WITH THE PROPOSED ADVANTEX (MODE 1) TREATMENT SYSTEM. THE TANK SHALL HAVE 24" DIAMETER OSI ACCESS RISERS WITH FIBERGLASS, BOLT–DOWN LIDS. THE TANK SHALL BE INSTALLED ACCORDING THE MANUFACTURERS GUIDELINES INCLUDING THE 6" CONCRETE COLLAR ABOVE TANK FLANGE TO PREVENT FLOATATION.
   - 1.4. THE TANK HOLE SHALL BE EXCAVATED SO THAT THE TANK SITS LEVEL. INSTALL THE ACCESS RISERS WITH A WATERTIGHT JOINT USING THE ADHESIVES SUPPLIED BY MANUFACTURER.
   - 1.5. INSTALL THE TANK INLET FITTING WITH A WATERTIGHT JOINT. CAP OFF OR USE A TEST PLUG ON THIS FITTING AND FILL THE TANK WITH CLEAN WATER 2" ABOVE THE JOINT BETWEEN THE RISER AND THE TANK TOP. REPAIR ANY LEAKS.
   - 1.6. OBTAIN A WATERTIGHT TANK INSPECTION BY DEH AND DISTRIBUTOR WITH 24 HOURS NOTICE TO EACH.
2. ADVANTEX TREATMENT SYSTEM
   - 2.1. AN ADVANTEX™AX25–RT TREATMENT SYSTEM INCLUDES A BIOTUBE®PUMP PACKAGE FOR RECIRCULATION, PACKED–BED FILTER POD, AND TELEMETRY–ENABLED VERICOMM®CONTROL PANEL.
   - 2.2. INSTALL THE ADVANTEX™ SYSTEM ACCORDING TO THE INSTALLATION INSTRUCTIONS AND IN THE LOCATION SHOWN ON THE PLAN. THE TREATMENT SYSTEM SHALL BE INSTALLED WITH THE LID 4" ABOVE FINAL GRADE.
3. DISCHARGE PUMP TANK AND FILTRATE PUMPING
   - 3.1. A 1,500 GALLON OSI PUMP TANK SHALL BE INSTALLED ADJACENT TO THE AX25–RT PROCESSING TANK.
   - 3.2. THE PUMP TANK SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS AND BE MADE WATERTIGHT.
   - 3.3. THE PUMP TANK SHALL BE INSTALLED WITH A CONCRETE COLLAR (TO PREVENT FLOATATION) AND BE FILLED WITH CLEAN WATER IMMEDIATELY AFTER INSTALLATION.
   - 3.4. INSTALL THE PUMP AND FLOAT TREE ACCORDING TO THE INSTRUCTIONS PROVIDED BY MANUFACTURER/DEALER.
   - 3.5. A 1/2 HP EFFLUENT PUMP (PF1005) IS SPECIFIED FOR PRESSURIZED DISPERSAL DISCHARGE.
   - 3.6. THE FILTRATE TRANSPORT PIPE TO DISPERSAL SYSTEM SHALL BE 1.0" SCHEDULE 40 PVC.
4. SUBSURFACE DRIP DISPERSAL SYSTEM
   - 4.1. APPROXIMATELY 3,000 LINEAR FEET OF GEOFLOW PC DRIP TUBING (0.53 GPH EMITTERS SPACED 12" APART) SHALL BE INSTALLED IN TWO ZONES COVERING A TOTAL AREA OF AT LEAST 3,000 SQUARE FEET IN THE CONFIGURATION SHOWN ON PLAN.
   - 4.2. THE DRIP DISPERSAL FIELD SHALL BE INSTALLED ACCORDING TO THE INSTRUCTIONS IN THE GEOFLOW INSTALLATION MANUAL. INSTALLER SHALL ASSURE THAT EACH DRIP LATERAL BE INSTALLED IN SUCH A MANNER AS TO REDUCE THE POTENTIAL OF LOW HEAD DRAINAGE AS DESCRIBED IN THE INSTALLATION MANUAL.
   - 4.3. THE DRIP TUBING LATERALS SHALL BE BURIED 10"–32" DEEP AND SPACED NO CLOSER THAN 12" APART. THE SUPPLY HEADER SHALL BE INSTALLED 14"–36" BELOW GRADE. IT MAY BE EASIER TO INSTALL THE DRIP TUBING FIRST, AND THE SUPPLY AND RETURN HEADERS AFTERWARDS. GREAT CARE MUST BE TAKEN TO KEEP DIRT OUT OF THE DRIP TUBING AND SUPPLY AND RETURN PIPING. ALL PIPING SHALL BE THOROUGHLY FLUSHED AND PRESSURE–TESTED PRIOR TO USE. THE 8 AIR/VACUUM RELIEF VALVES SPECIFIED SHALL BE SUPPLIED BY GEOFLOW.
   - ~~4.4. THE DRIP FIELD FLUSH RETURN LINE IS SPECIFIED TO BE PLUMBED INTO A 40"–LONG, 1.5"–WIDE AND 1.5"–DEEP TRENCH WITH 10 QUICK4 EQUALIZER 24 LOW–PROFILE INFILTRATOR CHAMBERS. TRENCH FLOOR SHALL BE INSTALLED LEVEL.~~
   - 4.5. ALL PRESSURIZED PIPING SHALL BE SCHEDULE 40 PVC AND LABELLED ACCORDING TO CURRENT UPC REQUIREMENTS "RECLAIMED WATER – DO NOT DRINK".
   - 4.6. DRAINFIELD SHALL MEET SANTA CLARA COUNTY GUIDELINES FOR TREE PROTECTION AND PRESERVATION FOR LAND USE APPLICATIONS.
5. INSTALLER QUALIFICATIONS AND RESPONSIBILITIES
   - 5.1. THE SYSTEM INSTALLER SHALL BE LICENSED BY THE STATE OF CALIFORNIA, DEPARTMENT OF CONSUMERAFFAIRS, TO INSTALL SEPTIC SYSTEMS. INSTALLER CERTIFICATION IS REQUIRED BY THE LOCAL ADVANTEX™DEALER. THE INSTALLER IS REQUIRED TO FULLY READ AND UNDERSTAND THE ADVANTEX™ AND GEOFLOW MANUALS PRIOR TO THE COMMENCEMENT OF WORK.
   - 5.2. ALL PIPING SHALL CONFORM TO THE CURRENT EDITION OF THE CALIFORNIA PLUMBING CODE.
   - 5.3. THE INSTALLER SHALL BE RESPONSIBLE FOR LOCATING ANY PROPERTY LINES, UNDERGROUND UTILITIES OR PIPING. ANY DAMAGE TO THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE INSTALLER.
   - 5.4. CONSTRUCTION INSPECTIONS, WATERTIGHT TANK TEST INSPECTION, ADVANTEX™INSTALLATION INSPECTION, AND FINAL OPERATION OF SYSTEM SHALL BE MADE BY THE DEALER/SERVICE PROVIDER AND THE COUNTY OF SANTA CLARA DEPARTMENT OF ENVIRONMENTAL HEALTH. THE INSTALLER SHALL GIVE AT LEAST 24 HOURS NOTICE TO EACH PARTY FOR ALL INSPECTIONS. DESIGNER SHALL PROVIDE AS–BUILT AND FINAL LETTER PER DEH REQUIREMENTS.
6. ELECTRICALWORK
   - 6.1. THE VERICOMM®CONTROL PANEL SHALL BE INSTALLED IN THE LOCATION SHOWN ON THE MAP WITH THE BOTTOM OF THE PANEL BOX AT 51" FROM THE GROUND SURFACE.
   - 6.2. TWO, 20 AMP, 230V AND ONE 20 AMP, 120V ELECTRICAL CIRCUITS SHALL BE EXTENDED TO THE VERICOMM®PANEL IN A SINGLE CONDUIT. UNDERGROUND CIRCUITS IN SEPARATE CONDUITS SHALL BE INSTALLED FROM THE PANEL TO THE RECIRCULATION PUMP AND DISCHARGE PUMP. A SEPARATE UNDERGROUND CONDUIT CONTAINING A LIVE CAT5 PHONE LINE SHALL BE INSTALLED TO THE VERICOMM®PANEL. THE SYSTEM WILL NOT BE FINALLED UNTIL EVERYTHING (INCLUDING PANEL TELEMETRY) IS FUNCTIONAL. LOW VOLTAGE ELECTRICAL LINES SHALL BE RUN TO AUTOMATIC SOLENOID VALVES POSITIONED AT DRAINFIELD.
   - 6.3. ALL WORK SHALL CONFORM TO THE CALIFORNIA ELECTRICAL CODE AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY ELECTRICAL PERMITS REQUIRED.

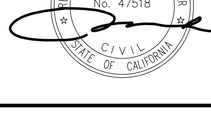
NO.	REVISIONS	BY	DATE	APP'D

NC	DESIGNED	01/22/22 DATE
NC	DRAWN	01/22/22 DATE
1" = 20'	SCALE	
NL	CHECKED	01/26/22 DATE

ENGINEERING
598 E Santa Clara St #270
San Jose, CA 95112
Phone: (408) 806-7187
Fax: (408) 583-4006

SEPTIC SYSTEM PLAN
LAND OF JHA
W SAN MARTIN AVE
APN 779-47-007
California
San Martin

PROJECT NO.
CONTRACT NO.
FILE NO.
DRAWING NO. SS2
SHT NO. 2 OF 3



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Wastewater Pumping Products Catalog | Orenco

High-Head Effluent Pumps

Specifications for Selected PF Series High-Head Effluent Pumps

Pump Model	Design gpm (Used)	Horsepower (kW)	Phase	Nameplate Voltage	Actual Voltage	Design Flow Amps	Maximum Amps	Impellers	Discharge Size and Material[1]	Length, in. (mm)	Min Liquid Level, in. (mm)[2]	Weight, lb. (kg)[3]	Rated Cycles per Day
PF100511	10 (0.6)	0.50 (0.37)	1	115	120	12.7	12.7	6	1 ¼ in. GFP	23.0 (663)	16 (406)	26 (12)	300
PF100512	10 (0.6)	0.50 (0.37)	1	230	240	6.3	6.3	6	1 ¼ in. GFP	23.0 (663)	16 (406)	26 (12)	300
PF100712[4,5]	10 (0.6)	0.75 (0.56)	1	230	240	8.3	8.3	8	1 ¼ in. GFP	25.9 (658)	17 (432)	30 (14)	300
PF101012[4,6]	10 (0.6)	1.00 (0.75)	1	230	240	9.6	9.6	9	1 ¼ in. GFP	27.9 (709)	18 (457)	33 (15)	100
PF200511	20 (1.5)	0.50 (0.37)	1	115	120	12.3	12.5	4	1 ¼ in. GFP	22.3 (566)	18 (457)	25 (11)	300
PF200512	20 (1.5)	0.50 (0.37)	1	230	240	6.4	6.5	4	1 ¼ in. GFP	22.5 (572)	18 (457)	26 (12)	300
PF201012[4,6]	20 (1.5)	1.00 (0.75)	1	230	240	10.5	10.5	7	1 ¼ in. GFP	28.4 (721)	20 (508)	33 (15)	100
PF300511	30 (1.9)	0.50 (0.37)	1	115	120	11.8	11.8	3	1 ¼ in. GFP	21.3 (541)	20 (508)	28 (13)	300
PF300512	30 (1.9)	0.50 (0.37)	1	230	240	6.2	6.2	3	1 ¼ in. GFP	21.3 (541)	20 (508)	25 (11)	300
PF300712	30 (1.9)	0.75 (0.56)	1	230	240	8.5	8.5	5	1 ¼ in. GFP	24.8 (630)	21 (533)	29 (13)	300
PF30073200	30 (1.9)	0.75 (0.56)	3	200	208	4.9	4.9	5	1 ¼ in. GFP	24.6 (625)	21 (533)	30 (14)	300
PF301012[4]	30 (1.9)	1.00 (0.75)	1	230	240	10.4	10.4	6	1 ¼ in. GFP	27.0 (686)	22 (559)	32 (15)	100
PF301512[4,5]	30 (1.9)	1.50 (1.11)	1	230	240	12.6	12.6	8	1 ¼ in. GFP	32.8 (833)	24 (610)	40 (18)	100
PF30153200[4,5]	30 (1.9)	1.50 (1.11)	3	200	208	6.9	6.9	8	1 ¼ in. GFP	29.8 (757)	22 (559)	34 (15)	300
PF301534[4,7]	30 (1.9)	1.50 (1.11)	3	460	480	2.8	2.8	8	1 ¼ in. GFP	29.5 (685)	22 (559)	34 (15)	300
PF500511	50 (3.2)	0.50 (0.37)	1	115	120	12.1	12.1	2	2 in. SS	20.3 (516)	24 (610)	27 (12)	300
PF500512	50 (3.2)	0.50 (0.37)	1	230	240	6.2	6.2	2	2 in. SS	20.3 (516)	24 (610)	27 (12)	300
PF500532	50 (3.2)	0.50 (0.37)	3	230	240	3.0	3.0	2	2 in. SS	20.3 (516)	24 (610)	28 (13)	300
PF50053200	50 (3.2)	0.50 (0.37)	3	200	208	3.7	3.7	2	2 in. SS	20.3 (516)	24 (610)	28 (13)	300
PF500534	50 (3.2)	0.50 (0.37)	3	460	480	1.5	1.5	2	2 in. SS	20.3 (516)	24 (610)	28 (13)	300
PF500712	50 (3.2)	0.75 (0.56)	1	230	240	8.5	8.5	3	2 in. SS	23.7 (602)	25 (635)	31 (14)	300
PF500732	50 (3.2)	0.75 (0.56)	3	230	240	3.9	3.9	3	2 in. SS	23.7 (602)	25 (635)	32 (15)	300
PF500734	50 (3.2)	0.75 (0.56)	3	460	480	1.8	1.8	3	2 in. SS	34.8 (884)	25 (635)	31 (14)	300
PF501012	50 (3.2)	1.00 (0.75)	1	230	240	10.1	10.1	4	2 in. SS	27.0 (686)	26 (660)	35 (16)	100
PF501034	50 (3.2)	1.00 (0.75)	3	460	480	2.2	2.2	4	2 in. SS	26.4 (671)	26 (660)	39 (18)	300
PF501512[4]	50 (3.2)	1.50 (1.11)	1	230	240	12.5	12.6	5	2 in. SS	32.5 (826)	30 (762)	41 (19)	100
PF50153200[4]	50 (3.2)	1.50 (1.11)	3	200	208	7.0	7.0	5	2 in. SS	29.3 (744)	26 (660)	35 (16)	300
PF503012[4,5,7,8]	50 (3.2)	3.00 (2.23)	1	230	240	17.7	17.7	8	2 in. SS	43.0 (1092)	37 (940)	55 (25)	100
PF503034[4,5,8]	50 (3.2)	3.00 (2.23)	3	460	480	5.3	5.3	8	2 in. SS	40.0 (1016)	31 (787)	55 (25)	300
PF751012	75 (4.7)	1.00 (0.75)	1	230	240	9.9	10.0	3	2 in. SS	27.0 (686)	27 (686)	34 (15)	100
PF751512	75 (4.7)	1.50 (1.11)	1	230	240	12.1	12.3	4	2 in. SS	33.4 (848)	30 (762)	44 (20)	100

[1] Discharge is female U.S. Nominal Pipe Thread (NPT) threaded, to accommodate Orenco® discharge hose and valve assemblies. Contact your Orenco Distributor or Orenco about fittings to connect hose and valve assemblies to metric-sized piping. GFP = glass filled polypropylene; SS = stainless steel. Both the 1¼-in. GFP discharge and 2-in. NPT SS discharge are 2¼-in. octagonal across the flats.

[2] Minimum liquid level applies to single pumps when installed in an Orenco Biotube® Pump Vault or Universal Flow Inducer. In other applications, the minimum liquid level is equal to the top of the pump. Contact your Orenco Distributor or Orenco for more information.

[3] Weight includes carton and 10-ft (3-m) power cord.

[4] High-pressure discharge hose and valve assembly required.

[5] Do not use cam-lock option (Z) on discharge assembly.

[6] Custom discharge assembly required for this pump. Contact your Orenco Distributor or Orenco for more information.

[7] Capacitor pack (sold separately or installed in an Orenco Controls custom control panel) required for this pump. Contact your Orenco Distributor or Orenco for more information.

[8] Torque locks supplied with 3-hp and 5-hp pumps (and available for all other PF series pumps)

Orenco® | *Wastewater Pumping Products Catalog*

High-Head Effluent Pumps

PF Series High-Flow Submersible Effluent Pumps (PF)

PF Series High-Flow Submersible Effluent Pumps are designed to transport screened effluent with low counts of Total Suspended Solids (TSS) in high-flow Advan*flex*® AX-Max and AX-Mobile Treatment Systems. They are also used in pump applications that require both high head and high flows. To provide high head and high flow, PF Series high-flow pumps combine a 6-inch (150-mm) liquid end and a 4-inch (100-mm) pump motor. PF high-flow pumps are lightweight and made of corrosion-resistant stainless steel and engineered plastics. They are field-serviceable with common tools. PF high-flow pumps are not rated for run-dry capability.

- Lightweight
- Constructed of corrosion-resistant stainless steel and engineered plastic
- Requires 8-inch (200-mm) flow inducer
- 60-Hz and 50-Hz models available
- Super Stainless motor by Franklin Electric; rated for continuous use
- Motor rated for frequent cycling
- Type 14/4 SOOW 600-V motor cable for 145-gpm (9.2 L/sec) pumps and 3-phase 120-gpm (7.6 L/sec) pumps; suitable for Class I, Division 1 and Division 2 applications (145-gpm pumps)
- Type 16/3 SOOW 600-V motor cable for single-phase 120-gpm (7.2 L/sec) pumps; suitable for Class I, Division 1 and Division 2 applications
- 5-year warranty on pump or liquid end from date of manufacture against defects in materials or workmanship
- CSA certified to US and Canadian safety standards
- Manufactured exclusively for Orenco

Sample Product Codes*

- PF1452012 — PF series high-flow submersible effluent pump; 145 gpm (9.2 L/sec); 2-hp (1.5 kW); 60-Hz; single phase; 230 VAC; 11.2 A; single impeller; 3-inch NPT, stainless steel discharge end; rated 100 cycles per day
- PF1452032 — PF series high-flow submersible effluent pump; 145 gpm (9.2 L/sec); 2-hp (1.5 kW); 60-Hz; three-phase; 230 VAC; 6.7 A; single impeller; 3-inch NPT, stainless steel discharge end; rated 300 cycles per day
- PF1452034 — PF series high-flow submersible effluent pump; 145 gpm (9.2 L/sec); 2-hp (1.5 kW); 60-Hz; three-phase; 460 VAC; 3.5 A; single impeller; 3-inch NPT, stainless steel discharge end; rated 300 cycles per day
- PF1201552 — PF series high-flow submersible effluent pump; 120 gpm (7.2 L/sec); 1.5 hp (1.1 kW); 50-Hz; single phase; 220 VAC; 8.8 A; single impeller; 3-inch NPT, stainless steel discharge end; rated 100 cycles per day

PF Series High-Flow Effluent Pump

Franklin Electric

** For the full range of standard options, see the "Product Ordering Information" section in this catalog.*

Orenco® | *Wastewater Pumping Products Catalog*

Biotube® Pump Vaults and Flow Inducers

Flow Inducer Towers (FIT)

Flow Inducer Towers manufactured by Orenco® are used to house two to five Orenco high-head effluent pumps in recirculation tanks or final discharge tanks following filtration or secondary treatment in commercial and municipal wastewater systems. For tanks with curved bottoms, an Orenco vault basin is required to create a flat surface on which the flow inducer tower can rest. Flow inducer towers include a float bracket for attaching an Orenco float switch assembly (ordered separately).

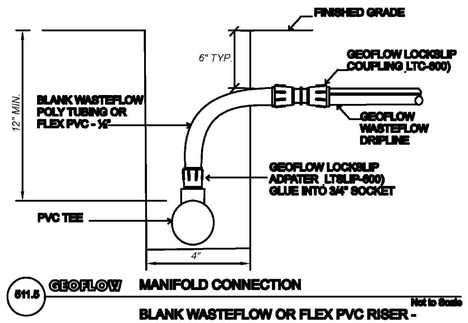
- Fiberglass structural plates and tower base
- PVC flow inducer tubes and float bracket
- Schedule 80 PVC support pipes.
- Models available to house two, three, four, or five 4-inch (100-mm) high-head effluent pumps
- Recirculation or discharge tank models available
- Eight inlet holes per flow inducer tube
- 2-inch (50-mm) inlet hole diameter
- 19¼-inch (483-mm) inlet hole height for recirculation tank models
- 9-inch (229-mm) inlet hole height for discharge tank models

Sample Product Codes*

- FITR-D102 — flow inducer tower, recirculation tank; duplex towers; 102-inch (2590-mm) tower height
- FITR-Q126 — flow inducer tower, recirculation tank; quad towers; 126-inch (3200-mm) tower height
- ▶ FITD-D102 — flow inducer tower, discharge tank; duplex towers; 102-inch (2590-mm) tower height
- FITD-Q126 — flow inducer tower, discharge tank; quad towers; 126-inch (3200-mm) tower height
- VB1806-FRP — vault basin for rounded tanks

** For the full range of available product options, contact your local Orenco Distributor or Orenco.*

Orenco Flow Inducer Tower

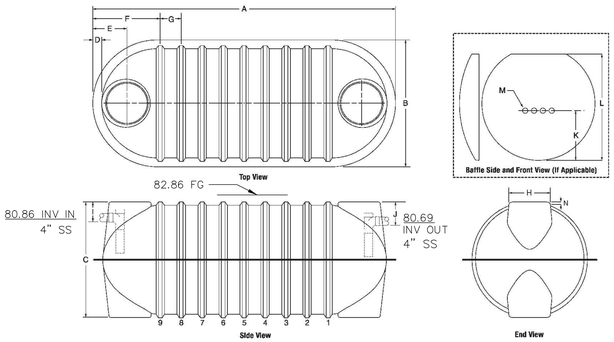


811.5 GEOFLOW MANIFOLD CONNECTION — Not to Scale

BLANK WASTEFLOW OR FLEX PVC RISER - TRENCH VIEW

APPLICANT : JHA ROAD NAME : W SAN MARTIN AVE

Orenco SYSTEMS *Product Sheet*



Specifications

		1000 gal. (3785 L)	1500 gal. (5678 L)
Dimensions, in. (mm)			
A	Length	121.0 (3073)	168.0 (4270)
B	Width	72.0 (1830)	72.0 (1830)
C	Height	64.5 (1640)	64.5 (1640)
D	Flange width	5.5 (140)	5.5 (140)
E	End to center of tank access	21.5 (550)	21.5 (550)
F	End to first rib	37.0 (940)	37.0 (940)
G	Rib spacing	11.6 (295)	11.6 (295)
H	Outside diameter of tank access	23.5 (600)	23.5 (600)
I	Inlet invert (typical)	11.0 (280)	11.0 (280)
J	Outlet invert (typical – if used)	13.0 (330)	13.0 (330)
K	Height to pass-through holes (typ.)**	30.0 (760)	30.0 (760)
L	Height to top of baffle	60.0 (1520)	60.0 (1520)
M	Pass-through hole diameter	3.0 (76)	3.0 (76)
N	Riser adapter depth	1.5 (38)	1.5 (38)
Weight, lbs (kg)			
1-compartment (assembled)		390 (177)	590 (268)
2-compartment (assembled)		420 (191)	620 (281)
Volume, gal. (L)			
Volume to typical invert of inlet		1086 (4111)	1615 (6112)
Volume to typical invert of outlet		1050 (3974)	1561 (5908)
Total tank volume (approximate)		1210 (4580)	1800 (6813)

* *Detailed drawings and additional technical documentation are available, including volume charts and installation instructions.*
** *Other baffle configurations are available.*

Model Code

T [1500] - [22] - [18] / [18] - [11] / [13] - [30] / [30]

- Tank
- Tank size (gallons): 1000, 1500
- Number of compartments and baffle location (ribs 1 through 9): 01 = one compartment; 22 = two compartments, rib #2; 23 = two compartments, rib #3, etc.
- Diameter of access riser openings (inlet side/outlet side): Blank = no openings; 12"; 20"; 22"; C = custom; specify
- Depth to inverts (inlet/outlet): Blank = no openings; 11"; 13"; C = custom; specify
- Riser connections (inlet/outlet): Blank = accepts 24" riser (no adapter needed); 12 = accepts 12" riser (no adapter needed); 30 = 30" diameter adapter installed

To Order

Call your nearest Orenco Systems®, Inc. Distributor. For nearest Distributor, call Orenco at 800-348-9843, or visit www.orenco.com and click on "Where to Buy."

Pump Selection for a Pressurized System - Single Family Residence Project
Lands of Jha / 0 W. San Martin Avenue, San Martin

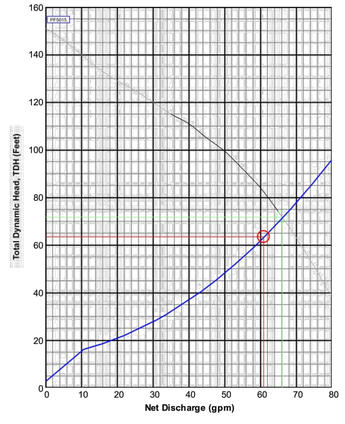
Parameters		
Discharge Assembly Size	2.00	inches
Transport Length Before Valve	22	feet
Transport Pipe Class	40	
Transport Line Size	2.00	inches
Distributing Valve Model	6404	
Transport Length After Valve	95	feet
Transport Pipe Class	40	
Transport Pipe Size	2.00	inches
Max Elevation Lift	3	feet
Manifold Length	90	feet
Manifold Pipe Class	40	
Manifold Pipe Size	1.25	inches
Number of Laterals per Cell	12	
Lateral Length	90	feet
Lateral Pipe Class	40	
Lateral Pipe Size	1.50	inches
Orifice Size	1/8	inches
Orifice Spacing	2	feet
Residual Head	5	feet
Flow Meter	1.5	inches
'Add-on' Friction Losses	0	feet

Calculations		
Minimum Flow Rate per Orifice	0.43	gpm
Number of Orifices per Zone	138	
Total Flow Rate per Zone	60.9	gpm
Number of Laterals per Zone	3	
% Flow Differential 1st/Last Orifice	7.5	%
Transport Velocity Before Valve	5.8	fps
Transport Velocity After Valve	5.8	fps

Frictional Head Losses		
Loss through Discharge	7.4	feet
Loss in Transport Before Valve	1.3	feet
Loss through Valve	20.1	feet
Loss in Transport after Valve	5.5	feet
Loss in Manifold	10.3	feet
Loss in Laterals	0.8	feet
Loss through Flowmeter	10.1	feet
'Add-on' Friction Losses	0.0	feet

Pipe Volumes		
Vol of Transport Line Before Valve	3.8	gals
Vol of Transport Line After Valve	16.6	gals
Vol of Manifold	6.9	gals
Vol of Laterals per Zone	28.6	gals
Total Vol Before Valve	3.8	gals
Total Vol After Valve	52.1	gals

Minimum Pump Requirements		
Design Flow Rate	60.9	gpm
Total Dynamic Head	63.5	feet

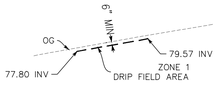


PumpData
PF5015 High Head Effluent Pump
50 GPM, 1-1/2HP
230V 1Ø 60Hz, 200V 3Ø 60Hz

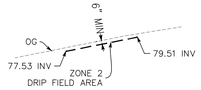
Legend
System Curve:
Pump Curve:
Pump Optimal Range:
Operating Point:
Design Point:

Orenco Systems® Incorporated
Changing the Way the World Does Wastewater®

PUMP SELECTION

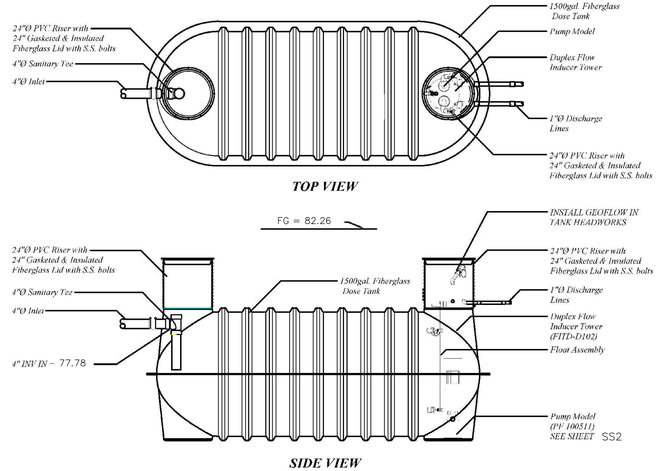


SECTION S–S

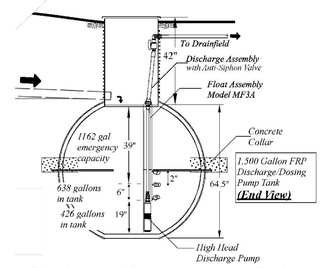


SECTION T–T

EROSION CONTROL PLAN
SCALE 1" = 20'



1500 GALLON DOSE TANK DETAIL
NOT TO SCALE



Discharge / Dosing Pump Tank

Orenco 1500 Gallon FRP tanks have a Max. Volume Capacity = 1,800 gallons

Float Functions	
Y	High Level Alarm
G	Override Timer ON/OFF
W	LLA/RO
B	Pump On
R	Pump Off

Emergency Storage/Surge Capacity:
Dosing Tank: upper 39" = 1,162 gal

TOTAL: 1,162 gal
REQUIRED: 1,012.5 gal
based on 1.5 day multiplier
of design flow rate (675 gpd)
675 GPD X 1.5 = 1,012.5 gal
1,800 gal - 638 gal = 1,162 gal

REGISTERED PROFESSIONAL ENGINEER N. M. LE No. 47518 CIVIL STATE OF CALIFORNIA

NO.	REVISIONS	BY	DATE	APP'D

NC DESIGNED 01/22/22 DATE
NC DRAWN 01/22/22 DATE
1" = 20' SCALE
NL CHECKED 01/26/22 DATE

LE ENGINEERING
598 E Santa Clara St #270
San Jose, CA 95112
Phone: (408) 806-7187
Fax: (408) 583-4006

SEPTIC SYSTEM PLAN
LAND OF JHA
W SAN MARTIN AVE
APN 779-47-007
California

PROJECT NO.
CONTRACT NO.
San Martin

DRAWING NO. SS3
SHT NO. 3 OF 3
FILE NO.

4/4/2022 4:32:48 PM

APPLICANT : JHA

ROAD NAME : W SAN MARTIN AVE