



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF WATER RESOURCES
20653 DUPONT BLVD
UNIT 5
GEORGETOWN, DE 19947

October 7, 2016

Kim Yanaitis.
Septic Solutions, LLC
13 Charles Point
Newark, DE 19702-2227

RE: Approval of the SSLLC-FRALO-RMT750 Pre-Engineered Lift Station

Dear MS. Yanaitis,

The Division of Water Resources has received and reviewed your request to approve your SSLLC- FRALO-RMT750 pre-engineered lift station; to be used in conjunction with Class B designed or other gravity fed on-site wastewater treatment and disposal systems in Delaware. We are pleased to inform you that we are able to **approve** the lift station referenced above, provided that they are installed in accordance with the designers proposed components and specific permit conditions. The tank manufacturer's anti-bouyancy protocol must be adhered to

Additionally, specific components (brands, model numbers, etc...) should be listed on permit insert sheet. As a condition of this approval, no substitution of components is allowed without written approval from the design engineer and pre-approval from the Department.

If you have any other questions please contact me at 856-4561.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jim Cassidy".

James Cassidy
Program Manager I
Ground Water Discharges Section

Cc: file

Delaware's good nature depends on you!

SEPTIC SOLUTIONS, LLC

13 Charles Pointe
Newark, DE 19702-2227
(302) 438-7498
kyanaitis@comcast.net

September 20, 2016

James Cassidy
DNREC
20653 DuPont Boulevard
Unit 5
Georgetown, DE 19947

RE: PRE-ENGINEERED LIFT STATION
SSLLC-FRALO RMT 750

Dear Jim,

Enclosed please find the design package for a pre-engineered lift station.

The station has been designed for a 4 Bedroom house using a Fralo RMT 750 tank with a maximum static head of 40'.

Please review the design at your earliest convenience. If you should have any questions or require additional information, please do not hesitate to contact me.

Sincerely,

Kimberly A. Yanaitis, P.E.

PROJECT NAME: SLLC-FRALO RMT 750
LIFT PUMP PACKAGE

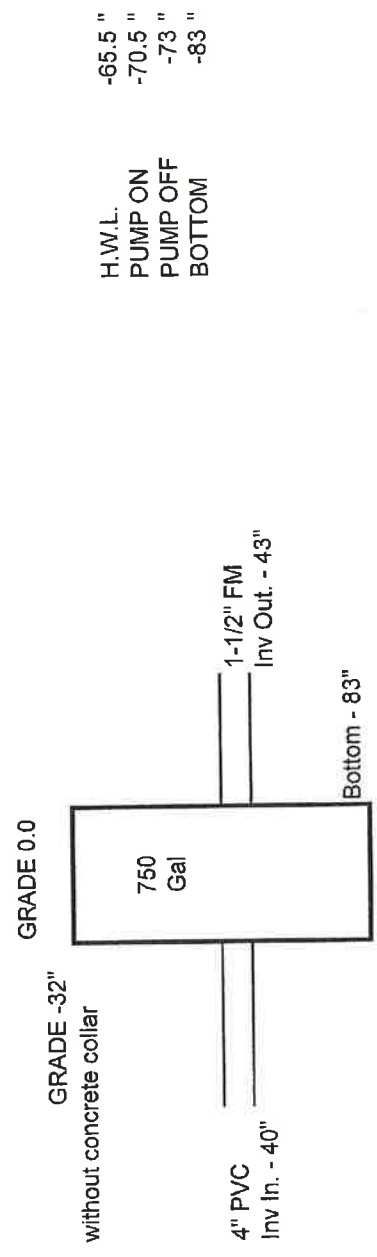
Date: 9/20/2016
Design: KAY
Page: 1 of 2

1 LF TRANSMISSION LINE, 40' STATIC HEAD (MAX)

AVERAGE FLOW: 480 GPD (0.33 GPM)

FORCE MAIN SIZE:
 $D_{max} = 0.404 \cdot \sqrt[5]{Q \cdot peak}$
 $D_{max} = 0.404 \cdot \sqrt[5]{0.33 \cdot GPM}$
 $D_{max} = 0.21"$

Use 1-1/2" SCHD 40 FM



STATIC HEAD: SH = HIGH POINT - PUMP OFF
 SH = 40 FT



PIPE AND FITTING SCHEDULE

Date: 9/28/2014
Design: KAY
Page: 2 of 2

Q (GPM)	1-1/4" STEEL		1-1/2" PVC (SDR-21)	
	V ² / 2G	Hf (ft/100 ft)	V ² / 2G	Hf (ft/100 ft)
20	0.286	6.34	0.124	1.89

FITTING K-VALUE

1-1/4" CHECK VALVE 0.1
1-1/4" GATE VALVE 0.2
1-1/4" 90 BEND 1.3
1-1/4" X 1-1/2" REDUCEF 0.15 ASSUMED
1-1/2" 45 BEND 0.65 ASSUMED

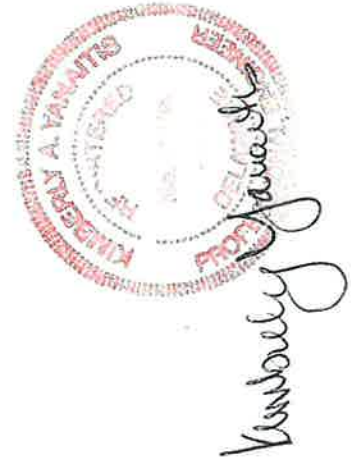
Note: K-values per Supplement to NCC Std. Spec
Construction Section 35.16, Part 5
Sample Designs for Sewage Pumping Stations

LOSSES

20 GPM						
1-1/4" CHECK VALVE (STEEL)	1	*	0.286	*	0.1	0.02860
1-1/4" GATE VALVE (STEEL)	1	*	0.286	*	0.2	0.05720
1-1/4" 90 BEND (STEEL)	5	*	0.286	*	1.3	1.85900
1-1/4" X 1-1/2" INCREASER	1	*	0.286	*	0.15	0.04290
1-1/2" 45 BEND (PVC)	3	*	0.124	*	0.65	0.24250
1-1/2" STEEL FM	4	*	6.34	(/100)		0.2536
1-1/2" PVC FM	1	*	1.89	(/100)		0.01890
STATIC HEAD						40.00
TOTAL						42.50

WET WELL VOLUME - RMT 750

PUMP ON TO PUMP OFF = 2.5"
VOLUME = 18.5 GAL (Per Fralo Specifications)



PROJECT NAME: SLLC-FRALO RMT 750
LIFT PUMP PACKAGE

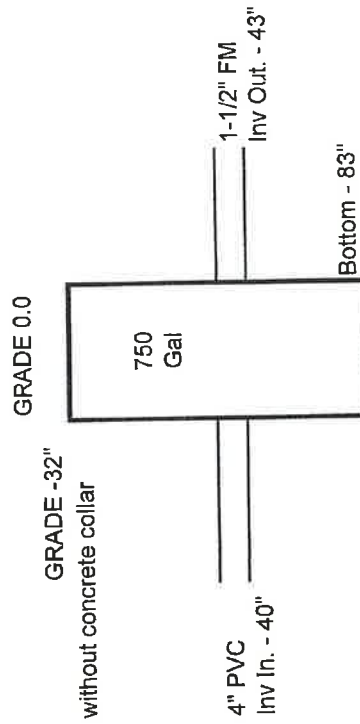
Date: 9/20/2016
Design: KAY
Page: 1 of 2

300 LF TRANSMISSION LINE, 40' STATIC HEAD (MAX)

AVERAGE FLOW: 480 GPD (0.33 GPM)

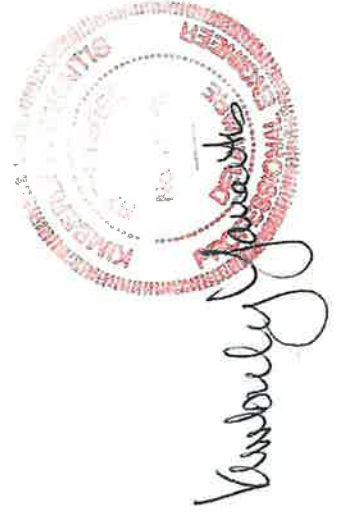
FORCE MAIN SIZE:
 $D_{max} = 0.404 \cdot \sqrt[4]{Q \text{ peak}}$
 $D_{max} = 0.404 \cdot \sqrt[4]{0.33 \text{ GPM}}$
 $D_{max} = 0.21"$

Use 1-1/2" SCHD 40 FM



H.W.L. -65.5 "
PUMP ON -70.5 "
PUMP OFF -73 "
BOTTOM -83 "

STATIC HEAD: SH = HIGH POINT - PUMP OFF
SH = 40 FT



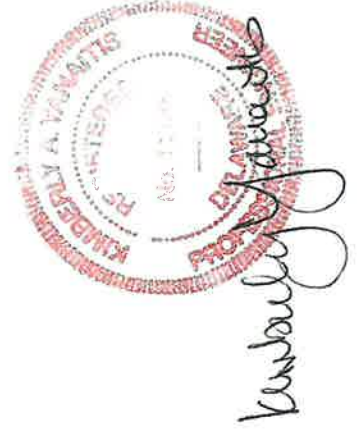
Date: 9/28/2014
Design: KAY
Page: 2 of 2

**Note: K-values per Supplement to NCC Std. Spec
Construction Section 35.16, Part 5
Sample Designs for Sewage Pumping Stations**

TOTAL

WET WELL VOLUME - RMT 750

(Per Fralo Specifications)



2.5" = 18.5 gal

RMT-300 Capacity Chart		
Height (inches)	Gallons in Tank	
0	0	0
1	3	4
2	7	7
3	9	14
4	12	20
5	18	27
6	23	33
7	28	44
8	33	55
9	39	65
10	44	76
11	51	87
12	58	97
13	65	108
14	72	118
15	79	133
16	86	148
17	94	162
18	102	177
19	110	190
20	118	203
21	126	216
22	134	229
23	142	242
24	151	255
25	159	268
26	167	281
27	175	294
28	183	307
29	191	319
30	200	332
31	208	345
32	216	358
33	224	370
34	232	383
35	239	395
36	246	408
37	253	418
38	259	429
39	266	440
40	273	452
41	278	463
42	284	474
43	289	483
44	294	492
45	298	501
46	304	510
47	308	516
48	313	523
49	316	529
50	319	535
51	322	
52	325	

RMT-500 Capacity Chart		
Height (inches)	Gallons in Tank	
0	0	0
1	1	4
2	2	7
3	3	14
4	4	20
5	5	27
6	6	33
7	7	44
8	8	55
9	9	65
10	10	76
11	11	87
12	12	97
13	13	108
14	14	118
15	15	133
16	16	148
17	17	162
18	18	177
19	19	190
20	20	203
21	21	216
22	22	229
23	23	242
24	24	255
25	25	268
26	26	281
27	27	294
28	28	307
29	29	319
30	30	332
31	31	345
32	32	358
33	33	370
34	34	383
35	35	395
36	36	408
37	37	418
38	38	429
39	39	440
40	40	452
41	41	463
42	42	474
43	43	483
44	44	492
45	45	501
46	46	510
47	47	516
48	48	523
49	49	529
50	50	535

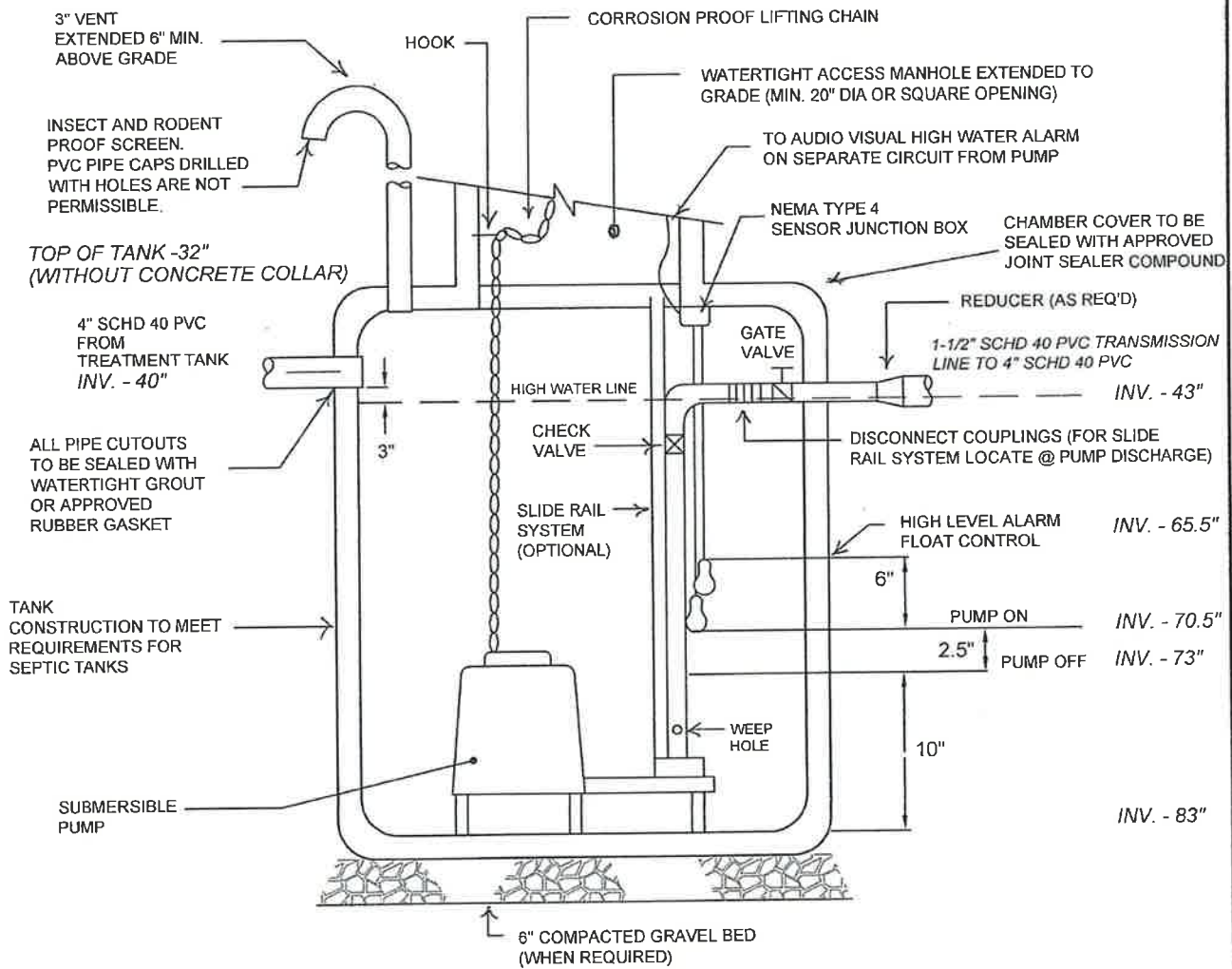
RMT-750 Capacity Chart		
Height (inches)	Gallons in Tank	
0	0	0
1	1	14
2	2	23
3	3	33
4	4	48
5	5	65
6	6	83
7	7	101
8	8	122
9	9	144
10	10	166
11	11	187
12	12	210
13	13	234
14	14	257
15	15	284
16	16	308
17	17	333
18	18	357
19	19	382
20	20	407
21	21	432
22	22	455
23	23	478
24	24	501
25	25	521
26	26	548
27	27	576
28	28	599
29	29	623
30	30	648
31	31	673
32	32	697
33	33	721
34	34	742
35	35	762
36	36	785
37	37	809
38	38	833
39	39	853
40	40	875
41	41	893
42	42	917
43	43	938
44	44	953
45	45	970
46	46	979
47	47	985
48	48	993
49	49	1000
50	50	1000

RMT-900 Capacity Chart		
Height (inches)	Gallons in Tank	
0	0	0
1	1	7
2	2	13
3	3	24
4	4	35
5	5	52
6	6	68
7	7	92
8	8	115
9	9	139
10	10	163
11	11	186
12	12	208
13	13	241
14	14	273
15	15	302
16	16	330
17	17	357
18	18	383
19	19	411
20	20	438
21	21	468
22	22	498
23	23	528
24	24	558
25	25	583
26	26	608
27	27	636
28	28	663
29	29	691
30	30	719
31	31	749
32	32	779
33	33	808
34	34	833
35	35	861
36	36	888
37	37	915
38	38	941
39	39	966
40	40	990
41	41	1009
42	42	1028
43	43	1051
44	44	1073
45	45	1093
46	46	1113
47	47	1130
48	48	1147
49	49	1154
50	50	1161

RMT-1000E Capacity Chart		
Height (inches)	Gallons in Tank	
0	0	0
1	1	7
2	2	13
3	3	24
4	4	35
5	5	52
6	6	68
7	7	92
8	8	115
9	9	139
10	10	163
11	11	186
12	12	208
13	13	241
14	14	273
15	15	302
16	16	330
17	17	357
18	18	383
19	19	411
20	20	438
21	21	468
22	22	498
23	23	528
24	24	558
25	25	583
26	26	608
27	27	636
28	28	663
29	29	691
30	30	719
31	31	749
32	32	779
33	33	806
34	34	833
35	35	861
36	36	888
37	37	915
38	38	941
39	39	968
40	40	990
41	41	1009
42	42	1028
43	43	1051
44	44	1073
45	45	1093
46	46	1113
47	47	1130
48	48	1147
49	49	1154
50	50	1161

RMT-1060 Capacity Chart		
Height (inches)	Gallons in Tank	
0	0	0
1	1	10
2	2	20
3	3	37
4	4	55
5	5	76
6	6	97
7	7	120
8	8	144
9	9	174
10	10	203
11	11	234
12	12	266
13	13	294
14	14	323
15	15	356
16	16	390
17	17	423
18	18	457
19	19	488
20	20	520
21	21	552
22	22	584
23	23	618
24	24	653
25	25	684
26	26	715
27	27	750
28	28	785
29	29	818
30	30	847
31	31	880
32	32	913
33	33	947
34	34	982
35	35	1014
36	36	1047
37	37	1077
38	38	1107
39	39	1142
40	40	1177
41	41	1202
42	42	1227
43	43	1243
44	44	1259
45	45	1275
46	46	1290
47	47	1303
48	48	1316
49	49	1327
50	50	1337

GRADE 0" (WITHOUT ADDITIONAL RISERS)



NOTES:

1. EXCAVATION LIMITS SHALL EXTEND AT LEAST 2 FEET BEYOND TANK PERIMETER.
2. ALL PIPE TO BE SCHEDULE 40 PVC.
3. CHAMBER TO BE SIZED ACCORDING TO REQUIREMENTS OF DOSING VOLUME AND STORAGE. SEE EXHIBIT I.
4. ALL DOSING CHAMBER COMPONENTS SHALL BE FIELD TESTED TO INSURE ACCURACY, WATER TIGHTNESS AND PROPER OPERATION OF ALL PUMPS AND ALARM CONTROLS.
5. ALL ELECTRICAL CONNECTIONS SHALL BE WATERPROOF, CORROSION RESISTANT AND EXPLOSION PROOF.

TYPICAL DIMENSIONS (ID)

LENGTH:	103"
WIDTH:	62"
HEIGHT:	51"
HEIGHT TO INLET:	43"

USING GATE VALVE, ADJUST
FLOW FOR APPROX. 20 GPM
(1 GAL / 3 SEC)

PARTS LIST

PUMP: GOULDS MODEL 3885, WE07H, 3/4 HP
CONTROL PANEL: TANK ALERT XT
FLOAT: SJE SIGNALMASTER CONTROL SWITCH

1-1/2" SCHD 40 PVC: 1 LF - 300 LF (MAX)
VERTICAL LIFT = 40' (MAX)

FRALO RMT-750
PRE-ENGINEERED LIFT STATION
(N.T.S.)

SSLLC-FRALO RMT 750



BUOYANCY CALCULATIONS

MATERIAL	#/CF	#/GAL
SOIL (dry)	100	
SOIL (saturated)	117	
SOIL (net)	83	
WATER	62.4	8.34
CONCRETE	150	

VESSEL	WEIGHT (POUNDS) W	VOLUME (GALLONS) V	AREA (SQ FT) A	COVER (#/INCH) CW	WEIGHT DISPLACED WD=V*8.34	BUOYANT FORCE (POUNDS) BF=WD-W	COVER REQUIRED (INCHES) BF/CW
ST-500	335	537	21.8	150.8	4478.58	4253.58	28.2
ST-750	360	1007	36.8	254.5	8398.38	8038.38	31.6
ST-900	400	1147	49.3	298.5	9585.83	9185.83	32.4
ST-1060	520	1337	50	345.8	11150.58	10630.58	30.7
ST-1250	560	1464	56.3	389.4	12209.76	11649.76	29.9
ST-1500	640	1771	68.9	476.6	14770.14	14130.14	29.7

If cover over
tank is less
than 31.6",
a concrete collar
is required.

NOTES:

1. AREA OF TANKS IS CALCULATED WITHOUT MANHOLES.
 2. BUOYANCY FORCE IS ASSUMING SATURATED SOIL (WORST CASE SCENARIO).
 3. THE NUMBERS CAN BE CHANGED BY CHANGING THE DRY SOIL WEIGHT FOR SITE CONDITIONS..
 4. WET SOIL WEIGHT IS INDEXED TO DRY SOIL.
 5. TANK IS ASSUMED TO BE FULLY SUBMERGED, IF ONLY 50% SUBMERGED, FORCES ARE HALVED.
 6. ALL CALCULATIONS ARE BASED ON AN EMPTY TANK.
 7. PLEASE SEE THE ROTH RESTRAINING COLLAR DRAWING FOR HIGH GROUNDWATER.
- THE SAFETY FACTOR NOTED ON THE DRAWING
DOES NOT CONSIDER THE LOADING OF THE EARTH ON TOP OF THE TANK.



YOUR ENVIRONMENT IS OUR BUSINESS.



**POLY
TANKS**

INSTALLATION PROCEDURES - High Groundwater

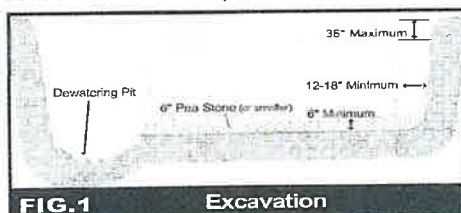
These installation instructions apply to sites with high groundwater.

Step 1: Site Preparation & Notes

- Read "Key Roth Installation Facts" first (applies to Roth MultiTank® OR the FRALO Septec Tank)
- Max burial depth is 36" below grade, unless deep burial instructions (steps 11 & 12) on "Key Installation Facts" are followed.
- Absolutely no clay should be used for backfill.
- Inspect tank for any damage during handling or transportation.
- Tank must be uniformly supported.
- Failure to properly bed tank and compact fill will void the warranty.
- Absolutely no water is required for backfill. The tank is designed to be backfilled without water. Filling the tank with water prior to backfilling is not necessary and may cause installation problems. A nominal amount of water (6-8") may be used to ballast the tank during backfilling.

Step 2: Excavation Size

- Width and length of excavation shall be 12-18" greater than the tank on all sides and ends (FIG.1).
- Depth of the excavation shall be 6" greater than the tank (FIG.1).
- Lengthen and deepen excavation at one end to provide dewatering pit as necessary.
- Do not over excavate or "belly-out" the excavation.

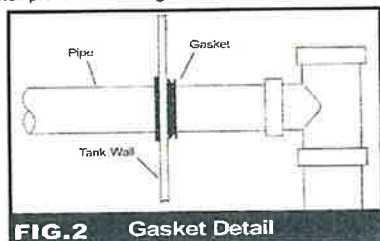


Step 3: Bedding the Tank

- Add pea stone, sand, gravel or other similar granular material to bed the tank and ensure uniform compaction and that bed is level (FIG.1)
- Native material may be used to bed the tank providing it is properly placed and compacted.
- Keep excavation free of water at all times.

Step 4: Tank Installation

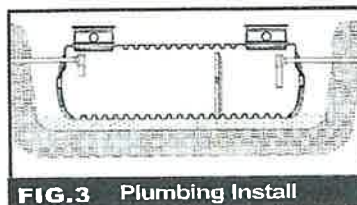
- Prepare the tank for installation. Identify the inlet and outlet ends of the tank. Inlet and outlet may be located on the end or either side ports (per code requirements).
- For standard installation, identify drill location A (40" Liquid Level). Drill the inlet and outlet holes using a 5-inch diameter hole saw. (FL & IN tanks are pre-drilled)
- IMPORTANT NOTE:** For AZ, IL, NE drill dimple B (42" Liquid Level). Florida & Indiana tanks are pre-drilled at the factory.
- Install provided rubber gasket in inlet and outlet ports. (Fig. 2)



- Install the inlet and outlet tees, as required. (Fig. 3) Plumbing tees shall be located as close to the entrance point of the tank as possible (just inside the manway opening). Plumbing tees and gas-balloons are factory provided for Indiana tanks.

Step 4: Tank Installation (cont'd)

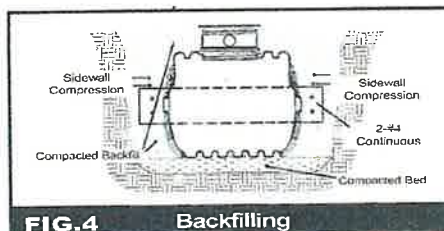
- Install the required Roth threaded Septic Access Riser System (STAR™), provided separately. (Fig. 3) See reverse for directions for sealing the riser system.
- Using the corner lifting holes, lower the tank into the excavation. Level the tank, and verify the outlet is lower than the inlet. Install remaining inlet and outlet plumbing. (Fig. 3)



- Perform required water tightness, plumbing and/or tank inspection if applicable.

Step 5: Backfill

- Backfill in an alternating method around the tank using native material free of debris, sharp stones, and stones greater than 2" in diameter. Soil MUST flow freely into corrugations between tank ribs, including midpoint to belly of tank.
- Compact backfill in 6 inch lifts always working on the sides first and then the bulkheads (ends of tank).
- Stop backfilling 6" under mold part-line and add concrete collar.
- Add 16" W x 12" T concrete collar all the way around tank with 2-#4 rebar as shown.
- Use a hand tamper to achieve sidewall compression through compacted backfill. Mechanical compactors may be used if available on the site. Sidewall compression is essential to provide sidewall restraint after covering the tank. (Fig. 4)



- When backfilling the top of the tank, backfill between risers first.
- Complete backfilling and grade the area.
- Failure to compact fill voids the tank warranty.



WARNING

- Tanks are designed for underground use only.
- Installer shall comply with all federal, state, and local regulations.
- Tanks are not rated for vehicular traffic. Avoid operation of vehicles heavier than 2500 pounds over the tank.
- Internal water temperatures should not exceed 140° F.
- Verify no underground utilities or pipes are located in the excavation vicinity.
- Where saturated soil or seasonal high water tables are indicated between the bottom of the tank and the ground surface, see separate supplemental installation instructions for these site conditions.
- Secure tank access by installing provided stainless steel fastener to the riser and cover.

Roth Global Plastics, Inc.

All sales of Roth Global Plastics, Inc. products are subject to a limited warranty. Failure to follow installation instructions may void warranty. Owners are solely responsible for product suitability, installation and use. Please see Roth Global Plastics, Inc. Terms and Conditions of Sale for details.
Roth Global Plastics, Inc. • For Technical Assistance Call 866.943.7256 • www.roth-usa.com

HIGH GROUNDWATER

HIGH GROUNDWATER

HIGH GROUNDWATER

IF Req'd

TECHNICAL BROCHURE

B3885



FEATURES

Impeller: Cast iron, semi-open, non-clog with pump-out vanes for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller available as an option.

Casing: Cast iron volute type for maximum efficiency. 2" NPT discharge.

Mechanical Seal: Silicon Carbide vs. Silicon Carbide sealing faces. Stainless steel metal parts, BUNA-N elastomers.

Shaft: Corrosion-resistant, stainless steel. Threaded design. Locknut on all models to guard against component damage on accidental reverse rotation.

Fasteners: 300 series stainless steel.

Capable of running dry without damage to components.

Designed for continuous operation when fully submerged.

EXTENDED WARRANTY AVAILABLE FOR RESIDENTIAL APPLICATIONS.

WE Series

Model 3885

SUBMERSIBLE EFFLUENT PUMPS

 **GOULDS**
WATER TECHNOLOGY
a xylem brand

Wastewater

APPLICATIONS

Specifically designed for the following uses:

- Homes, Farms, Trailer Courts, Motels, Schools, Hospitals, Industry, Effluent Systems

SPECIFICATIONS

Pump

- Solids handling capabilities: $\frac{3}{4}$ " maximum.
- Discharge size: 2" NPT.
- Capacities: up to 140 GPM.
- Total heads: up to 128 feet TDH.
- Temperature: 104°F (40°C) continuous, 140°F (60°C) intermittent.
- See order numbers on reverse side for specific HP, voltage, phase and RPM's available.

MOTORS

- Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.
- Class B insulation on $\frac{1}{3}$ - 1½ HP models.
- Class F insulation on 2 HP models.

Single phase (60 Hz):

- Capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.

- SJTOW or STOW severe duty oil and water resistant power cords.

- $\frac{1}{3}$ - 1 HP models have NEMA three prong grounding plugs.

- 1½ HP and larger units have bare lead cord ends.

Three phase (60 Hz):

- Class 10 overload protection must be provided in separately ordered starter unit.

- STOW power cords all have bare lead cord ends.

- Designed for Continuous Operation: Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.

- Bearings: Upper and lower heavy duty ball bearing construction.

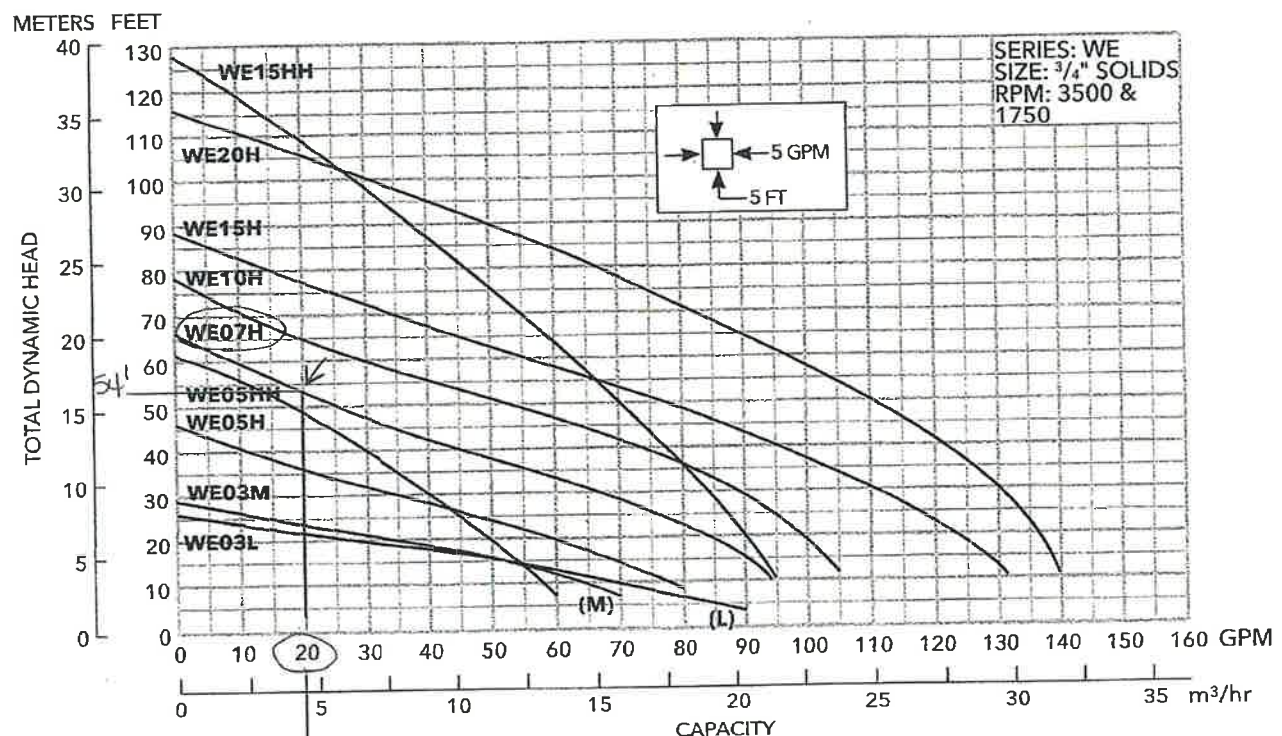
- Power Cable: Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. Standard cord is 20'. Optional lengths are available.

- O-ring: Assures positive sealing against contaminants and oil leakage.

AGENCY LISTINGS



Tested to UL 778 and CSA 22.2 108 Standards
By Canadian Standards Association File #LR38549



TANK ALERT® XT Alarm System

Versatile, indoor or outdoor liquid level alarm system.

This alarm system monitors liquid levels in lift pump chambers, sump pump basins, holding tanks, sewage, agricultural, and other water applications.

The Tank Alert® XT indoor/outdoor alarm can serve as a high or low level alarm depending on the float switch model used.

The alarm horn sounds and the red beacon illuminates when a potentially threatening liquid level condition occurs. The horn can be silenced, but the alarm light remains on until the condition is remedied. Once the condition is cleared, the alarm will automatically reset.

A "power on" light on the switch indicates power to the alarm panel.



FEATURES

- Enclosure meets Type 3R water-tight standard.
- Automatic alarm reset, horn silence switch, and alarm test switch.
- Alarm horn sounds at 85 decibels at 10 feet (3 meters).
- Alarm system (when installed on separate circuit) operates even if pump circuit fails.
- Complete package includes standard SJE SignalMaster® control switch with 15 feet (4.57 meters) of cable (other lengths available) and mounting clamp.
- UL Listed for indoor or outdoor use.
- CSA Certified.
- Five-year limited warranty.



OPTIONS

When ordered with the alarm, the system is available with:

- alternate float switch models for high or low liquid level warning.
- auxiliary dry normally open contacts for easy attachment of remote devices.
- premounted terminal block so enclosure can also be used as a junction box for splicing pump, pump switch, and pump power. Meets NEC standard for junction boxes.
- 6 foot (1.8 meter) power cord and liquid-tight connectors.

SPECIFICATIONS

VOLTAGE: 120 VAC, 50/60 Hz

ALARM ENCLOSURE: 6.5 x 4.5 x 3.0 inch (16.51 x 11.43 x 7.62 cm), indoor-outdoor, weatherproof, thermoplastic meets Type 3R water-tight standard

ALARM HORN: 85 decibels at 10 feet (3 meters), meets Type 3R water-tight standard as installed by factory

ALARM BEACON: UL Listed, Type 4x beacon assembly

TEST/SILENCE SWITCH: certified to IP66 and IP68 standards

AUXILIARY ALARM CONTACTS (OPTIONAL): 120 VAC, 5 amps max., 50/60 Hz

PRE-MOUNTED TERMINAL BLOCK (OPTIONAL): 20 amps, 120/230 VAC

POWER CORD (OPTIONAL): 6 foot (1.8 meter) cord with 120 VAC plug

FLOAT SWITCH: SJE SignalMaster® control switch with mounting clamp

Cable: 15 feet (4.57 meters), flexible 18 gauge, 2 conductor (UL) SJOW, water-resistant (CPE)

Float: 2.74 inch diameter x 4.83 inch long (7 cm x 12.3 cm), high impact, corrosion resistant polypropylene housing for use in sewage and non-potable water up to 140°F (60°C)

SJE Rhombus

PO Box 1708, Detroit Lakes, MN 56502
1-888-DIAL-SJE • 1-218-847-1317
1-218-847-4617 Fax

email: customer.service@sjerhombus.com

www.sjerhombus.com

SEE BACKSIDE FOR ORDERING INFORMATION.

SJE SIGNALMASTER® Control Switch

Mechanically-activated, narrow-angle float switch designed to activate pump control panels and alarms.

This narrow-angle sensing device is used to accurately monitor liquid levels in:

- water
- sewage applications

The SJE SignalMaster® control switch is not sensitive to rotation.

Normally Open Model (high level)

The control switch turns on (closes) when the switch tips slightly **above** horizontal signaling a high level, and turns off (opens) when the switch drops slightly below horizontal.

Normally Closed Model (low level)

The control switch turns on (closes) when the switch tips slightly **below** horizontal signaling a low level, and turns off (opens) when the switch tips slightly above horizontal.



FEATURES

- Mechanically-activated, snap action contacts.
- High impact, corrosion resistant, polypropylene float housing.
- Not sensitive to rotation.
- Control differential of 1.5 inches (4 cm) above or below horizontal.
- Yellow colored cap for easy identification of normally open control switch.
- White colored cap for easy identification of normally closed control switch.
- UL Listed for use in water and sewage.
- CSA Certified.
- Five-year limited warranty.



Hydraulic

OPTIONS

This switch is available:

- CE certified unit available upon request.
- for normally open (high level) applications or normally closed (low level) applications.
- in standard cable lengths of 10, 15, 20, or 30 feet and 3, 5, 6, or 10 meters (longer lengths available)
- with two mounting options that allow for flexibility in installation:

Mounting Clamp: for applications where the switch can be attached to a discharge pipe or similar mounting device.

Externally Weighted: for applications where the switch can be suspended from above.

SPECIFICATIONS

CABLE: flexible 18 gauge, 2 conductor (UL, CSA) SJOW, water-resistant (CPE)

FLOAT: 2.74 inch diameter x 4.83 inch long (7.0 x 12.3 cm) high impact, corrosion resistant, polypropylene housing for use in sewage and water up to 140°F (60°C)

MAXIMUM WATER DEPTH: 30 feet (9 meters), 13 PSI (90 kPa)

ELECTRICAL: 5 amp, 125/250 VAC, 50/60 Hz

NOTE: This switch is not recommended for controlling:

- electric loads less than 100 milliamps, 12 VAC
- non-arcing electric loads

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133

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