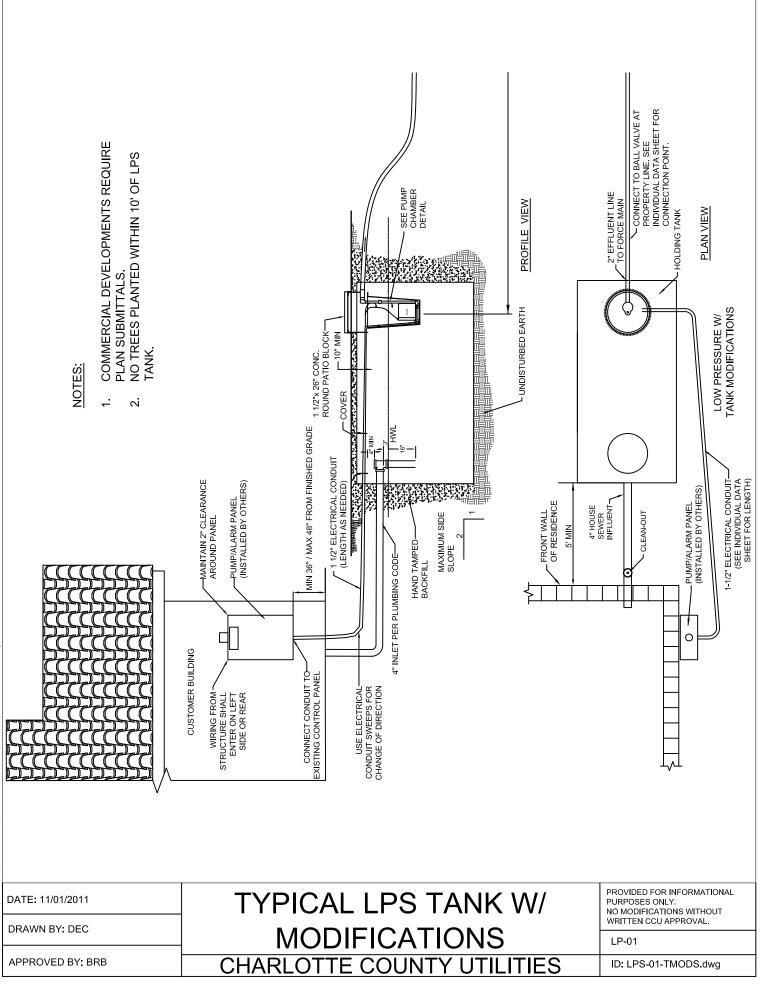
ISSUE DATE NOVEMBER 1st, 2011

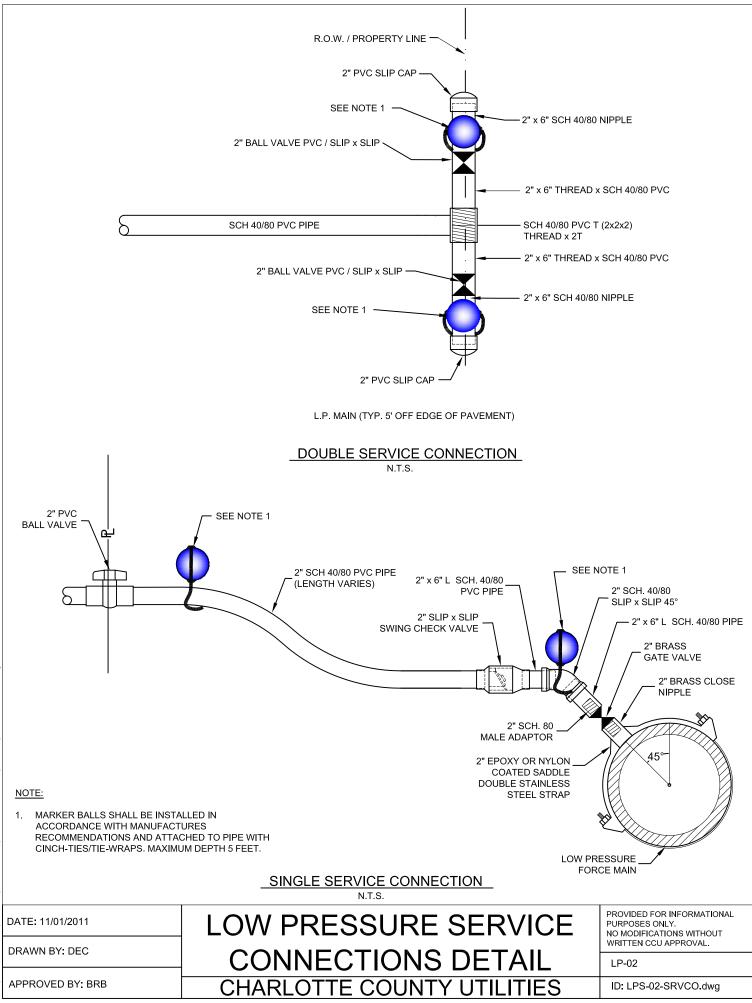


SECTION 5 LOW PRESSURE

	Page List
Page Number	Page Title
Cover	LPS - COVER
LP-01	Typical LPS Tank With Modifications
LP-02	LPS Service Connection
LP-03	Sump Pump Wiring Schematic
LP-04	Typical Pump Chamber Layout
LP-05	Typical Tank Installation
LP-06	Fiberglass LPS Float Locations
LP-07	LPS Clean-Out
LP-08	LPS Automatic Air Release
LP-09	Concrete LPS Tank
LP-10	FRALO LPS Bill of Materials
LP-11	FRALO Installation page 1
LP-12	FRALO Installation page 2
LP-13	FRALO Installation page 3
LP-14	FRALO LPS Float Locations



Z: \Auto Cad R14\DETAILS\2012 Details\05.LOW PRESSURE\General\LPS-01-TMODS.dwg



DATE: 11/01/2011 DRAWN BY: DEC APPROVED BY: BRB

SCHEMATIC CHARLOTTE COUNTY UTILITIES

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT

LP-03

WRITTEN CCU APPROVAL.

ID: LPS-03-SPWIR.dwg

AS APPROVED BY CCU. SUMP PUMP WIRING

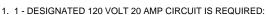
4. CONTROL PANEL SHALL BE MOUNTED WITHIN SIGHT OF THE TANK INSTALLATION AND WITH ACCESS AVAILABLE FOR MAINTENANCE

ELECTRICAL NOTES:

AND LOCAL CODES.

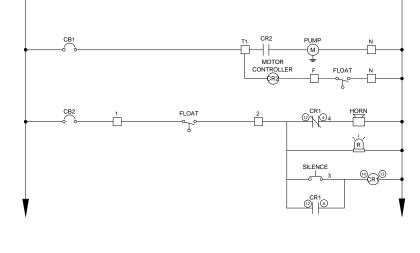
CONTRACTOR.

L1



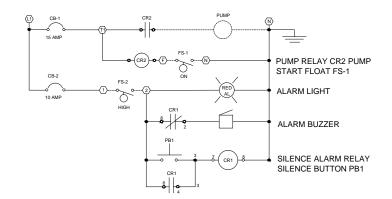
2. WIRING CONNECTIONS SHALL BE FURNISHED BY ELECTRICAL

3. ELECTRICAL INSTALLATION SHALL COMPLY WITH THE NEC, NECS,



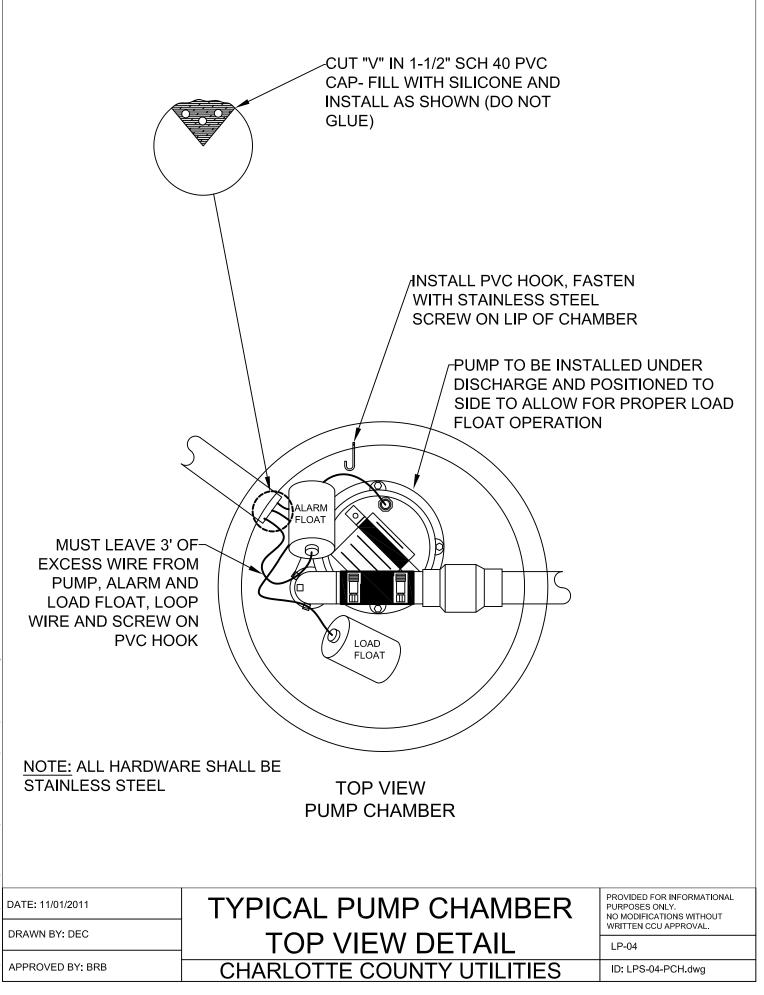
TERMINAL STRIP LAYOUT lb-in . L1 20VAC INPUT PUMF CR2

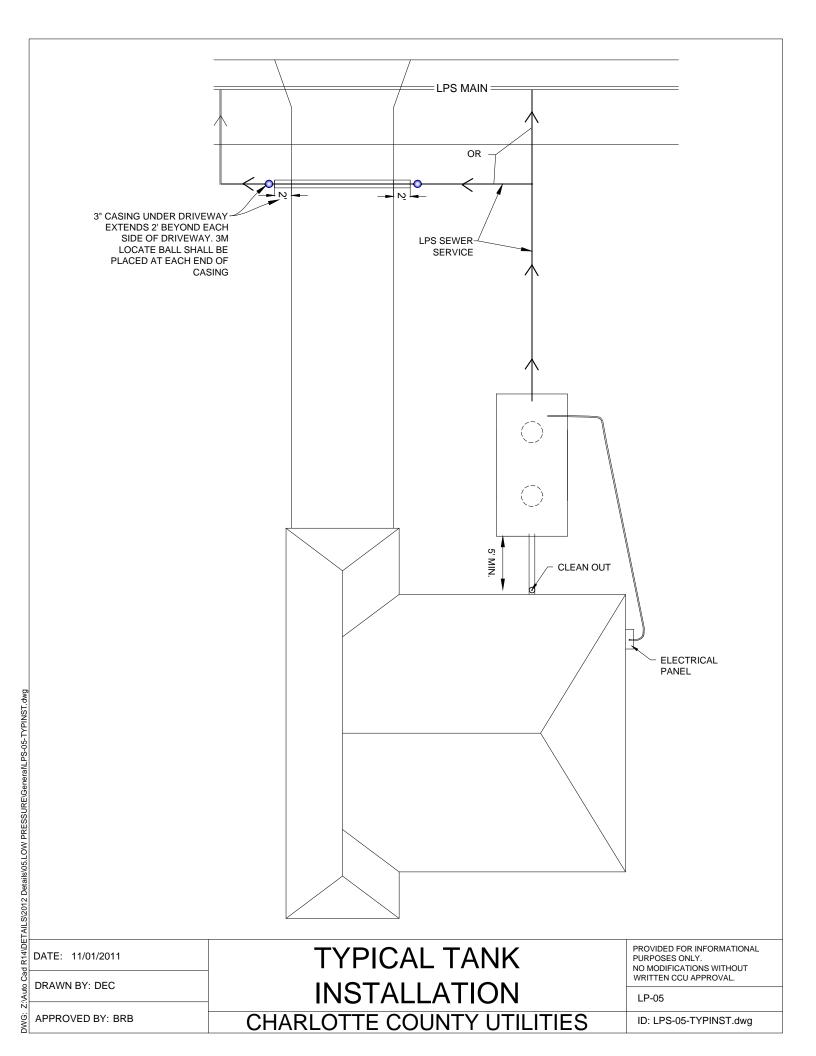
Use copper wires rated 60° C insulation, min. torque screws:10.5-14.1

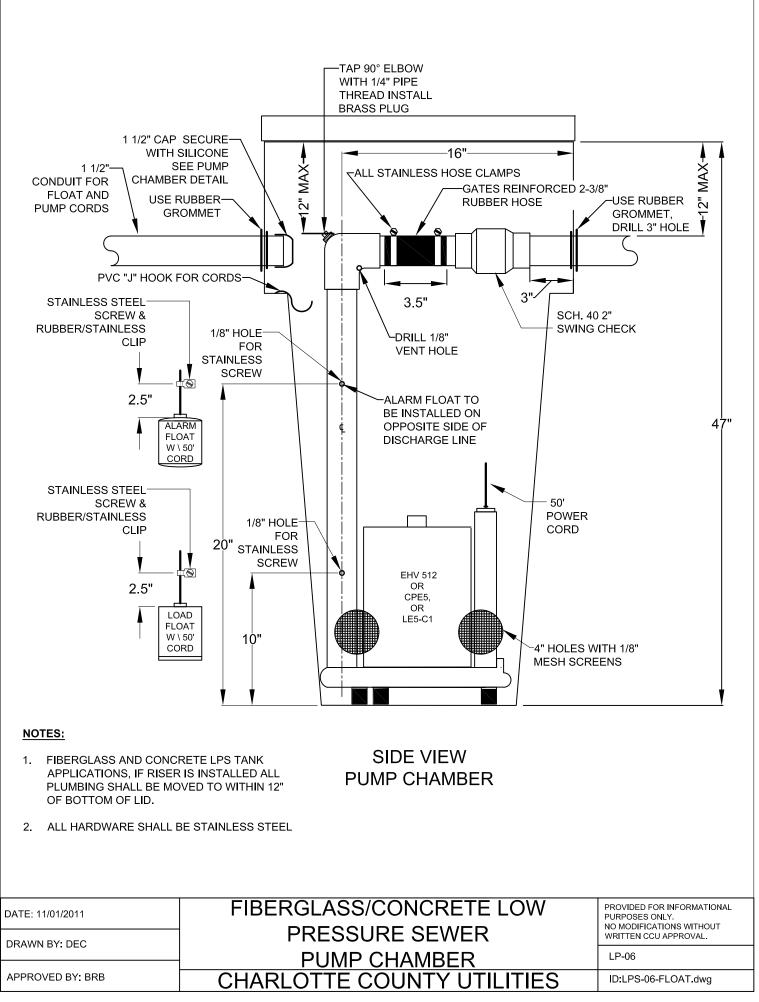


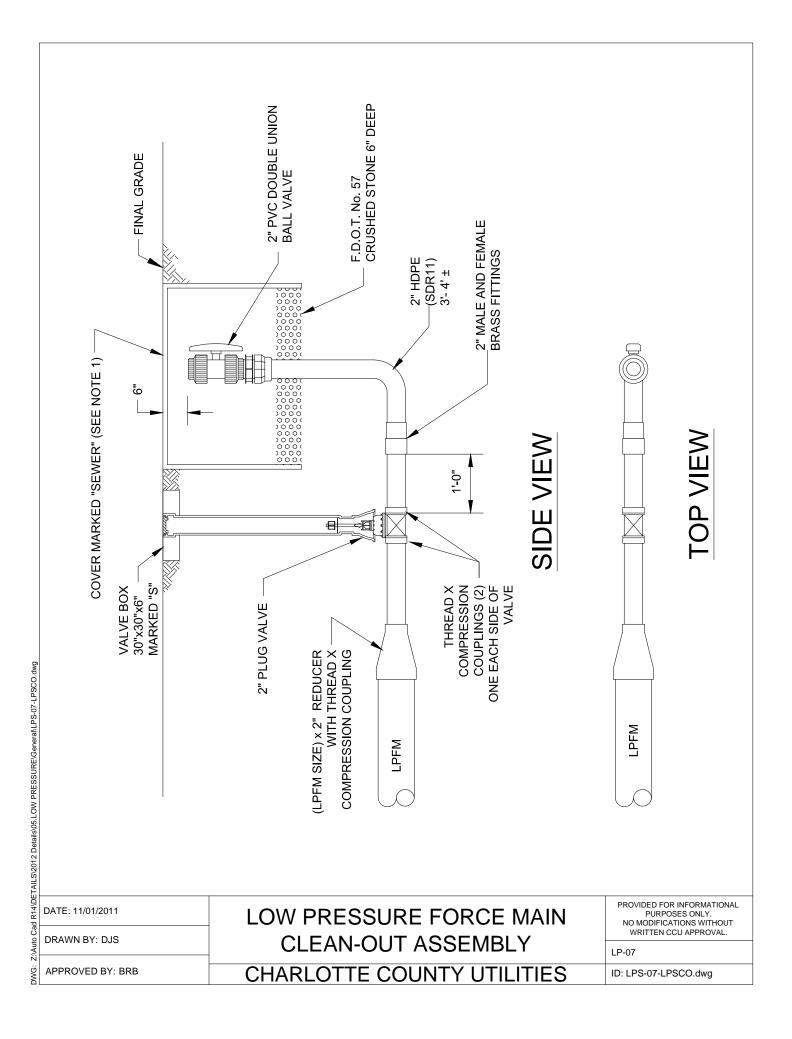
THE RELAY SHALL BE THE CROUZET # 84134011 25 AMP SOLID STATE W/ HEAT SINK

N









APPROVED BY: BRB

LOW PRESSURE & FORCE MAIN SEWER AUTO-AIR RELEASE VALVE ASSEMBLY W/ ODOR CONTROL SYSTEM CHARLOTTE COUNTY UTILITIES

LP-08

ID: LPS-08-ARV. dwg

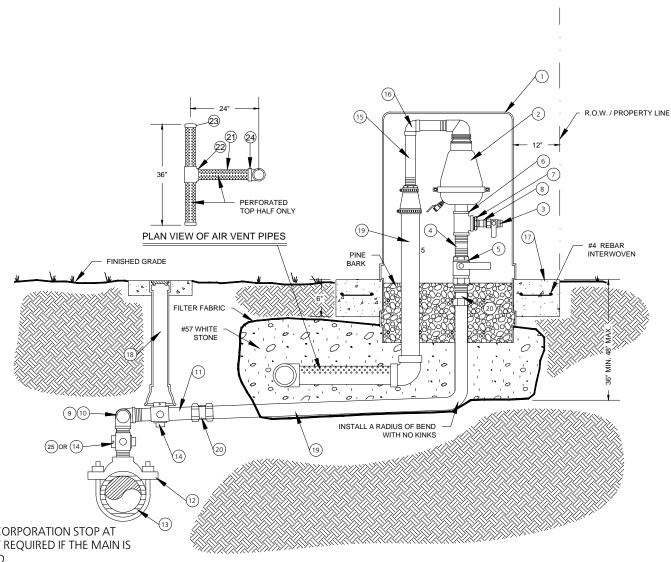
PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN CCU APPROVAL.

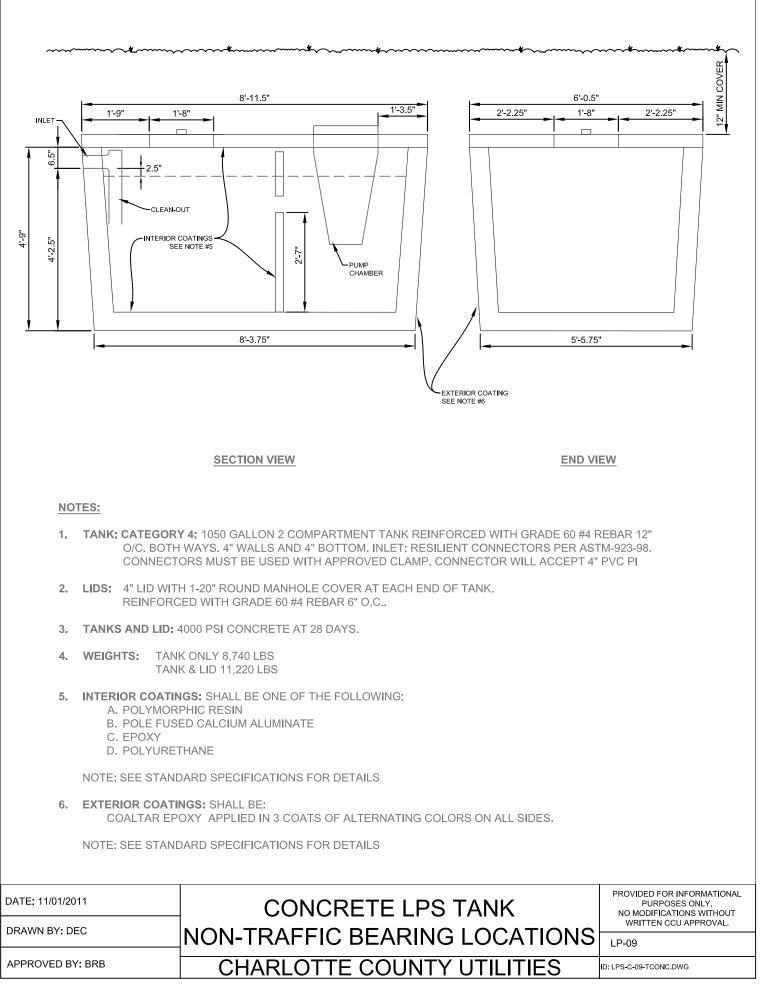
ITEM	QUANTITY	DESCRIPTION
1	1	ENCLOSURE (GREEN IN COLOR)
2	1	AIR RELEASE VALVE
3	1	1" CURB STOP - BRASS
4	1	2" x 4" NIPPLE - BRASS
5	1	2" BALL VALVE - BRASS
6	1	2" TEE - BRASS
7	1	2" X 1" REDUCER - BRASS
8	1	1" SHORT NIPPLE - BRASS
9	4	2" x 90° ELBOW - BRASS
10	2	2" SHORT NIPPLE - BRASS
11	2	2" PIPE - PVC SCH 80, LENGTH AS REQUIRED
12	1	DOUBLE STRAP TAPPING SADDLE EPOXY OR NYLON COATED WITH S.S. STRAPS

MATERIALS

13	1	4" & LARGER PIPE, D.I., PVC (DR-18), HDPE
14	1	2" GATE VALVE
15	2	1-1/2" PIPE - PVC SCH 80, LENGTH AS REQUIRED
16	1	1-1/2" x 90° ELBOW - PVC SCH 80
17	1	REINFORCED CONCRETE MONOLITHIC COLLAR AROUND ENCLOSURE
18	1	VALVE BOIX
19	1	2" POLY TUBING
20	2	2" COMPRESSION FITTING
21	1	3" PIPE, PVC, LENGTH AS SHOWN, PERFORATED TOP HALF ONLY
22	1	3" TEE, PVC
23	1	3" CAP PVC
24	1	3" X 90° ELBOW, PVC
25	1	2" CORP STOP-BRASS

ITEM # 25 CORPORATION STOP AT MAIN ONLY REQUIRED IF THE MAIN IS HOT TAPPED





Charlotte County Utilities - Low Pressure System System Bill of Materials

CCU System ID Number-CCU-RMT-900HPV24P2 900 Gallon Tank CCU System ID Number-CCU-RMT-1060HPV24P2 1060 Gallon Tank Item Qty

- A (1) RMT-900-2P HMW HDPE 2 Compartment Septic Tank, 900 Gallon Capacity End Inlet fitting drilled to 5" diameter on "A" Dimple, 43.00" from Tank bottom to inlet invert. Outlet end of tank un-drilled.
- A Alt (1) RMT-1060-2P HMW HDPE 2 Compartment Septic Tank, 1060 Gallon Capacity. End Inlet fitting drilled to 5" diameter on "A" Dimple, 43.00" from Tank bottom to inlet invert. Outlet end of tank un-drilled.

Tank to include:

- (1) Compartment divider installed in 2/3-1/3 location with:
- (6) 300 SS ¼-20 x 2 Hex bolts and flat washers with
- SS elastic stop nuts.
- (2) 24" Lockable HDPE Plugs

Plumbing Kit- CCU LPS

- (1) Inlet fitting- 4" Sch 40 PVC Long Radius Sweep Wye for installation on 4" Sch 40 PVC Sewer line.
 - (1) Plumbing Seal for 4" Sch 40 PVC Sewer line.
 - (1) Plumbing Seal for 2" Sch 40 PVC Pump Discharge line.
- STAR 24 HPV Hanging Pump Vault to include the following:
 (4) 4.00" inlet ports drilled around the circumference of the base of the vault @ 90 Degree orientation. Ports screened with SS mesh with 1/8" openings, secured with SS self-tapping screws.
 - (1) STAR 24R12 12" Riser for pump inlet compartment
 - (2) RG24 Gasket for HPV and 12" Riser
 - Pump and Level Controls from Charlotte County Utilities Approved Materials list: Barnes EHV512 Champion CPE5 Milwaukee LE5-C2

DATE: 11/01/2011	HDPE LOW PRESSURE	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT
DRAWN BY: DEC	SYSTEM BILL OF MATERIALS	WRITTEN CCU APPROVAL.
APPROVED BY: BRB	CHARLOTTE COUNTY UTILITIES	ID: LPS-10-HD-BOM.DWG

В

С

D

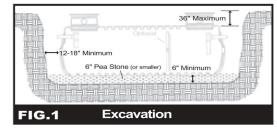
Е

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).
- · Do no over excavate or "belly-out" the excavation.

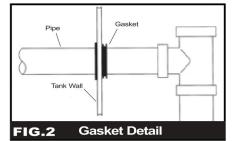


Step 3: Bedding the Tank

- 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.

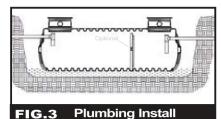
Step 4: Tank Installation

- 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)



Step 4: Tank Installation (cont'd)

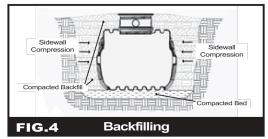
- Install the inlet and outlet tees, as required. (Fig. 3) Plumbing tees shall be located as close to the entrance point of the tank as possible (just inside the manway opening). Plumbing tees and gas-baffles are factory provided for Indiana tanks.
- Install the required Roth threaded Septic Access Riser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



DATE: 11/01/2011

DRAWN BY: DEC

APPROVED BY: BRB

HDPE INSTALLATION INSTRUCTIONS & NOTES CHARLOTTE COUNTY UTILITIES

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN CCU APPROVAL.

LP-11

ID: LPS-11-HD-INST1.DWG



STEP 1 Determine riser elevation and required riser combination as per tank installation (see reverse). STAR[™] risers are available in 6" (STAR-24R6) and 12" (STAR-24R12) height increments. (Fig.1)



STEP 2 Apply gasket (not included*) on the innermost flat ring on the tank surface. Be careful not to allow the gasket to overhang the threads where it would interfere with the thread engagement. (Fig.2) *Indiana tanks and risers include gaskets.

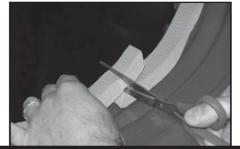


FIG.3 Trim Gasket

STEP3 Trim gasket 1/4" too long. A properly trimmed gasket is then compressed end to end. Ensure that the gasket is uniformly positioned and makes good contact with the tank surface. (Fig.3)



FIG.4 Install Riser

STEP 4 Screw the riser into the tank joint, being careful that the gasket remains in position. Properly installed, the gasket should show uniform compression around the entire joint. (Fig.4)



STEP 5 Apply the gasket on the first riser on the thread portion which is facing up. (Fig.5). Trim the gasket to connect the pieces end to end. Screw the additional riser(s) into position.



STEP 6 Locate the "Secure Here" hole on the cover and install a tamper-resistant screw (STAR-SSCREW provided) through the lid and into the riser below. (Fig.6) To secure with padlock, drill a larger hole to accommodate the lock.



STEP 7 If unable to remove cover by hand, insert 1" OD steel pipe into cover indentations and twist using a shovel handle, pipe or piece of wood. (Fig.7)



HDPE INSTALLATION

INSTRUCTIONS & NOTES

CHARLOTTE COUNTY UTILITIES

 To prevent unauthorized access, never install STAR[™] Riser System without the factory provided tamper resistant screw.
 Not rated for vehicular traffic loading.



DATE: 11/01/2011

DRAWN BY: DEC

APPROVED BY: BRB

LP-12

PROVIDED FOR INFORMATIONAL

PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN CCU APPROVAL.

KEY INSTALLATION FACTS

- 1. ABSOLUTELY NO WATER REQUIRED FOR BACKFILL. THE TANK IS SPECIFICALLY DESIGNED TO BE BACKFILLED WITHOUT WATER. THE USE OF WATER PRIOR TO BACKFILLING IS NOT NECESSARY AND MAY CAUSE INSTALLATION PROBLEMS, A NOMINAL AMOUNT OF WATER (6"-8") MAY BE USED TO BALLAST TANK DURING BACKFILLING.
- 2. THE TANK MUST BE BEDDED IN SCREENED MATERIAL (SAND, PEA GRAVEL, STONE DUST, OR OTHER FLOWABLE FINES). NATIVE MATERIAL IS ACCEPTABLE IF IT EXHIBITS THE SAME CHARACTERISTICS AS SELECT FILL.
- 3. IT IS IMPERATIVE THAT THE TANK HAUNCH BE SUPPORTED WITH FILL. THIS IS THE AREA OF THE TANK UNDER THE MOLD PART-LINE ALONG THE SIDEWALLS CURVING DOWN TO THE BELLY OF THE TANK.
- 4. THE TANK BELLY MUST BE SUPPORTED WITH FILL. DUE TO THE UNIQUE PROCESS, THE TANK HAS A SLIGHT CONCAVE SHAPE TO THE BELLY. MAKE SURE THAT THE TANK FEET ARE SEATED IN THE BACKFILL AND THE TANK BELLY IS WELL SUPPORTED.
- 5. THE TANK ACHIEVES FULL STRUCTURAL INTEGRITY ONCE INSTALLED PROPERLY. SIDEWALL COMPRESSION THROUGH COMPACTED BACKFILL IS KEY TO THIS INTEGRITY. USE BACKHOE TO COMPACT SIDEWALL BACKFILL IF POSSIBLE.
- 6. CORRUGATIONS MUST BE PACKED SOLIDLY WITH BACKFILL TO ACHIEVE THIS. COMPACT BACKFILL IN 6" LIFTS AS YOU BACKFILL EXCAVATION.
- 7. BACKFILL TANK TO TOP OF ROOF ALL THE WAY AROUND, THEN BACKFILL BETWEEN RISERS FIRST, THEN AROUND THE ENDWALLS OF TANK. THIS TECHNIQUE WILL PREVENT BACKFILL FROM PUSHING RISERS "IN" OR TOWARD ONE ANOTHER.
- 8. IN AREAS OF HIGH GROUNDWATER, THE TANK MUST BE FILLED IMMEDIATLEY FOLLOWING BACKFILL.
- 9. TANKS ARE NOT DESIGNED OR RATED FOR VEHICULAR TRAFFIC. AVOID OPERATION OF VEHICLES HEAVIER THAN 2500 POUNDS, MAXIMUM BURIAL DEPTH IS 36" BELOW GRADE.
- HANGING PUMP VAULT INSTALLATION: FOLLOW INSTRUCTIONS FOR GASKET AND RISER INSTALLATION INCLUDED WITH THE INSTALLATION INSTRUCTIONS, INSTALL THE HPV IN THE OUTLET END OF THE TANK.
- 11. TANK HOLE DRILLING: CCU LPS TANK WILL BE FURNISHED WITH THE INLET END CONNECTION DRILLED AT THE "A" DIMPLE TO PROVIDE A 43" INLET INVERT ELEVATION. THIS OPENING IS 5" DIAMETER TO ACCEPT THE 4" SCH 40 PLUMBING SEAL INCLUDED IN THE PLUMBING KIT. NO PENETRATIONS TO THE OUTLET AND OF THE TANK ARE INCLUDED. AFTER HANGING PUMP VAULT IS INSTALLED IN THE OUTLET END OF THE TANK, A 2 7/8" OPENING MUST BE DRILLED IN THE HPV RISER SECTION TO ACCOMMODATE THE 2" PLUMBING SEAL FOR THE 2" DISCHARGE LINE. THIS PENETRATION MUST BE MADE WITH A 2 7/8" HOLE SAW ONLY.

DATE: 11/01/2011
DRAWN BY: DEC
APPROVED BY: BRB

Z:\Auto Cad R14\DETAILS\2012 Details\05.LOW PRESSURE\POLY\LPS-13-HD-INST3.dwg

DWG:

HDPE INSTALLATION **INSTRUCTIONS & NOTES** CHARLOTTE COUNTY UTILITIES

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN CCU APPROVAL

LP-13

NUMBER: LPS-13-HD-INST3.DWG

