Maria Dotson

From: mathanas@comporium.net
Sent: Friday, October 26, 2012 10:28 AM
To: Maria Dotson
Subject: Lot 580 at the farms

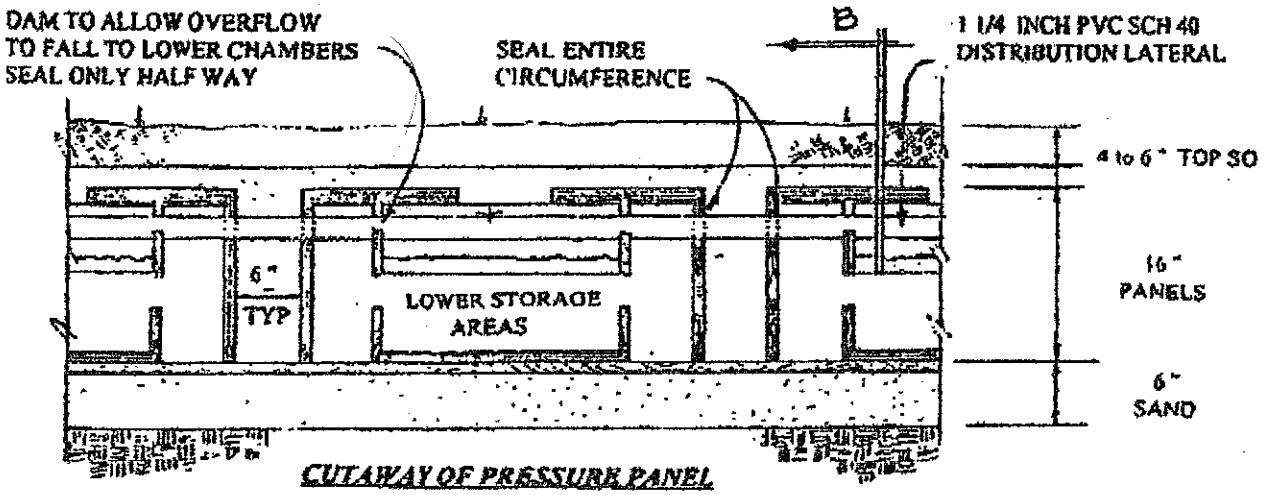
Maria,
Mr. Abernathy has my permission to adjust my line lengths in order to accommodate the installation.
Thanks,
Michael Athanas
North Carolina Licensed Soil Scientist
South Carolina Professional Soil Classifier mathanas@comporium.net
(704) 576-3887

Panels With Pressure Distribution

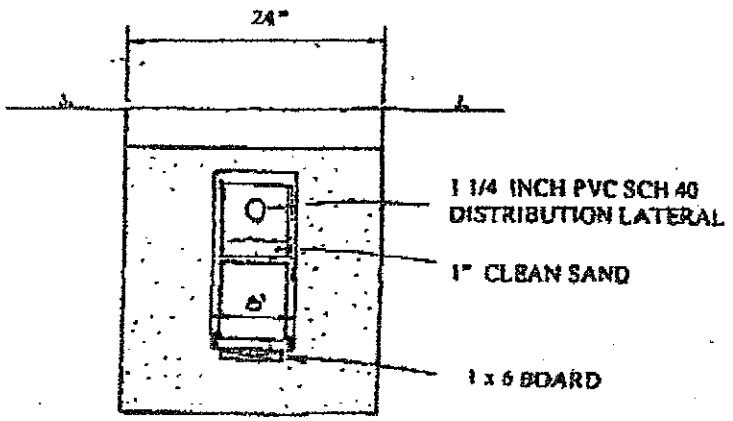
The LP Panel uses Technology similar to that of Low Pressure Pipe (LPP) System. The tables and distribution design described in the LPP manual is applicable to the pressure Panel System. The system should be used with two to four feet of head. In many respects a LP Panel is similar to a LPP with the holes discharging into the panels.

The dosing cycle for the Panel System is designed to pump enough effluent to fill the top chambers of all the panels in the system. The top chamber of a 16 inch panel hold 3.6 gallons. When the system has 34 panels and all holes are the same size, then you would multiply 34 x 3.6 to get 122 gallon per dose cycle. The holes are drilled in the distribution pipe at the 10 and the 2 o'clock position. These are then placed so that the effluent is pumped into the top chamber of the panel. If the hole sizing changes in the system the pump cycle is set by the hole that is discharging the fastest.

All valves and turnups should be neatly capped, covered and labeled for future service. Pump tanks should be constructed as shown in the drawing as to allow for service and repairs.

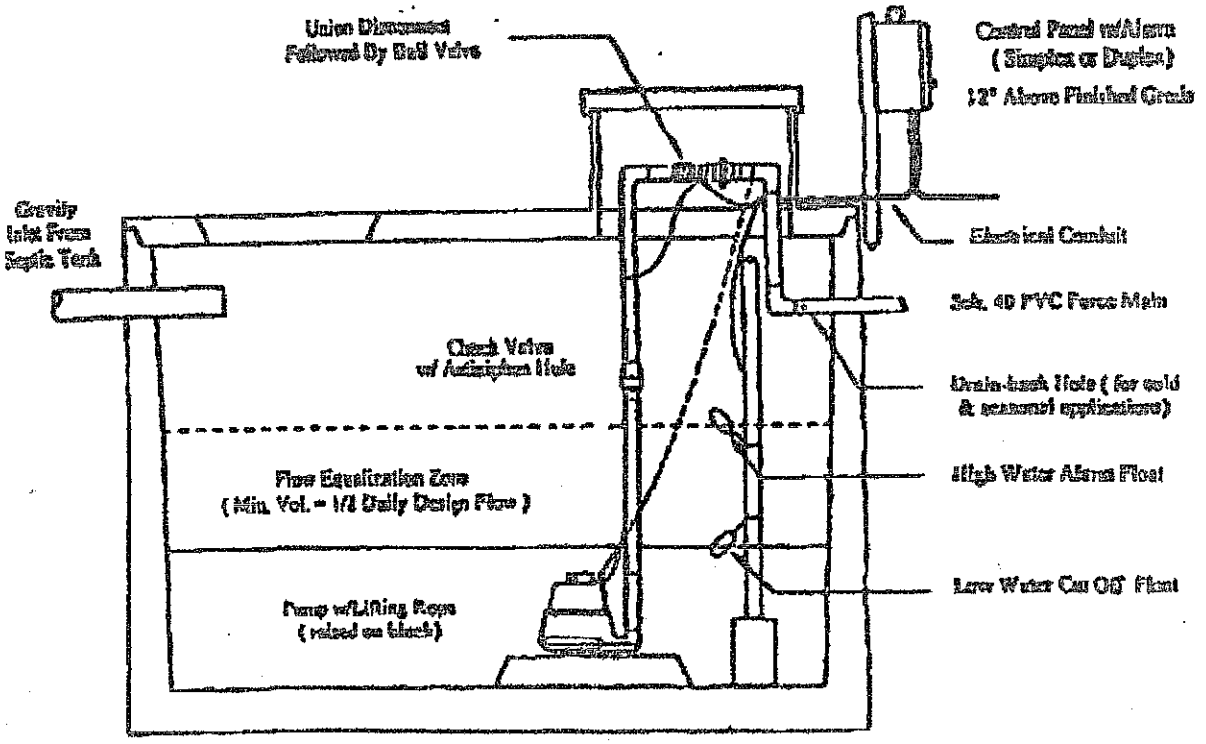


CUTAWAY OF PRESSURE PANEL



TYPICAL PUMP TANK DETAIL

1. Pump tank shall have an access manhole extending at least 6 inches above finished grade.
2. Pump and control circuits shall be provided with manual circuit disconnects within a watertight, corrosion-resistant, outside enclosure (NEMA 4X or equivalent) adjacent to the pump tank, securely mounted at least 12 inches above finished grade. The pump(s) shall be manually operable without requiring the use of special tools or entrance into the tank for testing purposes. Conductors shall be conveyed to the disconnect enclosure through waterproof, gasproof, and corrosion-resistant conduits, with no splices or junction boxes provided inside the tank. Wire grips, duct seal, or other suitable material shall be used to seal around wire and wire conduit openings inside the pump tank and disconnect enclosure.
3. The pump tank shall have a properly functioning high-water alarm. The alarm circuit shall be supplied ahead of any pump overload and short circuit protective devices. The alarm shall be audible and visible by system users and included in the pump and control enclosure (Simplex or Duplex Control Panel).
4. Float switch for the high water alarm shall be set no more than 3 inches above the high water level of pump cycle.
5. Pump floats should be set so that level of water at end of pump cycle is above the top of the pump.
6. Float switch tie downs to be made of corrosion resistant material, no tape or metal hose clamps.
7. Pump discharge shall have a check valve.
8. Anti-siphon hole (three-sixteenth inch) is required between the pump and the check valve.
9. Watertight testing will be required on two piece pump tanks.



Information for the Installer:

- The permit should be read very carefully prior to bidding. The following are details that must be considered along with all other considerations.
- Tanks shall be approved by DEHNR, and certification supplied by the manufacturer.
- Tanks shall be water tested prior to installation.
- The installer shall be responsible to the owner for placement of the tanks and to insure that final grades are returned to the original natural grade, with exception of added structural features.
- The supply trench shall be compacted to eliminate cavities left during initial fill placement.
- Installation of the system shall be during dry conditions in order to protect the soil structure.
- All fittings shall be pressure rated fittings.
- All joints shall be cleaned with PVC pipe cleaner and a heavy bodied glue applied to weld all joints.
- Where required by the county health department, post installation inspections by the designer must be scheduled 5 work days in advance.
- Trenches shall be carefully excavated so there is no more than ¼" of fall in 10' of trench length. If the bottom of the trench needs to be adjusted, it will be done by removing high points rather than filling low points. It is extremely important to insure that trenches are not over excavated during initial trenching. All fine grading within the trench will be hand done with a shovel. No loose material will be left in the trench.
- All pipe openings in the tanks shall be properly sealed. This also applies to the joints around the riser.
- All tanks shall be properly back filled and compacted to prevent slump at a later date.
- Earthen dams, constructed of relatively impervious material. Shall be installed at the beginning and end of each lateral.
- No heavy equipment shall be used on the field during or after the installation. The use of a small loader or a trencher may be used for installation.
- Elevations at pin flag locations should be checked by the installer prior to beginning trenches.
- Pump tank riser should be 6" above final grade. Control panel should be 12" above final grade.
- Septic tank should be a minimum of 6" and a maximum of 36" below final grade. Septic tanks should have risers or a marker that is visible at the ground surface.
- Trench sidewalls should be raked and limed. Trench should be installed at 36" width unless otherwise stated by the design.