TOMPKINS COUNTY HEALTH DEPARTMENT
Your Partner for a Healthy Community
Inclusion Through Diversity

Details and Specifications #4
Pumps

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(WHEN REQUIRED BY THE PERMIT)

1. Submersible pumps must be specifically designated by the manufacturer to handle sewage effluent. Pump chambers shall be equipped with an audible or visual alarm to indicate pump malfunction.

2. All equipment and facilities shall be specifically designed for the pumping of sewage effluent. This includes pumps, pump chambers, control devices, and electrical equipment.

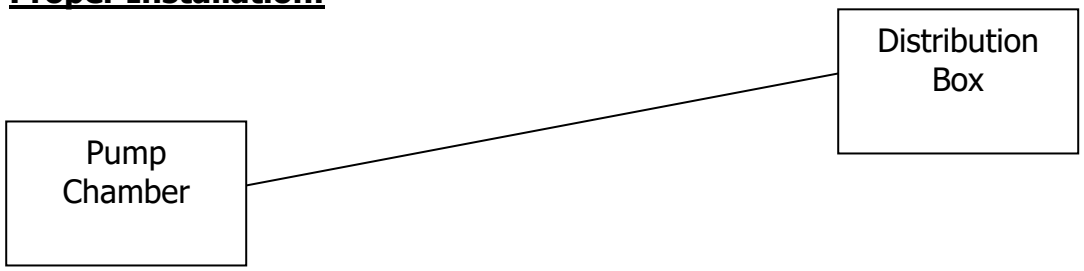
3. Contact the local Code Enforcement Officer for regulations and specifications regarding the National Electric Code, as well as local regulations. Health Department approval of a sewage system with pressure dosing will not constitute approval of the electrical equipment or connections.

4. The pump and pump chamber can be buried but shall be so constructed as to be completely accessible for routine maintenance without the necessity of earth excavation. The manhole from the housing shall be locked or sealed, extended to the ground surface and covered for odor control and protection. Pump chambers and connected plumbing shall be watertight to prevent ground water contamination/infiltration. The pump chamber shall be sized to allow a reserve capacity of one day's effluent above the alarm line so household use can continue during rapid pump replacement/repairs. Minimum storage capacity is not necessary if dual pumps are utilized.

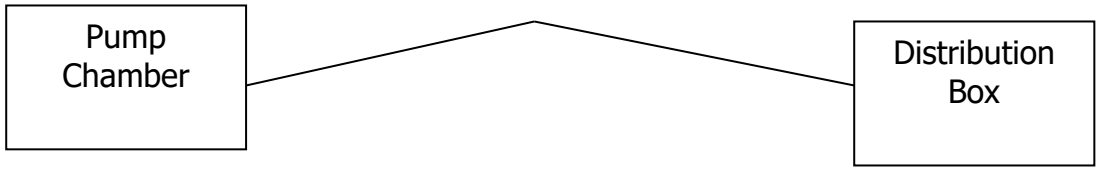
5. Pump shall be Goulds EP04 or EP05 or equivalent product. The rated capacity of the pump at the required head pressure (including both height change and friction loss in piping) shall not be less than 20 gallons per minute. The system shall be designed and installed such that a sewage volume of 75% of the pipe volume (pump station to the end of absorption field or sandfilter distribution piping) is pumped at any one time. Usually, this will be 50-75 gallons per pump cycle (100 feet of four-inch diameter pipe holds 65 gallons.).

6. The discharge outlet and piping shall be designed and constructed as to prevent freezing and clogging. Minimum pipe diameter is 1 ½ inches for submersible pumps (minimum 2 inch diameter for specific situations requiring a grinder pump). The high point of the force main should be at the distribution box; there should not be any downward bends in the pipe between the pump chamber and the distribution box (see below).

Proper Installation:



Improper Installation:



7. Where a distribution box is used, the distribution box shall have a "T", turned down elbow, or baffle on the inlet to disperse the liquid pumped from the pump chamber.

8. The header system, especially in a system utilizing pressurized distribution, shall have an even number of pipes so that the pump force main is not discharging directly into a distribution line. The same is recommended for a gravity system.