

(2) Pumps.

(a) Sizing. The pump shall have a flow rate of at least ten gallons per minute when installed. The pressure loss (feet of head) of the system can be calculated by adding: the elevation difference between the discharge outlet at the soil absorption system and the low water level in the pump tank; and the friction losses incurred in the pressure transfer pipe and distribution piping. Table 4 may be used to estimate the head loss of the pipe when pumping ten gallons per minute and using plastic pipe.

Table 4

Head Loss  
(for 10 gallons per minute)

<u>Diameter</u> <u>(inches)</u>	<u>Head Loss per 100</u> <u>feet of pipe (in feet)</u>
1	12
1 1/4	4
1 1/2	2

(b) Installation/removal. The pump shall be installed in the tank so that it can be removed without entering the tank. This can be accomplished by (1) looping the pipe up near the access manhole with a pipe union provided at the top of the loop, (2) using a quick disconnect sliding coupler, or (3) using a pitless adapter. Chains, cable, or piping can be used to lift the pump out of the tank if designed for this loading. Setting the pump on an 8-inch block minimizes the transfer of any solids that may enter the pump tank.

(c) Electrical controls. The electrical control system for the wastewater pump shall consist of a "pump off" switch, a "pump on" switch, and a "high water alarm" switch which shall be located to provide the necessary volumes as stated in Table 3. All electrical controls (pump electrical cord, switches, etc.) shall comply with the National Electrical Code - 1981, Class 1, Group D, Division 1 locations. All openings around the cables or cords entering the tank shall be sealed.

(3) Pressure Transfer Pipe. The pressure transfer piping between the tank and the leach system shall be designed to drain after each pump cycle to prevent freezing. This can be accomplished by either eliminating the check valve at the pump or by providing a weep hole in the pipe in the tank. If the pipe is long, the tank shall be enlarged by the volume of the pipe to accommodate the volume of liquid drained from the pipe.