

Low Pressure Pipe Dispersal Technical Guidance

A Low Pressure Pipe (LPP) disposal system is a pressurized distribution system placed in shallow, narrow trenches.

This technical guidance specifies design parameters for LPP wastewater disposal systems that are acceptable to NMED. Designs that do not conform to the design parameters shown must be accompanied by documentation justifying the design submitted, and will be considered on a case-by-case basis. All system designs must comply with the pertinent parts of 20.7.3.808 NMAC, Low Pressure Dosed Disposal Systems.

System Design and Installation

LPP disposal area credit will be based on Liquid Waste Disposal and Treatment Regulations, 20.7.3 NMAC, Table 703.1, Soil Application Rates. Lateral piping will be given credit at the rate of 5 square feet per linear foot of pipe.

Manifold pipe size range, 1.25-3”.

Lateral pipe size range 1-2”.

Trench design: Trenches shall be 12 inches to 18 inches wide by 12 inches deep. If aggregate, either natural or proprietary, is used, the pressurized distribution pipe shall be embedded at or above the center of the column of aggregate. The aggregate shall be covered with geotextile material to prevent soil intrusion. If a proprietary drainfield product other than aggregate is used, such as the Orenco half-pipe system or narrow chambers, the distribution pipe shall be placed so as to prevent soil intrusion into the pipe. A minimum of 4 inches and a maximum of 18 inches of soil cover over the trench is required.

Lateral length, maximum 70 feet from feed point, for each lateral.

Orifice size ranges: 5/32-1/4” for septic effluent; 1/8”-1/4” for secondary or tertiary treated effluent.

Orifice spacing range: Soil Types Ia & Ib = 5’, Type II = 6’, Type III = 8’, Type IV = 10’. Pipe shall be installed with orifices facing upward.

A minimum separation between trench bottom and limiting horizon equal to 4 feet of suitable soil is required without treatment. Separation to seasonal high groundwater or other limiting conditions shall conform to treatment standards of 20.7.3.602-605.

System installation shall be on a maximum site slope of 15%. Provision must be made for prevention of siphoning back to pump tank on upgrade LPP systems, and prevention of draining of tank on downgrade or flat systems.

The acceptable operating pressure range is 3-5 ft (1.3-2.2 psi). A system design must demonstrate that the system comes to the design pressure during every pumping cycle.

Timed dosing is required for all installations in clay soils.

Pump tank: minimum single compartment, 500 gallon minimum useful volume, allowance to be made for tank volume between pump intake and tank floor. For septic tank effluent, a separate pump tank in addition to the septic tank shall be provided.

Minimum doses of 5 times total pipe volume are required to ensure total system pressurization during each dose.

An alternating valve or solenoid valve system is required to feed separate laterals with elevation differences resulting in 10 psi (23 feet) or greater head differentials. Manual or automatic flushing valves with turnups are required on distal ends of all lateral lines.

Effluent type pump required on all systems.

Operation and Maintenance

A maintenance contract shall be required on all LPP systems. Maintenance is to include pump inspection and cleaning, float operation (if applicable), lateral flushing annually, and septic tank and pump tank pumping as needed.

Runoff must be diverted away from system to avoid oversaturation, where possible. In areas of freezing conditions, provision for draining of headers must be made, such as vacuum breakers or vent holes at system high points.

A vegetative cover must be maintained over the disposal area.

Materials and Equipment

Pipe to be rated at 160 psi minimum, ASTM compression drainpipe, Schedule 40 or better.

All treatment tanks, septic tanks, and pump tanks must meet the structural requirements of 20.7.3.501 NMAC.

Conformance with Liquid Waste Disposal and Treatment Regulations

All requirements for conventional septic systems shall be met, including but not limited to setbacks, lot size, design flow calculation, septic tank sizing, clearance, prohibitions, wastewater characteristics, and advanced treatment requirements.

This guideline does not apply to high strength waste systems.

Reference: EPA Fact Sheet 832-F-99-076, 1999, general description of LPP terminology.