

Hydrosplitters – Equal Distribution on a Slope

What is a hydrosplitter?

A hydrosplitter is a device that distributes wastewater under pressure through the use of two or more orifices and pumping from a dosing tank or chamber in a pressure transport pipe, as well as gravity flow to trenches.

Comprised of plastic components, each hydrosplitter is designed to meet the specific needs of an application.

When to use a hydrosplitter?

Sloped sites may need hydrosplitters to achieve equal distribution. Hydrosplitters should be used to receive effluent by pump to distribute to gravity drainfield laterals of varying lengths and elevations.



An accessible and well-marked hydrosplitter. Photo courtesy of Brian Rabe, Cascade Earth Sciences

Design considerations

A hydrosplitter will require periodic maintenance for the life of the system. The unit must be accessible for cleaning and removable for inspection or replacement.

Hydrosplitters have disks with orifices sized to distribute an equal proportion of effluent based on gallons per foot to each trench. Orifices should be as large as practicable, minimizing potential for blockages, and not smaller than an eighth of an inch. Soon after startup, residual debris, such as shavings and glue, may clog orifices and should be checked early on.

Size orifices to proportionally distribute to each trench, determining the size by specific calculations. Drill orifices smooth and straight. The orifices will need at least two feet of head pressure. Disks must be removable for cleaning.

Other designs may be considered on a case-by-case basis. Design necessities include, ability to be monitored and maintained. The distribution should also be proportionate so its use would not create a public health hazard.

Pipe considerations

Show the size of the pipe connected to the hydrosplitter on construction plans as it is an important design consideration. Smaller diameter pipes can fill completely and create a vacuum, which will have one or more lines siphoning effluent. Instead, transition to larger gravity piping outside the hydrosplitter enclosure.

Siting considerations

Place hydrosplitters in an enclosure with a lid and a solid floor to restrict access for rodents while also protecting unions and valves from soil. Opening unions or valves can be difficult or impossible when soil particles get into them. Place a drain hole in the lower part of the enclosure to drain condensation. Insulate the enclosure where freezing is a concern. Exercise care when working in here, as spiders, scorpions and other stinging insects may be residing in this enclosure.

Locate the top of the hydrosplitter pipe at least 6 inches higher than the top of the header pipe of the uppermost trench, ensuring the appropriate proportional flow to each trench.

Each discharge pipe must discharge into a distribution box, drop box or other method acceptable to the agent as a means of monitoring system performance. The flow from each orifice should not vary more than 10% from its design rate.



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