Lake Wise Info Sheet

INFILTRATION TRENCHES

Upland stormwater management

Shoreland Best Management Practices for Lake-friendly Living.

Benefits

- Water Quality
- Prevents Erosion
- Slow, Spread, Sink Stormwater
- Low Cost
- Low Maintenance
- Small spaces
- Protection & Resiliency
- Visual Appeal

Acceptable BMP under the Vermont Shoreland Protection Act

Related Info Sheets:

Dry Wells

Rain Gardens

Lakeshore Buffers

VT Lake Wise Program

A dripline trench infiltrates roof runoff.

NHDES, Soak Up the Rain NH

Driveway infiltration trench stops erosion.

Description.

An infiltration trench is a stone-lined shallow channel that collects and infiltrates stormwater runoff from developed areas including walkways, driveways, parking lots, and roofs.

Applicability.

Infiltration trenches work best in well-drained soils like sand and gravel. They are not recommended for areas that receive large amounts of sediment like unpaved driveways, areas with a high groundwater table, poorly drained soils*, or steep slopes. Dripline trenches capture runoff from roofs without gutters. They can reduce backsplash and minimize moisture and dirt on house siding. They should not be used on structures with improperly sealed foundations, as flooding may result.

How to.

1. Locate a linear area below an unguttered rooftop or along a paved driveway or walkway that receives runoff during rain events. **Make sure the selected area is set back at least 50 feet from your septic system.**

2. For a dripline trench, locate the roof's dripline. From the dripline: Measure at least six inches towards the house and 12 inches away from the house, for a total width of 18 to 24-inches. Mark the area with spray paint or string. For other infiltration trenches, measure an approximately 18 to 24-inch wide area, depending on available space, and mark the area.

*Underdrains can be installed in poorly drained areas to convey excess runoff to a stable vegetated area, rain garden, or other treatment area.

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DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION

Graphics by Greenleaf Design, LLC

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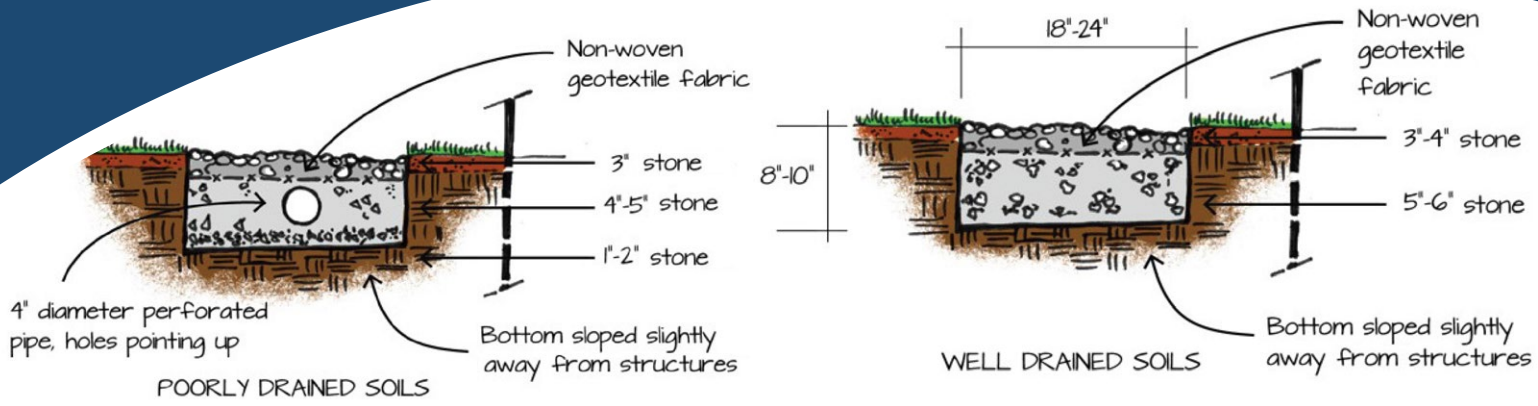

Section diagram of an infiltration trench with and without an underdrain. VT Guide to Stormwater Management.

How to.

3. Dig an 8 to 10 inch deep trench in the marked area. Slope the bottom of the trench slightly away from foundations and structures. Ensure that the removed soil is placed in an area where it will not be eroded into surface waters.

4. Line the trench will nonwoven geotextile fabric (NOT woven landscaping fabrics – lower infiltration rates, clogging, and shorter life span) to extend the life of the infiltration trench, leaving a flap that is the width of the trench extending from the inner side (closest to your structure or impervious surface).

For underdrains: Fill the bottom of the trench with 1 to 2 inches of washed crushed stone. Install a 4-inch perforated PVC pipe with the holes facing up. Slope pipe slighty towards a stable outlet and vegetated area.

5. Fill the bottom of the trench with approximately 5 to 6 inches of ½" to 1 ½" washed crushed stone. Fold the flap over or add another layer of nonwoven geotextile fabric.

6. Fill the remaining 3 to 4 inches of the trench with washed crushed stone.

7. You can edge the trench with stones, wood, or metal or plastic edging to keep stones in and weeds out.

8. Add a layer of washed crushed stone and optional large decorative stones on top of the fabric.

Materials.

- Measuring tape
- Spray paint or string to mark area
- Shovel
- ½ to 1 ½ inch washed crushed stone
- Nonwoven geotextile fabric

Maintenance.

Periodically remove accumulated debris and weeds from the surface of the trench. Inspect the trench after large rain events and in the spring. If clogged, as indicated by slowly draining or pooling water, the top layer of stone may need to be removed, washed, and replaced.

For more information...

- **The Vermont Guide to Stormwater Management for Homeowners and Small Businesses (2018)**
- **New Hampshire Homeowner's Guide to Stormwater Management (2019)**

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