

DRIVEWAY INFILTRATION TRENCH

A driveway infiltration trench collects and infiltrates stormwater from your driveway allowing it to soak into the ground. It helps reduce stormwater runoff.



SIZING AND DESIGN

STEP 1. Observe Driveway. Observe your driveway during a rain storm to determine how stormwater runoff flows across it. Depending on the volume of runoff and where it flows, you may only need an infiltration trench along one side or only a portion of your driveway.

STEP 2. Determine Width. Decide the width of the trench you want to install. It should be between 12" and 18", as space allows. Mark the trench width (12" - 18") along the edge of your driveway where you will be installing the trench. This is the boundary line for excavation.

STEP 3. Determine materials needed.

Crushed stone. Calculate the volume of the trench in cubic feet by using the calculation below. If needed, convert cubic feet to cubic yards by multiplying cubic feet by 0.037.

$$\text{TRENCH LENGTH (ft)} \times \text{TRENCH WIDTH (ft)} \times \text{TRENCH DEPTH (ft)} = \text{TRENCH VOLUME (ft}^3\text{)}$$

Landscape fabric. Purchase enough landscape fabric to extend twice the length of the trench.

Perforated pipe. Purchase enough perforated pipe to extend the length of the trench.

INSTALLATION

STEP 1. Dig trench. Dig a trench at least 8" deep between the edge of your driveway and the excavation boundary line marked along the perimeter of your driveway. Slope the bottom of the trench away from the driveway, if possible, so that water will drain away from the driveway.

EQUIPMENT & MATERIALS

- ↳ Measuring tape
- ↳ Shovel
- ↳ 1/2" to 1 1/2" Crushed stone
- ↳ Non-woven geotextile or landscape fabric

OPTIONAL

- ↳ Perforated plastic pipe
- ↳ String or spray paint

STEP 2. Line with fabric. To extend the life of the trench, line the sides with non-woven geotextile fabric.

STEP 3. Fill with Stone.

For Well Drained Soils: Fill the trench with stone. Fill the trench with $\frac{1}{2}$ " to $1\frac{1}{2}$ " crushed stone until it is about 3" below the ground level. Place a piece of non-woven geotextile fabric over the stone layer and fill the remaining three inches with additional stone (Figure 1).

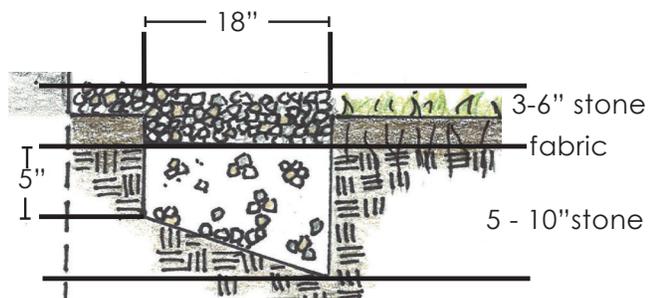


Figure 1. Profile for well drained soils.

For Slowly Draining Soils: Fill the bottom 1" - 2" of the trench with crushed stone. Lay a 4" perforated pipe with the holes facing up along the trench. The end of the pipe should either outlet to a vegetated area with a splash guard to prevent erosion or to another treatment practice such as a dry well or a rain garden. The pipe should be sloped toward the outlet so the water easily flows out of the pipe. Consider screening or adding another type of rodent guard on the exposed end of the pipe to prevent animals from nesting and clogging the pipe. Fill the trench with $\frac{1}{2}$ " to $1\frac{1}{2}$ " crushed stone until it is about 3 inches below the ground level. Place a piece of non-woven geotextile fabric over the stone layer and fill the remaining three inches with additional stone (Figure 2).

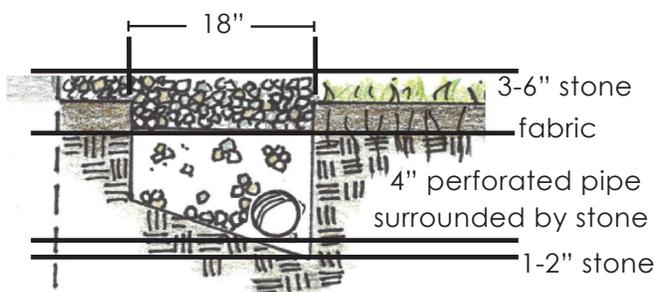


Figure 2. Profile for slowly draining soils.

MAINTENANCE

INSPECT: Periodically and after rain events, inspect the practice for any obvious signs of stress or potential failure. Remove accumulated debris and sediment as needed. Check for ponding or poorly draining water - this can be a sign of clogging.

OTHER MATERIALS: Trenches lined with non-woven geotextile fabric will require less frequent maintenance, but will still clog over time. Ponding of slowly draining water can be a sign of clogging. The stone and fabric, if used, will need to be washed and replaced to clean out the accumulated sediment and debris.

DESIGN REFERENCE

Maine Department of Environmental Protection. [*Conservation Practices for Homeowners*](#). Fact Sheet Series. May 2006.