



Construction Geosynthetics

Geotextile Pedestrian Trail Installation Guide



1.0 General

- 1) This guideline is for building a relatively flat pedestrian trail with a crusher run (rock) surface.
- 2) Trail tread grades over 6% will require significantly more maintenance since they tend to unravel or erode faster.
- 3) If water is an issue that cannot be addressed, do not use crusher run since it is highly susceptible to washouts.
- 4) French drains can be used to drain a spring or direct water under the trail. See our [French Drain Installation Guide](#) for more information.
- 5) Where contradictions occur follow the instructions of the project engineer.

2.0 Alternate Surface Options

- 1) Other surface options include wood chips and saw dust.
 - a) Sawdust compacts fairly well, but can draw moisture from the ground.
 - b) Wood chips are a maintenance issue, can be slippery when wet and will need to be replaced every 3 years.
 - i) Avoid cedar chips since toxic leachates could enter watercourses.
 - ii) Use hemlock, spruce, pine or fir chips.

3.0 Edging

- 1) Typically, edging a trail should be avoided.
 - a) Edges can create a berm or dam that holds water on the trail causing erosion and other trail maintenance issues.
- 2) Trails surfaced with wood chips must be edged.
 - a) Wood chips do not compact well and will spread.
- 3) If edges are required, install hard, continuous edging:
 - a) 4 x 4 ft. landscape timbers.
 - b) 7 x 9 inch x 8 ft. railroad ties.

4.0 Trail Widths

- 1) Trail widths vary depending on use.
 - a) 24 to 48 inch widths for standard hiking trails.
 - b) 36 to 60 inch widths for more accessible trails.

5.0 Excavate Trail

- 1) Excavate the trail area to a depth of 4 to 6 inches.
- 2) Make sure all organic material has been removed from the subgrade and the bed is thoroughly compacted.

6.0 Place Geotextile

- 1) Roll the geotextile out flat in the roll direction, minimizing folds and creases.
 - a) It can be easily cut with a quality utility knife.
- 2) You can cut the entire roll with a Sawzall equipped with a metal cutting blade.
 - a) Start your cut until you get through the top of the core and then roll the product forward to finish the cut.
- 3) Pins or staples are typically not required to hold the fabric in place.
 - a) If needed, 6 inch sod staples work well.
- 4) Overlap adjoining pieces 6 inch to 1 foot.

7.0 Place Gravel

- 1) The preferred gravel is 3/8" minus crusher run with fines.
 - a) Crusher run with fines, unlike washed stone, contains natural binders.
 - b) When combined with water and compacted it produces a solid surface that resists deformations from hiking boots and bikes.
- 2) Crown the finished trail surface at ¼ inches per 1 ft.

8.0 Gravel Coverage Formula

- 1) Convert trail surface area into square feet (length x width = square feet).
- 2) Square feet/324 = number of cubic yards needed to cover 1 inch deep.
- 3) Multiply cubic yards by depth of surface desired.
- 4) Multiply this figure by 1.25 = tons of surface material needed.
 - a) Example:

How many tons of gravel is needed for 1/4 mile trail that is 6 foot wide and 4 inches deep?

 - i) 1,320 ft. X 6 ft. = 7920 sq. ft.
 - ii) 7920/324 = 24.44 cubic yds. For 1 inch deep surface.
 - iii) 24.44 x 4 inch deep = 97.6 cubic yds.
 - iv) 97.76 x 1.25 = 122.2 tons gravel needed.

9.0 Repair & Maintenance

- 1) Any damage to the geotextile should be repaired using a second piece with a minimum 1 foot overlap in all directions.
- 2) If the surface of a crusher fines trail becomes loose and uncompacted it can often be wetted and reshaped.

10.0 Storage

- 1) Geotextile rolls are wrapped in a UV protective cover.
- 2) If stored outdoors for a prolonged period, elevate the geotextile from the ground and cover with a tarpaulin or opaque plastic.

- a) Contractor must insure rolls are adequately protected from:
 - i) Moisture
 - ii) Ultraviolet radiation
 - iii) Chemicals that are strong acids or bases
 - iv) Temperatures in excess of 140°F
 - v) Animal destruction

This material is presented for general information only. Always verify the suitability for a specific application with the project engineer. Where contradictions occur, follow the instructions of the project engineer. There is no implied or expressed warranty regarding the installation procedures or the geosynthetic products in this guide. Installation procedure and product choice is the sole responsibility of the contractor and contractor assumes all liability.