

**General:**

The StormTank® GroundPro is a flexible porous paver system, providing stabilization of grass or gravel in heavy use or traffic areas. In addition to stabilization, these systems provide a means to reduce runoff by eliminating impervious surfaces and promoting infiltration. No two systems are the same; with varying shapes, sizes and configurations.

To sustain system functionality Brentwood offers the following general installation guidelines.

**Precautions:**

1. General
  - a. Review installation procedures and coordinate the installation with other construction activities.
  - b. Engineered documentation supersede this document, as the information is based on a typical installation.
  - c. Components shall be unloaded, handled and stored in a manner to prevent damage and UV degradation.
  - d. Extra care and caution should be taken when temperatures are at or below 40° F (4.4° C).
  - e. Slope shall be limited to 10% and may require staking.
2. Installation Preparation
  - a. Installation should occur once all nearby sprinkler system installation, and adjacent hardscapes are completed.
  - b. Installations near trees should incorporate a root barrier to prevent damage to the product.
  - c. Installations on fill areas shall be inspected by a Geotechnical Expert to ensure stability and necessary compaction to resist settlement.
  - d. Percolation rates must be a minimum 0.25 in/hr (6.35 mm/hr) after factor of safety (recommended 2:1).
  - e. Water table shall be a minimum 2.0' (610 mm) below base course invert.

**Preparation:**

1. Excavate the installation area, accounting for base material, plus 1.50" (38.10 mm).
  - a. Additional drainage components may be required for poorly draining soils.
  - b. Installation shall not occur on frozen, muddy or saturated soils.
2. Prepare the subgrade for installation
  - a. Remove any large or loose material and rock outcroppings.
  - b. Compact per engineer, ensuring compaction does not reduce permeability below design criteria.
3. Install a separation layer of geotextile fabric, if specified
4. Install any necessary drainage components, if specified

**Base Material, if specified:**

1. Place base course to specified depth, leaving a 1.50" (38.10 mm) gap between the top of stone and finished grade.
  - a. Compact material in maximum 6" (152 mm) lifts to achieve the necessary base depth
  - b. Base material is highly recommended to provide stormwater storage for runoff and provide even load distribution to the subgrade

**Paver Placement:**

1. Begin placing the first roll at the left side of the installation area and roll out. Roll should be placed in a manner to allow the produce to be unrolled with the top facing up.
  - a. Ensure a minimum 1" (25.4 mm) separation between the product and adjacent surface

- b. Pavers can be cut to fit around objects or irregular shapes.
  - c. Secure any required rolls to the subgrade.
2. Place the next roll adjacent to the first roll to allow easy movement of the connection feature over the first roll.
  - a. Once unrolled, snap the female connector onto the male connection. Continue for any additional required rolls or singular panels (disconnected from a larger roll).
  - b. Once all rolls are placed, ensure the minimum 1" (25.4 mm) perimeter separation distance remains.
  - c. Secure any required rolls to the subgrade.
3. If anchoring is required, place anchors in accordance with "Anchor Placement Detail", being sure to include anchors along the perimeter of the installation.

#### **Paver Filling:**

1. Slightly overfill pavers with an aggregate mixture, to allow material to settle into the paver.
  - a. Aggregate mixture shall be AASHTO #8 aggregate, a coarse sand or a mixture of the two materials.
  - b. Pavers should not be directly driven on without material filling the paver.
2. Utilizing a vibratory plate tamper, settle the material within the product.
3. Place a secondary layer of the aggregate mixture to fill the paver units and provide a maximum 1/2" (12 mm) of material over the paver product.

#### **Post Installation Maintenance:**

1. Aggregate Fill
  - a. Inspection of the fill material should occur at regular intervals. Occasionally, additional fill may be required because of slight fill loss or transportation. In these situations, onsite material may require being respreads or additional material placed.
2. Snow Removal
  - a. Winter maintenance should be completed to ensure the blade is separated a minimum of 1" (25.4 mm) to 2" (50.8 mm) above the paver surface to prevent scraping and gouging. In addition, piles of snow should not be placed over paver areas as it could create damage, mold or require revegetation in the spring.

## Appendix A: Base Material

The performance of GroundPro is partly dependent on proper subgrade and base material preparation. Without proper base strength, composition, etc. the performance may be limited by inability to support loads or maintain an adequate stand of vegetation.

Though the product can be placed directly onto the subgrade, it is recommended a minimum 2" base layer be provided for drainage and runoff storage prior to infiltration. The base material should be a combination should be made up of angular drainage aggregate (AASHTO #57) and screened topsoil. The mixture should be two-parts aggregate, to one-part screened topsoil, maintaining a minimum 30% void space. Once placed, the mixture should be compacted to engineer specifications.

### Aggregate Gradation:

TABLE 703.4 STANDARD SIZES OF COARSE AGGREGATES AASHTO M 43							
Amounts finer than each laboratory Sieve (square openings), percentage by weight							
Product Name	Nominal Size Square Openings	1 1/2" 37.5mm	1" 25mm	1/2" 12.5mm	No.4 4.75mm	No.8 2.36mm	No.200 75 µm
#57	1" -- No. 4 25.0 mm -- 4.75mm	100	95-100	25-60	0-10	0-5	0-2

### Base Depth Recommendations:

Loading Criteria	Description	Examples	Depth
Class 1 – Pedestrian Loads ONLY		Trails Bicycle Path Wheelchair Access	0" – 2" (0 – 51 mm)
Class 2 – Personal Vehicular Access	Single axle loads of 4,000 lbs. (18 kN)	Cart Path Parking Stall Residential Driveway	2" – 4" (51 mm – 102 mm)
Class 3 – Light Duty Access (H-10)*	Single axle loads of 16,000 lbs. (75 kN)	Parking Lot Roadway Shoulder Overflow Parking	6" – 10" (152 mm – 254 mm)
Class 4 – Medium Duty Access (H-15)*	Single axle loads of 24,000 lbs. (110 kN)	Truck Wash-Down RV Access Service Vehicle Access	10" – 12" (254 mm – 305 mm)
Class 5 – Heavy Duty Access (HS-20)*	Single axle loads of 32,000 lbs. (145 kN)	Emergency Lane Equipment Area Trailer Overflow	12"+ (305 mm+)

\* Areas of infrequent passes. These are areas where traffic is limited to cause no impact on vegetation

*Note: Depth is based may need to be increased on a case by case basis, because of subsoil characteristics, subsoil strength limitations, frost-heave limitations, etc. The Engineer shall be responsible for the design and stability of the subgrade and base material.*