PRESTO GEOSYSTEMS

GEORUNNER®

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FLOW PROTECTION SYSTEM

INSTALLATION GUIDELINE

PRESTO GEOSYSTEMS
670 N PERKINS STREET, APPLETON, WISCONSIN, USA 54914
Ph: 800-548-34241 or 1-920-738-1328 ▪ Fax: 920-738-1222
E: info@prestogeo.com www.prestogeo.com
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NOTE: The following installation techniques and recommendations may require an evaluation by Presto Geosystems to determine the applicability of use for individual project requirements.

Base Preparation

1. Prepare the sub grade as specified. No depressions shall exist that can retain water.
2. If flowing water is present, a sub-drain and outlet may be required. Ensure that proper slope is maintained throughout the drainage system and that the outlet is free from any obstructions preventing free drainage.
3. Excavate or fill foundation soils as required to elevations and dimensions as indicated on the drawings or as directed by the Engineer.
4. Ensure foundation soil meets specification requirements and is examined by the Engineer. If unacceptable foundation soils are encountered, excavate affected areas and replace these areas with suitable quality material as directed by the Engineer.

Surface Treatment

1. The specified surface treatment shall be installed immediately after the sub grade is prepared and approved. The surface treatment shall be fertilized and watered in accordance with the Contract Documents.
2. If required, seed shall conform to the requirements of the governing authority and for restrictions on noxious weeds.
3. If required, sod shall consist of a dense, well rooted growth of permanent and desirable grasses indigenous to the area it is being installed.
4. If specified, the turf reinforcement mat (TRM) or erosion control blanket (ECB) shall be placed and secured after the surface treatment is installed and in accordance with Manufacturer's recommendations. The type of TRM/ECB shall be based on the specific application. Consult with Presto Geosystems or project engineer for TRM/ECB recommendation.
5. In cases where the vegetation is intact and the application doesn't require additional protection, the GeoRunner panels may be placed directly over the surface.
6. Installing the Georunner panels directly over bare ground is not recommended.

Installation of GeoRunner® Panels

1. GeoRunner panels should be placed down so that the flat surface of the 2 in x 24 in center band is facing up. The bottom side of the GeoRunner panel has four, ¼ inch diameter x ¼ inch long molded-in locator buttons on one end.
2. The panels shall be placed with the locator buttons on the downstream side of the panel and with the long direction (4 foot length) in the direction of flow. Refer to Figure 1.

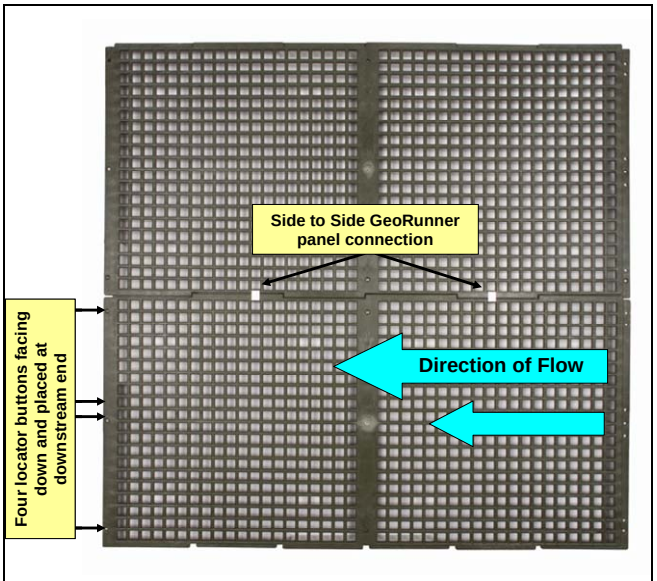


Figure 1. Georunner Panel and Direction of Flow

3. Snap the GeoRunner 2 ft. ends together to engage the locator buttons.
4. Insert three rivets in the hole locations to secure the panels. Refer to Figure 2.
5. The GeoRunner panels are easily laid down in a running row and column pattern.
6. The panels can be installed in-place or assembled off to the side of the installation site and transferred to the installation area.

Figure 2. Install Rivets

7. When panels are attached side-to-side, interlock the 4 foot (long edge) side connections and secure with 2 side clips evenly spaced. Refer to Figure 3.

Figure 3. Connect Panels with Side Clips

Anchoring GeoRunner® Panels

1. A minimum of four earth anchors shall be installed for each Georunner panel. Additional anchors may be required to keep the panels smooth and to ensure contact with sub grade. Refer to Georunner drawing 1 for recommended anchor placement.
2. Install earth anchors by inserting the drive rod into the Duckbill® anchor head. Refer to Figure 4.
3. Drive earth anchor into the soil with a sledge hammer or impact hammer to the length of the cable or until the desired resistance is achieved.
4. Twist and remove the drive rod. Drive rod may require “rocking” action to remove from earth.

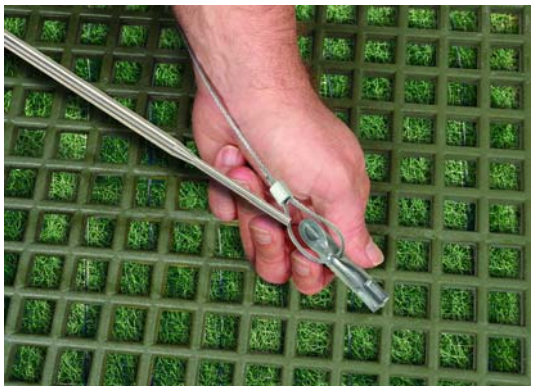


Figure 4. Install Anchor

5. Using a wire gripper or other method, pull the cable firmly to remove slack and to set the earth anchor. Refer to Figure 5. The cable will move approximately 2 inches and the Duckbill will rotate beneath the surface to become permanently fixed in place, creating a “deadman”.
6. Slide the Gripple® into the anchor brace. Gripple must be inserted from the side of the brace in order to lock below the two opposing brace nipples. Refer to Figure 6.

Figure 5. Secure Earth Anchor

7. Slide the anchor brace/Gripple into the same panel opening as the cable. Refer to Figure 7.
8. The anchor brace/Gripple will be recessed into the panel opening and located below the top of the panel.
9. Stand on anchor brace and pull cable tight to secure Georunner mat to ground surface.

Figure 6. Install Anchor Brace/Gripple

Figure 7. Set Gripple in anchor brace.

10. **Recommended:** Cut the cable approximately 2 inches above the Gripple to allow for re-tensioning in the future, if required. Refer to Figure 8.
11. Loop the cut end back into the Gripple head. Refer to Figure 9. Looping the cable locks the free end safely as the Gripple is bi-directional and will permanently hold the free end of the cable.

Figure 8. Cut the cable to loop the trailing end

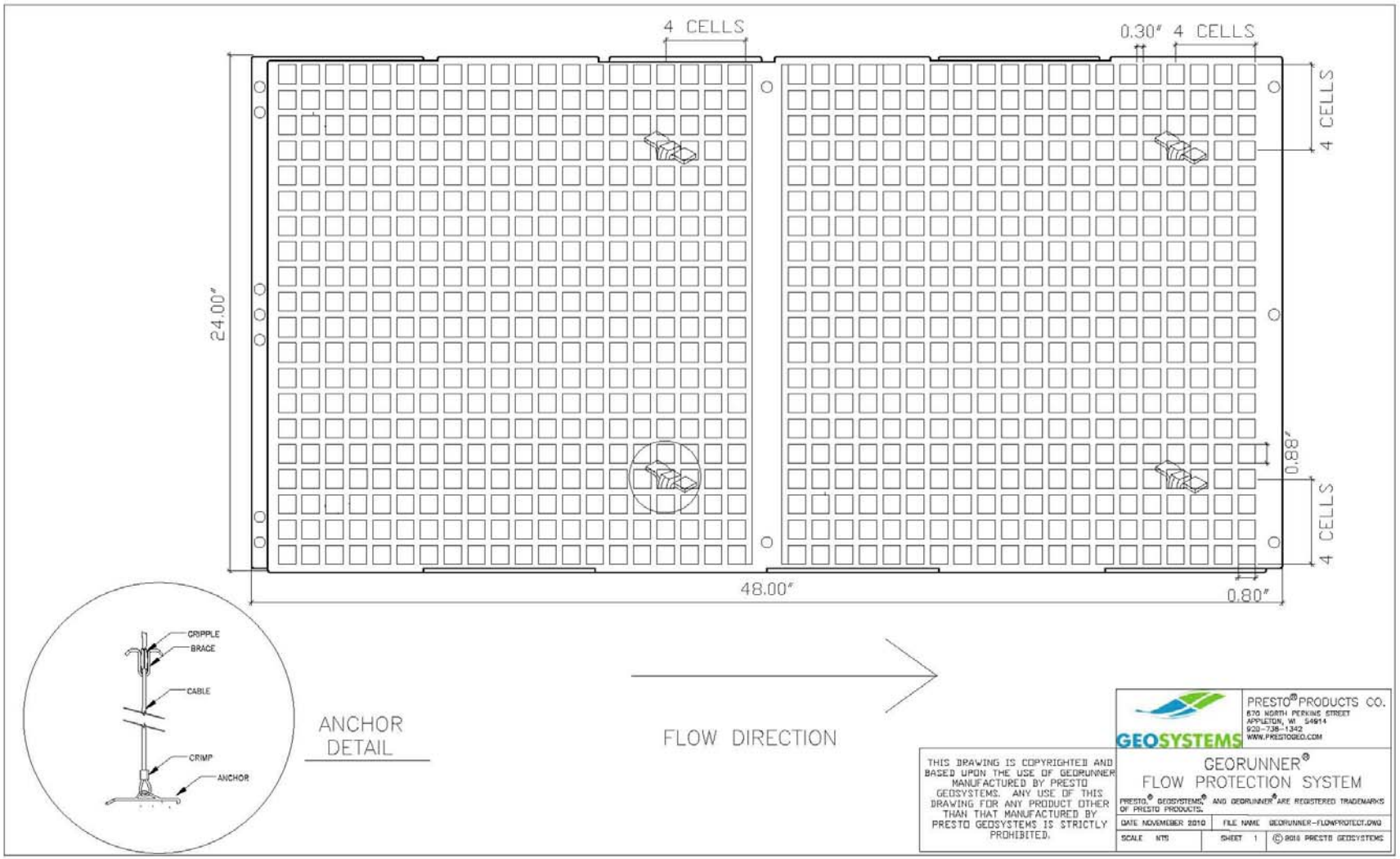
Figure 9. Loop cable back in the Gripple

12. **Alternative to steps 10 and 11 above:** If preferred, the cable may be cut flush with the Gripple to remove the trailing end. Refer to Figure 10.

Figure 10. Cut the cable flush with the Gripple

Maintenance

1. The GeoRunner area can be mowed and maintained once adequate vegetation has been established. A minimum blade height of 4 inches is recommended. Ensure that no edges or areas protrude that could catch on the mower blades.
2. Thermal expansion of the exposed GeoRunner panels due to high temperatures is normal. This expansion may result in intermittent bulging of the secured GeoRunner system. As vegetation is established, the turf will insulate the GeoRunner system and the potential for thermal expansion will be minimized.
3. The surface is relatively flat and smooth, but caution should be exercised to assure all components are properly installed to prevent trip hazards.



Drawing 1. GeoRunner Anchor Pattern

Limited Warranty

Presto Geosystems warrants each Georunner® panel which it ships to be free from defects in materials and workmanship at the time of manufacture. Presto's exclusive liability under this warranty or otherwise will be to furnish without charge to Presto's customer at the original f.o.b. point a replacement for any section which proves to be defective under normal use and service during the 10-year period which begins on the date of shipment by Presto. Presto reserves the right to inspect any allegedly defective section in order to verify the defect and ascertain its cause.

This warranty does not cover defects attributable to causes or occurrences beyond Presto's control, not in conformance with ordinary use, or unrelated to the manufacturing process, including, but not limited to, abuse, misuse, mishandling, neglect, improper storage, improper installation, improper alteration or improper application.

PRESTO MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, WRITTEN OR ORAL, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OR MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, IN CONNECTION WITH THE GEORUNNER® SYSTEM. IN NO EVENT SHALL PRESTO BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR THE BREACH OF ANY EXPRESS OR IMPLIED WARRANTY OR FOR ANY OTHER REASON, INCLUDING NEGLIGENCE, IN CONNECTION WITH THE GEORUNNER® SYSTEM.

Disclaimer

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Project drawings and specifications take precedence over all Manufacturers' recommendations.

