



# SWPPP Cut Sheet

Last Updated: 1-1-08

## Section 1: Erosion and Sediment Control – Construction Activities

### 1.6 Filtrexx Runoff Diversion Soxx™

#### *Runoff & Erosion Control Technology*

#### PURPOSE & DESCRIPTION

Filtrexx Runoff Diversion Soxx™ are a three-dimensional tubular runoff and erosion control device used for **diversion or redirection of runoff** otherwise flowing to disturbed or highly erodible areas on and around construction activities. Filtrexx Runoff Diversion Soxx™ can be used as temporary or permanent runoff diversion devices used to prevent soil erosion during excavation, or prior to erosion control practice installation, vegetation establishment, or final stabilization.

#### APPLICATION

Filtrexx Runoff Diversion Soxx™ are generally used upslope of areas undergoing excavation. Runoff Diversion Soxx™ are effective at diverting sheet flow runoff coming from stabilized areas and otherwise flowing to unstable or bare soils while excavation and grading is in progress. Runoff Diversion Soxx™ should direct runoff flows to stabilized channels, heavily vegetated areas, on to flat surfaces, infiltration zones, collection ponds, or storm inlets. Runoff Diversion Soxx™ can also be used for temporary diversion on paved surfaces to protect disturbed soils adjacent to paved areas. Where hill slopes are greater than 5%, hydraulic shear stress is greater than 3 lbs/ft<sup>2</sup> (15 kg/m<sup>2</sup>), or runoff velocity is greater than 6 CFS (0.17 CMS) additional erosion control measures to help stabilize the area where flow is being directed and potentially concentrated or channeled should be utilized. Filtrexx Channel Soxx™ may be used to stabilize channels where runoff is conveyed or concentrated. Runoff diversion devices and practices should be utilized early in the soil disturbance and construction process. Appropriate applications for runoff diversion devices include:

- diversion of runoff away from disturbed areas and to stabilized outlets or storm inlets,
- diversion of sediment-laden water to a sediment containment or storm water treatment system,
- diversion of runoff into a conveyance channel to improve site working conditions (but does not otherwise increase erosion),
- prevention of sediment-laden runoff or storm water from leaving site perimeter.

For temporary applications Runoff Diversion Soxx™ do not need to be seeded; however, for

permanent runoff diversion the device should be direct seeded at the time of application, as vegetation will prevent UV degradation of the device. Runoff Diversion Soxx™ may also be used in sensitive environmental areas, where migration of wildlife may be impeded by the use of fences or trenching may damage plant roots.

#### INSTALLATION

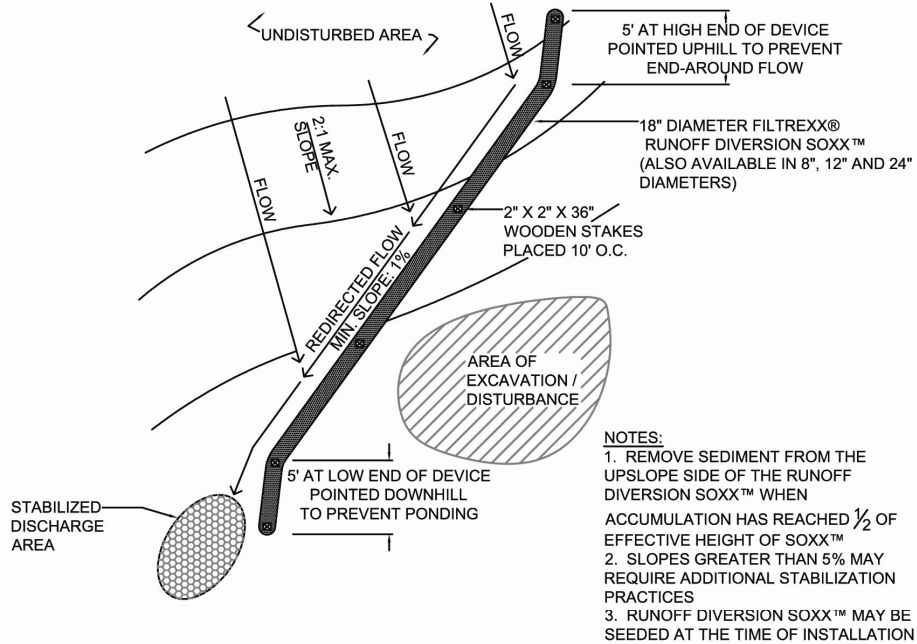
1. Runoff Diversion Soxx™ used for runoff and erosion control shall meet Filtrexx FilterSoxx™ Material Specifications and use Filtrexx GrowingMedia™. Soil and/or sand may be added to the Filtrexx GrowingMedia™ at percent determined by the Engineer.
2. Contractor is required to be a Filtrexx Certified™ Installer as determined by Filtrexx International, LLC (440-926-2607 or visit website at Filtrexx.com). Certification shall be considered current if appropriate identification is shown during time of bid or at time of application (current list can be found at [www.filtrexx.com](http://www.filtrexx.com)). Look for the Filtrexx Certified™ Installer Seal.
3. Runoff Diversion Soxx™ will be placed at locations indicated on plans as directed by the Engineer.
4. Runoff Diversion Soxx™ shall be installed above and adjacent to areas of unprotected soil or areas prone to soil erosion.
5. Runoff Diversion Soxx™ shall be installed where 5 ft (1.5m) of the end at highest elevation shall be pointing upslope and into any existing vegetation.
6. Runoff Diversion Soxx™ shall be installed so the trailing end of the device points down slope to prevent ponding of runoff.
7. Runoff Diversion Soxx™ shall lead sheet and shallow concentrated runoff *from* vegetated/stabilized soil areas *to* stabilized channels, vegetated areas, level areas, high infiltration zones, or collection ponds.
8. Runoff Diversion Soxx™ shall be placed on slopes 1% or greater to allow effective runoff conveyance and to prevent ponding.
9. Runoff Diversion Soxx™ installed on slopes > 5% may require erosion control/soil stabilization practices where runoff flow is concentrated or conveyed.
10. Runoff Diversion Soxx™ should not be used on slopes greater than 2:1.
11. Stakes shall be installed through the middle of Runoff Diversion Soxx™ on 10 ft (3m) centers, using 2 in (50mm) x 2 in (50mm) x 3 ft (1m) wood stakes.
12. Staking depth for sand and silt loam soils shall be 12 in (300mm), and 8 in (200mm) for clay soils.
13. If the Runoff Diversion Soxx™ is to be a permanent runoff diversion device or part of the natural landscape, it may be seeded at time of installation for establishment of permanent vegetation. The Engineer will specify seed requirements.
14. Loose GrowingMedia™ used for backfilling and extension of filter strip may also be seeded. The Engineer will specify seed requirements.

#### INSPECTION and MAINTENANCE

Routine inspection should be conducted within 24 hrs of a runoff event or as designated by the regulating authority. Runoff Diversion Soxx™ should be regularly inspected to make sure they maintain their shape and are adequately diverting storm runoff. If ponding becomes excessive, additional Runoff Diversion Soxx™ may be required, sediment or debris removal may be necessary, or the device may need to be adjusted to allow gravitational flow of water down slope. A freeboard height of 4 in. (100mm) below the top edge of the device must be maintained at all times. Runoff Diversion Soxx™ shall be inspected until the entire area has been permanently stabilized and construction activity has ceased

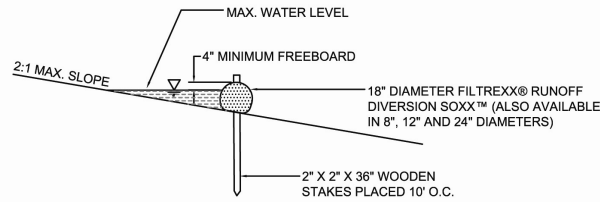
1. The Contractor shall maintain the Runoff Diversion Soxx™ in a functional condition at all times and it shall be routinely inspected.
  2. If the Runoff Diversion Soxx™ has been damaged, it shall be repaired, or replaced if beyond repair.
  3. The Contractor shall remove sediment and debris at the base of the upslope side of the Runoff Diversion Soxx™ when accumulation has reached 1/2 of the effective height of the Soxx™, or as directed by the Engineer.
  4. A freeboard height of 4 in. (100mm) below the top edge of the device must be maintained throughout the life of the device.
  5. Runoff Diversion Soxx™ shall be maintained until the hill slope has been permanently stabilized and construction activity has ceased.
  6. GrowingMedia™ will be dispersed on site once disturbed area has been permanently stabilized, construction activity ceased, or determined by Engineer.
- For projects exceeding 1 year, Runoff Diversion Soxx™ can be seeded at the time of installation to create a permanent runoff and erosion control system. Vegetation will add stability to the device and will reduce UV degradation of the system. The appropriate seed mix shall be determined by the Engineer.

**Figure 6.1.** Engineering Design Drawing for Runoff Diversion Soxx™



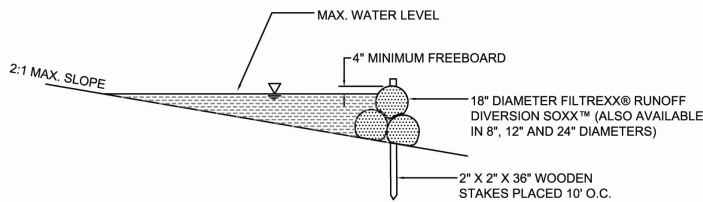
## **FILTREXX® RUNOFF DIVERSION SOXX™ PLAN**

**Figure 6.2.** Engineering Design Drawing for Runoff Diversion Soxx™ - Sectional View



### **SINGLE INSTALLATION SECTION**

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### **PYRAMID INSTALLATION SECTION**

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## **FILTREXX® RUNOFF DIVERSION SOXX™ SECTIONS**

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