6.1.6 Runoff Diversion - Compost Filter Sock

PURPOSE & DESCRIPTION
Filtrexx® SiltSoxx™ is 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. Runoff diversion can be used as temporary or permanent runoff diversion device used to prevent soil erosion during excavation, or prior to erosion control practice installation, vegetation establishment, or final stabilization.

APPLICATION
Runoff diversion is generally used upslope of areas undergoing excavation. Runoff diversion is 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 should direct runoff flows to stabilized channels, heavily vegetated areas, on to flat surfaces, infiltration zones, collection ponds, or storm inlets. Runoff diversion 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/ft² (15 kg/m²), so runoff diversion will be placed at locations indicated on plans as directed by the Engineer.

5. Runoff diversion shall be installed where 5 ft (1.5m) of the end at highest elevation shall be constructed pointing slightly upslope and into any existing vegetation.

6. Runoff diversion shall be installed so trailing end of the device points down slope to prevent ponding of runoff.

7. Runoff diversion 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 shall be placed on slopes 1% or greater to allow effective runoff conveyance and to prevent ponding.

9. Runoff diversion installed on slopes greater than 5% may require erosion control/soil stabilization practices where runoff flow is concentrated or conveyed.

10. Runoff diversion should not be used on slopes greater than 2:1.

11. Stakes shall be installed through the middle of the runoff diversion on 10 ft (3m) centers, using 2 in (50mm) by 2 in (50mm) by 3 ft (1m) wooden 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 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.

See design drawing details for correct runoff diversion installation (Figure 6.1).

INSPECTION & MAINTENANCE
Routine inspection should be conducted within 24 hrs of a runoff event or as designated by the regulating authority. Runoff diversion should be regularly inspected to make sure they maintain their shape and are adequately diverting storm runoff. If ponding becomes excessive, additional runoff diversion 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 shall be inspected until the entire area has been permanently stabilized and construction activity has ceased.

1. The Contractor shall maintain the runoff diversion in a functional condition at all times and it shall be routinely inspected.

2. If the runoff diversion 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 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 shall be maintained until the hill slope has been permanently stabilized and construction activity has ceased.

6. The GrowingMedia will be dispersed on site once disturbed area has been permanently stabilized, construction activity has ceased, or as determined by the Engineer.

For runoff diversion and erosion control exceeding 1 year, runoff diversion should be regularly inspected. If ponding becomes excessive, additional runoff diversion 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 shall be inspected until the entire area has been permanently stabilized and construction activity has ceased.

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diversion 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.

**ADDITIONAL INFORMATION**

For other references on this topic, including additional research reports and trade magazine and press coverage, visit the Filtrexx website at filtrexx.com

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

![Diagram of Runoff Diversion](image-url)
Figure 6.2. Engineering Design Drawing for Runoff Diversion - Sectional View

SINGLE INSTALLATION SECTION

PYRAMID INSTALLATION SECTION

Filtrexx® RUNOFF DIVERSION SECTIONS