

SWPPP Cut Sheet:

Filtrex[®] Filter Strip

Sediment & Pollution Control Technology

PURPOSE & DESCRIPTION

Filtrex[®] Filter strips are a **temporary or permanent vegetative filtration** practice used to reduce the amount of sediment and soluble pollutants, such as nutrients, heavy metals, and petroleum hydrocarbons, in storm water runoff prior to leaving a site or entering a receiving water or wetland. The primary purpose of a Filter strip is to reduce sediment and pollutant loading of surface sheet flow runoff and subsurface flow (interflow) by:

- Reducing pollutant loads by reducing runoff volume,
- Reducing runoff volume through increased water holding capacity and infiltration,
- Increasing infiltration by reducing runoff velocity,
- Trapping and settling of pathogens and sediment by reducing runoff velocity,
- Chemical adsorption of nutrients and metals to humus colloids in compost,
- Recycling of nutrients and metals by plant uptake and microbial decomposition and uptake.

Filter strips consist of a 1 to 2 in (25-50mm) deep layer (135 to 270 cubic yards/acre, 257 to 513 cubic meters/ha) of Filtrex[®] GrowingMedia™ blended with a specified seed mix and applied to ground surfaces with pneumatic blower trucks. Planting of perennials such as shrubs and trees will also improve storm water infiltration and filtration of pollutants in storm water.

APPLICATION

Filtrex[®] Filter strips are generally used for post construction applications where permanent vegetation is established to increase infiltration of storm water and filtration of storm water pollutants. Locations where Filter strips may be required or recommended to filter storm runoff include:

- From highways, streets, and parking lots,
- Prior to surface waters, riparian areas, and wetlands,
- Above stream bank or shoreline structural stabilization projects,
- Prior to channels and ditches,
- Prior to bioretention ponds, rain gardens, and storm water detention ponds,
- Around site perimeters where land disturbing/construction activities may occur,
- Prior to structural sediment control devices as a pretreatment practice,
- Around and prior to sediment detention ponds where land disturbing/construction activities may occur.

Filter strips can also be designed to reduce runoff velocity leaving or entering the locations described above. Reducing runoff velocity will increase infiltration of storm runoff, thereby reducing runoff volume and pollutant loading. GrowingMedia™ in Filter strips will further reduce pollutant loading in storm water by reducing runoff volume and



increasing chemical adsorption of soluble pollutants. Filter strips are generally used in permanent, post-construction applications where a variety of vegetation including legumes, grasses, shrubs and trees can be utilized; however, temporary applications that include fast establishing grasses on or near land disturbing/construction activities are acceptable. Filter strips can be applied as part of a Low Impact Development design plan.

INSTALLATION

1. Filter strips shall meet Filtrex[®] Filter Strip Specifications and use Filtrex[®] GrowingMedia[™].
2. Contractor is required to be a Filtrex[®] Certified[™] Installer as determined by Filtrex[®] International, LLC (440-926-2607 or visit website at www.filtrex.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.filtrex.com). Look for the Filtrex[®] Certified[™] Installer Seal.
3. Filter strips will be placed at locations indicated on plans as directed by the Engineer.
4. Filter strips shall be installed down slope/around areas contributing runoff w/ sediment, nutrients, heavy metals, petroleum hydrocarbons, and/or pathogens.
5. Filter strips shall be applied to 100% of the area where a vegetated filter strip is required and shall be applied at a minimum width of 15 ft (4.5 m).
6. Filter strips shall be applied to the soil surface at a depth of 1 to 2 in (25-50mm) or 135 to 275 cubic yards/ac. (257-513 cubic meters/ha), or,
7. Filter strips designed for maximum infiltration may use Filtrex[®] Compost Engineered Soil[™] and should consult those installation specifications.
8. Seed shall be thoroughly mixed with the GrowingMedia[™] prior to application or surface applied with GrowingMedia[™] at time of application.
9. Filter strips shall not be installed in areas of concentrated runoff flow or installed on slopes greater than 15%.
10. Filter strips shall not be installed in areas where contributing sediment loads are greater than 10 tons/ac/yr (22.5 Mg/ha/yr).

INSPECTION AND MAINTENANCE

Routine inspection should be conducted within 24 hrs of a runoff event for the first year after installation, until permanent vegetation has established, or as designated by the regulating

authority. If sediment accumulation is 25% of the height of the vegetation, sediment removal is recommended. If rilling occurs or vegetation does not establish, the area of application should be reapplied with a Filter strip. If failure continues, the use of runoff diversion devices, compost erosion control blankets, rolled erosion control blankets, or soil stabilizers should be considered. Vegetation should be inspected for noxious/invasive weeds.

1. The Contractor shall maintain the Compost Vegetated Filter strip in a functional condition at all times and it shall be routinely inspected.
2. Filter strips shall be maintained until a minimum of 70% uniform cover of the applied area has been vegetated or permanent vegetation has established.
3. Filter strips may need to be irrigated in hot and dry weather and seasons, or arid and semi-arid climates to ensure vegetation establishment.
4. Where a Filter strip fails, rilling occurs, or vegetation does not establish, the Contractor will repair or provide an approved and functioning alternative.
5. If a Filter strip is damaged by storm water runoff, temporary runoff diversion devices installed above the Filter strip may be required.
6. No additional fertilizer or lime is required for vegetation establishment and maintenance.
7. Regular mowing of Filter strips to a minimum height of 4 in (100mm) and a maximum height of 10 in. (250mm) will deter invasive weeds, allow sunlight to kill captured pathogens, and provide maximum sediment removal efficiency and sediment storage capacity in the filter strip.
8. Sediment shall be removed once it reaches 25% of the ht of the vegetation (mowed) to prevent diversion of runoff and reduction of vegetation and cover.



Figure 2.1. Engineering Design Drawing for Compost Vegetated Filter Strip.

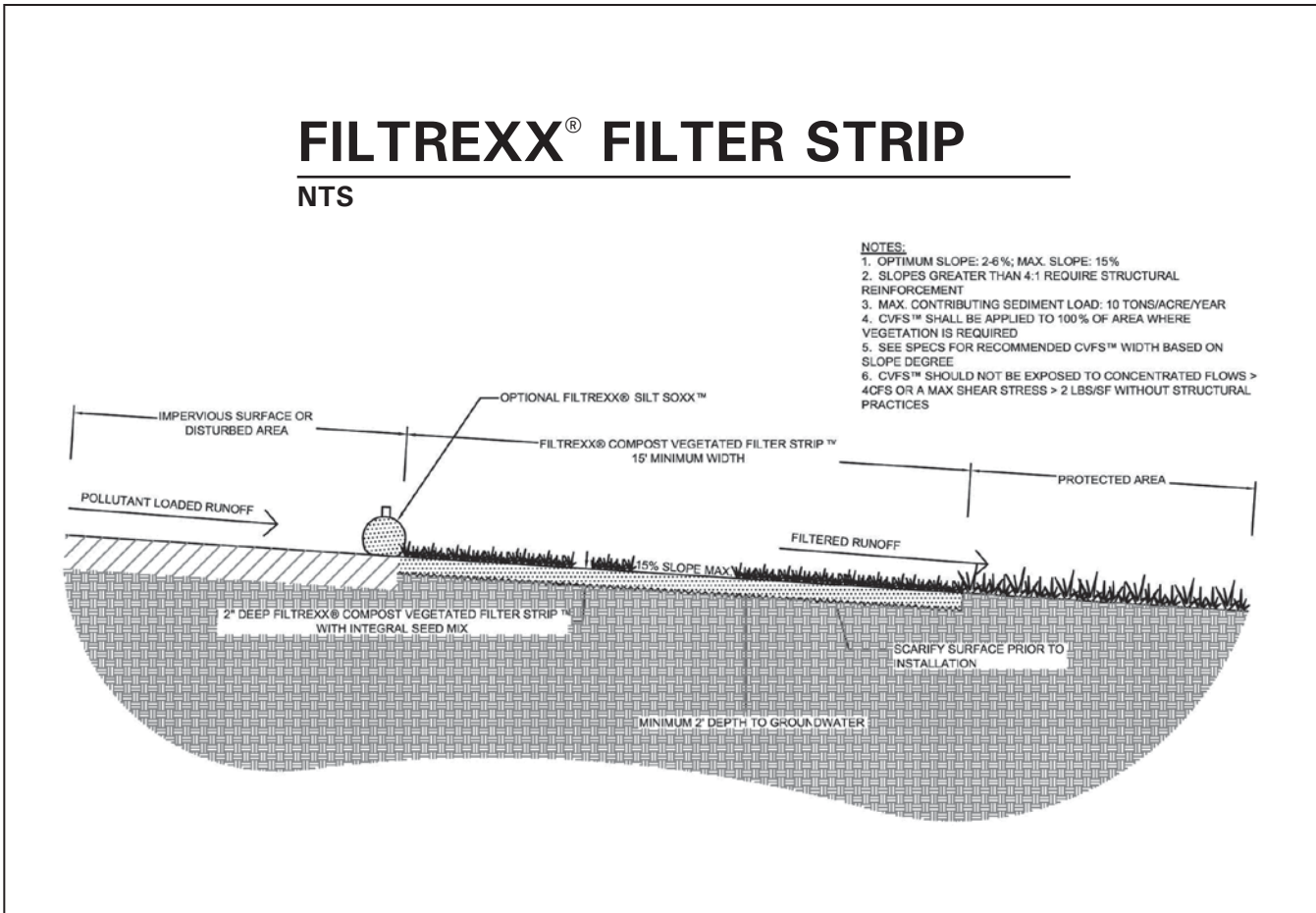


Table 2.1. Minimum Width Requirements by Slope Degree for Filter Strip

Slope	w/structural sediment control device	Minimum Width
1-3%	Yes	15 ft (5m)
1-3%	No	25 ft (5m)
4-7%	Yes	25 ft (5m)
4-7%	No	35 ft (5m)
8-10%	Yes	35 ft (5m)
8-10%	No	50 ft (5m)
11-15%	Yes	75 ft (5m)
11-15%	No	100 ft (5m)

Source: USEPA, 2006; USDA-NRCS, 2004.

