



# SWPPP Cut Sheet

Last Updated: 1-1-08

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

### 1.4 Filtrex FilterRing™ *Sediment & Pollution Control Technology*

#### PURPOSE & DESCRIPTION

Filtrex FilterRings™ are a three-dimensional tubular **solids separation and water pollutant filtration** device used for temporary, passive filtration of sediment-laden effluent & point sources of contaminated water. Filtrex FilterRings™ can be used as a pretreatment filtration system to separate solids/reduce solids content of contaminated water.

#### APPLICATION

Filtrex FilterRings™ are used in temporary applications where unfiltered slurry or effluent may adversely affect surface water quality. Applications include:

- Concrete wash-off and wash-out from equipment and trucks.
- Pumping of surface water to allow access to stream banks for stabilization projects.
- Sediment and storm water pond emergency overflow capture and filtration.
- Dredging slurry filtration.
- Animal manure and lagoon slurry filtration at concentrated animal feeding operation (CAFO) sites.
- Non-hazardous industrial effluent and slurry solids separation from point sources.

FilterRings™ require adequate site drainage space to allow water to percolate through the FilterRing™ and drain away from the device, leaving the solid fraction or filtrate within the device. After the water has been separated, the solid portion can be removed with a loader and disposed or land applied, depending upon the constituents within the filtrate. On sites with highly permeable soils, high water tables, or if constituents in unfiltered water may contaminate soil or ground water, an impervious mat or membrane may be placed underneath the FilterRing™ to prevent soil infiltration and percolation of contaminated water. Passively dewatering solids-laden water prior to hauling and disposal can significantly reduce handling and disposal costs.

#### INSTALLATION

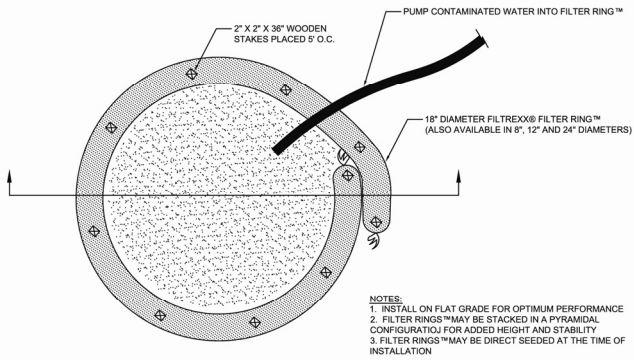
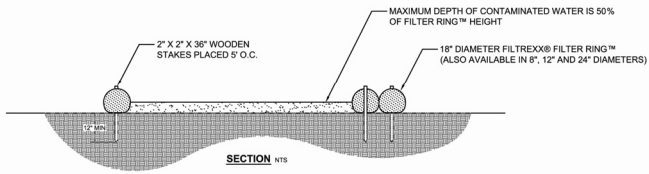
1. FilterRings™ used for solids separation and filtration of soluble pollutants from contaminated water shall meet Filtrex FilterSoxx™ Material Specifications and use Certified Filtrex FilterMedia™.
2. Contractor is required to be a Filtrex Certified™ Installer as determined by Filtrex International, LLC (440-926-2607 or visit website at Filtrex.com). Certification shall be considered current if appropriate identification is shown during time of bid or at time of application (current list of installers can be found at [www.filtrex.com](http://www.filtrex.com)). Look for the Filtrex Certified™ Installer Seal.
3. Filtrex FilterRings™ shall be placed at locations indicated on plans as directed/specified by the Engineer. FilterRings™ should be installed in a manner that effectively filters solids and soluble pollutants from contaminated water.
4. FilterRings™ may be manufactured on-site at time of application or pre-manufactured and delivered to site for installation.
5. Installation of FilterRings™ shall ensure that the containment area within the FilterRing™ is sufficient to handle the rate and volume of influent water.
6. Installation of FilterRings™ shall ensure that the containment area within the FilterRing™ is sufficient to allow for receiving water to properly flow through the filter FilterRing™ filtration system.
7. Stakes shall be installed through the middle of the FilterRing™ on 5 ft (1.5m) centers, using 2 in (50mm) by 2 in (50mm) by 3 ft (1m) wooden stakes.
8. Staking depth for sand and silt loam soils shall be 12 in (300mm), and 8 in (200mm) for clay soils.
9. Standard diameter size of FilterRings™ for concrete washouts is 18 in (450mm). For applications where rate or volume of contaminated water addition is high the Engineer may specify 24 in (600mm) or 32 in (800mm) diameter FilterRings™, a stack design, or an equilateral triangle or pyramid design.
10. If stack or pyramid design is specified, FilterRing™ Soxx™ should decrease in diameter with each layer of FilterRing™ Soxx™.
11. FilterRings™ may be installed on top of impermeable mats or membranes to prevent percolation of contaminated water into soil. Local ordinances may require the use of additives to reduce ph contamination in runoff.
12. FilterRings™ shall not be placed near concentrated or high sheet flows of storm runoff which may compromise the structural base of the FilterRing™.
13. Vegetated FilterRings™ may be seeded at the time of manufacture and installation to create a contained 'green or living bio-filter'. These may be left intact once construction phase is complete. The appropriate seed mix, live stakes, and/or sprigs shall be specified by the Engineer.
14. FilterRings™ installed on paved surfaces should be stabilized along the outer circumference using concrete blocks for structural support.

#### INSPECTION and MAINTENANCE

Routine inspection should be conducted within 24 hrs of a runoff event or as designated by the regulating authority. FilterRings™ should be regularly inspected to make sure they maintain their shape and are producing adequate hydraulic flow-through and solids removal. If rainfall is excessive, additional FilterRings™ may be required to contain the added water volume. Water height within the FilterRings™ should remain 4 in below the lowest point of the rim to allow for storm water volume additions. If overflow, undercutting, or leaking between FilterRings™ occurs, maintenance should be conducted immediately.

1. The Contractor shall maintain the FilterRings™ in a functional condition at all times and it shall be routinely inspected.
2. If a FilterRing™ has been damaged, it shall be repaired, or replaced if beyond repair.
3. The Contractor shall remove solids or filtrate from the inside of the FilterRing™ when solids accumulation has reached 1/2 of the effective height of the FilterRing™, or as directed by the Engineer. As an alternative, another FilterRing™ may be installed on top of, or in a pyramid design to increase the containment capacity of the FilterRing™.
4. If FilterRings™ become clogged with debris or solids, they shall be maintained so as to assure proper hydraulic flow through. Overflow or undercutting of contaminated water is not acceptable.
5. If minor undercutting occurs, the areas may be plugged with sand, soil or additional FilterMedia™. If undercutting continues, a new FilterRing™ should be installed and leveling or minor grading of ground surface may be required to increase surface contact with FilterRing™.
6. FilterRings™ shall be maintained until contaminated water has fully percolated through the device.
7. The FilterMedia™ and filtrate may be dispersed on site once solids separation is complete only if there are no concerns with soil and water contamination, or as determined by the Engineer.

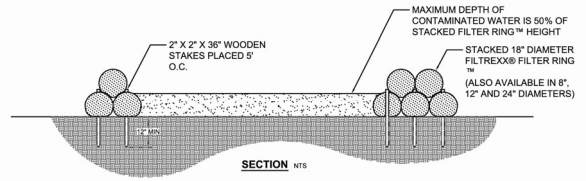
**Figure 4.1.** Engineering Design Drawing for FilterRing™



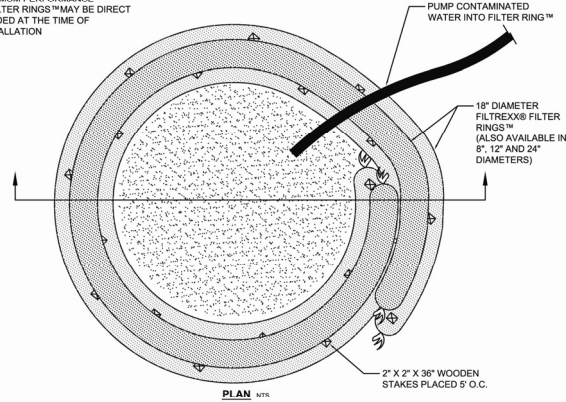
- NOTES:
1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE
  2. FILTER RINGS™ MAY BE STACKED IN A PYRAMIDAL CONFIGURATIOU FOR ADDED HEIGHT AND STABILITY
  3. FILTER RINGS™ MAY BE DIRECT SEEDED AT THE TIME OF INSTALLATION

**FILTREXX® FILTER RING™**  
NTS

**Figure 4.2.** Engineering Design Drawing for Stacking FilterRing™ Soxx™ to Increase Design Height and Volume Capacity.



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1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE
  2. FILTER RINGS™ MAY BE DIRECT SEEDED AT THE TIME OF INSTALLATION



**FILTREXX® FILTER RING™ OPTION #2**  
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