Vegetated Filter Strips

First & Montecito Parking Lot

Background

Vegetated filter strips are broad, gently sloping landscaped areas that offer a relatively inexpensive method to treat storm water. Filter strips use densely planted vegetation or grasses to physically strain and slow storm water runoff, encouraging sediment and other pollutants to settle out. Vegetated filter strips are commonly used as a pretreatment structure for a second treatment control structure, such as a swale or bioretention area. Minimal earthwork, planting and construction materials are required and when designed and maintained properly, vegetated filter strips create an aesthetically pleasing landscape.

Vegetated filter strips are effective for removing:

- Total Suspended Solids
- Sediment
- Trash
- Oil and grease
- Organics
- Metals

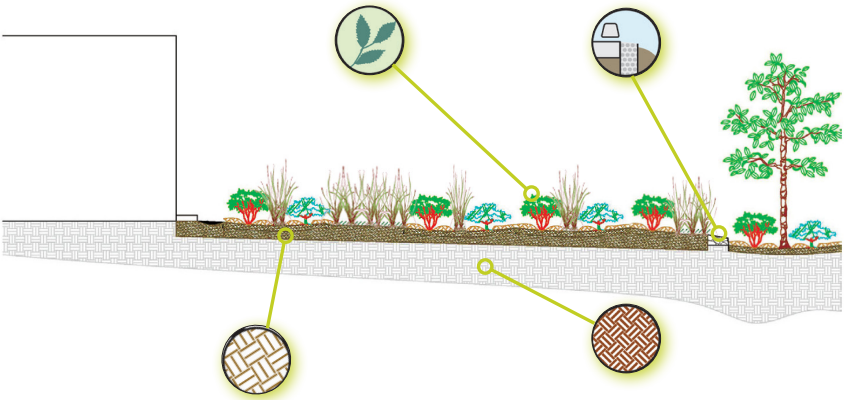
Site Assessment

Vegetated filter strips are well suited for treating runoff from developed areas, including roads, driveways, roof downspouts, small parking lots, and other impervious surfaces. Moderately permeable soils are required and thick vegetation must be established for vegetated filter strips to function properly. Consider native plants to minimize the need for irrigation and fertilization. Redirect roof downspouts, remove curbs or use curb cut outs to help direct storm water flow into a vegetated filter strip. Designs should take into account the total volume of runoff expected to enter the filter strip from all adjacent impervious surfaces to avoid overflow.

Drainage area	Soil infiltration rate	Water table separation	Depth to bedrock	Facility slope	Inflow rate
< 1 acre	Any soil except fill	> 10 ft	> 10 ft	< 6%	3 cfs

Pollutant Removal			Runoff volume reduction	Groundwater recharge
	Sediments: High	Nutrients: Low	Low	Low
	Trash: Medium	Metals: High		
	Bacteria: Low	Oil and Grease: High		
	Organics: Medium			

Vegetated filter Strips



Vegetation: The designer should select vegetative cover for the filter strip that is appropriate for local soil and climate conditions. Consider requirements for maintenance, irrigation, and fertilization. Selected grasses or vegetation should be able to withstand storm water flows and remain viable through wet and dry periods.

Media layers: Existing soils can be used if they support adequate density of desired vegetation. Amended soils are recommended to improve infiltration capabilities and assure type and density of desired vegetation.

Soil Type: Vegetated filter strips rely on dense turf vegetation with a thick thatch, requiring a moderately permeable soil. Soil amendments may be required based on soil properties determined through testing and compared to the needs of the vegetation requirements.

Pretreatment: A vegetated filter strip is commonly used as a pretreatment upstream of other treatment control structures that are capable of greater pollutant-removal rates. Vegetated filter strips can treat low-intensity rainfall events. Length of flow is a minimum 15 feet (25 feet is preferred); however, if used as pretreatment, the minimum can be 4 feet.