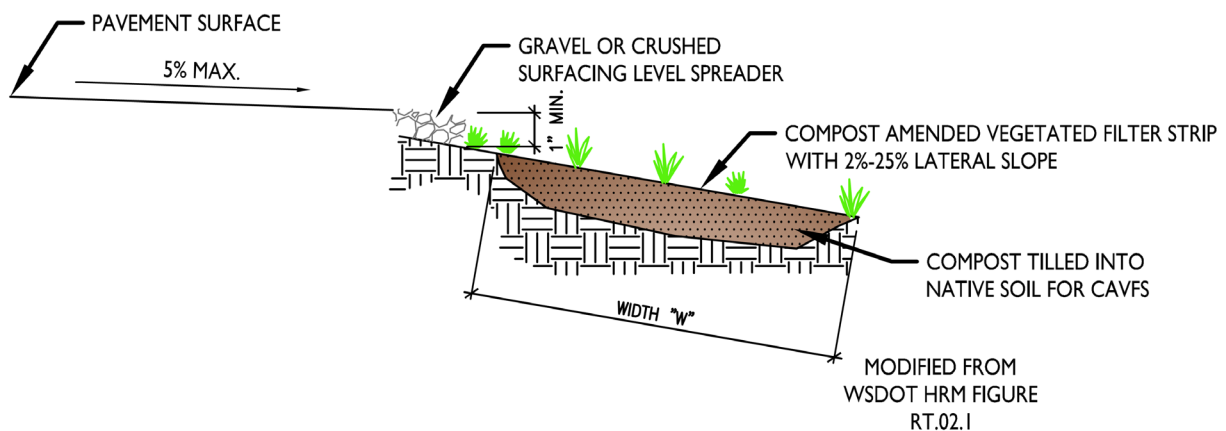


Compost-Amended Vegetated Filter Strip (CAVFS)

The CAVFS is a vegetated filter strip that adds soil amendments to the roadside embankment. The soil amendments improve infiltration characteristics, increase surface roughness, and improve plant sustainability. Once permanent vegetation is established, the advantages of the CAVFS are greater retention and infiltration capacity, improved removal of soluble cationic contaminants through sorption, improved overall vegetative health, and a reduction of invasive weeds.

Compost, as with sand filters or other filter mediums, can become plugged with fines and sediment, and may require removal and replacement. Including vegetation with compost helps prevent the medium from becoming plugged with sediment by breaking up the sediment and creating root pathways for stormwater to penetrate into the compost. It is expected that soil amendments will have a removal and replacement cycle; however, this time frame has not yet been established.



Source: modified from Washington Department of Transportation *Highway Runoff Manual* Figure RT.02.1

Key Operations and Maintenance Considerations

- Avoid compaction of the amended soils - do not run heavy equipment on the filter strip, and limit foot traffic to times when the soils are not wet/saturated.
- For filtration to be effective, the CAVFS must remain covered with well-established vegetation.
- Inspect the filter strip frequently, especially after intense rainfall events and runoff events of long duration. Small breaks in the sod and small erosion channels quickly become large problems.
- Inspect flow spreader area for clogging and remove built-up sediment.
- Minimize the development of erosion channels within the filter. Even small channels may allow much of the runoff from the field to bypass the filter. These areas should be repaired and reseeded immediately to help ensure proper flow of runoff through the filter.
- Reseed or interseed bare areas of the filter.

- Mow and remove cuttings as required to maintain moderate vegetation height. Mowing two to three times per year may be necessary. The vegetation should not be mowed closer than 6 inches. More frequent mowing may be needed to prevent thatch buildup and smothering of vegetation. To avoid destruction of wildlife nesting areas, delay mowing until after mid-July. Fall mowing no closer than 6 inches will provide adequate winter habitat for wildlife.
- Control trees, brush and noxious weeds in the filter using either mechanical means or approved IPM practices. Use of herbicides may be prohibited in stormwater management or environmentally sensitive areas.
- The most common tools for maintenance of compost-amended filter strips are mowers and hand tools to remove built up debris at the edge of the filter strip to restore evenly distributed flow across the strip.

Compost-Amended Vegetated Filter Strip (CAVFS)

Drainage System Feature	Potential Defect	Conditions When Maintenance is Needed	Minimum Performance Standards
General	Sediment accumulation on grass	Sediment depth exceeds 2 inches.	Grass is free of accumulated sediment. Slope is even and water flows pass evenly through strip.
	Vegetation	Grass becomes excessively tall (greater than 10 inches); nuisance weeds and other vegetation start to take over.	Vegetation is mowed to less 3"-4" height. Nuisance vegetation has been removed such that flow is not impeded.
	Trash and debris	Trash and debris have accumulated on the vegetated filter strip.	Remove trash and debris from filter.
	Erosion/scouring	Areas have eroded or scoured due to flow channelization or high flows.	Eroded/scoured areas have been repaired and facility filters stormwater per design function. (Ruts or bare areas less than 12 inches wide may be repaired filling damaged portion with crushed gravel; grass will creep in over the rock in time. For large bare areas [generally >12" wide], the filter strip should be re-graded and re-seeded. For smaller bare areas, over seed when bare spots are evident.)
	Flow spreader	Flow spreader is uneven or clogged so that flows are not uniformly distributed over entire filter width.	Spreader is level and clean so that flows are spread evenly over entire filter width.