

393 – Filter Strip Implementation Requirements

Producer:

Location:

Farm Name:

Project or Contract:

County:

Tract Number:

Practice Lifespan – 10 years



Practice Purpose(s): (check all that apply)

- Reduce suspended solids and associated contaminants in runoff and excessive sediment in surface waters.
- Reduce dissolved contaminant loadings in runoff.
- Reduce suspended solids and associated contaminants in irrigation tailwater and excessive sediment in surface waters.
- Other: (Specify)

Description of work:

NRCS Review Only

Designed By:	<input style="width: 95%; height: 20px;" type="text"/>	Date	<input style="width: 95%; height: 20px;" type="text"/>
Checked By:	<input style="width: 95%; height: 20px;" type="text"/>	Date	<input style="width: 95%; height: 20px;" type="text"/>
Approved By:	<input style="width: 95%; height: 20px;" type="text"/>	Date	<input style="width: 95%; height: 20px;" type="text"/>

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General Criteria Applicable to All Purposes:

Overland flow entering the filter strip will be uniform sheet flow.

Concentrated flow will be dispersed before it enters the filter strip.

The maximum gradient along the leading edge of filter strip will not exceed one-half of the up-and-downhill slope percent, immediately upslope from the filter strip, up to a maximum of five percent.

Filter strips will not be used as a travel lane for equipment or livestock.

Additional Criteria to Reduce Dissolved Contaminants, Suspended Solids and Associated Contaminants in Runoff and Excessive Sediment in Surface Waters.

Check if Applicable

The filter strip will be designed to have a 10-year life span, following the procedure in Agronomy Technical Note No. 2, "Using Revised Universal Soil Loss Equation, Version 2 (RUSLE2) for the Design and Predicted Effectiveness of Vegetative Filter Strips (FVS) for Sediment," based on the amount of sediment delivery to the upper edge of the filter strip and ratio of filter strip flow length to length of flow path from the contributing area. The minimum flow length through the filter strip will be 25 feet for suspended solids and associated contaminants in runoff and 35 feet for dissolved contaminants and pathogens in runoff. Vermont NRCS Excel worksheet 'Filter Strip Life Span Design for Sediment' will be used to design the practice, in accordance with the Agronomy Tech Note No. 2 procedure, to achieve the 10 year practice lifespan. In addition, the 'Trapping Efficiency' as calculated by the worksheet will meet or exceed 60%.

The filter strip will be located immediately downslope from the source area of contaminants.

The drainage area immediately above the filter strip will have a slope of one percent or greater.

Vegetation. The filter strip will be established to permanent herbaceous vegetation.

Species selected will be—

- Able to withstand partial burial from sediment deposition.
- Tolerant of herbicides used on the area that contributes runoff to the filter strip.
- Stiff stemmed and a high stem density near the ground surface.
- Suited to current site conditions and intended uses.
- Able to achieve adequate density and vigor within an appropriate period to stabilize the site sufficiently to permit suited uses with ordinary management activities.

Use information provided in the 'Vermont Specification Guide Sheet for Filter Strip'.

Plant species, rates of seeding (lbs/ac), vegetative planting (plants/ac), minimum quality of planting stock (pure live seed [PLS] or stem caliper), and method of establishment shall be specified before application. Only viable, high quality and adapted seed or planting stock will be used.

Perform site preparation and seeding/planting at a time and in a manner that best ensures survival and growth of selected species. Successful establishment parameters, (e.g., minimum percent ground/canopy cover, percent survival, stand density) will be specified before application.

Schedule planting dates during periods when soil moisture is adequate for germination and establishment. Seeding will be timed so that tillage for adjacent crop does not damage the seeded filter strip.

Where the purpose is to remove phosphorus, remove (or harvest) the filter strip aboveground biomass at least once each year.

Check if Applicable

The minimum seeding and stem density will be equivalent to the seeding rate for a high quality grass hay seeding rate for the climate area or the density of vegetation selected in current water erosion technology to determine trapping efficiency, whichever is the higher seeding rate.

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Additional Criteria to Reduce Suspended Solids and Associated Contaminants in Irrigation Tailwater and Excessive Sediment in Surface Waters.

Check if Applicable

Filter strip vegetation will be a small grain or other suitable annual plant.

The seeding rate shall be sufficient to ensure that the plant spacing does not exceed 4 inches (about 16–18 plants per square foot).

Establish filter strips prior to the irrigation season so that the vegetation is mature enough to filter sediment from the first irrigation.

Operation and Maintenance:

- For the purposes of filtering contaminants and nutrients (phosphorus), permanent filter strip vegetative plantings will be harvested and removed as appropriate to encourage dense growth, maintain an upright growth habit and remove nutrients and other contaminants that are contained in the plant tissue.
- Control undesired weed species, especially State-listed noxious weeds.
- If Conservation Practice Standard (CPS) Prescribed Burning (Code 338) is used to manage and maintain the filter strip, an approved burn plan must be developed.
- Inspect the filter strip after storm events and repair any gullies that have formed, remove unevenly deposited sediment accumulation that will disrupt sheet flow, reseed disturbed areas and take other measures to prevent concentrated flow through the filter strip.
- Apply supplemental nutrients as needed, according to soil tests, to maintain the desired species composition and stand density.
- Periodically regrade and reestablish the filter strip area when sediment deposition at the filter strip-field interface jeopardizes its function. Reestablish the filter strip vegetation in regraded areas, if needed.
- If grazing is used to harvest vegetation from the filter strip it must be according to an NRCS approved grazing plan. The grazing plan must ensure that the integrity and function of the filter strip is not adversely affected. Grazing will be permitted only when the vegetation's root system has been sufficiently established and when soil moisture conditions support livestock traffic without excessive compaction.

Specific Additional Operation and Maintenance Requirements For Your Practice:

Refer to the 393 Filter Strip Specification Guide Sheet (attached).

VT NRCS 'Filter Strip Life Span Design for Sediment' tool has been completed and is attached.

A map(s) showing all sites/areas planned for Filter Strip is attached.

If you have questions about this planned **Filter Strip** practice contact:

Name:		Tel:		Email:	
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Filter Strip Specifications:

Planned Filter Strip Layout	Filter Strip 1	Filter Strip 2	Filter Strip 3	Filter Strip 4								
Field Number or Name:												
Slope % of the Filter Strip:												
Filter Strip Width (Feet):												
Total Length (Linear Feet):												
Planned Area (Acres)												
Seed: Species #1												
PLS – lbs/acre / Total Pounds												
Seed: Species #2												
PLS – lbs/acre / Total Pounds												
Seed: Species #3												
PLS – lbs/acre / Total Pounds												
Seed: Species #4												
PLS – lbs/acre / Total Pounds												
Companion (Nurse) Crop												
PLS – lbs/acre / Total Pounds												
Lime (tons/acre) / Total Tons												
Lime Scheduled Application Date:												
Fertilizer (lbs/acre) according to Soil Test	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O
Fertilizer (Total lbs)												
Scheduled Seeding Date:												
Is Site Preparation Needed To Prevent Concentrated Flow From Entering The Filter Strip?	Filter Strip 1	Filter Strip 2	Filter Strip 3	Filter Strip 4								
If additional smoothing or leveling is necessary to prevent concentrated flow, specify the extent of leveling needed (Length x Width) or Total Cubic Yards of earthwork required and designate the location on an attached sketch or map. Attach additional engineering design and specifications, if applicable.												
	Extent (if Yes):	Extent (if Yes):	Extent (if Yes):	Extent (if Yes):								
Seedbed Preparation												
Prepare a firm seedbed. Ephemeral gullies and rills present in the planned filter strip area will be smoothed. Apply lime and fertilizer as indicated by soil testing. Additional requirements:												
Planting Method												
Drill grass and legume seed _____ inches deep uniformly over the area. Establish vegetation according to the specified seeding rate. If necessary, mulch the newly seeded area with _____ tons per acre of mulch material. If a small grain crop companion crop is used, clip or harvest before it heads out. Additional requirements:												

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For NRCS Use Only:

PRACTICE CHECKOUT AND CERTIFICATION:

Certifying official completes 'Check Out information'

Recommendation: Attach digital photograph(s) to document practice installation and illustrate practice before and after effects.

CHECK OUT INFORMATION:

Establishment Year: _____

CIN # (if applicable): _____

Amount Completed: Number of Filter Strips: _____ Total Acres: _____

* Mark the completed Filter Strip locations on the conservation plan map.

Remarks:

Certification Statement:

I certify that implementation of this conservation practice is complete, meets criteria for the stated purpose(s), and meets the NRCS conservation practice standard and specifications.

This practice meets NRCS standards and specifications Yes No

Check out and Certification by: _____ Date: _____

Planner/Technical Service Provider Signature

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