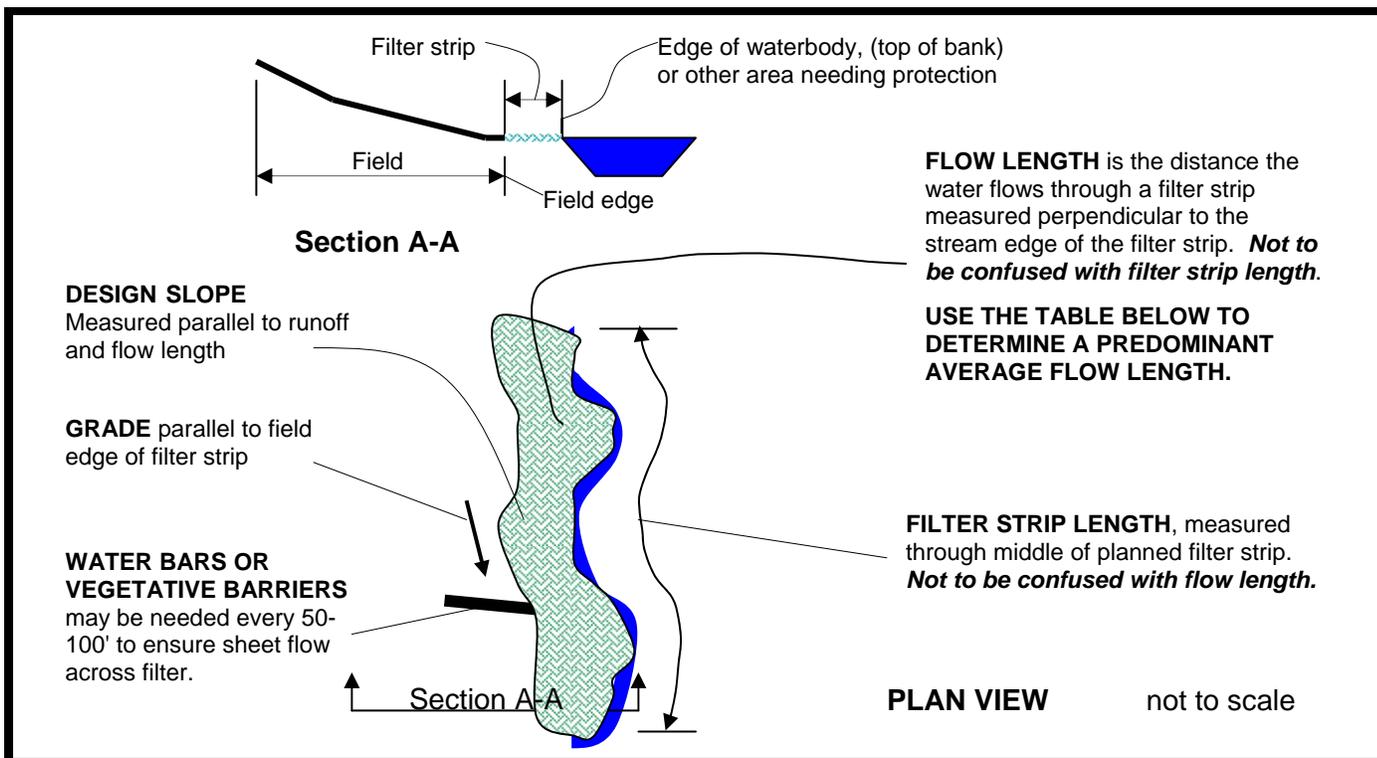


**PRACTICE SPECIFICATION  
 393 FILTER STRIP  
 (ACRES)**

**PLAN VIEW AND SECTION A-A, DESIGN COMPONENTS**



**Filter Strip Design Flow Lengths in feet**

Contaminant Trapping Criteria	Average Design Slope					
	0.5%	1.0%	2.0%	3.0%	4.0%	5.0% or greater
<b>Sediment, Minimum Allowable**</b> (Minimal level of sediment trapping)	20	20	20	20	20	20
<b>Sediment, Preferred**</b> (15 minute flow through time, 75-95% effective)	50	70	100	120	140	150*
<b>Soluble Contaminant, Minimum Allowable**</b> (Minimal dissolved contaminant trapping)	30	30	30	30	30	30
<b>Soluble Contaminant, Preferred**</b> (30 minute flow through time, 50-75% effective)	100	140	150*	150*	150*	150*

\* It is difficult to maintain sheet flow for distances greater than 150' through the filter strip. Once sheet flow has converted to concentrated flow, the effectiveness of the filter is reduced. Filter strips wider than 150' often will require additional practices such as spreader ditches, level berms, vegetative barriers, or other grade control practices to be installed at the field/ filter strip edge and/or within the filter strip at critical locations.

\*\* When determining flow lengths for both sediment and soluble contaminants do not add the two together. The required flow length for soluble contaminants will also be effective for trapping sediment.

Design flow depth is calculated using 40% of a 2-year, 6-hour rainfall event. 15 or 30 minute flow through time is the time needed for a given unit of water to flow completely across an established filter strip during the design runoff event.

### Seeding Mixtures and Rates for Grassed Filter Strips

Species	Full Seeding Rate Pure Live Seed (PLS) lb./ac. <u>2/</u>	Growth Characteristic	Plant Type (cool-season or warm-season)
Alfalfa (<20% of the mix)	11	Bunch	cool
Maximilian Sunflower (<5% of the mix) <u>1/</u>	1	Rhizomatous	warm
Switchgrass	6	Rhizomatous	warm
Big Bluestem	12	Moderately Rhizomatous	warm
Western Wheatgrass	20	Rhizomatous	cool
Slender Wheatgrass (<20% of mix) <u>1/</u>	13	Bunch	cool
Prairie Cordgrass	10	Rhizomatous	warm
Canada Wildrye (<20% of mix)	12	Bunch	cool
Tall Wheatgrass (< 20% of mix)	27	Bunch	cool
Pubescent/Intermediate Wheatgrass	25	Rhizomatous	cool
<p><u>1/</u> Plant these species only in MLRA 55 and 56 unless particular site characteristics guarantee the regular additions of supplemental water. (e.g.: high water table, run-on positions, annual flooding during the growing season)</p> <p><u>2/</u> Full seeding rates for individual species are generally based on 50 seeds (PLS) per square foot. <b>It is best to use multiple species in the filter strip planting.</b></p>			

- **At least 50% of each seeding mix shall include one or more rhizomatous or moderately rhizomatous grass species.**
- Use the pasture and hayland planting standards and specifications (512) in Section IV, Field Office Technical Guide for all aspects of seeding, except for the species selection and seeding rates which are listed above.

#### REQUIRED DOCUMENTATION

- ◆ Filter strip design and documentation form form # ND-CPA-342e
- ◆ North Dakota Seeding Sheet ND-CPA-9 or ND-CPA-9E
- ◆ Aerial photo or detailed sketch identifying practice location

#### OPTIONAL FORMS, WORKSHEETS, JOB SHEETS

- ◆ Filter Strip Operation and Maintenance Job Sheet Filter Strip Job Sheet - 393