USDA

United States Department of Agriculture

Contour Buffer Strips

Iowa Job Sheet

Natural Resources Conservation Service
Des Moines, Iowa

Iowa Conservation Practice 332
September 2016

Definition

Contour buffer strips are strips of perennial vegetation alternated down the slope with wider cultivated strips that are farmed on the contour. Contour buffers strips are narrower than the cultivated strips. Vegetation in strips consists of adapted species of grasses or a mixture of grasses and legumes. Consider establishing native prairie to enhance wildlife and pollinator habitat.

Photo courtesy of Iowa State University.

Purpose

Contour buffer strips established on the contour can significantly reduce sheet and rill erosion. Strips slow runoff and trap sediment. Sediment, nutrients, pesticides, and other contaminants are removed from the runoff as they pass through the buffer strip. Buffer strips may also provide food and habitat for wildlife and pollinators.

Where used

Contour buffer strips are used on cropland subject to sheet and rill erosion. They are most suitable on uniform slopes ranging from 4 to 8 percent but can be used on steeper sloping land. These narrow strips of permanent vegetation are not part of the normal crop rotation. Contour buffer strips are also an excellent filter for runoff and will help improve surface water quality. The practice is more difficult to establish on undulating to rolling topography because of the difficulty of maintaining parallel strip boundaries across the hill slope or staying within row grade limits. Design and layout of variable width contour buffer strips eliminates point rows between buffer strips.

Resource management system

Contour buffer strips are normally established as part of a resource management system for a conservation management unit. They are concurrently applied with other practices, such as residue management, conservation crop rotation, and contour farming. Contour buffer strip widths are determined by such variables as slope, soil type, field conditions, climate, and erosion potential. Species to use for contour buffer strips depend on soil types, climate, and use by wildlife.

Wildlife and Pollinators

When planning for wildlife or pollinators, adjust contour buffer strip widths and plant species to meet the needs of the target wildlife species. (Use Conservation Practice Standard 327.) Increase widths to 30 feet or wider depending on the requirements for nesting and escape cover of the target wildlife species. Avoid mowing during nesting periods.

Operation and maintenance

Mow or burn buffer strips to maintain appropriate vegetative density and height for trapping sediment.

Do not mow or burn buffer strips during critical erosion periods. Spot seed or renovate buffer strip areas damaged by herbicides, equipment, or unusual rainfall events. Redistribute sediment accumulations as needed to maintain uniform sheet flow along the crop-strip boundary. Cultivated strips and buffer strips shall be rotated so that a mature stand of protective cover is achieved in a newly established buffer strip immediately below or above the old buffer strip before removing the old buffer to plant an erosion-prone crop.

Specifications

Site-specific requirements are listed on the specifications sheet. Additional provisions are entered on the job sketch sheet. Specifications are prepared in accordance with the NRCS Field Office Technical Guide. See practice standard Contour Buffer Strips, code 332.

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332 – Contour Buffer Strip Implementation Requirements

Producer:		**Project or Contract:**	
Location:		**County:**	
Farm Name:		**Tract Number:**	

Practice Location Map

(showing detailed aerial view of where practice is to be installed on farm/site, showing all major components, stationing, relative location to any landmarks, and survey benchmarks)

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Description of work:

NRCS Review Only

Designed By:		**Date**	
Checked By:		**Date**	
Approved By:		**Date**	

332 – Contour Buffer Strip
Implementation Requirements

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

- ☐ Reduce sheet and rill erosion.
- ☐ Reduce water quality degradation from the transport of sediment and other water-borne contaminants downslope.
- ☐ Improve soil moisture management through increase water infiltration.
- ☐ Reduce water quality degradation from the transport of nutrients downslope.

Field Number/Location: _____ Acres installed: _____ Seeding date: _____

Conservation planning slope (%): _____ Width of equipment to be used on cropped rows (ft): _____

Average buffer width (ft): _____ Minimum buffer width (ft): _____

Buffer strip length _____ Number of strips: _____

Spacing between strips (ft): _____

Allowable row grades for system: Minimum %: _____ Maximum %: _____

Site Preparation: _____

Planting Method: _____

Planting Description (*e.g.,* pure grass seed mix exactly on contour, *etc.*):

SEEDING RATES AND SPECIES

Plant species	lbs/acre of seed (PLS)	Total lbs of seed for planned acreage
Totals		

FERTILIZERS AND AMENDMENTS

Fertilizer Element	Fertilizer Form		Fertilizer Amount (lbs/acre)	
N		e.g. DAP		as N
P		*e.g. DAP*		ss P_2O_5
K		*e.g. K_2SO_4*		as K_2O
S		*e.g. K_2SO_4*		as S
Lime				
Gypsum				

Operation and Maintenance: (check all that apply)

☐ Conduct all farming operations parallel to the strip boundaries except on headlands or end rows with gradients less than the criteria set forth in this standard.

☐ Time mowing of buffer strips to maintain appropriate vegetative density and height for optimum trapping of sediment from the upslope cropped strip during the critical erosion period(s).

☐ Fertilize buffer strips as needed to maintain stand density.

☐ Mow sod turn strips and waterways at least once a year.

☐ Spot seed or totally renovate buffer strip systems damaged by herbicide application after residual action of the herbicide is complete.

☐ Redistribute sediment that accumulates along the upslope edge of the buffer strip/crop strip interface as needed. This sediment shall be spread evenly upslope over the cultivated strip when needed to maintain uniform sheet flow along the buffer/cropped strip boundary.

☐ If sediment accumulates just below the upslope edge of the buffer strip to a depth of 6 inches or more, or stem density falls below specified amounts in the buffer strip, relocate the buffer/cropped strip interface location.

☐ Cultivated strips and buffer strips shall be rotated so that a mature stand of protective cover is achieved in a newly established buffer strip immediately below or above the old buffer strip before removing the old buffer to plant an erosion-prone crop. Alternate repositioning of buffer strips to maintain their relative position on the hill slope.

☐ Renovate vegetated headlands or end row area as needed to keep ground cover above 65 percent.

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.

X

Planner/Technical Service Provider