

Grassed Waterway

Conservation Practice Job Sheet

412



Definition

A grassed waterway is a shaped or graded channel established with a suitable vegetation to carry surface water at a non-erosive velocity to a stable outlet.

Purpose

Grassed waterways convey runoff from terraces, diversions, or other water concentrations without causing soil erosion or flooding. Vegetation in the waterway protects the soil from erosion caused by concentrated flows while carrying water downslope, which reduces gully erosion and protects and improves water quality..

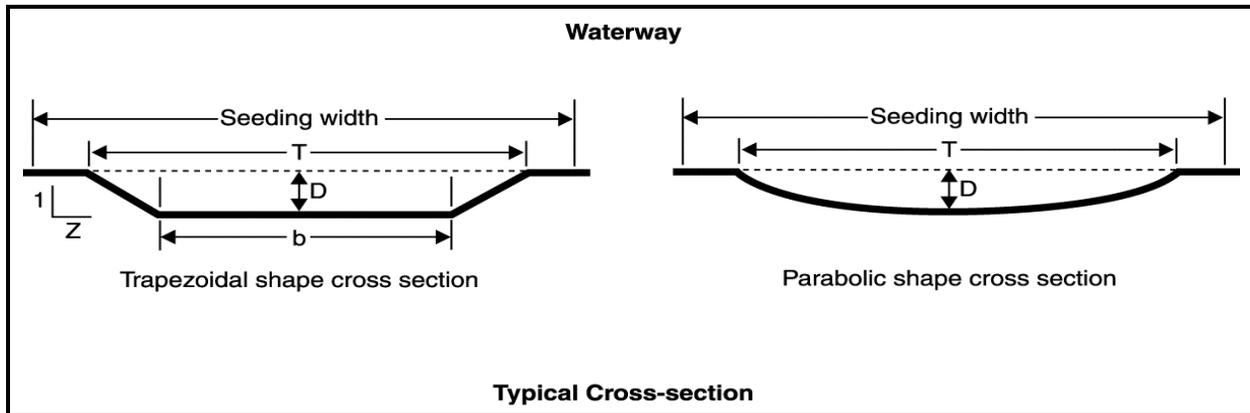
Where used

A grassed waterway is used in areas where added water conveyance capacity and vegetative protection are needed to control soil erosion resulting from concentrated runoff. Such areas commonly include draws and other low-lying areas or outlets for other conservation practices (e.g., diversions and terraces). In some areas, a combination of high peak runoff and

steep slopes may cause water velocities that preclude the use of a grassed waterway.

Conservation management system

A grassed waterway is used with other conservation practices, such as contour buffers, terraces, crop residue management, and nutrient and pesticide management. Waterways located below areas of high sediment production need special design and additional maintenance.



A grassed waterway can have a cross-section configuration that is trapezoidal or parabolic. Side slopes are constructed to be no steeper than a ratio of two horizontal to one vertical. To accommodate maintenance and tillage/harvesting equipment that will cross the waterway use four horizontal to one vertical slopes on waterways crossed by equipment. Waterways are generally less than 100 feet wide to control the tendency of low flows to meander. Use a minimum top width of 25 feet in waterways installed in cropland. Install waterways to the design depth or 1 foot, whichever is greater.

General Specifications

Design each grassed waterway to convey the peak runoff expected from a storm of 10-year frequency, 24-hour duration.

Install and successfully vegetate grassed waterways at least one full growing season prior to the installation of the remainder of the water disposal system in the field.

Perennial vegetation will be planted and maintained according to the vegetative plan.

Grassed waterways will be planned, designed, installed, and maintained to comply with Federal, State, and Local Laws.

Vegetation establishment

Establish the waterway vegetation according to Critical Area Planting (342). Use irrigation and mulch to hasten establishment of vegetation as necessary. Use mulch, anchoring, a nurse crop, rock, hay-bale dikes, filter fences, or runoff diversions to protect the vegetation until established.

Wildlife

The grassed waterway and vegetated filter can enhance wildlife objectives, depending on the vegetative species used and management practiced. Consider using native or adapted vegetative species that can provide food and cover for important wildlife. Delay mowing of the waterway and filter area until after the nesting season. Prescribed burning, or other

disturbance practice, may be appropriate to enhance wildlife values, but burning must be conducted to avoid critical nesting seasons or to reduce winter cover.

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 standards Grassed Waterway (412).

Grassed Waterway and Vegetated Filter – Job Sheet

Landowner _____ Field number _____

Purpose (check all that apply)	
<input type="checkbox"/> Convey concentrated flow runoff	<input type="checkbox"/> Other (specify):
<input type="checkbox"/> Reduce gully erosion	
<input type="checkbox"/> Protect/improve water quality	
Layout	
Waterway shape:	<input type="checkbox"/> Parabolic <input type="checkbox"/> Trapezoidal

Grassed Waterway	1	2	3
Waterway number			
Reach number			
Grade (%)			
Depth-D (ft)			
Top width-T (ft)			
Bottom width-b (ft)*			
Side slopes (Z:1)*			
Length (ft)			
Seeding width (ft)			
Seeding area (acres)			
Plant establishment			
Species**			
Seeding rate (PLS) (lb/ac)			
Lime (tones/acre)			
N (lb/acre)			
P2O5 (lb/acre)			
K2O (lb/acre)			

*Trapezoidal only

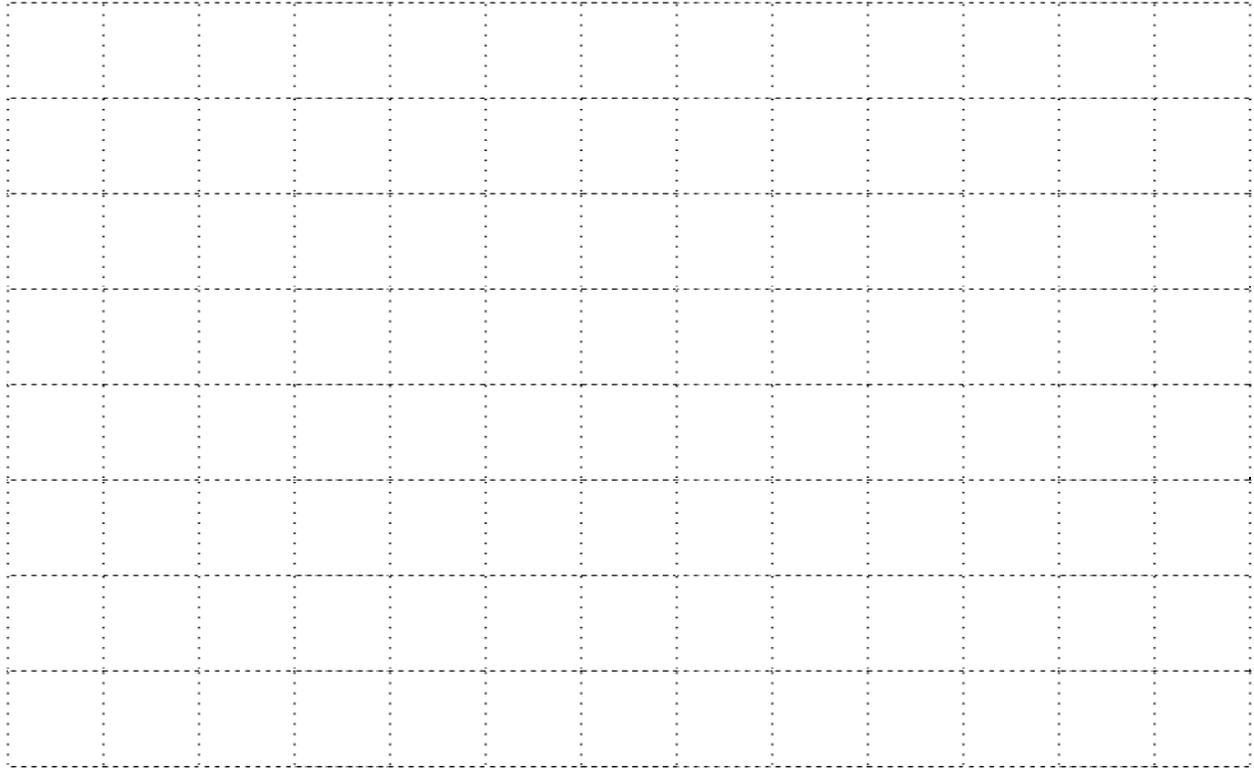
**For multiple species separate with a “/” (e.g., species 1/species 2/species 3)

Site Preparation
<i>Prepare firm, weed-free seedbed. Apply lime and fertilizer according to standard. Additional requirements:</i>
Planting Methods(s)
<i>Establish stand of vegetation according to specified seeding rate. Drill grass and legume seed ___ inches deep uniformly over area. If necessary, mulch newly seeded area with ___ tons per acre of mulch material. Drill and seed small grain as a companion crop, as necessary, at the rate of ___ pounds per acre, but clip or harvest before plants head out. Additional requirements:</i>
Operation and Maintenance
<i>Maintain original width and depth of the grass area. Regularly remove debris and sediment from waterway and filter area. Harvest, mow, reseed, and fertilize to maintain vigorous vegetation. Inspect periodically and, after major storms, repair eroding or bare areas. Additional requirements:</i>

Grassed Waterway and Vegetated Filter – Job Sheet

If needed, an aerial view or a side view of the practice can be shown below. Other relevant information, complementary practices and measures, and additional specifications may be included.

Scale 1"= _____ ft. (NA indicates sketch not to scale: grid size=1/2" by 1/2")



Additional Specifications and Notes:

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