

Landowner \_\_\_\_\_



### Definition

A grassed waterway/vegetated filter system is a natural or constructed vegetated channel that is shaped and graded to carry surface water at a nonerosive velocity to a stable outlet that spreads the flow of water before it enters a vegetated filter.

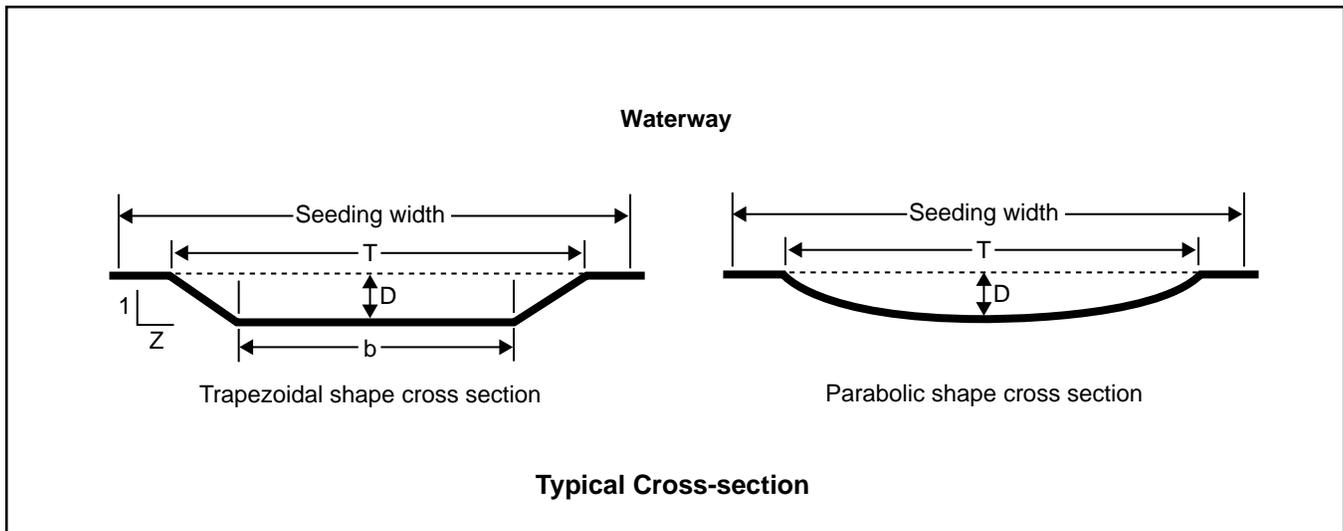
### Purpose

Grassed waterways convey runoff from terraces, diversions, or other water concentrations. Vegetation in the waterway protects the soil from erosion caused by concentrated flows, while carrying water downslope. The stable outlet is designed to slow and spread the flow of water before the water enters a vegetated filter.

The vegetated filter is designed to trap sediment and increase infiltration so that other pollutants, such as pesticides and nutrients, can be reduced from surface runoff. The grassed waterway also offers diversity and cover for wildlife.

### Where used

- Where water concentrates and gully erosion is a problem, commonly in draws and other low-lying areas.
- As outlets for other conservation practices, such as diversions and terraces.
- Where a stable, spreading-type outlet and vegetated filter can be designed and maintained.



## Vegetation establishment

Establish the waterway vegetation according to Critical Area Planting Practice (342). For the stable, spreading type outlet, select perennial plant species (native species are encouraged where possible) that have compatible characteristics to the site. Use sod-forming plants that have stiff, upright stems that provide a dense filter. Use the recommendations for filter strips for the area below the outlet. Establish vegetation before allowing water to flow in the waterway. Use irrigation and mulch to hasten establishment of vegetation as necessary.

## Operation and maintenance

- Tillage and row direction should be perpendicular to the grassed waterway to allow surface drainage into the waterway and to prevent flows along edges.
- Provide stabilized machinery crossings, where needed, to prevent rutting of the waterway.
- Protect vegetation from direct herbicide sprays and use plant species tolerant of chemicals used.
- The grassed waterway outlet should be kept as wide and shallow as possible to slow the velocity of water, increase infiltration, and spread flows evenly across a wide area before entering a vegetated filter.

## Conservation management system

Grassed waterway/vegetated filter systems and filter outlets are normally established as part of a conservation management system to address the soil, water, air, plant, and animal resource concerns and the landowner's objectives. Grassed waterway/vegetated filter systems are an important part of the overall soil

erosion and water quality plan. They are used along with other needed conservation practices located in the field, 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. Other measures to reduce sediment production or to trap sediment should be considered.

## Wildlife

The grassed waterway and filter system can also enhance the 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 waterway and filter area until after the nesting season.

## 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) and Filter Strip (393).