



Benefits

- Provides a non-erosive outlet for runoff water.

Guidelines

- Waterways should not be established on slopes greater than 10%.
- Ensure waterway has a stable outlet.
- If excavation is necessary, remove and stockpile topsoil for use in the final grading.
- **Establish uniform grade** throughout waterway profile. Where severe changes in grade exist or where head cutting has occurred, installation of suitable grade control structures in the waterway may be necessary.
- Where wetness is a problem, installation of subsurface drains may be necessary.
- Divert runoff away from waterway during vegetation establishment. Do not install inlets into the waterway (e.g., terraces, diversions) until lush vegetation has been established.
- Where waterways are established on soils that have potential to easily erode, it may be necessary to install (perpendicular to the flow) entrenched, staked hay bales or rock geotextile checks. (See hay bale cross section on back.)

Vegetation:

- ◇ Apply fertilizer and lime according to soil test or at a rate of 60-120-120 lbs. of N, P₂O₅, and K₂O and 2 tons of agricultural limestone per acre.
- ◇ Seed immediately after construction on a firm seedbed. Scarify the area if needed. When seedbed preparation is needed, disk lightly across the waterway slope to control gully erosion. Dozer tracks make an excellent seedbed.
- ◇ Use a cultipacker seeder, a no-till drill, grain drill with press wheels, or broadcast and cultipack before and after seeding. Do not seed deeper than ¼ to ½ inch. Avoid drilling seed parallel to waterway flow.

Seeding Rates:

Tall Fescue (KY31)	50 lbs./ac.	Aug. 15 - Oct. 1 Feb. 20 - Apr. 1
Common Bermudagrass	Seed-10 lbs./ac. or Sprigs-30 bu./ac.	May 10 - July 1

- ◇ For quick vegetative establishment in waterways, seed 1/2 bushel of cereal rye or wheat or 5 pounds of foxtail millet per acre with the above seeding rates.
- ◇ Outside of seeding dates indicated above or in late spring and summer, plant a summer annual grass such as sudangrass (45 lbs./ac.) or foxtail millet (20 lbs./ac.) until perennial vegetation can be established. Waterways established in late fall should be temporarily seeded in cereal rye or wheat (3 bu./ac.) until perennials can be established in the spring.
- ◇ Apply 2 tons of mulch per acre uniformly over disturbed areas. Provide an adequate anchor for mulch when necessary.

Maintenance Items

- Avoid using waterway as a roadway.
- Avoid farming practices along the waterway that would hinder water entry. Waterberms or dips may be needed to redirect concentrated flow that might occur along waterway edges.

Grassed Waterway

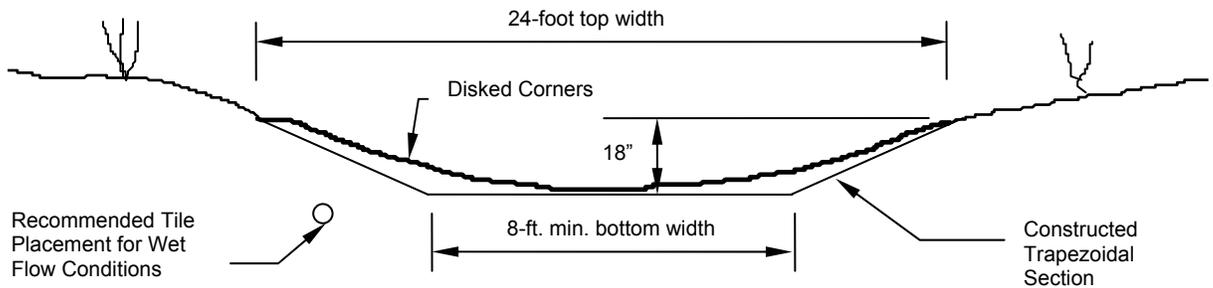
- Avoid spraying chemicals that would harm waterway vegetation.
- Fertilize waterways based on soil test or at a rate of 30-60-60 lbs. of N, P₂O₅, and K₂O the first spring after establishment. Fertilize as necessary thereafter.
- Mow waterways to maintain vegetation less than 12 inches and greater than 3 inches.
- Avoid burning.
- Repair damage to waterways as soon as possible. Repair all broken subsurface drain lines or blowouts adjacent to or in the

waterway.

- Remove sediment deposits to maintain capacity of grassed waterway.

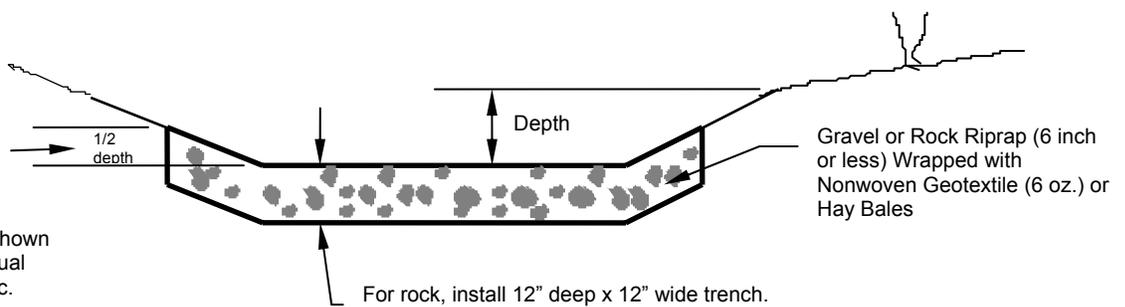
Construction:

For drainage areas less than 15 acres, the waterway should be constructed with a minimum top width of 24 feet, a depth of 1.5 feet, and a bottom width of 8 feet, as shown below. A final parabolic shape may be obtained by disking the edges of the constructed trapezoidal section. For design of waterways with drainage areas greater than 15 acres, consult your local conservation office.

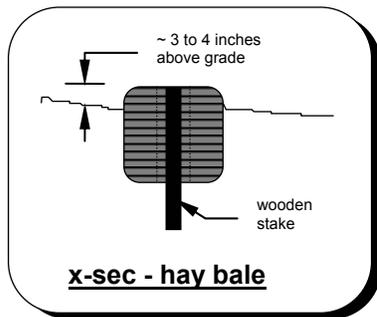


Completed Parabolic Shaped Waterway
(For Waterways with Drainage Areas Less Than 15 Acres)

For rock/gravel or hay bale checks, bring checks up the slope 1/2 the depth of waterway or 2/3 constructed width.



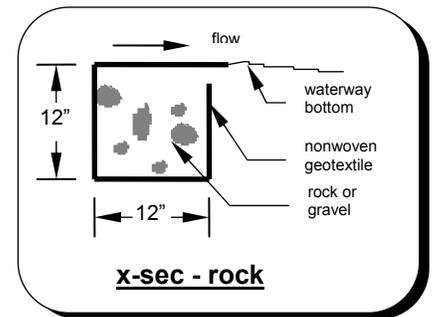
NOTE: Shape shown trapezoidal. Actual shape - parabolic.



Rock Checks for Waterway

Recommended Spacing for Checks:

Waterway Slope (%)	Maximum Spacing (ft.)
0-2	100
2-4	75
>4	50



USDA cost share program participants must comply with contract requirements. This jobsheet may not meet contract requirements. Other job sheets are available from the Natural Resources Conservation Service. For additional information, contact your local USDA Service Center, Natural Resources Conservation Service office, or your local County Soil Conservation District office.

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