

**NATURAL RESOURCES CONSERVATION SERVICE
CONSTRUCTION SPECIFICATION**

GRASSED WATERWAY

1. SCOPE

The work shall consist of excavating, filling and shaping as necessary for the construction of the waterways as shown on the drawings or at locations as directed by the NRCS engineer or designated representative.

2. MATERIALS

All material shall be obtained from the required excavation and designated borrow areas. The fill material shall be free from frozen particles, brush, roots, sod or other objectionable material, and rock particles larger than 6 inches in diameter.

3. FOUNDATION PREPARATION

The foundation area of required fill sections shall be cleared and grubbed and stripped of unsuitable material, prior to placing fill. Available topsoil shall be salvaged and stockpiled for later spreading. Vertical banks shall be cut to a 1^{1/2}:1 or flatter slope.

4. PLACEMENT

Fill shall not be placed until the required excavation and foundation preparation have been completed and the foundation has been inspected and approved by the NRCS engineer or designated representative. Fill shall not be placed upon a frozen surface, nor shall snow, ice or frozen material be incorporated in the fill.

Fill will be started at the lowest part of the section under construction and will be placed in approximately uniform horizontal layers of not more than 9 inches in thickness to the lines and grades shown on the drawings. The moisture content of the fill material shall be such that when kneaded in the hand, the soil forms a ball which does not readily separate.

The fill sections shall be compacted by either:

(a) Routing of the hauling and spreading equipment over the fill in such a manner that the entire surface of each layer of fill will be traversed by not less than one tread track of the equipment, or

(b) Equivalent methods approved by the NRCS engineer or designated representative.

5. EXCAVATION

Excavation shall be to the lines and grades shown on the drawings. All surplus or unsuitable excavated materials shall be disposed of at the locations shown on the drawings or at locations approved by the NRCS engineer or designated representative.

6. CONSTRUCTION TOLERANCES

Trapezoidal Waterway

Depth at Centerline	Grade to 0.2' below
Depth at Toe	Grade to 0.2' above
Bottom Width	10% wider not to exceed 2'

Parabolic Waterway

Depth at Centerline	Grade to 0.2' below
Top Width	10% wider not to exceed 5'

7. TOPSOIL SPREADING

Stockpiled topsoil shall be spread on the waterway flow area to a depth of not less than 4 inches unless otherwise approved by the NRCS engineer or designated representative. Spreading shall not be done when the ground or topsoil is frozen, excessively wet or otherwise in a condition detrimental to the work. After placement is complete the topsoil surface shall be finished to a reasonably smooth surface.

8. SEEDING

During and/or immediately following construction, the waterway shall be prepared, fertilized, seeded and mulched in accordance with the Construction Specification SEEDING.

9. ADDITIONAL ITEMS WHICH APPLY TO THIS JOB