

CONSTRUCTION SPECIFICATION FOR
STREAMBANK AND SHORELINE PROTECTION
(Ft)
CODE 580

General. Construction operations shall be carried out in such a manner and sequence that erosion and air and water pollution will be minimized and held within acceptable limits. Construction methods that enhance fish and wildlife will be used where practical. Trees, stumps, and brush removed from the construction area may be piled for fish and wildlife habitat when approved by the landowner/user.

The completed job shall present a workmanlike appearance and conform to the line, grades, and elevations shown on the drawings or as staked in the field.

All operations shall be carried out in a safe and skillful manner. Safety and health regulations shall be observed and appropriate safety measures used.

Site preparation. Special attention shall be given to protecting and maintaining key shade, food, den trees, and visual resources. Removal of any trees and brush shall be done in such a manner as to avoid damage to other trees and property.

All trees, stumps, brush, and similar materials are to be removed from the site or disposed of in such a way as to have the least detrimental effect on the environment.

Excavation. To the extent needed, all suitable materials removed from the specified excavation shall be used in the construction of the earthfill areas of the protection. All surplus or unsuitable materials shall be disposed of in a manner that will not interfere with the functioning of the protection.

Fill placement. Material placed in the fill areas of the protection shall be free of detrimental amounts of sod, roots, frozen soil, stones over 6 inches in diameter and other objectionable material. To the extent they are suitable, excavated materials are to be used as fill. The distribution and gradation of materials shall be such that there will be no lenses, pockets,

streaks, or layers of material differing substantially in texture or gradation from the surrounding material.

Moisture control. The minimum moisture content of the fill material and foundation shall be such that, when kneaded in the hand, the fill material will form a ball, which does not readily separate. The maximum moisture content is when conditions are too wet for efficient use of the hauling and compaction equipment.

Topsoiling. Topsoil shall be removed and stockpiled on areas where establishment of vegetation is a problem on exposed subsoils (all subsoils except loam, silt loam and sandy loam, except where dense till is present). Topsoil shall be respread to provide a seedbed.

Where subsoil is exposed or is used in construction, topsoil will be placed in accordance with the following criteria:

1. A minimum of four inches of topsoil ("A"horizon) will be placed where six or more inches of friable soil material with good moisture holding properties (more than 0.15 inches per inch) lies below the surface of the constructed surface.
2. A minimum of eight inches of topsoil ("A"horizon) will be placed where less than six inches of friable soil materials with good moisture holding properties (more than 0.15 inches per inch) lies below the surface of the constructed surface.
3. Topsoil will be placed in final shaping operations. The underlying soil, if needed, will be chiseled or scarified to permit proper bonding of topsoil.

Materials. The riprap material shall conform to the gradation shown on the drawings and be a durable rock. Riprap shall be dumped or placed in the manner consistent with good construction procedures and to the lines and grades shown on the drawings.

The area to be covered with a filter fabric or filter blanket shall be reasonably smooth. An even thickness of filter material shall be placed on the prepared surface. Care shall be exercised when placing the riprap to insure that the blanket is not ruptured or displaced.

Wire mesh baskets, when used for gabions, shall be fabricated from corrosion-resistant material to contain the rock material. Durable rock shall be used to fill gabions. The maximum dimension of individual rock particles shall not exceed one-half the minimum basket dimension. Minimum rock dimensions shall exceed the mesh size used in the basket construction. Soft materials such as sandstone and shale shall not be used. The foundation shall be smoothed and filter material, if required, shall be properly placed under and behind the gabions. The baskets shall be assembled in accordance with the manufacturer's recommendations.

Finish and cleanup. Construction areas will be finished in a relatively smooth condition ready for seeding. All rocks 3" in diameter or larger and roots shall be removed from the areas.

Vegetative establishment. Vegetation will be established on all disturbed areas such as channel and shoreline slopes, berms, spoil and other areas except where the slopes are permanently covered with water or when bank materials or land use conditions are such that vegetation is impractical. Trees and shrubs should be established where practical. Disturbed areas are to be seeded or planted to trees as soon as possible after exposure. Use daily seeding whenever possible. Vegetation shall be established according to Technical Guide Specification 342, Critical Area Planting.

Planned trees and shrubs shall be established according to Technical Guide Specification 612, Tree/Shrub Establishment.

Gullied and uneven areas should be smoothed before attempting to prepare seedbed.

If needed, apply lime to raise the pH to the level desired for species of vegetation being seeded.