

**NATURAL RESOURCES CONSERVATION SERVICE**  
**Wyoming**  
**CONSTRUCTION SPECIFICATIONS**  
**FOR**  
**WATER AND SEDIMENT CONTROL BASIN**

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(Owner/Operator)

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(Project Title)

**GENERAL**

Installation shall be in accordance with an approved design and plan. Details of construction shown on the drawings but not included herein are considered as a part of this specification. Construction activities shall be in accordance with applicable OSHA regulations.

**SITE PREPARATION**

Clearing and Stripping. Area to be occupied by the embankment and borrow areas must be cleared of all trees, brush, logs, and sod.

Embankment Foundation. All channel banks and sharp breaks shall be sloped to no steeper than 1 horizontal to 1 vertical. All topsoil containing excessive amounts of organic matter shall be removed. Loose earth shall not be left on the foundation area to a depth in excess of 6 inches above undisturbed foundation material. The surface of the foundation area shall be thoroughly scarified before placement of the embankment material.

**EXCAVATION**

Spillway. The completed spillway excavation shall conform to the grades, bottom width and side slopes shown on the drawings.

Outlet Conduit. Trench excavation for installation of an outlet conduit shall be made in original ground or in compacted fill provided the bottom of the trench is at or near undisturbed foundation.

**COMPACTED EARTHFILL AND BACKFILL**

Fill Material. All fill materials shall be obtained from approved borrow areas and from excavations required for other parts of the work. The selection, blending, routing, and disposition of materials within the embankment shall be subject to the approval of the technician. Fill materials shall contain no sod, brush, roots, or other perishable or unsuitable material. Cobbles and rock fragments having a maximum dimension of more than six inches shall be removed from the materials prior to compaction.

Moisture. The moisture content of fill material shall be maintained within the limits required, to prevent the adherence of the fill material to the treads and tracks of equipment and ensure the crushing and blending of the soil clods. Generally when soil material is squeezed in the hand it will retain a ball shape, but there will not be free water on the surface

**COMPACTION METHODS**

Compaction shall meet the requirements of the method designated and described below:

1. Sheepsfoot roller - The maximum layer thickness shall be 8 inches before compaction. The roller shall have staggered, uniformly spaced tamping feet and be equipped with suitable cleaners. The weight of the roller shall be not less than 2,500 pounds per foot of width. The

maximum speed of the compaction equipment shall be 3 miles per hour. The entire surface of each layer placed shall receive six passes of this equipment to attain the necessary compaction.

Adjustment in the number of passes may be necessary during construction.

2. Pneumatic tired equipment - The maximum layer thickness before compaction shall be six inches. A loaded scraper or wheel tractor maybe considered a pneumatic roller. The wheels of this equipment must pass over 95 percent of the surface of each lift before a new lift is placed.

3. Track laying equipment (Bulldozer) - The maximum layer thickness compaction shall be 4 inches. The tracks of the equipment must pass over 95 percent of the surface of each lift before a new lift is placed.

Compliance with compaction requirements will be determined by observation of performance for methods 1, 2, and 3. Fill not meeting the specified requirements shall be reworked or removed and replaced with acceptable fill.

#### EQUIPMENT OPERATION

Heavy compaction equipment shall not be operated within 2 feet of any structure. Hand directed tampers or compactors shall be used on areas not accessible to heavy compaction equipment and within 2 feet of any structure. Fills compacted in this manner shall be placed in layers not greater than 4 inches in thickness before compaction and shall meet the same density requirements as for adjacent areas.

The passage of heavy equipment will not be allowed over any type of conduit until the compacted backfill has been placed a minimum of two feet over the top of the pipe.

#### CONDUITS

Conduits shall be of the type and size as shown on the drawings. Pipe shall be new. Any damage to protective coatings shall be repaired prior to backfilling. Repairs shall be in accordance with manufactures recommendations. Conduits shall be firmly and uniformly bedded throughout its length and shall be installed to the lines and grades shown on the drawings and/or staked in the field.

Cutoff collars or a filter diaphragm shall be installed at the locations, to the dimensions and of the materials as shown on the drawings. Metal cutoff collars, when specified, shall be a minimum of 12 gage, be galvanized or have a coating consisting of one coat of coal-tar primer followed by hot coat of coal-tar enamel and finished with Kraft paper or a coat of water resistant whitewash. Plastic tape suitable for coating buried steel pipe may also be used. Any welds shall be cleaned and coated as above.

#### SEEDING

Seed the embankment, borrow areas, spillway, other disturbed areas, and a minimum of 12-foot border around the ponded area. Seedbed preparation, seed mixture, fertilizer, mulch, and application rates shall be in accordance with the ADDITIONAL SPECIFICATION for "Seeding".

#### RIPRAP

Rock for riprap when specified shall be angular, dense, sound, and free from cracks, seams, and other defects conducive to accelerated weathering. The rock shall be well graded so that the installed riprap will consist of a dense layer of interlocked rock. Bedding material when specified shall consist of a sand-gravel mixture such as would be used in a concrete mix.

CLEAN-UP

Cleared material, sod, and unsuitable soil shall be removed from the construction site or otherwise disposed of so that runoff water will not carry it into the reservoir or spillway area. Waste earth material shall be smoothed and seeded.

ADDITIONAL SPECIFICATIONS