

NATURAL RESOURCES CONSERVATION SERVICE

CONSTRUCTION SPECIFICATION

468 - LINED WATERWAY OR OUTLET - ROCK

1. SCOPE

This work shall consist of clearing, stripping, excavating, filling, compacting, shaping, grading, and furnishing and placing rock/stone and bedding materials necessary for construction of the lined waterway at the location(s) shown on the drawings or as staked in the field.

Prior to commencing construction, public utilities shall be notified in accordance with N.Y.S. Industrial Code 753.

2. MATERIALS

Earth

The earth material used in constructing the lined waterway shall be obtained from the waterway channel and cut slope or other approved sources as specified in Section 7. The earth material used shall be free of frozen particles, brush, roots, sod, stones over 6 inches in diameter or other objectionable materials.

Bedding

When bedding is specified it shall meet the requirements shown on the drawings or as specified in Section 7.

Rock

When *dumped rock* is specified, individual rock fragments shall be dense, sound and free from cracks, seams and other defects conducive to weathering. Shales and silt stones shall not be used. The rock fragments shall be angular to subangular in shape and meet the rock gradation requirements shown on the drawings or as specified in Section 7.

When *placed rock* is specified, individual rock fragments shall be dense, sound and free from cracks, seams and other defects conducive to weathering. Shales and silt stones shall not be used. The rock fragments shall be flat or slab rock with one dimension equal to the course thickness. The rock shall meet the gradation requirements shown in the drawings or as specified in Section 7.

When an *on-farm rock* or stone source is specified, the rock shall meet the gradation

requirements shown on the drawings or as specified in Section 7.

3. EARTHWORK

The lined waterway shall be constructed to the applicable cross-sections, lines, grades, and elevations as shown on the drawings.

All trees, brush, stumps and other objectionable materials shall be disposed of so that they will not interfere with construction or proper functioning of the waterway, or as specified in Section 7.

All earth excavated and not needed in the construction of the waterway shall be spread adjacent to the constructed waterway or disposed of so that it will not interfere with the functioning of waterway. Disposal shall be in the area shown on the drawings or as specified in Section 7. All spoil and disposal areas shall be graded smooth and shall be free draining.

When filling is necessary, the foundation shall be prepared by stripping the area to be filled of sod and topsoil and by roughening the foundation before fill placement. Smooth surfaces shall be scarified to insure bonding. Prior to fill placement the foundation preparation shall be inspected and approved by the approving official or designated representative. Fill shall not be placed on a frozen surface. Fill shall be placed in uniform horizontal layers of not more than nine (9) inches in thickness prior to compaction. The moisture content of the material shall be sufficient to obtain firm compaction. Compaction shall be accomplished by the routing of construction equipment over the fill such that the entire surface of each layer will be traversed by not less than one track of the construction equipment or equivalent methods, unless otherwise specified in Section 7 of this specification.

4. BEDDING

Earth foundations shall be graded to remove surface irregularities and cavities shall be filled with compacted earth backfill of approximately the same density as the adjacent foundation material. No filter fabric or bedding shall be placed until foundation preparation is completed and approved by the project designer or designated representative.

When bedding is required, it shall be spread uniformly on the prepared subgrade surfaces to the depth and width shown on the drawings. Compaction of the bedding is not required but the surfaces of such layers shall be finished free from mounds, dips or windrows. When filter fabric is required it shall be placed on the earth foundation prior to placement of the bedding material. Filter fabric shall meet the requirements shown on the drawings or as specified in Section 7.

5. PLACEMENT

Dumped Rock

The rock shall be dumped and spread to the depth, lines, grades and elevations as shown on the drawings. The finished rock surface shall be uniform to form the cross section shown on the drawings. The rock lining shall be constructed to the full course thickness in such a manner as to avoid displacement or damage to the bedding materials. The rock spreading operation shall be done in such a manner as to ensure a homogeneous rock lining with larger rocks uniformly distributed throughout the lining and the spaces between the larger rocks filled with smaller rocks and spalls. The lining shall contain no large unfilled spaces caused by bridging of the larger rock fraction.

Placed Rock

The rock shall be placed by equipment on the surfaces and to the depths specified. The rock lining shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement or damage to the bedding materials. Smaller rocks shall not be grouped as a substitute for larger rock. The rock shall be placed in a manner to ensure a uniform surface after placement and to ensure that a tight rock to rock pattern is achieved. The void areas between large rock shall be chinked with smaller rock to ensure that the total void area from the rock base to its top surface is filled.

6. MEASUREMENT AND PAYMENT

Method 1

For items of work for which specific unit prices are established in the contract, the length of the rock lined waterway will be measured to the nearest linear foot along the centerline of the channel. Payment for the rock lined waterway will be made at the contract unit price. Such payment will constitute full compensation for all labor, materials, equipment, tools, and other appurtenances necessary and incidental to the completion of the work.

Method 2

For items of work for which specific unit prices are established in the contract, the volume of rock for the rock lined waterway will be measured and computed to the nearest cubic yard by method of average cross sectional area. Payment for the rock lined waterway will be made at the contract unit price. Such payments will constitute full compensation for all labor, materials, equipment, tools and other appurtenances necessary and incidental to the completion of the work.

Method 3

For items of work for which specific lump sum prices are established in the contract, the quantity of rock lined waterway will not be measured. Payment for the rock lined waterway will be made at the contract lump sum price. Such payment will constitute full compensation for all labor, materials, equipment, tools and other appurtenances necessary and incidental to the completion of the work.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the item of work to which it is made subsidiary. Such items and the items to which they are made subsidiary are identified in Section 7.

7. ITEMS OF WORK AND ADDITIONAL CONDITIONS: