USDA - Natural Resources Conservation Service

Connecticut

Practice: 570 - Stormwater Runoff Control

Scenario #1 - Combination, Most common Best Management Practices

Scenario Description:

This scenario involves installation of silt fence, straw wattles, and straw bales on the construction site as part of one conservation engineering system. The combined system shall include two or more components and will address the resource concerns related with concentrated flow erosion, excessive sediment in surface waters as well as protection of existing inlets and structures depending on the combination.

Before Situation:

The combination scenario is applicable in all construction sites and watersheds including those in the urban and suburban areas. Which component would apply in a particular situation would depend on the site condition, slope etc.

After Situation:

When properly installed, the combination structures slow down runoff flow velocity and reduce high velocity erosion, detain and filter the stormwater runoff and provide a controlled release to the downstream areas. In seeded areas, straw wattles also enable seeds to settle and germinate, aiding the revegetation process. By filtering overland runoff and holding sediment on the slope, Straw Wattles also help to protect lakes, ponds, rivers and streams from sediment pollution. By filtering overland runoff and holding sediment on the slope, straw bales can also help to protect water quality. Silt fence are installed along the downstream perimeter of a construction site to prevent sediment transport off construction areas. A typical silt fence consists of a synthetic filter fabric stretched between a series of fence stakes, with the stakes installed on the downstream side of the perimeter and the fabric trenched into the soil on the upstream side and backfilled. All erosion control blankets and straw mulches will be covered under 484-Mulching. If earthen basins are warranted for water quality improvement or retention/detention purposes, use Sediment Basin (350). If seeding is warranted for water quality and erosion control purposes, all temporary and permenant vegetation will use Critical Area Planting (342).

Feature Measure: Area of construction site

Scenario Unit:: Acre

Scenario Typical Size: 1.0

Scenario Total Cost: $773.33

Scenario Cost/Unit: $773.33

Cost Details:

Component Name	ID	Description	Unit	Cost	QTY	Total
Equipment Installation						
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	$21.74	1.5	$32.61
Labor						
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	$23.42	10	$234.20
Supervisor or Manager	234	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	$43.01	1.5	$64.52
Materials						
Silt Fence	43	Silt Fence with support post. Includes materials, equipment and labor	Foot	$0.93	100	$93.00
Wattles, straw, 8-9"x25'	1405	Tubes of rice straw, approximately 8-9 inch in diameter, 25 feet long . Includes materials and shipping only (including stakes).	Foot	$0.99	100	$99.00
Straw bales	2186	Straw bales buried at defined intervals to halt rill and gulley formation. Materials and shipping only.	Each	$5.00	25	$125.00
Mobilization						
Mobilization, Material, distance > 50 miles	1043	Mobilization cost of materials for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been i	Dollar	$1.00	125	$125.00

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Scenario #2 - Silt Fence

Scenario Description:

This scenario involves installation and removal of silt fence. Typical scenario includes the installation of 200 feet of silt fence to minimize the volume of sediment leaving the construction site. Silt fence is typically 3' high and is anchored into the ground. Stakes are installed every 10'. Silt fence shall be removed when construction is completed and vegetation has been established.

Before Situation:

Large area of vegetation is disturbed to construct and install a conservation practice. Potential for sedimentation is very high.

After Situation:

Silt fence is installed along the downstream perimeter of a construction site to prevent sediment transport off construction areas. A typical silt fence consists of a synthetic filter fabric stretched between a series of fence stakes, with the stakes installed on the downstream side of the perimeter and the fabric trenched into the soil on the upstream side and backfilled. Associated practices shall be 342 - Critical Area Seeding and 484-Mulching.

Feature Measure: Linear Feet of Silt Fence Installed

Scenario Unit:: Foot

Scenario Typical Size: 200.0

Scenario Total Cost: $344.43

Scenario Cost/Unit: $1.72

Cost Details:

Component Name	ID	Description	Unit	Cost	QTY	Total
Equipment Installation						
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	$21.74	1	$21.74
Labor						
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	$23.42	4	$93.68
Supervisor or Manager	234	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	$43.01	1	$43.01
Materials						
Silt Fence	43	Silt Fence with support post. Includes materials, equipment and labor	Foot	$0.93	200	$186.00