CATEGORY: Runoff Management

USE GROUP: Temporary

GRAVEL BAGS

ISSUED: 10-1-2008

DEFINITION AND PURPOSE:

Open mesh nylon or burlap bags of gravel designed to pond water and cause sediment to settle out. Gravel bags can be used alone or as a part of other BMPs. A gravel bag berm consists of a single row of gravel bags that are installed end to end to form a barrier across a slope to intercept runoff, reduce its flow velocity, release the runoff as sheet flow and provide some sediment removal.

APPROPRIATE APPLICATIONS:

Gravel bags may be implemented on a project-by-project basis with other BMPs when determined necessary and feasible. Generally, gravel bags can be used: along streams and channels, below the toe of exposed and erodible slopes, around stockpiles, across channels to serve as a barrier for utility trenches, parallel to roadways, in water diversions, as perimeter protection, as inlet protection, to create a temporary sediment basin, at grade breaks of exposed and erodible slopes to shorten slope lengths, or when site conditions require adjustments or relocation of a barrier.

CONDITIONS FOR EFFECTIVE USE:

Type of Flow: Sheet flow and concentrated flow.

WHEN BMP IS TO BE INSTALLED:

Dependent upon function it is designed to perform.

STANDARDS AND SPECIFICATIONS:

Fill bags approximately 2/3 full with gravel. When used as a linear control for sediment removal: install along a level contour and turn ends of gravel bag row up slope (j-hook style) to prevent flow around the ends. When used for concentrated flows: stack gravel bags to required height using a pyramid approach, the upper rows of gravel bags should overlap joints in lower rows. Construct gravel bag barriers with a set-back of at least 3 feet from the toe of a slope to allow for cleaning out of accumulated sediment.

OPERATION AND MAINTENANCE PROCEDURES:

Inspect every week and after every ½" storm event during construction. Replace and stabilize any damaged bags or bags that have moved out of place. Repair washouts or other damages as needed. Inspect gravel bags for sediment accumulations and remove sediment when accumulation reaches ½ the height of the structure.

SITE CONDITIONS FOR REMOVAL:

Completion of upstream/upslope work and vegetation/stabilization of contributing runoff areas.

TYPICAL DETAILS:

RM-7