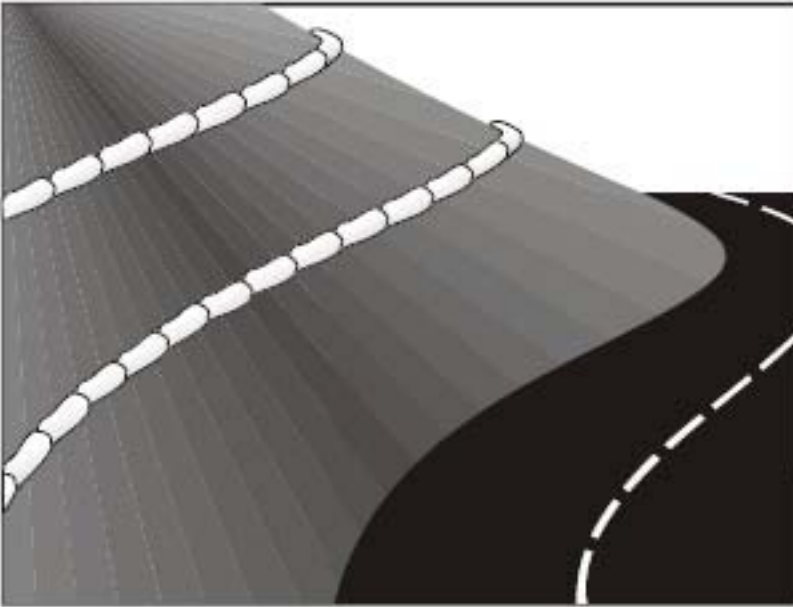


Gravel Bag Berm



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Gravel bag berms are rows of gravel-filled bags placed on a level contour to intercept sheet flows, allowing the water to temporarily pond and sediment to settle out. Gravel bag berms are suitable for controlling linear erosion and sediment control. Oftentimes they are placed near roadways to keep sediment off of roads. Because gravel is a porous material, ponded runoff can flow slowly through the bags. Gravel bag berms are very similar to sandbag barriers but more porous.

Usage

Gravel bags can be used in a variety of situations including:

- on paved surfaces, where it is difficult to install posts or stakes
- across a channel as a check dam
- in areas where silt fences are not strong enough
- in areas where rock check dam construction is not feasible due to inaccessibility
- when a more porous filtration barrier is desired; if a less porous barrier is needed, consider another BMP (e.g., silt fences, fiber rolls, or sandbag barriers) or construct an outlet structure within the gravel bag berm wall

When constructing gravel bag berms:

- use small sections of 3-4 in PVC pipe for a drainage mechanism
- place the pipe within the barrier to drain water
- fashion a weir by stacking part of the barrier to a lower height

Benefits

- deploy easily
- are inexpensive and reusable
- are more durable than straw bales or silt fences
- are multi-use beyond sediment control, such as a weight for securing lighter materials

Estimated Cost

\$2.50/bag for empty gravel bags

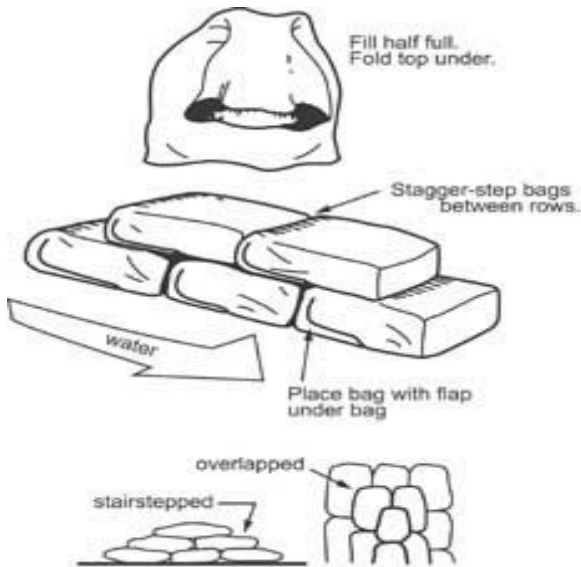
\$20-\$35/cubic yd for gravel

Can be expensive; must be individually assembled by hand

Alternatives

- Check dam (p. 3-2)
- Fiber roll (p. 3-5)
- Sandbag barrier (p. 3-9)
- Silt fence (p. 3-15)

Notes:



Courtesy of: NRCS

Limitations

- fail to filter stormwater runoff
- involves labor intensive installation
- rupture of sandbag upon removal may occur due to degradation
- limit upstream drainage areas to 5 ac or less
- has increased maintenance requirements when used to detain concentrated flows

Installation Tips

When used as a linear control for sediment removal:

- install along a level contour
- turn ends of bag up to prevent flow around the bags
- use in conjunction with a temporary soil stabilization control to provide more effective control
- allow enough space upslope for ponding to occur
- use a pyramid approach when stacking bags

When used for concentrated flows:

- stack gravel bags no higher than 3 ft
- allow for a setback of at least 3 ft from the toe of a slope
- place bags on a stable surface with complete ground contact; trenching is unnecessary

Maintenance

- inspect prior to rain, daily during rain events, and after each rain event
- replace bags every 2-3 mos since sunlight degrades burlap bags
- repair washouts and other damage as needed
- remove sediment periodically, especially as it reaches 1/3 the height of the barrier

Vendors

See Appendix page F8-F9

References

California Stormwater Quality Association (CASQA). 2003. California stormwater best management practices handbook for construction.

Natural Resources Conservation Service. Sandbag Barrier Fact Sheet.

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