Brush or Rock Filter



Description

Filter berms constructed of brush or rock placed across a level contour area where sheet flow may occur to trap sediment and reduce flow velocity.

Applications

- Check dams across construction roads with mild slopes.
- Below the toe of slopes.
- Along the site perimeter, streams, or channels.
- Around temporary spoil areas.
- Downstream of small cleared areas.
- Sediment traps at culvert or pipe outlets.

Installation and Implementation Requirements

- Use stones between 0.75 to 3 inches in diameter or brush wrapped in geotextile filter fabric. Brush from site clearing may be used. Place across areas of sheet flow.
- Installation of rock filter berms with geotextile filter fabric should be used when possible.
- A brush filter berm can be made of brush, small tree limbs, grass, leaves or other waste material from clearing and grubbing.
- Brush filter berms must be 2 to 5 feet in height to detain storm water. The base width of the berm must be 5 to 10 feet with a shape that is either a triangle or slightly rounded.

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Installation and Implementation Requirements *(continued)*

- Install filter 5 to 7 feet from toe of slope to allow ponding.
- Larger rocks must be placed as the base of the berm. Smaller rocks must be placed on the uphill side to form a natural filter.
- Place larger rocks without fines in a gabion to stabilize areas of concentrated flow.
- Use larger stones placed in staked and woven wire sheathing if stones are used across an area of concentrated flow.
- Construct along a level contour.
- Provide an area behind berm for detention and sedimentation.
- Geotextile filter fabric, rope, or wire mesh screen can be used to keep the shape of the berm intact.
- Install the geotextile filter fabric into a 6-inch-deep trench uphill from berm.
- Secure filter fabric with staples, stakes, or rope to protect the brush from being displaced from wind or a storm.

Considerations

- Adequate detention area behind berm is necessary to prevent flooding upstream.
- Drainage area shall not exceed 5 acres.
- Removal of stone berms may be difficult, resulting in limited usefulness in landscaped areas.
- Must not be used in continuously flowing streams.
- Ponding may occur if not sized properly.

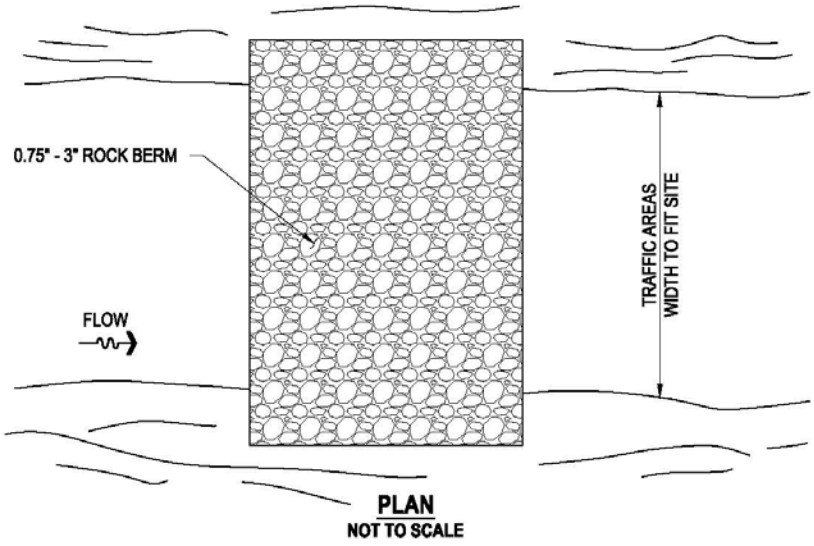
What to Inspect

- Has rock or brush been displaced?
- Is ponding occuring in undesired areas?
- Is there evidence of erosion or sheet flow?
- Is the height and width of the device appropriate for the flow?

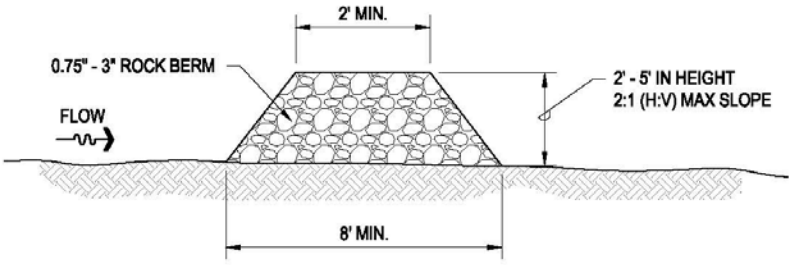
Maintenance

- Reshape berm and replace any missing or dislodged stone or brush.
- Remove and dispose of sediment on upstream site of filter upon reaching a depth of 6 inches.
- Replace geotextile filter fabric when tears and rips limit effectiveness.

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PLAN
NOT TO SCALE



SECTION
NOT TO SCALE

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