

4.5-s EROSION CONTROL BLANKET SYSTEM

Alternative Names: Erosion Control Matting, Erosion Control Netting, Rolled Erosion Control Products (RECP)

DESCRIPTION

Erosion control blanket systems are woven or composite textile sheets made from a variety of natural and synthetic materials that protect soil from surface erosion by lying over the ground to form a temporary cover. They protect soil against wind and water erosion by reducing raindrop impact and slowing runoff as it flows across the surface. They also stabilize disturbed soil areas and retain soil moisture, thereby improving conditions for seed germination and vegetation establishment.

APPLICABILITY

- Use to prevent surface erosion and enhance vegetation establishment.
- Appropriate for disturbed soil on steep slopes, as a flexible liner for drainage ways, stream banks, swales, basins and behind rock slope protection; protection for stream banks, outfalls and spillways, and for use on temporarily inactive construction sites.
- Not suitable for sites requiring mowing, sites with rocky surfaces, or in high wind areas as a stand-alone BMP.



Advantages

- Provides immediate soil stabilization that facilitates vegetation growth.
- Can be installed without mobilizing special equipment.

Disadvantages

- Synthetic erosion control blanket systems do not biodegrade and require disposal in a landfill if removed.
- Considered costly due to materials and installation labor costs.
- Rocks, debris, or inadequate anchoring can lift blankets from the soil surface and allow erosion to occur beneath.
- Birds and small animals can become entangled in the blanket.

BMP DESIGN APPROACH

- Pollutant Source Control
- Hydrologic Source Control

Stormwater Treatment

SCALE OF APPLICATION

- All SFR and MFR < 1 acre
- MFR 1-5 Acre and CICU < 5 acres
- MFR and CICU > 5 acres and all WQIPs

TYPE OF APPLICATION

- Temporary
- Permanent

DESIGN CONSIDERATIONS

- Use erosion control blanket systems that are made of clean, weed-free materials.
- Erosion control blanket systems exist in a variety of materials and styles for different applications. Materials can be natural or synthetic, woven, netted, or bonded to a matrix. Blankets may include features such as being fire and ultraviolet light resistant or may contain seed and fertilizer.

Consider the following factors when selecting the right system for your conditions:

- Purpose (hill slope vs. channel lining)
 - Expected precipitation and/or velocity of flow
 - Strength
 - Functional longevity
- Use biodegradable erosion control blanket systems in situations where blankets are exposed or remain in place until vegetation becomes established. Biodegradable erosion control blanket systems may not be appropriate for engineering purposes such as beneath rock slope protection.

INSTALLATION CONSIDERATIONS

- Keep erosion control blanket systems rolled within their protective covering and stored until needed for use to prevent damage from stormwater, mud, dirt, dust, animals, and debris.
- Blankets may be installed in phases as the project progresses.
- Prior to blanket placement, prepare soils according to manufacturer's specification by physically loosening top soil and adding amendments and seed as needed.
- To promote direct contact with soil, fill and compact any rills and gullies and remove rocks and debris from the site to create a relatively smooth surface.
- Unroll the blanket down the slope ensuring continuous contact with the ground. Do not stretch or twist the blanket or walk on the blanket once in place.
- Place erosion-control blankets horizontally following the contour of gentle slopes less than 20 feet long and/or where one width of the blanket roll will cover the entire length of the slope.
- Extend blankets beyond the edge of mulched or seeded areas at least 1 foot on the sides and 3 feet upslope and downslope. If existing vegetation or structures mark the boundaries of the area, the blankets should continue into the stable vegetated area or to the edge of the structure.
- Use large continuous pieces to fit the area covered. Trim blankets as necessary, such as around large rocks or existing vegetation, and discard smaller pieces.
- Use temporary weights during placement to prevent movement or damage of the blanket from strong winds.
- Overlap parallel rolls a minimum of 6 inches and secure in place according to the manufacturer's specifications. At the top of slope, excavate trenches and insert blankets into the trench with enough excess material extending upslope that it can fold back on itself. Backfill the trench, fold the blanket back on itself, install

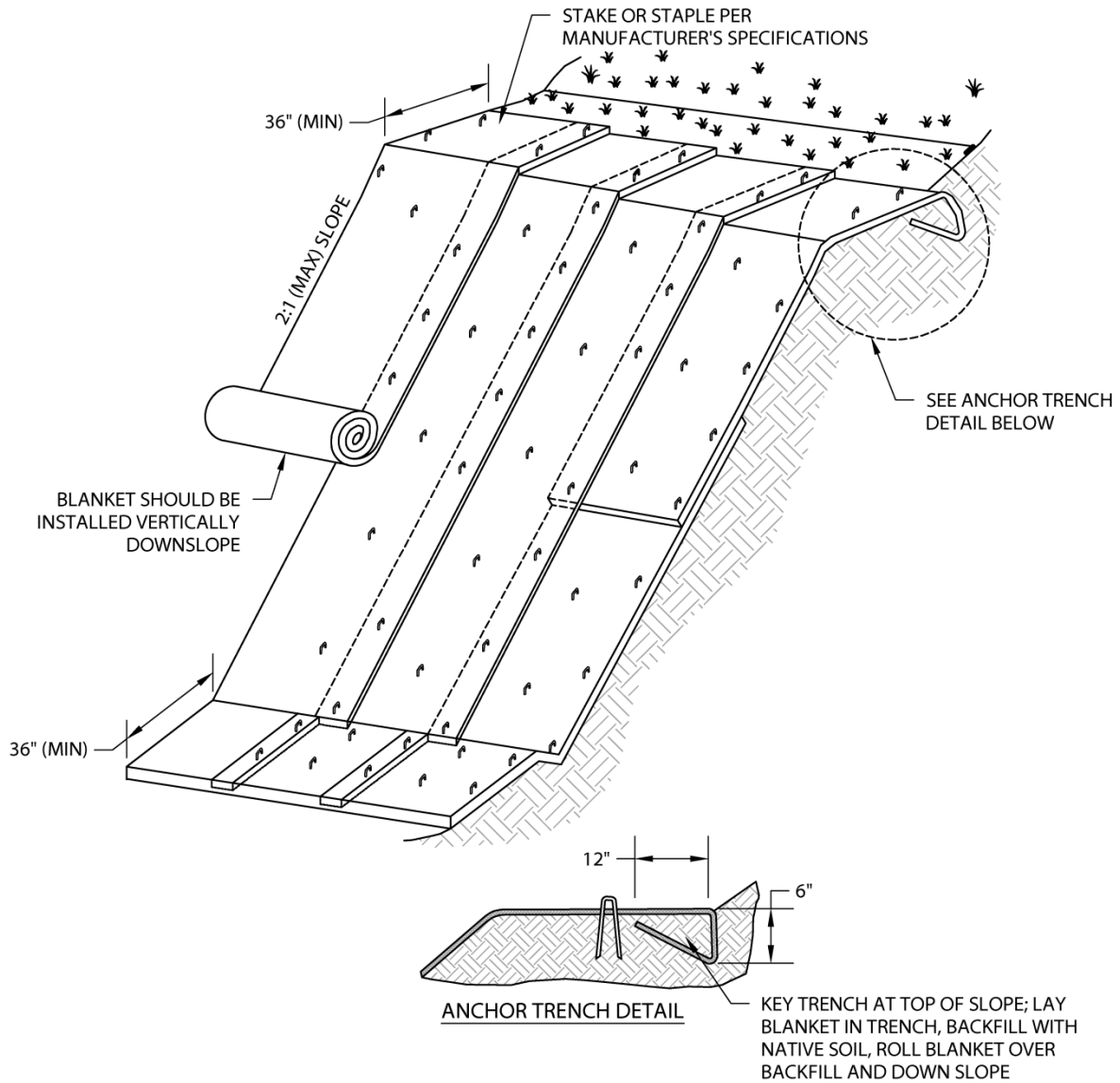
anchors perpendicular to the slope and drive flush with the soil surface. Cover the anchor with soil and tamp into place.

- Stake or staple the blanket in place using triangular wooden stakes, biodegradable plastic stakes, gravel bags, metal stake pins with steel washers at the head of the pin, or U-shaped heavy gauge wire staples. All anchors should be 6 to 18 inches long, 1 inch wide and placed a minimum of 36 inches apart. Use longer staples more frequently on loose or sandy soils. Do not use U-shaped heavy gauge wire staples when installing biodegradable blankets.

INSPECTION AND MAINTENANCE

- Routinely inspect blankets, especially prior to and following precipitation events, until vegetation becomes permanently established.
- During inspections, ensure blankets overlap and are in continuous contact with the soil. Make sure anchors are intact and flush with the ground, and that no erosion is evident underneath the blanket.
- For erosion evident underneath the blanket, facilitate stabilization by diverting any run-on that may be causing the erosion, re-grading eroded areas, and reseeding and mulching damaged areas.
- Repair or replace any damaged or failing sections of the blanket immediately and exercise care when doing so to minimize damage to adjacent blanketed areas.
- Secure blanket to prevent further undermining.

Erosion Control Blanket Figure

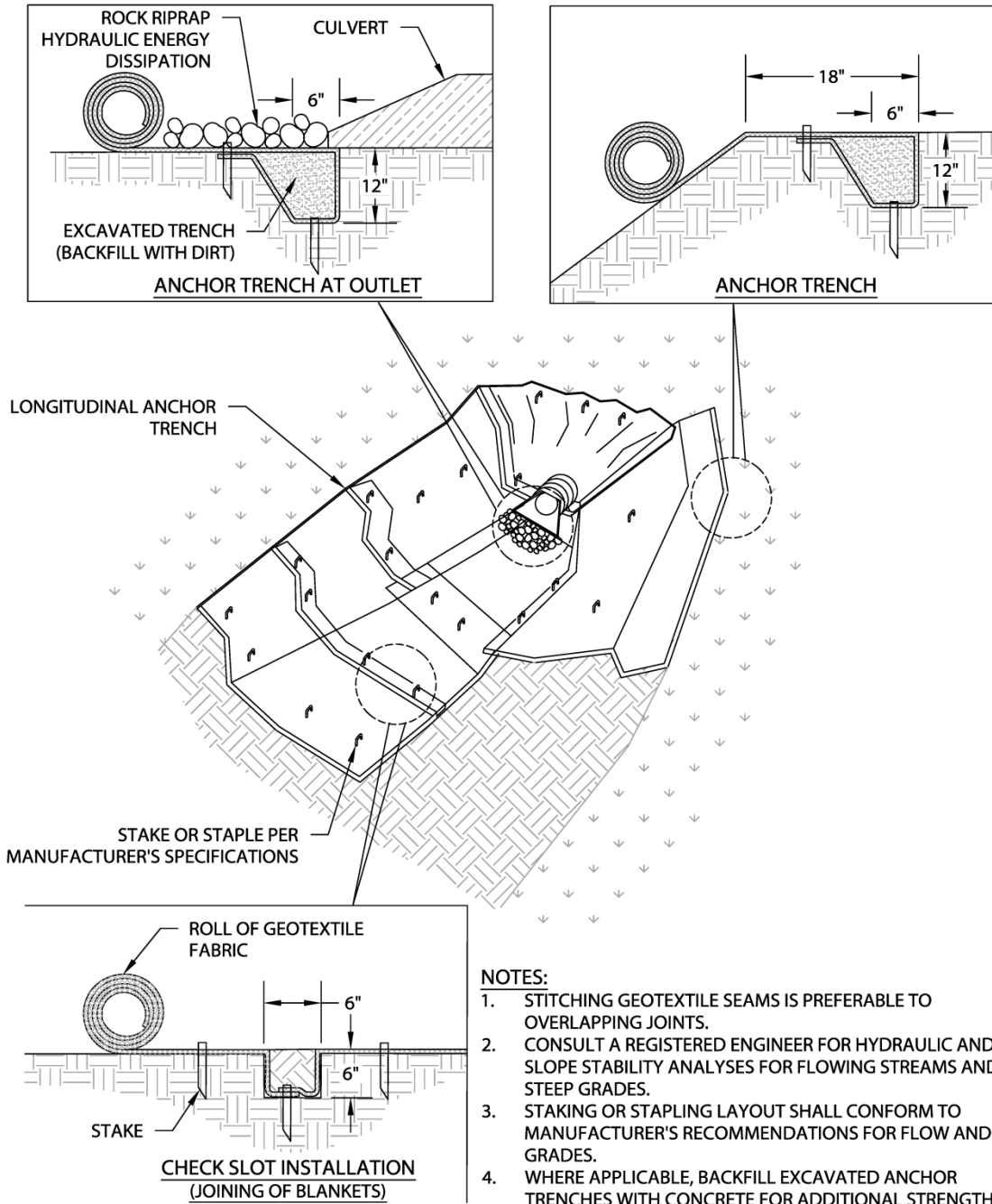


NOTES:

1. SLOPE SURFACE SHALL BE FREE OF ROCKS, VEGETATION, STICKS, AND DEBRIS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT. SCARIFY AND/OR TILL SLOPE SURFACE 12" DEEP BEFORE LAYING BLANKET.
2. LAY BLANKETS LOOSELY AND STAKE OR STAPLE AS NEEDED TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH OR TWIST.
3. EROSION CONTROL BLANKETS SHOULD BE USED IN CONJUNCTION WITH REVEGETATION (CONTAINER OR PLUG PLANTING) TO SPECIFICATIONS OF REVEGETATION PLAN FOR PROJECT.
4. HAND WALK BLANKET DOWN SLOPE AS BLANKET IS STAKED OR STAPLED TO PREVENT STRETCHING.
5. DO NOT WALK ON BLANKET ONCE IN PLACE.
6. ALL ANCHORS SHALL BE INSTALLED PERPENDICULAR TO SLOPE.

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Anchoring Geotextiles in Channels Figure



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