

ILLINOIS URBAN MANUAL PRACTICE STANDARD

Erosion Control Blanket: Turf Reinforcement Mat (TRM)

(square feet)

Code 831



Source: USDA – ??? Soil and Water Conservation District

Definition

Protective reinforced materials formed into a non-degradable mat.

Purpose

The purposes of this practice are to reinforce vegetation against medium to high flow conditions, ice, wave action, and to protect the soil surface from rain drop impact.

Conditions Where Practice Applies

Areas of concentrated flow where natural vegetation alone will not sustain expected flow conditions or provide sufficient long term erosion protection.

Areas where shorelines are susceptible to ice and wave action.

Criteria

The TRM (Turf Reinforcement Mat) shall be selected based on shear stress, steepness of slope, and expected flow velocities. The TRM shall be placed the same day as seed placement.

Degradable staples shall not be used in areas where turf establishment will not happen quickly.

The TRM shall be in firm contact with the soil. All rocks or soil clods 1.5 inches or larger must be removed prior to installation. The TRM shall be anchored per manufacturer recommendations and using the proper number and spacing of staples. The staples/pins shall be the proper width and length to meet the manufacturer's recommendations and per Standard Drawing [EROSION CONTROL BLANKET – TURF REINFORCEMENT MAT \(TRM\) IUM-531](#) and Material Specification [EROSION CONTROL BLANKET – TURF REINFORCEMENT MAT \(TRM\) 805](#).

Soil-filled TRMs shall have an appropriate erosion control blanket installed over the top to hold the soil in place.

In concentrated flow channels the TRMs shall be unrolled upstream to downstream, parallel to the direction of flow. The upstream edge of the TRM shall be toed into an anchor trench a minimum of 6" wide by 6" deep. All overlaps shall be a minimum of 4".

Considerations

The TRM matrix will not break down over time although manufacturers may include degradable materials within the non-degradable matrix to establish turf.

Staple check slots are recommended at 40' intervals using a double row of staples staggered 4" apart and 4" on center over the width of the channel.

The establishment time of chosen seed mixes should be considered when determining the selection of staple materials.

TRMs may be installed in conjunction with Practice Standards such as [GRASSED-LINED CHANNEL 840](#), [STRUCTURAL STREAMBANK STABILIZATION 940](#), etc. which utilize [TEMPORARY SEEDING 965](#), [PERMANENT VEGETATION 880](#), and [TOPSOILING 981](#).

Plans and Specifications

Plans and specifications for installing TRMs shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. The plans shall include the following items at a minimum:

1. Location of TRM
2. Minimum TRM performance criteria
3. Location and cross section of anchor trenches

All plans shall include the installation, inspection, and maintenance schedules with the responsible party identified.

Standard Drawing [EROSION CONTROL BLANKET – TURF REINFORCEMENT MAT \(TRM\) IL-530](#) may be used as the plan sheet.

Operation and Maintenance

When mowing, mower decks shall remain raised all season until TRM has either dropped down into the soil or incorporated into the root structure.

Inspect all TRMs periodically during establishment. Repair or replace any areas that may be failing. If the TRM has failed due to high flow, more substantial TRMs or hard armament may be needed.

References

Erosion Control Technology Council (ECTC), Standard Specification for Rolled Erosion Control Products (RECPs Table 1).

Illinois Department of Transportation. Standard Specifications for Road and Bridge Construction. January 1, 2007.

North American Green Material and Performance Specification Sheets March 2009