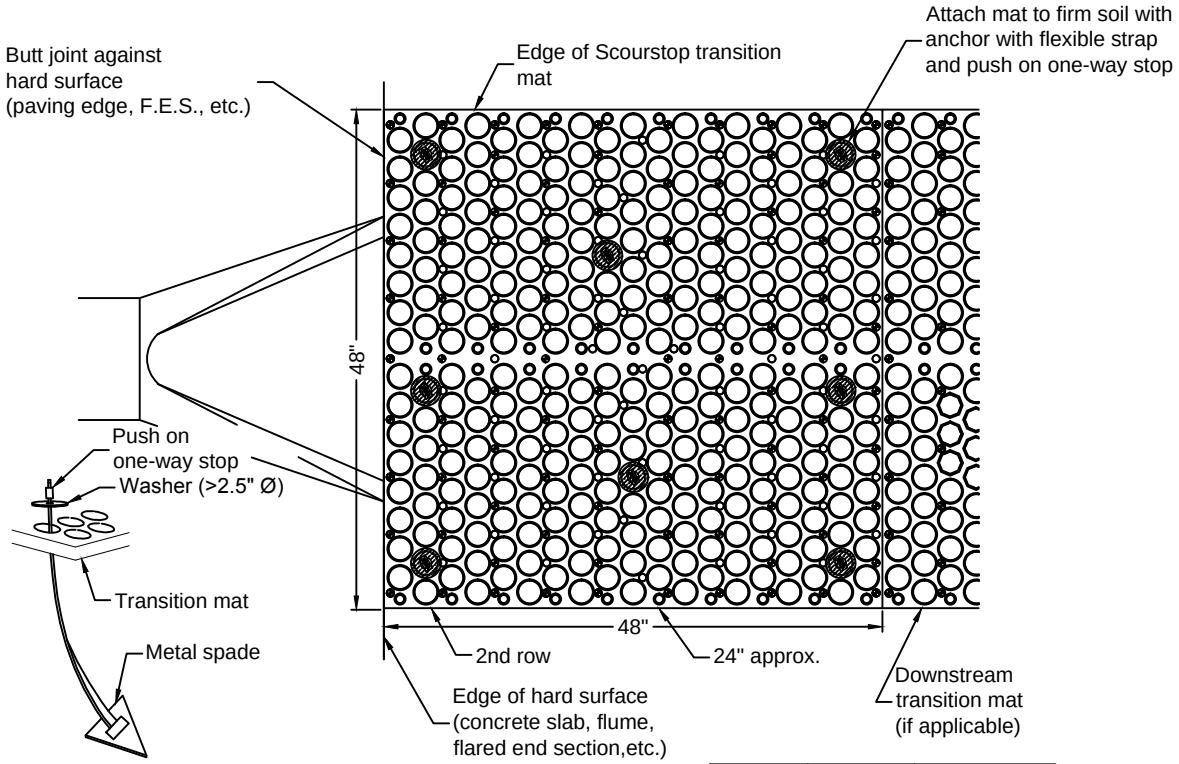


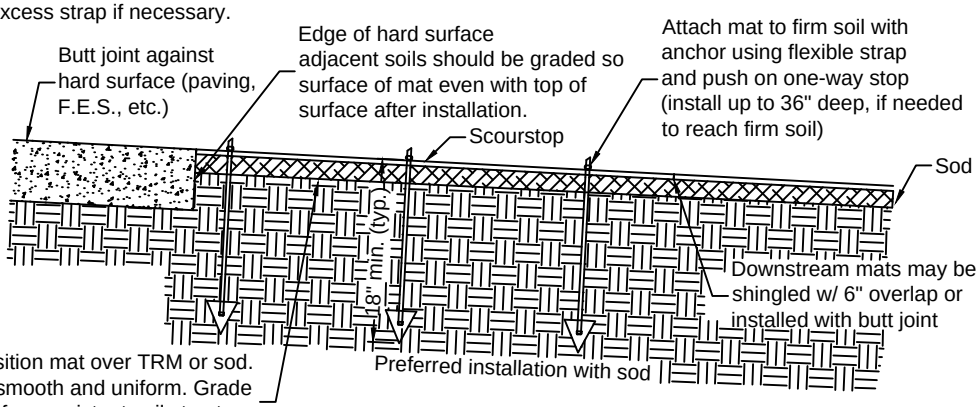
Plan

Anchor and Flexible Strap

Anchor installation instructions:

1. Push spade through soil with stake or by other means to minimum depth of 18". Spade must be installed into firm soils.
2. Loop strap through Scourstop mat.
3. Pull strap tight and push on one-way stop until snug.
4. Trim excess strap if necessary.

Pipe Diameter	Discharge (CFS)	Scourstop width x length
12"	8	4' x 4'
24"	30	4' x 8'
36"	75	8' x 12'
48"	100	12' x 16'
60"	150	12' x 20'
72"+		see details



Section

Note:
Add additional anchors if mats are to be placed uneven finished surfaces to ensure consistent contact with soil.

City of River Falls

Scourstop

Date Revised
August 2014

Plate Number
3125-11

Sheet 1 of 2

River Falls Municipal Utilities

Scourstop Transition Mat Application and Post Construction BMP

1. Intended as an biotechnical replacement for rip-rap.
2. Can be placed on downstream outlet side of curb cuts, overlfow structures, ends of concrete flumes or pipe fixtures; as streambank and shoreline protection.
3. Primary use to provide transition from smooth concrete or other hard surface to turf reinforcement mats (TRMs), sod. or reinforced sod.
4. Eliminates need to install trench check on upstream end of adjoining trm.
5. Scourstop standard size is 4' x 4'x 1/2" sheet with multiple voids for vegetation growth, providing soil protection for the susceptible, erosive area directly below outlets until shear force has dissipated through downstream area expansion.
6. Primary benefits over rip-rap are: Utilization of vegetation, lower installation costs, lower long term maintenance, aesthetically pleasing mowable grass surface, and improved safety through absence of jagged rocks and trapped debris.

Preferred Installation Specifications

1. Read and understand installation guide.
2. For each installation, complete installer's checklist and provide to general contractor for payment. For a pipe outlet with no apron, transition mat should be installed directly abutting the end of pipe.
3. Vegetation is critical to the long term performance (unless a gravel base is planned for). Install appropriate soil under these installations to improve the growing environment.
4. Remove and replace saturated soils for a solid base. Trickle flows could be captured with a sub-surface drain.
5. Can be installed as a butt joint, or permanently attached to the hard surface.
6. Avoid impact erosion onto the mats arising from 25% change in slope between discharge and outlet channel slopes. Grade downstream slope as long and flat as possible.
7. Panels may be shingled as show. Mats shall not be installed in partial lengths.
8. Prior to installation soil shall be graded as level and smooth as possible for consistent transition mat contact with the soil. Soil anchors shall be driven at least 18" deep, or deeper as needed into firm soil. Use flexible strapping, flat washers (>2.5Ø) and one-way stops to attach the transition mat installation into the flexible strapping. Firmly pull strap to snug the transition mat down against the soil with the washer and one-way stop. A 3-2-3 anchor configuration should be adequate in most cases. Proper anchoring is critical to performance.
9. Construct scour area width not less then 5 times the pipe diameter, with a slope no steeper than 3:1. Discharge area width should be as level as possible to avoid water concentration and rilling.
10. Type "A" installation instructions
    (design outlet velocity < 21 fps and slopes < 4%)
    Installed on area stabilized with sod or established vegetation.

- sod or the sod/TRM combination is required downstream until erosive velocities have dissipated.
- The downstream channel must be protected for its entire length. TRM's may be utilized over bare soil when channel velocities do not exceed the unvegetated flow rating of the specified TRM.
- Irrigate sod as needed after installation to aid in establishment of vegetation.
- To hold sod in place, install wire staples at 8" o.c. within 4" of upstream edge of sod.

11. Type "B" installation instructions
    (design outlet velocity < 21 fps and slopes > 4%)
    Installed on area to be stabilized with use of a combination turf reinforcement mat and sod.

- Preferred installation involves utilizing transition mat over sod in the area mast prone to scour, and a turf reinforcement mat above the sod, downstream of the transition mat area.
- Trim installed sod to 1-2" height. Install TRM over installed sod, irrigate sod as needed after installation to aid in establishment of vegetation.
- To hold sod in place, install wire staples at 8" o.c. within 4" of upstream edge of sod.

12. Type "D" installation instructions
    (construction phases, streambed stabilization, low sunlight areas, semi-arid regions):
    Temporary installation for area stabilized with use of high-performance TRM.

- Install a high performance turf reinforcement mat under the transition mat to stabilize the soil and minimize scour. Long term wet or gravel-type conditions might be an appropriate application for this combination as it should perform much like a stable stream bed. For transition mat installations downstream of pipes 48" in diameter or larger, providing an additional layer of transition mats installed above the surface installation (in a 2x2 configuration centered on the pipe outlets) has shown to improve flow capacities of transition mat installations.