

INSTALLATION

THE METHOD OF INSTALLATION VARIES WITH THE TYPE OF TURF REINFORCEMENT MAT (TRM). INSTALLATION PROCEDURES SHOULD BE PROVIDED BY THE MANUFACTURER OR DISTRIBUTOR OF THE PRODUCT. A TYPICAL INSTALLATION PROCEDURE FOR NON PRE-GROWN TRMs IS DESCRIBED BELOW, BUT SHOULD BE CONFIRMED WITH THE PRODUCT MANUFACTURER OR DISTRIBUTOR.

1. REFER TO APPROVED PLANS FOR LOCATION, EXTENT AND CONSTRUCTION DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, EXTENT, OR METHOD OF INSTALLATION CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.

2. TURF REINFORCEMENT MATS SHALL BE STORED AWAY FROM DIRECT SUNLIGHT OR COVERED WITH ULTRAVIOLET LIGHT PROTECTIVE SHEETING UNTIL THE SITE IS READY FOR THEIR INSTALLATION.

3. REMOVE ALL TREES, BRUSH, STUMPS, AND OTHER OBJECTIONABLE MATERIAL FROM THE PROPOSED CHANNEL AREA AND DISPOSE OF PROPERLY.

4. EXCAVATE THE CHANNEL AND SHAPE IT TO NEAT LINES AND DIMENSIONS AS SHOWN ON THE APPROVED PLANS. OVER-CUT THE CHANNEL 50mm IN DEPTH TO ALLOW FOR BULKING DURING SEEDBED PREPARATIONS AND TURF BUILD-UP.

5. ENSURE ANY SURFACE IRREGULARITIES ARE REMOVED.

6. IF THE CHANNEL IS TO BE GRASSED, PREPARE A SMOOTH SEED BED OF APPROXIMATELY 75mm OF TOPSOIL, SEED, FERTILISE, WATER AND RAKE TO REMOVE ANY REMAINING SURFACE IRREGULARITIES.

7. REFER TO MANUFACTURER'S ADVICE REGARDING PLACEMENT OF SEED BEFORE OR AFTER PLACEMENT OF THE MATS.

8. EXCAVATE A 300mm DEEP BY 150mm WIDE TRENCH ALONG THE FULL WIDTH OF THE UPSTREAM END OF THE AREA TO BE TREATED.

9. AT LEAST 300mm OF THE MAT IS ANCHORED INTO THE TRENCH WITH THE ROLL OF

MATTING RESTING ON THE GROUND UP-SLOPE OF THE TRENCH.

10. STAPLE THE FABRIC WITHIN THE TRENCH AT 200 TO 250mm SPACING USING 100mm WIDE BY 150mm PENETRATION LENGTH U-SHAPED, 8 TO 11 GAUGE WIRE STAPLES. NARROWER U-SECTIONS MAY EASILY TEAR THE MATTING WHEN PLACED UNDER STRESS.

11. IN LARGE DRAINAGE CHANNEL WHERE THE WIDTH OF THE CHANNEL IS MORE THAN THE WIDTH OF ONE MAT, INSTALL EACH PARALLEL MAT SUCH THAT MAT HIGHER UP THE CHANNEL BANK ALWAYS OVERLAPS THE MAT LOWER DOWN THE BANK BY AT LEAST 300mm. THIS USUALLY REQUIRES THE MATS LOCATED ALONG THE CHANNEL BED TO BE UNROLLED FIRST, FOLLOWED BY EACH CONSECUTIVE PARALLEL MAT LOCATED HIGHER UP THE CHANNEL BANK.

12. WHEN ALL MATS HAVE BEEN ANCHORED WITHIN THE TRENCH ACROSS THE FULL WIDTH OF THE TREATED AREA, THEN THE TRENCH IS BACKFILLED AND COMPACTED. THE MATS ARE THEN UNROLLED DOWN THE SLOPE SUCH THAT EACH MAT COVERS AND PROTECTS THE BACKFILLED TRENCH.

13. WHEN SPREADING THE MATS, AVOID STRETCHING THE FABRIC. THE MATS SHOULD REMAIN IN GOOD CONTACT WITH THE SOIL.

14. IF THE CHANNEL CURVES, THEN SUITABLY FOLD (DOWNSTREAM DIRECTION) AND STAPLE THE FABRIC MAINTAINING THE FABRIC PARALLEL TO THE DIRECTION OF FLOW.

15. STAPLE THE SURFACE OF THE MATTING AT 1m CENTRES. ON IRREGULAR GROUND, ADDITIONAL STAPLES WILL BE REQUIRED WHEREVER THE MAT DOES NOT INITIALLY CONTACT THE GROUND SURFACE.

16. AT THE END OF EACH LENGTH OF MAT, A NEW TRENCH IS FORMED AT LEAST 300mm UP-SLOPE OF THE END OF THE MAT SUCH THAT THE END OF THE MAT WILL BE ABLE TO FULLY COVER THE TRENCH. A NEW ROLL OF MATTING IS THEN ANCHORED WITHIN THIS TRENCH AS PER THE FIRST MAT. AFTER THIS NEW MAT HAS BEEN UNROLLED DOWN THE SLOPE, THE UP-SLOPE MAT MAY BE PINNED IN PLACE FULLY COVERING THE NEW TRENCH

AND AT LEAST 300mm OF THE DOWN-SLOPE MAT. THE PROCESS IS CONTINUED DOWN THE SLOPE UNTIL THE DESIRED AREA IS FULLY COVERED.

17. IN HIGH-VELOCITY CHANNELS, ADDITIONAL ANCHOR SLOTS MAY BE REQUIRED AT 10m INTERVALS DOWN THE CHANNEL.

18. ANCHOR THE OUTER MOST EDGES (TOP AND UPPER MOST SIDES) OF THE TREATED AREA IN A 300mm DEEP TRENCH AND STAPLE AT 200 TO 250mm CENTRES.

19. ENSURE THE TURF EXTENDS UP THE SIDES OF THE CHANNEL AT LEAST 100mm ABOVE THE ELEVATION OF THE CHANNEL BED, OR AT LEAST TO A SUFFICIENT ELEVATION TO FULLY CONTAIN EXPECTED ANY CHANNEL FLOW THAT IS CONSIDERED LIKELY TO OCCUR WITHIN THE FIRST MONTH AFTER PLACEMENT.

20. ON SLOPES OF 3:1(H:V) OR GREATER, OR WHEREVER EROSION MAY BE A PROBLEM, OR IN SITUATIONS WHERE HIGH FLOW VELOCITIES ARE LIKELY WITHIN 2-WEEKS OF PLACEMENT, SECURE THE INDIVIDUAL STRIPS WITH WOODEN PEGS.

21. IF SEEDING IS REQUIRED POST PLACEMENT OF THE MATS, THEN APPLY SEED AS PER SUPPLIER'S INSTRUCTIONS.

22. IF PRE-GROWN TURF IS USED, THEN ENSURE THAT INTIMATE CONTACT IS ACHIEVED AND MAINTAINED BETWEEN THE TURF REINFORCEMENT AND THE SOIL SUCH THAT SEEPAGE FLOW BENEATH THE TURF IS AVOIDED. ONCE FIXED IN PLACE, THE MATS SHOULD BE ROLLED WITH A ROLLER WEIGHING 60 TO 90 kg/m WIDTH, THEN WATERED AFTER GRASS SEEDING.

23. ENSURE THAT WATER ENTERING THE CHANNEL WILL FLOW FREELY OVER THE FINISHED GRASS SURFACE.

24. ENSURE SURFACE WATER FLOWING Laterally INTO THE CHANNEL WILL NOT BE DEFLECTED ALONG THE UP-SLOPE EDGE OF THE TURF CAUSING SOIL EROSION.

25. DAMAGED MATTING SHALL BE REPAIRED OR REPLACED.

ADDITIONAL REQUIREMENTS ASSOCIATED WITH USE NEAR AIRPORT PAVEMENTS

1. ONLY EROSION MATS THAT ARE DOUBLE NETTED SHALL BE ALLOWED WITHIN 3.0m OF ANY AIRPORT PAVEMENT USED BY AIRCRAFT WITH THE EXCEPTION OF AIRPORTS CLASSIFIED AS AIR CARRIER OR CORPORATE/TRANSPORT. IF THE AIRPORT IS CLASSIFIED AS AN AIR CARRIER OR CORPORATE/TRANSPORT, THERE WILL BE NO EROSION MATS ALLOWED WITHIN 9.0m OF PAVEMENT USED BY AIRCRAFT.

2. ONLY BIODEGRADABLE ANCHORING DEVICES SHALL BE ALLOWED IN THE INSTALLATION OF ANY EROSION MAT FOR AIRPORT APPLICATIONS. NO METAL STAPLES WILL BE ALLOWED.

MAINTENANCE

1. DURING THE INITIAL ROOT ESTABLISHMENT PERIOD, CHECK THE TREATED CHANNEL AFTER EVERY RUNOFF-PRODUCING RAINFALL EVENT.

2. IF DAMAGE HAS OCCURRED, IMMEDIATELY INITIATE REPAIRS WITH TURF OR BY SEEDING AS APPROPRIATE.

3. REMOVE ALL SIGNIFICANT SEDIMENT OR DEBRIS DEPOSITION TO MAINTAIN THE REQUIRED HYDRAULIC CAPACITY OF THE CHANNEL.

4. MAINTAIN A HEALTHY AND VIGOROUS GRASS CONDITION WHENEVER AND WHEREVER POSSIBLE, INCLUDING WATERING AND FERTILISING AS NEEDED.

5. MAINTAIN A MINIMUM GRASS BLADE LENGTH OF 50mm.

6. MOWING SHOULD NOT BE ATTEMPTED UNTIL THE TURF IS FIRMLY ROOTED, USUALLY 2 TO 3 WEEKS AFTER LAYING.

7. ALL REASONABLE MEASURES SHALL BE TAKEN TO COLLECT GRASS CLIPPINGS IMMEDIATELY AFTER MOWING IF THEIR REMOVAL BY SUBSEQUENT CHANNEL FLOWS WOULD CONTAMINATE SENSITIVE DOWNSTREAM WATERWAYS OR OTHERWISE CAUSE UNDESIRABLE ENVIRONMENTAL HARM.

Drawn:	Date:		
GMW	Dec-09	Turf Reinforcement Mats	TRM-02