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PYRAMAT® HPTRM ON A CHANNEL BANK

PRE CONSTRUCTION

- A pre-construction meeting should be held with the construction team and a representative from Geosynthetic Limited. The meeting shall be scheduled by the contractor with at least two weeks notice. Also, Geosynthetic Limited suggests that installation monitoring of the Pyramat® HPTRM be performed by a qualified independent third party.

SITE PREPARATION

- Grade and compact area of Pyramat® HPTRM installation as directed and approved by Engineer. Subgrade shall be uniform and smooth. Remove all rocks, loose soil and clay, vegetation or other objects so the installed mat will have direct contact with the soil surface.
- Prepare seedbed by loosening the top 50-75mm minimum of soil.
- Incorporate amendments such as lime and fertiliser and/or wet the soil, if needed.
- Do not mulch areas where mat is to be placed.

SEEDING

- Apply seed to soil surface before installing mat. Disturbed areas shall be reseeded.
- Consult project plans and/or specifications for seed types and application rates.

INSTALLATION ON A CHANNEL BANK

- Figure 1 shows general installation layout and details for Pyramat® HPTRM on a channel bank.
- Excavate initial trench 600mm x 600mm minimum at toe of bank (see Figure 2A). Deeper initial trench and/or hard armoring may be required on banks that have the potential for scour (see Figure 2B).
- Excavate longitudinal edge trenches 300mm x 300mm minimum along both sides of the installation to bury edges of mat (see Figure 3). The longitudinal edge trenches shall be located along the first and last installed rolls.
- Beginning at the downstream end of flow or prevailing winds, place roll end into the initial trench (with 600mm minimum lap) and secure with pinning devices on 300mm centers (see Figure 2A, 2B). Position adjacent rolls and secure in trench in same manner. Backfill and compact soil into trench as directed and approved by Engineer.
- Unroll mat up the slope over the compacted initial trench.
- Secure initial trench lap with pinning devices on 300mm centers (see Figures 2A and 2B).
- For applications that require rip-rap toe protection, rip-rap should be placed on the Pyramat® HPTRM slope face from the initial trench at toe of slope to the channel bottom, 900mm minimum (reference Figure 2C). Rip-rap should be sized by Engineer.
- Secure longitudinal edge trench with pinning devices on 300mm centers (see Figure 3).
- Continue installation as described above, overlapping adjacent rolls as follows:
 - a: Roll edge overlap - 150mm minimum overlap with upstream mat on top. Secure with one row of ground pinning devices on 300mm centers (see Figure 4)
 - b: Roll end overlap: 300mm minimum overlap with upslope mat on top. Secure with two rows of ground pinning devices staggered 300mm apart on 300mm centers (see Figure 5)
- Secure mat using suggested ground pinning devices for appropriate frequency and pattern shown on the Pin Pattern Guide (see Figure 6)
- For bank heights greater than 13.7m, install simulated check slots per Figure 7. This method includes placing two staggered rows of pins on 100mm centers at 9.1m intervals (see Figure 7) or across the midpoint of the bank height for bank heights less than 18.2m.
- Excavate terminal trench 600mm wide x 600mm deep, minimum 600-900mm over crest of bank (see Figure 8)
- Pin, backfill and compact end of mat in terminal trench (see Figure 8). Terminal trench pinning devices should be spaced on 300mm centers (see Figure 8). Unroll mat in downstream direction over compacted trench with a minimum 600mm lap. Secure lap with pinning devices on 300mm centers.

GROUND PINNING DEVICES

- Metal pins should be at least 5mm diameter steel with a 38mm steel washer at the head of the pin (see Figure 9). Metal pins should be driven flush to the soil surface. Pins should be between 150-600mm long and have sufficient ground penetration to resist pullout. Longer pins may be required for looser soils. Heavier metal stakes may be required in rocky soils. Depending on soil pH and design life of the pin, galvanised or stainless steel pins may be required. Consult project plans and/or specifications for tie down device details.

SPECIAL TRANSITIONS

- For applications that require special transitions (i.e. connections to Liripap, concrete, headwalls, etc), refer to Page 6 of the Installation Guidelines for Landlok® TRMs and Pyramat® HPTRMs.

SOIL FILLING

- Installed Pyramat® HPTRM shall be re-seeded and soil-filled.
- After seeding, spread and lightly rake 12-19mm of fine site soil or topsoil into the mat and completely fill and voids using backside of rake or other flat tool.
- If equipment must operate on the mat, make sure it is of the rubber-tired type. No tracked equipment or sharp turns are allowed on the mat.
- Avoid any traffic over the mat if loose or wet soil conditions exist.
- Smooth soil-fill in order to just expose the top of Pyramat® HPTRM. Do not place excessive soil above the mat.
- Broadcast additional seed and install a Landlok® ECB above the soil-filled mat (if desired).
- Irrigate as necessary to establish/maintain vegetation. Do not over irrigate.

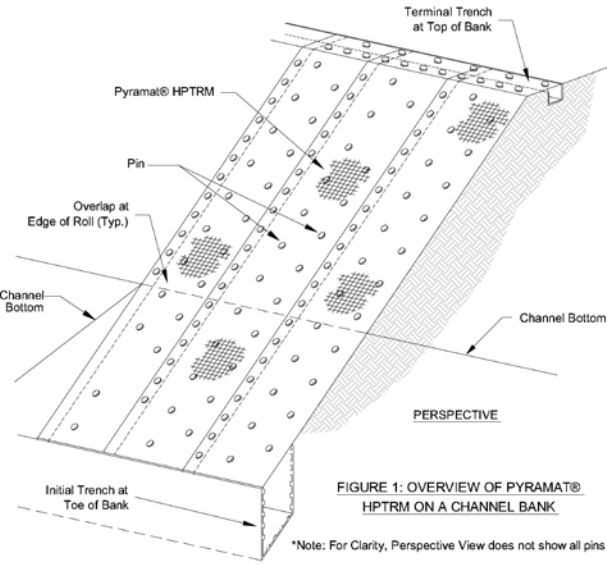


FIGURE 1: OVERVIEW OF PYRAMAT® HPTRM ON A CHANNEL BANK

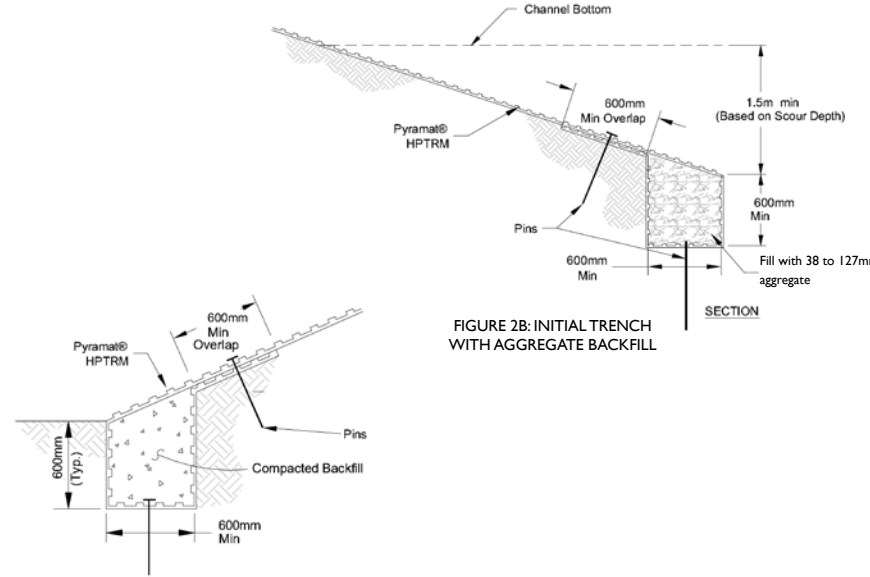


FIGURE 2A: INITIAL TRENCH AT TOE OF BANK DETAIL

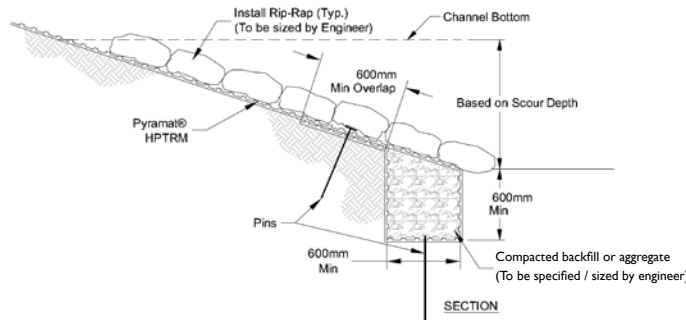


FIGURE 2C: INITIAL TRENCH WITH RIP-RAP TOE PROTECTION DETAIL

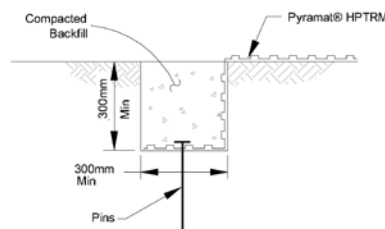


FIGURE 3: LONGITUDINAL EDGE TRENCH DETAIL

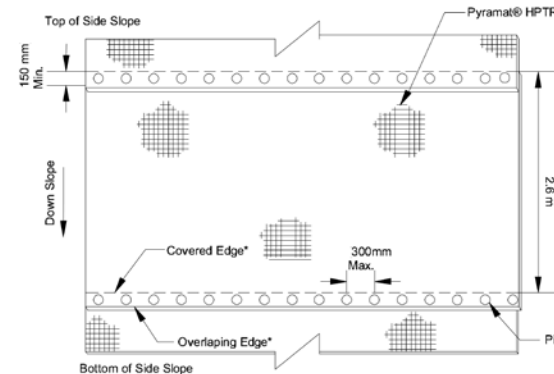


FIGURE 4: PYRAMAT® HPTRM OVERLAP AT ROLL EDGE DETAIL

*Note: Pyramat® HPTRM Edge Shingle/Overlap placement depends on down slope direction (i.e. Shingle in the direction of the down slope)