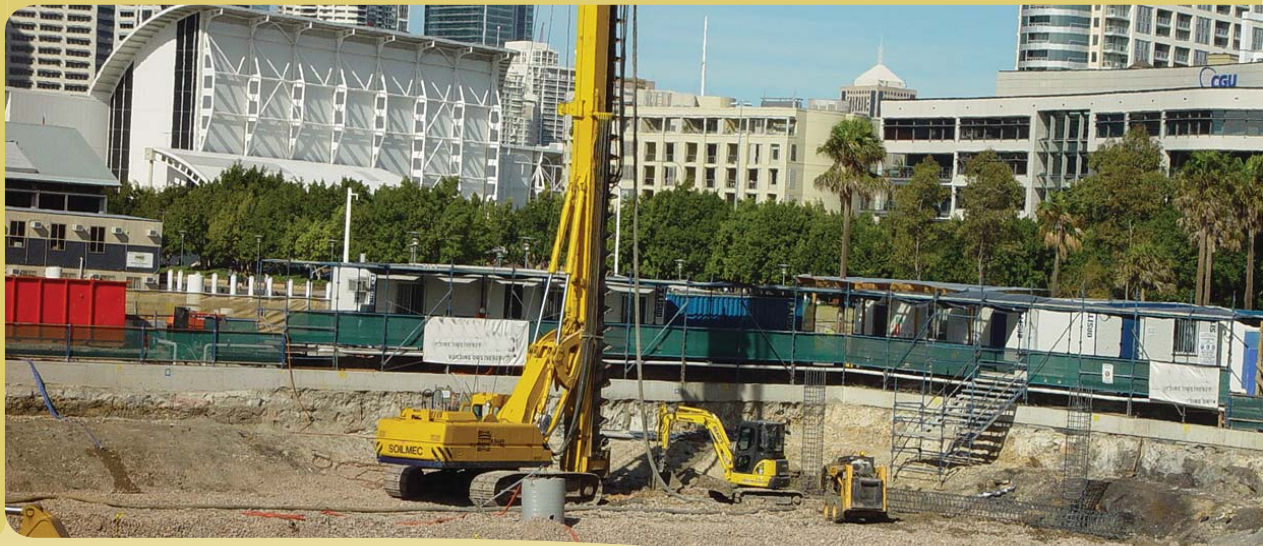

Geogrids
Rigid Biaxial Geogrids
for sub-grade reinforcement

Theory: Rigid geogrids behave differently to geotextiles (woven and non woven) even with similar or greater tensile strengths. Geotextiles transmit stresses to the soil through friction. They do not interlock with the aggregate the same way as a rigid geogrid with the thick ribs. For geotextile to provide reinforcement it must go into tension (Tension Membrane Effect) and for this to occur it requires large deformation and fixed wheel paths. This is difficult to control and design, as a result the only function it achieves is separation. The transmission of stress between soil and geogrid is obtainable only if the geogrid is rigid with integral junction. A woven geogrid constructed of high tensile polymer strands, can hardly develop this function, as the structure is not integral and the transversal ribs can move along the longitudinal ribs without developing any interlocking effect. A properly chosen geogrid with angular rock is able to change the boundary conditions through three main mechanisms: (a) Confinement Effect (or Lateral Restraint); (b) Load Distribution and (c) Tension Membrane Effect.

Installation: TerraGrid is placed at the interface of the low CBR sub-base layer and the platform. If this interface is below the water table, a filtration geotextile is placed first followed by the TerraGrid. A granular fill is then followed. For immediate results the granular fill is substituted with rock to suit the aperture of the grid (40mm to 60mm) without fines to start with. This forces the geogrid to lay flat. The more angular rock, the better the locking, the greater the shear strength and bearing capacity. The rock layer thickness can be 100mm to 500mm and placed uncompacted. The surface can then be blinded with finer material and compacted or a geotextile used followed by a finer soil.

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