

CASE STUDY

Geogrid

Project: Mangapapa School Segmental Block Wall
Date: Jan - May 2009
Client: Ministry of Education
Location: Gisborne



Miragrid GX Geogrid

Mangapapa School is located very close to a stream that is prone to flash flooding. In early 2006 classrooms at the back of the school that were built over poor fill material next to the stream suffered major erosion problems with fill being eroded very close to the buildings. Pole walls were initially considered however segmental blocks were ultimately chosen by the Architect and Engineer for aesthetic appeal and ease of construction for this site having very difficult access for machinery.

A Diamond Pro Segmental Block wall was chosen due to the nature of the site and past experience by the consultant in Wellington applications. The use of **Miragrid GX**, a flexible polyester geogrid, manufactured in 5.2m wide rolls and incorporated into every 3rd block layer made construction straight forward for the contractor. Pipework was also incorporated into the structure for the required stormwater and drainage systems.

Approximately 30m of wall length could be constructed per layer. This usually involved a staff of 2 and considered placement of the Diamond Pro blocks along with the layers of geogrid and the placement and compaction with a hand held plate compactor of a suitable free draining backfill. The set back of the wall is provided by the built in lip located at the back of the block. Machinery included the use of a 6 tonne digger for fill placement. This is the first job with Diamond Pro and **Miragrid GX** in the Gisborne area.

Enkamat was laid below the wall and grassed to protect the toe fill from erosion.



Laying of first course, January 2009



Construction of wall using Miragrid, February 2009



View of completed section, April 2009

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