



GEOFABRICS CASE STUDY



GABION RETAINING WALL SUPPORTS RESIDENTIAL HOME ON STEEP SLOPE

PRODUCTS USED

GABION BASKET

- Constructed with double-twisted steel wire mesh to create flexible, permeable, and continuous structures, ideal for gravity retaining walls, erosion control, channel linings, revetments, and hydraulic structures.
- Manufactured for an expected working life of up to 120 years, ensuring long-term durability and performance
- High-grade polymer coating provides exceptional corrosion resistance and structural strength
- Can be built up to 5–10 metres in height

SUGGESTED PRODUCTS

Geofabrics® Geobox™ gabion basket



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PROJECT DESCRIPTION

The project was to construct a multi-million-dollar residence that overlooks Idlers Bay on top of a steep sloping block in Port Moresby, Papua New Guinea (PNG). To provide this multi-levelled home with a solid foundation for build, an 8-metre-high gabion retaining wall had to be constructed. The client was looking for an economical retaining wall solution that will support the house and have a natural, aesthetic finish to blend in with its surrounding.

OUR SOLUTION

Geofabrics in consultation with the engineer assisted with the conceptual design by providing technical support on product recommendations and analysis of the gabion earth retaining wall. Markham Culverts, our distributor in Papua New Guinea were on site when required to ensure that the design was followed accordingly by the installer.

Upon inspection, the site was deemed unsuitable for build due to its irregular foundation. The site had to be excavated 7 metres deep to provide a level platform for the construction of the gabion baskets. A total of 155 gabions were installed and filled with rocks sourced from the site to construct an 8 metres high by 52 metres long retaining wall which was further reinforced using Solmax Miragrid GX geogrid.

To achieve the client request for a retaining wall with a natural finish, 2 metres by 60 meters rolls of Grassroots synthetic erosion control mats were installed between each layer of gabion. Grassroots will help to encourage the growth of vines around the gabion baskets, resulting in a green vegetated wall.



8m x 52m
(height X length)
retaining
wall



2m x 60m
rolls of
Grassroots
installed



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