

### PARK SCHOOL RETAINING WALLS BRISTOL, AVON

#### RETAINING STRUCTURES

##### Product: MacWall

##### Problem

Maccaferri were approached by Rexion Day Consulting Engineers Ltd, to provide a retaining solution for a new school at Kingswood in Bristol. Working closely with both Rexion Day and the school it became apparent that any solution must provide a high quality finish whilst being flexible enough to allow terraces and internal and external corners to be incorporated.

##### Solution

The chosen solution was MacWall, a segmental engineered retaining wall system. The system comprises a "split face" concrete fascia block with Paragrid 80/15s geogrids and compacted backfill to form a reinforced soil block.

A key consideration for the school was that the pupils would not be able to climb the wall. The near vertical face created by the 25mm step per 200mm high MacWall block met this criteria.

Drainage of retaining structures is important to eliminate the build up of pore water pressures behind the wall. Accordingly, a 300mm wide column of pea shingle was detailed behind the block face. Contamination of this material by the structural backfill was prevented by the presence of a geotextile separator. This granular column drained into a perforated collector pipe and into the site drainage system.

Due to its dry build, "mortarless" construction, and a locator lug and cam on each block, the system is very easy and quick to install; an experienced contractor is not necessarily required



Client name:

PARK SCHOOL, BRISTOL

Main contractor name:

COWLIN CONSTRUCTION LTD

Consultant:

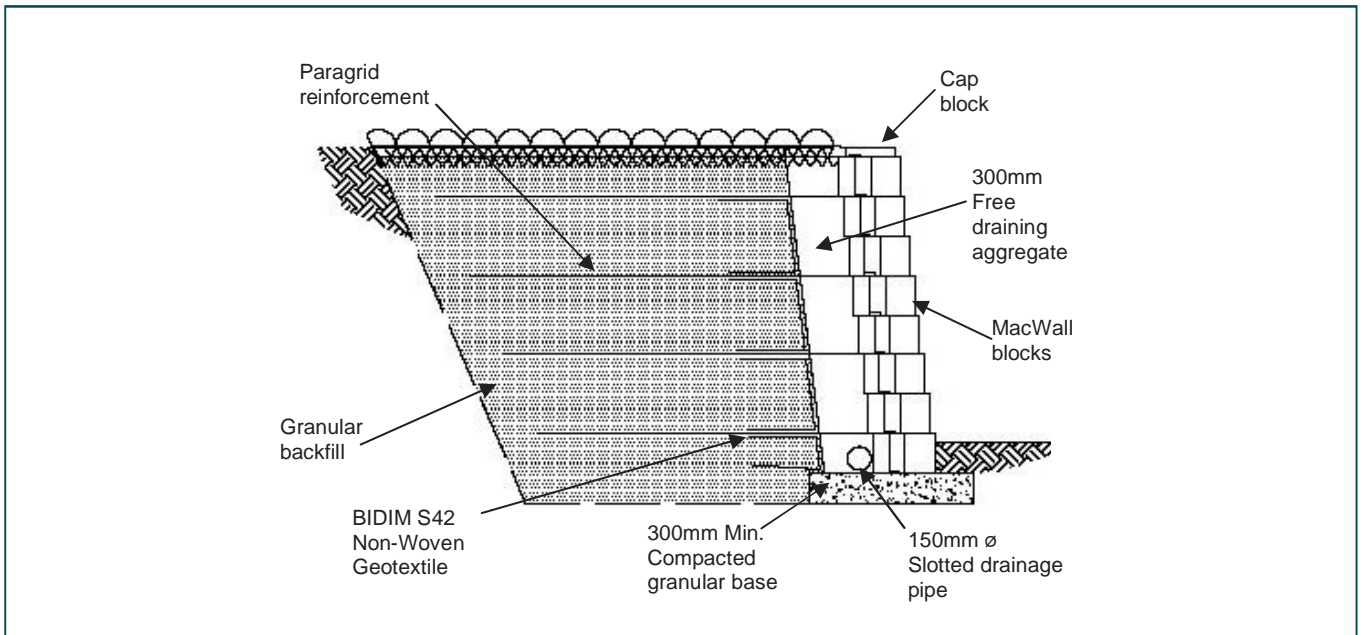
REXON DAY CONSULTING ENGINEERS LTD

Product used:

MACWALL "VERTICA", PARAGRID

Construction date:

AUGUST 2001



Typical section

Pedestrian fencing was required at the crest of the slope. Plastic 'void-forming' pipes were installed vertically behind the wall face and were concreted into position. Fence posts were grouted into these pipes.

The near vertical 7° face provided by the system maximises land gain behind, and minimises land loss in front of the wall. Additionally, the high quality "split face" concrete block finish can be supplied in a range of colours. As a final detail, a capping block is secured to the top course of blocks with an epoxy adhesive.



During construction

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