

PARK SCHOOL
KINGSWOOD, BRISTOL, UNITED KINGDOM**Mass Gravity Retaining Walls****Problem**

Maccaferri was 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 these 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 locator lug and cam on each block, the system is very easy and quick to install; an experienced contractor is not necessarily required. 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.

Client: PARK SCHOOL, BRISTOL**Designer / Consultant:** Rexion Day Consulting Engineers Ltd**Contractor:** Cowlin Construction Ltd**Products used (Qty.)****Date of construction:** 08/2001 - 09/2001[Google Maps](#)[Google Earth](#)**Post construction of MacWall****Post construction of MacWall**