

SuDS Retaining Wall

Attenuation Pond, Webwall, Chesterwell, Colchester, UK



Project Description

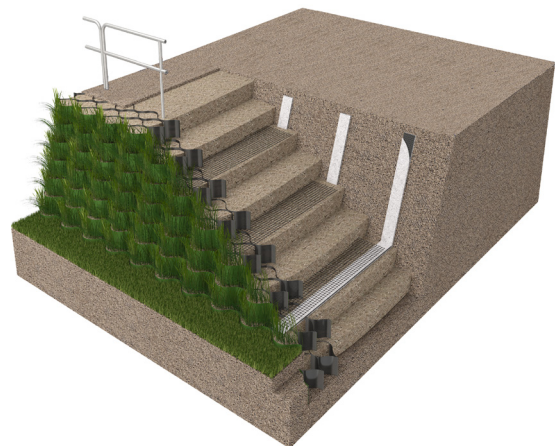
A residential development consisting of conventional low rise domestic houses, the site is situated next to protected Chesterwell Woodlands in the north of the historic town of Colchester. The plans included several phases, the first being housing with further phases including primary and secondary schools along with shops and community centre developments. Mersea Homes received planning permission for this development from Colchester Borough Council after nine years in the planning stage where local residents concerns were addressed with regards to the greenfield development. The plans required the site to blend in perfectly with the ancient woodlands and rural surroundings and create a sense of place and peace.

The Challenge

To achieve planning consent, the future discharge of rainwater from the proposed scheme to local watercourses had to be regulated. The development needed to offer a sustainable storm water run off scheme and any negative impact on the environment needed to be as minimal as possible. The planning approval included a commitment to protect existing open spaces and create new areas of green space for the wider community. To achieve sufficient rainwater storage once the full site was developed required a sizable attenuation pond which blended with the contours of this shallow valley site. In order to avoid excessive land take a sympathetic retaining wall system was required to two sides of the pond.

Project Information

Client	Mersea Homes
Contractor	J Breheny Contractors / ABG Installs
Product	Webwall Retaining Wall System Fildrain 7DW Drainage Geocomposite Trigrig EX30/30 Reinforcement Geogrid
Quantity	300m ² of wall facing
Benefits	<ul style="list-style-type: none">• Flexible natural curving front face• Green vegetated finish• Material cost saving through use of site won materials• Fast and simple construction



ABG Webwall, Fildrain and Trigrig

ABG LTD

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The Solution

ABG's in house Technical Department proposed a curvilinear **ABG Webwall** fascia, reinforced using **ABG Trigrid EX** geogrid with behind slope structural drainage achieved using **ABG Fildrain**. **Webwall** is a three dimensional cellular confinement system which with **Trigrid** reinforces locally won fill material to form a steep retained surface reducing the requirement to import expensive structural fill. The green front cells are filled with topsoil and then planted with selected plant species. The initial green face is intended to be fully hidden behind planting giving the effect of a completely vegetated wall. Specialist installer **ABG Installs** offered supervision assistance to the contractor to build the wall.

The ABG Service

ABG Technical Department proposed a design for the retaining wall system to the consulting engineer including a biodiverse finish, a flexible facing and significant material cost saving.



The design incorporated Webwall design front face, Trigrid geogrid reinforcement and Fildrain drainage geocomposite. Here the front green cells are being filled with topsoil. Fildrain structural drainage strips are visible on the cut slope.



Future development includes: 1) Beauty spot in Chesterfield Wood; 2) New schools, and; 3) Shops and Community buildings



Original large green open space which required SuDS planning and high rainwater retention capacity within the attenuation pond

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