Parc Celyn, Green Meadows – Taylor Wimpey

Case Study with Bell Contracting Ltd

Client:

Bell Contracting Ltd working as appointed groundwork contractors for Taylor Wimpey on their new Parc Celyn development in Green Meadows, Cwmbran.

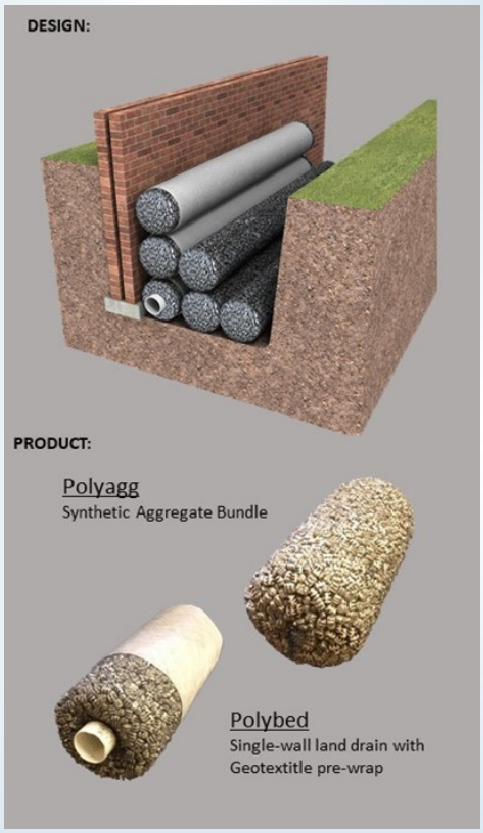
Project detail:

The development consisted of several new homes being constructed with terraced or split-level gardens. To achieve this Bell Contracting Ltd have been constructing retaining walls throughout the site, all requiring drainage.

Application of Polybed and Polyagg:

Polybed and the Polyagg synthetic aggregate bundles were used in the construction of a toe drain and behind-wall drainage to the retaining wall structure.

Each section of retaining wall was constructed using Polybed 4” single-wall perforated land drain for the toe-drain aspect and then built-up using the Polyagg synthetic aggregate bundles to achieve the required level.



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The reported benefits of using the Polybed & Polyagg system are the speed of installation requiring less plant and less labour due to the lightweight and easy to Install system. Speaking with Paul Wiosna, site manager for Bell Contracting Ltd, the system was chosen for this site and application due to successful past experiences where programme time and materials handling time was significantly reduced leading to cost savings and health and safety benefits for his team.

"as an insight Polybed requires less labour, plant and materials handling than traditional methods using loose stone. The volume of stone needed is always more than the design due to the method of installation. Polybed goes straight in with no need to build up in layers as you go...it's efficient" - **Paul Wiosna**

Installation is easier than traditional loose stone and perforated toe drain because of its 'packaged' nature. Polybed, a pre-surrounded perforated pipe product is laid at the base of the structure to create the void and drainage path for the infiltrated groundwater. Using Polybed there is no need for a separate bedding and backfill process using 'dumper' loads of heavy aggregate. The Polybed is built -up to the required level using the systems Polyagg synthetic aggregate bundles. The bundles are layered up without the need for simultaneous backfilling operation to hold the loose stone in place. Once the Polybed and Polyagg are in place any geotextile membrane can be pulled over the product and the back-filling process can proceed continuously to complete the work.

Conclusion:

bellcontracting confirmed that 50m of Polybed toe drain with additional Polyagg products to a height of 1.8m on this section of the project were installed in less than 1 day compared to 3 days traditionally. Saving more than 65% of labour time with additional cost savings arising from the reduction in plant operation, less ground surface disruption, and the health and safety benefits of reducing plant activity, using lighter product and the simplicity of installation.

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