

Project Profile

Objective

To create a development on a steeply sloping site in a high rainfall area whilst restricting stormwater runoff into Afon (river) Cegin to 5 l/s.

Solution

Three Stormcell® Stormwater Attenuation Tanks totalling 1750 cu. m of storage, with flow regulated by Hydro-Brake® Flow Controls.



Product Profile

- Modular and flexible.
- Lightweight.
- High structural integrity - suitable for installation beneath roads, car parks and amenity areas.
- Patented silt prevention system.
- Woven geotextile on the top of each block prevents intrusion.
- Simple and quick to install.
- High void ratio (95%).
- Low cost.

Stormcell® Controls Surface Water Runoff at Parc Bryn Cegin

Sustainable commercial development has received a boost in North Wales with the installation of Hydro International's Stormcell® and Hydro-Brake® Flow Control stormwater control systems on one of the biggest business development projects for many years.

Parc Bryn Cegin is a new business park being developed in North Wales on the outskirts of Bangor, Gwynedd by the Welsh Assembly Government with funding from the European Regional Development Fund via the Objective 1 Programme, and managed by the Assembly's Department for the Economy and Transport. It is planned to bring more than 1,600 jobs to North Wales.

The steeply sloping 36 hectare site is located on a bluff above the Afon (river) Cegin between the A5 and A55, with a fall of over 45 metres, so the development is arranged on a series of 9 plateaux connected by an access spine road.



As Nicola Wilkes, Senior Project Engineer for Consulting Engineers Jacobs points out: "The steep slope, underlying rock formations together with the new development mean that stormwater runoff in this high rainfall area could potentially be a problem by increasing the runoff into the river. The Stormcell® and Hydro-Brake® Flow Controls mitigate the effect of this increase and fulfil the SUDS (Sustainable Drainage Systems) principles for this project.

"The Environment Agency limited the discharge rate to 5 litres per second per hectare into the river. We designed a 1750 cu. m stormwater control system based on three Stormcell® storage tanks at points down the slope, attenuated with Hydro-Brake® Flow Controls in the storm drainage which runs along the central roadway. In this way, the site can be treated as three separate but interlinked catchment areas.

“The Stormcell® modular block storage tanks were chosen as it is one of the systems Dwr Cymru Welsh Water will adopt. The load bearing modules enable tanks to be constructed in a variety of shapes to suit the topography without extensive civil works, a distinct advantage where the soil cover over the rock base is thin and slopes are steep; a low maintenance feature is the patented perforated pipe design for integral silt protection to the storage, minimising any maintenance requirements.”



The Phase 1 infrastructure was completed in May 2007 and the site is now ready for development in partnership with the Welsh Assembly Government's private sector development partner UK Land & Property, a Liverpool based property development company. The next phase of on site development is currently being designed and is scheduled to start on site in 2008. When fully developed the site will accommodate over 70,000 sq.m of floor space, providing a new strategic site for business investment and development in North Wales.

Client: Welsh Assembly Government Department for the Economy & Transport

Consultant Engineer: Jacobs UK Ltd

Civils Contractor: Jones Bros. (Ruthin) Ltd

This information is for guidance only and not intended to form part of a contract. Hydro International pursues a policy of continual development and reserves the right to amend specifications without prior notice. Equipment is patented in countries throughout the world.

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