

## Project Profile

### Objective

To provide stormwater attenuation from the 800 m<sup>2</sup> roof, car park and vehicle yard of the new development, ensuring that the discharge limit of 11 l/s was met.

### Solution

Hydro's loadbearing Stormbloc® enabled construction of a shallower profile storage solution under the car park. This solution enabled the invert depth to be matched without pumping.



## Product Profile

- Infiltration / soakaway applications.
- Fully accessible for inspection and maintenance.
- Very strong (suitable for used under trafficked areas).
- High void ratio (95%).
- Low cost.

## Hydro's Stormbloc® Stormwater Storage System Delivers Cost Reductions for Cumbrian Office Development

Developers of a prestigious new office development in West Cumbria have identified a cost efficient solution to control stormwater runoff in a heavy rainfall area using Hydro's Stormbloc® modular storage system and a Hydro-Brake® Flow Control device.

Contractor Thomas Armstrong (Construction) Ltd, who designed and built the spectacular new three floor West Cumbria House at Lillyhall, Workington, needed to provide stormwater runoff attenuation for the roof and external hard paved areas. They identified significant benefits by taking advantage of the loadbearing properties of Hydro's technology to reduce installation costs.



West Cumbria House is a multi-occupancy office building for West Cumbria Development Agency with offices to let to new and expanding companies to help improve the local economy.

The site is located in a 1000 mm-a-year high rainfall area and the stormwater system was required to control runoff from 800 m<sup>2</sup> of roof, car park and vehicle yard to meet a discharge limit of 11 l/s. The original proposal was for a 500 m<sup>3</sup> GRP tank approximately 4 m in diameter by 40 m long, buried under the car park.

Bob Boardman, Project Manager for Thomas Armstrong, commented: "Although relatively inexpensive in capital terms, the original plan required the tank to be installed in concrete for structural support under the car park. This entailed deep excavation into stiff clay to prepare the site then, to sink the tank into the poured concrete, a lengthy process of progressive ballasting it with water. In addition, at this depth, the tank would have also required a pump installation to empty it for discharge to the drain invert level with implications for access, maintenance and running costs.

"The alternative we adopted was Hydro's Stormbloc® modular storage system. As Stormbloc® is loadbearing, it needed minimal structural work to install, and could be configured as a much shallower profile storage solution, requiring excavation to only 2 metres for a 500 m<sup>3</sup> tank which was simpler and safer. This meant less shoring, no concrete and less cartaway and spoil disposal costs. Also, at this shallower depth, attenuation with Hydro-Brake® Flow Control devices was feasible to match the invert depth for discharge to the storm drain, and a pump was not required, reducing operating and maintenance costs."

turning water around ...®

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