

Project Profile

Objective

West Lothian Council's bus link scheme along the Livingston / Edinburgh corridor required high performance storage and treatment of stormwater runoff in a constrained space.

Solution

Hydro International's integrated treatment and storage solution fitted well with West Lothian Council's commitment to the principles of SUDS and provided a low maintenance, high performance solution.



Product Profile

- Cost-effective integrated solution.
- No moving parts.
- No power requirement.
- Low maintenance.
- Low system headloss.
- Patented silt protection for Stormcell® storage tanks.
- Load bearing components enabled tanks to be sited under trafficked areas.

West Lothian's Fastlink Project has SUDS designed in with Hydro's Stormcell® and Downstream Defender®

The Fastlink Project is part of a far-reaching transport and development action plan for the Lothians and Edinburgh region. It comprises new road transport links in the Livingston/Edinburgh corridor to control vehicle commuter traffic through West Lothian. As West Lothian Council is committed to the principles of SUDS, the infrastructure construction incorporates Stormcell® and Downstream Defender® stormwater storage and control equipment from Hydro International.

Graeme Hedger, Senior Professional Officer, West Lothian Council, commented: "The Stormcell® and Downstream Defender® installations provided a high performance, storage and treatment solution in a very constrained retrofit situation, where otherwise it would have been difficult to achieve the required runoff control without compromise to the overall design."

The Fastlink scheme is providing an express bus link into Edinburgh, and is one of a number of regional schemes to reduce road vehicle commuting into the City of Edinburgh. Specifically, Fastlink will improve the A899 through Livingston for all road users, with three new bus halts for the Fastlink buses at Knightsbridge and Ladywell, and Howden which also included park and ride facilities. In addition, a new cloverleaf grade separation interchange is being constructed at Houston.



With the addition of extensive non-porous surfaces, it is important to control stormwater runoff safely, especially in a relatively flat locality. Consultant engineers Mouchel Parkman specified Hydro's Stormcell® modular block storage systems with Downstream Defender® silt protection because they had successfully used Stormcell® on similar projects.



Around 50 m³ of Stormcell[®] was installed for the bus lay-bys and the park and ride facility, fed from point drainage systems. As Stormcell[®] is constructed from a high load bearing honeycomb structure, it has a loading capacity of 40 tonnes/m² which enables it to be installed under trafficked areas without requiring extensive structural support, thus minimising land take.

Additionally, Stormcell[®]'s patented perforated pipe design provides unique integral silt protection to the storage and minimises the need for maintenance of the stormwater storage tank itself. Additional silt and floating pollutants entrapment was incorporated after the stormwater storage where required, using 1 m diameter Downstream Defender[®]s.

Nearly 90 m³ of Stormcell[®] storage capacity was specified for the Houston interchange construction between the A899 and A89, in an installation either side of the carriageway. Here, 2 m and 2.55 m diameter Downstream Defender[®]s were used to remove pollutants and silt prior to discharge through the Hydro-Brake[®] Flow Control devices used to attenuate the higher potential volumes from the highway runoff.



Consulting engineers: Mouchel Parkman
Civil contractors: Farrans Construction

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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