

SCHEME

West Lothian Council

CLIENT

River Almond Catchment Management Plan

WEHOLITE SOLUTION

900mm diameter Advanced Treatment Station

New Pipe Technology Helps Industrial Area Regain its Green Credentials



An innovative approach to an old problem has helped an industrial area in West Lothian to clean up its act.

Surface water from the Brucefield Industry Park close to Bellsquarry Village in Livingston has been polluting the Dedridge Burn with oils and silts over a number of years.

A series of complaints from local people about diesel contamination in particular, led West Lothian Council to bring together a partnership to help combat the problem, part of an initiative under the River Almond Catchment Management Plan, which will help meet the requirements of the European Water Framework Directive.

Working together with the Scottish Environmental Protection Agency (SEPA), Scottish Agricultural College

and landowners, Woodland Trust Scotland, proposals were developed for an extensive system of ponds and reedbeds to intercept the silts, attenuate flows downstream and generally improve the quality of the water.

Local people, however, were unconvinced of the merits of this first design.

They were particularly concerned at the prospect of diesel oil contaminating the new ponds, spoiling their appearance and leaving an unpleasant odour.

West Lothian Council turned to a solution developed by Oil Remediation Technology based in Selkirk in partnership with CLARCC at the University of Edinburgh and Welsh water solutions provider, ASSET International Ltd.

THE ESSENTIAL HDPE WATER MANAGEMENT SOLUTION

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The revolutionary drainage system known as an Advance Treatment Station or ATS consists of a series of WEHOLITE High Density Polyethelene (HDPE) chambers to intercept silts and larger solids and heavy metals.

Filtration in the second chamber uses 'Mycelx' technology to removes hydrocarbons and pesticides before the runoff issues into the open watercourse.

Not only did the ATS provide a cost-effective solution but the installation could be completed within a tight timescale and a limited space according to Graeme Hedger, Senior Professional Officer with West Lothian Council.

He said: "We wanted to remove oils and suspended solids from surface water runoff by means of an end-of-line system. By adopting the ATS technology using the WEHOLITE system, we were able to prevent the oil from visibly degrading above ground structures. We can now develop a scaled-down sustainable drainage scheme downstream, which will include watercourse restoration and wetland to polish the water and further attenuate flows whilst enhancing the amenity and habitat value of the village."

Advantages claimed for the ATS system include:

- The use of Mycelx technology to remove 99.9% of oils through a single pass.
- The removal of other known contaminants, silts, heavy metals and pesticides which can pollute rivers.
- The ATS has a small footprint and is contained underground - this avoided the need to occupy a large amount of ground to develop a wetland system.
- The ATS uses the highly flexible, durable and abrasion-resistant WEHOLITE pipe system manufactured by ASSET International Ltd.

- The ATS is coupled with underground attenuation tanks, again supplied by ASSET International.
- Weight - WEHOLITE pipes are far lighter than concrete alternatives, which make for ease of transportation and handling on site.
- Sustainable - WEHOLITE pipes have a design life of over 120 years.
- Environmentally friendly - fewer lorry loads are required for delivery and lighter plant can be employed for handling.
- Low maintenance requirements involving the occasional removal of solids and the replacement of the 'Mycelx' and associated filter media.

Commenting on the project, Iain Robinson from Oil Remediation Technology said: "The ATS provides a practical solution to a difficult problem in a small space. It can be a stand-alone solution but is entirely compatible with other parts of a train of treatment. It will be an additional tool to help industry, developers, water companies and landowners to demonstrate a real commitment to the protection of the environment."



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