



Marshalls

Transforming Britain's Landscapes

Brookfoot Works – A Case Study

Brookfoot Works in Southowram, Halifax has been a beacon of water management good practice. Prior to their water installation project in 2005, production processes on the site generated more than 1,400m³ per week of highly alkaline process water (pH between 12 and 13).

An acid chemical dosing system was used to treat this water to reduce alkalinity. However, even though some recycling was possible, the site discharged approximately 900m³ per week to sewer.

The local village of Southowram suffered pressure problems in its supply system at peak times because of Marshalls' high usage of water, so working closely with Yorkshire Water Marshalls installed a carbon dioxide water treatment plant on site.

As a result, the acid chemical dosing system is now no longer required.



Brookfoot Works

Since the installation of the plant, both Brookfoot Works and the local community have benefited:

- The use of water by the site has reduced by approximately 63% from 60,000m³ in 2004 to 22,274m³ in 2008. Projected use for 2009, from data collected weekly (19,000 m³), equates to a 68% improvement.
- The increased use of rainwater also decreases the site's pull on natural resources, reducing water requirements and having less impact on the supply system.

- Production volumes have not fallen in the same period.
- Southowram Village water supply system is less prone to high demand peaks and resulting problems, and trade effluent discharge can be dealt with more easily by the receiving sewage treatment works.

Purchase, removal and installation, and commissioning costs totalled approximately £40,000. The project saves approximately £6,000 per month and based on a £1.16 charge per m³, **total savings to date have reached £115,000**. Projected savings for 2009 are an additional £47,560 (taken from weekly metre readings this year).

A £17,000 project to build a storage/capture lagoon, with a capacity of 360,000 litres, was also completed in 2005. Capture and storage improvements have helped Marshalls reduce flood risk to the local community.

Solids that come out of the system at present as a waste are currently being trialled to see if they can be sold as a constituent part of another product, thus reducing landfill impacts and costs. This is an ongoing project which is almost complete.

Another Marshalls site in Halifax, West Lane, has already followed Brookfoot's example by installing and commissioning its own carbon dioxide water treatment plant.



West Lane Works – Stage 1

Similar to Brookfoot, West Lane discharges trade effluent by consent to foul sewer. The site has worked closely with Yorkshire Water to reduce the pH of its discharge within an agreed action plan and timeframe.



West Lane Works – Stage 2



West Lane Works – Stage 3

Based on performance at Brookfoot and West Lane, Marshalls has plans to replicate water management processes at other sites, where appropriate, based on potential for return on investment and impact of water savings on each site and local community. For example at Eaglescliffe in Stockton-on-Tees, storm water is directed to a reed-bed lagoon with only excess water discharged.