

# Compost Use in Land Regeneration

## Waterfront – Dearne Valley, Rotherham

The development of a golf course at a former colliery site approximately six miles north of Rotherham is flying the green flag for Organic Waste Compost use in regeneration projects in the region.



The golf course at Wath Manvers in South Yorkshire's Dearne Valley is one of the first schemes of its type in Yorkshire and Humberside to have used organic waste compost as a component of topsoil applied as part of the site's regeneration

Waterfront – Dearne Valley comprises a 285 acre major mixed use development, including a driving range and golf course, residential, leisure, commercial and industrial units. The redevelopment scheme is being undertaken by TCN UK and represents £130m of investment. The scheme was submitted for detailed planning consent in November 2004, after nearly a year of consultation with various parties including Rotherham Metropolitan Borough Council. Full planning permission was granted in March 2006, and the scheme is expected to be complete by 2010.

The current Golf Course and Driving Range area at Wath are located to the north of the man made Wath lake. Historically, the site and wider surrounding area formed part of the Wath-upon-Deerne Colliery with associated rail infrastructure, which was present from the late 19<sup>th</sup> century until closure in the 1980s, at which time the railway and associated marshalling yards were dismantled. Extensive colliery spoil was present on-site at

## Composting

- 30,000 m<sup>3</sup> of manufactured topsoil imported to the site, approximately one third of which comprised organic waste compost
- All the material was supplied from one source ensuring a sustainable supply of consistent quality.
- Less material was required resulting in reduced haulage miles.
- The material used at Wath was classed as a "product" so there were no waste management implications associated with its use.
- 4,000 tonnes of greenhouse gases saved by the production of topsoil rather than worst-case
- disposal of components to landfill.
- 150 tonnes of carbon emissions saved by reducing unnecessary haulage from alternative supply options.

the closure of the colliery and this was remediated under previous agreements prior to Express Park purchasing the site. The lake was also constructed at this time as part of the colliery reclamation scheme.

In order to provide for all the landscaping needs of the golf course, 30,000 cubic metres of topsoil was required. The nearest supplier of 'as dug' material able to provide the greatest volume of material (which equated to only half of the site's requirements), was identified to be in Lincoln, approximately 60 miles from Wath. Subsequent chemical analysis identified asbestos fibres within this material rendering it unsuitable for use

Several other suppliers were also approached, however their materials were rejected as they did not meet the stringent standards of the golf course's agronomist. After discussions with CO<sub>2</sub>Sense, WSP Environmental advised that a more sustainable manufactured topsoil alternative was available locally.

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Paul Connell – REGIONAL DIRECTOR – WSP ENVIRONMENTAL

This material could meet the large volume requirements of the site, and also complied with the regulatory demands of the remediation strategy and the requirements of the agronomist.

The manufactured topsoil (Greentech’s gt green-tree topsoil) was supplied from Dewsbury, approximately 25 miles from the site. The topsoil is manufactured from treated sewage sludge, approximately one third organic waste compost (from Local Authority derived green waste from mainly Kirklees, Leeds and Bradford) and silica sand. The material supplied by Green-tech won Environmental Product of the Year at the National Recycling Awards in 2006 and is a highly fertile and organic-rich material, compliant to British Standard 3882:2007.

The environmental benefits of using the material on this scheme can clearly be demonstrated. The reuse of ‘waste’ materials in producing the topsoil has saved approximately 4,000 tonnes of greenhouse gases being emitted to the environment, versus the potential worst-case scenario of disposal of the components to landfill.

	<b>MANUFACTURED TOPSOIL</b>
Bulk Density Factor	1.31
Total tonnage required	30,174 tonnes
Cost of topsoil	£369,637
Additional costs including stockpiling receipt, road sweeping, laboratory testing and site application	£108,080
<b>Total Cost</b>	<b>£477,717</b>
<b>Cost/tonne</b>	<b>£15.83</b>

Prudent decision making from the developer in sourcing a local alternative material from an ‘as dug’ topsoil, has saved 150 tonnes of carbon emissions alone by reducing unnecessary haulage.

The utilisation of a sustainable product such as this has the potential to have knock-on environmental benefits, including reduced fertilizer applications, as the end product used on this scheme requires no additional ameliorant for at least the first growing season.

Whilst sustainability credentials are an obvious benefit to a development of this scale, commercial cost savings are also a significant issue for any developer (see table below). Due to the unsuitability of the various alternatives, detailed financial comparisons were not undertaken.

However, overall less material was required for the site due to the manufactured topsoil’s reduced bulk density. It should also be noted that the ‘as dug’ alternatives could not be supplied in sufficient quantity, to a consistent standard and within the timeframe required for the development.

Paul Knell, Managing Director of TCN UK has been pleased with the outcomes of using this material at Wath, expressing that the benefits are clear to see. In support of this, Paul Connell, Regional Director of WSP Environmental added “we would have no problems specifying the use of manufactured topsoil such as this on future schemes we’re involved in, subject to the material meeting the specification of the remediation strategy.

“It is great that we can now confidently support sustainable long term markets for recycled content products such as this from the Yorkshire & Humberside region.”

**CO2Sense was established by Yorkshire Forward to help businesses in the region to prosper in the low carbon economy. We provide expertise and funding to help environmental companies to grow. We work with partners to help all organisations to fund and develop initiatives that reduce their carbon emissions.**