

Soft Landscape Workshop puts 'soil' at the top of the agenda.



Interview with Tim O'Hare by Vikki Rimmer

When we celebrate successful landscape design we may talk about statement trees, drifts of perennials, unique perspectives and good use of space, but we don't often laud the true genius of the design world - the soil designer.

It's hard to make soils look sexy so there's a dearth of articles in the press about the topic. However, if we look at the successful projects of the last few years then the Olympic Park, Kings' Cross Regeneration and Jubilee Park at Canary Wharf have one unifying thing in common - the use of the same soil designer Tim O'Hare.

Soil design is not new but it is something that has gathered momentum and has received serious focus over the past ten years thanks to the work of soil scientists such as Tim O'Hare. His work on the Olympic Park saw him involved from the initial outline design through to completion as the principle designer for the soil systems. His practice was also responsible for testing all the imported soils, and monitoring the construction of the landscape throughout the park.

Tim sees his work as a 'design' process as well as scientific one, he says: "we used six different types of topsoil and one type of subsoil for the park - we actually designed the soils to meet specific requirements for each different landscape environment. This involved collaboration with the project engineers, environmental consultants, landscape architects and ecologists."

Projects such as these require the utmost attention in soil planning if they are to succeed. Where landscape has a role to play in Sustainable Urban Drainage Systems (SUDs) by mitigating increased flash-flooding and dramatic sudden rainfall in cityscapes, then soil is a key part of this. Tim O'Hare explains: "the classic hydrology model for an urban environment is to remove water from all hard surfaces as quickly as possible and get it into the drainage system, and ultimately into the river system. Modern designs look to hold back the water via the use of swales, attenuation basins, etc. and soil is obviously a critical element of their function. By using the soft landscape to intercept the rain and drain it slowly through the soil, vastly increases the lag time between rainfall and discharge into drains and rivers. Such a system was successfully incorporated into the landscape design of the athletes' village in London. All rain water is controlled through tree trenches, water bodies and a highly-engineered wetland, which cleans and filters the water before releasing it into the River Lea."

The wetlands, parklands, and the larger landscaped areas of the Olympic park would arguably have failed if the Soil Scientist had not been on board from the very beginning.

The scheme is ongoing and O'Hare has been back recently to look at the soils with his counterpart from the Sydney Olympics, Simon Leake. He says: "we spent the day at the park with spade in hand and compared notes from each of the sites. Simon was amazed at the overall health and quality of the soils, and was stunned by the soil's structural development and the amount of earth worms that populated what was a very 'young' topsoil."

Tim O'Hare will be speaking at The Palmstead Nurseries Soft Landscape Workshop on the topic of podium landscapes. These structures, for example roof gardens, courtyards, planters, landscapes over underground car parks or tube stations, lack permeability in the ground and require a more 'engineered' soil system.

Tim explains: "it is often assumed that normal soils, such as those covered by the British Standard, can be used for such projects. However, the podium landscape is an artificial environment so 'normal' soils are often not appropriate. The plants and trees in these landscapes have more stress factors to deal with for example wind, shade, heat glare, shallow soils, compaction, etc. so the soils have to be tailored to minimise the stress. Schemes fail if the tolerance has not been designed to deal with the constraints of the podium landscape."

As the urban jungle grows year on year and city populations swell around the world, the question of how to mitigate pollution and climate change has been taken up by an innovative group of landscape architects and garden designers with the creation of podium structures. Laura Gatti and the Boeri Studio have created much interest with their vertical forest in Milan and Dan Pearson and his now defunct plans for the Garden Bridge posed interesting questions about soil design and looking at soil properties.

Dan Pearson says the working relationship with the soil is 'key' to the success of a project and adds: "Tim is a key person for us - the soil specialist has to design the soils for the conditions of the site and for the drainage. It's not always straightforward - if you're dealing with a natural ground condition then you have clues from what's growing there and this can provide guidance."

Tim O'Hare says: "We have worked a lot with Dan Pearson's practice, including the Garden Bridge project - it's fantastic to work with designers like Dan who understand the importance of soil properties. He looks first at the soil information of a site - is it

acidic? Is it alkaline? Will it drain? On some projects we are only asked to get involved once the detailed design of the landscape scheme has been done. This can cause problems when the site soils don't suit the plant species chosen for the scheme. They are often too far down the line with the client or the planners to want to change the plants so they end up having to change the soils to suit the landscape scheme."

Worse still is when a Soil Scientist's only involvement with a project is after completion, when problems such as poor drainage or anaerobism cause the plants to fail or the lawns to flood. Tim O'Hare says: "things have changed over the last 10 years or so as the importance of soils for project success has been realised. This goes right to the top, with DEFRA releasing its own Code of Practice for the sustainable use of soils on construction sites in 2009."

- Soil is a finite natural resource with many beneficial functions, so in whatever way we interact with it, it should be managed correctly and protected.
- Give 'soil' the same respect and attention that ecology, arboriculture, archaeology and contamination are given during the planning, design and construction phases of development.
- Soil is an integral part of the landscape design process - would you design a building or a road or a bridge without checking the ground for foundation design? So why not the same for soft landscape!

Tim O'Hare will be speaking alongside Dan Pearson, Laura Gatti and Professor Nigel Dunnett, at The Palmstead Nurseries Soft Landscape Workshop on Wednesday 24th January. A report of the event and an audio of the talks will be available later in February at www.palmstead.co.uk and where possible presentations will also be made available.

The DEFRA Code of Practice for sustainable use of soils is available from the www.gov.uk web site.

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