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B U I L T E N V I R O N M E N T M A T T E R S



The Greenhouse Effect

Urban agriculture grows up

TOWARDS A SUSTAINABLE SUBURBIA

► Peter Wilder of Macfarlane Wilder explains how a landscape-based approach to infrastructure and development strategies in a new project can improve lives, not only for its own community, but for those in the surrounding areas as well.

The Victorians bequeathed to us a wonderful legacy of public open spaces and infrastructure. Bolstered by the industrial revolution and the great wealth of the empire, railways, waterways, pumping stations and bridges opened up a brave new world of mobility and independence never before experienced by the working class. Such rapid growth did not come without cost and by 1858 Joseph Bazalgette's proposals for an interceptory sewer system had sealed the fate of many of London's streams. It also set an infrastructure-led precedent that would last until the present day.

Our infrastructure-led approach to the way that we farm the land, the way that we work and the way that we build our cities and towns has led us to a point where we are barely able to maintain the upkeep of our existing systems – and yet we go on building more. Our awareness of climate change has led us to examine new ways of constructing

buildings and to incorporate biodiversity into our town centres but has had very little effect on the way that services are provided. But just as architects have begun to look at the benefits of passive heating and cooling in buildings, so too landscape architects are examining the benefits of a landscape-led approach to service infrastructure, or Green Infrastructure.

PASTURES NEW?

As early as the mid 1970s Bill Mollison proposed a strategy for living sustainably with the land called permaculture. A harsh critic of modern farming methods, Mollison also criticised modern architecture of 'being incapable of operating without consuming vast amounts of electricity, water and gas and producing waste. His books and course extolled the virtues of building location and the ability to operate in a passive manner, storing their own water and generating minimal waste. Ironically this is not

dissimilar to the principles behind the Zero Carbon Lighthouse built at the BRE in 2007. But the creation of sustainable communities goes far beyond the realm of the single building. Here we have to consider many other aspects such as transport, food, water, waste and energy.

Our current cities are inherently inefficient in all of the above aspects, partly because they grew out of historic settlement patterns and partly because of their legacy of antiquated services. This had led many to believe that the only way to create a sustainable city is to start from scratch by building Ecotowns. Whilst the principles of Ecotowns are fairly clear – the creation of sustainable, self-contained and self-sufficient communities – there are many who are concerned about their potential to do even further damage to the environment by creating increased commuting and further urbanisation of rural areas. The other concern over Ecotowns is the perceived abdication of the city in favour of pastures new. It smacks of a throwaway society discarding the city as a lost cause and starting all over again with a different set of values.

A SUSTAINABLE SUBURBIA

In 2008, Macfarlane Wilder joined McCormack Jamieson Pritchard architects to work on a research paper called *Sustainable Suburbia*. As its title suggests, the objective was to re-evaluate the urban fringe and create a high-density walkable community with quality open spaces and sustainability credentials to match the Ecotown model.

Unlike Ecotowns, the *Sustainable Suburbia* model relies on integration into existing ►

In June 2007, a mere two months after the introduction of the Code for Sustainable Homes, Macfarlane Wilder designed the first landscaping scheme to be assessed under the Code at Offsite 2007. Where in previous years the emphasis had been purely on the building, the CfSH shifted emphasis onto the building *and* its landscape setting, creating credits for rainwater harvesting, sustainable drainage, biodiversity, ecological value, waste management and wellbeing. The scheme proved that even on a meagre 0.65ha of land, high scores were achievable and Code Level Six was reached on the Kingspan Lighthouse. In 2008 the Barratt Green House also achieved Code Level Six using credits contributed by the landscape which provides 61% attenuation on site and hosts over 95 species of native plants. A further extension of the park this year will provide a homezone and additional ecological features including green walls.



communities through public realm and transport connections. It is a model that aims to improve life, not only for its own community, but for those in the surrounding areas as well. Public open space, apart from providing an important function in the provision of play and visual amenity, conceals a well-constructed matrix for surface-water management, biodiversity, local food production, district heating easements and even biofuel production.

It is essential that the green lungs of the city are also tied into the energy, water and waste strategy. This is more than just a convenient place to tuck them away. Since the 1930s, we have seen many of our great Victorian parks fall into decline due to lack of funding. After all, there is no economic benefit in maintaining them and the demise of councils in house-maintenance teams and direct labour services have seen dwindling levels of upkeep. But by linking public open spaces to storm-water management and energy provision they start to become part of a service infrastructure maintained by ESCOs and Water Authorities.

In many cases, the Water Authorities are more inclined to adopt a SUDS strategy if there is a role for them in the maintenance and management of the facility and this symbiotic relationship ensures continued maintenance and higher biodiversity through surface water attenuation and biofiltration systems. Even in high-density

situations, the use of Green Infrastructure to provide improved surface-water runoff can be applied to situations such as green roofs, podium deck attenuation and biofiltration, and rainwater-harvesting facilities. In high-density developments such as Wembley City, Envac waste-to-energy systems are reducing the amount of waste that needs to be collected, increasing the amount of recycling by residents and turning waste packaging into heat and electricity.

A RENAISSANCE IN LAND PLANNING

Whilst we have yet to see which model for urbanism is likely to be the successor, this approach has led to a kind of renaissance in land planning, with many schemes now being led by a landscape-based approach to infrastructure and development strategies □

The Landscape Institute has recently launched its policy statement on Green Infrastructure. To download the document please visit: www.landscapeinstitute.org.uk

Peter Wilder is a Partner at MacfarlaneWilder which has just become the first Landscape Architecture practice to join the UK Green Building Council. Peter will also be joining an evening debate on 15 June at the British Library entitled Sustainable Cities with speakers Ken Livingston, Dr William Bird and Sara Parkin. www.naturalcapitalinitiative.org.uk/31-sustainable_cities

CASE STUDY:

The Wales International Business Park - Cardiff

The Wales International Business Park in Cardiff was conceived as a sustainable model for the 21st century incorporating a transport hub (Park and Share) to reduce car traffic into Cardiff, plus a 24/7 use with hotels, conferencing and leisure facilities. The layout was informed by the topography and hydrology of the land with strong links maintained to nearby villages. Historic lines such as railway corridors and hedgerows have been incorporated into the design in order to preserve the ecological heritage of the site.



The British Homes Awards' Sustainable Landscape Architecture Competition

The British Homes Awards in conjunction with BRE and the Landscape Institute have announced that PRP Landscape has won the BRE Innovation Park Sustainable Landscape Competition. Its winning design will incorporate the existing park with the next phase of its development to create a joined up 'sustainable community'. The innovative scheme aims to raise the bar in terms of landscape design in the UK.

Key features of the scheme are:

- A 'streetscape' that creates a seamless journey through all the key features and buildings in the Park;
- A pedestrian-friendly Homezone;
- A central open space 'plaza';
- A 'green gym' community garden;
- Imaginative play space for children;
- Porous paving to provide sustainable urban drainage combined with geothermal heat-transfer paving;
- Innovative artwork that gives a sense of place;
- Green facades/walls/nesting/habitats;
- A swale.

PRP Landscape's Associate Director Richard Hodgetts, commented: "Landscape has become a vital component not only in the creation of great places to live, but also in the provision of energy, waste and water-management strategies for new developments. We hope that our pioneering approach on the Innovation Park will set new standards in landscape design."

