In order to create a truly sustainable development it is essential that every environmental aspect is considered before the ground is broken.

ROGER HUNT plans ahead.

By addressing such multifaceted issues, the masterplan can deliver a more sustainable and inclusive development but, as the BRE paper makes clear, it is important to realise that sustainable masterplanning is an integrated process, “sustainability cannot be treated as an ‘add-on’.

Every development requires a different solution. Finding the most suitable is part of the masterplanning and place-making process but it is also critical to get the urban design structure or framework right, with passive rather than active design solutions as the first part of this process.

“The building forms should be orientated to benefit from their environment, to maximise sunlight penetration and collection for residents.”
and users of the facilities for example,” says Russell Pedley, director, Assael Architecture. “Promoting ecology through green or brown roofs, winter gardens and so on should also be considered at the outset. Ponds and swales can provide habitats while helping to manage surface water run-off.

“The second part of this process should be the deployment of active solutions using renewable energy sources assessed at a macro level, contributing to the environmental performance of the buildings themselves.”

Colin Veitch, a director of GRID Architects, asserts that masterplans are ultimately the means by which social structures are established and supported. “The pitfalls of a poor masterplan are normally due to lack of investigation into the site and making assumptions about the way a place works, often without insight provided by listening to the people who currently use it.”

Such failings were avoided at Marine Wharf, one of six former industrial sites, all in different ownerships, spread over 7.3 hectares of Deptford, south-east London. Although only commissioned by Berkeley Homes on Marine Wharf, GRID quickly recognised that a masterplan was required to propose an overall vision for the area and establish a framework for the development of the individual sites.

Basing the masterplan around a strip of land associated with the former Grand Surrey canal, it provides a new public footpath along a linear park. This connects Marine Wharf to other development areas with the hope of providing a catalyst for investment and regeneration in the area. The park also provides for biodiversity and a route to connect the schemes to the council’s nearby waste to energy power plant.

For its Polnoon development, near Eaglesham Village in East Renfrewshire, housebuilder Maclaggart & Mickel worked closely with the Scottish Government, councillors and the local community for two years ‘from the idea to design’ to create a new neighbourhood.

Evolving the masterplan relied on a range of workshops, community consultations and discussions with key stakeholders. Over 40 key sustainable characteristics were built into it, categorised by movement, buildings, open space and infrastructure. Features include sustainable urban drainage systems, new and retained tree planting, soil management, traffic calming measures, enhanced boundary treatments, a central square as a neighbourhood hub, new pedestrian pathways and a correlation of topography and mix of heights.

A number of the key elements that have to be in place to ensure the successful delivery of exemplar low carbon development were identified by PRP Architects when it produced its ‘Beyond Ecotowns – applying the lessons from Europe’ report in October 2008. These ranged from building in the right places and working with, and for, the local community to climate proofing and making the most of scarce resources.

Robert Coles, director PRP, contends that there are other ways of using planning tools to promote sustainability. He refers to the concept of ‘plan at home’ or ‘plan with the community’ which is being promoted in the USA.

“A more environmentally sensitive approach is phased, smaller, human scale developments. These can give better residual land values, lower construction costs and maximise design quality. The homes are in demand, a much better scenario than saturating the market.”
are various ways you can adopt a sustainable approach which is also affordable. For example, you can maximise the site’s natural resources by using naturally occurring sand or stone as building materials. You can also create water features, which add value to the development and create a focal point, yet also fulfill the need for sustainable urban drainage. Creating a sense of place or ‘place-making’ is especially important with the larger schemes, which are often built today. Interestingly, Assael Architecture’s Russell Pedley believes that a masterplan need not be big. Historically, developers have built massive, high density developments delivering thousands of homes alongside a mix of uses, all of which require extensive infrastructure or sit on servicing decks or basements. This approach is expensive not least because of the development costs associated with this scale of development, but also because you have to finish most of the scheme before you can complete the sale of the first flat. A more environmentally sensitive approach is phased, smaller, human scale developments. These can give better residual land values, lower construction costs and maximise design quality. The homes are in demand, a much better scenario than saturating the market. One aspect of masterplanning is that it offers the opportunity to propose solutions that create economies of scale, especially where activities that do not work at a small scale can be combined to produce huge gains and efficiencies. GRID’s Colin Veitch points out that masterplans can make big contributions to creating straight routes that follow ‘desire’ lines to connect areas to encourage non-car journeys. Masterplans also enable land uses to be located together to maximise social and environmental benefits and for energy production to be centralised to provide renewable and/or efficient heating and power. In addition, biodiversity may be consolidated by grouping small amenity spaces into larger parks or green ribbons; waste and recycling facilities may be pooled; and transport, access and parking arrangements, such as car clubs, may be shared, says Veitch. Tamzin McCabe, sustainable design consultant at the consultancy Inbuilt, contends that it is no longer acceptable that economic, social and environmental factors are played off against each other. Holistic sustainability works like a three legged stool, if one of the legs is missing – economic / social / environment – or not equal, the stool does not work adequately. To achieve holistic sustainability we propose a layering system which will meet the overall needs of the planning authority and community more closely than the checklists in BREEAM, Code for Sustainable Homes or BREEAM Communities.” According to McCabe the first step in this layering system is the assessment of the site, area and regional conditions, such as ecology, drought...
Meanwhile, the BRE has developed what it terms the ‘GreenPrint’ process to help design teams deliver masterplans that maximise the environmental sustainability of a development. It focuses on issues that a developer can influence, taking account of a site’s strengths and weaknesses as well as local priorities, policies and targets.

Employing the right ‘tools’ in masterplanning can be hugely important. ‘Sustainable Suburbia – A Walkable Garden Suburb’, a report by MJP Architects supported by the Homes and Communities Agency, offers a ‘toolkit’ for investigating residential land capacity. It explores how far greater densities can be achieved which offer sustainable transport and lower infrastructure costs while still allowing privacy and security. This has the potential to allow local people to understand a range of options for the development of a site in terms of such things as residential building types and the percentage of open space.

MJP’s chairman, Sir Richard MacCormac, argues that masterplans with significantly higher densities than those that housebuilders have generally built to, do not result in an environment of high rise buildings. “Densities of around 50 dwellings per hectare mean that, with clever layout, you can still build family houses with gardens and create walkable neighbourhoods where people prevail over cars. At a certain scale public transport is viable and it is possible to walk to a local centre with shops, a primary school and amenities like a medical practice. Biodiversity is very much part of it and, within these densities, you can get up to 20 per cent of the land take as green open space which is available for children’s play, allotments or ameliorating rainwater management.”

and flood risk, likely climate change impacts, existing community groups and infrastructure, and employment and transport infrastructure. This would usually include local authority requirements. The next level would look at BREEM/Code targets prescribed by local authorities or grant providers. The third level considers additional aspects to achieve holistic sustainability, identifying synergies with evolving local plans and requirements – measures that are more innovative and will fall outside of the other two layers.

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Read Roger Hunt’s blog: www.huntwriter.com or contact him: roger@huntwriter.com

ABOVE At Mill Hill East, PRP Architects was appointed by the The Inglis Consortium to develop a masterplan for this suburban site at the heart of the London Borough of Barnet

BOTTOM LEFT Clay Farm will comprise a new neighbourhood of 2,500 houses, local retail facilities and a new school

BOTTOM RIGHT Loampit Vale in Lewisham, south east London, designed by Assael Architecture